



SINCE 1975



# GENERAL CATALOGUE









50

anni di esperienza  
years of experience



Cassano d'Adda

sede principale  
headquarters



20.000 m<sup>2</sup>

area produttiva totale  
total production area



6

le nostre filiali  
our branches



70

paesi gestiti tramite  
distributori  
countries managed  
through distributors

UNI EN ISO 9001  
UNI EN ISO 15085-2 CL1.

sistema di  
gestione per la qualità  
quality management  
system



200

dipendenti del gruppo  
employees

**EMMEGI** è una azienda italiana che opera nel settore industriale. Progetta e produce scambiatori di calore al servizio dei macchinari industriali, delle macchine mobili da cantiere, dei compressori d'aria, dei motori endotermici e dell'impiantistica oleodinamica in generale.

Impresa storica italiana nata nel 1975, giunta alla terza generazione e in costante sviluppo, è in grado di distinguersi su un mercato altamente competitivo, sia a livello nazionale che internazionale, grazie all'elevata qualità dei prodotti e il continuo investimento in ricerca e sviluppo.

L'headquarter di EMMEGI, nonché sede produttiva principale, si trova in Italia, nel comune di Cassano d'Adda, tra le province di Milano e di Bergamo, zona logisticamente favorita per gli scambi commerciali.

La presenza pluridecennale sul mercato le ha consentito di maturare esperienze capaci di soddisfare più ambiti di applicazione, tanto da essere oggi riconosciuta worldwide come una consolidata realtà multinazionale.

La cura per i dettagli tecnici, la passione per il nostro lavoro, l'impegno per la soddisfazione del cliente sono le leve che ispirano Emmegi e che ne consentono la continua evoluzione.

Gli scambiatori EMMEGI sono tutti realizzati nelle nostre sedi produttive, progettati per garantire la massima affidabilità nel tempo. I materiali utilizzati di alto livello qualitativo (long-life) sono sinonimo di qualità e durabilità.

*EMMEGI is an Italian company operating in the industrial sector. It designs and manufactures heat exchangers for industrial machinery, mobile construction site machinery, air compressors, endothermic engines, and hydraulic systems in general.*

*A historic Italian company established in 1975, now managed by the third generation and constantly growing, it stands out on a highly competitive market, both nationally and internationally, thanks to the high quality of its products and the continuous investment in research and development.*

*The EMMEGI headquarters and the main production facility are in Italy, in the town of Cassano d'Adda, between Milan and Bergamo, a popular area for logistics and trade.*

*The decades-long presence on the market has allowed it to gain the experience needed to work in many different sectors, and it is now globally considered to be a consolidated multinational.*

*Attention to technical details, passion for our work and commitment to customer satisfaction are the levers that inspire Emmegi and that allow it to continue to grow.*

*EMMEGI heat exchangers are all made at our production facilities and are designed to ensure maximum reliability over time. The high-quality materials used (long-life) are synonymous with quality and durability.*







Gli scambiatori di calore EMMEGI nascono tutti da un'attenta fase di progettazione con la finalità di ottenere le migliori performances per lo scambio termico, garantendo la massima qualità ed affidabilità.

I nostri radiatori sono impiegati per il raffreddamento di impianti oleodinamici, motori endotermici (circuiti acqua, circuito intercooler), componenti elettrici ed elettronici, impianti di trattamento di fluidi.

EMMEGI produce una vasta gamma di scambiatori di calore, sia per il raffreddamento ad aria che ad acqua.

I prodotti EMMEGI utilizzano l'aria ambiente come elemento di raffreddamento, convogliata sulla massa radiante da una ventola (azionata da motori elettrici, idraulici ecc) ottimizzata per ottenere la massima performance ed efficienza e per ridurre la pressione sonora. La massa radiante, in lega d'alluminio ad alta resistenza, è ottenuta mediante un processo produttivo di saldobrasatura ad alto vuoto, che rappresenta la migliore tecnologia per massimizzare la qualità e l'affidabilità del prodotto.

La particolare configurazione dei condotti, aumenta la turbolenza del fluido e di conseguenza la capacità di scambio.

La presenza di speciali turbinatori sull'alettatura del pacco radiante, migliora ulteriormente il coefficiente di trasmissione.

Il risultato è un prodotto tecnologicamente avanzato di dimensioni contenute, leggero, robusto e affidabile.

Gli scambiatori ad acqua EMMEGI rappresentano una soluzione compatta, robusta ed efficiente, garantendo la massima performance e l'affidabilità nel tempo.

*EMMEGI heat exchangers all originate in a detailed design phase with the aim of obtaining the best heat exchanging performance, and reliability.*

*EMMEGI manufactures a wide range of heat exchangers, air or liquid cooled.*

*Our products are used for the cooling of hydraulic systems, endothermic engines (water circuit, intercooler circuit), electrical and electronic components and fluid treatment systems.*

*EMMEGI products use ambient air, conveyed over the radiator by a fan (driven by electric, hydraulic motors, etc.), optimized to obtain maximum performance and efficiency and reduce sound pressure, as a coolant. The high-tensile aluminum alloy radiator core is obtained by means of a vacuum brazing production process, the best technology to maximize the quality and reliability of the product.*

*The configuration of the tubes increases the turbulence of the fluid and, consequently, the exchange capacity. The presence of special turbulators on the finned surfaces of the cooling element improves the total transmission coefficient. The result is a small-sized, light, and robust technologically advanced product.*

*EMMEGI water cooled heat exchangers represents a compact, efficient, high performance solution and a durable product.*







#### Scambiatori Aria-Olio / Air-Oil Exchangers

Gli scambiatori di calore aria-olio EMMEGI S.p.A., sono impiegati per il raffreddamento di circuiti oleodinamici usando, come fluido raffreddante, l'aria ambiente convogliata sulla radiante da una ventola azionata da un motore elettrico o idraulico.

*EMMEGI S.p.A. air-oil heat exchangers are used for the cooling of hydraulic circuits using ambient air as a coolant, which is conveyed over the radiator by a fan driven by an electric or hydraulic motor.*



#### Scambiatori di calore per ambienti aggressivi / Heat exchangers for use in aggressive environments

Gli scambiatori SERIE HPAM sono ideali per il raffreddamento di circuiti oleodinamici installati in ambienti con classe di corrosione C5, e resistenza a 480 ore in nebbia salina neutra, secondo normative UNI EN ISO 9227.

*SERIES HPAM heat exchangers are suitable for the cooling of hydraulic circuits installed in environments with corrosion class C5, and resistance to 480 hours in neutral salt spray, according to UNI EN ISO 9227 standards.*



#### Scambiatori di calore per uso in atmosfere esplosive / Heat exchangers for use in explosive atmospheres

La linea di scambiatori SERIE HPEx è nata per soddisfare le esigenze di Clienti che cercano un prodotto che coniughi a buone performance la sicurezza in ambienti con atmosfera esplosiva.

*The HPEx SERIES heat exchanger line was created to meet the needs of customers looking for a product that combines excellent performance with safety in hazardous environments.*



#### Serie EBR / EBR series

Gli scambiatori serie EBR utilizzano ventilatori brushless in corrente continua, garantendo la massima performance con un prodotto compatto ed efficiente, destinato al raffreddamento di circuiti oleodinamici o a base acqua glicolata per le macchine mobili di nuova generazione.

*EBR heat exchangers are realized with brushless DC fan, in order to guarantee maximum performance, high efficiency and compact dimensions, all requirements of new generation machines for oil or water-glycol cooling.*



#### Combinati per Compressori / Combi coolers for Compressors

La gamma di combinati per compressori, grazie al suo semplice layout, si presta ad adattarsi facilmente a molteplici applicazioni di varie potenze, per il raffreddamento sia del circuito olio, che dell'aria compressa.

*CC series is a complete range of combined coolers suitable for several size of compressors, with different power.*

*These combi units cool down oil and compressed air circuits.*



### Gruppi Autonomi di Raffreddamento / Stand alone cooling systems

Sono gruppi di raffreddamento autonomi aria-olio a basso livello di rumorosità che utilizzano il principio del ricircolo, provvedendo autonomamente ad aspirare, raffreddare, eventualmente filtrare e riportare il fluido all'interno del serbatoio.

*The low-noise independent air-oil cooling units use the principle of recirculation, independently collecting, cooling, filtering and returning the fluid to the tank.*



### HPA TK

La gamma di scambiatori della serie HPA TK prevede serbatoio integrato ed eventuale filtro flangiato. Tale soluzione si adatta perfettamente alle necessità di circuiti oleodinamici delle betoniere.

*HPA TK series includes an integrated tank and flanged filter.*

*This solution perfectly matches the requirements of hydraulic system installed on concrete mixer.*



### Scambiatori a fascio tubiero / Shell & Tubes heat exchangers

Gli scambiatori di calore a fascio tubiero, sono utilizzati per il raffreddamento di circuiti oleodinamici e normalmente inseriti su linee di ritorno.

*Shell & tubes heat exchangers are used for the cooling of hydraulic circuits and are normally installed in return lines.*



### Scambiatori Acqua-Olio a piastre / Braze plate water-oil exchangers

Gli scambiatori a piastre sono costituiti da piastre corrugate e garantiscono la massima performance con un ingombro compatto, rappresentando la soluzione ottimale quando gli spazi disponibili sono limitati.

*Plate heat exchangers are made of corrugated plates for maximum performance with minimal size.*



### Scambiatori a progetto / Project-based heat exchangers

EMMEGI S.p.A. è specializzata nella progettazione di scambiatori di calore su specifica del cliente. La progettazione, a stretto contatto con il cliente, viene gestita totalmente all'interno di EMMEGI, garantendo il massimo della rapidità nelle risposte e nella flessibilità delle soluzioni proposte. Emmegi è specializzata nella progettazione e nello sviluppo di soluzioni combinate per raffreddamento di motori endotermici, comprensivi di sistema di ventilazione, vaso di espansione e connessioni.

*EMMEGI S.p.A. specializes in the design of heat exchangers to customer specifications.*

*The design, in close contact with the customer, is managed entirely by EMMEGI, in order to guarantee fastest response and flexibility of the proposed solutions.*

*Emmegi specializes in the design and development of combined solutions for the cooling of diesel engines, including the ventilation system, expansion tanks and connections.*





### SCAMBIATORI RAFFREDDATI AD ARIA - AIR COOLERS



#### Serie MG AIR - MG AIR Series

|                        |                  |
|------------------------|------------------|
| Serie 2000K.....       | Pag. A.07 - A.22 |
| Serie 2000K 2Pass..... | Pag. A.23 - A.36 |
| Serie 2000 2KS.....    | Pag. A.37 - A.44 |
| Serie 2000 KBV.....    | Pag. B.07 - B.18 |
| Serie 2000K DRAIN..... | Pag. C.07 - C.20 |



#### Serie HPA - HPA Series

|                               |                  |
|-------------------------------|------------------|
| Serie HPA.....                | Pag. D.07 - D.22 |
| Serie HPA 2 PASS.....         | Pag. D.23 - D.34 |
| Serie HPA/2 - HPA/3.....      | Pag. D.35 - D.52 |
| Serie HPV.....                | Pag. E.07 - E.22 |
| Serie HPA COMPACT.....        | Pag. F.07 - F.08 |
| Serie HPA 2 Pass COMPACT..... | Pag. F.09 - F.10 |
| Serie HPA /2 COMPACT.....     | Pag. F.11 - F.12 |
| Serie HPA LARGER.....         | Pag. G.03 - G.06 |
| Serie HPA TK.....             | Pag. H.03 - H.07 |



#### Serie Mobile - MOBILE Series

|                  |                  |
|------------------|------------------|
| Mobile 1.....    | Pag. I.03 - I.04 |
| Mobile Mini..... | Pag. I.05 - I.06 |
| Mobile Plus..... | Pag. I.07 - I.08 |
| Mobile 2.....    | Pag. I.09 - I.10 |
| Mobile 3.....    | Pag. I.11 - I.12 |
| Mobile 4.....    | Pag. I.13 - I.14 |
| Mobile 5.....    | Pag. I.15 - I.16 |



#### Serie HPAM - HPAM Series

|                                                       |                  |
|-------------------------------------------------------|------------------|
| Serie HPAM06 - HPAM12 - HPAM18 - HPAM24 - HPAM30..... | Pag. J.03 - J.14 |
| Serie HPAM36 - HPAM42 - HPAM50 - HPAM52 - HPAM72..... | Pag. J.15 - J.22 |
| Serie HPAM135 - HPAM180 - HPAM255.....                | Pag. J.23 - J.28 |



#### Serie HPEx - HPEx Series

|                                                       |                  |
|-------------------------------------------------------|------------------|
| Serie HPEx06 - HPEx12 - HPEx18 - HPEx24 - HPEx30..... | Pag. K.03 - K.04 |
| Serie HPEx36 - HPEx42 - HPEx50 - HPEx52 - HPEx72..... | Pag. K.03 - K.04 |
| Serie HPEx135 - HPEx180 - HPEx255.....                | Pag. K.05 - K.06 |



#### Serie EBR - EBR Series

|                 |                  |
|-----------------|------------------|
| Serie EBR ..... | Pag. L.03 - L.13 |
|-----------------|------------------|



### SCAMBIATORI RAFFREDDATI AD ARIA - AIR COOLERS

#### Rendimento - performance

kW/°C  
min 0,026  
max 1,420

#### Portata - flow rate

lpm..5 - 300 ..... Serie 2000K  
lpm..4 - 150 ..... Serie 2000K 2Pass  
lpm..35 - 500 ..... Serie 2000 2KS  
lpm..15 - 300 ..... Serie 2000 KBV  
lpm..1 - 50 ..... Serie 2000K DRAIN

#### Serie MG AIR - MG AIR Series

#### Rendimento - performance

kW/°C  
min 0,210  
max 7,780

#### Portata - flow rate

lpm..15 - 400 ..... Serie HPA  
lpm..15 - 250 ..... Serie HPA 2 PASS  
lpm..45 - 800 ..... Serie HPA/2 - HPA/3  
lpm..15 - 400 ..... Serie HPV  
lpm..15 - 400 ..... Serie HPA COMPACT  
lpm..15 - 250 ..... Serie HPA 2 Pass COMPACT  
lpm..45 - 800 ..... Serie HPA /2 COMPACT  
lpm..40 - 800 ..... Serie HPA LARGERS  
lpm..15 - 250 ..... Serie HPA TK

#### Serie HPA - HPA Series

#### Rendimento - performance

kW/°C  
min 0,064  
max 0,560

#### Portata - flow rate

lpm..15 - 200 ..... Mobile 1  
lpm..15 - 200 ..... Mobile Mini  
lpm..15 - 200 ..... Mobile Plus  
lpm..20 - 250 ..... Mobile 2  
lpm..20 - 250 ..... Mobile 3  
lpm..25 - 300 ..... Mobile 4  
lpm..25 - 300 ..... Mobile 5

#### Serie Mobile - MOBILE Series

#### Rendimento - performance

kW/°C  
min 0,066  
max 7,780

#### Portata - flow rate

lpm..15 - 250 ..... Serie HPAM06 - HPAM12 - HPAM18 - HPAM24 - HPAM30  
lpm..25 - 400 ..... Serie HPAM36 - HPAM42 - HPAM50 - HPAM52 - HPAM72  
lpm..30 - 800 ..... Serie HPAM135 - HPAM180 - HPAM255

#### Serie HPAM - HPAM Series

#### Rendimento - performance

kW/°C  
min 0,066  
max 7,780

#### Portata - flow rate

lpm..15 - 250 ..... Serie HPEx06 - HPEx12 - HPEx18 - HPEx24 - HPEx30  
lpm..25 - 400 ..... Serie HPEx36 - HPEx42 - HPEx50 - HPEx52 - HPEx72  
lpm..80 - 800 ..... Serie HPEx135 - HPEx180 - HPEx255

#### Serie HPEx - HPEx Series

#### Rendimento - performance

kW/°C  
min 0,085  
max 1,045

#### Portata - flow rate

lpm..3 - 500 ..... Serie EBR

#### Serie EBR - EBR Series





### Combinati per Compressori - Combined for Compressors

|                               |                  |
|-------------------------------|------------------|
| Serie CC01 - CC02 - CC03..... | Pag. M.01 - M.03 |
| Serie CC04 - CC05 - CC06..... | Pag. M.04 - M.06 |
| Serie CC07 - CC08.....        | Pag. M.07 - M.08 |

## GRUPPI AUTONOMI DI RAFFREDDAMENTO - OFFLINE COOLING UNITS



### Serie SILENT EVO 3 - SILENT EVO 3 Series

|                                |                  |
|--------------------------------|------------------|
| Serie S3E15.....               | Pag. N.05 - N.10 |
| Serie S3E25 - Serie S3E35..... | Pag. N.05 - N.10 |
| Serie S3E45 - Serie S3E55..... | Pag. N.05 - N.10 |
| Serie S3E65 - Serie S3E75..... | Pag. N.05 - N.10 |



### Serie RID - RID Series

|                   |                  |
|-------------------|------------------|
| Serie RID 15..... | Pag. O.07 - O.08 |
| Serie RID 25..... | Pag. O.07 - O.08 |
| Serie RID 35..... | Pag. O.07 - O.08 |
| Serie RID 45..... | Pag. O.07 - O.08 |
| Serie RID 55..... | Pag. O.07 - O.08 |



### Serie DCO - DCO Series

|                   |                  |
|-------------------|------------------|
| Serie DCO 25..... | Pag. P.05 - P.06 |
| Serie DCO 45..... | Pag. P.05 - P.06 |

## SCAMBIATORI RAFFREDDATI AD ACQUA - WATER COOLED HEAT-EXCHANGERS



### Scambiatori a fascio tubiero - Shell & tubes heat-exchangers

|                |                  |
|----------------|------------------|
| Serie MG.....  | Pag. Q.06 - Q.22 |
| Serie MGC..... | Pag. Q.06 - Q.22 |
| Serie MGE..... | Pag. Q.06 - Q.22 |
| Serie MGB..... | Pag. Q.06 - Q.22 |
| Serie MGF..... | Pag. Q.06 - Q.22 |



### Scambiatori a Piastre Saldobrasate - Brazed plate heat-exchangers

|                                  |                  |
|----------------------------------|------------------|
| Serie PB014 - PB022 - PB034..... | Pag. R.05 - R.08 |
| Serie PB047 - PB060 - PB110..... | Pag. R.09 - R.11 |
| Serie PB110 - PB170.....         | Pag. R.11 - R.12 |



### Accessori - Accessories

|                |                  |
|----------------|------------------|
| Accessori..... | Pag. S.01 - S.20 |
|----------------|------------------|

### ACCESSORI



### Potenza compressore

Compressor power

kW  
min 4  
max 110

### Portata - flow rate

Nm<sup>3</sup>/h..0,6 - 3,6 ..... Serie CC01 - CC02 - CC03  
Nm<sup>3</sup>/h..4,8 - 7,1 ..... Serie CC04 - CC05 - CC06  
Nm<sup>3</sup>/h..11,5 - 17 ..... Serie CC07- CC08

### Combinati per Compressori

Combined for Compressors

## GRUPPI AUTONOMI DI RAFFREDDAMENTO - OFFLINE COOLING UNIT

### Potenza - performance

kW  
min 1  
max 65

### Portata - flow rate

lpm..10 - 12 ..... Serie S3E15  
lpm..40 - 48 ..... Serie S3E25 - Serie S3E35  
lpm..40 - 48 ..... Serie S3E45 - Serie S3E55  
lpm..80 - 96 ..... Serie S3E65 - Serie S3E75

### Serie SILENT EVO 3

SILENT EVO 3 Series

### Potenza - performance

kW  
min 0,5  
max 24

### Portata - flow rate

lpm..10..... Serie RID 15  
lpm..10..... Serie RID 25  
lpm..10..... Serie RID 35  
lpm..23..... Serie RID 45  
lpm..23..... Serie RID 55

### Serie RID- RID Series

### Potenza - performance

kW  
min 0,9  
max 10

### Portata - flow rate

lpm..5..... Serie DCO 25  
lpm..10..... Serie DCO 25  
lpm..5..... Serie DCO 45  
lpm..10..... Serie DCO 45

### Serie DCO - DCO Series

## SCAMBIATORI RAFFREDDATI AD ACQUA - WATER COOLED HEAT-EXCHANGERS

### Potenza - performance

kW  
min 1  
max 340

### Portata - flow rate

lpm..10 - 450 ..... Serie MG  
lpm..5 - 80 ..... Serie MGC  
lpm..5 - 50 ..... Serie MGE  
lpm..30 - 800 ..... Serie MGB  
lpm..20 - 400 ..... Serie MGF

### Scambiatori a fascio tubiero

Shell & tubes

### Rendimento - performance

kW/°C  
min 0,012  
max 6,150

### Portata - flow rate

lpm..3 - 25 ..... Serie PB014 - PB022 - PB031 - PB034  
lpm..12 - 75 ..... Serie PB047 - PB060  
lpm..60 - 400 ..... Serie PB110 - PB170

### Scambiatori a piastre saldobrasate

Brazed plate heat-exchangers







**Scambiatori ad aria**  
**Air coolers**





### Introduzione

Gli scambiatori di calore ad aria EMMEGI, sono impiegati per il raffreddamento di fluidi usando, come fluido raffreddante, l'aria ambiente convogliata sulla massa radiante da una ventola azionata da un motore elettrico o idraulico.

La massa radiante, in lega d'alluminio ad alta resistenza, è ottenuta mediante un processo costruttivo di saldobrasatura ad alto vuoto.

La particolare configurazione dei condotti aumenta la turbolenza del fluido e conseguentemente la capacità di scambio. La presenza, inoltre, di speciali turbolatori sull'alettatura del pacco radiante, migliora il coefficiente di trasmissione globale.

Il risultato è un prodotto tecnologicamente avanzato di dimensioni contenute, leggero e robusto.

### Fluidi compatibili

- . Oli minerali, HL, HLP.
- . Emulsioni acqua-olio
- . Acqua-glicole
- . Per altri fluidi consultare EMMEGI.

### Specifiche tecniche Masse Radianti

- . Materiale: alluminio "long life".
- . Pressione d'esercizio: fino a 20 bar.
- . Pressione di collaudo: fino a 35 bar.
- . Temperatura max d'esercizio: 120°C
- . Per particolari atmosfere aggressive consultare EMMEGI.

### Introduction

EMMEGI air heat exchangers are used for fluids cooling using ambient air that passes through the cooling core by means of a fan operated by an electric or hydraulic motor. The cooler element, in high resistance aluminium alloy, is obtained by means of a braze-welding process, carried out under vacuum.

The particular configuration of the channels increase the turbulence of the fluid so the exchange capacity; moreover, the presence of special design on the cooler finning further improves the total transmission coefficient.

The result is a very small, light and robust technologically advanced product.

### Compatible fluids

- . Mineral oils; HL; HLP.
- . Water-oil emulsion.
- . Water-glycol.
- . Consult EMMEGI for other fluids.

### Technical specification of Cooler Element

- . Material: "long life" aluminium.
- . Operating pressure: up to 20 bar.
- . Test pressure: up to 35 bar.
- . Max operating temperature: 120°C.
- . For "aggressive" atmospheres contact EMMEGI.





## Manutenzione

È buona norma prestare particolare attenzione alla pulizia della massa radiante, da eseguire periodicamente in modo da mantenere una elevata efficienza.

### Pulizia lato interno

Per eseguire la pulizia lato interno, lo scambiatore dovrà essere smontato. Lo sporco può essere rimosso flussando in controcorrente un prodotto sgrassante compatibile con alluminio. Effettuare un lavaggio con il fluido di processo prima di ricollegare il prodotto all'impianto.

### Pulizia lato aria

La pulizia lato aria può essere effettuata con aria compressa o con acqua, con direzione del getto parallelo alle alette per non danneggiarle. Lo sporco oleoso o grasso può essere rimosso con getto di vapore o acqua calda. Durante questa operazione, il motore elettrico non deve essere collegato alla tensione, e dovrà essere adeguatamente protetto.

## Maintenance

It is very important to periodically clean the cooler in order to prevent a reduction in thermal efficiency.

### Internal core cleaning

The exchanger should be disconnected and disassembled to clean oil in the internal channels. The dirt can be removed by flushing, in counter-current, a degreasing substance, compatible with aluminium. Wash with process fluid before re-connecting the product to the system.

### Air side Cleaning

Cleaning on the air side can be done using compressed air or water, directing the jet parallel to the fins so as not to damage them. Oil dirt or grease can be removed with a jet of steam or hot water. During this operation, the electric motor must be disconnected from the voltage supply, and must be adequately protected.







## SCAMBIATORI AD ARIA

### AIR COOLERS

### Esempio di scelta dello scambiatore

Per effettuare la scelta dello scambiatore si procede come nel seguente esempio:

|                                                     |   |            |
|-----------------------------------------------------|---|------------|
| Tipologia di fluido                                 | : | olio VG 32 |
| Potenza da dissipare                                | : | 7,5 [kW]   |
| Portata olio                                        | : | 100 [lpm]  |
| Temperatura ingresso olio                           | : | 60 [°C]    |
| Temperatura ambiente                                | : | 30 [°C]    |
| Ventola azionata da motore elettrico 230/400V-50Hz. |   |            |

Si calcola la potenza specifica di scambio espressa in kW/°C, conoscendo la potenza da dissipare e il  $\Delta T$  (differenza tra la temperatura olio ingresso e la temperatura ambiente).

$$P = \frac{7,5 \text{ kW}}{60^\circ - 30^\circ} = 0,25 \text{ kW/}^\circ\text{C}$$

Nota la portata olio (100 lpm) e la potenza specifica di scambio (0.25 kW/°C) si procede alla ricerca del prodotto avvalendosi dei grafici riportati a catalogo, relativi ai singoli modelli individuando il modello adeguato a garantire la potenza specifica.

### Example of how to choose a heat exchanger

Proceed with sizing the exchanger, with a knowledge of the data as the example below shows:

|                                                     |   |           |
|-----------------------------------------------------|---|-----------|
| Fluid type                                          | : | oil VG 32 |
| Power to dissipate                                  | : | 7,5 [kW]  |
| Oil flow                                            | : | 100 [lpm] |
| Oil inlet temperature                               | : | 60 [°C]   |
| Ambient temperature                                 | : | 30 [°C]   |
| Fan operating with an electric motor 230/400V-50Hz. |   |           |

You can then calculate the specific heat exchange power kW/°C if you know the power to be dissipated and the  $\Delta T$  (the difference between the oil inlet temperature and the ambient temperature).

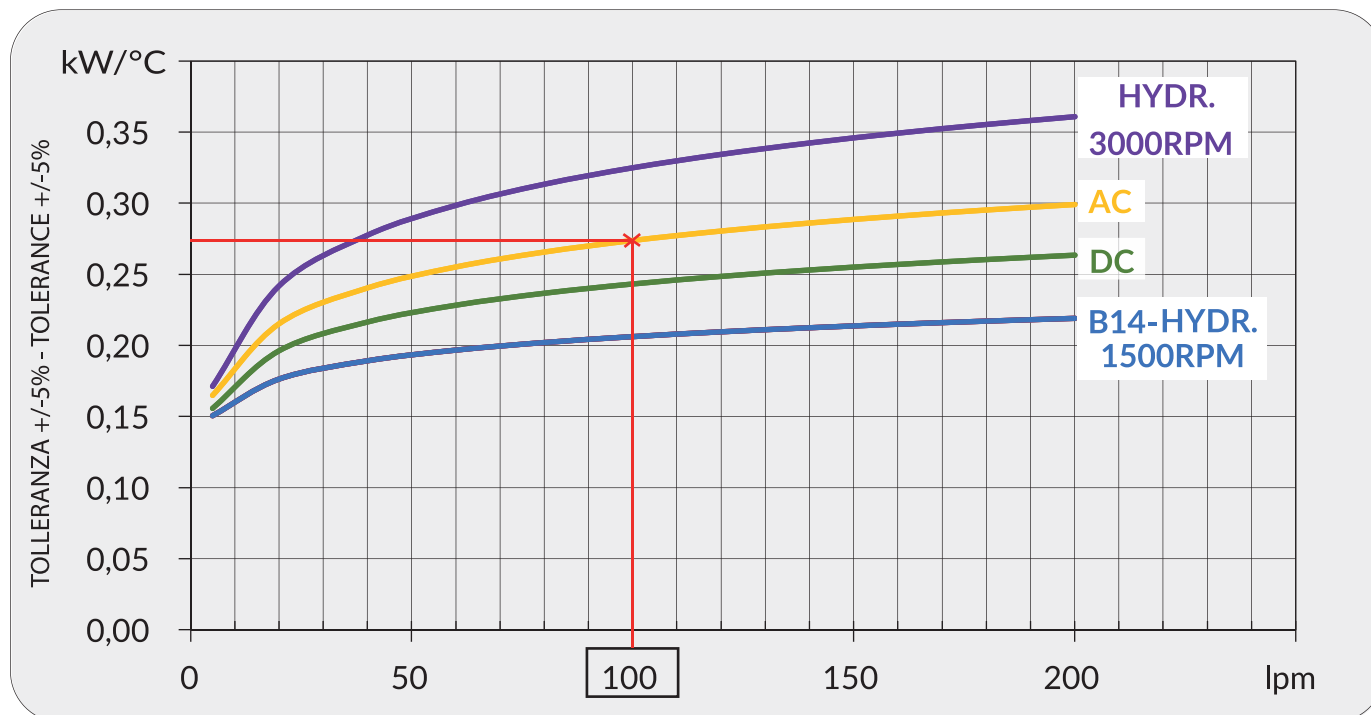
$$P = \frac{7,5 \text{ kW}}{60^\circ - 30^\circ} = 0,25 \text{ kW/}^\circ\text{C}$$

With the oil flow value (100 lpm) and calculated specific exchange power (0.25 kW/°C), it is possible to find in the catalogue the best suitable solution for the required performance.





## Diagramma rendimento *Performance diagram*



Lo scambiatore selezionato risulta il modello:  
MG AIR 2030K - 230/400 - 50Hz  
cod. 253003###.

Per la completa identificazione dello  
scambiatore consultare la pagina  
"DENOMINAZIONE CODICE PRODOTTO".  
Nel caso non siano conosciuti tutti i dati,  
per la scelta contattare EMMEGI S.p.A.

The exchanger selected is the following model:  
MG AIR 2030K - 230/400V - 50Hz  
cod. 253003###.

For a complete description of the exchanger  
consult the "PRODUCT ORDERING CODE"  
page. If you do not know all the data required for  
selecting the model, contact EMMEGI S.p.A.





Serie MG AIR 2000K  
MG AIR 2000K Series





# MG AIR

## 2000K Series

### APPLICAZIONE

#### APPLICATION

Grazie all'ampia gamma di combinazioni, gli scambiatori di calore della serie 2000K si prestano come la soluzione di raffreddamento ottimale per svariate applicazioni sia mobili che industriali quali:

Thanks to the wide range of combinations, the 2000K series heat exchangers are the optimal cooling solution for a wide range of mobile and industrial applications such as:



Industria agricola e forestale.  
Gru mobili e fisse.  
Veicoli industriali.  
Veicoli municipali.  
Macchine da costruzione.  
Impianti di riciclo.  
Impianti oleodinamici.  
Macchine utensili.  
Altro su richiesta.

Agriculture and forestry.  
Mobile and stationary cranes.  
Industrial vehicles.  
Municipal vehicles.  
Construction machines.  
Recycling plants.  
Hydraulic systems.  
Machine tools.  
Others on request.





# Modulo richiesta dati

## Sheet for cooler selection

|                  |  |
|------------------|--|
| CLIENTE COMPANY  |  |
| RICHIEDENTE NAME |  |

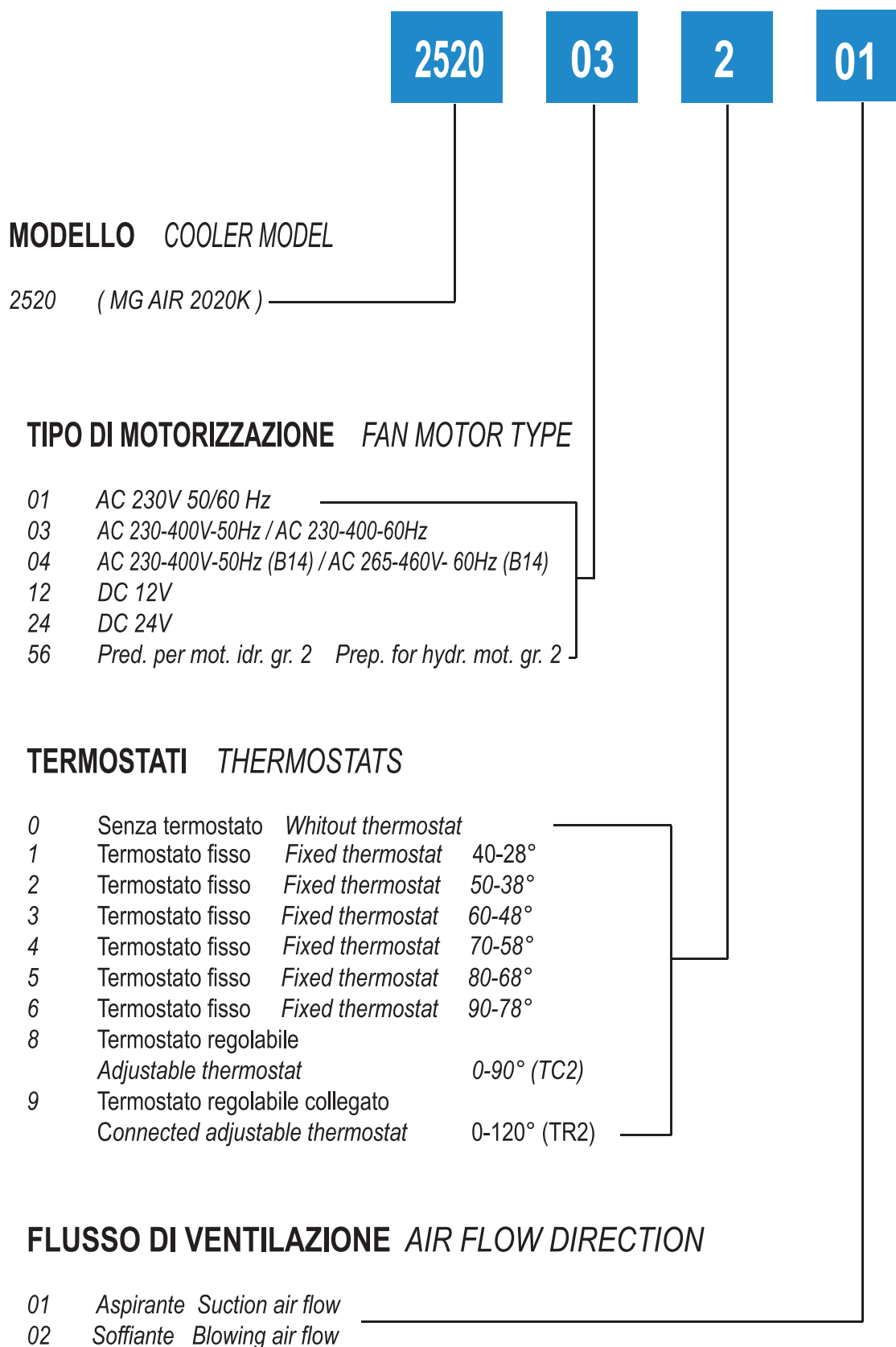
|                                                 |     |  |
|-------------------------------------------------|-----|--|
| TIPOLOGIA FLUIDO<br>FLUID TYPE                  |     |  |
| PORTATA<br>FLOW RATE                            | lpm |  |
| POTENZA INSTALLATA<br>INSTALLED POWER           | kW  |  |
| POTENZA DA DISSIPARE<br>POWER TO BE DISSIPATED  | kW  |  |
| TEMPERATURA INGRESSO<br>INLET TEMPERATURE       | °C  |  |
| TEMPERATURA ARIA MAX<br>MAX AMBIENT TEMPERATURE | °C  |  |
| PRESSIONE DI LAVORO<br>WORKING PRESSURE         | bar |  |

|                                       |                                                              |                                                                 |
|---------------------------------------|--------------------------------------------------------------|-----------------------------------------------------------------|
| TIPO DI VENTILAZIONE TYPE OF FAN UNIT |                                                              |                                                                 |
| CC<br>DC                              | PREDISPOSTO MOTORE IDRAULICO<br>PREPARED FOR HYDRAULIC MOTOR | CA<br>AC                                                        |
| 12V                                   | GR.2                                                         | MONOFASE 230V<br>SINGLEPHASE 230V                               |
| 24V                                   |                                                              | TRIFASE 230/400V<br>265/460V<br>THREEPHASE 230/400V<br>265/460V |
|                                       |                                                              | TENSIONE SPECIALE<br>SPECIAL VOLTAGE                            |
|                                       |                                                              | 50 Hz 60 Hz                                                     |



## Denominazione codice prodotto

### Ordering code





## Modello - Codice prodotto

*Cooler model - Code*

### Serie 2000K - 2000K Series

| Modello<br>Model | Codice<br>Code |
|------------------|----------------|
| 2005K            | .....          |
| 2010K            | 2510           |
| 2015K            | 2515           |
| 2020K            | 2520           |
| 2024K            | 2524           |
| 2030K            | 2530           |
| 2040K            | 2540           |
| 2050K            | 2550           |



### Serie 2000K 2 Pass - 2000K 2 Pass Series

| Modello<br>Model | Codice<br>Code |
|------------------|----------------|
| 2010K 2PASS      | 2G71           |
| 2015K 2PASS      | 2516           |
| 2020K 2PASS      | 2521           |
| 2024K 2PASS      | 2525           |
| 2030K 2PASS      | 2531           |
| 2040K 2PASS      | 2541           |
| 2050K 2PASS      | 2G70           |



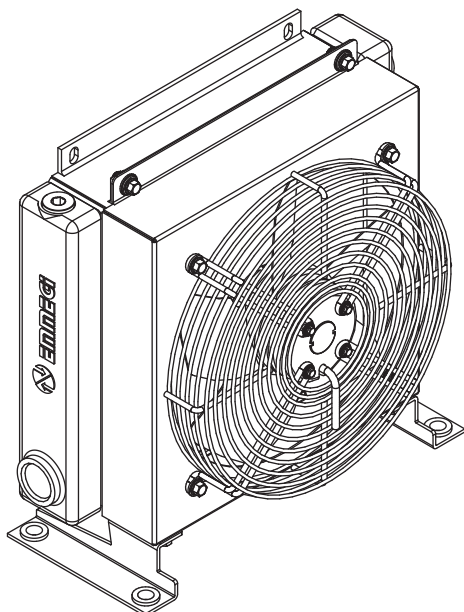
### Serie 2000K 2KS - 2000K 2KS Series

| Modello<br>Model | Codice<br>Code |
|------------------|----------------|
| 2020 2KS         | 2321           |
| 2024 2KS         | 2324           |
| 2030 2KS         | 2330           |
| 2040 2KS         | 2340           |

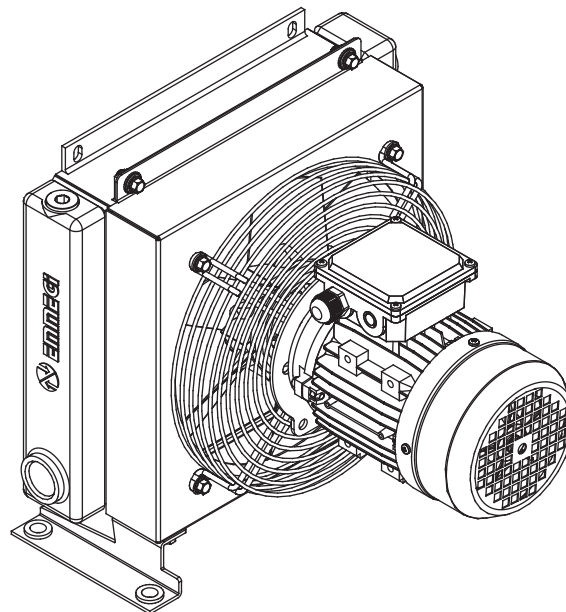




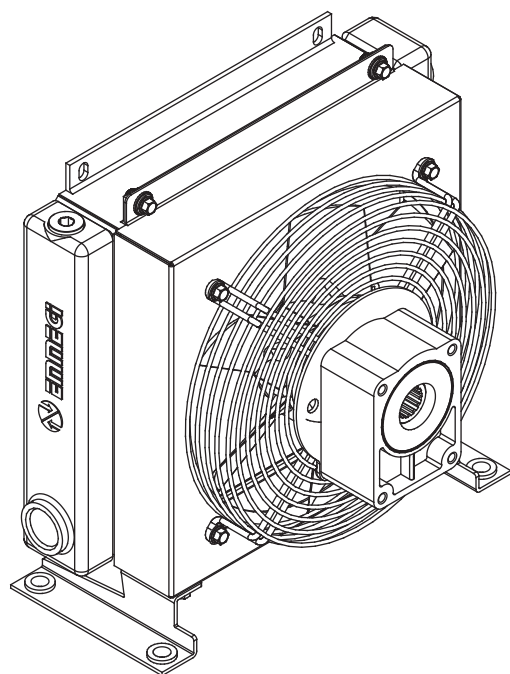
## MG AIR 2000K Series



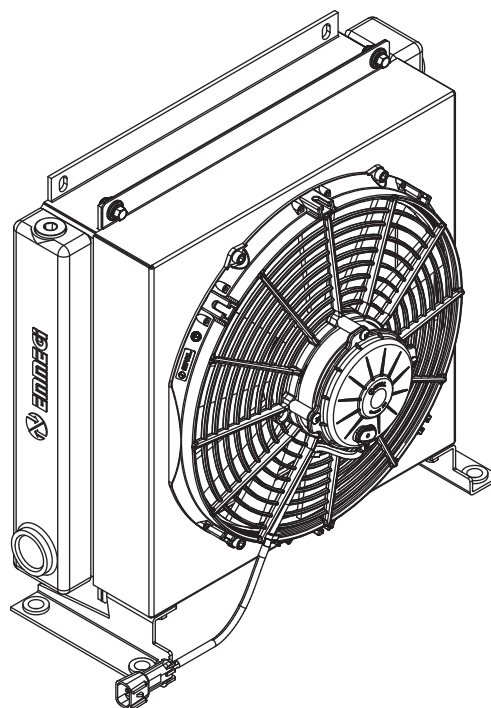
AC 230V 50/60 Hz  
AC 230-400V 50/60Hz



AC 230-400V 50 Hz (B14)  
AC 265-460V 60 Hz (B14)



Pred. per mot. idr. gr. 2  
Pred for Gr.2 hydraulic mot.

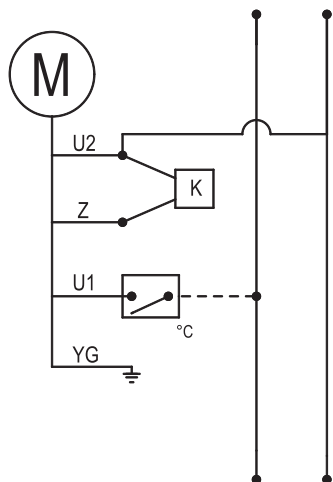


DC 12-24V

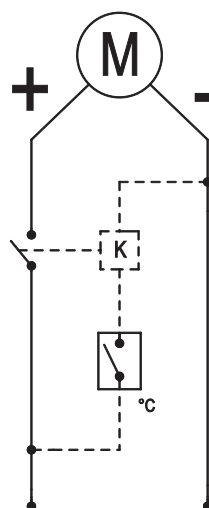
## Collegamenti elettrici

### Electric Wiring

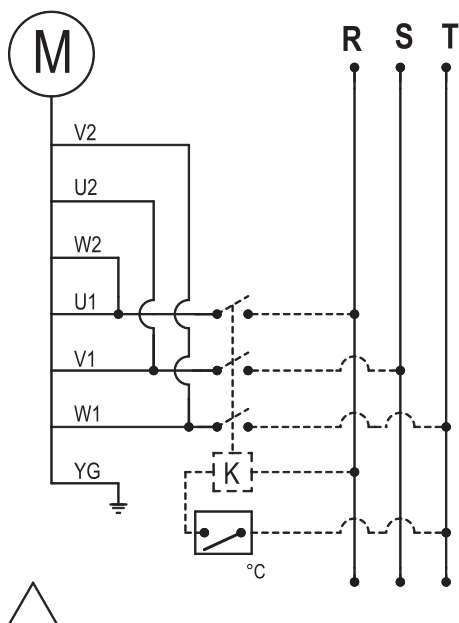
COLLEGAMENTO ELETTRICO 230V MON. AC  
230V AC 1PH. ELECTRIC WIRING



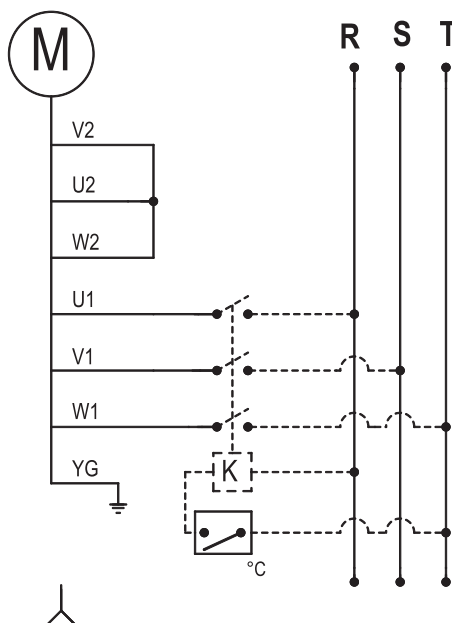
COLLEGAMENTO ELETTRICO 12-24V DC  
12-24V DC ELECTRIC WIRING



COLLEGAMENTO ELETTRICO 230V AC TRIF.  
230V AC 3PH ELECTRIC WIRING



COLLEGAMENTO ELETTRICO 400/460V AC TRIF.  
400/460V AC THREEPHASE ELECTRIC WIRING







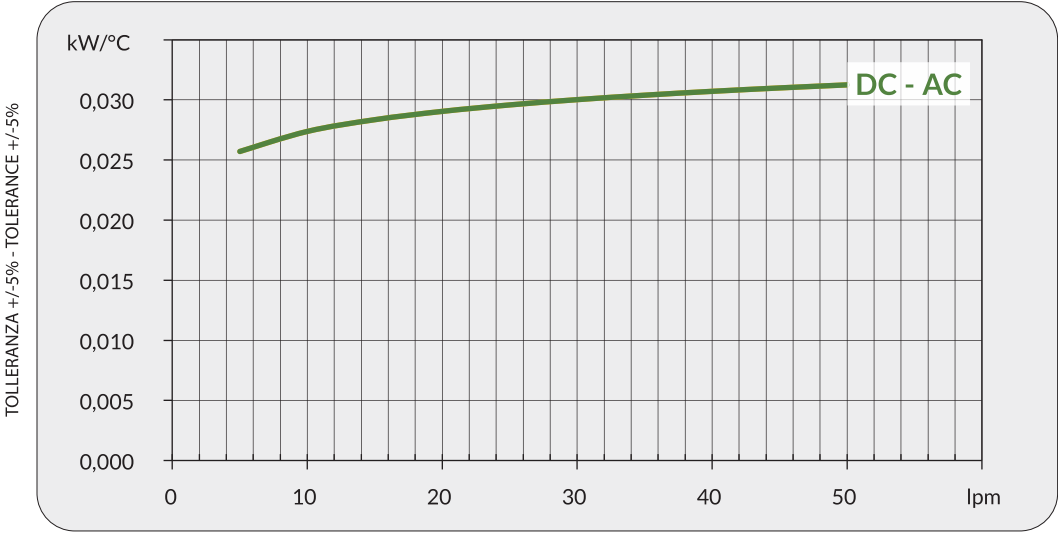


Dati tecnici    *Technical Data*

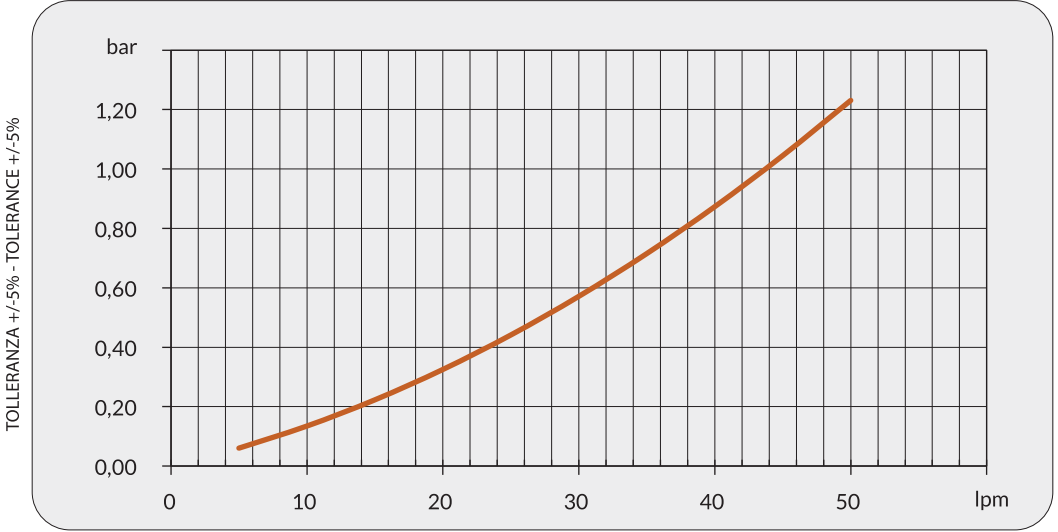
| P/N           | V      | Hz | kW(±10%) | A(±10%) | rpm  | Ø Fan | dB (A) | (m³/h) | IP  | lt  | kg  |
|---------------|--------|----|----------|---------|------|-------|--------|--------|-----|-----|-----|
| 054240023050# | 230 AC | 50 | 0,019    | 0,12    | 2650 | 105   | 40/47  | 125    | 20* | 0,3 | 3,2 |
| 054240001200# | 12 DC  | /  | 0,005    | 0,4     | 3050 | 105   | 45/49  | 140    | 67  | 0,3 | 3,2 |
| 054240002400# | 24 DC  | /  | 0,005    | 0,2     | 3050 | 105   | 45/49  | 140    | 67  | 0,3 | 3,2 |

\*Disponibile IP 55 / Available IP 55

Diagramma rendimento    *Performance diagram*



Perdite di carico    *Pressure drop (@30cSt)*



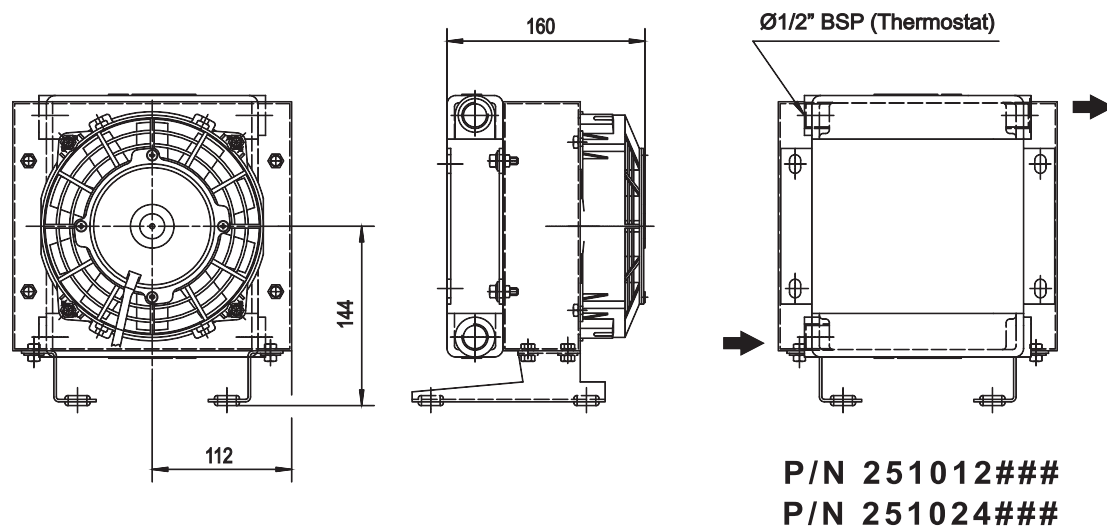
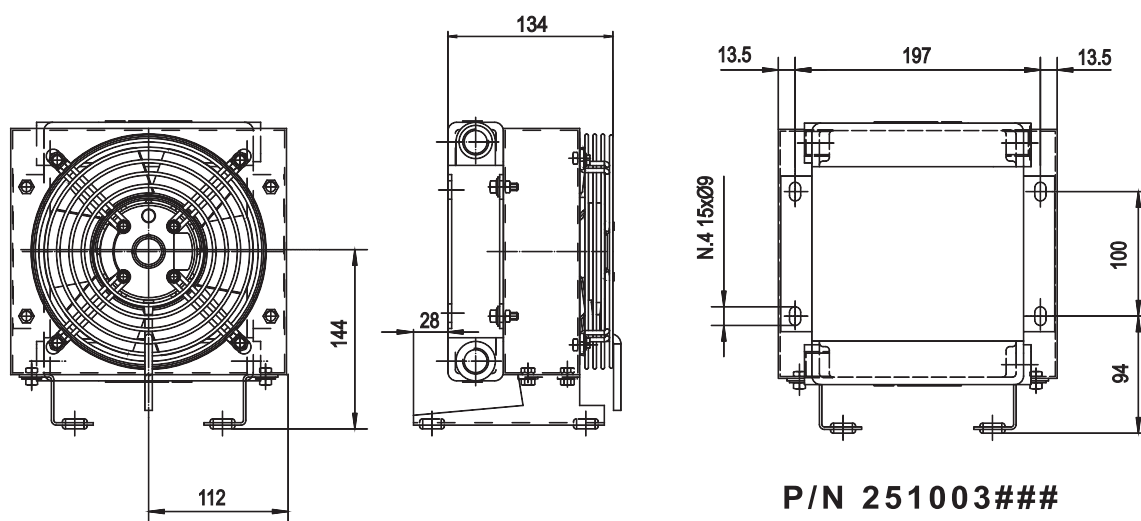
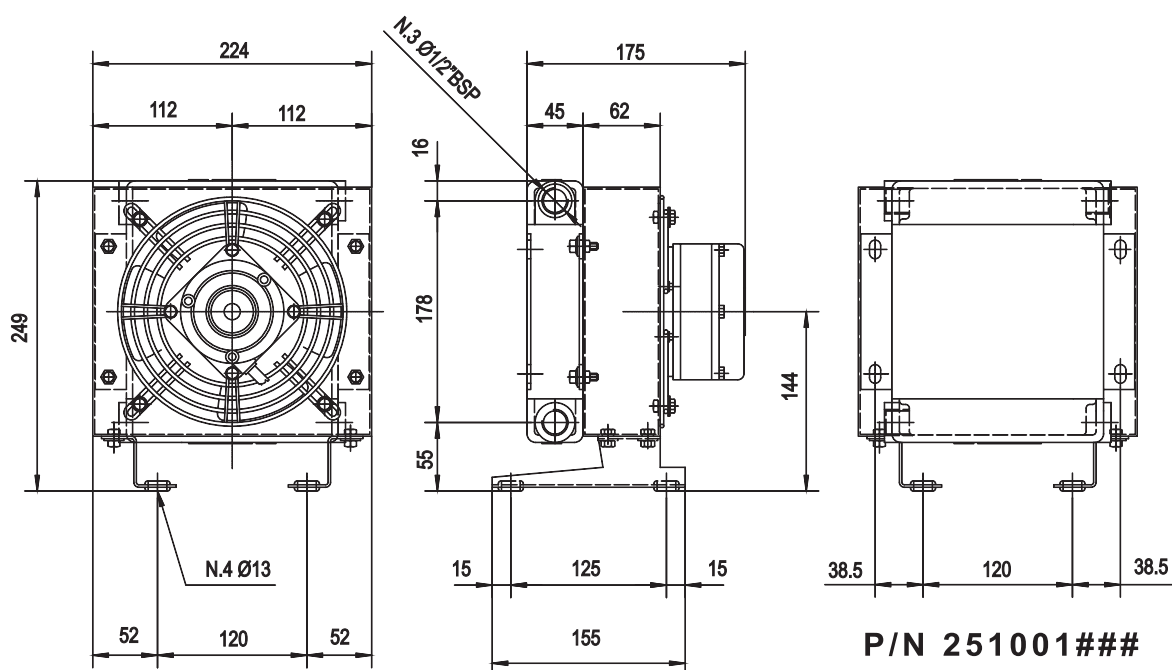
Fattore di correzione-F-(perdite di carico)    *Correction factor-F-(pressure drop)*

| cSt | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0,5 | 0,65 | 0,77 | 1  | 1,2 | 1,4 | 1,6 | 1,9 | 2,1 | 3,3 | 4,3 |



# MG AIR

## MG 2010K



Le dimensioni di ingombro e le caratteristiche tecniche non sono impegnative  
Overall dimensions and technical characteristic are not binding

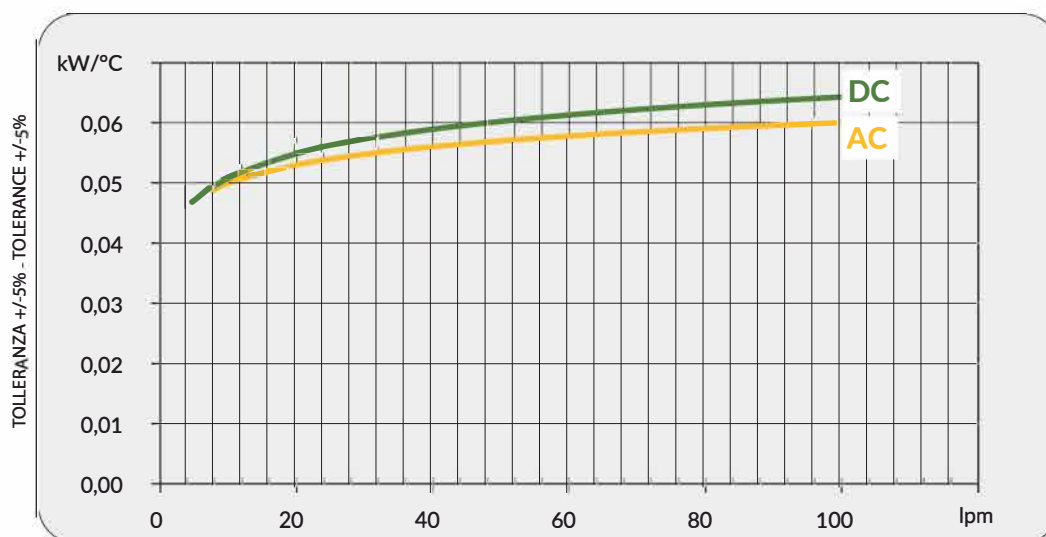


## Dati tecnici Technical Data

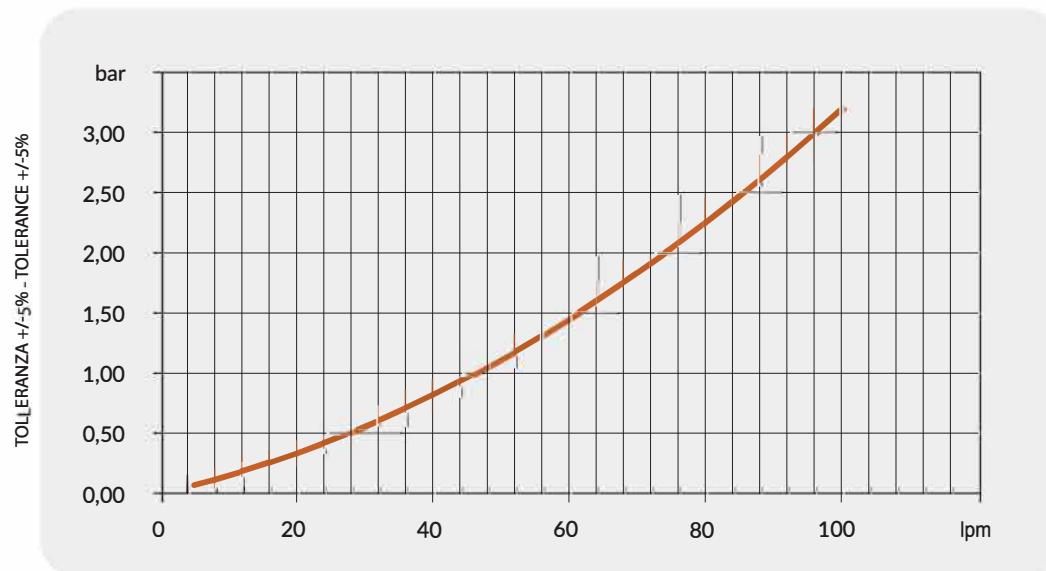
| P/N       | V                            | Hz       | kW(±10%)       | A(±10%)                    | rpm          | Ø Fan | dB (A) | (m³/h) | IP | lt  | kg |
|-----------|------------------------------|----------|----------------|----------------------------|--------------|-------|--------|--------|----|-----|----|
| 251001### | 230 AC                       | 50/60    | 0,010/0,047    | 0,21                       | 2500         | 175   | 67     | 345    | 54 | 0,3 | 6  |
| 251003### | 230 - 400 AC<br>230 - 400 AC | 50<br>60 | 0,045<br>0,043 | 0,23 - 0,13<br>0,16 - 0,09 | 2750<br>3100 | 175   | 63     | 345    | 54 | 0,3 | 6  |
| 251012### | 12 DC                        | /        | 0,06           | 5,5                        | 3860         | 167   | 75     | 410    | 68 | 0,3 | 5  |
| 251024### | 24 DC                        | /        | 0,08           | 2,3                        | 4300         | 167   | 75     | 410    | 68 | 0,3 | 5  |

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## Diagramma rendimento Performance diagram



## Perdite di carico Pressure drop (@30cSt)



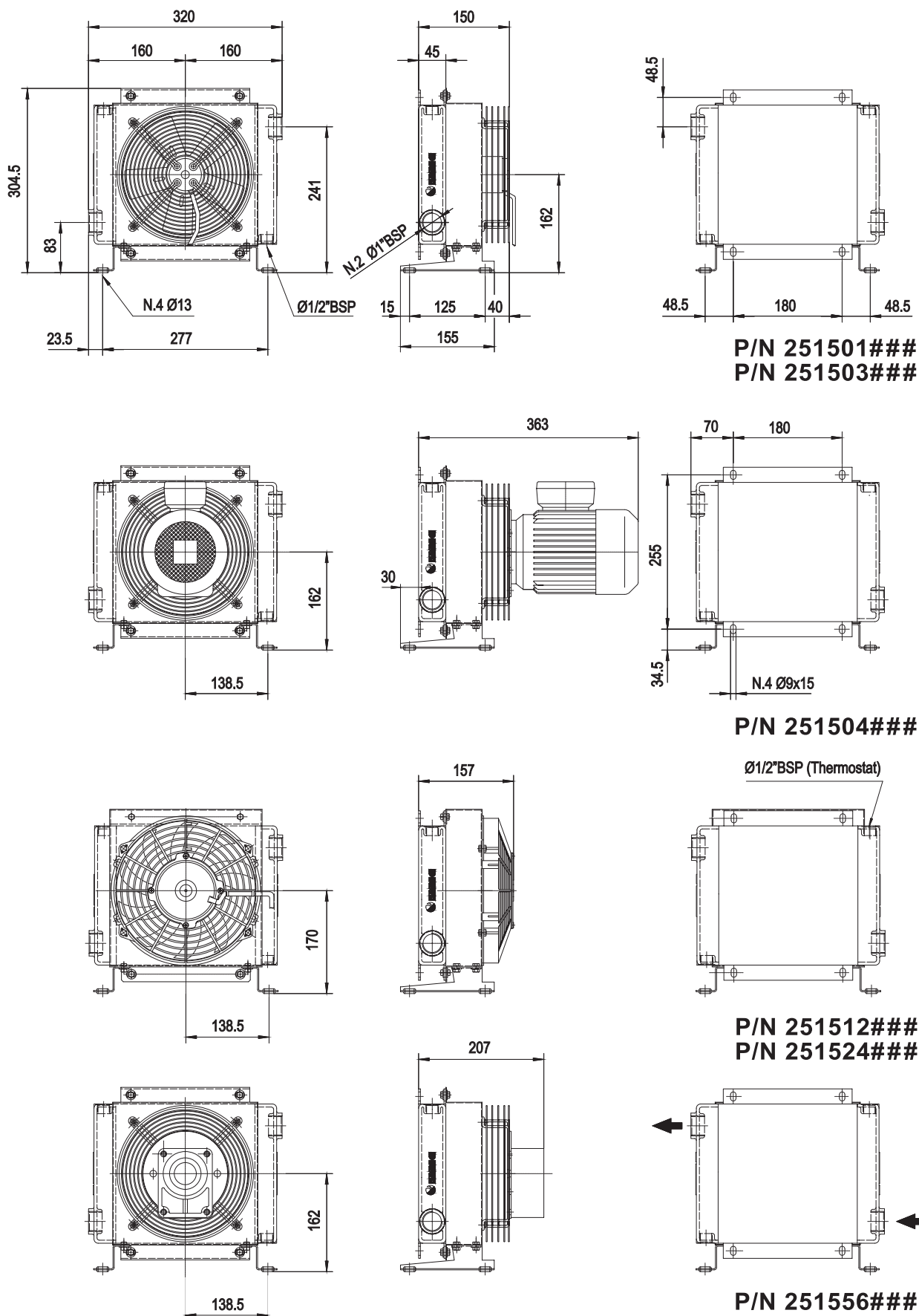
## Fattore di correzione-F-(perdite di carico) Correction factor-F-(pressure drop)

| cSt | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0,5 | 0,65 | 0,77 | 1  | 1,2 | 1,4 | 1,6 | 1,9 | 2,1 | 3,3 | 4,3 |



# MG AIR

## MG 2015K



Le dimensioni di ingombro e le caratteristiche tecniche non sono impegnative  
Overall dimensions and technical characteristic are not binding

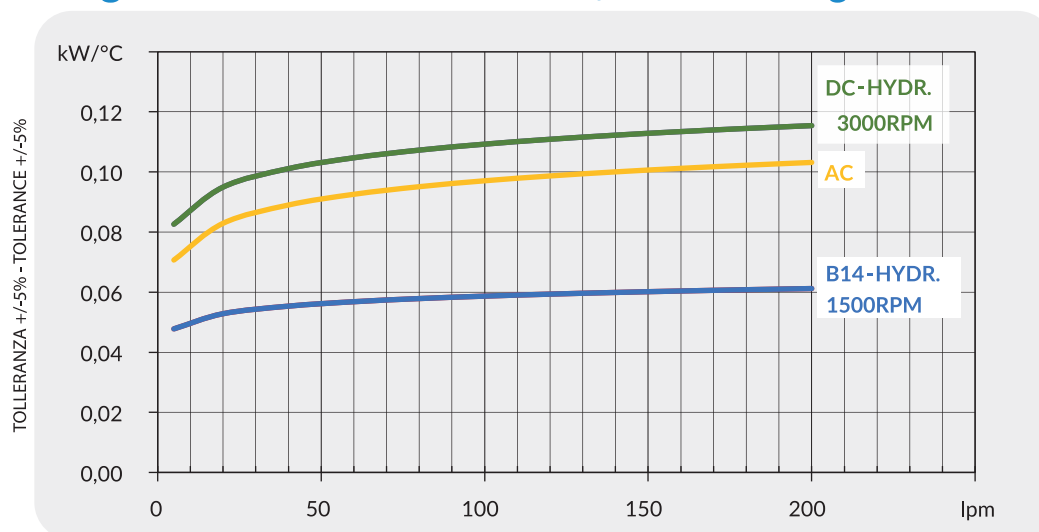


## Dati tecnici Technical Data

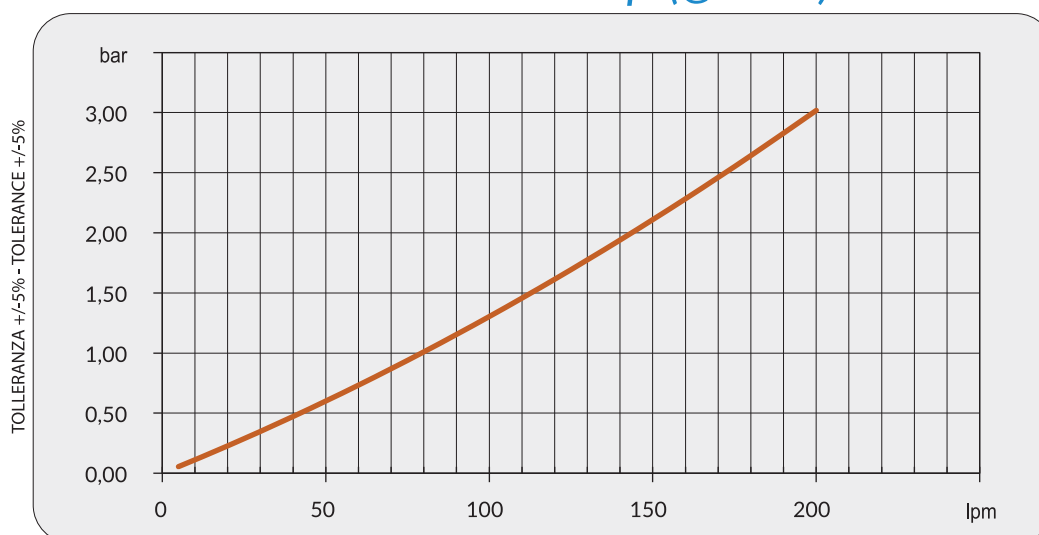
| P/N       | V                                 | Hz       | kW(±10%)     | A(±10%)                | rpm          | Ø Fan | dB (A) | (m³/h) | IP | lt  | kg  |
|-----------|-----------------------------------|----------|--------------|------------------------|--------------|-------|--------|--------|----|-----|-----|
| 251501### | 230 AC                            | 50/60    | 0,05/0,06    | 0,24-0,28              | 2740-3120    | 200   | 68     | 740    | 44 | 0,5 | 7   |
| 251503### | 230-400 AC<br>230-400 AC          | 50<br>60 | 0,07<br>0,08 | 0,29-0,17<br>0,23-0,13 | 2500<br>2650 | 200   | 69     | 740    | 44 | 0,5 | 7   |
| 251504### | 230-400 AC B14<br>265-460 AC B14  | 50<br>60 | 0,25<br>0,29 | 1,7- 1<br>1,7- 1       | 1350<br>1620 | 200   | 61     | 340    | 55 | 0,5 | 10  |
| 251512### | 12 DC                             | /        | 0,08         | 6,7                    | 2770         | 225   | 72     | 860    | 68 | 0,5 | 6,5 |
| 251524### | 24 DC                             | /        | 0,09         | 4,1                    | 2900         | 225   | 73     | 860    | 68 | 0,5 | 6,5 |
| 251556### | Prepared for Gr.2 hydraulic motor |          |              |                        |              | 200   |        |        | /  | 0,5 | 6   |

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## Diagramma rendimento Performance diagram



## Perdite di carico Pressure drop (@30cSt)



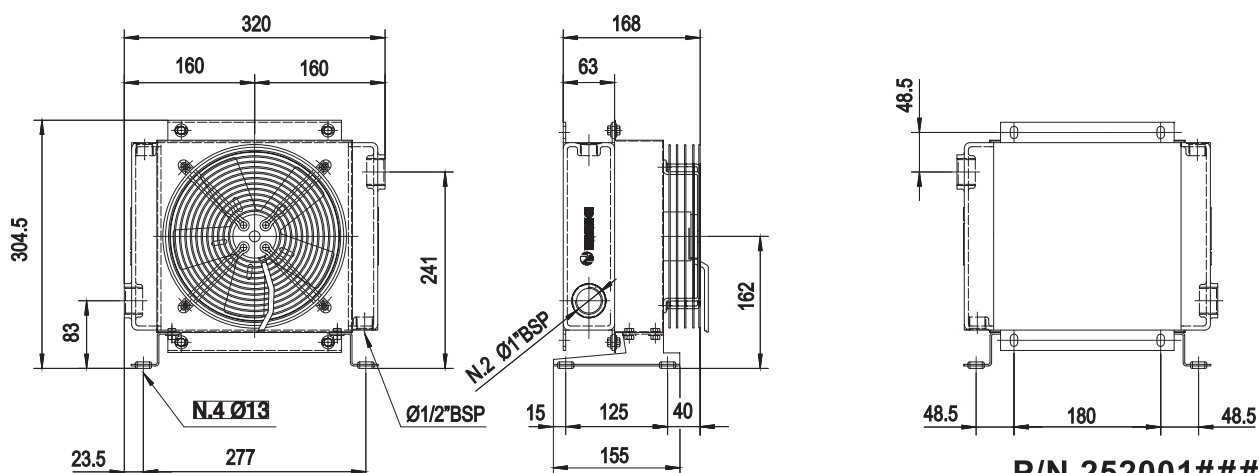
## Fattore di correzione-F-(perdite di carico) Correction factor-F-(pressure drop)

| cSt | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0,5 | 0,65 | 0,77 | 1  | 1,2 | 1,4 | 1,6 | 1,9 | 2,1 | 3,3 | 4,3 |

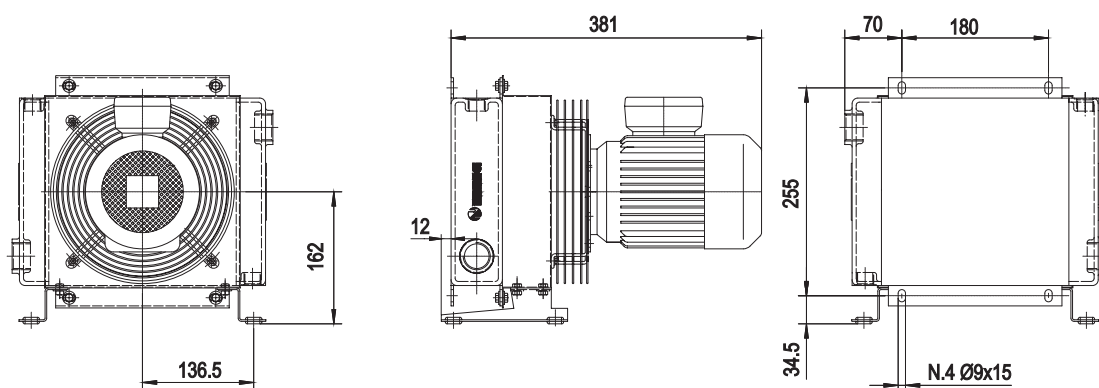


# MG AIR

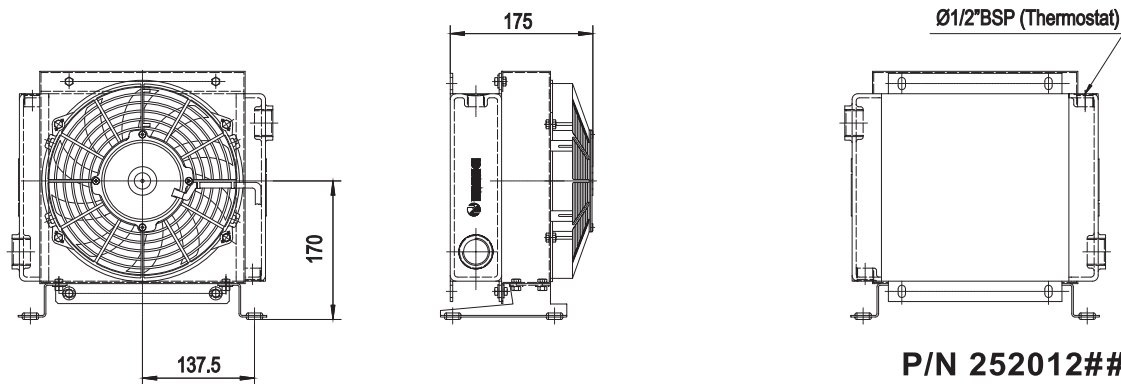
## MG 2020K



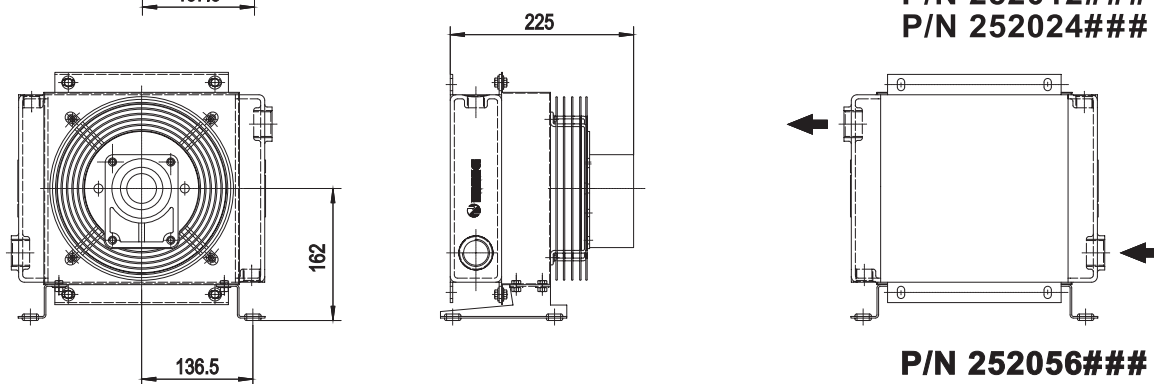
**P/N 252001###**  
**P/N 252003###**



**P/N 252004###**



**P/N 252012###**  
**P/N 252024###**



**P/N 252056###**

Le dimensioni di ingombro e le caratteristiche tecniche non sono impegnative  
Overall dimensions and technical characteristic are not binding



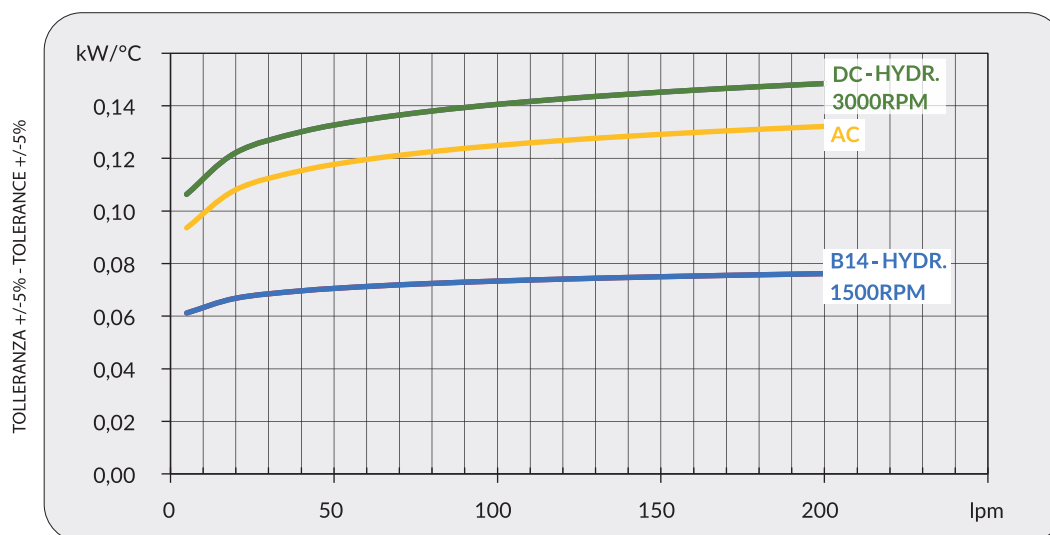


## Dati tecnici Technical Data

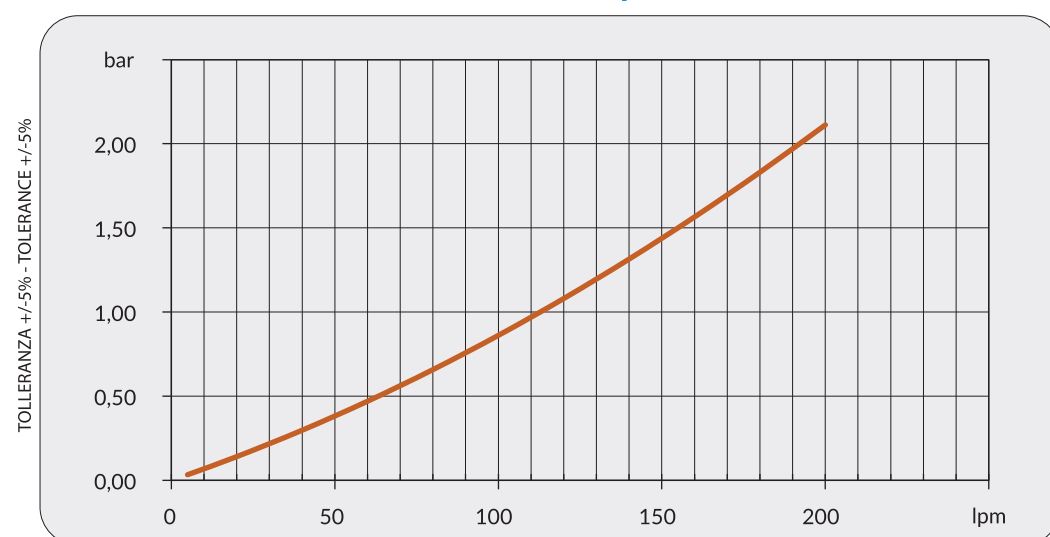
| P/N       | V                                 | Hz       | kW(±10%)     | A(±10%)                | rpm          | Ø Fan | dB (A) | (m³/h) | IP | lt  | kg |
|-----------|-----------------------------------|----------|--------------|------------------------|--------------|-------|--------|--------|----|-----|----|
| 252001### | 230 AC                            | 50/60    | 0,05/0,06    | 0,24-0,28              | 2740/3120    | 200   | 68     | 670    | 44 | 0,7 | 8  |
| 252003### | 230-400 AC<br>230-400 AC          | 50<br>60 | 0,07<br>0,08 | 0,29-0,17<br>0,23-0,13 | 2500<br>2650 | 200   | 68     | 670    | 44 | 0,7 | 8  |
| 252004### | 230-400 AC B14<br>265-460 AC B14  | 50<br>60 | 0,25<br>0,29 | 1,7- 1<br>1,7- 1       | 1350<br>1620 | 200   | 64     | 305    | 55 | 0,7 | 11 |
| 252012### | 12 DC                             | /        | 0,08         | 6,4                    | 2770         | 225   | 72     | 750    | 68 | 0,7 | 7  |
| 252024### | 24 DC                             | /        | 0,09         | 3,9                    | 2900         | 225   | 72     | 750    | 68 | 0,7 | 7  |
| 252056### | Prepared for Gr.2 hydraulic motor |          |              |                        |              | 200   |        |        | /  | 0,7 | 7  |

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## Diagramma rendimento Performance diagram



## Perdite di carico Pressure drop (@30cSt)



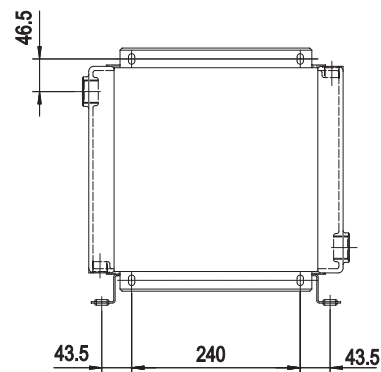
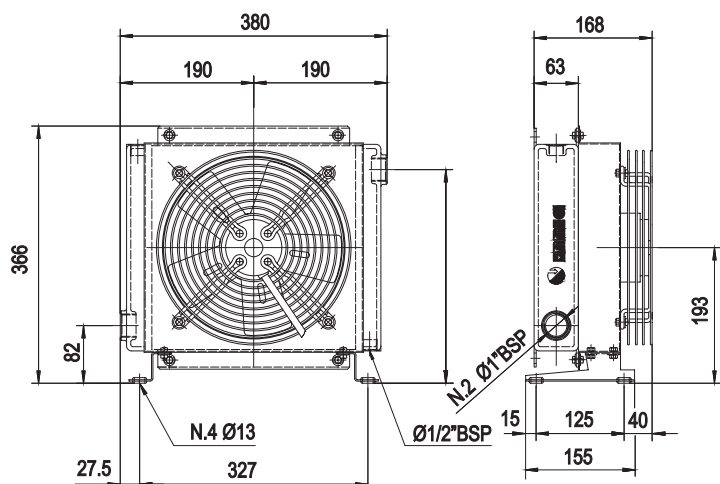
## Fattore di correzione-F-(perdite di carico) Correction factor-F-(pressure drop)

| cSt | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0,5 | 0,65 | 0,77 | 1  | 1,2 | 1,4 | 1,6 | 1,9 | 2,1 | 3,3 | 4,3 |

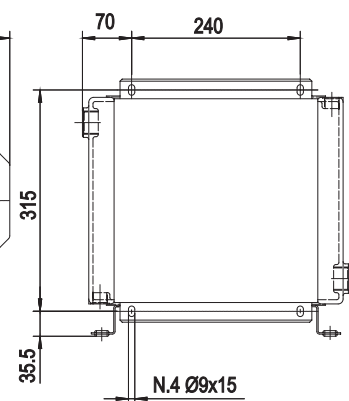
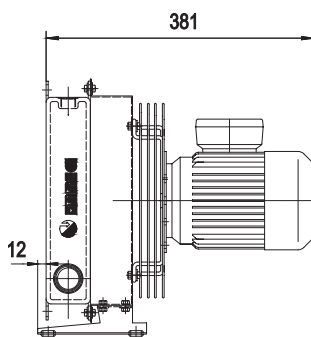
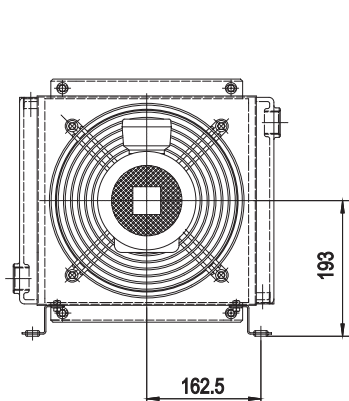


# MG AIR

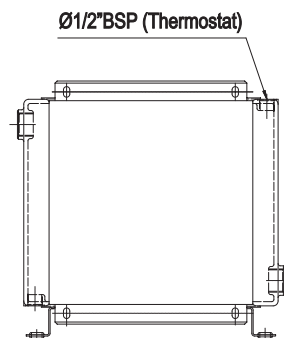
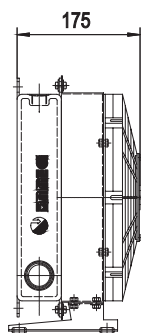
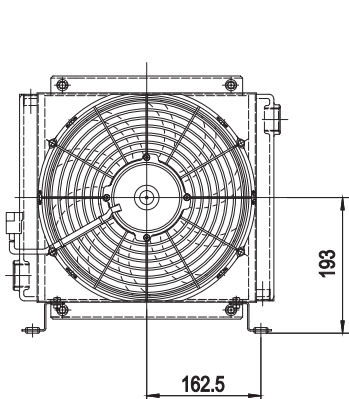
## MG 2024K



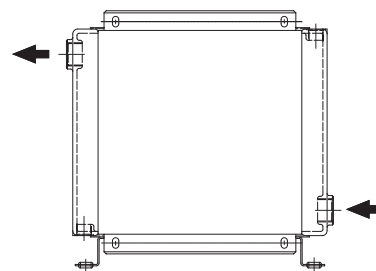
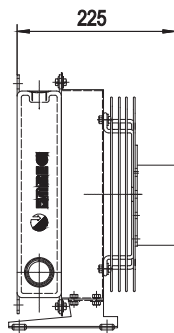
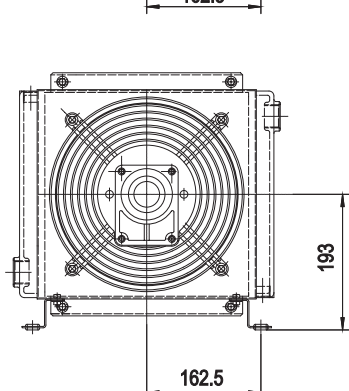
**P/N 252401###**  
**P/N 252403###**



**P/N 252404###**



**P/N 252412###**  
**P/N 252424###**



**P/N 252456###**

Le dimensioni di ingombro e le caratteristiche tecniche non sono impegnative  
Overall dimensions and technical characteristic are not binding

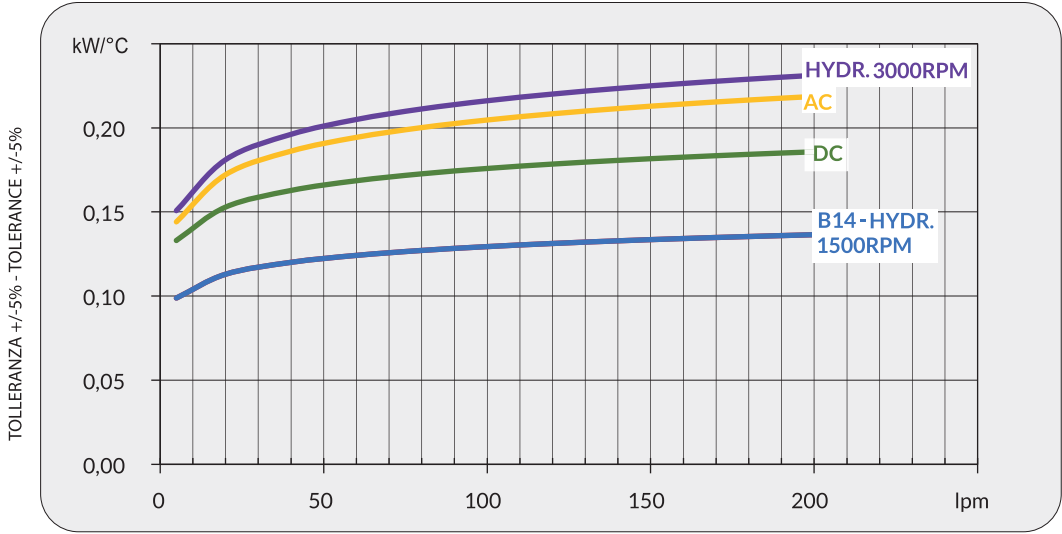


Dati tecnici    *Technical Data*

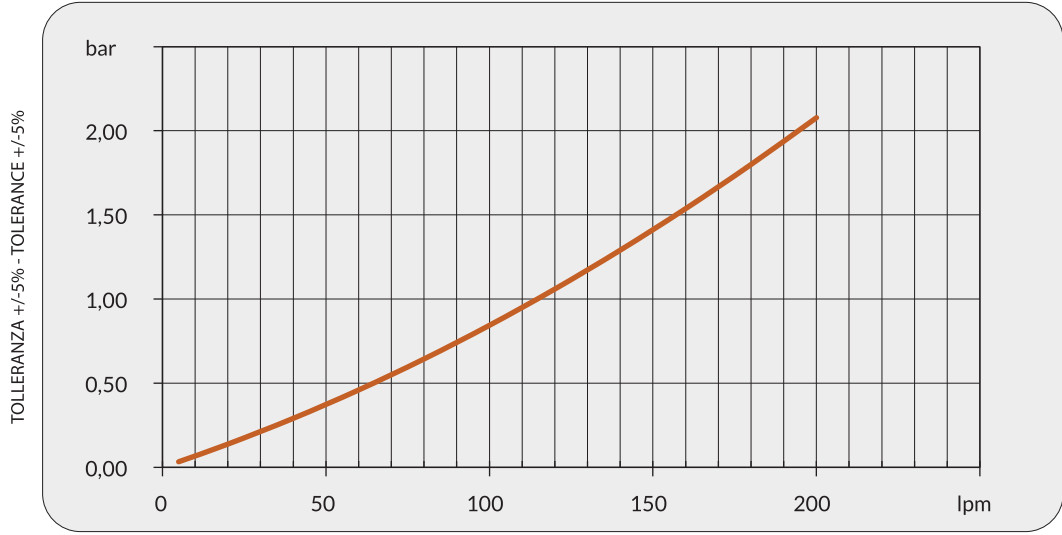
| P/N       | V                                 | Hz       | kW(±10%)     | A(±10%)                | rpm          | Ø Fan | dB (A) | (m³/h) | IP | lt | kg |
|-----------|-----------------------------------|----------|--------------|------------------------|--------------|-------|--------|--------|----|----|----|
| 252401### | 230 AC                            | 50/60    | 0,11/0,15    | 0,51/0,66              | 2450/2600    | 250   | 72     | 1275   | 44 | 1  | 11 |
| 252403### | 230-400 AC<br>230-400 AC          | 50<br>60 | 0,10<br>0,14 | 0,33-0,19<br>0,39-0,23 | 2600<br>2900 | 250   | 72     | 1275   | 44 | 1  | 11 |
| 252404### | 230-400 AC B14<br>265-460 AC B14  | 50<br>60 | 0,25<br>0,29 | 1,7- 1<br>1,7- 1       | 1350<br>1620 | 250   | 64     | 640    | 55 | 1  | 16 |
| 252412### | 12 DC                             | /        | 0,09         | 7,5                    | 2710         | 280   | 72     | 1045   | 68 | 1  | 10 |
| 252424### | 24 DC                             | /        | 0,10         | 4,3                    | 2765         | 280   | 74     | 1045   | 68 | 1  | 10 |
| 252456### | Prepared for Gr.2 hydraulic motor |          |              |                        |              | 250   |        |        | /  | 1  | 10 |

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Diagramma rendimento    *Performance diagram*



Perdite di carico    *Pressure drop (@30cSt)*



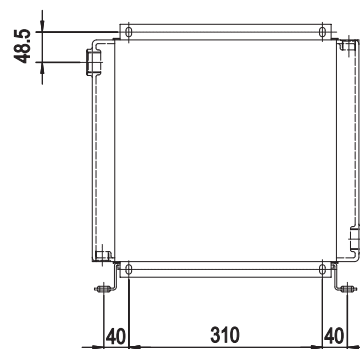
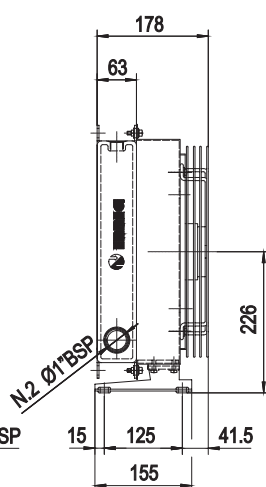
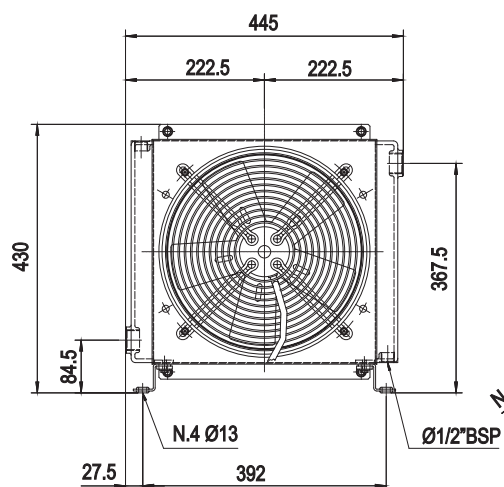
Fattore di correzione-F-(perdite di carico)    *Correction factor-F-(pressure drop)*

| cSt | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0,5 | 0,65 | 0,77 | 1  | 1,2 | 1,4 | 1,6 | 1,9 | 2,1 | 3,3 | 4,3 |

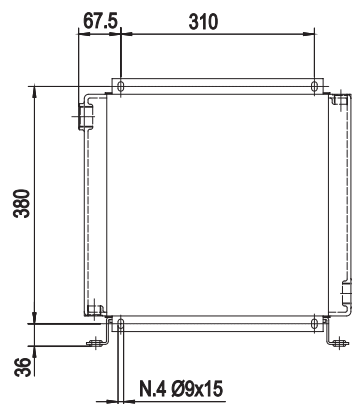
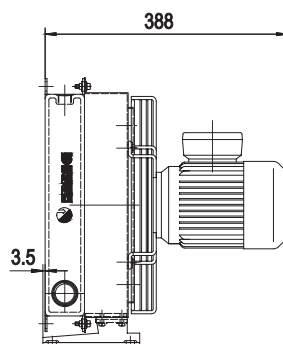
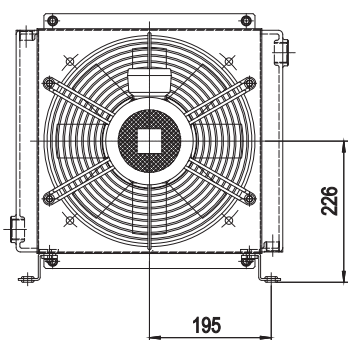


# MG AIR

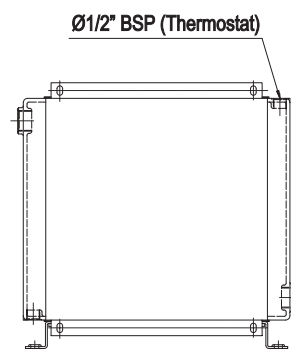
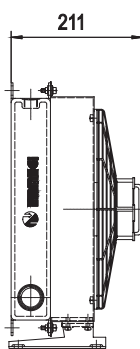
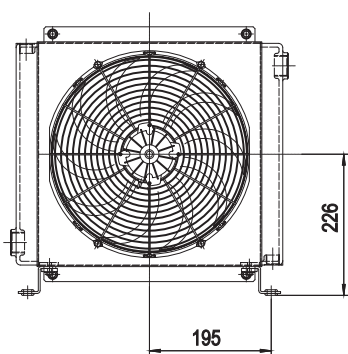
## MG 2030K



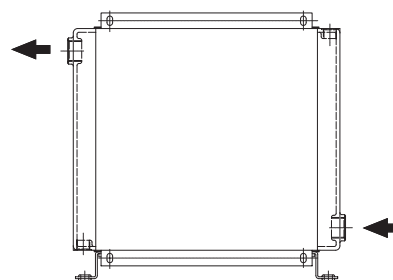
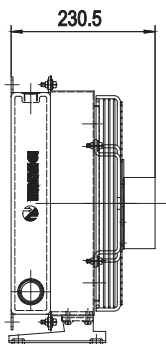
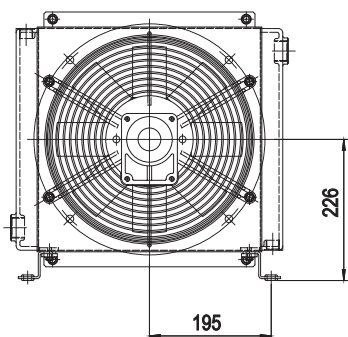
**P/N 253001###**  
**P/N 253003###**



**P/N 253004###**



**P/N 253012###**  
**P/N 253024###**



**P/N 253056###**

Le dimensioni di ingombro e le caratteristiche tecniche non sono impegnative  
Overall dimensions and technical characteristic are not binding



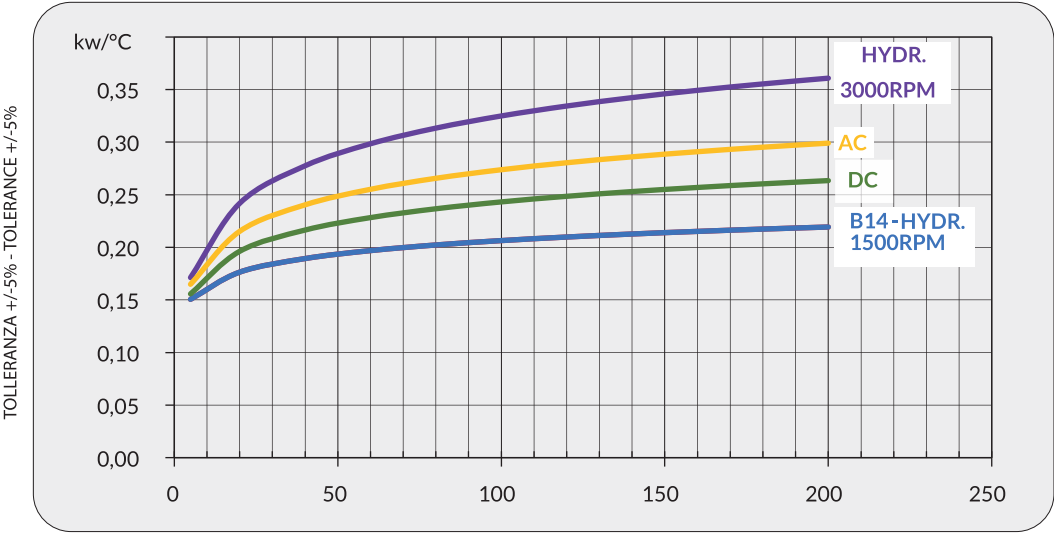


Dati tecnici    *Technical Data*

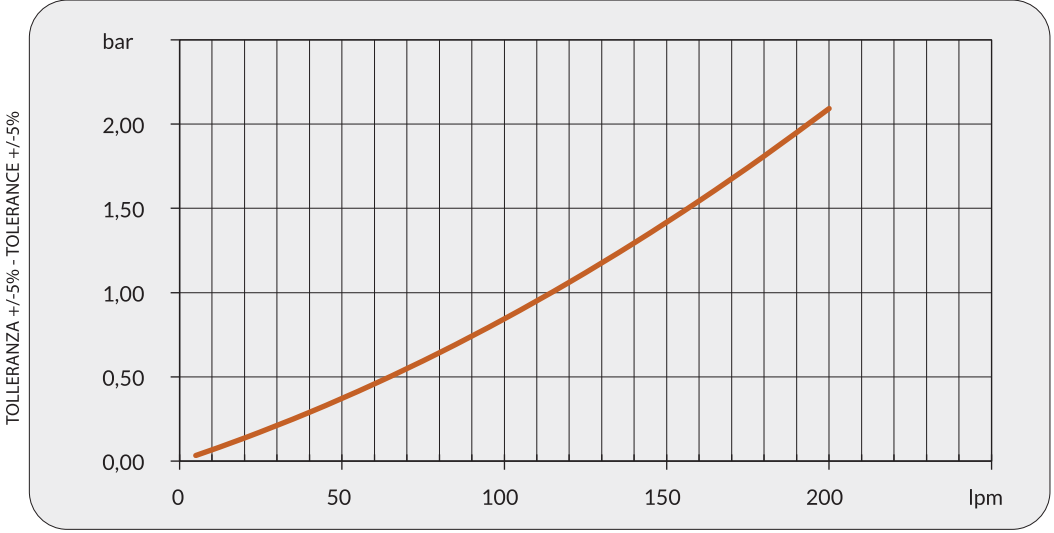
| P/N       | V                                 | Hz       | kW(±10%)     | A(±10%)                | rpm          | Ø Fan | dB (A) | (m³/ h) | IP | lt  | kg |
|-----------|-----------------------------------|----------|--------------|------------------------|--------------|-------|--------|---------|----|-----|----|
| 253001### | 230 AC                            | 50/60    | 0,23/0,35    | 1,1/1,5                | 2700/3000    | 300   | 78     | 2200    | 44 | 1,6 | 15 |
| 253003### | 230-400 AC<br>230-400 AC          | 50<br>60 | 0,21<br>0,30 | 0,62-0,36<br>0,84-0,48 | 2580<br>2750 | 300   | 76     | 2200    | 44 | 1,6 | 15 |
| 253004### | 230-400 AC B14<br>265-460 AC B14  | 50<br>60 | 0,37<br>0,43 | 2,1- 1,1<br>2,1- 1,1   | 1370<br>1650 | 300   | 70     | 1380    | 55 | 1,6 | 20 |
| 253012### | 12 DC                             | /        | 0,16         | 13,3                   | 2660         | 305   | 80     | 1890    | 68 | 1,6 | 14 |
| 253024### | 24 DC                             | /        | 0,18         | 7,4                    | 2870         | 305   | 83     | 1890    | 68 | 1,6 | 14 |
| 253056### | Prepared for Gr.2 hydraulic motor |          |              |                        |              | 300   |        |         | /  | 1,6 | 15 |

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Diagramma rendimento    *Performance diagram*



Perdite di carico    *Pressure drop (@30cSt)*



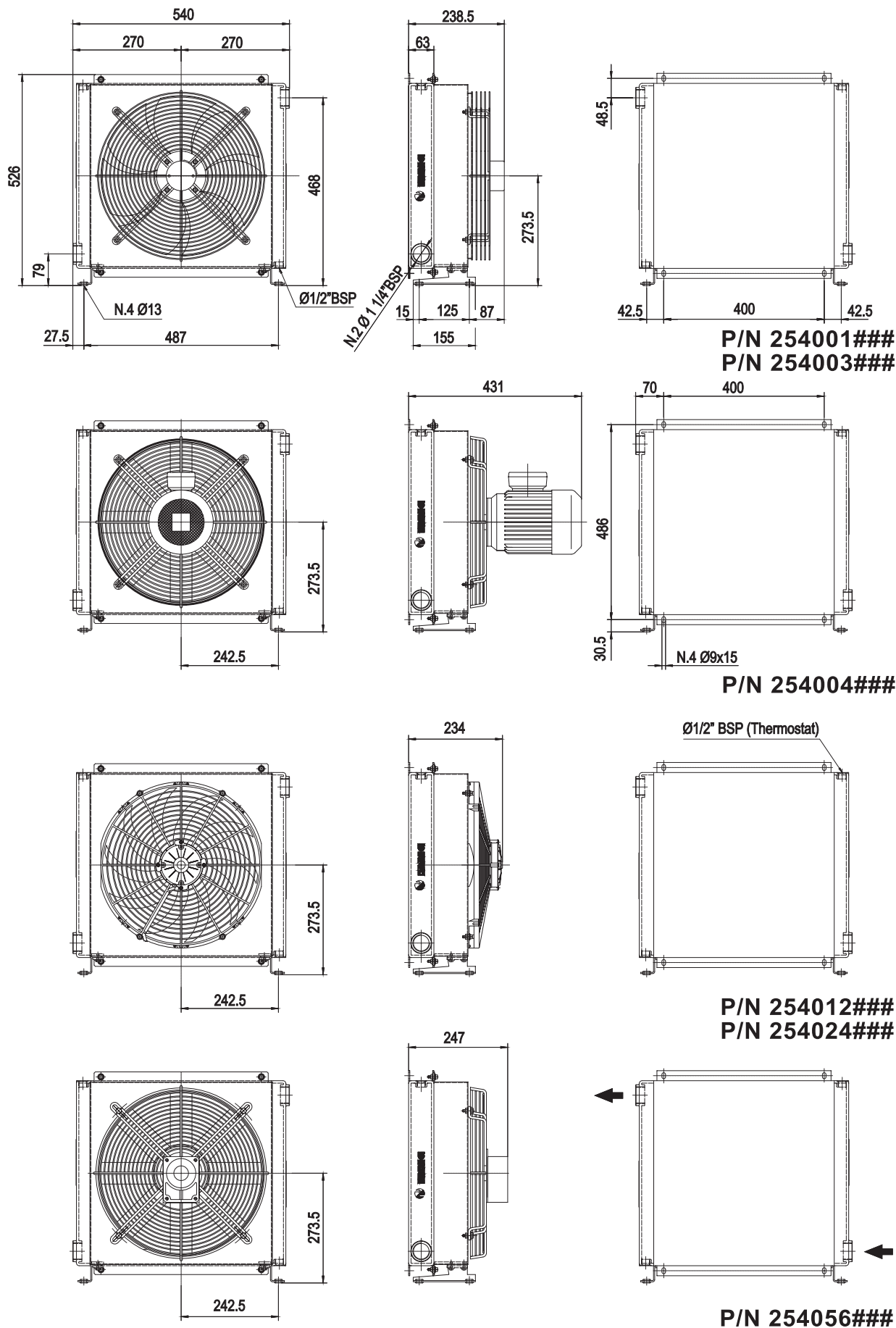
Fattore di correzione-F-(perdite di carico)    *Correction factor-F-(pressure drop)*

| cSt | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0,5 | 0,65 | 0,77 | 1  | 1,2 | 1,4 | 1,6 | 1,9 | 2,1 | 3,3 | 4,3 |



# MG AIR

## MG 2040K



Le dimensioni di ingombro e le caratteristiche tecniche non sono impegnative  
Overall dimensions and technical characteristic are not binding

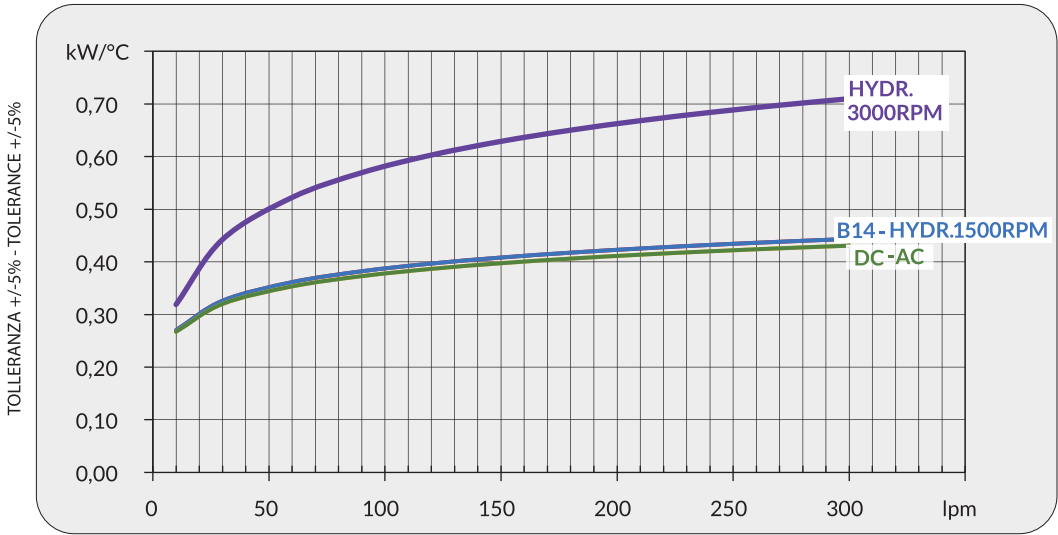


Dati tecnici    Technical Data

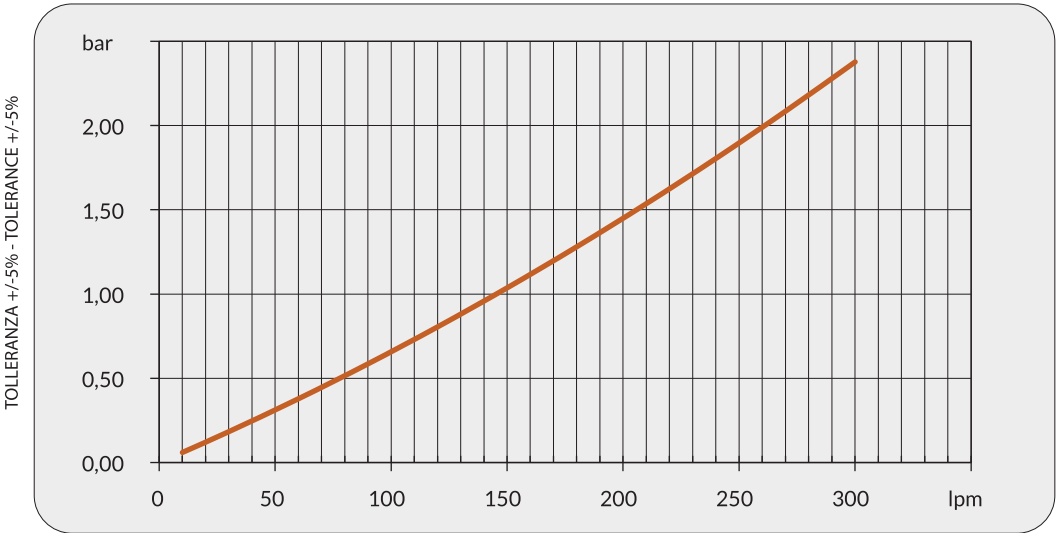
| P/N       | V                                 | Hz | kW(±10%)  | A(±10%)   | rpm       | Ø Fan | dB (A) | (m³/ h) | IP | lt  | kg |
|-----------|-----------------------------------|----|-----------|-----------|-----------|-------|--------|---------|----|-----|----|
| 254001### | 230 AC                            | 50 | 0,16-0,24 | 0,73/1,06 | 1430/1700 | 400   | 71     | 2800    | 54 | 2,7 | 21 |
| 254003### | 230-400 AC                        | 50 | 0,135     | 0,76-0,44 | 1450      | 400   | 71     | 2800    | 54 | 2,7 | 21 |
|           | 230-400 AC                        | 60 | 0,185     | 0,68-0,39 | 1690      |       |        |         |    |     |    |
| 254004### | 230-400 AC B14                    | 50 | 0,55      | 2,9-1,7   | 1320      | 395   | 77     | 3030    | 55 | 2,7 | 25 |
|           | 265-460 AC B14                    | 60 | 0,63      | 2,9-1,7   | 1690      |       |        |         |    |     |    |
| 254012### | 12 DC                             | /  | 0,22      | 20,3      | 2310      | 385   | 76     | 3030    | 68 | 2,7 | 20 |
| 254024### | 24 DC                             | /  | 0,23      | 9,9       | 2380      | 385   | 79     | 2950    | 68 | 2,7 | 20 |
| 254056### | Prepared for Gr.2 hydraulic motor |    |           |           |           | 400   |        |         | /  | 2,7 | 19 |

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Diagramma rendimento    Performance diagram



Perdite di carico    Pressure drop (@30cSt)



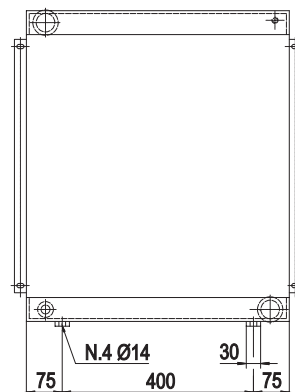
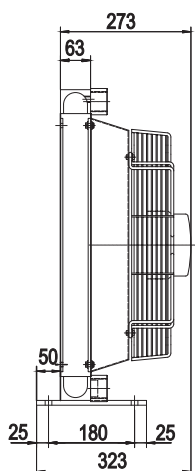
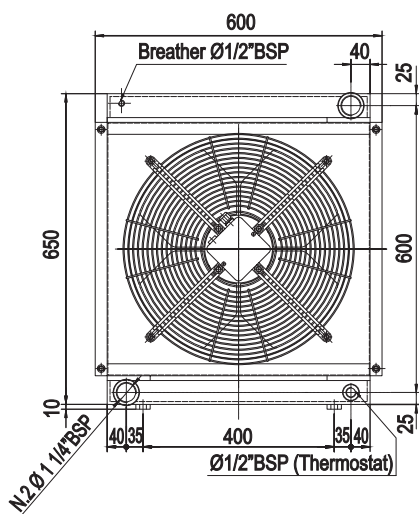
Fattore di correzione-F-(perdite di carico)    Correction factor-F-(pressure drop)

| cSt | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0,5 | 0,65 | 0,77 | 1  | 1,2 | 1,4 | 1,6 | 1,9 | 2,1 | 3,3 | 4,3 |

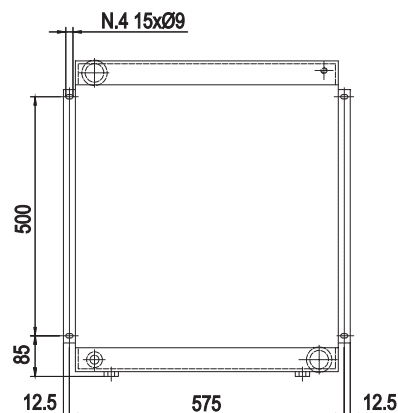
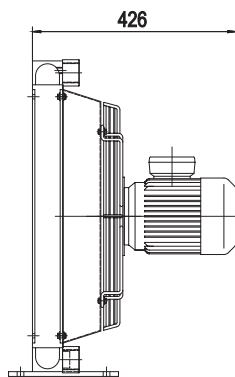
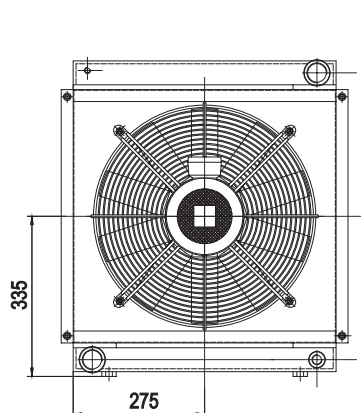


# MG AIR

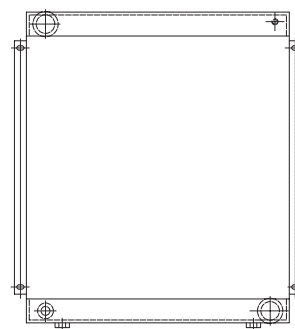
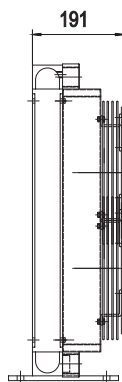
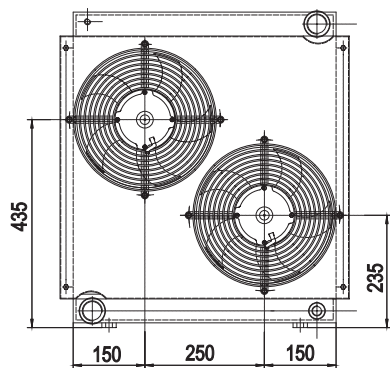
## MG 2050K



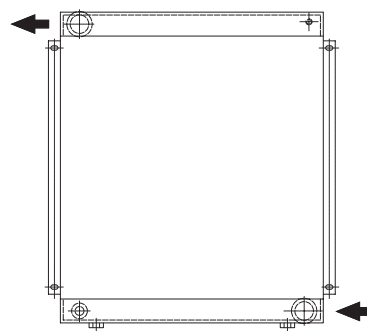
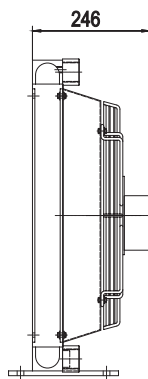
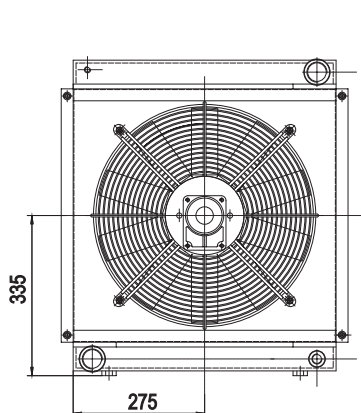
**P/N 255003###**



**P/N 255004###**



**P/N 255012###**  
**P/N 255024###**



**P/N 255056###**

Le dimensioni di ingombro e le caratteristiche tecniche non sono impegnative  
Overall dimensions and technical characteristic are not binding





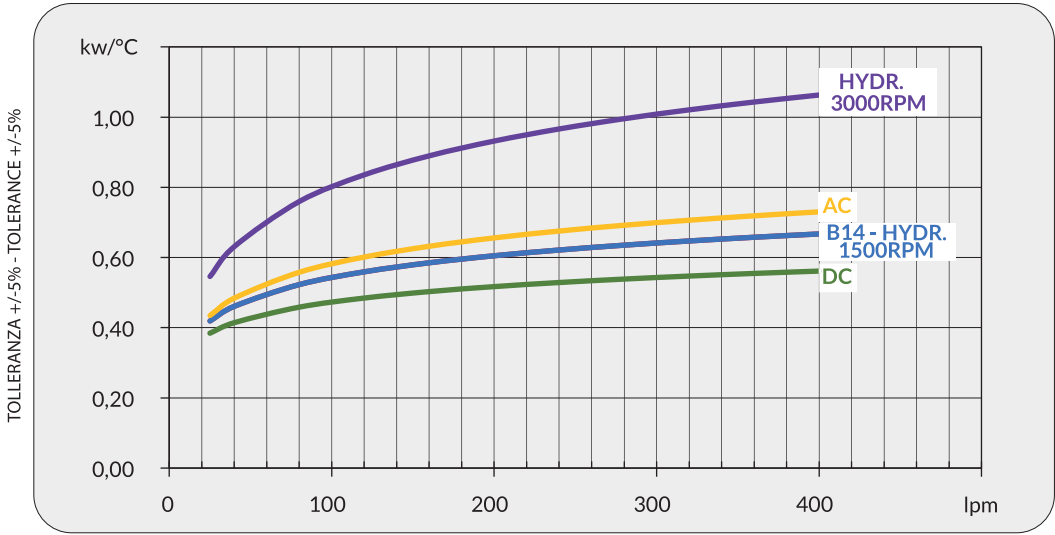
Dati tecnici    Technical Data

| P/N       | V                                 | Hz | kW(±10%) | A(±10%)   | rpm          | Ø Fan | dB (A) | (m³/h) | IP | lt | kg |
|-----------|-----------------------------------|----|----------|-----------|--------------|-------|--------|--------|----|----|----|
| 255003### | 230-400 AC                        | 50 | 0,52     | 1,9 - 1,1 | 1450         | 450   | 76     | 5100   | 54 | 5  | 27 |
|           | 230-400 AC                        | 60 | 0,66     | 2,0 - 1,2 | 1690         |       |        |        |    |    |    |
| 255004### | 230-400 AC B14                    | 50 | 0,75     | 3,0-1,7   | 1440         | 445   | 79     | 4500   | 55 | 5  | 30 |
|           | 265-460 AC B14                    | 60 | 0,86     | 3,0-1,7   | 1750         |       |        |        |    |    |    |
| 255012### | 12 DC                             | /  | 0,13     | 11,0      | 2340<br>2600 | 280   | 76     | 1785   | 68 | 5  | 24 |
| 255024### | 24 DC                             | /  | 0,15     | 6,2       | 2600         | 280   | 79     | 1785   | 68 | 5  | 24 |
| 255056### | Prepared for Gr.2 hydraulic motor |    |          |           |              | 445   |        |        | /  | 5  | 23 |

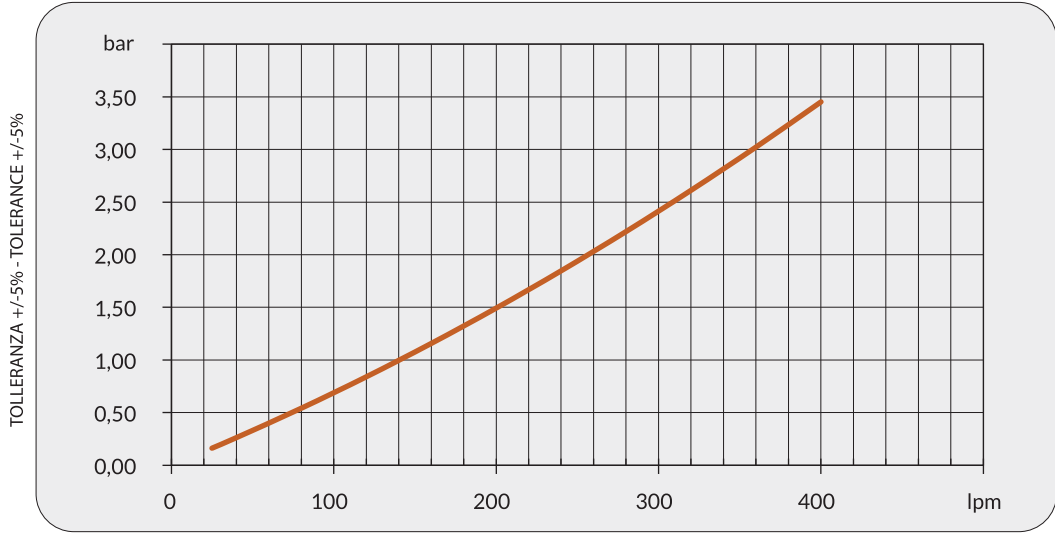
I dati si riferiscono al singolo ventilatore  
Data refers to each fan

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Diagramma rendimento    Performance diagram



Perdite di carico    Pressure drop (@30cSt)



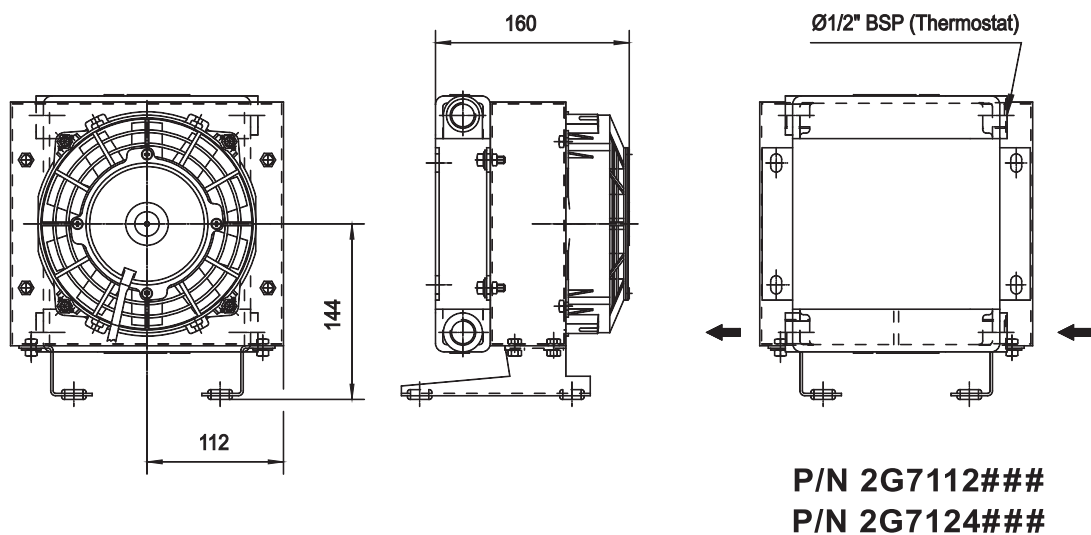
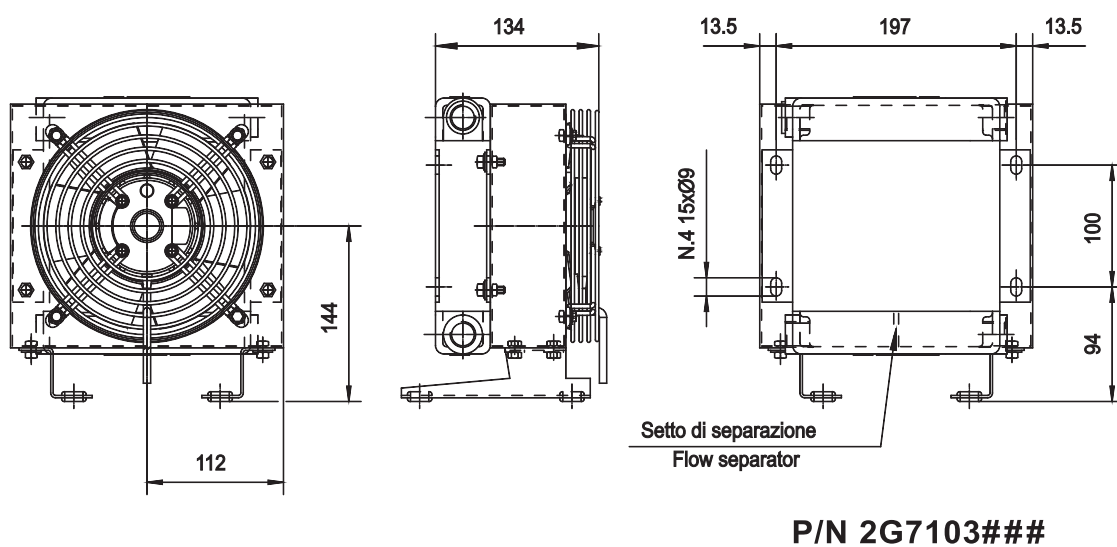
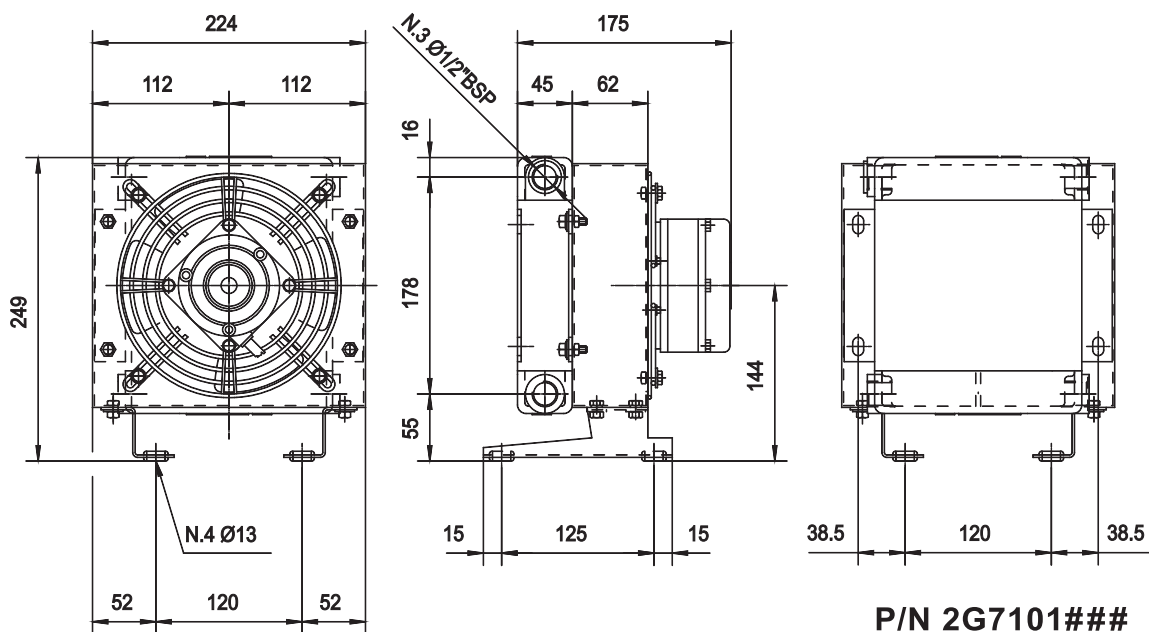
Fattore di correzione-F-(perdite di carico)    Correction factor-F-(pressure drop)

| cSt | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0,5 | 0,65 | 0,77 | 1  | 1,2 | 1,4 | 1,6 | 1,9 | 2,1 | 3,3 | 4,3 |



# MG AIR

## MG 2010K 2<sub>PASS</sub>



Le dimensioni di ingombro e le caratteristiche tecniche non sono impegnative  
Overall dimensions and technical characteristic are not binding

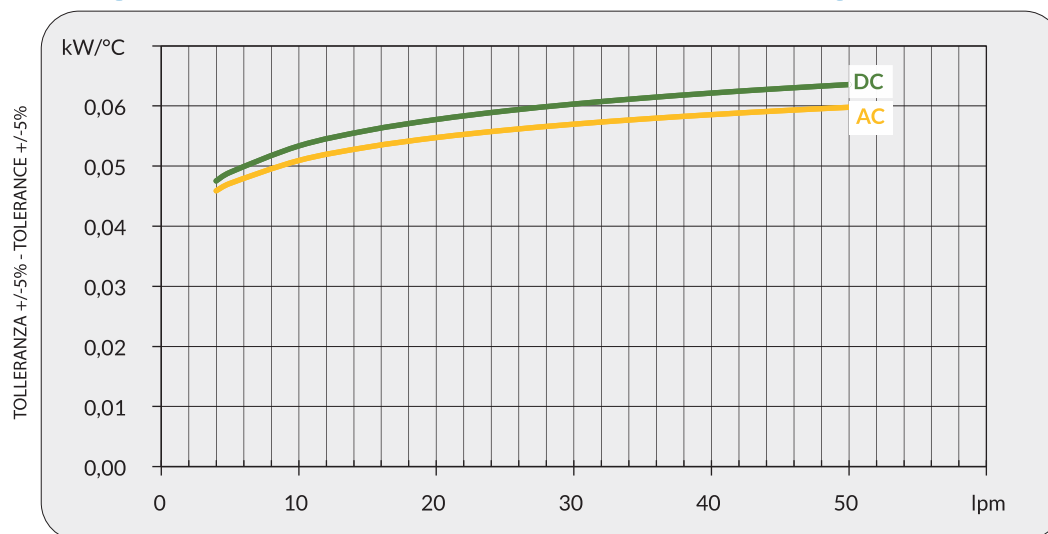


## Dati tecnici Technical Data

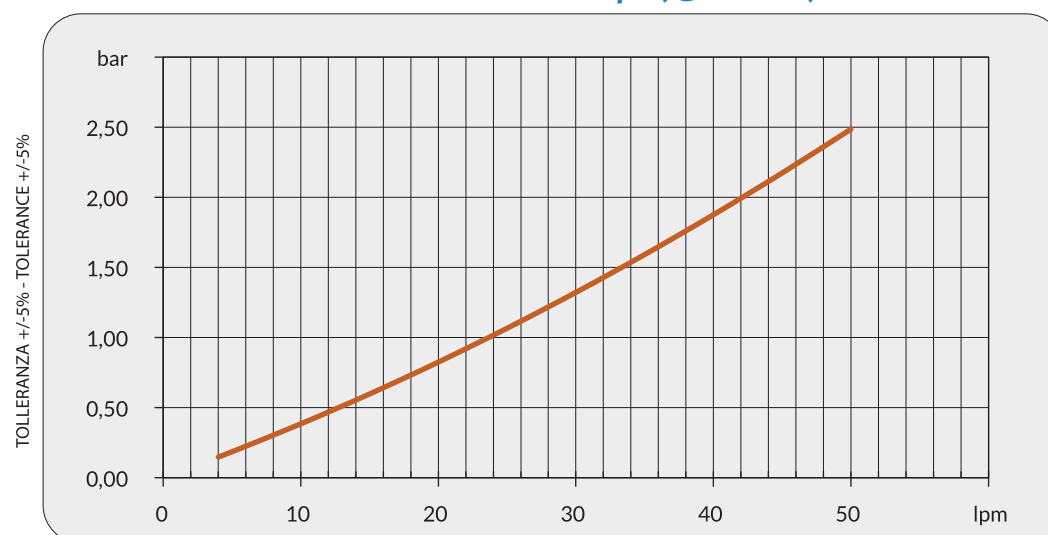
| P/N       | V                        | Hz       | kW(±10%)       | A(±10%)                | rpm          | Ø Fan | dB (A) | (m³/h) | IP | It  | kg |
|-----------|--------------------------|----------|----------------|------------------------|--------------|-------|--------|--------|----|-----|----|
| 2G7101### | 230AC                    | 50/60    | 0,010/0,047    | 0,21                   | 2500         | 170   | 67     | 345    | 54 | 0,3 | 6  |
| 2G7103### | 230-400 AC<br>230-400 AC | 50<br>60 | 0,045<br>0,043 | 0,23-0,13<br>0,16-0,09 | 2750<br>3100 | 170   | 63     | 345    | 54 | 0,3 | 6  |
| 2G7112### | 12 DC                    | /        | 0,06           | 5,5                    | 3860         | 167   | 75     | 410    | 68 | 0,3 | 5  |
| 2G7124### | 24 DC                    | /        | 0,06           | 2,4                    | 4045         | 167   | 75     | 410    | 68 | 0,3 | 5  |

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## Diagramma rendimento Performance diagram



## Perdite di carico Pressure drop (@30cSt)



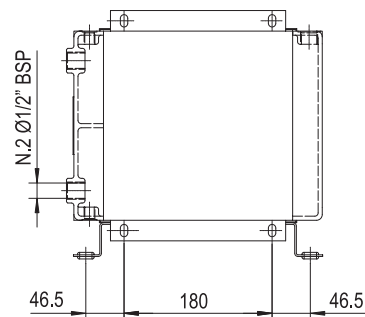
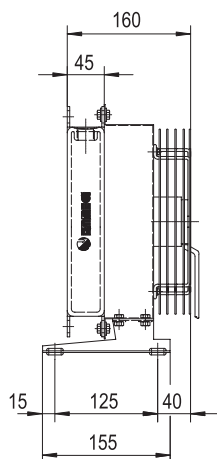
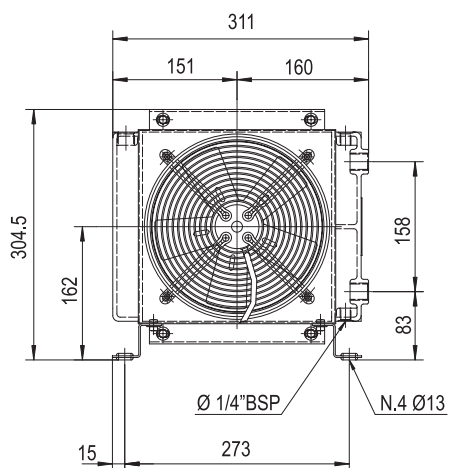
## Fattore di correzione-F-(perdite di carico) Correction factor-F-(pressure drop)

| cSt | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0,5 | 0,65 | 0,77 | 1  | 1,2 | 1,4 | 1,6 | 1,9 | 2,1 | 3,3 | 4,3 |

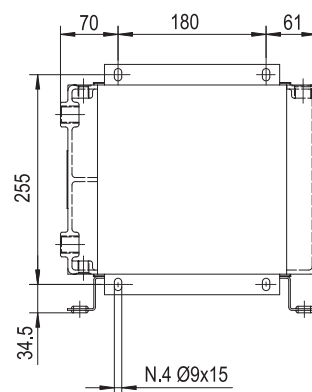
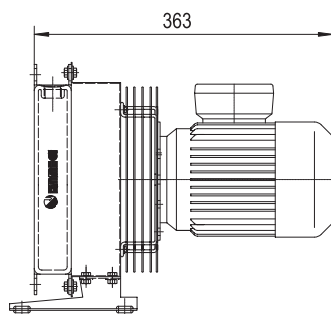
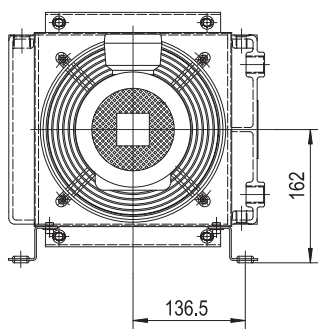


MG AIR

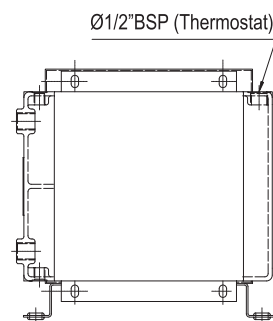
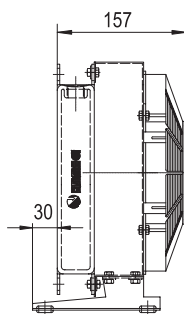
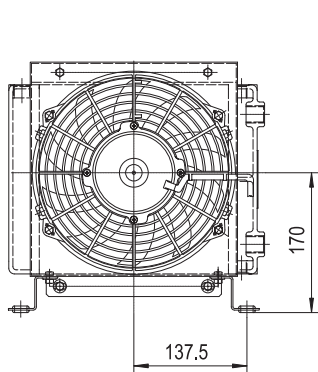
MG 2015K 2 PASS



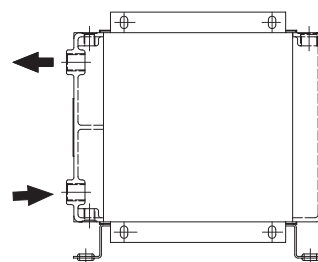
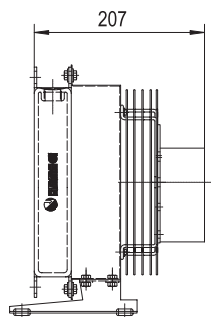
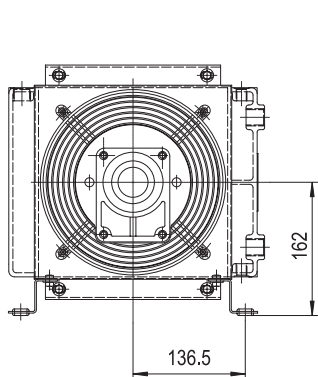
**P/N 251601###**  
**P/N 251603###**



**P/N 251604###**



**P/N 251612###**  
**P/N 251624###**



**P/N 251656###**

Le dimensioni di ingombro e le caratteristiche tecniche non sono impegnative  
Overall dimensions and technical characteristic are not binding



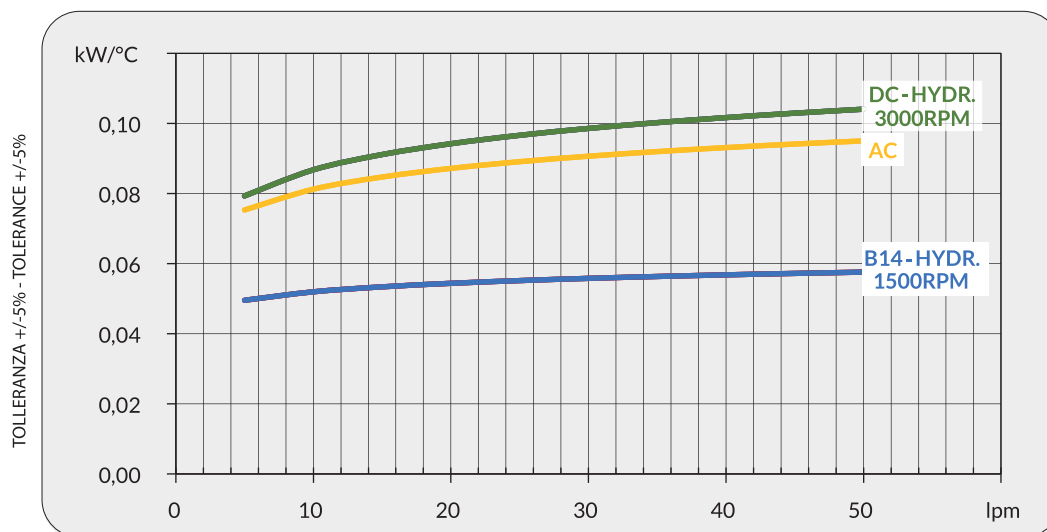


## Dati tecnici Technical Data

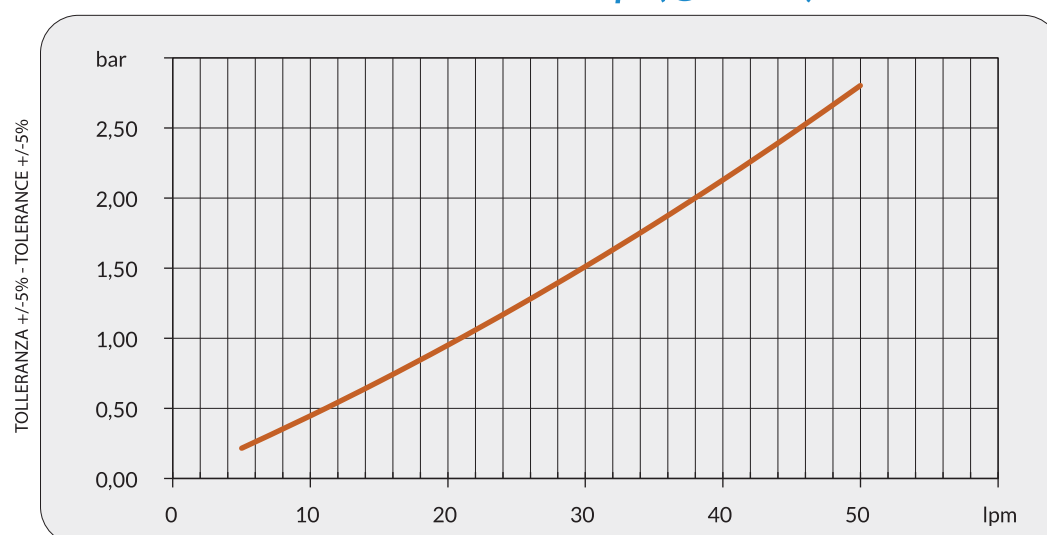
| P/N       | V                                 | Hz       | kW(±10%)     | A(±10%)                | rpm          | Ø Fan | dB (A) | (m³/h) | IP | lt  | kg  |
|-----------|-----------------------------------|----------|--------------|------------------------|--------------|-------|--------|--------|----|-----|-----|
| 251601### | 230 AC                            | 50/60    | 0,05/0,06    | 0,24/0,28              | 2740/3120    | 200   | 68     | 740    | 44 | 0,5 | 7   |
| 251603### | 230-400 AC<br>230-400 AC          | 50<br>60 | 0,07<br>0,08 | 0,29-0,17<br>0,23-0,13 | 2500<br>2650 | 200   | 69     | 740    | 44 | 0,5 | 7   |
| 251604### | 230-400 AC B14<br>265-460 AC B14  | 50<br>60 | 0,25<br>0,29 | 1,7- 1<br>1,7- 1       | 1350<br>1620 | 200   | 61     | 340    | 55 | 0,5 | 10  |
| 251612### | 12 DC                             | /        | 0,08         | 6,7                    | 2770         | 225   | 72     | 860    | 68 | 0,5 | 6,5 |
| 251624### | 24 DC                             | /        | 0,09         | 4,1                    | 2900         | 225   | 73     | 860    | 68 | 0,5 | 6,5 |
| 251656### | Prepared for Gr.2 hydraulic motor |          |              |                        |              | 200   |        |        | /  | 0,5 | 6   |

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## Diagramma rendimento Performance diagram



## Perdite di carico Pressure drop (@30cSt)



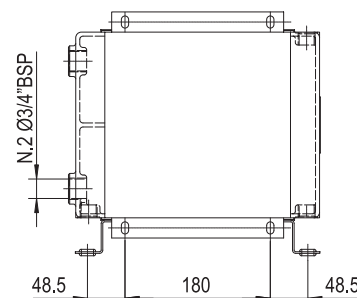
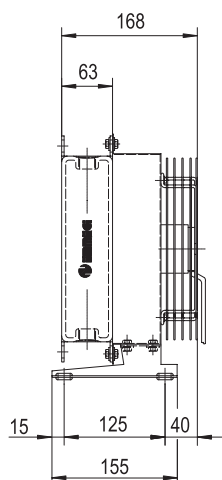
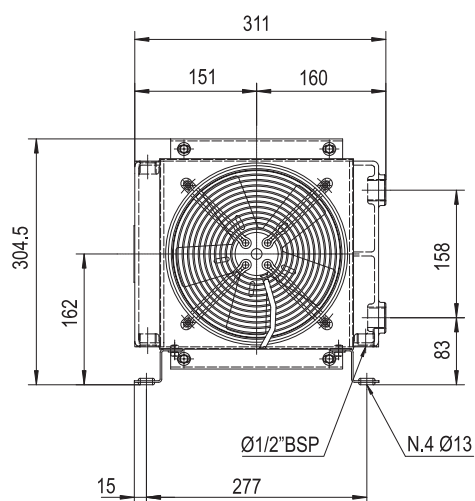
## Fattore di correzione-F-(perdite di carico) Correction factor-F-(pressure drop)

| cSt | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0,5 | 0,65 | 0,77 | 1  | 1,2 | 1,4 | 1,6 | 1,9 | 2,1 | 3,3 | 4,3 |

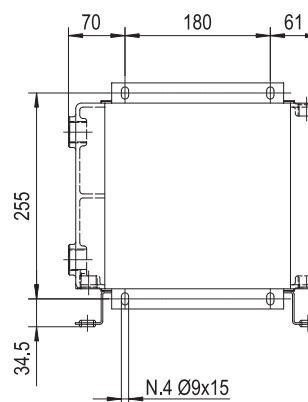
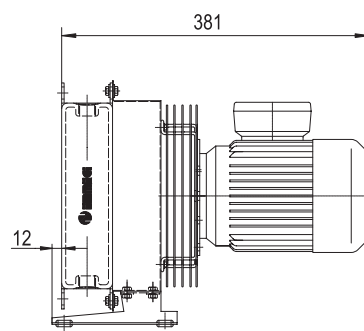
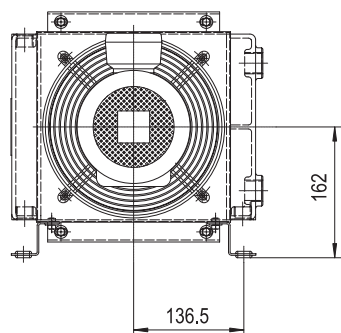


MG AIR

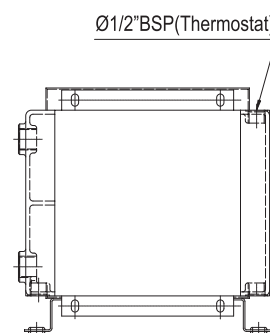
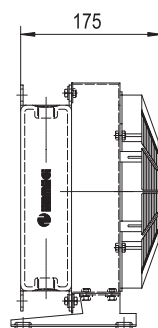
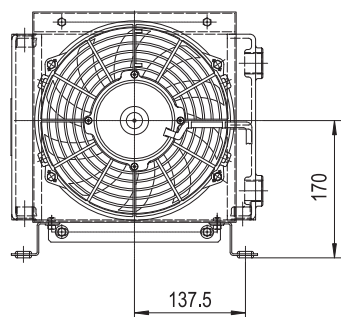
MG 2020K 2 PASS



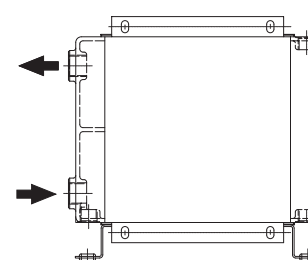
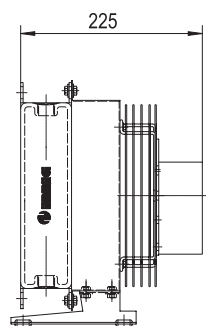
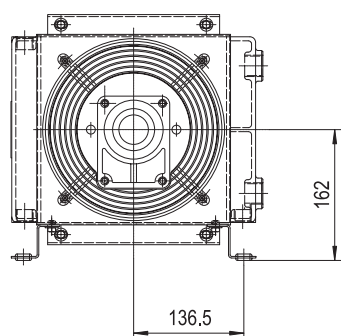
**P/N 252101###**  
**P/N 252103###**



**P/N 252104###**



**P/N 252112###**  
**P/N 252124###**



**P/N 252156###**

Le dimensioni di ingombro e le caratteristiche tecniche non sono impegnative  
Overall dimensions and technical characteristic are not binding

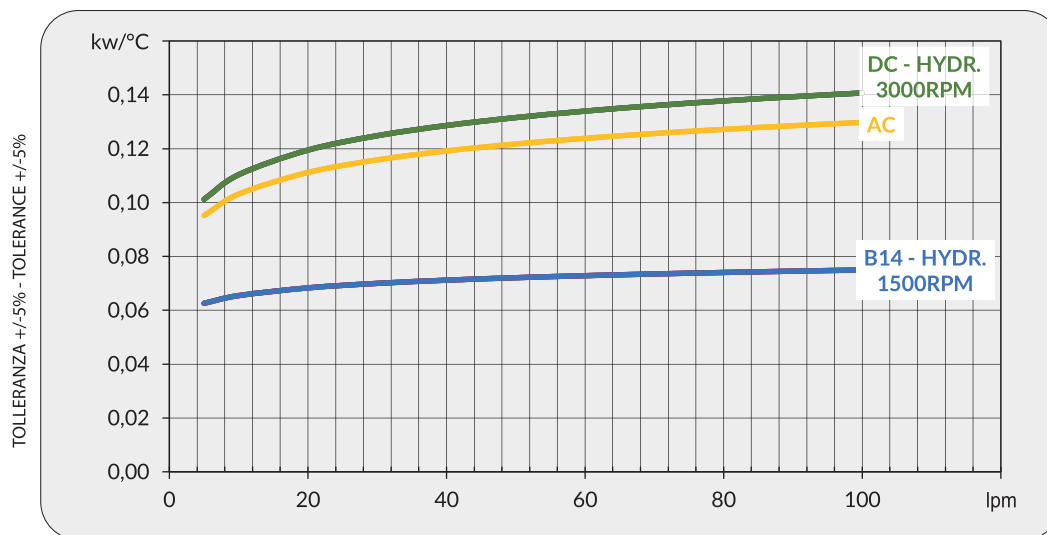


## Dati tecnici Technical Data

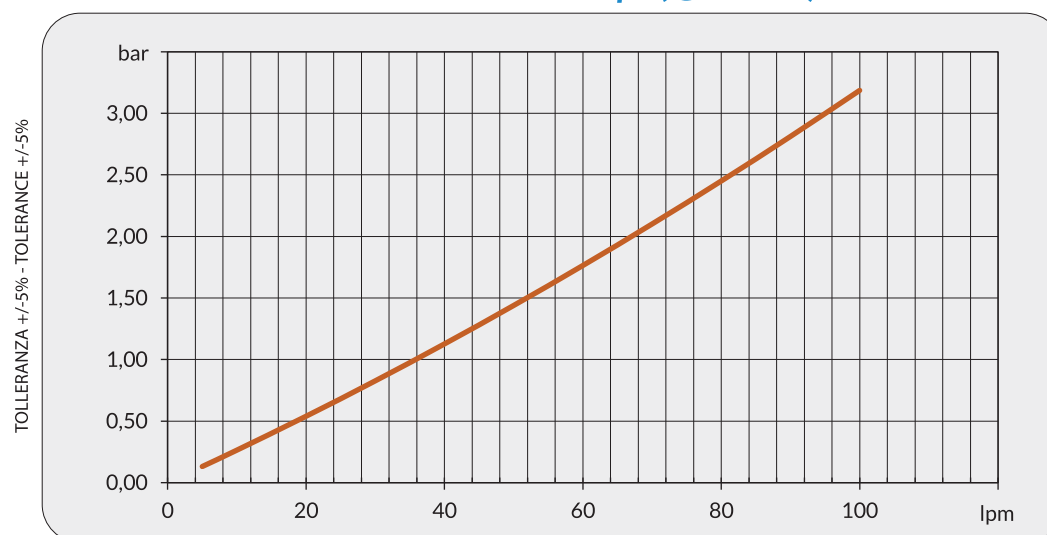
| P/N       | V                                 | Hz       | kW(±10%)     | A(±10%)                | rpm          | Ø Fan | dB (A) | (m³/h) | IP | lt  | kg |
|-----------|-----------------------------------|----------|--------------|------------------------|--------------|-------|--------|--------|----|-----|----|
| 252101### | 230 AC                            | 50/60    | 0,050/0,06   | 0,24/0,28              | 2740/3120    | 200   | 68     | 670    | 44 | 0,7 | 8  |
| 252103### | 230-400 AC<br>230-400 AC          | 50<br>60 | 0,07<br>0,08 | 0,29-0,17<br>0,23-0,13 | 2500<br>2650 | 200   | 68     | 670    | 44 | 0,7 | 8  |
| 252104### | 230-400 AC B14<br>265-460 AC B14  | 50<br>60 | 0,25<br>0,29 | 1,7- 1<br>1,7- 1       | 1350<br>1620 | 200   | 64     | 305    | 55 | 0,7 | 11 |
| 252112### | 12 DC                             | /        | 0,08         | 6,4                    | 2770         | 225   | 72     | 750    | 68 | 0,7 | 7  |
| 252124### | 24 DC                             | /        | 0,09         | 3,9                    | 2900         | 225   | 72     | 750    | 68 | 0,7 | 7  |
| 252156### | Prepared for Gr.2 hydraulic motor |          |              |                        |              | 200   |        |        | /  | 0,7 | 7  |

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## Diagramma rendimento Performance diagram



## Perdite di carico Pressure drop (@30cSt)



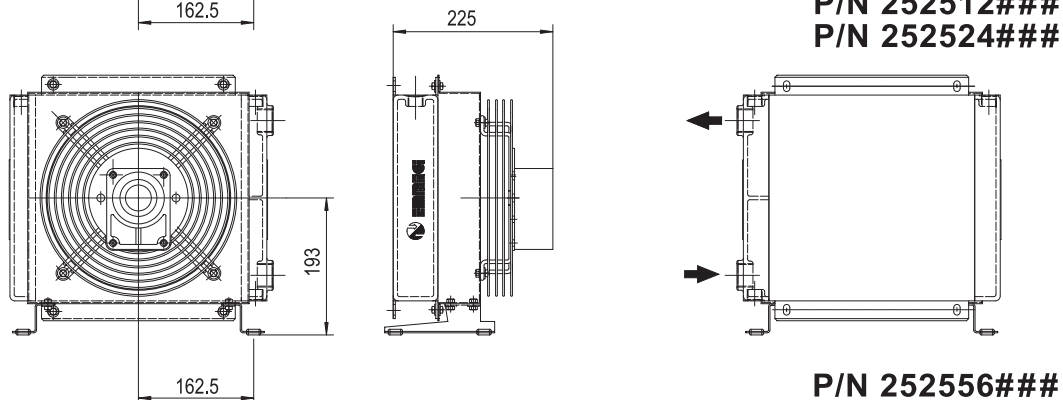
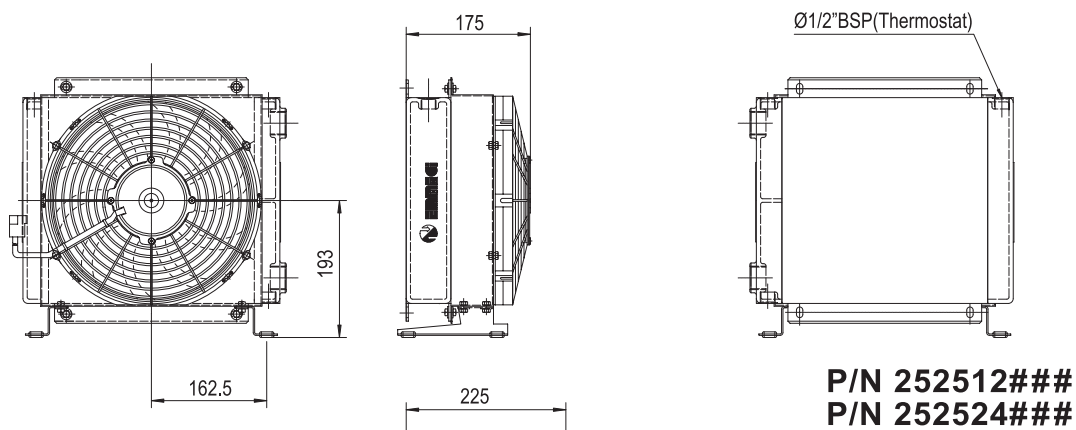
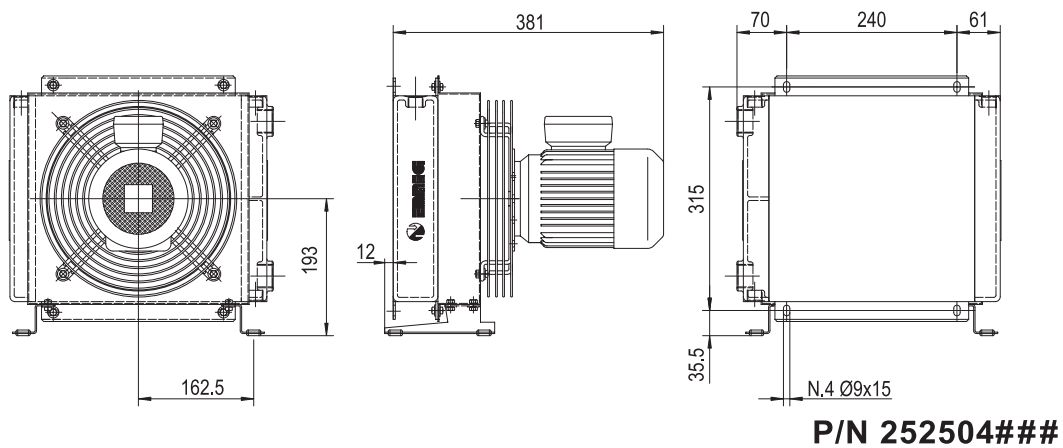
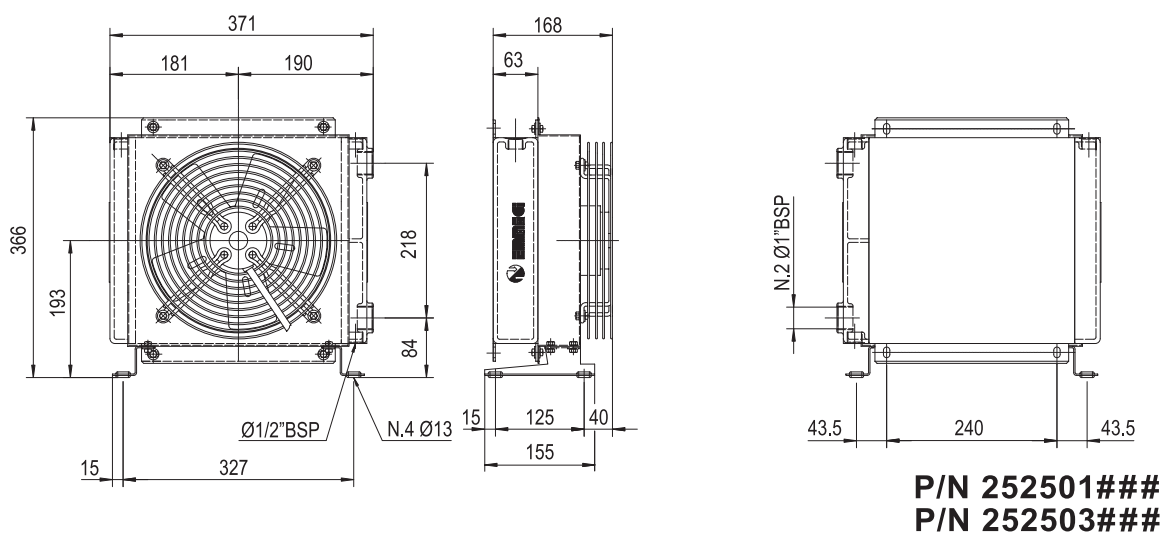
## Fattore di correzione-F(perdite di carico) Correction factor-F(pressure drop)

| cSt | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0,5 | 0,65 | 0,77 | 1  | 1,2 | 1,4 | 1,6 | 1,9 | 2,1 | 3,3 | 4,3 |



MG AIR

MG 2024K 2 PASS



Le dimensioni di ingombro e le caratteristiche tecniche non sono impegnative  
Overall dimensions and technical characteristic are not binding



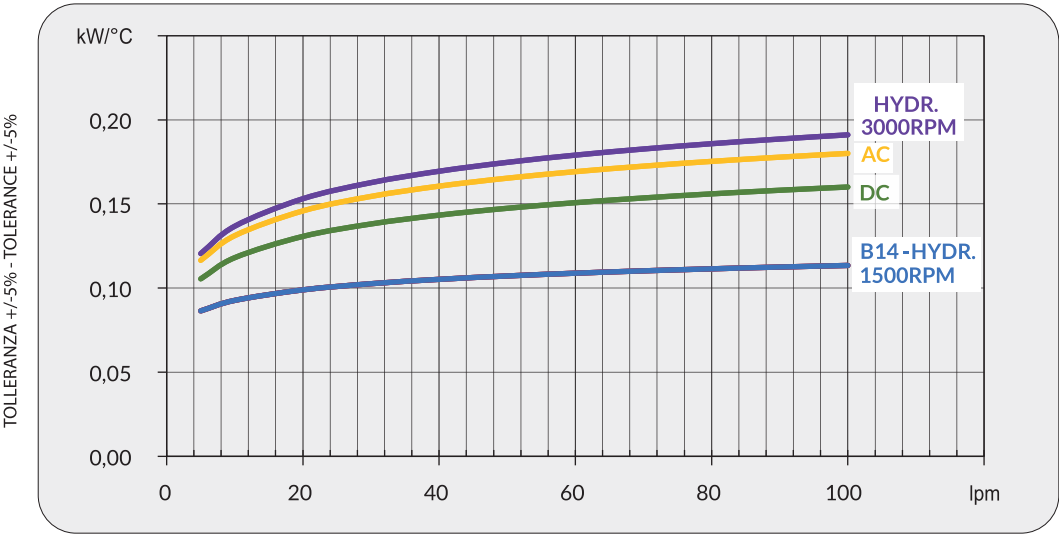


Dati tecnici    *Technical Data*

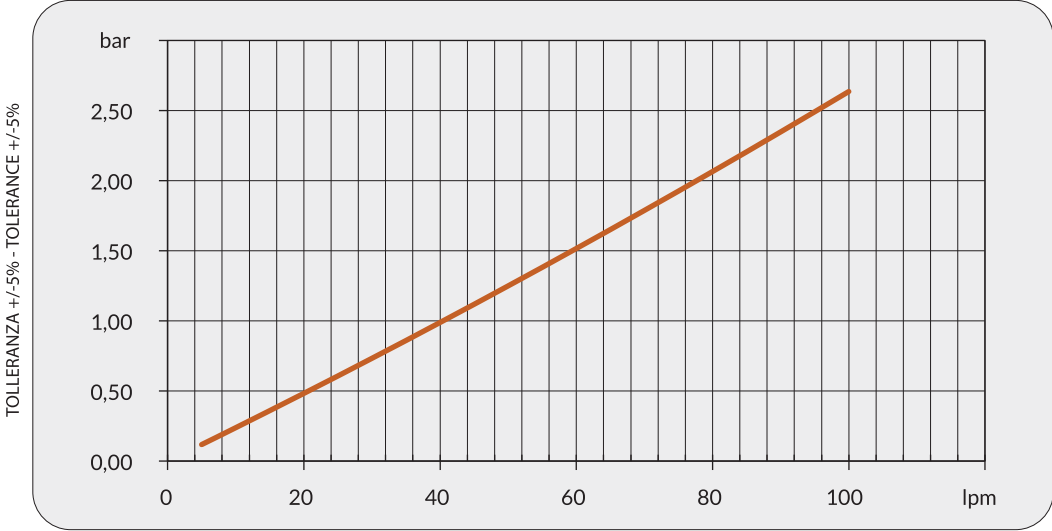
| P/N       | V                                 | Hz       | kW(±10%)     | A(±10%)                | rpm          | Ø Fan | dB (A) | (m³/h) | IP | It | kg |
|-----------|-----------------------------------|----------|--------------|------------------------|--------------|-------|--------|--------|----|----|----|
| 252501### | 230 AC                            | 50/60    | 0,11/0,15    | 0,51/0,66              | 2450/2600    | 250   | 72     | 1275   | 44 | 1  | 11 |
| 252503### | 230-400 AC<br>230-400 AC          | 50<br>60 | 0,10<br>0,14 | 0,33-0,17<br>0,23-0,13 | 2600<br>2900 | 250   | 72     | 1275   | 44 | 1  | 11 |
| 252504### | 230-400 AC B14<br>265-460 AC B14  | 50<br>60 | 0,25<br>0,29 | 1,7- 1<br>1,7- 1       | 1350<br>1620 | 250   | 64     | 1000   | 55 | 1  | 16 |
| 252512### | 12 DC                             | /        | 0,09         | 7,5                    | 2710         | 280   | 72     | 1045   | 68 | 1  | 10 |
| 252524### | 24 DC                             | /        | 0,10         | 4,3                    | 2765         | 280   | 74     | 1045   | 68 | 1  | 10 |
| 252556### | Prepared for Gr.2 hydraulic motor |          |              |                        |              | 250   |        |        | /  | 1  | 10 |

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Diagramma rendimento    *Performance diagram*



Perdite di carico    *Pressure drop (@30cSt)*



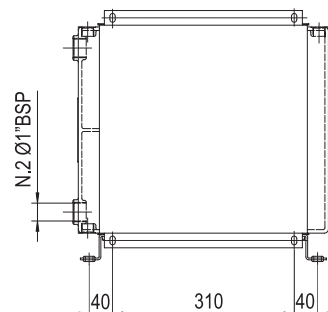
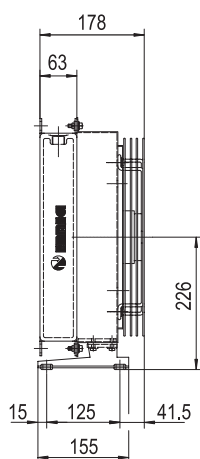
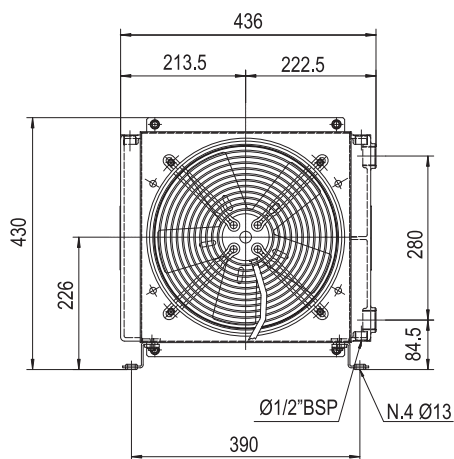
Fattore di correzione-F-(perdite di carico)    *Correction factor-F-(pressure drop)*

| cSt | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0,5 | 0,65 | 0,77 | 1  | 1,2 | 1,4 | 1,6 | 1,9 | 2,1 | 3,3 | 4,3 |

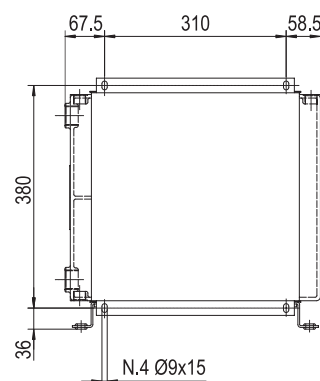
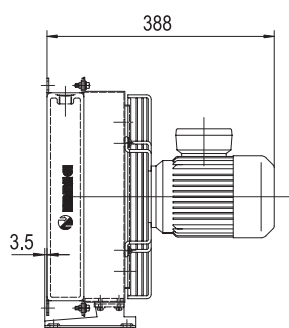
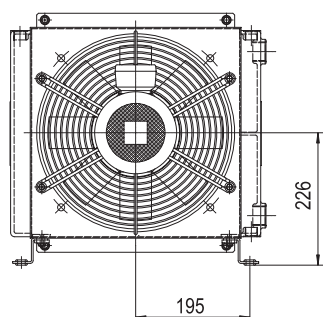


MG AIR

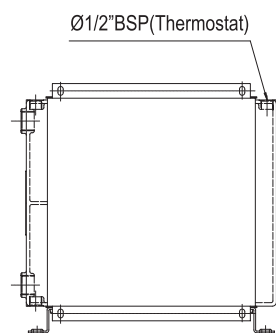
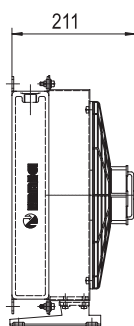
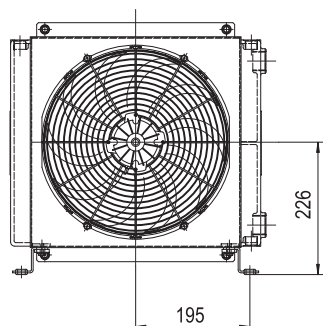
MG 2030K 2 PASS



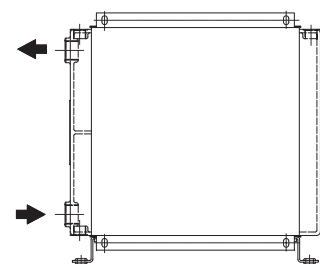
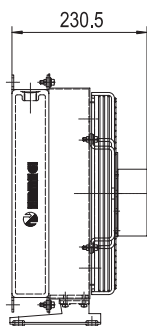
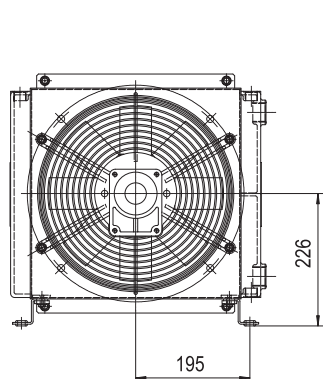
P/N 253101###  
P/N 253103###



P/N 253104###



P/N 253112###  
P/N 253124###



P/N 253156###

Le dimensioni di ingombro e le caratteristiche tecniche non sono impegnative  
Overall dimensions and technical characteristic are not binding

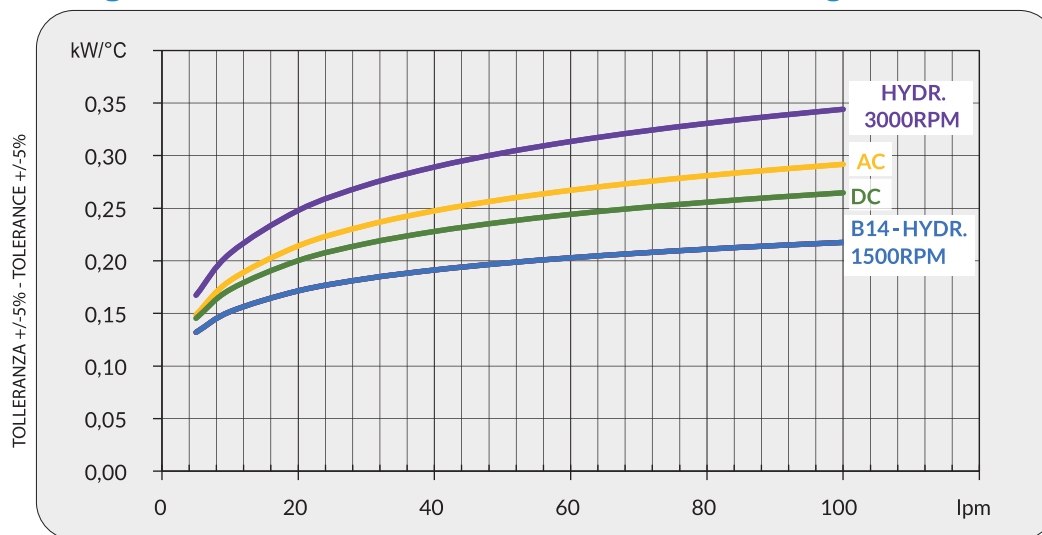


## Dati tecnici Technical Data

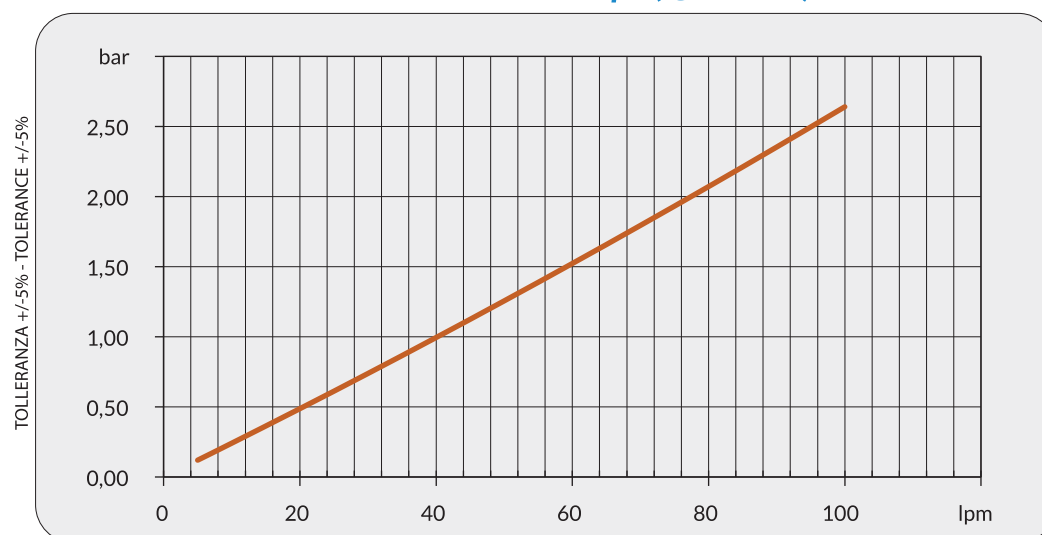
| P/N       | V                                 | Hz       | kW(±10%)     | A(±10%)                | rpm          | Ø Fan | dB (A) | (m³/h) | IP | lt  | kg |
|-----------|-----------------------------------|----------|--------------|------------------------|--------------|-------|--------|--------|----|-----|----|
| 253101### | 230 AC                            | 50/60    | 0,23/0,35    | 1,1/1,5                | 2700/3000    | 300   | 78     | 2220   | 44 | 1,6 | 15 |
| 253103### | 230-400 AC<br>230-400 AC          | 50<br>60 | 0,21<br>0,30 | 0,62-0,36<br>0,84-0,48 | 2580<br>2750 | 300   | 76     | 2200   | 44 | 1,6 | 15 |
| 253104### | 230-400 AC B14<br>265-460 AC B14  | 50<br>60 | 0,37<br>0,43 | 2,1- 1,1<br>2,1- 1,1   | 1370<br>1650 | 300   | 70     | 1350   | 55 | 1,6 | 20 |
| 253112### | 12 DC                             | /        | 0,16         | 13,3                   | 2660         | 305   | 80     | 1990   | 68 | 1,6 | 14 |
| 253124### | 24 DC                             | /        | 0,18         | 7,4                    | 2870         | 305   | 83     | 1990   | 68 | 1,6 | 14 |
| 253156### | Prepared for Gr.2 hydraulic motor |          |              |                        |              | 300   |        |        | /  | 1,6 | 15 |

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## Diagramma rendimento Performance diagram



## Perdite di carico Pressure drop (@30cSt)



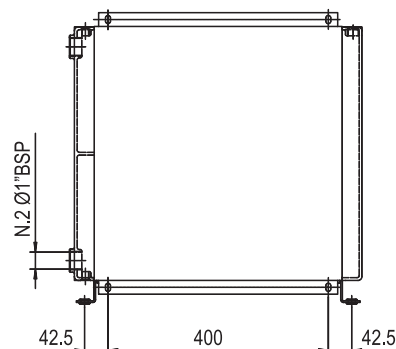
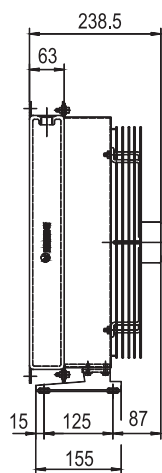
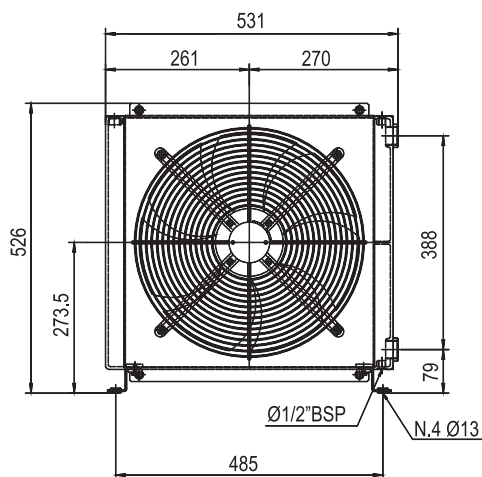
## Fattore di correzione-F-(perdite di carico) Correction factor-F-(pressure drop)

| cSt | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0,5 | 0,65 | 0,77 | 1  | 1,2 | 1,4 | 1,6 | 1,9 | 2,1 | 3,3 | 4,3 |

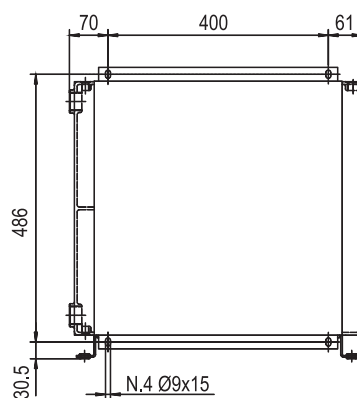
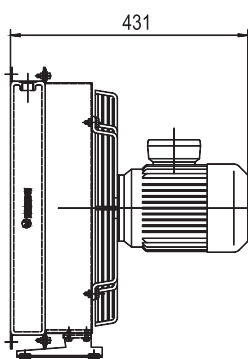
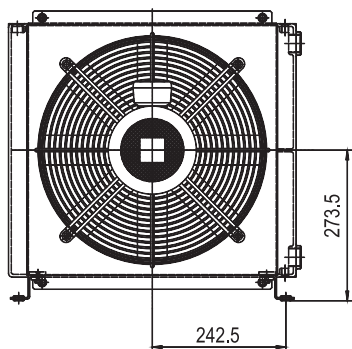


# MG AIR

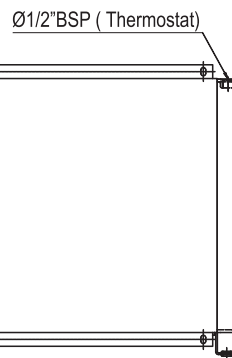
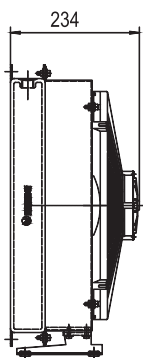
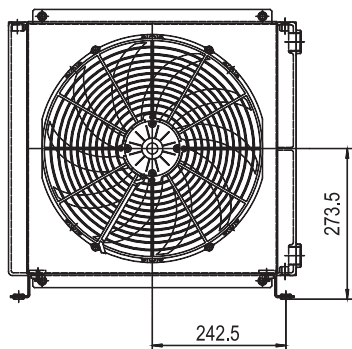
## MG 2040K 2 PASS



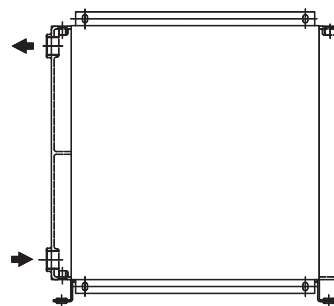
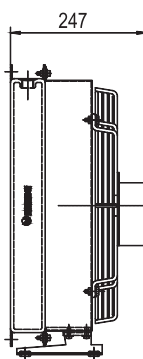
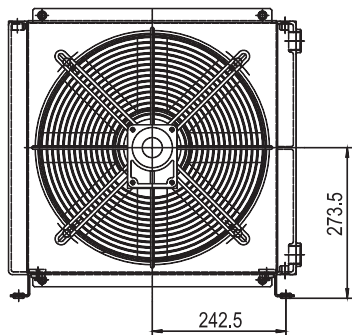
P/N 254101###  
P/N 254103###



P/N 254104###



P/N 254112###  
P/N 254124###



P/N 254156###

Le dimensioni di ingombro e le caratteristiche tecniche non sono impegnative  
Overall dimensions and technical characteristic are not binding

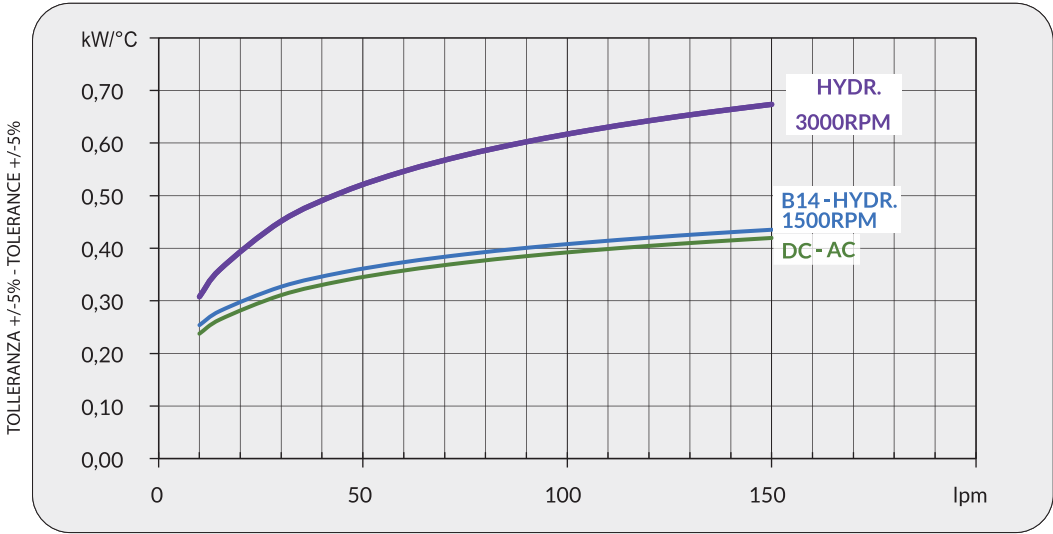


Dati tecnici    Technical Data

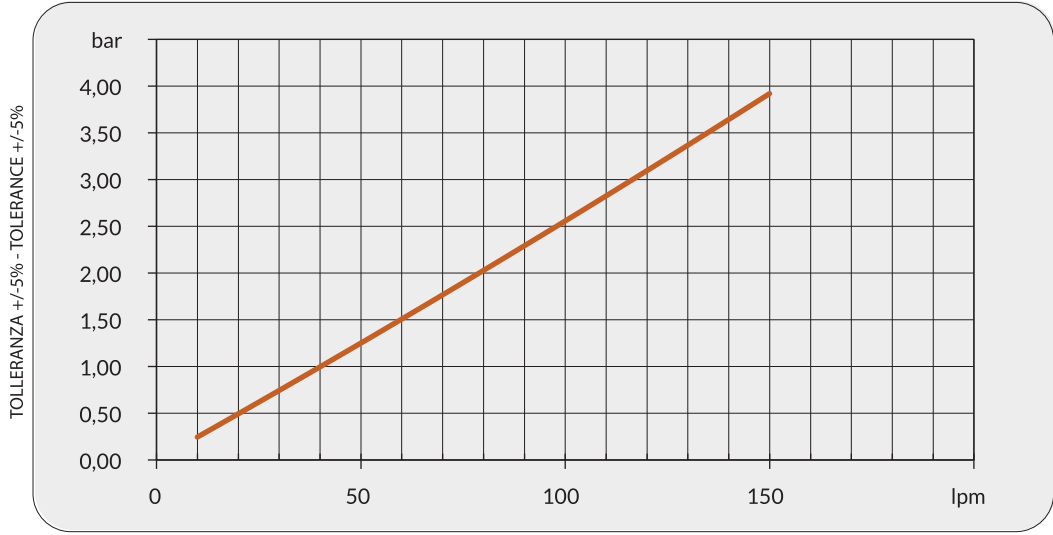
| P/N       | V                                 | Hz       | kW(±10%)       | A(±10%)                | rpm          | Ø Fan | dB (A) | (m³/h) | IP | lt  | kg |
|-----------|-----------------------------------|----------|----------------|------------------------|--------------|-------|--------|--------|----|-----|----|
| 254101### | 230 AC                            | 50/60    | 0,16/0,24      | 0,73-1,06              | 1430/1700    | 400   | 71     | 2800   | 54 | 2,7 | 21 |
| 254103### | 230-400 AC<br>230-400 AC          | 50<br>60 | 0,135<br>0,185 | 0,76-0,44<br>0,68-0,39 | 1450<br>1690 | 400   | 71     | 2800   | 54 | 2,7 | 21 |
| 254104### | 230-400 B14<br>265-460 B14        | 50<br>60 | 0,55<br>0,63   | 2,9- 1,7<br>2,9- 1,7   | 1320<br>1690 | 395   | 77     | 3030   | 55 | 2,7 | 25 |
| 254112### | 12 DC                             | /        | 0,22           | 20,3                   | 2310         | 385   | 76     | 3030   | 68 | 2,7 | 20 |
| 254124### | 24 DC                             | /        | 0,23           | 9,9                    | 2380         | 385   | 79     | 2950   | 68 | 2,7 | 20 |
| 254156### | Prepared for Gr.2 hydraulic motor |          |                |                        |              | 400   |        |        | /  | 2,7 | 19 |

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Diagramma rendimento    Performance diagram



Perdite di carico    Pressure drop (@30cSt)



Fattore di correzione-F-(perdite di carico)    Correction factor-F-(pressure drop)

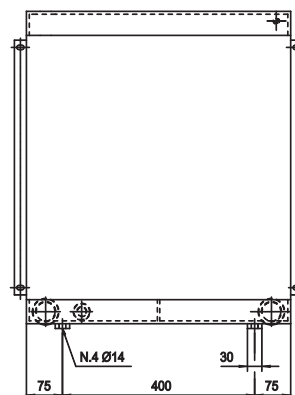
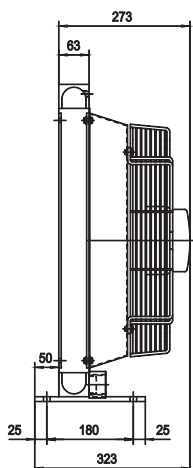
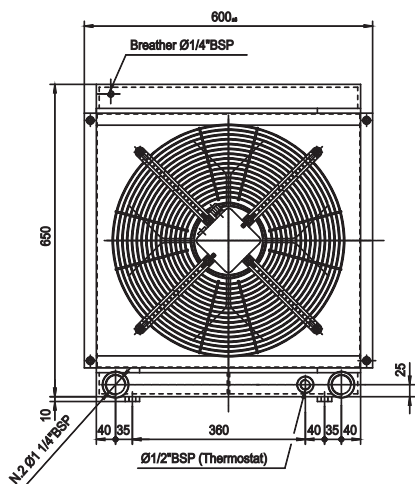
| cSt | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0,5 | 0,65 | 0,77 | 1  | 1,2 | 1,4 | 1,6 | 1,9 | 2,1 | 3,3 | 4,3 |



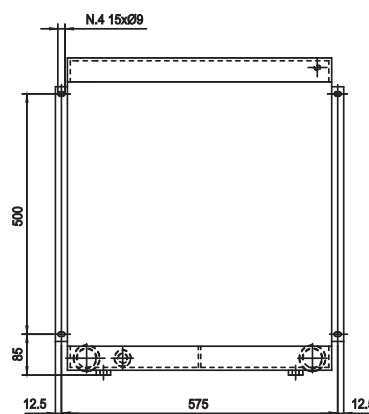
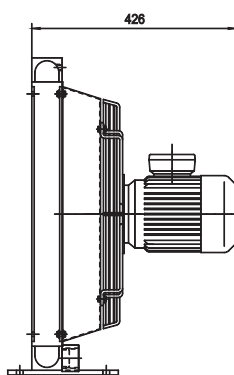
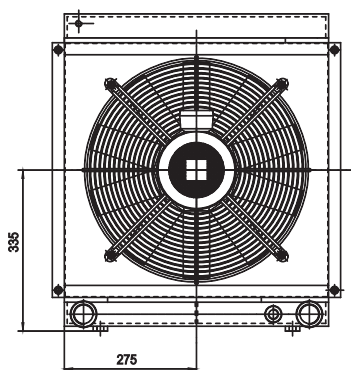


# MG AIR

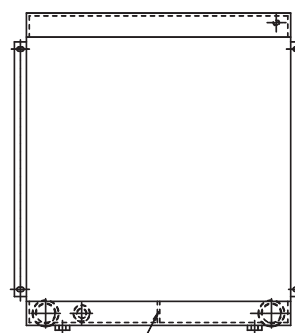
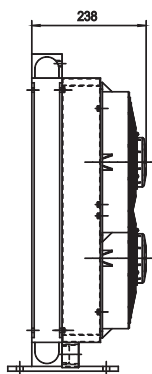
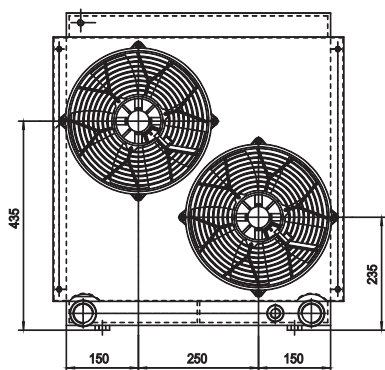
## MG 2050K 2 PASS



**P/N 2G7003###**

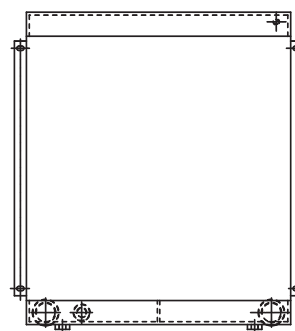
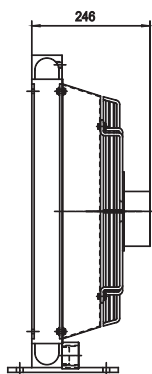
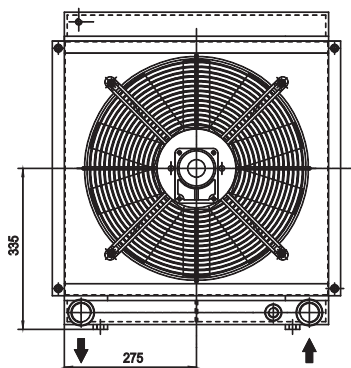


**P/N 2G7004###**



Setto di separazione  
Flow separator

**P/N 2G7012###**  
**P/N 2G7024###**



**P/N 2G7056###**

Le dimensioni di ingombro e le caratteristiche tecniche non sono impegnative  
Overall dimensions and technical characteristic are not binding



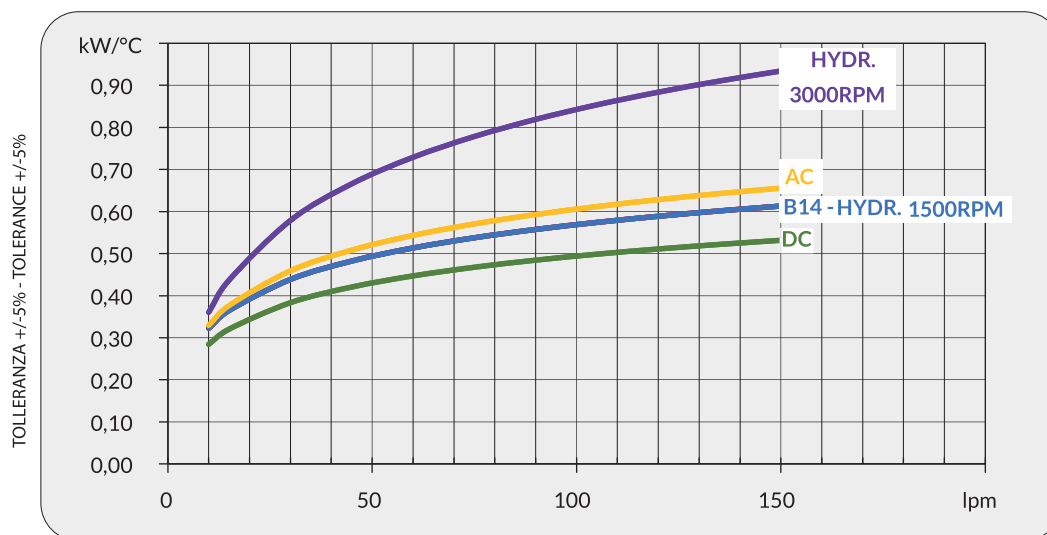
## Dati tecnici Technical Data

| P/N       | V                                 | Hz | kW(±10%) | A(±10%)   | rpm  | Ø Fan | dB (A) | (m³/h) | IP | lt | kg |
|-----------|-----------------------------------|----|----------|-----------|------|-------|--------|--------|----|----|----|
| 2G7003### | 230-400 AC                        | 50 | 0,52     | 1,9 - 1,1 | 1450 | 450   | 76     | 5100   | 54 | 5  | 27 |
|           | 230-400 AC                        | 60 | 0,66     |           | 1690 |       |        |        |    |    |    |
| 2G7004### | 230-400 AC                        | 50 | 0,75     | 3,0-1,7   | 1440 | 445   | 79     | 4500   | 55 | 5  | 30 |
|           | 265-460 AC                        | 60 | 0,86     |           | 1750 |       |        |        |    |    |    |
| 2G7012### | 12 DC                             | /  | 0,13     | 11,0      | 2340 | 280   | 76     | 1785   | 68 | 5  | 24 |
| 2G7024### | 24 DC                             | /  | 0,15     | 6,2       | 2600 | 280   | 79     | 1785   | 68 | 5  | 24 |
| 2G7056### | Prepared for Gr.2 hydraulic motor |    |          |           | ☎    | 445   | ☎      | ☎      | /  | 5  | 23 |

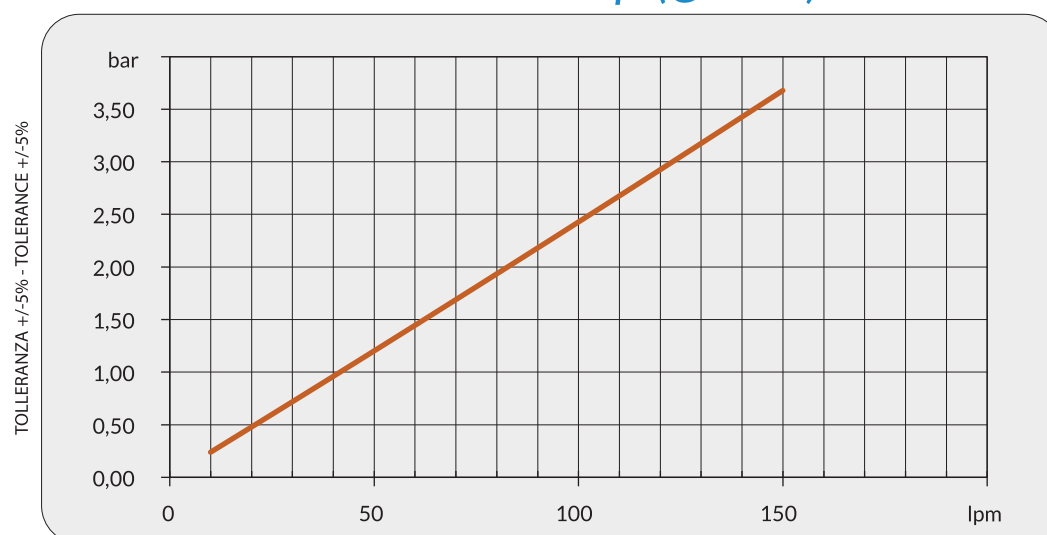
I dati si riferiscono al singolo ventilatore  
Data refers to each fan

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## Diagramma rendimento Performance diagram



## Perdite di carico Pressure drop (@30cSt)



## Fattore di correzione-F-(perdite di carico) Correction factor-F-(pressure drop)

| cSt | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0,5 | 0,65 | 0,77 | 1  | 1,2 | 1,4 | 1,6 | 1,9 | 2,1 | 3,3 | 4,3 |



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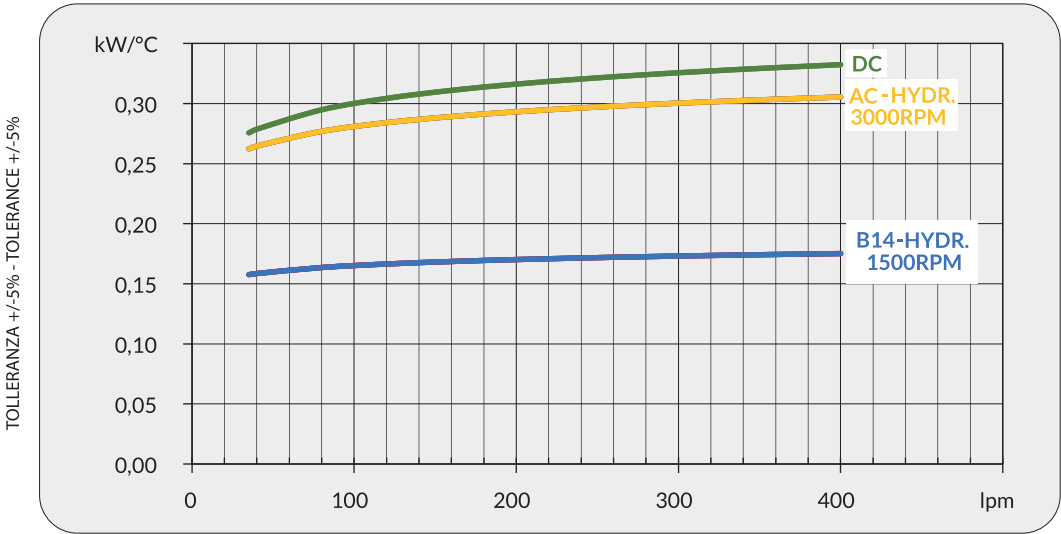
Dati tecnici    *Technical Data*

| P/N       | V                                 | Hz    | kW(±10%)    | A(±10%)   | rpm       | Ø Fan | dB (A) | (m³/h) | IP | lt  | kg |
|-----------|-----------------------------------|-------|-------------|-----------|-----------|-------|--------|--------|----|-----|----|
| 232101### | 230 AC                            | 50/60 | 0,050/0,061 | 0,24/0,28 | 2740/3120 | 200   | 68     | 680    | 44 | 1,4 | 17 |
| 232103### | 230-400 AC                        | 50    | 0,068       | 0,29-0,17 | 2500      | 200   | 68     | 680    | 44 | 1,4 | 17 |
|           | 230-400 AC                        | 60    | 0,070       | 0,23-0,13 | 2650      |       |        |        |    |     |    |
| 232104### | 230-400 AC B14                    | 50    | 0,25        | 1,7- 1    | 1350      | 200   | 64     | 310    | 55 | 1,4 | 23 |
|           | 265-460 AC B14                    | 60    | 0,29        | 1,7- 1    | 1620      |       |        |        |    |     |    |
| 232112### | 12 DC                             | /     | 0,08        | 6,7       | 2770      | 225   | 72     | 770    | 68 | 1,4 | 15 |
| 232124### | 24 DC                             | /     | 0,09        | 4,0       | 2900      | 225   | 72     | 770    | 68 | 1,4 | 15 |
| 232156### | Prepared for Gr.2 hydraulic motor |       |             |           |           | 200   |        |        | /  | 1,4 | 14 |

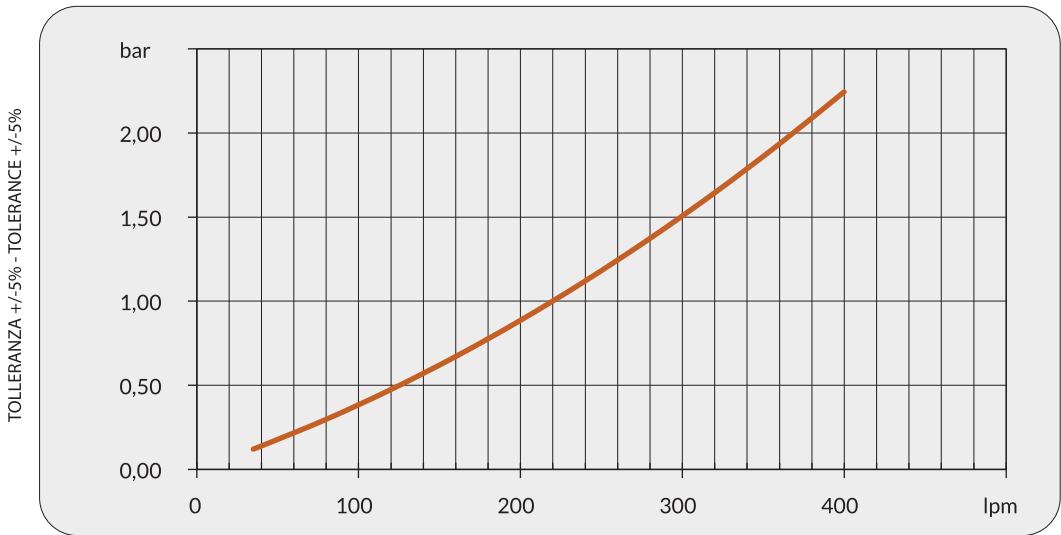
I dati si riferiscono al singolo ventilatore  
Data refers to each fan

Contattare EMMEGI    Contact EMMEGI

Diagramma rendimento    *Performance diagram*



Perdite di carico    *Pressure drop (@30cSt)*



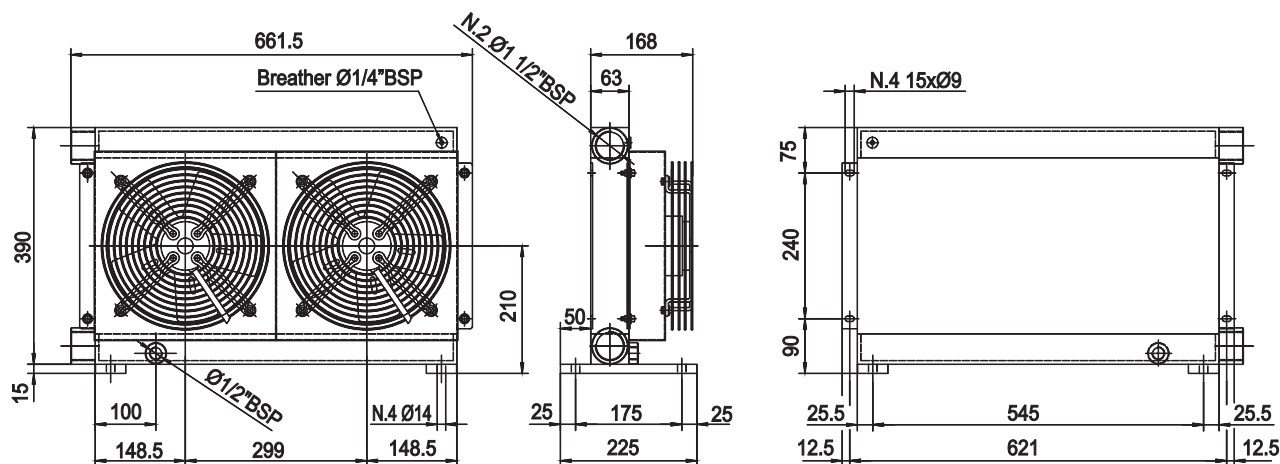
Fattore di correzione-F-(perdite di carico)    *Correction factor-F-(pressure drop)*

| cSt | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0,5 | 0,65 | 0,77 | 1  | 1,2 | 1,4 | 1,6 | 1,9 | 2,1 | 3,3 | 4,3 |

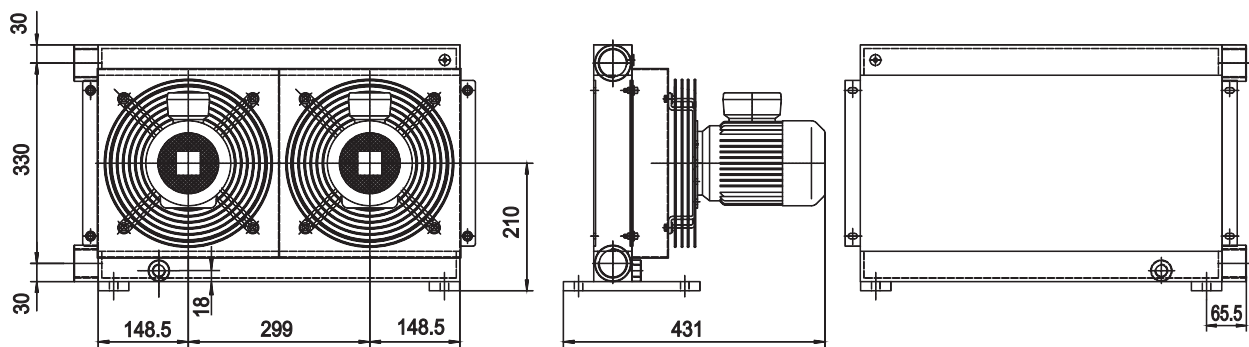


# MG AIR

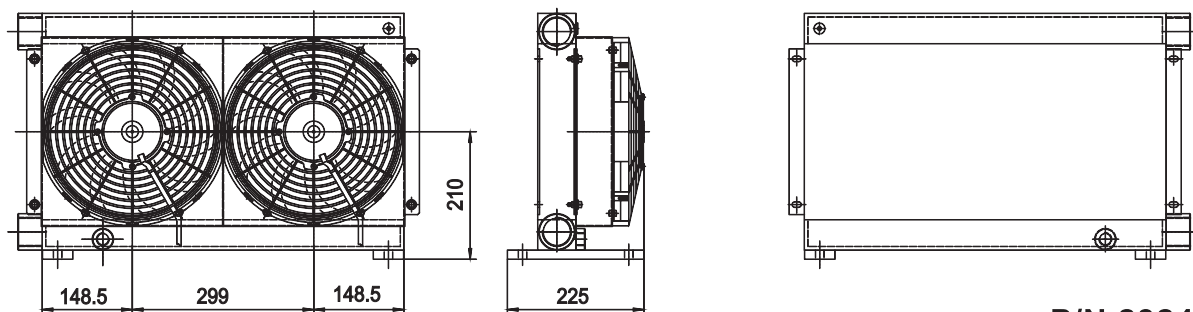
## MG 2024 2KS



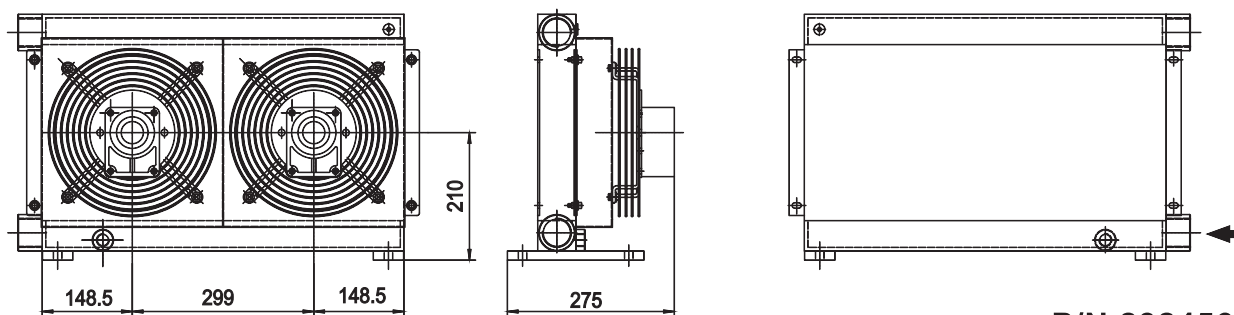
P/N 232401###  
P/N 232403###



P/N 232404###



P/N 232412###  
P/N 232424###



P/N 232456###

Le dimensioni di ingombro e le caratteristiche tecniche non sono impegnative  
Overall dimensions and technical characteristic are not binding





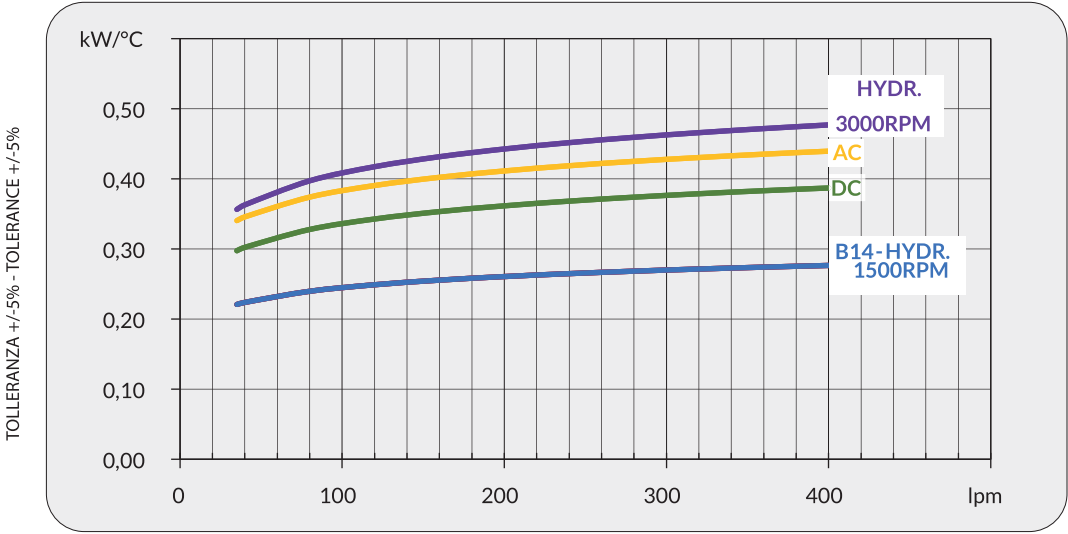
Dati tecnici    Technical Data

| P/N       | V                                 | Hz       | kW(±10%)       | A(±10%)                | rpm          | Ø Fan | dB (A) | (m³/h) | IP | lt | kg |
|-----------|-----------------------------------|----------|----------------|------------------------|--------------|-------|--------|--------|----|----|----|
| 232401### | 230 AC                            | 50/60    | 0,115/0,150    | 0,51/0,66              | 2450/2600    | 250   | 72     | 1300   | 44 | 2  | 23 |
| 232403### | 230-400 AC<br>230-400 AC          | 50<br>60 | 0,105<br>0,145 | 0,33-0,19<br>0,39-0,23 | 2600<br>2900 | 250   | 72     | 1300   | 44 | 2  | 23 |
| 232404### | 230-400 AC B14<br>265-460 AC B14  | 50<br>60 | 0,25<br>0,29   | 1,7- 1<br>1,7- 1       | 1350<br>1620 | 250   | 64     | 640    | 55 | 2  | 34 |
| 232412### | 12 DC                             | /        | 0,09           | 6,6                    | 2710         | 280   | 74     | 1050   | 68 | 2  | 21 |
| 232424### | 24 DC                             | /        | 0,10           | 4,5                    | 2765         | 280   | 74     | 1050   | 68 | 2  | 21 |
| 232456### | Prepared for Gr.2 hydraulic motor |          |                |                        |              | 250   |        |        | /  | 2  | 20 |

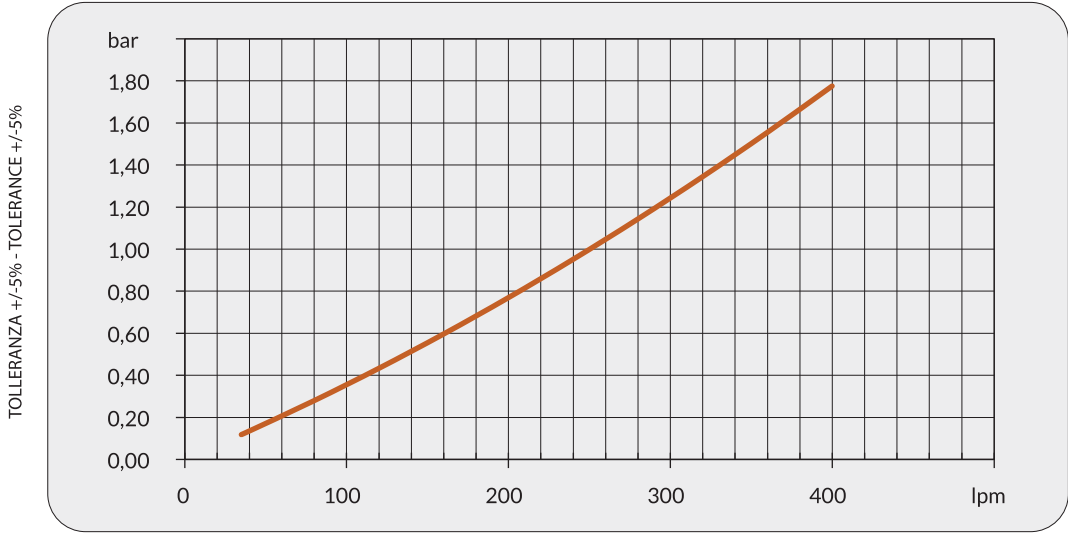
I dati si riferiscono al singolo ventilatore  
Data refers to each fan

Contattare EMMEGI    Contact EMMEGI

Diagramma rendimento    Performance diagram



Perdite di carico    Pressure drop (@30cSt)



Fattore di correzione-F-(perdite di carico)    Correction factor-F-(pressure drop)

| cSt | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0,5 | 0,65 | 0,77 | 1  | 1,2 | 1,4 | 1,6 | 1,9 | 2,1 | 3,3 | 4,3 |



A.41



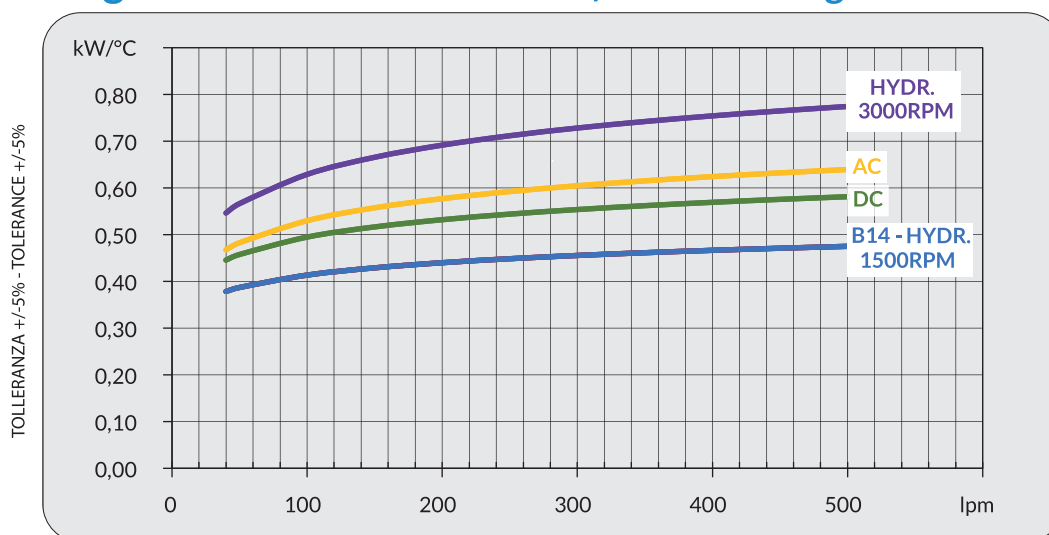
## Dati tecnici Technical Data

| P/N       | V                                 | Hz       | kW(±10%)     | A(±10%)                | rpm          | Ø Fan | dB (A) | (m³/h) | IP | lt  | kg |
|-----------|-----------------------------------|----------|--------------|------------------------|--------------|-------|--------|--------|----|-----|----|
| 233001### | 230 AC                            | 50/60    | 0,23/0,35    | 1,1/1,55               | 2700/3000    | 300   | 78     | 2220   | 44 | 3,2 | 31 |
| 233003### | 230-400 AC<br>230-400 AC          | 50<br>60 | 0,21<br>0,30 | 0,62-0,36<br>0,84-0,48 | 2580<br>2750 | 300   | 76     | 2500   | 44 | 3,2 | 31 |
| 233004### | 230-400 AC B14<br>265-460 AC B14  | 50<br>60 | 0,37<br>0,43 | 2,1- 1,1<br>2,1- 1,1   | 1370<br>1650 | 300   | 70     | 1850   | 55 | 3,2 | 42 |
| 233012### | 12 DC                             | /        | 0,16         | 13,3                   | 2660         | 305   | 80     | 1675   | 68 | 3,2 | 29 |
| 233024### | 24 DC                             | /        | 0,18         | 7,4                    | 2870         | 305   | 83     | 1880   | 68 | 3,2 | 29 |
| 233056### | Prepared for Gr.2 hydraulic motor |          |              |                        |              | 300   |        |        | /  | 3,2 | 30 |

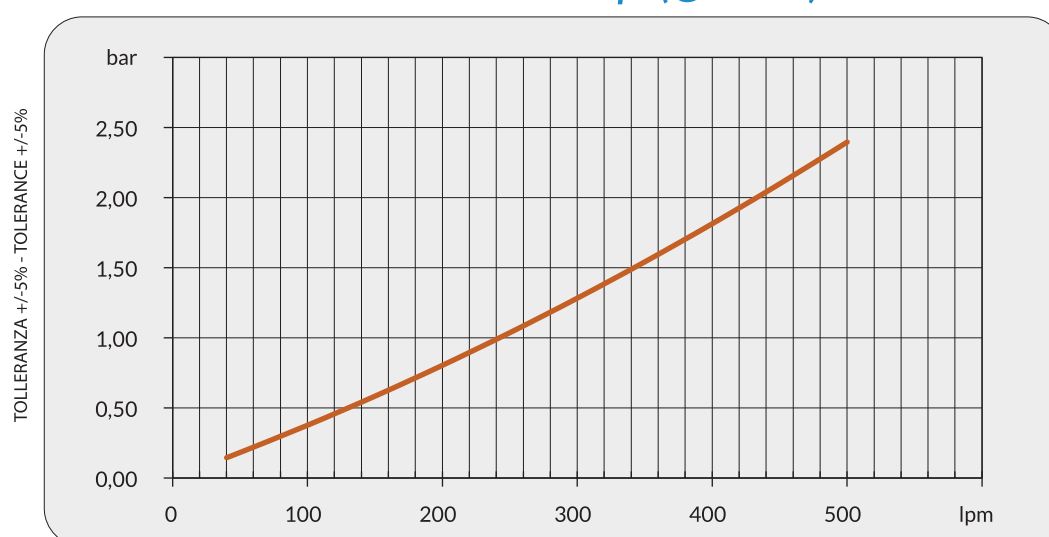
I dati si riferiscono al singolo ventilatore  
Data refers to each fan

Contattare EMMEGI Contact EMMEGI

## Diagramma rendimento Performance diagram

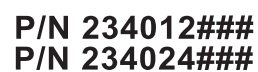


## Perdite di carico Pressure drop (@30cSt)



## Fattore di correzione-F(perdite di carico) Correction factor-F(pressure drop)

| cSt | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0,5 | 0,65 | 0,77 | 1  | 1,2 | 1,4 | 1,6 | 1,9 | 2,1 | 3,3 | 4,3 |



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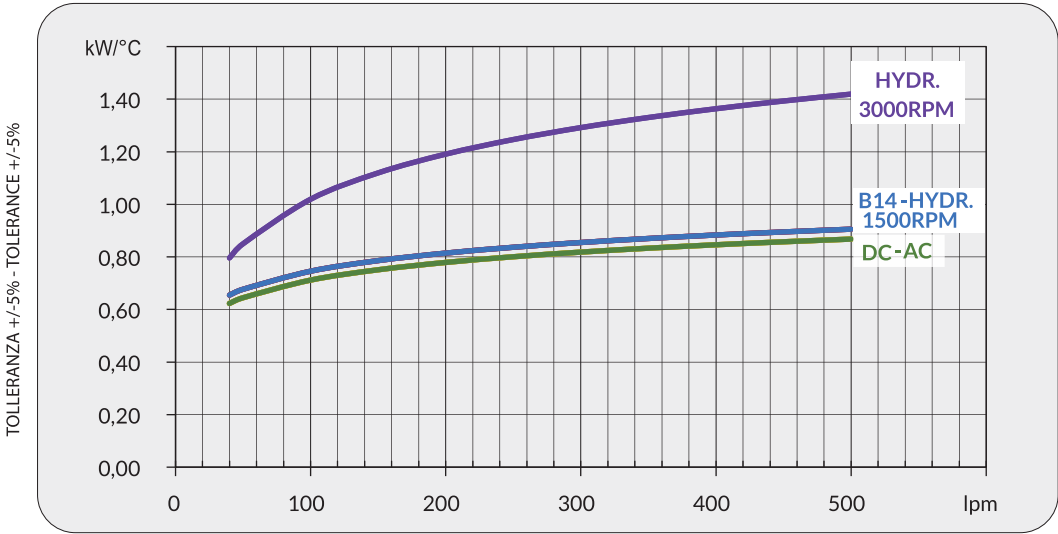
Dati tecnici Technical Data

| P/N       | V                                 | Hz | kW(±10%)  | A(±10%)   | rpm       | Ø Fan | dB (A) | (m³/h) | IP | It  | kg |
|-----------|-----------------------------------|----|-----------|-----------|-----------|-------|--------|--------|----|-----|----|
| 234001### | 230 AC                            | 50 | 0,16/0,24 | 0,73/1,06 | 1430/1700 | 400   | 71     | 3200   | 54 | 5,4 | 42 |
| 234003### | 230-400 AC                        | 50 | 0,135     | 0,76-0,44 | 1450      | 400   | 71     | 3200   | 54 | 5,4 | 42 |
|           | 230-400 AC                        | 60 | 0,185     | 0,68-0,39 | 1690      |       |        |        |    |     |    |
| 234004### | 230-400 AC B14                    | 50 | 0,55      | 2,9- 1,7  | 1320      | 400   | 77     | 3740   | 55 | 5,4 | 50 |
|           | 265-460 AC B14                    | 60 | 0,63      | 2,9- 1,7  | 1690      |       |        |        |    |     |    |
| 234012### | 12 DC                             | /  | 0,22      | 19,2      | 2310      | 385   | 76     | 2900   | 68 | 5,4 | 41 |
| 234024### | 24 DC                             | /  | 0,23      | 9,3       | 2380      | 385   | 79     | 2900   | 68 | 5,4 | 41 |
| 234056### | Prepared for Gr.2 hydraulic motor |    |           |           |           | 400   |        |        | /  | 5,4 | 39 |

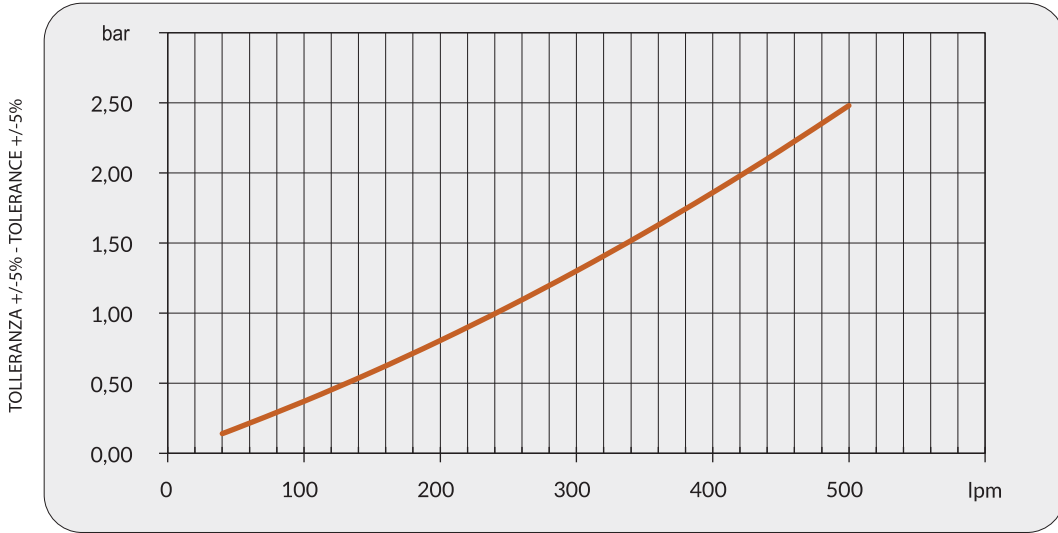
I dati si riferiscono al singolo ventilatore  
Data refers to each fan

Contattare EMMEGI Contact EMMEGI

Diagramma rendimento Performance diagram



Perdite di carico Pressure drop (@30cSt)



Fattore di correzione-F-(perdite di carico) Correction factor-F-(pressure drop)

| cSt | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0,5 | 0,65 | 0,77 | 1  | 1,2 | 1,4 | 1,6 | 1,9 | 2,1 | 3,3 | 4,3 |







Serie 2000KBV  
2000KBV Series



## SERIE 2000KBV

### 2000KBV Series

#### APPLICAZIONE

#### APPLICATION

Grazie all'ampia gamma di combinazioni, gli scambiatori della serie 2000KBV si prestano come la soluzione di raffreddamento ottimale per svariate applicazioni sia mobili che industriali quali:

Thanks to the wide range of combinations, the 2000KBV series heat exchangers are the optimal cooling solution for a wide range of mobile and industrial applications such as:



Industria agricola e forestale.  
Gru mobili e fisse.  
Veicoli industriali.  
Veicoli municipali.  
Impianti oleodinamici.  
Macchine utensili.  
Altro su richiesta.

Agriculture and forestry.  
Mobile and stationary cranes.  
Industrial vehicles.  
Municipal vehicles.  
Hydraulic systems.  
Machine tools.  
Others on request.



Grazie alla sua valvola di bypass integrata, il prodotto può essere preservato da picchi di pressione causati da condizioni di elevata viscosità (es. partenze a freddo).

Thanks to the incorporated bypass valve, the product can be protected from high viscosity condition (ex. cold start).





Modulo richiesta dati  
Sheet for cooler selection

|                  |  |
|------------------|--|
| CLIENTE COMPANY  |  |
| RICHIEDENTE NAME |  |

|                                                 |     |  |
|-------------------------------------------------|-----|--|
| TIPOLOGIA FLUIDO<br>FLUID TYPE                  |     |  |
| PORTATA<br>FLOW RATE                            | lpm |  |
| POTENZA INSTALLATA<br>INSTALLED POWER           | kW  |  |
| POTENZA DA DISSIPARE<br>POWER TO BE DISSIPATED  | kW  |  |
| TEMPERATURA INGRESSO<br>INLET TEMPERATURE       | °C  |  |
| TEMPERATURA ARIA MAX<br>MAX AMBIENT TEMPERATURE | °C  |  |
| PRESSIONE DI LAVORO<br>WORKING PRESSURE         | bar |  |

|                                       |                                                              |                                                                 |
|---------------------------------------|--------------------------------------------------------------|-----------------------------------------------------------------|
| TIPO DI VENTILAZIONE TYPE OF FAN UNIT |                                                              |                                                                 |
| CC<br>DC                              | PREDISPOSTO MOTORE IDRAULICO<br>PREPARED FOR HYDRAULIC MOTOR | CA<br>AC                                                        |
| 12V                                   | GR.2                                                         | MONOFASE 230V<br>SINGLEPHASE 230V                               |
| 24V                                   |                                                              | TRIFASE 230/400V<br>265/460V<br>THREEPHASE 230/400V<br>265/460V |
|                                       |                                                              | TENSIONE SPECIALE<br>SPECIAL VOLTAGE                            |
|                                       |                                                              | 50 Hz 60 Hz                                                     |



## Denominazione codice prodotto

### Ordering code

2W

24

03

2

01

#### TARATURA BY-PASS

BY-PASS SETTING

#### MODELLO COOLER MODEL

24 (MG AIR 2024KBV)

#### TIPO DI MOTORIZZAZIONE FAN MOTOR TYPE

- 01 AC 230V 50 Hz
- 03 AC 230-400V-50Hz / AC 230-400V-60Hz
- 04 AC 230-400V-50Hz (B14) / AC 265-460V- 60Hz (B14)
- 12 DC 12V
- 24 DC 24V
- 56 Pred. per mot. idr. gr. 2 Prep. for hydr. mot. gr. 2

#### TERMOSTATI THERMOSTATS

- 0 Senza termostato Whitout thermostat
- 1 Termostato fisso Fixed thermostat 40-28°
- 2 Termostato fisso Fixed thermostat 50-38°
- 3 Termostato fisso Fixed thermostat 60-48°
- 4 Termostato fisso Fixed thermostat 70-58°
- 5 Termostato fisso Fixed thermostat 80-68°
- 6 Termostato fisso Fixed thermostat 90-78°
- 8 Termostato regolabile  
Adjustable thermostat 0-90° (TC2)
- 9 Termostato regolabile collegato  
Connected adjustable thermostat 0-120° (TR2)

#### FLUSSO DI VENTILAZIONE AIR FLOW DIRECTION

- 01 Aspirante Suction air flow
- 02 Soffiante Blowing air flow



## Modello - Codice prodotto

*Cooler model - Code*

### Taratura BY-PASS *BY-PASS Setting*

| Taratura<br>Setting | Codice<br>Code |
|---------------------|----------------|
| 1.5 bar *           | 2W *           |
| 3.0 bar             | 3W             |
| 5.0 bar             | 5W             |
| *Standard           |                |

### Serie KBV *2000KBV Series*

| Modello<br>Model | Codice<br>Code |
|------------------|----------------|
| 2015KBV          | 15             |
| 2020KBV          | 20             |
| 2024KBV          | 24             |
| 2030KBV          | 30             |
| 2040KBV          | 40             |
| 2050KBV          | 50             |

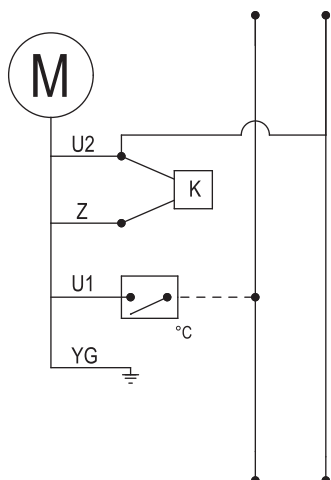




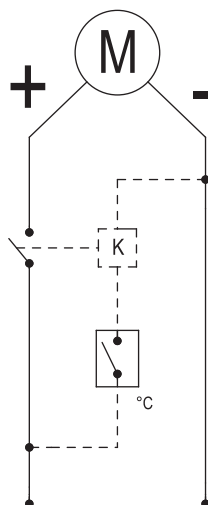
## Collegamenti elettrici

### Electric Wiring

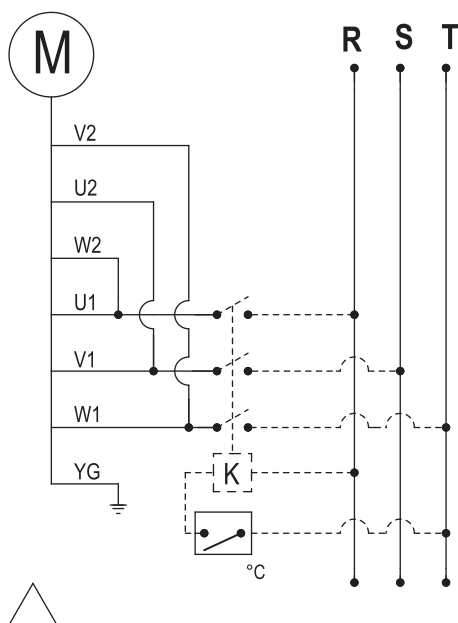
COLLEGAMENTO ELETTRICO 230V MON. AC  
230V AC 1PH. ELECTRIC WIRING



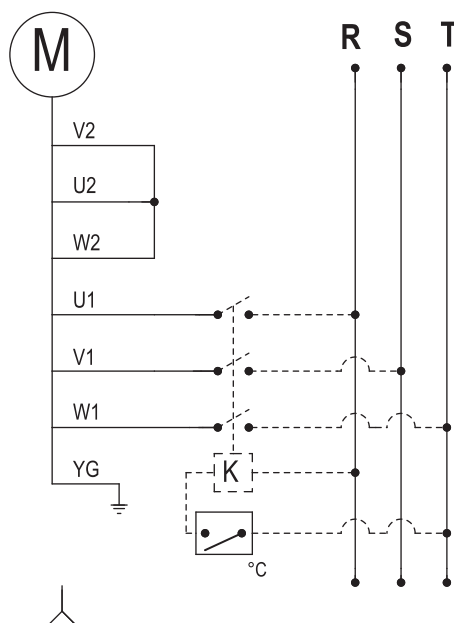
COLLEGAMENTO ELETTRICO 12-24V DC  
12-24V DC ELECTRIC WIRING



COLLEGAMENTO ELETTRICO 230V AC TRIF.  
230V AC 3PH. ELECTRIC WIRING



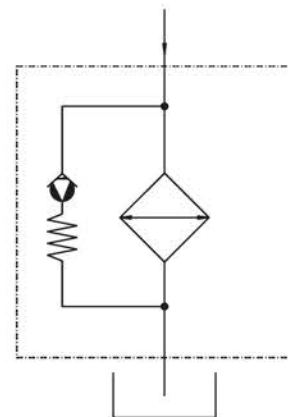
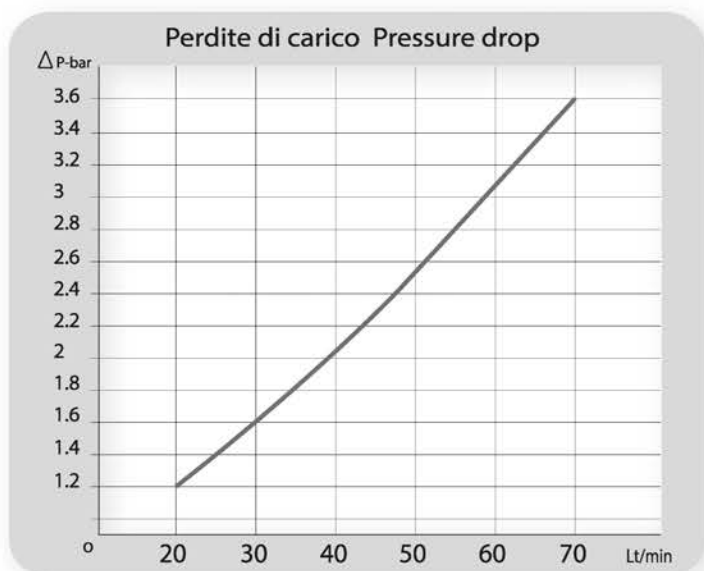
COLLEGAMENTO ELETTRICO 400/460V AC TRIF.  
400/460V AC THREEPHASE ELECTRIC WIRING



## Dati tecnici valvola by-pass Technical data by-pass valve - (1.5 bar)

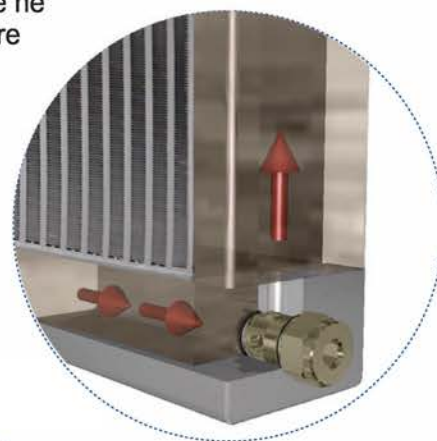
### Valvola cartuccia tipo 2 / Cartridge valve type 2 - (1.5 bar)

### Schema idraulico Hydraulic circuit



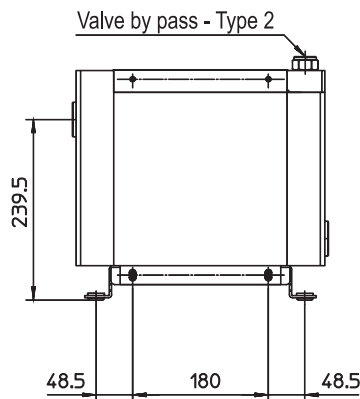
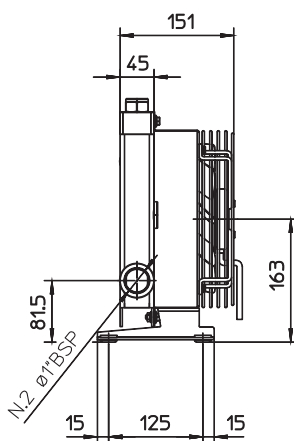
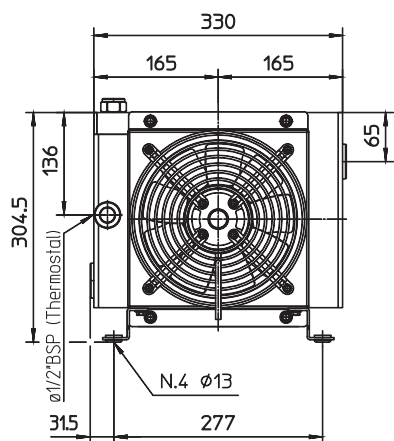
Gli scambiatori della serie KBV nascono dalle esigenze applicative espresse dal mercato. Punto di forza di questi prodotti è rappresentato dal by-pass integrato che ne amplifica la semplicità d'uso, eliminando la necessità di dovere aggiungere da parte del cliente una valvola esterna.

KBV Series was born to answer the needs of the market. The main characteristic of this product is the integrated by-pass valve that simplify their employ and avoid the customers to add an external and independent valve.

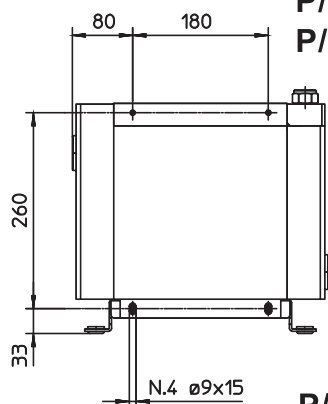
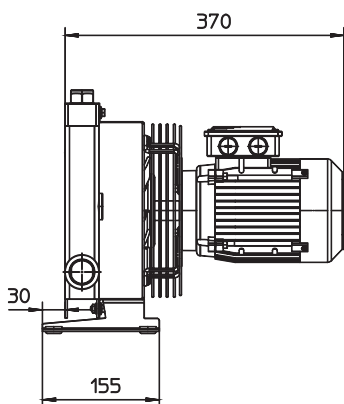
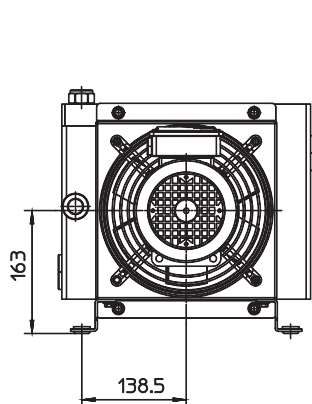




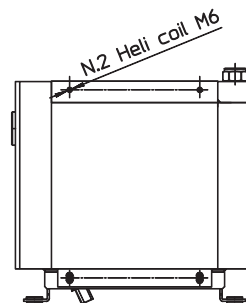
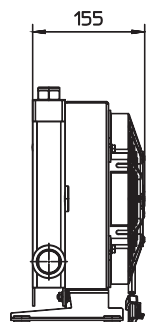
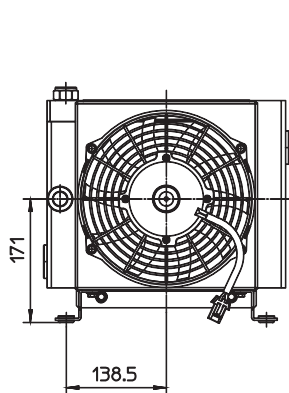
# 2000KBV MG 2015KBV



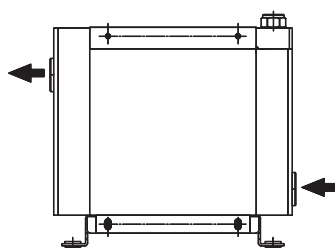
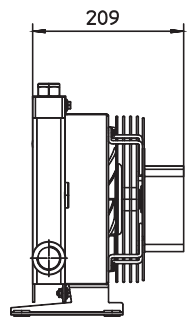
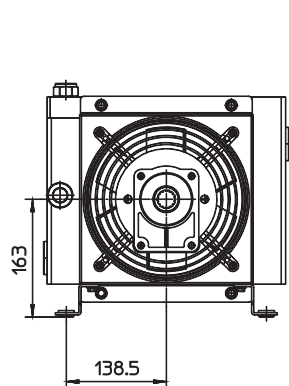
**P/N 2W1501###  
P/N 2W1503###**



**P/N 2W1504###**



**P/N 2W1512###  
P/N 2W1524###**



**P/N 2W1556###**

Le dimensioni di ingombro e le caratteristiche tecniche non sono impegnative  
Overall dimensions and technical characteristic are not binding

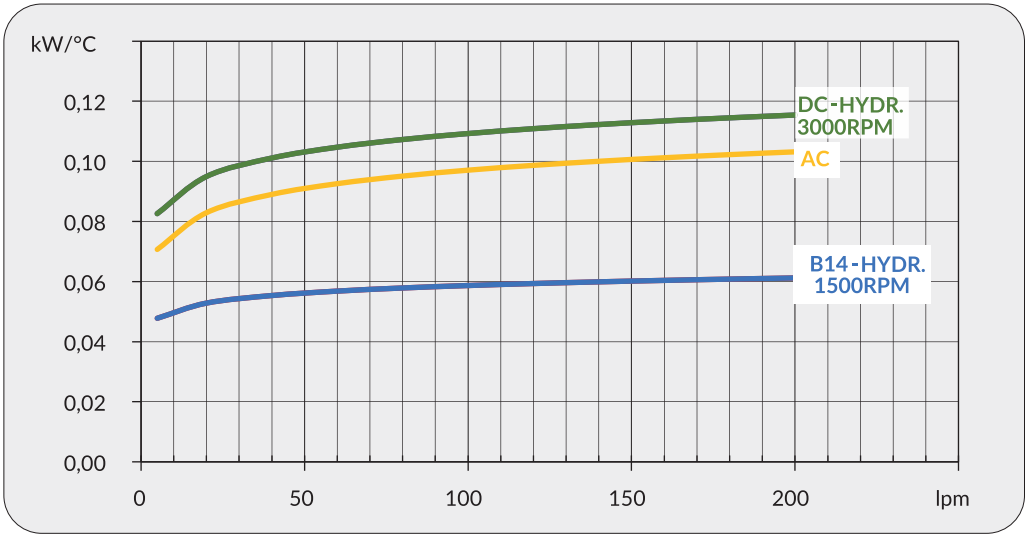


Dati tecnici    *Technical Data*

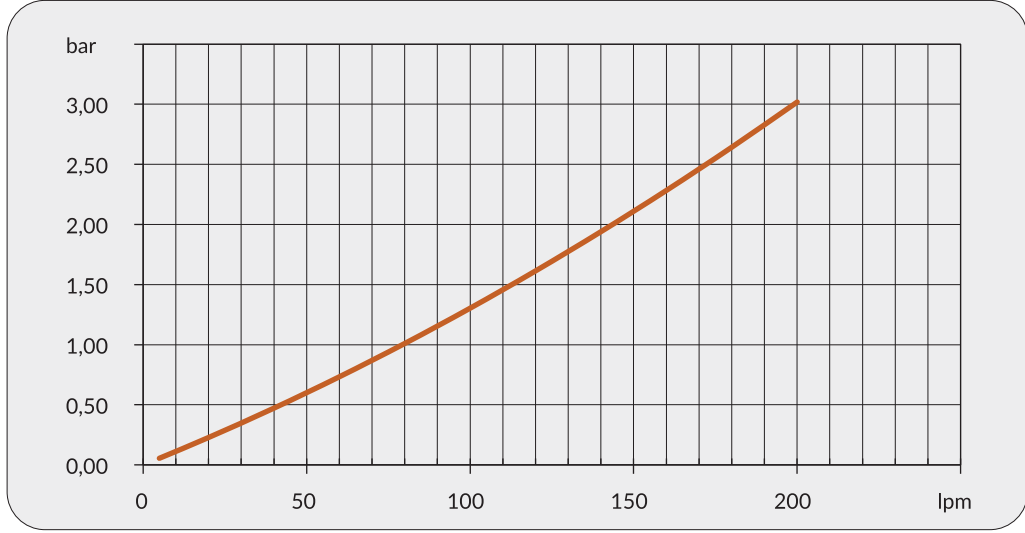
| P/N       | V                                 | Hz       | kW(±10%)       | A(±10%)                | rpm          | Ø Fan | dB (A) | (m³/ h) | IP | lt  | kg  |
|-----------|-----------------------------------|----------|----------------|------------------------|--------------|-------|--------|---------|----|-----|-----|
| 2W1501### | 230 AC                            | 50/60    | 0,050/0,061    | 0,24/0,28              | 2740/3120    | 200   | 68     | 700     | 44 | 0,5 | 7   |
| 2W1503### | 230-400 AC<br>265-400 AC          | 50<br>60 | 0,068<br>0,070 | 0,29-0,17<br>0,23-0,13 | 2500<br>2650 | 200   | 69     | 720     | 44 | 0,5 | 7   |
| 2W1504### | 230-400 AC B14<br>265-460 AC B14  | 50<br>60 | 0,25<br>0,30   | 1,7- 1<br>1,7- 1       | 1350<br>1620 | 200   | 61     | 415     | 55 | 0,5 | 10  |
| 2W1512### | 12 DC                             | /        | 0,08           | 6,4                    | 2770         | 225   | 72     | 790     | 67 | 0,5 | 6,5 |
| 2W1524### | 24 DC                             | /        | 0,09           | 3,9                    | 2900         | 225   | 73     | 865     | 67 | 0,5 | 6,5 |
| 2W1556### | Prepared for Gr.2 hydraulic motor |          |                |                        |              | 200   |        |         | /  | 0,5 | 6   |

Contattare EMMEGI    Contact EMMEGI

Diagramma rendimento    *Performance diagram*



Perdite di carico    *Pressure drop (@30cSt)*



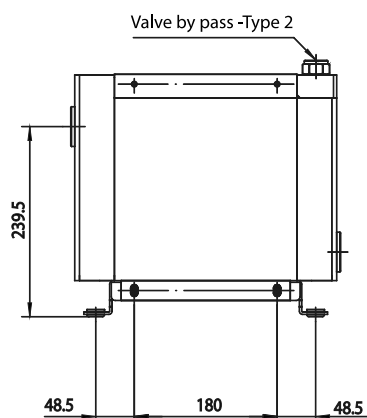
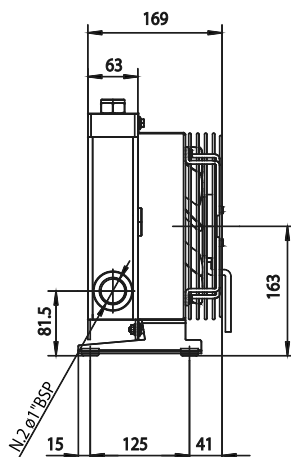
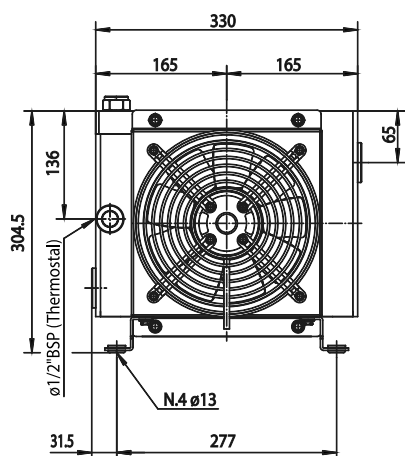
Fattore di correzione-F-(perdite di carico)    *Correction factor-F-(pressure drop)*

| cSt | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0,5 | 0,65 | 0,77 | 1  | 1,2 | 1,4 | 1,6 | 1,9 | 2,1 | 3,3 | 4,3 |



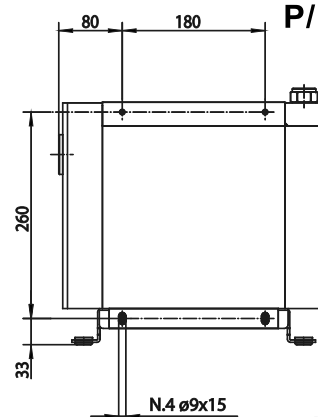
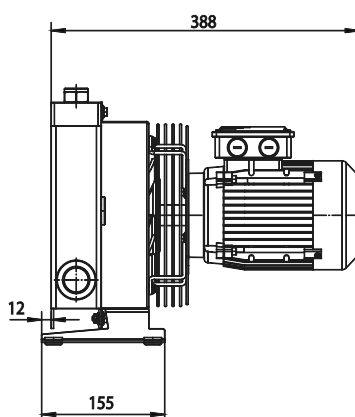
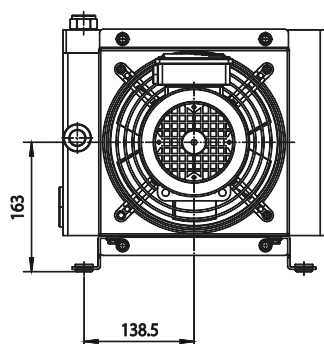


2000KBV  
MG 2020KBV

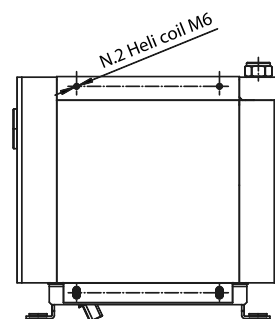
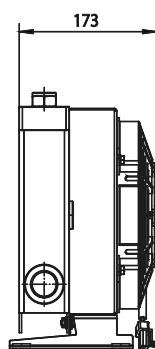
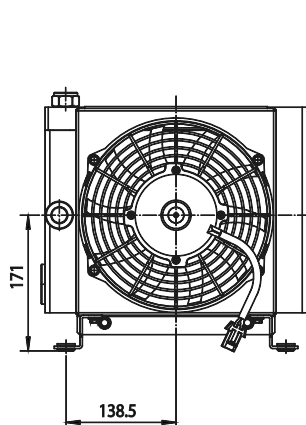


P/N 2W2001###

P/N 2W2003###

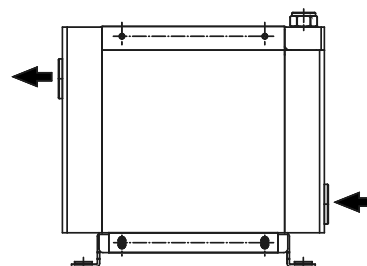
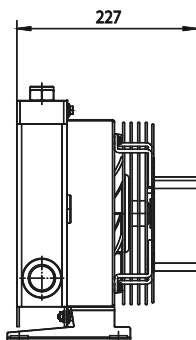
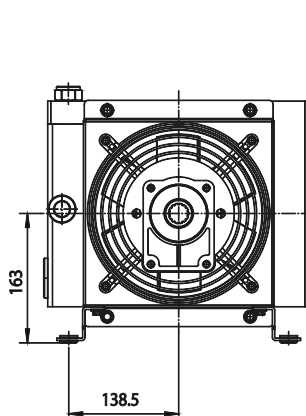


P/N 2W2004###



P/N 2W2012###

P/N 2W2024###



P/N 2W2056###

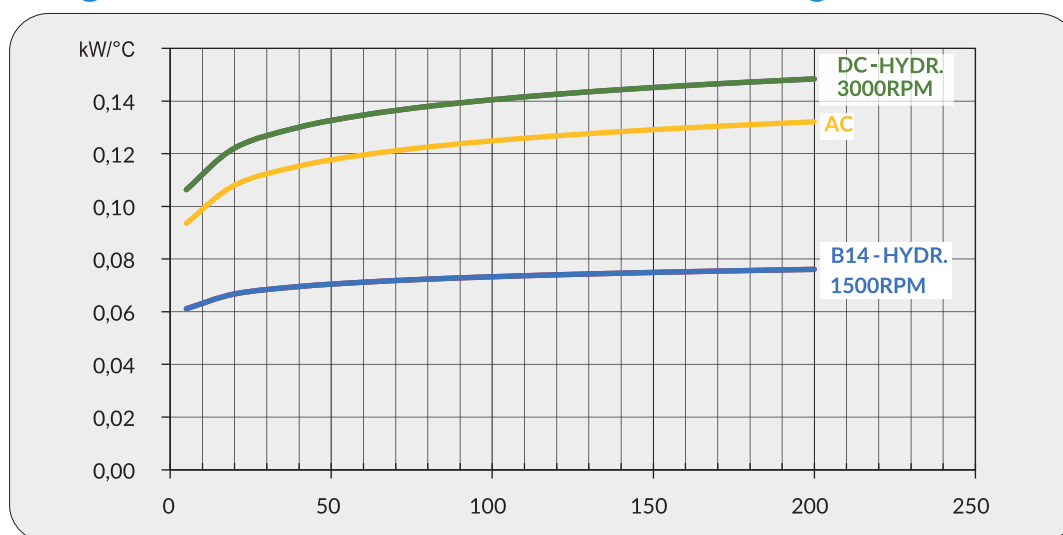
Le dimensioni di ingombro e le caratteristiche tecniche non sono impegnative  
Overall dimensions and technical characteristic are not binding

## Dati tecnici Technical Data

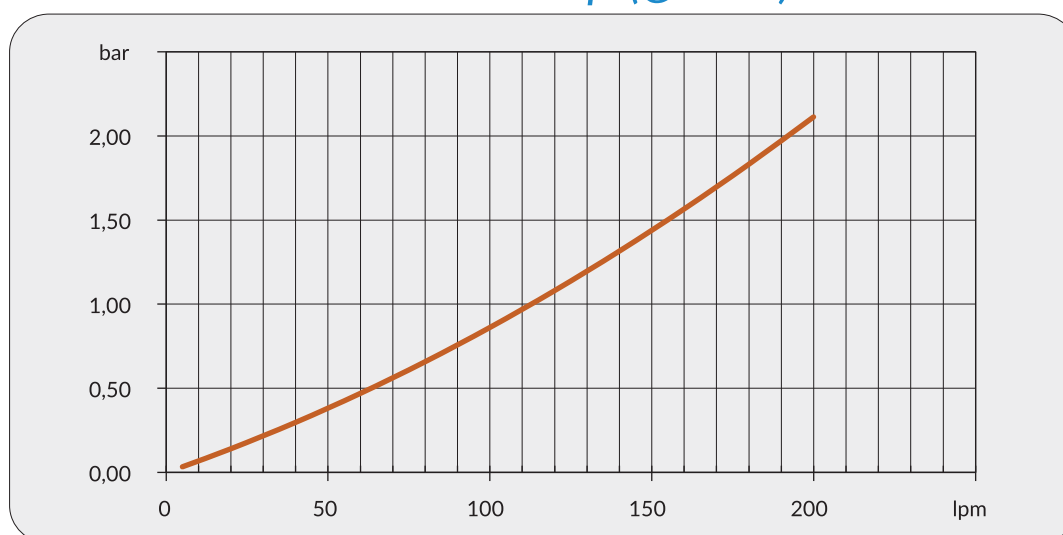
| P/N       | V                                 | Hz       | kW(±10%)       | A(±10%)                    | rpm                                                                               | Ø Fan | dB (A)                                                                              | (m³ / h)                                                                            | IP | lt  | kg |
|-----------|-----------------------------------|----------|----------------|----------------------------|-----------------------------------------------------------------------------------|-------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|----|-----|----|
| 2W2001### | 230 AC                            | 50/60    | 0,050/0,061    | 0,24/0,28                  | 2740/3120                                                                         | 200   | 68                                                                                  | 675                                                                                 | 44 | 0,7 | 8  |
| 2W2003### | 230-400 AC<br>265-400 AC          | 50<br>60 | 0,068<br>0,070 | 0,29 - 0,17<br>0,23 - 0,13 | 2500<br>2650                                                                      | 200   | 68                                                                                  | 645                                                                                 | 44 | 0,7 | 8  |
| 2W2004### | 230-400 AC B14<br>265-460 AC B14  | 50<br>60 | 0,25<br>0,30   | 1,7- 1<br>1,7- 1           | 1350<br>1620                                                                      | 200   | 64                                                                                  | 390                                                                                 | 55 | 0,7 | 11 |
| 2W2012### | 12 DC                             | /        | 0,08           | 6,4                        | 2770                                                                              | 225   | 72                                                                                  | 720                                                                                 | 67 | 0,7 | 7  |
| 2W2024### | 24 DC                             | /        | 0,09           | 3,9                        | 2900                                                                              | 225   | 72                                                                                  | 750                                                                                 | 67 | 0,7 | 7  |
| 2W2056### | Prepared for Gr.2 hydraulic motor |          |                |                            |  | 200   |  |  | /  | 0,7 | 7  |

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## Diagramma rendimento Performance diagram



## Perdite di carico Pressure drop (@30cSt)

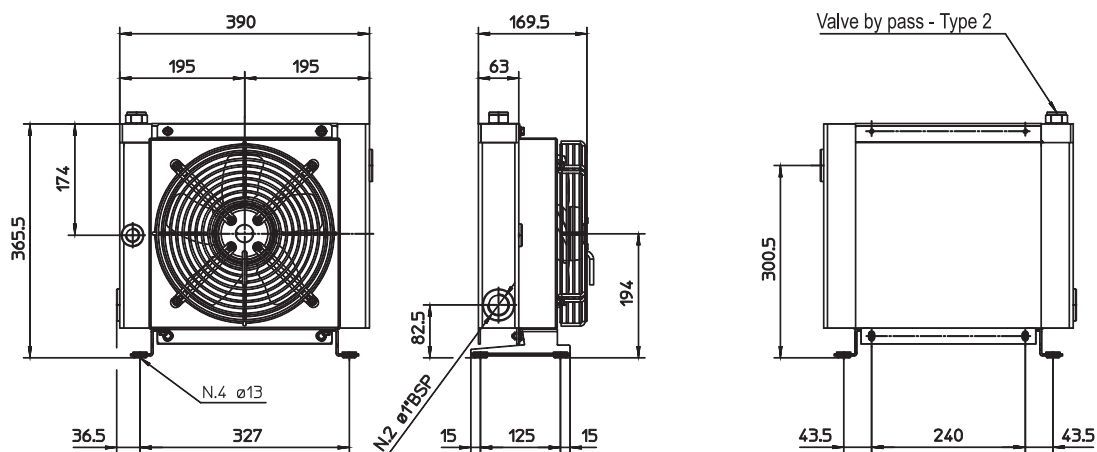


## Fattore di correzione-F-(perdite di carico) Correction factor-F-(pressure drop)

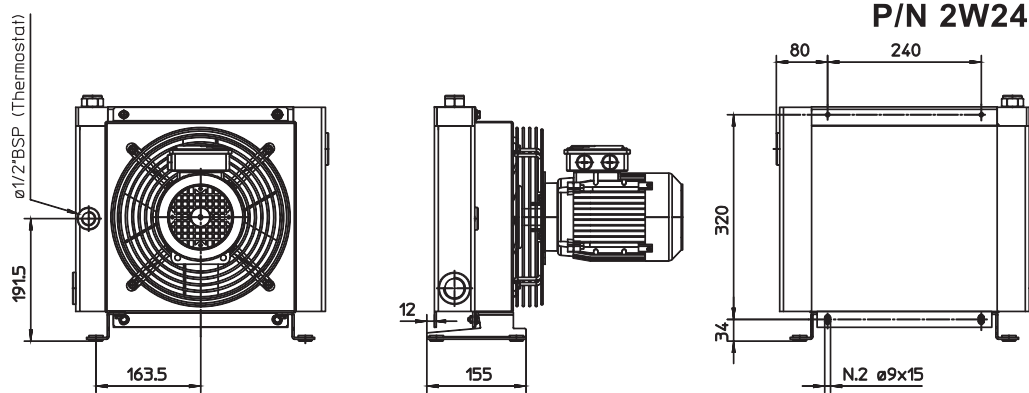
| cSt | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0,5 | 0,65 | 0,77 | 1  | 1,2 | 1,4 | 1,6 | 1,9 | 2,1 | 3,3 | 4,3 |



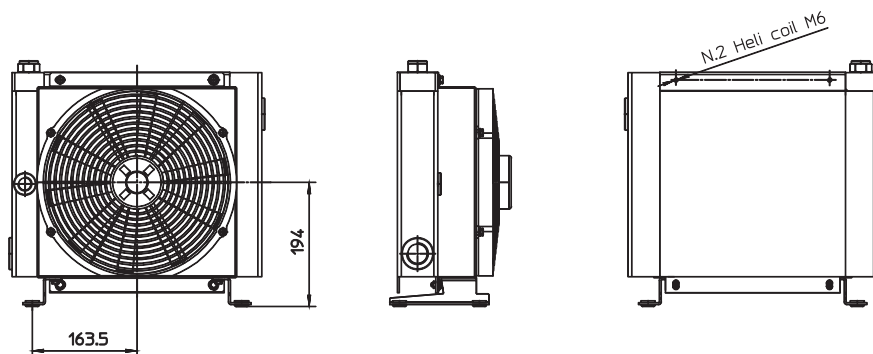
# 2000KBV MG 2024KBV



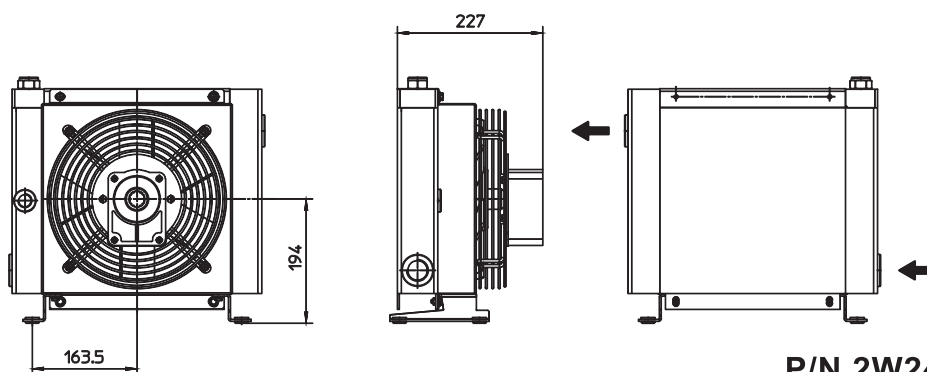
**P/N 2W2401###  
P/N 2W2403###**



**P/N 2W2404###**



**P/N 2W2412###  
P/N 2W2424###**



**P/N 2W2456###**

Le dimensioni di ingombro e le caratteristiche tecniche non sono impegnative  
Overall dimensions and technical characteristic are not binding

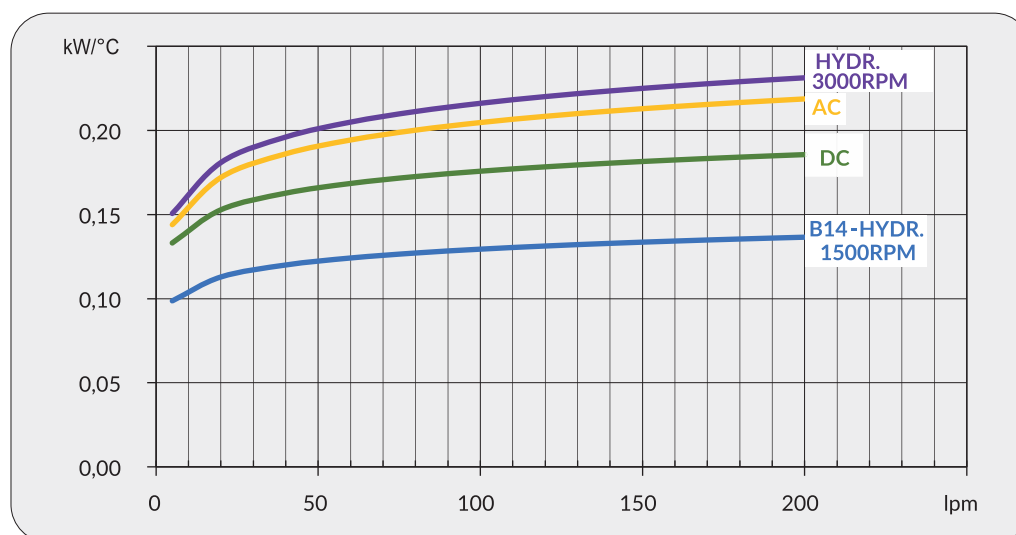


## Dati tecnici    *Technical Data*

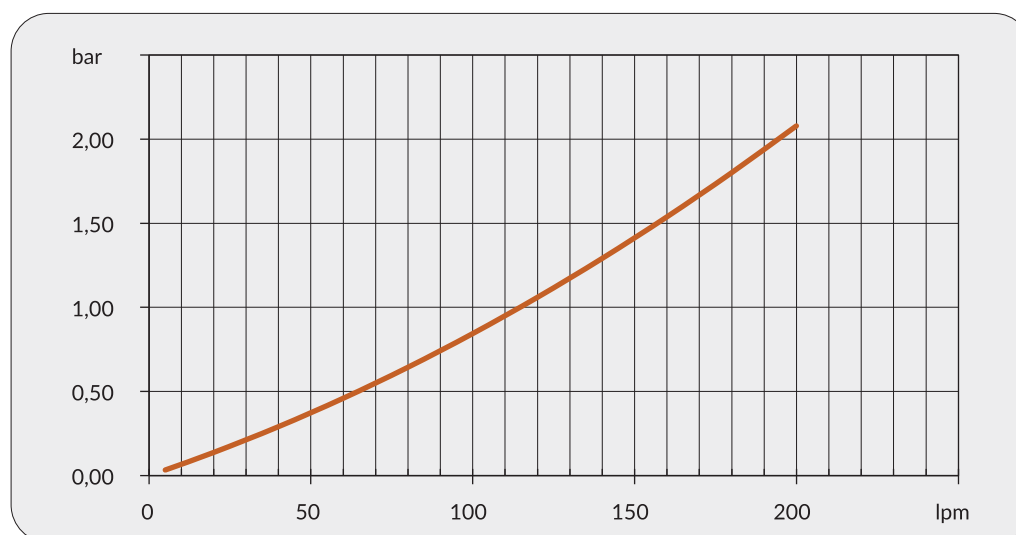
| P/N       | V                                 | Hz       | kW(±10%)       | A(±10%)                | rpm          | Ø Fan | dB (A) | (m³/ h) | IP | lt | kg |
|-----------|-----------------------------------|----------|----------------|------------------------|--------------|-------|--------|---------|----|----|----|
| 2W2401### | 230 AC                            | 50/60    | 0,115/0,150    | 0,51/0,66              | 2450/2600    | 250   | 72     | 1350    | 44 | 1  | 11 |
| 2W2403### | 230-400 AC<br>265-400 AC          | 50<br>60 | 0,105<br>0,145 | 0,33-0,19<br>0,39-0,23 | 2600<br>2900 | 250   | 72     | 1300    | 44 | 1  | 11 |
| 2W2404### | 230-400 AC B14<br>265-460 AC B14  | 50<br>60 | 0,25<br>0,30   | 1,7- 1<br>1,7- 1       | 1350<br>1620 | 250   | 64     | 1000    | 55 | 1  | 16 |
| 2W2412### | 12 DC                             | /        | 0,09           | 7,5                    | 2710         | 280   | 72     | 950     | 67 | 1  | 10 |
| 2W2424### | 24 DC                             | /        | 0,10           | 4,3                    | 2765         | 280   | 74     | 1030    | 67 | 1  | 10 |
| 2W2456### | Prepared for Gr.2 hydraulic motor |          |                |                        |              | 250   |        |         | /  | 1  | 10 |

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## Diagramma rendimento    *Performance diagram*

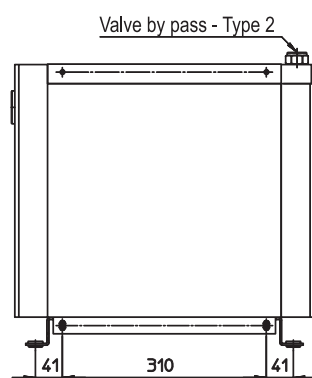
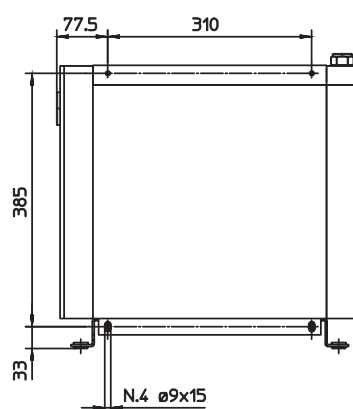


## Perdite di carico    *Pressure drop (@30cSt)*



## Fattore di correzione-F-(perdite di carico)    *Correction factor-F-(pressure drop)*

| cSt | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0,5 | 0,65 | 0,77 | 1  | 1,2 | 1,4 | 1,6 | 1,9 | 2,1 | 3,3 | 4,3 |

[illegible]

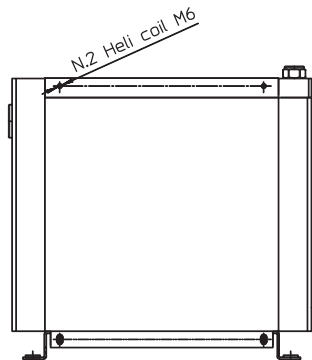
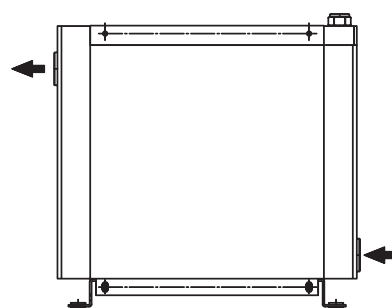
Technical drawing of the ECH 2500 S unit showing front and side views with dimensions.

**Front View Dimensions:**

- Height: 225
- Width: 196

**Side View Dimensions:**

- Depth: 218

[illegible]

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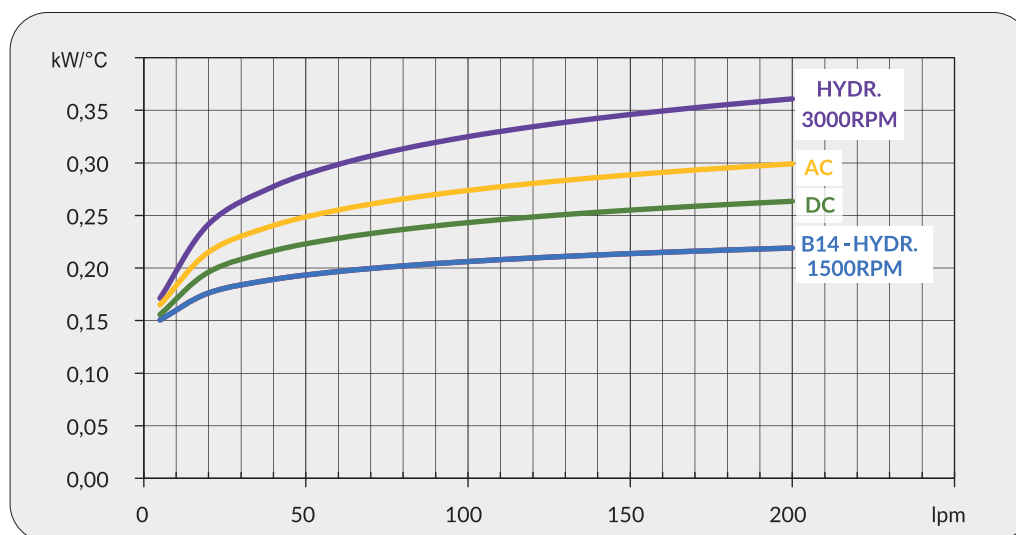


## Dati tecnici Technical Data

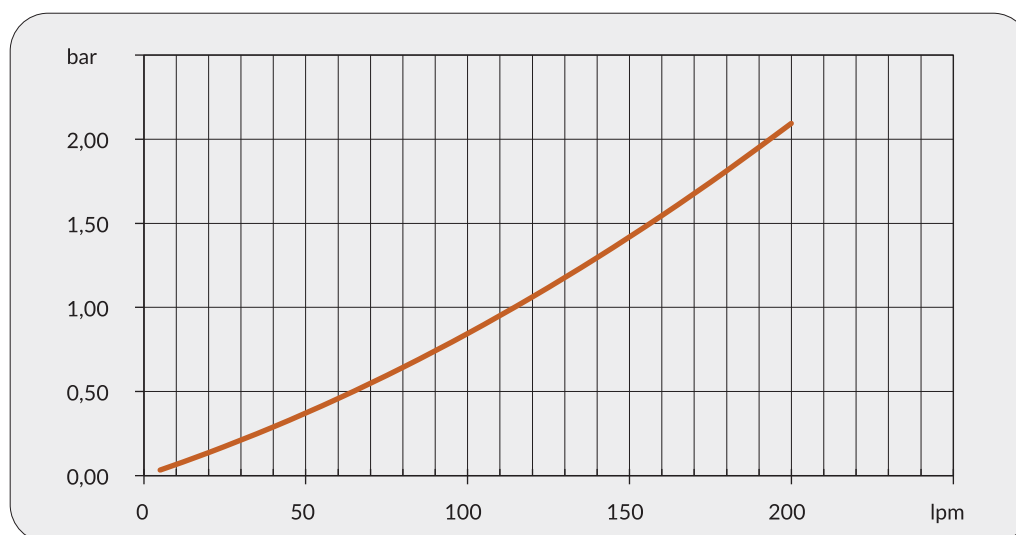
| P/N       | V                                 | Hz       | kW(±10%)     | A(±10%)                | rpm          | Ø Fan | dB (A) | (m³ / h) | IP | lt  | kg |
|-----------|-----------------------------------|----------|--------------|------------------------|--------------|-------|--------|----------|----|-----|----|
| 2W3001### | 230 AC                            | 50/60    | 0,23/0,35    | 1,1/1,55               | 2700/3000    | 300   | 78     | 2220     | 44 | 1,6 | 15 |
| 2W3003### | 230-400 AC<br>265-400 AC          | 50<br>60 | 0,21<br>0,30 | 0,62-0,36<br>0,84-0,48 | 2580<br>2750 | 300   | 76     | 2500     | 44 | 1,6 | 15 |
| 2W3004### | 230-400 AC<br>265-460 AC          | 50<br>60 | 0,37<br>0,44 | 2,2- 1,25<br>2,2- 1,25 | 1370<br>1640 | 300   | 70     | 1850     | 55 | 1,6 | 20 |
| 2W3012### | 12 DC                             | /        | 0,16         | 13,3                   | 2660         | 305   | 80     | 1675     | 67 | 1,6 | 14 |
| 2W3024### | 24 DC                             | /        | 0,18         | 7,4                    | 2870         | 305   | 83     | 1880     | 67 | 1,6 | 14 |
| 2W3056### | Prepared for Gr.2 hydraulic motor |          |              |                        |              | 300   |        |          | /  | 1,6 | 15 |

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## Diagramma rendimento Performance diagram



## Perdite di carico Pressure drop (@30cSt)

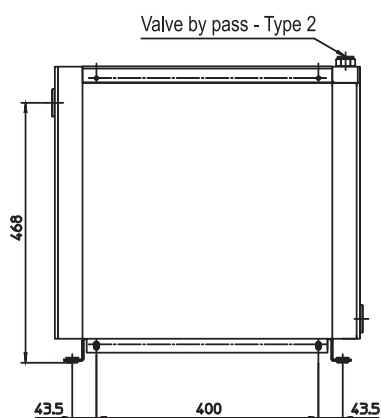
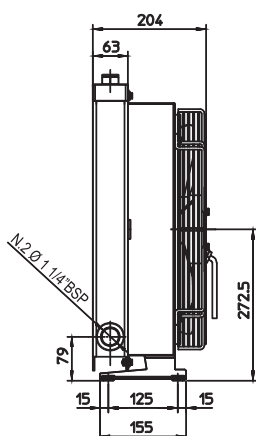
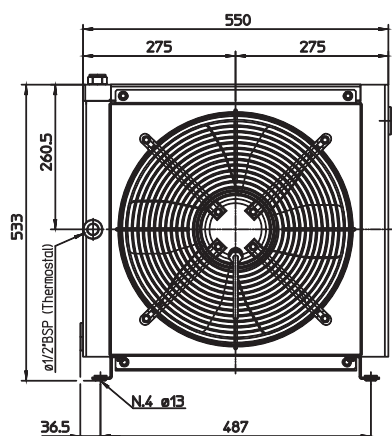


## Fattore di correzione-F-(perdite di carico) Correction factor-F-(pressure drop)

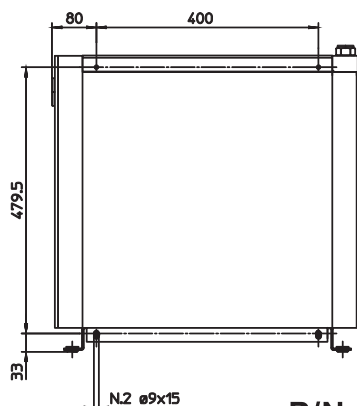
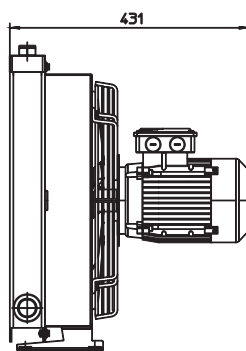
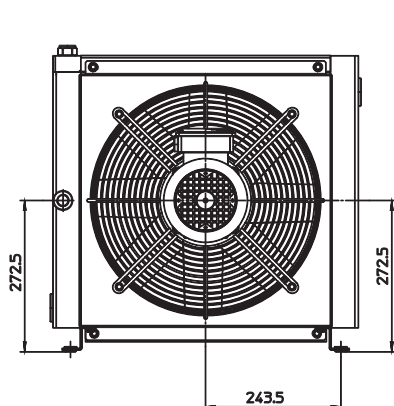
| cSt | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0,5 | 0,65 | 0,77 | 1  | 1,2 | 1,4 | 1,6 | 1,9 | 2,1 | 3,3 | 4,3 |



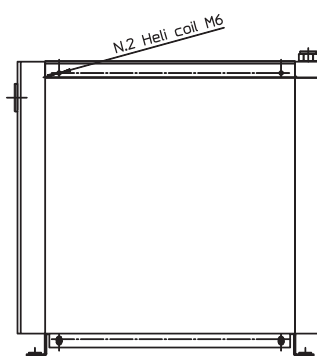
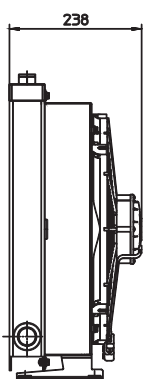
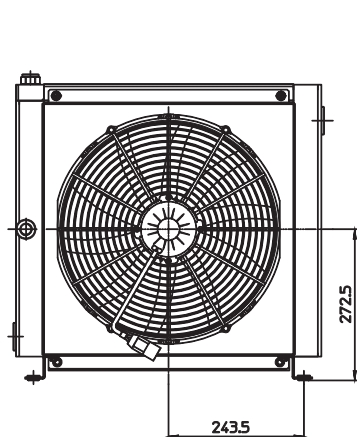
2000KBV  
MG 2040KBV



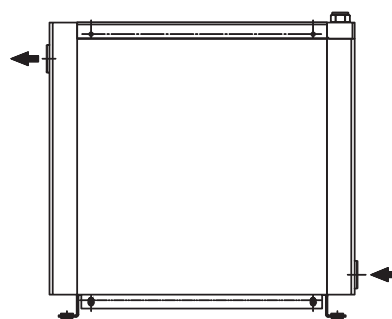
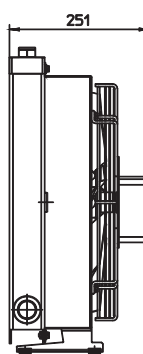
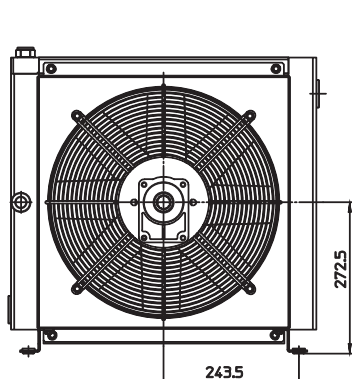
P/N 2W4001###  
P/N 2W4003###



P/N 2W4004###



P/N 2W4012###  
P/N 2W4024###

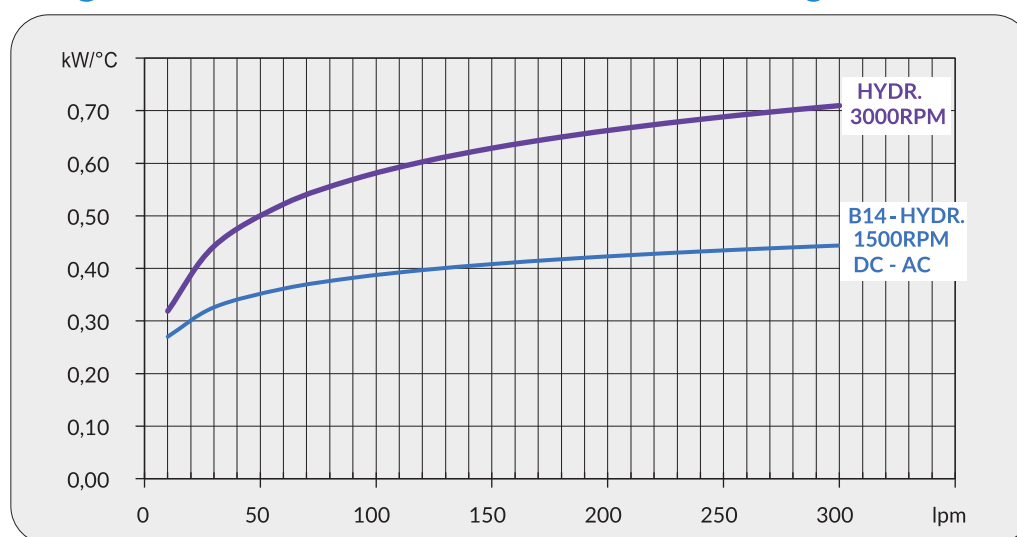
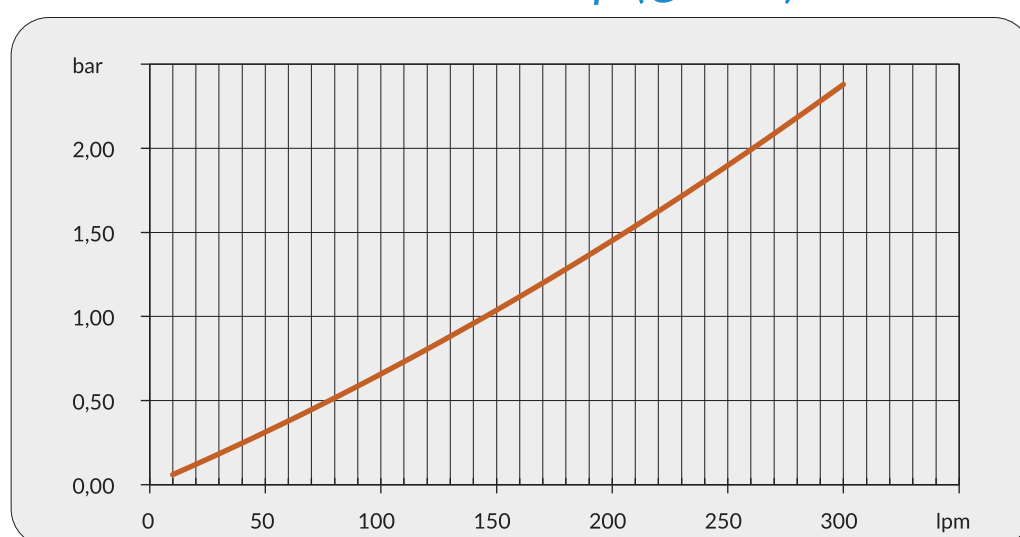


P/N 2W4056###

Le dimensioni di ingombro e le caratteristiche tecniche non sono impegnative  
Overall dimensions and technical characteristic are not binding

**Dati tecnici**    *Technical Data*

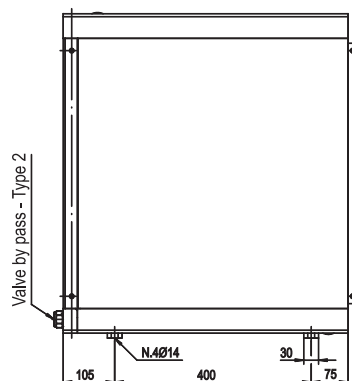
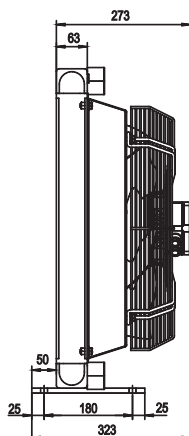
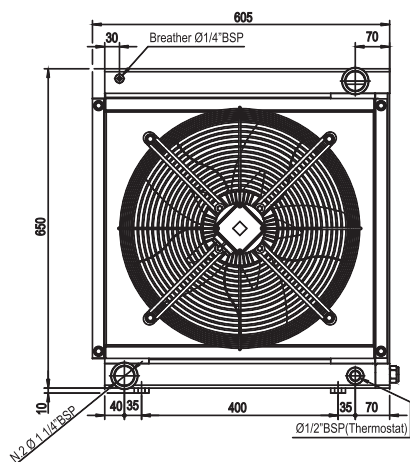
| P/N       | V                                 | Hz       | kW(±10%)       | A(±10%)                | rpm                                                                               | Ø Fan | dB (A)                                                                              | (m³ / h)                                                                            | IP | lt  | kg |
|-----------|-----------------------------------|----------|----------------|------------------------|-----------------------------------------------------------------------------------|-------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|----|-----|----|
| 2W4001### | 230 AC                            | 50       | 0,16/0,24      | 0,73/1,06              | 1430/1700                                                                         | 400   | 71                                                                                  | 3200                                                                                | 54 | 2,7 | 21 |
| 2W4003### | 230-400 AC<br>265-400 AC          | 50<br>60 | 0,135<br>0,185 | 0,76/0,44<br>0,68/0,39 | 1450<br>1690                                                                      | 400   | 71                                                                                  | 3200                                                                                | 54 | 2,7 | 21 |
| 2W4004### | 230-400 AC B14<br>265-460 AC B14  | 50<br>60 | 0,55<br>0,63   | 2,9- 1,7<br>2,9- 1,7   | 1320<br>1690                                                                      | 400   | 77                                                                                  | 3740                                                                                | 55 | 2,7 | 25 |
| 2W4012### | 12 DC                             | /        | 0,22           | 19,2                   | 2310                                                                              | 385   | 76                                                                                  | 2770                                                                                | 67 | 2,7 | 20 |
| 2W4024### | 24 DC                             | /        | 0,23           | 9,3                    | 2380                                                                              | 385   | 79                                                                                  | 2910                                                                                | 67 | 2,7 | 20 |
| 2W4056### | Prepared for Gr.2 hydraulic motor |          |                |                        |  | 400   |  |  | /  | 2,7 | 19 |

 Contattare EMMEGI    Contact EMMEGI**Diagramma rendimento**    *Performance diagram***Perdite di carico**    *Pressure drop (@30cSt)***Fattore di correzione-F-(perdite di carico)**    *Correction factor-F-(pressure drop)*

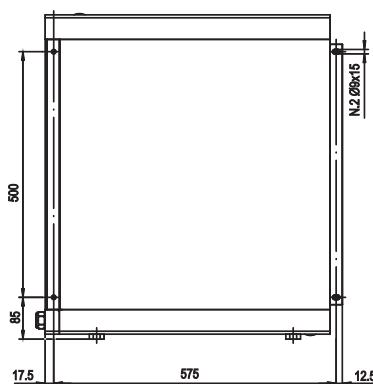
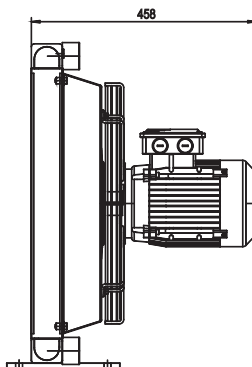
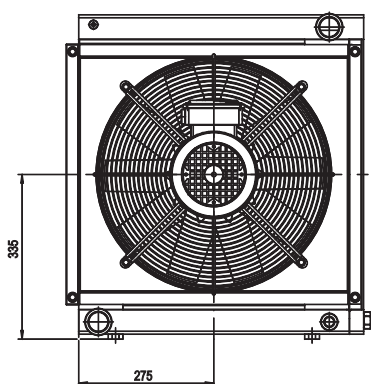
| cSt | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0,5 | 0,65 | 0,77 | 1  | 1,2 | 1,4 | 1,6 | 1,9 | 2,1 | 3,3 | 4,3 |



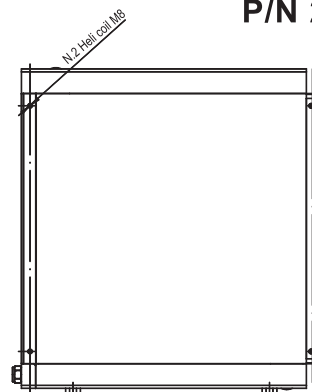
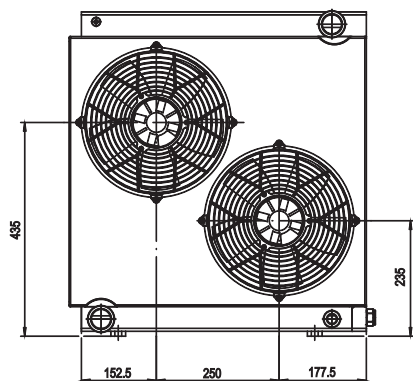
# 2000KBV MG 2050KBV



**P/N 2W5003###**

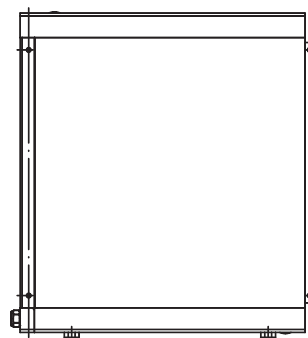
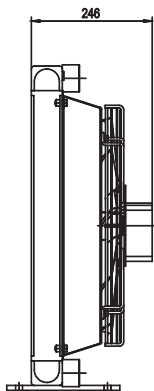
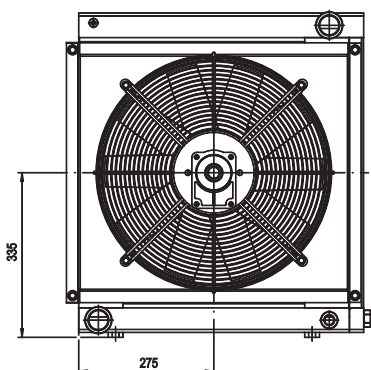


**P/N 2W5004###**



**P/N 2W5012###**

**P/N 2W5024###**



**P/N 2W5056###**

Le dimensioni di ingombro e le caratteristiche tecniche non sono impegnative  
Over-all dimensions and technical characteristic are not binding



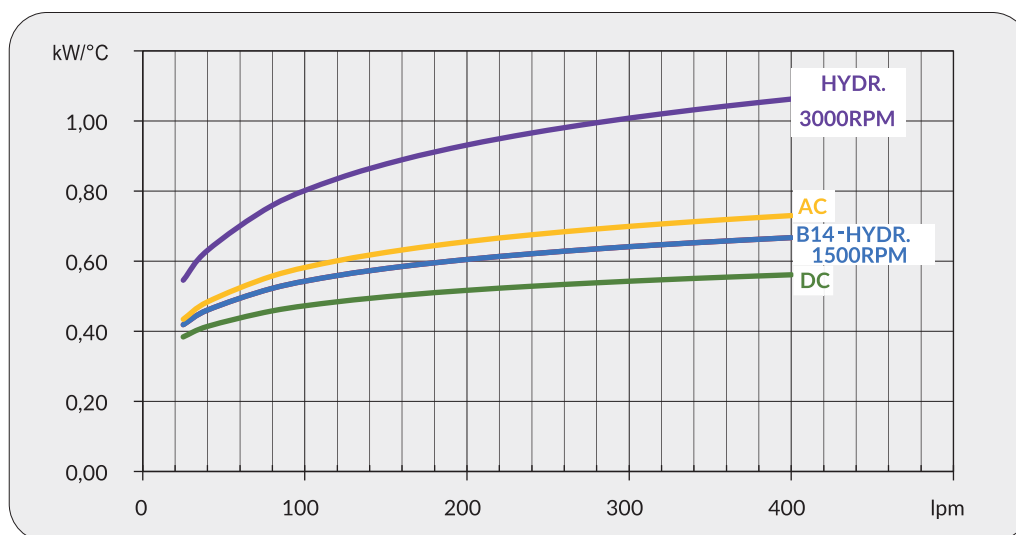
## Dati tecnici Technical Data

| P/N       | V                                 | Hz       | kW(±10%)     | A(±10%)          | rpm          | Ø Fan | dB (A) | (m³ / h) | IP | lt | kg |
|-----------|-----------------------------------|----------|--------------|------------------|--------------|-------|--------|----------|----|----|----|
| 2W5003### | 230-400 AC                        | 50 / 60  | 0,52/0,66    | 1,9/1,1          | 1450/1690    | 450   | 76     | 5000     | 54 | 5  | 27 |
| 2W5004### | 230-400 AC B14<br>265-460 AC B14  | 50<br>60 | 0,75<br>0,86 | 3,0/1,7<br>3/1,7 | 1440<br>1750 | 450   | 79     | 5200     | 55 | 5  | 30 |
| 2W5012### | 12 DC                             | /        | 0,13         | 11,0             | 2340         | 280   | 76     | 1720     | 67 | 5  | 24 |
| 2W5024### | 24 DC                             | /        | 0,15         | 6,2              | 2600         | 280   | 79     | 1750     | 67 | 5  | 24 |
| 2W5056### | Prepared for Gr.2 hydraulic motor |          |              |                  |              | 450   |        |          | /  | 5  | 23 |

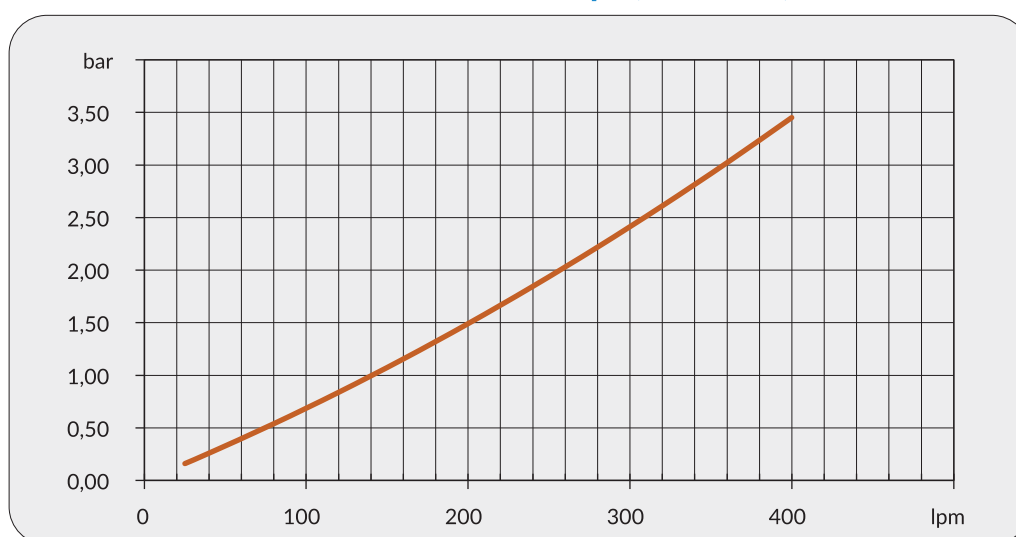
I dati si riferiscono al singolo ventilatore  
Data refers to each fan

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## Diagramma rendimento Performance diagram



## Perdite di carico Pressure drop (@30cSt)



## Fattore di correzione-F-(perdite di carico) Correction factor-F-(pressure drop)

| cSt | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0,5 | 0,65 | 0,77 | 1  | 1,2 | 1,4 | 1,6 | 1,9 | 2,1 | 3,3 | 4,3 |







**Serie 2000K DRAIN**  
2000K DRAIN series



## 2000K DRAIN

### 2000K DRAIN Series

#### APPLICAZIONE

#### APPLICATION

Grazie all'ampia gamma di combinazioni, gli scambiatori della serie 2000K Drain si prestano come la soluzione di raffreddamento ottimale per svariate applicazioni sia mobili che industriali quali:

Thanks to the wide range of combinations, the 2000K Drain series heat exchangers are the optimal cooling solution for a wide range of mobile and industrial applications such as:



Industria agricola e forestale.  
Gru mobili e fisse.  
Veicoli industriali.  
Impianti oleodinamici.  
Macchine utensili.  
Movimentazione materiali.  
Altro su richiesta.

Agriculture and forestry.  
Mobile and stationary cranes.  
Industrial vehicles.  
Hydraulic systems.  
Machine tools.  
Material handling.  
Others on request.



Punto di forza di questi prodotti è l'elevata efficienza con basse portate di olio.

The main characteristic of this heat exchanger is the high efficiency with low oil flows.



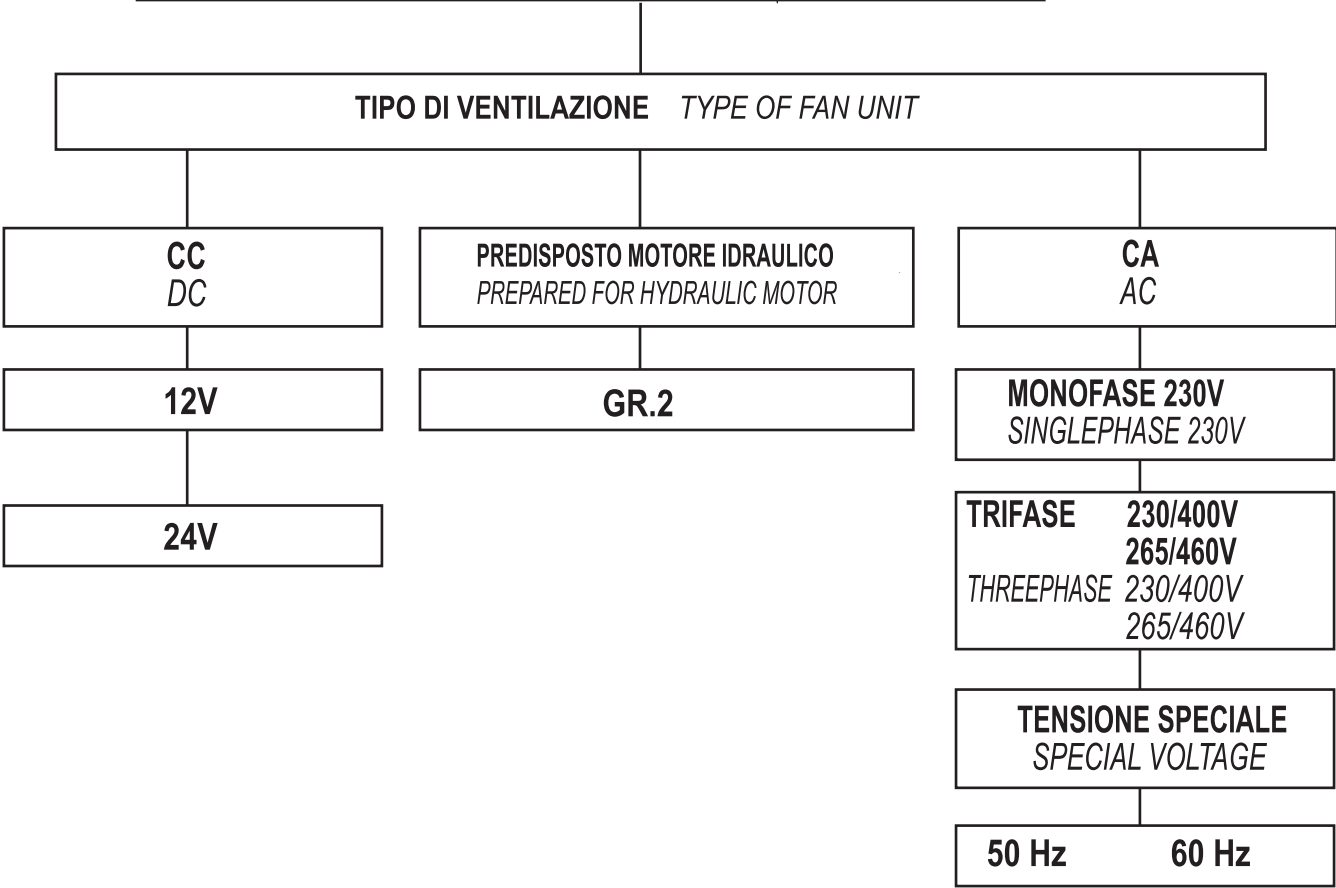


Modulo richiesta dati

Sheet for cooler selection

|                  |  |
|------------------|--|
| CLIENTE COMPANY  |  |
| RICHIEDENTE NAME |  |

|                                                 |     |  |
|-------------------------------------------------|-----|--|
| TIPOLOGIA FLUIDO<br>FLUID TYPE                  |     |  |
| PORTATA<br>FLOW RATE                            | lpm |  |
| POTENZA INSTALLATA<br>INSTALLED POWER           | kW  |  |
| POTENZA DA DISSIPARE<br>POWER TO BE DISSIPATED  | kW  |  |
| TEMPERATURA INGRESSO<br>INLET TEMPERATURE       | °C  |  |
| TEMPERATURA ARIA MAX<br>MAX AMBIENT TEMPERATURE | °C  |  |
| PRESSIONE DI LAVORO<br>WORKING PRESSURE         | bar |  |





### Denominazione codice prodotto

#### Ordering code

2Z24

03

2

01

#### MODELLO COOLER MODEL

2Z24 (DRAIN 2024K)

#### TIPO DI MOTORIZZAZIONE FAN MOTOR TYPE

- 01 AC 230V 50/60 Hz
- 03 AC 230-400V-50Hz / AC 230-400-60Hz
- 04 AC 230-400V-50Hz (B14) / AC 265-460V- 60Hz (B14)
- 12 DC 12V
- 24 DC 24V
- 56 Pred. per mot. idr. gr. 2 Prep. for hydr. mot. gr. 2

#### TERMOSTATI THERMOSTATS

- 0 Senza termostato Whitout thermostat
- 1 Termostato fisso Fixed thermostat 40-28°
- 2 Termostato fisso Fixed thermostat 50-38°
- 3 Termostato fisso Fixed thermostat 60-48°
- 4 Termostato fisso Fixed thermostat 70-58°
- 5 Termostato fisso Fixed thermostat 80-68°
- 6 Termostato fisso Fixed thermostat 90-78°
- 8 Termostato regolabile Adjustable thermostat 0-90° (TC2)
- 9 Termostato regolabile collegato Connected adjustable thermostat 0-120° (TR2)

#### TIPO DI VENTILAZIONE VENTILATING TYPE

- 01 Aspirante Suction air flow
- 02 Soffiante Blowing air flow



**Modello - Codice prodotto**  
*Cooler model - Code*

**Serie DRAIN - DRAIN Series**

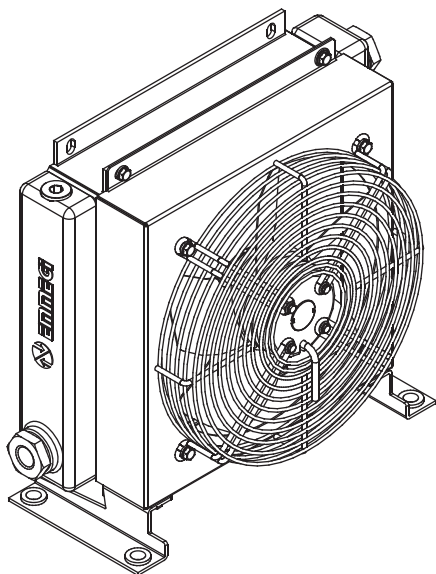
| <b>Modello<br/>Model</b> | <b>Codice<br/>Code</b> |
|--------------------------|------------------------|
| DRAIN 2010K              | 2Z10                   |
| DRAIN 2015K              | 2Z15                   |
| DRAIN 2020K              | 2Z20                   |
| DRAIN 2024K              | 2Z24                   |
| DRAIN 2030K              | 2Z30                   |
| DRAIN 2040K              | 2Z40                   |
| DRAIN 2050K              | 2Z50                   |



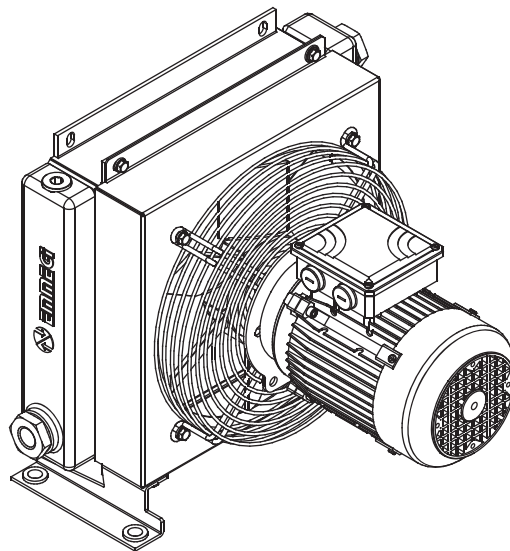


## 2000K DRAIN

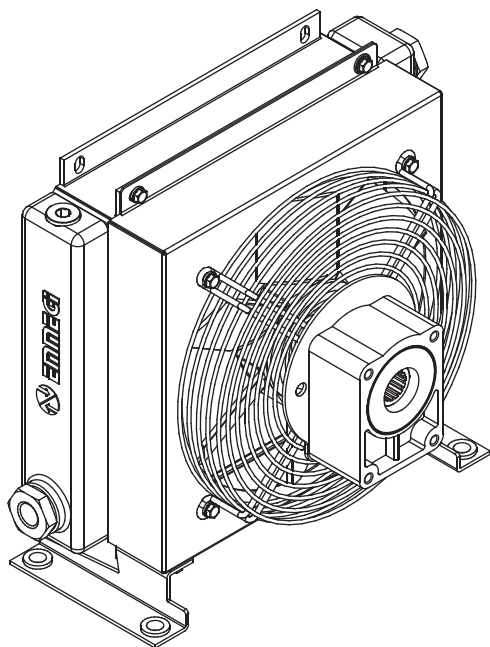
### 2000K DRAIN Series



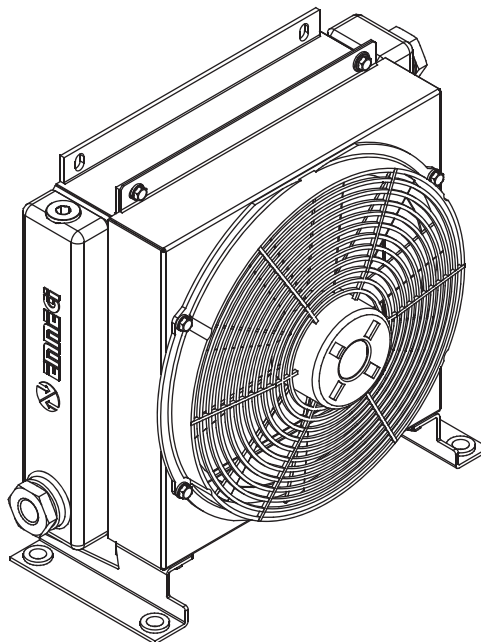
AC 230V 50/60 Hz  
AC 230-400V 50/60Hz



AC 230-400V 50 Hz (B14)  
AC 265-460V 60 Hz (B14)



Pred. per mot. idr. gr. 2  
Pred for Gr.2 hydraulic mot.

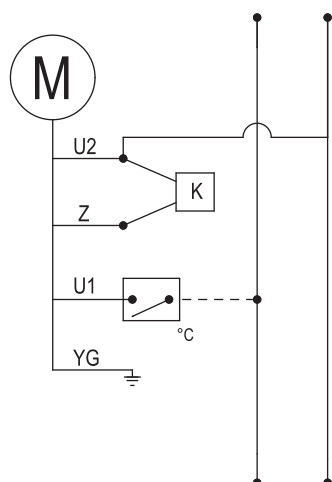


DC 12-24V

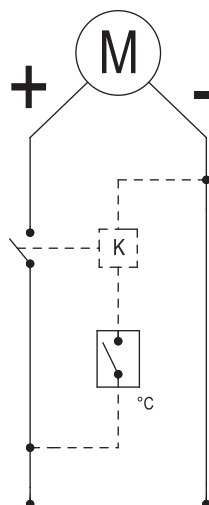
## Collegamenti elettrici

### Electric Wiring

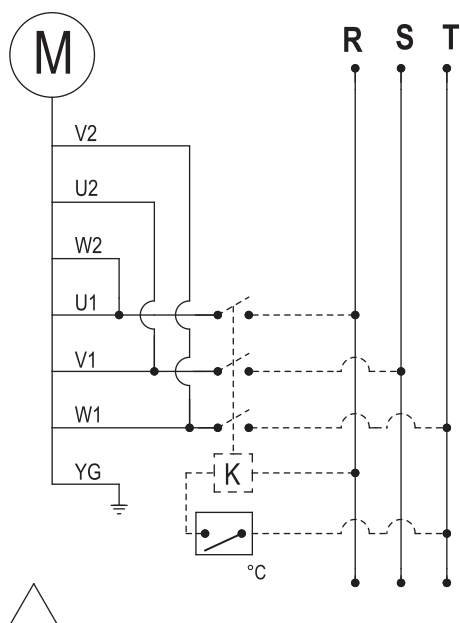
COLLEGAMENTO ELETTRICO 230V MON. AC  
230V AC 1PH. ELECTRIC WIRING



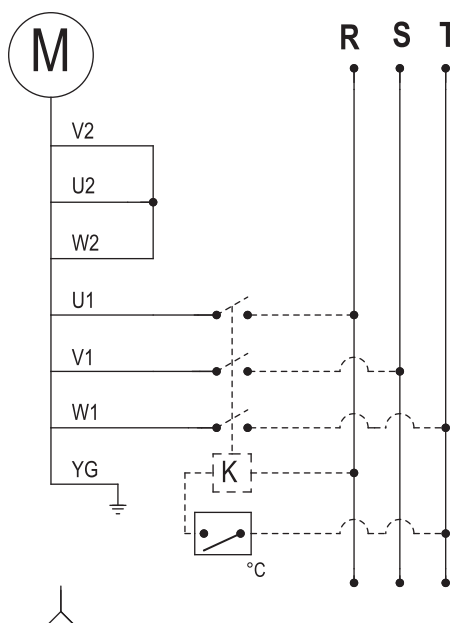
COLLEGAMENTO ELETTRICO 12-24V DC  
12-24V DC ELECTRIC WIRING



COLLEGAMENTO ELETTRICO 230V AC TRIF.  
230V AC 3PH. ELECTRIC WIRING



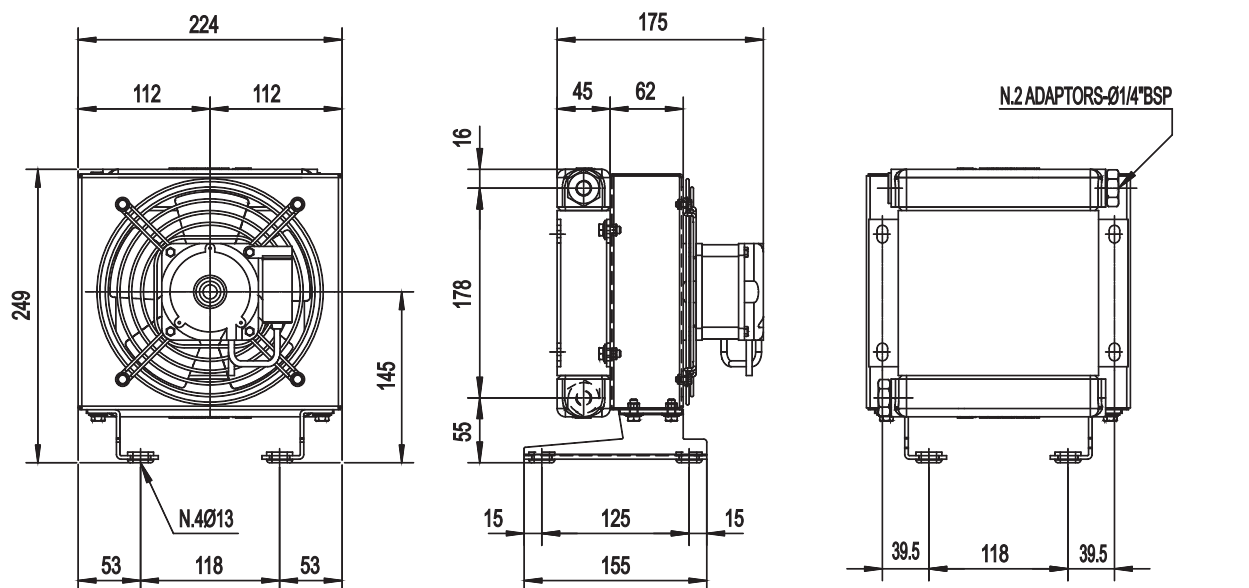
COLLEGAMENTO ELETTRICO 400/460V AC TRIF.  
400/460V AC THREEPHASE ELECTRIC WIRING



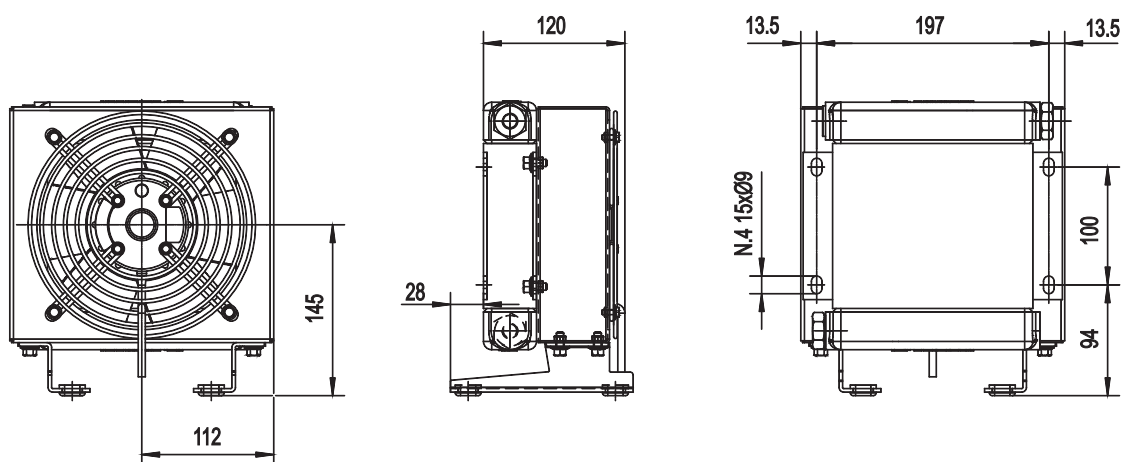


# 2000K DRAIN

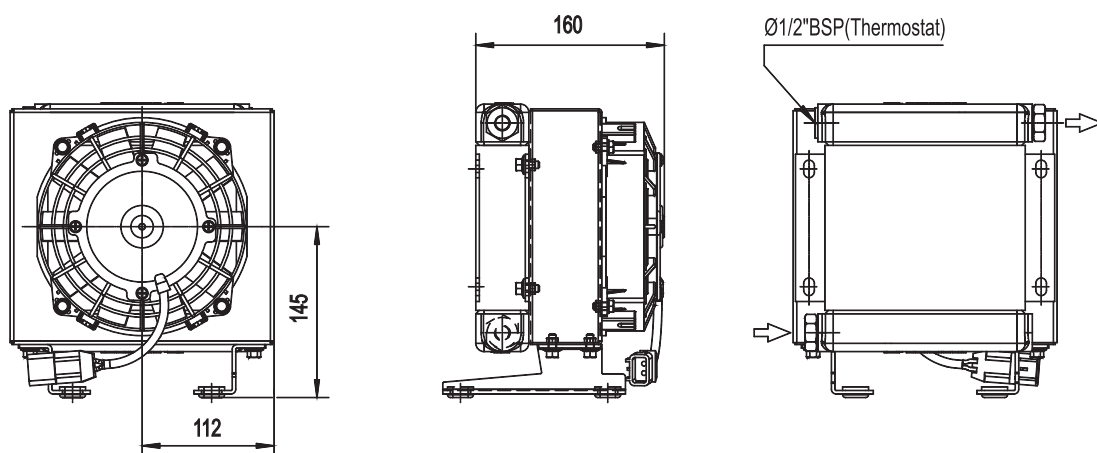
## 2010K DRAIN



**P/N 2Z1001###**



**P/N 2Z1003###**



**P/N 2Z1012###**

**P/N 2Z1024###**

Le dimensioni di ingombro e le caratteristiche tecniche non sono impegnative  
Overall dimensions and technical characteristic are not binding

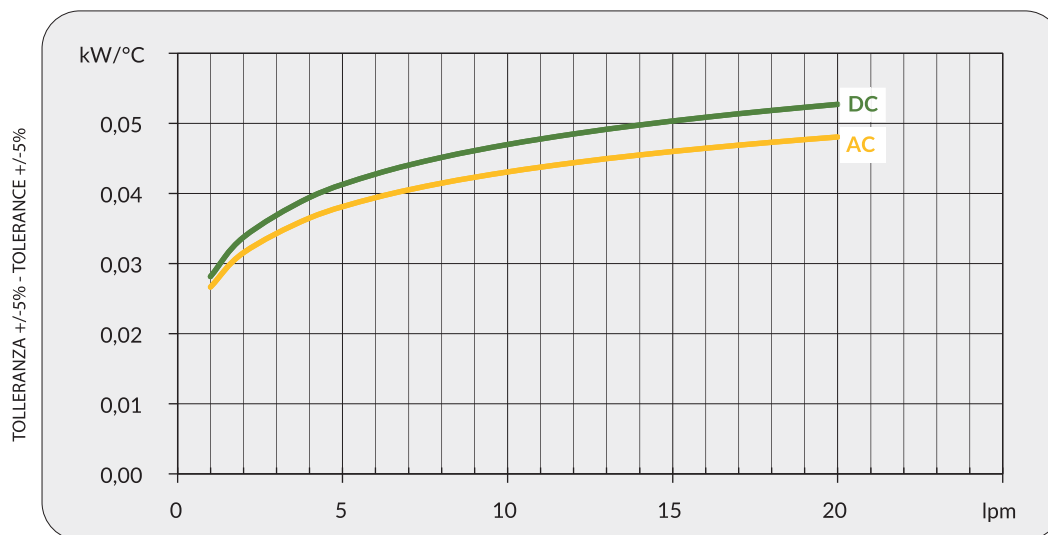


## Dati tecnici Technical Data

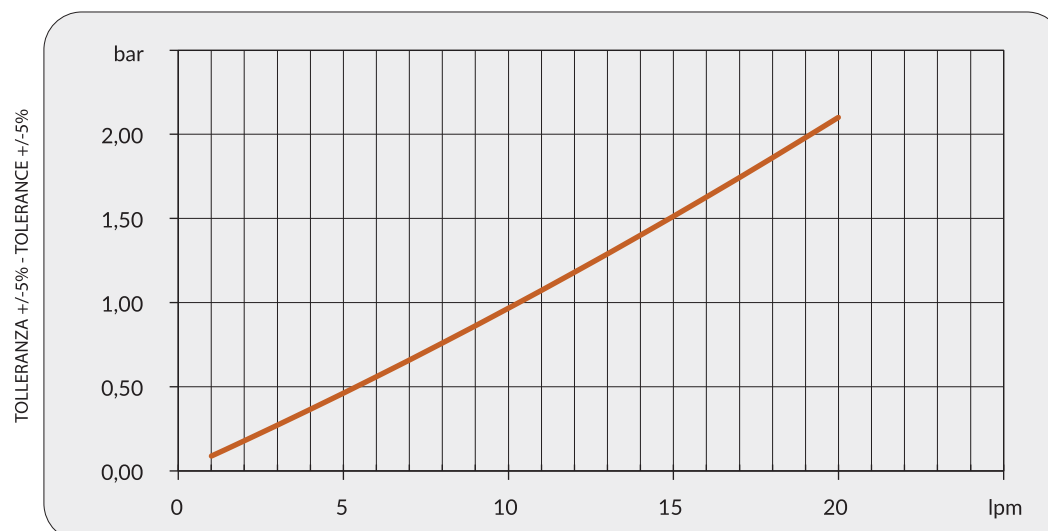
| P/N       | V                        | Hz       | kW(±10%)       | A(±10%)                    | rpm          | Ø Fan | dB (A) | (m³/ h) | IP | lt  | kg |
|-----------|--------------------------|----------|----------------|----------------------------|--------------|-------|--------|---------|----|-----|----|
| 2Z1001### | 230 AC                   | 50/60    | 0,010/0,047    | 0,21                       | 2500         | 175   | 67     | 235     | 54 | 0,3 | 6  |
| 2Z1003### | 230-400 AC<br>230-400 AC | 50<br>60 | 0,045<br>0,043 | 0,23 - 0,13<br>0,16 - 0,09 | 2750<br>3100 | 175   | 63     | 190     | 54 | 0,3 | 6  |
| 2Z1012### | 12 DC                    | /        | 0,06           | 5,2                        | 3860         | 167   | 75     | 410     | 67 | 0,3 | 5  |
| 2Z1024### | 24 DC                    | /        | 0,06           | 2,3                        | 4045         | 167   | 75     | 410     | 67 | 0,3 | 5  |

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## Diagramma rendimento Performance diagram



## Perdite di carico Pressure drop (@30cSt)



## Fattore di correzione-F-(perdite di carico) Correction factor-F-(pressure drop)

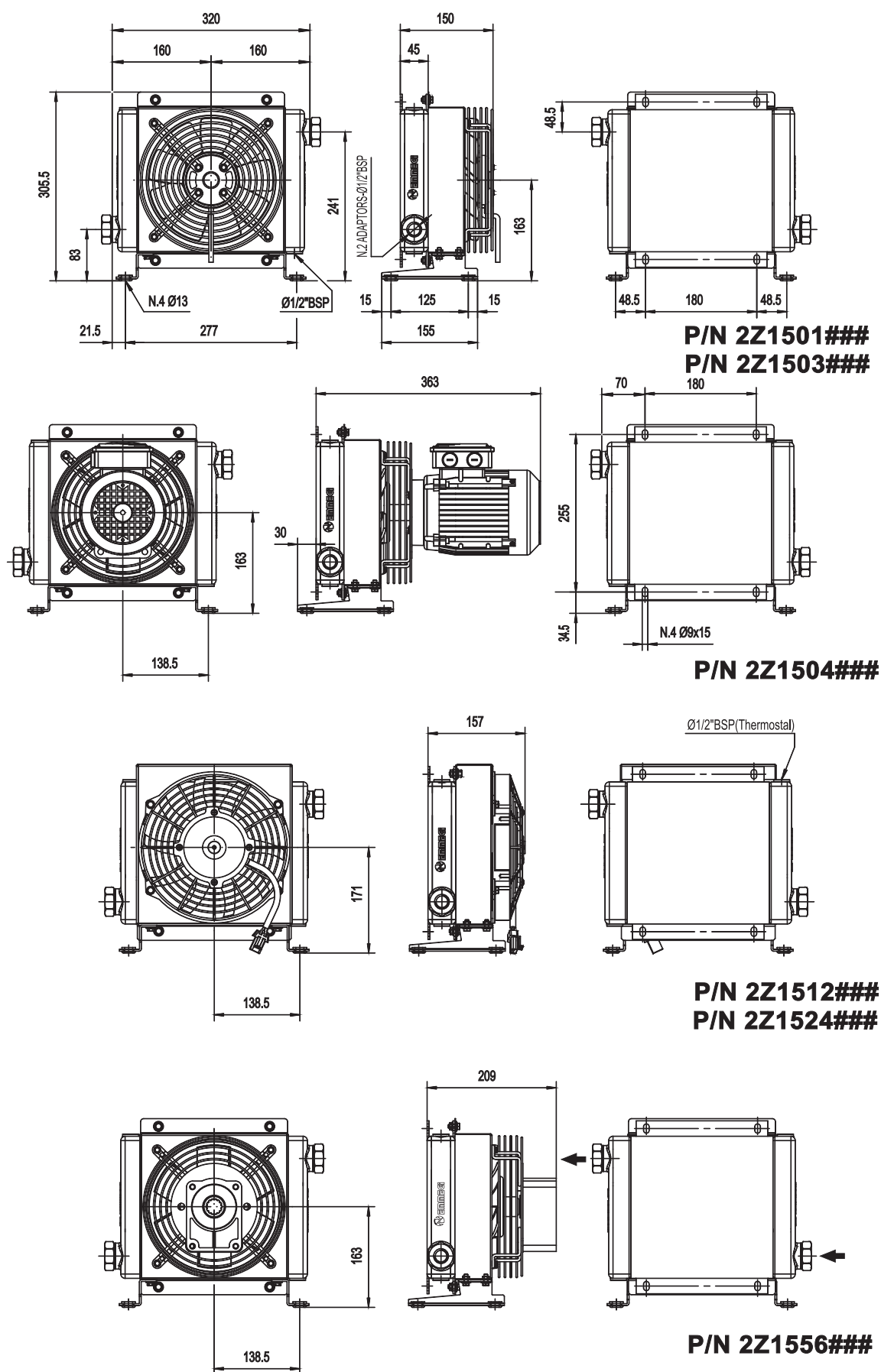
| cSt | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0,5 | 0,65 | 0,77 | 1  | 1,2 | 1,4 | 1,6 | 1,9 | 2,1 | 3,3 | 4,3 |





## 2000K DRAIN

## 2015K DRAIN



Le dimensioni di ingombro e le caratteristiche tecniche non sono impegnative  
Overall dimensions and technical characteristic are not binding

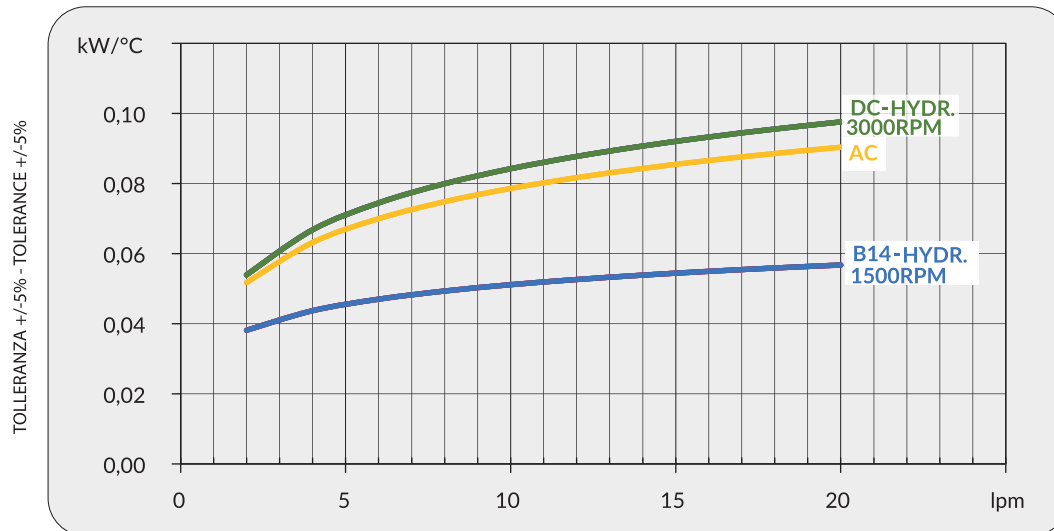


## Dati tecnici Technical Data

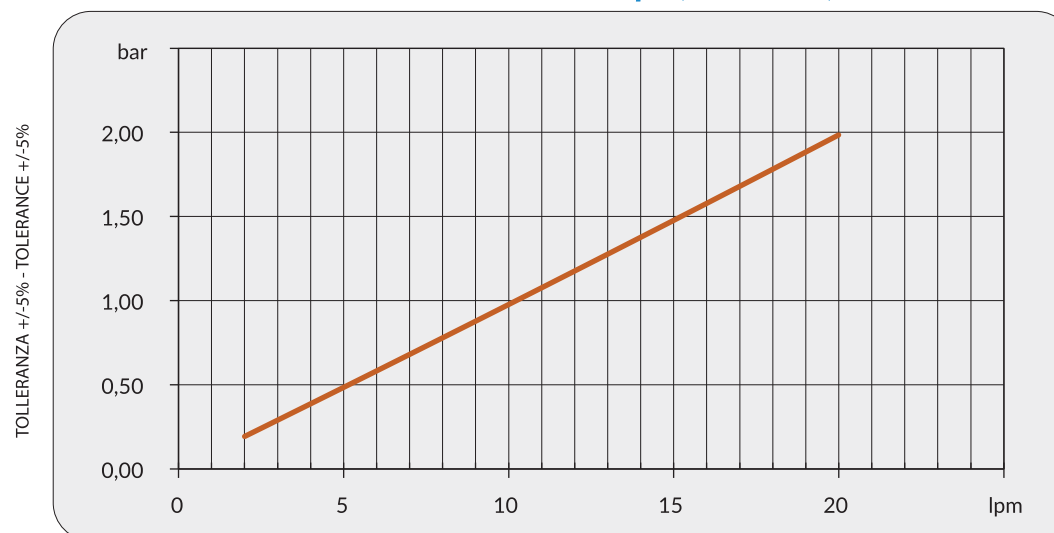
| P/N       | V                                 | Hz    | kW(±10%)    | A(±10%)     | rpm         | Ø Fan | dB (A) | (m³ / h) | IP | lt  | kg  |
|-----------|-----------------------------------|-------|-------------|-------------|-------------|-------|--------|----------|----|-----|-----|
| 2Z1501### | 230 AC                            | 50/60 | 0,050/0,061 | 0,24 - 0,28 | 2740 - 3120 | 200   | 68     | 700      | 44 | 0,5 | 7   |
| 2Z1503### | 230-400 AC                        | 50    | 0,068       | 0,29 - 0,17 | 2500        | 200   | 69     | 720      | 44 | 0,5 | 7   |
|           | 230-400 AC                        | 60    | 0,070       | 0,23 - 0,13 | 2650        |       |        |          |    |     |     |
| 2Z1504### | 230-400 AC B14                    | 50    | 0,25        | 1,7 - 1     | 1350        | 200   | 61     | 415      | 55 | 0,5 | 10  |
|           | 265-460 AC B14                    | 60    | 0,29        | 1,7 - 1     | 1620        |       |        |          |    |     |     |
| 2Z1512### | 12 DC                             | /     | 0,08        | 6,4         | 2770        | 225   | 72     | 790      | 67 | 0,5 | 6,5 |
| 2Z1524### | 24 DC                             | /     | 0,09        | 3,9         | 2900        | 225   | 73     | 865      | 67 | 0,5 | 6,5 |
| 2Z1556### | Prepared for Gr.2 hydraulic motor |       |             |             |             | 200   |        |          | /  | 0,5 | 6   |

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## Diagramma rendimento Performance diagram



## Perdite di carico Pressure drop (@30cSt)

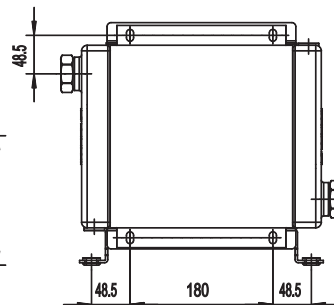
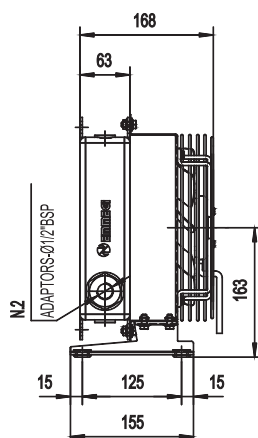
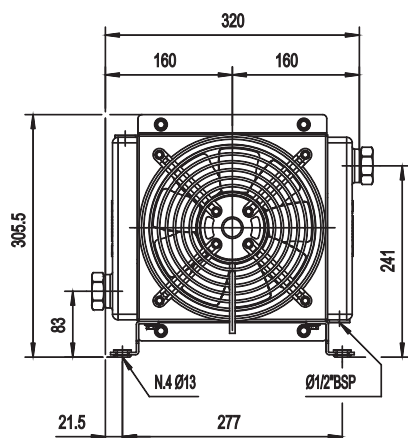


## Fattore di correzione-F-(perdite di carico) Correction factor-F-(pressure drop)

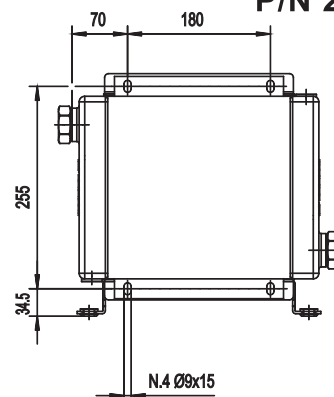
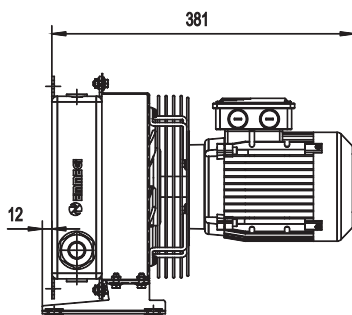
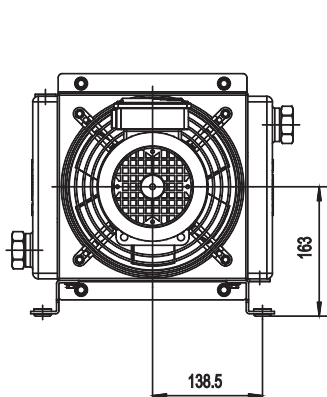
| cSt | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0,5 | 0,65 | 0,77 | 1  | 1,2 | 1,4 | 1,6 | 1,9 | 2,1 | 3,3 | 4,3 |



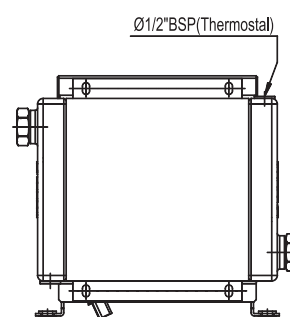
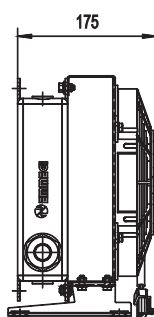
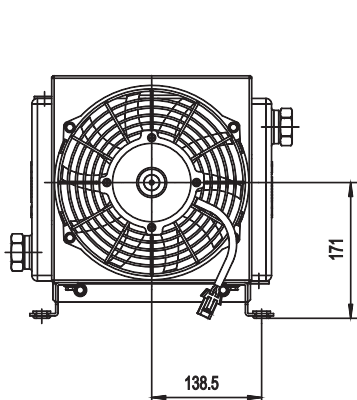
## 2000K DRAIN 2020K DRAIN



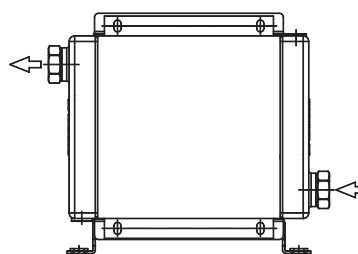
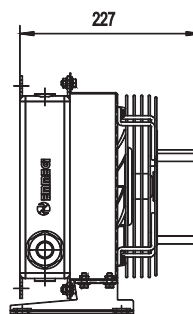
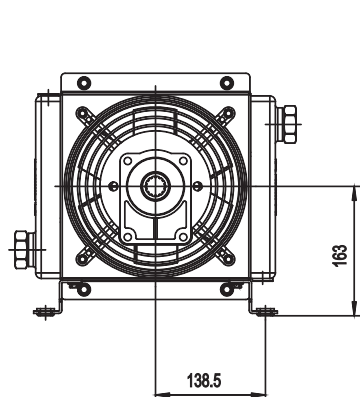
P/N 2Z2001###  
P/N 2Z2003###



P/N 2Z2004###



P/N 2Z2012###  
P/N 2Z2024###



P/N 2Z2056###

Le dimensioni di ingombro e le caratteristiche tecniche non sono impegnative  
Overall dimensions and technical characteristic are not binding

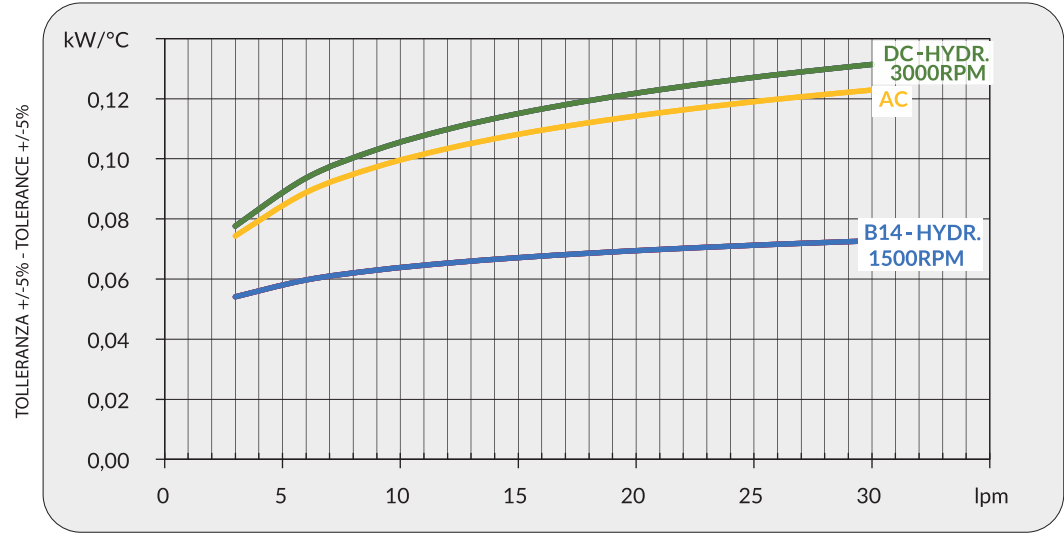


Dati tecnici    Technical Data

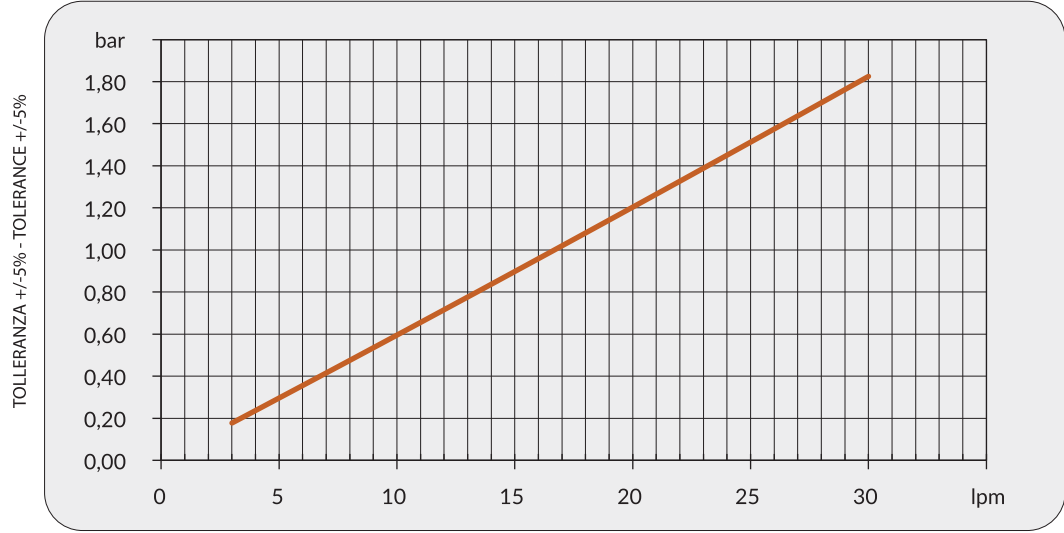
| P/N       | V                                 | Hz    | kW(±10%)    | A (±10%)    | rpm         | Ø Fan | dB (A) | (m³ / h) | IP | lt  | kg |
|-----------|-----------------------------------|-------|-------------|-------------|-------------|-------|--------|----------|----|-----|----|
| 2Z2001### | 230 AC                            | 50/60 | 0,050/0,061 | 0,24 - 0,28 | 2740 - 3120 | 200   | 68     | 675      | 44 | 0,7 | 8  |
| 2Z2003### | 230-400 AC                        | 50    | 0,068       | 0,29 - 0,17 | 2500        | 200   | 68     | 645      | 44 | 0,7 | 8  |
|           | 230-400 AC                        | 60    | 0,070       | 0,23 - 0,13 | 2650        |       |        |          |    |     |    |
| 2Z2004### | 230-400 B14                       | 50    | 0,25        | 1,7 - 1     | 1350        | 200   | 64     | 390      | 55 | 0,7 | 11 |
|           | 265-460 B14                       | 60    | 0,29        | 1,7 - 1     | 1620        |       |        |          |    |     |    |
| 2Z2012### | 12 DC                             | /     | 0,08        | 6,4         | 2770        | 225   | 72     | 720      | 67 | 0,7 | 7  |
| 2Z2024### | 24 DC                             | /     | 0,09        | 3,9         | 2900        | 225   | 72     | 750      | 67 | 0,7 | 7  |
| 2Z2056### | Prepared for Gr.2 hydraulic motor |       |             |             |             | 200   |        |          | /  | 0,7 | 7  |

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Diagramma rendimento    Performance diagram



Perdite di carico    Pressure drop (@30cSt)



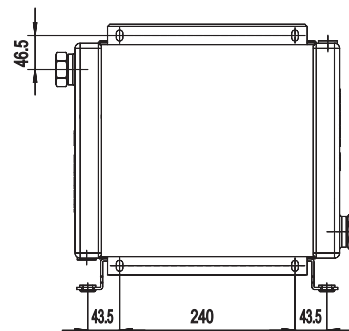
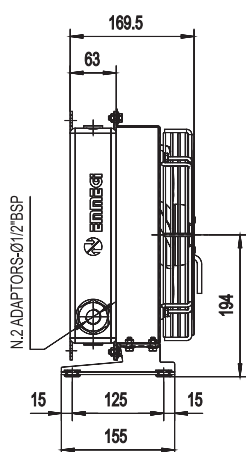
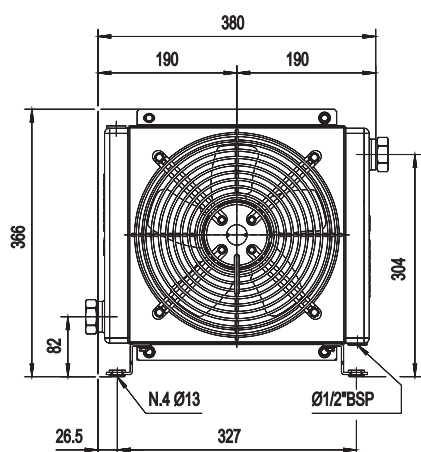
Fattore di correzione-F-(perdite di carico)    Correction factor-F-(pressure drop)

| cSt | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0,5 | 0,65 | 0,77 | 1  | 1,2 | 1,4 | 1,6 | 1,9 | 2,1 | 3,3 | 4,3 |

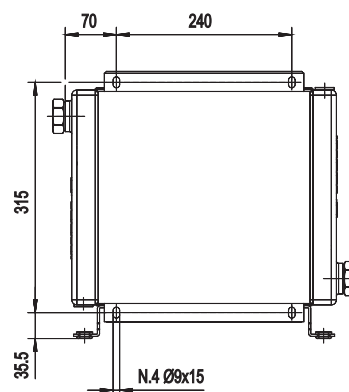
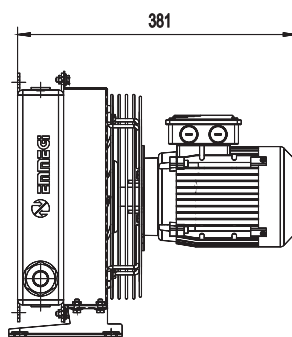
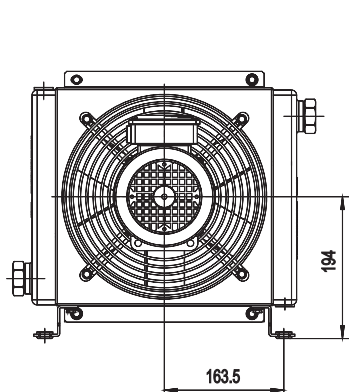


# 2000K DRAIN

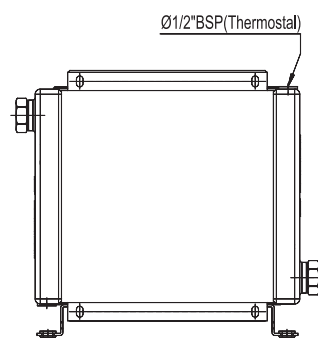
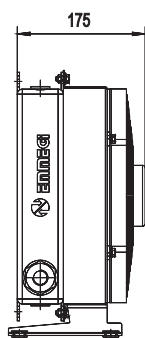
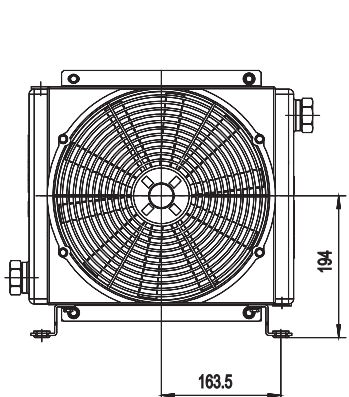
## 2024K DRAIN



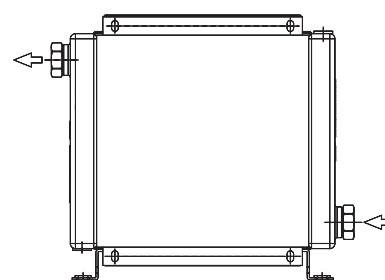
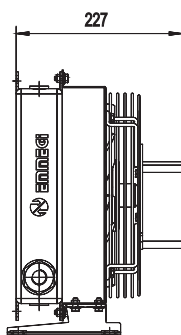
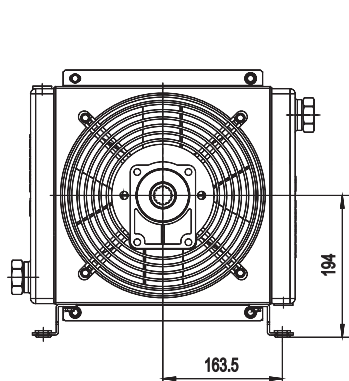
P/N 2Z2401###  
P/N 2Z2403###



P/N 2Z2404###



P/N 2Z2412###  
P/N 2Z2424###



P/N 2Z2456###

Le dimensioni di ingombro e le caratteristiche tecniche non sono impegnative  
Overall dimensions and technical characteristic are not binding



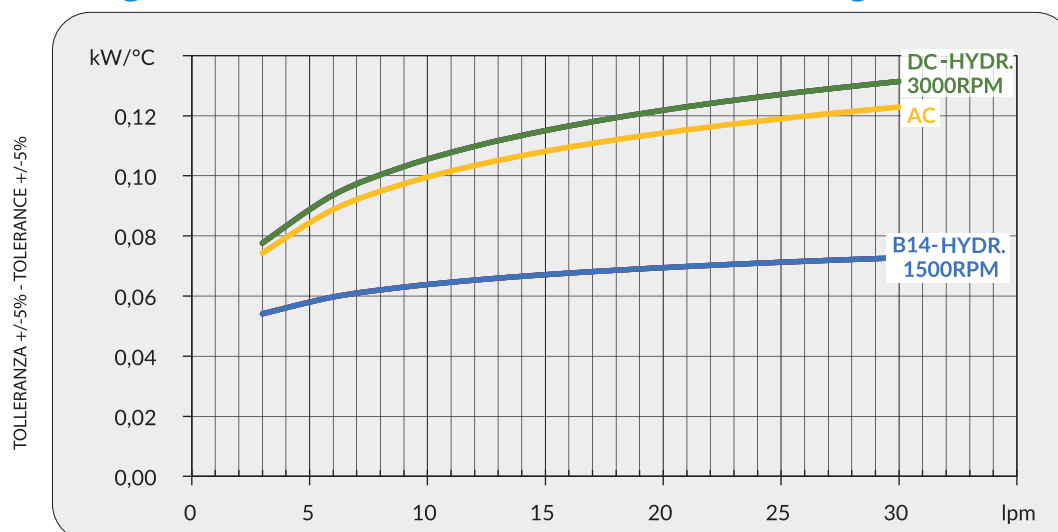


### Dati tecnici Technical Data

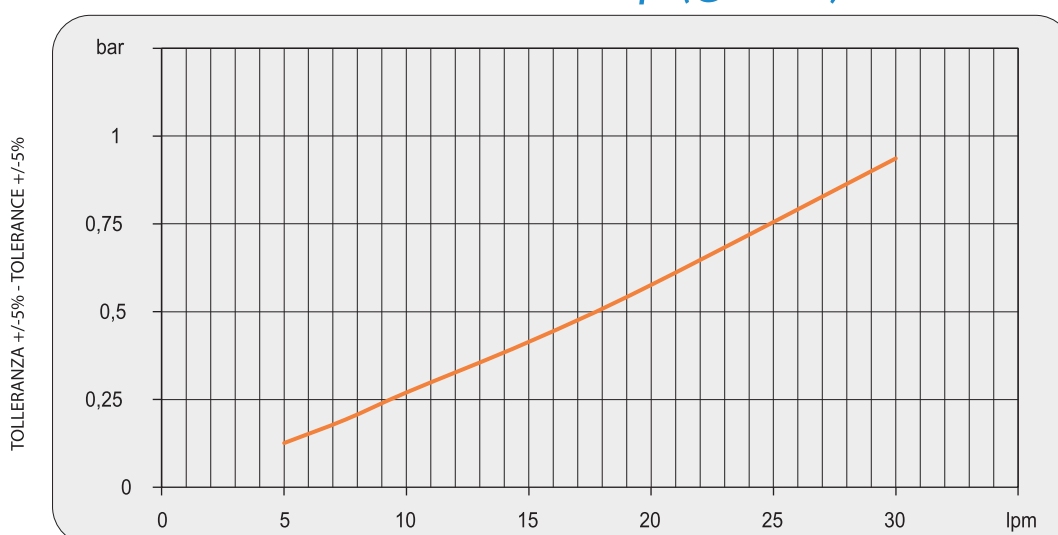
| P/N       | V                                 | Hz    | kW(±10%)    | A(±10%)     | rpm       | Ø Fan | dB (A) | (m³/ h) | IP | lt | kg |
|-----------|-----------------------------------|-------|-------------|-------------|-----------|-------|--------|---------|----|----|----|
| 2Z2401### | 230 AC                            | 50/60 | 0,115/0,150 | 0,51 - 0,66 | 2450-2600 | 250   | 72     | 1350    | 44 | 1  | 11 |
| 2Z2403### | 230-400 AC                        | 50    | 0,105       | 0,33 - 0,19 | 2600      | 250   | 72     | 1300    | 44 | 1  | 11 |
|           | 230-400 AC                        | 60    | 0,145       | 0,39 - 0,23 | 2900      |       |        |         |    |    |    |
| 2Z2404### | 230-400 B14                       | 50    | 0,25        | 1,7 - 1     | 1350      | 250   | 64     | 1000    | 55 | 1  | 16 |
|           | 265-460 B14                       | 60    | 0,29        | 1,7 - 1     | 1620      |       |        |         |    |    |    |
| 2Z2412### | 12 DC                             | /     | 0,09        | 7,5         | 2710      | 280   | 72     | 950     | 67 | 1  | 10 |
| 2Z2424### | 24 DC                             | /     | 0,10        | 4,3         | 2765      | 280   | 74     | 1030    | 67 | 1  | 10 |
| 2Z2456### | Prepared for Gr.2 hydraulic motor |       |             |             |           | 250   |        |         | /  | 1  | 10 |

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### Diagramma rendimento Performance diagram



### Perdite di carico Pressure drop (@30cSt)



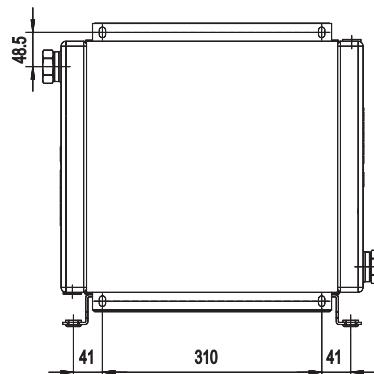
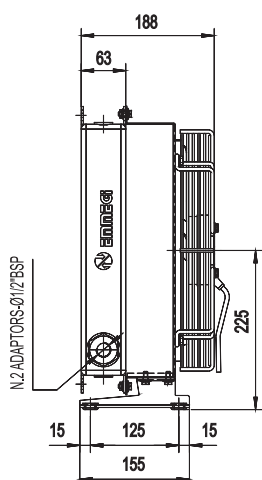
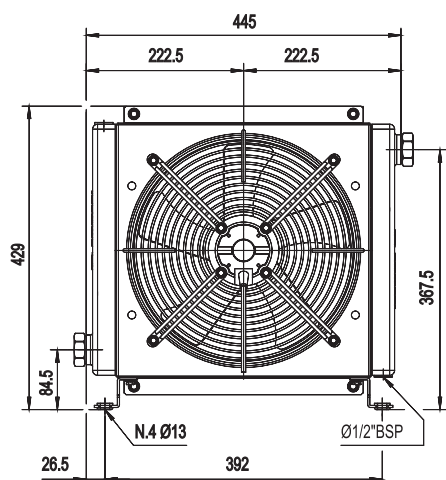
### Fattore di correzione-F-(perdite di carico) Correction factor-F-(pressure drop)

| cSt | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0,5 | 0,65 | 0,77 | 1  | 1,2 | 1,4 | 1,6 | 1,9 | 2,1 | 3,3 | 4,3 |

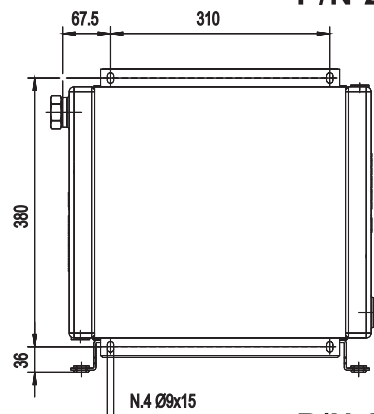
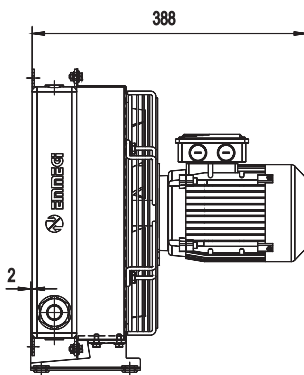
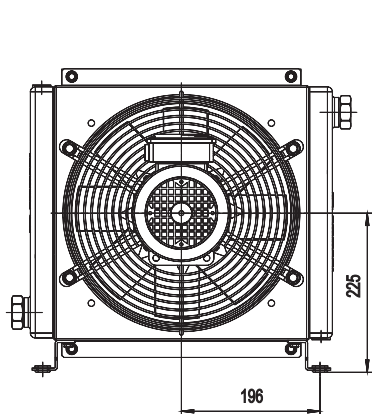


# 2000K DRAIN

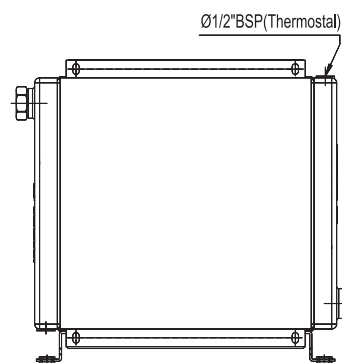
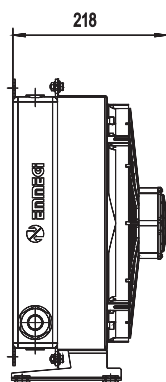
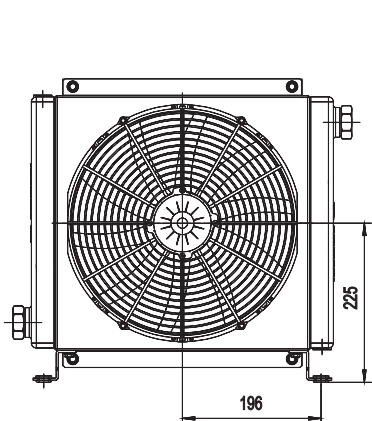
## 2030K DRAIN



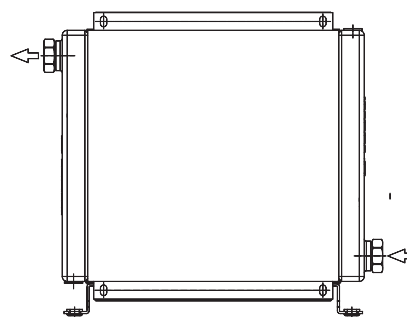
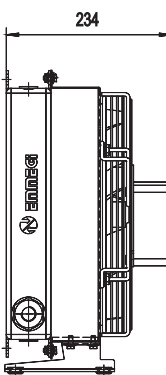
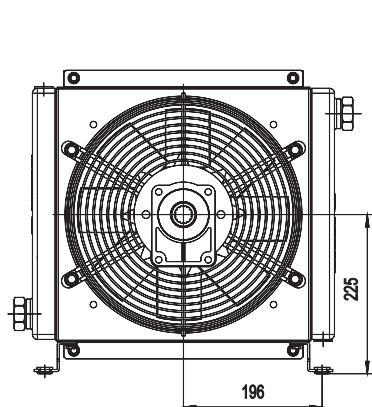
P/N 2Z3001###  
P/N 2Z3003###



P/N 2Z3004###



P/N 2Z3012###  
P/N 2Z3012###



P/N 2Z3056###

Le dimensioni di ingombro e le caratteristiche tecniche non sono impegnative  
Overall dimensions and technical characteristic are not binding

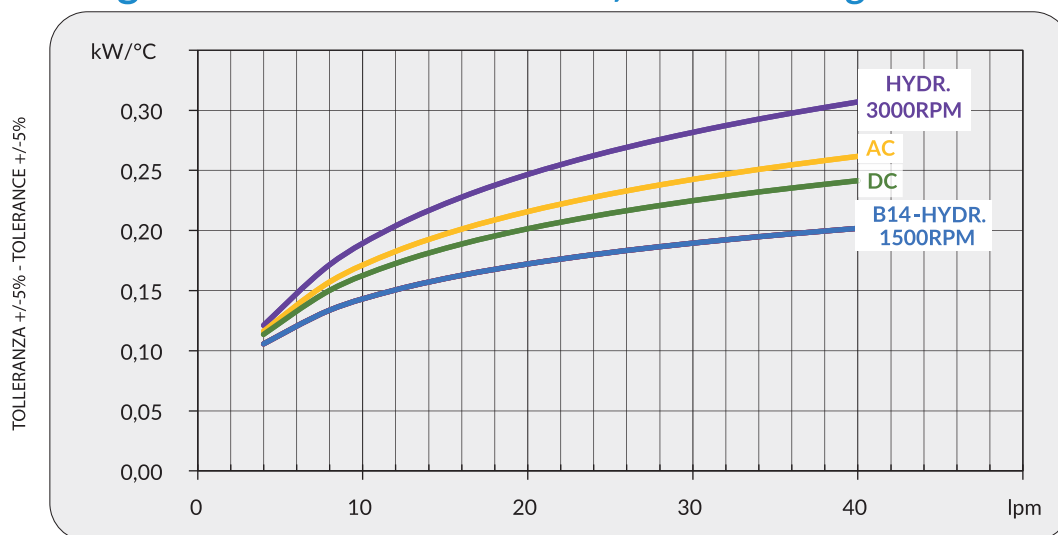


### Dati tecnici Technical Data

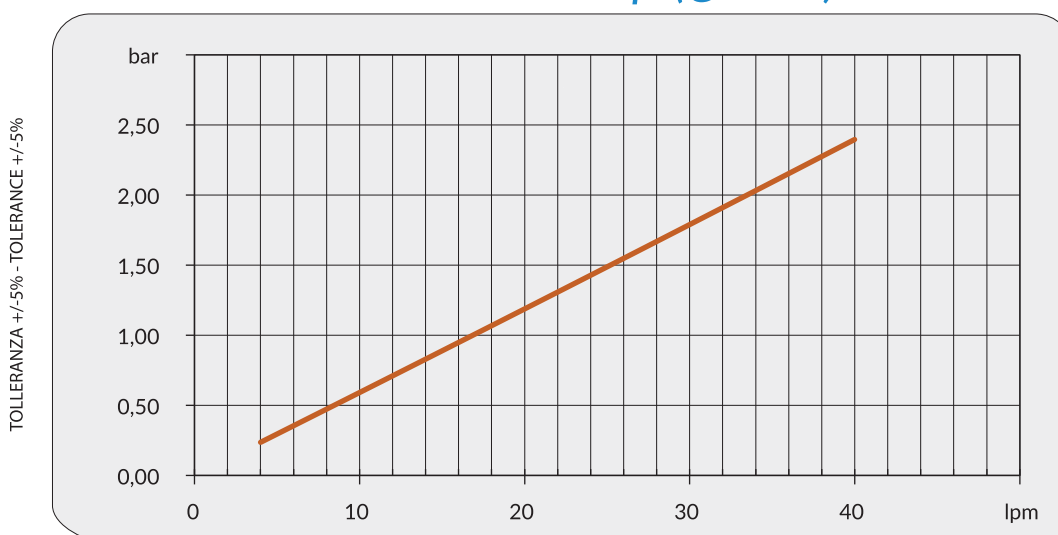
| P/N       | V                                 | Hz    | kW(±10%)  | A(±10%)     | rpm       | Ø Fan | dB (A) | (m³/ h) | IP | lt  | kg |
|-----------|-----------------------------------|-------|-----------|-------------|-----------|-------|--------|---------|----|-----|----|
| 2Z3001### | 230 AC                            | 50/60 | 0,23/0,35 | 1,1 - 1,55  | 2700-3000 | 300   | 78     | 2220    | 44 | 1,6 | 15 |
| 2Z3003### | 230-400 AC                        | 50    | 0,21      | 0,62 - 0,36 | 2580      | 300   | 76     | 2500    | 44 | 1,6 | 15 |
|           | 230-400 AC                        | 60    | 0,30      | 0,84 - 0,48 | 2750      |       |        |         |    |     |    |
| 2Z3004### | 230-400 B14                       | 50    | 0,37      | 2,1 - 1,1   | 1370      | 300   | 70     | 1850    | 55 | 1,6 | 20 |
|           | 265-460 B14                       | 60    | 0,43      | 2,1 - 1,1   | 1650      |       |        |         |    |     |    |
| 2Z3012### | 12 DC                             | /     | 0,16      | 13,3        | 2660      | 305   | 80     | 1675    | 67 | 1,6 | 14 |
| 2Z3024### | 24 DC                             | /     | 0,18      | 7,4         | 2870      | 305   | 83     | 1880    | 67 | 1,6 | 14 |
| 2Z3056### | Prepared for Gr.2 hydraulic motor |       |           |             |           | 300   |        |         | /  | 1,6 | 15 |

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### Diagramma rendimento Performance diagram



### Perdite di carico Pressure drop (@30cSt)



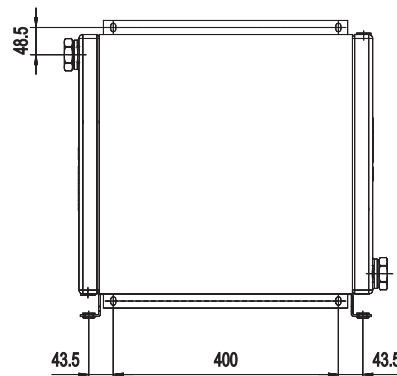
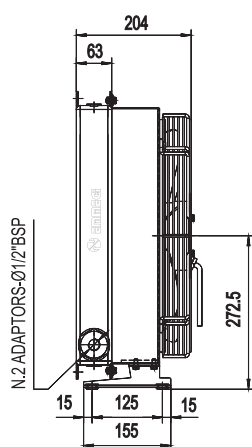
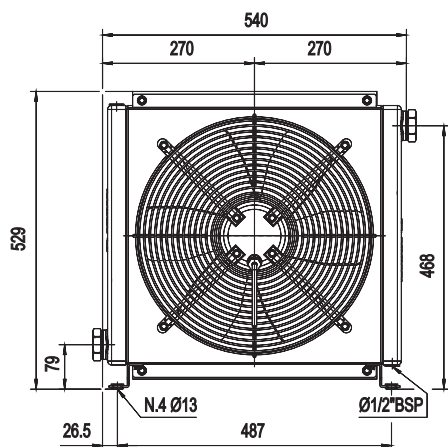
### Fattore di correzione-F-(perdite di carico) Correction factor-F-(pressure drop)

| cSt | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0,5 | 0,65 | 0,77 | 1  | 1,2 | 1,4 | 1,6 | 1,9 | 2,1 | 3,3 | 4,3 |

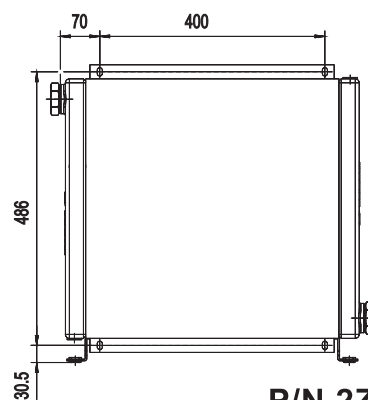
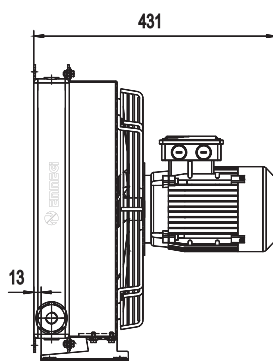
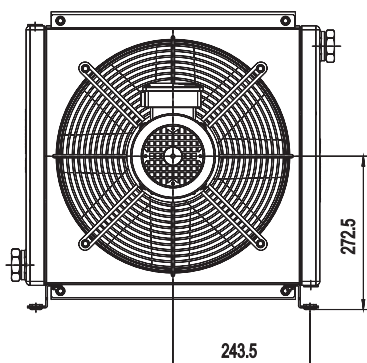


# 2000K DRAIN

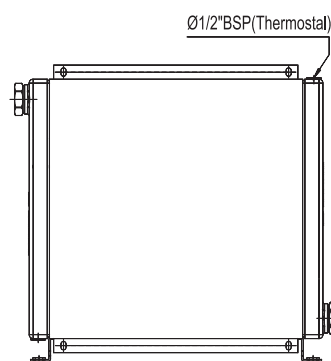
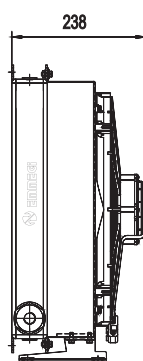
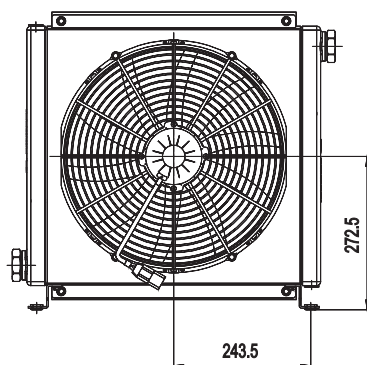
## 2040K DRAIN



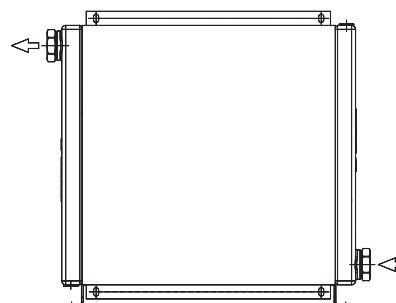
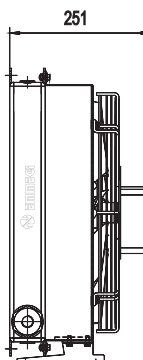
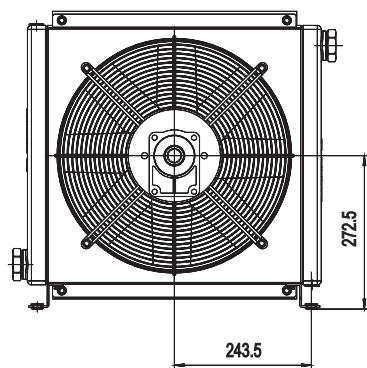
**P/N 2Z4001###**  
**P/N 2Z4003###**



**P/N 2Z4004###**



**P/N 2Z4012###**  
**P/N 2Z4024###**



**P/N 2Z4056###**

Le dimensioni di ingombro e le caratteristiche tecniche non sono impegnative  
Overall dimensions and technical characteristic are not binding

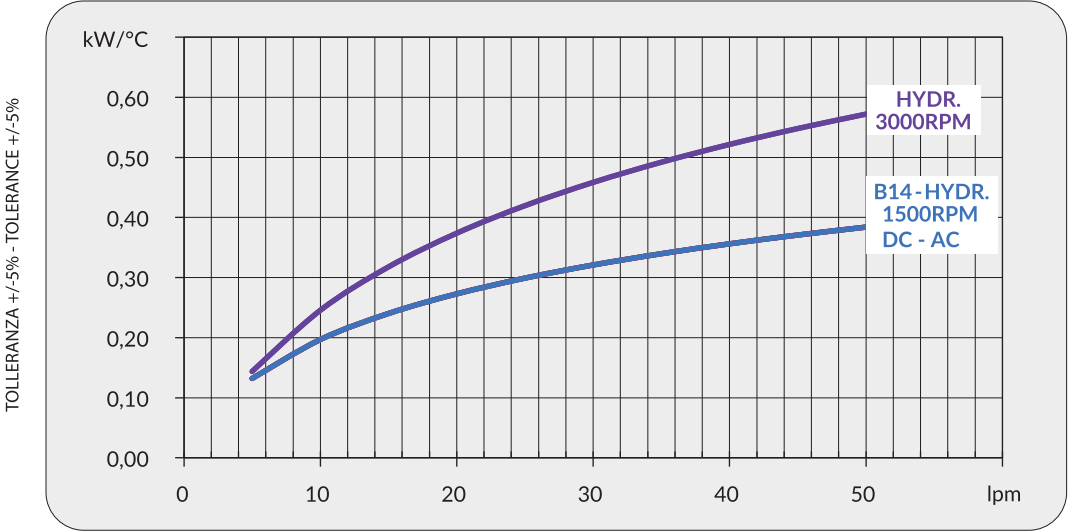


Dati tecnici    *Technical Data*

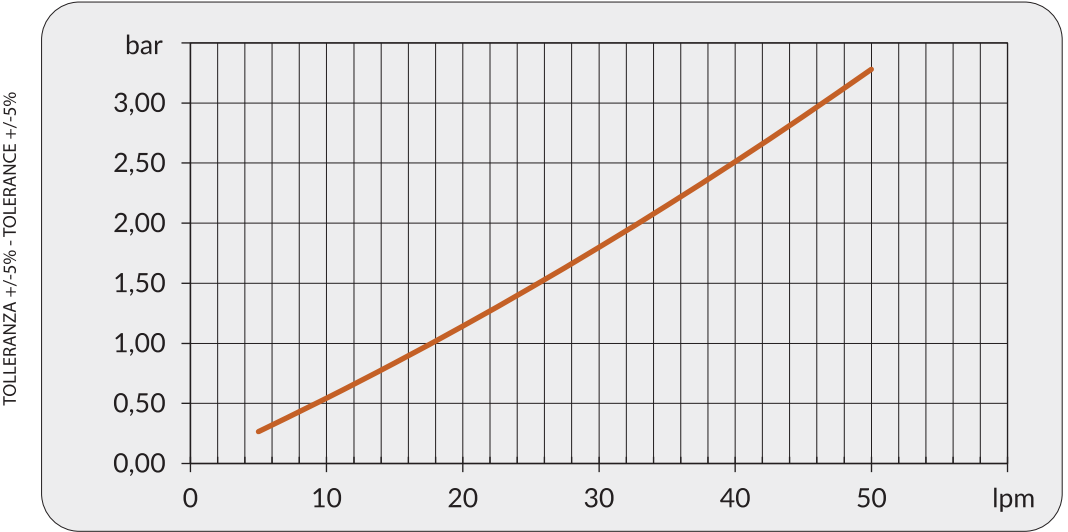
| P/N       | V                                 | Hz | kW(±10%)  | A(±10%)     | rpm       | Ø Fan | dB (A) | (m³ / h) | IP | lt  | kg |
|-----------|-----------------------------------|----|-----------|-------------|-----------|-------|--------|----------|----|-----|----|
| 2Z4001### | 230 AC                            | 50 | 0,16/0,24 | 0,73 - 1,06 | 1430-1700 | 400   | 71     | 3200     | 54 | 2,7 | 21 |
| 2Z4003### | 230-400 AC                        | 50 | 0,135     | 0,76 - 0,39 | 1450      | 400   | 71     | 3200     | 54 | 2,7 | 21 |
|           | 230-400 AC                        | 60 | 0,185     | 0,68 - 0,39 | 1690      |       |        |          |    |     |    |
| 2Z4004### | 230-400 B14                       | 50 | 0,55      | 2,9 - 1,7   | 1320      | 400   | 77     | 3740     | 55 | 2,7 | 25 |
|           | 265-460 B14                       | 60 | 0,63      | 2,9 - 1,7   | 1690      |       |        |          |    |     |    |
| 2Z4012### | 12 DC                             | /  | 0,22      | 19,2        | 2310      | 385   | 76     | 2770     | 67 | 2,7 | 20 |
| 2Z4024### | 24 DC                             | /  | 0,23      | 9,3         | 2380      | 385   | 79     | 2910     | 67 | 2,7 | 20 |
| 2Z4056### | Prepared for Gr.2 hydraulic motor |    |           |             |           | 400   |        |          | /  | 2,7 | 19 |

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Diagramma rendimento    *Performance diagram*



Perdite di carico    *Pressure drop (@30cSt)*



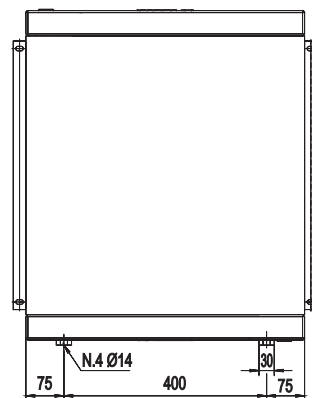
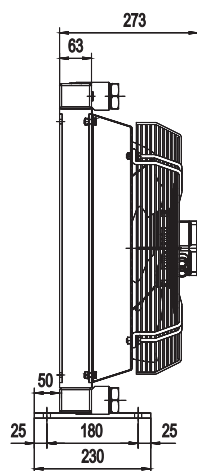
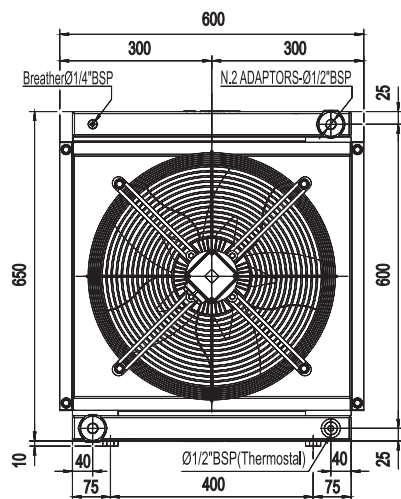
Fattore di correzione-F-(perdite di carico)    *Correction factor-F-(pressure drop)*

| cSt | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0,5 | 0,65 | 0,77 | 1  | 1,2 | 1,4 | 1,6 | 1,9 | 2,1 | 3,3 | 4,3 |

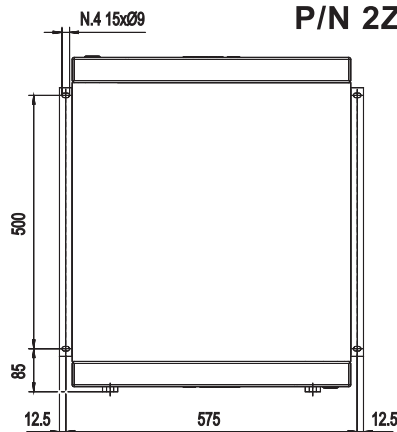
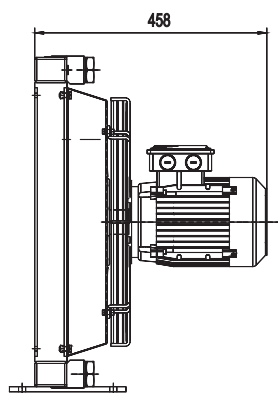
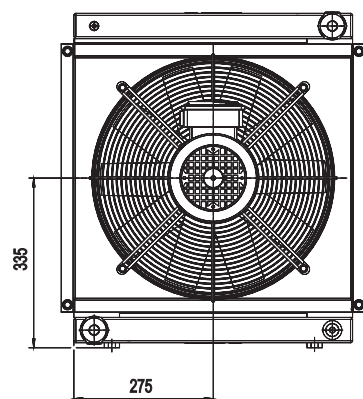


## 2000K DRAIN

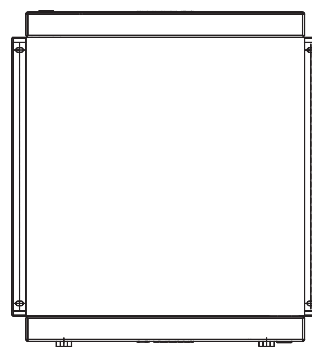
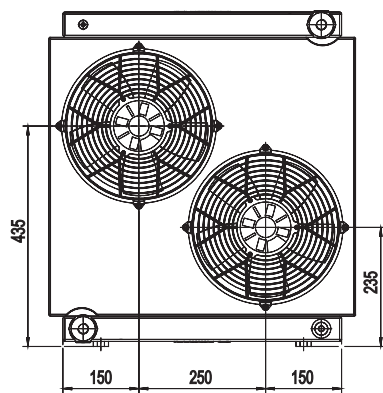
## 2050K DRAIN



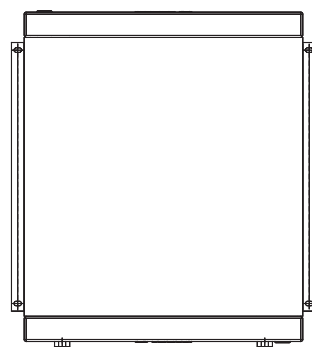
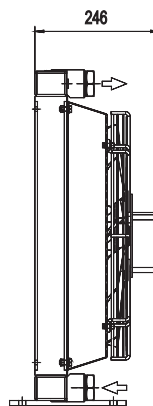
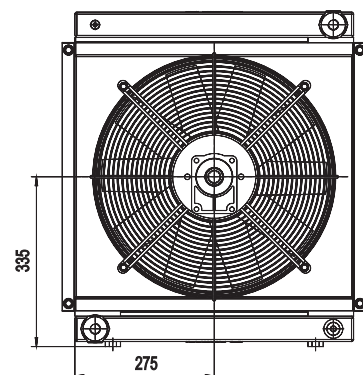
**P/N 2Z5001###**  
**P/N 2Z5003###**



**P/N 2Z5004###**



**P/N 2Z5012###**  
**P/N 2Z5024###**



**P/N 2Z5056###**

Le dimensioni di ingombro e le caratteristiche tecniche non sono impegnative  
Overall dimensions and technical characteristic are not binding





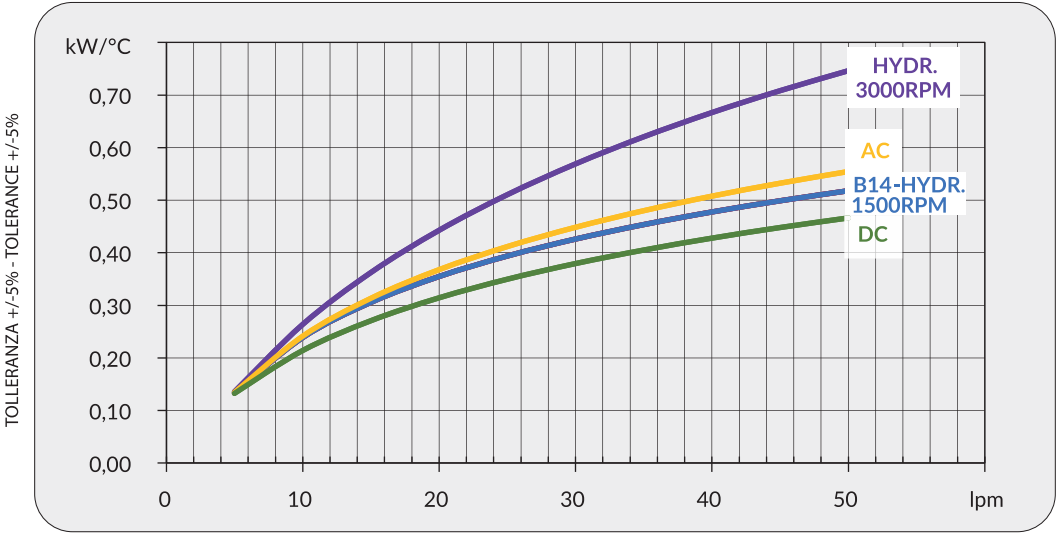
Dati tecnici    *Technical Data*

| P/N       | V                                 | Hz | kW(±10%) | A(±10%)   | rpm  | Ø Fan | dB (A) | (m³/ h) | IP | lt | kg |
|-----------|-----------------------------------|----|----------|-----------|------|-------|--------|---------|----|----|----|
| 2Z5003### | 230-400 AC                        | 50 | 0,52     | 1,9 - 1,1 | 1450 | 450   | 76     | 5000    | 54 | 5  | 27 |
|           | 230-400 AC                        | 60 | 0,66     | 2-1,2     | 1690 |       |        |         |    |    |    |
| 2Z5004### | 230-400 AC B14                    | 50 | 0,75     | 3,0 - 1,7 | 1450 | 450   | 79     | 5200    | 55 | 5  | 30 |
|           | 265-460 AC B14                    | 60 | 0,86     | 3,0 - 1,7 | 1750 |       |        |         |    |    |    |
| 2Z5012### | 12 DC                             | /  | 0,13     | 11,0      | 2340 | 280   | 76     | 1720    | 67 | 5  | 24 |
| 2Z5024### | 24 DC                             | /  | 0,15     | 6,2       | 2600 | 280   | 79     | 1750    | 67 | 5  | 24 |
| 2Z5056### | Prepared for Gr.2 hydraulic motor |    |          |           |      | 450   |        |         | /  | 5  | 23 |

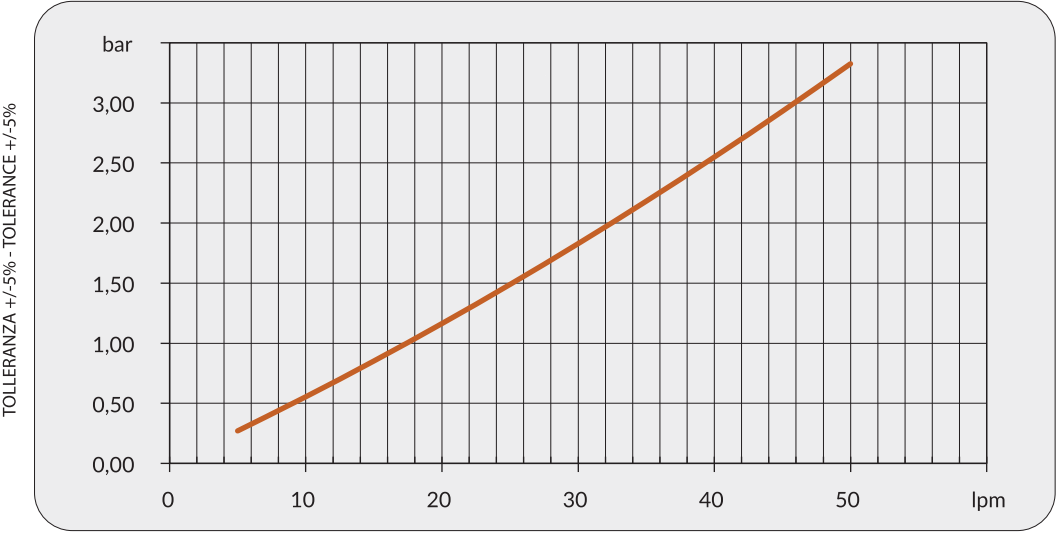
I dati si riferiscono al singolo ventilatore  
Data refers to each fan

Contattare EMMEGI    Contact EMMEGI

Diagramma rendimento    *Performance diagram*



Perdite di carico    *Pressure drop (@30cSt)*



Fattore di correzione-F-(perdite di carico)    *Correction factor-F-(pressure drop)*

| cSt | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0,5 | 0,65 | 0,77 | 1  | 1,2 | 1,4 | 1,6 | 1,9 | 2,1 | 3,3 | 4,3 |





Serie HPA  
HPA Series



## Serie HPA

### HPA Series

## APPLICAZIONE

### APPLICATION

Grazie all'ampia gamma di combinazioni, gli scambiatori della serie HPA si prestano come la soluzione di raffreddamento ottimale per svariate applicazioni mobili e industriali quali:  
The wide range of combinations makes the HPA series heat exchangers the optimal cooling solution for a great variety of mobile and industrial applications such as:



Industria agricola e forestale.  
Gru mobili e fisse.  
Veicoli industriali.  
Veicoli municipali.  
Macchine da costruzione.  
Impianti di riciclo.  
Impianti oleodinamici.  
Macchine utensili.  
Altro su richiesta.

Agriculture and forestry.  
Mobile and stationary cranes.  
Industrial vehicles.  
Municipal vehicles.  
Construction machines.  
Recycling plants.  
Hydraulic systems.  
Machine tools.  
Others on request.





## Modulo richiesta dati

### Sheet for cooler selection

|                  |  |
|------------------|--|
| CLIENTE COMPANY  |  |
| RICHIEDENTE NAME |  |

|                                                 |     |  |
|-------------------------------------------------|-----|--|
| TIPOLOGIA FLUIDO<br>FLUID TYPE                  |     |  |
| PORTATA<br>FLOW RATE                            | lpm |  |
| POTENZA INSTALLATA<br>INSTALLED POWER           | kW  |  |
| POTENZA DA DISSIPARE<br>POWER TO BE DISSIPATED  | kW  |  |
| TEMPERATURA INGRESSO<br>INLET TEMPERATURE       | °C  |  |
| TEMPERATURA ARIA MAX<br>MAX AMBIENT TEMPERATURE | °C  |  |
| PRESSIONE DI LAVORO<br>WORKING PRESSURE         | bar |  |

| TIPO DI VENTILAZIONE TYPE OF FAN UNIT |                                                              |                                                                 |
|---------------------------------------|--------------------------------------------------------------|-----------------------------------------------------------------|
| CC<br>DC                              | PREDISPOSTO MOTORE IDRAULICO<br>PREPARED FOR HYDRAULIC MOTOR | CA<br>AC                                                        |
| 12V                                   | GR.2                                                         | MONOFASE 230V<br>SINGLEPHASE 230V                               |
| 24V                                   | GR.3                                                         | TRIFASE 230/400V<br>265/460V<br>THREEPHASE 230/400V<br>265/460V |
|                                       |                                                              | TENSIONE SPECIALE<br>SPECIAL VOLTAGE                            |
|                                       |                                                              | 50 Hz 60 Hz                                                     |



## Denominazione codice prodotto

### Ordering code

2424

03

2

01

#### MODELLO COOLER MODEL

2424 (HPA 24)

#### TIPO DI MOTORIZZAZIONE FAN MOTOR TYPE

03 AC 230-400V 50Hz / AC 265-460V 60Hz (B14)

12 DC 12V

24 DC 24V

56 Pred. per mot. idr. gr.2 Pred. for hydr. mot. gr.2

58 Pred. per mot. idr. gr.3 Prep. for hydr. mot. gr.3

#### TERMOSTATI THERMOSTATS

0 Senza termostato Whitout thermostat

1 Termostato fisso Fixed thermostat 40-28°

2 Termostato fisso Fixed thermostat 50-38°

3 Termostato fisso Fixed thermostat 60-48°

4 Termostato fisso Fixed thermostat 70-58°

5 Termostato fisso Fixed thermostat 80-68°

6 Termostato fisso Fixed thermostat 90-78°

8 Termostato regolabile  
Adjustable thermostat 0-90° (TC2)

9 Termostato regolabile collegato  
Connected adjustable thermostat 0-90° (TC2)

#### FLUSSO DI VENTILAZIONE AIR FLOW DIRECTION

01 Aspirante Suction air flow

02 Soffiante Blowing air flow



## Modello - Codice prodotto

### Cooler model - Product Code

### Serie HPA - HPA Series

| Modello<br>Model | Codice<br>Code |
|------------------|----------------|
| HPA 12           | 2412           |
| HPA 18           | 2418           |
| HPA 24           | 2424           |
| HPA 30           | 2430           |
| HPA 36           | 2436           |
| HPA 42           | 2442           |
| HPA 50           | 2450           |
| HPA 52           | 2452           |



### Serie HPA 2 Pass - HPA 2 Pass Series

| Modello<br>Model | Codice<br>Code |
|------------------|----------------|
| HPA 24 2PASS     | 2427           |
| HPA 30 2PASS     | 2433           |
| HPA 36 2PASS     | 2438           |
| HPA 42 2PASS     | 2445           |
| HPA 50 2PASS     | 2987           |
| HPA 52 2PASS     | 2454           |



### Serie HPA/2 - HPA/2 Series

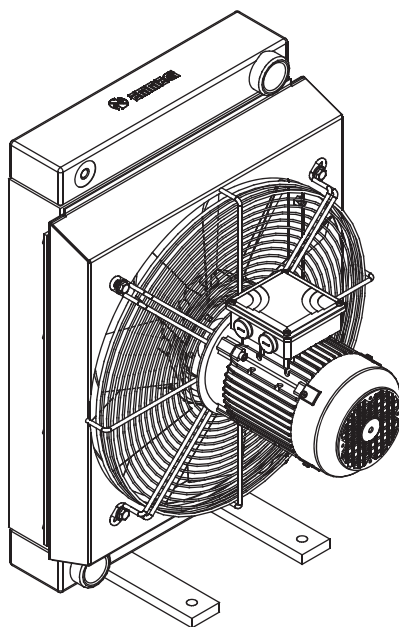
| Modello<br>Model | Codice<br>Code |
|------------------|----------------|
| HPA 30/2         | 2431           |
| HPA 36/2         | 2437           |
| HPA 42/2         | 2443           |
| HPA 50/2         | 2988           |
| HPA 52/2         | 2453           |



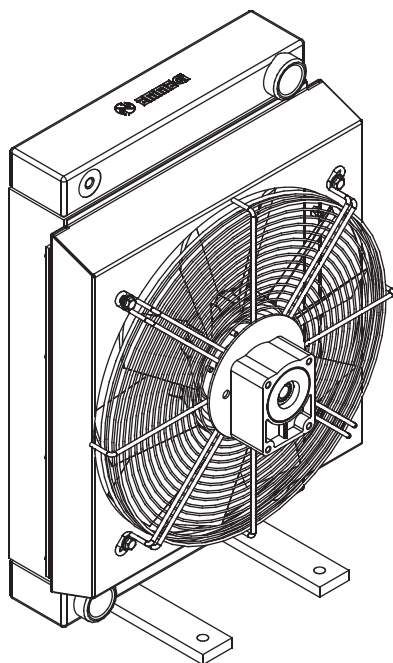


# SERIE HPA

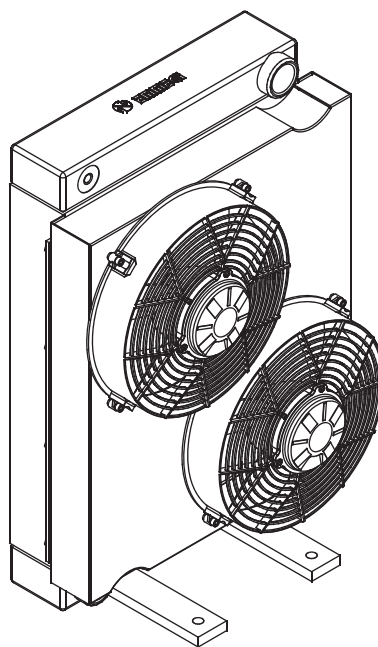
## HPA Series



AC 230-400V 50 Hz (B14)  
AC 265-460V 60 Hz (B14)



Pred. per mot. idr. gr. 2 / gr. 3  
Pred for Gr.2 / Gr.3 hydraulic mot.

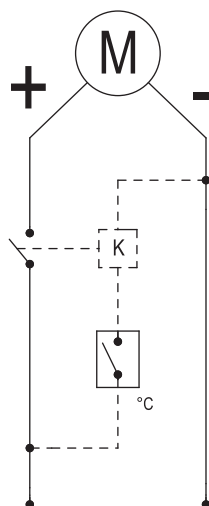


DC 12V - 24V

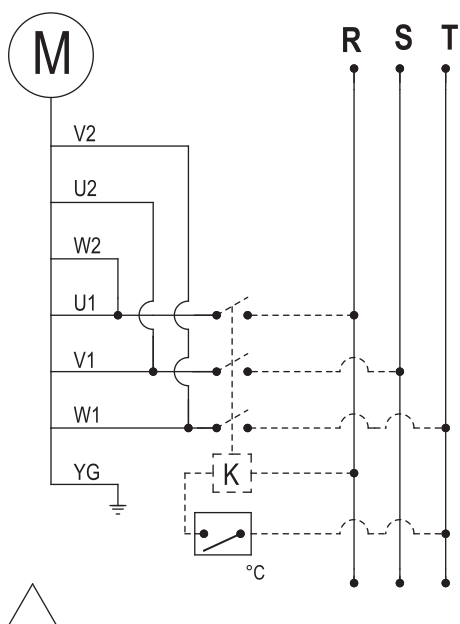
## Collegamenti elettrici

### Electric Wiring

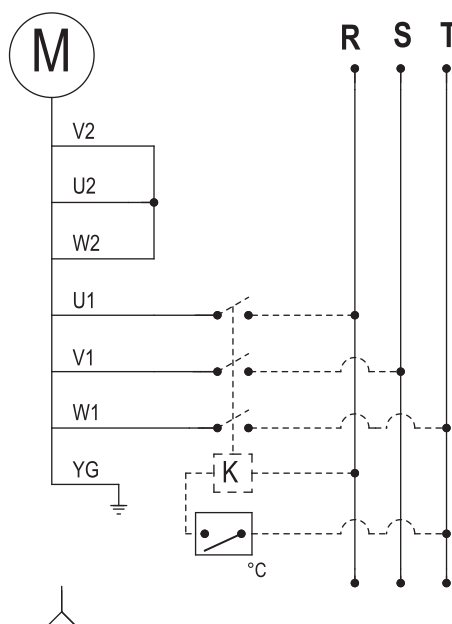
COLLEGAMENTO ELETTRICO 12-24V DC  
12-24V DC ELECTRIC WIRING



COLLEGAMENTO ELETTRICO 230V AC TRIF.  
230V AC 3PH ELECTRIC WIRING



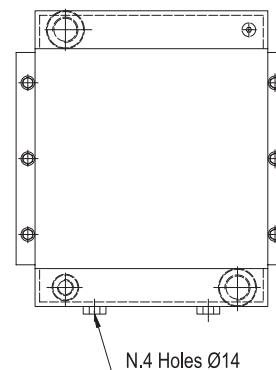
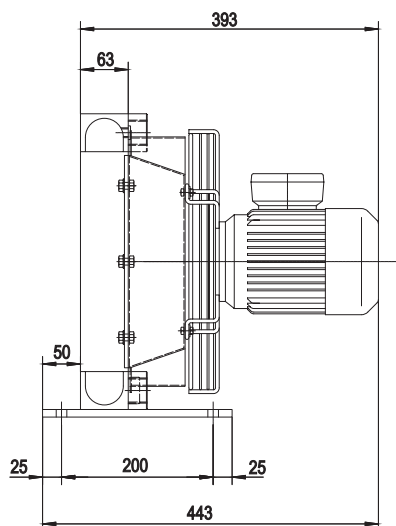
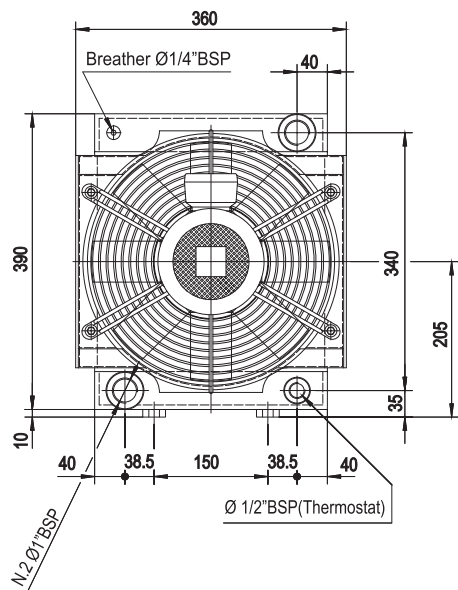
COLLEGAMENTO ELETTRICO 400/460V AC TRIF.  
400/460V AC THREEPHASE ELECTRIC WIRING



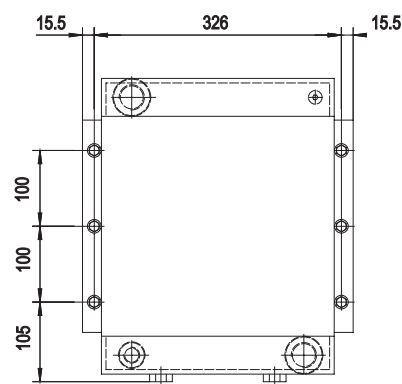
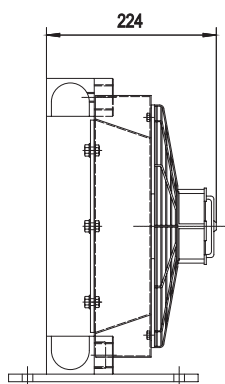
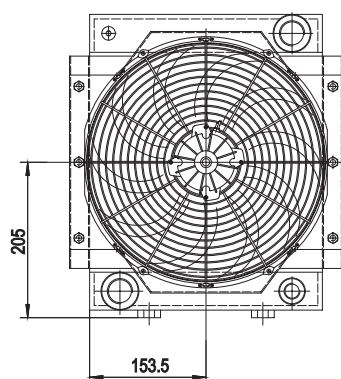


# Serie HPA

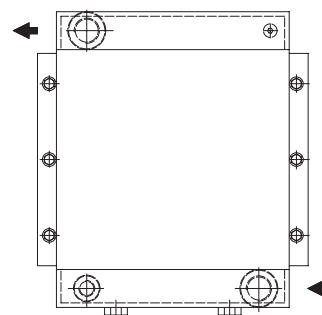
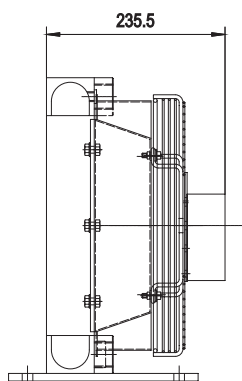
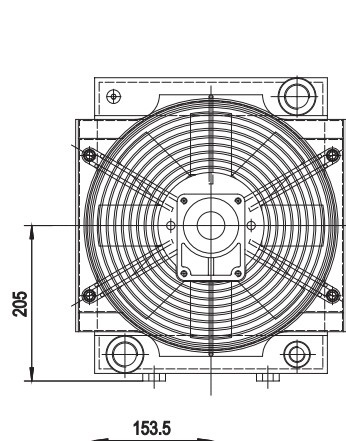
## HPA 12



**P/N 241203###**



**P/N 241212###**  
**P/N 241224###**



**P/N 241256###**

Le dimensioni di ingombro e le caratteristiche tecniche non sono impegnative  
Overall dimensions and technical characteristic are not binding

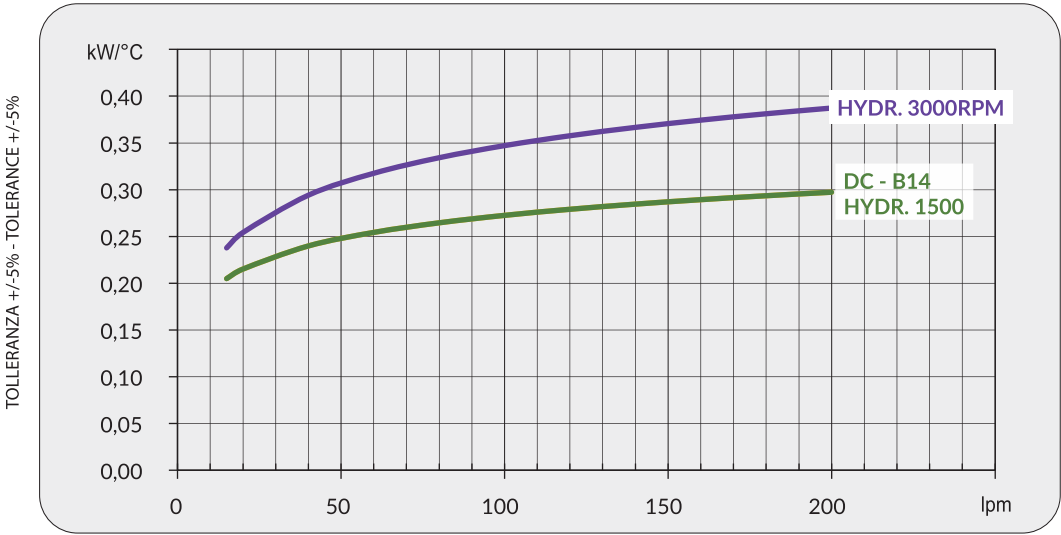


Dati tecnici    *Technical Data*

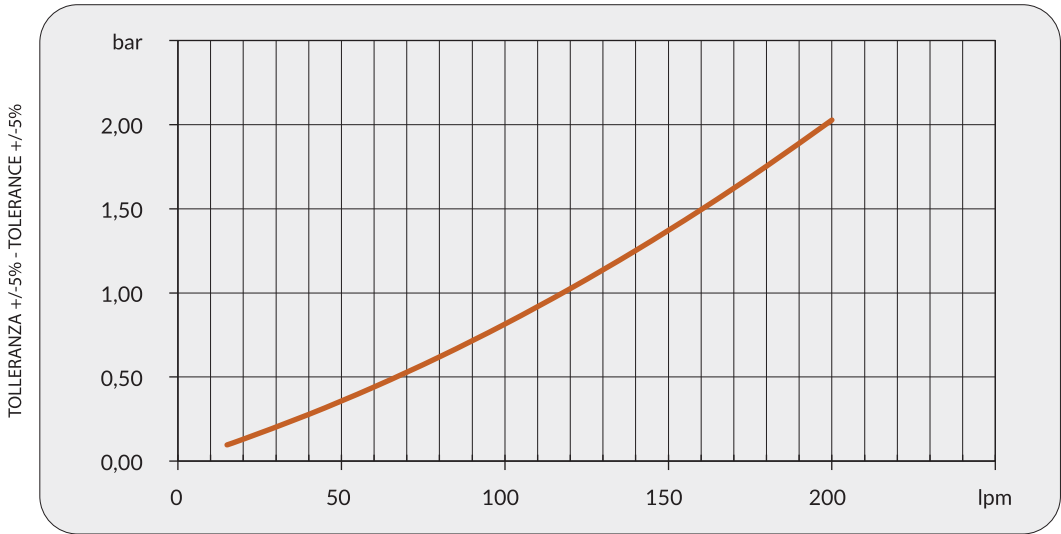
| P/N       | V                                 | Hz | kW(±10%) | A(±10%)     | rpm  | Ø Fan | dB (A) | (m³/ h) | IP | lt  | kg |
|-----------|-----------------------------------|----|----------|-------------|------|-------|--------|---------|----|-----|----|
| 241203### | 230-400 B14 AC                    | 50 | 0,25     | 1,45 - 0,84 | 1350 | 315   | 72     | 1500    | 55 | 1,9 | 17 |
|           | 265-460 B14 AC                    | 60 | 0,29     | 1,7 - 1     | 1620 |       |        |         |    |     |    |
| 241212### | 12 DC                             | /  | 0,16     | 13,6        | 3000 | 305   | 77     | 1500    | 68 | 1,9 | 15 |
| 241224### | 24 DC                             | /  | 0,18     | 7,6         | 3100 | 305   | 80     | 1500    | 68 | 1,9 | 15 |
| 241256### | Prepared for Gr.2 hydraulic motor |    |          |             |      | 315   |        |         | /  | 1,9 | 16 |

Contattare EMMEGI    Contact EMMEGI

Diagramma rendimento    *Performance diagram*



Perdite di carico    *Pressure drop (@30cSt)*



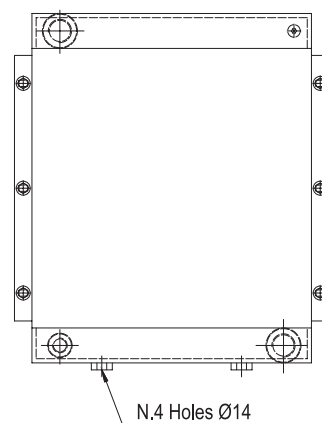
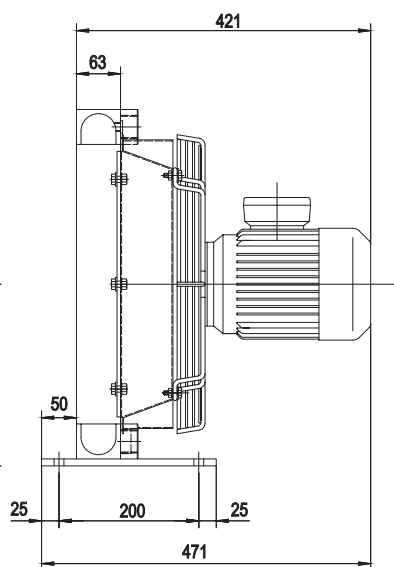
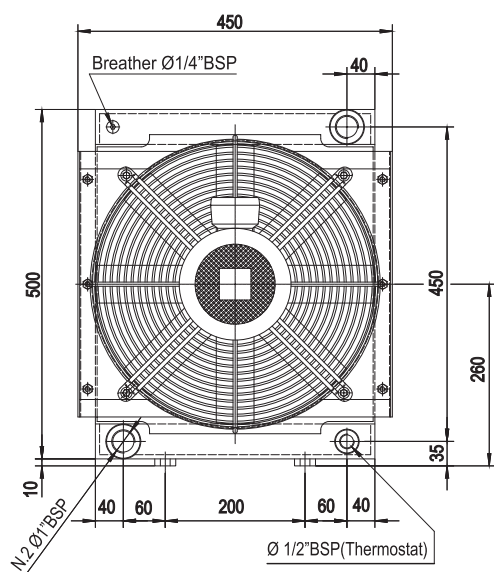
Fattore di correzione-F-(perdite di carico)    *Correction factor-F-(pressure drop)*

| cSt | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0,5 | 0,65 | 0,77 | 1  | 1,2 | 1,4 | 1,6 | 1,9 | 2,1 | 3,3 | 4,3 |

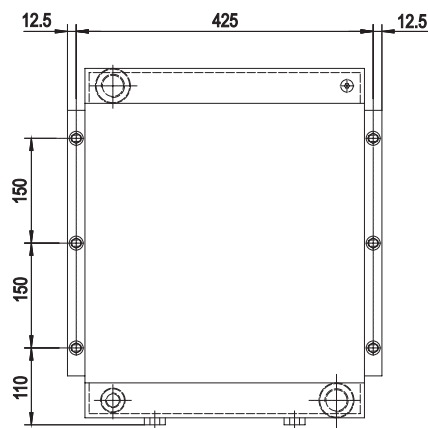
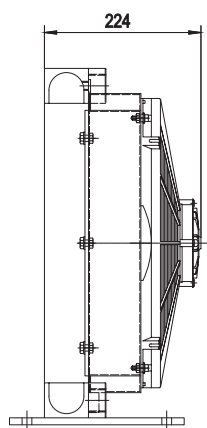
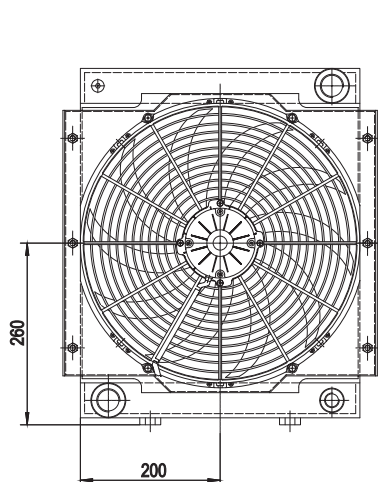


# Serie HPA

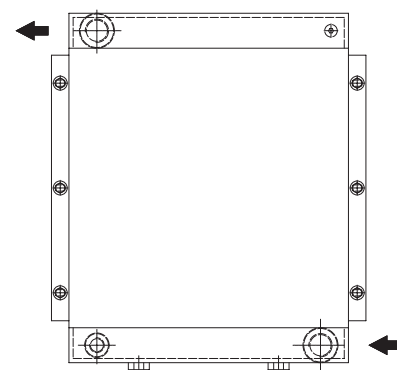
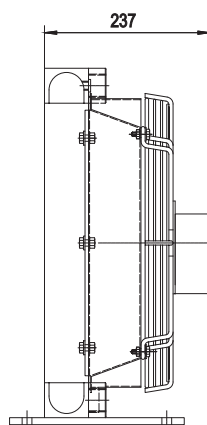
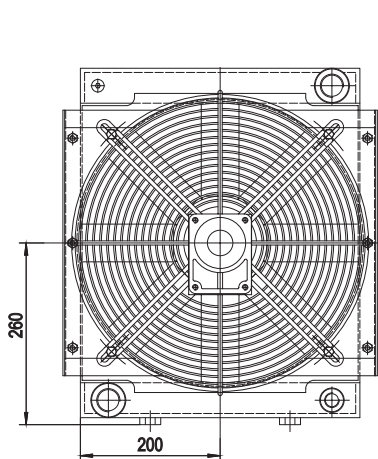
## HPA 18



**P/N 241803###**



**P/N 241812###**  
**P/N 241824###**



**P/N 241856###**

Le dimensioni di ingombro e le caratteristiche tecniche non sono impegnative  
Overall dimensions and technical characteristic are not binding



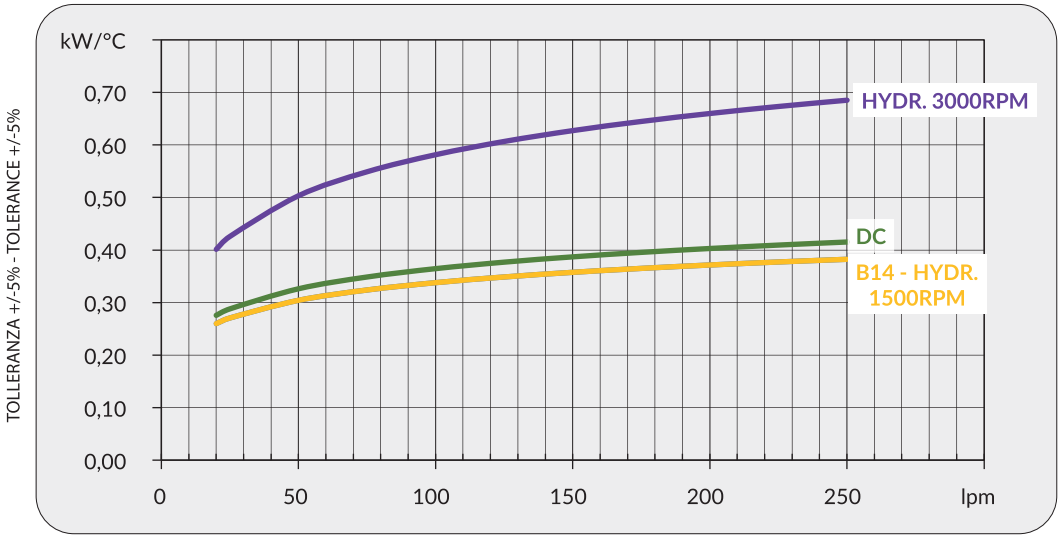


Dati tecnici    *Technical Data*

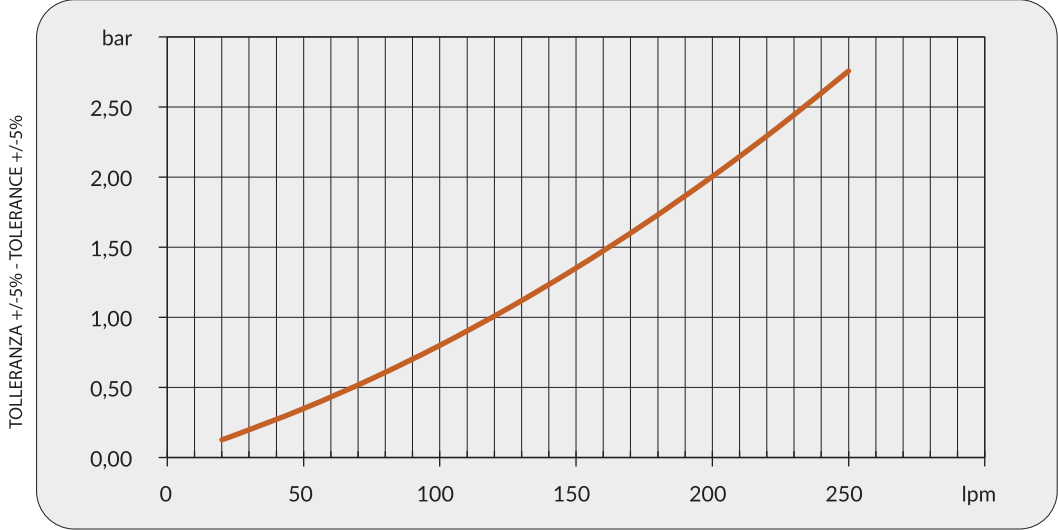
| P/N       | V                                 | Hz | kW(±10%) | A(±10%)   | rpm  | Ø Fan | dB (A) | (m³/ h) | IP | lt  | kg |
|-----------|-----------------------------------|----|----------|-----------|------|-------|--------|---------|----|-----|----|
| 241803### | 230-400 B14 AC                    | 50 | 0,37     | 1,9 - 1,1 | 1370 | 400   | 77     | 2300    | 55 | 2,9 | 20 |
|           | 265-460 B14 AC                    | 60 | 0,43     | 1,9 - 1,1 | 1650 |       |        |         |    |     |    |
| 241812### | 12 DC                             | /  | 0,25     | 20,9      | 2350 | 385   | 77     | 2620    | 68 | 2,9 | 18 |
| 241824### | 24 DC                             | /  | 0,24     | 9,9       | 2580 | 385   | 81     | 2620    | 68 | 2,9 | 18 |
| 241856### | Prepared for Gr.2 hydraulic motor |    |          |           |      | 400   |        |         | /  | 2,9 | 19 |

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Diagramma rendimento    *Performance diagram*



Perdite di carico    *Pressure drop (@30cSt)*



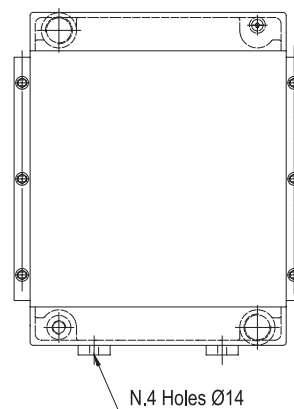
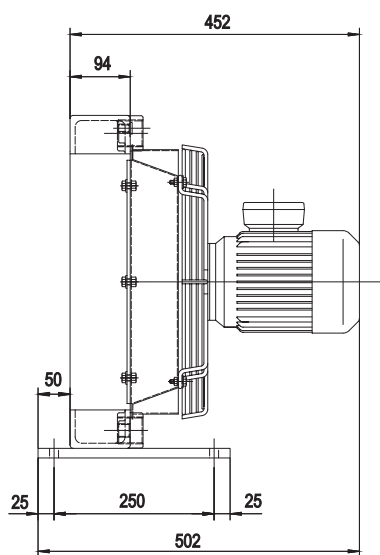
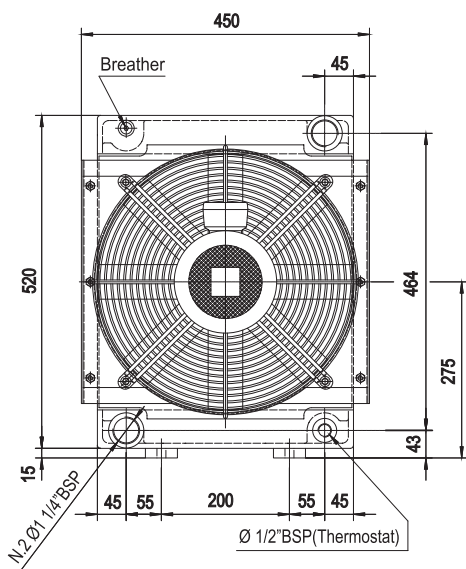
Fattore di correzione-F-(perdite di carico)    *Correction factor-F-(pressure drop)*

| cSt | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0,5 | 0,65 | 0,77 | 1  | 1,2 | 1,4 | 1,6 | 1,9 | 2,1 | 3,3 | 4,3 |

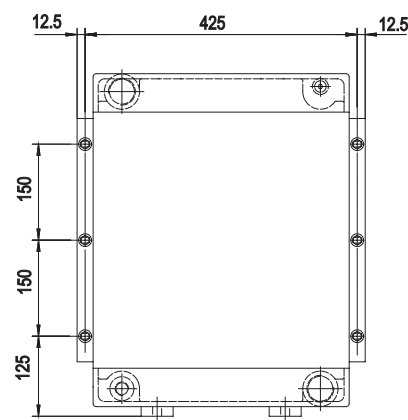
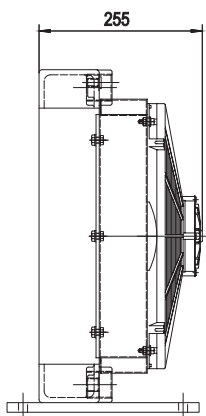
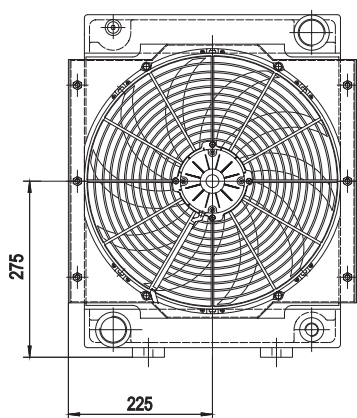


# Serie HPA

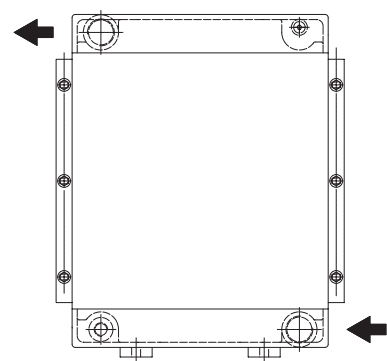
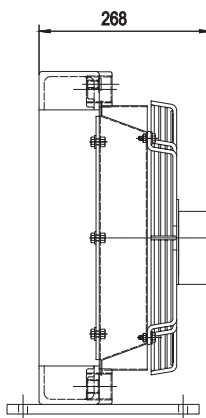
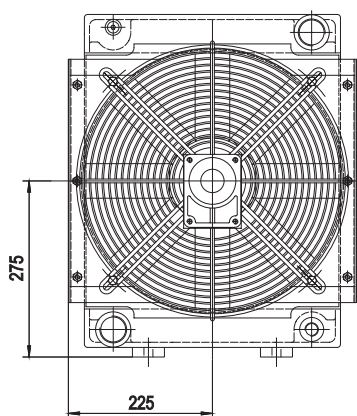
## HPA 24



**P/N 242403###**



**P/N 242412###**  
**P/N 242424###**



**P/N 242456###**

Le dimensioni di ingombro e le caratteristiche tecniche non sono impegnative  
Overall dimensions and technical characteristic are not binding

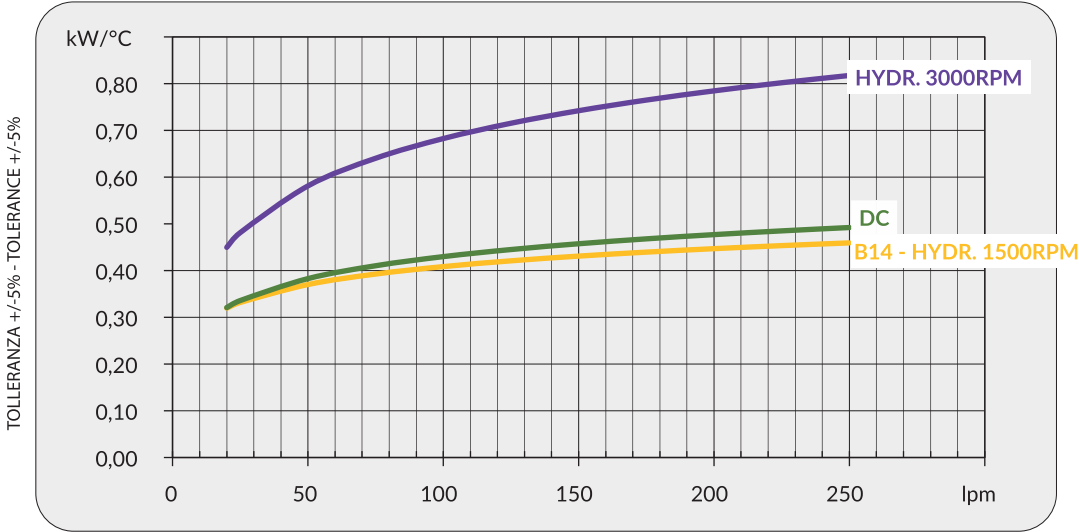


Dati tecnici    *Technical Data*

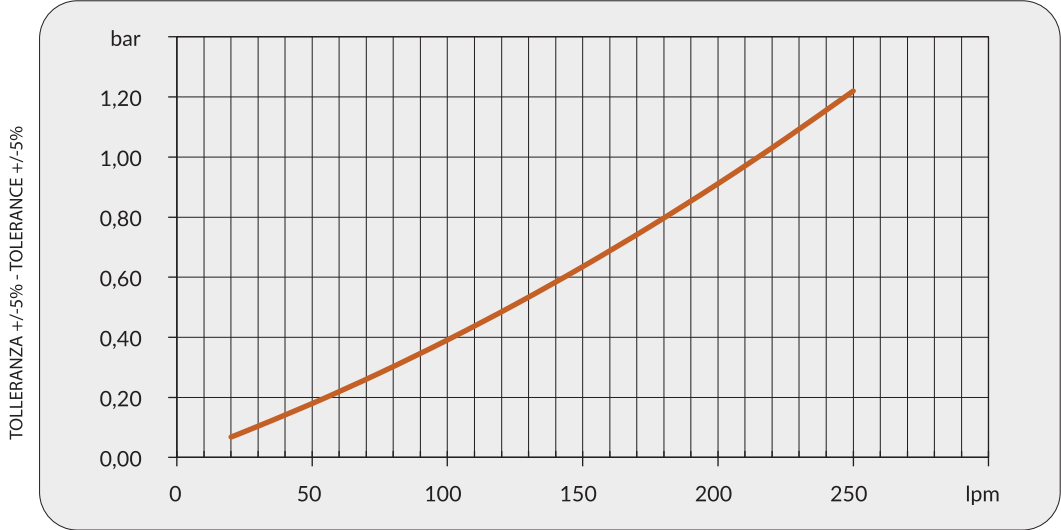
| P/N       | V                                 | Hz | kW(±10%) | A(±10%)   | rpm  | Ø Fan | dB (A) | (m³ / h) | IP | It  | kg |
|-----------|-----------------------------------|----|----------|-----------|------|-------|--------|----------|----|-----|----|
| 242403### | 230-400 B14 AC                    | 50 | 0,55     | 2,5 - 1,5 | 1220 | 400   | 79     | 1850     | 55 | 2,9 | 28 |
|           | 265-460 B14 AC                    | 60 | 0,63     | 2,5 - 1,5 | 1710 |       |        |          |    |     |    |
| 242412### | 12 DC                             | /  | 0,24     | 20,3      | 2580 | 385   | 77     | 2250     | 68 | 2,9 | 28 |
| 242424### | 24 DC                             | /  | 0,23     | 9,7       | 2580 | 305   | 80     | 2250     | 68 | 2,9 | 22 |
| 242456### | Prepared for Gr.2 hydraulic motor |    |          |           |      | 400   |        |          | /  | 2,9 | 23 |

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Diagramma rendimento    *Performance diagram*



Perdite di carico    *Pressure drop (@30cSt)*



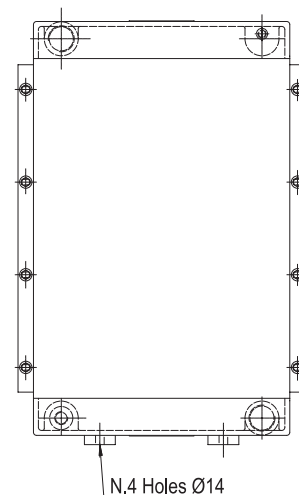
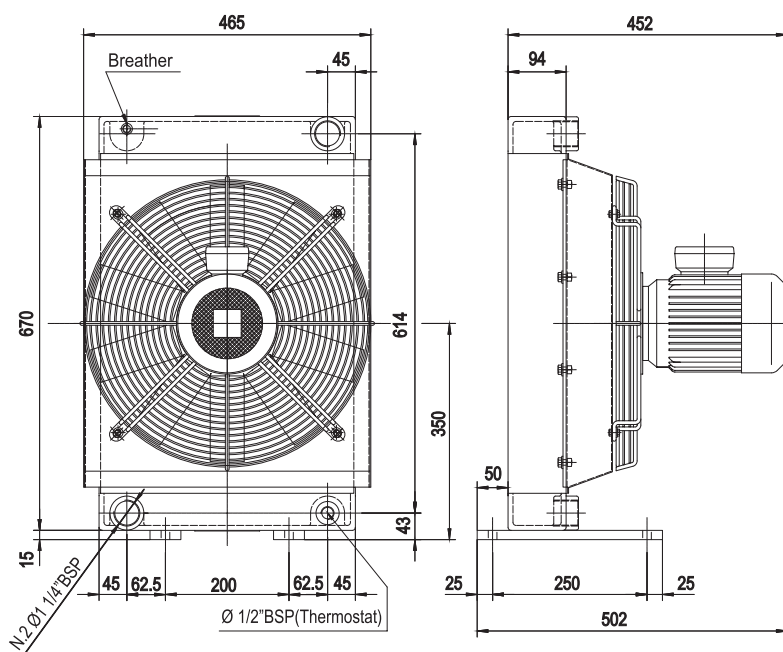
Fattore di correzione-F-(perdite di carico)    *Correction factor-F-(pressure drop)*

| cSt | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0,5 | 0,65 | 0,77 | 1  | 1,2 | 1,4 | 1,6 | 1,9 | 2,1 | 3,3 | 4,3 |

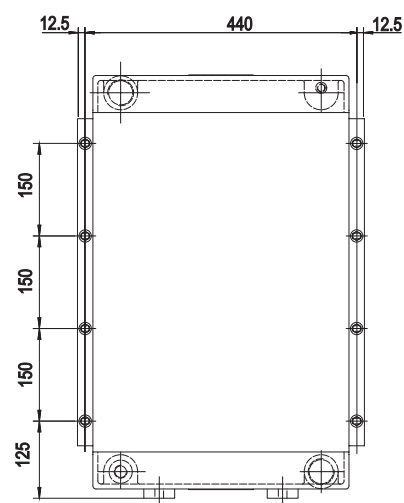
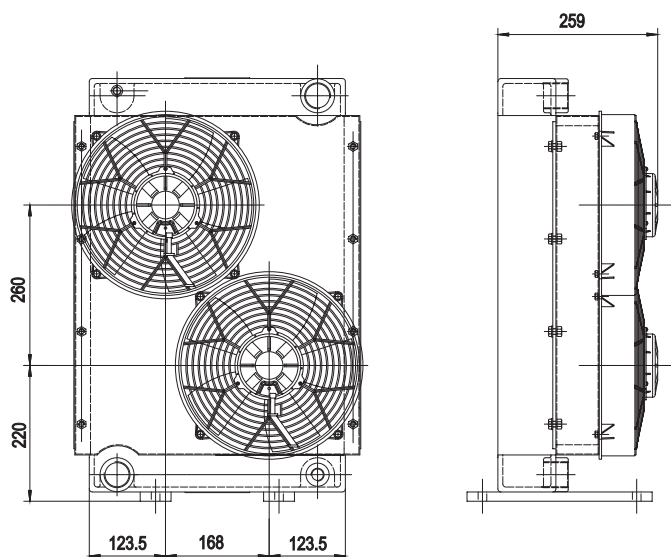


# Serie HPA

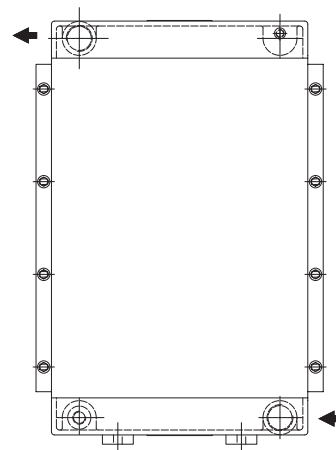
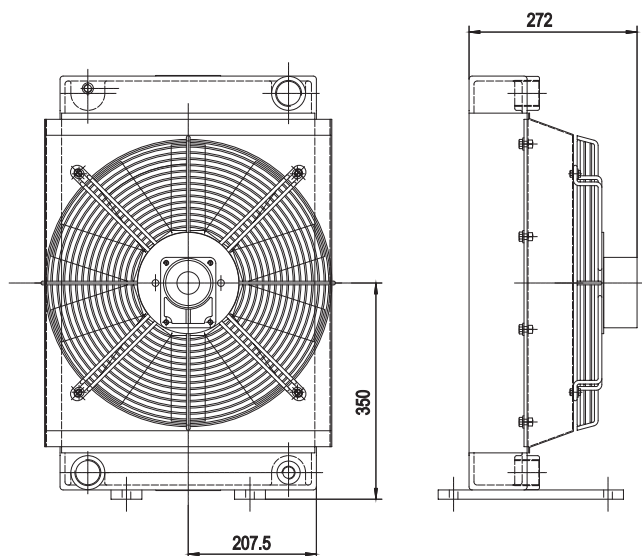
## HPA 30



**P/N 243003###**



**P/N 243012###**  
**P/N 243024###**



**P/N 243056###**

Le dimensioni di ingombro e le caratteristiche tecniche non sono impegnative  
Overall dimensions and technical characteristic are not binding

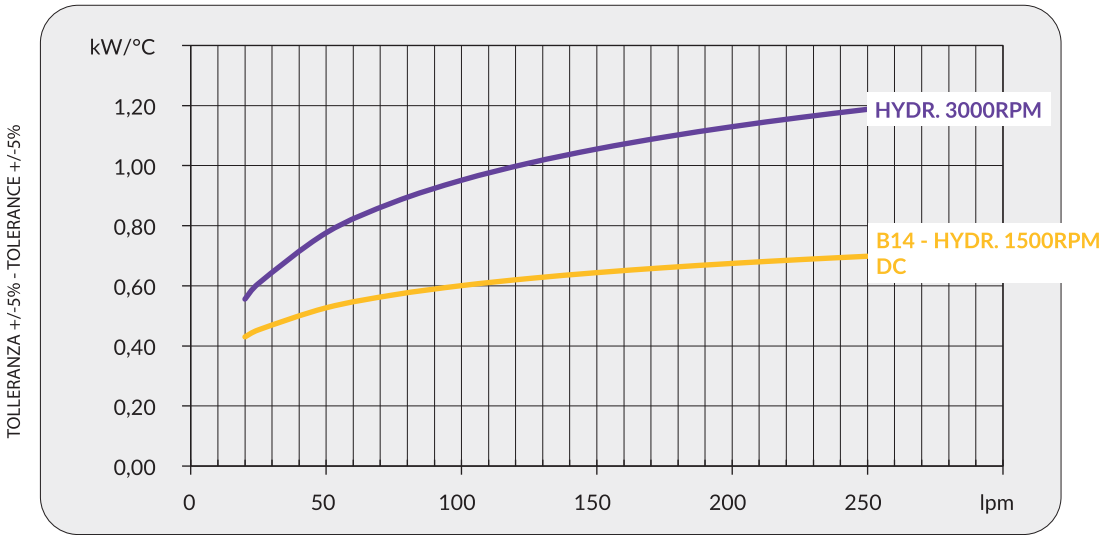


Dati tecnici    Technical Data

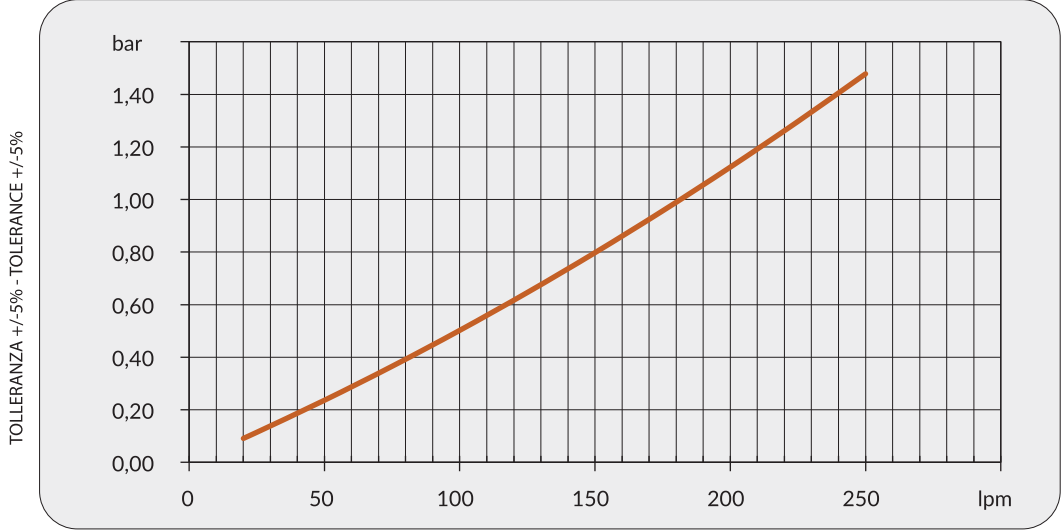
| P/N       | V                                 | Hz | kW(±10%) | A(±10%)   | rpm  | Ø Fan | dB (A) | (m³/ h) | IP | lt  | kg |
|-----------|-----------------------------------|----|----------|-----------|------|-------|--------|---------|----|-----|----|
| 243003### | 230-400 B14 AC                    | 50 | 0,75     | 3,1 - 1,8 | 1430 | 450   | 82     | 3100    | 55 | 6,8 | 37 |
|           | 265-460 B14 AC                    | 60 | 0,86     | 3,1 - 1,8 | 1715 |       |        |         |    |     |    |
| 243012### | 12 DC                             | /  | 0,17     | 13,9      | 2900 | 280   | 78     | 3050    | 68 | 6,8 | 32 |
| 243024### | 24 DC                             | /  | 0,16     | 6,7       | 2900 | 280   | 78     | 3050    | 68 | 6,8 | 32 |
| 243056### | Prepared for Gr.2 hydraulic motor |    |          |           |      | 450   |        |         | /  | 6,8 | 35 |

Contattare EMMEGI    Contact EMMEGI

Diagramma rendimento    Performance diagram



Perdite di carico    Pressure drop (@30cSt)



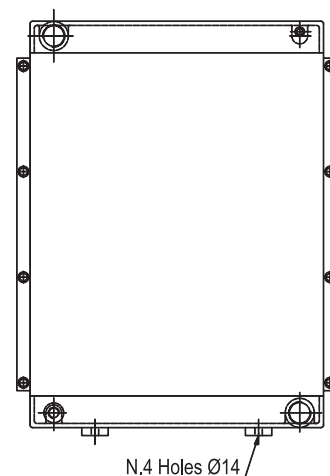
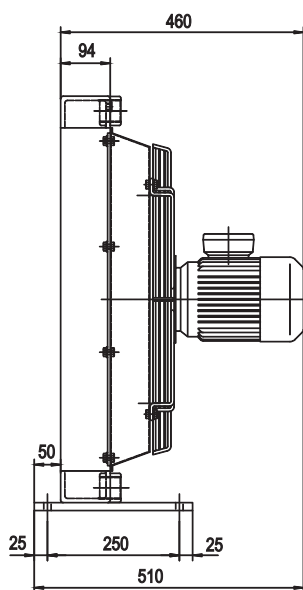
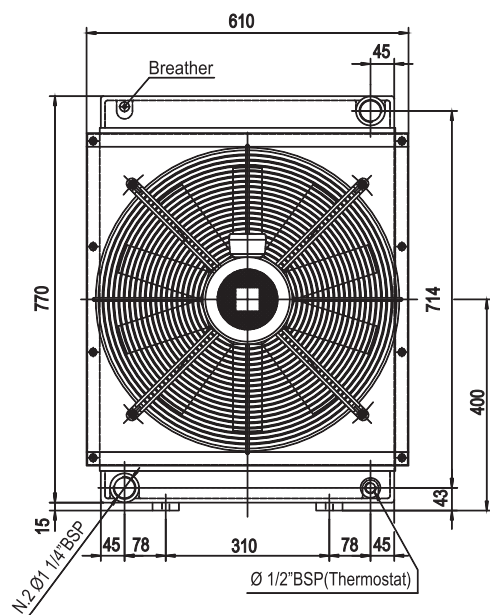
Fattore di correzione-F-(perdite di carico)    Correction factor-F-(pressure drop)

| cSt | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0,5 | 0,65 | 0,77 | 1  | 1,2 | 1,4 | 1,6 | 1,9 | 2,1 | 3,3 | 4,3 |

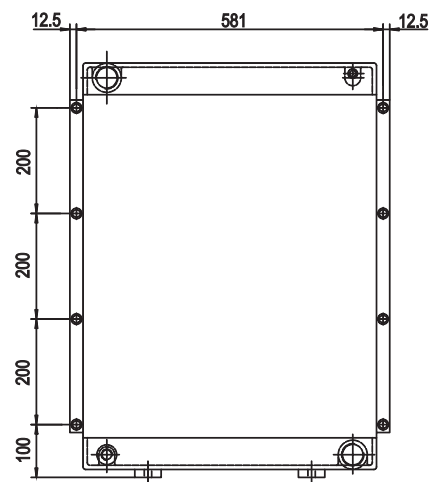
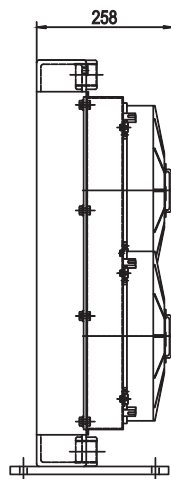
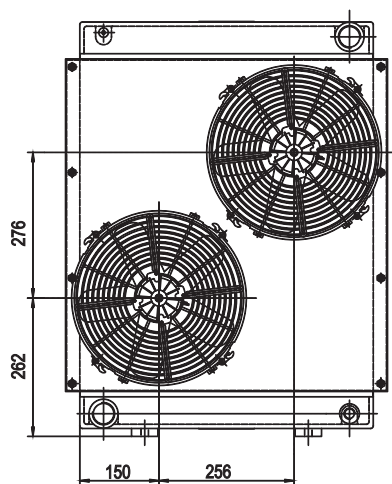


# Serie HPA

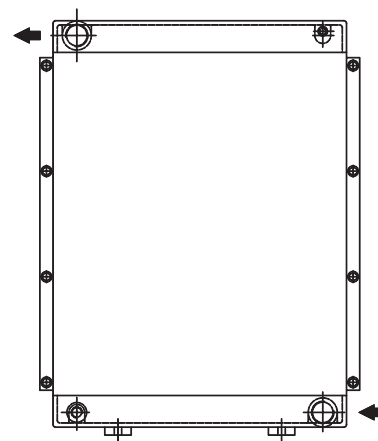
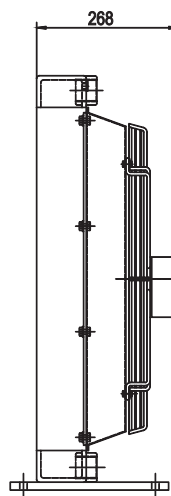
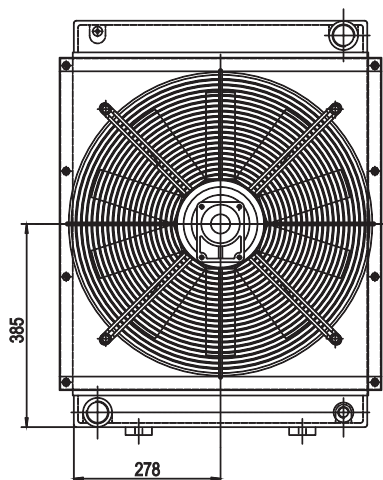
## HPA 36



**P/N 243603###**



**P/N 243612###**  
**P/N 243624###**



**P/N 243656###**

Le dimensioni di ingombro e le caratteristiche tecniche non sono impegnative  
Overall dimensions and technical characteristic are not binding



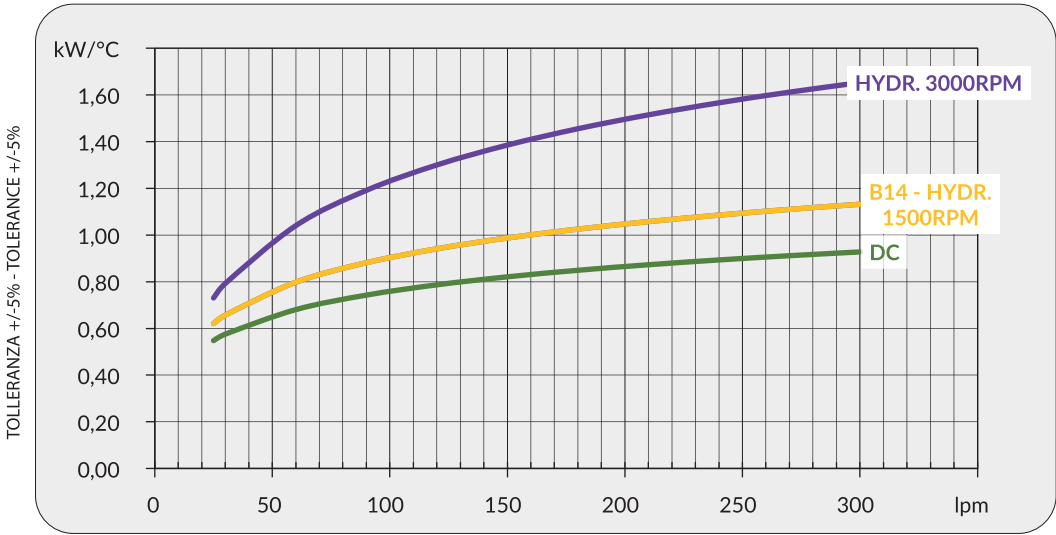


Dati tecnici    Technical Data

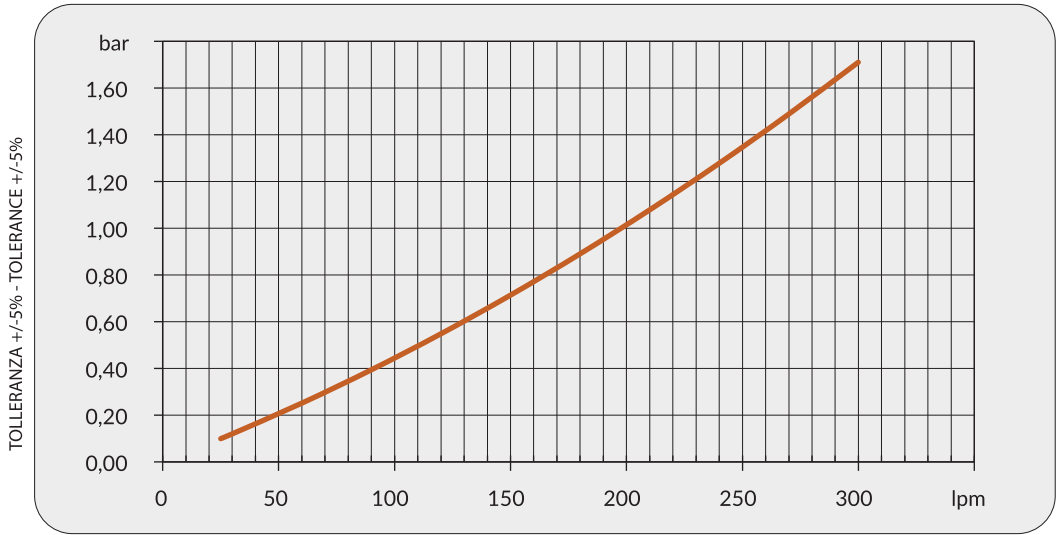
| P/N       | V                                 | Hz | kW(±10%) | A (±10%)  | rpm  | Ø Fan | dB (A) | (m³/ h) | IP | lt  | kg |
|-----------|-----------------------------------|----|----------|-----------|------|-------|--------|---------|----|-----|----|
| 243603### | 230-400 B14 AC                    | 50 | 1,1      | 4,5 - 2,6 | 1440 | 500   | 82     | 5420    | 55 | 9,4 | 60 |
|           | 265-460 B14 AC                    | 60 | 1,3      | 4,5 - 2,6 | 1730 |       |        |         |    |     |    |
| 243612### | 12 DC                             | /  | 0,19     | 16        | 3000 | 305   | 83     | 4100    | 68 | 9,4 | 50 |
| 243624### | 24 DC                             | /  | 0,2      | 8,5       | 3000 | 305   | 84     | 4100    | 68 | 9,4 | 50 |
| 243656### | Prepared for Gr.2 hydraulic motor |    |          |           |      | 500   |        |         | /  | 9,4 | 52 |

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Diagramma rendimento    Performance diagram



Perdite di carico    Pressure drop (@30cSt)



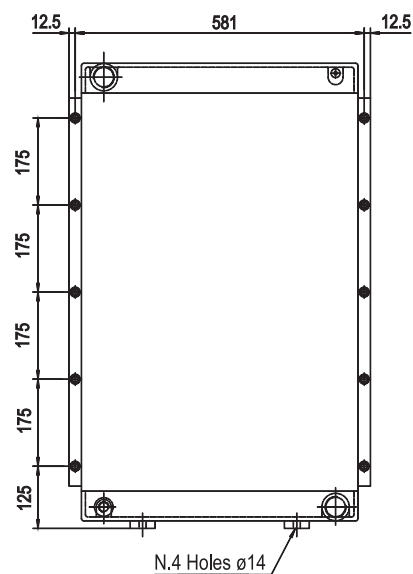
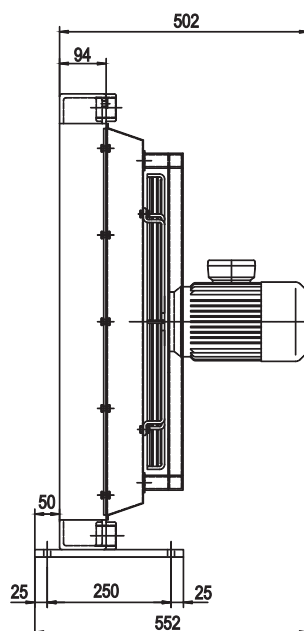
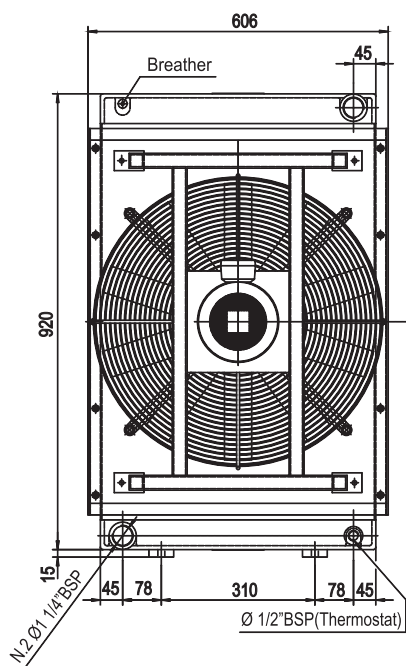
Fattore di correzione-F-(perdite di carico)    Correction factor-F-(pressure drop)

| cSt | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0,5 | 0,65 | 0,77 | 1  | 1,2 | 1,4 | 1,6 | 1,9 | 2,1 | 3,3 | 4,3 |

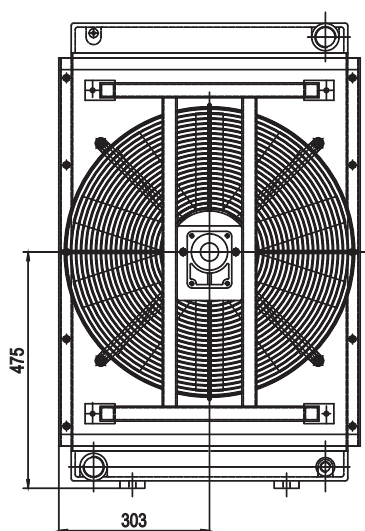


# Serie HPA

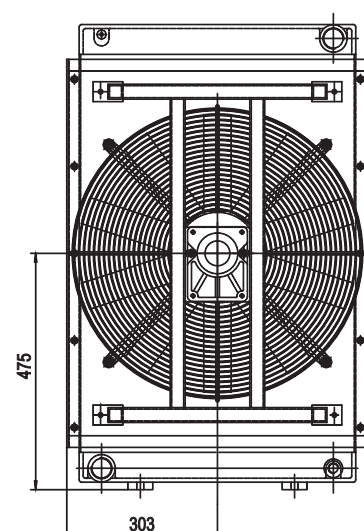
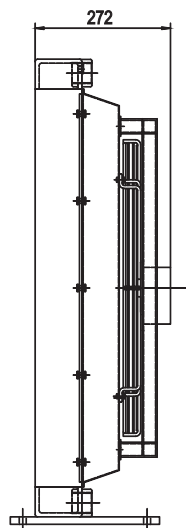
## HPA 42



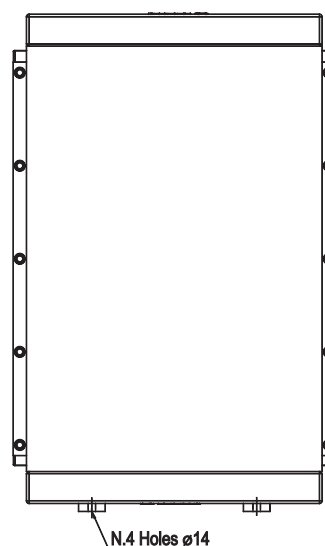
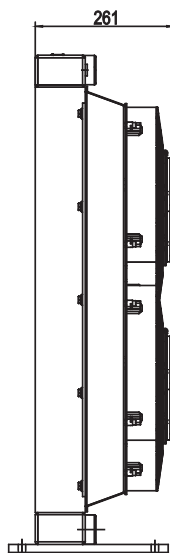
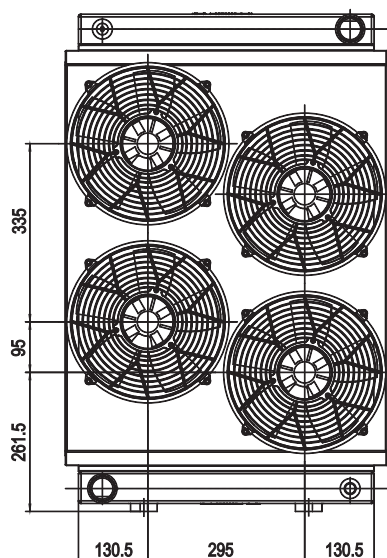
**P/N 244203###**



**P/N 244256###**



**P/N 244258###**



**P/N 244212###**  
**P/N 244224###**

Le dimensioni di ingombro e le caratteristiche tecniche non sono impegnative  
Overall dimensions and technical characteristic are not binding



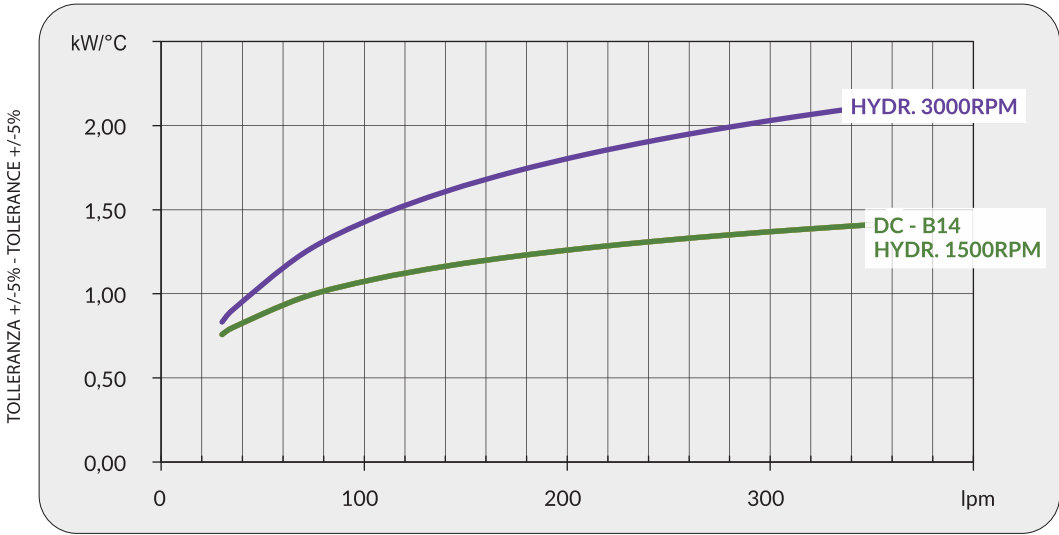
Dati tecnici    Technical Data

| P/N       | V                                 | Hz | kW(±10%) | A(±10%)   | rpm  | Ø Fan | dB (A) | (m³/ h) | IP | It   | kg |
|-----------|-----------------------------------|----|----------|-----------|------|-------|--------|---------|----|------|----|
| 244203### | 230-400 B14 AC                    | 50 | 1,1      | 4,5 - 2,6 | 1440 | 560   | 84     | 6820    | 55 | 10,6 | 65 |
|           | 265-460 B14 AC                    | 60 | 1,3      | 4,5 - 2,6 | 1730 |       |        |         |    |      |    |
| 244256### | Prepared for Gr.2 hydraulic motor |    |          |           |      | 560   |        |         | /  | 10,6 | 58 |
| 244258### | Prepared for Gr.3 hydraulic motor |    |          |           |      | 560   |        |         | /  | 10,6 | 58 |
| 244212### | 12V                               | -  | 0,19     | 14,3      | 2920 | 280   |        | 6820    | 68 | 10,6 | 58 |
| 244224### | 24V                               | -  | 0,18     | 6,8       | 2920 | 280   |        | 6820    | 68 | 10,6 | 58 |

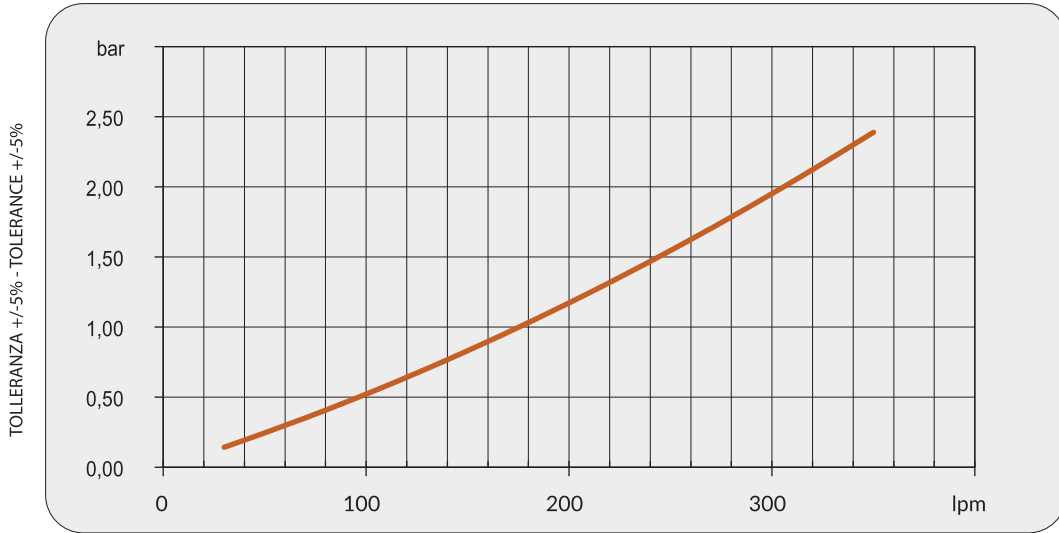
I dati si riferiscono al singolo ventilatore  
Data refers to each fan

Contattare EMMEGI    Contact EMMEGI

Diagramma rendimento    Performance diagram



Perdite di carico    Pressure drop (@30cSt)



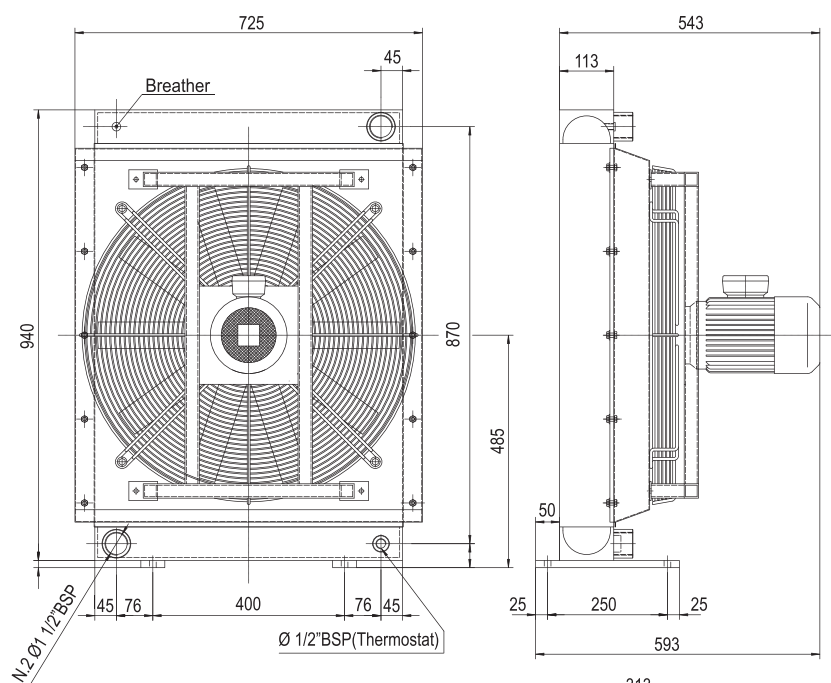
Fattore di correzione-F-(perdite di carico)    Correction factor-F-(pressure drop)

| cSt | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0,5 | 0,65 | 0,77 | 1  | 1,2 | 1,4 | 1,6 | 1,9 | 2,1 | 3,3 | 4,3 |

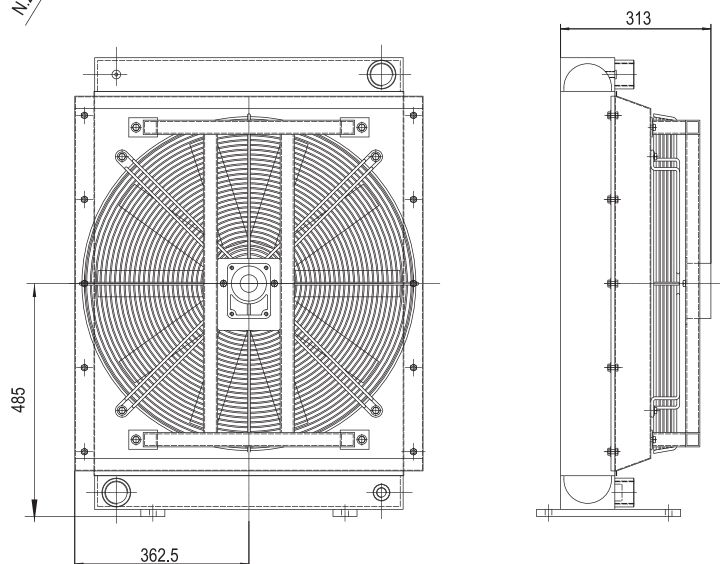


# Serie HPA

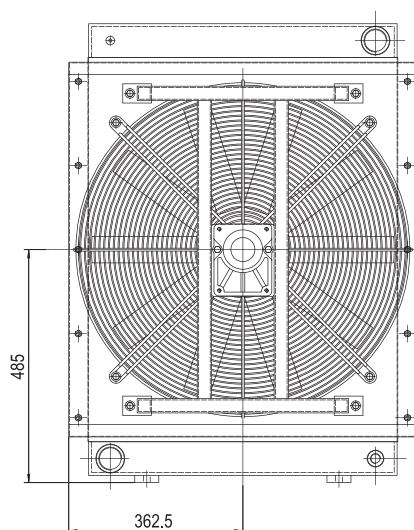
## HPA 50



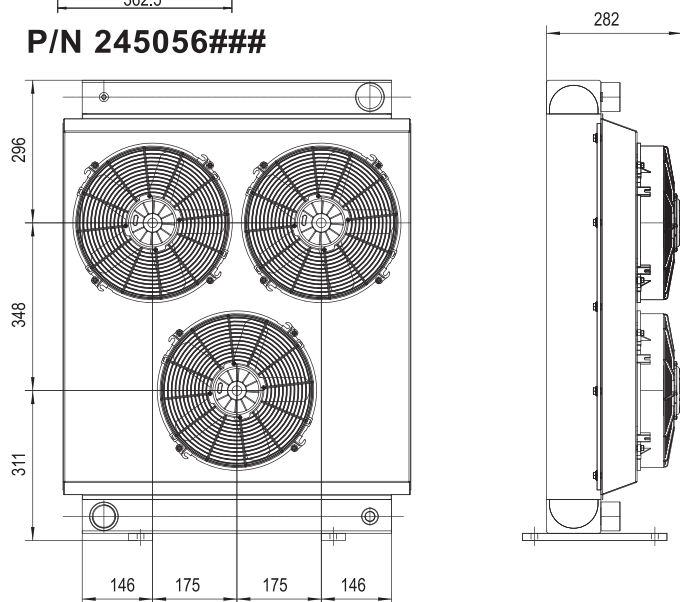
**P/N 245003###**



**P/N 245056###**



**P/N 245058###**



**P/N 245012###**  
**P/N 245024###**

Le dimensioni di ingombro e le caratteristiche tecniche non sono impegnative  
Overall dimensions and technical characteristic are not binding



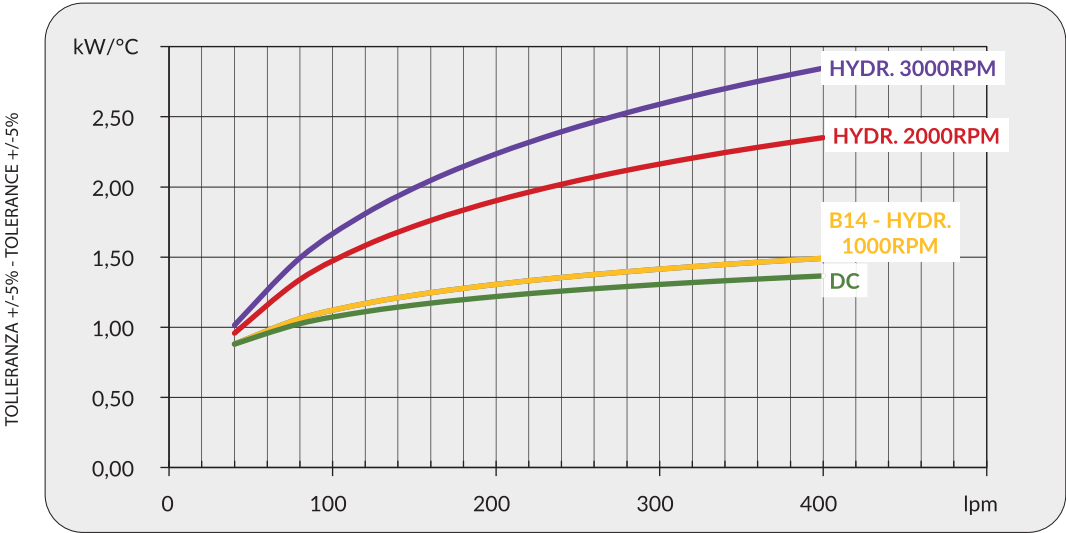
Dati tecnici    Technical Data

| P/N       | V                                 | Hz | kW(±10%) | A(±10%) | rpm  | Ø Fan | dB (A) | (m³ / h) | IP | lt   | kg |
|-----------|-----------------------------------|----|----------|---------|------|-------|--------|----------|----|------|----|
| 245003### | 230-400 B14 AC                    | 50 | 1,1      | 5 - 2,9 | 950  | 630   | 80     | 5910     | 55 | 14,2 | 90 |
|           | 265-460 B14 AC                    | 60 | 1,3      | 5 - 2,9 | 1140 |       |        |          |    |      |    |
| 245056### | Prepared for Gr.2 hydraulic motor |    |          |         |      | 630   |        |          | /  | 14,2 | 83 |
| 245058### | Prepared for Gr.3 hydraulic motor |    |          |         |      | 630   |        |          | /  | 14,2 | 83 |
| 245012### | 12                                | -  | 0,21     | 16,1    |      | 305   |        |          | 68 | 14,2 | 83 |
| 245024### | 24                                | -  | 0,21     | 8,5     |      | 305   |        |          | 68 | 14,2 | 83 |

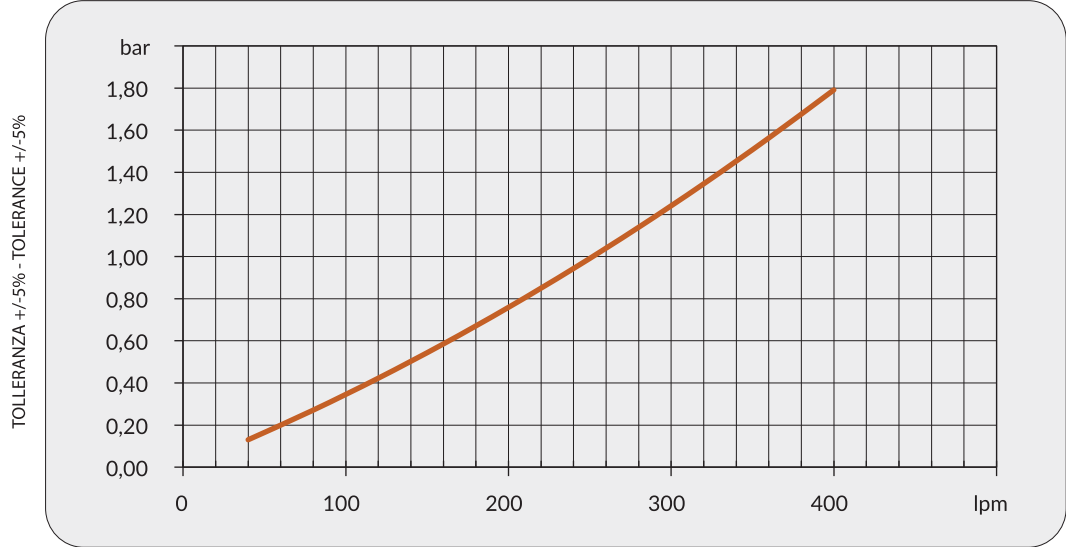
I dati si riferiscono al singolo ventilatore  
Data refers to each fan

Contattare EMMEGI    Contact EMMEGI

Diagramma rendimento    Performance diagram



Perdite di carico    Pressure drop (@30cSt)



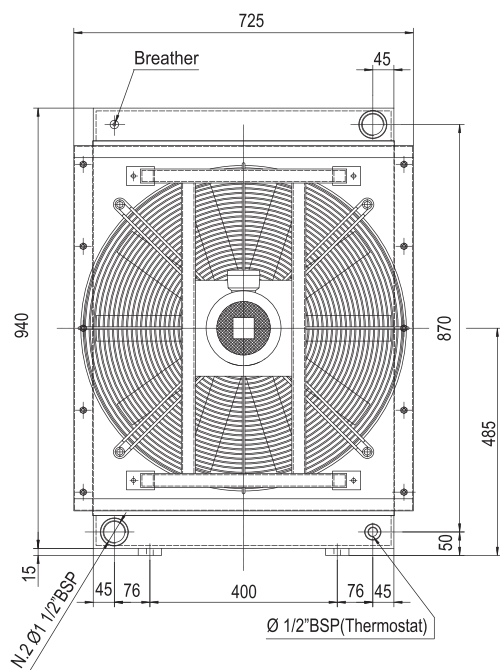
Fattore di correzione-F-(perdite di carico)    Correction factor-F-(pressure drop)

| cSt | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0,5 | 0,65 | 0,77 | 1  | 1,2 | 1,4 | 1,6 | 1,9 | 2,1 | 3,3 | 4,3 |

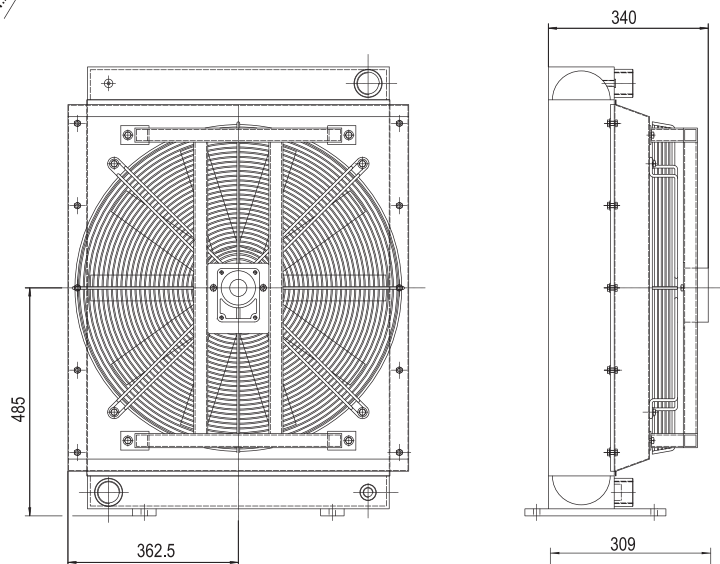


# Serie HPA

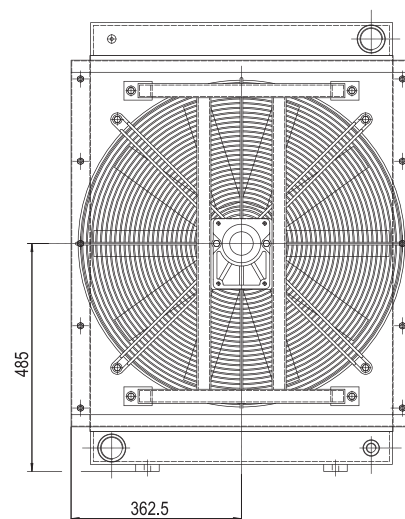
## HPA 52



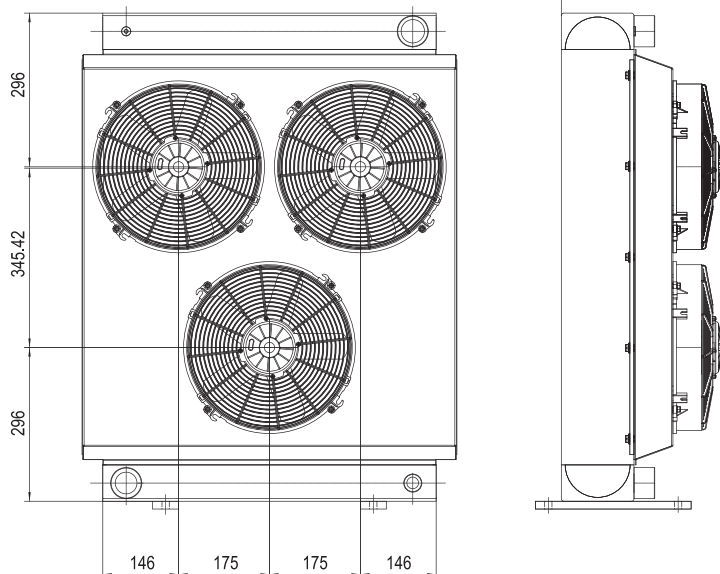
**P/N 245203###**



**P/N 245256###**



**P/N 245258###**



**P/N 245212###**

**P/N 245224###**

Le dimensioni di ingombro e le caratteristiche tecniche non sono impegnative  
Overall dimensions and technical characteristic are not binding





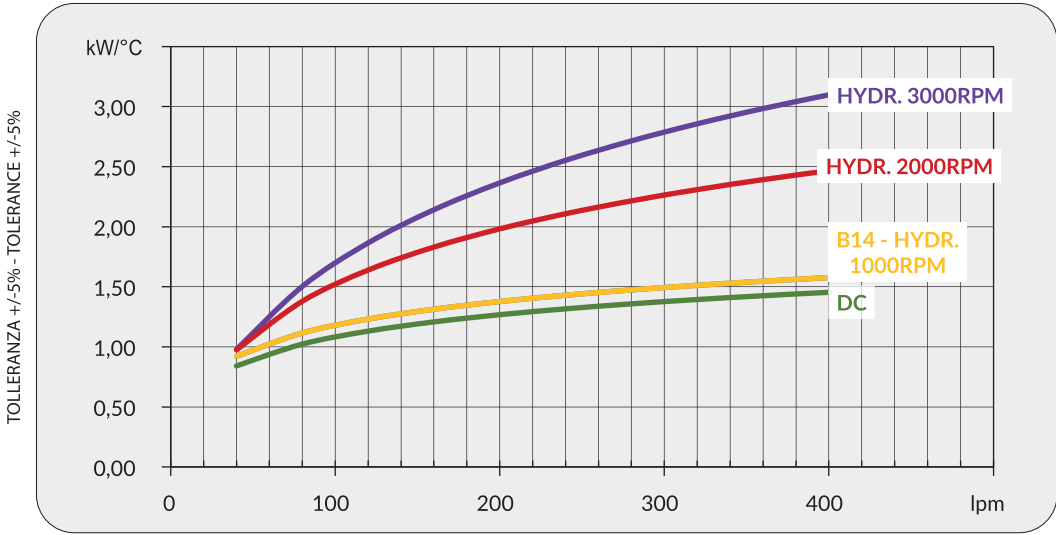
Dati tecnici    Technical Data

| P/N       | V                                 | Hz | kW(±10%) | A(±10%) | rpm  | Ø Fan | dB (A) | (m³ / h) | IP | lt   | kg |
|-----------|-----------------------------------|----|----------|---------|------|-------|--------|----------|----|------|----|
| 245203### | 230-400 B14 AC                    | 50 | 1,1      | 5 - 2,9 | 950  | 630   | 80     | 5260     | 55 | 17,7 | 95 |
|           | 265-460 B14 AC                    | 60 | 1,3      | 5 - 2,9 | 1140 |       |        |          |    |      |    |
| 245256### | Prepared for Gr.2 hydraulic motor |    |          |         |      | 630   |        |          | /  | 17,7 | 89 |
| 245258### | Prepared for Gr.3 hydraulic motor |    |          |         |      | 630   |        |          | /  | 17,7 | 89 |
| 245212### | 12                                | -  | 0,21     | 16,1    |      | 305   |        |          | 68 | 17,7 | 89 |
| 245224### | 24                                | -  | 0,22     | 8,5     |      | 305   |        |          | 68 | 17,7 | 89 |

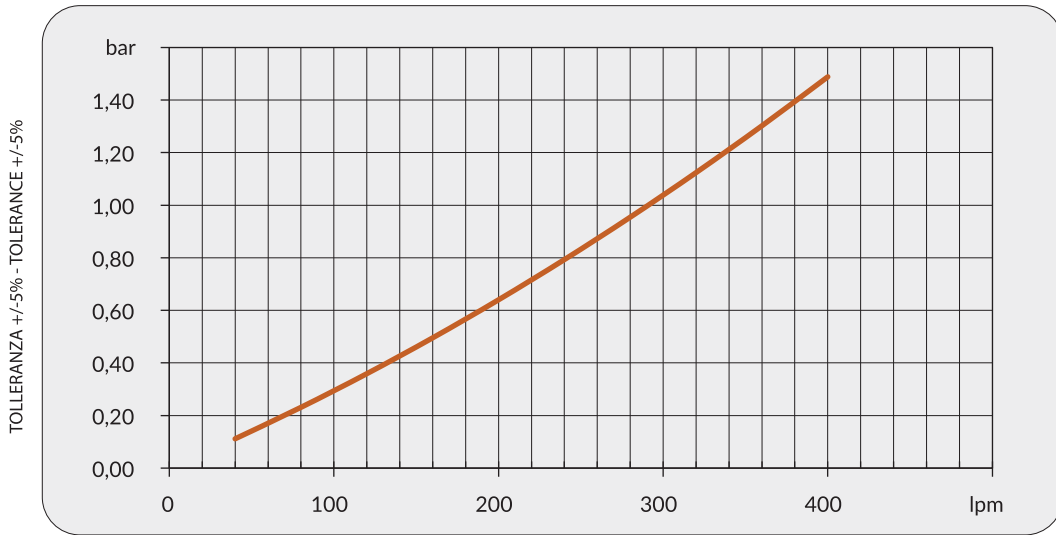
I dati si riferiscono al singolo ventilatore  
Data refers to each fan

Contattare EMMEGI    Contact EMMEGI

Diagramma rendimento    Performance diagram



Perdite di carico    Pressure drop (@30cSt)



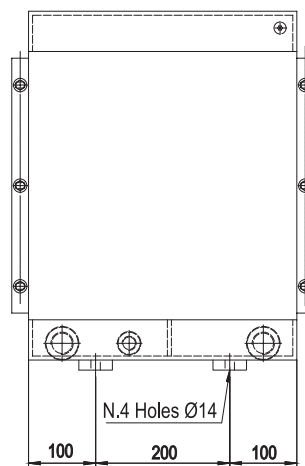
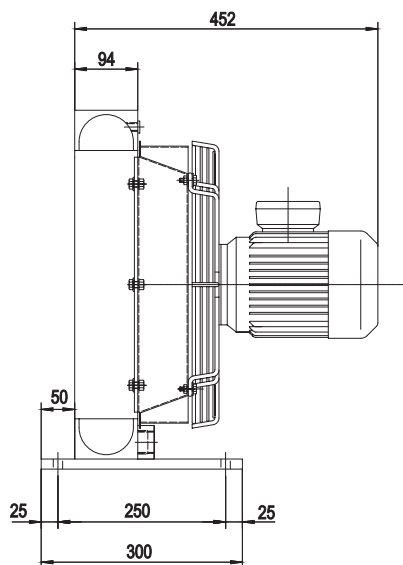
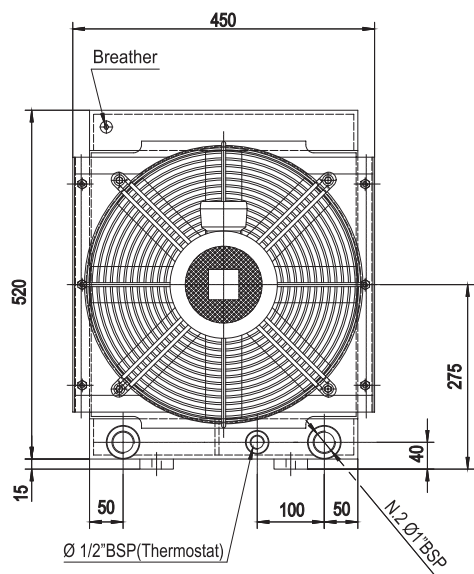
Fattore di correzione-F-(perdite di carico)    Correction factor-F-(pressure drop)

| cSt | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0,5 | 0,65 | 0,77 | 1  | 1,2 | 1,4 | 1,6 | 1,9 | 2,1 | 3,3 | 4,3 |

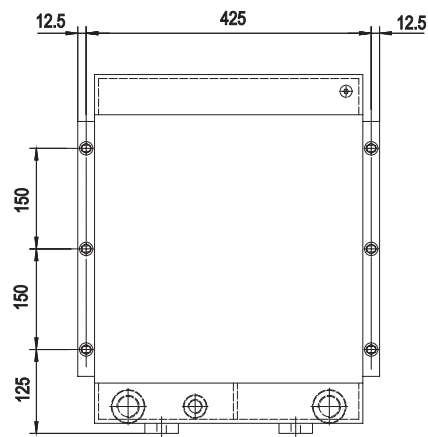
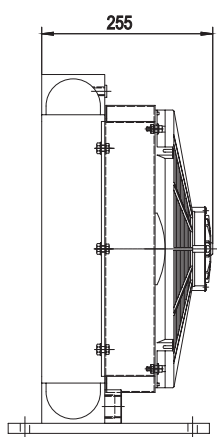
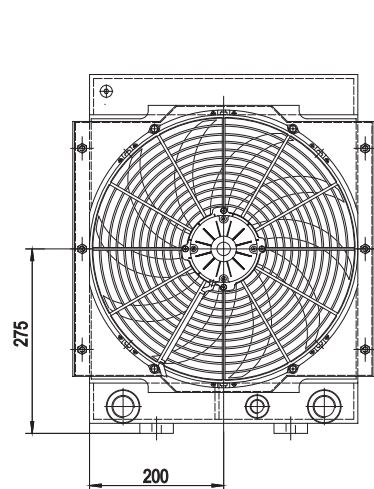


# Serie HPA

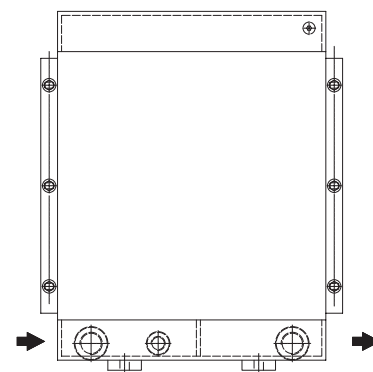
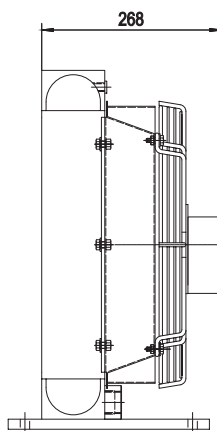
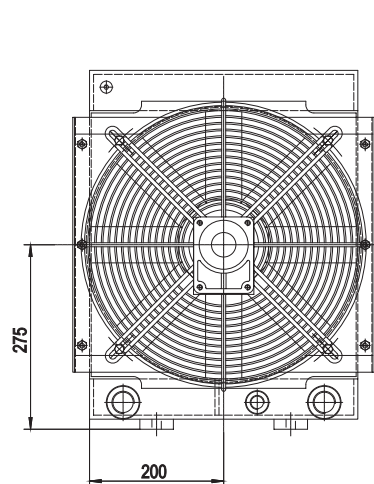
## HPA 24 2 PASS



**P/N 242703###**



**P/N 242712###**  
**P/N 242724###**



**P/N 242756###**

Le dimensioni di ingombro e le caratteristiche tecniche non sono impegnative  
Overall dimensions and technical characteristic are not binding

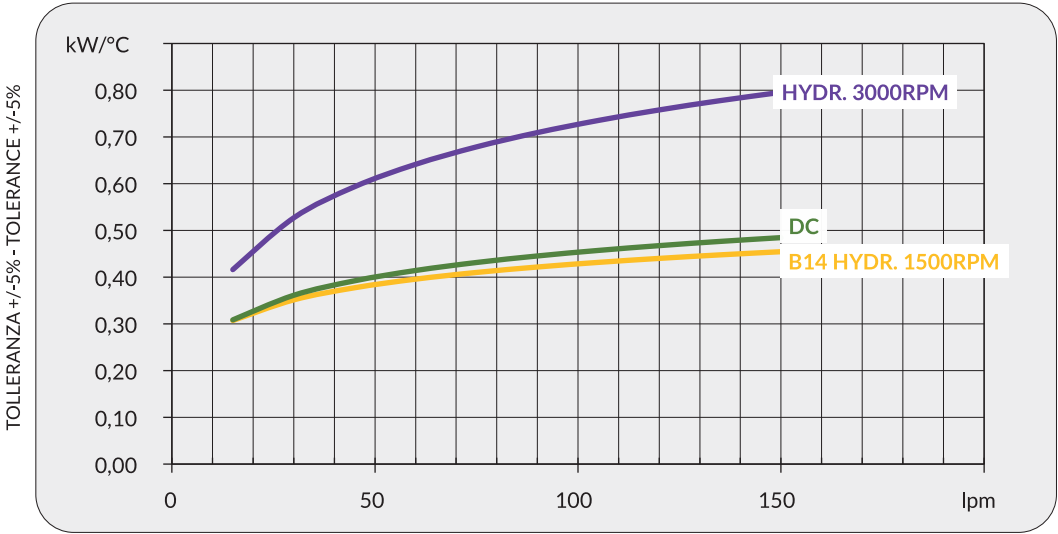


Dati tecnici    Technical Data

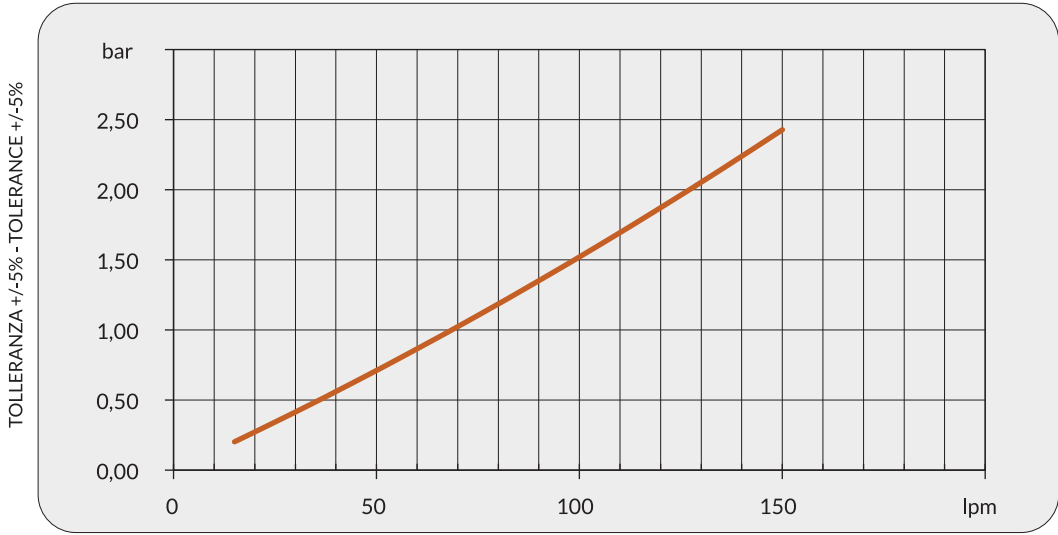
| P/N       | V                                 | Hz | kW(±10%) | A(±10%)   | rpm  | Ø Fan | dB (A) | (m³/ h) | IP | It  | kg |
|-----------|-----------------------------------|----|----------|-----------|------|-------|--------|---------|----|-----|----|
| 242703### | 230-400 B14 AC                    | 50 | 0,55     | 2,5 - 1,5 | 1420 | 400   | 79     | 1850    | 55 | 2,9 | 28 |
|           | 265-460 B14 AC                    | 60 | 0,63     | 2,5 - 1,5 | 1710 |       |        |         |    |     |    |
| 242712### | 12 DC                             | /  | 0,24     | 20,3      | 2380 | 385   | 77     | 2250    | 68 | 2,9 | 22 |
| 242724### | 24 DC                             | /  | 0,23     | 9,7       | 2580 | 305   | 80     | 2250    | 68 | 2,9 | 22 |
| 242756### | Prepared for Gr.2 hydraulic motor |    |          |           |      | 400   |        |         | /  | 2,9 | 23 |

Contattare EMMEGI    Contact EMMEGI

Diagramma rendimento    Performance diagram



Perdite di carico    Pressure drop (@30cSt)



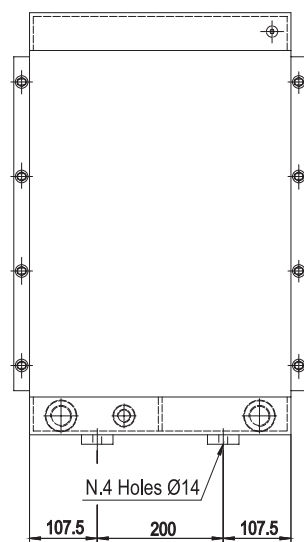
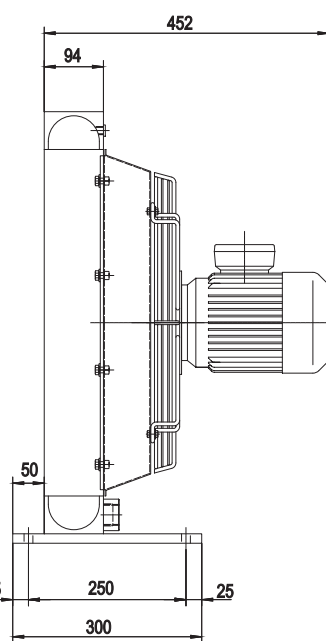
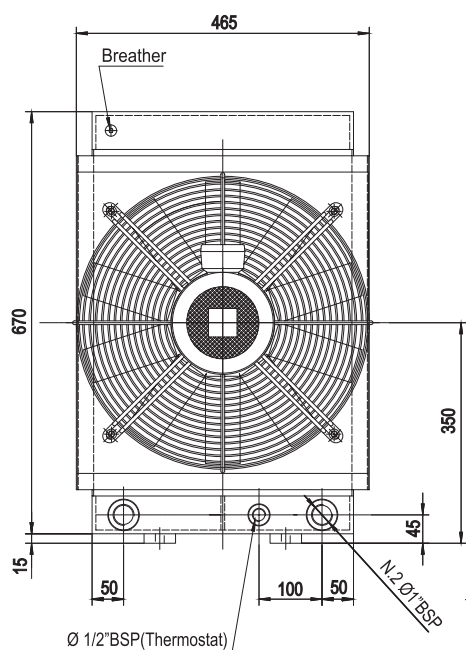
Fattore di correzione-F-(perdite di carico)    Correction factor-F-(pressure drop)

| cSt | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0,5 | 0,65 | 0,77 | 1  | 1,2 | 1,4 | 1,6 | 1,9 | 2,1 | 3,3 | 4,3 |

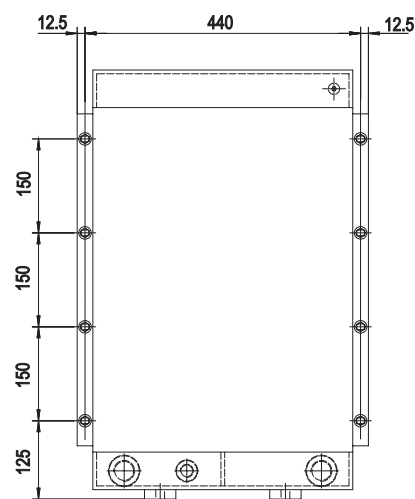
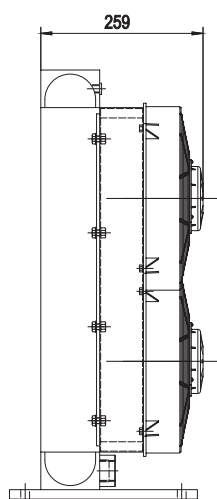
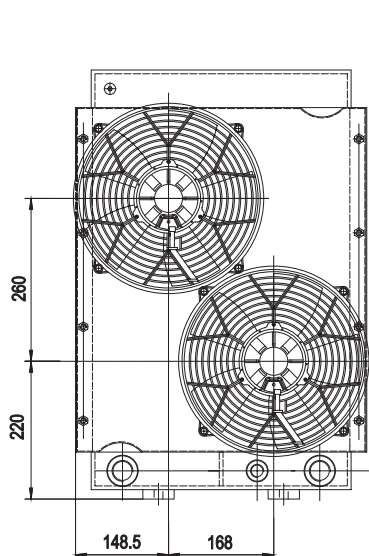


# Serie HPA

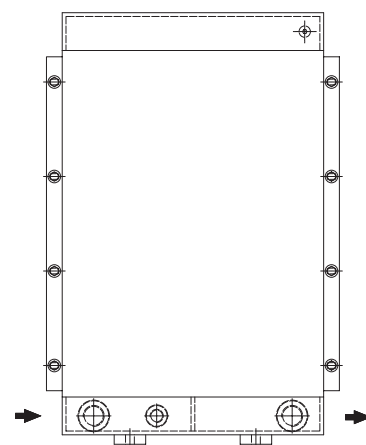
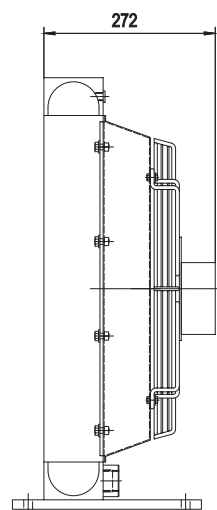
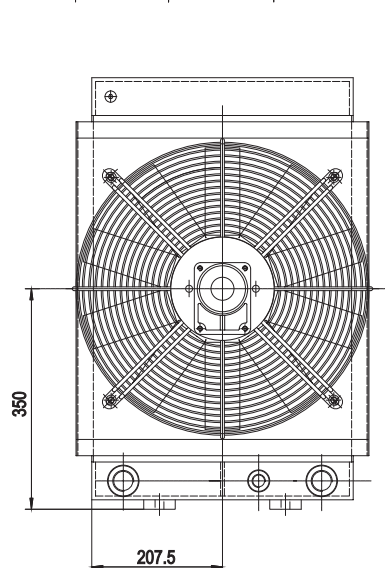
## HPA 30 2 PASS



**P/N 243303###**



**P/N 243312###**  
**P/N 243324###**



**P/N 243356###**

Le dimensioni di ingombro e le caratteristiche tecniche non sono impegnative  
Overall dimensions and technical characteristic are not binding



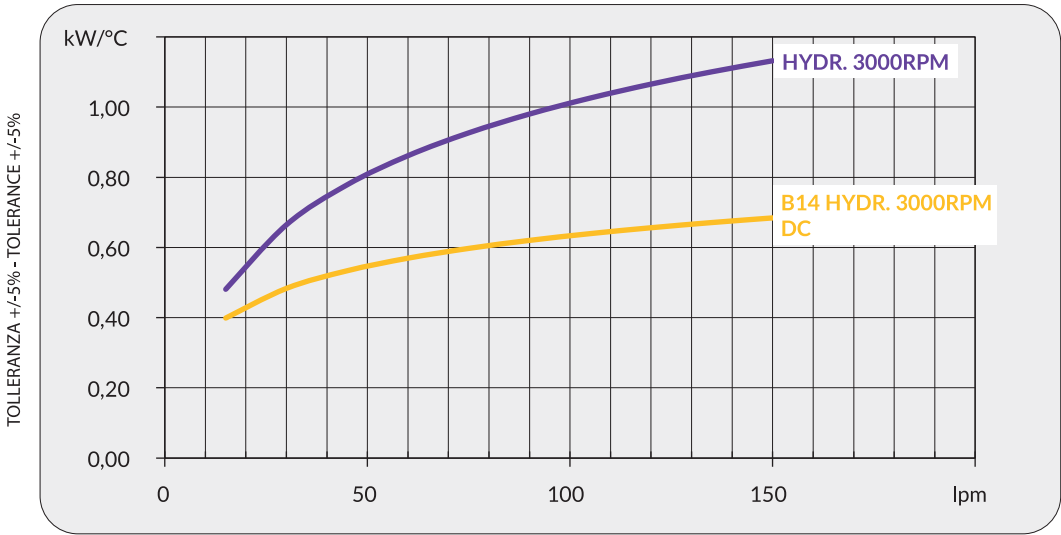
Dati tecnici    *Technical Data*

| P/N       | V                                 | Hz | kW(±10%) | A(±10%)   | rpm  | Ø Fan | dB (A) | (m³/ h) | IP | It  | kg |
|-----------|-----------------------------------|----|----------|-----------|------|-------|--------|---------|----|-----|----|
| 243303### | 230-400 B14 AC                    | 50 | 0,75     | 3,1 - 1,8 | 1430 | 450   | 82     | 3100    | 55 | 6,8 | 37 |
|           | 265-460 B14 AC                    | 60 | 0,86     | 3,1 - 1,8 | 1715 |       |        |         |    |     |    |
| 243312### | 12 DC                             | /  | 0,17     | 13,9      | 2530 | 280   | 74     | 3050    | 68 | 6,8 | 32 |
| 243324### | 24 DC                             | /  | 0,16     | 6,7       | 2900 | 280   | 78     | 3050    | 68 | 6,8 | 32 |
| 243356### | Prepared for Gr.2 hydraulic motor |    |          |           |      | 450   |        |         | /  | 6,8 | 35 |

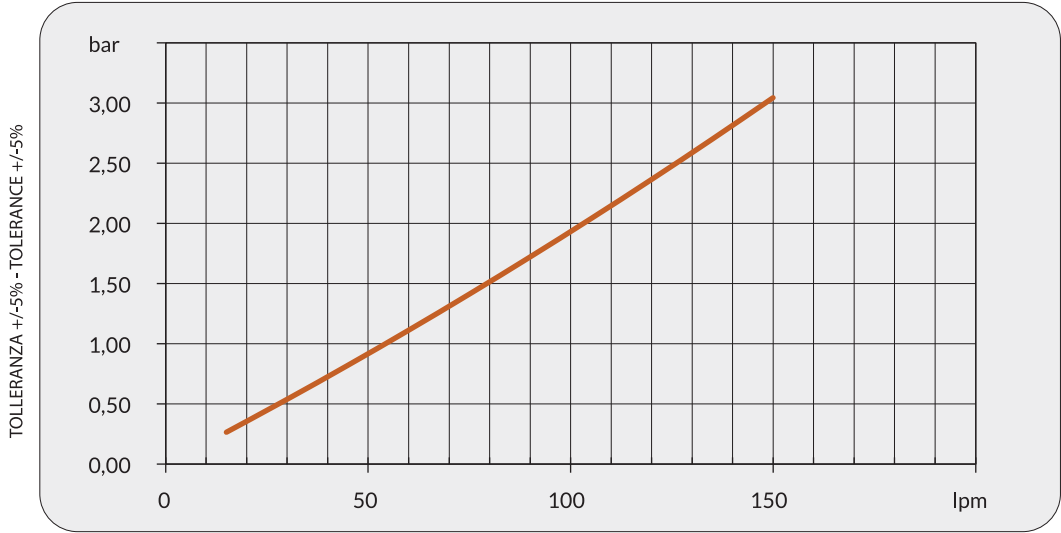
I dati si riferiscono al singolo ventilatore  
Data refers to each fan

Contattare EMMEGI    Contact EMMEGI

Diagramma rendimento    *Performance diagram*



Perdite di carico    *Pressure drop (@30cSt)*



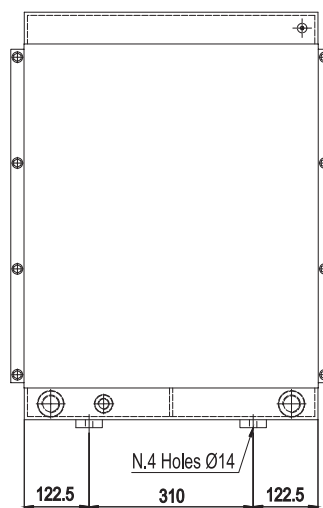
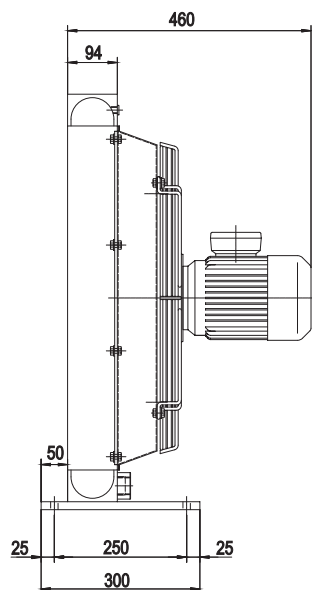
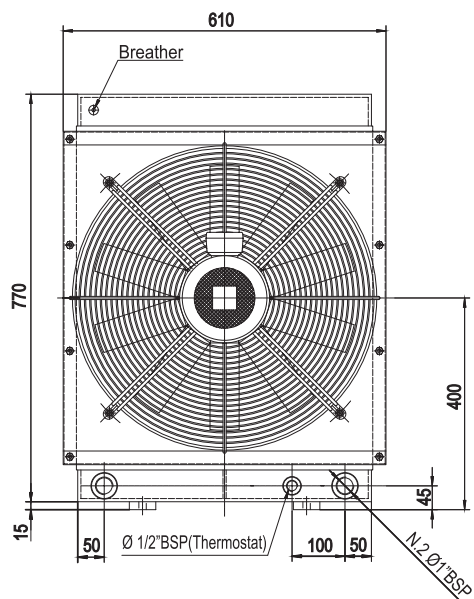
Fattore di correzione-F-(perdite di carico)    *Correction factor-F-(pressure drop)*

| cSt | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0,5 | 0,65 | 0,77 | 1  | 1,2 | 1,4 | 1,6 | 1,9 | 2,1 | 3,3 | 4,3 |

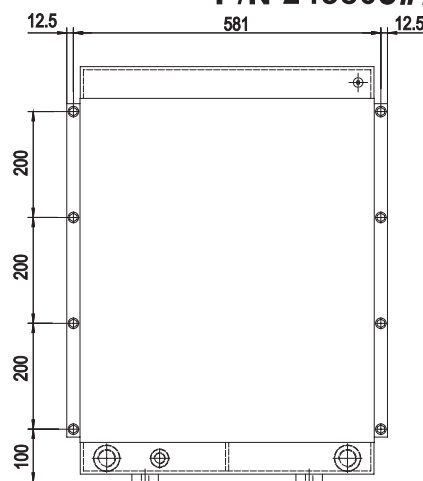
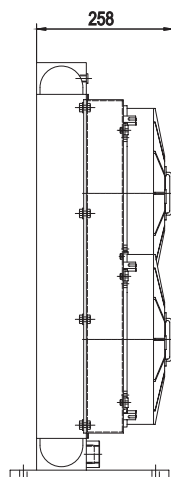
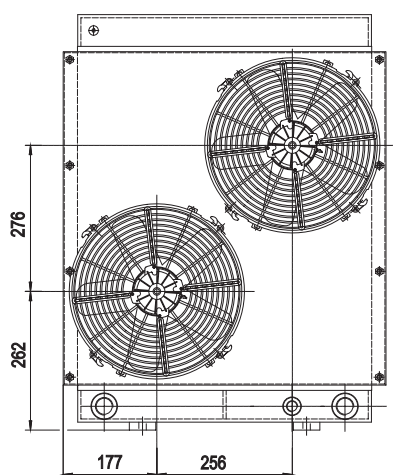


## Serie HPA

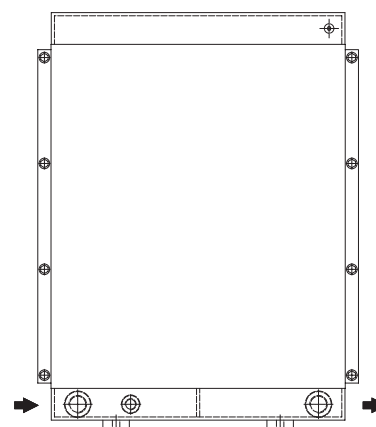
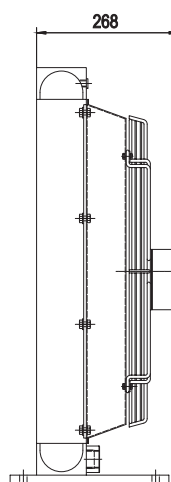
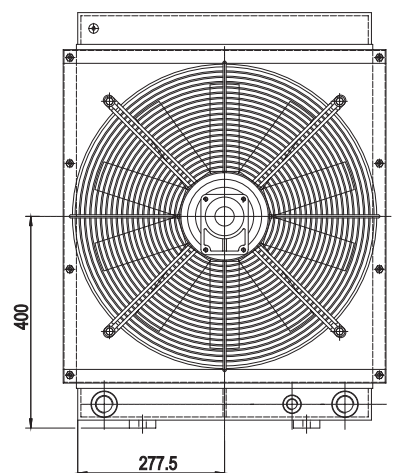
### HPA 36 2 PASS



**P/N 243803###**



**P/N 243812###**  
**P/N 243824###**



**P/N 243856###**

Le dimensioni di ingombro e le caratteristiche tecniche non sono impegnative  
Overall dimensions and technical characteristic are not binding





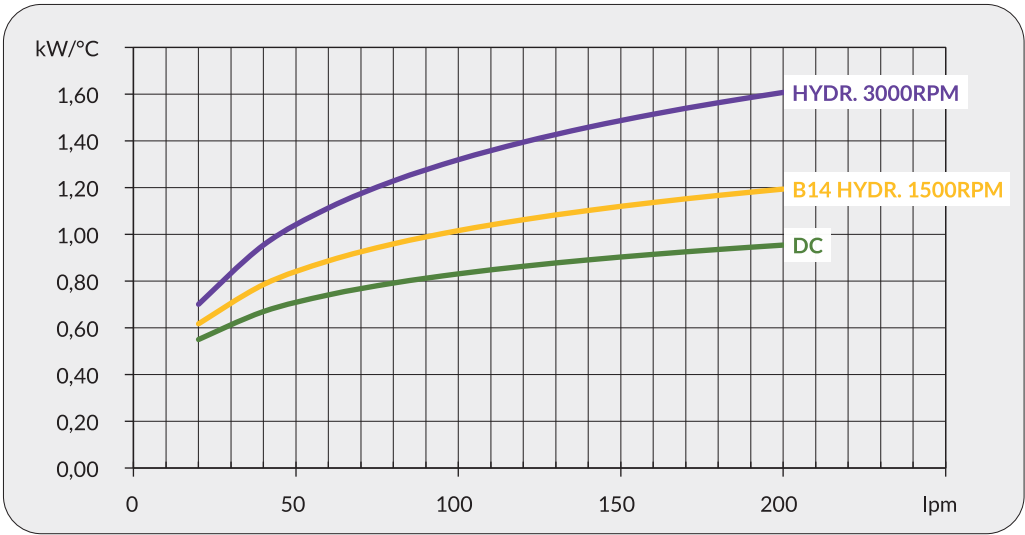
Dati tecnici    Technical Data

| P/N       | V                                 | Hz | kW(±10%) | A(±10%)   | rpm  | Ø Fan | dB (A) | (m³/h) | IP | lt  | kg |
|-----------|-----------------------------------|----|----------|-----------|------|-------|--------|--------|----|-----|----|
| 243803### | 230-400 B14 AC                    | 50 | 1,1      | 4,5 - 2,6 | 1440 | 500   | 82     | 5420   | 55 | 9,4 | 60 |
|           | 265-460 B14 AC                    | 60 | 1,3      | 4,5 - 2,6 | 1730 |       |        |        |    |     |    |
| 243812### | 12 DC                             | /  | 0,19     | 16        | 3000 | 305   | 83     | 4100   | 68 | 9,4 | 50 |
| 243824### | 24 DC                             | /  | 0,2      | 8,5       | 3000 | 305   | 84     | 4100   | 68 | 9,4 | 50 |
| 243856### | Prepared for Gr.2 hydraulic motor |    |          |           |      | 500   |        |        | /  | 9,4 | 52 |

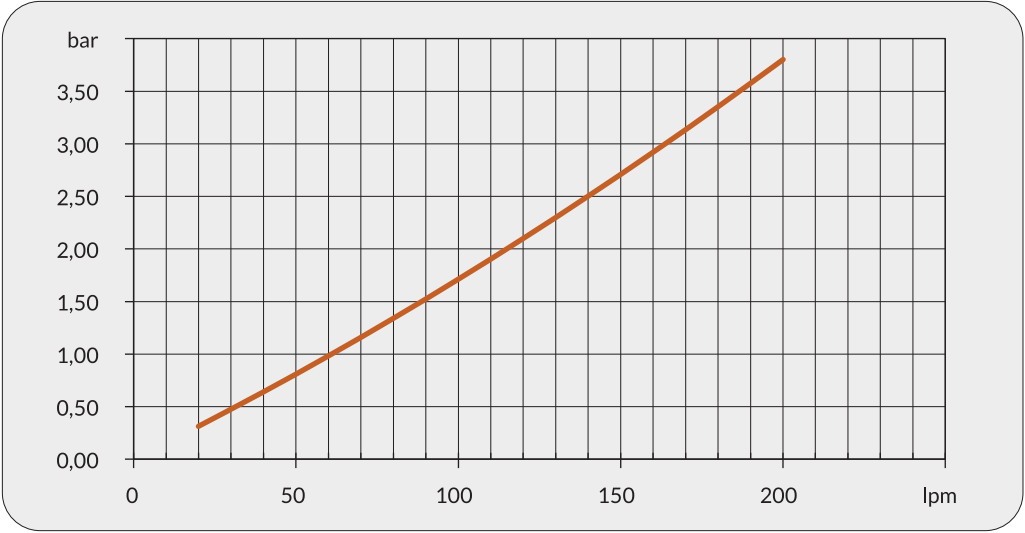
I dati si riferiscono al singolo ventilatore  
Data refers to each fan

Contattare EMMEGI    Contact EMMEGI

Diagramma rendimento    Performance diagram



Perdite di carico    Pressure drop (@30cSt)



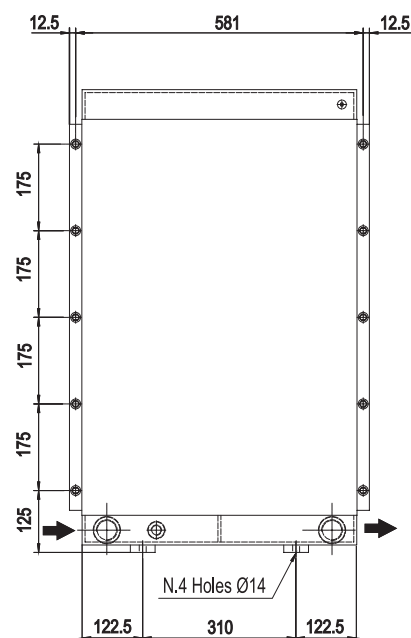
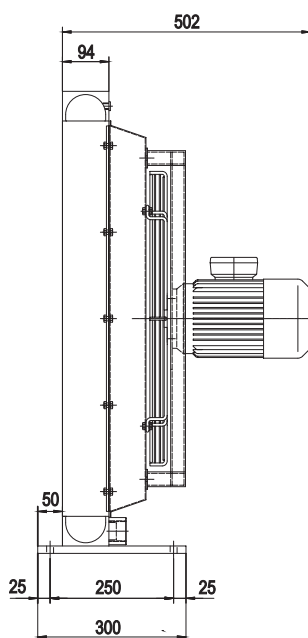
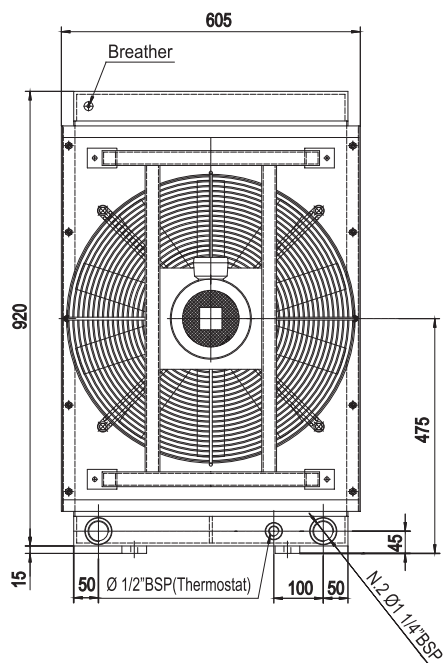
Fattore di correzione-F-(perdite di carico)    Correction factor-F-(pressure drop)

| cSt | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0,5 | 0,65 | 0,77 | 1  | 1,2 | 1,4 | 1,6 | 1,9 | 2,1 | 3,3 | 4,3 |

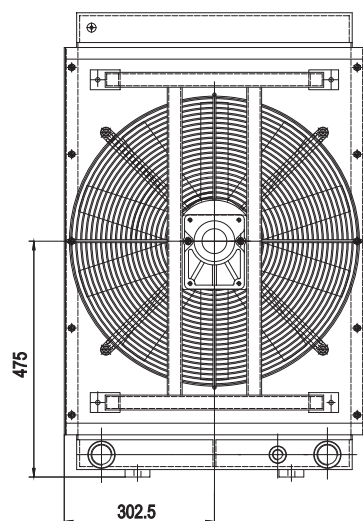
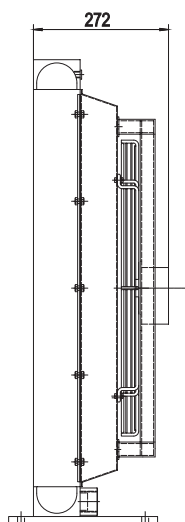
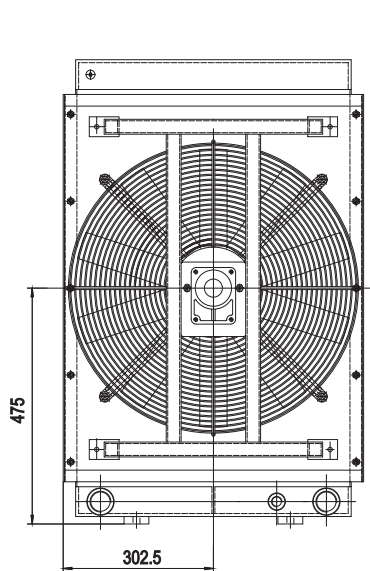


# Serie HPA

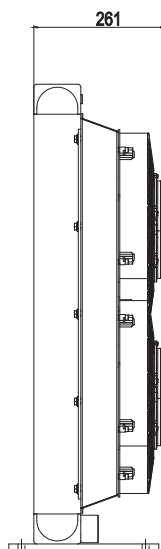
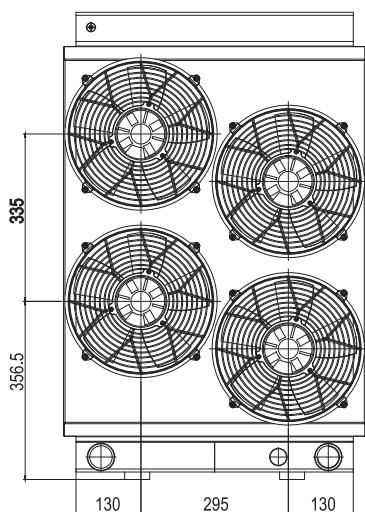
## HPA 42 2 PASS



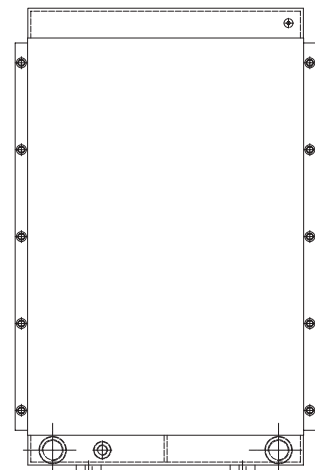
**P/N 244503###**



**P/N 244556###**



**P/N 244558###**



**P/N 244558###**  
**P/N 244558###**

Le dimensioni di ingombro e le caratteristiche tecniche non sono impegnative  
Overall dimensions and technical characteristic are not binding



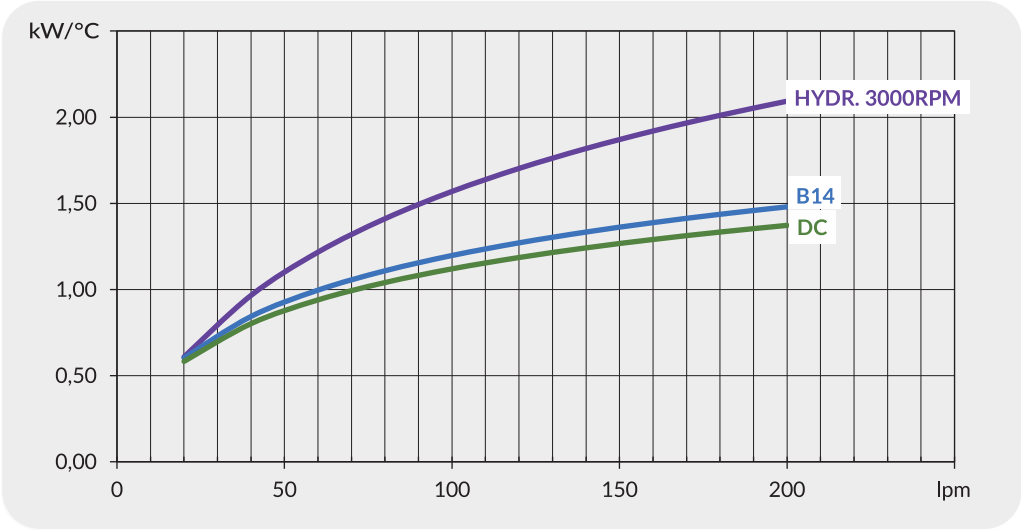
Dati tecnici    *Technical Data*

| P/N       | V                                 | Hz | kW(±10%) | A(±10%) | rpm  | Ø Fan | dB (A) | (m³/h) | IP | It   | kg |
|-----------|-----------------------------------|----|----------|---------|------|-------|--------|--------|----|------|----|
| 244503### | 230-400 B14 AC                    | 50 | 1,1      | 4,5-2,6 | 1440 | 560   | 84     | 6850   | 55 | 10,6 | 65 |
|           | 265-460 B14 AC                    | 60 | 1,3      | 4,5-2,6 | 1730 |       |        |        |    |      |    |
| 244556### | Prepared for Gr.2 hydraulic motor |    |          |         |      | 560   |        |        | /  | 10,6 | 58 |
| 244558### | Prepared for Gr.3 hydraulic motor |    |          |         |      | 560   |        |        | /  | 10,6 | 58 |
| 244512### | 12V                               | -  | 0,19     | 14,3    | 2920 | 280   |        |        | 68 | 10,6 | 58 |
| 244524### | 24V                               | -  | 0,18     | 6,8     | 2920 | 280   |        |        | 68 | 10,6 | 58 |

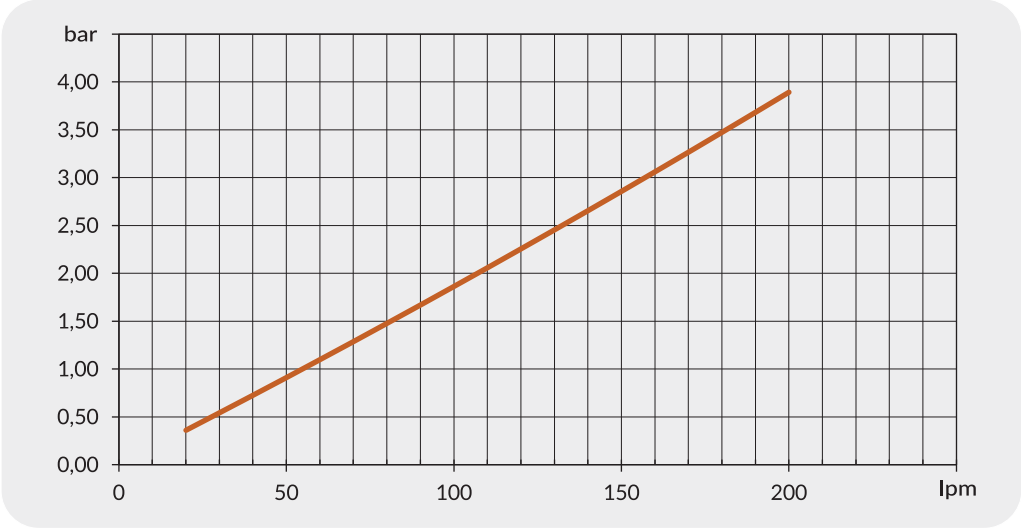
I dati si riferiscono al singolo ventilatore  
Data refers to each fan

Contattare EMMEGI    Contact EMMEGI

Diagramma rendimento    *Performance diagram*



Perdite di carico    *Pressure drop (@30cSt)*



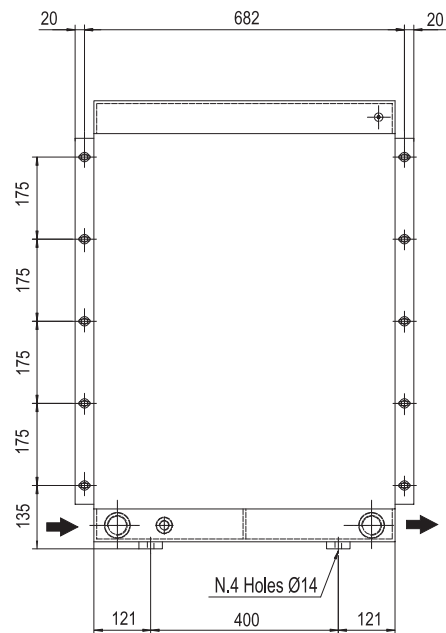
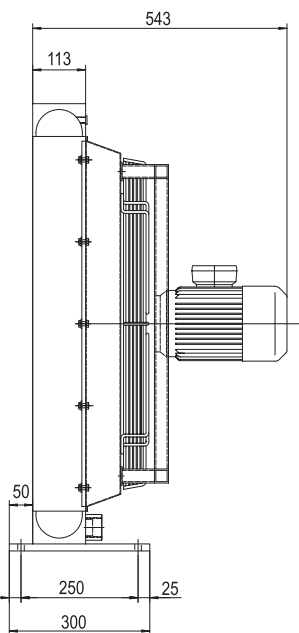
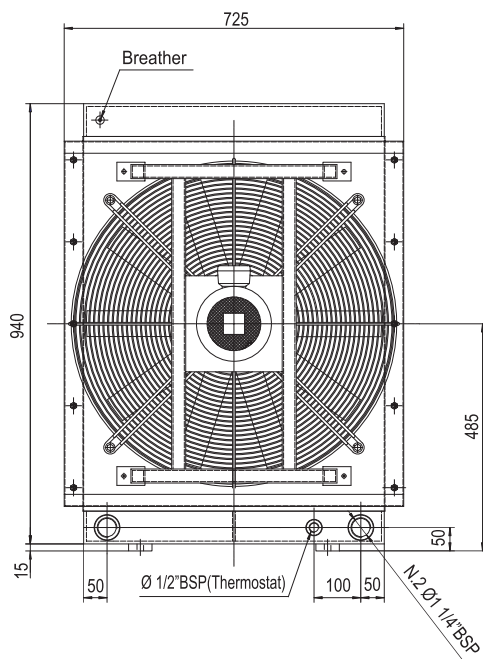
Fattore di correzione-F-(perdite di carico)    *Correction factor-F-(pressure drop)*

| cSt | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0,5 | 0,65 | 0,77 | 1  | 1,2 | 1,4 | 1,6 | 1,9 | 2,1 | 3,3 | 4,3 |

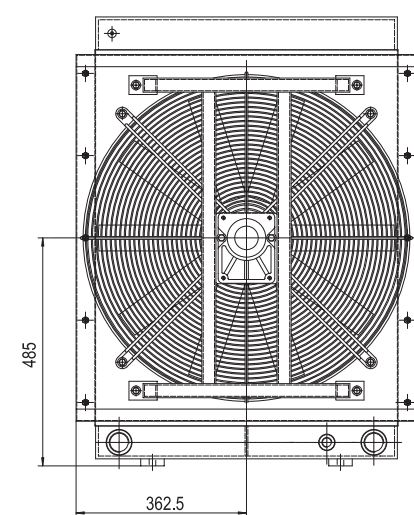
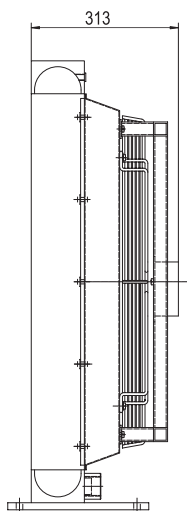
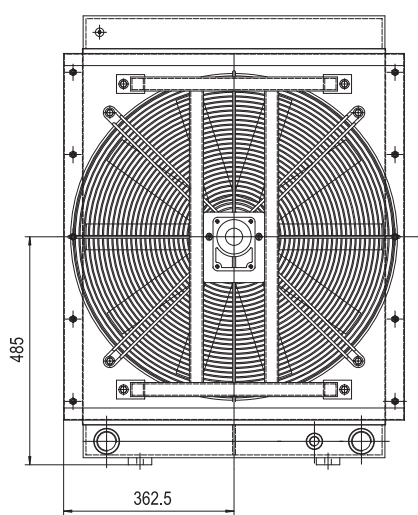


# Serie HPA

## HPA 50 2 PASS

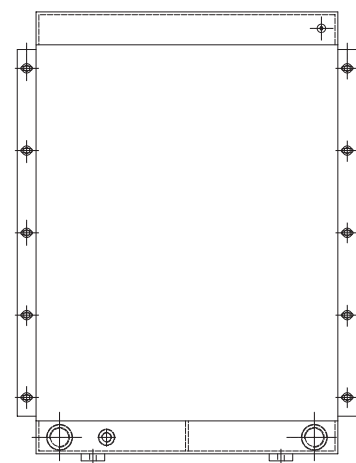
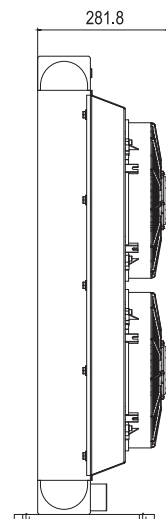
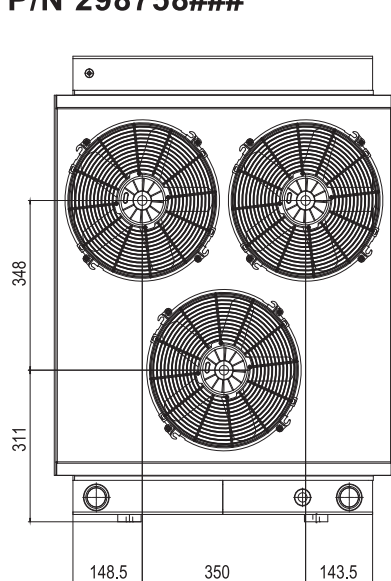


**P/N 298703###**



**P/N 298756###**

**P/N 298758###**



**P/N 298712###**

**P/N 298724###**

Le dimensioni di ingombro e le caratteristiche tecniche non sono impegnative  
Overall dimensions and technical characteristic are not binding



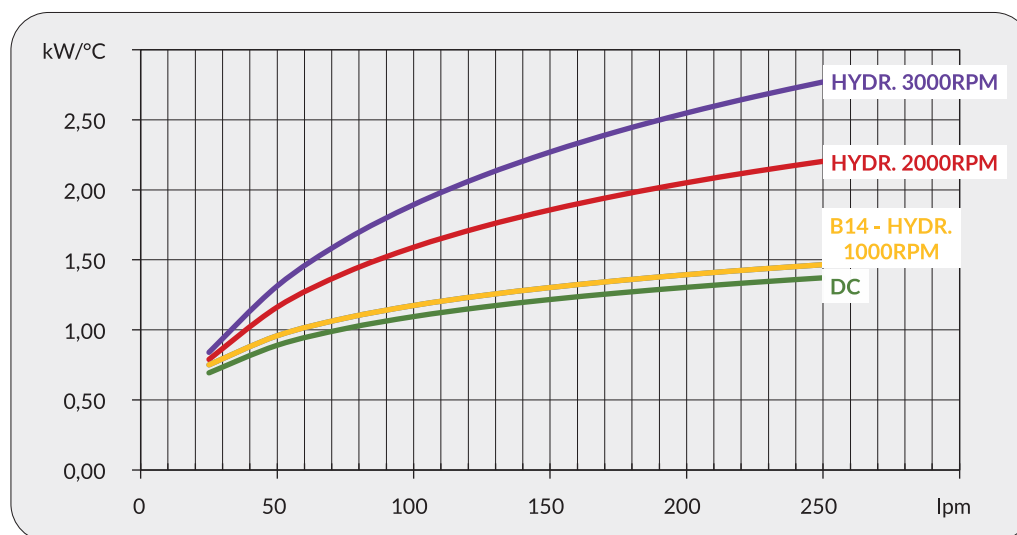
## Dati tecnici Technical Data

| P/N       | V                                 | Hz | kW(±10%) | A(±10%) | rpm  | Ø Fan | dB (A) | (m³/h) | IP | It   | kg |
|-----------|-----------------------------------|----|----------|---------|------|-------|--------|--------|----|------|----|
| 298703### | 230-400 B14 AC                    | 50 | 1,1      | 5-2,9   | 936  | 630   | 80     | 7550   | 55 | 14,2 | 90 |
|           | 265-460 B14 AC                    | 60 | 1,3      | 5-2,9   | 1123 |       |        |        |    |      |    |
| 298756### | Prepared for Gr.2 hydraulic motor |    |          |         |      | 630   |        |        | /  | 14,2 | 83 |
| 298758### | Prepared for Gr.3 hydraulic motor |    |          |         |      | 630   |        |        | /  | 14,2 | 83 |
| 298712### | 12                                | -  | 0,21     | 16,1    |      | 305   |        |        | 68 | 14,2 | 83 |
| 298724### | 24                                | -  | 0,21     | 8,5     |      | 305   |        |        | 68 | 14,2 | 83 |

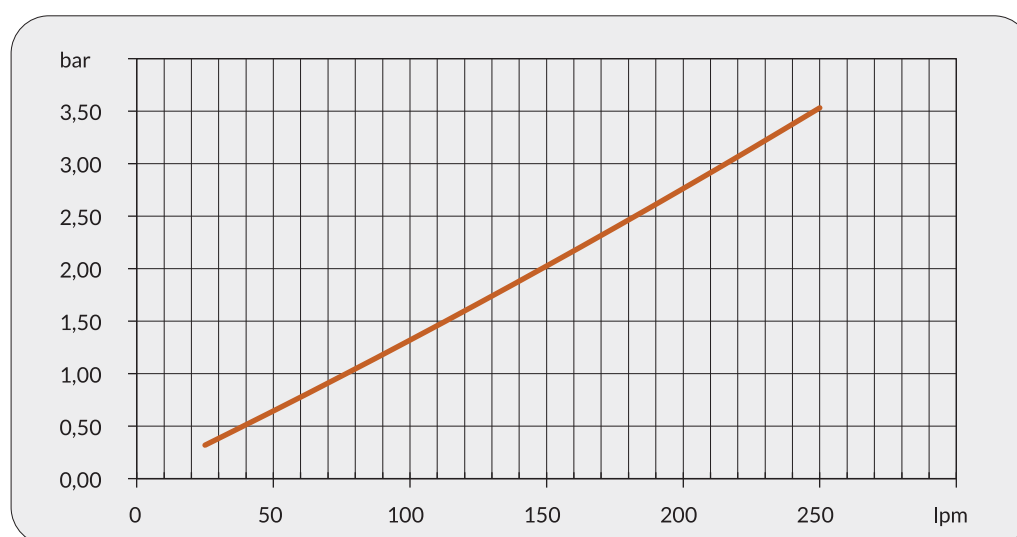
I dati si riferiscono al singolo ventilatore  
Data refers to each fan

Contattare EMMEGI Contact EMMEGI

## Diagramma rendimento Performance diagram



## Perdite di carico Pressure drop (@30cSt)



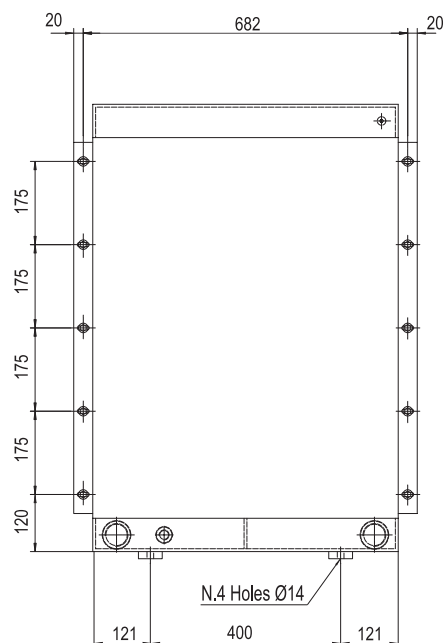
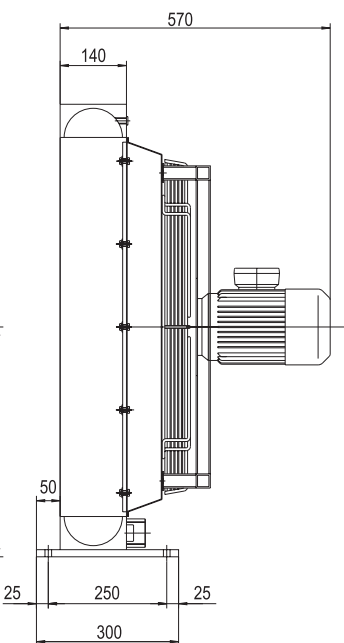
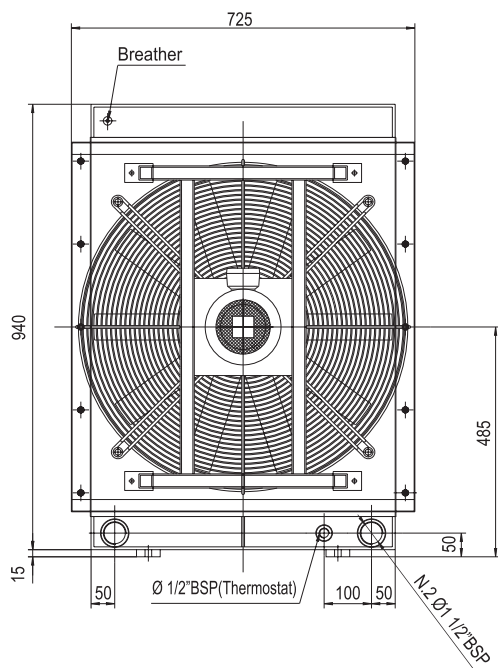
## Fattore di correzione-F-(perdite di carico) Correction factor-F-(pressure drop)

| cSt | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0,5 | 0,65 | 0,77 | 1  | 1,2 | 1,4 | 1,6 | 1,9 | 2,1 | 3,3 | 4,3 |

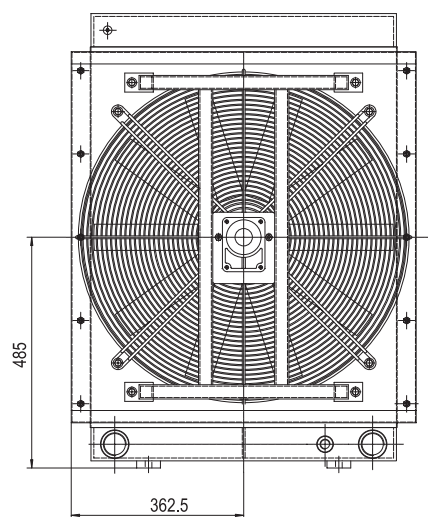


## Serie HPA

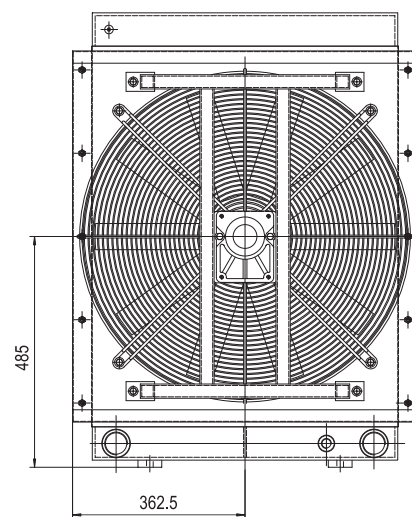
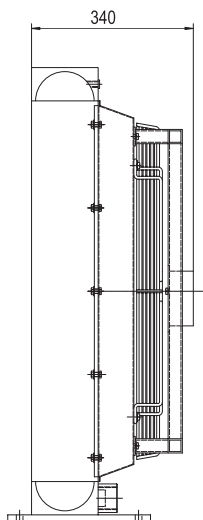
### HPA 52 2 PASS



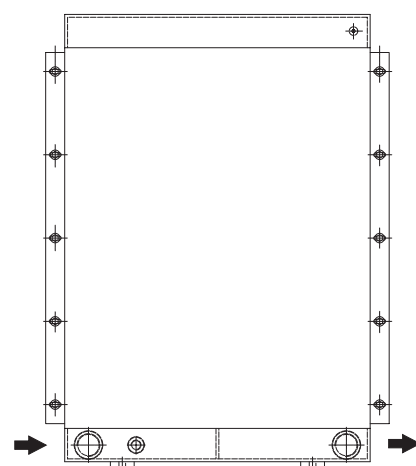
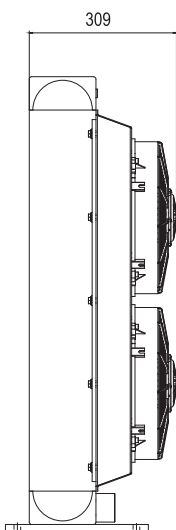
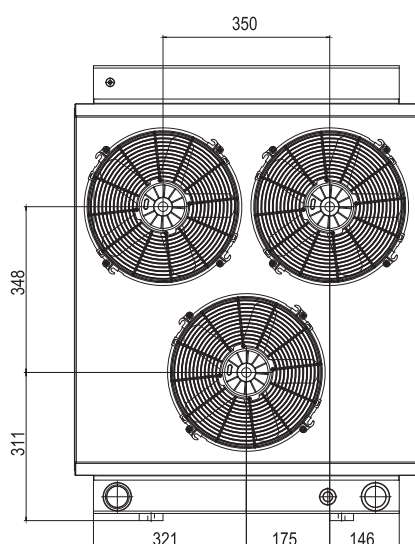
**P/N 245403###**



**P/N 245456###**



**P/N 245458###**



**P/N 245412###**  
**P/N 245424###**

Le dimensioni di ingombro e le caratteristiche tecniche non sono impegnative  
Overall dimensions and technical characteristic are not binding





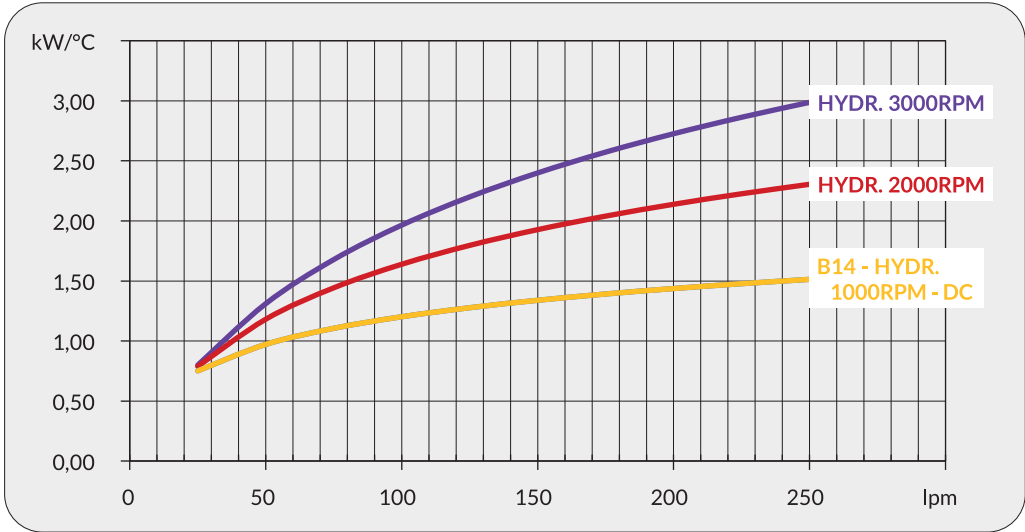
Dati tecnici    Technical Data

| P/N       | V                                 | Hz | kW(±10%) | A(±10%) | rpm  | Ø Fan | dB (A) | (m³/h) | IP | lt   | kg |
|-----------|-----------------------------------|----|----------|---------|------|-------|--------|--------|----|------|----|
| 245403### | 230-400 B14 AC                    | 50 | 1,1      | 5-2,9   | 936  | 630   | 80     | 7050   | 55 | 17,7 | 95 |
|           | 265-460 B14 AC                    | 60 | 1,3      | 5-2,9   | 1123 |       |        |        |    |      |    |
| 245456### | Prepared for Gr.2 hydraulic motor |    |          |         |      | 630   |        |        | /  | 17,7 | 89 |
| 245458### | Prepared for Gr.3 hydraulic motor |    |          |         |      | 630   |        |        | /  | 17,7 | 89 |
| 245412### | 12                                | -  | 0,21     | 16,1    |      | 305   |        |        | 68 | 17,7 | 89 |
| 245424### | 24                                | -  | 0,21     | 8,5     |      | 305   |        |        | 68 | 17,7 | 89 |

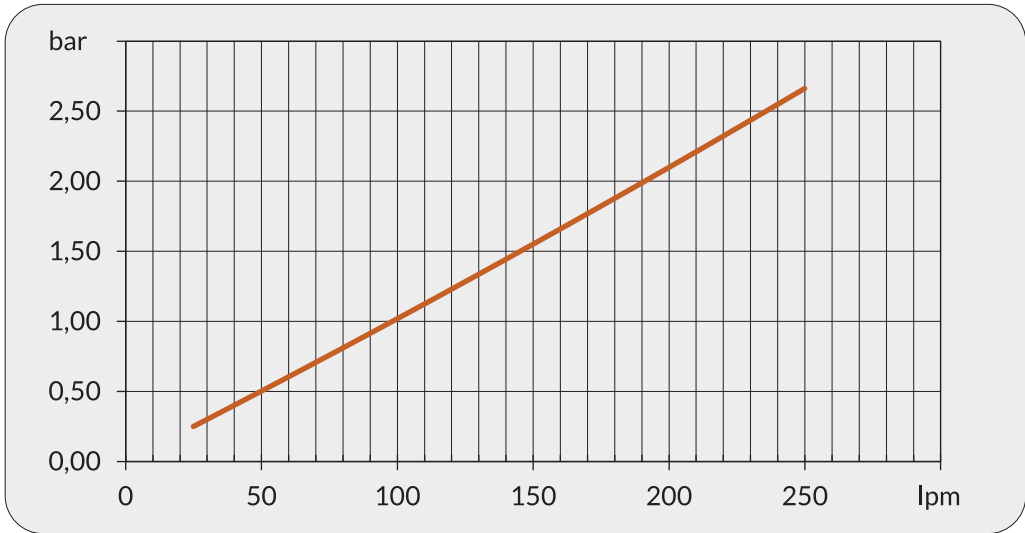
I dati si riferiscono al singolo ventilatore  
Data refers to each fan

Contattare EMMEGI    Contact EMMEGI

Diagramma rendimento    Performance diagram



Perdite di carico    Pressure drop (@30cSt)



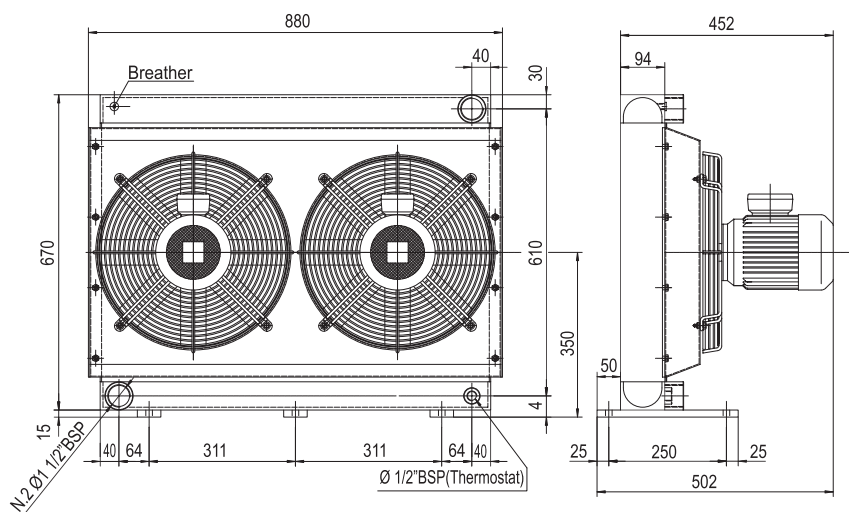
Fattore di correzione-F-(perdite di carico)    Correction factor-F-(pressure drop)

| cSt | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0,5 | 0,65 | 0,77 | 1  | 1,2 | 1,4 | 1,6 | 1,9 | 2,1 | 3,3 | 4,3 |

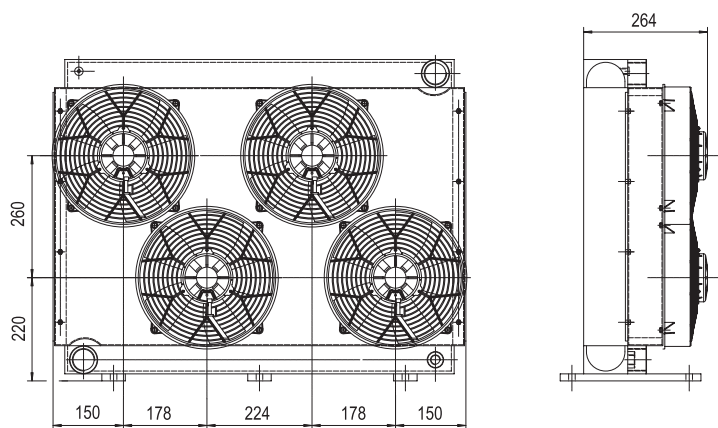


# Serie HPA

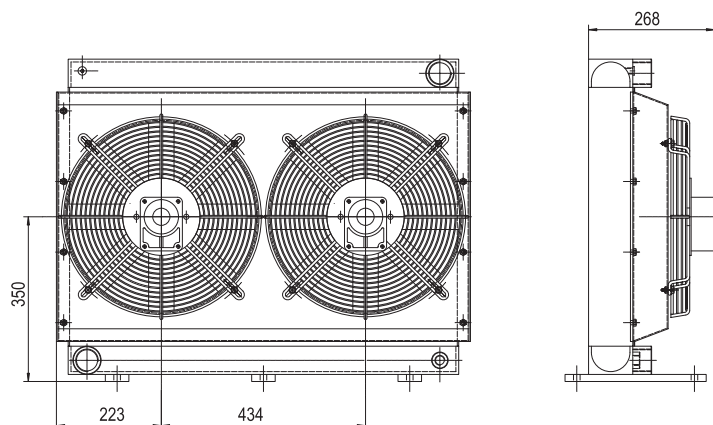
## HPA 30 / 2



**P/N 243103###**



**P/N 243112###**  
**P/N 243124###**



**P/N 243156###**

Le dimensioni di ingombro e le caratteristiche tecniche non sono impegnative  
Overall dimensions and technical characteristic are not binding



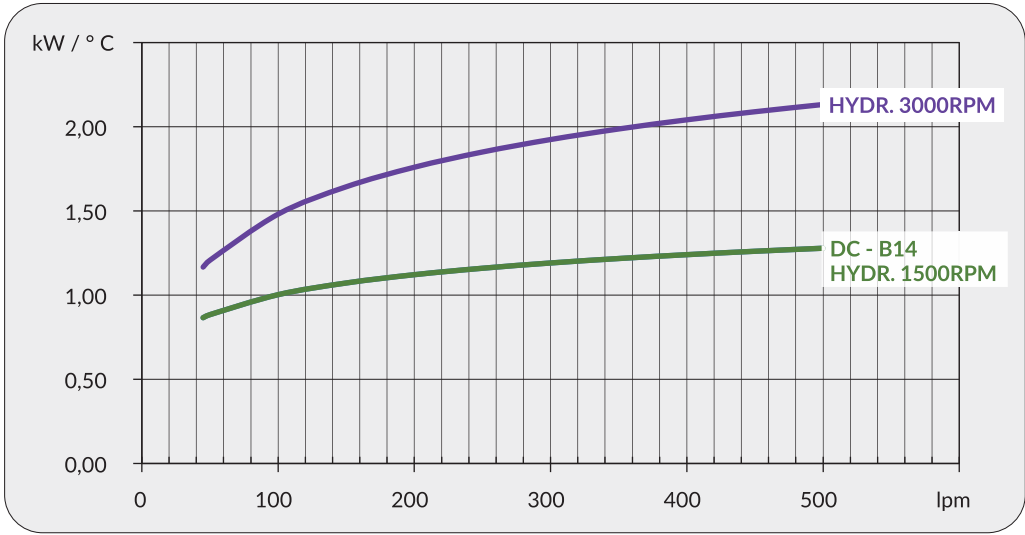
Dati tecnici    Technical Data

| P/N       | V                                 | Hz | kW(±10%) | A (±10%)  | rpm  | Ø Fan | dB (A) | (m³ / h) | IP | lt   | kg |
|-----------|-----------------------------------|----|----------|-----------|------|-------|--------|----------|----|------|----|
| 243103### | 230-400 B14 AC                    | 50 | 0,55     | 2,5 - 1,5 | 1420 | 400   | 79     | 3060     | 55 | 13,6 | 74 |
|           | 265-460 B14 AC                    | 60 | 0,63     | 2,5 - 1,5 | 1710 |       |        |          |    |      |    |
| 243112### | 12 DC                             | /  | 0,16     | 8,9       | 2530 | 280   | 77     | 3060     | 68 | 13,6 | 64 |
| 243124### | 24 DC                             | /  | 0,16     | 6,7       | 2900 | 280   | 81     | 3060     | 68 | 13,6 | 64 |
| 243156### | Prepared for Gr.2 hydraulic motor |    |          |           |      | 400   |        |          | /  | 13,6 | 70 |

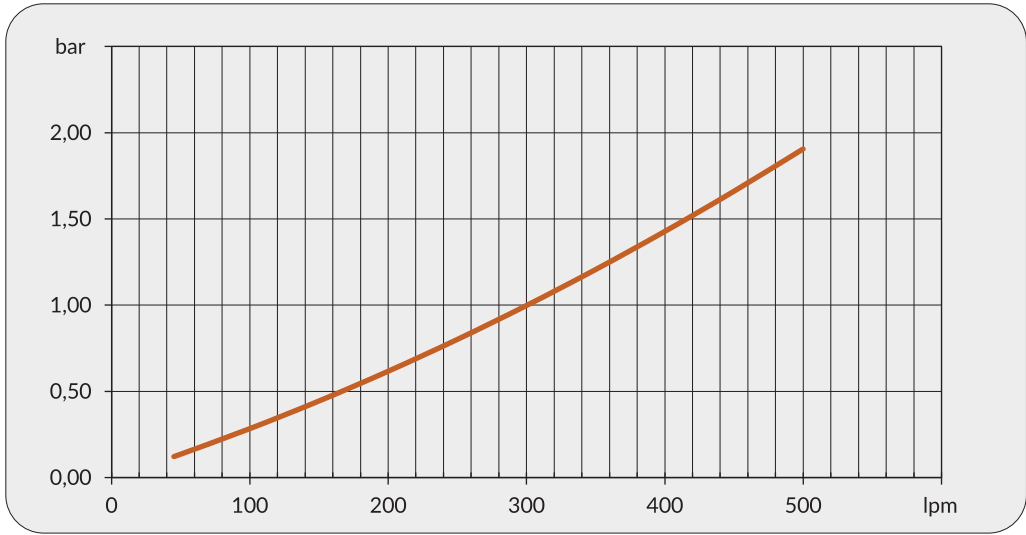
I dati si riferiscono al singolo ventilatore  
Data refers to each fan

Contattare EMMEGI    Contact EMMEGI

Diagramma rendimento    Performance diagram



Perdite di carico    Pressure drop (@30cSt)



Fattore di correzione-F-(perdite di carico)    Correction factor-F-(pressure drop)

| cSt | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0,5 | 0,65 | 0,77 | 1  | 1,2 | 1,4 | 1,6 | 1,9 | 2,1 | 3,3 | 4,3 |





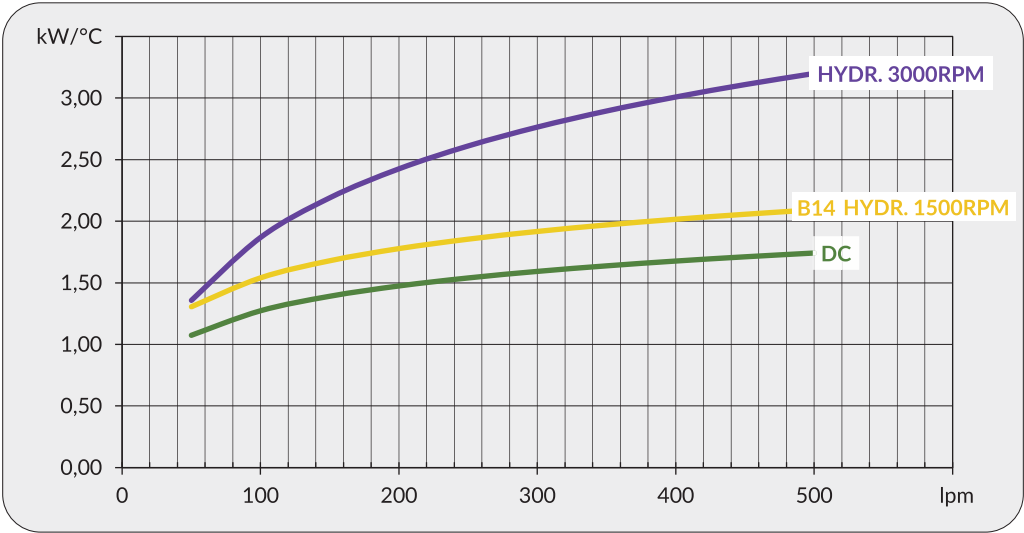
Dati tecnici    *Technical Data*

| P/N       | V                                 | Hz | kW(±10%) | A(±10%)   | rpm  | Ø Fan | dB (A) | (m³ / h) | IP | lt   | kg  |
|-----------|-----------------------------------|----|----------|-----------|------|-------|--------|----------|----|------|-----|
| 243703### | 230-400 B14 AC                    | 50 | 0,75     | 3,1 - 1,8 | 1430 | 445   | 85     | 4270     | 55 | 18,8 | 120 |
|           | 265-460 B14 AC                    | 60 | 0,86     | 3,1 - 1,8 | 1715 |       |        |          |    |      |     |
| 243712### | 12 DC                             | /  | 0,18     | 15,60     | 2560 | 305   | 86     | 3750     | 68 | 18,8 | 100 |
| 243724### | 24 DC                             | /  | 0,2      | 8,5       | 3000 | 305   | 87     | 3750     | 68 | 18,8 | 100 |
| 243756### | Prepared for Gr.2 hydraulic motor |    |          |           |      | 445   |        |          | /  | 18,8 | 102 |

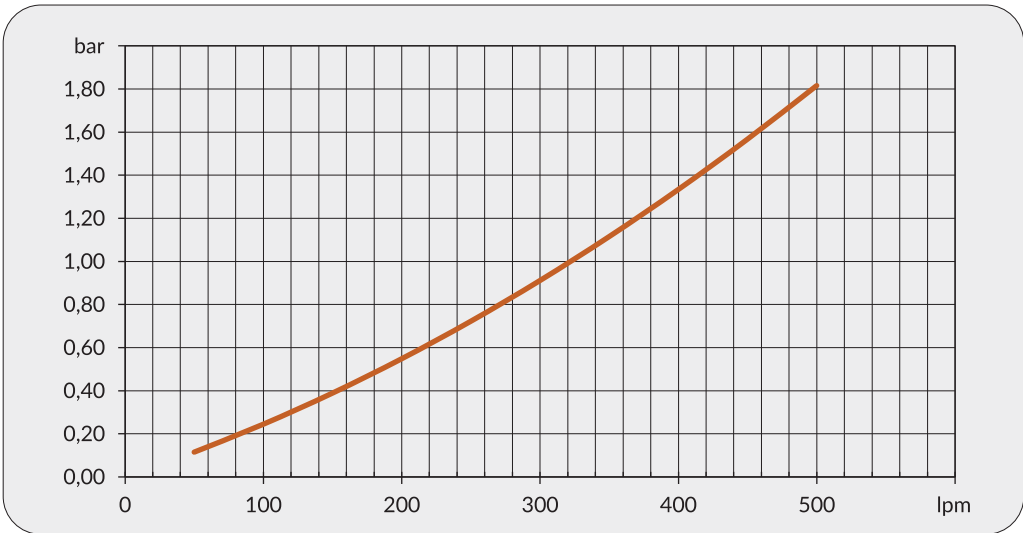
I dati si riferiscono al singolo ventilatore  
Data refers to each fan

Contattare EMMEGI    Contact EMMEGI

Diagramma rendimento    *Performance diagram*



Perdite di carico    *Pressure drop (@30cSt)*



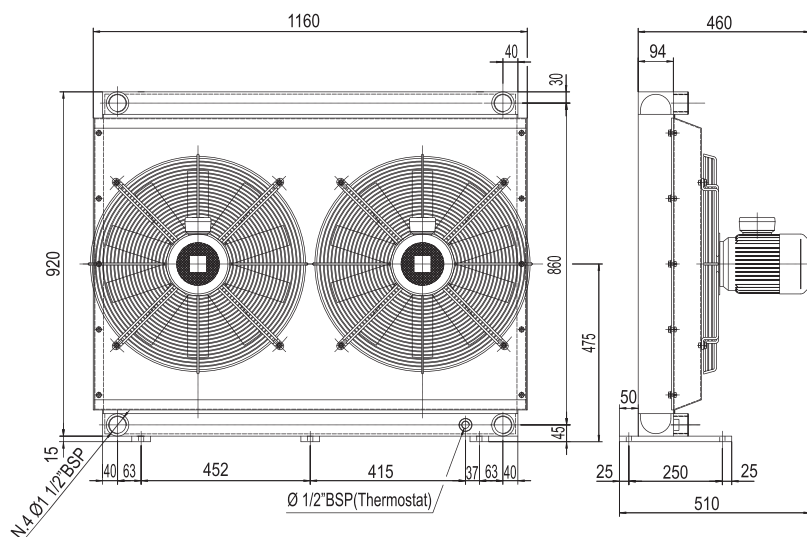
Fattore di correzione-F-(perdite di carico)    *Correction factor-F-(pressure drop)*

| cSt | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0,5 | 0,65 | 0,77 | 1  | 1,2 | 1,4 | 1,6 | 1,9 | 2,1 | 3,3 | 4,3 |

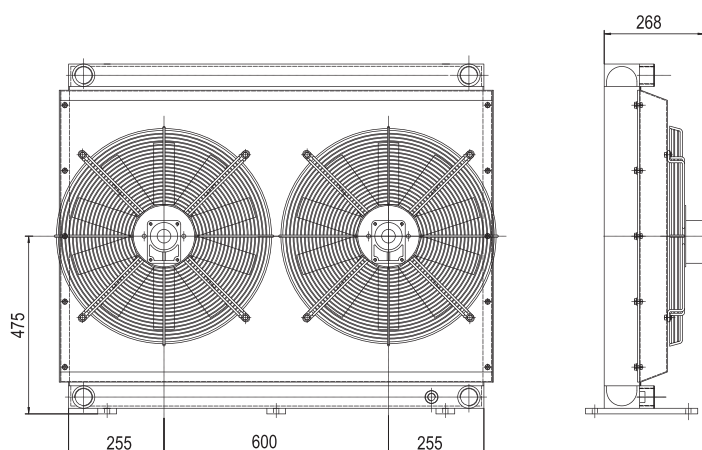


# Serie HPA

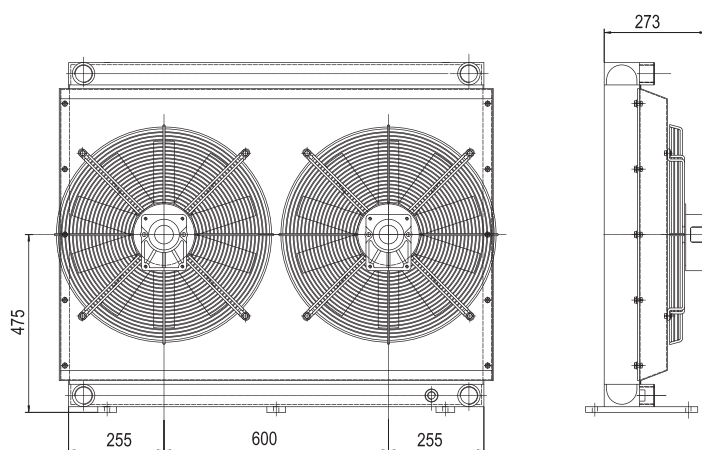
## HPA 42 / 2



**P/N 244303###**



**P/N 244356###**



**P/N 244358###**

Le dimensioni di ingombro e le caratteristiche tecniche non sono impegnative  
Overall dimensions and technical characteristic are not binding





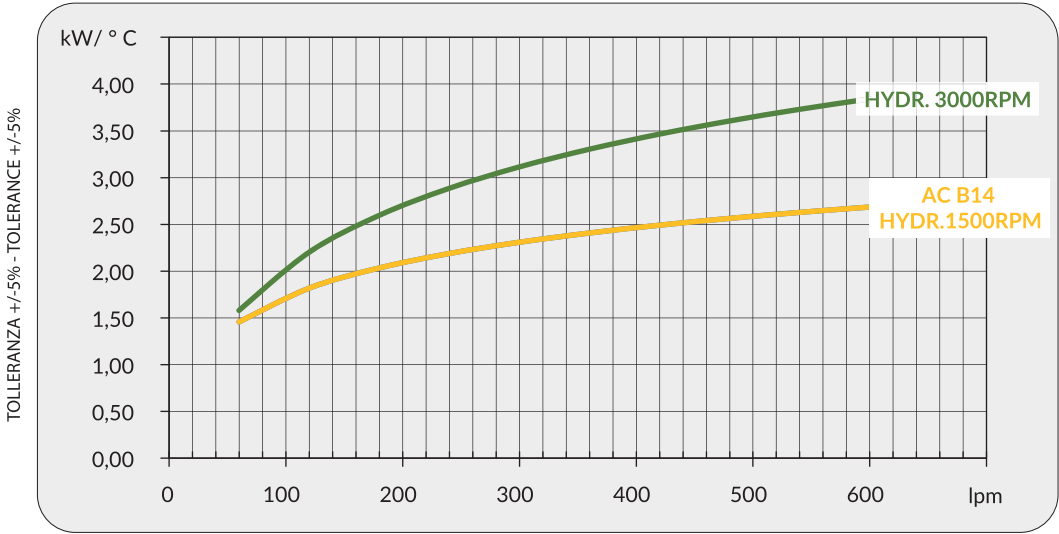
Dati tecnici    *Technical Data*

| P/N       | V                                 | Hz | kW(±10%) | A (±10%)  | rpm  | Ø Fan | dB (A) | (m³ / h) | IP | lt   | kg  |
|-----------|-----------------------------------|----|----------|-----------|------|-------|--------|----------|----|------|-----|
| 244303### | 230-400 B14 AC                    | 50 | 1,1      | 4,5 - 2,6 | 1440 | 500   | 87     | 5700     | 55 | 21,2 | 135 |
|           | 265-460 B14 AC                    | 60 | 1,3      | 4,5 - 2,6 | 1730 |       |        |          |    |      |     |
| 244356### | Prepared for Gr.2 hydraulic motor |    |          |           |      | 500   |        |          | /  | 21,2 | 122 |
| 244358### | Prepared for Gr.3 hydraulic motor |    |          |           |      | 500   |        |          | /  | 21,2 | 122 |

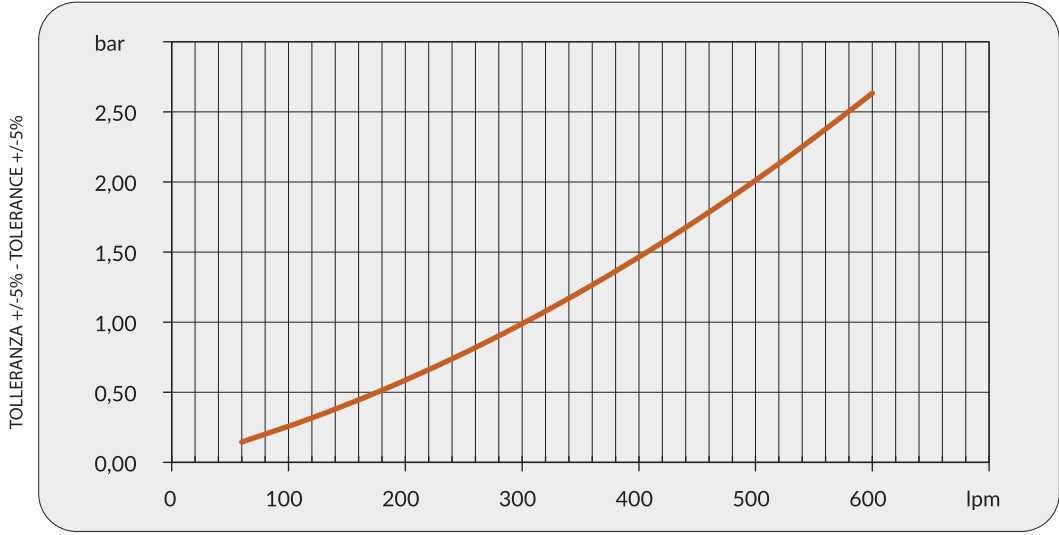
I dati si riferiscono al singolo ventilatore  
Data refers to each fan

Contattare EMMEGI    Contact EMMEGI

Diagramma rendimento    *Performance diagram*



Perdite di carico    *Pressure drop (@30cSt)*



Fattore di correzione-F-(perdite di carico)    *Correction factor-F-(pressure drop)*

| cSt | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0,5 | 0,65 | 0,77 | 1  | 1,2 | 1,4 | 1,6 | 1,9 | 2,1 | 3,3 | 4,3 |





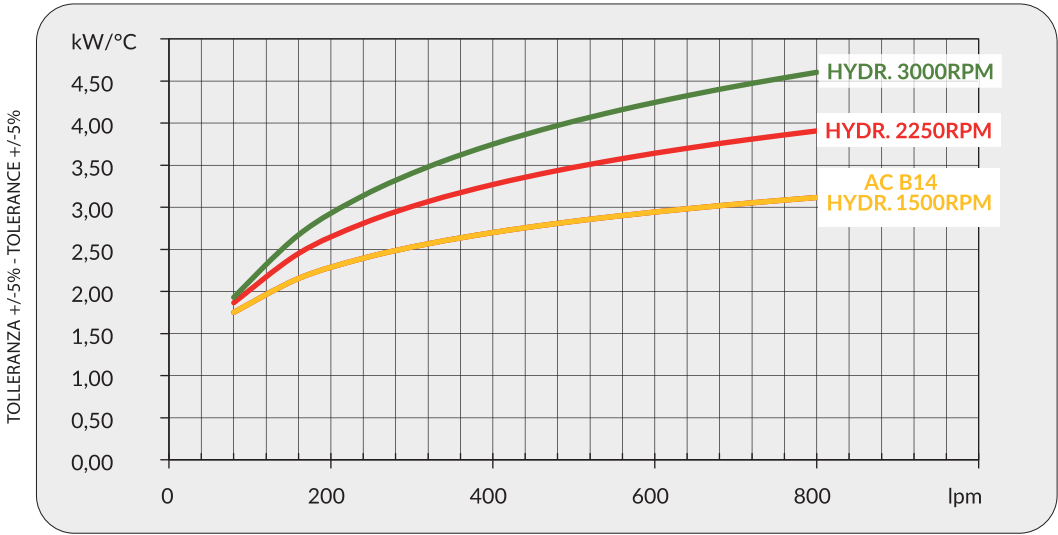
Dati tecnici    *Technical Data*

| P/N       | V                                 | Hz | kW(±10%) | A(±10%)   | rpm  | Ø Fan | dB (A) | (m³ / h) | IP | lt   | kg  |
|-----------|-----------------------------------|----|----------|-----------|------|-------|--------|----------|----|------|-----|
| 298803### | 230-400 B14 AC                    | 50 | 1,1      | 4,5 - 2,6 | 1440 | 560   | 87     | 6900     | 55 | 28,4 | 192 |
|           | 265-460 B14 AC                    | 60 | 1,3      | 4,5 - 2,6 | 1730 |       |        |          |    |      |     |
| 298856### | Prepared for Gr.2 hydraulic motor |    |          |           |      | 560   |        |          | /  | 28,4 | 180 |
| 298858### | Prepared for Gr.3 hydraulic motor |    |          |           |      | 560   |        |          | /  | 28,4 | 180 |

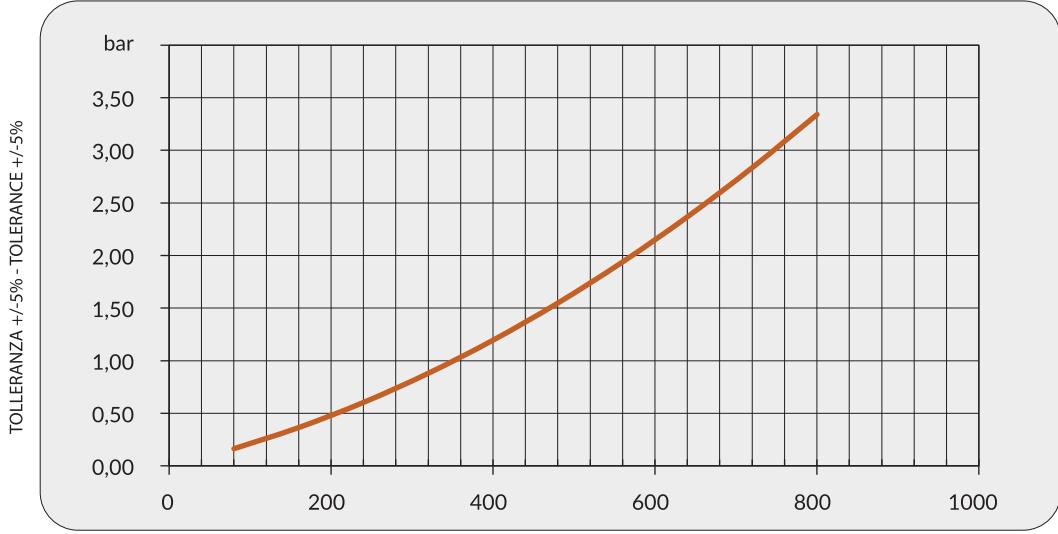
I dati si riferiscono al singolo ventilatore  
Data refers to each fan

Contattare EMMEGI    Contact EMMEGI

Diagramma rendimento    *Performance diagram*



Perdite di carico    *Pressure drop (@30cSt)*



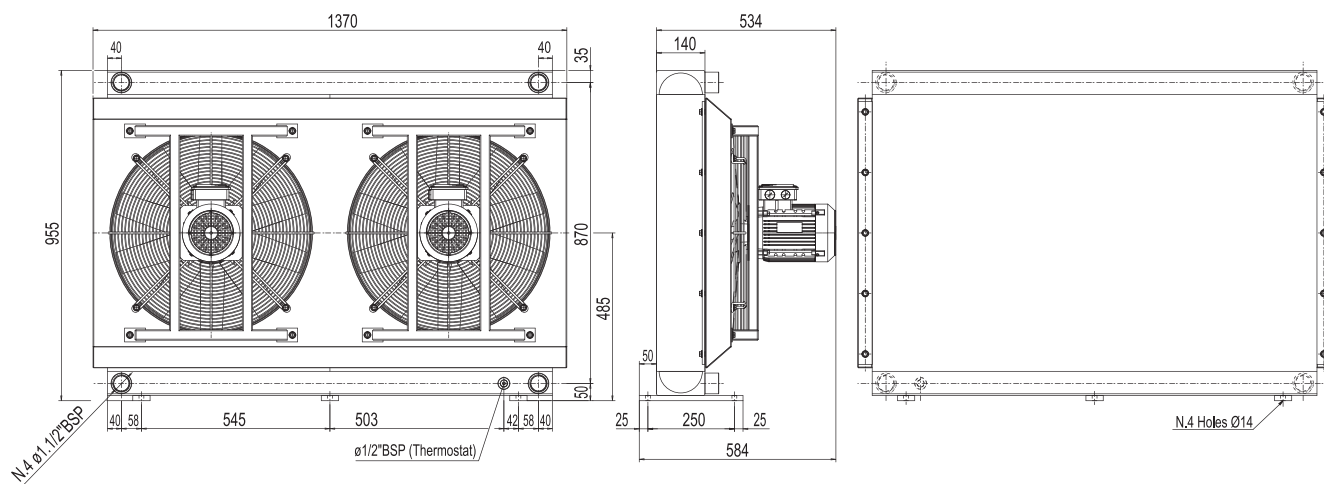
Fattore di correzione-F-(perdite di carico)    *Correction factor-F-(pressure drop)*

| cSt | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0,5 | 0,65 | 0,77 | 1  | 1,2 | 1,4 | 1,6 | 1,9 | 2,1 | 3,3 | 4,3 |

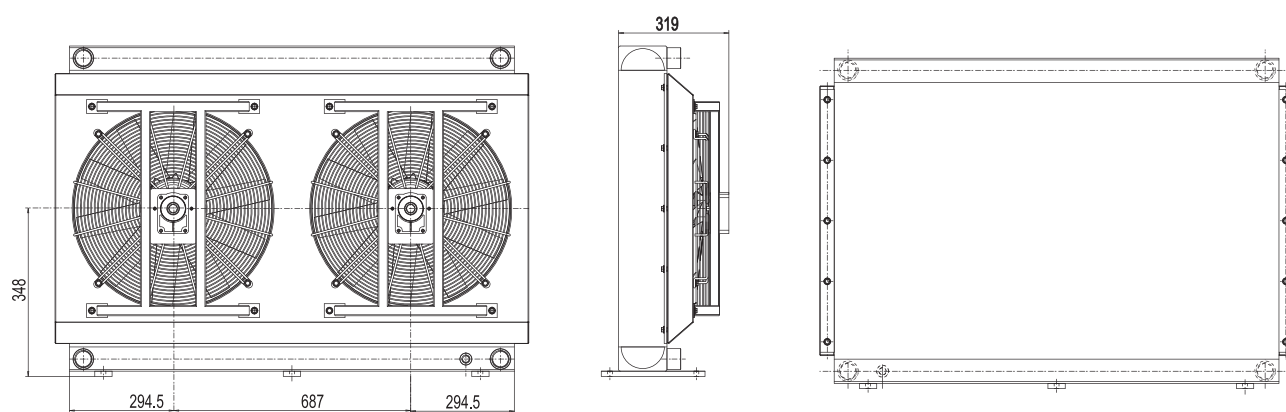


# Serie HPA

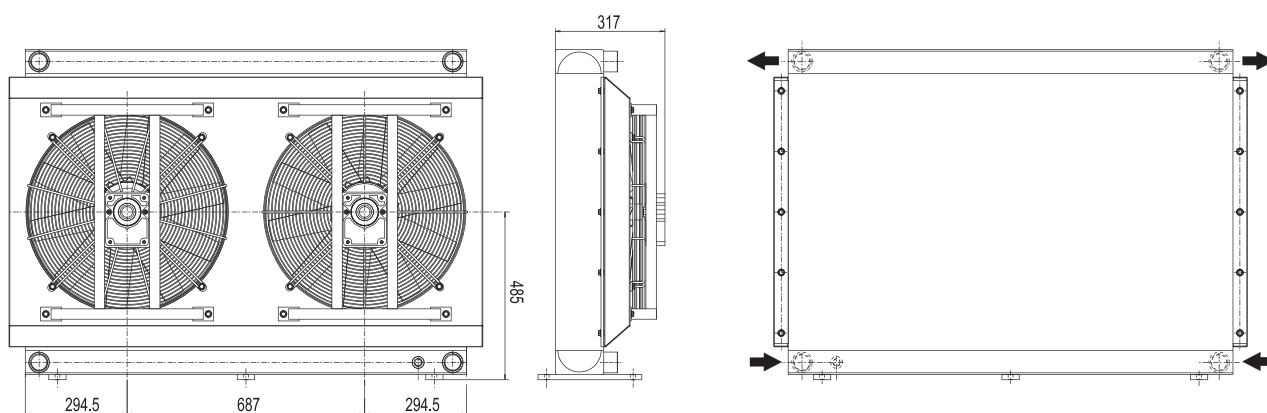
## HPA 52 / 2



**P/N 245303###**



**P/N 245356###**



**P/N 245358###**

Le dimensioni di ingombro e le caratteristiche tecniche non sono impegnative  
Overall dimensions and technical characteristic are not binding



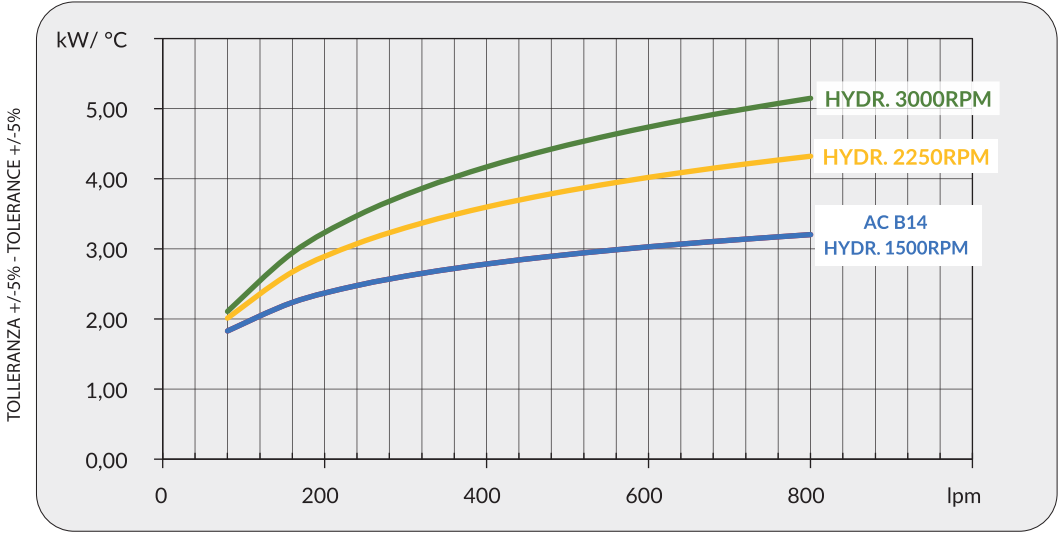
Dati tecnici    *Technical Data*

| P/N       | V                                 | Hz | kW(±10%) | A(±10%)   | rpm  | Ø Fan | dB (A) | (m³ / h) | IP | lt   | kg  |
|-----------|-----------------------------------|----|----------|-----------|------|-------|--------|----------|----|------|-----|
| 245303### | 230-400 B14 AC                    | 50 | 1,1      | 4,5 - 2,6 | 1440 | 560   | 87     | 6440     | 55 | 28,4 | 195 |
|           | 265-460 B14 AC                    | 60 | 1,3      | 4,5 - 2,6 | 1730 |       |        |          |    |      |     |
| 245356### | Prepared for Gr.2 hydraulic motor |    |          |           |      | 560   |        |          | /  | 28,4 | 180 |
| 245358### | Prepared for Gr.3 hydraulic motor |    |          |           |      | 560   |        |          | /  | 28,4 | 180 |

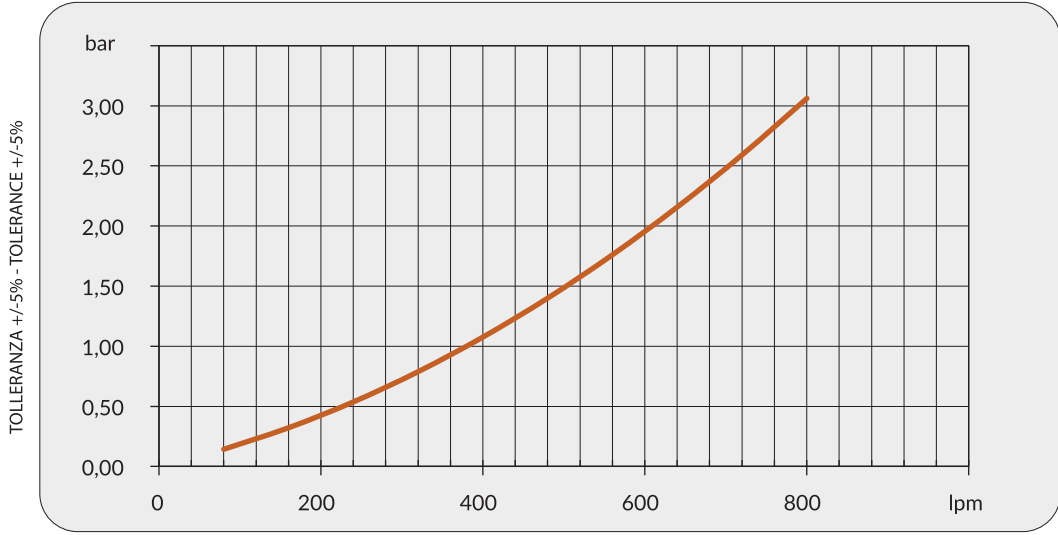
I dati si riferiscono al singolo ventilatore  
Data refers to each fan

Contattare EMMEGI    Contact EMMEGI

Diagramma rendimento    *Performance diagram*



Perdite di carico    *Pressure drop (@30cSt)*



Fattore di correzione-F-(perdite di carico)    *Correction factor-F-(pressure drop)*

| cSt | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0,5 | 0,65 | 0,77 | 1  | 1,2 | 1,4 | 1,6 | 1,9 | 2,1 | 3,3 | 4,3 |







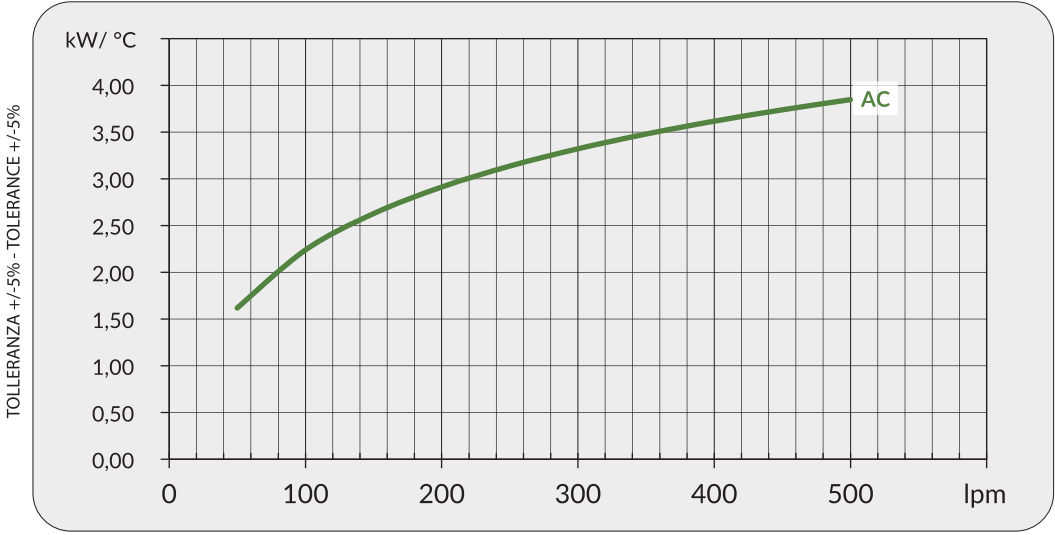
Dati tecnici    *Technical Data*

| P/N           | V      | Hz | kW(±10%) | A(±10%) | rpm  | Ø Fan | dB (A) | (m³/ h) | IP | lt | kg  |
|---------------|--------|----|----------|---------|------|-------|--------|---------|----|----|-----|
| 041650C40050# | 400 AC | 50 | 1,3      | 2,4     | 1378 | 560   | 78     | 9500    | 54 | 25 | 140 |
| 041650C40060# | 460 AC | 60 | 1,5      | 2,5     | 1600 | 560   | 78     | 9500    | 54 | 25 | 140 |

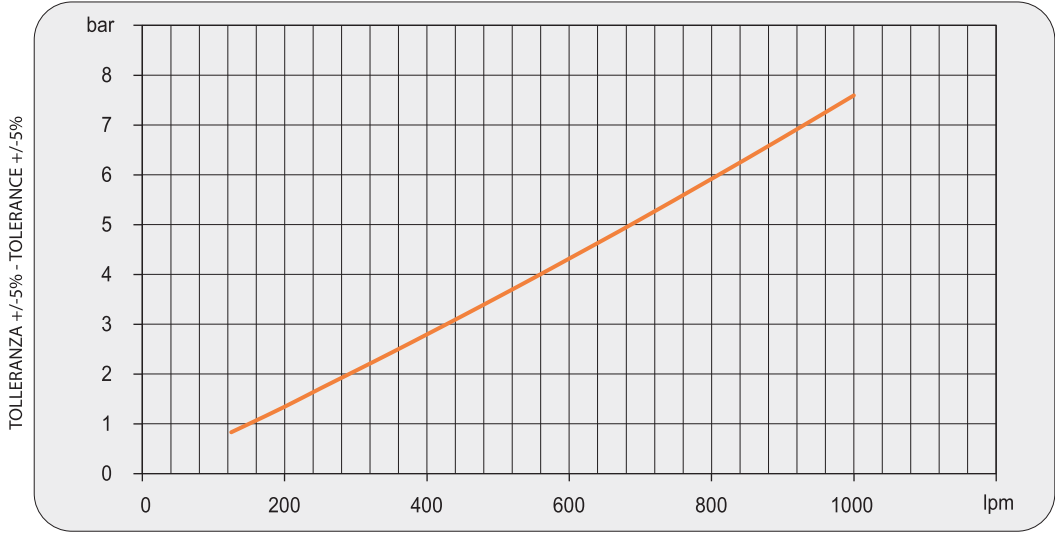
I dati si riferiscono al singolo ventilatore  
Data refers to each fan

Contattare EMMEGI    Contact EMMEGI

Diagramma rendimento    *Performance diagram*



Perdite di carico    *Pressure drop (@30cSt)*



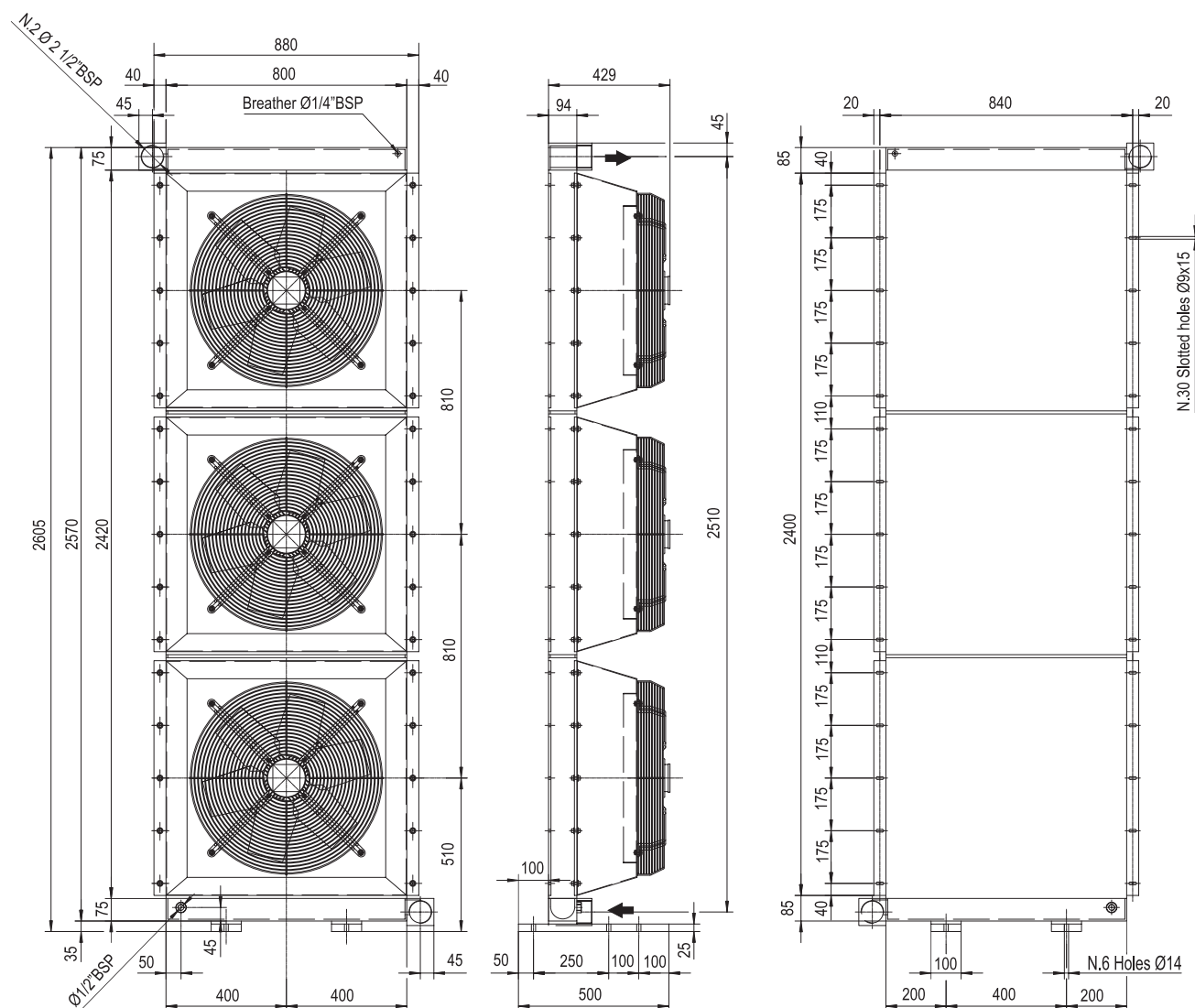
Fattore di correzione-F-(perdite di carico)    *Correction factor-F-(pressure drop)*

| cSt | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0,5 | 0,65 | 0,77 | 1  | 1,2 | 1,4 | 1,6 | 1,9 | 2,1 | 3,3 | 4,3 |



## Serie HPA

### HPA 44 / 3



Le dimensioni di ingombro e le caratteristiche tecniche non sono impegnative  
Overall dimensions and technical characteristic are not binding



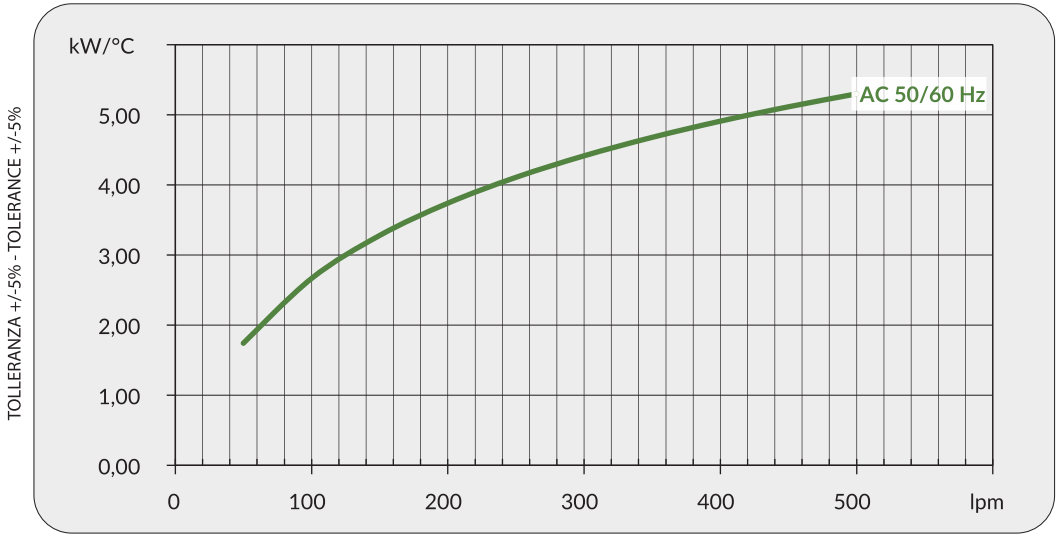
Dati tecnici    *Technical Data*

| P/N           | V      | Hz | kW(±10%) | A(±10%) | rpm  | Ø Fan | dB (A) | (m³ / h) | IP | lt | kg  |
|---------------|--------|----|----------|---------|------|-------|--------|----------|----|----|-----|
| 041240C40050# | 400 AC | 50 | 1,3      | 2,4     | 1378 | 560   | 81     | 9500     | 54 | 35 | 210 |
| 041240C40060# | 460 AC | 60 | 1,5      | 2,5     | 1600 | 560   | 81     | 9500     | 54 | 35 | 210 |

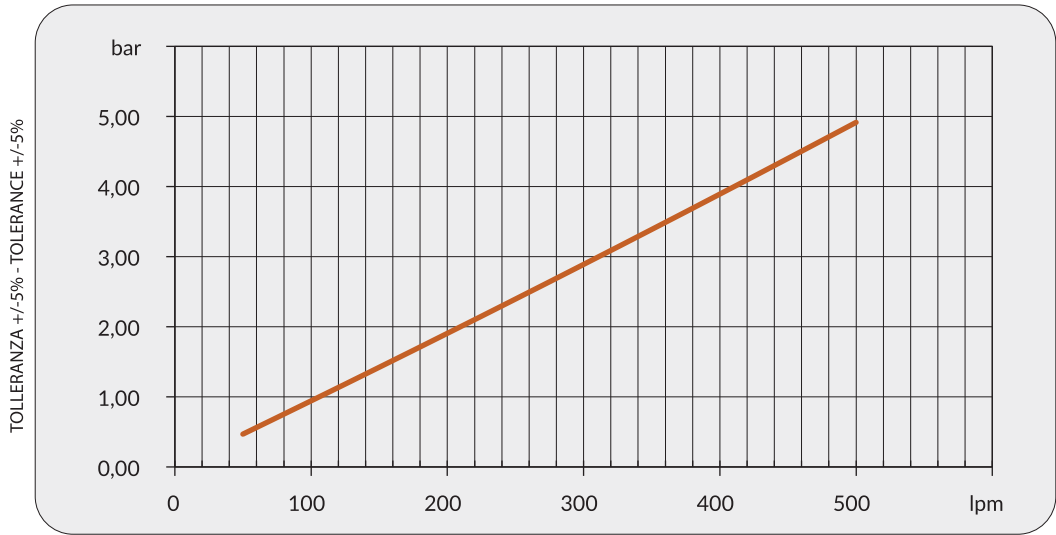
I dati si riferiscono al singolo ventilatore  
Data refers to each fan

Contattare EMMEGI    Contact EMMEGI

Diagramma rendimento    *Performance diagram*



Perdite di carico    *Pressure drop (@30cSt)*



Fattore di correzione-F-(perdite di carico)    *Correction factor-F-(pressure drop)*

| cSt | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0,5 | 0,65 | 0,77 | 1  | 1,2 | 1,4 | 1,6 | 1,9 | 2,1 | 3,3 | 4,3 |





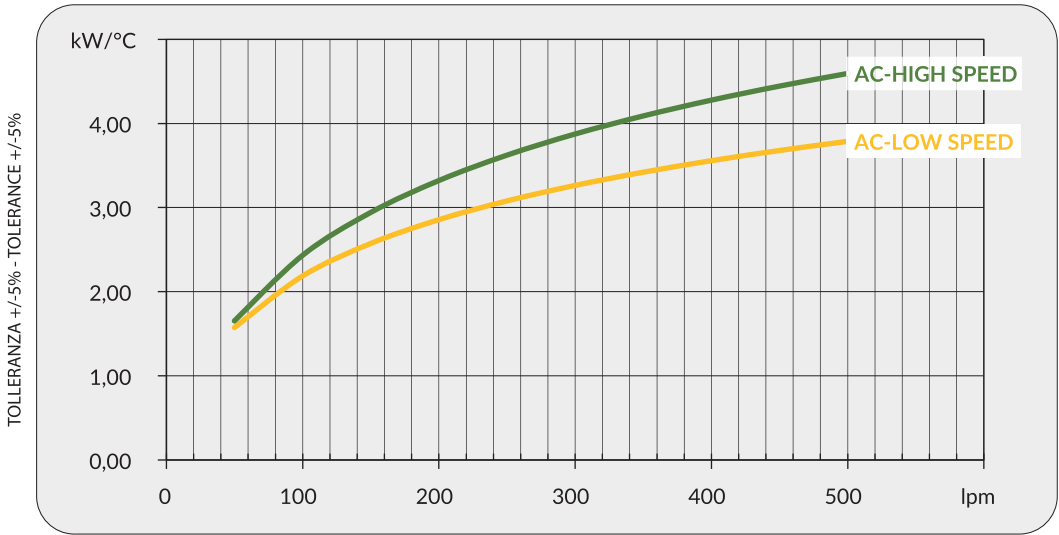
Dati tecnici    *Technical Data*

| P/N           | V             | Hz | kW(±10%) | A (±10%) | rpm  | Ø Fan | dB (A) | (m³ / h) | IP | It | kg  |
|---------------|---------------|----|----------|----------|------|-------|--------|----------|----|----|-----|
| A0351004005#1 | 400 AC (LS) 人 | 50 | 1,37     | 2,3      | 1020 | 630   | 80     | 9000     | 54 | 25 | 185 |
| A0351004005#1 | 400 AC (HS) Δ | 50 | 2,1      | 3,6      | 1350 | 630   | 86     | 12500    | 54 | 25 | 185 |

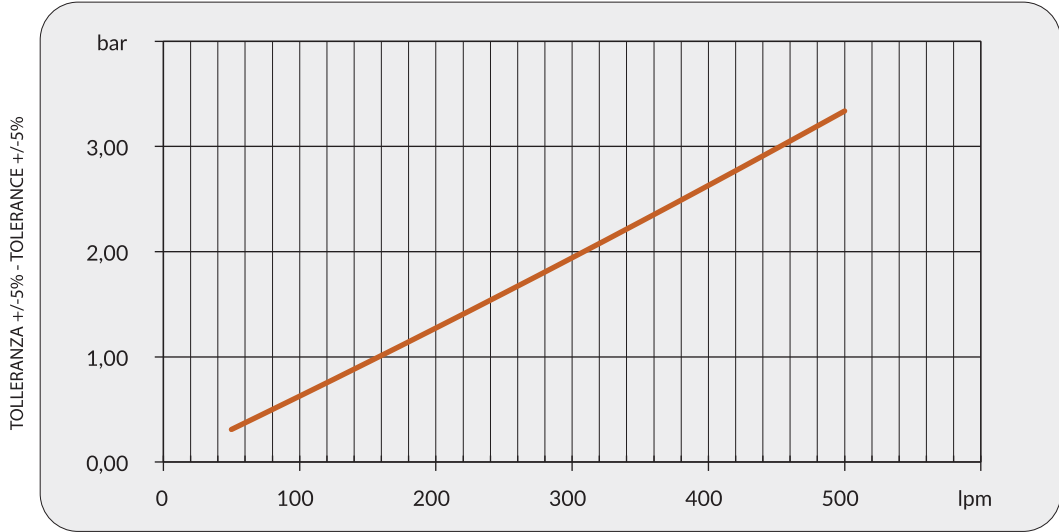
I dati si riferiscono al singolo ventilatore  
Data refers to each fan

Contattare EMMEGI    Contact EMMEGI

Diagramma rendimento    *Performance diagram*



Perdite di carico    *Pressure drop (@30cSt)*



Fattore di correzione-F-(perdite di carico)    *Correction factor-F-(pressure drop)*

| cSt | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0,5 | 0,65 | 0,77 | 1  | 1,2 | 1,4 | 1,6 | 1,9 | 2,1 | 3,3 | 4,3 |







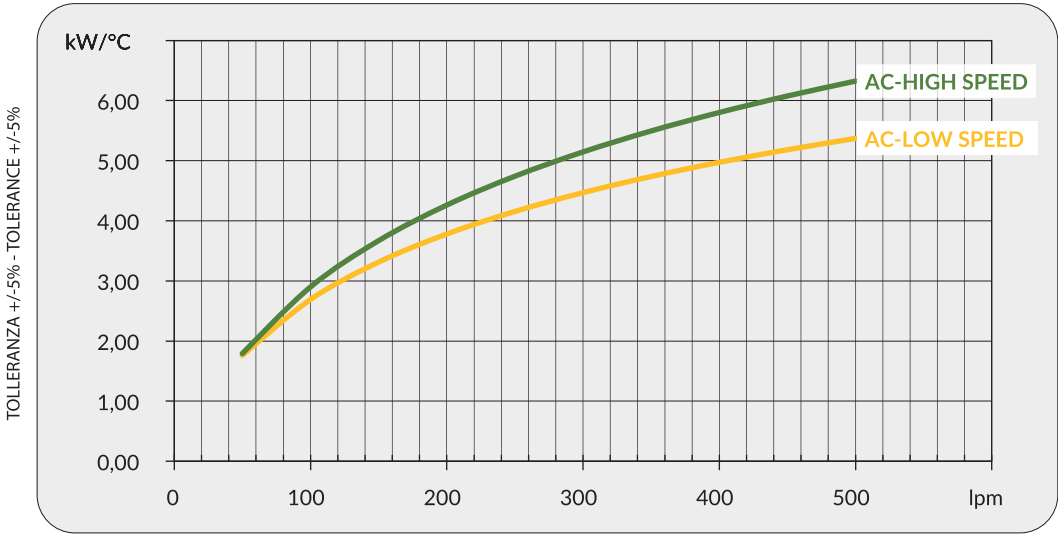
Dati tecnici    *Technical Data*

| P/N           | V             | Hz | kW(±10%) | A(±10%) | rpm  | Ø Fan | dB (A) | (m³/ h) | IP | lt | kg  |
|---------------|---------------|----|----------|---------|------|-------|--------|---------|----|----|-----|
| A0352004005#1 | 400 AC (LS) 人 | 50 | 1,37     | 2,3     | 950  | 630   | 80     | 9000    | 54 | 35 | 255 |
| A0352004005#1 | 400 AC (HS) Δ | 50 | 2,1      | 3,6     | 1300 | 630   | 86     | 12500   | 54 | 35 | 185 |

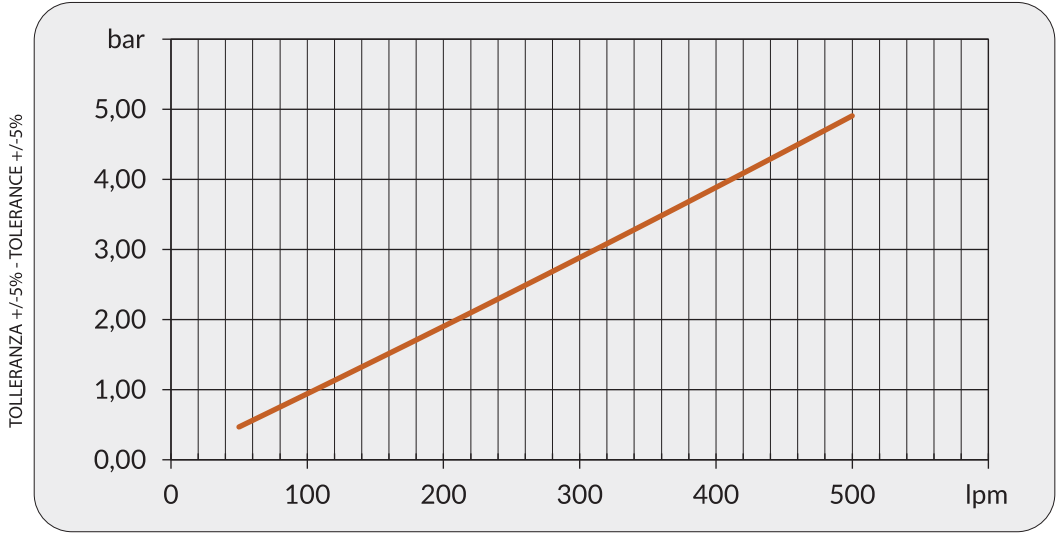
I dati si riferiscono al singolo ventilatore  
Data refers to each fan

Contattare EMMEGI    Contact EMMEGI

Diagramma rendimento    *Performance diagram*



Perdite di carico    *Pressure drop (@30cSt)*



Fattore di correzione-F-(perdite di carico)    *Correction factor-F-(pressure drop)*

| cSt | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0,5 | 0,65 | 0,77 | 1  | 1,2 | 1,4 | 1,6 | 1,9 | 2,1 | 3,3 | 4,3 |





Serie HPV  
HPV Series



## Serie HPV

### HPV Series

## APPLICAZIONE

### APPLICATION

Grazie all'ampia gamma di combinazioni, gli scambiatori della serie HPV si prestano come la soluzione di raffreddamento ottimale per svariate applicazioni mobili e industriali quali:

The wide range of combinations makes the HPV series heat exchangers the optimal cooling solution for a great variety of mobile and industrial applications such as:

Industria agricola e forestale.  
Gru mobili e fisse.  
Veicoli industriali.  
Veicoli municipali.  
Macchine da costruzione.  
Impianti di riciclo.  
Impianti oleodinamici.  
Macchine utensili.  
Altro su richiesta.

Agriculture and forestry.  
Mobile and stationary cranes.  
Industrial vehicles.  
Municipal vehicles.  
Construction machines.  
Recycling plants.  
Hydraulic systems.  
Machine tools.  
Others on request.

Grazie alla sua valvola di bypass integrata, il prodotto può essere preservato dai picchi di pressione dovuti alle partenze ad olio freddo.

Thanks to the incorporated bypass valve, the product can be protected from pressure peaks, caused by cold oil startintings.





## Modulo richiesta dati

### Sheet for cooler selection

|                         |  |
|-------------------------|--|
| <b>CLIENTE</b> COMPANY  |  |
| <b>RICHIEDENTE</b> NAME |  |

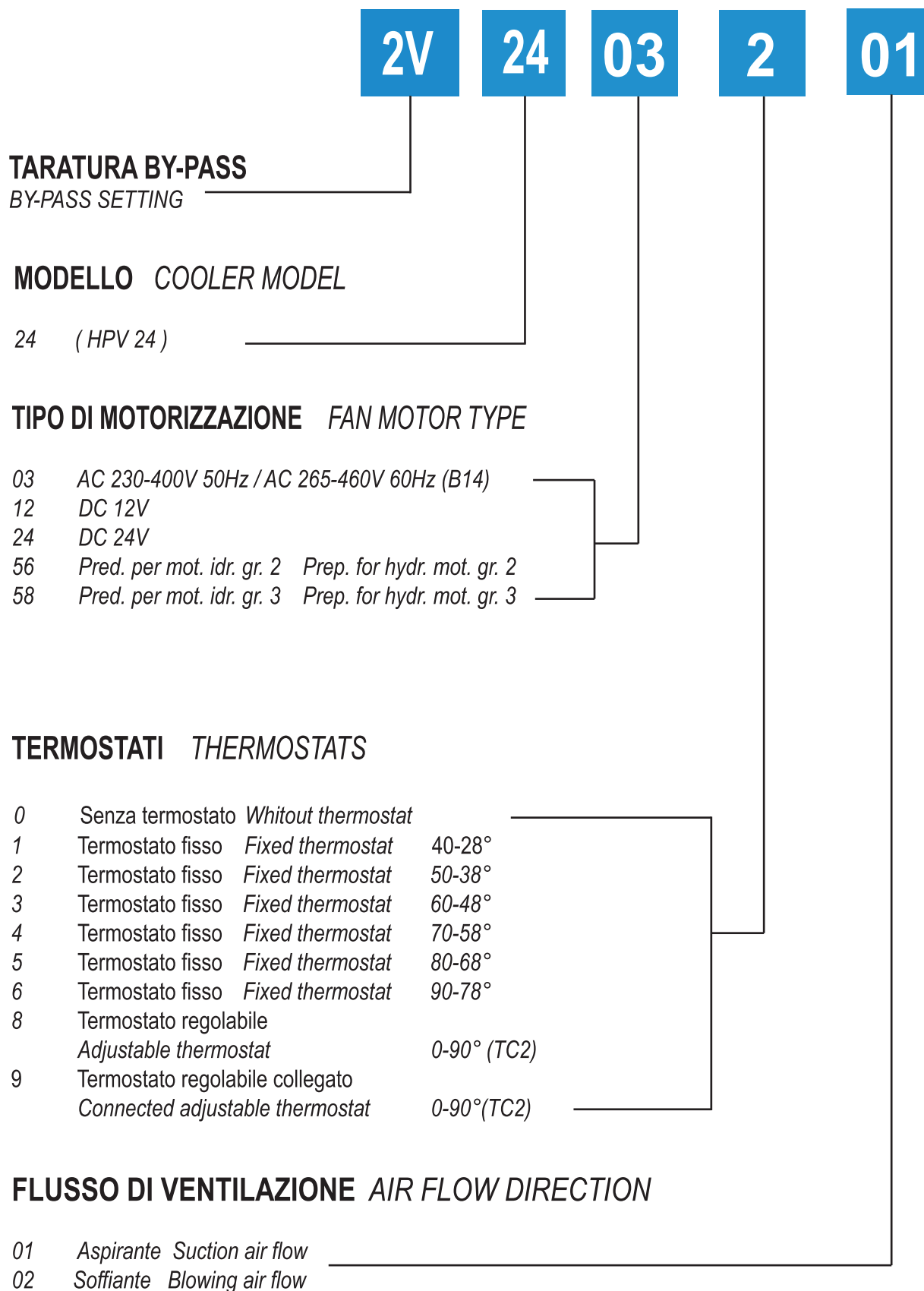
|                                                        |     |  |
|--------------------------------------------------------|-----|--|
| <b>TIPOLOGIA FLUIDO</b><br>FLUID TYPE                  |     |  |
| <b>PORTATA</b><br>FLOW RATE                            | lpm |  |
| <b>POTENZA INSTALLATA</b><br>INSTALLED POWER           | kW  |  |
| <b>POTENZA DA DISSIPARE</b><br>POWER TO BE DISSIPATED  | kW  |  |
| <b>TEMPERATURA INGRESSO</b><br>INLET TEMPERATURE       | °C  |  |
| <b>TEMPERATURA ARIA MAX</b><br>MAX AMBIENT TEMPERATURE | °C  |  |
| <b>PRESSIONE DI LAVORO</b><br>WORKING PRESSURE         | bar |  |

| TIPO DI VENTILAZIONE TYPE OF FAN UNIT |                                                                     |                                                                        |
|---------------------------------------|---------------------------------------------------------------------|------------------------------------------------------------------------|
| <b>CC</b><br>DC                       | <b>PREDISPOSTO MOTORE IDRAULICO</b><br>PREPARED FOR HYDRAULIC MOTOR | <b>CA</b><br>AC                                                        |
| <b>12V</b>                            | <b>GR.2</b>                                                         | <b>MONOFASE 230V</b><br>SINGLEPHASE 230V                               |
| <b>24V</b>                            | <b>GR.3</b>                                                         | <b>TRIFASE</b> 230/400V<br>265/460V<br>THREEPHASE 230/400V<br>265/460V |
|                                       |                                                                     | <b>TENSIONE SPECIALE</b><br>SPECIAL VOLTAGE                            |
|                                       |                                                                     | <b>50 Hz</b> <b>60 Hz</b>                                              |



## Denominazione codice prodotto

### Ordering code





## Modello - Codice prodotto

*Cooler model - Product Code*

### Taratura BY-PASS *BY-PASS Setting*

| Taratura<br>Setting | Codice<br>Code |
|---------------------|----------------|
| 1.5 bar *           | 2W *           |
| 3.0 bar             | 3W             |
| 5.0 bar             | 5W             |
| *Standard           |                |

### Serie DRAIN *DRAIN Series*

| Modello<br>Model | Codice<br>Code |
|------------------|----------------|
| HPV 12           | 2V12           |
| HPV 18           | 2V18           |
| HPV 24           | 2V24           |
| HPV 30           | 2V30           |
| HPV 36           | 2V36           |
| HPV 42           | 2V42           |
| HPV 50           | 2V50           |
| HPV 52           | 2V52           |

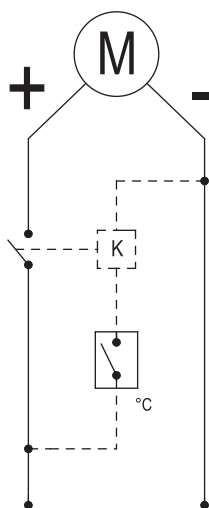




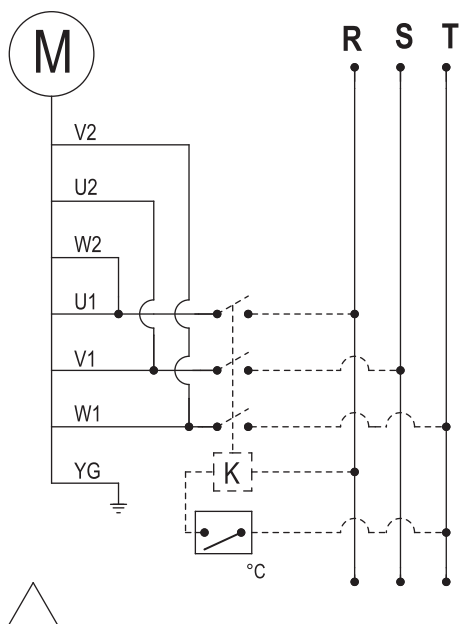
## Collegamenti elettrici

### Electric Wiring

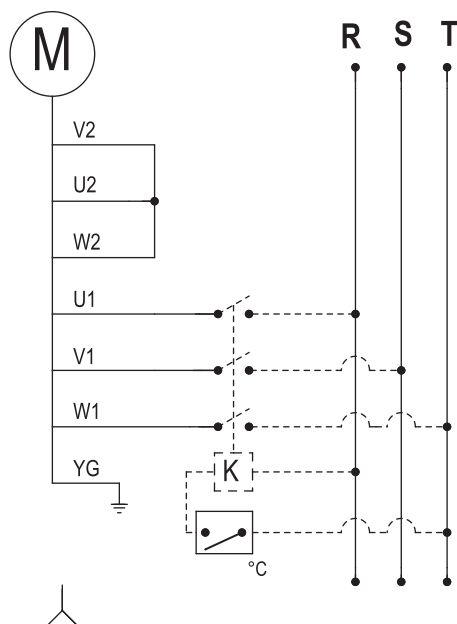
COLLEGAMENTO ELETTRICO 12-24V DC  
12-24V DC ELECTRIC WIRING



COLLEGAMENTO ELETTRICO 230V AC TRIF.  
230V AC 3PH ELECTRIC WIRING



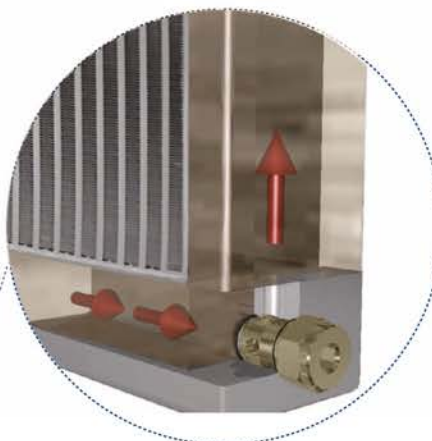
COLLEGAMENTO ELETTRICO 400/460V AC TRIF.  
400/460V AC THREEPHASE ELECTRIC WIRING



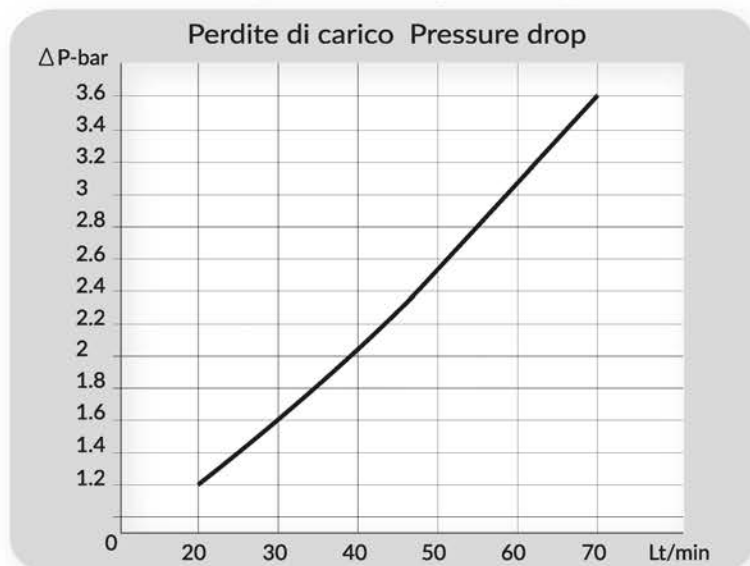
## Dati tecnici valvola by-pass *Technical data by-pass valve*



Detail



### Valvola cartuccia tipo 2 / Cartridge valve type 2 - (1.5 bar)



Gli scambiatori della serie HPV nascono dalle esigenze applicative ad ampio raggio espresse dal mercato.

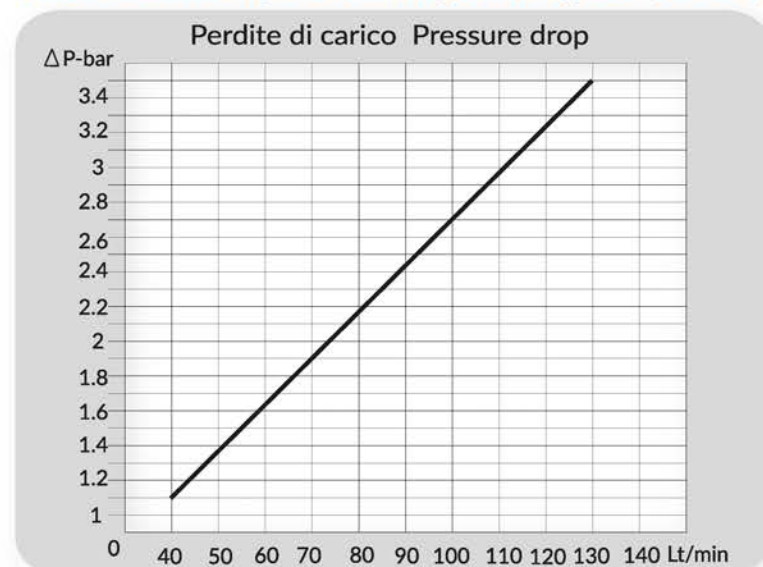
Punto di forza di questi prodotti é rappresentato dal by-pass integrato che ne amplifica la semplicità d' uso, eliminando la necessità di dovere aggiungere da parte del cliente una valvola autonoma, assicurando così elevata funzionalità.

HPV Series were born to answer the large application needs of the market.

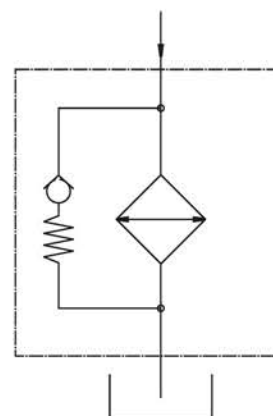
The main characteristic of this new products is the integrated by-pass valve that will simplify their employ and will avoid the customers to add an external and independent valve.

This will guarantee a very high efficiency.

### Valvola cartuccia tipo 3 / Cartridge valve type 3 - (1.5 bar)



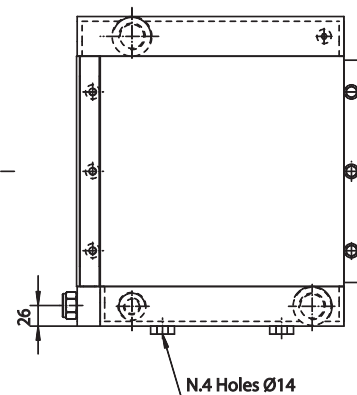
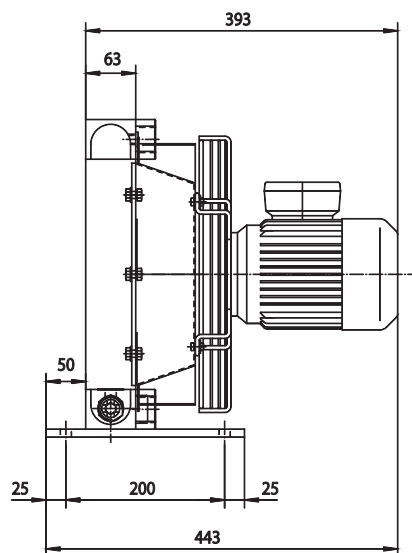
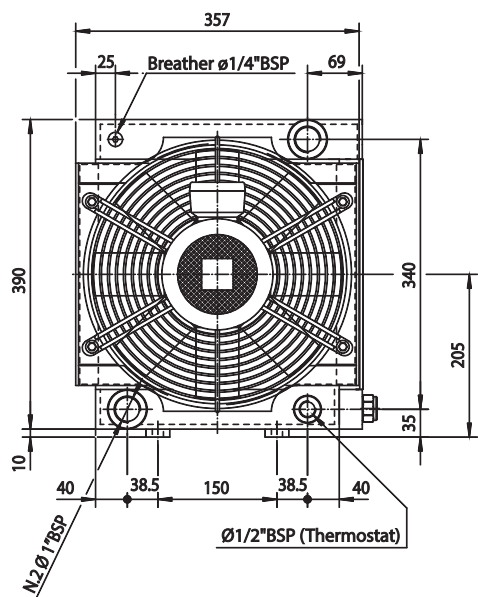
### Schema idraulico Hydraulic circuit



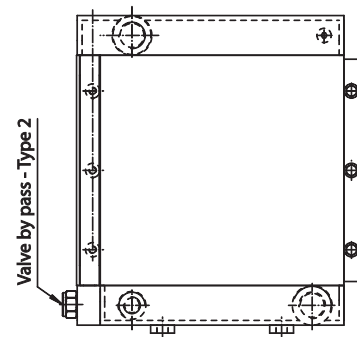
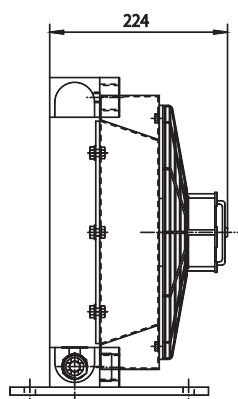
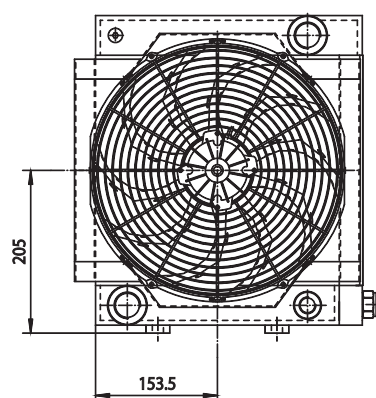


# Serie HPV

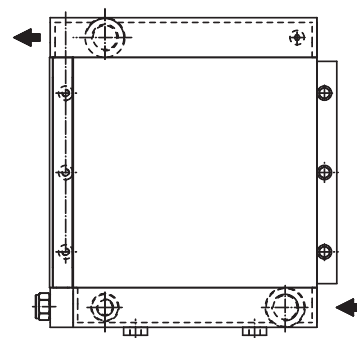
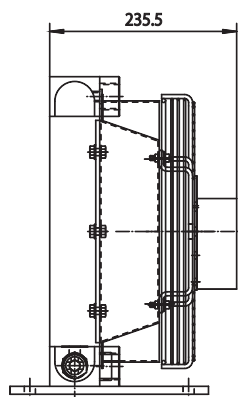
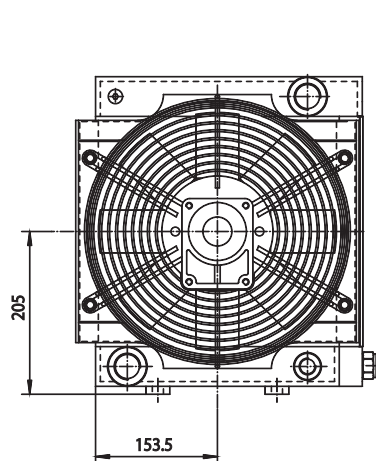
## HPV 12



**P/N 2V1203###**



**P/N 2V1212###**  
**P/N 2V1224###**



**P/N 2V1256###**

Le dimensioni di ingombro e le caratteristiche tecniche non sono impegnative  
Overall dimensions and technical characteristic are not binding

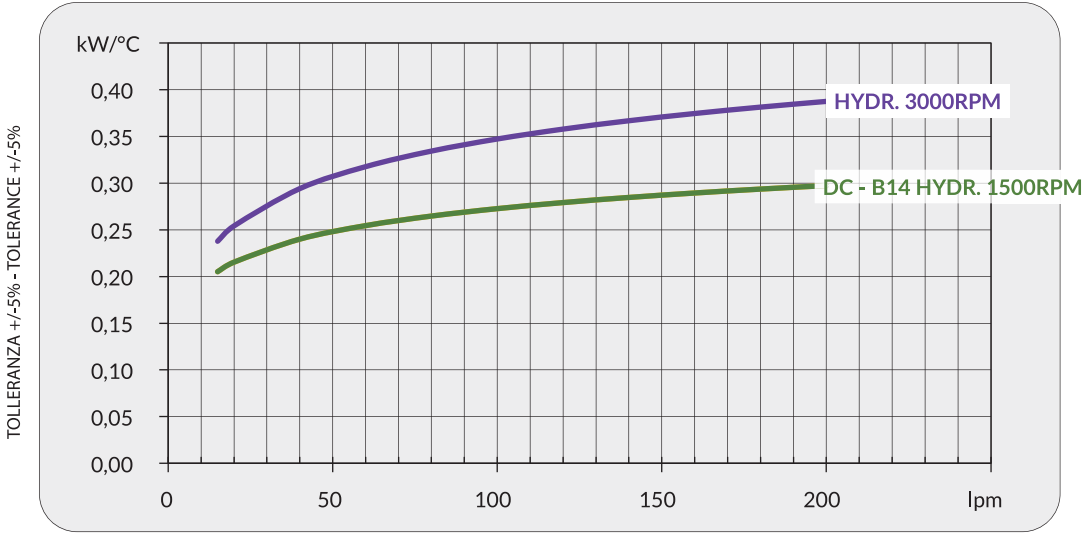


Dati tecnici    Technical Data

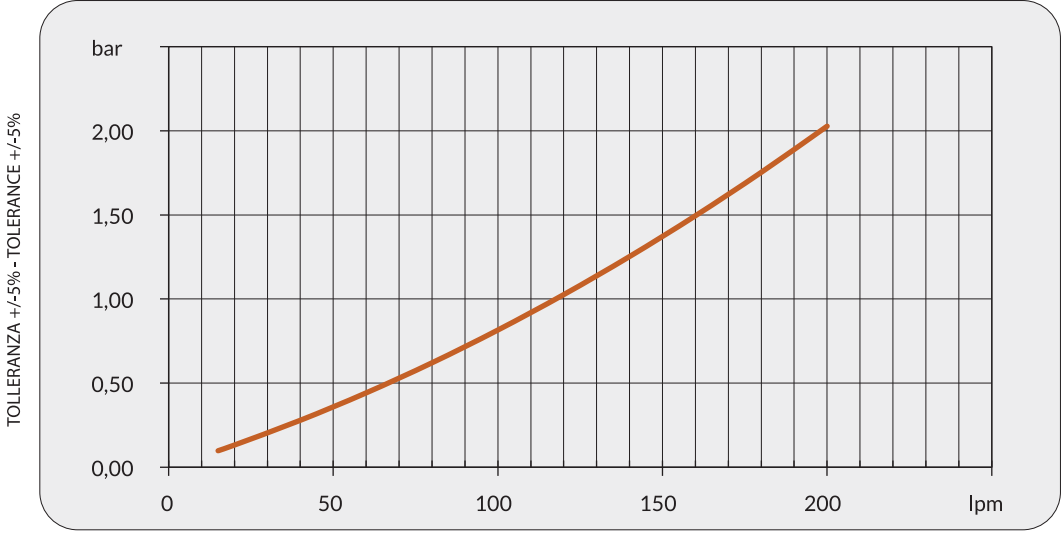
| P/N       | V                                 | Hz       | kW(±10%)     | A(±10%) | rpm          | Ø Fan | dB (A) | (m³/h) | IP | lt  | kg |
|-----------|-----------------------------------|----------|--------------|---------|--------------|-------|--------|--------|----|-----|----|
| 2V1203### | 265-460 B14 AC<br>230-400 B14AC   | 50<br>60 | 0,25<br>0,29 | 1,7-1   | 1350<br>1620 | 315   | 72     | 1670   | 55 | 1,9 | 17 |
| 2V1212### | 12 DC                             | /        | 0,111        | 9,3     | 2600         | 305   | 77     | 1590   | 67 | 1,9 | 15 |
| 2V1224### | 24 DC                             | /        | 0,160        | 6,15    | 3100         | 305   | 80     | 1700   | 67 | 1,9 | 15 |
| 2V1256### | Prepared for Gr.2 hydraulic motor |          |              |         |              | 315   |        |        | /  | 1,9 | 16 |

Contattare EMMEGI    Contact EMMEGI

Diagramma rendimento    Performance diagram



Perdite di carico    Pressure drop (@30cSt)



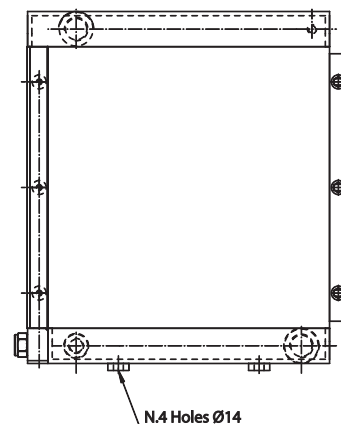
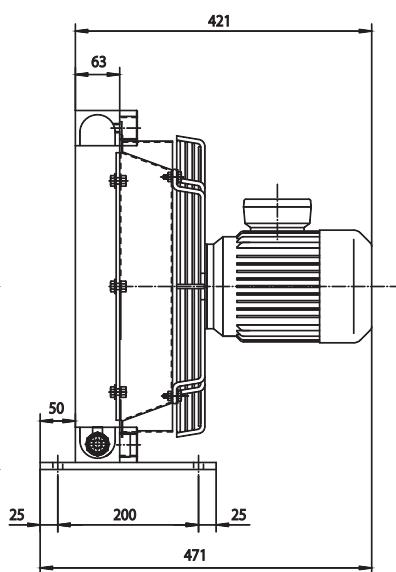
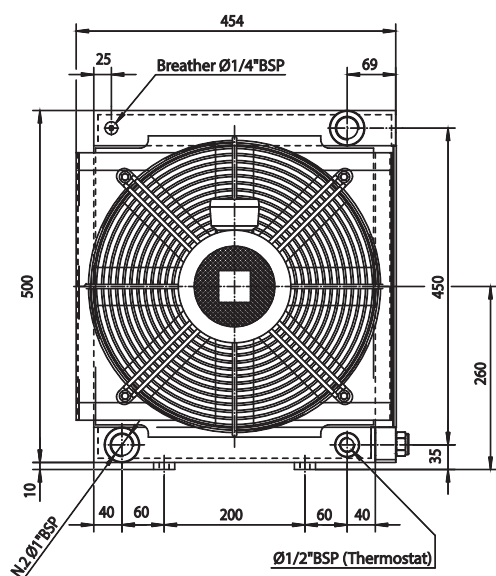
Fattore di correzione-F-(perdite di carico)    Correction factor-F-(pressure drop)

| cSt | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0,5 | 0,65 | 0,77 | 1  | 1,2 | 1,4 | 1,6 | 1,9 | 2,1 | 3,3 | 4,3 |

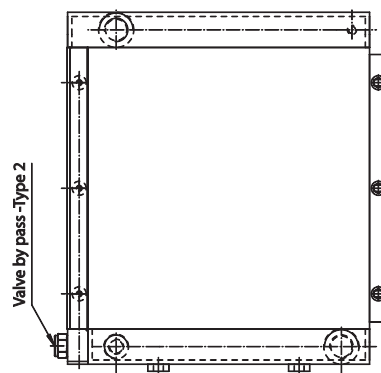
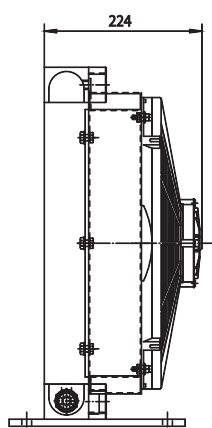
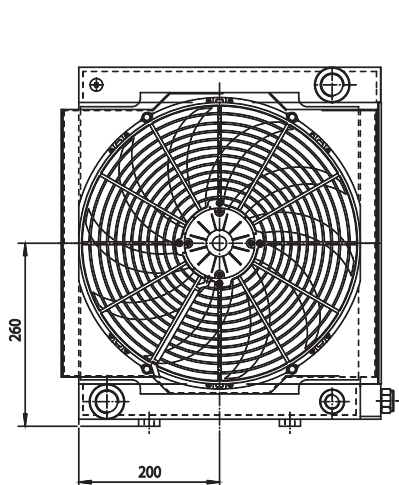


# Serie HPV

## HPV 18

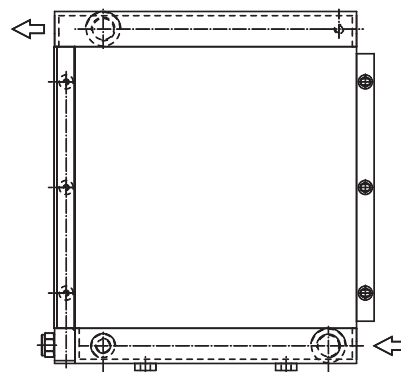
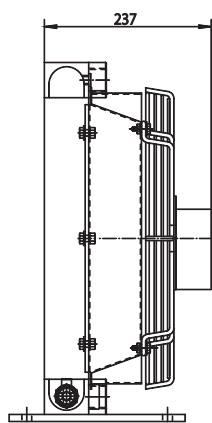
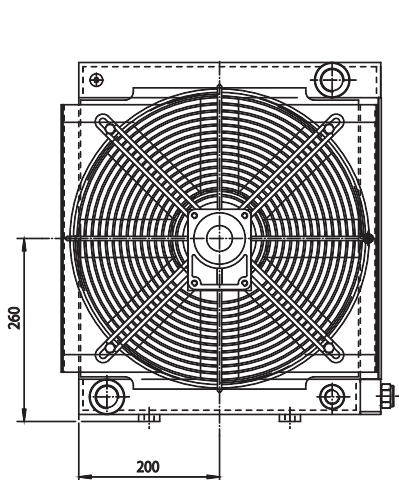


**P/N 2V1803###**



**P/N 2V1812###**

**P/N 2V1824###**



**P/N 2V1856###**

Le dimensioni di ingombro e le caratteristiche tecniche non sono impegnative  
Overall dimensions and technical characteristic are not binding



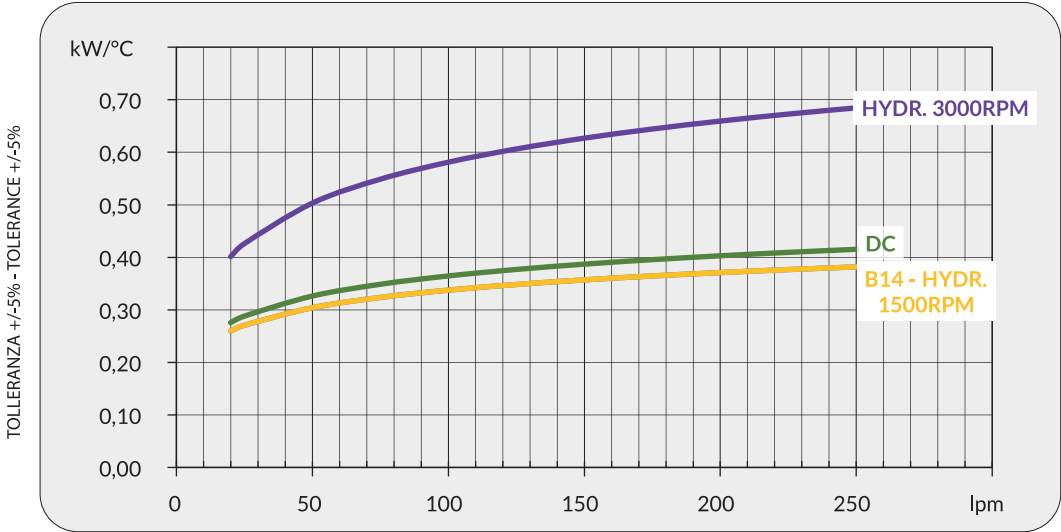


Dati tecnici    *Technical Data*

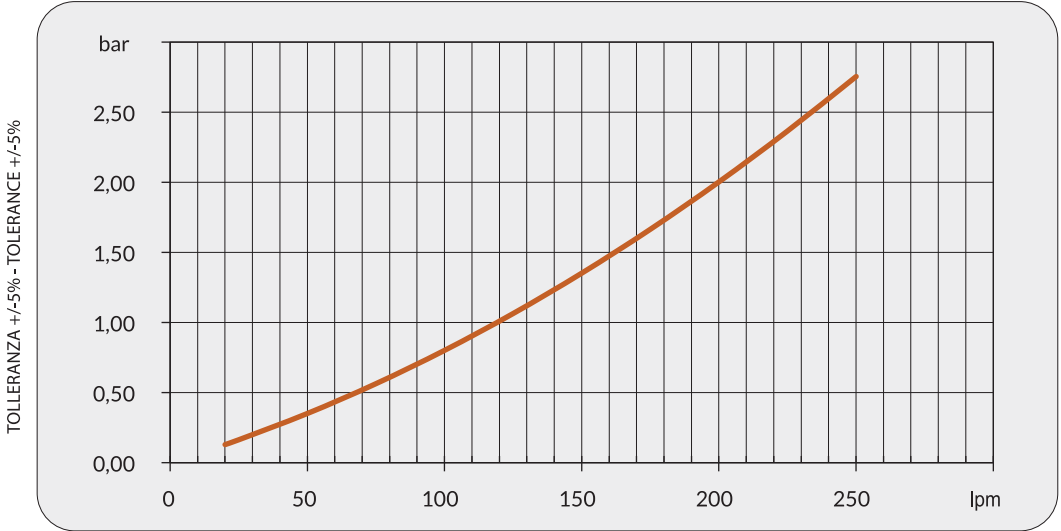
| P/N       | V                                 | Hz       | kW(±10%)     | A(±10%)            | rpm          | Ø Fan | dB (A) | (m³/ h) | IP | lt  | kg |
|-----------|-----------------------------------|----------|--------------|--------------------|--------------|-------|--------|---------|----|-----|----|
| 2V1803### | 230-400 B14 AC<br>265-460 B14 AC  | 50<br>60 | 0,37<br>0,43 | 2,1-1,1<br>2,1-1,1 | 1370<br>1650 | 400   | 77     | 2300    | 55 | 2,9 | 20 |
| 2V1812### | 12 DC                             | /        | 0,25         | 20,9               | 2350         | 385   | 77     | 2620    | 68 | 2,9 | 18 |
| 2V1824### | 24 DC                             | /        | 0,24         | 9,9                | 2580         | 385   | 81     | 2620    | 68 | 2,9 | 18 |
| 2V1856### | Prepared for Gr.2 hydraulic motor |          |              |                    |              | 400   |        |         | /  | 2,9 | 19 |

Contattare EMMEGI    Contact EMMEGI

Diagramma rendimento    *Performance diagram*



Perdite di carico    *Pressure drop (@30cSt)*



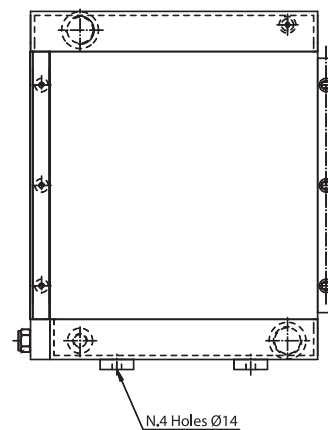
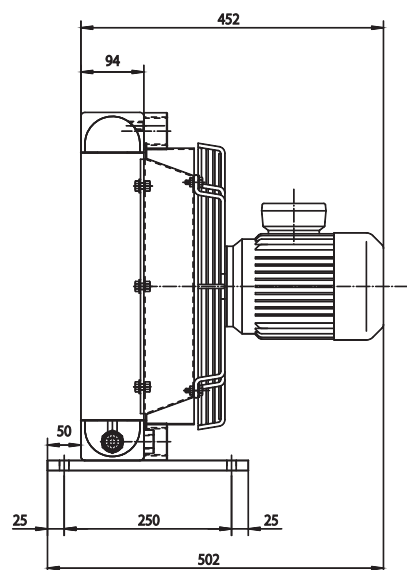
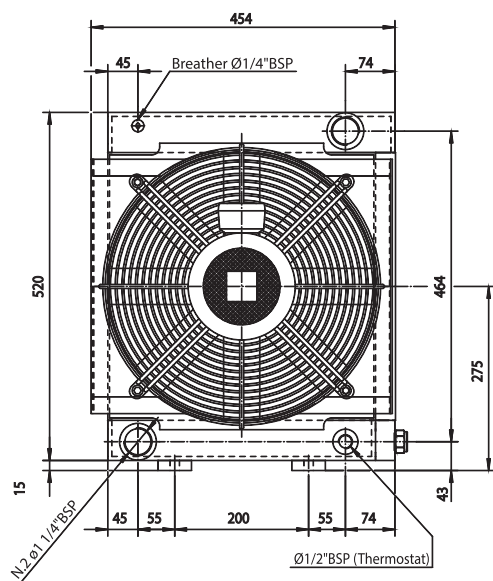
Fattore di correzione-F-(perdite di carico)    *Correction factor-F-(pressure drop)*

| cSt | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0,5 | 0,65 | 0,77 | 1  | 1,2 | 1,4 | 1,6 | 1,9 | 2,1 | 3,3 | 4,3 |

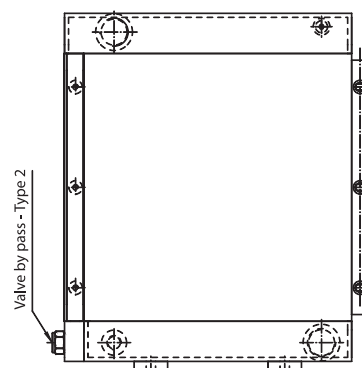
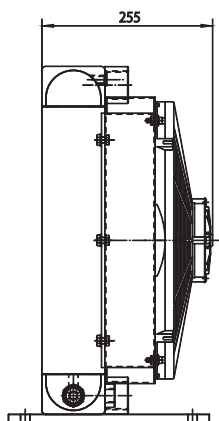
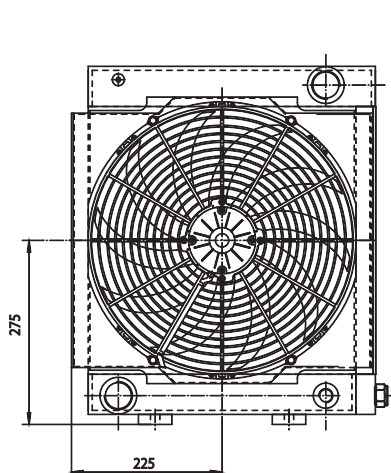


# Serie HPV

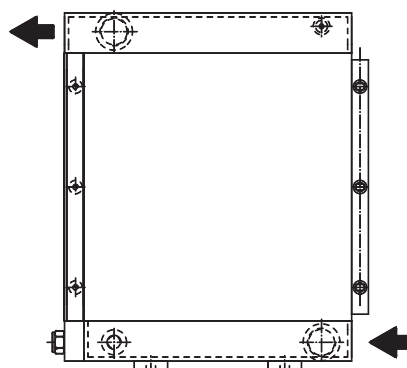
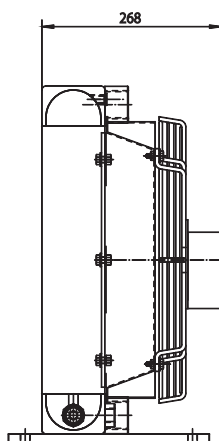
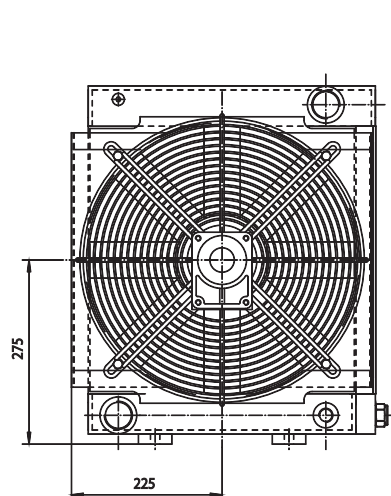
## HPV 24



**P/N 2V2403###**



**P/N 2V2412###**  
**P/N 2V2424###**



**P/N 2V2456###**

Le dimensioni di ingombro e le caratteristiche tecniche non sono impegnative  
Overall dimensions and technical characteristic are not binding

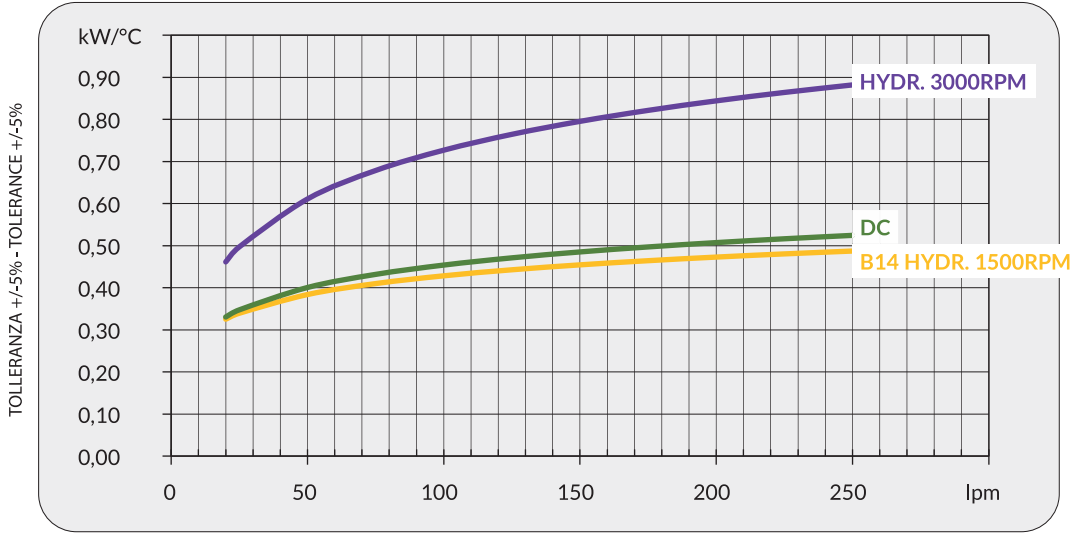


Dati tecnici    Technical Data

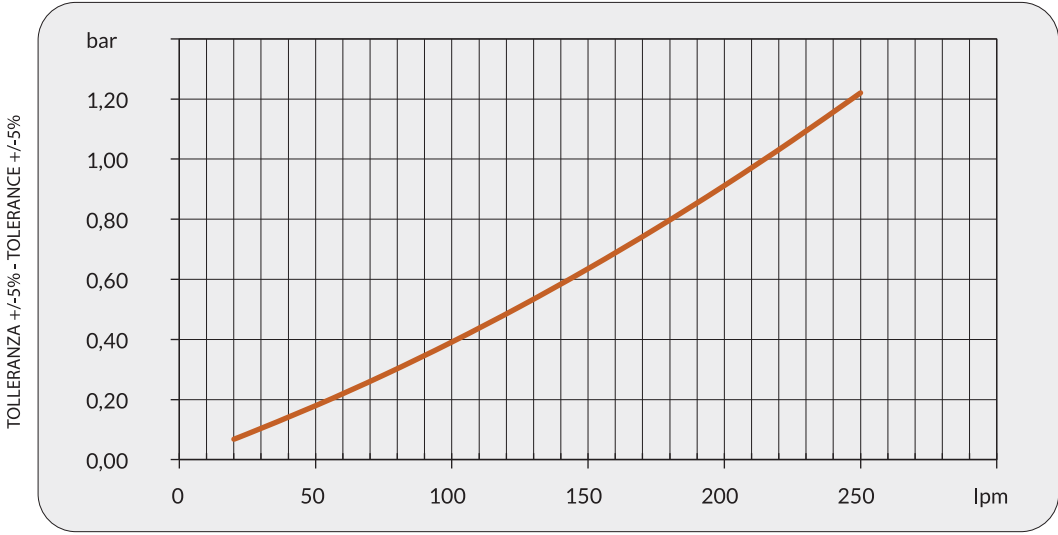
| P/N       | V                                 | Hz | kW(±10%) | A(±10%) | rpm  | Ø Fan | dB (A) | (m³/ h) | IP | It  | kg |
|-----------|-----------------------------------|----|----------|---------|------|-------|--------|---------|----|-----|----|
| 2V2403### | 230-400 B14 AC                    | 50 | 0,55     | 2,9-1,7 | 1320 | 400   | 79     | 1850    | 55 | 2,9 | 28 |
|           | 230-460 B14 AC                    | 60 | 0,63     | 2,9-1,7 | 1690 |       |        |         |    |     |    |
| 2V2412### | 12 DC                             | /  | 0,24     | 20,3    | 2350 | 385   | 77     | 2250    | 68 | 2,9 | 22 |
| 2V2424### | 24 DC                             | /  | 0,23     | 9,7     | 2580 | 305   | 80     | 2250    | 68 | 2,9 | 22 |
| 2V2456### | Prepared for Gr.2 hydraulic motor |    |          |         |      | 400   |        |         | /  | 2,9 | 23 |

Contattare EMMEGI    Contact EMMEGI

Diagramma rendimento    Performance diagram



Perdite di carico    Pressure drop (@30cSt)



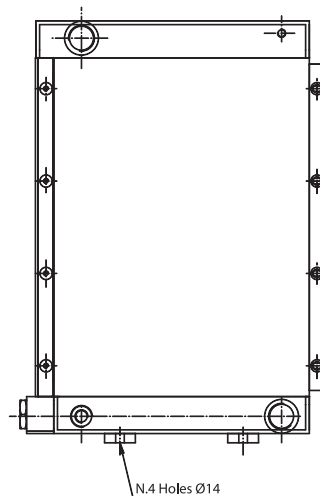
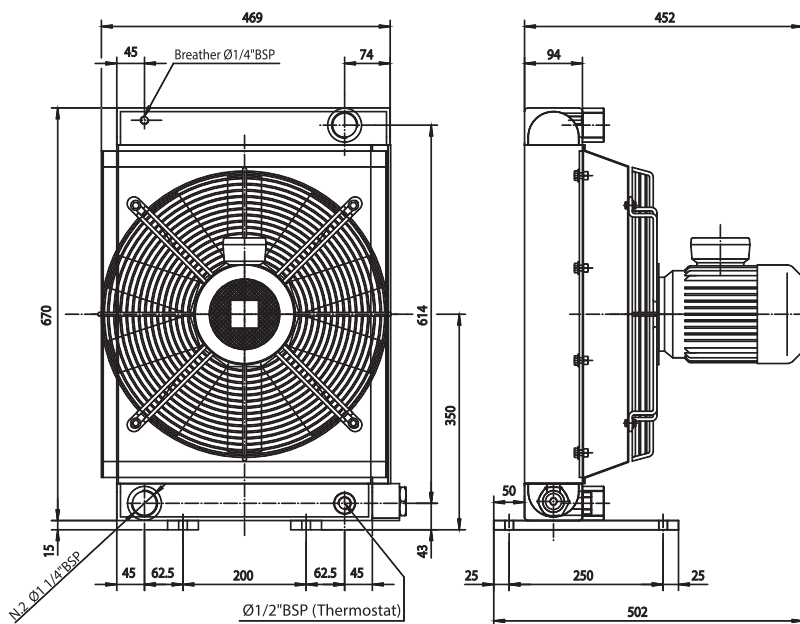
Fattore di correzione-F-(perdite di carico)    Correction factor-F-(pressure drop)

| cSt | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0,5 | 0,65 | 0,77 | 1  | 1,2 | 1,4 | 1,6 | 1,9 | 2,1 | 3,3 | 4,3 |

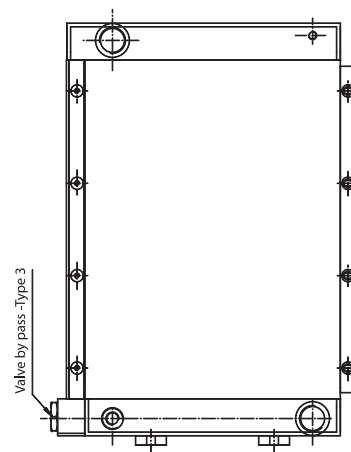
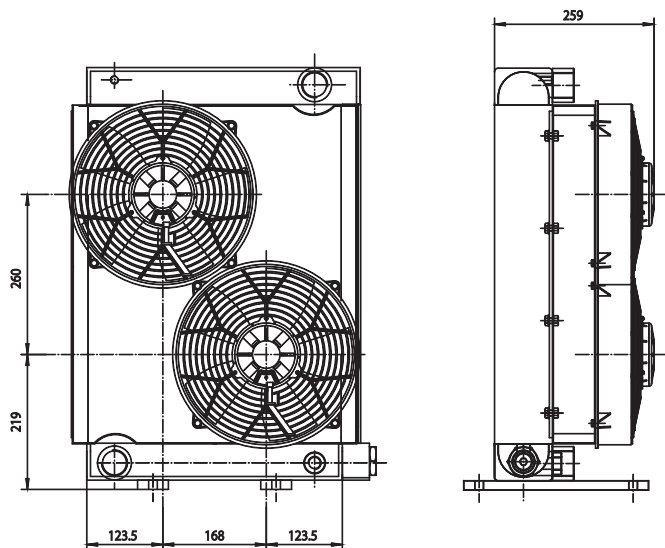


# Serie HPV

## HPV 30

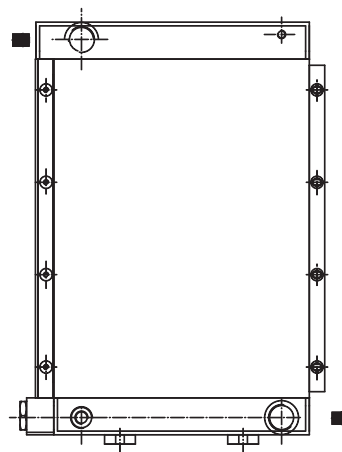
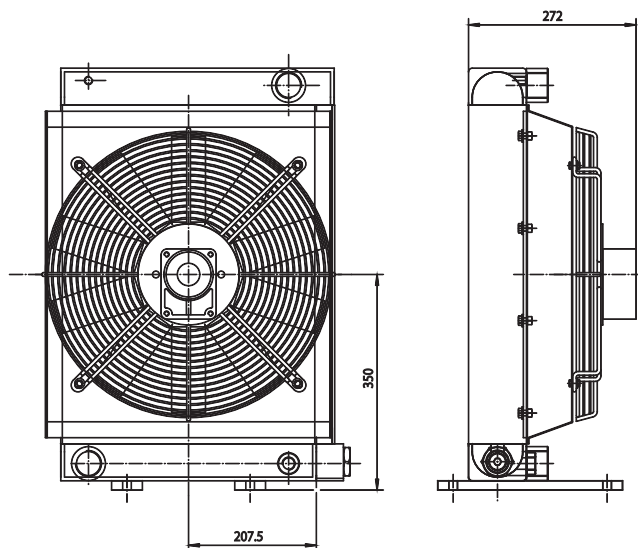


**P/N 2V3003###**



**P/N 2V3012###**

**P/N 2V3024###**



**P/N 2V3056###**

Le dimensioni di ingombro e le caratteristiche tecniche non sono impegnative  
Overall dimensions and technical characteristic are not binding



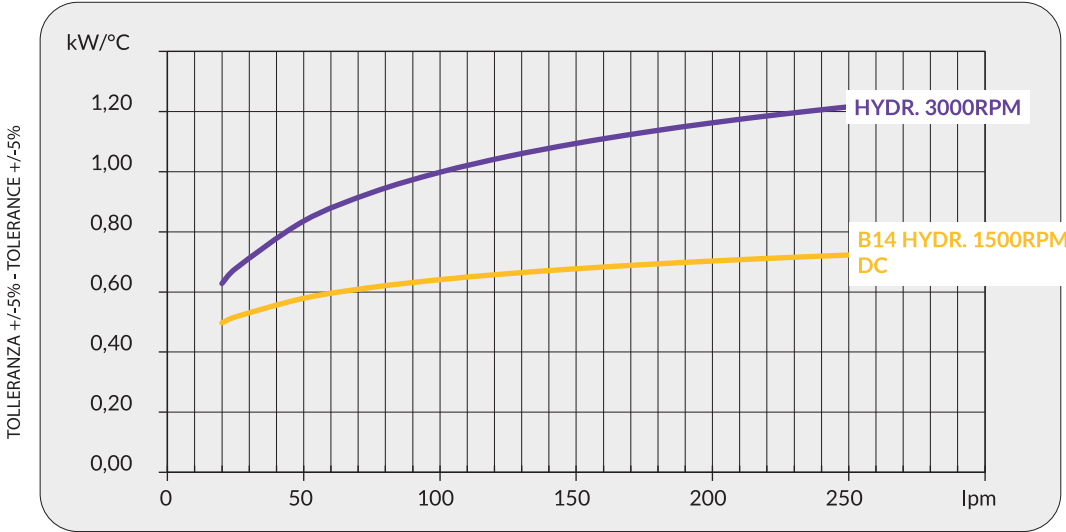
Dati tecnici    Technical Data

| P/N       | V                                 | Hz | kW(±10%) | A(±10%) | rpm  | Ø Fan | dB (A) | (m³/h) | IP | lt  | kg |
|-----------|-----------------------------------|----|----------|---------|------|-------|--------|--------|----|-----|----|
| 2V3003### | 230-400 B14 AC                    | 50 | 0,75     | 3,1-1,8 | 1430 | 450   | 82     | 3100   | 55 | 6,8 | 37 |
|           | 230-460 B14 AC                    | 60 | 0,86     | 3,1-1,8 | 1715 |       |        |        |    |     |    |
| 2V3012### | 12 DC                             | /  | 0,17     | 13,9    | 2900 | 280   | 78     | 1550   | 68 | 6,8 | 32 |
| 2V3024### | 24 DC                             | /  | 0,16     | 6,7     | 2900 | 280   | 78     | 1700   | 68 | 6,8 | 32 |
| 2V3056### | Prepared for Gr.2 hydraulic motor |    |          |         |      | 450   |        |        | /  | 6,8 | 35 |

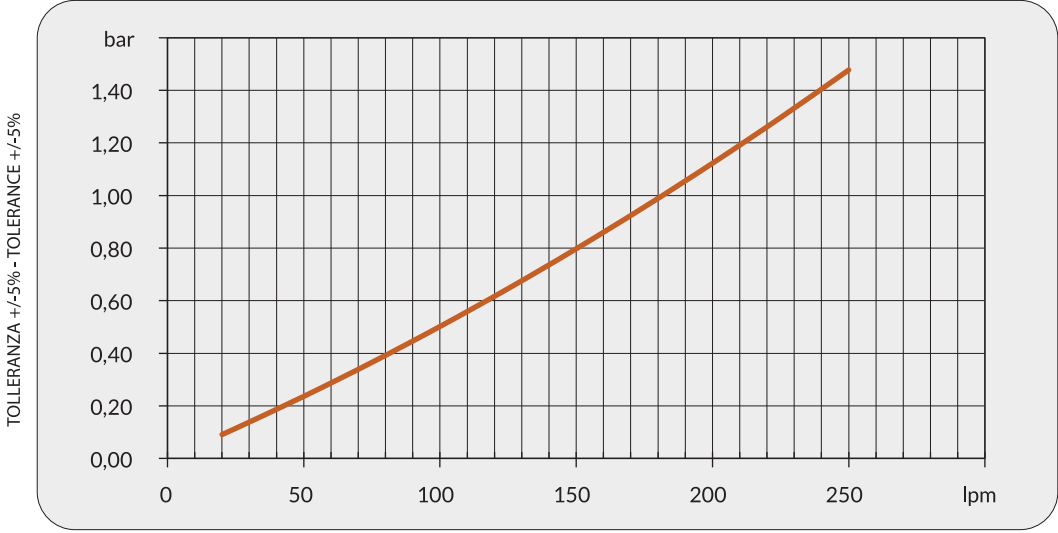
I dati si riferiscono al singolo ventilatore  
Data refers to each fan

Contattare EMMEGI    Contact EMMEGI

Diagramma rendimento    Performance diagram



Perdite di carico    Pressure drop (@30cSt)



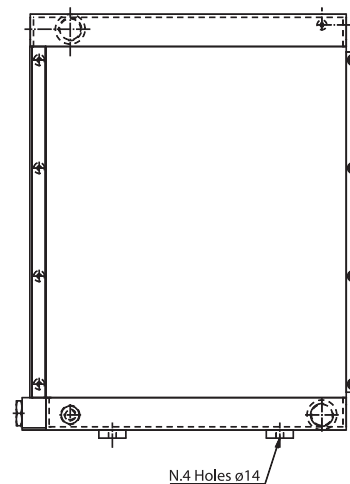
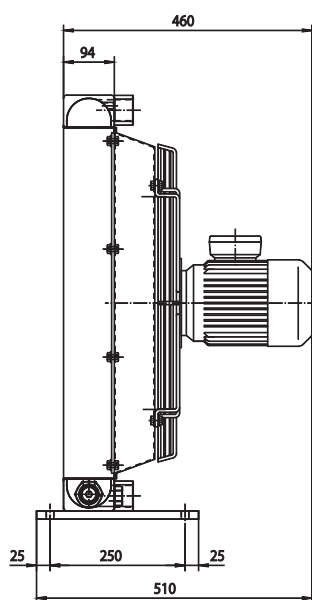
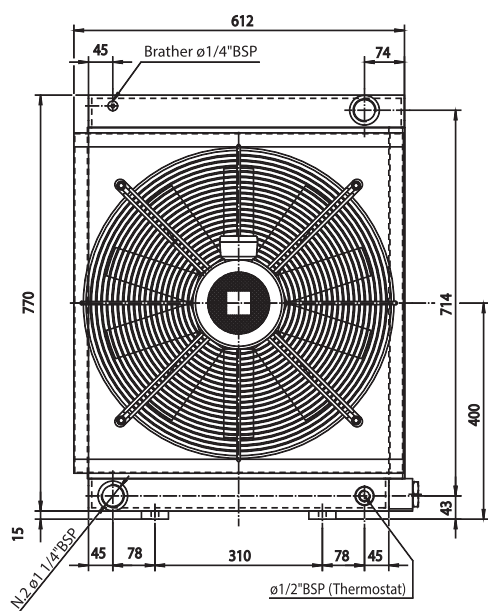
Fattore di correzione-F-(perdite di carico)    Correction factor-F-(pressure drop)

| cSt | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0,5 | 0,65 | 0,77 | 1  | 1,2 | 1,4 | 1,6 | 1,9 | 2,1 | 3,3 | 4,3 |

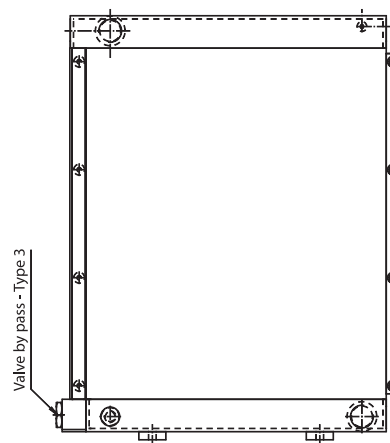
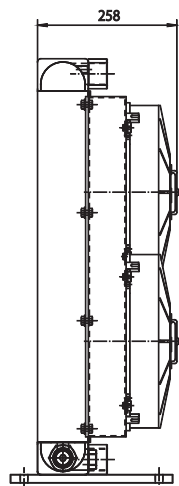
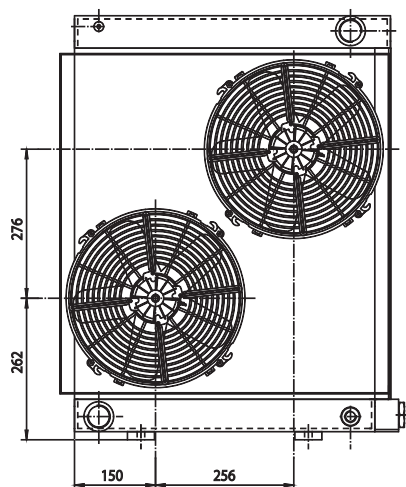


# Serie HPV

## HPV 36

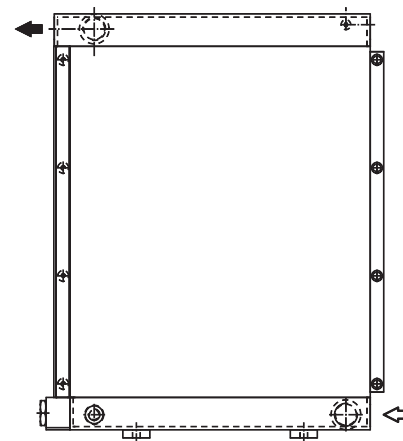
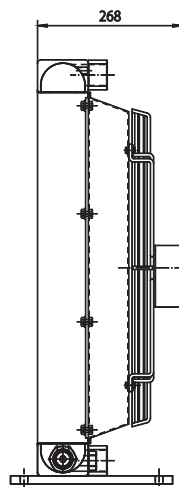
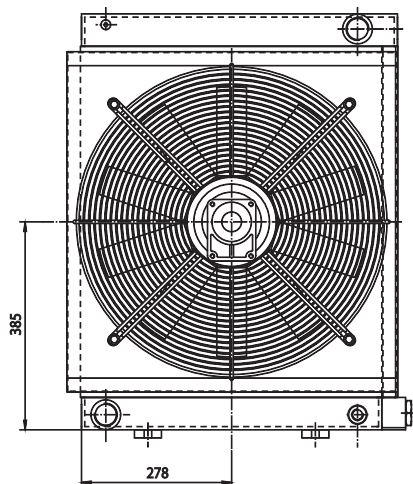


**P/N 2V3603###**



**P/N 2V3612###**

**P/N 2V3624###**



**P/N 2V3656###**

Le dimensioni di ingombro e le caratteristiche tecniche non sono impegnative  
Overall dimensions and technical characteristic are not binding



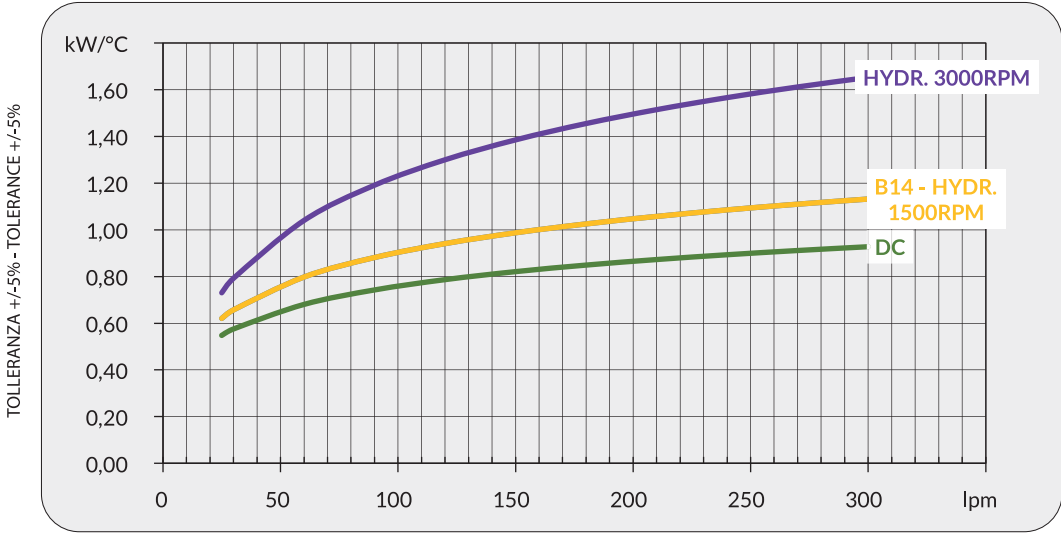


Dati tecnici    Technical Data

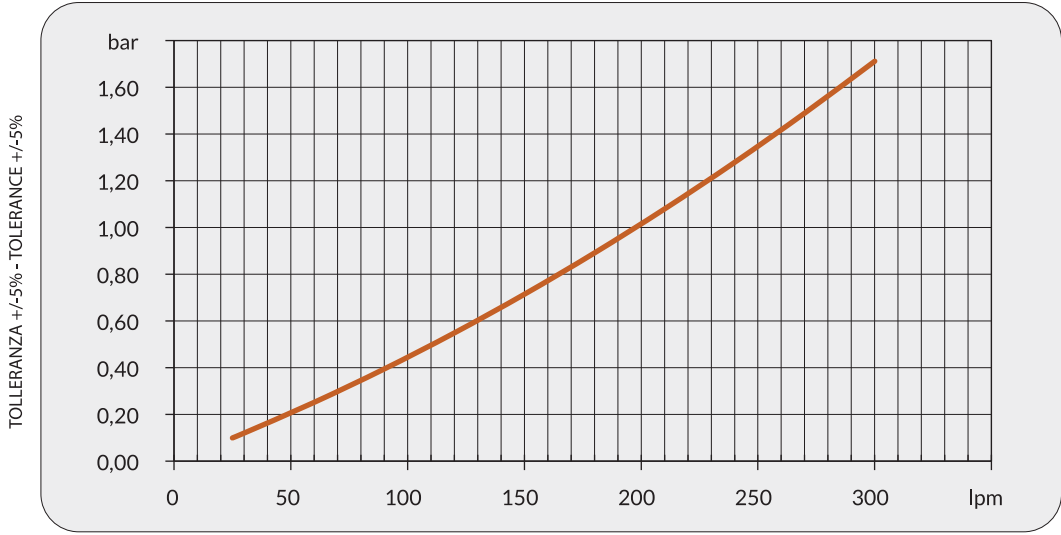
| P/N       | V                                 | Hz       | kW(±10%)   | A(±10%)            | rpm          | Ø Fan | dB (A) | (m³/h) | IP | It  | kg |
|-----------|-----------------------------------|----------|------------|--------------------|--------------|-------|--------|--------|----|-----|----|
| 2V3603### | 230-400 B14 AC<br>265-460 B14 AC  | 50<br>60 | 1,1<br>1,3 | 4,5-2,6<br>4,5-2,6 | 1440<br>1730 | 500   | 82     | 5650   | 55 | 9,4 | 60 |
| 2V3612### | 12 DC                             | /        | 0,160      | 13,30              | 2560         | 305   | 83     | 2100   | 67 | 9,4 | 50 |
| 2V3624### | 24 DC                             | /        | 0,177      | 7,35               | 3000         | 305   | 84     | 2400   | 67 | 9,4 | 50 |
| 2V3656### | Prepared for Gr.2 hydraulic motor |          |            |                    |              | 450   |        |        | /  | 9,4 | 52 |

Contattare EMMEGI    Contact EMMEGI

Diagramma rendimento    Performance diagram



Perdite di carico    Pressure drop (@30cSt)



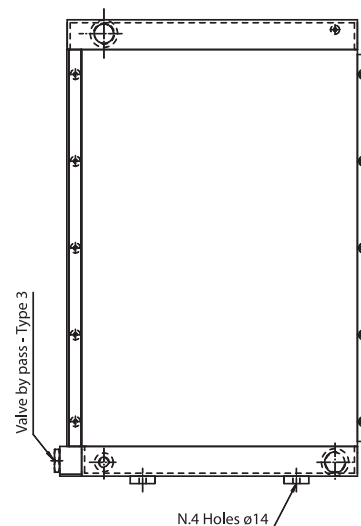
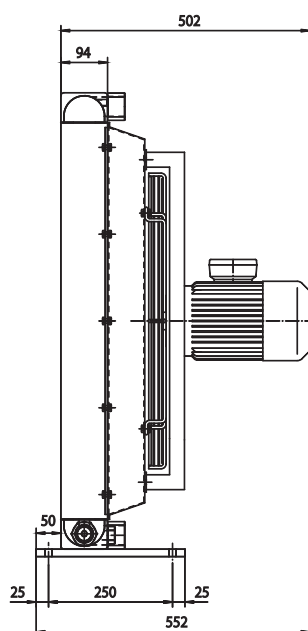
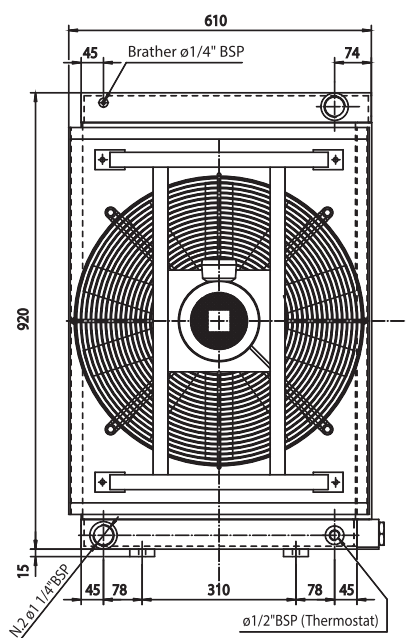
Fattore di correzione-F-(perdite di carico)    Correction factor-F-(pressure drop)

| cSt | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0,5 | 0,65 | 0,77 | 1  | 1,2 | 1,4 | 1,6 | 1,9 | 2,1 | 3,3 | 4,3 |

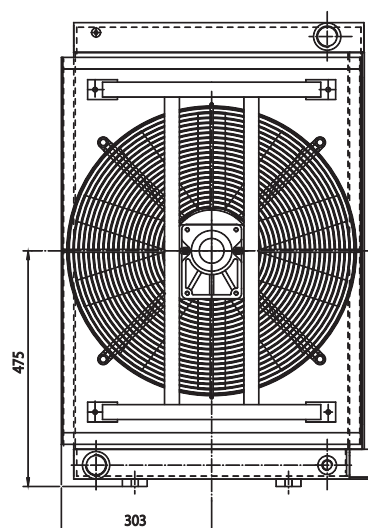
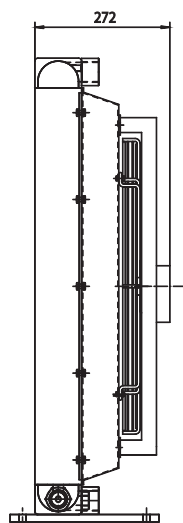
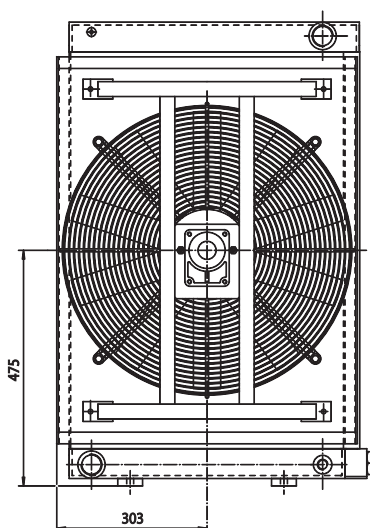


# Serie HPV

## HPV 42

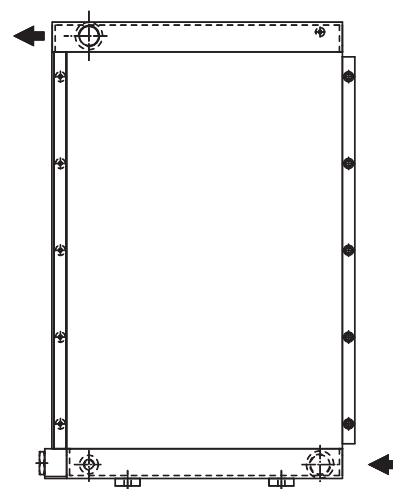
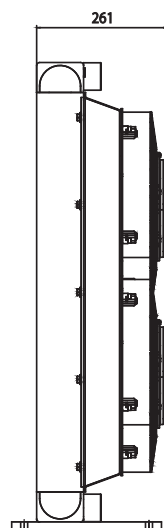
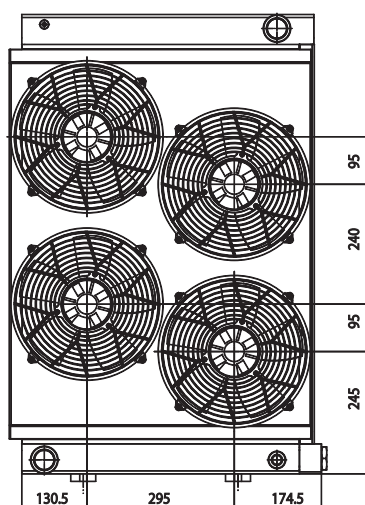


**P/N 2V4203###**



**P/N 2V4256###**

**P/N 2V4258###**



**P/N 2V4212###**  
**P/N 2V4224###**

Le dimensioni di ingombro e le caratteristiche tecniche non sono impegnative  
Overall dimensions and technical characteristic are not binding



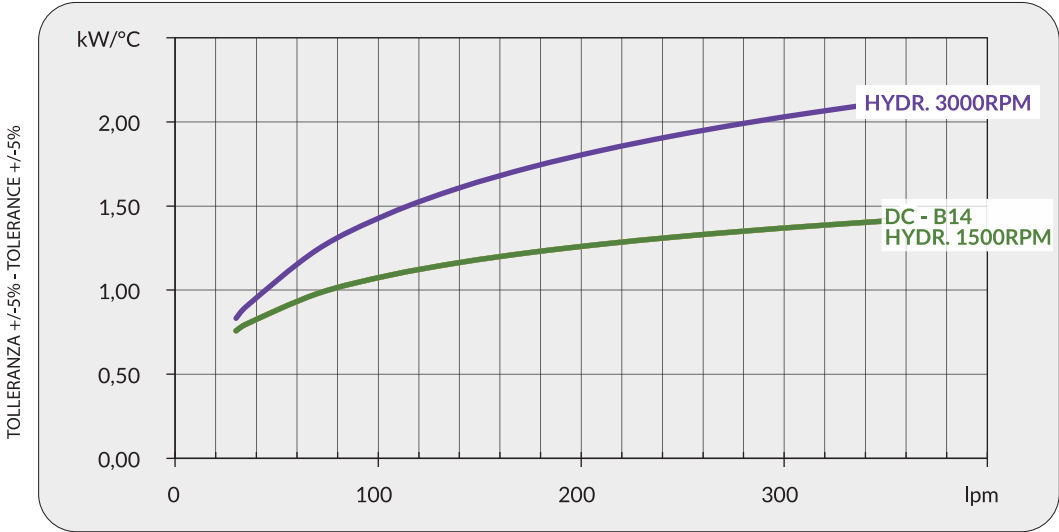
Dati tecnici    Technical Data

| P/N       | V                                 | Hz       | kW(±10%)   | A(±10%)            | rpm          | Ø Fan | dB (A) | (m³/ h) | IP | lt   | kg |
|-----------|-----------------------------------|----------|------------|--------------------|--------------|-------|--------|---------|----|------|----|
| 2V4203### | 230-400 B14 AC<br>265-460 B14 AC  | 50<br>60 | 1,1<br>1,3 | 4,5-2,6<br>4,5-2,6 | 1440<br>1730 | 560   | 84     | 6820    | 55 | 10,6 | 65 |
| 2V4256### | Prepared for Gr.2 hydraulic motor |          |            |                    |              | 560   |        |         | /  | 10,6 | 58 |
| 2V4258### | Prepared for Gr.3 hydraulic motor |          |            |                    |              | 560   |        |         | /  | 10,6 | 58 |
| 2V4212### | 12V                               | -        | 0,19       | 14,3               | 2920         | 280   |        | 6820    | 68 | 10,6 | 58 |
| 2V4224### | 24V                               | -        | 0,18       | 6,8                | 2920         | 280   |        | 6820    | 68 | 10,6 | 58 |

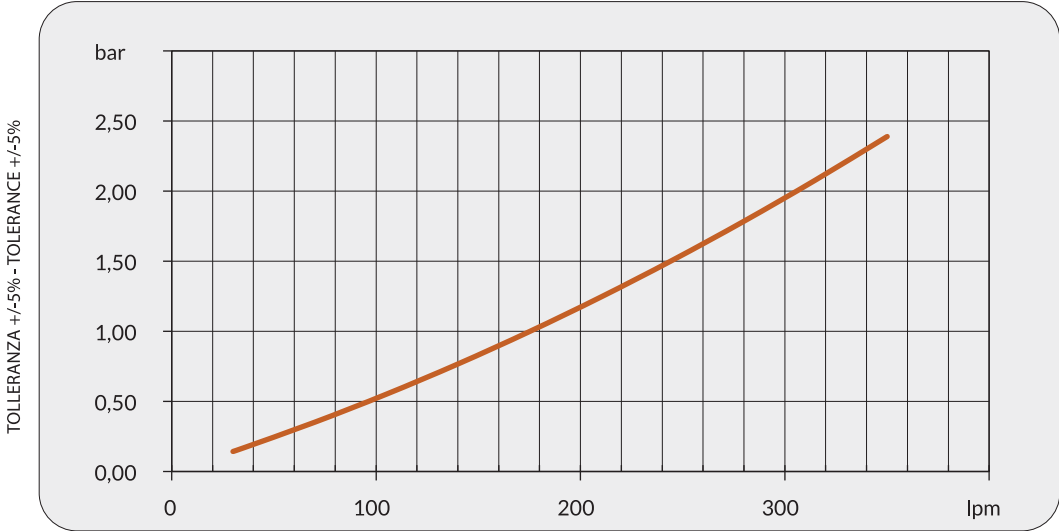
I dati si riferiscono al singolo ventilatore  
Data refers to each fan

Contattare EMMEGI    Contact EMMEGI

Diagramma rendimento    Performance diagram



Perdite di carico    Pressure drop (@30cSt)



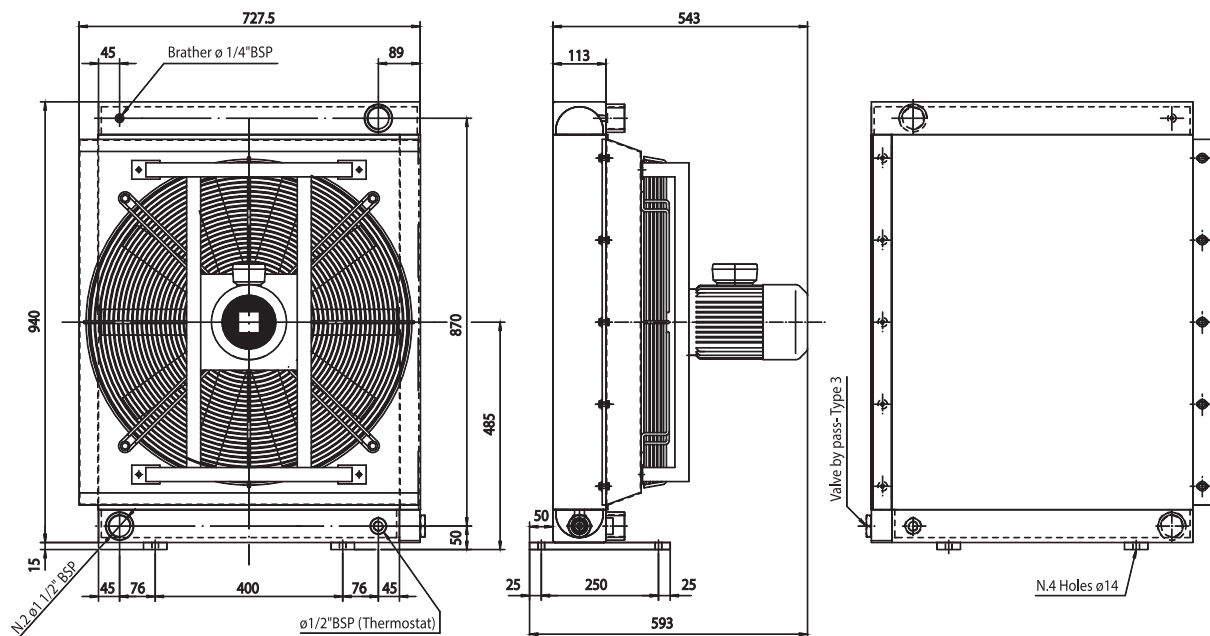
Fattore di correzione-F-(perdite di carico)    Correction factor-F-(pressure drop)

| cSt | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0,5 | 0,65 | 0,77 | 1  | 1,2 | 1,4 | 1,6 | 1,9 | 2,1 | 3,3 | 4,3 |

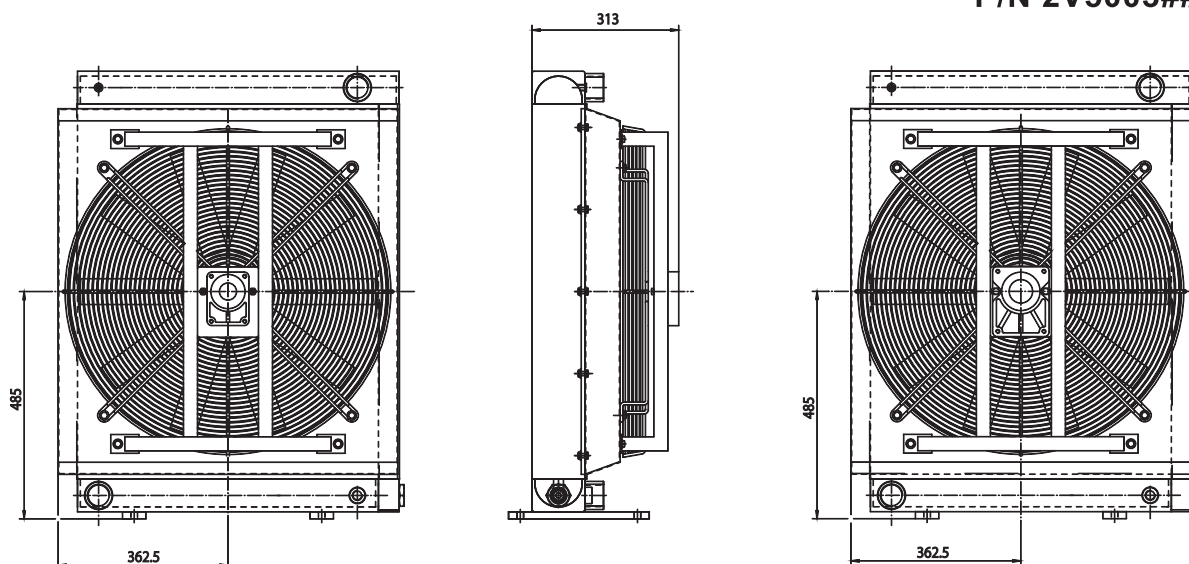


# Serie HPV

## HPV 50

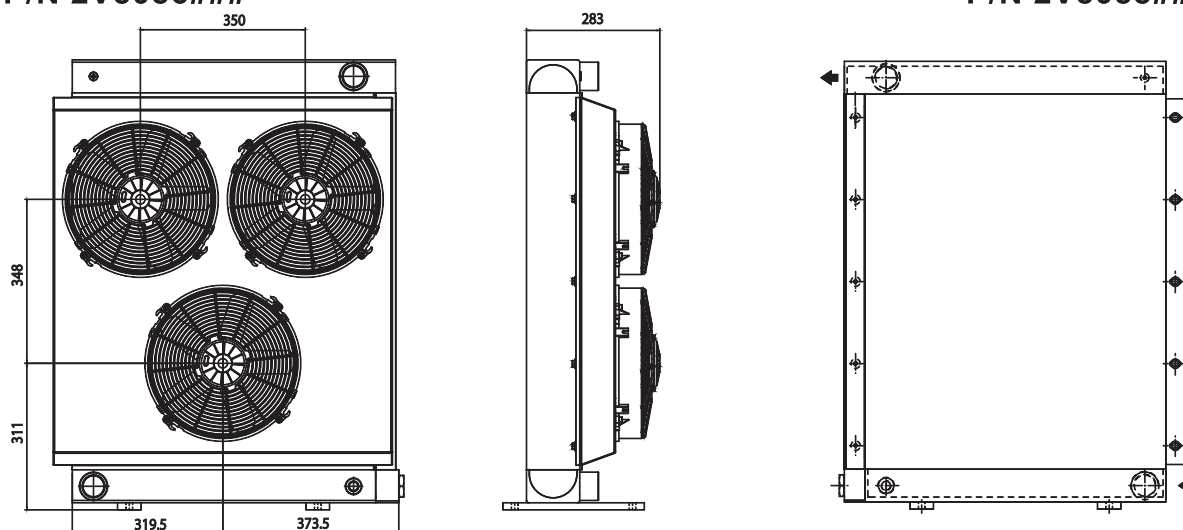


**P/N 2V5003###**



**P/N 2V5056###**

**P/N 2V5058###**



**P/N 2V5012###**

**P/N 2V5024###**

Le dimensioni di ingombro e le caratteristiche tecniche non sono impegnative  
Overall dimensions and technical characteristic are not binding



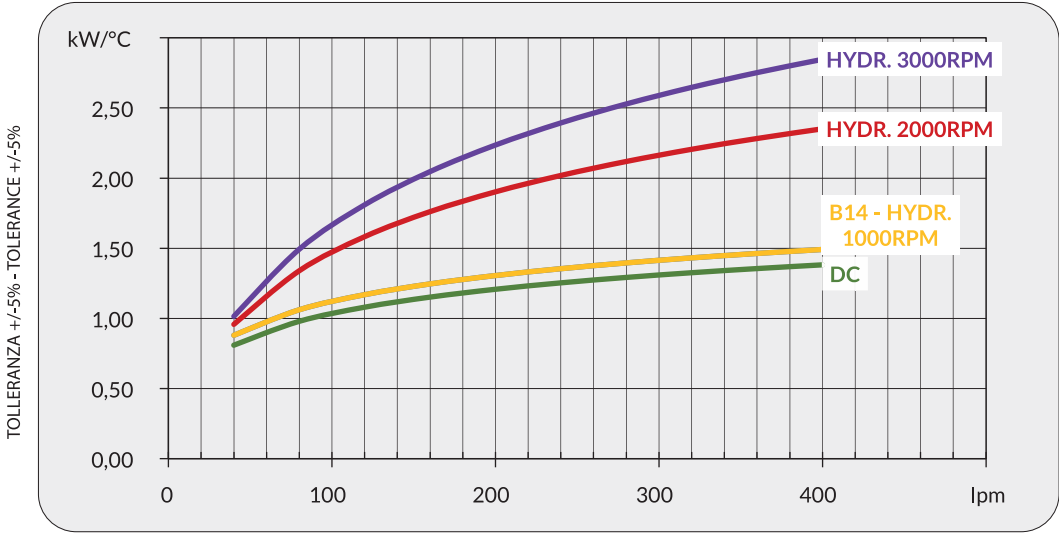
Dati tecnici    Technical Data

| P/N       | V                                 | Hz       | kW(±10%)   | A(±10%)        | rpm         | Ø Fan | dB (A) | (m³/ h) | IP | It   | kg |
|-----------|-----------------------------------|----------|------------|----------------|-------------|-------|--------|---------|----|------|----|
| 2V5003### | 230-400 B14 AC<br>265-460 B14 AC  | 50<br>60 | 1,1<br>1,3 | 5-2,9<br>5-2,9 | 950<br>1140 | 630   | 80     | 5910    | 55 | 14,2 | 90 |
| 2V5056### | Prepared for Gr.2 hydraulic motor |          |            |                |             | 630   |        |         | /  | 14,2 | 83 |
| 2V5058### | Prepared for Gr.3 hydraulic motor |          |            |                |             | 630   |        |         | /  | 14,2 | 83 |
| 2V5012### | 12                                | -        | 0,21       | 16,1           |             | 305   |        |         | /  | 14,2 | 83 |
| 2V5024### | 24                                | -        | 0,21       | 8,5            |             | 305   |        |         | 68 | 14,2 | 83 |

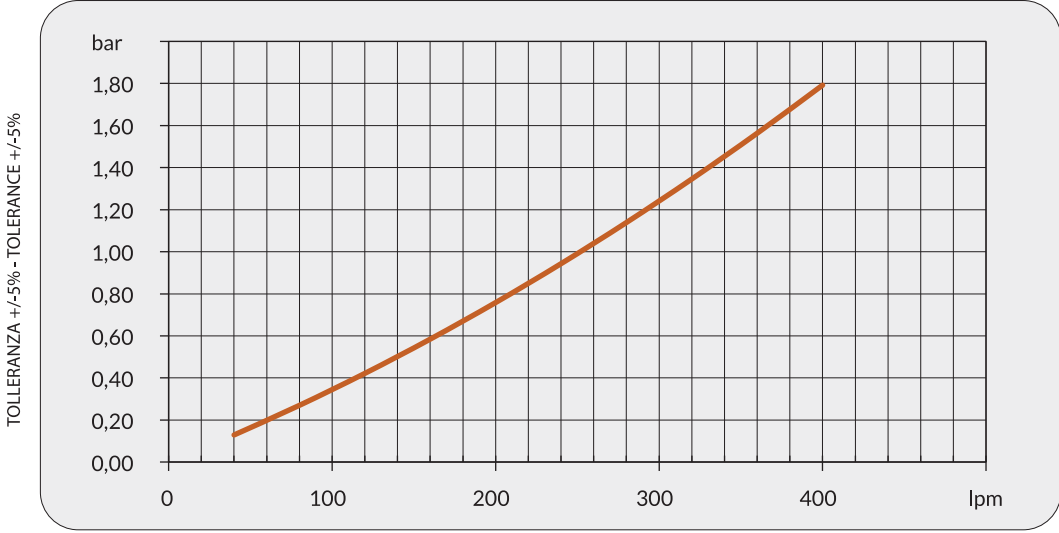
I dati si riferiscono al singolo ventilatore  
Data refers to each fan

Contattare EMMEGI    Contact EMMEGI

Diagramma rendimento    Performance diagram



Perdite di carico    Pressure drop (@30cSt)



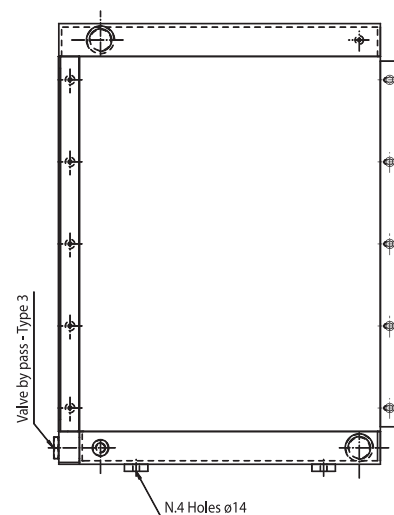
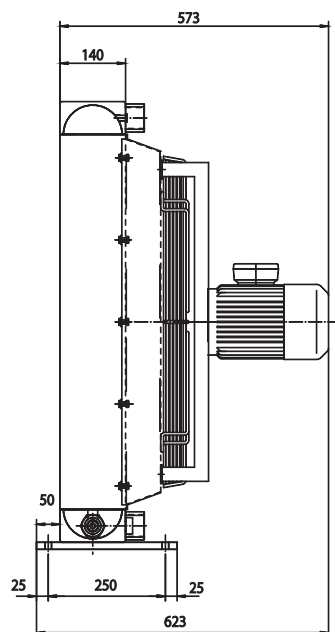
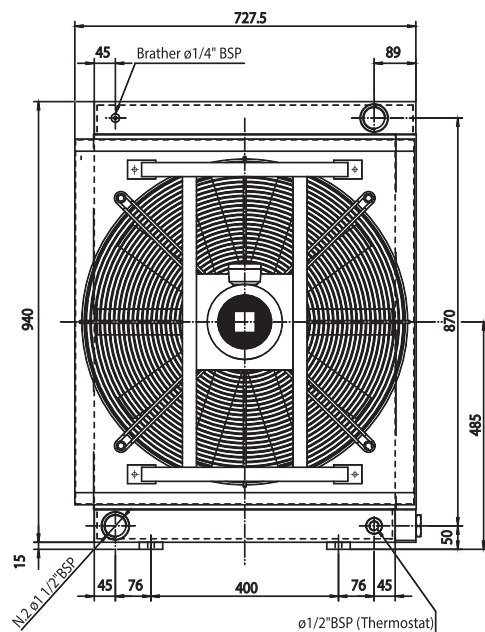
Fattore di correzione-F-(perdite di carico)    Correction factor-F-(pressure drop)

| cSt | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0,5 | 0,65 | 0,77 | 1  | 1,2 | 1,4 | 1,6 | 1,9 | 2,1 | 3,3 | 4,3 |

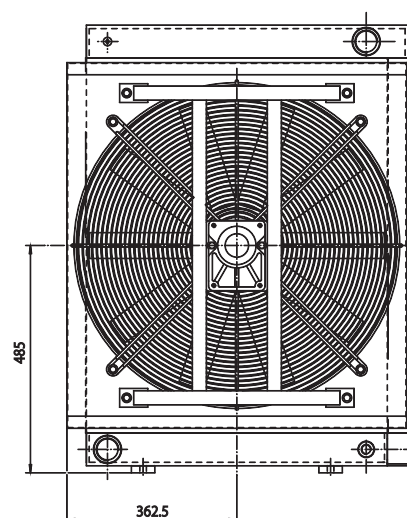
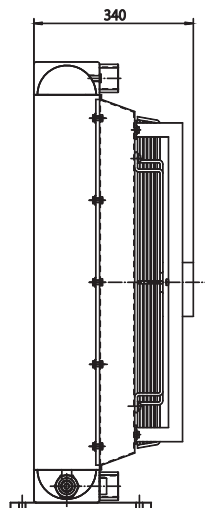
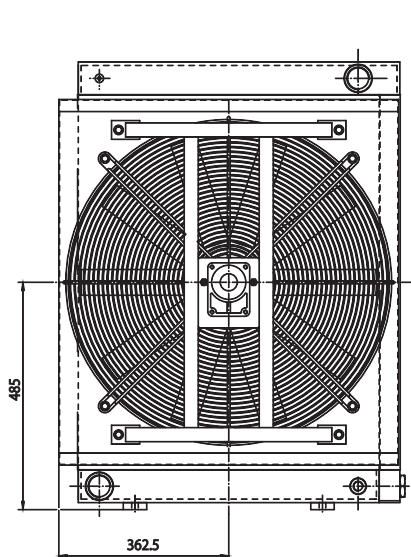


# Serie HPV

## HPV 52

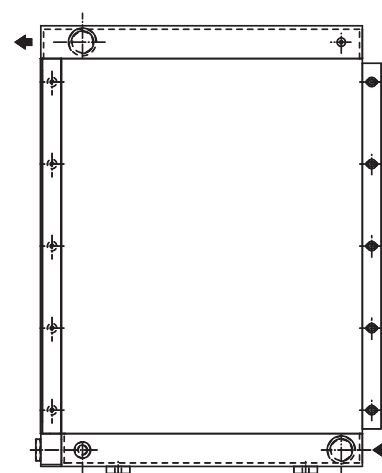
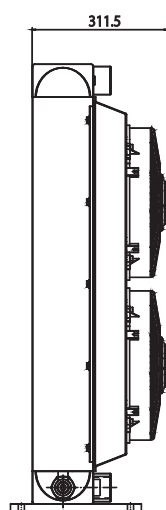
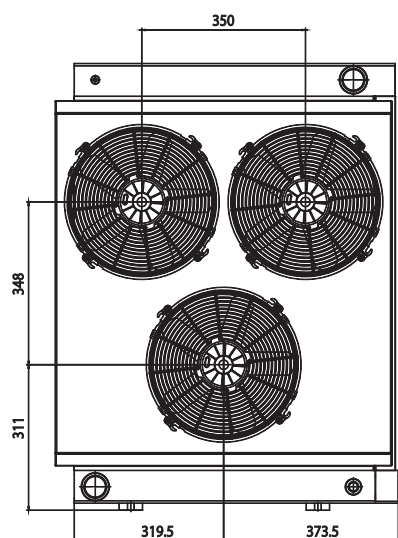


**P/N 2V5203###**



**P/N 2V5256###**

**P/N 2V5258###**



**P/N 2V5212###**  
**P/N 2V5224###**

Le dimensioni di ingombro e le caratteristiche tecniche non sono impegnative  
Overall dimensions and technical characteristic are not binding





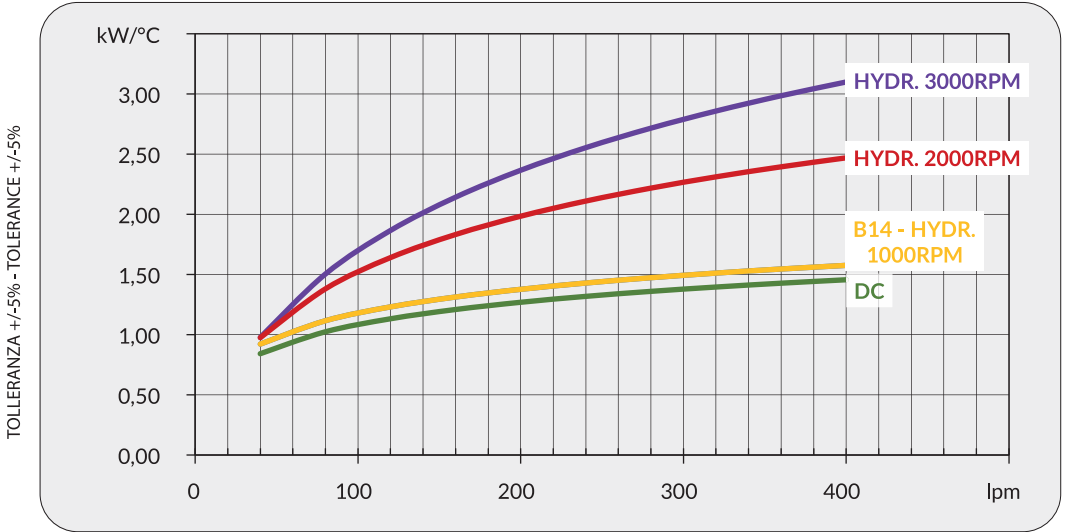
Dati tecnici    Technical Data

| P/N       | V                                 | Hz       | kW(±10%)   | A(±10%)        | rpm         | Ø Fan | dB (A) | (m³/h) | IP | lt   | kg |
|-----------|-----------------------------------|----------|------------|----------------|-------------|-------|--------|--------|----|------|----|
| 2V5203### | 230-400 B14 AC<br>265-460 B14 AC  | 50<br>60 | 1,1<br>1,3 | 5-2,9<br>5-2,9 | 950<br>1140 | 630   | 80     | 5260   | 55 | 17,7 | 95 |
| 2V5256### | Prepared for Gr.2 hydraulic motor |          |            |                |             | 630   |        |        | /  | 17,7 | 89 |
| 2V5258### | Prepared for Gr.3 hydraulic motor |          |            |                |             | 630   |        |        | /  | 17,7 | 89 |
| 245212### | 12                                | -        | 0,21       | 16,1           |             | 305   |        |        | 68 | 17,7 | 89 |
| 245224### | 24                                | -        | 0,22       | 8,5            |             | 305   |        |        | 68 | 17,7 | 89 |

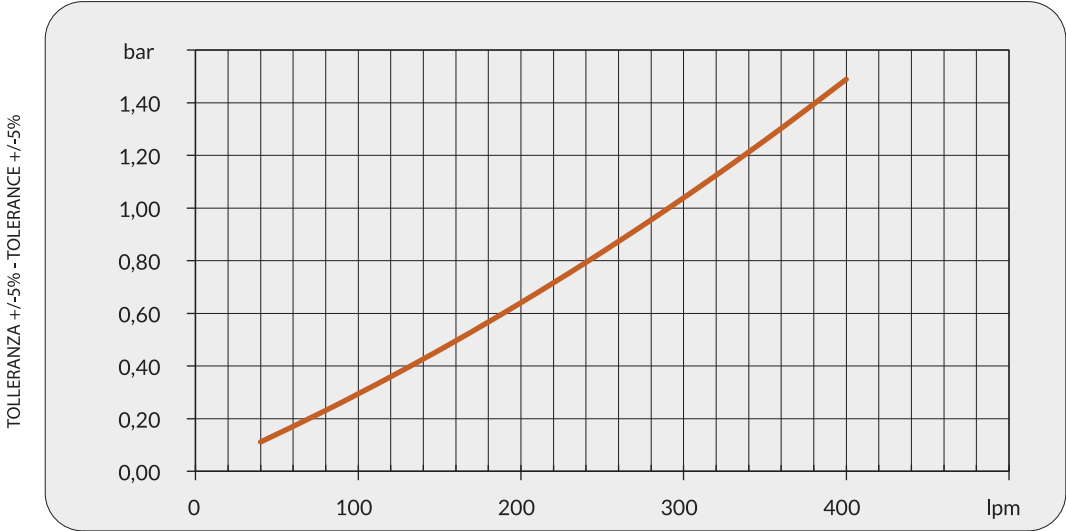
I dati si riferiscono al singolo ventilatore  
Data refers to each fan

Contattare EMMEGI    Contact EMMEGI

Diagramma rendimento    Performance diagram



Perdite di carico    Pressure drop (@30cSt)



Fattore di correzione-F-(perdite di carico)    Correction factor-F-(pressure drop)

| cSt | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0,5 | 0,65 | 0,77 | 1  | 1,2 | 1,4 | 1,6 | 1,9 | 2,1 | 3,3 | 4,3 |





**Serie HPA Compact**  
**HPA Compact Series**



## Serie HPA Compact

### HPA COMPACT Series

## APPLICAZIONE

### APPLICATION

Grazie all'ampia gamma di combinazioni, gli scambiatori della serie HPA Compact si prestano come la soluzione di raffreddamento ottimale per svariate applicazioni industriali quali:

The wide range of combinations makes the HPA Compact series heat exchangers the optimal cooling solution for a great variety of industrial applications such as:

Gru fisse.

Impianti di riciclo.

Impianti oleodinamici.

Macchine utensili.

Altro su richiesta.

Stationary cranes.

Recycling plants.

Hydraulic systems.

Machine tools.

Others on request.

Compatti e silenziosi l'intera gamma di scambiatori, è disponibile con motori elettrici con grado di protezione IP55 e varie tensioni.

Minimum dimensions, minimum noise the entire range of exchangers is available with electric motors with IP55 protection and various voltages





## Modulo richiesta dati

### Sheet for cooler selection

|                         |  |
|-------------------------|--|
| <b>CLIENTE</b> COMPANY  |  |
| <b>RICHIEDENTE</b> NAME |  |

|                                                        |     |  |
|--------------------------------------------------------|-----|--|
| <b>TIPOLOGIA FLUIDO</b><br>FLUID TYPE                  |     |  |
| <b>PORTATA</b><br>FLOW RATE                            | lpm |  |
| <b>POTENZA INSTALLATA</b><br>TOTAL POWER               | kW  |  |
| <b>POTENZA DA DISSIPARE</b><br>POWER TO BE DISSIPATED  | kW  |  |
| <b>TEMPERATURA INGRESSO</b><br>INLET TEMPERATURE       | °C  |  |
| <b>TEMPERATURA ARIA MAX</b><br>MAX AMBIENT TEMPERATURE | °C  |  |
| <b>PRESSIONE DI LAVORO</b><br>WORKING PRESSURE         | bar |  |

|                                              |
|----------------------------------------------|
| <b>TIPO DI VENTILAZIONE</b> TYPE OF FAN UNIT |
|----------------------------------------------|

|                 |
|-----------------|
| <b>CA</b><br>AC |
|-----------------|

|                                          |
|------------------------------------------|
| <b>MONOFASE 230V</b><br>SINGLEPHASE 230V |
|------------------------------------------|

|                                                       |
|-------------------------------------------------------|
| <b>TRIFASE</b> 230/400V<br><b>THREEPHASE</b> 277/480V |
|-------------------------------------------------------|

|                                             |
|---------------------------------------------|
| <b>TENSIONE SPECIALE</b><br>SPECIAL VOLTAGE |
|---------------------------------------------|

|                           |
|---------------------------|
| <b>50 Hz</b> <b>60 Hz</b> |
|---------------------------|

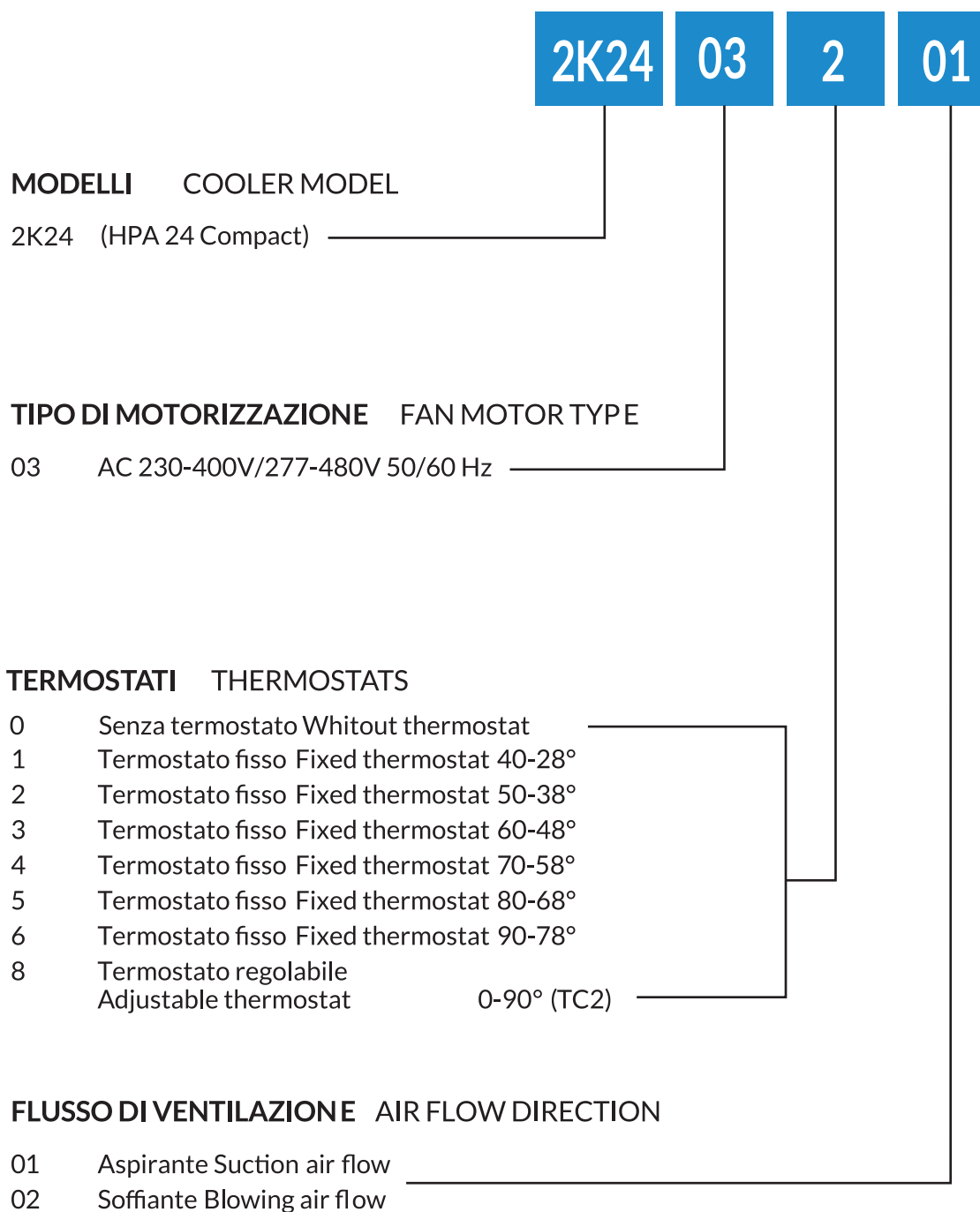


## Serie HPA COMPACT

### HPA COMPACT Series

## Denominazione codice prodotto

### Ordering code





## Serie HPA COMPACT

### HPA COMPACT Series

| Modello<br>Model | Codice<br>Code |
|------------------|----------------|
| HPA 12 COMPACT   | 2K12           |
| HPA 18 COMPACT   | 2K18           |
| HPA 24 COMPACT   | 2K24           |
| HPA 30 COMPACT   | 2K30           |
| HPA 36 COMPACT   | 2K36           |
| HPA 42 COMPACT   | 2K42           |
| HPA 50 COMPACT   | 2K50           |
| HPA 52 COMPACT   | 2K52           |



## Serie HPA COMPACT 2 PASS

### HPA COMPACT 2 PASS Series

| Modello<br>Model      | Codice<br>Code |
|-----------------------|----------------|
| HPA 24 COMPACT 2 PASS | 2K27           |
| HPA 24 COMPACT 2 PASS | 2K33           |
| HPA 36 COMPACT 2 PASS | 2K38           |
| HPA 42 COMPACT 2 PASS | 2K45           |
| HPA 50 COMPACT 2 PASS | 2K87           |
| HPA 52 COMPACT 2 PASS | 2K54           |



## Serie HPA COMPACT / 2

### HPA COMPACT / 2 Series

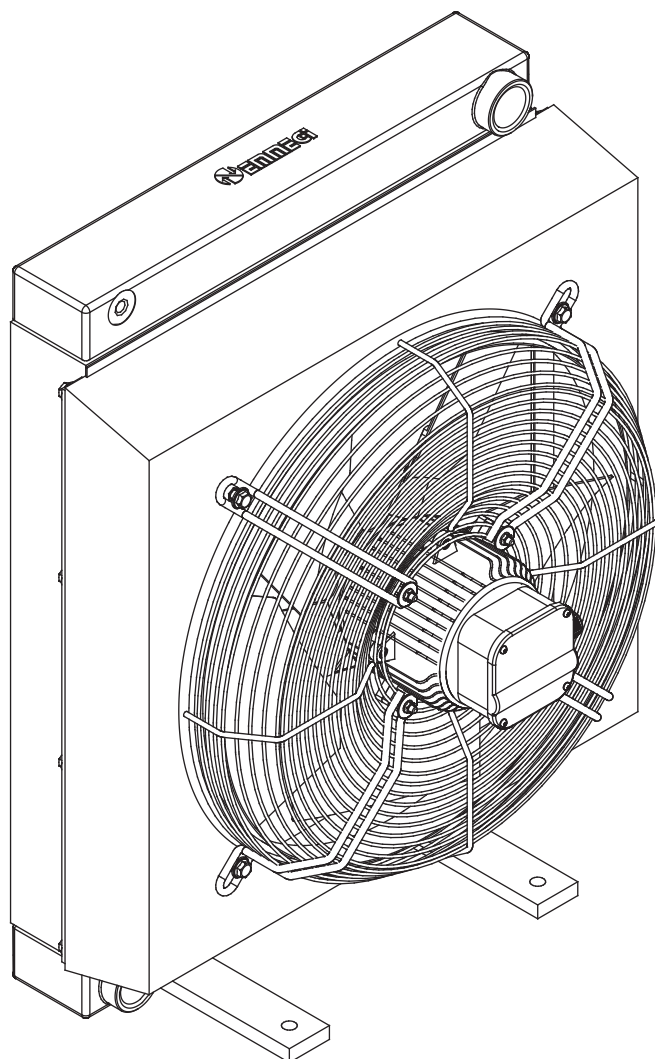
| Modello<br>Model | Codice<br>Code |
|------------------|----------------|
| HPA 30/2 COMPACT | 2K31           |
| HPA 36/2 COMPACT | 2K37           |
| HPA 42/2 COMPACT | 2K43           |
| HPA 50/2 COMPACT | 2K88           |
| HPA 52/2 COMPACT | 2K53           |





## Serie HPA COMPACT

### HPA COMPACT Series

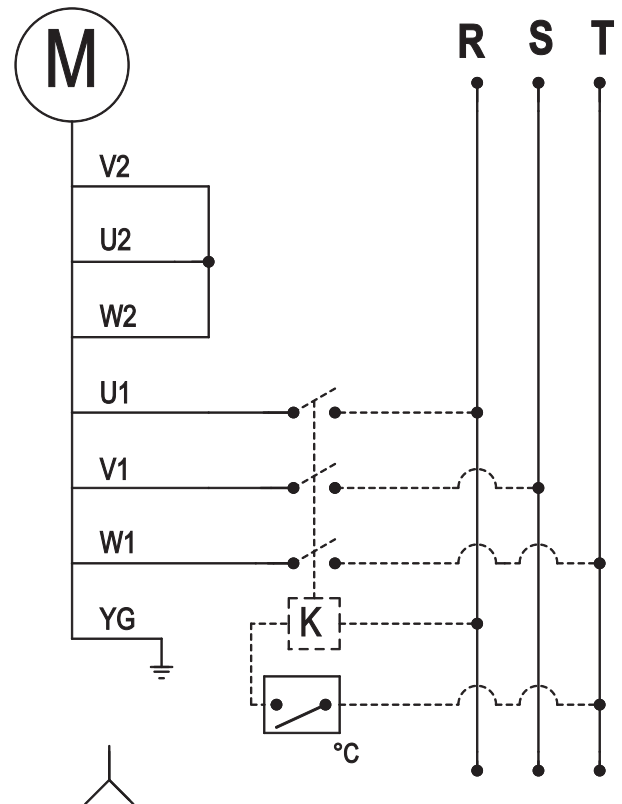


AC 230-400V 50Hz  
AC 277-480V 60Hz

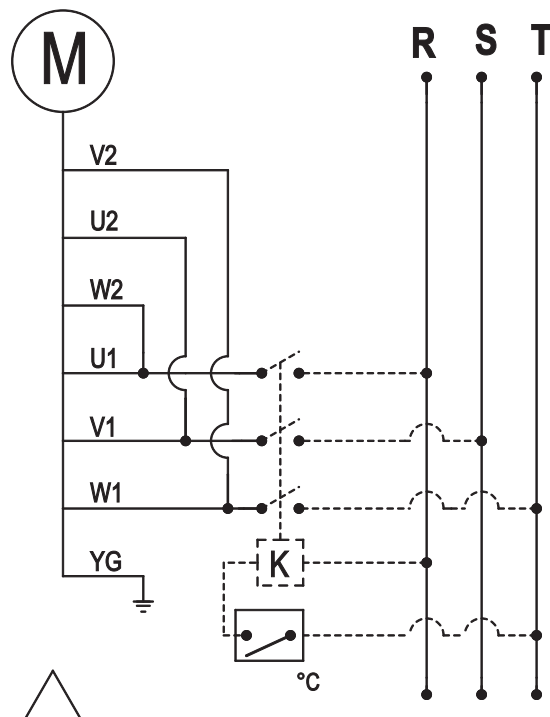
## Collegamenti elettrici

### Electric Wiring

COLLEGAMENTO ELETTRICO 400/460V AC TRIF.  
400/460V AC THREEPHASE ELECTRIC WIRING



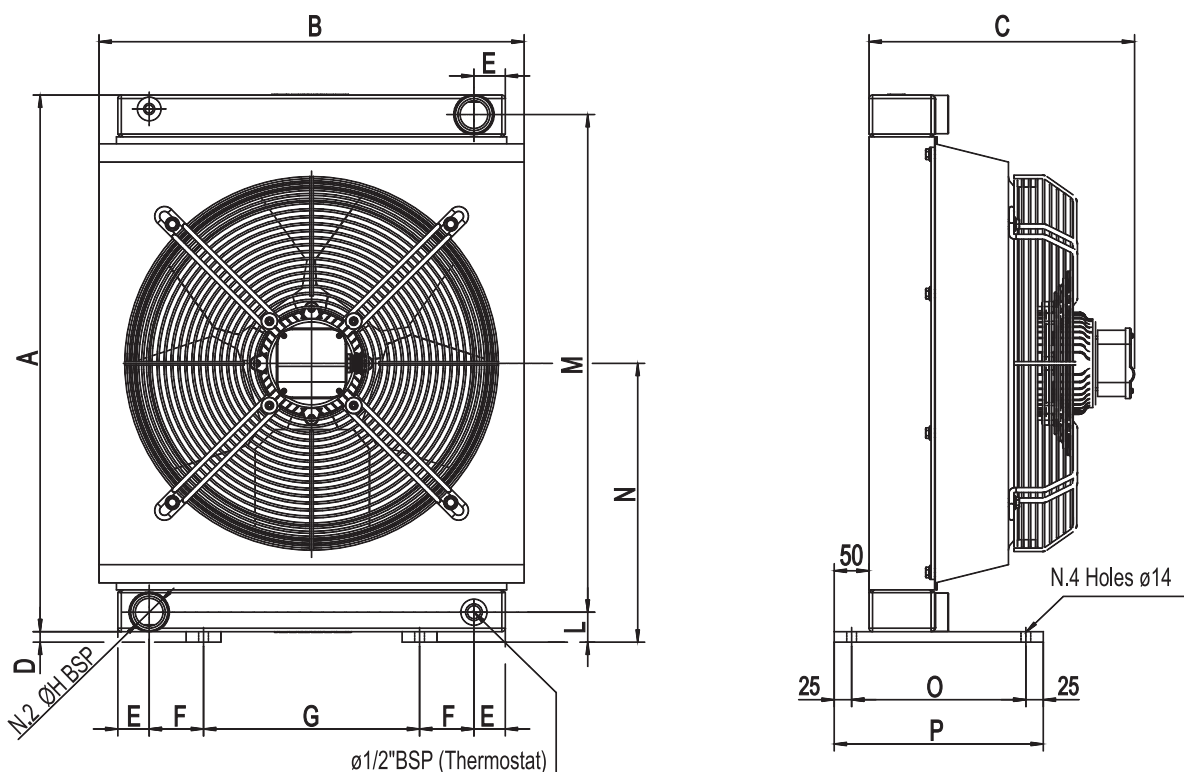
COLLEGAMENTO ELETTRICO 230V AC TRIF.  
230V AC 3PH ELECTRIC WIRING





## Serie HPA COMPACT

### HPA COMPACT Series



## Dimensioni Dimensions

| Model          | A   | B   | C   | D  | E  | F    | G   | H      | L  | M   | N   | O   | P   |
|----------------|-----|-----|-----|----|----|------|-----|--------|----|-----|-----|-----|-----|
| HPA 12 COMPACT | 390 | 357 | 278 | 10 | 40 | 38,5 | 150 | 1"     | 35 | 340 | 205 | 200 | 250 |
| HPA 18 COMPACT | 500 | 450 | 308 | 10 | 40 | 60   | 200 | 1"     | 35 | 450 | 260 | 200 | 250 |
| HPA 24 COMPACT | 520 | 450 | 339 | 15 | 45 | 55   | 200 | 1 1/4" | 43 | 464 | 275 | 250 | 300 |
| HPA 30 COMPACT | 670 | 465 | 365 | 15 | 45 | 62,5 | 200 | 1 1/4" | 43 | 614 | 350 | 250 | 300 |
| HPA 36 COMPACT | 770 | 610 | 380 | 15 | 45 | 78   | 310 | 1 1/4" | 43 | 714 | 400 | 250 | 300 |
| HPA 42 COMPACT | 920 | 606 | 415 | 15 | 45 | 78   | 310 | 1 1/4" | 43 | 864 | 475 | 250 | 300 |
| HPA 50 COMPACT | 940 | 725 | 443 | 15 | 45 | 76   | 400 | 1 1/2" | 50 | 870 | 485 | 250 | 300 |
| HPA 52 COMPACT | 940 | 725 | 470 | 15 | 45 | 76   | 400 | 1 1/2" | 50 | 870 | 485 | 250 | 300 |

## Dati tecnici Technical data

| P/N       | V               | Hz    | kW   | A    | rpm  | ø Fan | dB (A)*** | (m³/h) | IP | It   | kg |
|-----------|-----------------|-------|------|------|------|-------|-----------|--------|----|------|----|
| 2K1203### | 230-400/277-480 | 50/60 | 0,17 | 0,33 | 2240 | 250   | 69        | 1500   | 55 | 1,9  | 12 |
| 2K1803### | 230-400/277-480 | 50/60 | 0,42 | 0,85 | 2580 | 315   | 72        | 2300   | 55 | 2,9  | 20 |
| 2K2403### | 230-400/277-480 | 50/60 | 0,42 | 0,85 | 2540 | 315   | 75        | 1850   | 55 | 6,2  | 28 |
| 2K3003### | 230-400/277-480 | 50/60 | 0,40 | 1    | 1430 | 400   | 70        | 3100   | 55 | 6,8  | 35 |
| 2K3603### | 230-400/277-480 | 50/60 | 0,53 | 1,1  | 1350 | 500   | 73        | 5420   | 55 | 9,4  | 50 |
| 2K4203### | 230-400/277-480 | 50/60 | 0,79 | 1,49 | 1420 | 500   | 75        | 6820   | 55 | 10,6 | 59 |
| 2K5003### | 230-400/277-480 | 50/60 | 0,58 | 1,51 | 900  | 630   | 71        | 5910   | 55 | 14,2 | 82 |
| 2K5203### | 230-400/277-480 | 50/60 | 0,58 | 1,51 | 900  | 630   | 71        | 5260   | 55 | 17,7 | 87 |

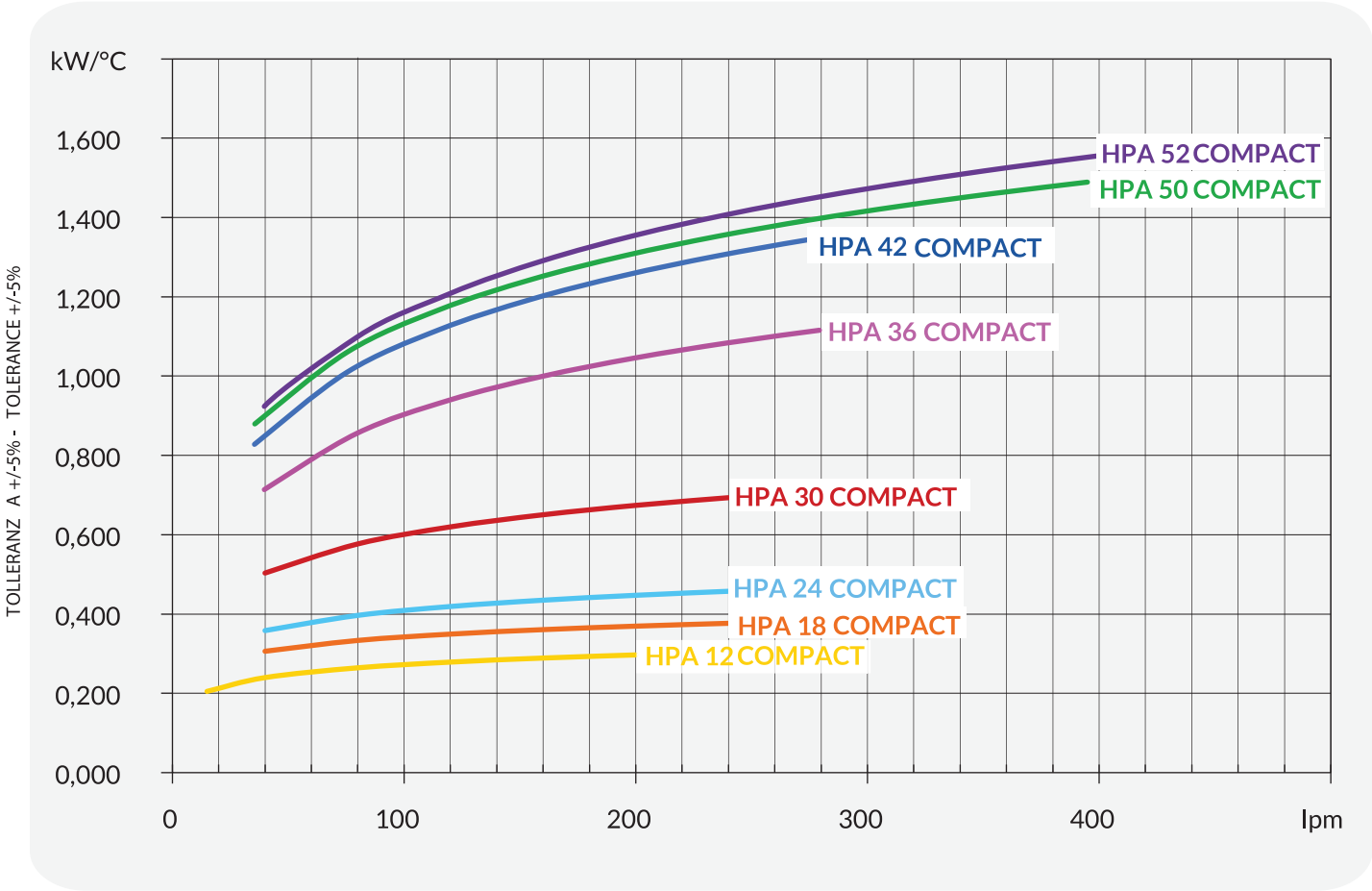
I dati soprariportati si riferiscono @400V/50Hz - The data refer @400V/50Hz \*\*\* In accordo alle norme ISO 3744-1981 (E) In accordance to ISO 3744-1981 (E)

Le dimensioni di ingombro e le caratteristiche tecniche non sono impegnative Overall dimensions and technical characteristic are not binding



Dati tecnici *Technical Data*

Diagramma rendimento *Performance diagram*



Perdite di carico *Pressure drop (@30cSt)*

| Model          | 40 lpm | 80 lpm | 120 lpm | 160 lpm | 200 lpm | 240 lpm | 280 lpm |
|----------------|--------|--------|---------|---------|---------|---------|---------|
| HPA 12 COMPACT | 0,3    | 0,6    | 0,9     |         |         |         |         |
| HPA 18 COMPACT | 0,3    | 0,6    | 1       | 1,5     |         |         |         |
| HPA 24 COMPACT | 0,15   | 0,3    | 0,5     | 0,7     |         |         |         |
| HPA 30 COMPACT | 0,2    | 0,4    | 0,6     | 0,9     |         |         |         |
| HPA 36 COMPACT | 0,2    | 0,4    | 0,6     | 0,8     | 1       |         |         |
| HPA 42 COMPACT | 0,2    | 0,4    | 0,6     | 0,9     | 1,2     | 1,5     | 1,8     |
| HPA 50 COMPACT |        | 0,3    | 0,4     | 0,6     | 0,8     | 0,9     | 1,1     |
| HPA 52 COMPACT |        | 0,2    | 0,4     | 0,5     | 0,6     | 0,8     | 1       |

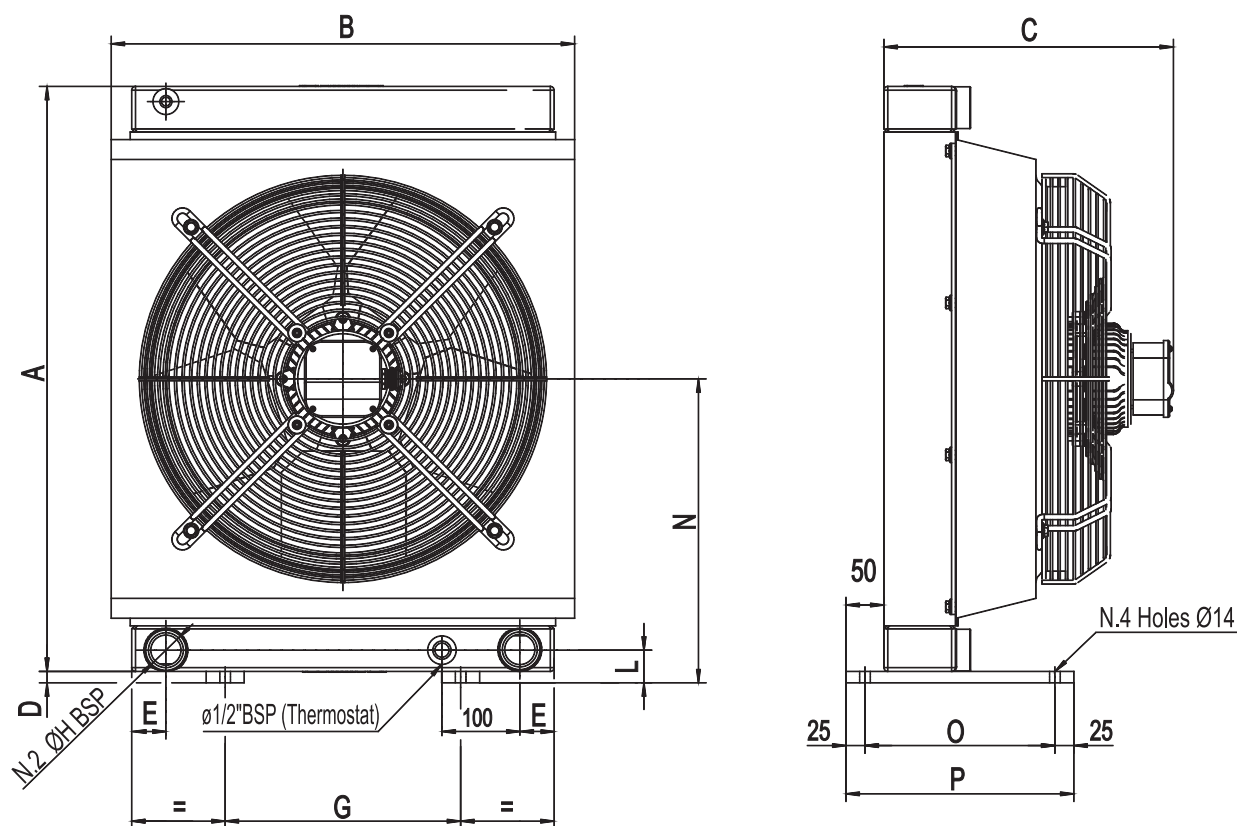
Fattore di correzione-F-(perdite di carico) *Correction factor-F-(pressure drop)*

| cSt | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0,5 | 0,65 | 0,77 | 1  | 1,2 | 1,4 | 1,6 | 1,9 | 2,1 | 3,3 | 4,3 |



## Serie HPA COMPACT

### HPA 2 PASS COMPACT Series



## Dimensioni Dimensions

| Model             | A   | B   | C   | D  | E  | G   | H      | L  | N   | O   | P   |
|-------------------|-----|-----|-----|----|----|-----|--------|----|-----|-----|-----|
| HPA 24 2P COMPACT | 520 | 450 | 339 | 15 | 50 | 200 | 1"     | 40 | 275 | 250 | 300 |
| HPA 30 2P COMPACT | 670 | 465 | 365 | 15 | 50 | 200 | 1"     | 45 | 350 | 250 | 300 |
| HPA 36 2P COMPACT | 770 | 610 | 380 | 15 | 50 | 310 | 1"     | 45 | 400 | 250 | 300 |
| HPA 42 2P COMPACT | 920 | 605 | 415 | 15 | 50 | 310 | 1 1/4" | 45 | 475 | 250 | 300 |
| HPA 50 2P COMPACT | 940 | 725 | 443 | 15 | 50 | 400 | 1 1/4" | 50 | 485 | 250 | 300 |
| HPA 52 2P COMPACT | 940 | 725 | 470 | 15 | 50 | 400 | 1 1/2" | 50 | 485 | 250 | 300 |

## Dati tecnici Technical data

| P/N       | V               | Hz    | kW   | A    | rpm  | ø Fan | dB (A)*** | (m³/h) | IP | It   | kg |
|-----------|-----------------|-------|------|------|------|-------|-----------|--------|----|------|----|
| 2K2703### | 230-400/277-480 | 50/60 | 0,42 | 0,85 | 2540 | 315   | 75        | 2800   | 55 | 6,2  | 28 |
| 2K3303### | 230-400/277-480 | 50/60 | 0,40 | 1    | 1430 | 400   | 70        | 4000   | 55 | 6,8  | 35 |
| 2K3803### | 230-400/277-480 | 50/60 | 0,53 | 1,1  | 1350 | 500   | 73        | 5650   | 55 | 9,4  | 50 |
| 2K4503### | 230-400/277-480 | 50/60 | 0,79 | 1,49 | 1420 | 500   | 75        | 8400   | 55 | 10,6 | 59 |
| 2K8703### | 230-400/277-480 | 50/60 | 0,58 | 1,5  | 900  | 630   | 71        | 7450   | 55 | 14,2 | 82 |
| 2K5403### | 230-400/277-480 | 50/60 | 0,58 | 1,5  | 900  | 630   | 71        | 6970   | 55 | 17,7 | 87 |

I dati soprariportati si riferiscono @400V/50Hz - The data refer @400V/50Hz \*\*\* In accordo alle norme ISO 3744-19 81 (E) - In accordance to ISO 3744-19 81 (E)

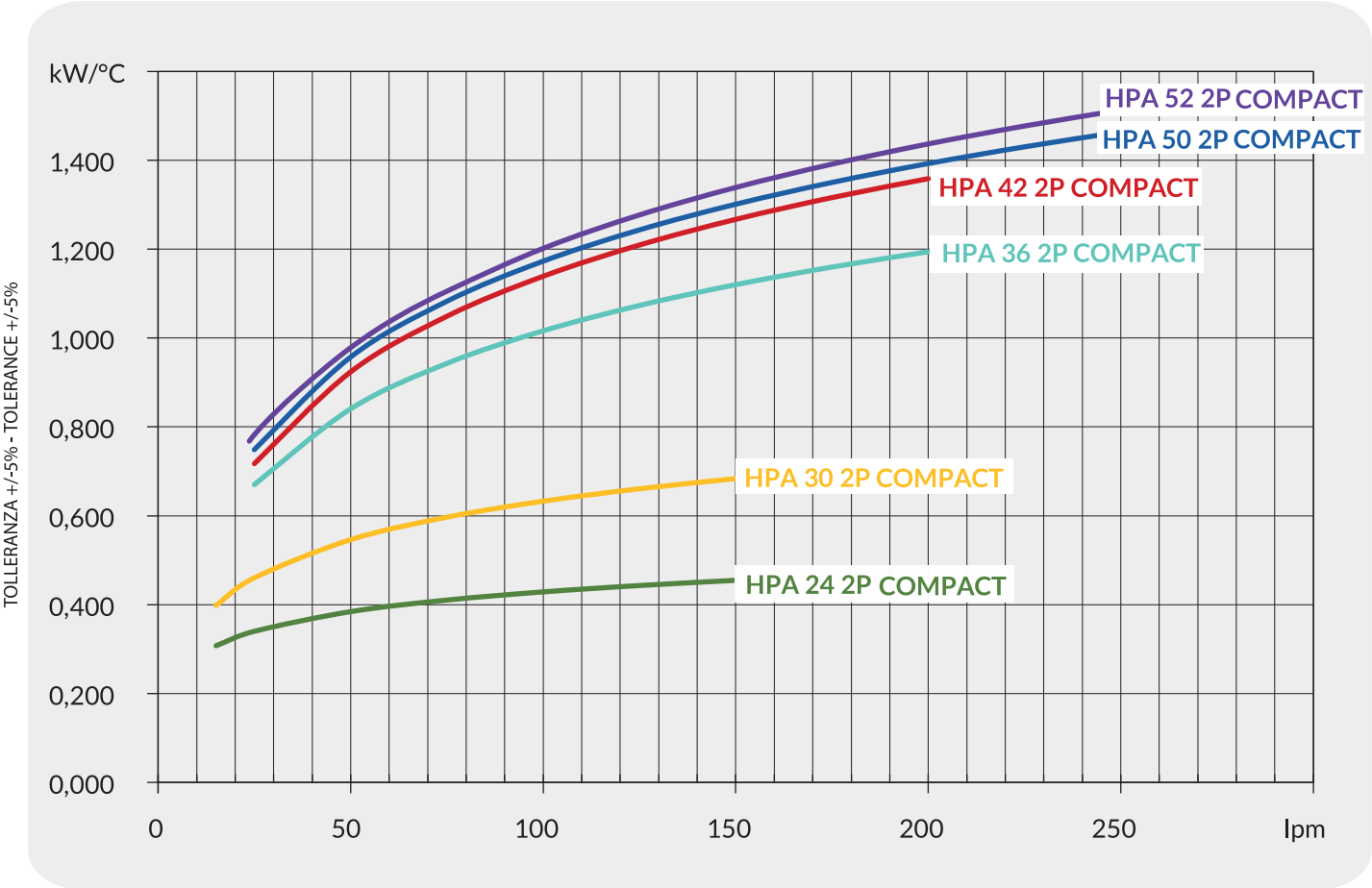
Le dimensioni di ingombro e le caratteristiche tecniche non sono impegnative  
Overall dimensions and technical characteristic are not binding





Dati tecnici *Technical Data*

Diagramma rendimento *Performance diagram*



Perdite di carico *Pressure drop (ISO VG 32)*

| Model             | 20 lpm | 40 lpm | 60 lpm | 80 lpm | 100 lpm | 120 lpm | 140 lpm |
|-------------------|--------|--------|--------|--------|---------|---------|---------|
| HPA 24 2P COMPACT | 0,3    | 0,6    | 0,9    | 1,2    |         |         |         |
| HPA 30 2P COMPACT | 0,4    | 0,7    | 1,1    | 1,5    | 1,9     |         |         |
| HPA 36 2P COMPACT | 0,3    | 0,6    | 1      | 1,3    | 1,7     | 2,2     |         |
| HPA 42 2P COMPACT | 0,4    | 0,7    | 1,1    | 1,5    | 1,9     | 2,65    |         |
| HPA 50 2P COMPACT |        | 0,5    | 0,8    | 1      | 1,3     | 1,65    | 2       |
| HPA 52 2P COMPACT |        | 0,4    | 0,6    | 0,8    | 1       | 1,35    | 1,6     |

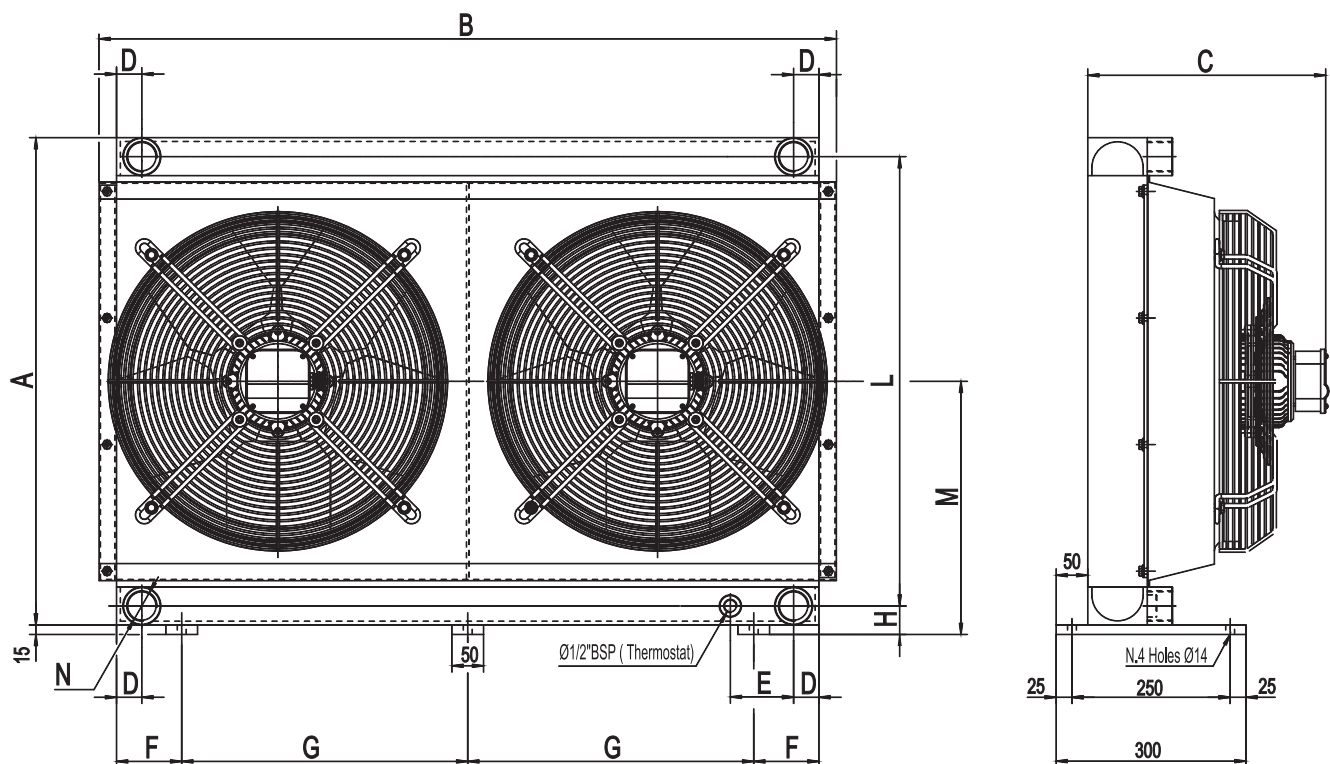
Fattore di correzione-F-(perdite di carico) *Correction factor-F-(pressure drop)*

| cSt | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0,5 | 0,65 | 0,77 | 1  | 1,2 | 1,4 | 1,6 | 1,9 | 2,1 | 3,3 | 4,3 |



# Serie HPA COMPACT

## HPA / 2 COMPACT Series



### Dimensioni Dimensions

| Model            | A   | B    | C   | D  | E    | F   | G   | H  | L   | M   | N     |
|------------------|-----|------|-----|----|------|-----|-----|----|-----|-----|-------|
| HPA 30/2 COMPACT | 670 | 880  | 365 | 40 | ---- | 104 | 311 | 45 | 610 | 350 | Ø 1½" |
| HPA 36/2 COMPACT | 770 | 1165 | 380 | 40 | 100  | 103 | 452 | 45 | 710 | 400 | Ø 1½" |
| HPA 42/2 COMPACT | 920 | 1165 | 415 | 40 | 100  | 103 | 452 | 45 | 860 | 475 | Ø 1½" |
| HPA 50/2 COMPACT | 940 | 1430 | 440 | 40 | 100  | 93  | 549 | 50 | 870 | 485 | Ø 1½" |
| HPA 52/2 COMPACT | 940 | 1430 | 465 | 40 | 100  | 98  | 545 | 50 | 870 | 485 | Ø 1½" |

Nel modello HPA 30/2 sono previsti solo 2 manicotti da Ø1½" BSP.  
For HPA 30/2 model n° 2 oil ports Ø1½" BSP only.

### Dati tecnici Technical data

| P/N       | V               | Hz    | kW   | A    | rpm  | ø Fan | dB (A)*** | (m³/h) | IP | lt   | kg  |
|-----------|-----------------|-------|------|------|------|-------|-----------|--------|----|------|-----|
| 2K3703### | 230-400/277-480 | 50/60 | 0,53 | 1,1  | 1350 | 500   | 76        | 5650   | 55 | 18,8 | 100 |
| 2K4303### | 230-400/277-480 | 50/60 | 0,79 | 1,49 | 1420 | 500   | 78        | 8400   | 55 | 21,2 | 123 |
| 2K8803### | 230-400/277-480 | 50/60 | 0,58 | 1,51 | 900  | 630   | 74        | 7450   | 55 | 28,4 | 176 |
| 2K5303### | 230-400/277-480 | 50/60 | 0,58 | 1,51 | 900  | 630   | 74        | 6970   | 55 | 35,4 | 187 |

I dati soprariportati sono riferiti al singolo ventilatore @400V/50Hz    The data refers to each ventilator @400V/50Hz

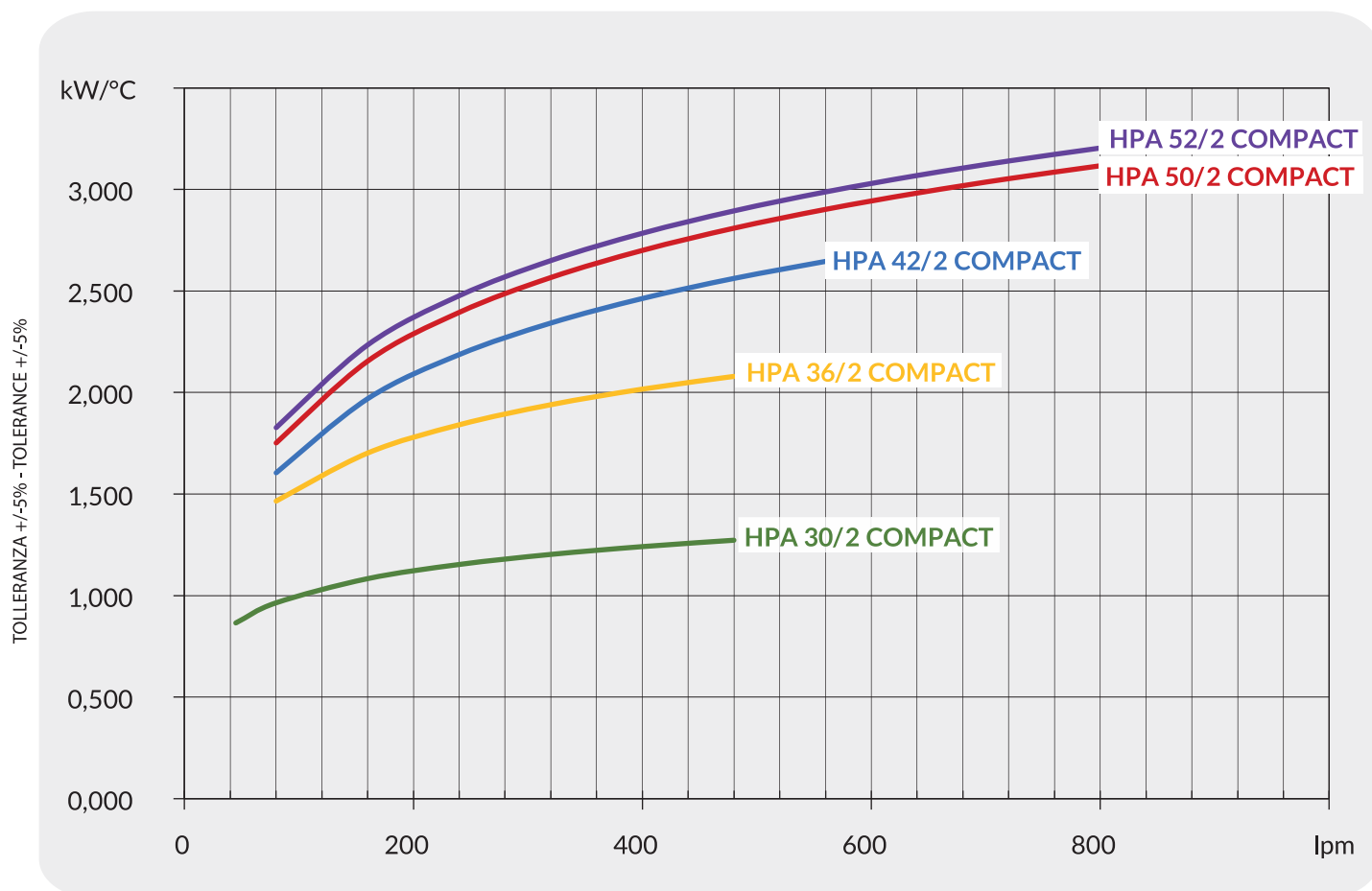
\*\*\* In accordo alle norme ISO 3744-19 81 (E)    In accordance to ISO 3744-19 81 (E)

Le dimensioni di ingombro e le caratteristiche tecniche non sono impegnative  
Overall dimensions and technical characteristic are not binding



## Dati tecnici *Technical Data*

### Diagramma rendimento *Performance diagram*



### Perdite di carico *Pressure drop (@30cSt)*

| Model            | 80 lpm | 160 lpm | 240 lpm | 320 lpm | 400 lpm | 480 lpm | 560 lpm |
|------------------|--------|---------|---------|---------|---------|---------|---------|
| HPA 30/2 COMPACT | 0,2    | 0,5     | 0,8     | 1,1     |         |         |         |
| HPA 36/2 COMPACT | 0,2    | 0,4     | 0,7     | 1       | 1,3     |         |         |
| HPA 42/2 COMPACT |        | 0,5     | 0,7     | 1,1     | 1,5     | 1,9     |         |
| HPA 50/2 COMPACT |        | 0,4     | 0,6     | 0,9     | 1,2     | 1,6     | 1,9     |
| HPA 52/2 COMPACT |        | 0,3     | 0,5     | 0,8     | 1,1     | 1,4     | 1,7     |

### Fattore di correzione-F-(perdite di carico) *Correction factor-F-(pressure drop)*

| cSt | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0,5 | 0,65 | 0,77 | 1  | 1,2 | 1,4 | 1,6 | 1,9 | 2,1 | 3,3 | 4,3 |





Serie HPA Larger  
HPA Larger Series





## Serie HPA Large

### HPA Large Series

## APPLICAZIONE

### APPLICATION

Questa gamma di prodotti soddisfa importanti esigenze di raffreddamento in termini di portate e potenze da dissipare, ampliando di fatto la capacità di offrire più soluzioni anche per situazioni gravose.

Tali performance sono supportate da una componentistica particolarmente robusta che ne garantisce una lunga durata nel tempo.

Questi scambiatori sono prevalentemente elettroventilati con motori industriali, ma possiamo considerare anche ventilazioni ad azionamento idraulico.

Grazie all'ampia gamma di combinazioni, gli scambiatori della serie HPA Larger si prestano come la soluzione di raffreddamento ottimale per svariate applicazioni industriali quali:

This range of products meets important cooling requirements in terms of flow rates and power to dissipate, effectively expanding the ability to offer more solutions even for heavy situations.

These performances are supported by a particularly robust component that guarantees a long life.

These heat exchangers are mainly electroventilated with industrial motors, but we can also consider hydraulically driven ventilation.

The wide range of combinations makes the HPA Larger series heat exchangers the optimal cooling solution for a wide range of industrial applications such as:

Gru fisse.

Impianti di riciclo.

Impianti oleodinamici.

Macchine utensili.

Altro su richiesta.

Stationary cranes.

Recycling plants.

Hydraulic systems.

Machine tools.

Others on request.

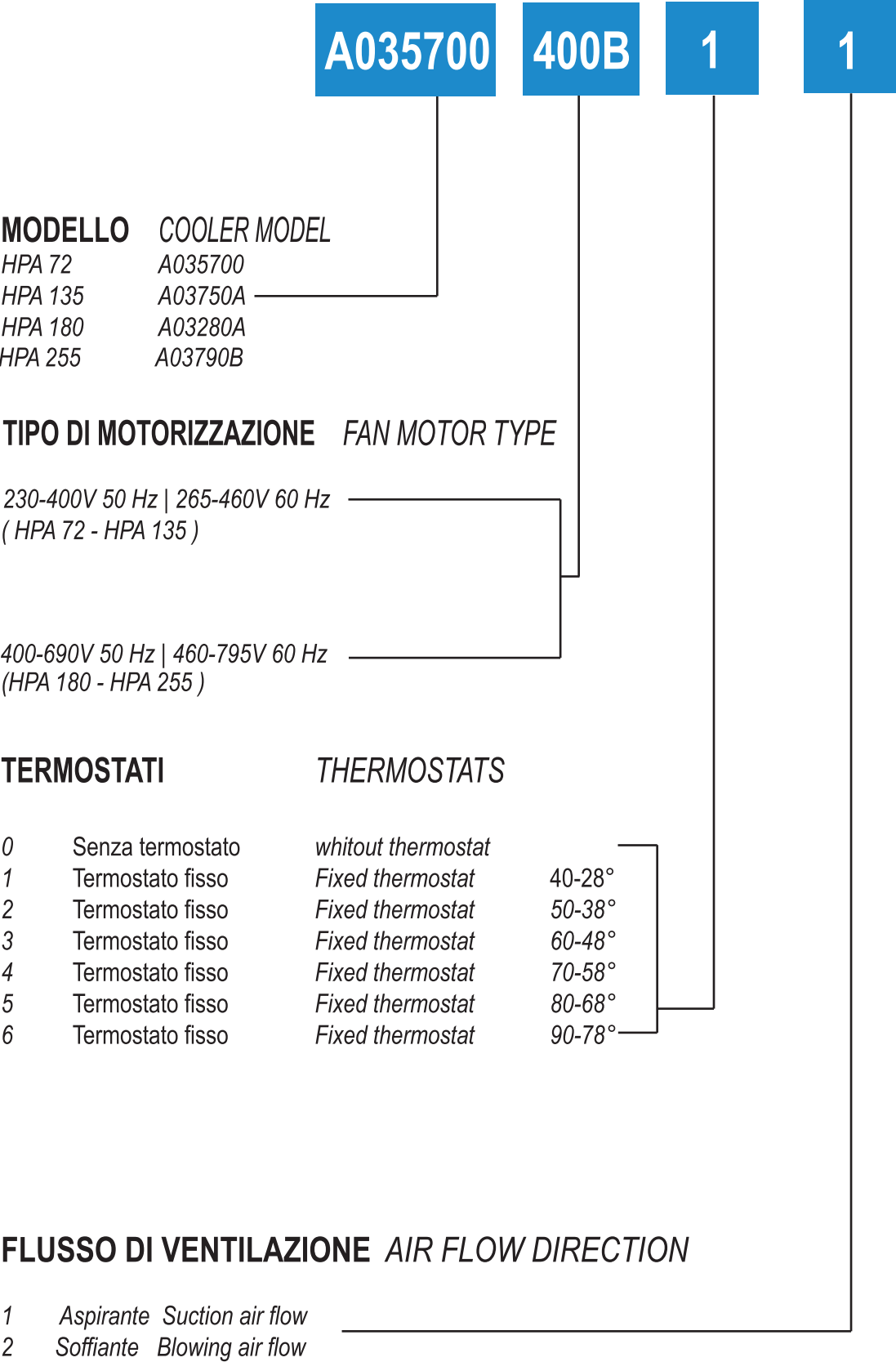






Denominazione codice prodotto

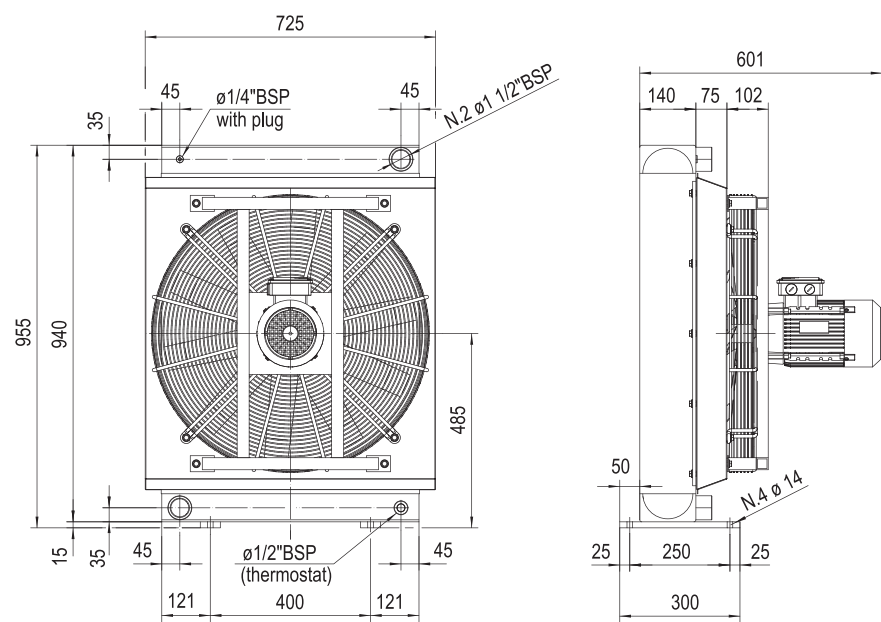
Ordering code





# Serie HPA Larger

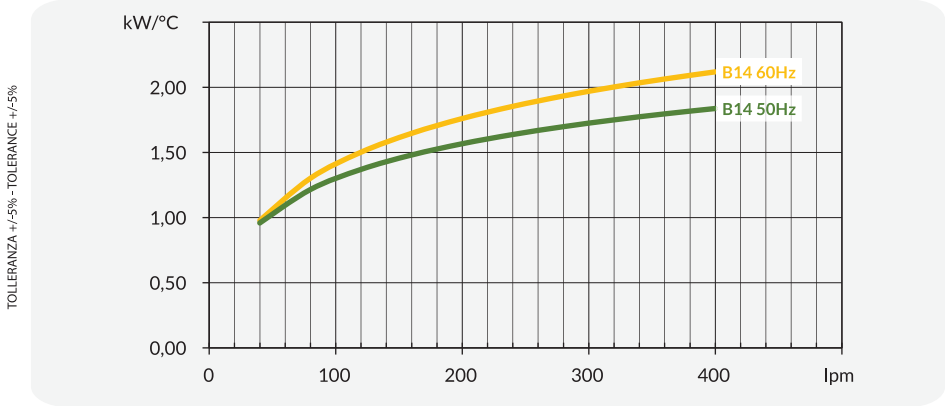
## HPA 72



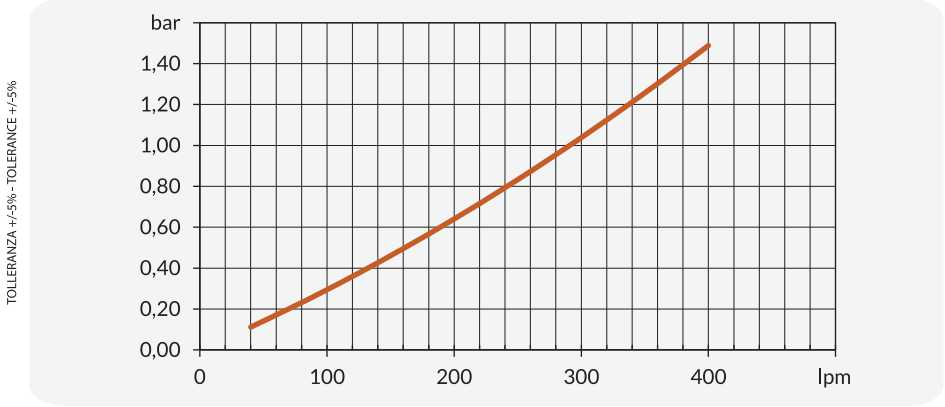
Le dimensioni di ingombro e le caratteristiche tecniche non sono impegnative  
Overall dimensions and technical characteristic are not binding

| P/N           | V                  | Hz    | kW        | A                 | rpm       | dB (A) | IP | lt | kg  |
|---------------|--------------------|-------|-----------|-------------------|-----------|--------|----|----|-----|
| A035700400B## | 230-400 / 265-460V | 50/60 | 2,2 / 2,5 | 8,3-4,8 / 8,3-4,8 | 1435/1722 | 79/82  | 55 | 19 | 105 |

### Diagramma rendimento      Performance diagram

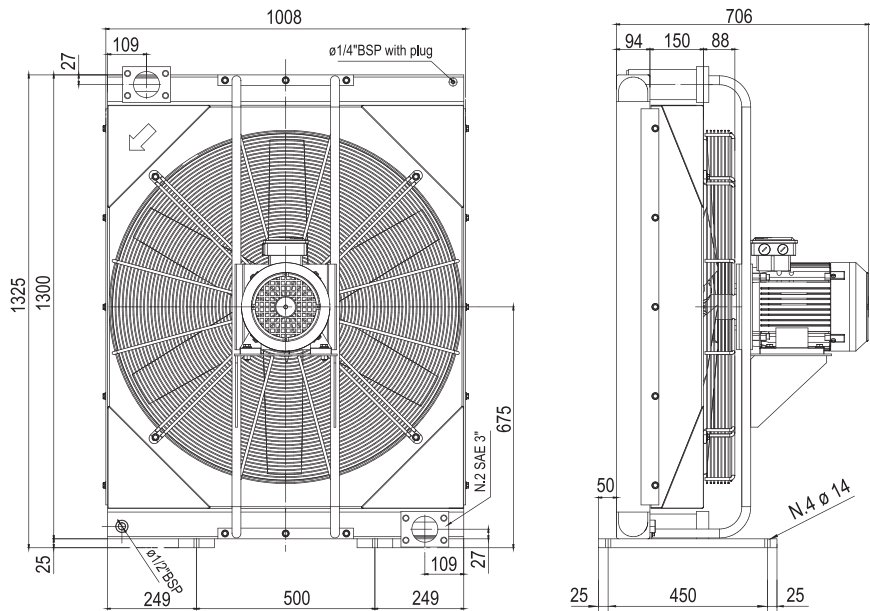


### Perdite di carico      Pressure drop (@30cSt)



### Fattore di correzione-F-(perdite di carico)      Correction factor-F-(pressure drop)

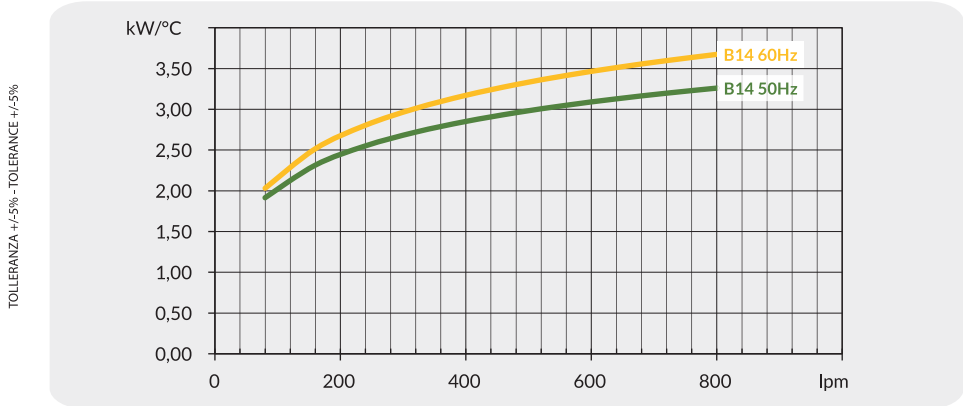
| cSt | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0,5 | 0,65 | 0,77 | 1  | 1,2 | 1,4 | 1,6 | 1,9 | 2,1 | 3,3 | 4,3 |



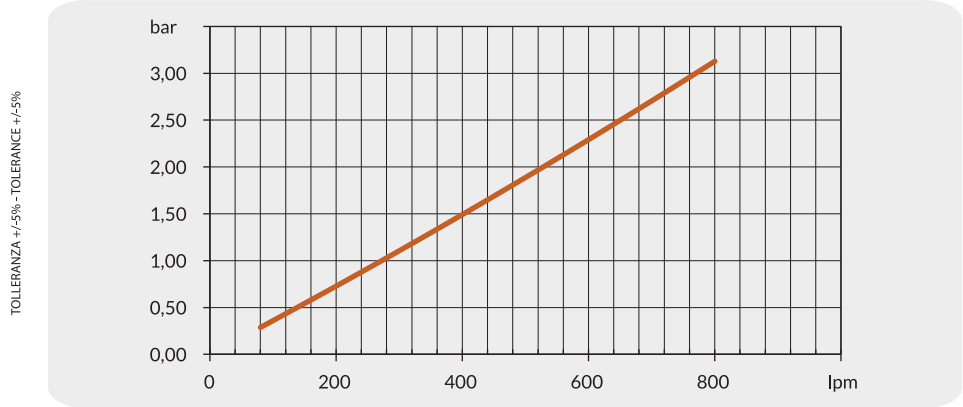
Le dimensioni di ingombro e le caratteristiche tecniche non sono impegnative  
Overall dimensions and technical characteristic are not binding

| P/N           | V                  | Hz    | kW        | A                     | rpm      | dB (A)  | IP | It | kg  |
|---------------|--------------------|-------|-----------|-----------------------|----------|---------|----|----|-----|
| A03750A400B## | 230-400 / 265-460V | 50/60 | 3,0 / 3,5 | 12,1 - 7 / 12,1 - 7,0 | 969/1163 | 76 / 86 | 55 | 26 | 126 |

Diagramma rendimento    Performance diagram



Perdite di carico    Pressure drop (@30cSt)

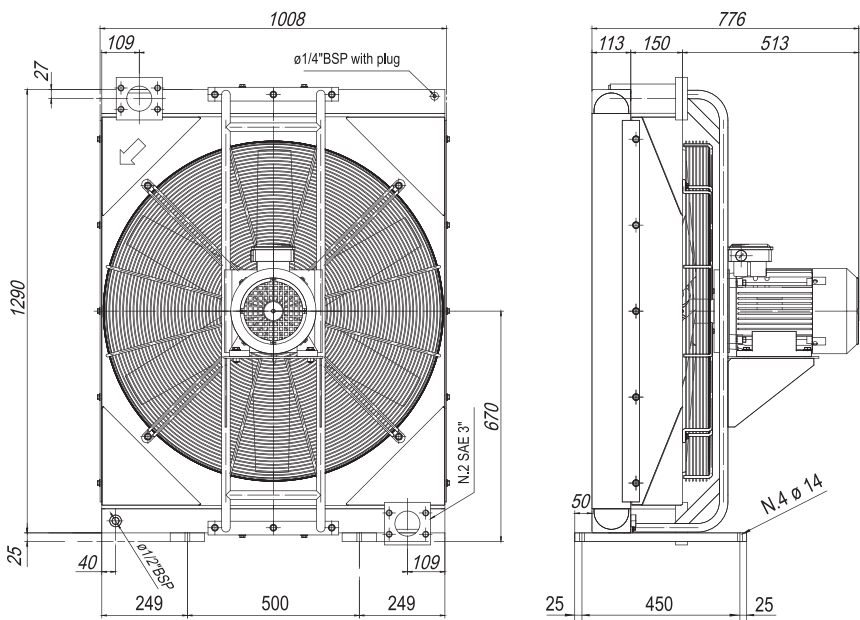


Fattore di correzione-F-(perdite di carico)    Correction factor-F-(pressure drop)

| cSt | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0,5 | 0,65 | 0,77 | 1  | 1,2 | 1,4 | 1,6 | 1,9 | 2,1 | 3,3 | 4,3 |



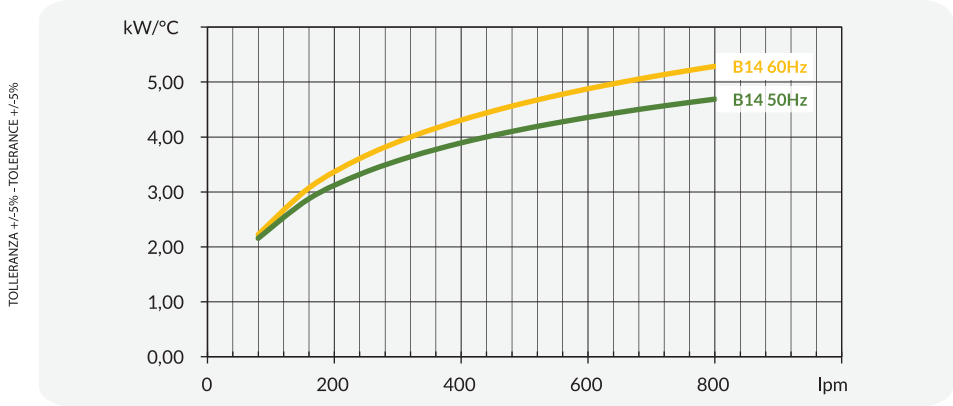
Serie HPA Larger  
HPA 180



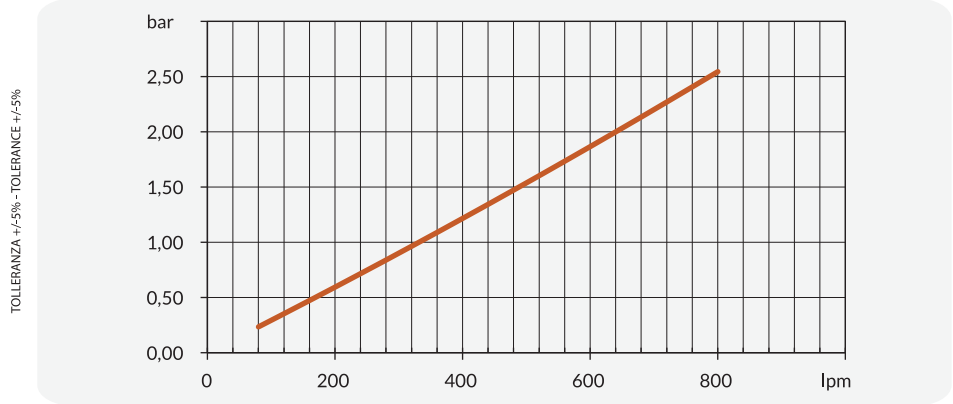
Le dimensioni di ingombro e le caratteristiche tecniche non sono impegnative  
Overall dimensions and technical characteristic are not binding

| P/N           | V                  | Hz    | kW        | A                       | rpm       | dB (A)  | IP | It | kg  |
|---------------|--------------------|-------|-----------|-------------------------|-----------|---------|----|----|-----|
| A03280A400B## | 400-690 / 460-795V | 50/60 | 7,5 / 8,6 | 14,4 - 8,3 / 14,4 - 8,3 | 1450/1740 | 85 / 89 | 55 | 31 | 200 |

Diagramma rendimento    Performance diagram



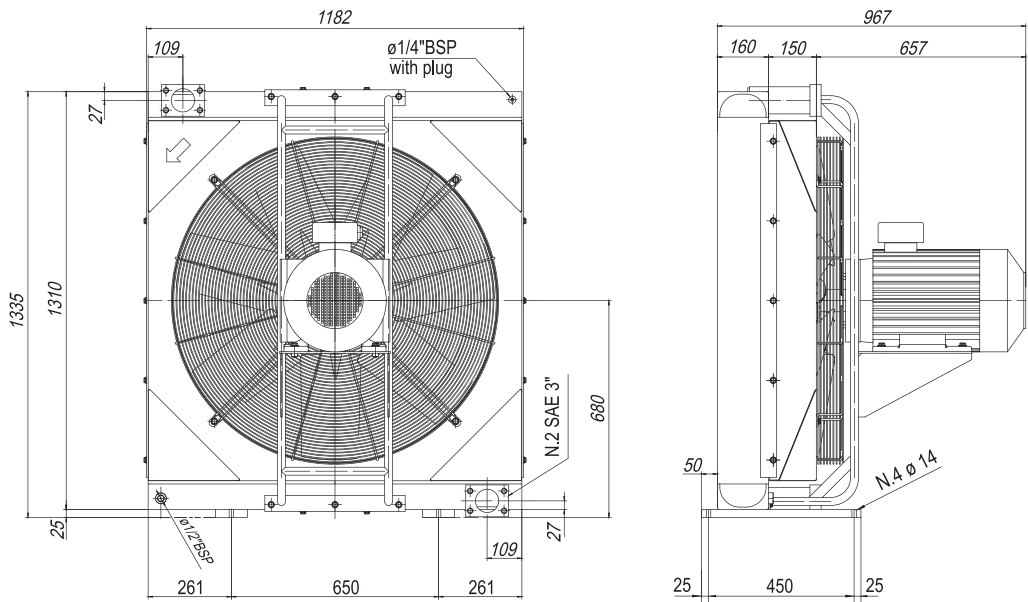
Perdite di carico    Pressure drop (@30cSt)



Fattore di correzione-F-(perdite di carico)    Correction factor-F-(pressure drop)

| cSt | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0,5 | 0,65 | 0,77 | 1  | 1,2 | 1,4 | 1,6 | 1,9 | 2,1 | 3,3 | 4,3 |

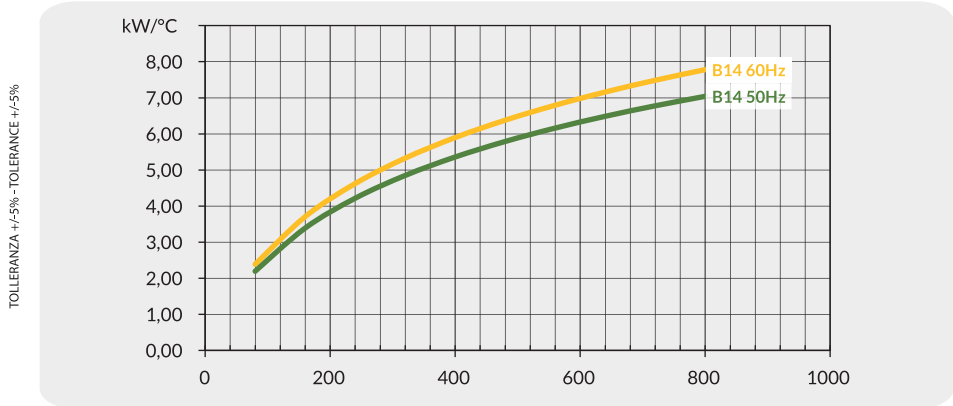
Serie HPA Larger  
HPA 255



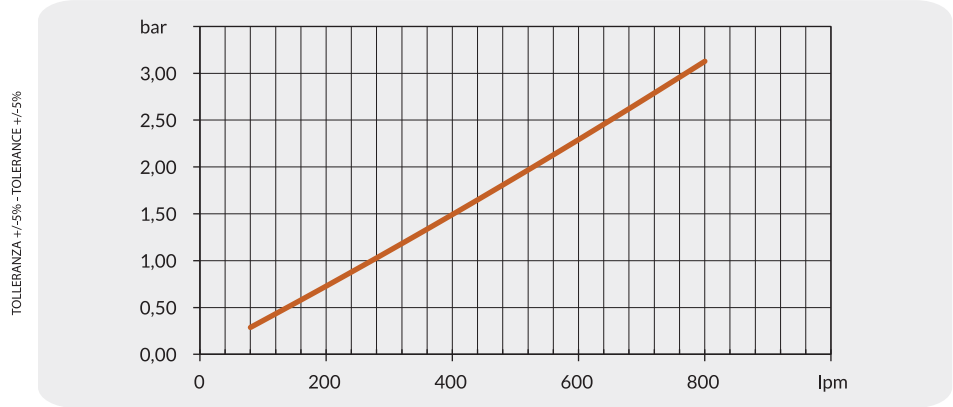
Le dimensioni di ingombro e le caratteristiche tecniche non sono impegnative  
Overall dimensions and technical characteristic are not binding

| P/N           | V                  | Hz    | kW        | A                       | rpm       | dB (A)  | IP | It | kg  |
|---------------|--------------------|-------|-----------|-------------------------|-----------|---------|----|----|-----|
| A03790B400B## | 400-690 / 460-795V | 50/60 | 15 / 17,3 | 28,2 - 16,3 / 28,2-16,3 | 1456/1747 | 90 / 94 | 55 | 56 | 358 |

Diagramma rendimento    Performance diagram



Perdite di carico    Pressure drop (@30cSt)

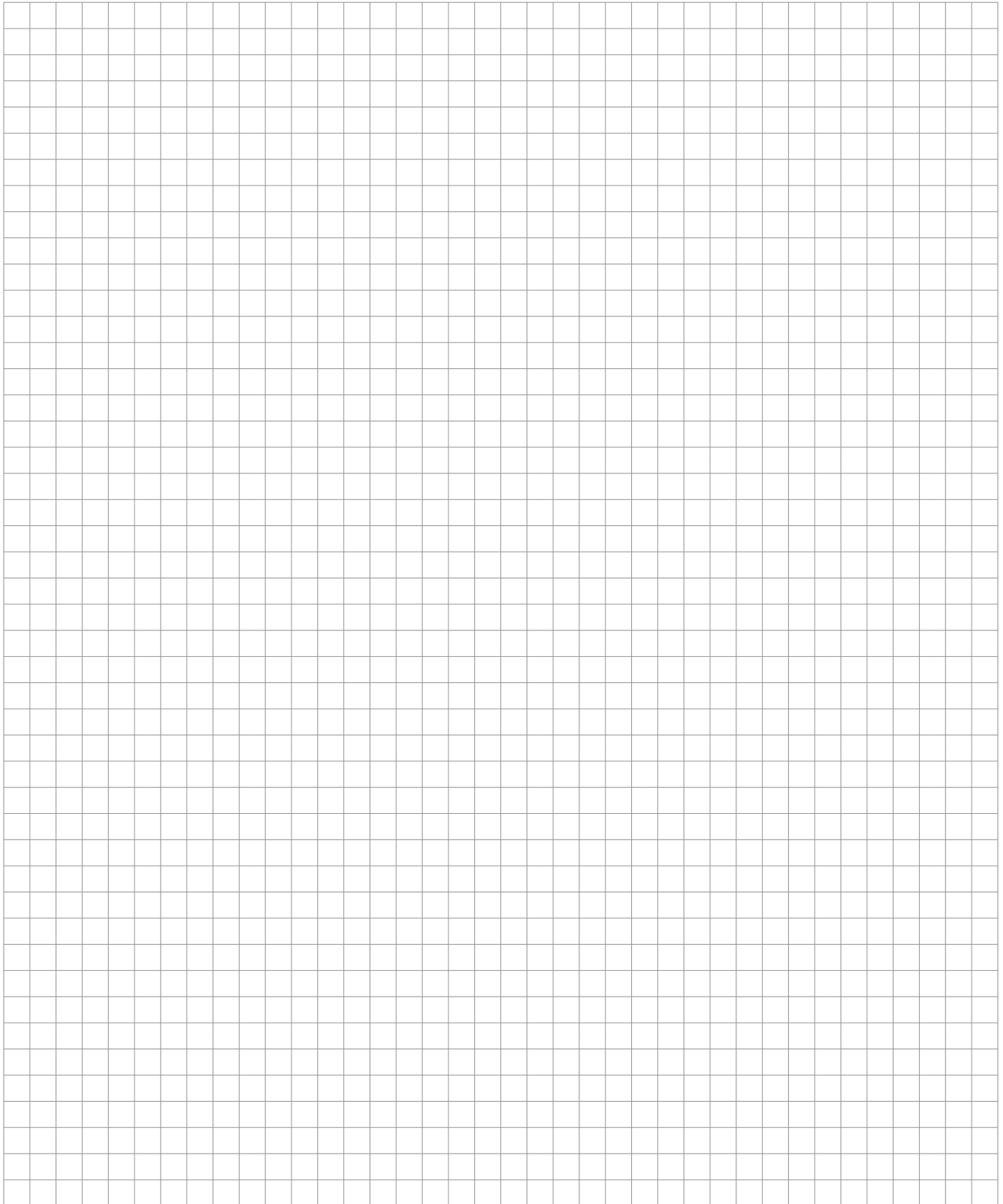


Fattore di correzione-F-(perdite di carico)    Correction factor-F-(pressure drop)

| cSt | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0,5 | 0,65 | 0,77 | 1  | 1,2 | 1,4 | 1,6 | 1,9 | 2,1 | 3,3 | 4,3 |











Serie HPA TK  
HPA TK Series



### APPLICAZIONE

#### APPLICATION

Questa soluzione di raffreddamento garantisce una ottimale temperatura di funzionamento dell'olio sulle betoniere a circuito chiuso. Grazie anche ad un filtro disponibile a richiesta, è possibile mantenere un buon grado di pulizia del fluido. La ventilazione avviene tramite elettroventole DC con convogliatore integrato, rende il prodotto particolarmente compatto. Oltre alla versione DC possiamo considerare sistemi alternativi a richiesta.

This cooling solution ensures optimum oil operating temperature on closed-circuit mixers.

Thanks to a filter available on request, it is possible to maintain a good degree of cleaning of the fluid.

Ventilation is via DC electric fans with integrated conveyor, making the product particularly compact.

In addition to the DC version we can consider alternative systems on request.



## Serie HPA TK - HPA TK Series

### Modello

Model

HPA 12 TK15



## Serie HPA TK 2 PASS - HPA TK 2 PASS Series

### Modello

Model

HPA 18 2 PASS TK18

HPA 18 2 PASS TK30

HPA 24 2 PASS TK30

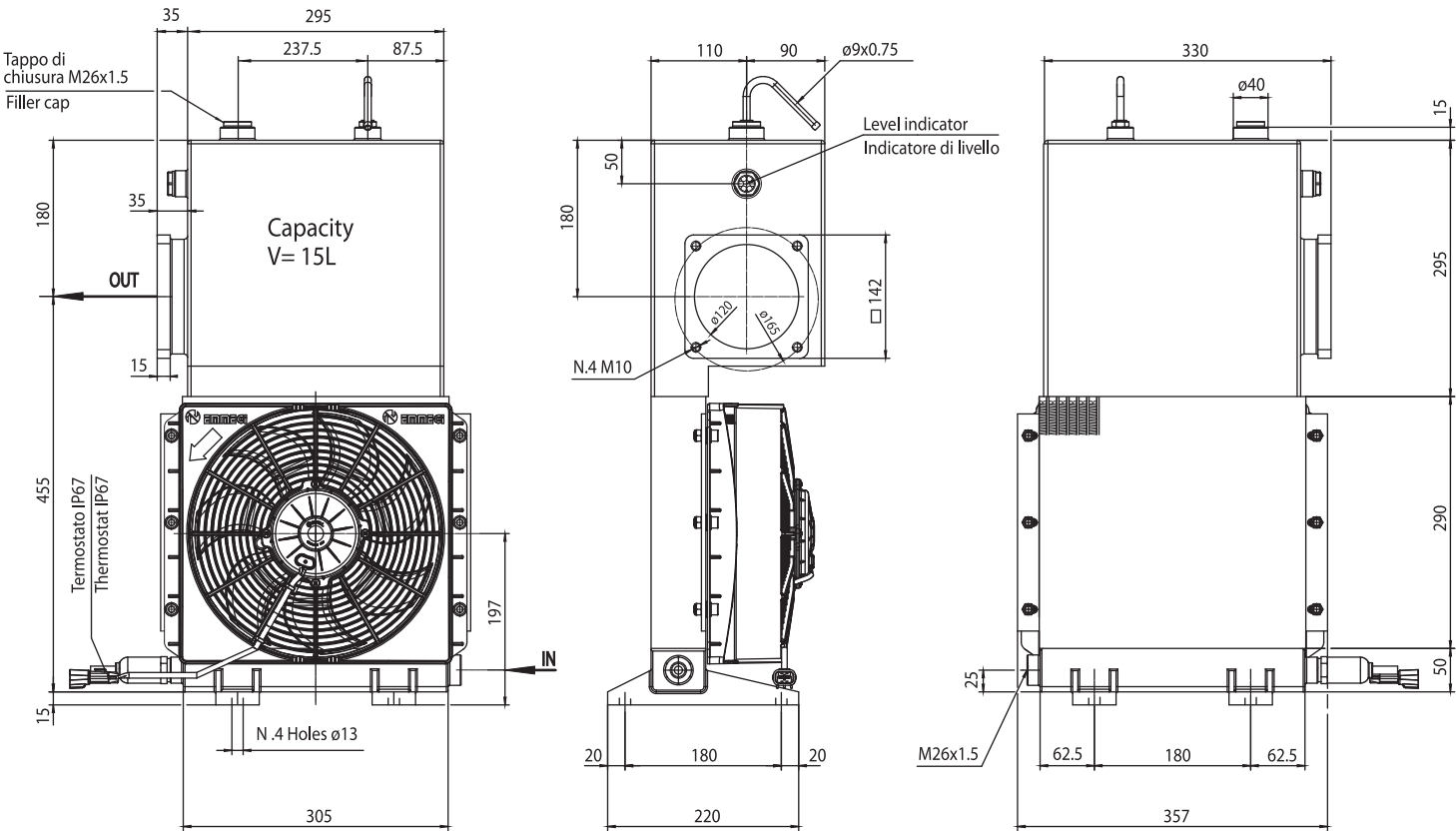




# Serie HPA TK

## HPA 12 TK15

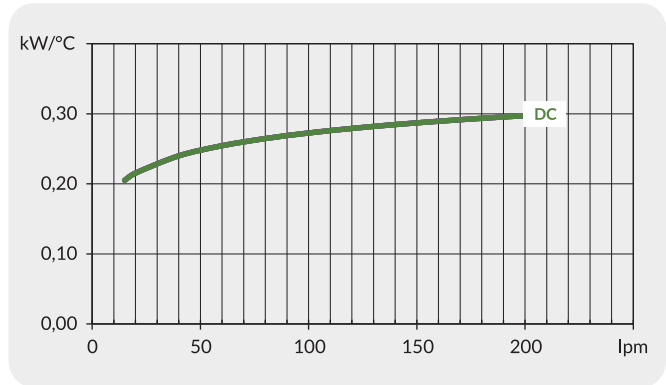
### Dimensioni *Dimensions*



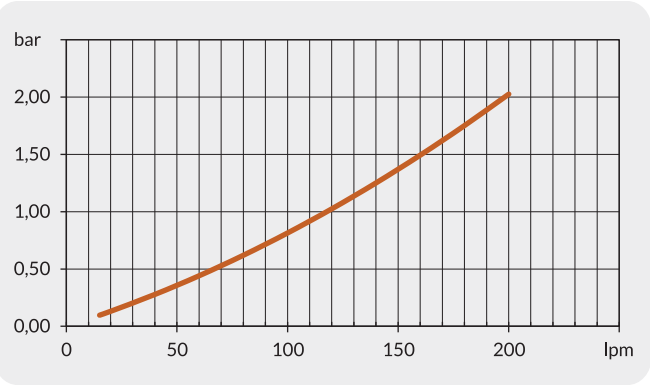
La fornitura comprende connettore WPC (M - F)  
The supply includes WPC connector (M-F)

| CODICE<br>CODE | TIPO DI VENTILAZIONE<br>VENTILATING UNIT TYPE | IP | $\phi$ Fan | dB (A) | kg | Q.air<br>(m <sup>3</sup> /h) | Cap.<br>(Lt.) |
|----------------|-----------------------------------------------|----|------------|--------|----|------------------------------|---------------|
| 4D7412301D     | 12V; 0.180kW; rpm 3000                        | 68 | 280        | 68     | 15 | 2300                         | 15            |
| 4D7424301D     | 24V; 0.180kW; rpm 3000                        | 68 | 280        | 68     | 15 | 2400                         | 15            |

### Diagramma rendimento *Performance diagram*



### Perdite di carico *Pressure drop (@30cSt)*

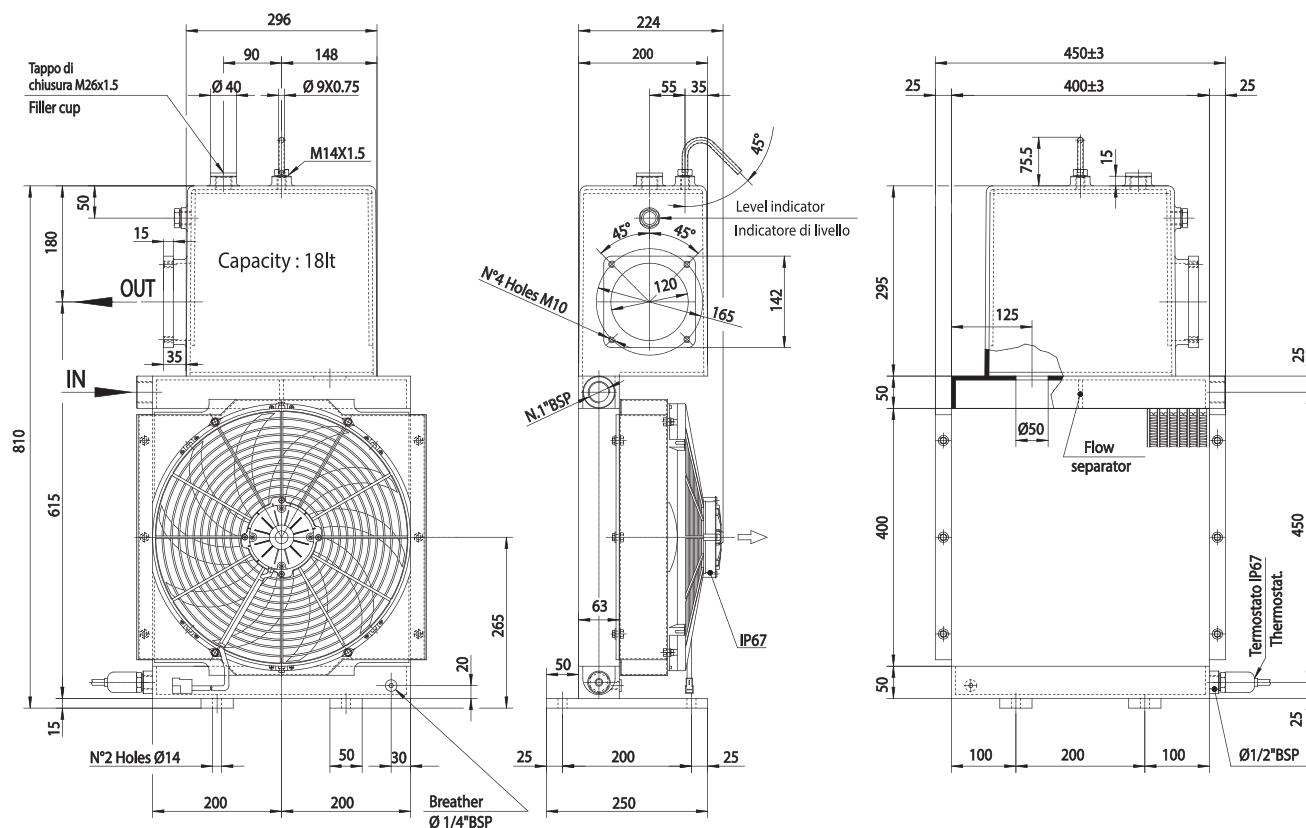


Le dimensioni di ingombro e le caratteristiche tecniche non sono impegnative  
Over-all dimensions and technical characteristic are not binding



# Serie HPA TK

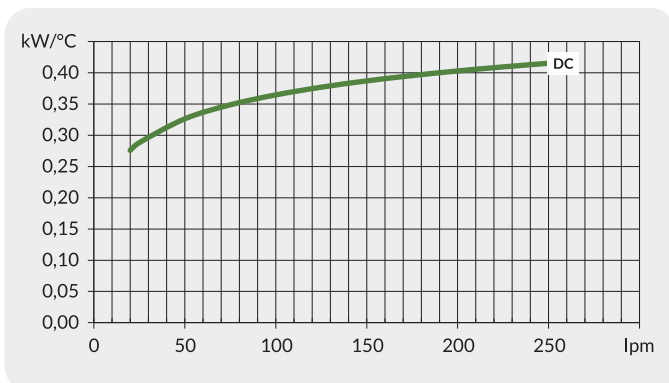
## HPA 18 2 PASS TK18



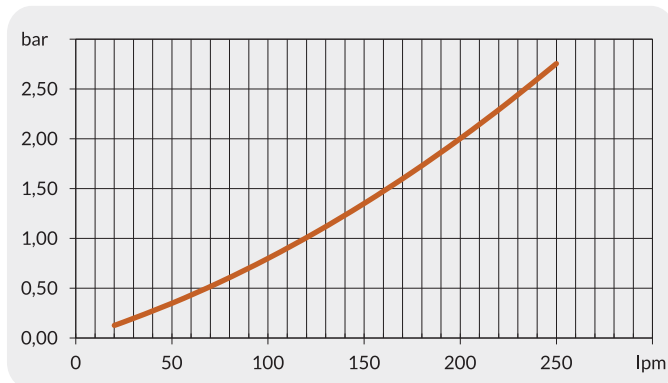
La fornitura comprende connettore WPC (M - F)  
The supply includes WPC connector (M-F)

| CODICE<br>CODE | TIPO DI VENTILAZIONE<br>VENTILATING UNIT TYPE | IP | Ø Fan | dB (A) | kg | Q <sub>air</sub><br>(m³/h) | Cap.<br>(Lt.) |
|----------------|-----------------------------------------------|----|-------|--------|----|----------------------------|---------------|
| 039768A012031  | 12V; 0.180kW; rpm 3000                        | 68 | 385   | 68     | 24 | 3500                       | 18            |
| 039768A024031  | 24V; 0.180kW; rpm 3000                        | 68 | 385   | 68     | 24 | 3600                       | 18            |

### Diagramma rendimento Performance diagram



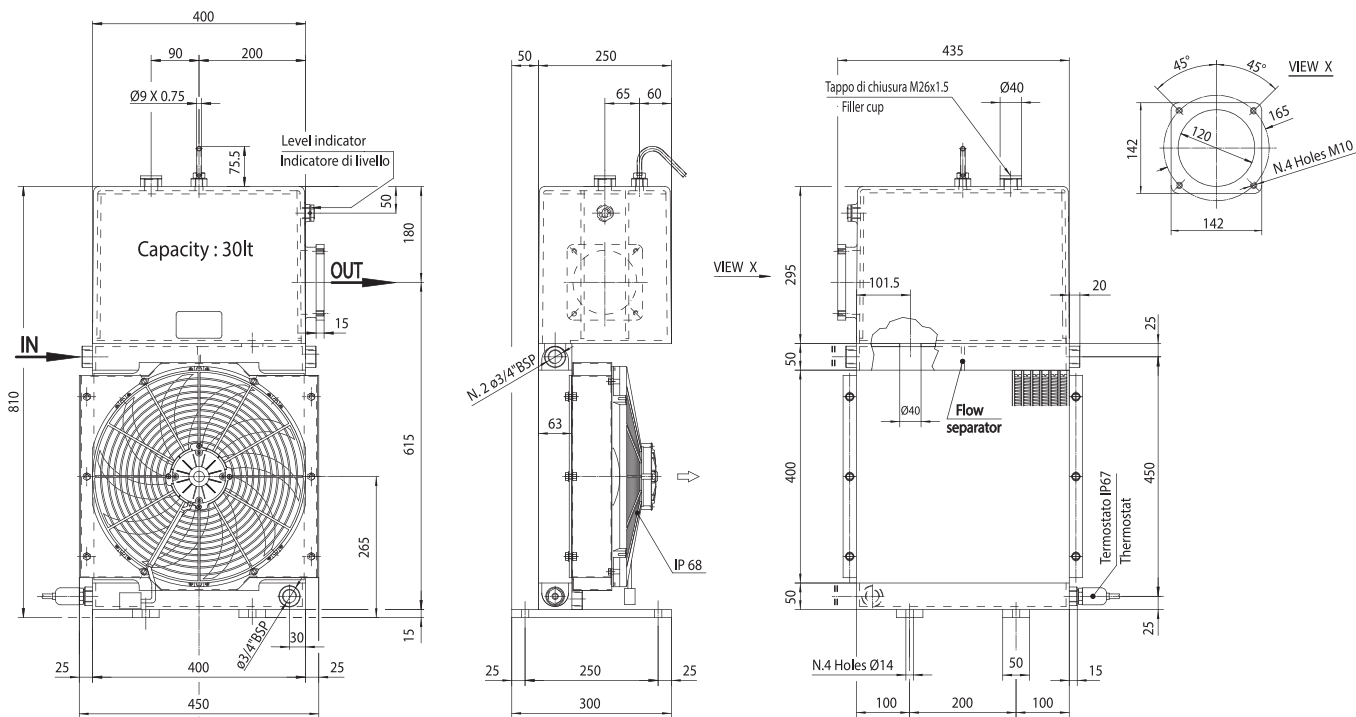
### Perdite di carico Pressure drop (@30cSt)



Le dimensioni di ingombro e le caratteristiche tecniche non sono impegnative  
Over-all dimensions and technical characteristic are not binding



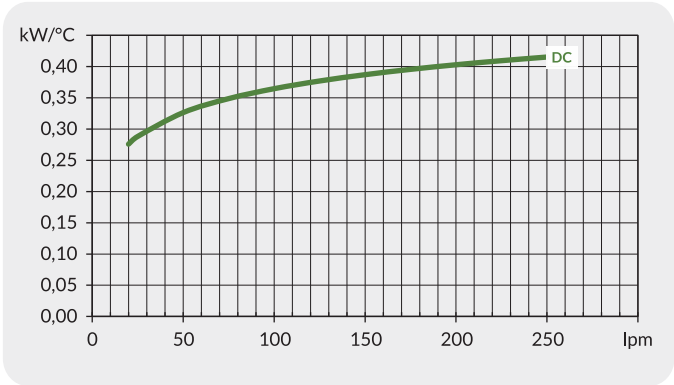
Serie HPA TK  
HPA 18 2 PASS TK30



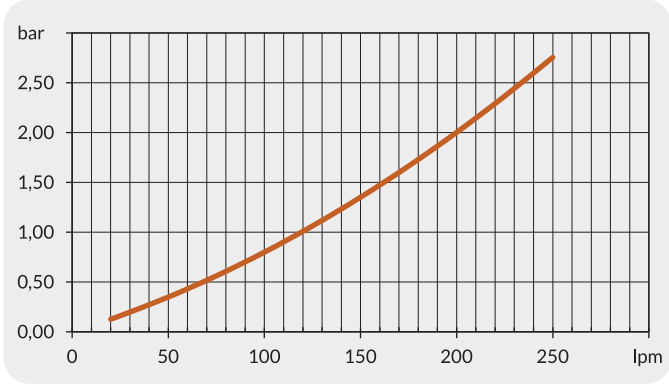
La fornitura comprende connettore WPC (M - F)  
The supply includes WPC connector (M-F)

| CODICE<br>CODE | TIPO DI VENTILAZIONE<br>VENTILATING UNIT TYPE | IP | Ø Fan | dB (A) | kg | Q.air<br>(m³/h) | Cap.<br>(Lt.) |
|----------------|-----------------------------------------------|----|-------|--------|----|-----------------|---------------|
| 0583200012021  | 12V; 0.180kW; rpm 3000                        | 68 | 385   | 68     | 25 | 3500            | 30            |
| 0583200024021  | 24V; 0.180kW; rpm 3000                        | 68 | 385   | 68     | 25 | 3600            | 30            |

Diagramma rendimento Performance diagram



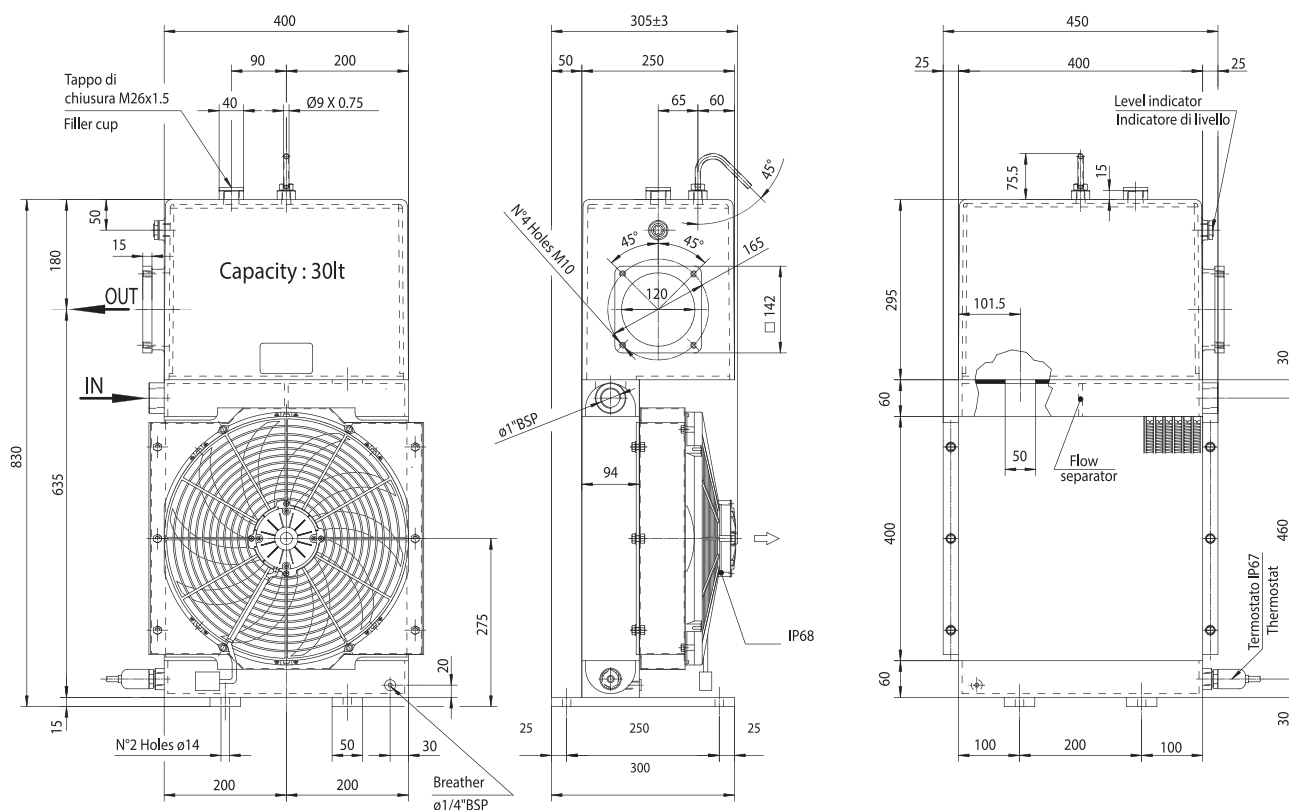
Perdite di carico Pressure drop (@30cSt)



Le dimensioni di ingombro e le caratteristiche tecniche non sono impegnative  
Over-all dimensions and technical characteristic are not binding

# Serie HPA TK

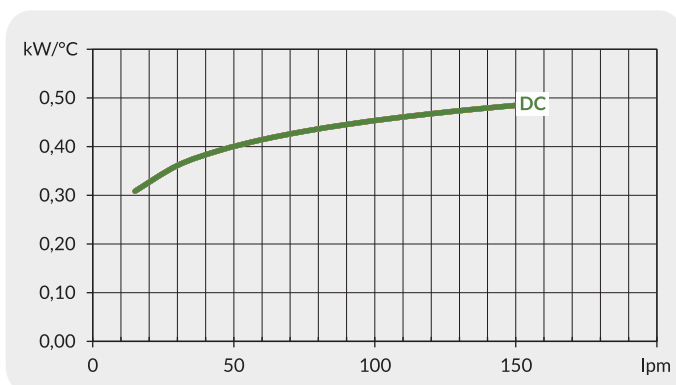
## HPA 24 2 PASS TK30



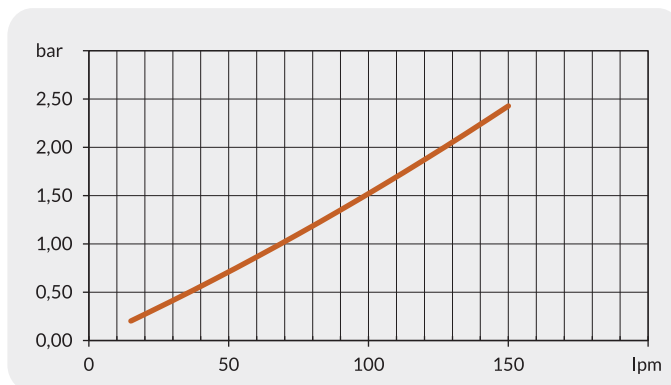
La fornitura comprende connettore WPC (M - F)  
The supply includes WPC connector (M-F)

| CODICE<br>CODE | TIPO DI VENTILAZIONE<br>VENTILATING UNIT TYPE | IP | Ø Fan | dB (A) | kg | Q.air<br>(m³/h) | Cap.<br>(Lt.) |
|----------------|-----------------------------------------------|----|-------|--------|----|-----------------|---------------|
| 051550A012031  | 12V; 0.180kW; rpm 3000                        | 68 | 385   | 68     | 35 | 3500            | 30            |
| 051550A024031  | 24V; 0.180kW; rpm 3000                        | 68 | 385   | 68     | 35 | 3600            | 30            |

### Diagramma rendimento Performance diagram



### Perdite di carico Pressure drop (@30cSt)



Le dimensioni di ingombro e le caratteristiche tecniche non sono impegnative  
Over-all dimensions and technical characteristic are not binding

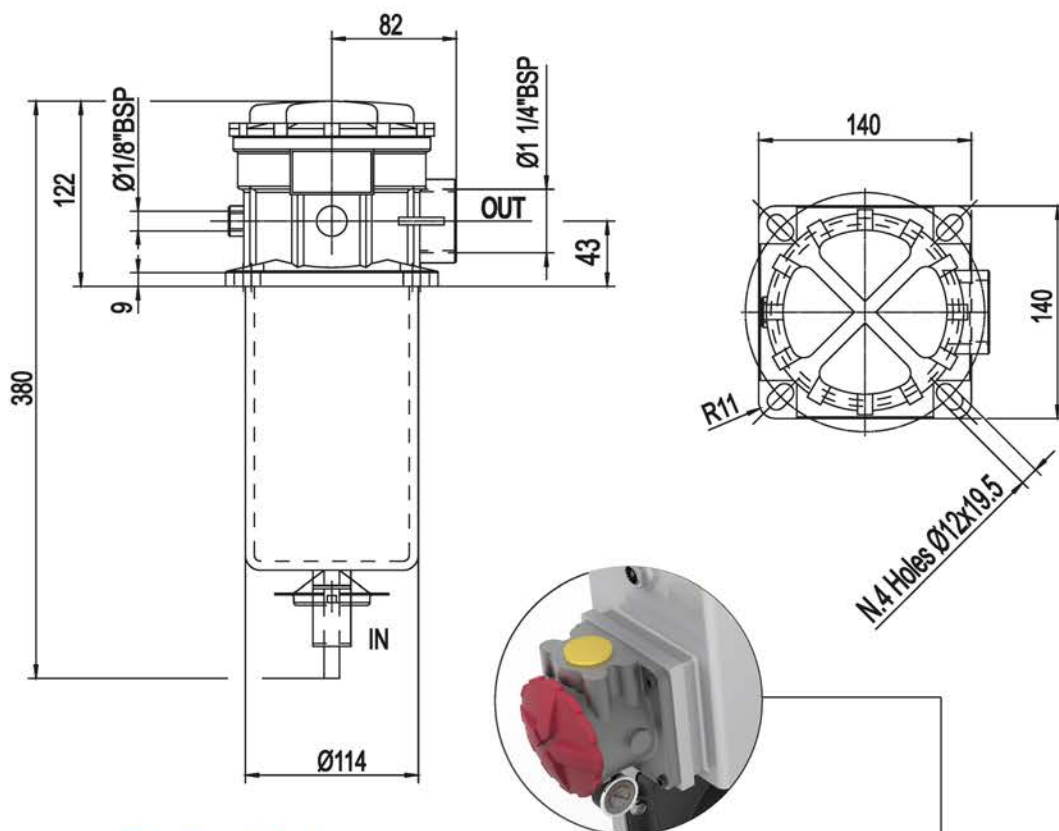


Serie HPA TK

HPA TK

## Filtro in aspirazione senza By-pass

*Suction line filter without By-pass*



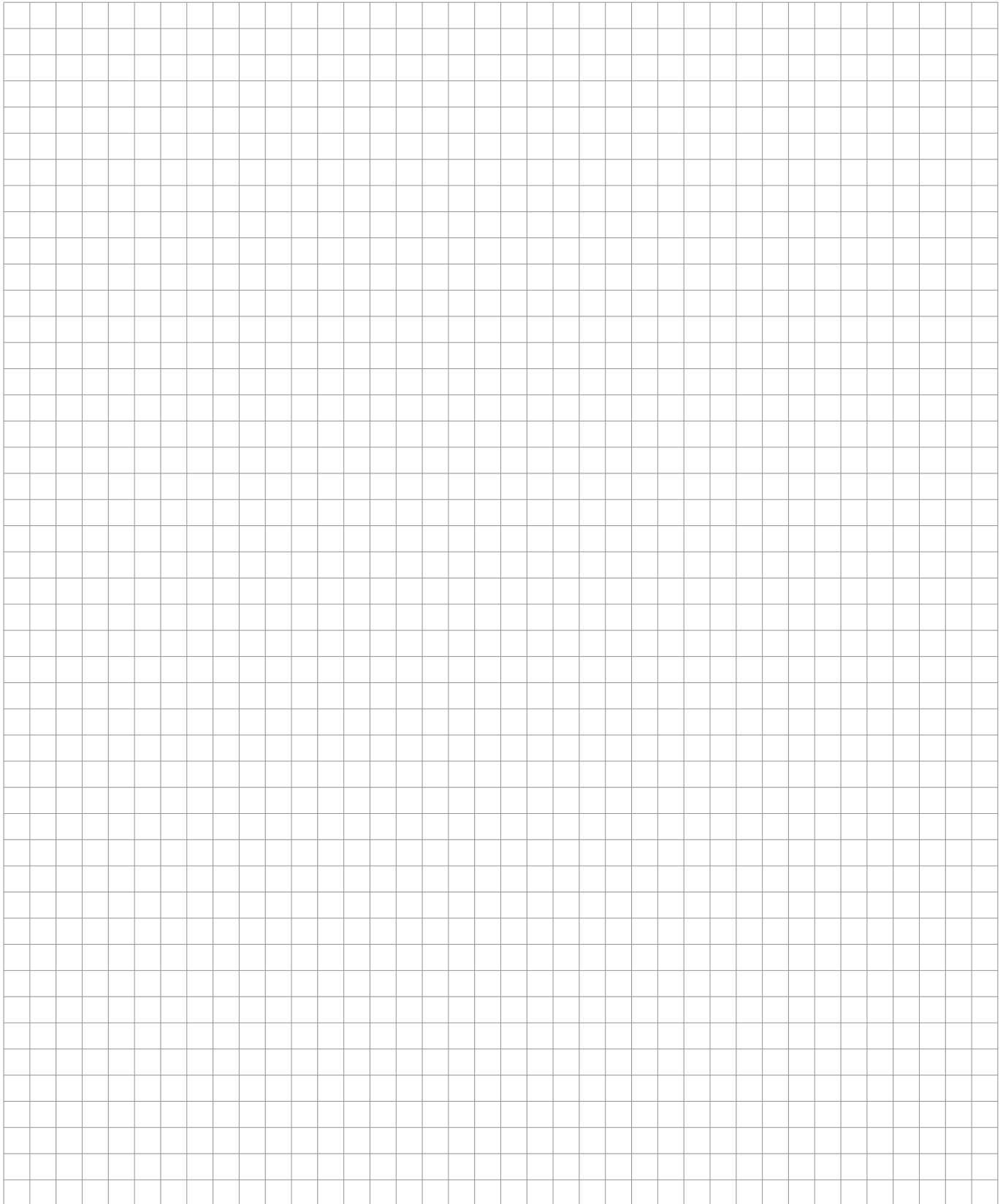
**Codice Code: 0320810**

### Caratteristiche tecniche *Technical information*

|                                                                                                                                              |                                                      |
|----------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------|
| Installazione :                                                                                                                              | Sotto battente sul fianco del serbatoio              |
| Installation :                                                                                                                               | Mounting semi immersed under fluidlevel on tank side |
| Elemento filtrante :                                                                                                                         | Carta impregnata con resina                          |
| Filtration material :                                                                                                                        | Resintreated paper                                   |
| Filtrazione :                                                                                                                                | 10µ assoluti                                         |
| Filtration rating :                                                                                                                          | 10µ absolute                                         |
| Indicatore intasamento :                                                                                                                     | Ottico (vuotostato)                                  |
| Clogging indicator :                                                                                                                         | Visual vacuumeter                                    |
| Portata :                                                                                                                                    | 45 l/min.                                            |
| Max oil flow :                                                                                                                               | 45 l/min.                                            |
| Perdita di carico :                                                                                                                          | 0.12 bar con olio 32 cst @40°C.                      |
| Pressure drop :                                                                                                                              | 0.12 bar with oil 32 cst @40°C.                      |
| Possibilità di sostituire l' elemento filtrante senza svuotare il serbatoio.<br>cartridge element can be replaced without emptying the tank. |                                                      |

**Cartuccia di ricambio** Replacement element code: **0320860**











Serie MOBILE  
MOBILE Series



# Serie MOBILE

## MOBILE Series

### APPLICAZIONE APPLICATION



Grazie all'ampia gamma di combinazioni, gli scambiatori della serie **Mobile** si prestano ad essere la soluzione di raffreddamento ottimale per svariate applicazioni mobili:

Thanks to its wide range of possible combinators the mobile series exchangers make for the optimal solution on a great variety for mobile applications:

Industria agricola e forestale.  
Gru mobili e fisse.  
Veicoli industriali.  
Veicoli municipali  
Macchine da costruzione.  
Movimentazione materiali.  
Altro su richiesta.

Agriculture and forestry.  
Mobile and stationary cranes.  
Industrial vehicles.  
Municipal vehicles.  
Construction machines.  
Material handling.  
Others on request.



### Denominazione codice prodotto

#### Ordering code

#### MODELLO MODEL

MS1 (MOBILE-S1)  
MSM (MOBILE S MINI)  
MSP (MOBILE S PLUS)  
MS2 (MOBILE-S2)  
MS3 (MOBILE-S3)  
MS4 (MOBILE-S4)  
MS5 (MOBILE-S5)  
MA1 (MOBILE-A1)  
MA2 (MOBILE-A2)  
MA3 (MOBILE-A3)  
MA4 (MOBILE-A4)  
MA5 (MOBILE-A5)  
MV1 (MOBILE-V1)  
MVM (MOBILE-V MINI)  
MVP (MOBILE-V PLUS)  
MV2 (MOBILE-V2)  
MV3 (MOBILE-V3)  
MV4 (MOBILE-V4)  
MV5 (MOBILE-V5)  
MW1 (MOBILE-W1)  
MW2 (MOBILE-W2)  
MW3 (MOBILE-W3)  
MW4 (MOBILE-W4)

2 MS1 12 2 01

#### TIPO DI MOTORIZZAZIONE FAN MOTOR TYPE

12 DC 12V  
24 DC 24V

#### TERMOSTATI THERMOSTATS

0 Senza termostato without thermostat  
1 Termostato fisso Fixed thermostat 40-28°  
2 Termostato fisso Fixed thermostat 50-38°  
3 Termostato fisso Fixed thermostat 60-48°  
4 Termostato fisso Fixed thermostat 70-58°  
5 Termostato fisso Fixed thermostat 80-68°  
6 Termostato fisso Fixed thermostat 90-78°

#### TIPO DI VENTILAZIONE VENTILATING TYPE

01 Aspirante Suction air flow  
02 Soffiante Blowing air flow

## Serie MOBILE S - MOBILE S Series (STANDARD FIN)

MOBILE S1  
MOBILE S MINI  
MOBILE S PLUS  
MOBILE S2  
MOBILE S3  
MOBILE S4  
MOBILE S5



## Serie MOBILE A - MOBILE A Series (CLEAN AIR FIN)

MOBILE A1  
MOBILE A2  
MOBILE A3  
MOBILE A4  
MOBILE A5



## Serie MOBILE V - MOBILE V Series (BY-PASS | STANDARD FIN)

MOBILE V1  
MOBILE V MINI  
MOBILE V PLUS  
MOBILE V2  
MOBILE V3  
MOBILE V4  
MOBILE V5



## Serie MOBILE W - MOBILE W Series (BY-PASS | CLEAN AIR FIN)

MOBILE W1  
MOBILE W2  
MOBILE W3  
MOBILE W4  
MOBILE W5

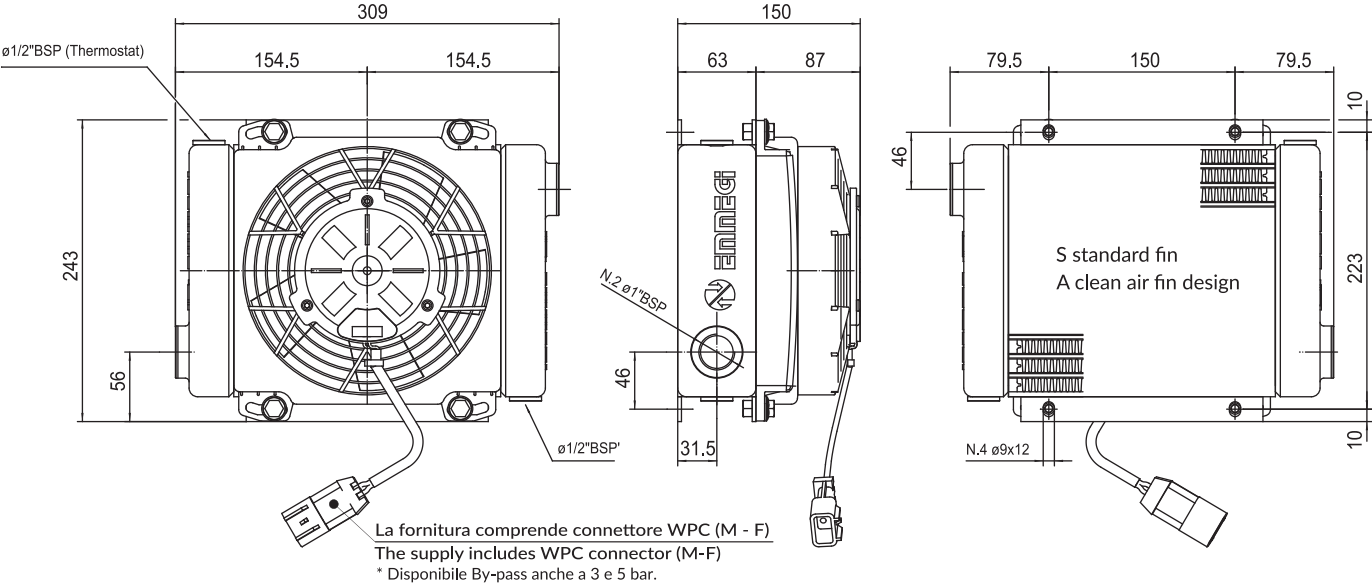






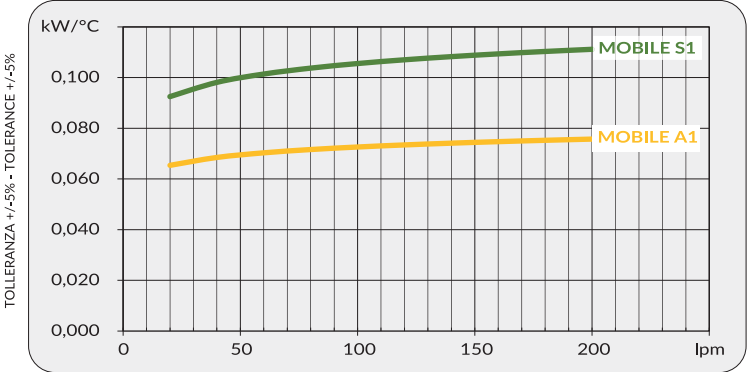
MOBILE Series  
MOBILE S1-A1

Dimensioni    Dimensions

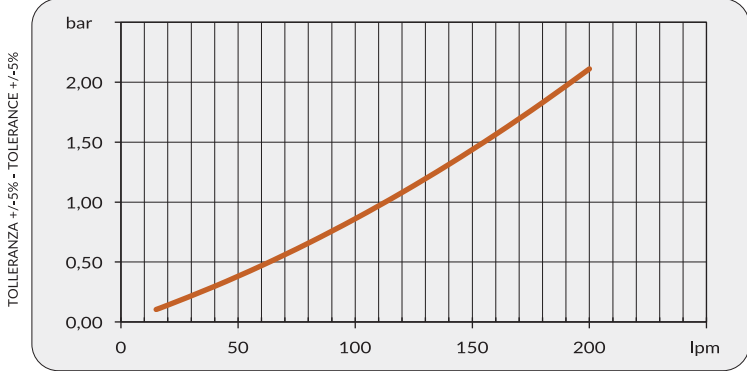


| CODICE<br>CODE | Dati tecnici / Technical Data |      |     |      |       |        |    |     |    |
|----------------|-------------------------------|------|-----|------|-------|--------|----|-----|----|
|                | V                             | kw   | A   | rpm  | Ø Fan | dB (A) | IP | lt  | kg |
| 2MS112###      | 12V DC                        | 0,10 | 8,4 | 4160 | 190   | 73     | 68 | 0,6 | 5  |
| 2MS124###      | 24V DC                        | 0,10 | 4,2 | 4240 | 190   | 76     | 68 | 0,6 | 5  |
| 2MA112###      | 12V DC                        | 0,11 | 8,3 | 4190 | 190   | 73     | 68 | 0,6 | 5  |
| 2MA124###      | 24V DC                        | 0,11 | 4,1 | 4270 | 190   | 76     | 68 | 0,6 | 5  |

Diagramma rendimento    Performance diagram



Perdite di carico    Pressure drop (@30cSt)

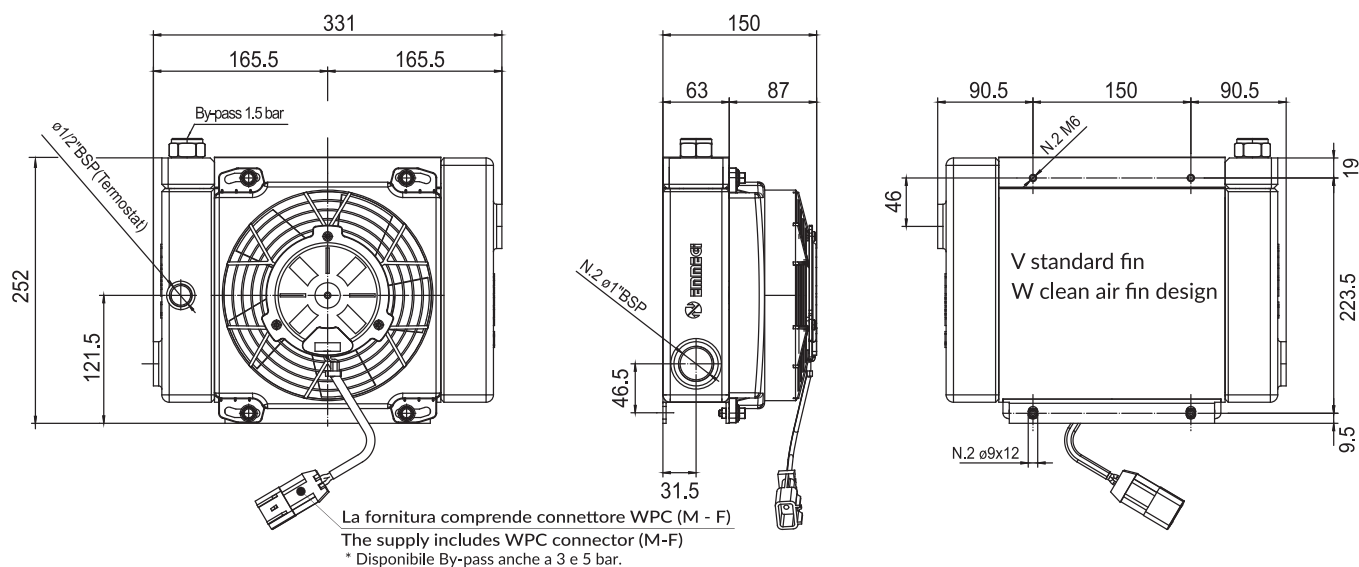


Fattore di correzione-F-(perdite di carico)    Correction factor-F-(pressure drop)

| cSt | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0,5 | 0,65 | 0,77 | 1  | 1,2 | 1,4 | 1,6 | 1,9 | 2,1 | 3,3 | 4,3 |

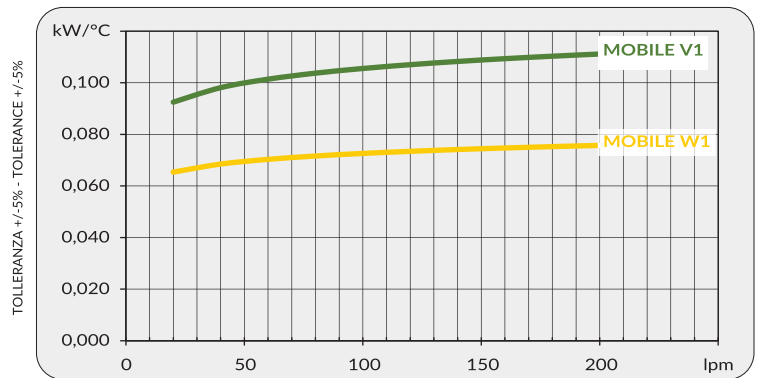


Dimensioni    Dimensions

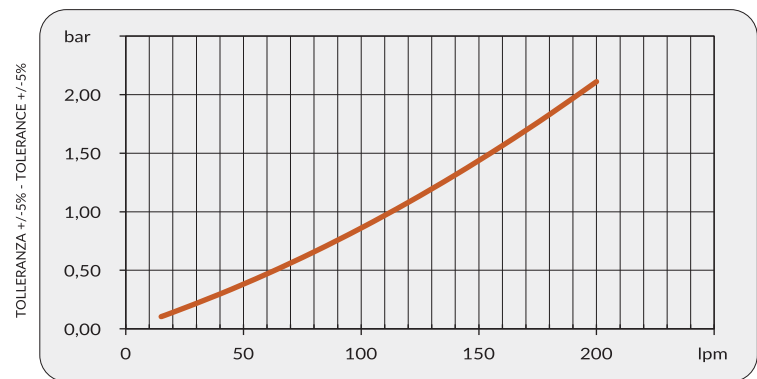


| CODICE<br>CODE | Dati tecnici / Technical Data |      |     |      |       |        |    |     |    |  |
|----------------|-------------------------------|------|-----|------|-------|--------|----|-----|----|--|
|                | V                             | kW   | A   | rpm  | Ø Fan | dB (A) | IP | lt  | kg |  |
| 2MV112###      | 12V DC                        | 0,1  | 8,4 | 4160 | 190   | 73     | 68 | 0,6 | 6  |  |
| 2MV124###      | 24V DC                        | 0,1  | 4,2 | 4240 | 190   | 76     | 68 | 0,6 | 6  |  |
| 2MW112###      | 12V DC                        | 0,11 | 8,3 | 4190 | 190   | 73     | 68 | 0,6 | 6  |  |
| 2MW124###      | 24V DC                        | 0,11 | 4,1 | 4270 | 190   | 76     | 68 | 0,6 | 6  |  |

Diagramma rendimento    Performance diagram



Perdite di carico    Pressure drop (@30cSt)



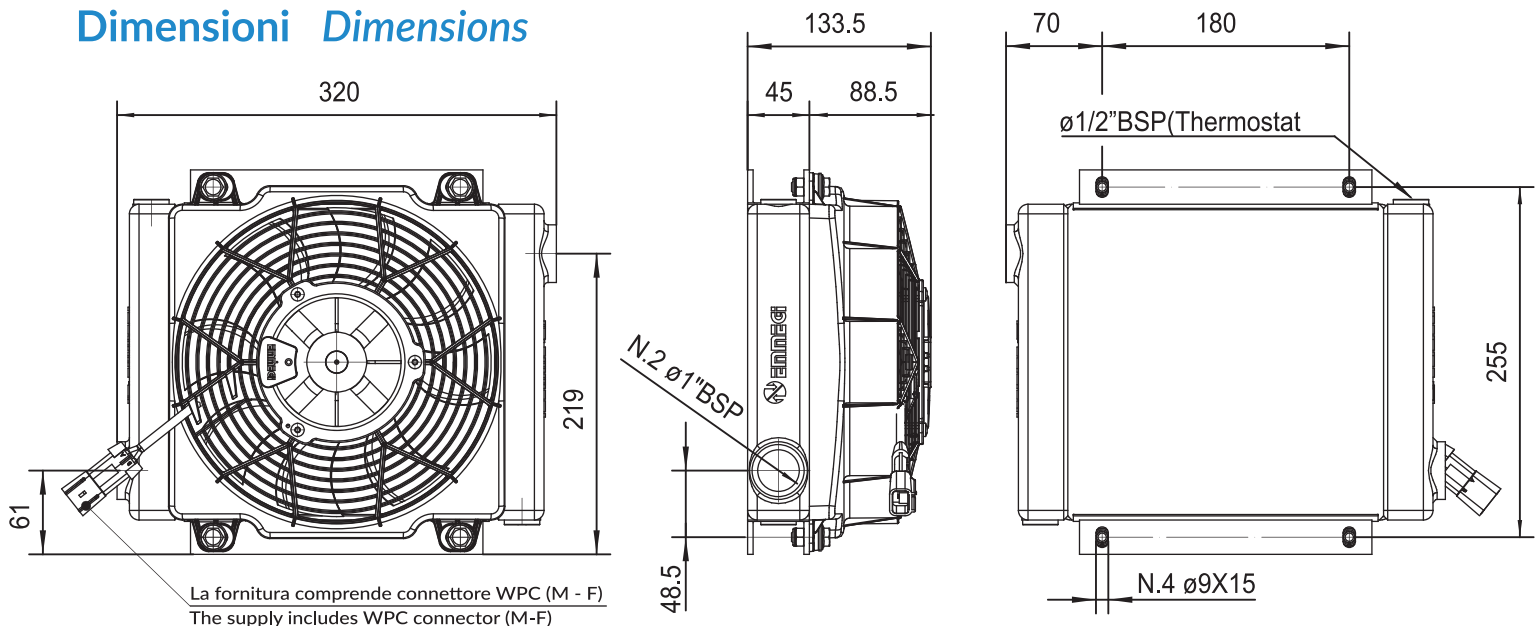
Fattore di correzione-F-(perdite di carico)    Correction factor-F-(pressure drop)

| cSt | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0,5 | 0,65 | 0,77 | 1  | 1,2 | 1,4 | 1,6 | 1,9 | 2,1 | 3,3 | 4,3 |



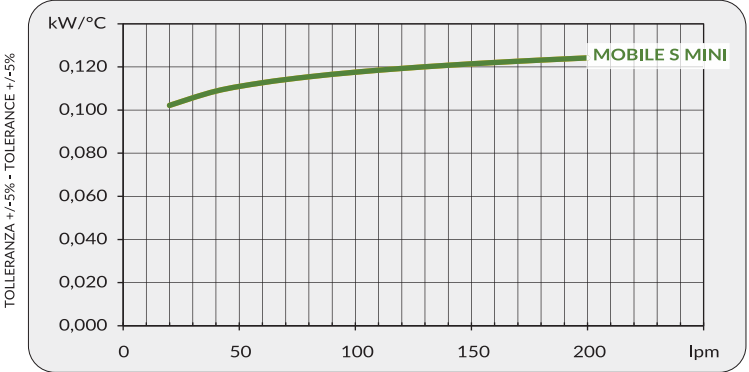
MOBILE Series  
MOBILE S MINI

Dimensioni    Dimensions

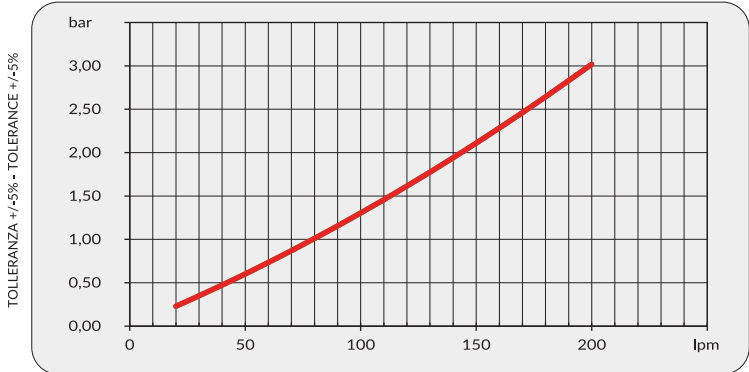


| CODICE<br>CODE | Dati tecnici / Technical Data |      |      |      |       |        |    |     |    |
|----------------|-------------------------------|------|------|------|-------|--------|----|-----|----|
|                | V                             | kW   | A    | rpm  | Ø Fan | dB (A) | IP | lt  | kg |
| 2MSM12###      | 12V DC                        | 0.13 | 10.2 | 4080 | 225   | 72     | 68 | 0.5 | 5  |
| 2MSM24###      | 24V DC                        | 0.14 | 5.7  | 4280 | 225   | 74     | 68 | 0.5 | 5  |

Diagramma rendimento    Performance diagram



Perdite di carico    Pressure drop (@30cSt)



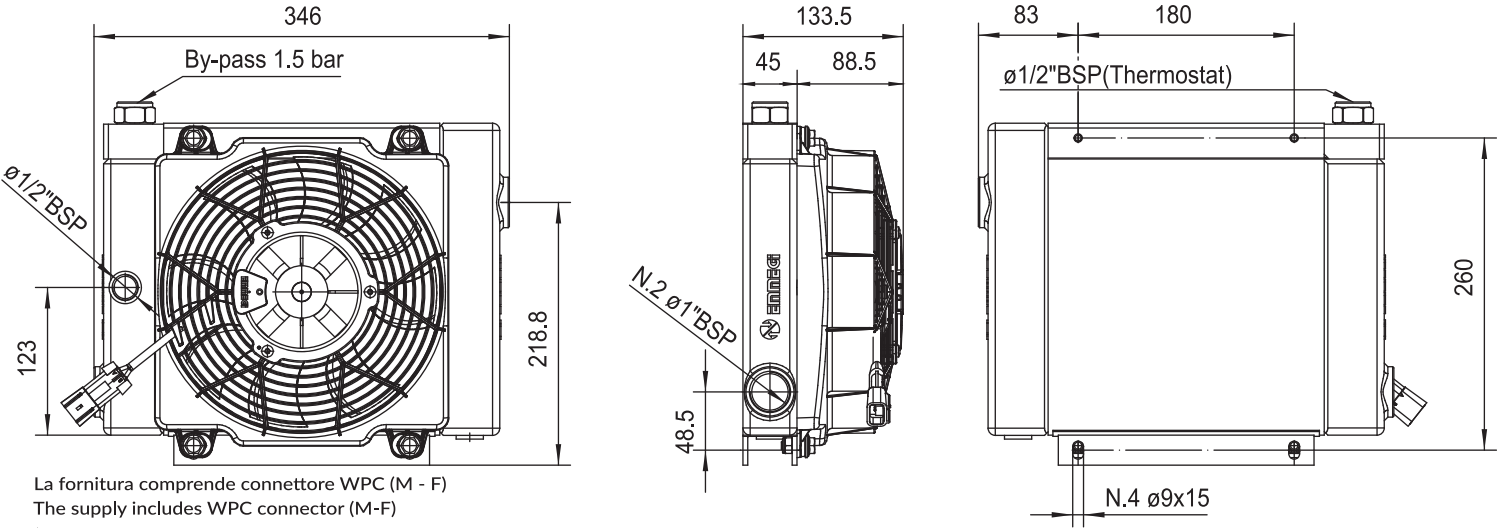
Fattore di correzione-F-(perdite di carico)    Correction factor-F-(pressure drop)

| cSt | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0,5 | 0,65 | 0,77 | 1  | 1,2 | 1,4 | 1,6 | 1,9 | 2,1 | 3,3 | 4,3 |



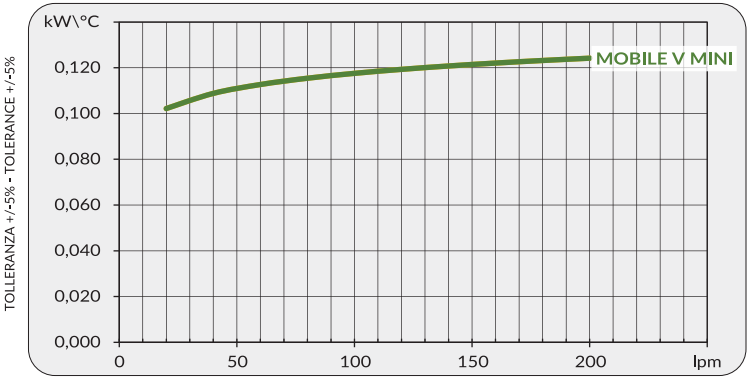


Dimensioni    Dimensions

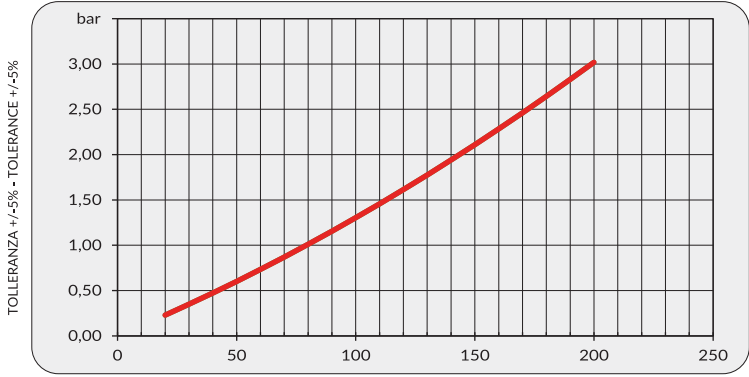


| CODICE<br>CODE | Dati tecnici / Technical Data |      |      |      |       |        |    |     |    |  |
|----------------|-------------------------------|------|------|------|-------|--------|----|-----|----|--|
|                | V                             | kw   | A    | rpm  | Ø Fan | dB (A) | IP | It  | kg |  |
| 2MVM12###      | 12V DC                        | 0.13 | 10.2 | 4080 | 225   | 72     | 68 | 0.5 | 6  |  |
| 2MVM24###      | 24V DC                        | 0.14 | 5.7  | 4285 | 225   | 74     | 68 | 0.5 | 6  |  |

Diagramma rendimento    Performance diagram



Perdite di carico    Pressure drop (@30cSt)



Fattore di correzione-F-(perdite di carico)    Correction factor-F-(pressure drop)

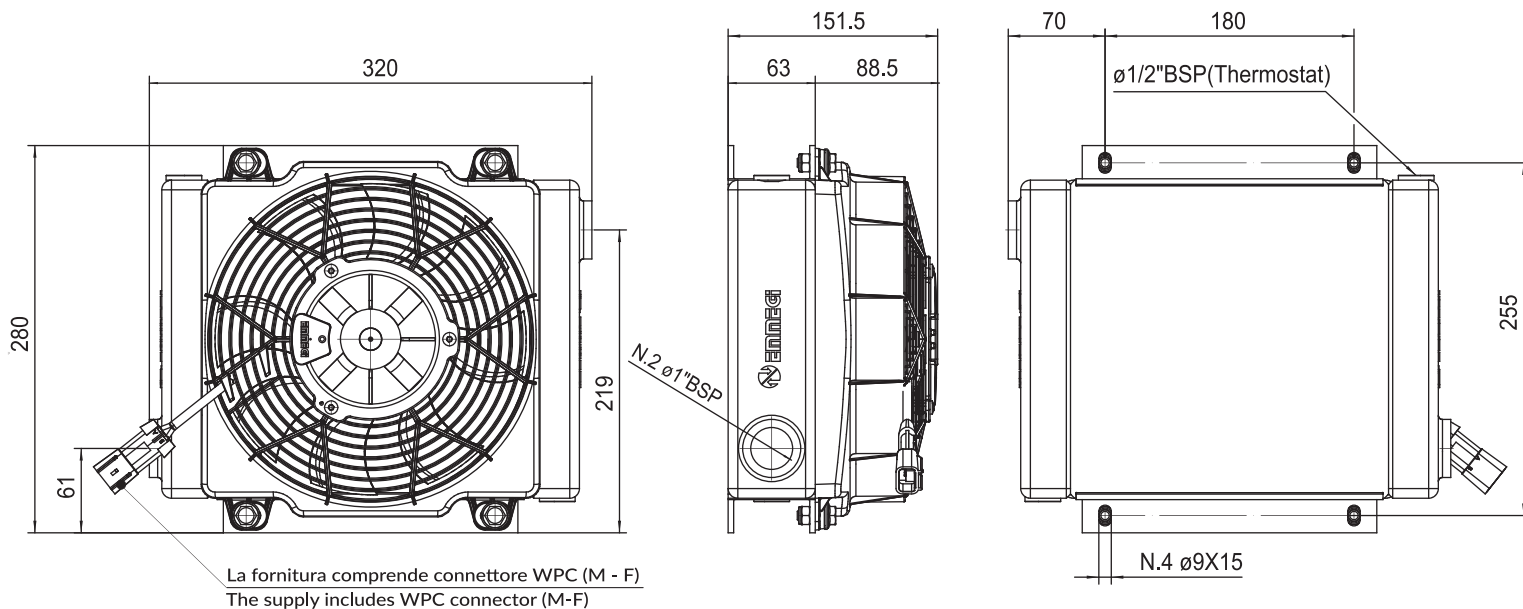
| cSt | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0,5 | 0,65 | 0,77 | 1  | 1,2 | 1,4 | 1,6 | 1,9 | 2,1 | 3,3 | 4,3 |



# MOBILE Series

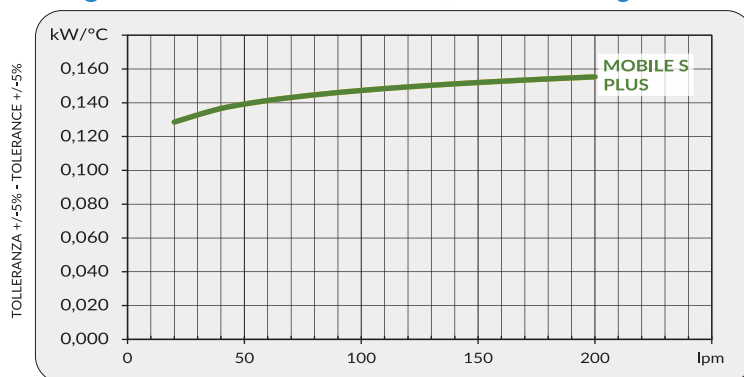
## MOBILE S PLUS

### Dimensioni Dimensions

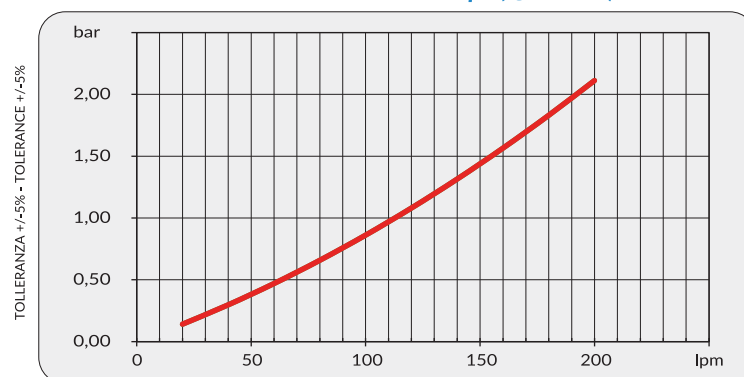


| CODICE<br>CODE | Dati tecnici / Technical Data |      |      |      |       |        |    |     |    |
|----------------|-------------------------------|------|------|------|-------|--------|----|-----|----|
|                | V                             | kW   | A    | rpm  | Ø Fan | dB (A) | IP | lt  | kg |
| 2MSP12###      | 12V DC                        | 0.13 | 10.2 | 4080 | 225   | 72     | 68 | 0.7 | 6  |
| 2MSP24###      | 24V DC                        | 0.15 | 5.8  | 4280 | 225   | 74     | 68 | 0.7 | 6  |

### Diagramma rendimento Performance diagram



### Perdite di carico Pressure drop (@30cSt)

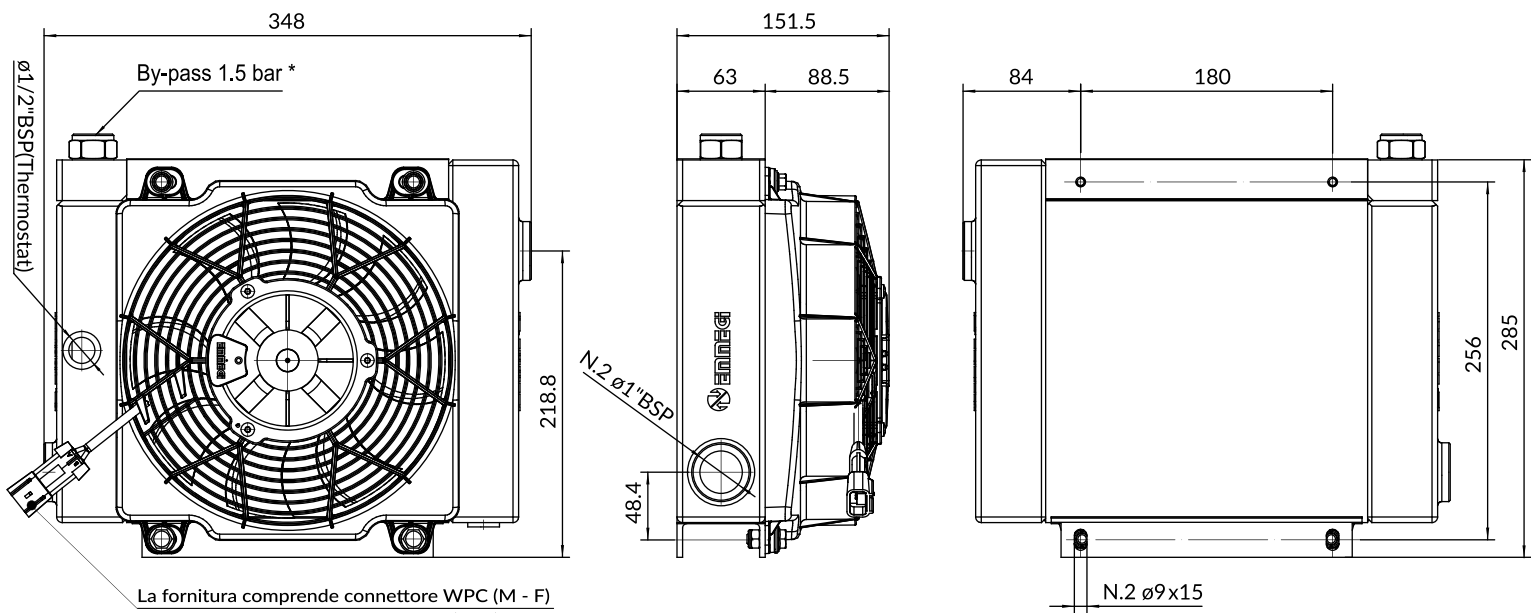


### Fattore di correzione-F-(perdite di carico) Correction factor-F-(pressure drop)

| cSt | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0,5 | 0,65 | 0,77 | 1  | 1,2 | 1,4 | 1,6 | 1,9 | 2,1 | 3,3 | 4,3 |



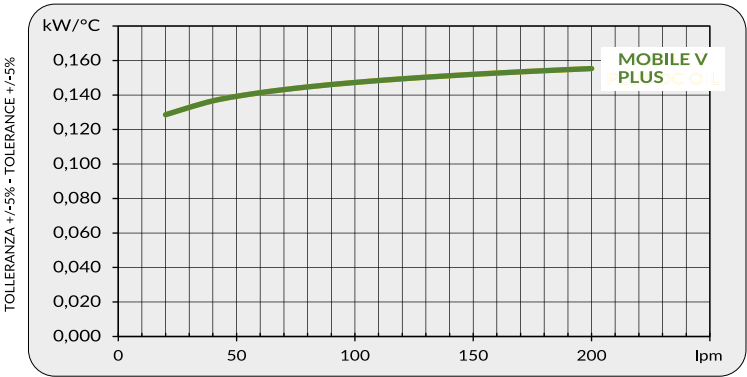
Dimensioni Dimensions



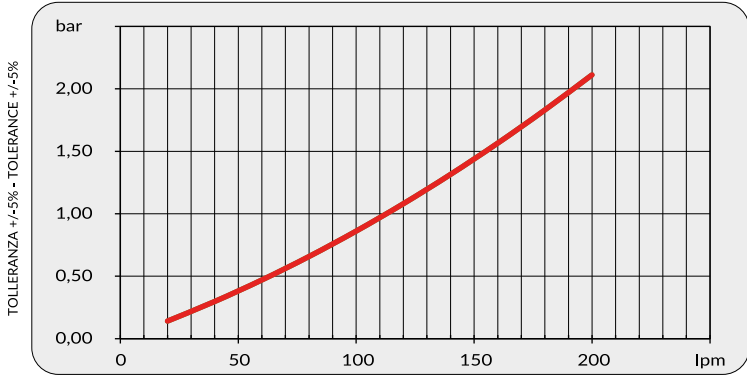
La fornitura comprende connettore WPC (M - F)  
The supply includes WPC connector (M-F)  
\* Disponibile By-pass anche a 3 e 5 bar.

| CODICE<br>CODE | Dati tecnici / Technical Data |      |      |      |       |        |    |     |    |
|----------------|-------------------------------|------|------|------|-------|--------|----|-----|----|
|                | V                             | kw   | A    | rpm  | Ø Fan | dB (A) | IP | lt  | kg |
| 2MVP12###      | 12V DC                        | 0.14 | 10.4 | 4080 | 225   | 72     | 68 | 0.7 | 7  |
| 2MVP24###      | 24V DC                        | 0.15 | 5.8  | 4280 | 225   | 74     | 68 | 0.7 | 7  |

Diagramma rendimento Performance diagram



Perdite di carico Pressure drop (@30cSt)



Fattore di correzione-F-(perdite di carico) Correction factor-F-(pressure drop)

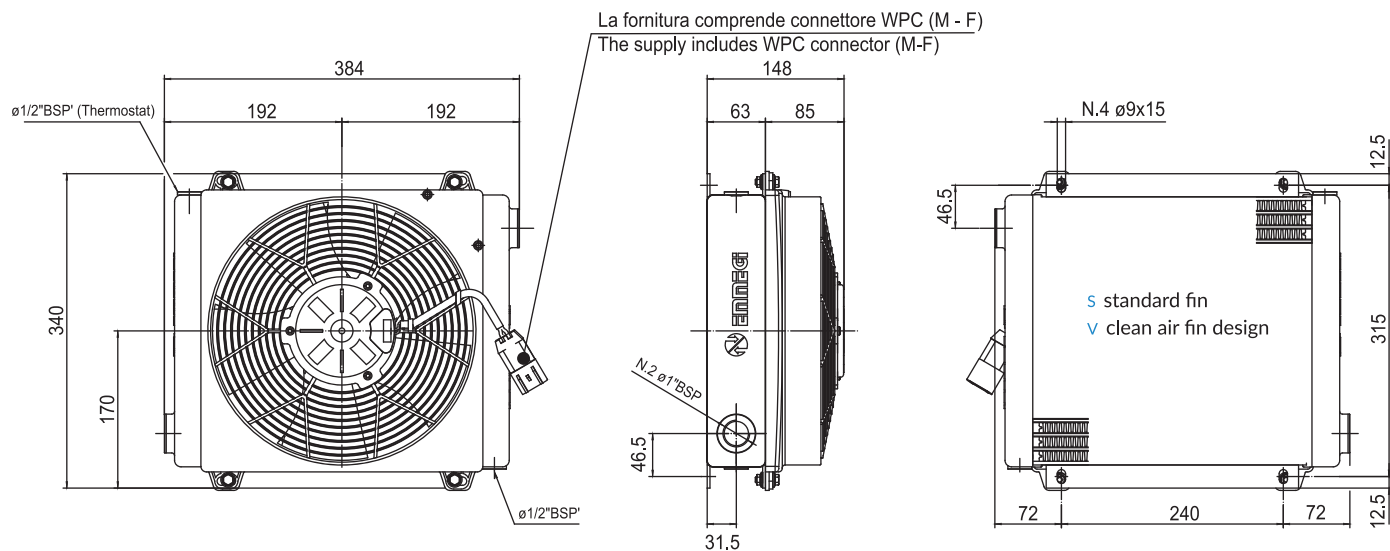
| cSt | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0,5 | 0,65 | 0,77 | 1  | 1,2 | 1,4 | 1,6 | 1,9 | 2,1 | 3,3 | 4,3 |



# MOBILE Series

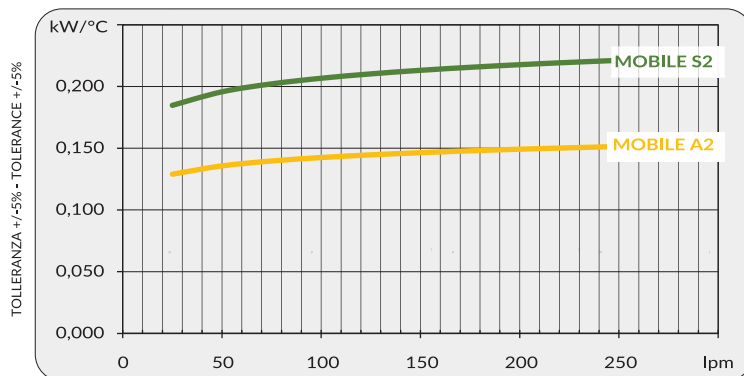
## MOBILE S2-A2

### Dimensioni Dimensions

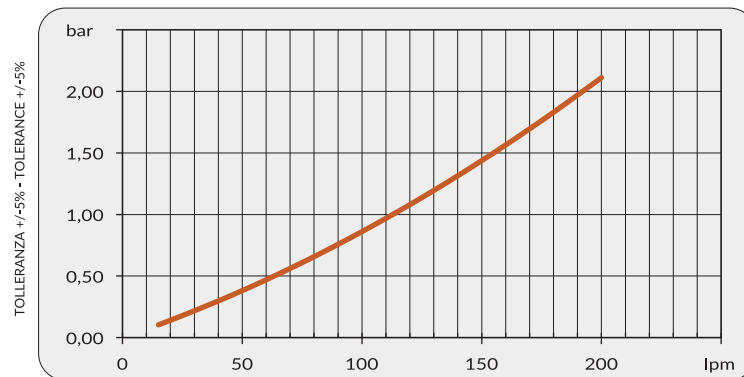


| CODICE<br>CODE | Dati tecnici / Technical Data |      |     |      |       |        |    |    |     |
|----------------|-------------------------------|------|-----|------|-------|--------|----|----|-----|
|                | V                             | kW   | A   | rpm  | Ø Fan | dB (A) | IP | lt | kg  |
| 2MS212###      | 12V DC                        | 0,09 | 7,7 | 2490 | 280   | 71     | 68 | 1  | 7,5 |
| 2MS224###      | 24V DC                        | 0,09 | 3,9 | 2520 | 280   | 73     | 68 | 1  | 7,5 |
| 2MA212###      | 12V DC                        | 0,09 | 7,4 | 2550 | 280   | 71     | 68 | 1  | 7,5 |
| 2MA224###      | 24V DC                        | 0,09 | 3,8 | 2560 | 280   | 73     | 68 | 1  | 7,5 |

### Diagramma rendimento Performance diagram



### Perdite di carico Pressure drop (@30cSt)

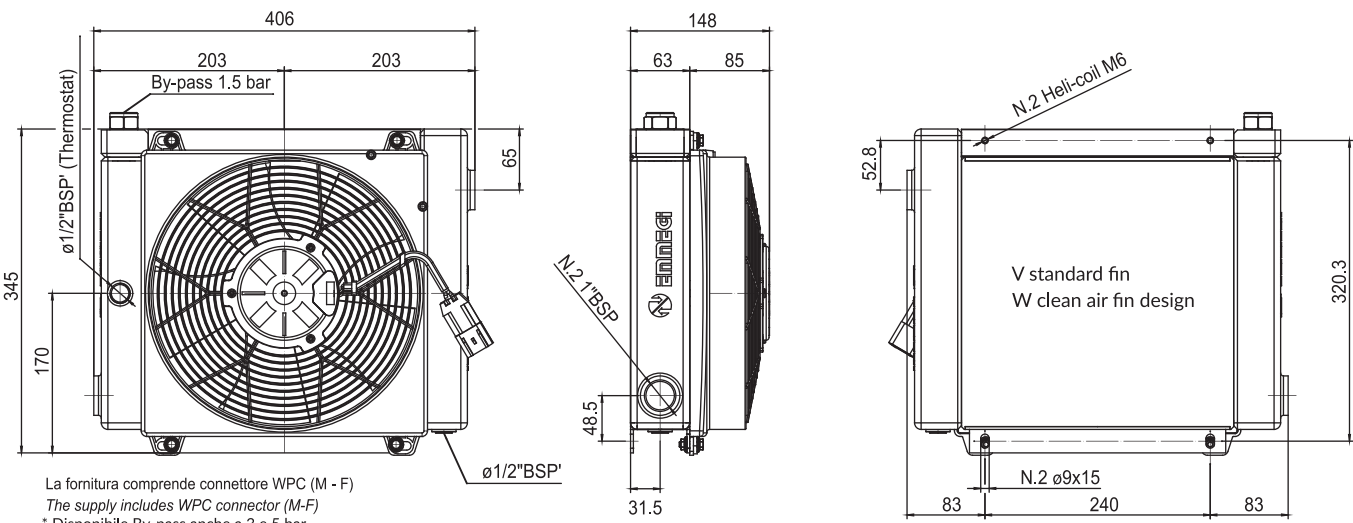


### Fattore di correzione-F-(perdite di carico) Correction factor-F-(pressure drop)

| cSt | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0,5 | 0,65 | 0,77 | 1  | 1,2 | 1,4 | 1,6 | 1,9 | 2,1 | 3,3 | 4,3 |

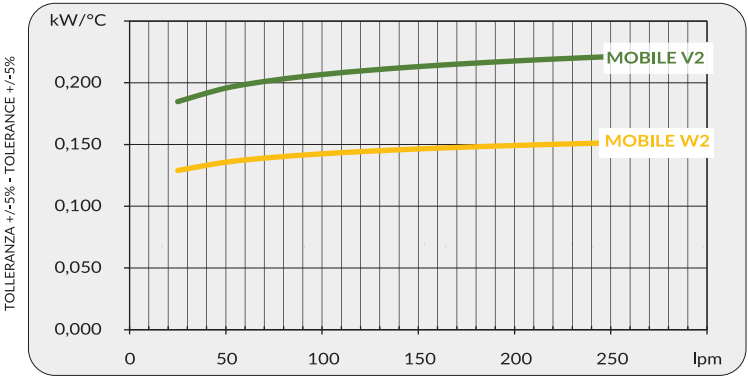


Dimensioni    Dimensions

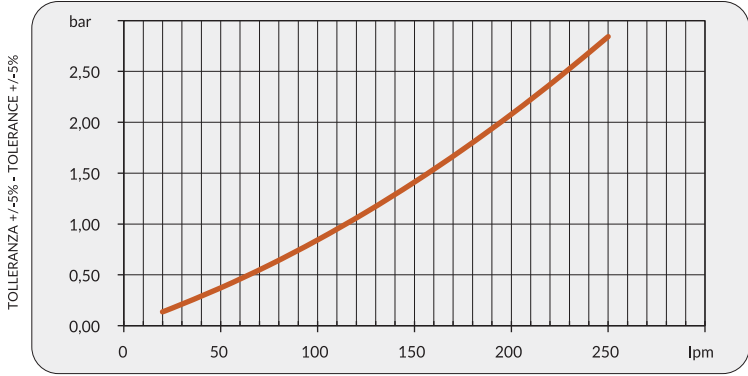


| CODICE<br>CODE | Dati tecnici / Technical Data |      |     |      |       |        |    |    |    |
|----------------|-------------------------------|------|-----|------|-------|--------|----|----|----|
|                | V                             | kW   | A   | rpm  | Ø Fan | dB (A) | IP | lt | kg |
| 2MV212###      | 12V DC                        | 0,09 | 7,7 | 2490 | 280   | 71     | 68 | 1  | 9  |
| 2MV224###      | 24V DC                        | 0,08 | 3,9 | 2520 | 280   | 73     | 68 | 1  | 9  |
| 2MW212###      | 12V DC                        | 0,1  | 7,4 | 2550 | 280   | 71     | 68 | 1  | 9  |
| 2MW224###      | 24V DC                        | 0,08 | 3,8 | 2560 | 280   | 73     | 68 | 1  | 9  |

Diagramma rendimento    Performance diagram



Perdite di carico    Pressure drop (@30cSt)



Fattore di correzione-F(perdite di carico)    Correction factor-F(pressure drop)

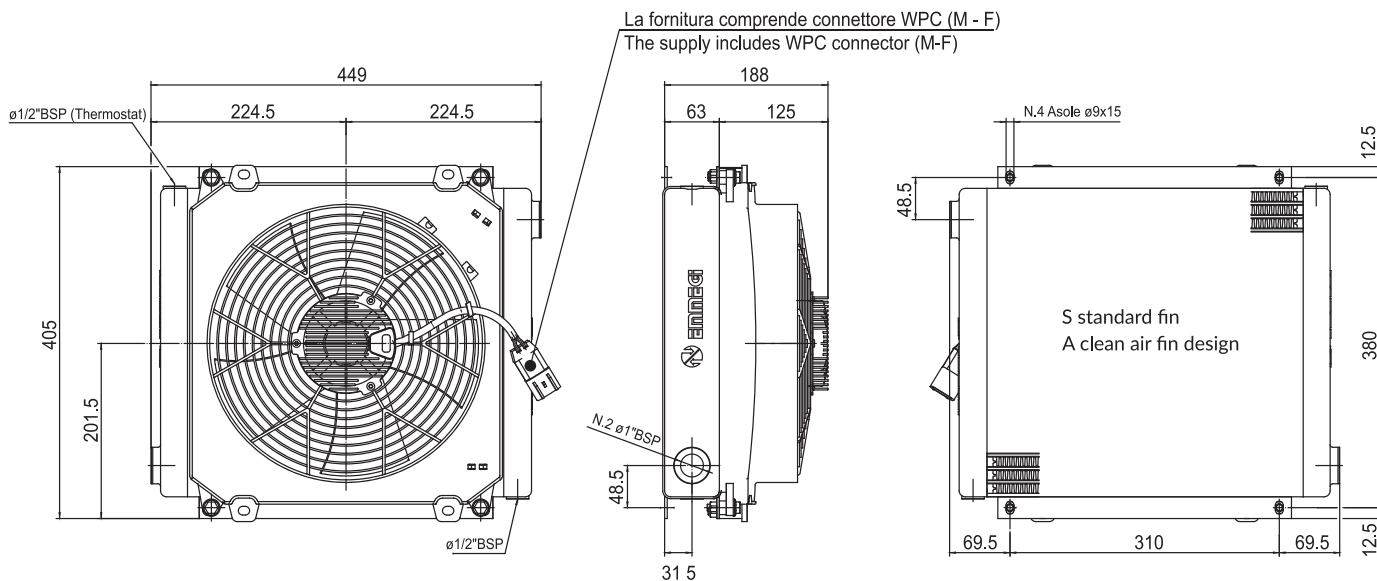
| cSt | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0,5 | 0,65 | 0,77 | 1  | 1,2 | 1,4 | 1,6 | 1,9 | 2,1 | 3,3 | 4,3 |



# MOBILE Series

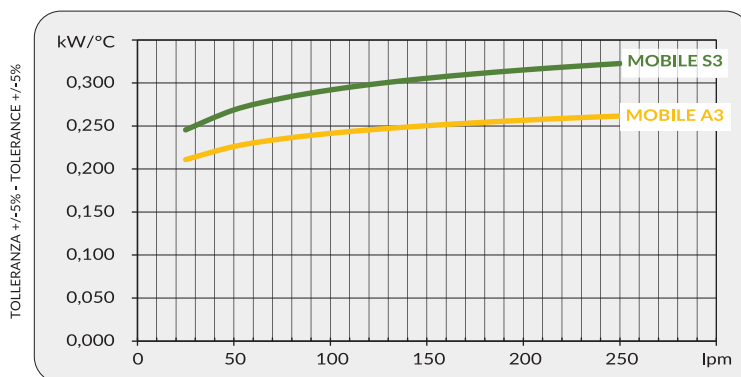
## MOBILE S3-A3

### Dimensioni Dimensions

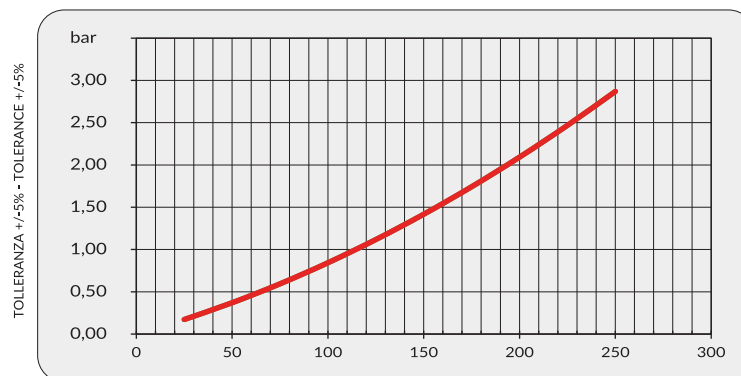


| CODICE<br>CODE | Dati tecnici / Technical Data |      |      |      |       |        |    |     |      |
|----------------|-------------------------------|------|------|------|-------|--------|----|-----|------|
|                | V                             | kW   | A    | rpm  | Ø Fan | dB (A) | IP | It  | kg   |
| 2MS312###      | 12V DC                        | 0,19 | 15,6 | 2840 | 305   | 74     | 68 | 1,6 | 10,5 |
| 2MS324###      | 24V DC                        | 0,18 | 7,6  | 3040 | 305   | 79     | 68 | 1,6 | 10,5 |
| 2MA312###      | 12V DC                        | 0,19 | 15,8 | 3110 | 305   | 74     | 68 | 1,6 | 10,5 |
| 2MA324###      | 24V DC                        | 0,16 | 6,7  | 3124 | 305   | 79     | 68 | 1,6 | 10,5 |

### Diagramma rendimento Performance diagram



### Perdite di carico Pressure drop (@30cSt)



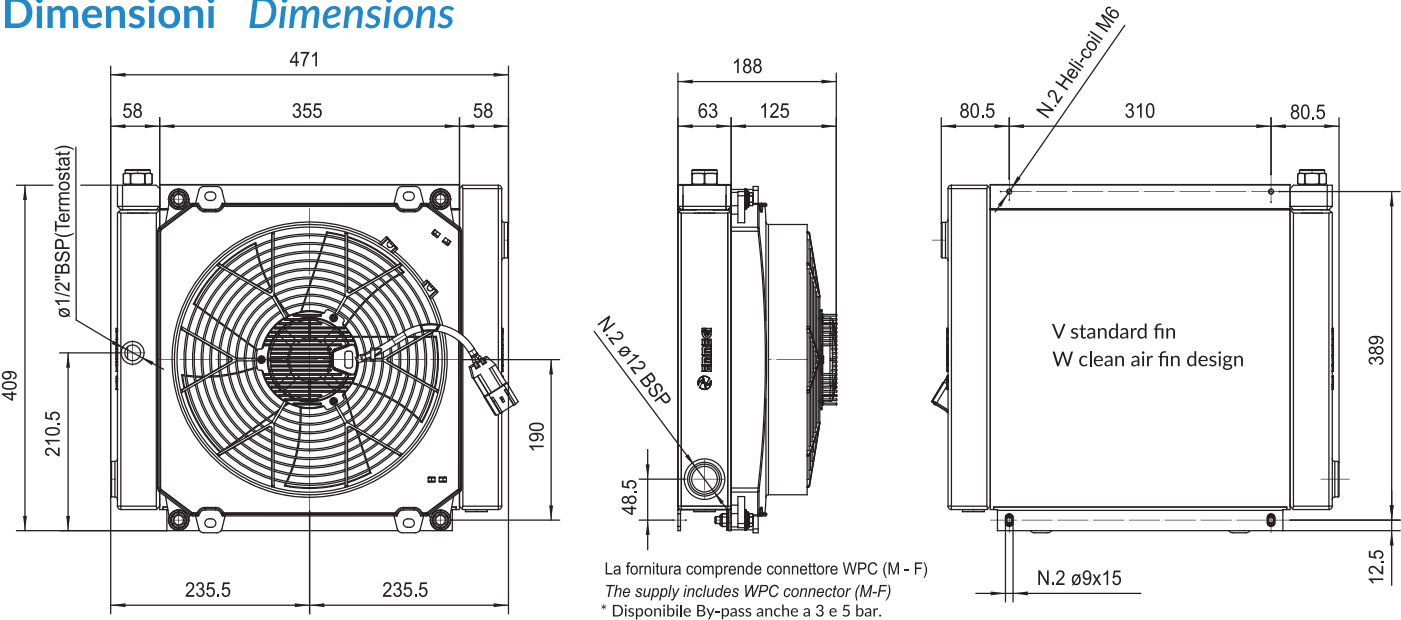
### Fattore di correzione-F-(perdite di carico) Correction factor-F-(pressure drop)

| cSt | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0,5 | 0,65 | 0,77 | 1  | 1,2 | 1,4 | 1,6 | 1,9 | 2,1 | 3,3 | 4,3 |



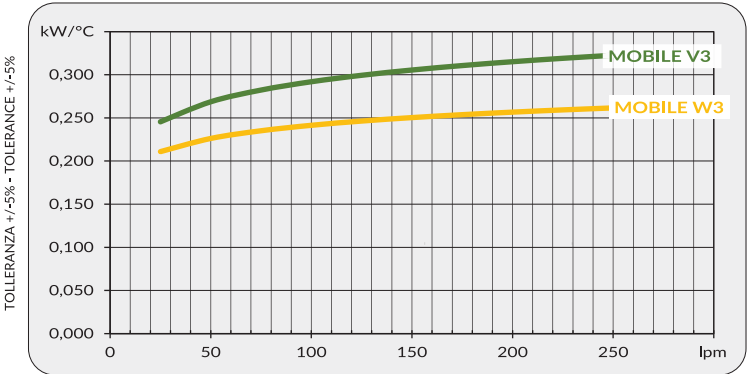


Dimensioni    Dimensions

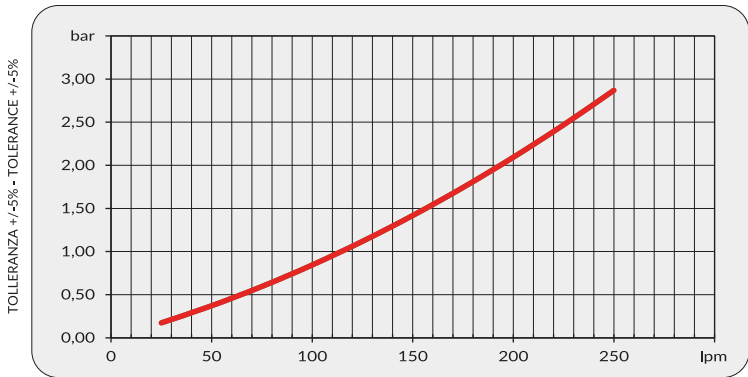


| CODICE<br>CODE | Dati tecnici / Technical Data |      |      |      |       |        |    |     |    |
|----------------|-------------------------------|------|------|------|-------|--------|----|-----|----|
|                | V                             | kW   | A    | rpm  | Ø Fan | dB (A) | IP | It  | kg |
| 2MV312###      | 12V DC                        | 0,19 | 15,6 | 2840 | 305   | 74     | 68 | 1,6 | 12 |
| 2MV324###      | 24V DC                        | 0,18 | 7,6  | 3040 | 305   | 79     | 68 | 1,6 | 12 |
| 2MW312###      | 12V DC                        | 0,19 | 15,8 | 3110 | 305   | 74     | 68 | 1,6 | 12 |
| 2MW324###      | 24V DC                        | 0,16 | 6,7  | 3124 | 305   | 79     | 68 | 1,6 | 12 |

Diagramma rendimento    Performance diagram



Perdite di carico    Pressure drop (@30cSt)



Fattore di correzione-F(perdite di carico)    Correction factor-F(pressure drop)

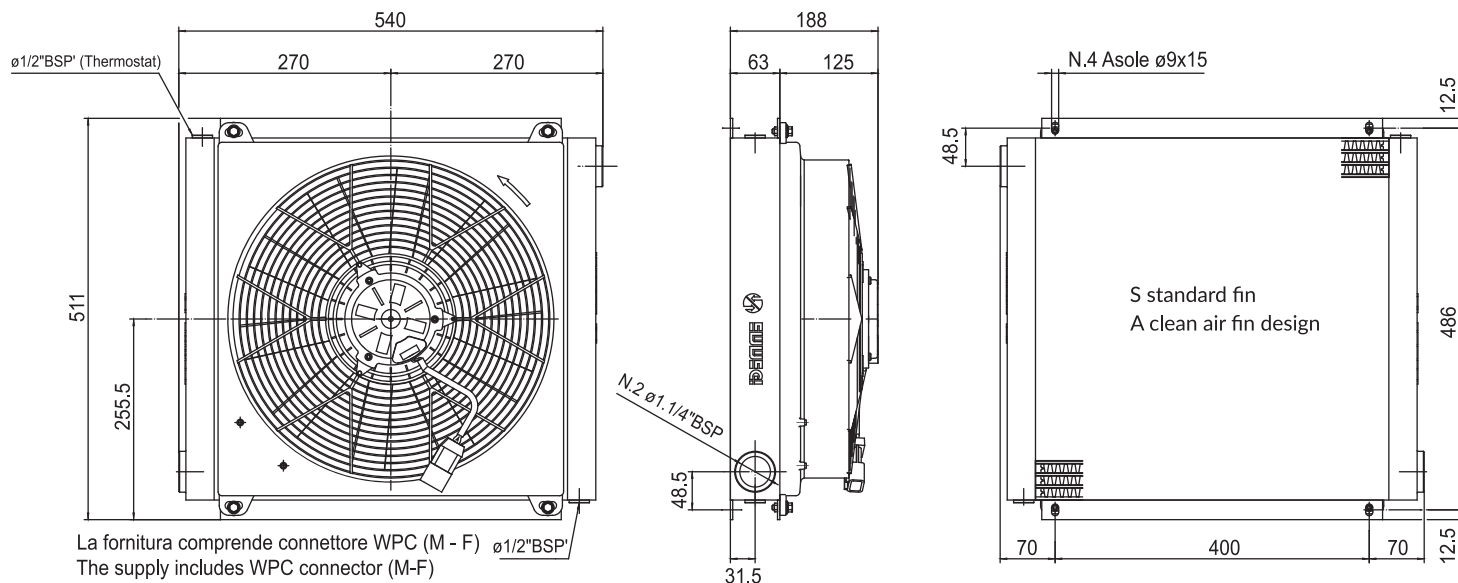
| cSt | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0,5 | 0,65 | 0,77 | 1  | 1,2 | 1,4 | 1,6 | 1,9 | 2,1 | 3,3 | 4,3 |



# MOBILE Series

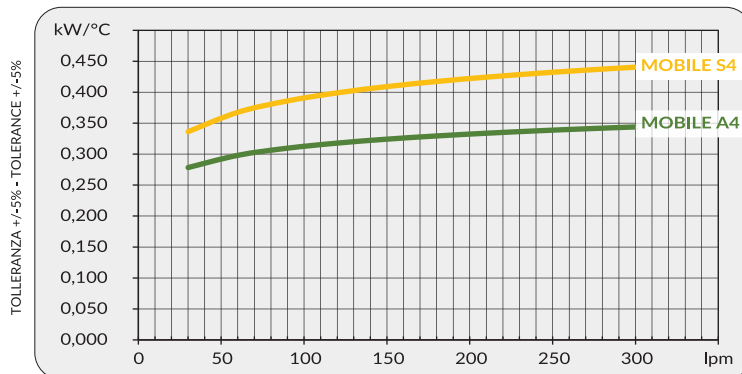
## MOBILE S4-A4

### Dimensioni Dimensions

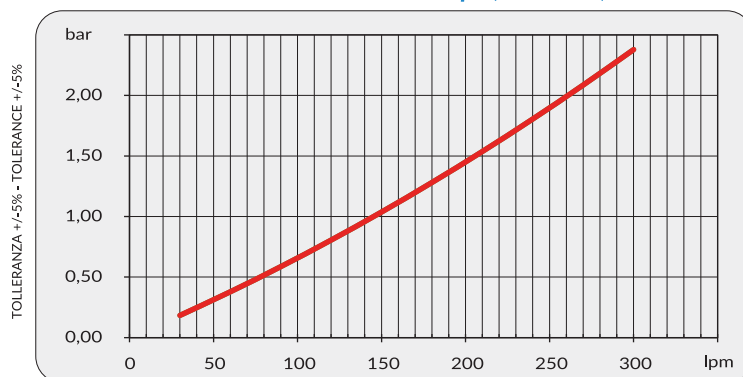


| CODICE<br>CODE | Dati tecnici / Technical Data |      |      |      |       |        |    |     |      |  |
|----------------|-------------------------------|------|------|------|-------|--------|----|-----|------|--|
|                | V                             | kW   | A    | rpm  | Ø Fan | dB (A) | IP | It  | kg   |  |
| 2MS412###      | 12V DC                        | 0,18 | 15,2 | 2210 | 385   | 76     | 68 | 2,7 | 16,5 |  |
| 2MS424###      | 24V DC                        | 0,19 | 8,1  | 2390 | 385   | 79     | 68 | 2,7 | 16,5 |  |
| 2MA412###      | 12V DC                        | 0,15 | 15,5 | 2280 | 385   | 76     | 68 | 2,7 | 16,5 |  |
| 2MA424###      | 24V DC                        | 0,17 | 7,3  | 2460 | 385   | 79     | 68 | 2,7 | 16,5 |  |

### Diagramma rendimento Performance diagram



### Perdite di carico Pressure drop (@30cSt)

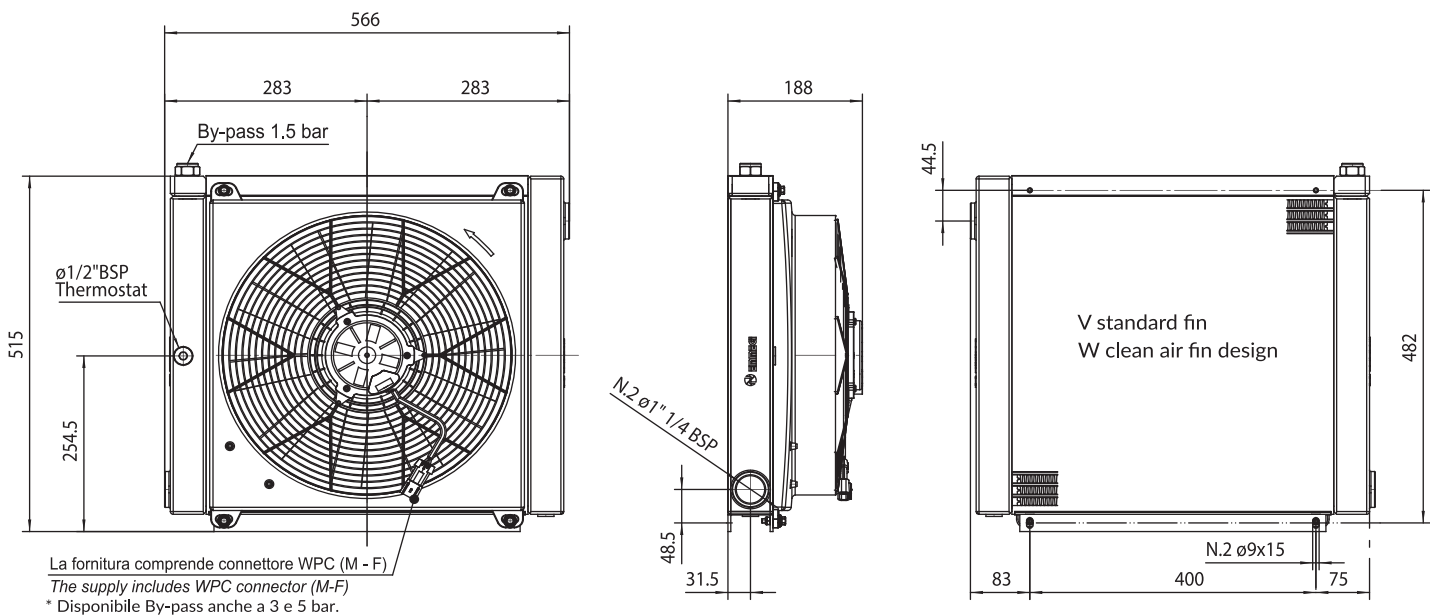


### Fattore di correzione-F-(perdite di carico) Correction factor-F-(pressure drop)

| cSt | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0,5 | 0,65 | 0,77 | 1  | 1,2 | 1,4 | 1,6 | 1,9 | 2,1 | 3,3 | 4,3 |

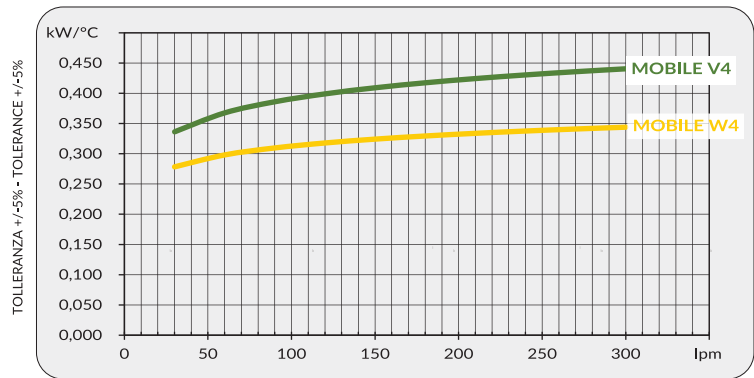


Dimensioni    Dimensions

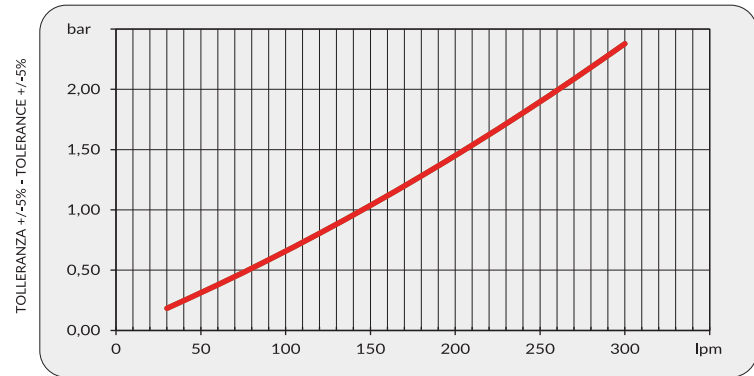


| CODICE<br>CODE | Dati tecnici / Technical Data |      |      |      |       |        |    |     |    |
|----------------|-------------------------------|------|------|------|-------|--------|----|-----|----|
|                | V                             | kW   | A    | rpm  | Ø Fan | dB (A) | IP | It  | kg |
| 2MV412###      | 12V DC                        | 0,18 | 15,2 | 2210 | 385   | 76     | 68 | 2,7 | 18 |
| 2MV424###      | 24V DC                        | 0,19 | 8,1  | 2390 | 385   | 79     | 68 | 2,7 | 18 |
| 2MW412###      | 12V DC                        | 0,15 | 15,5 | 2280 | 385   | 76     | 68 | 2,7 | 18 |
| 2MW424###      | 24V DC                        | 0,17 | 7,3  | 2460 | 385   | 79     | 68 | 2,7 | 18 |

Diagramma rendimento    Performance diagram



Perdite di carico    Pressure drop (@30cSt)



Fattore di correzione-F-(perdite di carico)    Correction factor-F-(pressure drop)

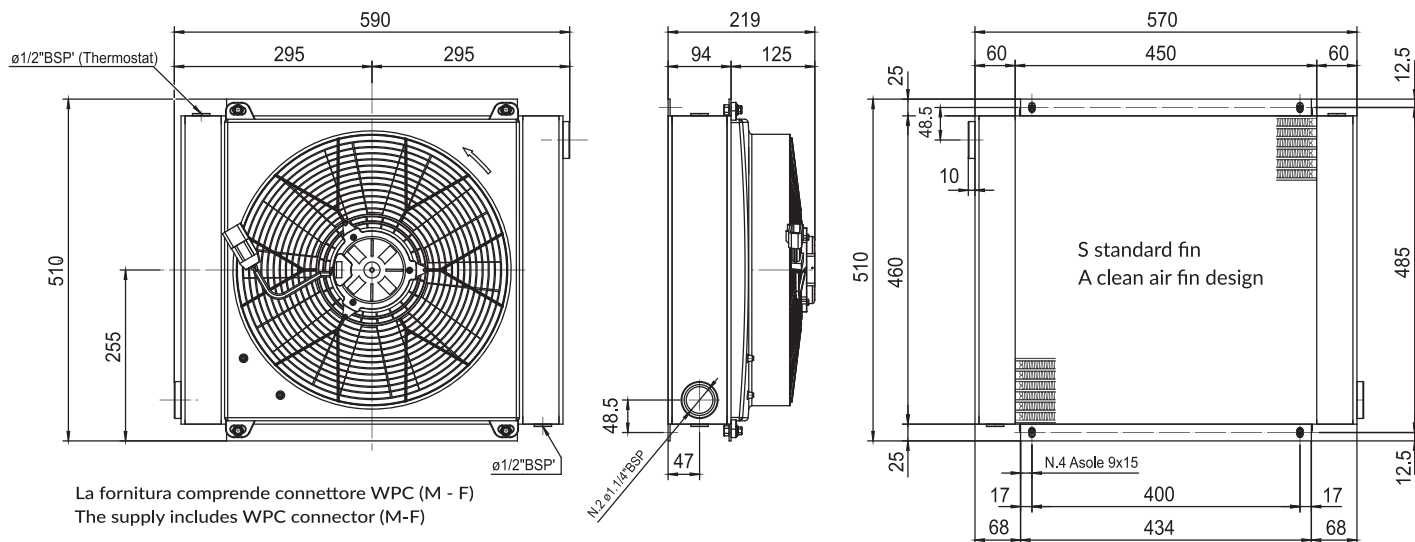
| cSt | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0,5 | 0,65 | 0,77 | 1  | 1,2 | 1,4 | 1,6 | 1,9 | 2,1 | 3,3 | 4,3 |



# MOBILE Series

## MOBILE S5-A5

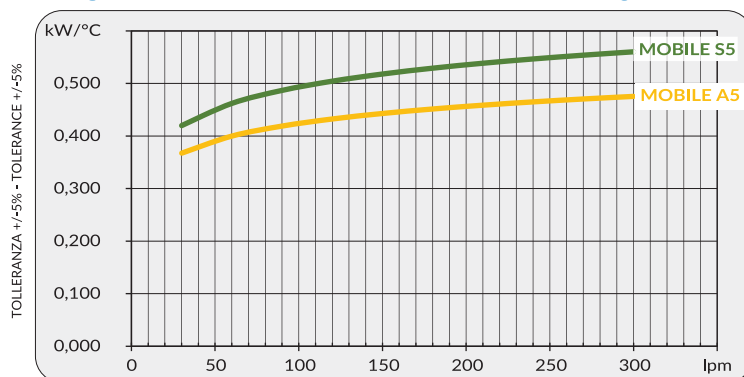
### Dimensioni Dimensions



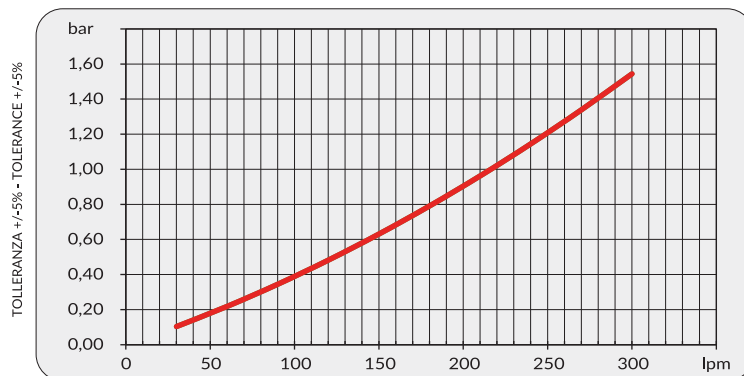
La fornitura comprende connettore WPC (M - F)  
The supply includes WPC connector (M-F)

| CODICE<br>CODE | Dati tecnici / Technical Data |      |      |      |       |        |    |     |      |
|----------------|-------------------------------|------|------|------|-------|--------|----|-----|------|
|                | V                             | kW   | A    | rpm  | Ø Fan | dB (A) | IP | It  | kg   |
| 2MS512###      | 12V DC                        | 0,23 | 19   | 2270 | 385   | 73     | 68 | 6,6 | 22,5 |
| 2MS524###      | 24V DC                        | 0,23 | 9,9  | 2420 | 385   | 75     | 68 | 6,6 | 22,5 |
| 2MA512###      | 12V DC                        | 0,23 | 19,4 | 2340 | 385   | 73     | 68 | 6,6 | 22,5 |
| 2MA524###      | 24V DC                        | 0,22 | 9,0  | 2500 | 385   | 75     | 68 | 6,6 | 22,5 |

### Diagramma rendimento Performance diagram



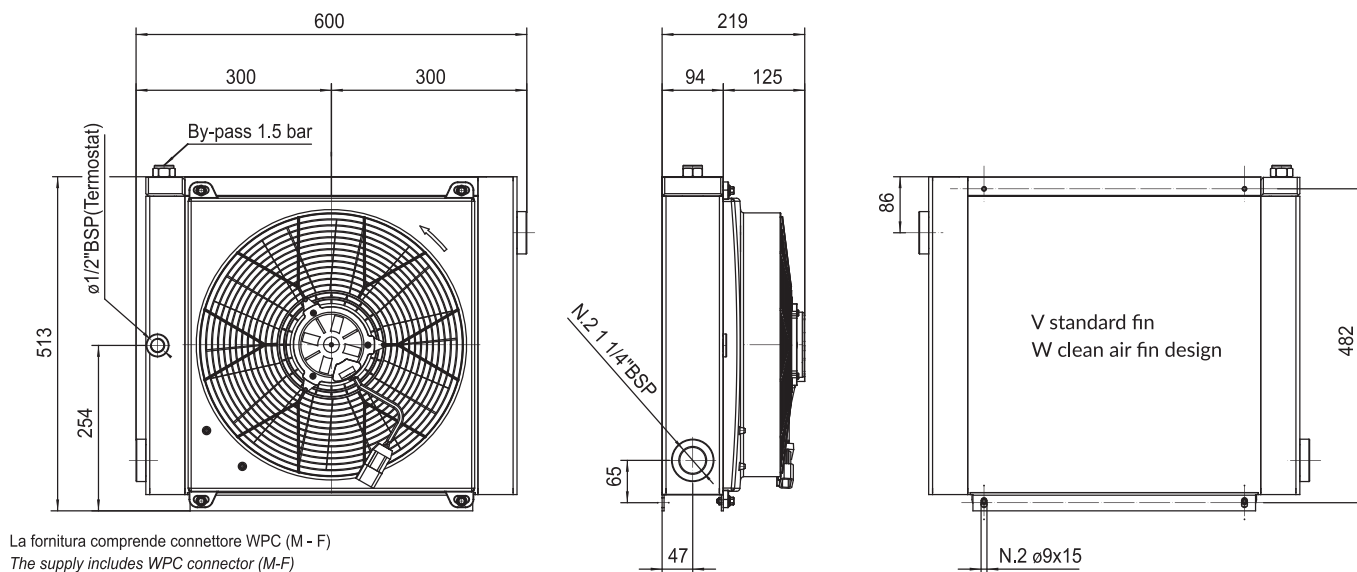
### Perdite di carico Pressure drop (@30cSt)



### Fattore di correzione-F-(perdite di carico) Correction factor-F-(pressure drop)

| cSt | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0,5 | 0,65 | 0,77 | 1  | 1,2 | 1,4 | 1,6 | 1,9 | 2,1 | 3,3 | 4,3 |

### Dimensioni Dimensions



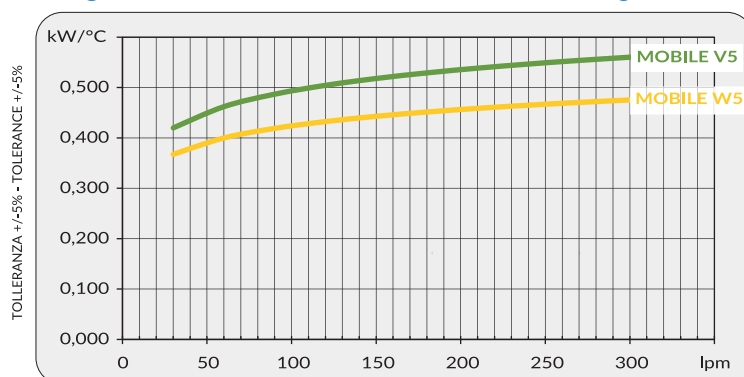
La fornitura comprende connettore WPC (M - F)

The supply includes WPC connector (M-F)

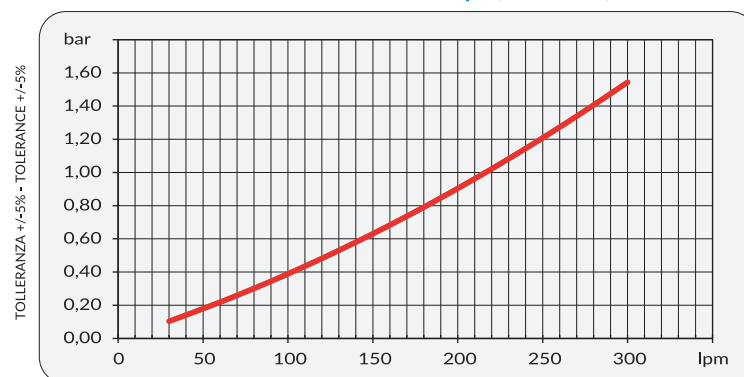
\* Disponibile By-pass anche a 2 e 5 bar.

| CODICE<br>CODE | Dati tecnici / Technical Data |      |      |      |       |        |    |     |    |
|----------------|-------------------------------|------|------|------|-------|--------|----|-----|----|
|                | V                             | kW   | A    | rpm  | Ø Fan | dB (A) | IP | It  | kg |
| 2MV512###      | 12V DC                        | 0,23 | 19   | 2270 | 385   | 73     | 68 | 6,6 | 24 |
| 2MV524###      | 24V DC                        | 0,23 | 9,9  | 2420 | 385   | 75     | 68 | 6,6 | 24 |
| 2MW512###      | 12V DC                        | 0,23 | 19,4 | 2340 | 385   | 73     | 68 | 6,6 | 24 |
| 2MW524###      | 24V DC                        | 0,22 | 9,0  | 2500 | 385   | 75     | 68 | 6,6 | 24 |

### Diagramma rendimento Performance diagram



### Perdite di carico Pressure drop (@30cSt)



### Fattore di correzione-F-(perdite di carico) Correction factor-F-(pressure drop)

| cSt | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0,5 | 0,65 | 0,77 | 1  | 1,2 | 1,4 | 1,6 | 1,9 | 2,1 | 3,3 | 4,3 |

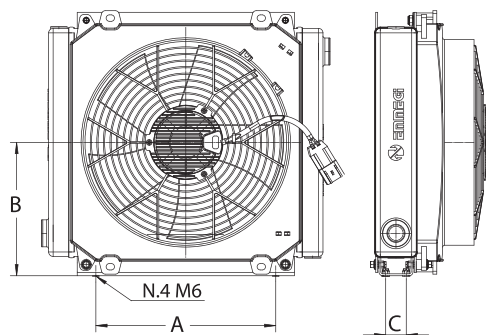
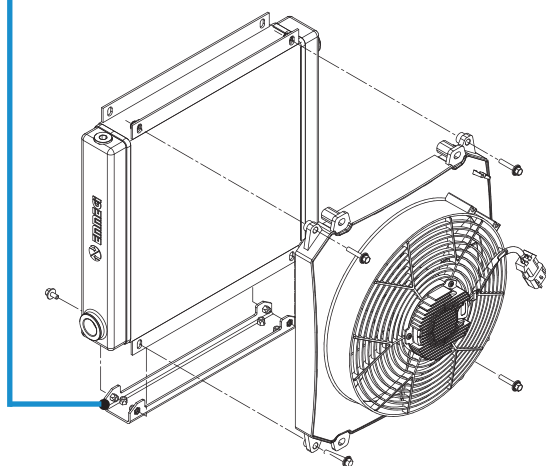


# MOBILE Series

## Staffe / Frame

### Staffe di fissaggio serie 1 (articolo optional)

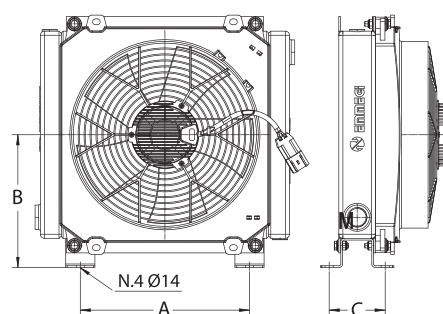
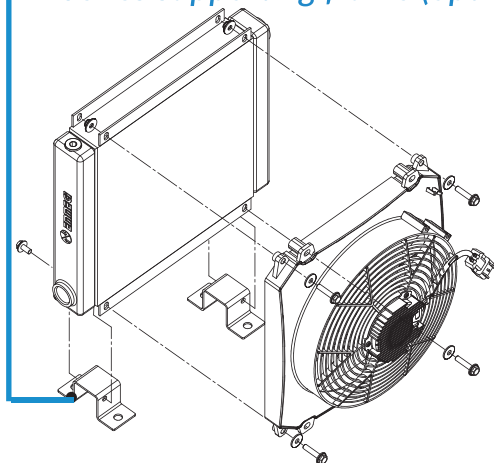
#### 1 Series supporting frame (optional)



| Serie 1          |                          |     | 1 Series |                                         |
|------------------|--------------------------|-----|----------|-----------------------------------------|
| MODELLO<br>MODEL | Dimensioni<br>Dimensions |     |          | Staffe di fissaggio<br>Supporting frame |
|                  | A                        | B   | C        | PN                                      |
| MS1/MA1/MV1/MW1  | 170                      | 124 | 32       | 051961A                                 |
| MSP/MVP          | 150                      | 146 | 32       | 0562980                                 |
| MS2/MA2/MV2/MW2  | 210                      | 173 | 32       | 051962A                                 |
| MS3/MA3/MV3/MW3  | 280                      | 204 | 32       | 051963A                                 |
| MS4/MA4/MV4/MW4  | 380                      | 258 | 32       | 051964A                                 |
| MS5/MA5/MV5/MW5  | 380                      | 258 | 64       | 051965A                                 |

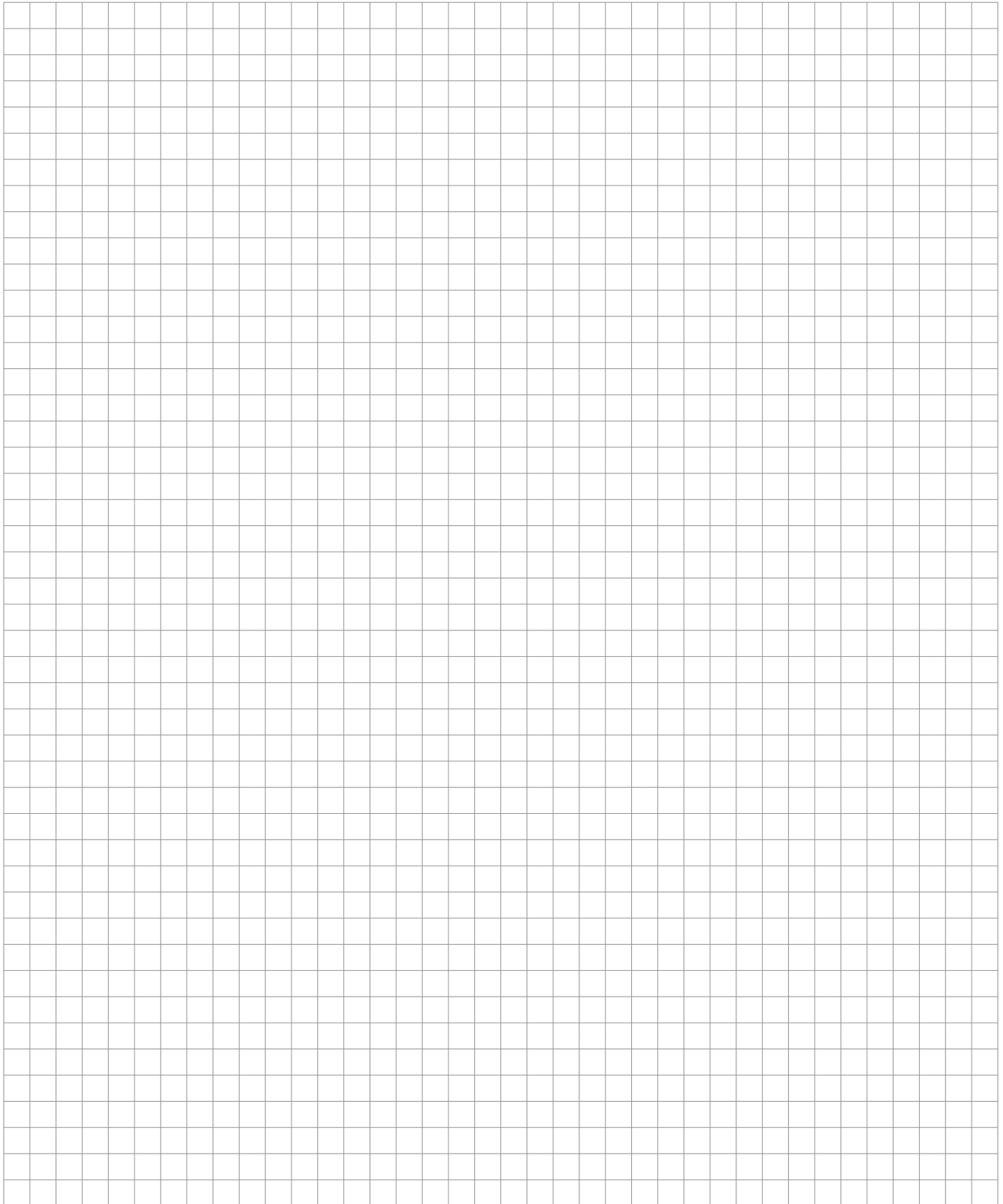
### Staffe di fissaggio serie 2 (articolo optional)

#### 2 Series supporting frame (optional)



| Series 2         |                          |       | 2 Series |                                                                                                  |
|------------------|--------------------------|-------|----------|--------------------------------------------------------------------------------------------------|
| MODELLO<br>MODEL | Dimensioni<br>Dimensions |       |          | Staffe di fissaggio (N. 2 Pz. per scambiatore)<br>Supporting frame (N. 2 Pcs for heat exchanger) |
|                  | A                        | B     | C        | PN                                                                                               |
| MS1/MA1/MV1/MW1  | 130                      | 86    | 96       | 056295A                                                                                          |
| MSM/MVM          | 160                      | 166   | 81       | 0562940                                                                                          |
| MSP/MVP          | 220                      | 195   | 96       | 056293A                                                                                          |
| MS2/MA2/MV2/MW2  | 220                      | 195   | 96       | 056293A                                                                                          |
| MS3/MA3/MV3/MW3  | 290                      | 227.5 | 96       | 056293A                                                                                          |
| MS4/MA4/MV4/MW4  | 380                      | 280.5 | 96       | 056293A                                                                                          |
| MS5/MA5/MV5/MW5  | 380                      | 280   | 127      | 056292A                                                                                          |









Serie HPAM  
HPAM Series



## Serie HPAM

### HPAM Series

## APPLICAZIONE

### APPLICATION



Gli scambiatori della serie HPAM sono stati progettati per ambienti marini classificati come C5 in accordo alle normative UNI EN ISO 12944:2018 o con alta umidità e salinità con presenza di atmosfere corrosive.

The HPAM series heat exchangers have been designed for marine environments classified as C5 in accordance with the UNI EN ISO 12944:2018 standards or in environments with high humidity and salinity.

## Denominazione codice prodotto

### Ordering code

**A250500****400B****2****1**

#### MODELLO MODEL

|         |           |
|---------|-----------|
| A250500 | (HPAM06)  |
| A250600 | (HPAM12)  |
| A250700 | (HPAM18)  |
| A250800 | (HPAM24)  |
| A250900 | (HPAM30)  |
| A251000 | (HPAM36)  |
| A250000 | (HPAM42)  |
| A251100 | (HPAM50)  |
| A251200 | (HPAM52)  |
| A251300 | (HPAM72)  |
| A251400 | (HPAM135) |
| A251500 | (HPAM180) |
| A251600 | (HPAM255) |

#### TIPO DI MOTORIZZAZIONE FAN MOTOR TYPE

|      |                                                                                                   |
|------|---------------------------------------------------------------------------------------------------|
| 400B | (Electric Motor AC 230-400V 50Hz / 265-460V 60Hz - 280-480V 60Hz - 400-690V 50Hz / 460-795V 60Hz) |
| 2000 | (Prepared for Gr.2 hydraulic motor)                                                               |
| 3000 | (Prepared for Gr.3 hydraulic motor)                                                               |

#### TERMOSTATI THERMOSTATS

|   |                                          |
|---|------------------------------------------|
| 0 | Senza termostato without thermostat      |
| 1 | Termostato fisso Fixed thermostat 40-28° |
| 2 | Termostato fisso Fixed thermostat 50-38° |
| 3 | Termostato fisso Fixed thermostat 60-48° |
| 4 | Termostato fisso Fixed thermostat 70-58° |
| 5 | Termostato fisso Fixed thermostat 80-68° |
| 6 | Termostato fisso Fixed thermostat 90-78° |

#### TIPO DI VENTILAZIONE VENTILATING TYPE

|   |                            |
|---|----------------------------|
| 1 | Aspirante Suction air flow |
| 2 | Soffiante Blowing air flow |



## Serie HPAM - HPAM Series

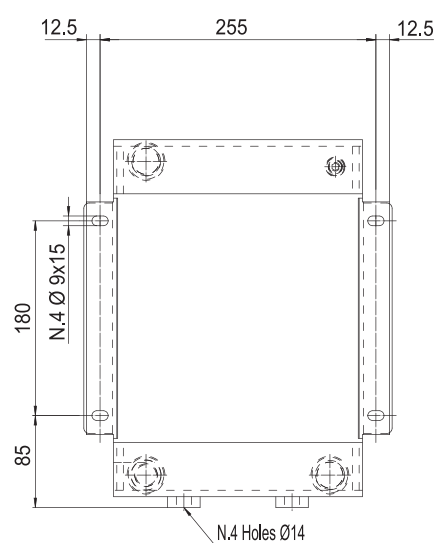
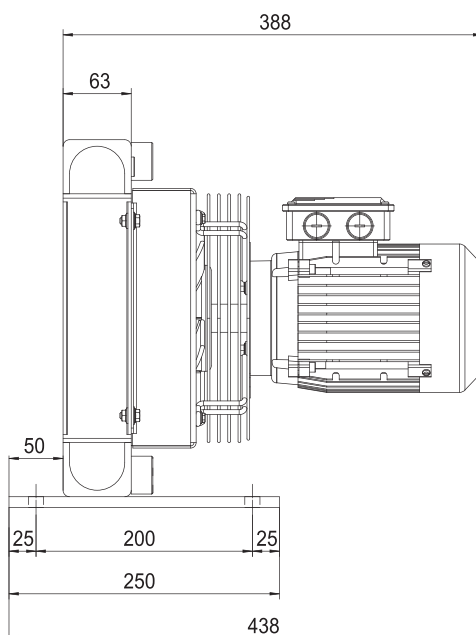
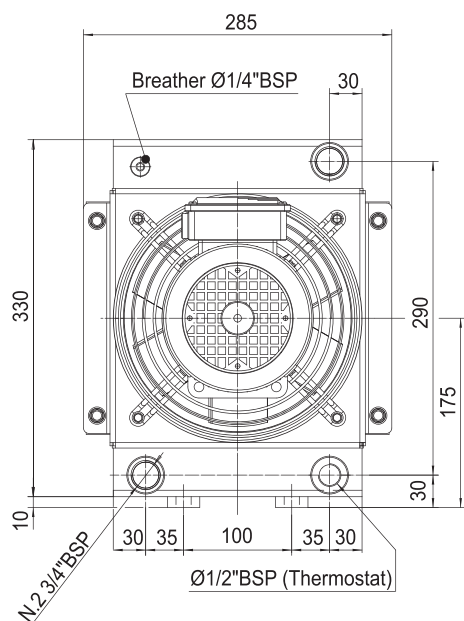
| Modello<br>Model | Codice<br>Code |
|------------------|----------------|
| HPAM 06          | A250500        |
| HPAM 12          | A250600        |
| HPAM 18          | A250700        |
| HPAM 24          | A250800        |
| HPAM 30          | A250900        |
| HPAM 36          | A251000        |
| HPAM 42          | A250000        |
| HPAM 50          | A251100        |
| HPAM 52          | A251200        |
| HPAM 72          | A251300        |
| HPAM 135         | A251400        |
| HPAM 180         | A251500        |
| HPAM 255         | A251600        |



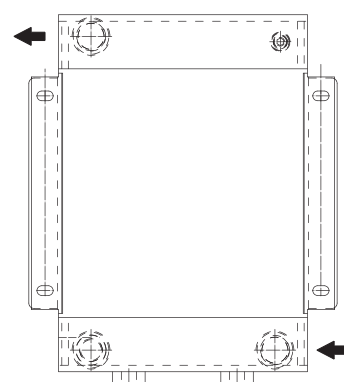
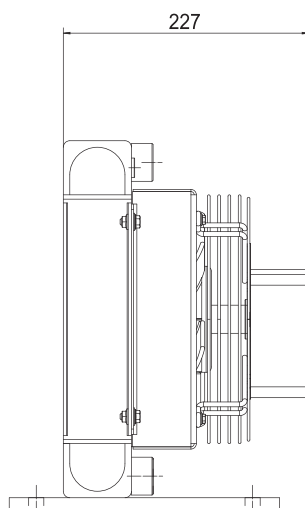
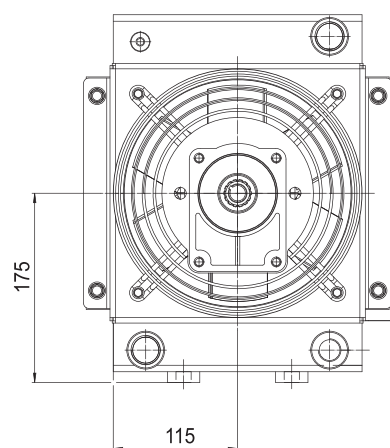


# HPAM series

## HPAM 06



**P/N A250500400B##**



**P/N A2505002000##**

Le dimensioni di ingombro e le caratteristiche tecniche non sono impegnative  
Overall dimensions and technical characteristic are not binding



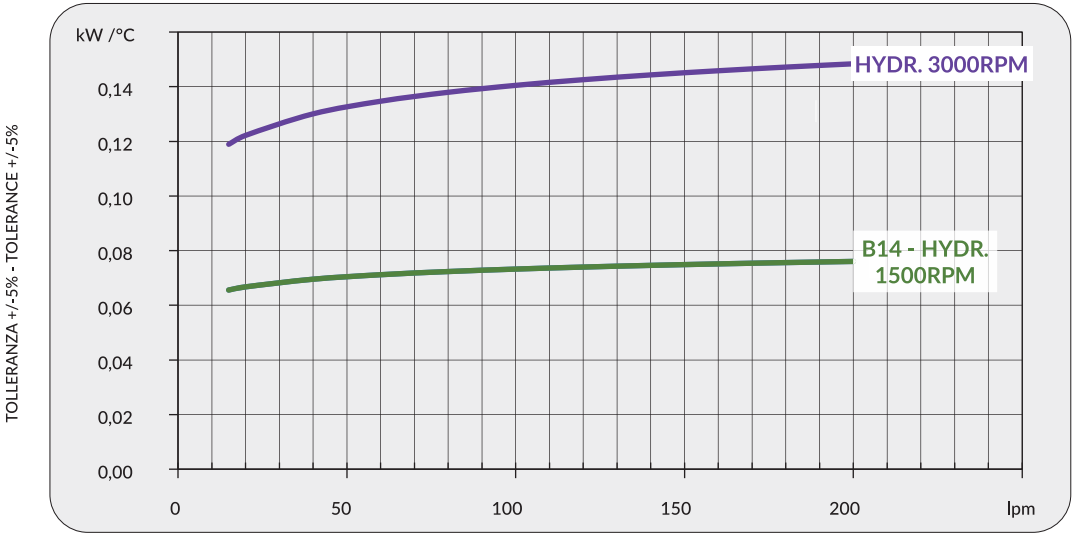


Dati tecnici    Technical Data

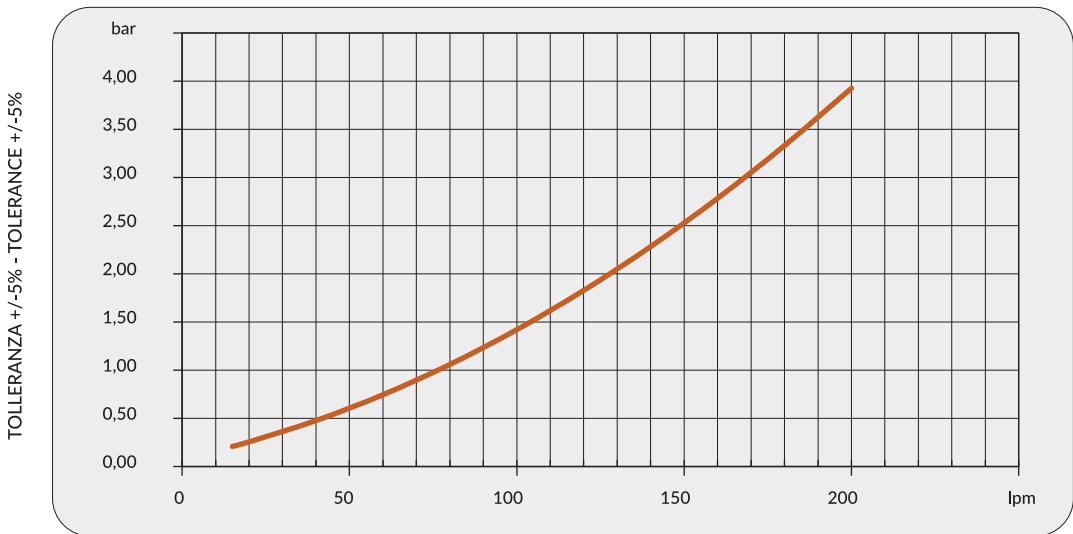
| Modello<br>Model | P/N           | V                                 | Hz       | kW (±10%)    | A (±10%)           | rpm          | dB (A)   | IP | lt  | kg |
|------------------|---------------|-----------------------------------|----------|--------------|--------------------|--------------|----------|----|-----|----|
| HPAM06           | A250500400B## | 230/400 AC B14<br>265/460 AC B14  | 50<br>60 | 0,25<br>0,29 | 1,7 - 1<br>1,7 - 1 | 1350<br>1620 | 62<br>66 | 56 | 1,2 | 13 |
| HPAM06           | A2505002000## | Prepared for Gr.2 hydraulic motor |          |              |                    |              |          | -  | 1,2 | 9  |

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Diagramma rendimento    Performance diagram



Perdite di carico    Pressure drop (@30cSt)



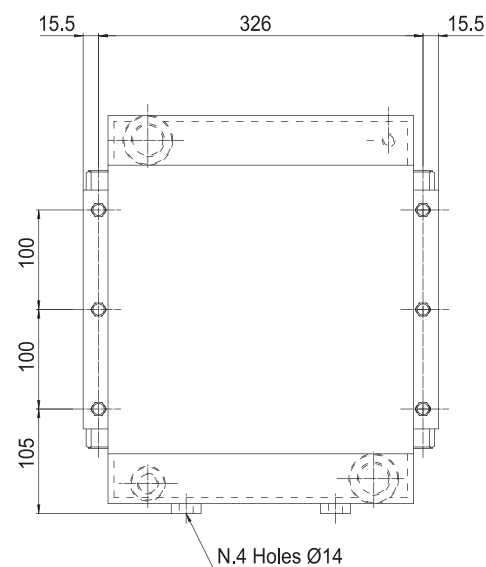
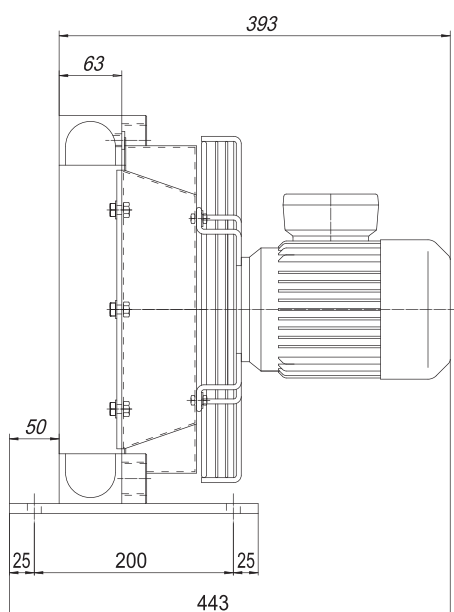
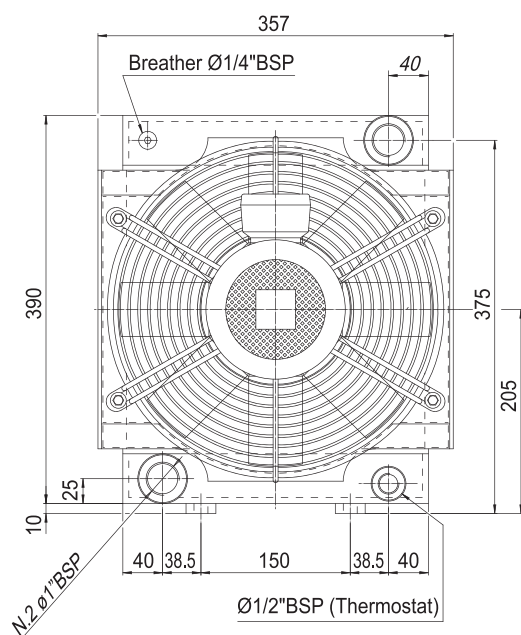
Fattore di correzione-F-(perdite di carico)    Correction factor-F-(pressure drop)

| cSt | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0,5 | 0,65 | 0,77 | 1  | 1,2 | 1,4 | 1,6 | 1,9 | 2,1 | 3,3 | 4,3 |

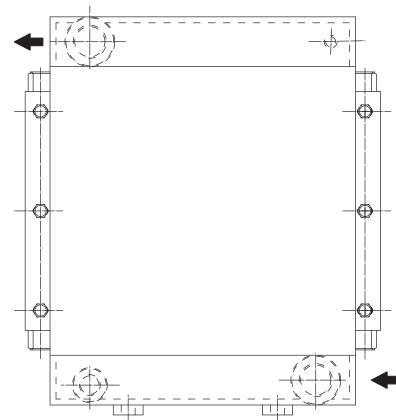
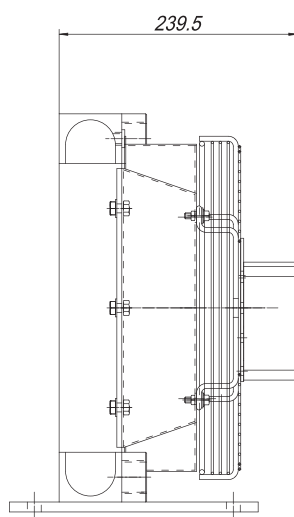
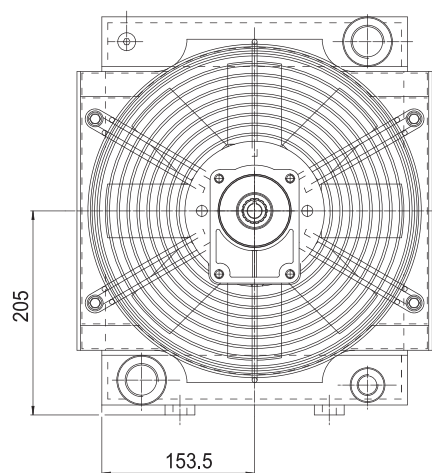


# HPAM series

## HPAM 12



**P/N A250600400B##**



**P/N A2506002000##**

Le dimensioni di ingombro e le caratteristiche tecniche non sono impegnative  
Overall dimensions and technical characteristic are not binding

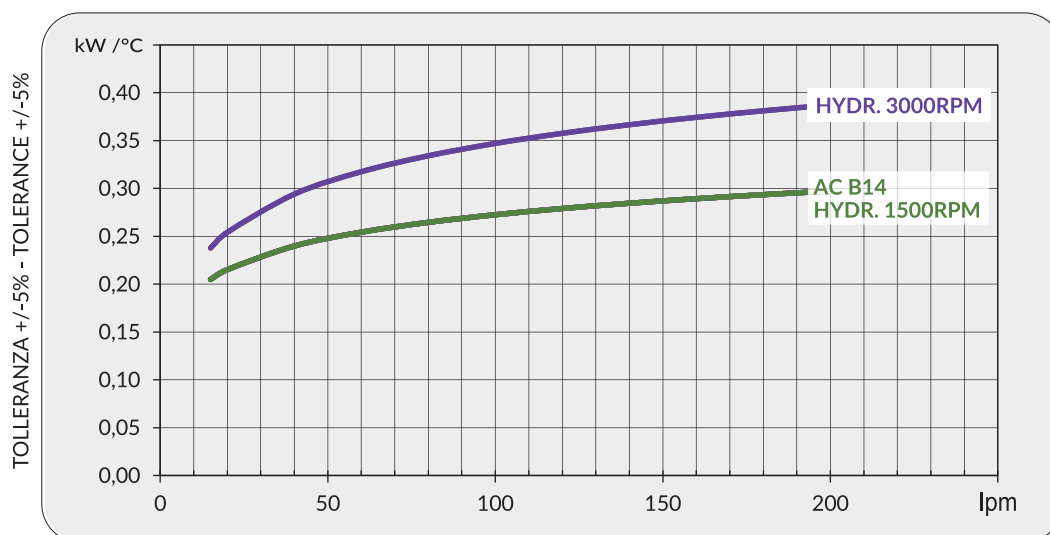


## Dati tecnici    Technical Data

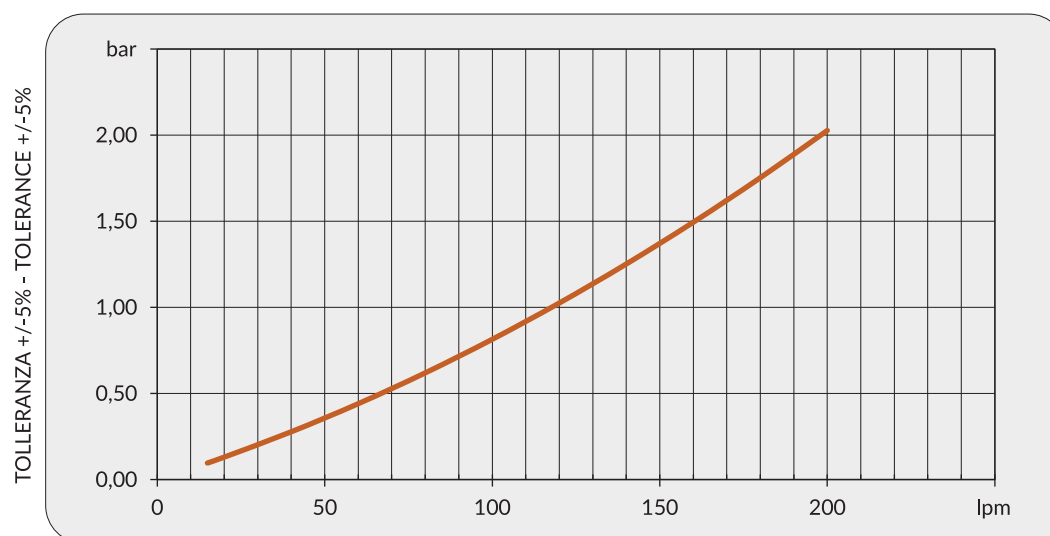
| Modello<br>Model | P/N           | V                                 | Hz       | kW(±10%)     | A (±10%)           | rpm          | dB (A)   | IP | lt  | kg |
|------------------|---------------|-----------------------------------|----------|--------------|--------------------|--------------|----------|----|-----|----|
| HPAM12           | A250600400B## | 230/400 AC B14<br>265/460 AC B14  | 50<br>60 | 0,25<br>0,29 | 1,7 - 1<br>1,7 - 1 | 1350<br>1620 | 74<br>78 | 56 | 1,9 | 17 |
| HPAM12           | A2506002000## | Prepared for Gr.2 hydraulic motor |          |              |                    |              |          | -  | 1,9 | 12 |

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## Diagramma rendimento    Performance diagram



## Perdite di carico    Pressure drop (@30cSt)



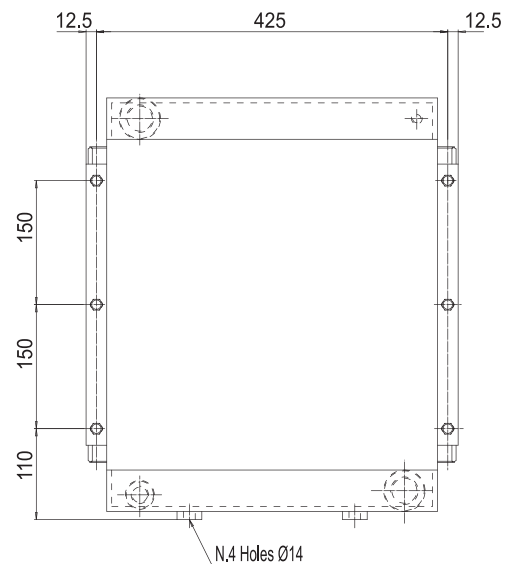
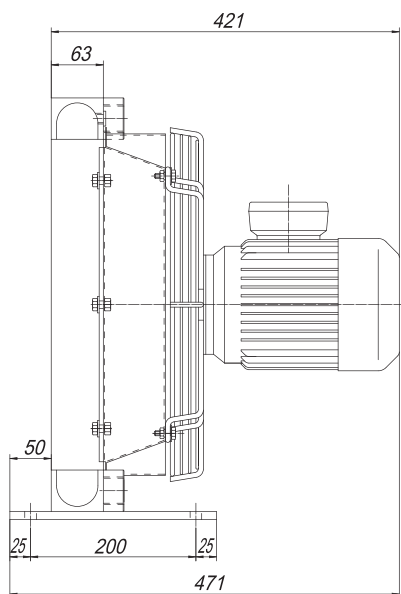
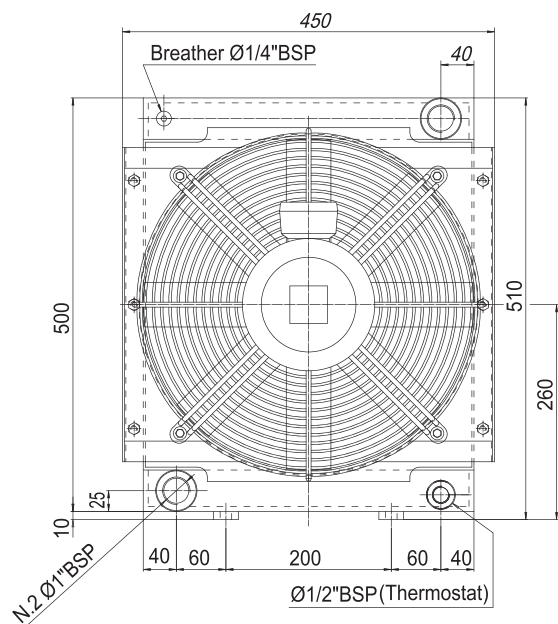
## Fattore di correzione-F-(perdite di carico)    Correction factor-F-(pressure drop)

| cSt | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0,5 | 0,65 | 0,77 | 1  | 1,2 | 1,4 | 1,6 | 1,9 | 2,1 | 3,3 | 4,3 |

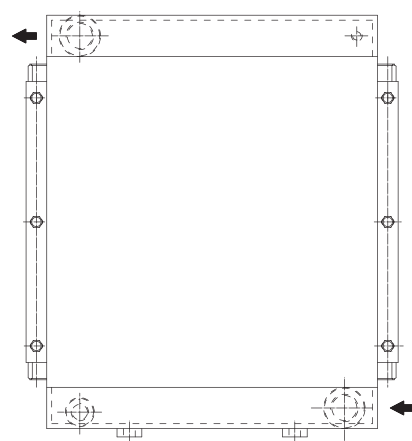
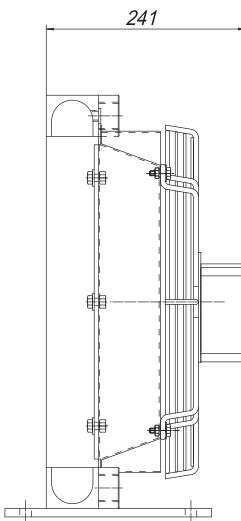
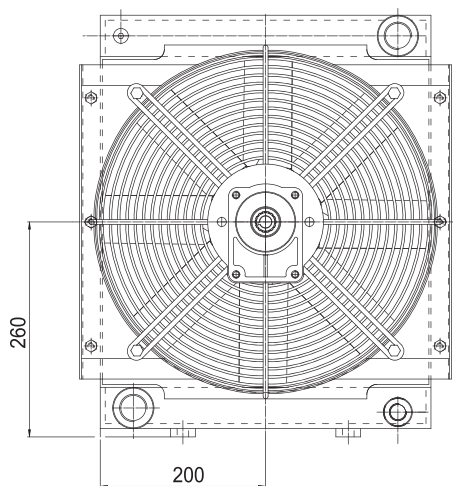


# HPAM series

## HPAM 18



**P/N A250700400B##**



**P/N A2507002000##**

Le dimensioni di ingombro e le caratteristiche tecniche non sono impegnative  
Overall dimensions and technical characteristic are not binding

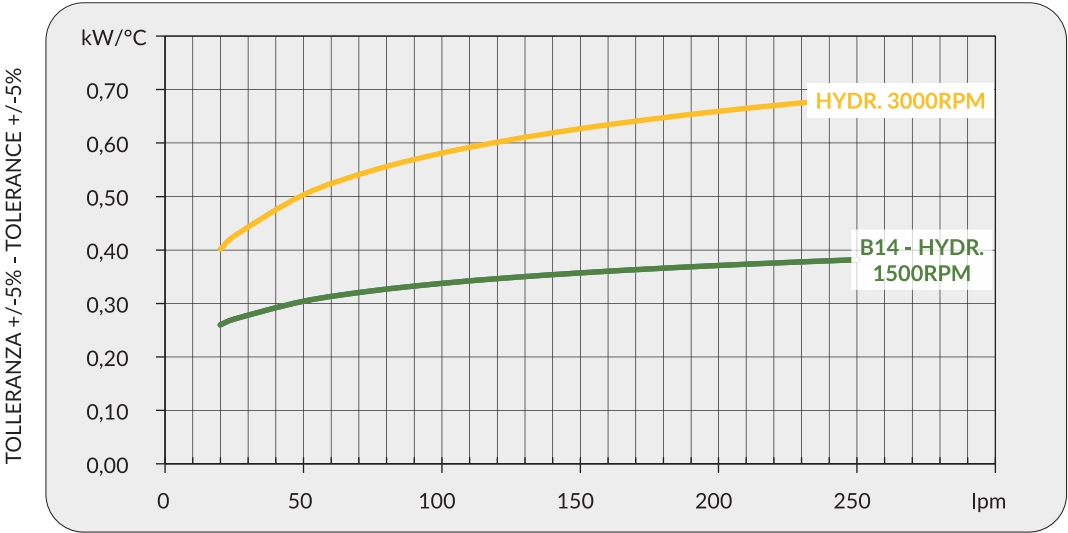


Dati tecnici    Technical Data

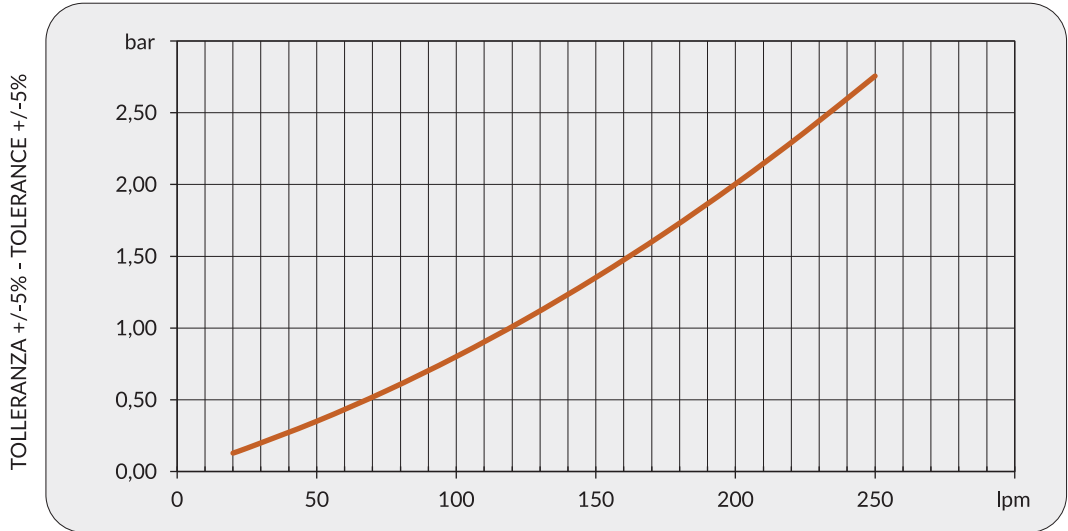
| Modello<br>Model | P/N           | V                                 | Hz | kW(±10%) | A (±10%)  | rpm  | dB (A) | IP | lt  | kg |
|------------------|---------------|-----------------------------------|----|----------|-----------|------|--------|----|-----|----|
| HPAM18           | A250700400B## | 230/400 AC B14                    | 50 | 0,37     | 2,1 - 1,1 | 1370 | 74     | 56 | 2,9 | 20 |
|                  |               | 265/460 AC B14                    | 60 | 0,43     | 2,1 - 1,1 | 1650 | 78     |    |     |    |
| HPAM18           | A2507002000## | Prepared for Gr.2 hydraulic motor |    |          |           |      |        | -  | 2,9 | 15 |

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Diagramma rendimento    Performance diagram



Perdite di carico    Pressure drop (@30cSt)



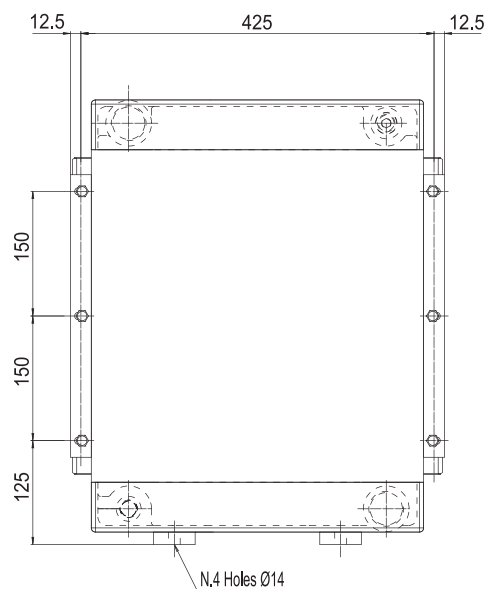
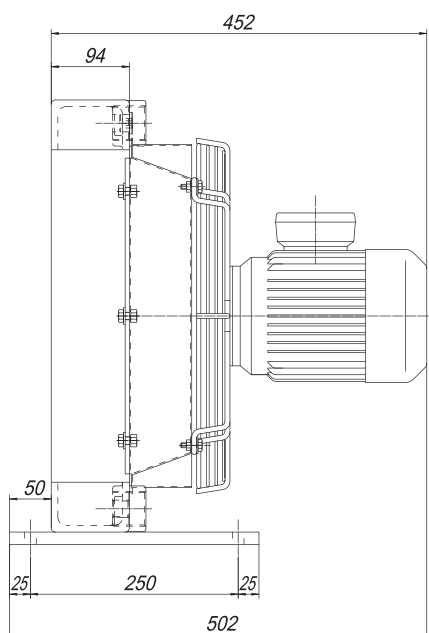
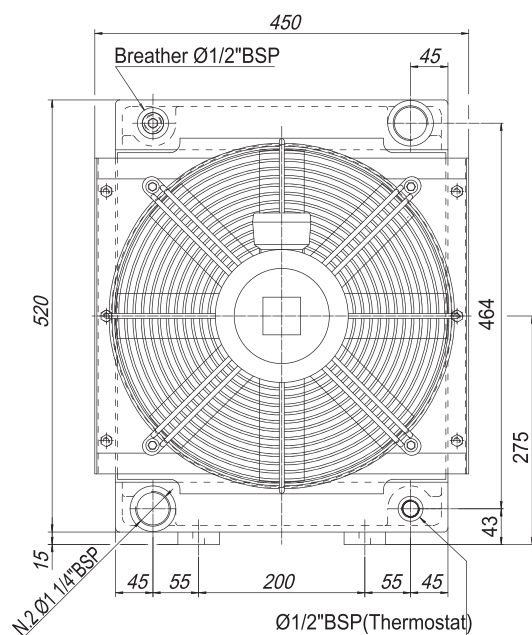
Fattore di correzione-F-(perdite di carico)    Correction factor-F-(pressure drop)

| cSt | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0,5 | 0,65 | 0,77 | 1  | 1,2 | 1,4 | 1,6 | 1,9 | 2,1 | 3,3 | 4,3 |

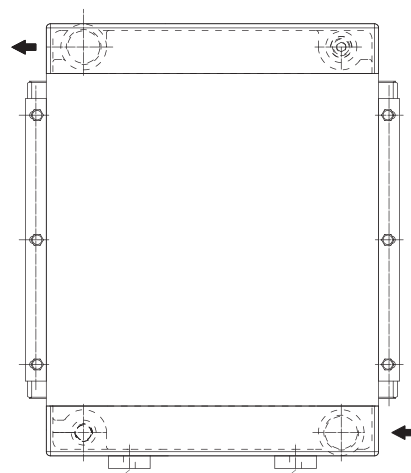
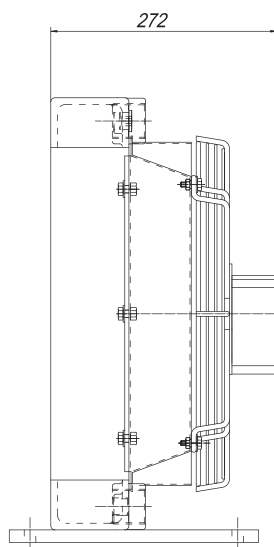
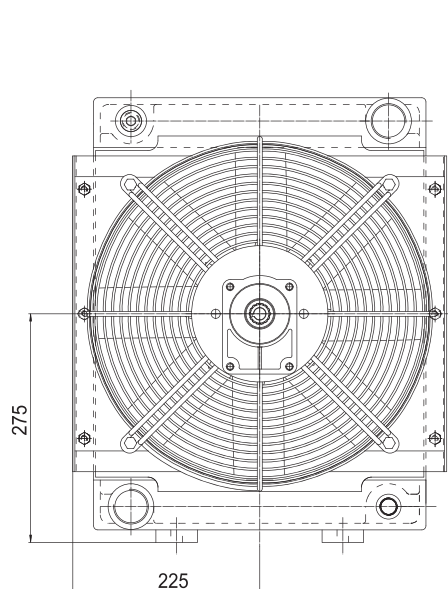


# HPAM series

## HPAM 24



**P/N A250800400B##**



**P/N A2808002000##**

Le dimensioni di ingombro e le caratteristiche tecniche non sono impegnative  
Overall dimensions and technical characteristic are not binding



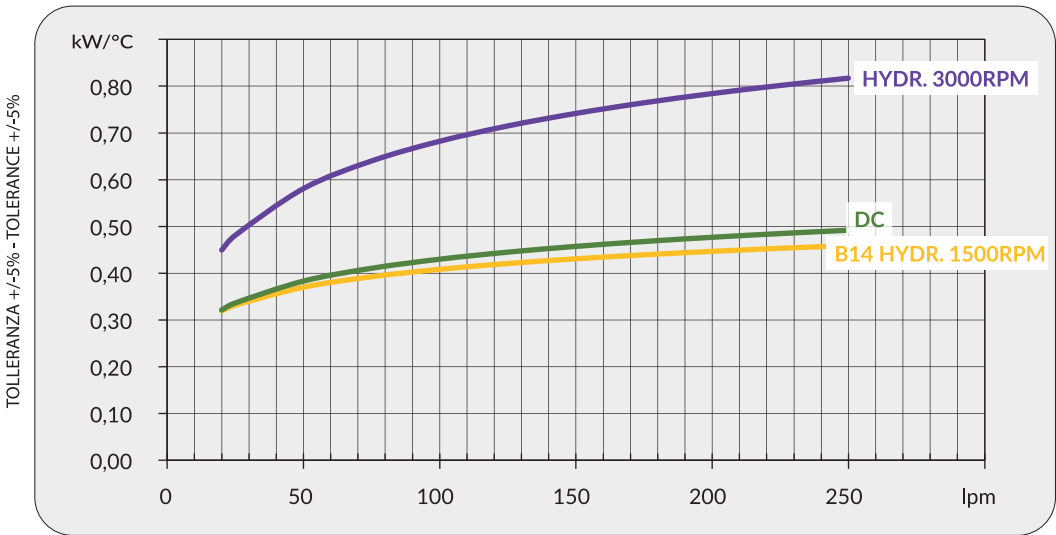


Dati tecnici    Technical Data

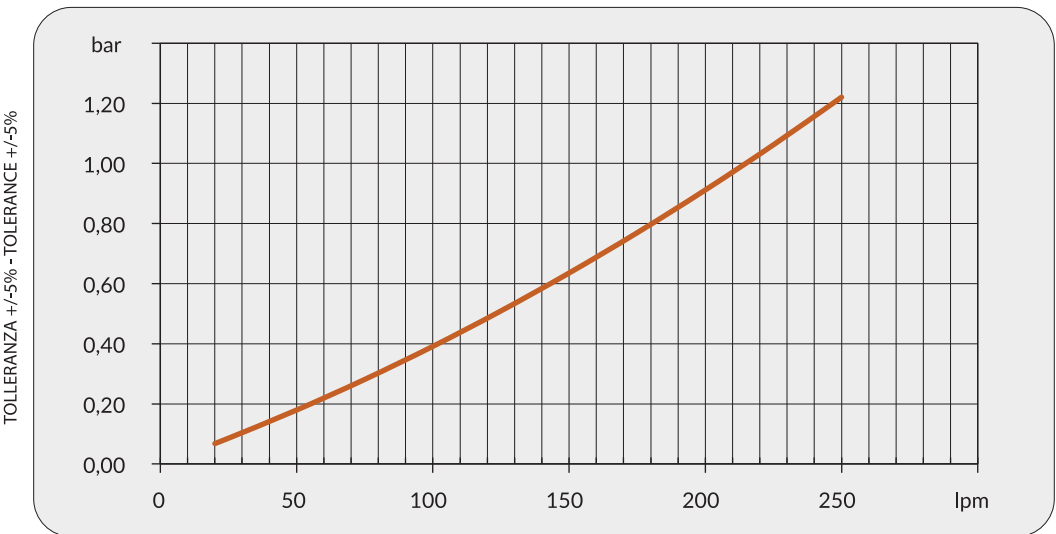
| Modello<br>Model | P/N           | V                                 | Hz | kW(±10%) | A (±10%)  | rpm  | dB (A) | IP | lt  | kg |
|------------------|---------------|-----------------------------------|----|----------|-----------|------|--------|----|-----|----|
| HPAM24           | A250800400B## | 230/400 AC B14                    | 50 | 0,55     | 2,9 - 1,7 | 1320 | 76     | 56 | 6,2 | 28 |
|                  |               | 265/460 AC B14                    | 60 | 0,63     | 2,9 - 1,7 | 1690 | 80     |    |     |    |
| HPAM24           | A2808002000## | Prepared for Gr.2 hydraulic motor |    |          |           |      |        | -  | 6,2 | 20 |

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Diagramma rendimento    Performance diagram



Perdite di carico    Pressure drop (@30cSt)



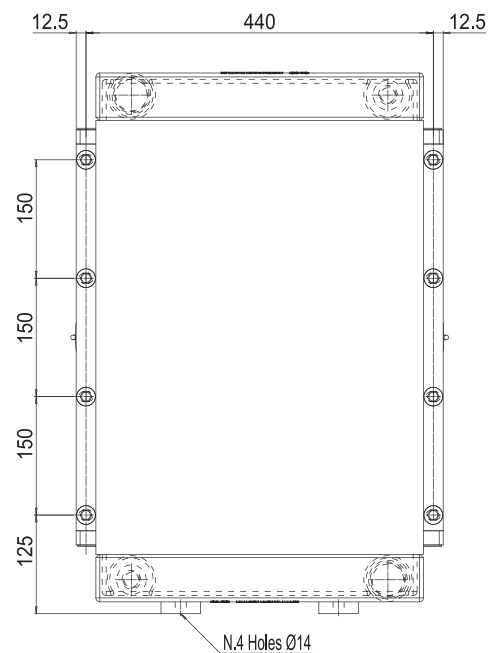
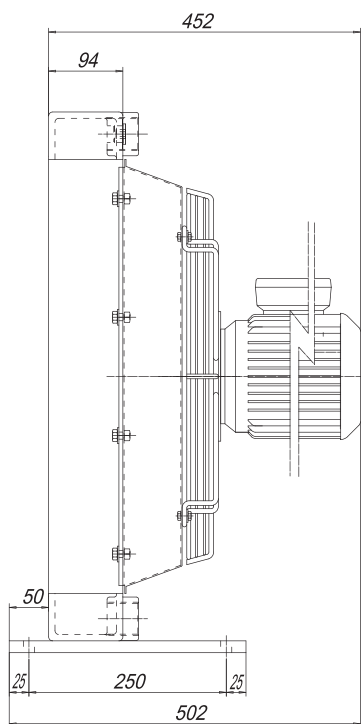
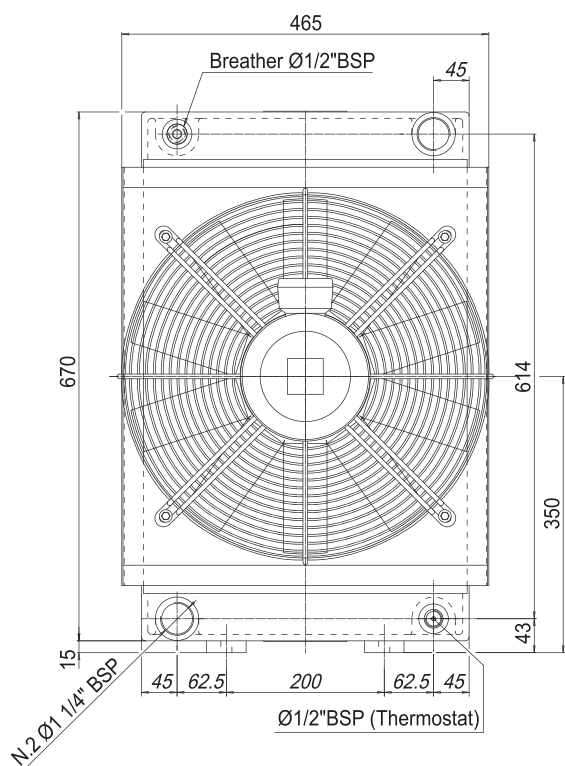
Fattore di correzione-F-(perdite di carico)    Correction factor-F-(pressure drop)

| cSt | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0,5 | 0,65 | 0,77 | 1  | 1,2 | 1,4 | 1,6 | 1,9 | 2,1 | 3,3 | 4,3 |

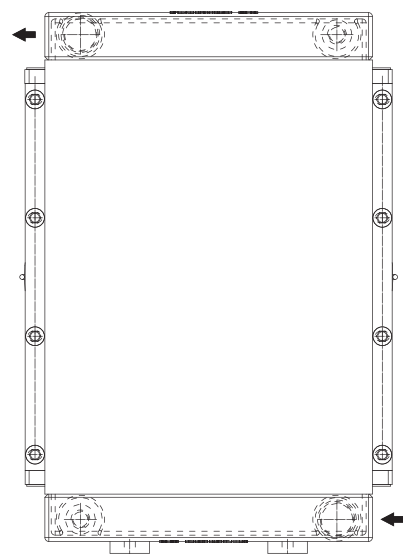
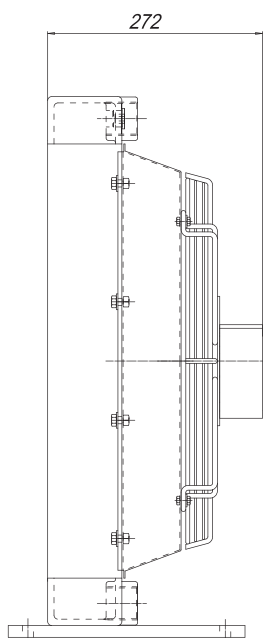
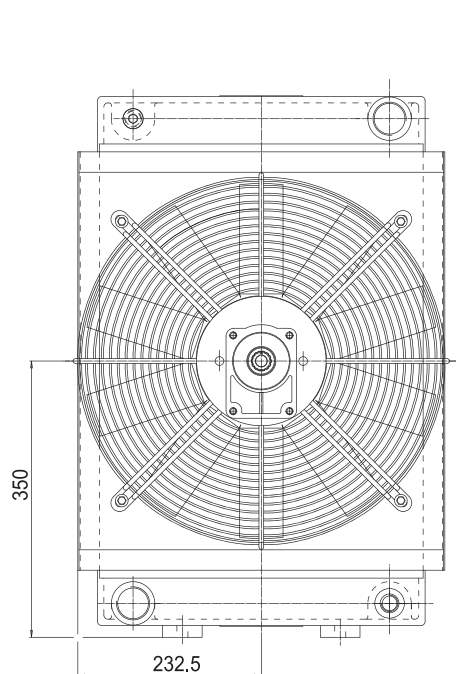


# HPAM series

## HPAM 30



**P/N A250900400B##**



**P/N A2509002000##**

Le dimensioni di ingombro e le caratteristiche tecniche non sono impegnative  
Overall dimensions and technical characteristic are not binding

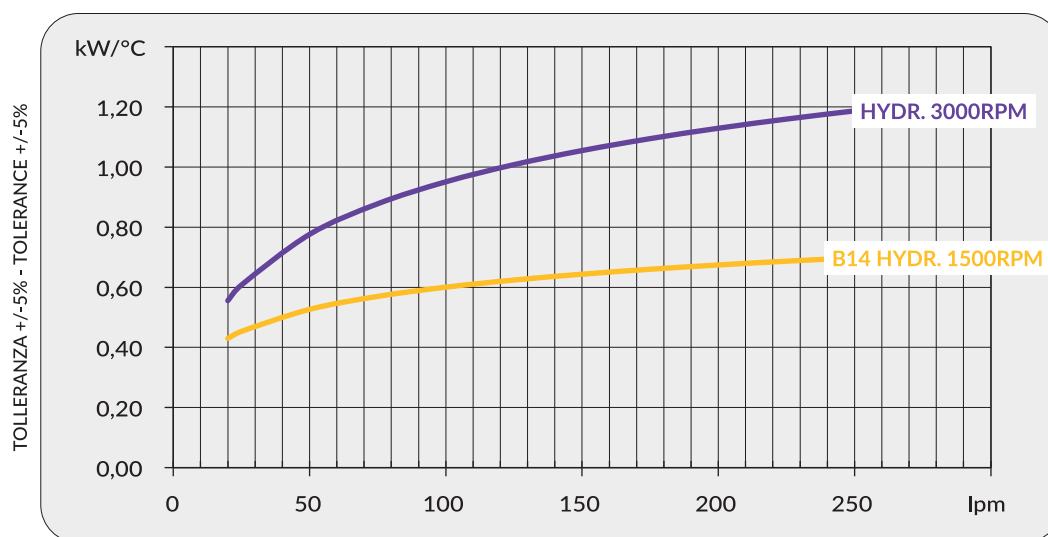


## Dati tecnici    Technical Data

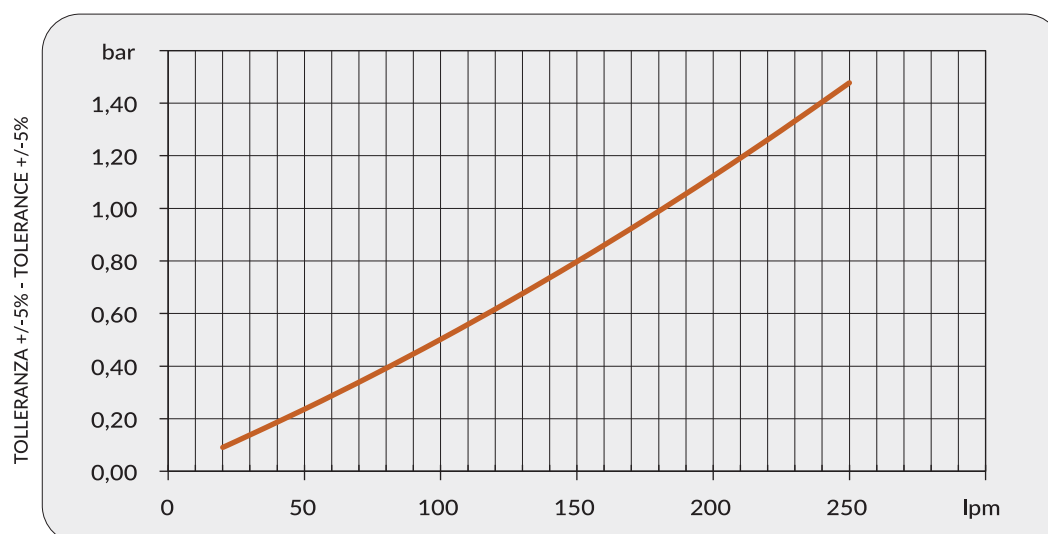
| Modello<br>Model | P/N           | V                                 | Hz       | kW(±10%)     | A (±10%)           | rpm          | dB (A)   | IP | lt  | kg |
|------------------|---------------|-----------------------------------|----------|--------------|--------------------|--------------|----------|----|-----|----|
| HPAM30           | A250900400B## | 230/400 AC B14<br>265/460 AC B14  | 50<br>60 | 0,75<br>0,86 | 3 - 1,7<br>3 - 1,7 | 1440<br>1730 | 73<br>77 | 56 | 6,8 | 37 |
| HPAM30           | A2509002000## | Prepared for Gr.2 hydraulic motor |          |              |                    |              |          | -  | 6,8 | 21 |

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## Diagramma rendimento    Performance diagram



## Perdite di carico    Pressure drop (@30cSt)



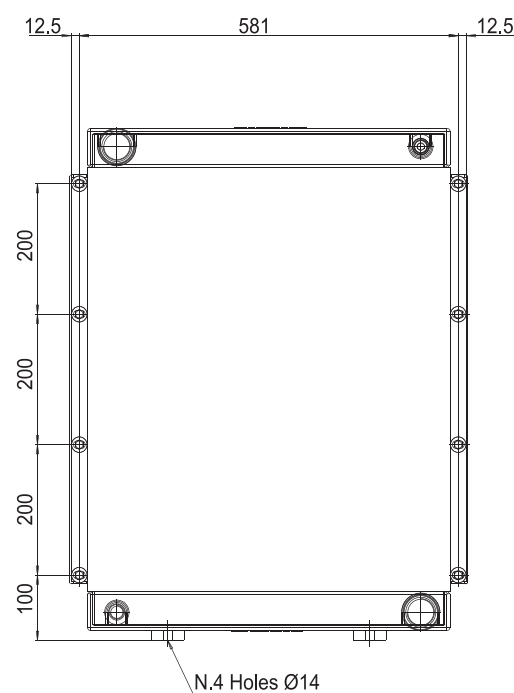
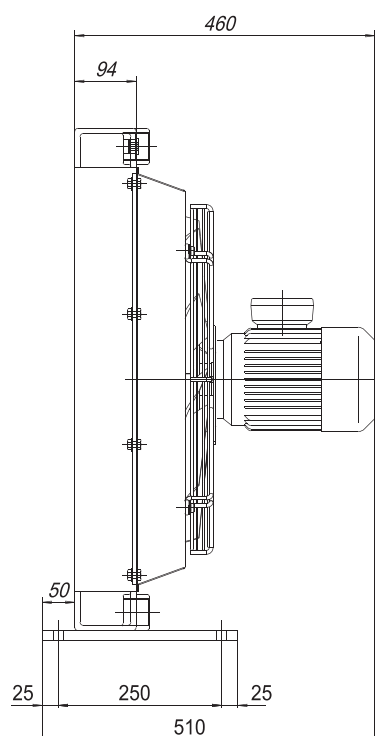
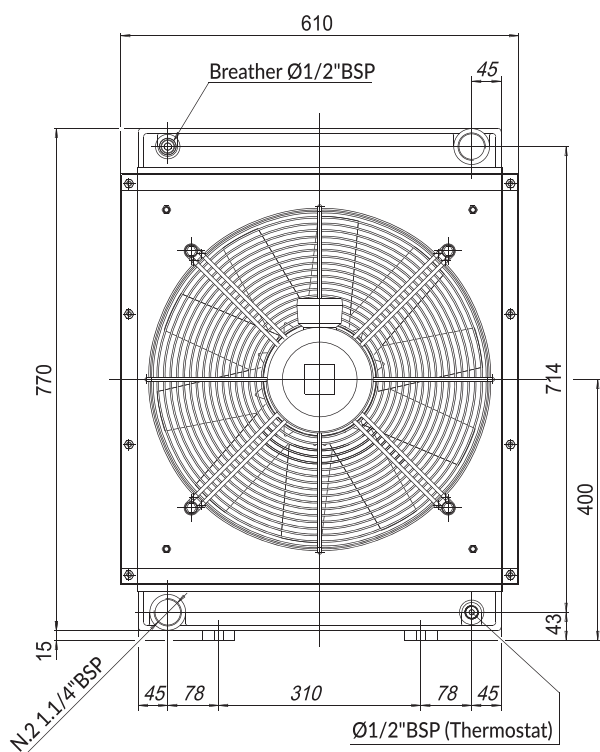
## Fattore di correzione-F-(perdite di carico)    Correction factor-F-(pressure drop)

| cSt | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0,5 | 0,65 | 0,77 | 1  | 1,2 | 1,4 | 1,6 | 1,9 | 2,1 | 3,3 | 4,3 |

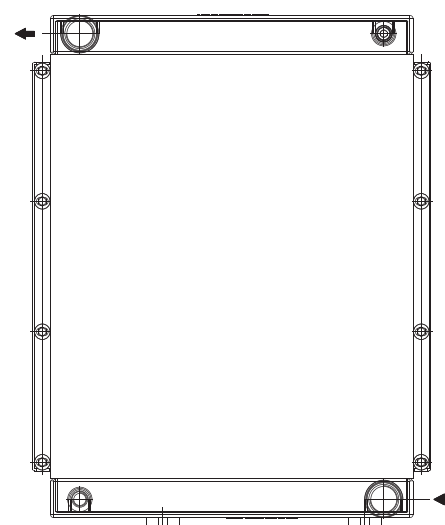
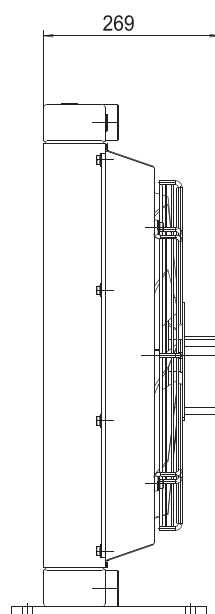
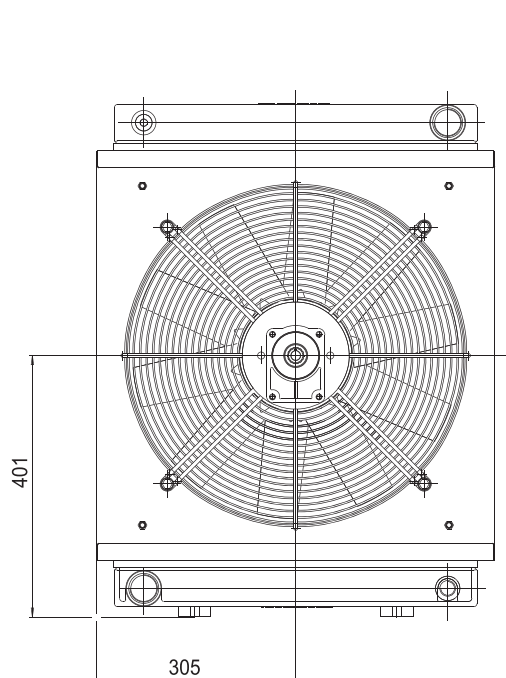


# HPAM series

## HPAM 36



**P/N A251000400B##**



**P/N A2510002000##**

Le dimensioni di ingombro e le caratteristiche tecniche non sono impegnative  
Overall dimensions and technical characteristic are not binding

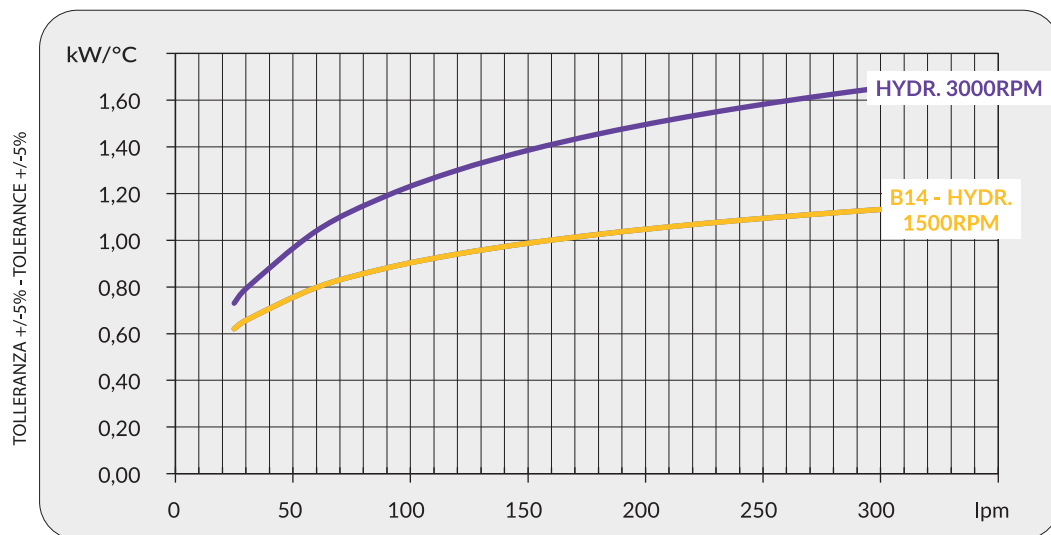


## Dati tecnici Technical Data

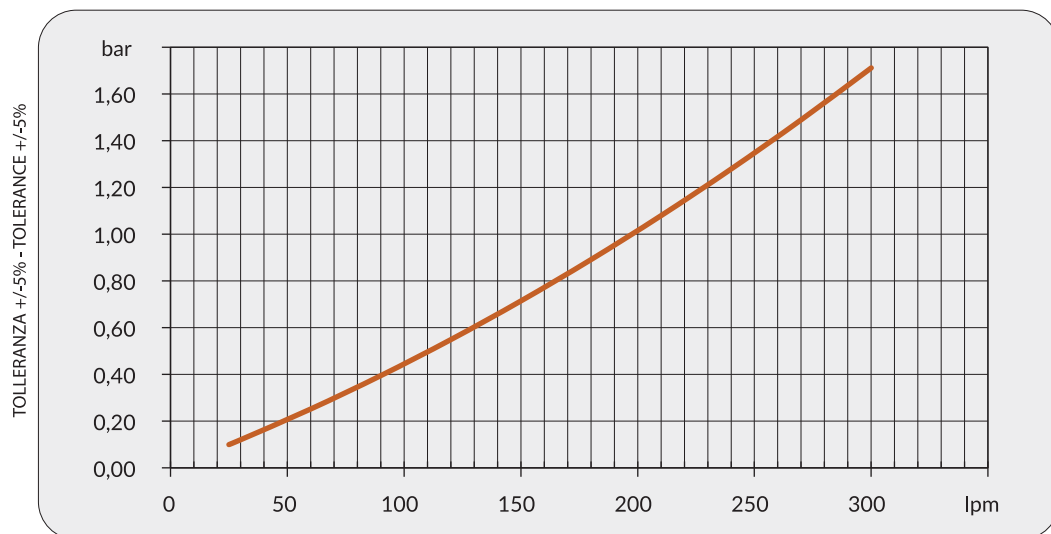
| Modello<br>Model | P/N           | V                                 | Hz       | kW(±10%)   | A (±10%)               | rpm          | dB (A)   | IP | lt  | kg |
|------------------|---------------|-----------------------------------|----------|------------|------------------------|--------------|----------|----|-----|----|
| HPAM36           | A251000400B## | 230/400 AC B14<br>265/460 AC B14  | 50<br>60 | 1,1<br>1,3 | 4,5 - 2,6<br>4,5 - 2,6 | 1440<br>1730 | 76<br>84 | 56 | 9,4 | 60 |
| HPAM36           | A2510002000## | Prepared for Gr.2 hydraulic motor |          |            |                        |              |          | 56 | 9,4 | 37 |

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## Diagramma rendimento Performance diagram



## Perdite di carico Pressure drop (@30cSt)



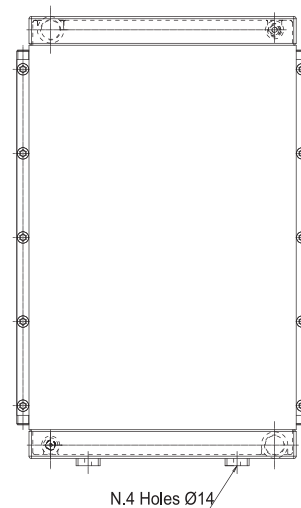
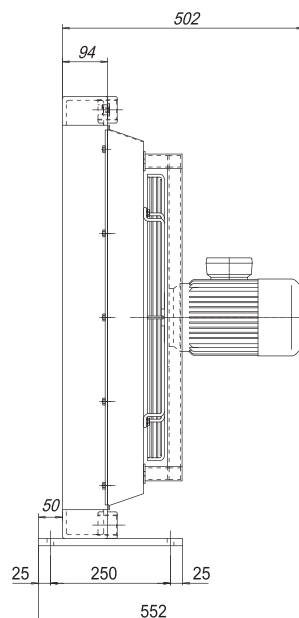
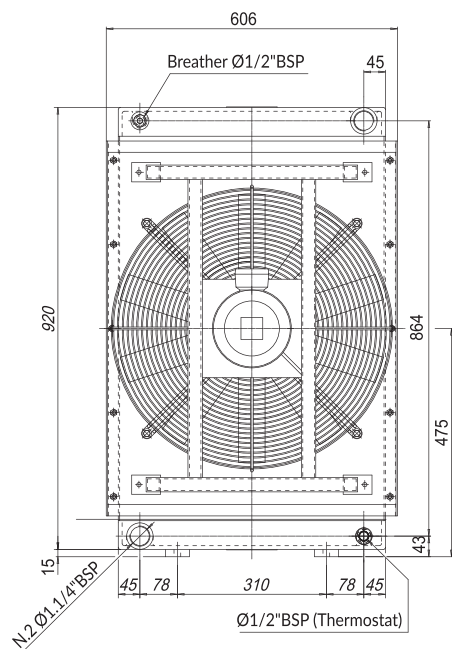
## Fattore di correzione-F-(perdite di carico) Correction factor-F-(pressure drop)

| cSt | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0,5 | 0,65 | 0,77 | 1  | 1,2 | 1,4 | 1,6 | 1,9 | 2,1 | 3,3 | 4,3 |

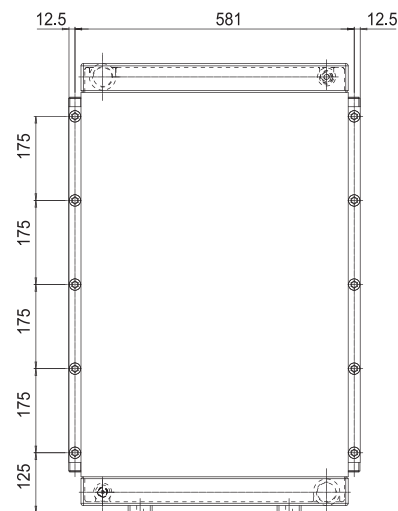
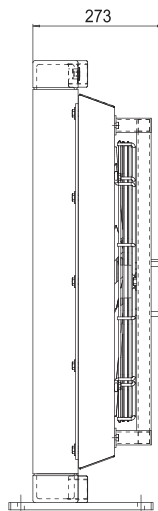
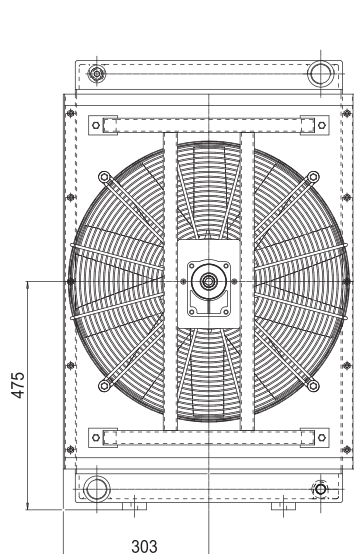


# HPAM series

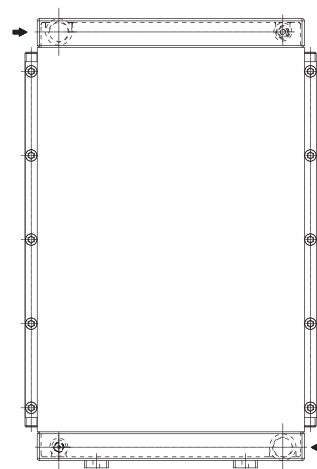
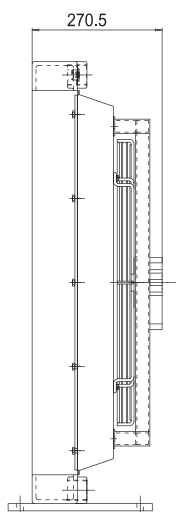
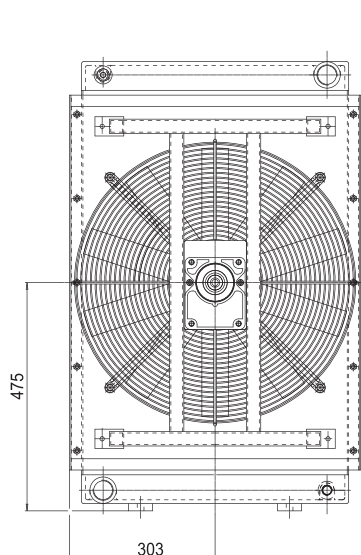
## HPAM 42



**P/N A250000400B##**



**P/N A2500002000##**



**P/N A2500003000##**

Le dimensioni di ingombro e le caratteristiche tecniche non sono impegnative  
Overall dimensions and technical characteristic are not binding



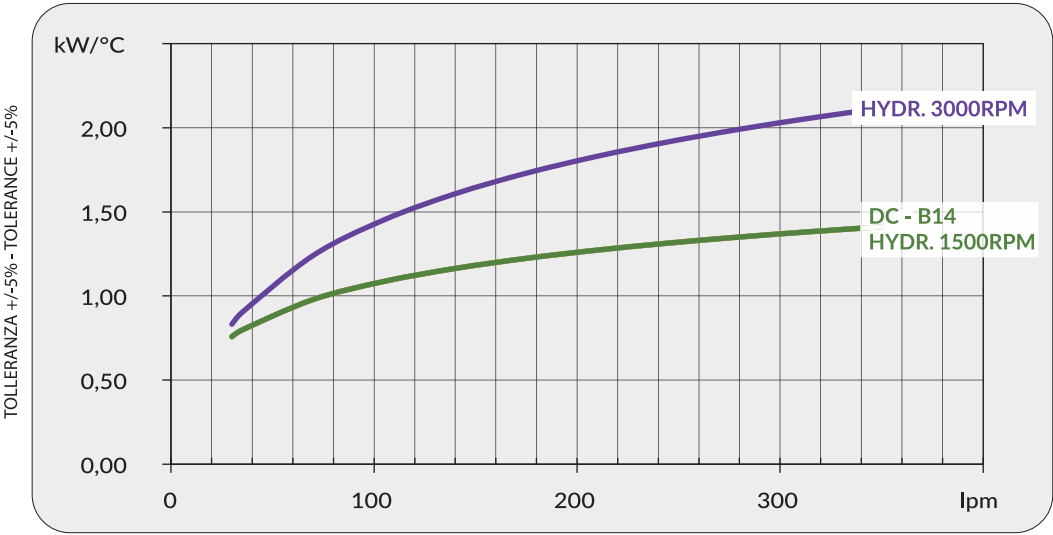


Dati tecnici    Technical Data

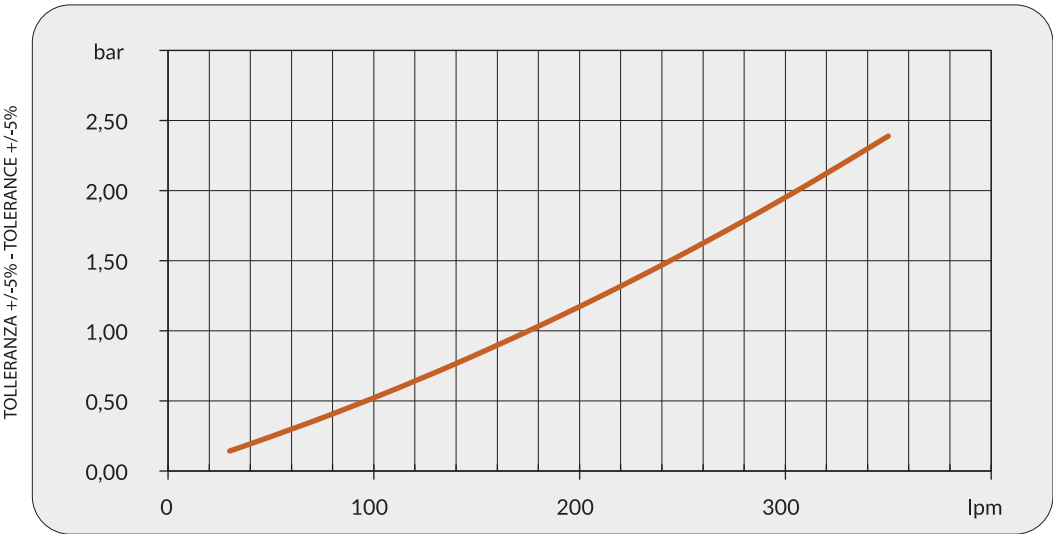
| Modello<br>Model | P/N                            | V                                                                      | Hz       | kW(±10%)   | A (±10%)               | rpm          | dB (A)   | IP | It   | kg |
|------------------|--------------------------------|------------------------------------------------------------------------|----------|------------|------------------------|--------------|----------|----|------|----|
| HPAM42           | A250000400B##                  | 230/400 AC B14<br>265/460 AC B14                                       | 50<br>60 | 1,1<br>1,3 | 4,5 - 2,6<br>4,5 - 2,6 | 1440<br>1730 | 80<br>84 | 56 | 10,6 | 65 |
| HPAM42           | A2500002000##<br>A2500003000## | Prepared for Gr.2 hydraulic motor<br>Prepared for Gr.3 hydraulic motor |          |            |                        |              |          | -  | 10,6 | 42 |

Contattare EMMEGI    Contact EMMEGI

Diagramma rendimento    Performance diagram



Perdite di carico    Pressure drop (@30cSt)



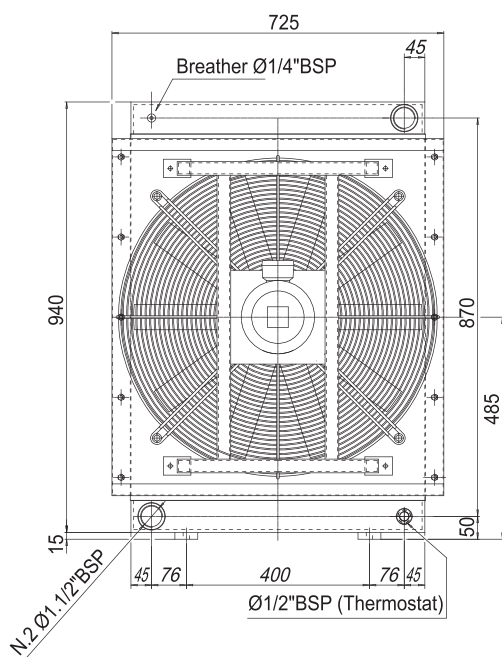
Fattore di correzione-F-(perdite di carico)    Correction factor-F-(pressure drop)

| cSt | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0,5 | 0,65 | 0,77 | 1  | 1,2 | 1,4 | 1,6 | 1,9 | 2,1 | 3,3 | 4,3 |

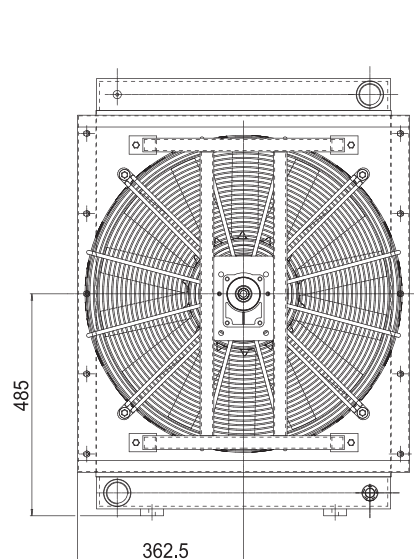


# HPAM series

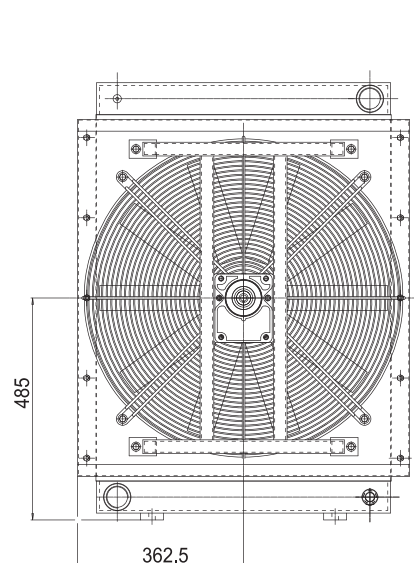
## HPAM 50



**P/N A251100400B##**



**P/N A2511002000##**



**P/N A2511003000##**

Le dimensioni di ingombro e le caratteristiche tecniche non sono impegnative  
Overall dimensions and technical characteristic are not binding

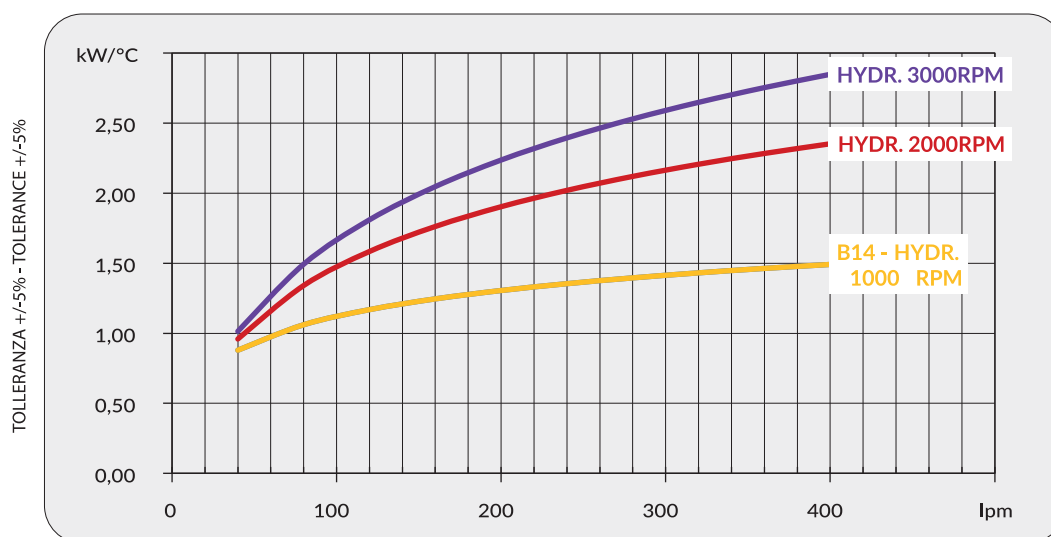


## Dati tecnici    Technical Data

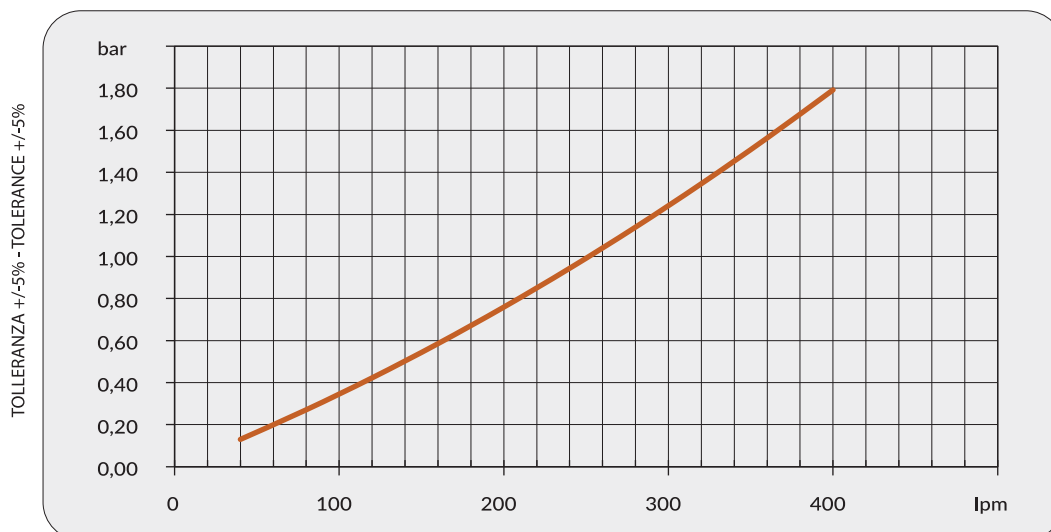
| Modello<br>Model | P/N                            | V                                                                      | Hz       | kW(±10%)   | A (±10%)           | rpm         | dB (A)   | IP | lt   | kg |
|------------------|--------------------------------|------------------------------------------------------------------------|----------|------------|--------------------|-------------|----------|----|------|----|
| HPAM50           | A251100400B##                  | 230/400 AC B14<br>265/460 AC B14                                       | 50<br>60 | 1,1<br>1,3 | 5 - 2,9<br>5 - 2,9 | 936<br>1123 | 79<br>83 | 56 | 14,2 | 90 |
| HPAM50           | A2511002000##<br>A2511003000## | Prepared for Gr.2 hydraulic motor<br>Prepared for Gr.3 hydraulic motor |          |            |                    |             |          | -  | 14,2 | 66 |

Contattare EMMEGI    Contact EMMEGI

## Diagramma rendimento    Performance diagram



## Perdite di carico    Pressure drop (@30cSt)



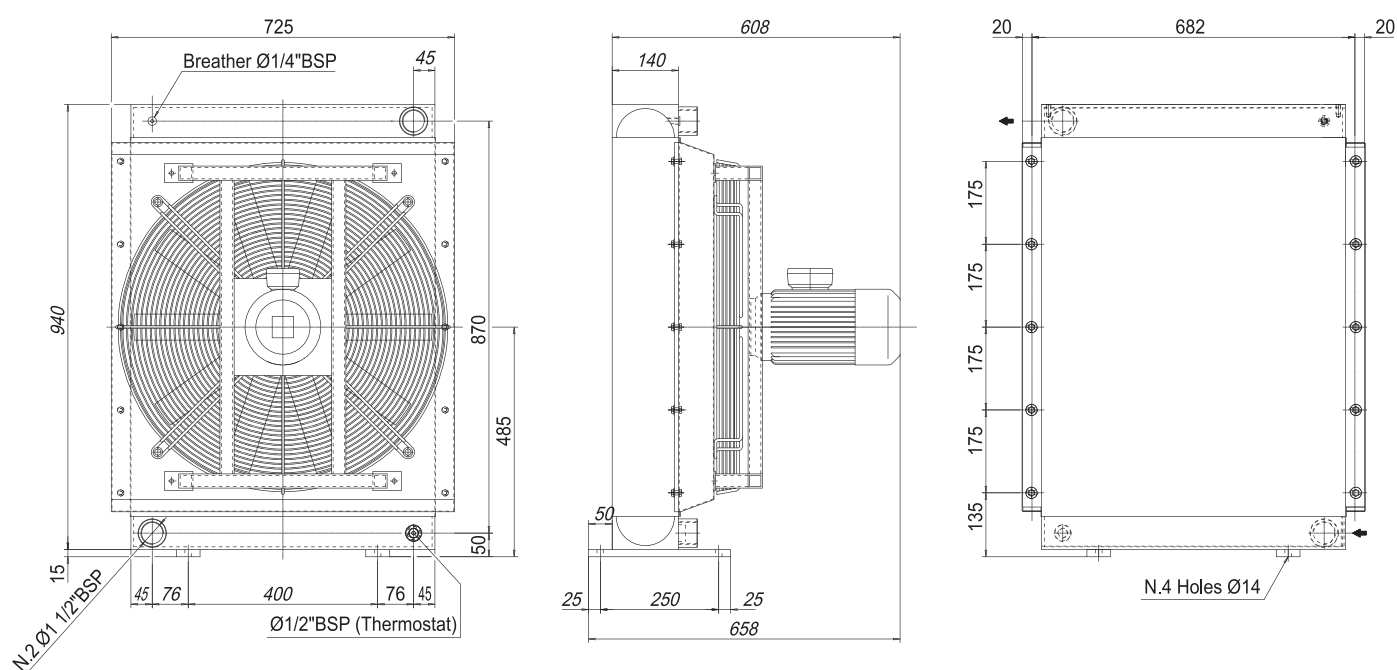
## Fattore di correzione-F-(perdite di carico)    Correction factor-F-(pressure drop)

| cSt | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0,5 | 0,65 | 0,77 | 1  | 1,2 | 1,4 | 1,6 | 1,9 | 2,1 | 3,3 | 4,3 |



# HPAM series

## HPAM 52



**P/N A251200400B##**

Le dimensioni di ingombro e le caratteristiche tecniche non sono impegnative  
Overall dimensions and technical characteristic are not binding

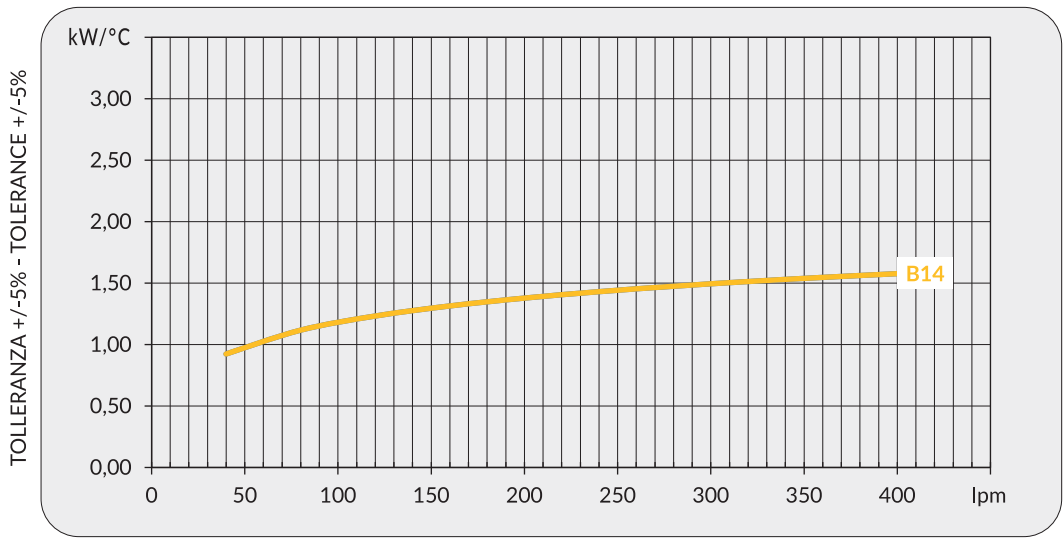


Dati tecnici    *Technical Data*

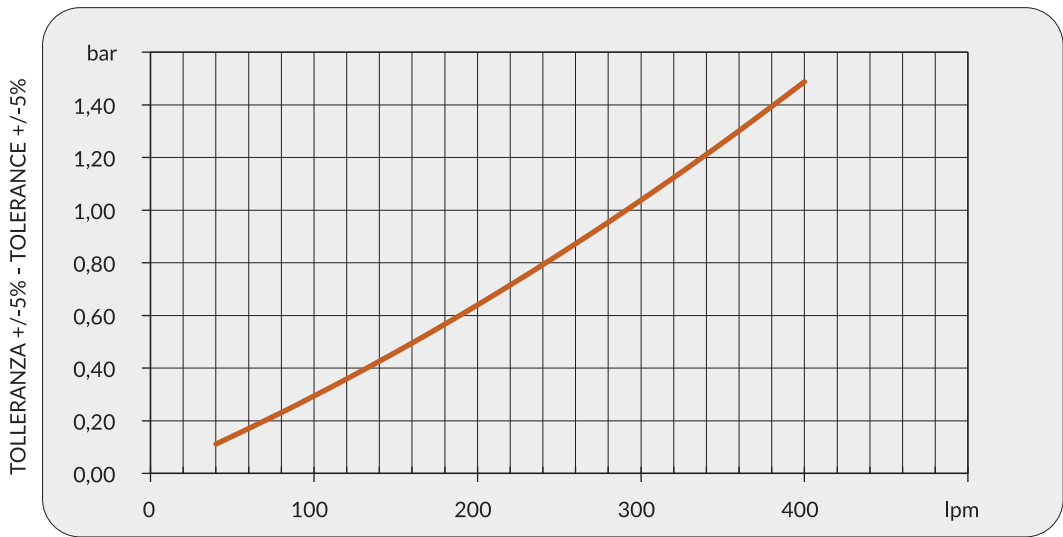
| Modello<br>Model | P/N           | V                                | Hz       | kW(±10%)   | A (±10%)           | rpm         | dB (A)   | IP | It   | kg |
|------------------|---------------|----------------------------------|----------|------------|--------------------|-------------|----------|----|------|----|
| HPAM52           | A251200400B#1 | 230/400 AC B14<br>265/460 AC B14 | 50<br>60 | 1,1<br>1,3 | 5 - 2,9<br>5 - 2,9 | 936<br>1123 | 79<br>82 | 56 | 17,7 | 95 |

Contattare EMMEGI    Contact EMMEGI

Diagramma rendimento    *Performance diagram*



Perdite di carico    *Pressure drop (@30cSt)*



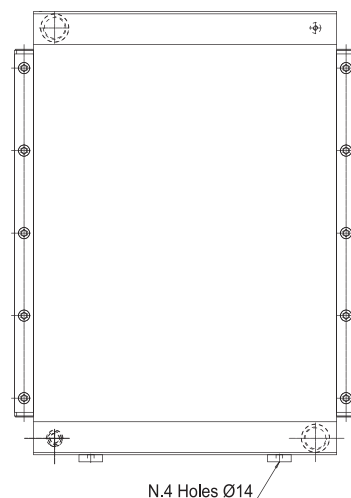
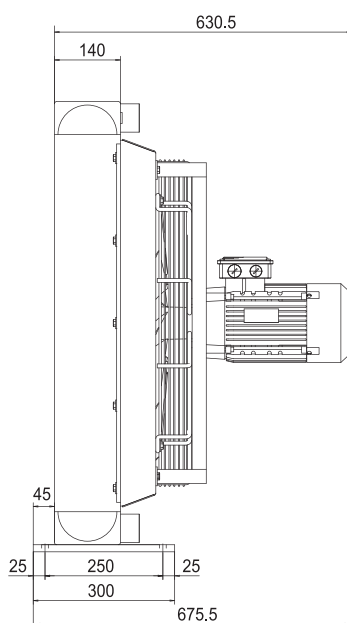
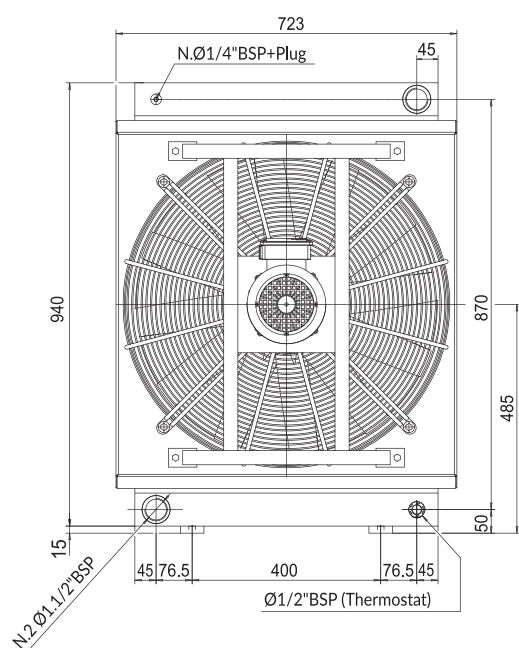
Fattore di correzione-F-(perdite di carico)    *Correction factor-F-(pressure drop)*

| cSt | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0,5 | 0,65 | 0,77 | 1  | 1,2 | 1,4 | 1,6 | 1,9 | 2,1 | 3,3 | 4,3 |

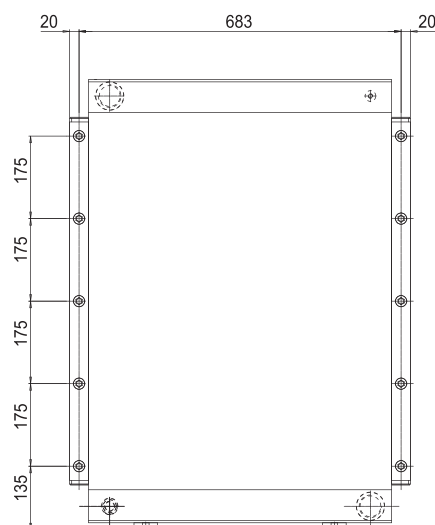
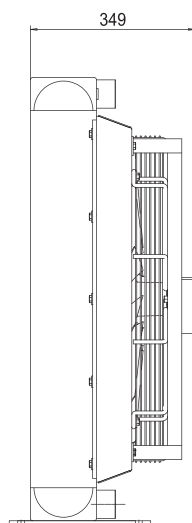
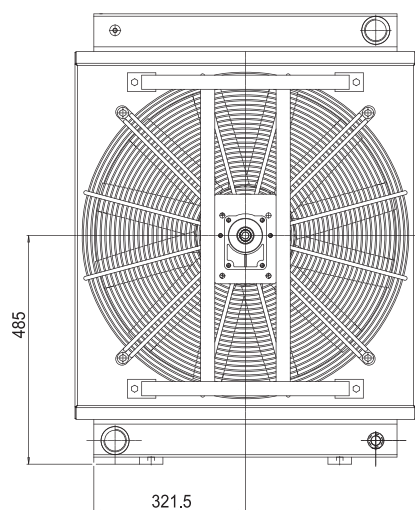


# HPAM series

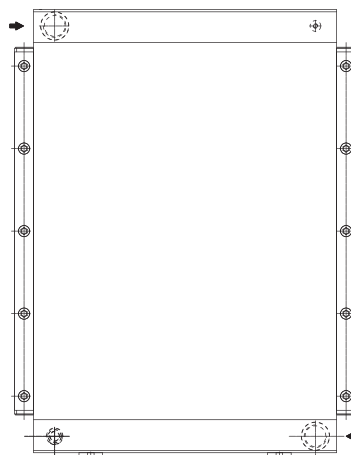
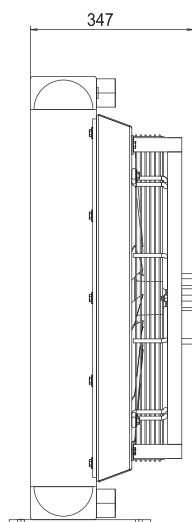
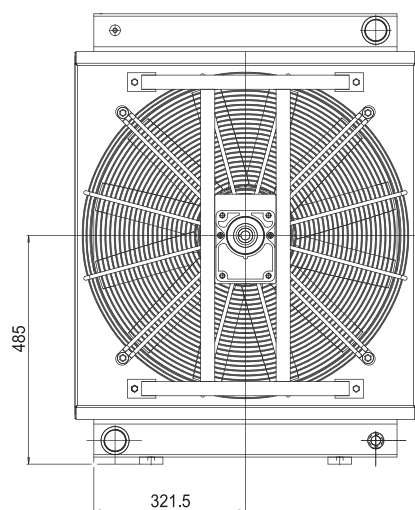
## HPAM 72



**P/N A251300400B##**



**P/N A2513002000##**



**P/N A2513003000##**

Le dimensioni di ingombro e le caratteristiche tecniche non sono impegnative  
Overall dimensions and technical characteristic are not binding



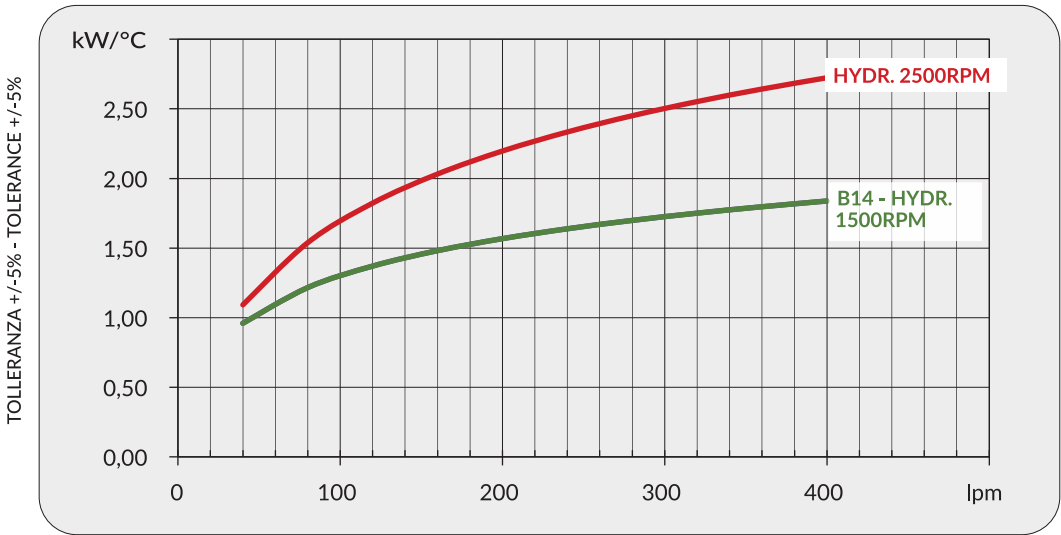


Dati tecnici    Technical Data

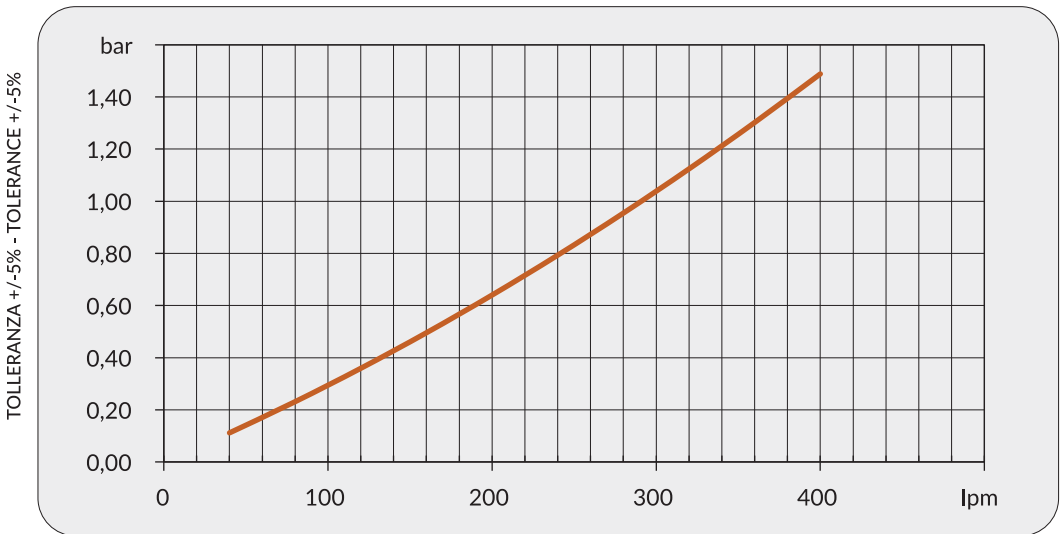
| Modello<br>Model | P/N                            | V                                                                      | Hz       | kW(±10%)   | A (±10%)               | rpm          | dB (A)   | IP | It   | kg  |
|------------------|--------------------------------|------------------------------------------------------------------------|----------|------------|------------------------|--------------|----------|----|------|-----|
| HPAM72           | A251300400B##                  | 230/400 AC B14<br>265/460 AC B14                                       | 50<br>60 | 2,2<br>2,5 | 8,3 - 4,8<br>8,3 - 4,8 | 1435<br>1722 | 83<br>86 | 56 | 17,7 | 105 |
| HPAM72           | A2513002000##<br>A2513003000## | Prepared for Gr.2 hydraulic motor<br>Prepared for Gr.3 hydraulic motor |          |            |                        |              |          | -  | 17,7 | 105 |

Contattare EMMEGI    Contact EMMEGI

Diagramma rendimento    Performance diagram



Perdite di carico    Pressure drop (@30cSt)



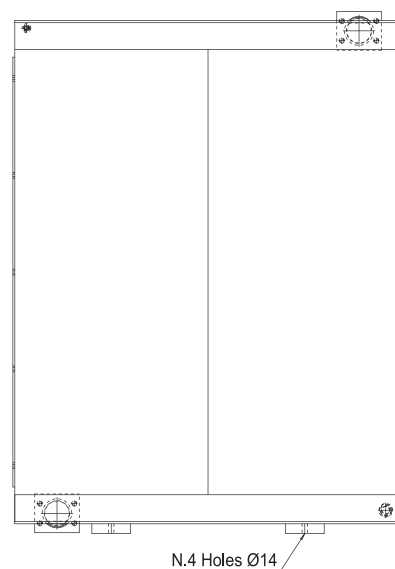
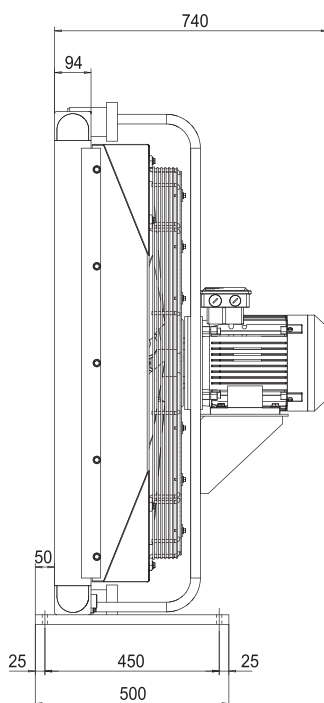
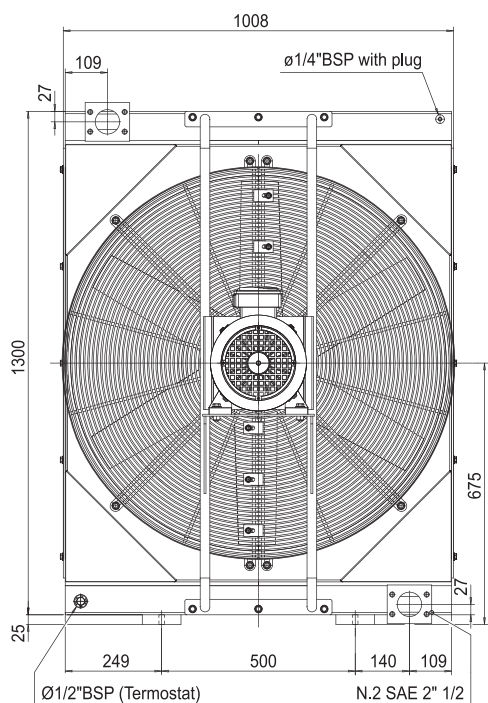
Fattore di correzione-F-(perdite di carico)    Correction factor-F-(pressure drop)

| cSt | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0,5 | 0,65 | 0,77 | 1  | 1,2 | 1,4 | 1,6 | 1,9 | 2,1 | 3,3 | 4,3 |

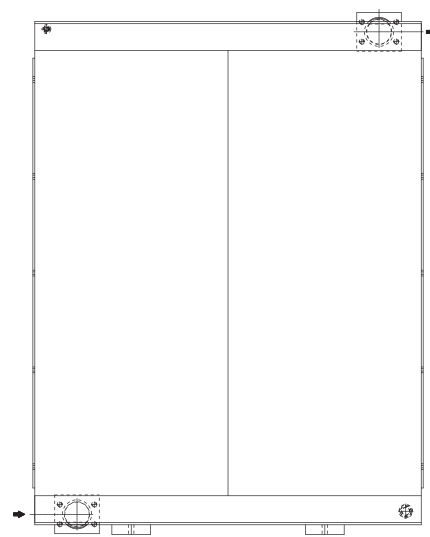
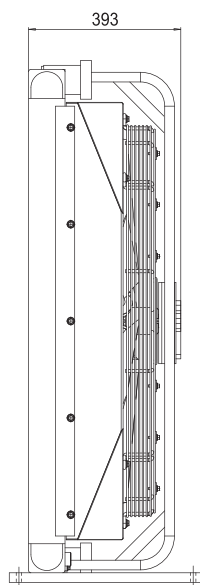
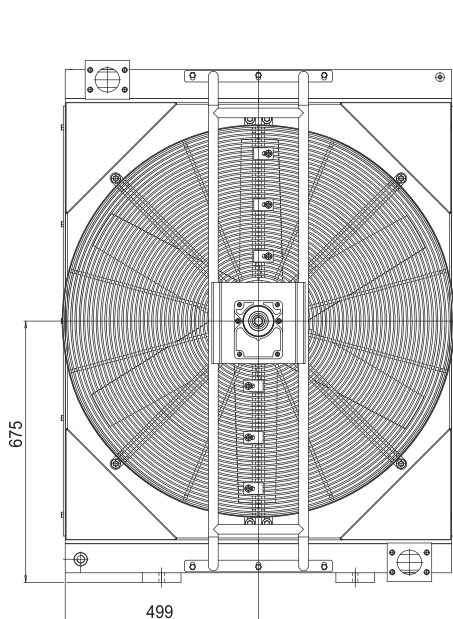


# HPAM series

## HPAM 135



**P/N A251400400B##**



**P/N A2514003000##**

Le dimensioni di ingombro e le caratteristiche tecniche non sono impegnative  
Overall dimensions and technical characteristic are not binding

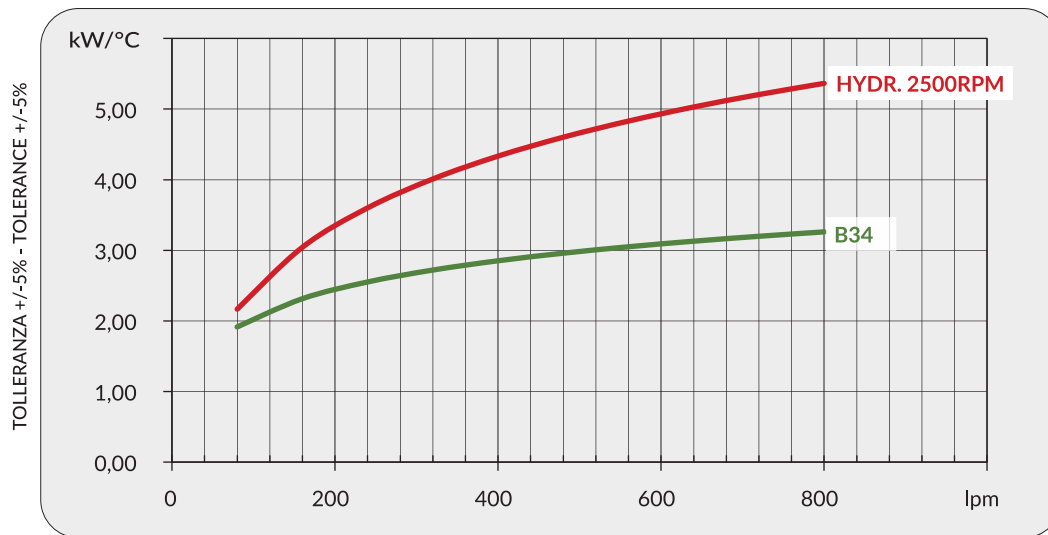


## Dati tecnici    Technical Data

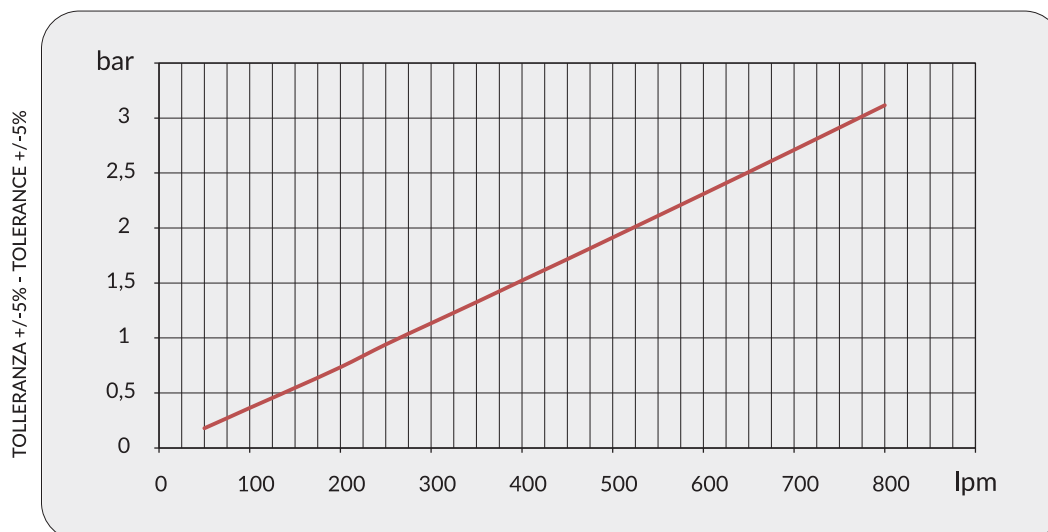
| Modello<br>Model | P/N           | V                                 | Hz       | kW(±10%) | A (±10%)                 | rpm         | dB (A)   | IP | lt | kg  |
|------------------|---------------|-----------------------------------|----------|----------|--------------------------|-------------|----------|----|----|-----|
| HPAM135          | A251400400B## | 230/400 AC B14<br>265/460 AC B14  | 50<br>60 | 3<br>3,5 | 12,1 - 7,0<br>12,1 - 7,0 | 969<br>1163 | 80<br>84 | 56 | 26 | 126 |
| HPAM135          | A2514003000## | Prepared for Gr.3 hydraulic motor |          |          |                          |             |          | -  | 26 | 61  |

Contattare EMMEGI    Contact EMMEGI

## Diagramma rendimento    Performance diagram



## Perdite di carico    Pressure drop (@30cSt)



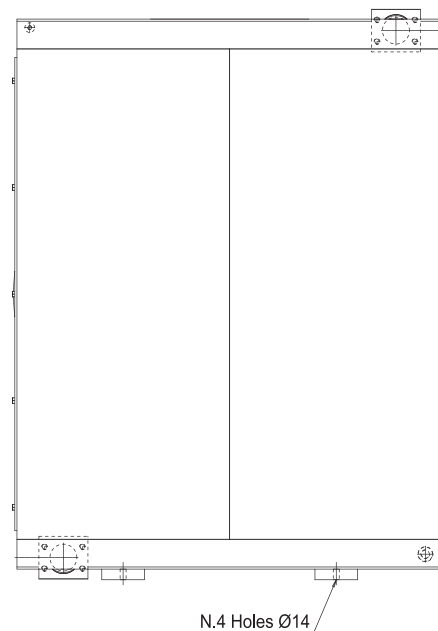
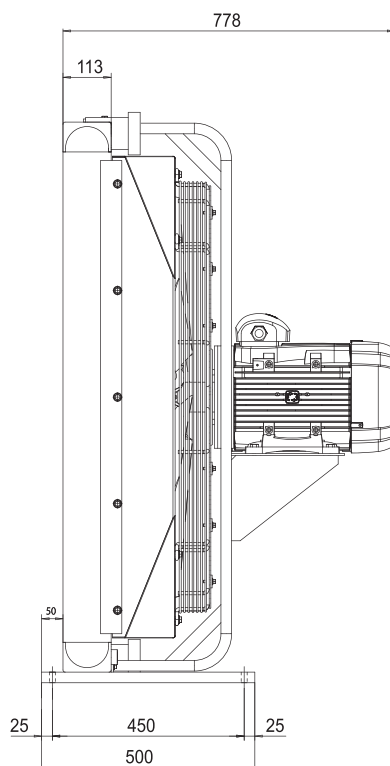
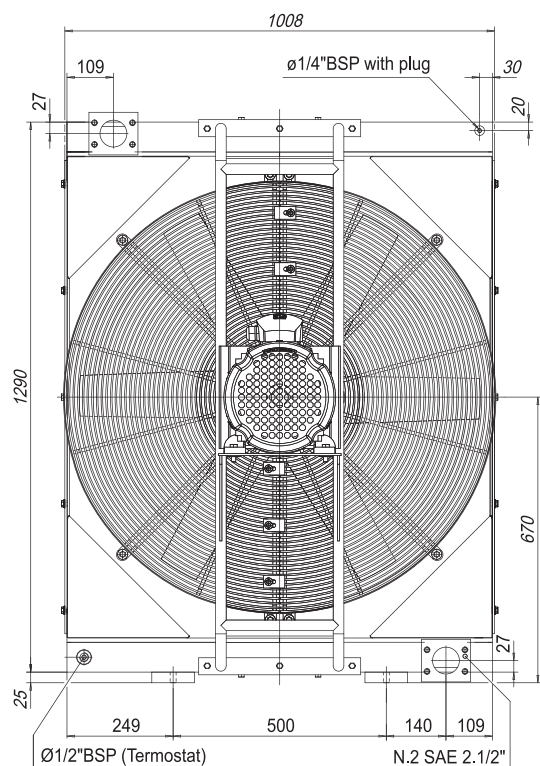
## Fattore di correzione-F-(perdite di carico)    Correction factor-F-(pressure drop)

| cSt | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0,5 | 0,65 | 0,77 | 1  | 1,2 | 1,4 | 1,6 | 1,9 | 2,1 | 3,3 | 4,3 |

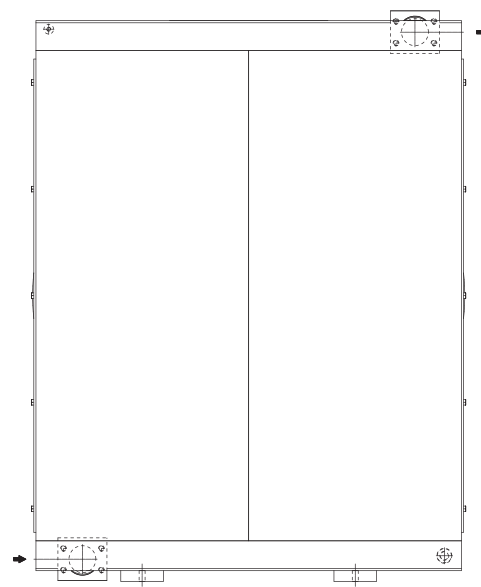
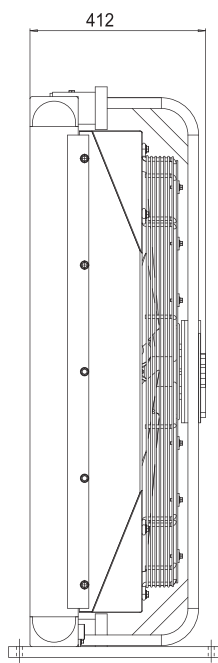
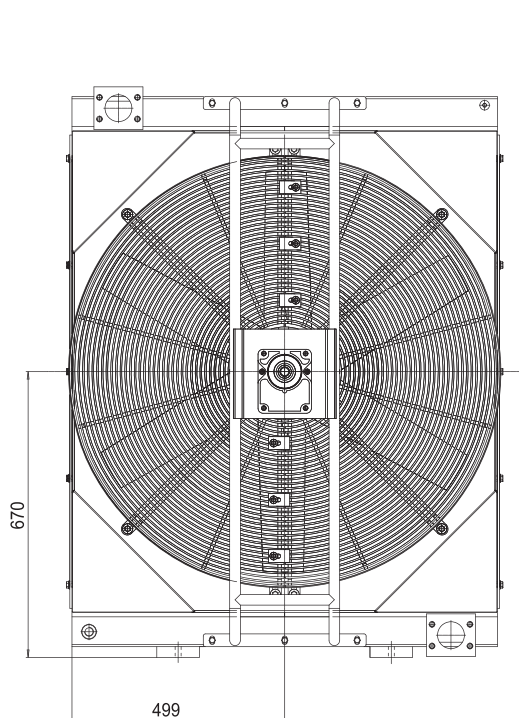


# HPAM series

## HPAM 180



**P/N A251500400B##**



**P/N A2515003000##**

Le dimensioni di ingombro e le caratteristiche tecniche non sono impegnative  
Over-all dimensions and technical characteristic are not binding

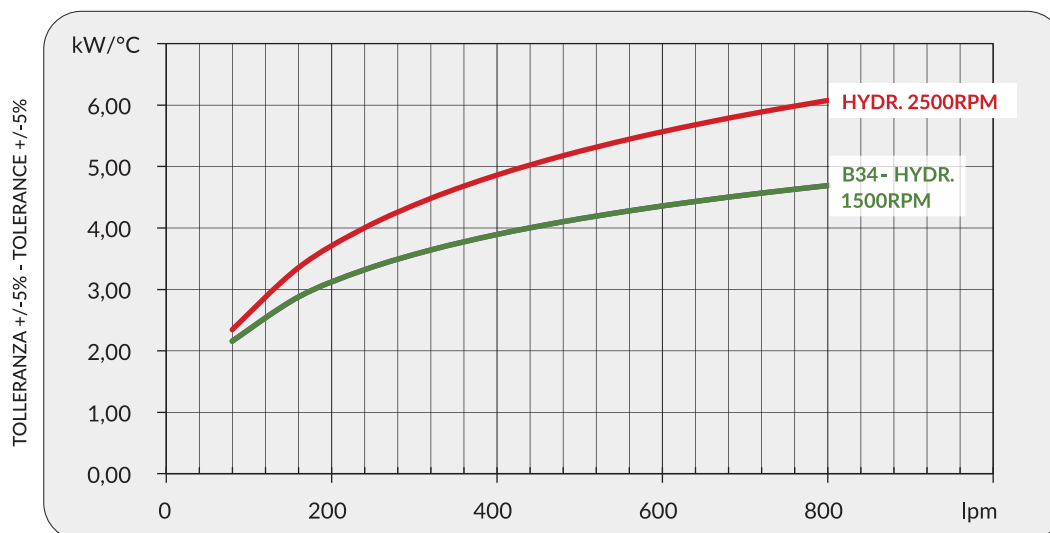


## Dati tecnici    Technical Data

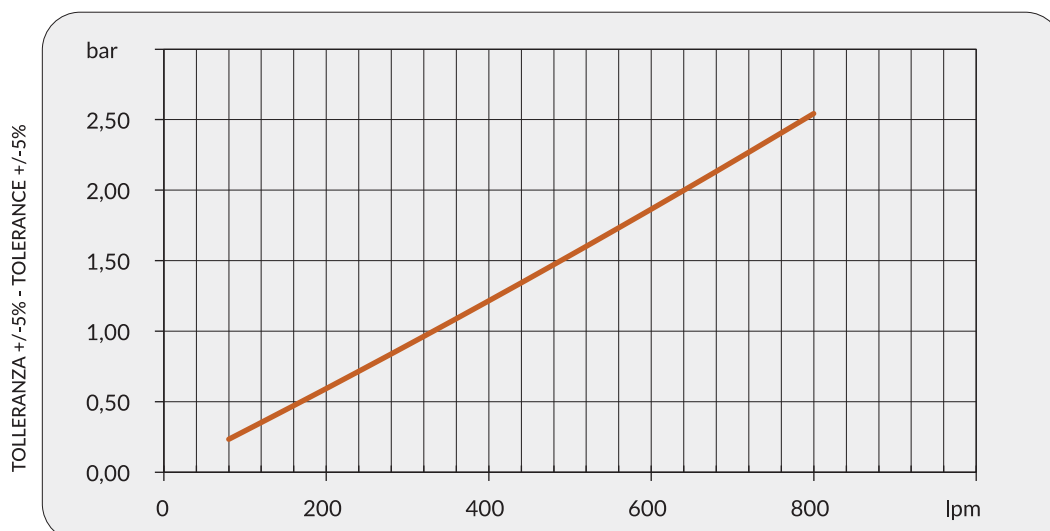
| Modello<br>Model | P/N           | V                                 | Hz       | kW(±10%)   | A (±10%)                 | rpm          | dB (A)   | IP | lt | kg  |
|------------------|---------------|-----------------------------------|----------|------------|--------------------------|--------------|----------|----|----|-----|
| HPAM180          | A251500400B## | 400/690 AC B14<br>460/795 AC B14  | 50<br>60 | 7,5<br>8,6 | 14,4 - 8,3<br>14,4 - 8,3 | 1450<br>1740 | 89<br>93 | 56 | 31 | 200 |
| HPAM180          | A2515003000## | Prepared for Gr.3 hydraulic motor |          |            |                          |              |          | 56 | 31 | 143 |

Contattare EMMEGI    Contact EMMEGI

## Diagramma rendimento    Performance diagram

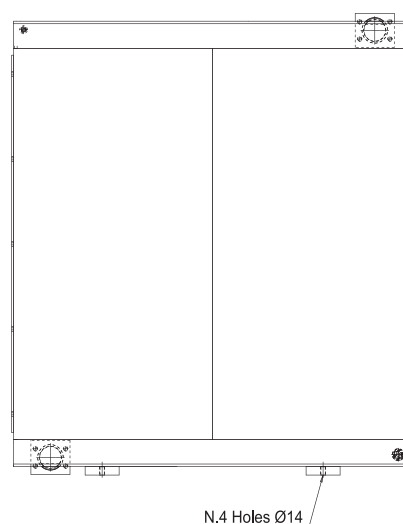
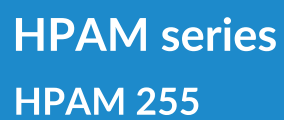


## Perdite di carico    Pressure drop (@30cSt)



## Fattore di correzione-F-(perdite di carico)    Correction factor-F-(pressure drop)

| cSt | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0,5 | 0,65 | 0,77 | 1  | 1,2 | 1,4 | 1,6 | 1,9 | 2,1 | 3,3 | 4,3 |





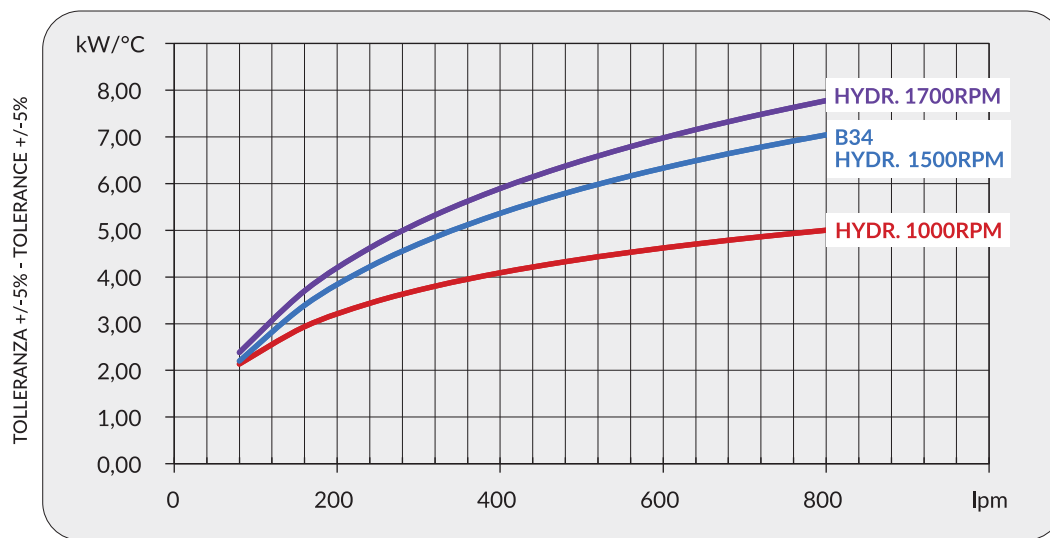


## Dati tecnici Technical Data

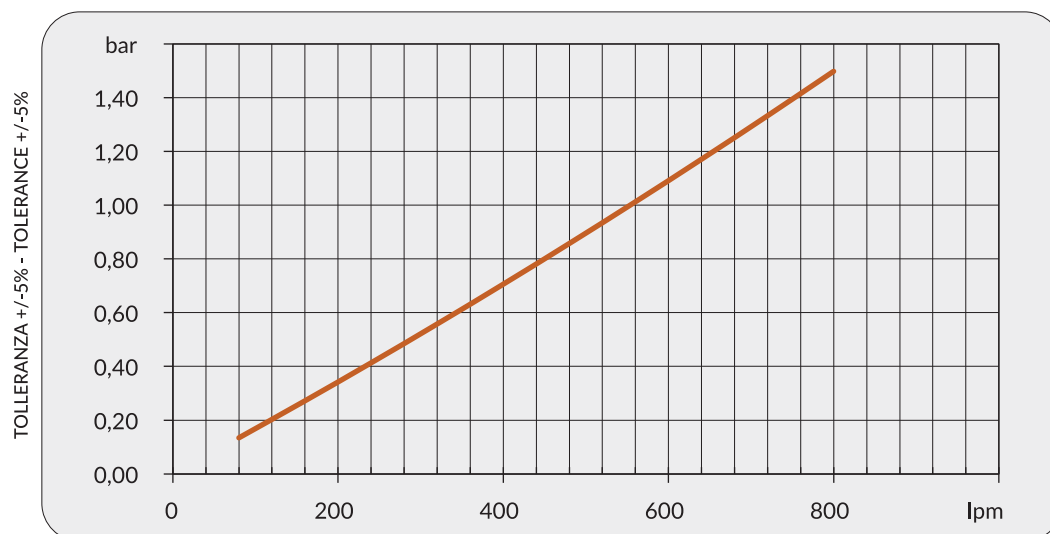
| Modello<br>Model | P/N           | V                                 | Hz       | kW(±10%)   | A (±10%)                   | rpm          | dB (A)    | IP | lt | kg  |
|------------------|---------------|-----------------------------------|----------|------------|----------------------------|--------------|-----------|----|----|-----|
| HPAM255          | A251600400B## | 400/690 AC B14<br>460/795 AC B14  | 50<br>60 | 15<br>17,3 | 28,1 - 16,3<br>28,1 - 16,3 | 1456<br>1747 | 96<br>100 | 56 | 56 | 358 |
| HPAM255          | A2516003000## | Prepared for Gr.3 hydraulic motor |          |            |                            |              |           | -  | 56 | 210 |

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## Diagramma rendimento Performance diagram



## Perdite di carico Pressure drop (@30cSt)



## Fattore di correzione-F-(perdite di carico) Correction factor-F-(pressure drop)

| cSt | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0,5 | 0,65 | 0,77 | 1  | 1,2 | 1,4 | 1,6 | 1,9 | 2,1 | 3,3 | 4,3 |





Serie HPEx  
HPEx Series



## Serie HPEx

### HPEx Series

## APPLICAZIONE

### APPLICATION



La linea di scambiatori SERIE HPEx è nata per soddisfare le esigenze di clienti che cercano un prodotto che coniughi buone performance con la sicurezza in ambienti pericolosi. Tali prodotti sono idonei, infatti, per ambienti industriali con presenza di gas che rendono l'atmosfera potenzialmente esplosiva. La SERIE HPEx è stata sviluppata in accordo alla direttiva ATEX 2014/34/UE. Gli scambiatori HPEx, gruppo II e categoria 2G, sono idonei all'utilizzo in zona 1 e zona 2.

The HPEx series heat exchanger line has been created to meet the needs of customers looking for a product that combines excellent performance with safety in dangerous environments. Indeed, these products are suitable for industrial environments where the presence of gases makes the atmosphere potentially explosive. The HPEx series has been developed in accordance with ATEX directive 2014/34/EU. HPEx exchangers, group II category 2G, are suitable for use in zone 1 and zone 2.

### Denominazione codice prodotto

### Ordering code

**A280000****400B****01**

#### MODELLO MODEL

|         |           |
|---------|-----------|
| A280000 | (HPEx06)  |
| A280100 | (HPEx12)  |
| A280200 | (HPEx18)  |
| A280300 | (HPEx24)  |
| A280400 | (HPEx30)  |
| A280500 | (HPEx36)  |
| A280600 | (HPEx42)  |
| A280700 | (HPEx50)  |
| A280800 | (HPEx52)  |
| A280900 | (HPEx72)  |
| A281000 | (HPEx135) |
| A281100 | (HPEx180) |
| A281200 | (HPEx255) |

#### TIPO DI MOTORIZZAZIONE FAN MOTOR TYPE

400B ( Electric Motor AC 230-400V 50Hz / 265-460V 60Hz - 280-480V 60Hz - 400-690V 50HZ / 460-795V 60Hz )

#### TIPO DI VENTILAZIONE VENTILATING TYPE

01 Aspirante Suction air flow

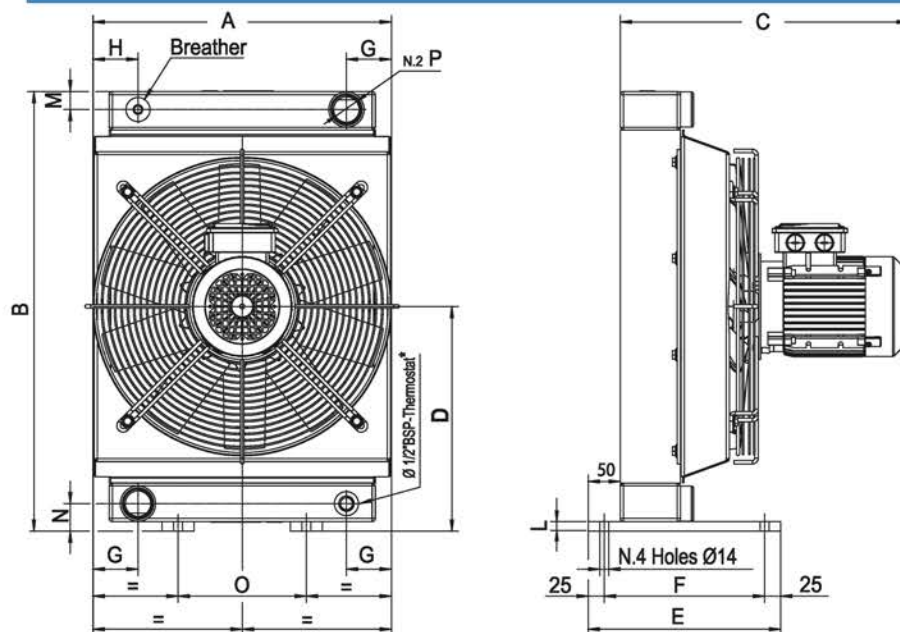


## Serie HPEx - HPEx Series

| Modello<br>Model | Codice<br>Code |
|------------------|----------------|
| HPEx 06          | A280000        |
| HPEx 12          | A280100        |
| HPEx 18          | A280200        |
| HPEx 24          | A280300        |
| HPEx 30          | A280400        |
| HPEx 36          | A280500        |
| HPEx 42          | A280600        |
| HPEx 50          | A280700        |
| HPEx 52          | A280800        |
| HPEx 72          | A280900        |
| HPEx 135         | A281000        |
| HPEx 180         | A281100        |
| HPEx 255         | A281200        |

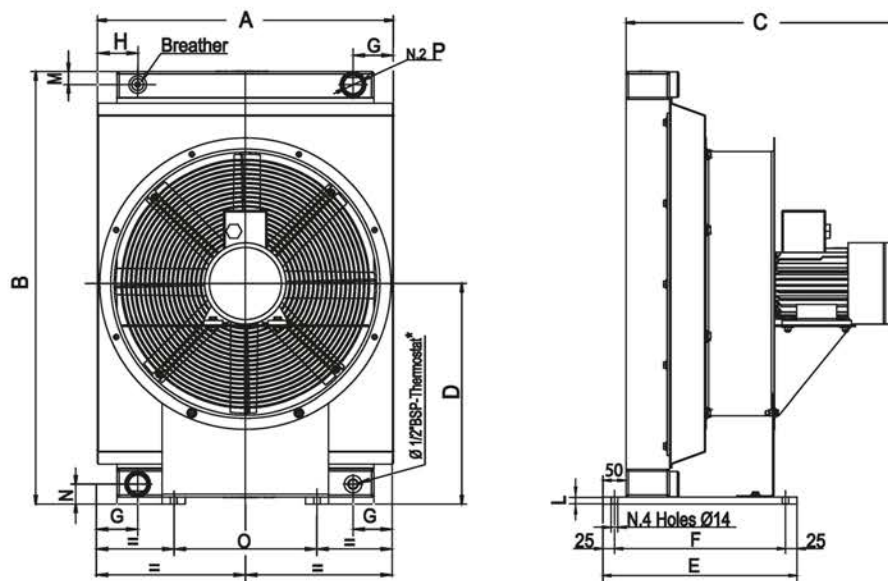




**HPEx****II 2G Ex h IIC T4 Gb CE**

Termostato fornito separatamente - contattare Emmegi - \*Thermostat supplied separately - contact Emmegi

| Modello<br>Model | Codice<br>Code | Dimensioni / dimensions |     |     |     |     |     |      |      |    |    |    |     |               |
|------------------|----------------|-------------------------|-----|-----|-----|-----|-----|------|------|----|----|----|-----|---------------|
|                  |                | A                       | B   | C   | D   | E   | F   | G    | H    | L  | M  | N  | O   | P             |
| HPEx06           | A280000400B01  | 285                     | 340 | 388 | 175 | 250 | 200 | 57.5 | 52.5 | 10 | 25 | 30 | 100 | Ø 3/4 " BSP   |
| HPEx12           | A280100400B01  | 357                     | 400 | 401 | 205 | 250 | 200 | 65   | 50   | 10 | 25 | 35 | 150 | Ø 1 " BSP     |
| HPEx18           | A280200400B01  | 450                     | 510 | 403 | 260 | 250 | 200 | 65   | 50   | 10 | 25 | 35 | 200 | Ø 1 " BSP     |
| HPEx24           | A280300400B01  | 450                     | 535 | 452 | 275 | 300 | 250 | 70   | 70   | 15 | 28 | 43 | 200 | Ø 1 1/4 " BSP |
| HPEx30           | A280400400B01  | 465                     | 685 | 462 | 350 | 300 | 250 | 70   | 70   | 15 | 28 | 43 | 200 | Ø 1 1/4 " BSP |



Termostato fornito separatamente - contattare Emmegi - \*Thermostat supplied separately - contact Emmegi

| Modello<br>Model | Codice<br>Code | Dimensioni / dimensions |     |       |       |     |     |    |    |    |    |    |     |               |
|------------------|----------------|-------------------------|-----|-------|-------|-----|-----|----|----|----|----|----|-----|---------------|
|                  |                | A                       | B   | C     | D     | E   | F   | G  | H  | L  | M  | N  | O   | P             |
| HPEx36           | A280500400B01  | 610                     | 785 | 591   | 400   | 300 | 250 | 72 | 72 | 15 | 28 | 43 | 310 | Ø 1 1/4 " BSP |
| HPEx42           | A280600400B01  | 640                     | 935 | 476.5 | 589.5 | 420 | 370 | 87 | 87 | 15 | 28 | 43 | 310 | Ø 1 1/4 " BSP |
| HPEx50           | A280700400B01  | 725                     | 955 | 630   | 485   | 466 | 416 | 87 | 87 | 15 | 35 | 50 | 400 | Ø 1 1/2 " BSP |
| HPEx52           | A280800400B01  | 725                     | 955 | 658   | 485   | 493 | 443 | 87 | 87 | 15 | 35 | 50 | 400 | Ø 1 1/2 " BSP |
| HPEx72           | A280900400B01  | 725                     | 955 | 658   | 485   | 493 | 443 | 87 | 87 | 15 | 35 | 50 | 400 | Ø 1 1/2 " BSP |

Le dimensioni di ingombro e le caratteristiche tecniche non sono impegnative - Over-all dimensions and technical characteristic are not binding

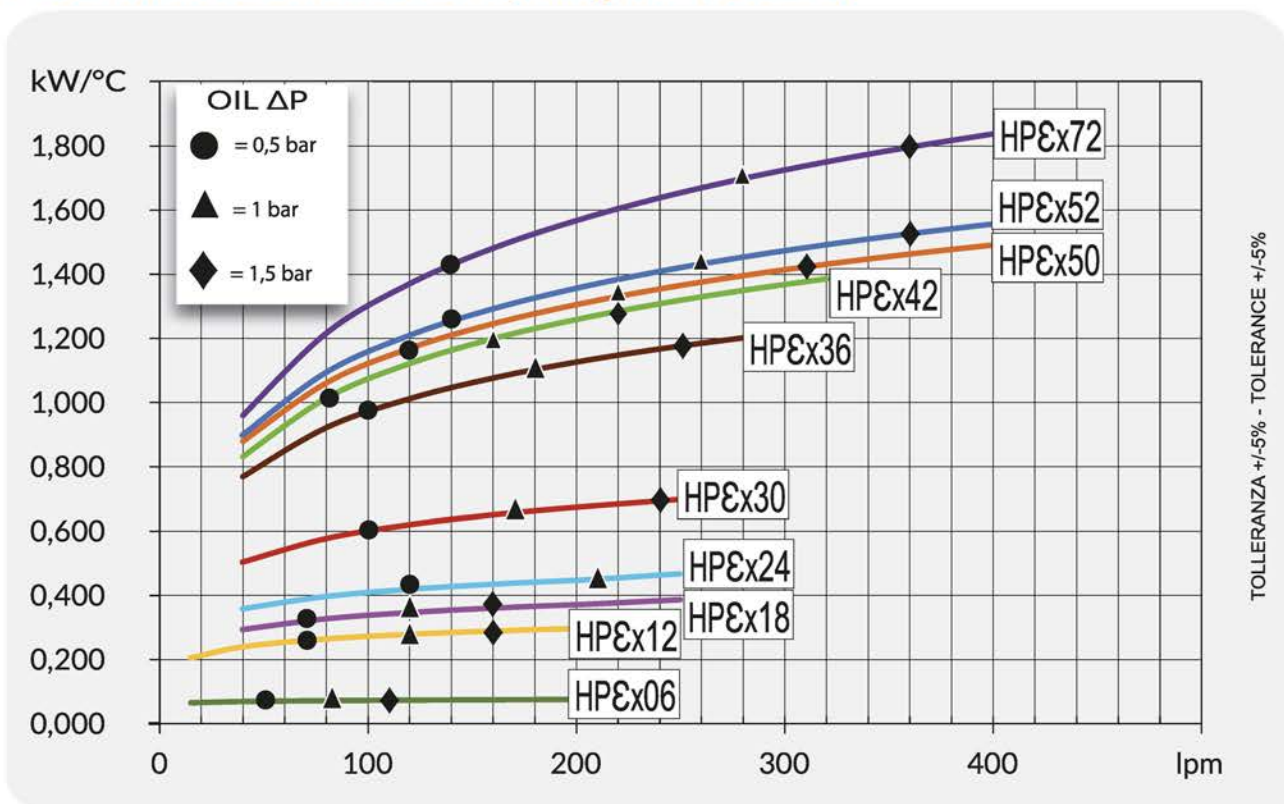


## Dati tecnici Technical Data

| Modello<br>Model | Codice<br>Code | Dati tecnici - Technical Data |    |      |           |      |        |    |      |     |
|------------------|----------------|-------------------------------|----|------|-----------|------|--------|----|------|-----|
|                  |                | V                             | Hz | kW   | A         | rpm  | db (A) | IP | It   | kg  |
| HPEx06           | A280000400B01  | 230/400 AC B14                | 50 | 0,25 | 2,1 - 1,2 | 1400 | 62     | 66 | 1,2  | 13  |
|                  |                | 265/460 AC B14                | 60 | 0,29 |           | 1680 | 66     |    |      |     |
| HPEx12           | A280100400B01  | 230/400 AC B14                | 50 | 0,25 | 2,1 - 1,2 | 1400 | 74     | 66 | 1,9  | 17  |
|                  |                | 265/460 AC B14                | 60 | 0,29 |           | 1680 | 78     |    |      |     |
| HPEx18           | A280200400B01  | 230/400 AC B14                | 50 | 0,37 | 2,6 - 1,5 | 1370 | 74     | 66 | 2,9  | 20  |
|                  |                | 265/460 AC B14                | 60 | 0,43 |           | 1650 | 78     |    |      |     |
| HPEx24           | A280300400B01  | 230/400 AC B14                | 50 | 0,55 | 3,0 - 1,7 | 1410 | 76     | 66 | 6,2  | 28  |
|                  |                | 265/460 AC B14                | 60 | 0,63 |           | 1690 | 80     |    |      |     |
| HPEx30           | A280400400B01  | 230/400 AC B14                | 50 | 0,75 | 3,8 - 2,2 | 1410 | 73     | 66 | 6,8  | 37  |
|                  |                | 265/460 AC B14                | 60 | 0,86 |           | 1690 | 77     |    |      |     |
| HPEx36           | A280500400B01  | 230/400 AC B14                | 50 | 1,1  | 5,2 - 3,0 | 1440 | 76     | 66 | 9,4  | 60  |
|                  |                | 265/460 AC B14                | 60 | 1,3  |           | 1690 | 84     |    |      |     |
| HPEx42           | A280600400B01  | 230/400 AC B14                | 50 | 1,1  | 5,2 - 3,0 | 1410 | 80     | 66 | 10,6 | 65  |
|                  |                | 265/460 AC B14                | 60 | 1,3  |           | 1690 | 84     |    |      |     |
| HPEx50           | A280700400B01  | 230/400 AC B14                | 50 | 1,1  | 5,9 - 3,4 | 910  | 79     | 66 | 14,2 | 90  |
|                  |                | 265/460 AC B14                | 60 | 1,3  |           | 1090 | 83     |    |      |     |
| HPEx52           | A280800400B01  | 230/400 AC B14                | 50 | 1,1  | 5,9 - 3,4 | 910  | 79     | 66 | 17,7 | 95  |
|                  |                | 265/460 AC B14                | 60 | 1,3  |           | 1090 | 82     |    |      |     |
| HPEx72           | A280900400B01  | 230/400 AC B14                | 50 | 2,2  | 8,9 - 5,2 | 1410 | 83     | 66 | 17,7 | 105 |
|                  |                | 265/460 AC B14                | 60 | 2,5  |           | 1690 | 86     |    |      |     |

## Diagramma rendimento & Perdite di carico (@30cSt)

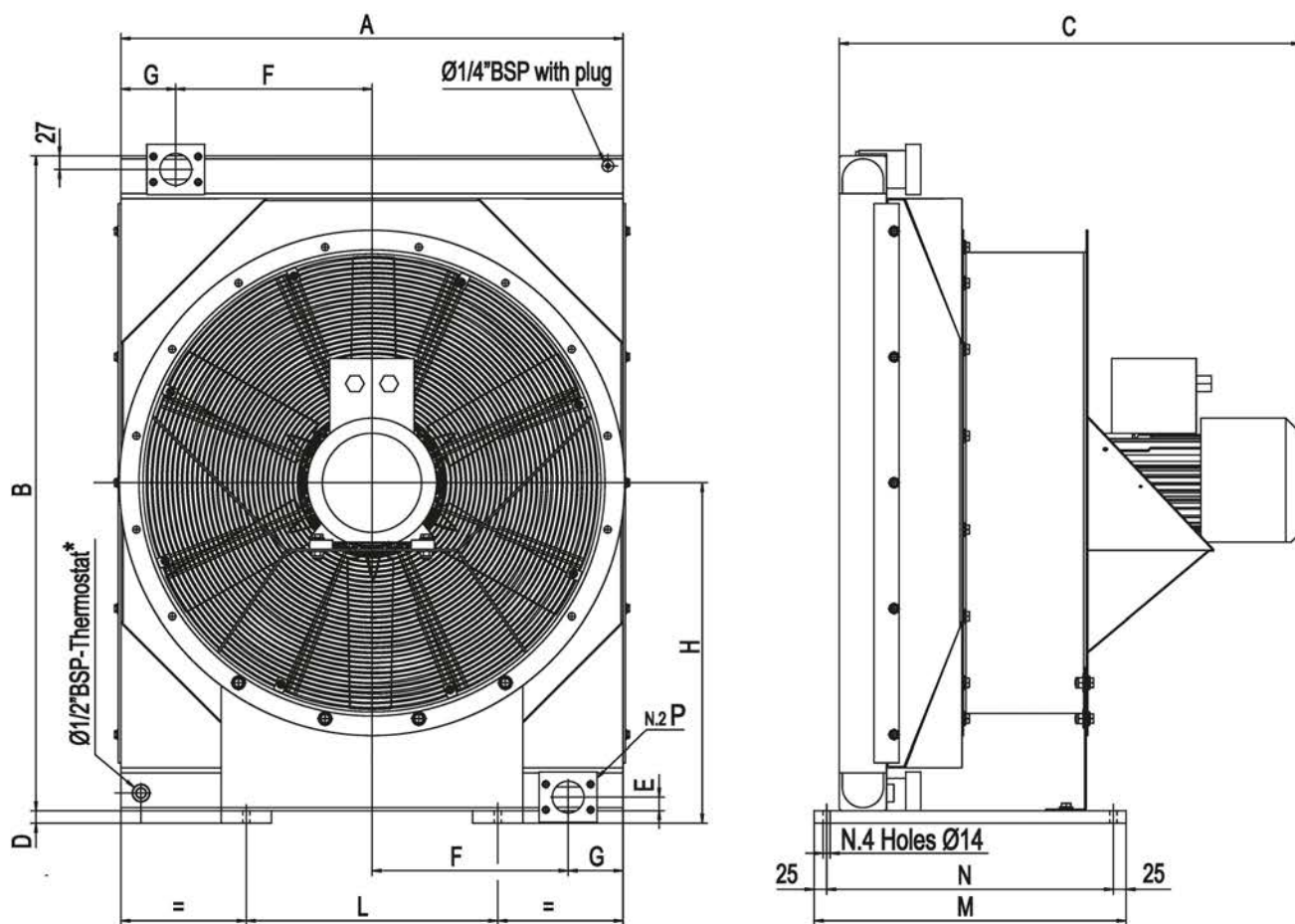
### Performance & Pressure drop diagram (@30cSt)



I diagrammi si riferiscono alle versioni a 50Hz / The diagrams refer to 50Hz versions  
Per versioni a 60Hz Contattare EMMEGI / For 60Hz versions contact EMMEGI

## Fattore di correzione-F-(perdite di carico) Correction factor-F-(pressure drop)

| cSt | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0,5 | 0,65 | 0,77 | 1  | 1,2 | 1,4 | 1,6 | 1,9 | 2,1 | 3,3 | 4,3 |

**HPEx****II 2G Ex h IIC T4 Gb CE**

\*Termostato fornito separatamente - contattare Emmegi - \*Thermostat supplied separately - contact Emmegi

| Modello<br>Model | Codice<br>Code | DIMENSIONI - Overall dimension |      |      |    |    |     |     |     |     |     |     |               |
|------------------|----------------|--------------------------------|------|------|----|----|-----|-----|-----|-----|-----|-----|---------------|
|                  |                | A                              | B    | C    | D  | E  | F   | G   | H   | L   | M   | N   | P             |
| HPEx135          | A281000400B01  | 1008                           | 1300 | 914  | 25 | 27 | 390 | 109 | 675 | 500 | 620 | 570 | SAE 2.1/2"*** |
| HPEx180          | A281100400B01  | 1008                           | 1290 | 1016 | 25 | 27 | 390 | 109 | 670 | 500 | 620 | 570 | SAE 2.1/2"*** |
| HPEx255          | A281200400B01  | 1182                           | 1310 | 1127 | 25 | 27 | 477 | 109 | 680 | 650 | 700 | 650 | SAE 2.1/2"*** |

\*\* Flange: SAE 3000

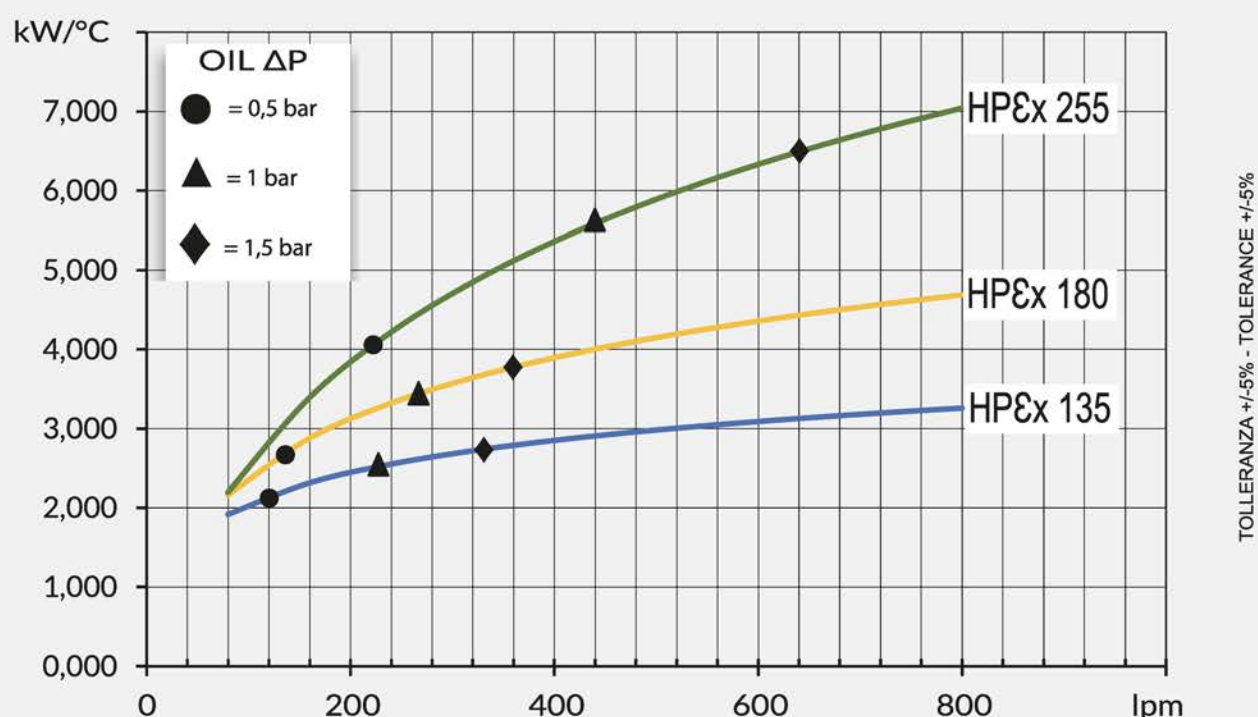
Le dimensioni di ingombro e le caratteristiche tecniche non sono impegnative  
Over-all dimensions and technical characteristic are not binding

## Dati tecnici Technical Data

| Modello<br>Model | Codice<br>Code | Dati tecnici - Technical Data |    |      |             |      |        |    |    |     |
|------------------|----------------|-------------------------------|----|------|-------------|------|--------|----|----|-----|
|                  |                | V                             | Hz | kW   | A           | rpm  | db (A) | IP | lt | kg  |
| HPEx135          | A281000400B01  | 230/400                       | 50 | 3    | 14,7 / 8,5  | 945  | 80     | 66 | 26 | 126 |
|                  |                | 265/460                       | 60 | 3,5  |             | 1135 | 84     |    |    |     |
| HPEx180          | A281100400B01  | 400/690                       | 50 | 7,5  | 16,3 / 9,4  | 1448 | 89     | 66 | 31 | 200 |
|                  |                | 460/795                       | 60 | 8,6  |             | 1738 | 93     |    |    |     |
| HPEx255          | A281200400B01  | 400/690                       | 50 | 15   | 30,6 / 17,7 | 1450 | 96     | 66 | 56 | 358 |
|                  |                | 460/795                       | 60 | 17,3 |             | 1740 | 100    |    |    |     |

## Diagramma rendimento & Perdite di carico (@30cSt)

### Performance & Pressure drop diagram (@30cSt)



I diagrammi si riferiscono alle versioni a 50Hz / The diagrams refer to 50Hz versions  
Per versioni a 60Hz Contattare EMMEGI / For 60Hz versions contact EMMEGI

## Fattore di correzione-F-(perdite di carico) Correction factor-F-(pressure drop)

| cst | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0,5 | 0,65 | 0,77 | 1  | 1,2 | 1,4 | 1,6 | 1,9 | 2,1 | 3,3 | 4,3 |







Serie EBR  
EBR Series



## APPLICAZIONE

### APPLICATION

La combinazione di elettroventole brushless di ultima generazione, ha permesso agli scambiatori della serie EBR di essere la soluzione di raffreddamento ottimale per svariate applicazioni mobili:

The combination of state-of-the-art brushless electric fans, makes the EBR series heat exchangers the optimal cooling solution for a wide range of mobile applications:

Industria agricola e forestale.  
Gru mobili e fisse.  
Veicoli industriali.  
Veicoli municipali.  
Macchine da costruzione.  
Altro su richiesta.

Agriculture and forestry.  
Mobile and stationary cranes.  
Industrial vehicles.  
Municipal vehicles.  
Construction machines.  
Others on request.





**Denominazione codice prodotto**  
*Ordering code*

01

| MODELLO | SERIES |  |
|---------|--------|--|
|         |        |  |

24 DC 24V

01 Aspirante Suction air flow



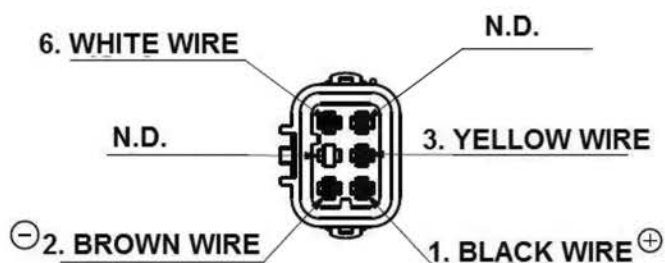


## Serie EBR

### EBR Series

#### Connettori / Connectors and wires.

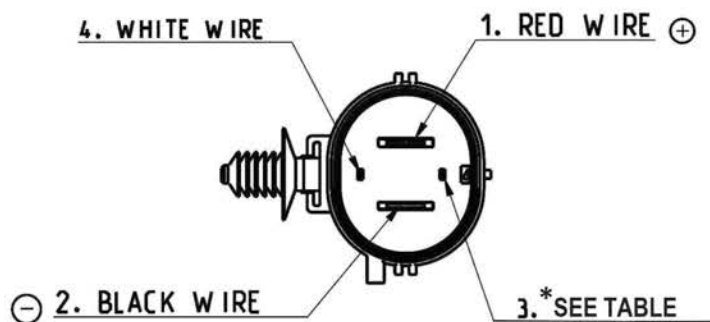
Model : EBRD42401 / EBR242401



#### DUCON 2.8

|                   |         |
|-------------------|---------|
| 1.Nero/Black :    | +D      |
| 2.Marrone/Brown : | -D      |
| 3.Giallo/Yellow : | PWM / E |
| 6.Bianco/White :  | FO      |

EBRD52401/EBRD62401\*/EBR302401/EBR402401\*/EBR442401\*/EBR602401/EBR702401\*

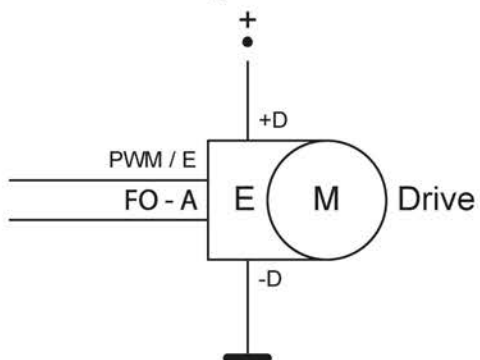


#### YAZAKI

|                  |         |
|------------------|---------|
| 1.Rosso/Red :    | +D      |
| 2.Nero/Black :   | -D      |
| 3.Nero/Black :   | FO      |
| 4.Bianco/White : | PWM / E |

#### Collegamento elettrico / Drive diagram.

Lo schema di collegamento è indicato nella figura qui di seguito / The drive diagram is shown below.



#### Legenda / Key:

E : Elettronica integrata / integrated electronics

M : Motore elettrico / Motor

Drive : M+E

+ D : tensione alimentazione positivo / supply voltage plus

- D : tensione alimentazione negativo / supply voltage minus

PWM / E : controllo elettronico in ingresso / control input

FO : Feedback OUTPUT      A: analogic INPUT

Il segnale PWM / E è usato come input per il controllo.

The signal pin PWM / E is used to control the Drive mode, it is the control input.

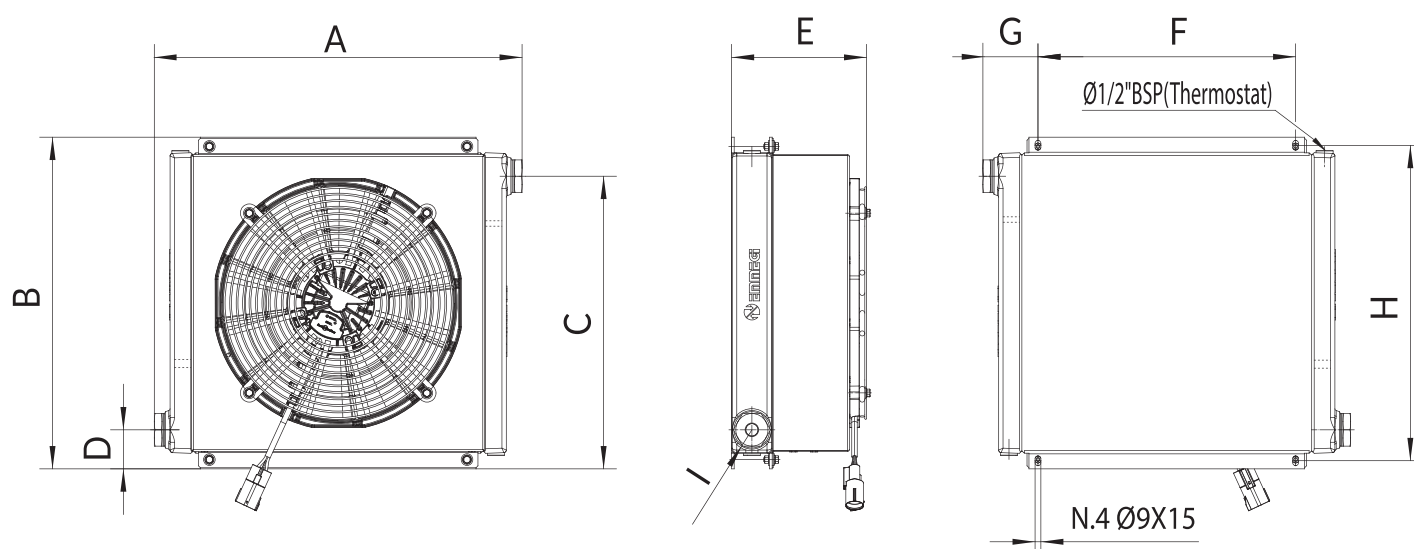
Il segnale FO è utilizzato per conoscere lo stato di funzionamento.

The signal pin FO is used to notify the Drive status.

Il segnale A può essere usato per controllare la velocità del Drive.

The signal pin A can be used to control speed of the Drive.

| Cod. Emmegi<br>Part Number | Dati tecnici / Technical data |                 |           |       |       |                    |                   |
|----------------------------|-------------------------------|-----------------|-----------|-------|-------|--------------------|-------------------|
|                            | Voltage (V)                   | Amp. rating (A) | Plug      | Ø Fan | db(A) | Approx Weight (Kg) | Cooler volume (l) |
| EBRD42401                  | 24                            | 16              | DUCON 2.8 | 255   | 78    | 12                 | 1                 |
| EBRD52401                  | 24                            | 32              | YAZAKI    | 305   | 85.5  | 15                 | 1.6               |
| EBRD62401                  | 24                            | 23              | YAZAKI    | 355   | 79.5  | 21                 | 2.7               |



| Cod. Emmegi<br>Part Number | Dimensioni / Dimension |       |     |    |     |     |      |     |          |
|----------------------------|------------------------|-------|-----|----|-----|-----|------|-----|----------|
|                            | A                      | B     | C   | D  | E   | F   | G    | H   | I        |
| EBRD42401                  | 403                    | 340   | 281 | 59 | 219 | 240 | 81.5 | 316 | 1/2" BSP |
| EBRD52401                  | 468                    | 401.5 | 342 | 59 | 208 | 305 | 81.5 | 376 | 1/2" BSP |
| EBRD62401                  | 577                    | 508   | 449 | 60 | 209 | 400 | 88   | 486 | 1/2" BSP |

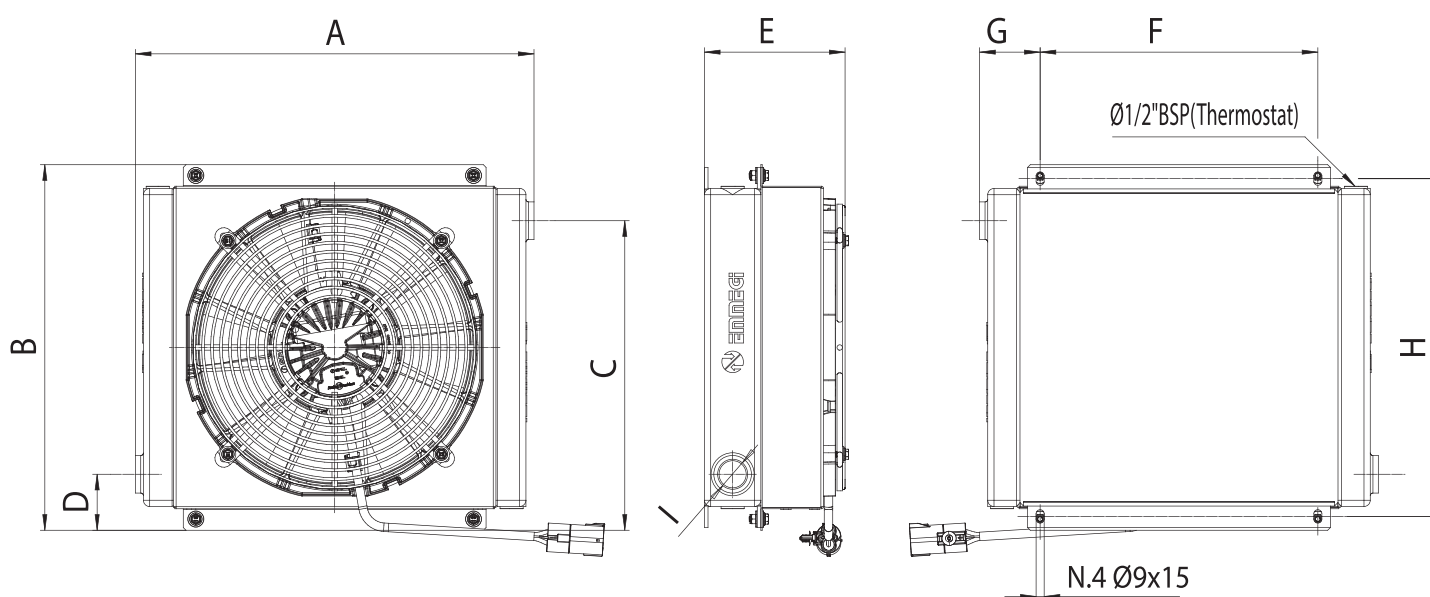
Le dimensioni di ingombro e le caratteristiche tecniche non sono impegnative  
Overall dimensions and technical characteristic are not binding



## EBR

### EBR 24/30/40/44

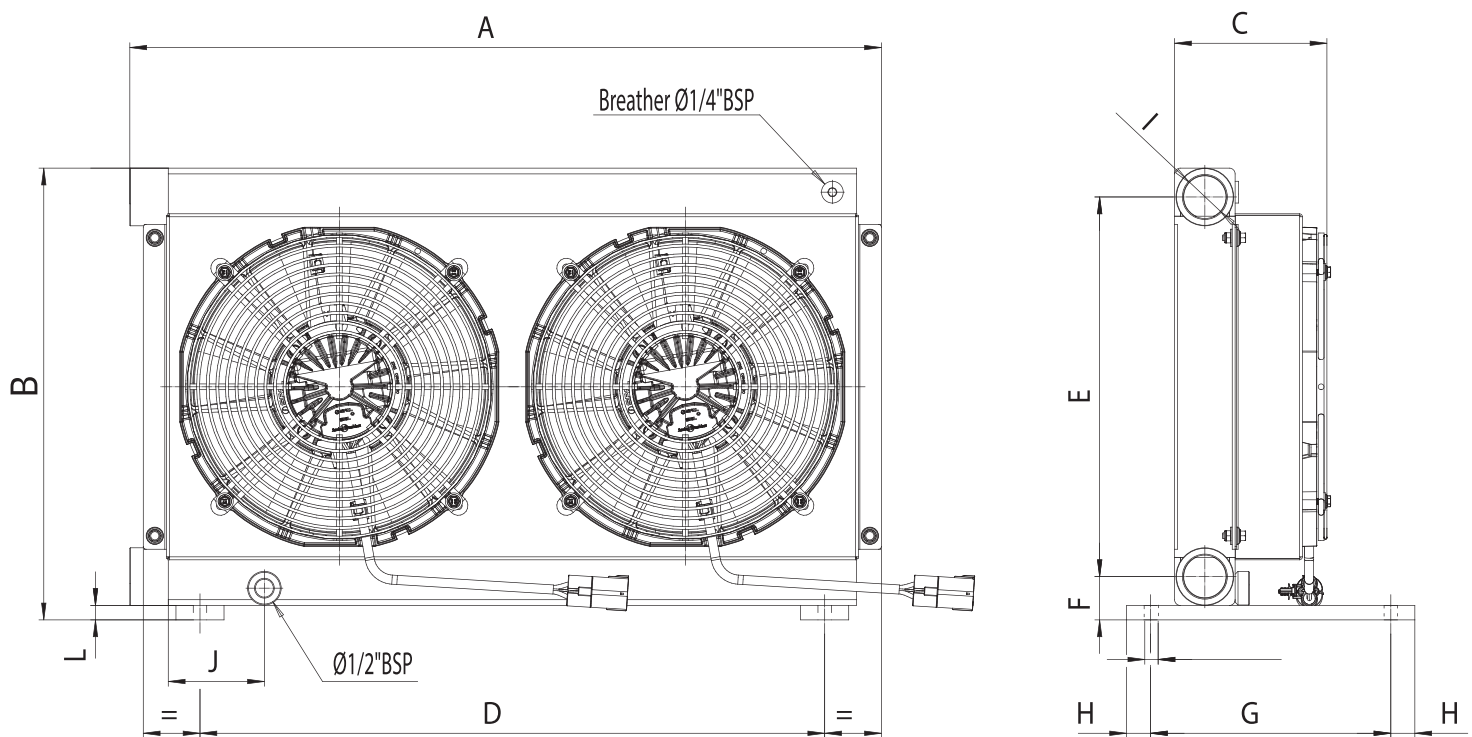
| Cod. Emmegi<br>Par Number | Dati tecnici / Technical data |                 |           |       |       |                    |                   |
|---------------------------|-------------------------------|-----------------|-----------|-------|-------|--------------------|-------------------|
|                           | Voltage (V)                   | Amp. rating (A) | Plug      | Ø Fan | db(A) | Approx Weight (Kg) | Cooler volume (l) |
| EBR242401                 | 24                            | 16              | DUCON 2.8 | 255   | 78    | 12                 | 1                 |
| EBR302401                 | 24                            | 32              | YAZAKI    | 305   | 85.5  | 15                 | 1.6               |
| EBR402401                 | 24                            | 23              | YAZAKI    | 355   | 79.5  | 21                 | 2.7               |
| EBR442401                 | 24                            | 23              | YAZAKI    | 355   | 79.5  | 26                 | 6.6               |



| Cod. Emmegi<br>Par Number | Dimensioni / Dimension |     |       |      |     |     |      |     |            |
|---------------------------|------------------------|-----|-------|------|-----|-----|------|-----|------------|
|                           | A                      | B   | C     | D    | E   | F   | G    | H   | I          |
| EBR242401                 | 380                    | 340 | 281   | 59   | 219 | 240 | 70   | 315 | 1" BSP     |
| EBR302401                 | 455                    | 402 | 342   | 59   | 208 | 310 | 67.5 | 377 | 1" BSP     |
| EBR402401                 | 540                    | 512 | 450   | 61.5 | 210 | 400 | 70   | 487 | 1 1/4" BSP |
| EBR442401                 | 600                    | 508 | 430.5 | 77.5 | 240 | 400 | 100  | 483 | 1 1/4" BSP |

Le dimensioni di ingombro e le caratteristiche tecniche non sono impegnative  
Overall dimensions and technical characteristic are not binding

| Cod. Emmegi<br>Par Number | Dati tecnici / Technical data |                 |        |          |       |                    |                   |
|---------------------------|-------------------------------|-----------------|--------|----------|-------|--------------------|-------------------|
|                           | Voltage (V)                   | Amp. rating (A) | Plug   | Ø Fan    | db(A) | Approx Weight (Kg) | Cooler volume (l) |
| EBR602401                 | 24                            | 32 (x2)         | YAZAKI | 305 (x2) | 88.5  | 31                 | 3.2               |
| EBR702401                 | 24                            | 23 (x2)         | YAZAKI | 355 (x2) | 88.5  | 43                 | 5.4               |



| Cod. Emmegi<br>Par Number | Dimensioni / Dimension |     |     |     |     |    |     |    |            |     |
|---------------------------|------------------------|-----|-----|-----|-----|----|-----|----|------------|-----|
|                           | A                      | B   | C   | D   | E   | F  | G   | H  | I          | J   |
| EBR602401                 | 782                    | 470 | 208 | 650 | 395 | 45 | 250 | 25 | 1 1/2" BSP | 100 |
| EBR702401                 | 982                    | 565 | 208 | 850 | 490 | 45 | 250 | 25 | 1 1/2" BSP | 100 |

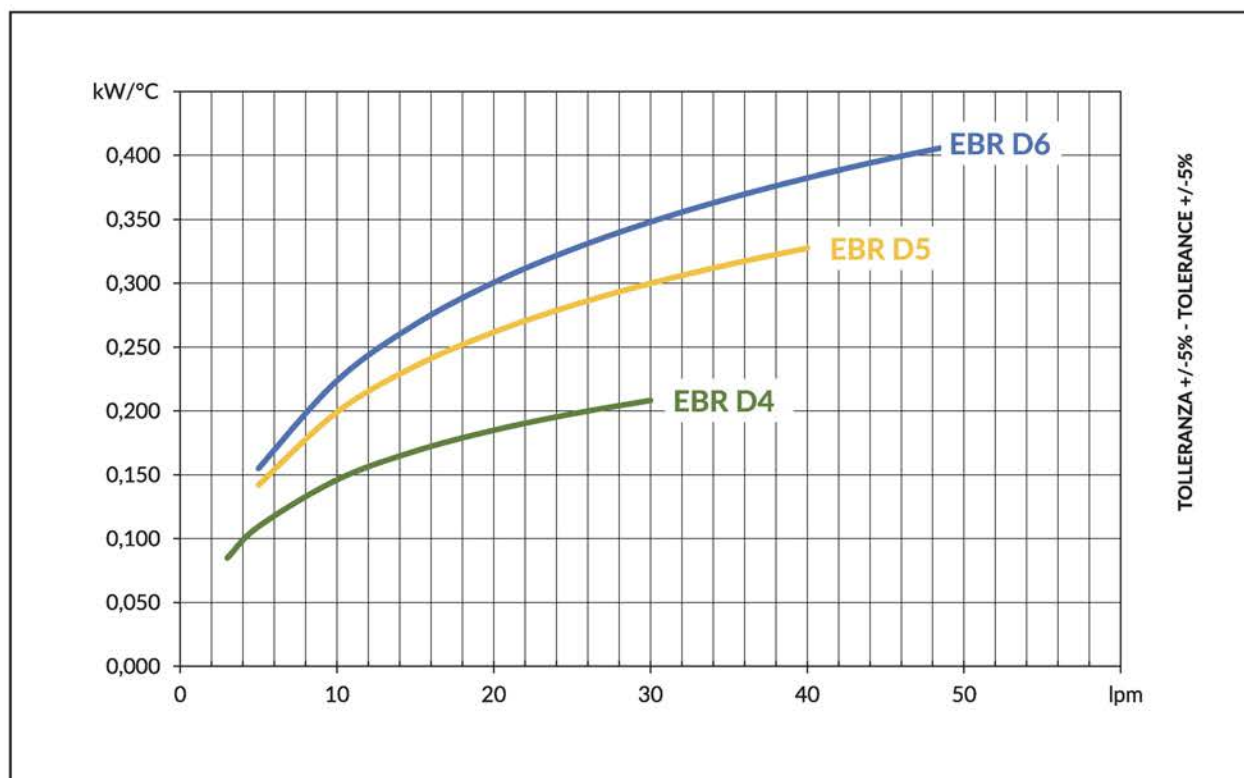
Le dimensioni di ingombro e le caratteristiche tecniche non sono impegnative  
Overall dimensions and technical characteristic are not binding



# EBR

## EBR D4/D5/D6

### DIAGRAMMA RENDIMENTO CON OLIO ISOVG 46 / OIL ISO VG 46 PERFORMANCE



### DIAGRAMMA PERDITE DI CARICO OLIO ISOVG 46 / OIL ISO VG 46 PRESSURE DROP

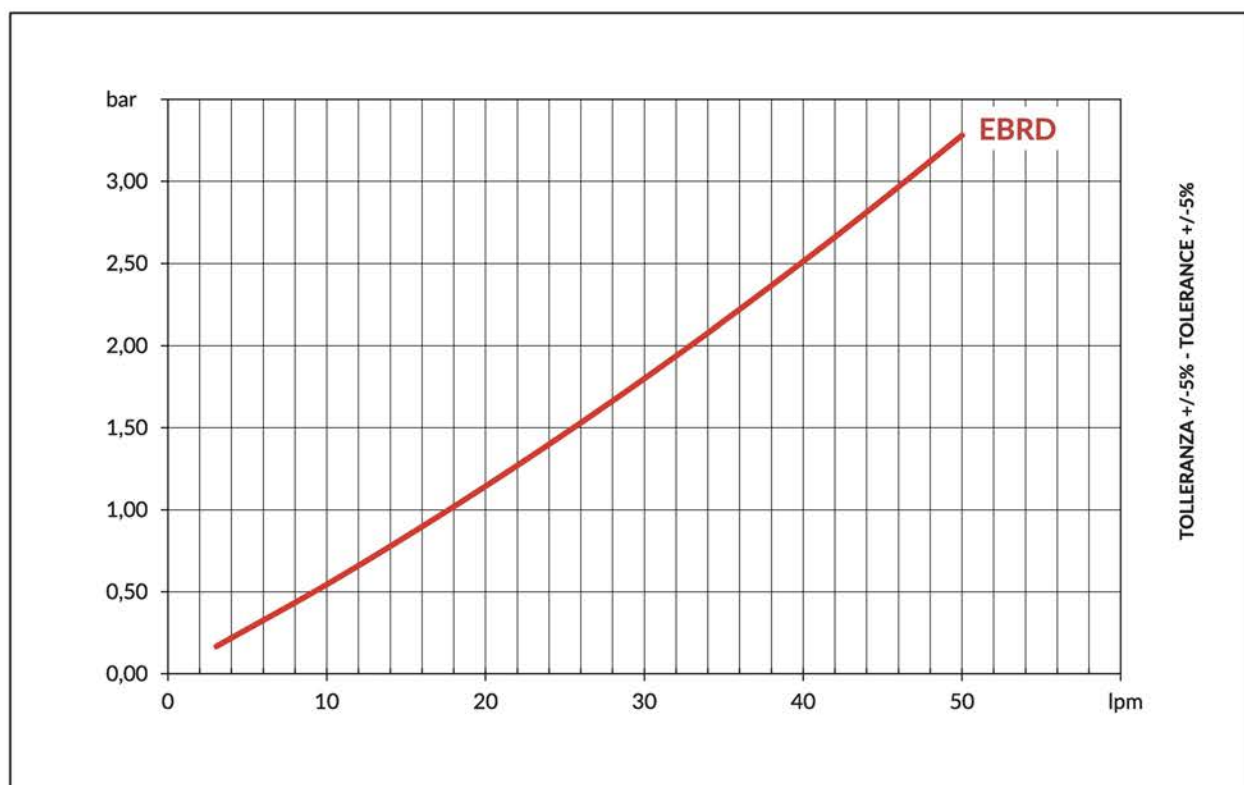
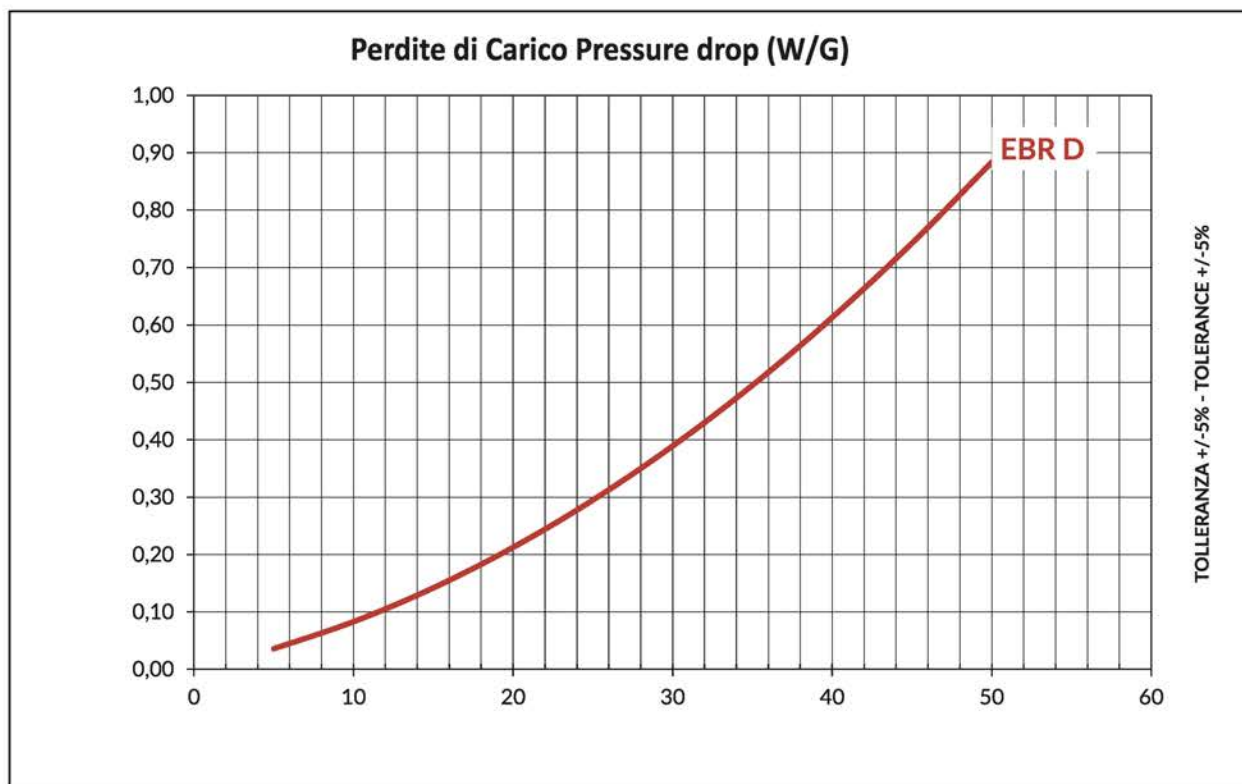




DIAGRAMMA RENDIMENTO CON ACQUA-GLICOLE 50 % / WATER-GLYCOL 50 % PERFORMANCE



PERDITE DI CARICO CON ACQUA-GLICOLE 50 % / WATER-GLYCOL 50 % PRESSURE DROP





EBR

EBR 24/30/40/44

DIAGRAMMA RENDIMENTO CON OLIO ISOVG 46 / OIL ISO VG 46 PERFORMANCE

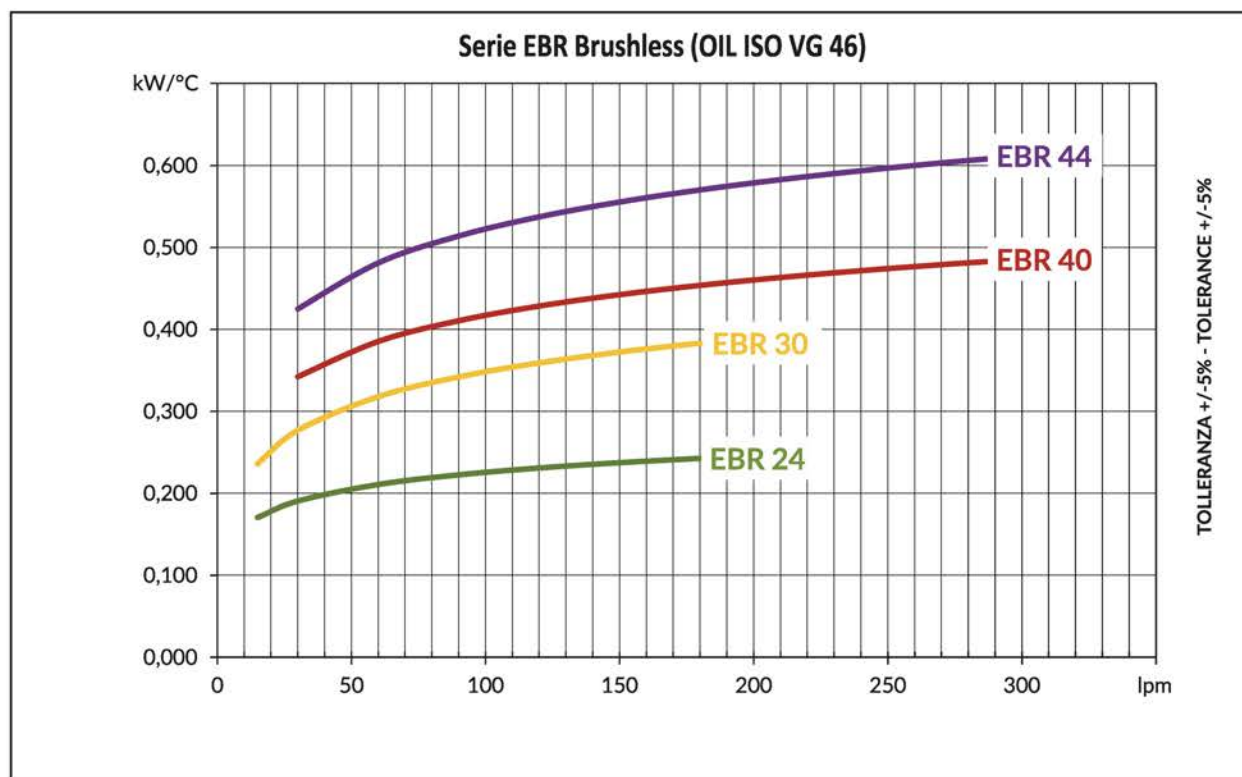


DIAGRAMMA PERDITE DI CARICO OLIO ISOVG 46 / OIL ISO VG 46 PRESSURE DROP

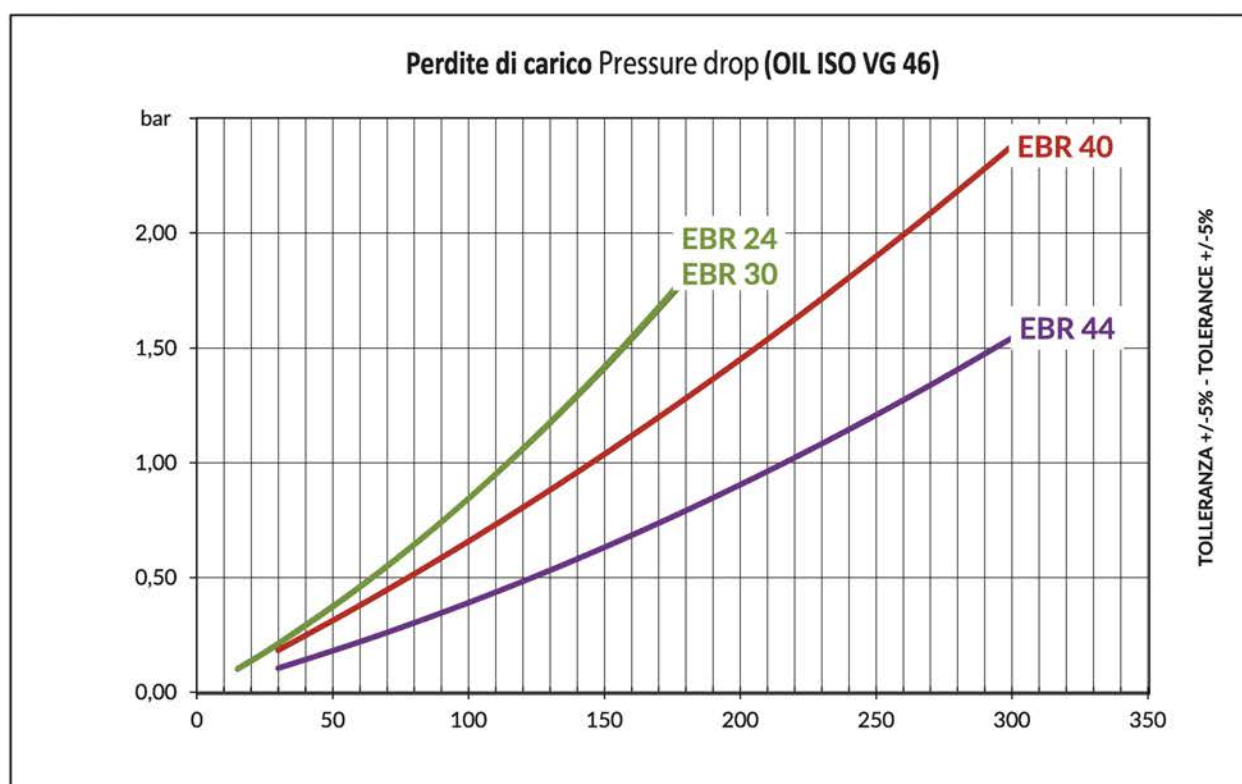


DIAGRAMMA RENDIMENTO ACQUA-GLICOLE 50% / WATER-GLYCOL 46 PERFORMANCE



DIAGRAMMA PERDITE DI CARICO ACQUA-GLICOLE 50% / WATER-GLYCOL 50% PERFORMANCE

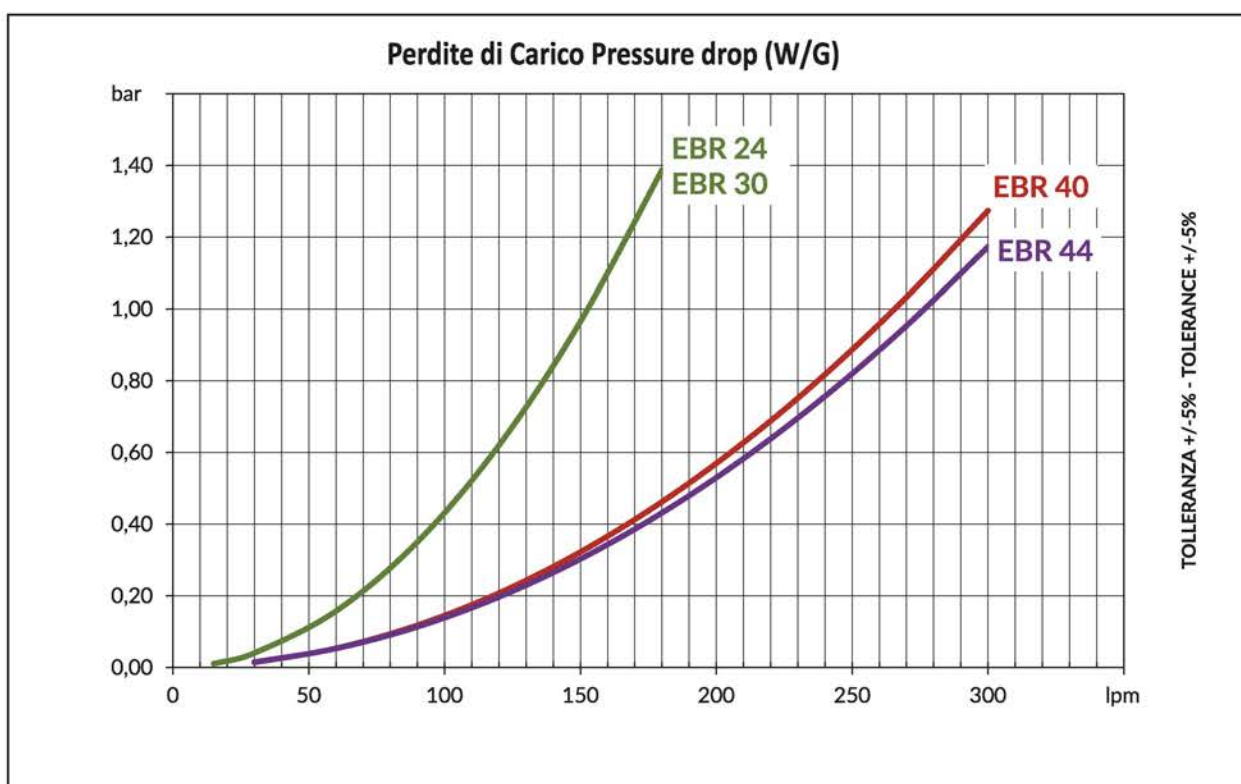




DIAGRAMMA RENDIMENTO CON OLIO ISOVG 46 / OIL ISOVG 46 PERFORMANCE

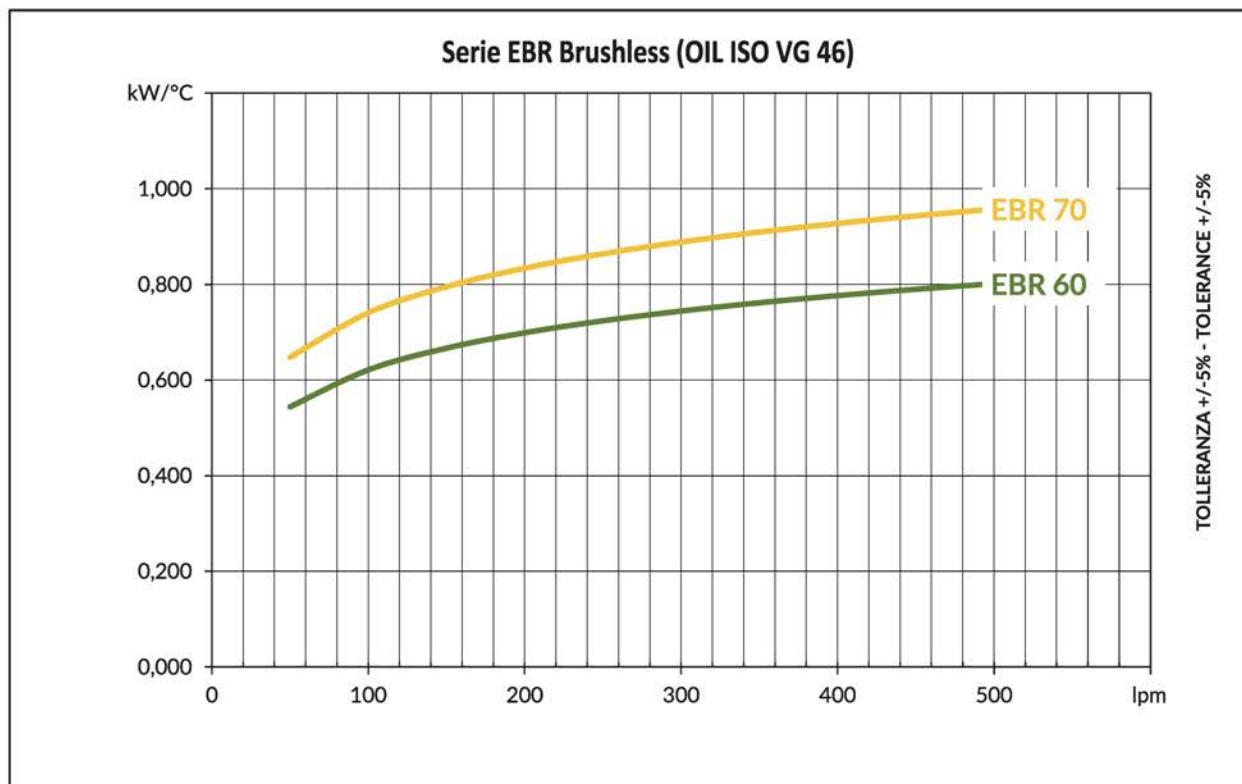


DIAGRAMMA PERDITE DI CARICO OLIO ISOVG 46 / OIL ISOVG 46 PRESSURE DROP

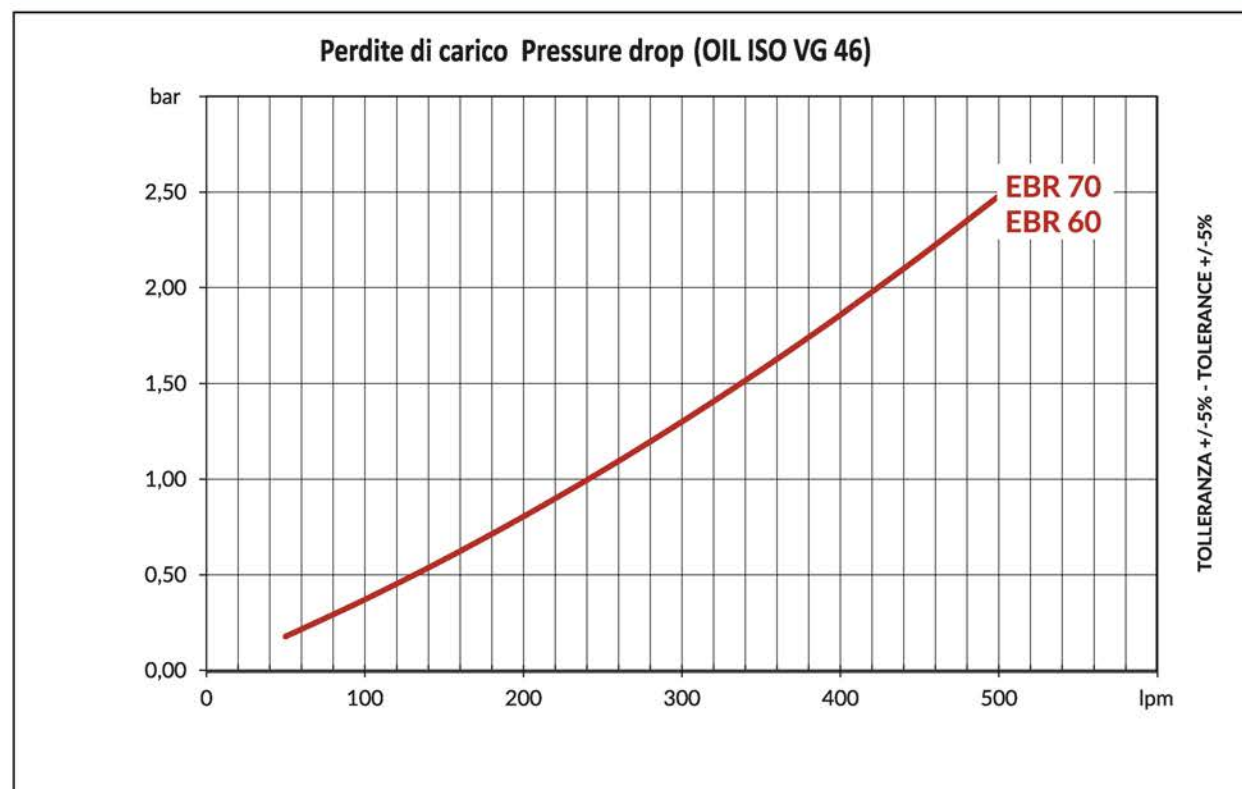
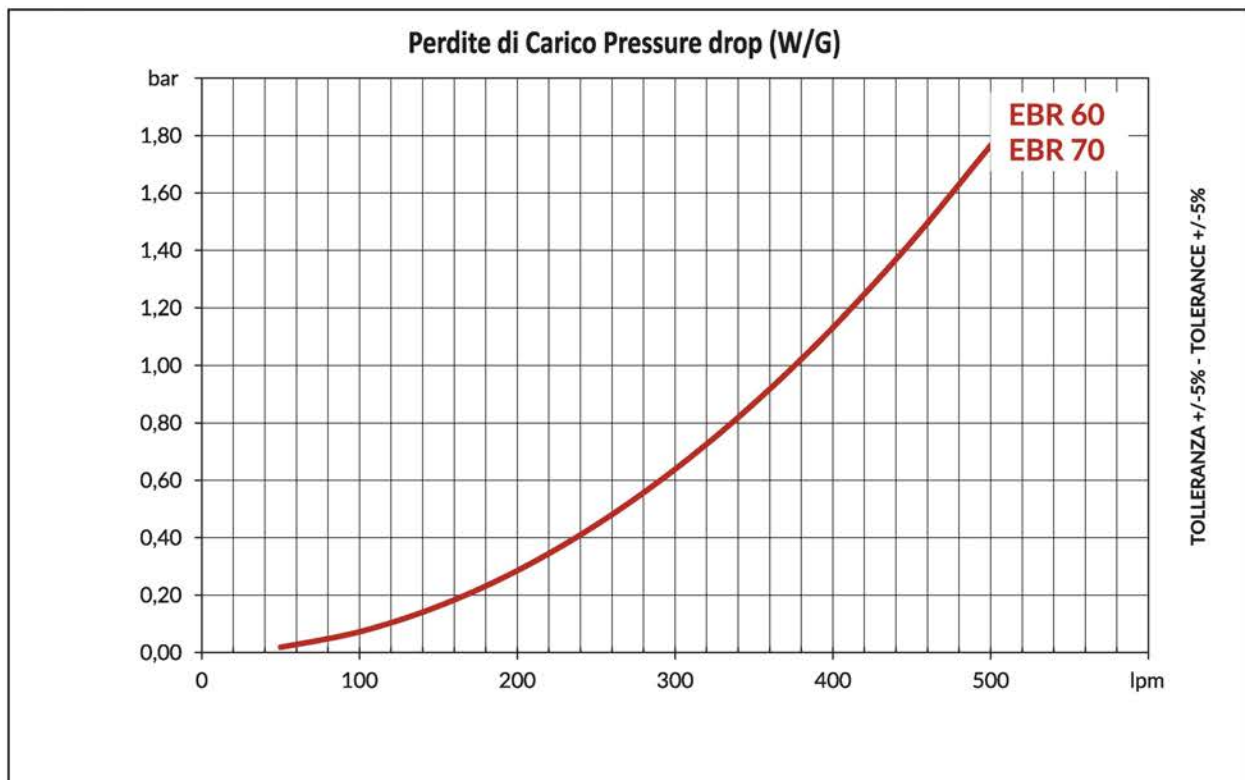


DIAGRAMMA RENDIMENTO CON ACQUA-GLICOLE 50 % / WATER-GLYCOL 50 % PERFORMANCE

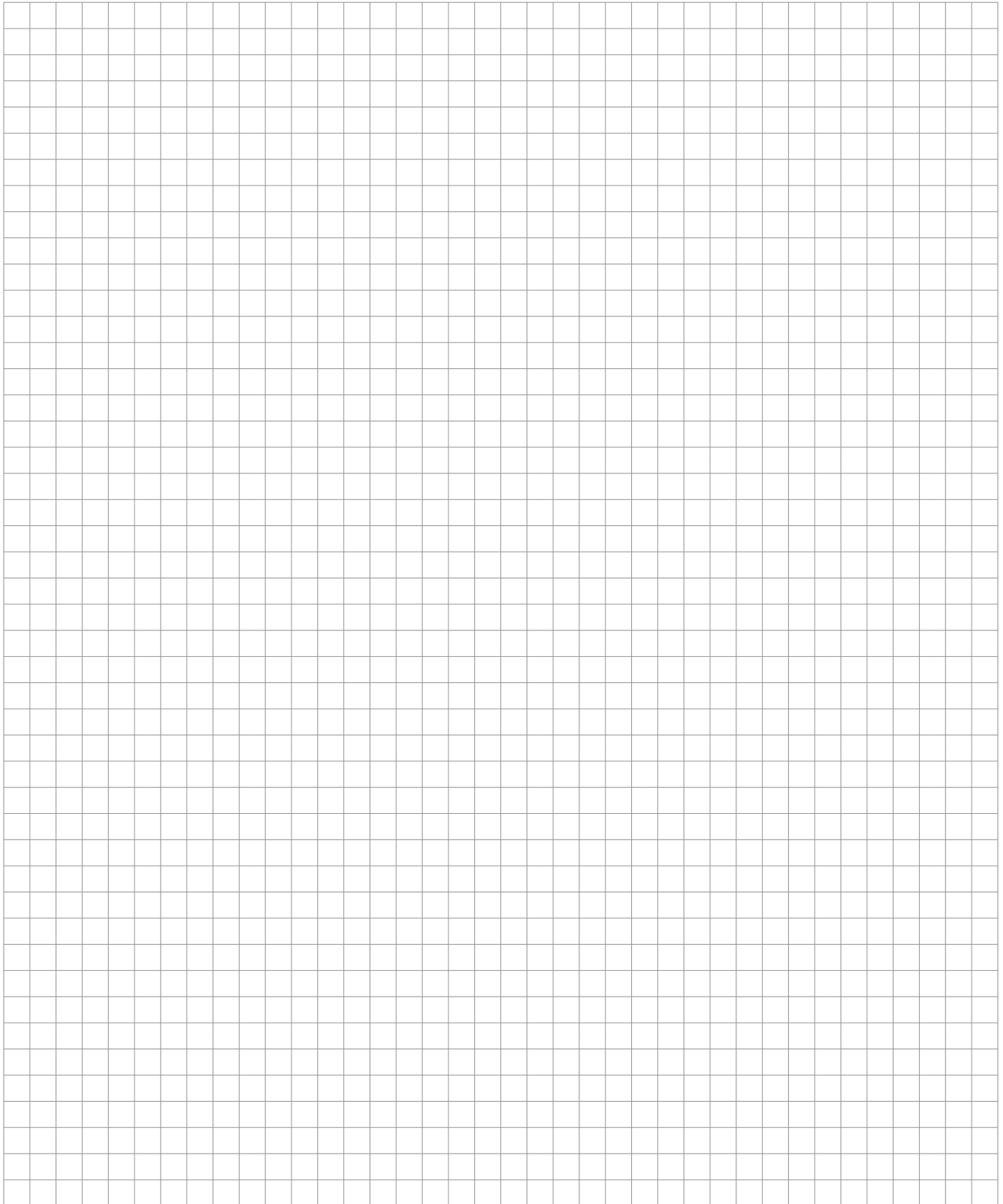


PERDITE DI CARICO CON ACQUA-GLICOLE 50 % / WATER-GLYCOL 50 % PRESSURE DROP







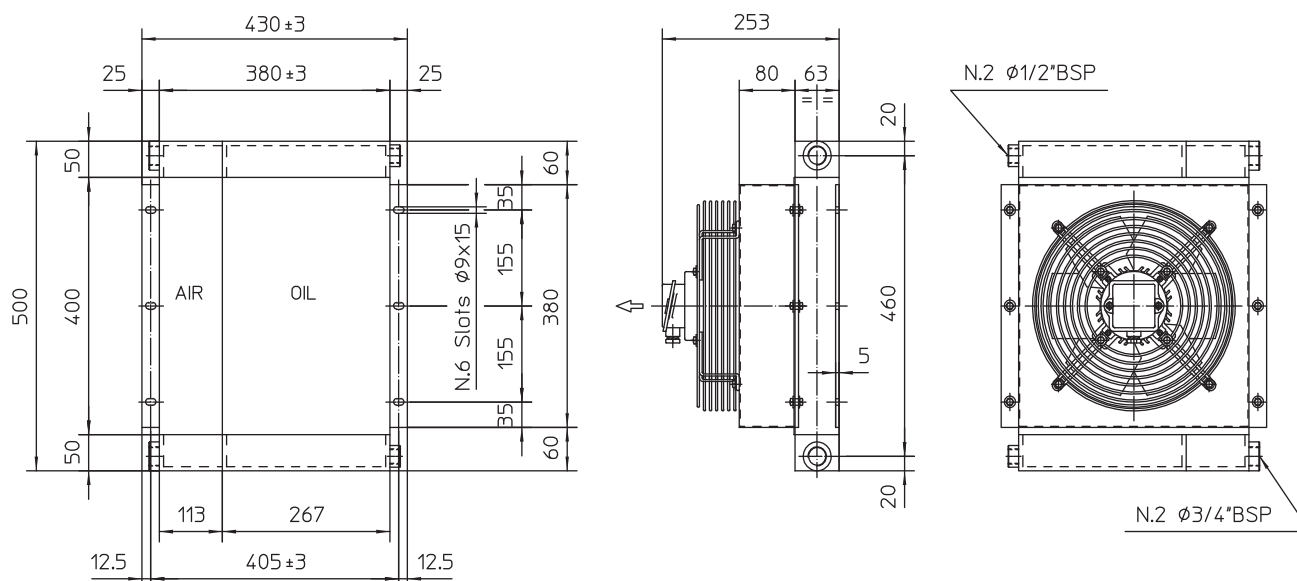






Combinati per Compressori  
Combined for Compressor





Le dimensioni di ingombro e le caratteristiche tecniche non sono impegnative  
Overall dimensions and technical characteristic are not binding

| BLOCCO RADIANTE<br>MAIN COOLER BODY | KIT ELETTROVENTOLA<br>KIT AXIAL MOTOR FAN | CONVOGLIATORE<br>HOUSING |
|-------------------------------------|-------------------------------------------|--------------------------|
| Alluminio<br>Alluminium             | Acciao e alluminio<br>Steel and aluminium | Acciao<br>Steel          |

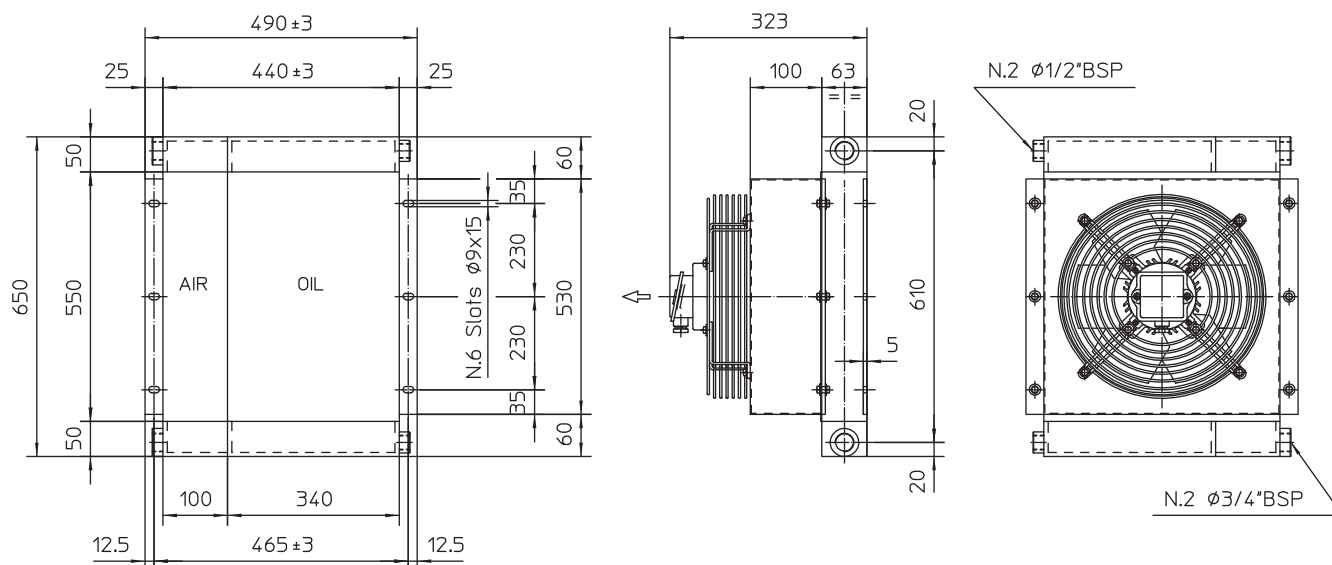
| TIPO COMPR.<br>COMPR. TYPE | CODICE<br>CODE | V                                    | Hz | kW    | rpm  | IP | ØFan | dB(A) | kg | Q <sub>air</sub><br>m³/h | CAP . (lt)<br>(oil side) |
|----------------------------|----------------|--------------------------------------|----|-------|------|----|------|-------|----|--------------------------|--------------------------|
| 7.5 - 11 kW                | 8.C02.05.0.01  | 230-400                              | 50 | 0.100 | 1390 | 55 | 300  | 59    | 18 | 1300                     | 1.8                      |
| 11 - 15 kW                 | 8.C02.03.0.01  | 230-400                              | 50 | 0.250 | 2800 | 55 | 300  | 68    | 18 | 3000                     |                          |
| 7.5 - 15 kW                | 8.C02.00.0.00  | MASSA RADIANTE - COOLER ELEMENT ONLY |    |       |      |    |      |       |    |                          |                          |

|                                                              |          |                      |
|--------------------------------------------------------------|----------|----------------------|
| Potenza dispersa lato olio / Oil cooler output               | 6.2-12.5 | kW                   |
| Potenza dispersa lato aria / Air after cooler output         | 1.1-2.2  | kW                   |
| Portata olio / Oil flow rate                                 | 20-28    | lpm                  |
| Portata aria compressore / Compressed air flow rate          | 1.2-2.5  | m <sup>3</sup> /min. |
| Temperatura entata olio / oil inlet temperature              | max 100  | °C                   |
| Temperatura entata aria / Compressed air inlet temperature   | max 100  | °C                   |
| Temperatura ambiente / Ambient temperature                   | max 45   | °C                   |
| Massima pressione di esercizio / Max working pressure        | 13       | bar                  |
| Pressione di collaudo / Test pressure                        | 20       | bar                  |
| Temperatura massima di esercizio / Max operating temperature | 120      | °C                   |



## Serie CC

### CC03 (18 - 22 kW)



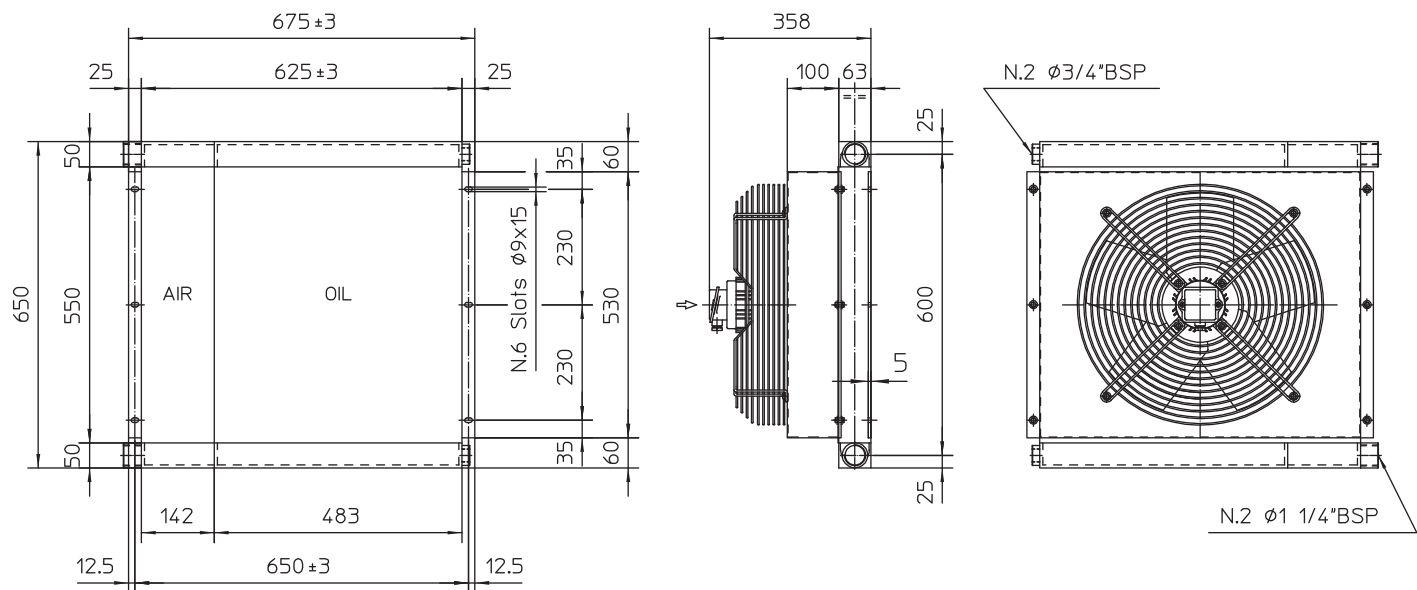
Le dimensioni di ingombro e le caratteristiche tecniche non sono impegnative  
Overall dimensions and technical characteristic are not binding

| BLOCCO RADIANTE<br>MAIN COOLER BODY | KIT ELETTOVENTOLA<br>KIT AXIAL MOTOR FAN | CONVOGLIATORE<br>HOUSING |
|-------------------------------------|------------------------------------------|--------------------------|
| Alluminio                           | Acciao e alluminio                       | Acciao                   |
| Alluminium                          | Steel and aluminium                      | Steel                    |

| TIPO COMPR.<br>COMPR. TYPE | CODICE<br>CODE | V                                    | Hz | kW    | rpm  | IP | ØFan | dB(A) | kg | Q.air<br>m³/h | CAP . (lt)<br>(oil side) |
|----------------------------|----------------|--------------------------------------|----|-------|------|----|------|-------|----|---------------|--------------------------|
| 18 - 22 kW                 | 8.C03.03.0.01  | 230-400                              | 50 | 0.210 | 1390 | 55 | 400  | 65    | 25 | 3400          | 2.9                      |
| 18 - 22 kW                 | 8.C03.00.0.00  | MASSA RADIANTE - COOLER ELEMENT ONLY |    |       |      |    |      |       |    |               |                          |

|                                                              |           |                      |
|--------------------------------------------------------------|-----------|----------------------|
| Potenza dispersa lato olio / Oil cooler output               | 15.6-18.7 | kW                   |
| Potenza dispersa lato aria / Air after cooler output         | 2.7-3.2   | kW                   |
| Portata olio / Oil flow rate                                 | 33-40     | lpm                  |
| Portata aria compressore / Compressed air flow rate          | 2.9-3.6   | m <sup>3</sup> /min. |
| Temperatura entata olio / oil inlet temperature              | max 100   | °C                   |
| Temperatura entata aria / Compressed air inlet temperature   | max 100   | °C                   |
| Temperatura ambiente / Ambient temperature                   | max 45    | °C                   |
| Massima pressione di esercizio / Max working pressure        | 13        | bar                  |
| Pressione di collaudo / Test pressure                        | 20        | bar                  |
| Temperatura massima di esercizio / Max operating temperature | 120       | °C                   |





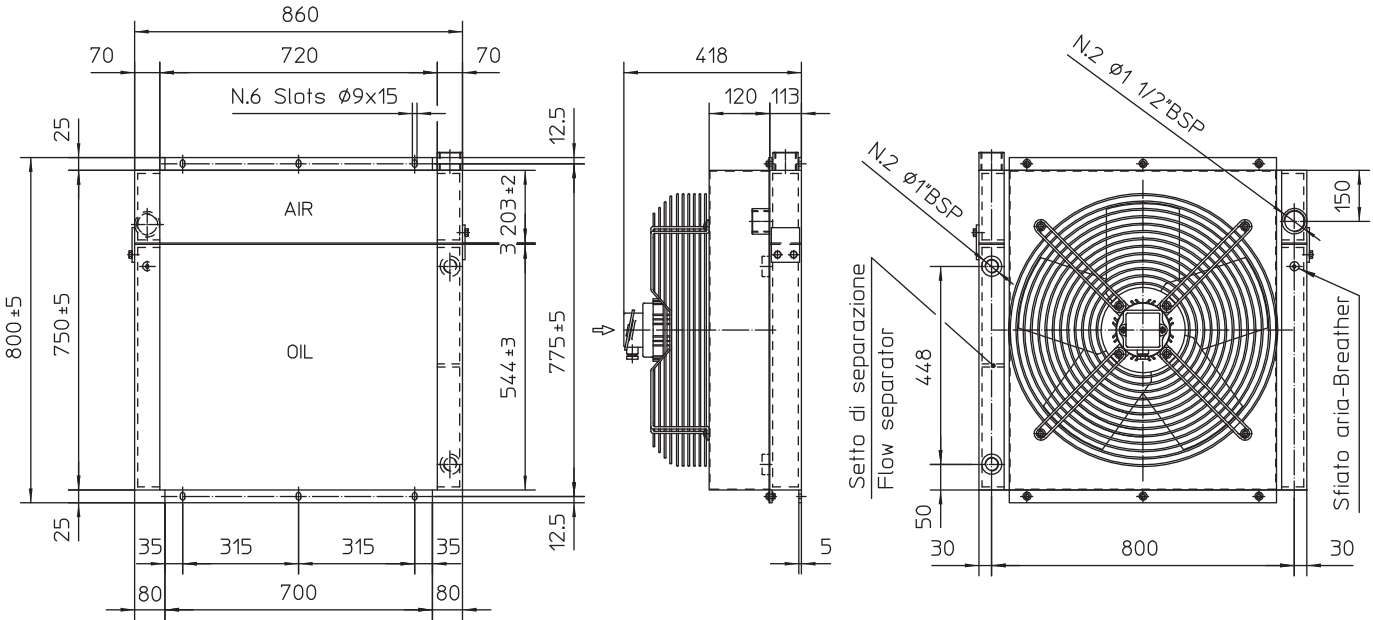
Le dimensioni di ingombro e le caratteristiche tecniche non sono impegnative  
Overall dimensions and technical characteristic are not binding

| BLOCCO RADIANTE<br>MAIN COOLER BODY | KIT ELETTROVENTOLA<br>KIT AXIAL MOTOR FAN  | CONVOGLIATORE<br>HOUSING |
|-------------------------------------|--------------------------------------------|--------------------------|
| Alluminio<br>Alluminium             | Acciaio e alluminio<br>Steel and aluminium | Acciaio<br>Steel         |

| TIPO COMPR.<br>COMPR. TYPE | CODICE<br>CODE | V                                    | Hz | kW    | rpm | IP | ØFan | dB(A) | kg | Q.air<br>m <sup>3</sup> /h | CAP. (lt)<br>(oil side) |
|----------------------------|----------------|--------------------------------------|----|-------|-----|----|------|-------|----|----------------------------|-------------------------|
| 30 kW                      | 8.C04.03.0.02  | 230-400                              | 50 | 0.350 | 900 | 55 | 500  | 65    | 30 | 5100                       | 4,2                     |
| 30 kW                      | 8.C04.00.0.00  | MASSA RADIANTE - COOLER ELEMENT ONLY |    |       |     |    |      |       |    |                            | 4,2                     |

|                                                              |         |                      |
|--------------------------------------------------------------|---------|----------------------|
| Potenza dispersa lato olio / Oil cooler output               | 25      | kW                   |
| Potenza dispersa lato aria / Air after cooler output         | 4.3     | kW                   |
| Portata olio / Oil flow rate                                 | 45      | lpm                  |
| Portata aria compressore / Compressed air flow rate          | 4.8     | m <sup>3</sup> /min. |
| Temperatura entrata olio / Oil inlet temperature             | max 100 | °C                   |
| Temperatura entrata aria / Compressed air inlet temperature  | max 100 | °C                   |
| Temperatura ambiente / Ambient temperature                   | max 45  | °C                   |
| Massima pressione di esercizio / Max working pressure        | 13      | bar                  |
| Pressione di collaudo / Test pressure                        | 20      | bar                  |
| Temperatura massima di esercizio / Max operating temperature | 120     | °C                   |





Le dimensioni di ingombro e le caratteristiche tecniche non sono impegnative  
Overall dimensions and technical characteristic are not binding

| BLOCCO RADIANTE<br>MAIN COOLER BODY | KIT ELETTROVENTOLA<br>KIT AXIAL MOTOR FAN | CONVOGLIATORE<br>HOUSING |
|-------------------------------------|-------------------------------------------|--------------------------|
| Alluminio<br>Alluminium             | Acciao e alluminio<br>Steel and aluminium | Acciao<br>Steel          |

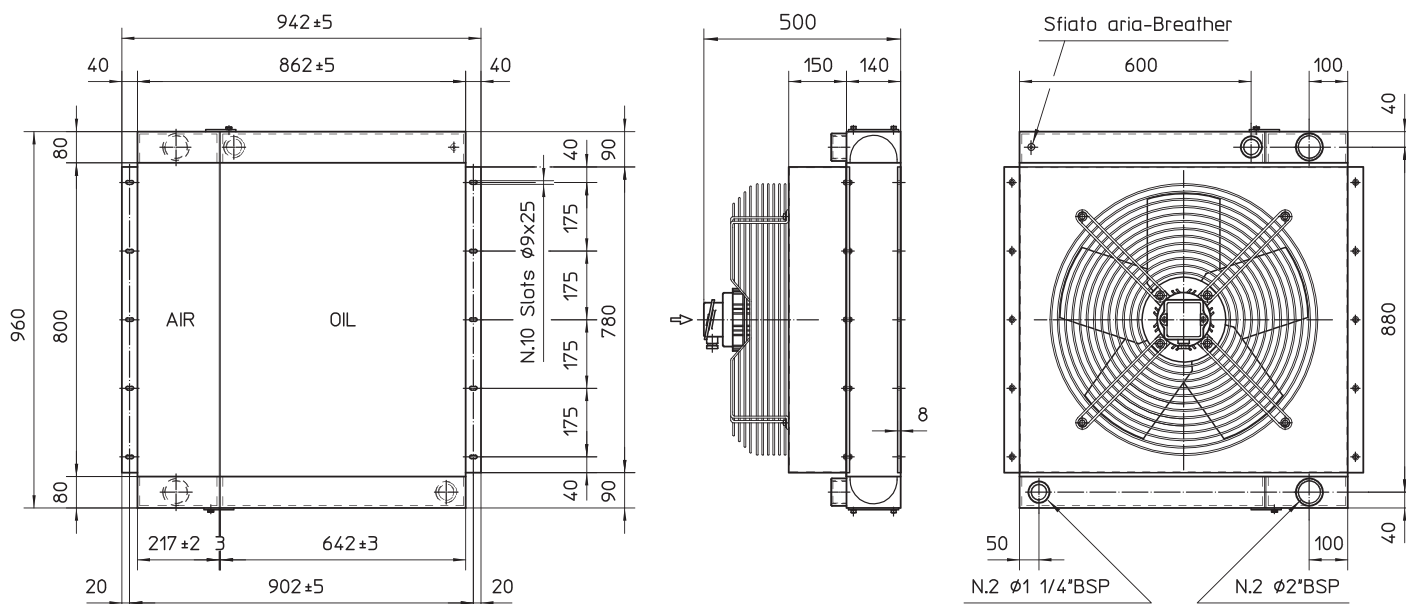
| TIPO COMPR.<br>COMPR. TYPE | CODICE<br>CODE | V                                    | Hz | kW    | rpm  | IP | ØFan | dB(A) | kg | Q.air<br>m³/h | CAP . (lt)<br>(oil side) |
|----------------------------|----------------|--------------------------------------|----|-------|------|----|------|-------|----|---------------|--------------------------|
| 45-55 kW                   | 8.C06.03.0.02  | 230-400                              | 50 | 0.650 | 1400 | 55 | 560  | 78    | 80 | 8100          | 7.9                      |
| 45-55 kW                   | 8.C06.00.0.00  | MASSA RADIANTE - COOLER ELEMENT ONLY |    |       |      |    |      |       |    |               |                          |

|                                                              |         |                      |
|--------------------------------------------------------------|---------|----------------------|
| Potenza dispersa lato olio / Oil cooler output               | 38-47   | kW                   |
| Potenza dispersa lato aria / Air after cooler output         | 7-8     | kW                   |
| Portata olio / Oil flow rate                                 | 45-60   | lpm                  |
| Portata aria compressore / Compressed air flow rate          | 6.3-7.1 | m <sup>3</sup> /min. |
| Temperatura entata olio / oil inlet temperature              | max 100 | °C                   |
| Temperatura entata aria / Compressed air inlet temperature   | max 100 | °C                   |
| Temperatura ambiente / Ambient temperature                   | max 45  | °C                   |
| Massima pressione di esercizio / Max working pressure        | 13      | bar                  |
| Pressione di collaudo / Test pressure                        | 20      | bar                  |
| Temperatura massima di esercizio / Max operating temperature | 120     | °C                   |



## Serie CC

### CC07 (75 kW)



Le dimensioni di ingombro e le caratteristiche tecniche non sono impegnative  
Overall dimensions and technical characteristic are not binding

#### BLOCCO RADIANTE MAIN COOLER BODY

Alluminio

Alluminium

#### KIT ELETTROVENTOLA KIT AXIAL MOTOR FAN

Acciaio e alluminio

Steel and aluminium

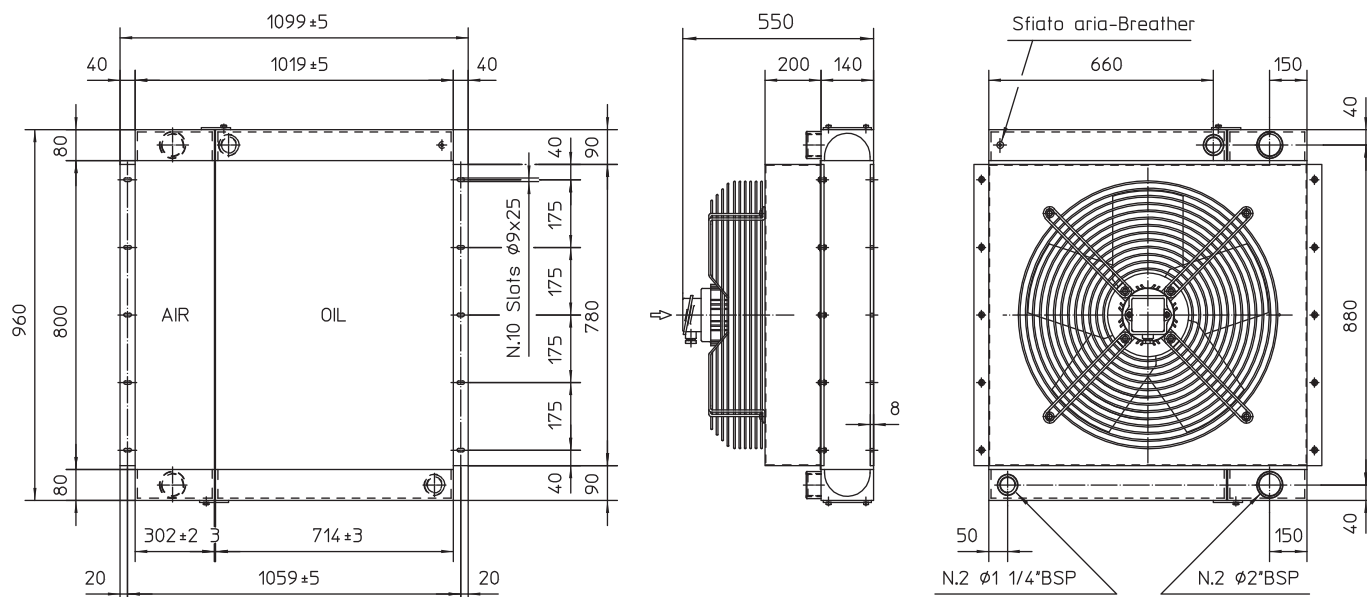
#### CONVOGLIATORE HOUSING

Acciaio

Steel

| TIPO COMPR.<br>COMPR. TYPE | CODICE<br>CODE | V                                    | Hz | kW    | rpm | IP | ØFan | dB(A) | kg  | Q.air<br>m³ /h | CAP . (lt)<br>(oil side) |
|----------------------------|----------------|--------------------------------------|----|-------|-----|----|------|-------|-----|----------------|--------------------------|
| 75 kW                      | 8.C07.03.0.02  | 230-400                              | 50 | 0.770 | 900 | 55 | 700  | 75    | 115 | 9100           | 16.1                     |
| 75 kW                      | 8.C07.00.0.00  | MASSA RADIANTE - COOLER ELEMENT ONLY |    |       |     |    |      |       |     |                |                          |

|                                                              |         |                      |
|--------------------------------------------------------------|---------|----------------------|
| Potenza dispersa lato olio / Oil cooler output               | 63      | kW                   |
| Potenza dispersa lato aria / Air after cooler output         | 11      | kW                   |
| Portata olio / Oil flow rate                                 | 75      | lpm                  |
| Portata aria compressore / Compressed air flow rate          | 11.5    | m <sup>3</sup> /min. |
| Temperatura entata olio / oil inlet temperature              | max 100 | °C                   |
| Temperatura entata aria / Compressed air inlet temperature   | max 100 | °C                   |
| Temperatura ambiente / Ambient temperature                   | max 45  | °C                   |
| Massima pressione di esercizio / Max working pressure        | 13      | bar                  |
| Pressione di collaudo / Test pressure                        | 20      | bar                  |
| Temperatura massima di esercizio / Max operating temperature | 120     | °C                   |



Le dimensioni di ingombro e le caratteristiche tecniche non sono impegnative  
Overall dimensions and technical characteristic are not binding

| BLOCCO RADIANTE<br>MAIN COOLER BODY | KIT ELETTROVENTOLA<br>KIT AXIAL MOTOR FAN | CONVOGLIATORE<br>HOUSING |
|-------------------------------------|-------------------------------------------|--------------------------|
| Alluminio<br>Aluminium              | Acciao e alluminio<br>Steel and aluminium | Acciao<br>Steel          |

| TIPO COMPR.<br>COMPR. TYPE | CODICE<br>CODE | V                                    | Hz | kW    | rpm | IP | ØFan | dB(A) | kg  | Q.air<br>m³/h | CAP . (lt)<br>(oil side) |
|----------------------------|----------------|--------------------------------------|----|-------|-----|----|------|-------|-----|---------------|--------------------------|
| 90-110 kW                  | 8.C08.03.0.02  | 230-400                              | 50 | 0.810 | 900 | 55 | 730  | 77    | 140 | 10000         | 18                       |
| 90-110 kW                  | 8.C08.00.0.00  | MASSA RADIANTE - COOLER ELEMENT ONLY |    |       |     |    |      |       |     |               |                          |

|                                                              |         |         |
|--------------------------------------------------------------|---------|---------|
| Potenza dispersa lato olio / Oil cooler output               | 78-94   | kW      |
| Potenza dispersa lato aria / Air after cooler output         | 14-16   | kW      |
| Portata olio / Oil flow rate                                 | 90-110  | lpm     |
| Portata aria compressore / Compressed air flow rate          | 14-17   | m³/min. |
| Temperatura entata olio / Oil inlet temperature              | max 100 | °C      |
| Temperatura entata aria / Compressed air inlet temperature   | max 100 | °C      |
| Temperatura ambiente / Ambient temperature                   | max 45  | °C      |
| Massima pressione di esercizio / Max working pressure        | 13      | bar     |
| Pressione di collaudo / Test pressure                        | 20      | bar     |
| Temperatura massima di esercizio / Max operating temperature | 120     | °C      |







Gruppi autonomi di raffreddamento  
Serie SILENT EVO 3  
Offline cooling units  
SILENT EVO 3 Series



## Serie Silent EVO 3

### Silent EVO 3 Series

#### APPLICAZIONE

#### APPLICATION



Grazie all'ampia gamma di combinazioni, gli scambiatori della serie Silent EVO 3 si prestano ad essere la soluzione di raffreddamento ottimale per applicazioni industriali quali:

The Silent EVO 3 heat exchangers series is the optimal cooling solution for industrial applications such as:

Impianti di riciclo.  
Impianti oleodinamici.  
Macchine utensili.

Recycling plants.  
Hydraulic systems.  
Machine tools.



## DENOMINAZIONE CODICE PRODOTTO SERIE SILENT EVO 3

### ORDERING CODE SILENT EVO 3 SERIES

#### SERIE-SERIES

S3E — **S3E** **35** **SC** **400** **B** **2** **2**

#### MODELLO - MODEL

15  
25  
35  
45  
55  
65  
75

#### CARENA - COVER

CON CARENA - WITH COVER (CC)  
SENZA CARENA+WITHOUT COVER (SC)  
CON CARENA+QUADRO ELETTRICO - WITH COVER+ELECTRIC BOX (CQ)  
SENZA CARENA+QUADRO ELETTRICO-WITHOUT COVER+ELECTRIC BOX (SQ)

#### TENSIONE - VOLTAGE

230 - 400V 50 Hz / 265-460V 60Hz or — (400V) STANDARD VERSION  
230/400V 50 Hz / 208-230-460 60 Hz SE3 15 ONLY  
TENSIONE SPECIALE - SPECIAL VOLTAGE (SPECIFY VOLTAGE)

#### FREQUENZA - FREQUENCY

PER TENSIONI STD - FOR STD VOLTAGE (B)  
PER TENSIONI SPECIALI - FOR SPECIAL VOLTAGE 50Hz (5)  
PER TENSIONI SPECIALI - FOR SPECIAL VOLTAGE 60Hz (6)

#### FILTRO - FILTER

SENZA FILTRO - WITHOUT FILTER (0)  
10  $\mu$  (1)  
25  $\mu$  (2)  
60  $\mu$  (3)

HEAT-EXCHANGERS

## DESCRIZIONE

Nei circuiti oleodinamici parte dell'energia idraulica e meccanica viene dissipata in calore che, come è noto, innalza la temperatura del fluido di tutto il sistema idraulico.

Nasce pertanto l'esigenza di dissipare tale calore, mediante l'utilizzo di uno scambiatore di calore, in modo da mantenere stabile la temperatura all'equilibrio termico, quando calore generato e dissipato si equivalgono.

In molti casi, data la presenza nel circuito principale di alte portate, elevate pressioni di esercizio, presenza di fenomeni di colpi d'ariete e pressioni pulsanti, non è possibile collegare direttamente lo scambiatore sul circuito primario.

EMMEGI ha realizzato dei gruppi di raffreddamento autonomi aria-olio a basso livello di rumorosità, i SILENT EVO 3, che utilizzano il principio del ricircolo, provvedendo autonomamente ad aspirare, raffreddare, eventualmente filtrare e riportare il fluido all'interno del serbatoio.

I gruppi di raffreddamento autonomi SILENT si avvalgono di una pompa volumetrica a vite per alimentare lo scambiatore di calore aria-olio, azionata da un motore elettrico ad alta efficienza, che provvede anche all'azionamento della ventola.

## SCHEMA IDRAULICO

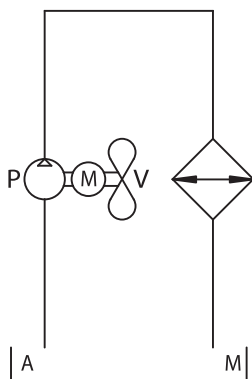


fig. 01

Tutti i modelli possono essere forniti con scocca metallica di comodo accesso, in grado di proteggere e preservare i vari componenti da danni. È disponibile opzionalmente la versione con quadro elettrico precablato e fornito di cavo con spina industriale. La semplice modalità di installazione e di messa in servizio permette di risolvere con estrema facilità problemi termici e/o filtrazione del fluido.

## DESCRIPTION

All hydraulic systems have their efficiency, lower than 100%. The lost energy is converted to heat which is transmitted to the hydraulic fluid, increasing its temperature.

In order to dissipate this heat and maintain the system in good condition a heat exchanger must be installed in the system.

The heat exchanger should be selected to maintain the fluid at a constant temperature at the highest expected ambient temperature.

In many cases, high oil flow rate, high working pressure, or pulsations in the system, do not allow the use of a conventional inline heat exchanger. In these cases an offline cooling solution is preferable.

EMMEGI has developed an off-line and autonomous air/oil cooling series, the SILENT EVO 3, taking the oil from the tank, cooling it and filtering it before returning it to the tank.

The offline EMMEGI cooling system includes a volumetric screw pump driven by an electric motor, feeding the cooler with a fixed fluid flow. The electric motor also drives an axial fan which blows ambient air over the heat exchanger. This combination provides a highly efficient, cost effective and compact offline cooling solution.

## HYDRAULIC CIRCUIT

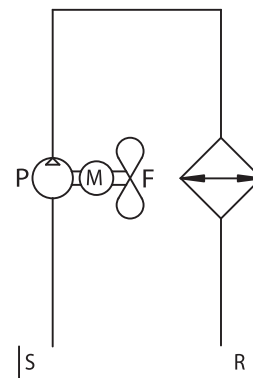


fig. 01

The cooler can be ordered with a fully protective steel cover to protect components from damage. As optional the cooler can be supplied with electrical box including the contactor, fuses and industrial plug.

The Silent Evo 3 provides a simple, quickly installed solution for many cooling and filtration needs.





## Serie Silent EVO 3

### Silent EVO 3 Series

#### FLUIDI COMPATIBILI:

OLI MINERALI, HL, HLP.

Deve essere sempre garantita la compatibilità con i materiali costruttivi utilizzati:

- LEGA DI ALLUMINIO (MASSA RADIANTE)
- ACCIAIO ZINCATO (RACCORDERIA)
- GOMMA NITRILICA (GUARNIZIONI)

*In caso di fluidi differenti si consiglia di contattare EMMEGI S.p.A per la verifica di compatibilità.*

#### SPECIFICHE TECNICHE

PRESSIONE DI ESERCIZIO: 6 barG

TEMPERATURA DEL FLUIDO 20°C – 93°C

CAMPO DI VISCOSITA' CONSIGLIATO: 20 cSt – 320 cSt

TEMPERATURA DI STOCCAGGIO: -10°C – 60°C

#### INSTALLAZIONE

I sistemi di raffreddamento SILENT EVO 3 devono essere collegati al serbatoio del fluido da raffreddare mediante tubi flessibili.

È buona norma che nel locale di installazione dello scambiatore sia garantito un ricambio di aria sufficiente a non riscaldare l'ambiente, pregiudicando la resa dello scambiatore stesso.

Il gruppo deve essere installato in modo che il flusso d'aria non sia ostacolato, sia in aspirazione, sia in uscita dal pacco radiante (vedi fig.02) .

| SERIES | MODEL           | D      |
|--------|-----------------|--------|
| S3E    | SILENT EVO 3 15 | 300 mm |
|        | SILENT EVO 3 25 | 400 mm |
|        | SILENT EVO 3 35 | 500 mm |
|        | SILENT EVO 3 45 | 500 mm |
|        | SILENT EVO 3 55 | 600 mm |
|        | SILENT EVO 3 65 | 700 mm |
|        | SILENT EVO 3 75 | 800 mm |

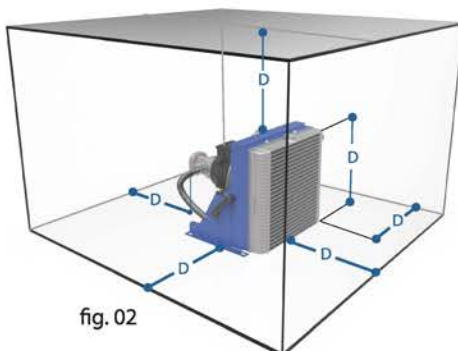


fig. 02

E' indispensabile che i tubi di aspirazione e mandata siano di diametro uguale o superiore a quello del raccordo indicato in Fig.03; in caso contrario si potrebbero verificare fenomeni di cavitazione che comporterebbero aumento della rumorosità, riduzione delle prestazioni e, sul lungo periodo, rottura della pompa. Per lo stesso motivo, il tubo di aspirazione non deve offrire eccessive perdite di carico; si devono pertanto evitare percorsi tortuosi, riduzioni di diametro, eccessive lunghezze, ecc. La posizione dello scambiatore, rispetto al serbatoio, deve tener conto di quanto riportato in Fig. 03. In tutti i casi la pressione all'aspirazione della pompa non deve essere inferiore a -0,5 barG. All'atto della prima messa in marcia è indispensabile controllare che la ventola ruoti nel senso indicato dalla freccia sul convogliatore.

#### COMPATIBLE FLUIDS:

MINERAL OILS, HL, HLP

Compatibility with following material must be always confirmed:

- ALUMINIUM ALLOY (COOLING CORE)
- GALVANIZED STEEL (FITTINGS)
- NITRILE RUBBER (SEALINGS)

*The Evo 3 may be compatible with other fluid types. Please contact EMMEGI to discuss your individual requirements.*

#### TECHNICAL SPECIFICATIONS

WORKING PRESSURE: 6 barG

FLUID TEMPERATURE: 20°C – 93°C

SUGGESTED VISCOSITY: 20 cSt – 320 cSt

STORAGE TEMPERATURE: -10°C – 60°C

#### INSTALLATION

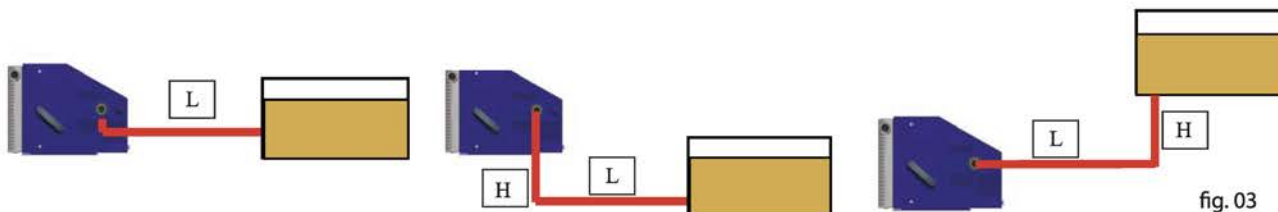
The SILENT EVO 3 off-line cooling system must be connected to the tank by suitable flexible hoses. If installed inside a building adequate ventilation must be provided to ensure no significant rise in ambient temperature, which would adversely affect the Silent EVO3 cooling performance. The Silent EVO3 should be installed to provide adequate airflow for the cooling fan, See Fig. 02 for dimensions.

| SERIES | MODEL           | D      |
|--------|-----------------|--------|
| S3E    | SILENT EVO 3 15 | 300 mm |
|        | SILENT EVO 3 25 | 400 mm |
|        | SILENT EVO 3 35 | 500 mm |
|        | SILENT EVO 3 45 | 500 mm |
|        | SILENT EVO 3 55 | 600 mm |
|        | SILENT EVO 3 65 | 700 mm |
|        | SILENT EVO 3 75 | 800 mm |

Hose sizes must be selected in accordance with the recommended sizes in the chart Fig. 03. Failure to provide adequate flow to and from the Silent Evo 3 could cause a reduction in its performance and eventually premature failure of the components. For the same reason suction piping must not include elbows, section reduction excessive length. The position of the cooler to the tank is showed in Fig.03. The minimum allowable pressure at the oil inlet after installation is -0.5barG. Check the correct direction of the fan, as showed by the arrow sticker on the shroud at the first start of the system.

## LUNGHEZZA E DIAMETRO TUBI / HOSES LENGTH AND DIAMETER

|                                      |                                          |                                           |
|--------------------------------------|------------------------------------------|-------------------------------------------|
| SILENT EVO3 - 15                     | SILENT EVO3 - 15                         | SILENT EVO3 - 15                          |
| Tubo/hole Ø 1/2" G. - L= 3m (MAX)    | Tubo/hole Ø 1/2" G. - L= 1m H=1m (MAX)   | Tubo/hole Ø 1/2" G. - L=2m H=1m (MAX)     |
| SILENT EVO3 - 25/ 35 / 45 / 55       | SILENT EVO3 - 25/ 35 / 45 / 55           | SILENT EVO3 - 25/ 35 / 45 / 55            |
| Tubo/hole Ø 1" G. - L= 7m (MAX)      | Tubo/hole Ø 1" G. - L= 3m H=2m (MAX)     | Tubo/hole Ø 1" G. - L= 2m H=10m (MAX)     |
| SILENT EVO3 - 65 / 75                | SILENT EVO3 - 65 / 75                    | SILENT EVO3 - 65 / 75                     |
| Tubo/hole Ø 1 1/2" G. - L= 20m (MAX) | Tubo/hole Ø 1 1/2" G. - L= 8m H=3m (MAX) | Tubo/hole Ø 1 1/2" G. - L= 25m H=3m (MAX) |



### COPPIE DI SERRAGGIO RACCORDI CON GUARNIZIONE BONDED TIGHTENING TORQUE FITTINGS WITH BONDED SEALING

| Filettatura BSPP/BSPP Thread | 1/4" | 1/2" | 3/4" | 1"  | 1" 1/4" | 1" 1/2" |
|------------------------------|------|------|------|-----|---------|---------|
| Coppia / Torque Nm           | 25   | 45   | 60   | 140 | 160     | 190     |

I valori indicati sono riferiti alle seguenti condizioni  
Data refers to the following condition

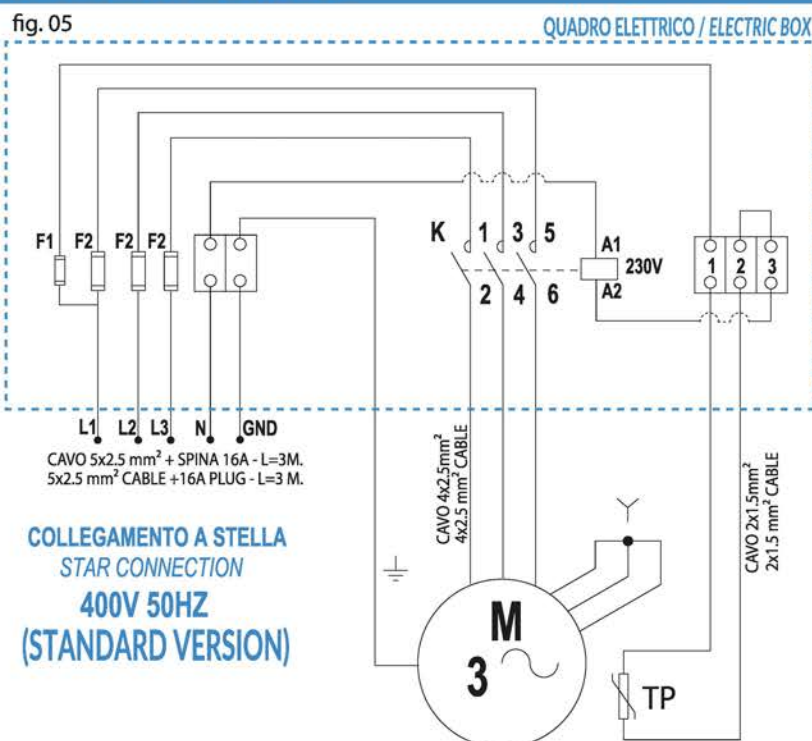
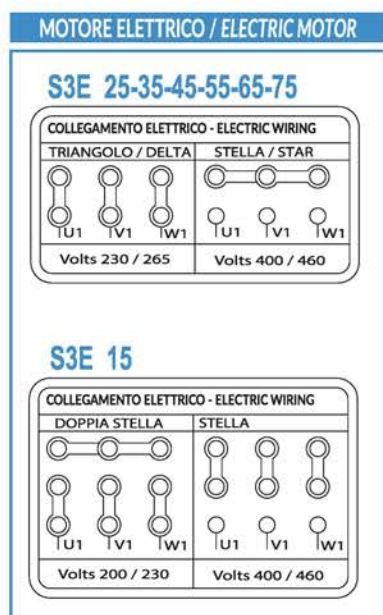
**ISO VG 46 @ 40°C**

Garantire sempre una pressione all' aspirazione di almeno -0.5barG  
In any case minimum admissible pump inlet pressure -0.5barG

Il gruppo remoto dovrà essere avviato se le condizioni del fluido rispettano quanto indicato in "SPECIFICHE TECNICHE".  
Il motore elettrico è di grado IP55, classe di isolamento F.  
E' prevista una protezione interna al surriscaldamento;  
si consiglia in ogni caso di proteggere con salvamotore.  
Il collegamento elettrico dovrà essere effettuato da un tecnico qualificato, in accordo con quanto riportato nel paragrafo "COLLEGAMENTO ELETTRICO" Fig.05 e all'interno del coperchio motore Fig.04.

The group must be started if fluid conditions are compliance with "TECHNICAL SPECIFICATION".  
The electric motor is IP55, insulation class F.  
An internal protection for overheating is included, but the installation of external protection is recommended. All electric connections must be performed by a qualified electrician, in accordance with the "WIRING DIAGRAM" Fig. 05 and information inside motor cover see Fig.04.

## COLLEGAMENTO ELETTRICO / ELECTRIC WIRING







## Serie Silent EVO 3

### Silent EVO 3 Series

fig. 06

QUADRO ELETTRICO / ELECTRIC BOX

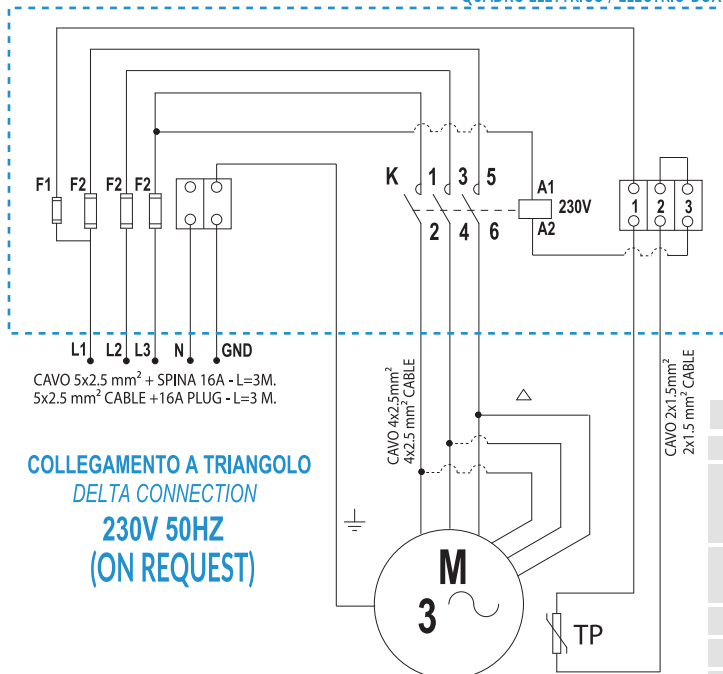
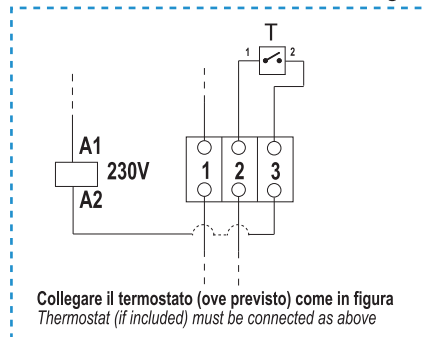


fig. 07



#### LEGENDA / LEGEND

|    |                                                 |
|----|-------------------------------------------------|
| F1 | FUSIBILE / FUSE 10x38 1A                        |
| F2 | FUSIBILE / FUSE 10x38 6A (S3E 15-25-35)         |
| F2 | FUSIBILE / FUSE 10x38 10A (S3E 45-55)           |
| F2 | FUSIBILE / FUSE 10x38 16A (S3E 55-65-75)        |
| K  | CONTATTORE / CONTACTOR 4KW (S3E 15-25-35-45-55) |
| K  | CONTATTORE / CONTACTOR 5.5KW (S3E 65-75)        |
| M  | MOTORE ELETTRICO TRIFASE / INDUCTION MOTOR      |
| TP | PROTEZIONE TERMICA / THERMAL PROTECTION         |
| T  | TERMOSTATO (OPZIONALE) / THERMOSTAT (OPTIONAL)  |

## MANUTENZIONE

Si raccomanda di effettuare periodicamente operazioni di pulizia ordinarie dello scambiatore, in modo da preservare l'integrità del prodotto, allungarne la vita utile e garantire nel tempo le performance indicate a catalogo.

### PULIZIA LATO ARIA

La pulizia della alettatura lato aria può essere effettuata mediante aria compressa o acqua, con direzione del getto parallela alle alette. Una pulizia più efficace può essere effettuata mediante l'utilizzo di appositi prodotti detergenti, in funzione della tipologia di sporco. Se l'accumulo di sporco è causato da olio o grasso, è possibile utilizzare un getto di vapore o acqua calda, ponendo sempre la massima attenzione alla direzione del getto. Durante le operazioni di pulizia il motore elettrico dovrà essere disinserito e convenientemente protetto.

### PULIZIA LATO OLIO

Per la pulizia dell'alettatura interna, lo scambiatore dovrà essere smontato e flussato in controcorrente per 10-20min con appositi solventi per olio, compatibili con leghe di alluminio. Procedere quindi allo svuotamento del circuito interno con aria compressa, non superando la massima pressione ammissibile dello scambiatore. Assicurarsi quindi che il detergente utilizzato sia stato completamente rimosso. Si raccomanda infine di sostituire il filtro periodicamente (ove previsto), prestando attenzione all'indicatore di intasamento.

## MAINTENANCE

The cooler should be inspected monthly and cleaned of any built up of dust or debris. Check for leaks and rectify as appropriate. Inspect annually for wear to the fan blades.

### AIR SIDE CLEANING

Air side cleaning can be carried out with either water or compressed air, keeping the jet direction parallel to the fins. More aggressive cleaning can be achieved using a suitable detergent. If the debris accumulation is caused by oil or grease, cleaning can be carried out by use of hot water pressure washer or steam, ensuring that the water jets are projected away from the motor. Disconnect the electricity supply and protect the motor from any water during the cleaning process.

### OIL SIDE CLEANING

To clean the cooling element internally it should be disassembled from the housing and back flushed for 10 - 20 mins with a suitable cleaning fluid. After completion the cooler should be drained and purged dry with compressed air. Do not exceed the operating pressure of the cooler during the cleaning process. The optional oil filter should be changed at regular intervals to be determined by the application.





## SILENT EVO3 - *SILENT EVO3*

SILENT EVO 3 15  
SILENT EVO 3 25  
SILENT EVO 3 35  
SILENT EVO 3 45  
SILENT EVO 3 55  
SILENT EVO 3 65  
SILENT EVO 3 75



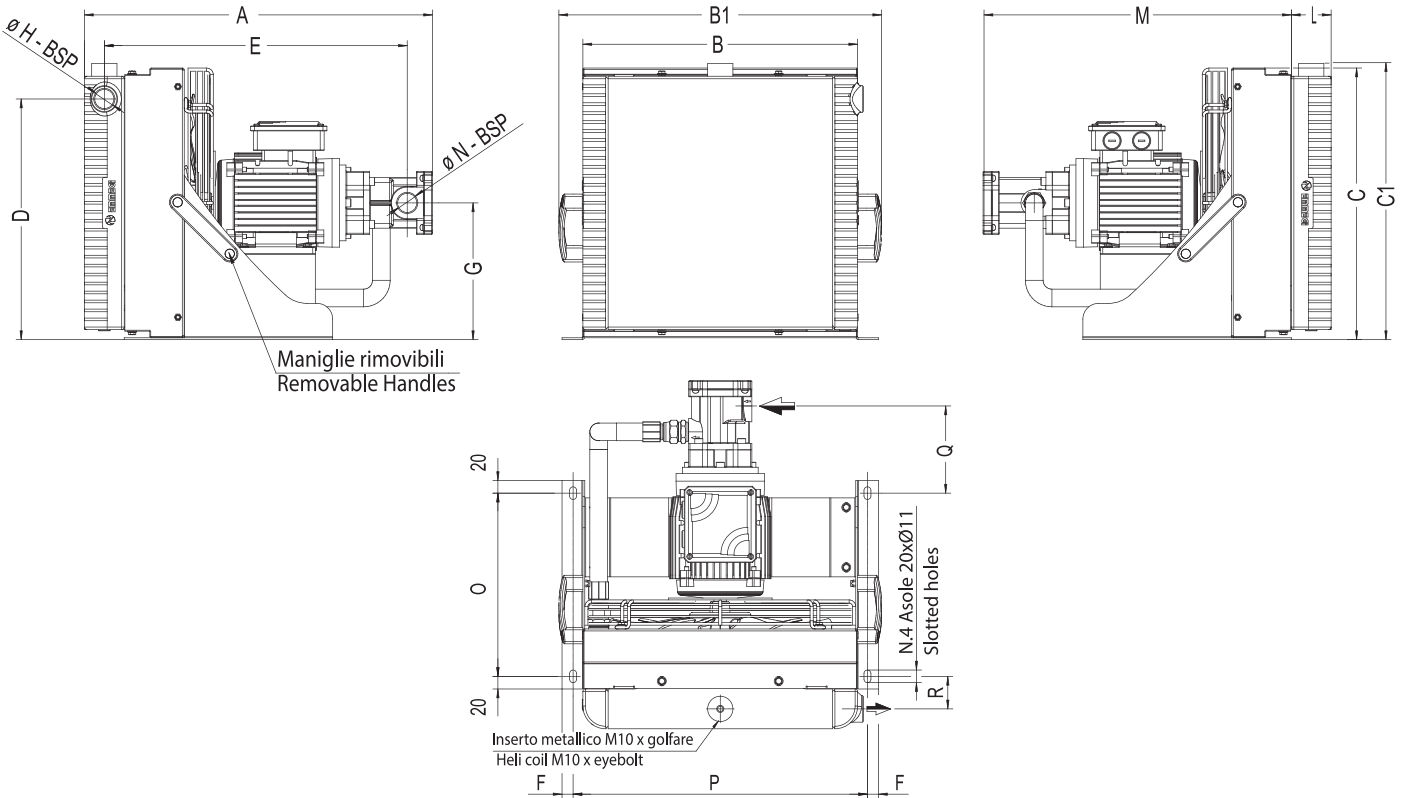


Serie Silent EVO 3

Silent EVO 3 Series

DATI TECNICI

TECHNICAL DATA



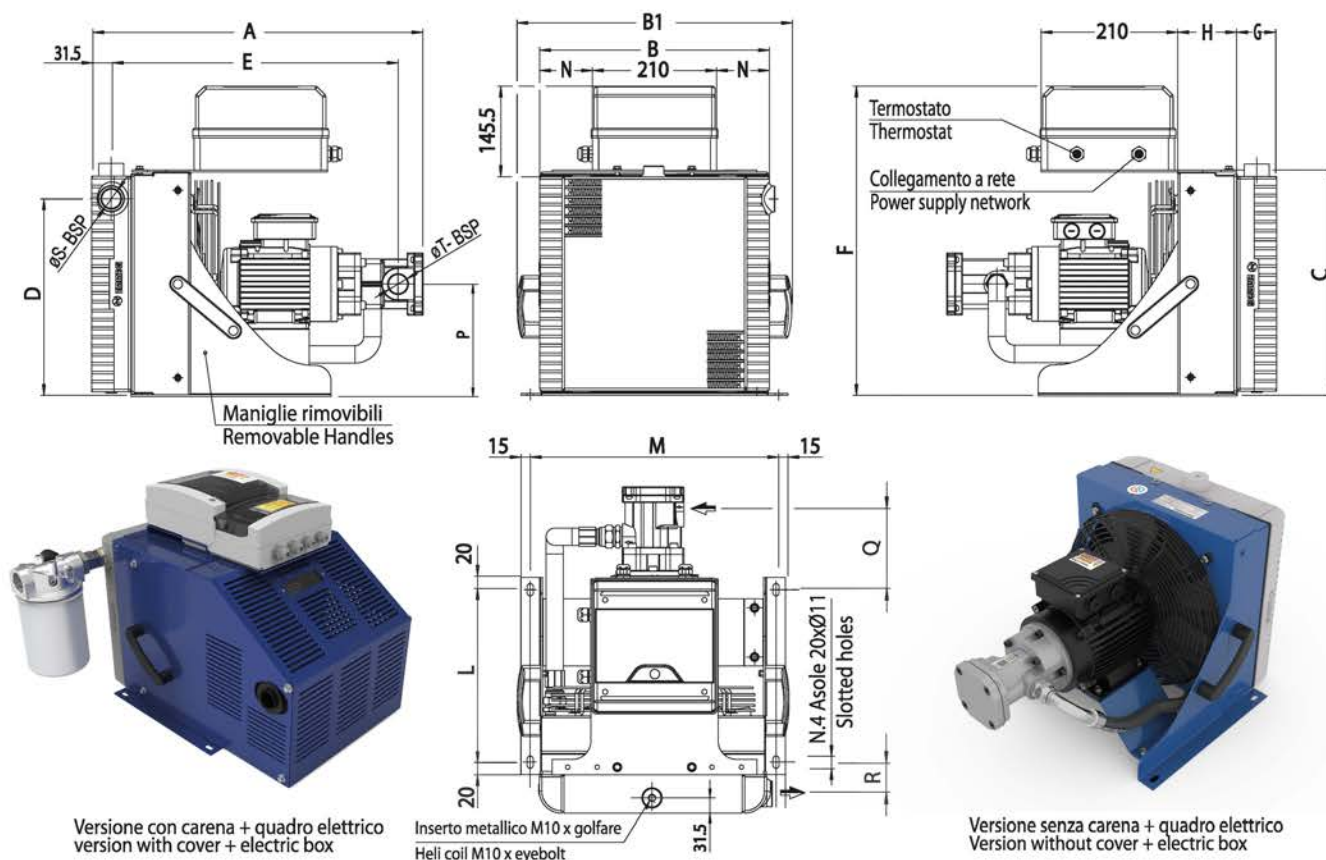
\* il livello di efficienza IE3 è riferito al funzionamento a 50Hz. EMMEGI S.p.A. garantisce il funzionamento in servizio S1 a 50Hz-60Hz.  
IE3 efficiency level refers to 50Hz only. EMMEGI S.p.A. guarantees SE3 series for S1 service at 50Hz-60Hz.

| SERIES | MODEL           | A   | B   | B1  | C   | C1  | D   | E   | F    | G   | H      | L   | M   | N      | O   | P   | Q    | R    |
|--------|-----------------|-----|-----|-----|-----|-----|-----|-----|------|-----|--------|-----|-----|--------|-----|-----|------|------|
| S3E    | SILENT EVO 3 15 | 509 | 312 | 396 | 312 | 330 | 274 | 425 | 14.5 | 172 | 1/2"   | 63  | 445 | 1/2"   | 280 | 347 | 93.5 | 51.5 |
|        | SILENT EVO 3 25 | 552 | 370 | 454 | 360 | 373 | 317 | 481 | 15   | 180 | 1"     | 63  | 489 | 1"     | 280 | 400 | 129  | 51.5 |
|        | SILENT EVO 3 35 | 551 | 435 | 519 | 430 | 437 | 381 | 480 | 17.5 | 217 | 1"     | 63  | 488 | 1"     | 290 | 466 | 138  | 51.5 |
|        | SILENT EVO 3 45 | 590 | 530 | 614 | 510 | 528 | 472 | 519 | 17   | 258 | 1"     | 63  | 527 | 1"     | 315 | 555 | 151  | 51.5 |
|        | SILENT EVO 3 55 | 646 | 655 | 739 | 609 | 627 | 570 | 575 | 12   | 305 | 1"     | 63  | 583 | 1"     | 380 | 695 | 183  | 51.5 |
|        | SILENT EVO 3 65 | 791 | 776 | 860 | 710 | 727 | 657 | 695 | 13   | 357 | 1.1/2" | 94  | 547 | 1.1/2" | 500 | 820 | 128  | 67   |
|        | SILENT EVO 3 75 | 810 | 876 | 960 | 810 | 827 | 757 | 704 | 13   | 407 | 1.1/2" | 113 | 679 | 1.1/2" | 500 | 920 | 128  | 76.5 |

| SERIES | Volt            | Volt    | Hz | Kw   | A (±10%)   | Oil flow (lpm) | Air flow ( m³/h) | Kg (max) | index of protection |
|--------|-----------------|---------|----|------|------------|----------------|------------------|----------|---------------------|
| S3E    | SILENT EVO 3 15 | 230-400 | 50 | 0.37 | 2.48 - 1   | 10             | 630              | 27       | IP 55               |
|        |                 | 208-230 | 60 | 0.44 | 2          | 12             | 780              |          |                     |
|        |                 | 460     | 60 | 0.44 | 1          | 12             | 780              |          |                     |
|        | SILENT EVO 3 25 | 230-400 | 50 | 0.75 | 3.4 - 2.0  | 40             | 1170             | 30       | IP 55               |
|        |                 | 265-460 | 60 | 0.90 | 3.4 - 2.0  | 48             | 1450             |          |                     |
|        | SILENT EVO 3 35 | 230-400 | 50 | 0.75 | 3.4 - 2.0  | 40             | 1750             | 32       | IP 55               |
|        |                 | 265-460 | 60 | 0.90 | 3.4 - 2.0  | 48             | 2150             |          |                     |
|        | SILENT EVO 3 45 | 230-400 | 50 | 1.15 | 4.5 - 2.6  | 40             | 3350             | 36       | IP 55               |
|        |                 | 265-460 | 60 | 1.30 | 4.5 - 2.6  | 48             | 4100             |          |                     |
|        | SILENT EVO 3 55 | 230-400 | 50 | 1.50 | 6.1 - 3.5  | 40             | 4300             | 51       | IP 55               |
|        |                 | 265-460 | 60 | 1.80 | 6.1 - 3.5  | 48             | 5150             |          |                     |
|        | SILENT EVO 3 65 | 230-400 | 50 | 4.00 | 14.3 - 8.3 | 80             | 8300             | 115      | IP 55               |
|        |                 | 265-460 | 60 | 4.80 | 14.3 - 8.3 | 96             | 10000            |          |                     |
|        | SILENT EVO 3 75 | 230-400 | 50 | 4.00 | 14.3 - 8.3 | 80             | 9000             | 125      | IP 55               |
|        |                 | 265-460 | 60 | 4.80 | 14.3 - 8.3 | 96             | 10800            |          |                     |



# DATI TECNICI TECHNICAL DATA



\* Il livello di efficienza IE3 è riferito al funzionamento a 50Hz. EMMEGI S.p.A. garantisce il funzionamento in servizio S1 a 50Hz-60Hz.  
 IE3 efficiency level refers to 50Hz only. EMMEGI S.p.A. guarantees SE3 series for S1 service at 50Hz-60Hz.

| SERIES | MODEL           | A   | B   | B1  | C   | D   | E   | F   | G   | H   | L   | M   | N   | P   | Q    | R    | S      | T      |
|--------|-----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|--------|--------|
| S3E    | SILENT EVO 3 15 | 509 | 312 | 396 | 315 | 274 | 425 | 420 | 63  | 95  | 280 | 347 | 66  | 172 | 93.5 | 51.5 | 1"     | 1/2"   |
|        | SILENT EVO 3 25 | 552 | 370 | 454 | 363 | 317 | 481 | 470 | 63  | 95  | 280 | 400 | 85  | 180 | 129  | 51.5 | 1"     | 1"     |
|        | SILENT EVO 3 35 | 551 | 435 | 519 | 433 | 381 | 480 | 540 | 63  | 94  | 290 | 466 | 118 | 217 | 138  | 51.5 | 1"     | 1"     |
|        | SILENT EVO 3 45 | 550 | 530 | 614 | 513 | 472 | 519 | 620 | 63  | 106 | 315 | 555 | 165 | 258 | 151  | 51.5 | 1"     | 1"     |
|        | SILENT EVO 3 55 | 646 | 655 | 739 | 702 | 570 | 575 | 720 | 63  | 150 | 380 | 695 | 228 | 305 | 183  | 51.5 | 1"     | 1"     |
|        | SILENT EVO 3 65 | 791 | 776 | 860 | 710 | 657 | 695 | 820 | 94  | 150 | 500 | 820 | 288 | 357 | 128  | 67   | 1.1/2" | 1.1/2" |
|        | SILENT EVO 3 75 | 810 | 876 | 960 | 810 | 757 | 704 | 920 | 113 | 150 | 500 | 920 | 338 | 407 | 128  | 76.5 | 1.1/2" | 1.1/2" |

| SERIES | MODEL           | Volt    | Hz | Kw   | A (±10%)   | Oil flow (lpm) | Air flow (m³/h) | Kg (max) | index of protection |
|--------|-----------------|---------|----|------|------------|----------------|-----------------|----------|---------------------|
| S3E    | SILENT EVO 3 15 | 230-400 | 50 | 0.37 | 2.48 - 1   | 10             | 630             | 27       | IP 55               |
|        |                 | 208-230 | 60 | 0.44 | 2          | 12             | 780             |          |                     |
|        |                 | 460     | 60 | 0.44 | 1          | 12             | 780             |          |                     |
|        | SILENT EVO 3 25 | 230-400 | 50 | 0.75 | 3.4 - 2.0  | 40             | 1170            | 30       | IP 55               |
|        |                 | 265-460 | 60 | 0.90 | 3.4 - 2.0  | 48             | 1450            |          |                     |
|        | SILENT EVO 3 35 | 230-400 | 50 | 0.75 | 3.4 - 2.0  | 40             | 1750            | 32       | IP 55               |
|        |                 | 265-460 | 60 | 0.90 | 3.4 - 2.0  | 48             | 2150            |          |                     |
|        | SILENT EVO 3 45 | 230-400 | 50 | 1.15 | 4.5 - 2.6  | 40             | 3350            | 36       | IP 55               |
|        |                 | 265-460 | 60 | 1.30 | 4.5 - 2.6  | 48             | 4100            |          |                     |
|        | SILENT EVO 3 55 | 230-400 | 50 | 1.50 | 6.1 - 3.5  | 40             | 4300            | 51       | IP 55               |
|        |                 | 265-460 | 60 | 1.80 | 6.1 - 3.5  | 48             | 5150            |          |                     |
|        | SILENT EVO 3 65 | 230-400 | 50 | 4.00 | 14.3 - 8.3 | 80             | 8300            | 115      | IP 55               |
|        |                 | 265-460 | 60 | 4.80 | 14.3 - 8.3 | 96             | 10000           |          |                     |
|        | SILENT EVO 3 75 | 230-400 | 50 | 4.00 | 14.3 - 8.3 | 80             | 9000            | 125      | IP 55               |
|        |                 | 265-460 | 60 | 4.80 | 14.3 - 8.3 | 96             | 10800           |          |                     |

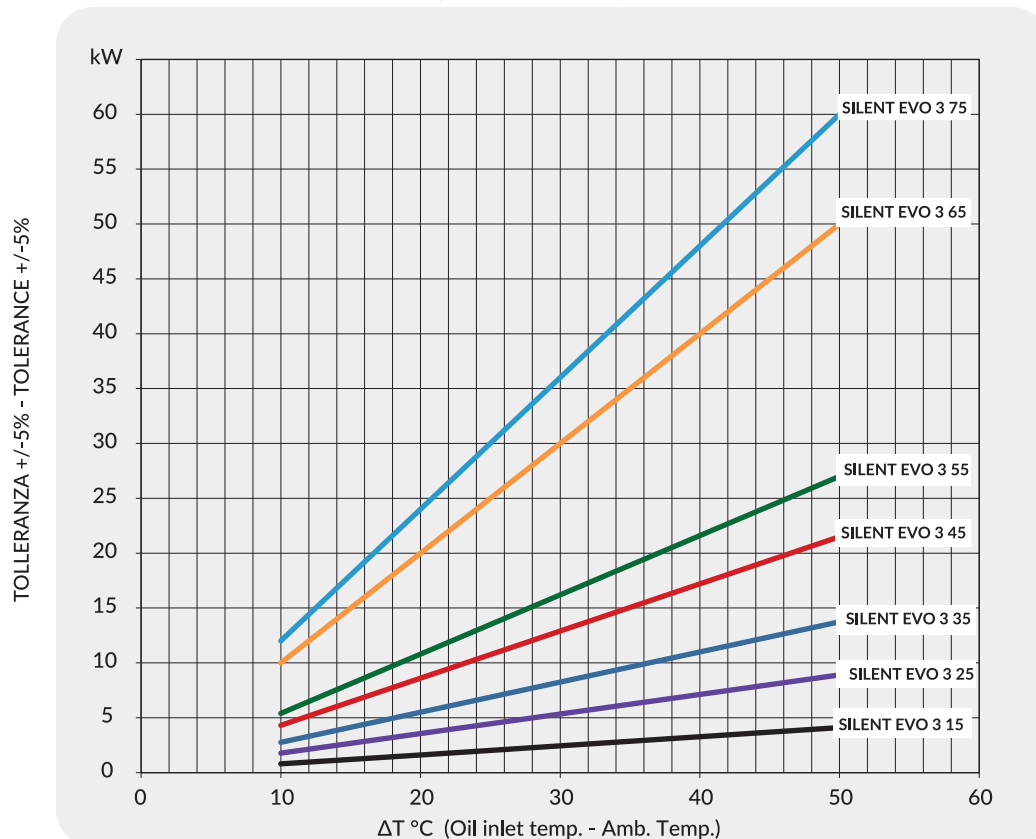


## Serie Silent EVO 3

Silent EVO 3 series

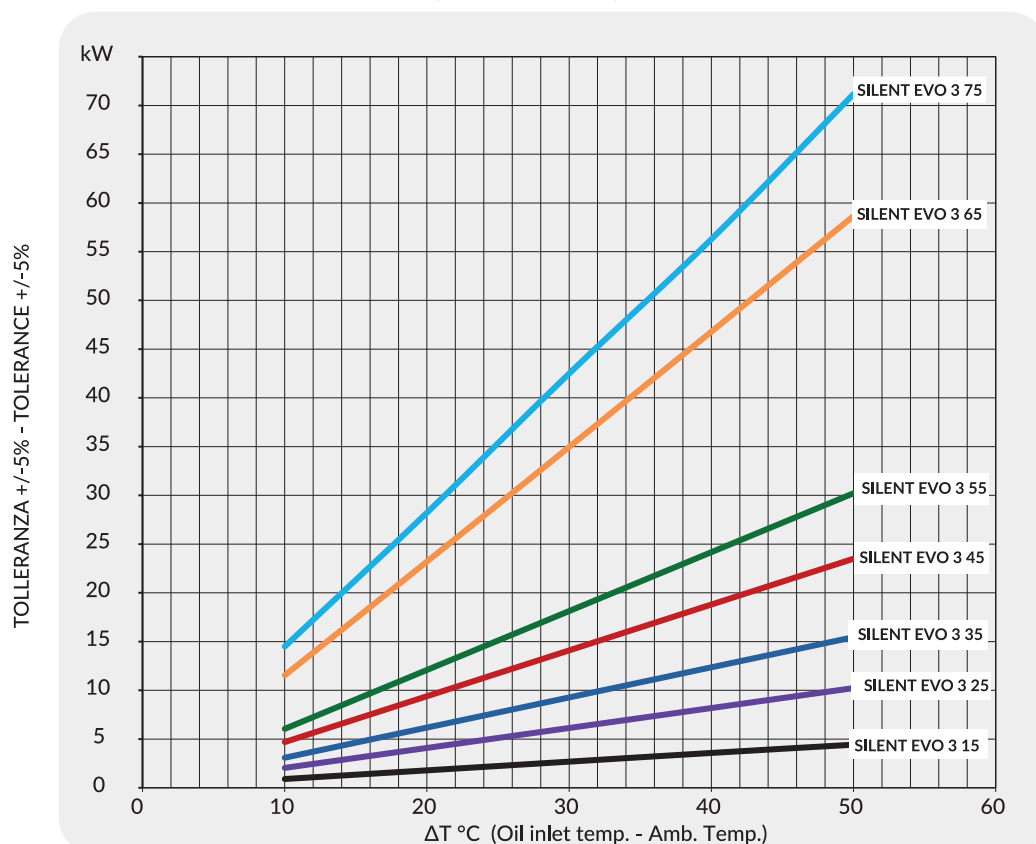
### DIAGRAMMA RENDIMENTO 50Hz (ISO VG 46)

#### PERFORMANCE DIAGRAM 50Hz (ISO VG 46)



### DIAGRAMMA RENDIMENTO 60Hz (ISO VG 46)

#### PERFORMANCE DIAGRAM 60Hz (ISO VG 46)





## LIVELLO RUMOROSITA' db (A)

### NOISE LEVEL db (A)

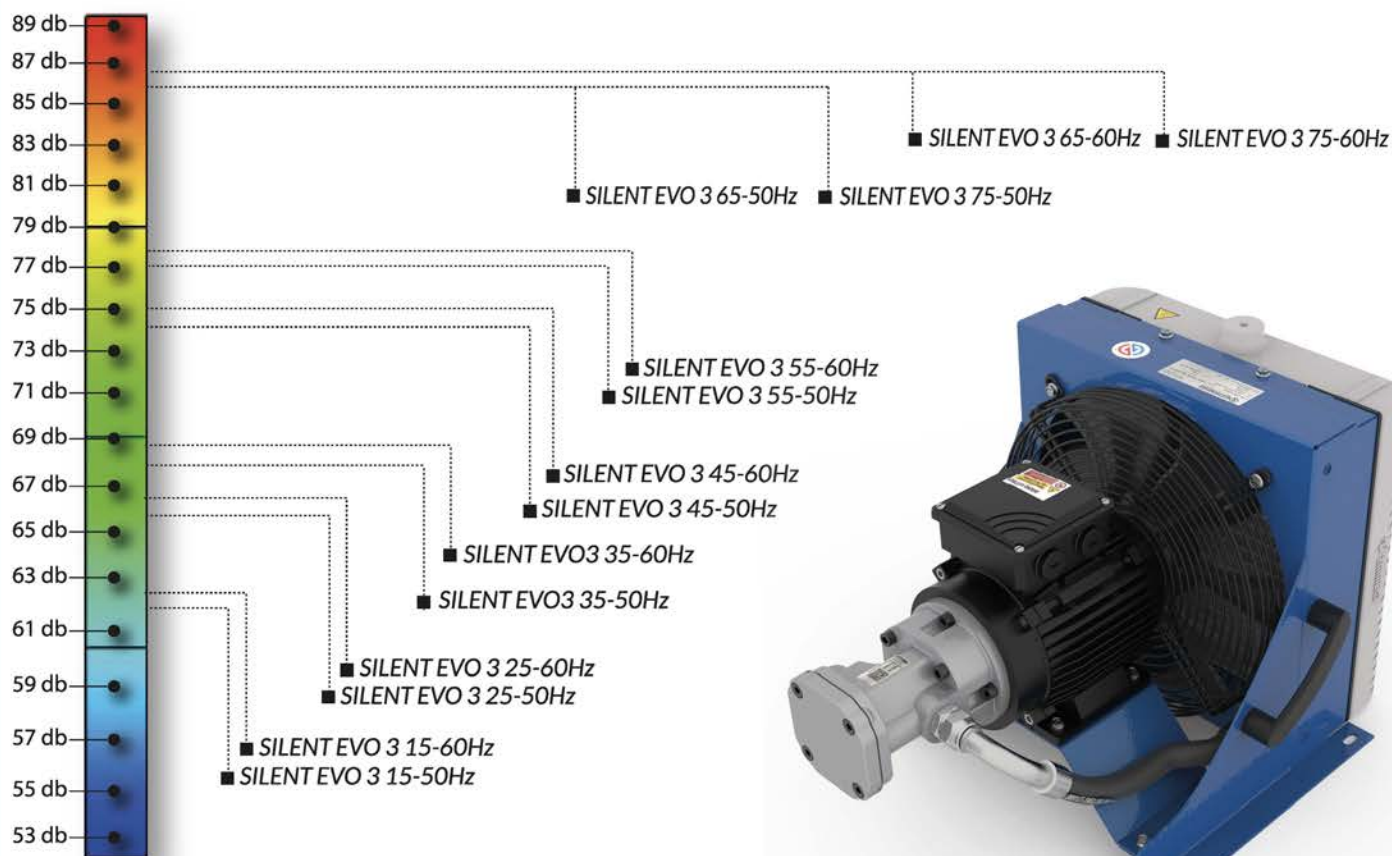


fig. 08

Pressione sonora misurata in camera anecoica, a 1 mt dallo scambiatore.  
L'ambiente circostante può influire sui valori riscontrati.

Sound pressure levels measured in an anechoic chamber 1mt  
from the cooler unit.

- Alla ricerca di un continuo miglioramento del prodotto, EMMEGI S.p.A. si riserva il diritto di approntare modifiche ai dati e alle caratteristiche illustrate nel catalogo.
- As EMMEGI S.p.A. are always investigating methods of improving products and introducing new technology, we reserve the right to modify without notice the data features shown in this catalogue.
- La riproduzione, anche parziale, del presente catalogo è vietata ai termini di legge.
- The reproduction, even partial of this catalogue is forbidden by law.
- Questo catalogo sostituisce tutti i precedenti.
- This catalogue replace all the previous one.







Gruppi autonomi di raffreddamento  
Serie RID  
Offline cooling units  
RID Series



## DESCRIZIONE

Per il settore dei riduttori EMMEGI ha realizzato una apposita unità ausiliaria di raffreddamento e filtrazione RID, composta da scambiatore di calore aria/olio, gruppo motore elettrico, ventola e pompa idraulica (vite per RID55/56 ad ingranaggi per gli altri modelli).

Può essere dotato di quadro elettrico di potenza con termostato per l'avviamento della pompa; termostato di allarme per raggiunta sovratemperatura; pressostato per il controllo della pressione nella cassa ingranaggi filtro SPIN/ON.

Il gruppo autonomo RID può essere utilizzato per raffreddare. altre tipologie di circuito su impianti stazionari.

## DESCRIPTION

EMMEGI has designed a cooling system unit with filter, called RID intended for the planetary reduction gear market.

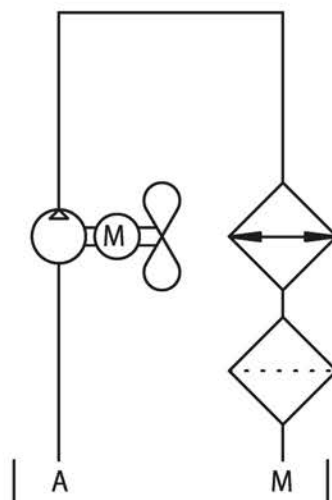
The RID consists of an high efficiency air/oil heat exchanger an electric motor, a hydraulic pump (screw for RID55/56 and gears for other models).

It can be supplied with:

- a power electric box with a thermostat to turn on and off the pump;
- alarm thermostat for over temperature;
- control pressure switch (to be applied to the reduction gear box);
- SPIN/ON filter.

The RID cooling system unit can be employed to cool different types of stationary system circuits as well.

## SCHEMA IDRAULICO HYDRAULIC CIRCUIT





## APPLICAZIONE

### APPLICATION

Grazie all'ampia gamma di combinazioni, gli scambiatori della serie RID si prestano come la soluzione di raffreddamento ottimale per applicazioni industriali quali:

The wide range of combinations makes the RID heat exchangers series the optimal cooling solution for industrial applications such as:

Impianti di riciclo.  
Impianti oleodinamici.  
Macchine utensili.  
Riduttori.

Recycling plants.  
Hydraulic systems.  
Machine tools.  
Gear boxes.





## FLUIDI COMPATIBILI:

OLI MINERALI, HL HLP  
PER L' UTILIZZO CON FLUIDI DIVERSI DALL' OLIO  
MINERALE CONSULTARE EMMEGI

## SPECIFICHE TECNICHE

PRESSIONE DI ESERCIZIO: 6 bar  
TEMPERATURA MINIMA FLUIDO: 20°C  
TEMPERATURA MAX FLUIDO: +93°C  
CAMPO DI VISCOSITA':  
min max  
20 cst 320 CST  
TEMPERATURA DI STOCCAGGIO: -10°C – 60°C

## INSTALLAZIONE

E' buona norma collegare i gruppi autonomi RID alle unità da raffreddare mediante tubi flessibili. Nel locale in cui il gruppo autonomo RID funziona, è necessario garantire un ricambio d'aria sufficiente per non pregiudicare la resa termica dello scambiatore.

Il gruppo deve essere installato in modo che, il flusso d'aria non sia ostacolato da pareti troppo vicine al pacco radiante.

E' indispensabile che i tubi d'aspirazione e mandata, siano di diametro uguale o superiore a quello del raccordo esistente sul gruppo; in caso contrario si possono verificare fenomeni di cavitazione che causano rumorosità elevata e possibile rottura della pompa.

PRESSIONE ASPIRAZIONE MIN = 0.7 bar  
MAX= 3 bar

All'atto della messa in marcia è indispensabile controllare che il motore elettrico, ruoti nel senso indicato dalla freccia.

Il gruppo autonomo deve essere messo in funzione a una temperatura del fluido superiore a 20°C.

Il motore elettrico ha un grado di protezione IP55 e una classe di isolamento F.

I RID 55 e 56 sono dotati di protezione termica che dovrà essere collegata al quadro elettrico.

Gli altri modelli sono dotati di valvola di by-pass inserita nella pompa.

E' richiesto il pre-riempimento dei tubi quando lo scambiatore non e' sotto battente.

## COMPATIBLE FLUIDS:

MINERAL OILS, HL HLP  
FOR OTHER FLUIDS CONTACT EMMEGI

## TECHNICAL SPECIFICATIONS

WORKING PRESSURE: 6 bar.  
MINIMUM FLUID TEMPERATURE: 20°C  
MAXIMUM FLUID TEMPERATURE: +93°C  
VISCOSITY RANGE:  
min max  
20 cst 320 CST  
STORAGE TEMPERATURE: -10°C – 60°C

## INSTALLATION

The RID off line cooling systems must be connected to the tank by means of flexible tubing. In the normal functioning of this area, where the RID functions, there must be sufficient air circulation to prevent that the air becomes reheated and thereby interfering with the process of thermal exchange in the heat exchanger.

The RID should be installed in such a way that the flow of air will not be obstructed in either in/out conduits of the exchanger body.

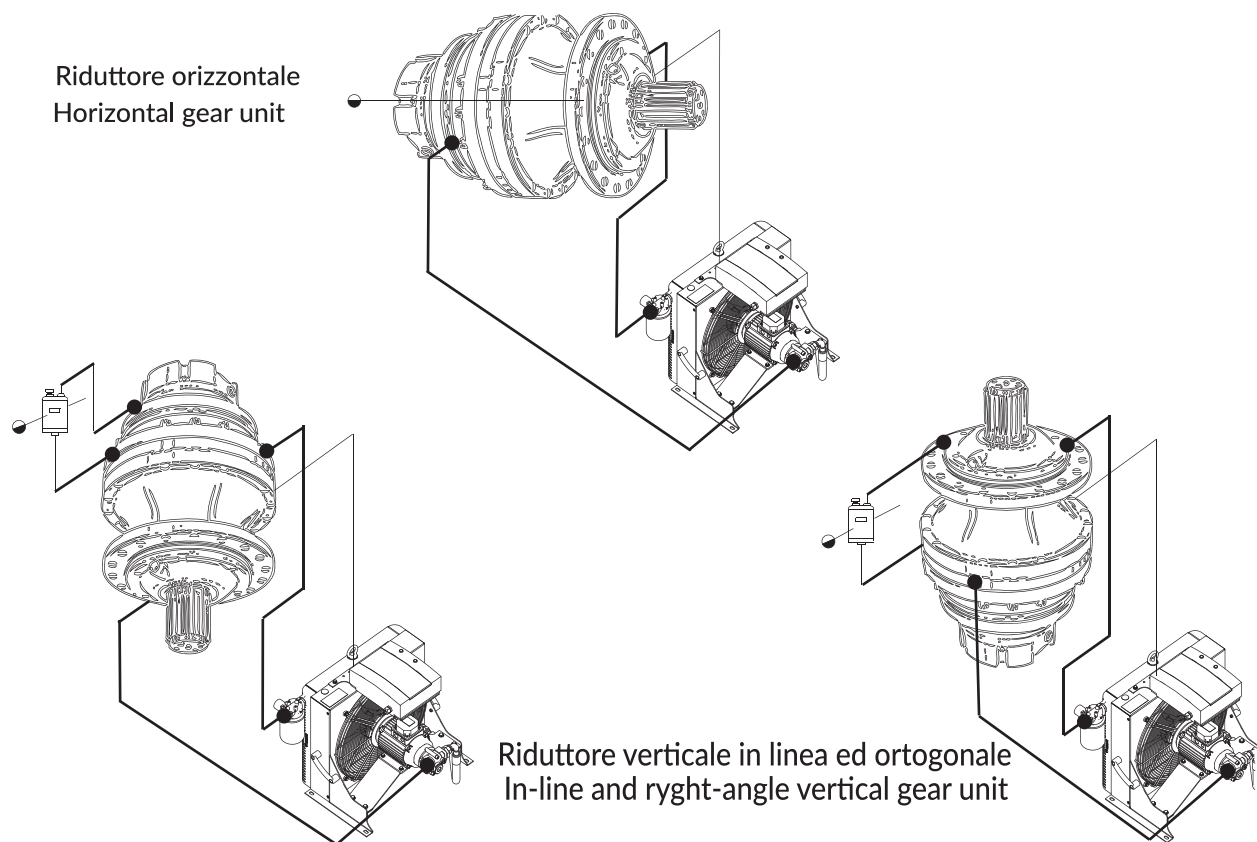
It is essential that the in - and out-let tubes are of a dimension equal to or greater than those in the existing system, to avoid cavitation which is very noisy and might cause vibration and thus fracture the pump.

SUCTION PRESSURE MIN = 0.7 bar  
MAX= 3 bar

To start up, it is imperative to control that the electric motor, operated in the direction indicated like the arrow. The start up of the unit has to take place when the oil temperature is higher than 20°C.

The electrical motors type asynchronous is three phase with class F winding and protection index IP55. RID 55 and 56 has got a thermal protection and must be connected to electrical box. Other models have got integrated by-pass valve in the pump.

We would recommend to full-fill the hoses when the unit is installed higher than the tank level.



## MANUTENZIONE

### PULIZIA LATO ARIA:

Può essere effettuata mediante aria compressa o acqua, con la direzione del getto parallelo alle alette.

Una pulizia più energica si ottiene con l'aggiunta di un prodotto detergente.

Se l'accumulo di sporco è causato da olio o da grasso, la pulizia potrà essere fatta con un getto di vapore o di acqua calda, facendo sempre attenzione alla direzione del getto.

Durante le operazioni di pulizia, il motore elettrico dovrà essere disinserito e convenientemente protetto.

### PULIZIA LATO OLIO:

Per compiere questo tipo di pulizia, lo scambiatore deve essere smontato e flussato in controcorrente con percloretilene per un periodo che va dai 10 min. ai 20 min.

Procedere quindi allo svuotamento del circuito interno con aria compressa, prestando attenzione che la pressione non superi la massima ammessa dallo scambiatore.

Effettuare un prelavaggio interno prima di collegarlo all'impianto.

## MAINTENANCE

### AIR SIDE CLEANING

Can be done through means of compressed air or water, with the direction of the jet moving parallel to the channels.

More thorough cleaning can be carried out using detergent.

If the accumulations of dirt is caused by oil or grease, then it can be carried out with a jet of steam or hot water, always paying attention to the direction of the jet.

During the cleaning operation, the electric motor must be disconnected and properly protected.

### OIL SIDE CLEANING

To carry out this type of cleaning, the heat exchanger must be dismantled and flushed out with a counter-current of perchloride for a period of 10/20 minutes.

Then flush out the system with compressed air, paying particular attention to the pressure not more than the maximum allowed for the heat exchanger.

We suggest to do a internal pre-washing before connecting to the system.



## Serie RID

### RID Series

## DENOMINAZIONE CODICE PRODOTTO

### ORDERING CODE

#### MODELLO - MODEL

15  
25  
45  
55  
56

RID

25

CQ

400

B

2

1

#### QUADRO ELETTRICO - ELECTRIC BOX

QUADRO ELETTRICO - WITH ELECTRIC BOX (CQ)

SENZA QUADRO ELETTRICO-WITHOUT ELECTRIC BOX (SQ)

#### TENSIONE - VOLTAGE

400V 50Hz or 460V 60Hz (400)

(For RID55 only 400V 50Hz - For RID56 460V 60Hz)

TENSIONE SPECIALE - SPECIAL VOLTAGE (SPECIFIC VOLTAGE)

#### FREQUENZA - FREQUENCY

PER TENSIONI STD - FOR STD VOLTAGE (B)

PER TENSIONI SPECIALI - FOR SPECIAL VOLTAGE 50Hz (5)

PER TENSIONI SPECIALI - FOR SPECIAL VOLTAGE 60Hz (6)

#### FILTRO - FILTER

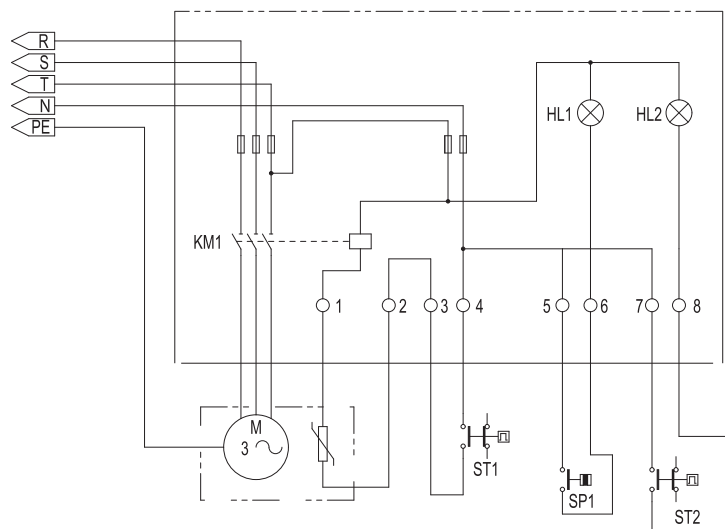
10  $\mu$  (1)

SENZA FILTRO - WITHOUT FILTER (0)

25  $\mu$  (2)

60  $\mu$  (3)

## COLLEGAMENTO ELETTRICO - ELECTRIC WIRING



#### MORSETTIERA

1-2= TERMICA MOTORE

3-4= TERMOSTATO PARTENZA VENTOLA E POMPA

5-6= PRESSOSTATO

7-8= TERMOSTATO SOVRATEMPERATURA

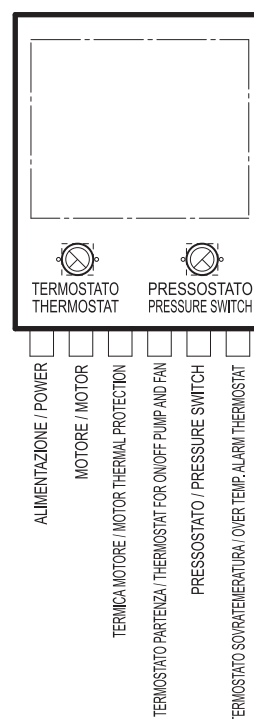
#### TERMINAL BLOCK

1-2= MOTOR THERMAL PROTECTION

3-4= THERMOSTAT FOR ON / OFF PUMP AND FAN

5-6= PRESSURE SWITCH

7-8= OVER TEMP. ALARM THERMOSTAT



TERMOSTATO  
THERMOSTAT

PRESSOSTATO  
PRESSURE SWITCH

ALIMENTAZIONE / POWER

MOTORE / MOTOR

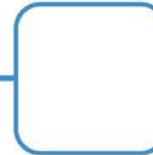
TERMICA MOTORE / MOTOR THERMAL PROTECTION

TERMOSTATO PARTENZA / THERMOSTAT FOR ON/OFF PUMP AND FAN

PRESSOSTATO / PRESSURE SWITCH

TERMOSTATO SOVRATEMPERATURA / OVER TEMP. ALARM THERMOSTAT





## Serie RID - RID SERIES

RID 15  
RID 25  
RID 45  
RID 55  
RID 56



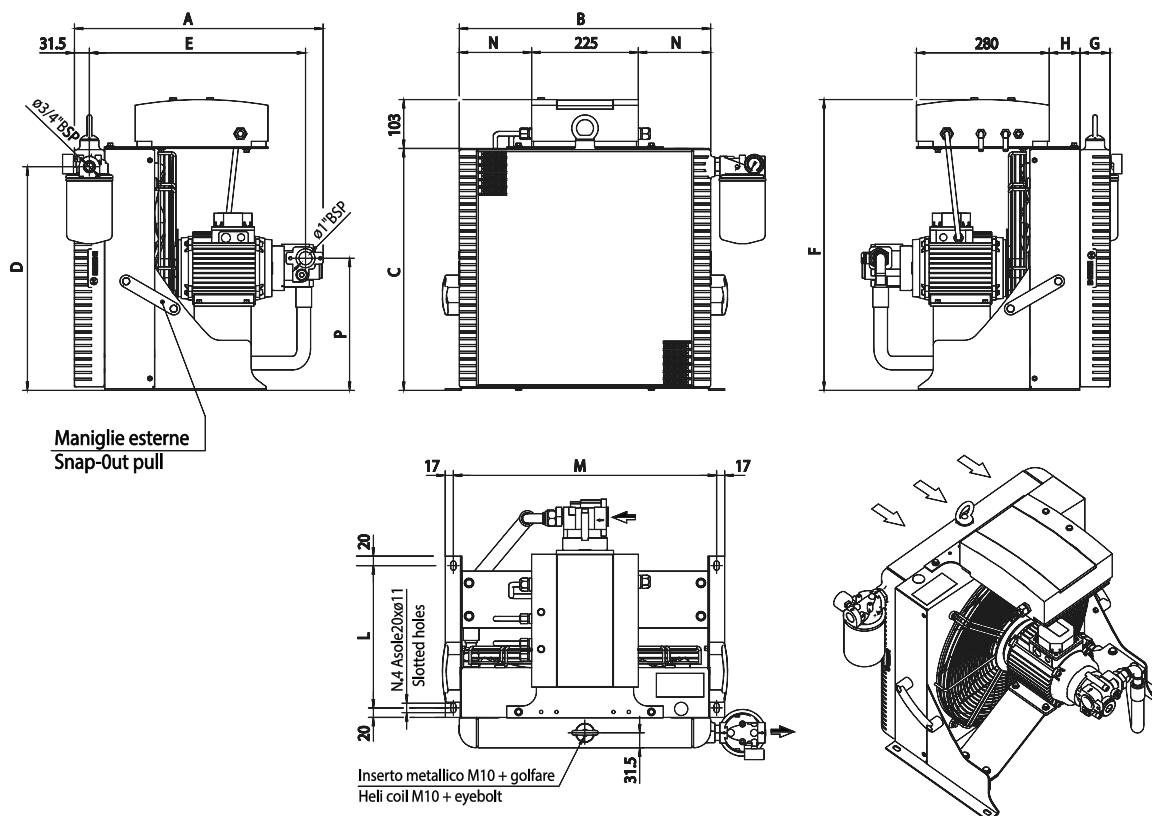


## Series RID

### RID Series

## DATI TECNICI

## TECHNICAL DATA



La versione con quadro elettrico è comprensiva di :

- Termostato fisso IP65 - TM46/A1 60-48°C
- Termostato fisso IP65 - TM49/A1 90-78°C
- N°4 Antivibranti Ø 30 L=20mm. M8
- 5 Metri di cavo

With electric box version the supply includes :

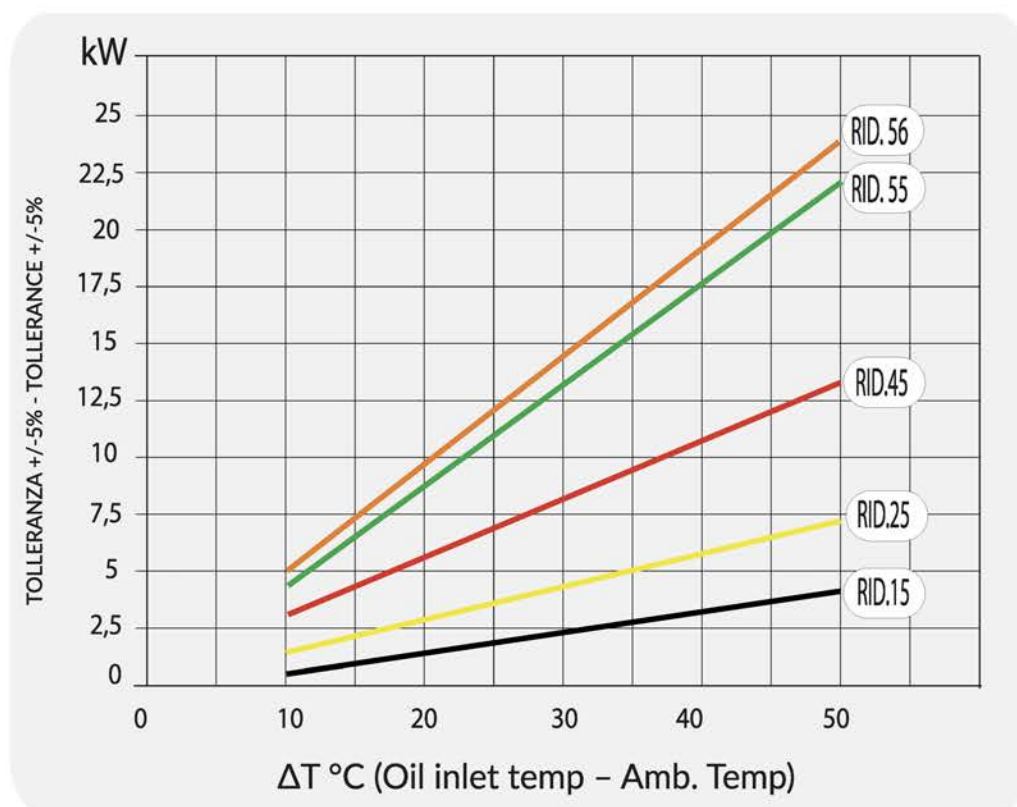
- Thermostat integrated IP65 - TM46/A1 60-48°C
- Thermostat integrated IP65 - TM49/A1 90-78°C
- N°4 Anti-vibration Ø 30 L=20mm. M8
- 5 Mt. cable

| TYPE   | A   | B   | C   | D     | E     | F   | G  | H    | L   | M   | N     | P     |
|--------|-----|-----|-----|-------|-------|-----|----|------|-----|-----|-------|-------|
| RID 15 | 512 | 310 | 312 | 273.5 | 442.5 | 415 | 63 | 35.5 | 280 | 347 | 42.5  | 179.5 |
| RID 25 | 515 | 370 | 360 | 316.5 | 446.5 | 503 | 63 | 55   | 280 | 400 | 55    | 201   |
| RID 45 | 524 | 530 | 510 | 471.5 | 456   | 611 | 63 | 65   | 300 | 555 | 152.2 | 278.5 |
| RID 55 | 632 | 650 | 609 | 570.5 | 560.5 | 712 | 63 | 65   | 380 | 695 | 211   | 305   |
| RID 56 | 688 | 650 | 609 | 570.5 | 617   | 712 | 63 | 65   | 380 | 695 | 211   | 305   |

Per tensioni speciali contattare EMMEGI - For special voltage contact EMMEGI

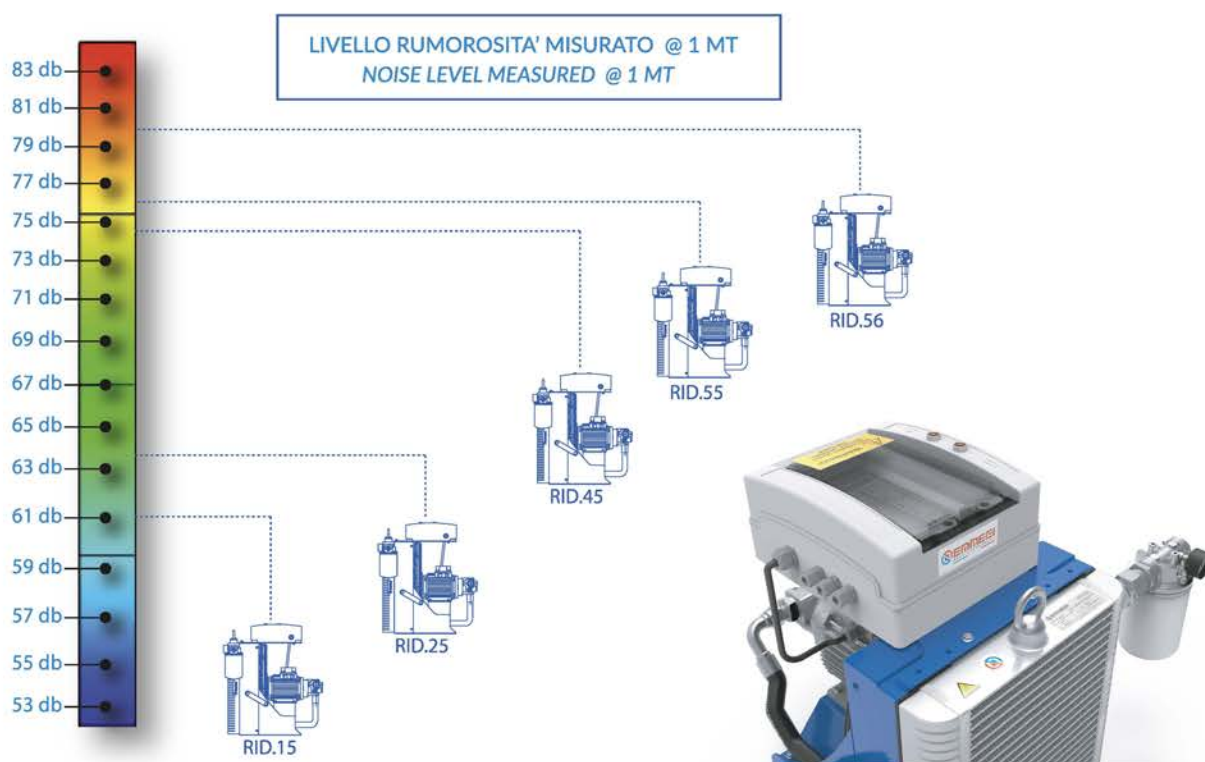
| TYPE   | V                         | kW         | A         | Oil Flow (lpm) | Air Flow (m <sup>3</sup> /h) | Kg (max) | Index of protection |
|--------|---------------------------|------------|-----------|----------------|------------------------------|----------|---------------------|
| RID 15 | 400 V 50 Hz / 460 V 60 Hz | 0.95 / 1.1 | 2.1 / 2.0 | 10             | 700                          | 28       | IP 55               |
| RID 25 | 400 V 50 Hz / 460 V 60 Hz | 0.95 / 1.1 | 2.1 / 2.0 | 10             | 1630                         | 30       | IP 55               |
| RID 45 | 400 V 50 Hz / 460 V 60 Hz | 0.95 / 1.1 | 2.1 / 2.0 | 10             | 4100                         | 47       | IP 55               |
| RID 55 | 400V 50 Hz                | 1.1        | 3.6       | 23             | 6048                         | 57       | IP 55               |
| RID 56 | 460V 60Hz                 | 2.2        | 609       | 28             | 7250                         | 68       | IP 55               |

## DIAGRAMMA RENDIMENTO ISO VG 46) PERFORMANCE DIAGRAM (ISO VG 46)



## LIVELLO RUMORE db (A)

## NOISE LEVEL db (A)







Serie DCO  
DCO Series





## Serie DCO

### DCO Series

## DESCRIZIONE

Le nuove esigenze di contenimento energetico sui veicoli industriali di nuova generazione, aventi impianti sempre più complessi ed efficienti, impongono soluzioni dedicate, allo scopo di aumentarne le performance ed i rendimenti.

Il DCO rappresenta la soluzione per queste nuove esigenze, massimizzando le prestazioni e contendendo gli ingombri, grazie alla sua semplicità d'installazione.

La serie DCO, prevede un innovativo gruppo autonomo di pompaggio e ventilazione, attivato da un motore in corrente continua che permette installazioni in remoto e disaccoppiate rispetto all'impianto principale.

I vantaggi principali sono:

- Prodotto di facile installazione.
- Ingombri contenuti.
- Adatto per retrofit.
- Gestione autonoma del raffreddamento olio.

I gruppi sono disponibili sia a 12V che a 24V DC, e possono essere connessi all'impianto preesistente azionandoli a mezzo termostato o tramite dispositivi elettronici di regolazione azionamento (SSC).

## DESCRIPTION

The new energy containment needs on new generation industrial vehicles, with increasingly complex and efficient systems, require dedicated solutions, with the aim of increasing their performance and yields.

The DCO represents the solution for these new needs, maximizing performance and competing for space, thanks to its simplicity of installation.

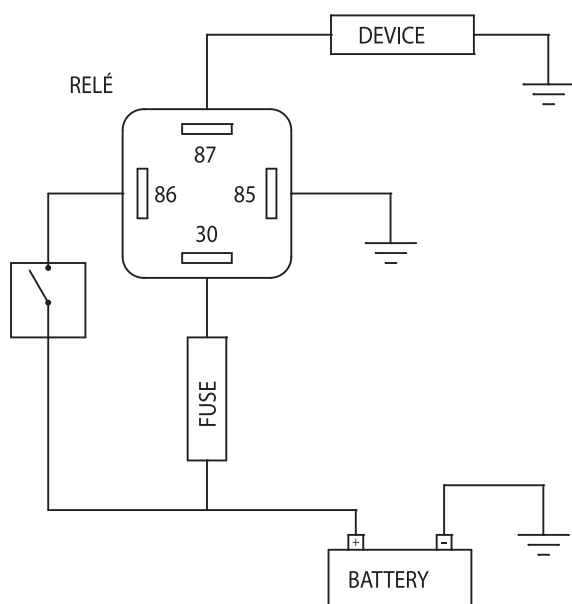
The DCO series provides an innovative autonomous pumping and ventilation unit, powered by a direct current motor, which allows remote and decoupled installations from the main system. The main advantages are:

- Plug and play install product.
- Compact dimensions.
- Suitability for retrofitting.
- Autonomous management of oil cooling.

The groups are available at both 12V and 24V DC, and can be connected to the existing system by a thermostat or by electronic control devices (SSC).

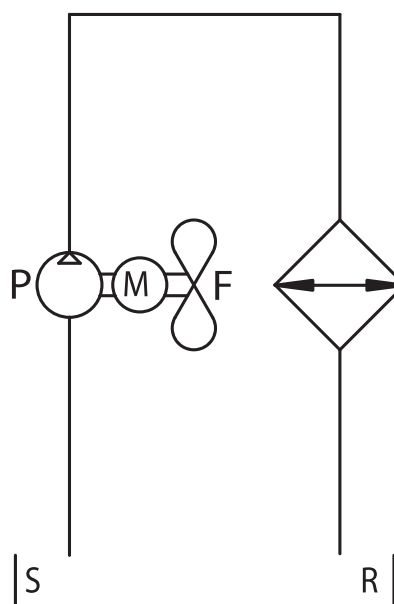
## SCHEMA ELETTRICO

### WIRING DIAGRAM



## SCHEMA IDRAULICO

### HYDRAULIC CIRCUIT





## APPLICAZIONE

### APPLICATION

La serie DCO completa la gamma di unità di raffreddamento di ricircolo per tutte le installazioni dove non è previsto uno scambiatore sulla linea ottimale per applicazioni mobili quali:

The DCO series completes the range of recirculation cooling units for all installations where there is no exchanger on the line; optimal for mobile applications such as:

Veicoli industriali.  
Veicoli ibridi.  
Per altro contattateci.

Industrial vehicles  
Hybrid vehicles.  
Contact us for others.





## FLUIDI COMPATIBILI:

OLI MINERALI, HL, HLP. Deve essere sempre garantita la compatibilità.

con i materiali costruttivi utilizzati:

- LEGA DI ALLUMINIO (MASSA RADIANTE)
- ACCIAIO ZINCATO (RACCORDERIA)
- GOMMA NITRILICA (GUARNIZIONI NBR)

In caso di fluidi differenti si consiglia di contattare EMMEGI per la verifica di compatibilità, fornendo informazioni dettagliate riguardo le specifiche del fluido.

## COMPATIBLE FLUIDS:

MINERAL OILS, HL, HLP Compatibility with following material must be always confirmed:

- ALUMINIUM ALLOY (COOLING CORE)
- GALVANIZED STEEL (FITTINGS)
- NITRILE RUBBER (NBR SEALINGS)

DCO series may be compatible with other fluid types.

Please contact EMMEGI to discuss your individual requirements

## SPECIFICHE TECNICHE

PRESSIONE DI ESERCIZIO: 6 barG

TEMPERATURA DEL FLUIDO -10°C +80°C

CAMPO DI VISCOSITA' CONSIGLIATO: 10 cSt – 100 cSt

TEMPERATURA DI STOCCAGGIO: -10°C +60°C

In caso di esigenze diverse da quanto indicato contattare EMMEGI S.p.A.

## TECHNICAL SPECIFICATIONS

WORKING PRESSURE: 6 barG

FLUID TEMPERATURE: -10°C +80°C

SUGGESTED VISCOSITY: 10 cSt – 100 cSt

STORAGE TEMPERATURE: -10°C +60°C

In case of requirements other than indicated, please contact EMMEGI S.p.A.

## INSTALLAZIONE

Il DCO deve essere collegato direttamente al serbatoio, in prossimità dello stesso.

La filtrazione dell'olio è sempre raccomandata, in modo da evitare danneggiamenti al gruppo motopompa e/o intasamenti alla massa radiante.

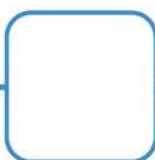
Il filtro è disponibile a richiesta e integrabile sul prodotto stesso.

## INSTALLATION

The DCO must be connected directly to the tank, near it.

Oil filtration is always recommended, in order to avoid damage to the motor pump unit and / or blockages to the radiant mass.

The filter is available on request and can be integrated on board of the product.



## SERIE DCO - DCO Series

DCO 25

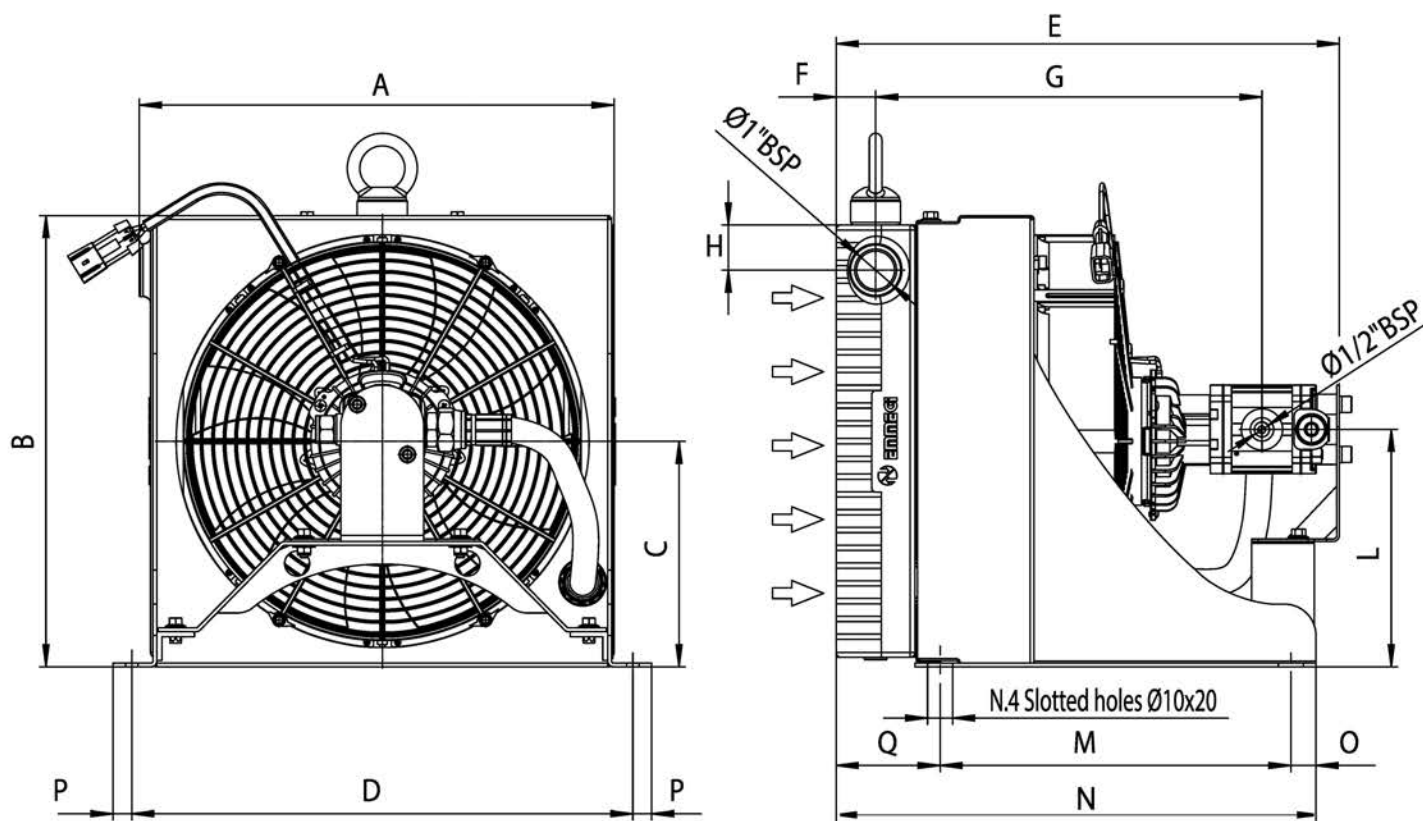
DCO 45





# Serie DCO

## DCO Series



Le dimensioni di ingombro e le caratteristiche tecniche non sono impegnative  
Overall dimensions and technical characteristic are not binding

| Modello<br>Model | Codice<br>Code | A   | B   | C     | D   | E     | F    | G     | H  | L     | M   | N   | O  | P  | Q  |
|------------------|----------------|-----|-----|-------|-----|-------|------|-------|----|-------|-----|-----|----|----|----|
| DCO25            | DCO250512T0F0  | 379 | 360 | 180   | 400 | 402   | 31.5 | 308.5 | 36 | 189.5 | 280 | 383 | 20 | 15 | 83 |
| DCO25            | DCO250524T0F0  | 379 | 360 | 180   | 400 | 402   | 31.5 | 308.5 | 36 | 189.5 | 280 | 383 | 20 | 15 | 83 |
| DCO25            | DCO251012T0F0  | 379 | 360 | 180   | 400 | 402   | 31.5 | 308.5 | 36 | 189.5 | 280 | 383 | 20 | 15 | 83 |
| DCO25            | DCO251024T0F0  | 379 | 360 | 180   | 400 | 402   | 31.5 | 308.5 | 36 | 189.5 | 280 | 383 | 20 | 15 | 83 |
| DCO45            | DCO450512T0F0  | 540 | 510 | 257.5 | 555 | 407.5 | 33.5 | 315.5 | 38 | 266.5 | 300 | 441 | 55 | 17 | 86 |
| DCO45            | DCO450524T0F0  | 540 | 510 | 257.5 | 555 | 407.5 | 33.5 | 315.5 | 38 | 266.5 | 300 | 441 | 55 | 17 | 86 |
| DCO45            | DCO451012T0F0  | 540 | 510 | 257.5 | 555 | 407.5 | 33.5 | 315.5 | 38 | 266.5 | 300 | 441 | 55 | 17 | 86 |
| DCO45            | DCO451024T0F0  | 540 | 510 | 257.5 | 555 | 407.5 | 33.5 | 315.5 | 38 | 266.5 | 300 | 441 | 55 | 17 | 86 |



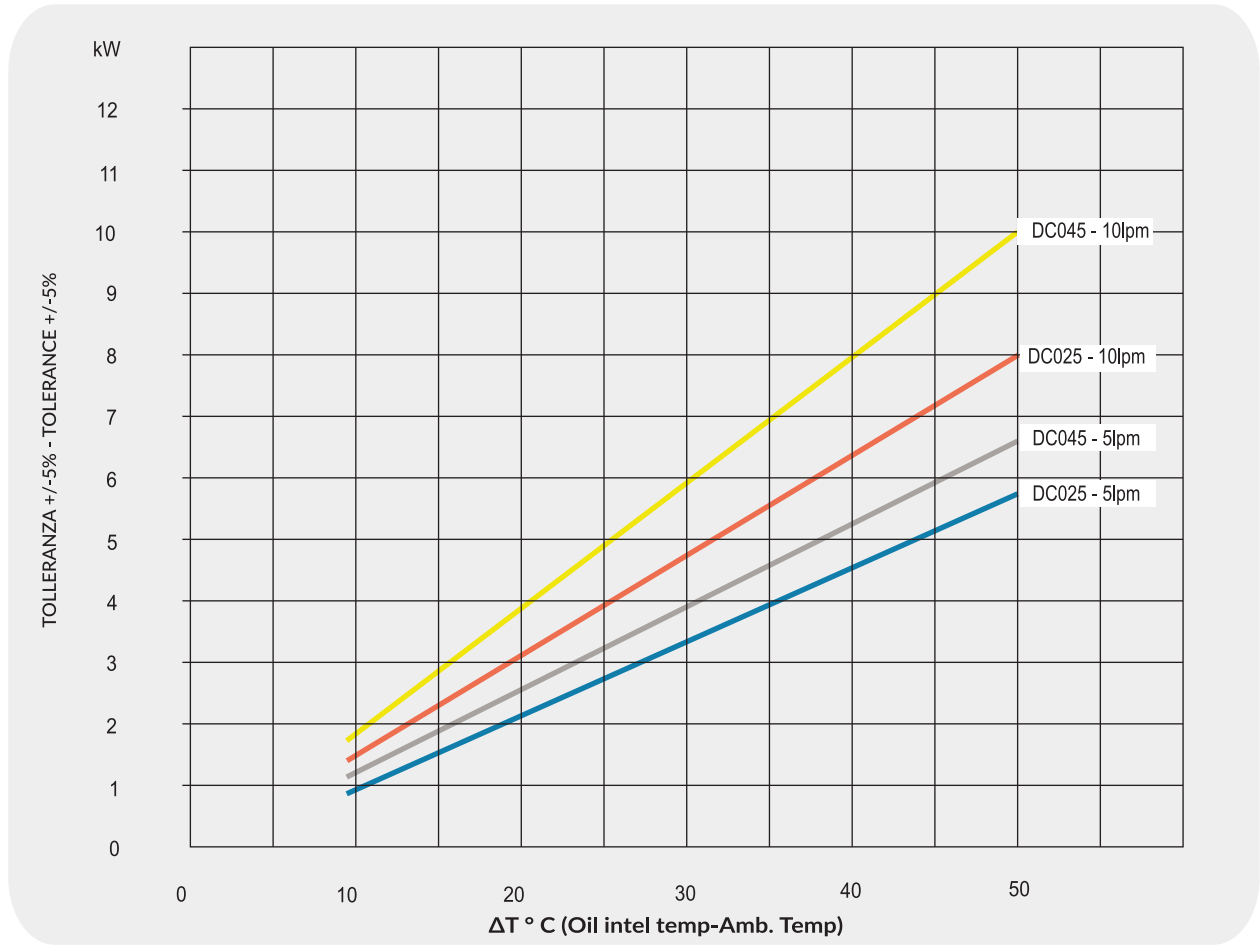


Dati tecnici    *Technical Data*

| Modello<br>Model | Codice<br>Code | V   | A    | Oil flow (lpm) | index of protection | dB (A) | lt  | kg |
|------------------|----------------|-----|------|----------------|---------------------|--------|-----|----|
| DCO25            | DCO250512T0F0  | 12V | 17,8 | 5 lpm          | IP68                | 79     | 2,2 | 18 |
| DCO25            | DCO250524T0F0  | 24V | 8,6  | 5 lpm          | IP68                | 79     | 2,2 | 18 |
| DCO25            | DCO251012T0F0  | 12V | 18,6 | 10 lpm         | IP68                | 79     | 2,2 | 18 |
| DCO25            | DCO251024T0F0  | 24V | 9,2  | 10 lpm         | IP68                | 79     | 2,2 | 18 |
| DCO45            | DCO450512T0F0  | 12V | 20,1 | 5 lpm          | IP68                | 80     | 4   | 35 |
| DCO45            | DCO450524T0F0  | 24V | 9,3  | 5 lpm          | IP68                | 80     | 4   | 35 |
| DCO45            | DCO451012T0F0  | 12V | 20,1 | 10 lpm         | IP68                | 80     | 4   | 35 |
| DCO45            | DCO451024T0F0  | 24V | 10,1 | 10 lpm         | IP68                | 80     | 4   | 35 |

I dati riportati in tabella fanno riferimento a olio ISO VG 46 @ 40°C  
The data refer to oil ISO VG 46 @ 40°C

Diagramma rendimento  
*Performance diagram*









Scambiatori a fascio tubiero  
Shell & Tubes heat-exchangers



## APPLICAZIONE

### APPLICATION

La gamma MG Shell & Tubes comprende un'ampia scelta di modelli caratterizzati da un'elevata efficienza, e i materiali utilizzati consentono di ottenere un prodotto altamente affidabile e si prestano a essere la soluzione di raffreddamento ottimale per svariate applicazioni. Tutti gli scambiatori hanno il circuito acqua ispezionabile a 1, 2 o 4 passaggi, e possono essere predisposti per l'utilizzo di una valvola termostatica che consente un notevole risparmio sul consumo dell'acqua.

Shell & Tubes heat exchangers are used for the cooling of hydraulic circuits and are normally installed in return lines.

The range includes a vast choice of high-efficiency models.

The choice of top-quality materials, worked with precision machines, results in a highly reliable product.

All exchangers have a water circuit in 1, 2, 4 pass design, which can be inspected for maintenance and can be fitted with a thermostatic valve, allowing significant saving on water consumption.



Impiantistica oleodinamica.

Macchine alimentari.

Installazioni marine.

Macchine industriali.

Macchine utensili.

Compressori.

Generatori.

Hydraulic plants.

Food machines.

Marine installations.

Industrial machines.

Machine tools.

Compressors.

Generators.





## Introduzione

Gli scambiatori di calore a fascio tubiero EMMEGI S.p.A. sono utilizzati per il raffreddamento di circuiti oleodinamici e sono normalmente inseriti su linee di ritorno.

La gamma EMMEGI S.p.A. comprende una vasta scelta di modelli caratterizzati da un' elevata efficienza. La scelta di materiali di prima qualità, lavorati con macchine di precisione, consente d' ottenere un prodotto altamente affidabile.

Gli scambiatori EMMEGI S.p.A. hanno circuito acqua ispezionabile a 1,2,4 passaggi, e possono essere forniti con valvola termostatica che consente un notevole risparmio sul consumo dell' acqua.

## Fluidi compatibili

Oli minerali, HL, HLP.

Emulsioni acqua/olio

Acqua/glicole

Acqua/acqua industriale

Per altri fluidi consultare EMMEGI S.p.A.

## Specifiche tecniche

Versioni: standards-acqua marina AISI-

Pressione di esercizio: 12 bar.

Pressione di collaudo: 18 bar.

Temperatura max di esercizio: 120°C

Pressione di esercizio acqua: 5 bar.

Pressione di collaudo acqua: 8 bar.

Temperatura MAX di esercizio: 70°C

## Installazione

In fig. 1 è indicata la corretta posizione d' entrata dei due fluidi, che devono circolare in controcorrente per ottenere il massimo scambio termico.

Il posizionamento dello scambiatore sulla macchina deve essere eseguito utilizzando appositi supporti elastici, e quindi collegato all' impianto idraulico e alla rete idrica mediante tubi flessibili. E' consigliabile prevedere, su impianti che lavorano in ambienti con forti escursioni termiche, una valvola di by-pass (fig.2) tra ingresso e uscita olio. Con temperature molto basse e impianto fermo è opportuno mantenere l' acqua in continua circolazione per evitare dannose rotture; oppure svuotare lo scambiatore avvalendosi del tappo di scarico.

E' suggerita la messa a terra per evitare rotture dovute a correnti vaganti.

## Introduction

EMMEGI S.p.A. shell & tubes heat-exchangers are normally used for the cooling of oil hydraulic systems and are installed on the return line of the system.

The EMMEGI S.p.A. range includes wide choice of applicable models, highly efficient. The range of high quality material manufactured with precision machinery, result in extremely reliable product.

The EMMEGI S.p.A. heat exchangers have a inspectable water circuit in 1,2 or 4 pass. They can be supplied with thermostatic valves which greatly assist in the reduction of water consumption.

## Compatible fluids

Mineral oils; HL;HLP.

Mixture water/oil

Water-glycolic acid

Water/industrial water

For other fluids, contact EMMEGI S.p.A.

## Technical specifications

Version: fresh water - sea water - AISI

Operating pressure: 12 bar.

Test pressure : 18 bar.

Max operating temperature : 120°C

Operating pressure water : 5 bar.

Test pressure water : 8 bar.

Max operating temperature water : 70°C

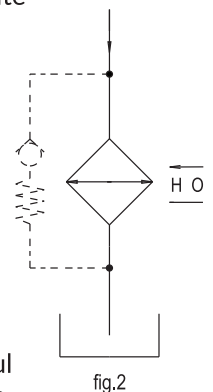
## Installation

The correct position of inlet of the two fluids is indicated in fig. 1. They should circulate in opposite direction, in order to obtain the maximum heat exchange.

The positioning of the heat exchanger on the machine should be carried out using appropriate flexible supports and all those in connection with hydraulic or power plant, through flexible tubing. It is advisable, to preserve the heat exchanger, that a by-pass valve is inserted (fig.2).

At very low temperatures, it is advisable to keep the water in constant circulation, to prevent harmful fractures otherwise emptying the exchanger by use of the discharge valve.

EMMEGI suggest to connect electrical grounding in order to avoid leakage currents.





## Manutenzione

### Pulizia lato tubi

Per garantire il massimo rendimento dello scambiatore, è consigliabile una periodica ispezione del circuito acqua al fine d'eliminare eventuali tracce di calcare o altre impurità che si sono depositate all'interno dei tubi.

Quest'operazione si compie agevolmente togliendo solo il fondello e procedendo allo scovolamento dei tubi.

### Pulizia lato mantello

Su questo lato del circuito, la pulizia avviene mediante flussaggio con percloroetilene fatto circolare in controcorrente per ca. 30 min.

Procedere quindi all'eliminazione dei residui tramite flussaggio con acqua calda.

## Maintenance

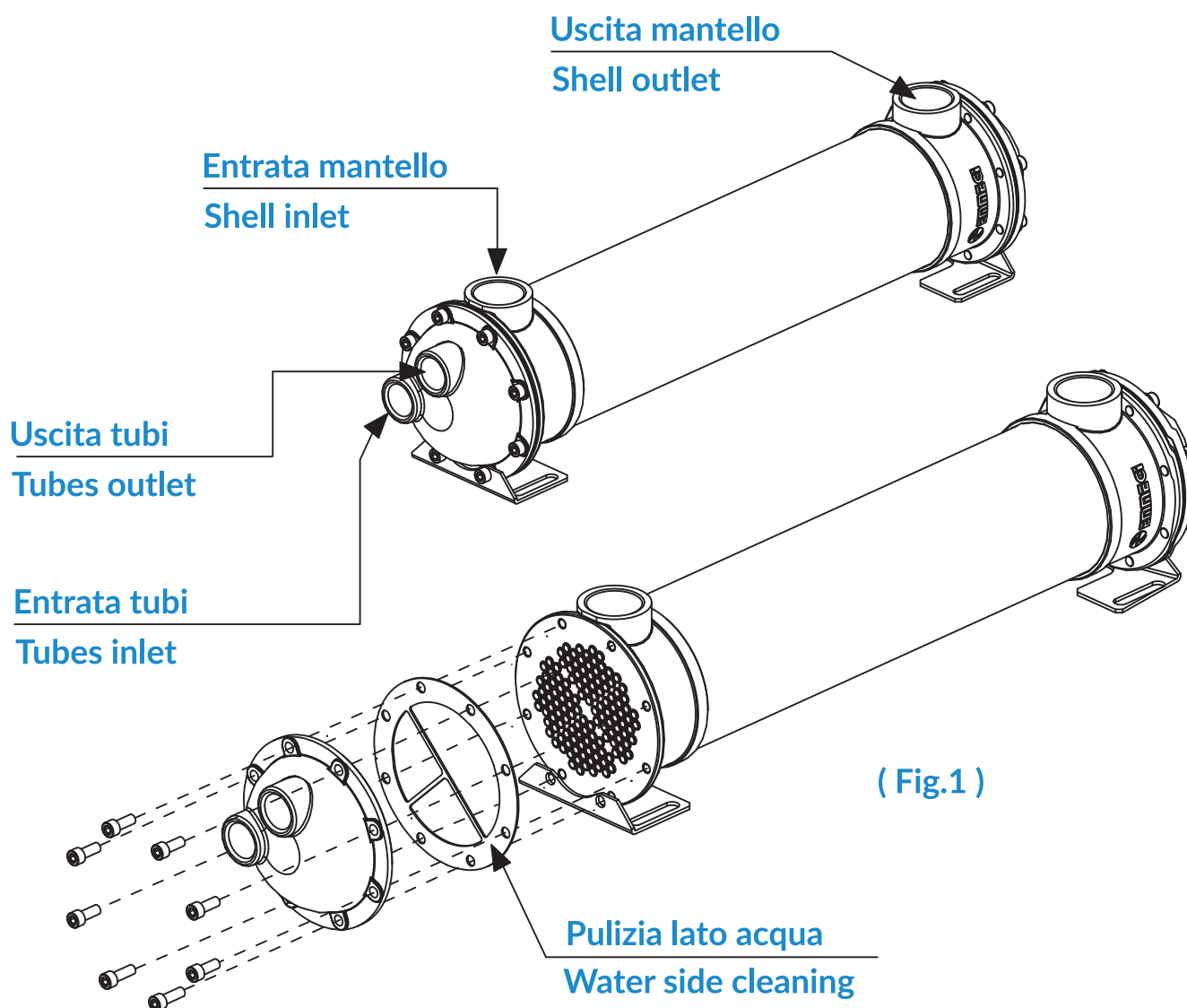
### Tubes side cleaning

To guarantee the maximum effectiveness in exchange, an inspection of the tubes circuit is advisable, to eliminate all trace of lime or any other impurities, which might be deposited inside the tubes.

This operation will be easily accomplished by removing the headers and flushing out the tubes.

### Shell side cleaning

In this part of the circuit, the cleaning will be carried out through the circulation of perchloride in the opposite direction of the normal flow, for about 30 minutes. This will help to eliminate any residue left by flushing out with hot water.







Esempio di scelta dello scambiatore di calore

DATI :

Portata olio : 60 [lt/min.]  
Peso specifico : 0,88 [Kg/dm³]  
Calore specifico : 0,49 [Kcal/Kg °C]  
Viscosità : 32 [cst]  
Temperatura IN olio : 55 [°C]  
Temperatura IN acqua : 20 [°C]  
Potenza da dissipare : 15 [kW]

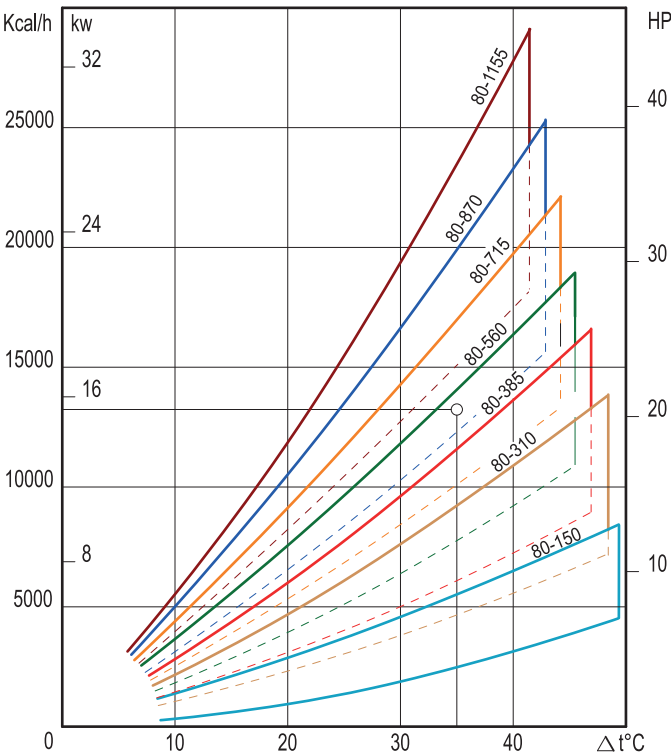
Conoscendo la portata dell' olio, la potenza da dissipare, e stabilito il  $\Delta T$ , ovvero la differenza tra la temperatura ingresso olio e la temperatura ingresso acqua, si può ricercare sui diagrammi riportati a catalogo lo scambiatore idoneo.

Heat exchanger selection

DATA :

Oil flow : 60 [lt/min.]  
Specific weight : 0,88 [Kg/dm³]  
Specific heat : 0,49 [Kcal/Kg °C]  
Viscosity : 32 [cst]  
Oil temperature : 55 [°C]  
Water temperature : 20 [°C]  
Cooling power : 15 [kW]

Knowing the viscosity and flow rate of the oil, cooling power and stability of  $\Delta T$  (inlet temperature of oil - water) it is possible to obtain the suitable cooler from the performance diagram.



Lo scambiatore selezionato risulta il modello MG-80-870-4.  
La dissipazione segnata nel diagramma di rendimento espressa in HP si ottiene con viscosità pari a 32 cst e portate acqua indicate nella seguente tabella A:

| TIPO<br>TYPE   | PORTATA OLIO<br>OIL FLOW<br>( lt/min) | HP DISPERSI<br>CON OLIO<br>HP DISSIPATED<br>WITH OIL<br>@ 55°C H <sub>2</sub> O @ 20°C |
|----------------|---------------------------------------|----------------------------------------------------------------------------------------|
| MG 80-150 -... | 25 - 75                               | 4 - 8                                                                                  |
| MG 80-310-...  | 25 - 80                               | 7 - 14                                                                                 |
| MG 80-385-...  | 25 - 80                               | 9 - 17                                                                                 |
| MG 80-560-...  | 25 - 80                               | 12 - 20                                                                                |
| MG 80-715-...  | 35 - 120                              | 15 - 24                                                                                |
| MG 80-870-...  | 40 - 130                              | 18 - 29                                                                                |
| MG 80-1155-... | 40 - 130                              | 22 - 36                                                                                |

Selected exchangers results in the model MG-80-870-4.  
The cooling performance diagram expressed in HP is obtained, with a viscosity of 32 cst and water flow as indicated in the following table A:



## MG Water Series Selection



**A)**

| n° passaggi lato acqua<br><i>n° of water pass</i> | lt/min x ogni HP da dissipare<br><i>l/min per any HP to be dissipated</i> |
|---------------------------------------------------|---------------------------------------------------------------------------|
| 1                                                 | 3                                                                         |
| 2                                                 | 2                                                                         |
| 4                                                 | 1                                                                         |

Nel caso si abbiano variazioni di temperatura e portata d' acqua, considerare i seguenti coefficienti:

In case there are different values of temperature and flow, the following coefficients Must be considered.

**B)**

### Fattore di correzione scambio termico Cooling power correction factor

| Portata acqua<br><i>Water flow</i>                | Portata indicata in<br>tabelle "A"<br><i>Flow expressed in table<br/>"A"</i> | Due volte la portata<br>indicata nella tabella<br>"A"<br><i>Flow expressed in table<br/>"A" multiply x 2</i> | Tre volte la portata<br>indicata nella tabella<br>"A"<br><i>Flow expressed in table<br/>"A" multiply x 3</i> |
|---------------------------------------------------|------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Fattore di correzione<br><i>Correction factor</i> | 1                                                                            | 1,2                                                                                                          | 1,4                                                                                                          |

**C)**

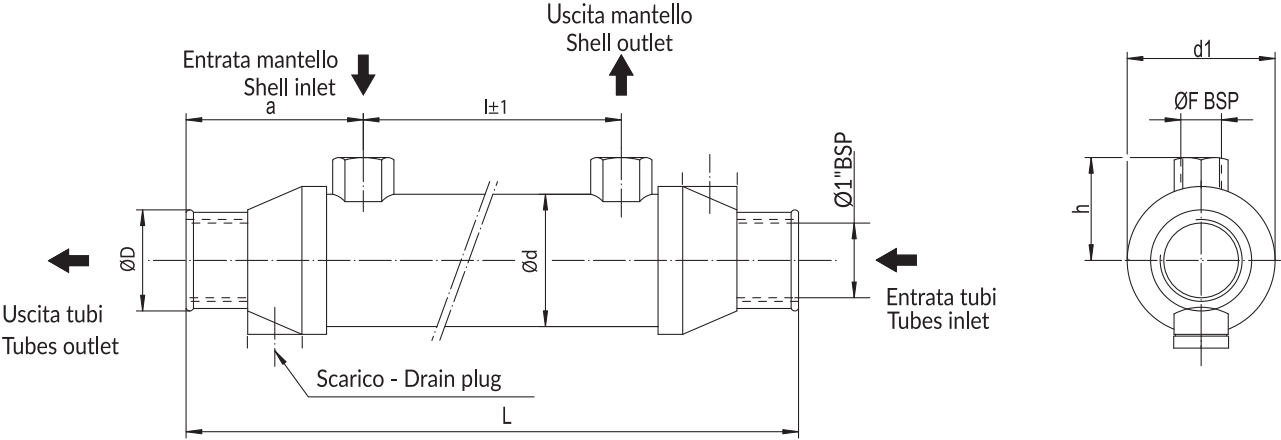
### Fattore di correzione T °C acqua con olio a 55°C Temp °C water correction factor with oil at 55°C

| Temperatura acqua<br><i>Water temp</i>            | 20°C | 25°C | 30°C | 35°C |
|---------------------------------------------------|------|------|------|------|
| Fattore di correzione<br><i>Correction factor</i> | 1    | 0.85 | 0.70 | 0.60 |

Se per la scelta, tutti i dati non sono conosciuti, contattare EMMEGI.

In case of dubts contact EMMEGI.





Le dimensioni e le caratteristiche tecniche non sono impegnative. Over-all dimension and technical characteristics are not binding.

| TIPO<br>TYPE | TUBO        | PIASTRA TUBIERA<br>TUBES SHEET | DEFLETTORI<br>BAFFLES | FONDI<br>COVERS | MANTELLO<br>SHELL |
|--------------|-------------|--------------------------------|-----------------------|-----------------|-------------------|
| SEA WATER    | CuNi10Mn1Fe | CuZn37                         | CuZn37                | CuZn40          | CuZn37            |

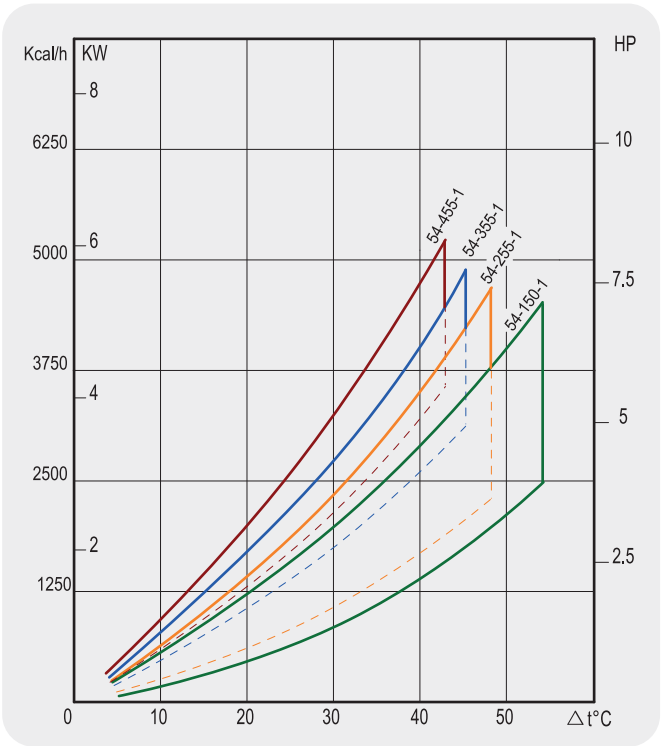
| TIPO<br>TYPE | PORTATA OLIO<br>OIL FLOW<br>(lt/min) | HP DISSIPATI<br>CON OLIO<br>HP DISSIPATED<br>WITH OIL<br>=55°C H2O=20°C | CAPACITA'<br>CAPACITY<br>(lt) | kg  | Dimensioni - Over all dimension<br>1 Pass |      |     |     |    |    |    |    |
|--------------|--------------------------------------|-------------------------------------------------------------------------|-------------------------------|-----|-------------------------------------------|------|-----|-----|----|----|----|----|
|              |                                      |                                                                         |                               |     | ØD                                        | ØF   | I   | L   | a  | Ød | d1 | h  |
| MG 54-150-1  | 10-40                                | 1.5-4                                                                   | 0.26                          | 1.3 | 39                                        | 3/8" | 150 | 303 | 74 | 54 | 60 | 42 |
| MG 54-255-1  | 10-50                                | 2-4.5                                                                   | 0.4                           | 1.8 | 39                                        | 3/8" | 255 | 399 | 74 | 54 | 60 | 42 |
| MG 54-355-1  | 10-50                                | 3.5-5.5                                                                 | 0.5                           | 2.3 | 39                                        | 3/8" | 355 | 499 | 74 | 54 | 60 | 42 |
| MG 54-455-1  | 10-50                                | 4-6.5                                                                   | 0.6                           | 2.7 | 39                                        | 3/8" | 455 | 599 | 74 | 54 | 60 | 42 |

DIAGRAMMA RENDIMENTO

Alla portata massima e minima indicata in tabella

PERFORMANCE DIAGRAM

At the maximum and minimum flow stated in schedule

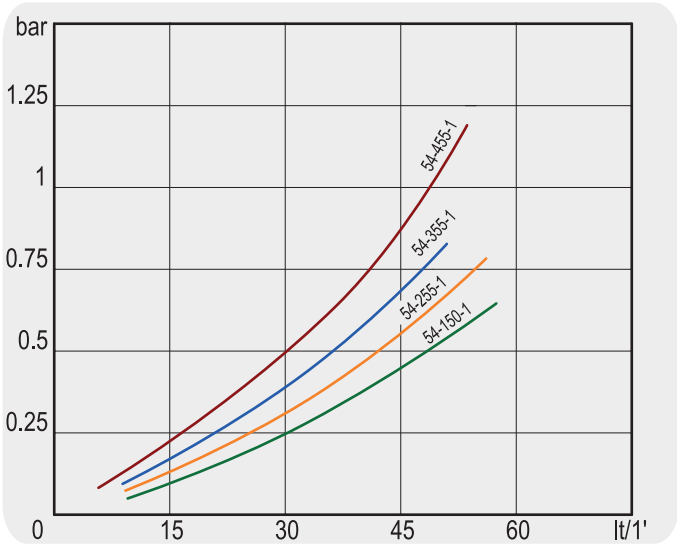


FATTORE DI CORREZIONE (F)-PERDITE DI CARICO

CORRECTION FACTOR (F)-PRESSURE DROP

| cSt | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0.5 | 0.65 | 0.77 | 1  | 1.2 | 1.4 | 1.6 | 1.9 | 2.1 | 3.3 | 4.3 |

PERDITE DI CARICO (32 cst)  
PRESSURE DROP (32 cst)

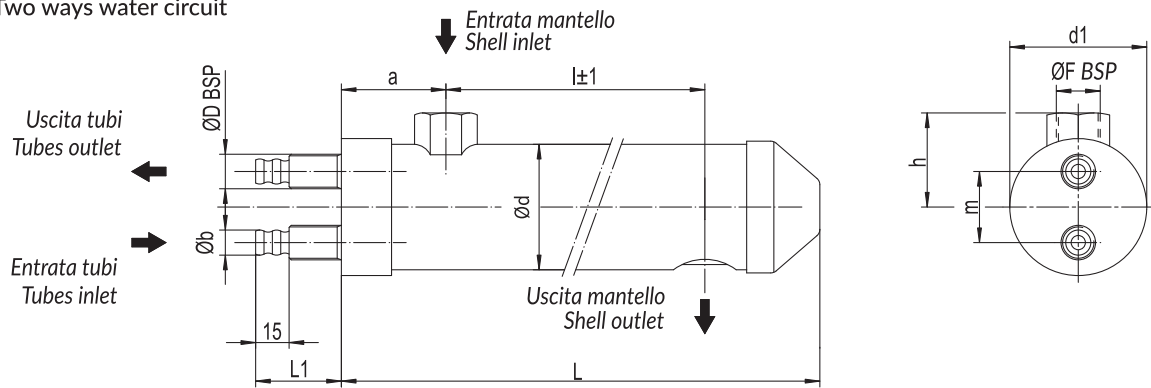




# MG Shell & Tubes

## MGC 60 - MGC 80

Con circuito acqua a due passaggi.  
Two ways water circuit



Le dimensioni e le caratteristiche tecniche non sono impegnative. Over-all dimension and technical characteristics are not binding.

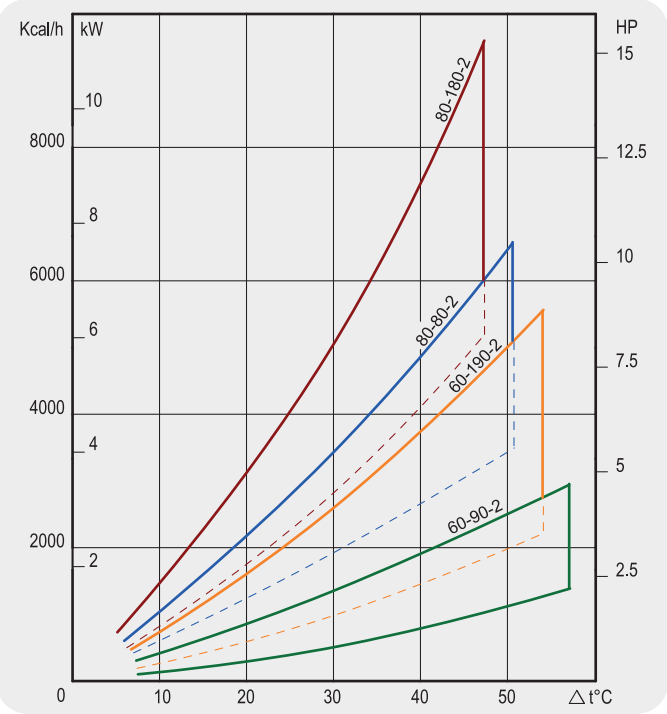
| TIPO<br>TYPE | TUBI<br>TUBES | PIASTRA TUBIERA<br>TUBES SHEET | DEFLETTORI<br>BAFFLES | FONDI<br>COVERS | MANTELLO<br>SHELL |
|--------------|---------------|--------------------------------|-----------------------|-----------------|-------------------|
| STANDARD     | CuDHP         | CuZn40                         | CuZn37                | CuZn40          | CuZn37            |

| TIPO<br>TYPE | PORTATA OLIO<br>OIL FLOW<br>(lt/min) | HP DISSIPATI<br>CON OLIO<br>HP DISSIPATED<br>WITH OIL<br>=55°C H2O=20°C | CAPACITA'<br>CAPACITY<br>(lt) | kg  | Dimensioni - Over all dimension |                 |     |     |      |     |                 |     |                 |     |      |
|--------------|--------------------------------------|-------------------------------------------------------------------------|-------------------------------|-----|---------------------------------|-----------------|-----|-----|------|-----|-----------------|-----|-----------------|-----|------|
|              |                                      |                                                                         |                               |     | 2 Pass                          |                 |     |     |      |     |                 |     |                 |     |      |
|              |                                      |                                                                         |                               |     | $\varnothing D$                 | $\varnothing F$ | $I$ | $L$ | $L1$ | $a$ | $\varnothing d$ | $h$ | $\varnothing b$ | $m$ | $d1$ |
| MGC 60-90-2  | 5-30                                 | 1-2.5                                                                   | 0.3                           | 1.5 | 3/8"                            | 1/2"            | 90  | 190 | 40   | 48  | 60              | 45  | 13              | 38  | 65   |
| MGC 60-190-2 | 7.5-40                               | 2-5.5                                                                   | 0.4                           | 2   | 3/8"                            | 1/2"            | 190 | 290 | 40   | 48  | 60              | 45  | 13              | 38  | 65   |
| MGC 80-80-2  | 25-60                                | 3.5-6.5                                                                 | 0.5                           | 2.3 | 3/8"                            | 1/2"            | 80  | 190 | 40   | 50  | 60              | 65  | 16              | 45  | 85   |
| MGC 80-180-2 | 30-80                                | 5.5-10                                                                  | 0.7                           | 3.5 | 3/8"                            | 1/2"            | 180 | 290 | 40   | 50  | 60              | 65  | 16              | 45  | 85   |

### DIAGRAMMA RENDIMENTO

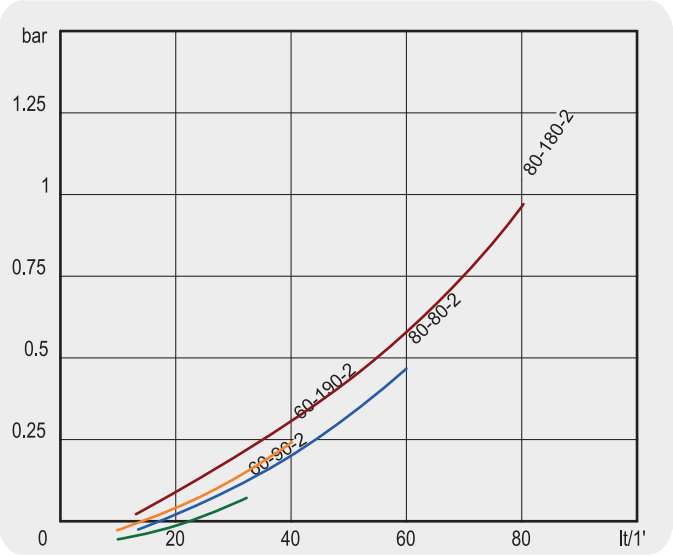
Alla portata massima e minima indicata in tabella  
PERFORMANCE DIAGRAM  
At the maximum and minimum flow stated in schedule



### FATTORE DI CORREZIONE (F)-PERDITE DI CARICO CORRECTION FACTOR (F)-PRESSURE DROP

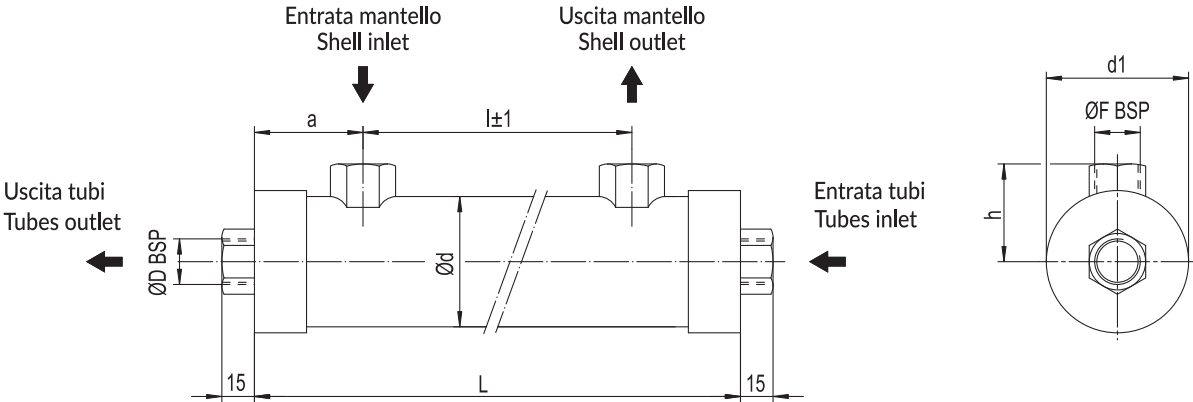
| cSt | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0.5 | 0.65 | 0.77 | 1  | 1.2 | 1.4 | 1.6 | 1.9 | 2.1 | 3.3 | 4.3 |

### PERDITE DI CARICO (32 cSt) PRESSURE DROP (32 cSt)





Con circuito acqua a un passaggio.  
One way water circuit



Le dimensioni e le caratteristiche tecniche non sono impegnative. Over-all dimension and technical characteristics are not binding.

| TIPO<br>TYPE | TUBI<br>TUBES | PIASTRA TUBIERA<br>TUBES SHEET | DEFLETTORI<br>BAFFLES | FONDI<br>COVERS | MANTELLO<br>SHELL |
|--------------|---------------|--------------------------------|-----------------------|-----------------|-------------------|
| STANDARD     | CuDHP         | CuZn40                         | CuZn37                | CuZn40          | CuZn37            |

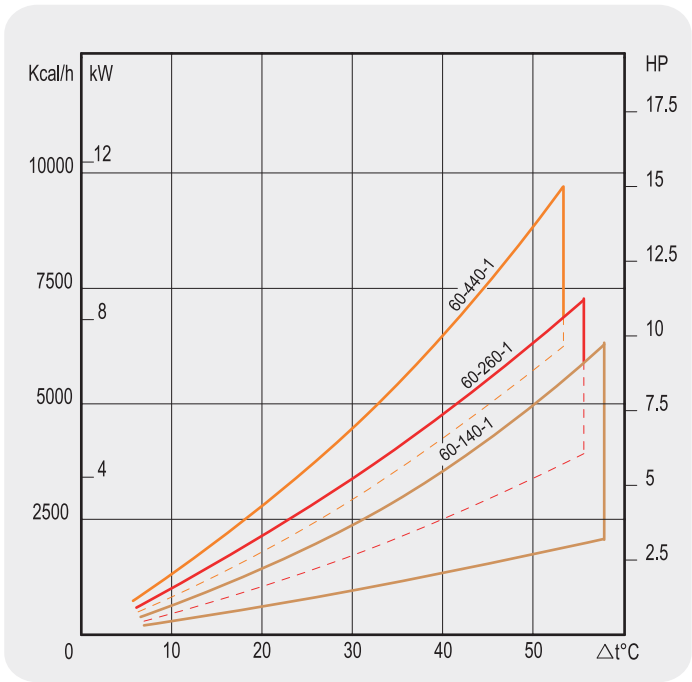
| TIPO<br>TYPE | PORTATA OLIO<br>OIL FLOW<br>(lt/min) | HP DISSIPATI<br>CON OLIO<br>HP DISSIPATED<br>WITH OIL<br>=55°C H2O=20°C | CAPACITA'<br>CAPACITY<br>(lt) | kg  | Dimensioni - Over all dimension<br>1 Pass |      |     |     |    |    |    |    |
|--------------|--------------------------------------|-------------------------------------------------------------------------|-------------------------------|-----|-------------------------------------------|------|-----|-----|----|----|----|----|
|              |                                      |                                                                         |                               |     | ØD                                        | ØF   | I   | L   | a  | Ød | d1 | h  |
| MGE 60-140-1 | 5-30                                 | 1.5-4.5                                                                 | 0.4                           | 1.8 | 1/2"                                      | 1/2" | 140 | 240 | 50 | 60 | 65 | 45 |
| MGE 60-260-1 | 7.5-40                               | 3.5-6.5                                                                 | 0.6                           | 3   | 1/2"                                      | 1/2" | 260 | 360 | 50 | 60 | 65 | 45 |
| MGE 80-440-1 | 10-50                                | 6-9                                                                     | 0.9                           | 5   | 1/2"                                      | 1/2" | 440 | 540 | 50 | 60 | 65 | 45 |

DIAGRAMMA RENDIMENTO

Alla portata massima e minima indicata in tabella

PERFORMANCE DIAGRAM

At the maximum and minimum flow stated in schedule

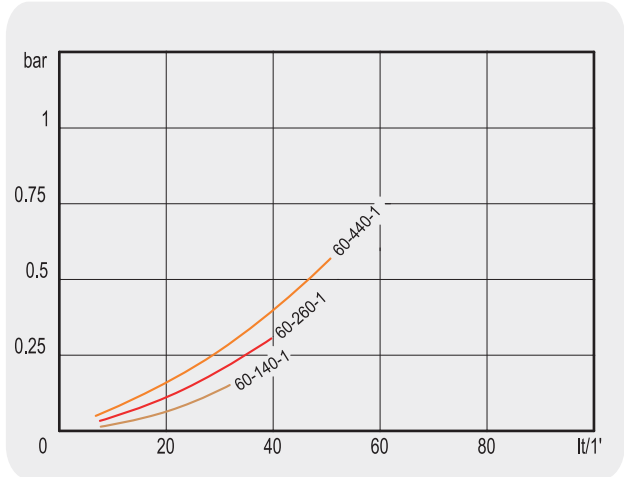


FATTORE DI CORREZIONE (F)-PERDITE DI CARICO

CORRECTION FACTOR (F)-PRESSURE DROP

| cSt | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0.5 | 0.65 | 0.77 | 1  | 1.2 | 1.4 | 1.6 | 1.9 | 2.1 | 3.3 | 4.3 |

PERDITE DI CARICO (32 cSt) PRESSURE DROP (32 cSt)

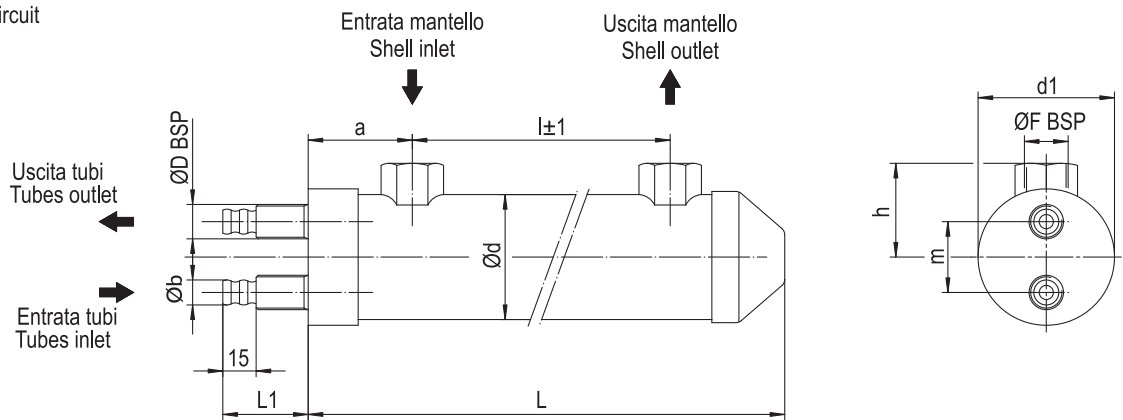




# MG Shell & Tubes

## MGE 60 2 PASS

Con circuito acqua a due passaggi.  
Two ways water circuit



Le dimensioni e le caratteristiche tecniche non sono impegnative. Over-all dimension and technical characteristics are not binding.

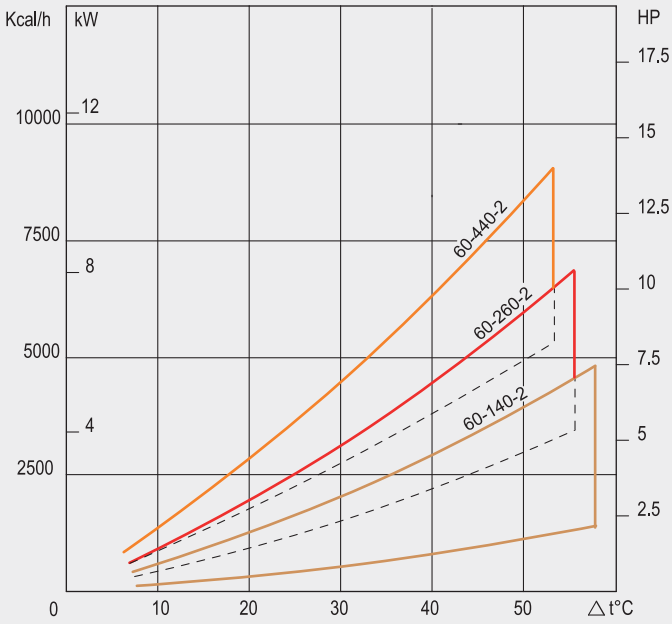
| TIPO<br>TYPE | TUBI<br>TUBES | PIASTRA TUBIERA<br>TUBES SHEET | DEFLETTORI<br>BAFFLES | FONDI<br>COVERS | MANTELLO<br>SHELL |
|--------------|---------------|--------------------------------|-----------------------|-----------------|-------------------|
| STANDARD     | CuDHP         | CuZn40                         | CuZn37                | CuZn40          | CuZn37            |

| TIPO<br>TYPE | PORTATA OLIO<br>OIL FLOW<br>(lt/min) | HP DISSIPATI CON<br>HP DISSIPATED<br>WITH OIL<br>=55°C H2O=20°C | CAPACITA'<br>CAPACITY<br>(lt) | kg  | Dimensioni - Over all dimension |      |     |     |    |    |    |    |    |    |    |
|--------------|--------------------------------------|-----------------------------------------------------------------|-------------------------------|-----|---------------------------------|------|-----|-----|----|----|----|----|----|----|----|
|              |                                      |                                                                 |                               |     | 2 Pass                          |      |     |     |    |    |    |    |    |    |    |
| ØD           | ØF                                   | I                                                               | L                             | L1  | a                               | Ød   | h   | Øb  | m  | d1 |    |    |    |    |    |
| MGE 60-140-2 | 5-30                                 | 1-4                                                             | 0.4                           | 1.8 | 3/8"                            | 1/2" | 140 | 245 | 40 | 50 | 60 | 45 | 13 | 38 | 65 |
| MGE 60-260-2 | 7.5-40                               | 3-6                                                             | 0.6                           | 3   | 3/8"                            | 1/2" | 260 | 365 | 40 | 50 | 60 | 45 | 13 | 38 | 65 |
| MGE 60-440-2 | 10-50                                | 5-8.5                                                           | 0.9                           | 5   | 3/8"                            | 1/2" | 440 | 545 | 40 | 50 | 60 | 45 | 16 | 38 | 65 |

### DIAGRAMMA RENDIMENTO

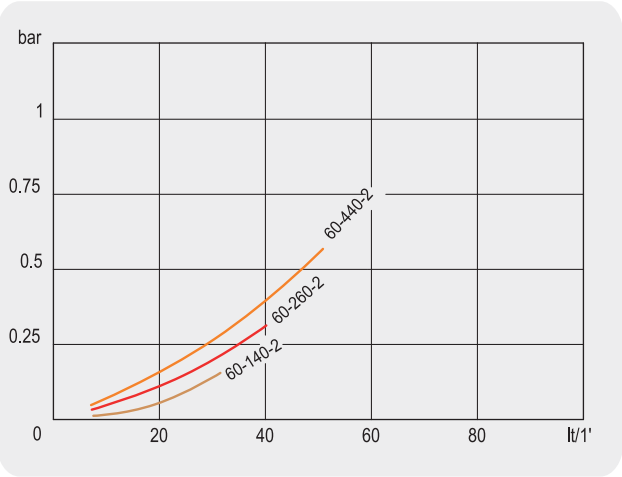
Alla portata massima e minima indicata in tabella  
PERFORMANCE DIAGRAM  
At the maximum and minimum flow stated in schedule



### FATTORE DI CORREZIONE (F)-PERDITE DI CARICO CORRECTION FACTOR (F)-PRESSURE DROP

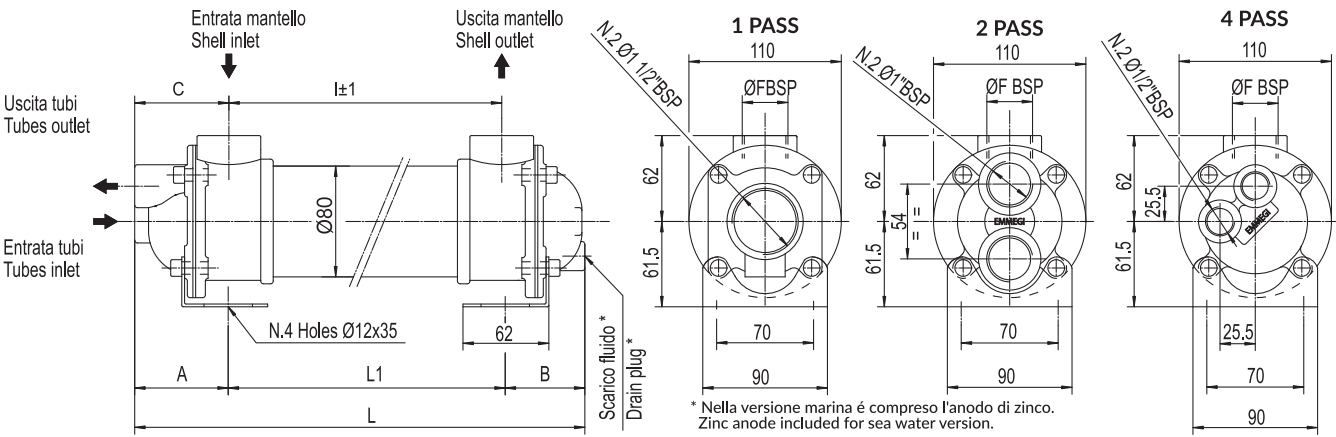
| cSt | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0.5 | 0.65 | 0.77 | 1  | 1.2 | 1.4 | 1.6 | 1.9 | 2.1 | 3.3 | 4.3 |

### PERDITE DI CARICO (32 cSt) PRESSURE DROP (32 cSt)





Con circuito acqua ispezionabile a uno-due-quattro passaggi. One-two-four ways inspectable water circuit

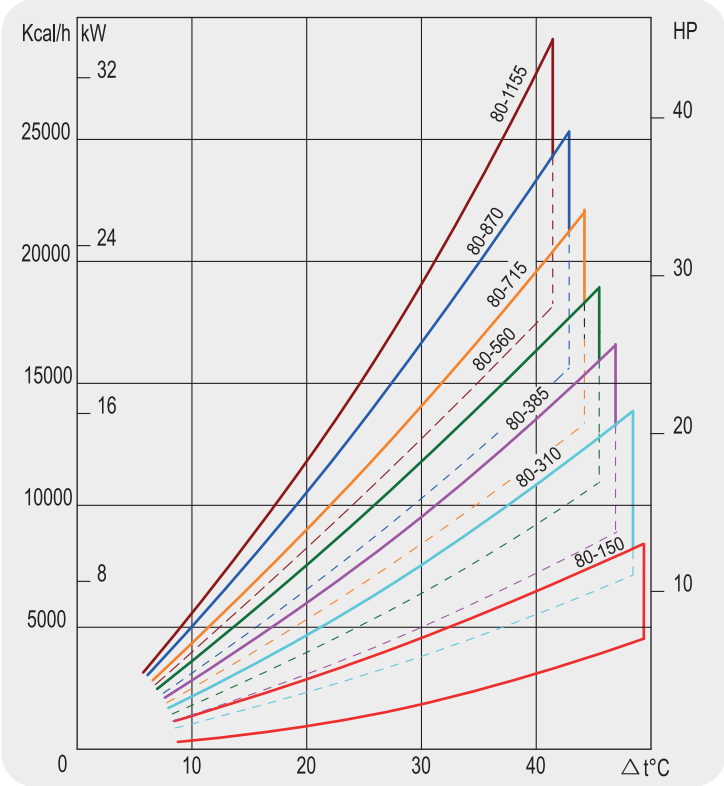


Le dimensioni e le caratteristiche tecniche non sono impegnative. Over-all dimension and technical characteristics are not binding.

| TIPO<br>TYPE | TUBI<br>TUBES | PIASTRA TUBIERA<br>TUBES SHEET | DEFLETTORI<br>BAFFLES | FONDI<br>COVERS | MANTELLO<br>SHELL | GUARNIZIONI<br>SEALS |
|--------------|---------------|--------------------------------|-----------------------|-----------------|-------------------|----------------------|
| STANDARD     | CuDHP         | CuZn40                         | CuZn37                | CuZn40          | Fe510.2           | Rubber-cork          |
| SEA WATER    | CuNi10Mn1Fe   | CuZn40                         | CuZn37                | CuZn40          | Fe510.2           | Rubber-cork          |

| TIPO<br>TYPE  | PORTATA<br>OLIO<br>OIL FLOW<br>(lt/min) | HP DISSIPATI CON OLIO<br>HP DISSIPATED WITH OIL<br>=55°C H2O=20°C | CAPACITÀ<br>CAPACITY<br>(lt) | kg   | DIMENSIONI - Overall dimension |      |      |      |        |    |      |       |    |    |       |    |      |
|---------------|-----------------------------------------|-------------------------------------------------------------------|------------------------------|------|--------------------------------|------|------|------|--------|----|------|-------|----|----|-------|----|------|
|               |                                         |                                                                   |                              |      | ØF                             | I    | L    | L1   | 1 Pass |    |      | 2Pass |    |    | 4Pass |    |      |
|               |                                         |                                                                   |                              |      |                                |      |      |      | A      | B  | C    | A     | B  | C  | A     | B  | C    |
| MG 80-150-..  | 25-70                                   | 4-8                                                               | 0.65                         | 4.5  | 1"                             | 150  | 321  | 141  | 90     | 90 | 85.5 | 72    | 64 | 67 | 72    | 64 | 67.5 |
| MG 80-310-..  | 25-80                                   | 7-14                                                              | 1.1                          | 5.7  | 1"                             | 310  | 481  | 301  | 90     | 90 | 85.5 | 72    | 64 | 67 | 72    | 64 | 67.5 |
| MG 80-385-..  | 25-80                                   | 9-17                                                              | 1.3                          | 6.0  | 1"                             | 385  | 556  | 376  | 90     | 90 | 85.5 | 72    | 64 | 67 | 72    | 64 | 67.5 |
| MG 80-560-..  | 25-80                                   | 12-20                                                             | 1.9                          | 7.5  | 1"                             | 560  | 731  | 551  | 90     | 90 | 85.5 | 72    | 64 | 67 | 72    | 64 | 67.5 |
| MG 80-715-..  | 35-120                                  | 15-24                                                             | 2.3                          | 8.0  | 1"                             | 715  | 886  | 706  | 90     | 90 | 85.5 | 72    | 64 | 67 | 72    | 64 | 67.5 |
| MG 80-870-..  | 40-130                                  | 18-29                                                             | 2.8                          | 10.0 | 1"                             | 870  | 1041 | 861  | 90     | 90 | 85.5 | 72    | 64 | 67 | 72    | 64 | 67.5 |
| MG 80-1155-.. | 40-130                                  | 22-36                                                             | 3.7                          | 13.5 | 1"                             | 1155 | 1326 | 1146 | 90     | 90 | 85.5 | 72    | 64 | 67 | 72    | 64 | 67.5 |

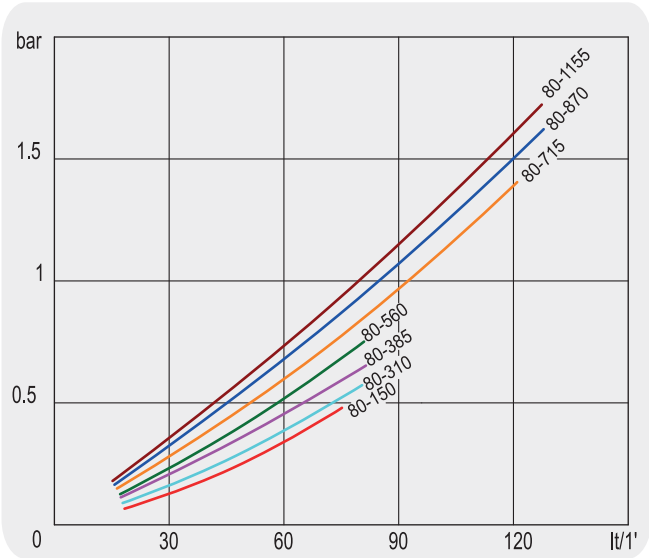
DIAGRAMMA RENDIMENTO  
Alla portata massima e minima indicata in tabella  
PERFORMANCE DIAGRAM  
At the maximum and minimum flow stated in schedule



FATTORE DI CORREZIONE (F)-PERDITE DI CARICO  
CORRECTION FACTOR (F)-PRESSURE DROP

| cSt | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0.5 | 0.65 | 0.77 | 1  | 1.2 | 1.4 | 1.6 | 1.9 | 2.1 | 3.3 | 4.3 |

PERDITE DI CARICO (32 cSt) PRESSURE DROP (32 cSt)

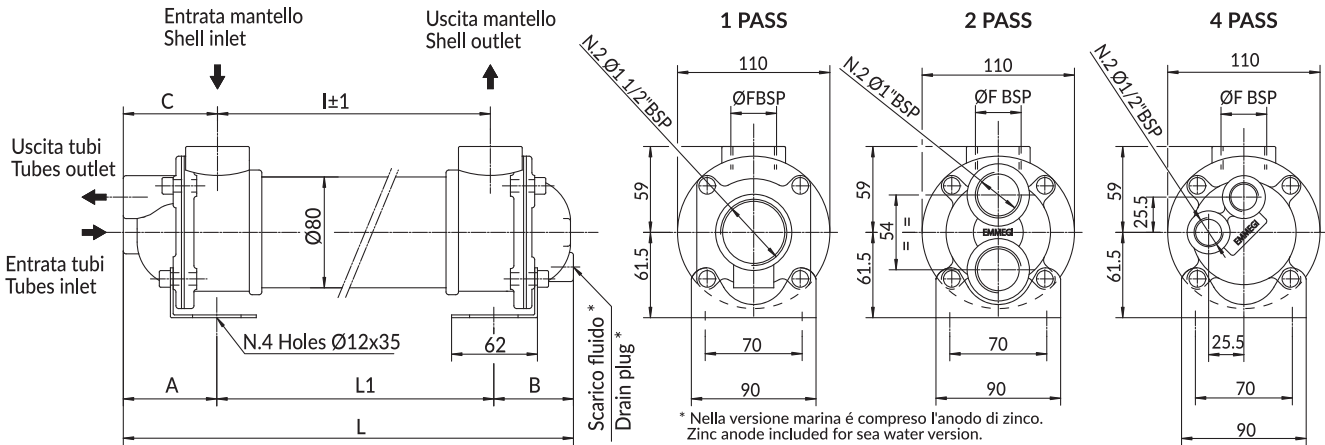




# MG Shell & Tubes

## MG 81

Con circuito acqua ispezionabile a uno-due-quattro passaggi. One-two-four ways controllable water circuit



Le dimensioni e le caratteristiche tecniche non sono impegnative. Over-all dimension and technical characteristics are not binding.

| TIPO<br>TYPE | TUBI<br>TUBES | PIASTRA TUBIERA<br>TUBES SHEET | DEFLETTORI<br>BAFFLES | FONDI<br>COVERS | MANTELLO<br>SHELL | GUARNIZIONI<br>SEALS |
|--------------|---------------|--------------------------------|-----------------------|-----------------|-------------------|----------------------|
| STANDARD     | CuDHP         | CuZn40                         | CuZn37                | CuZn40          | Fe510.2           | Rubber-cork          |
| SEA WATER    | CuNi10Mn1Fe   | CuZn40                         | CuZn37                | CuZn40          | Fe510.2           | Rubber-cork          |

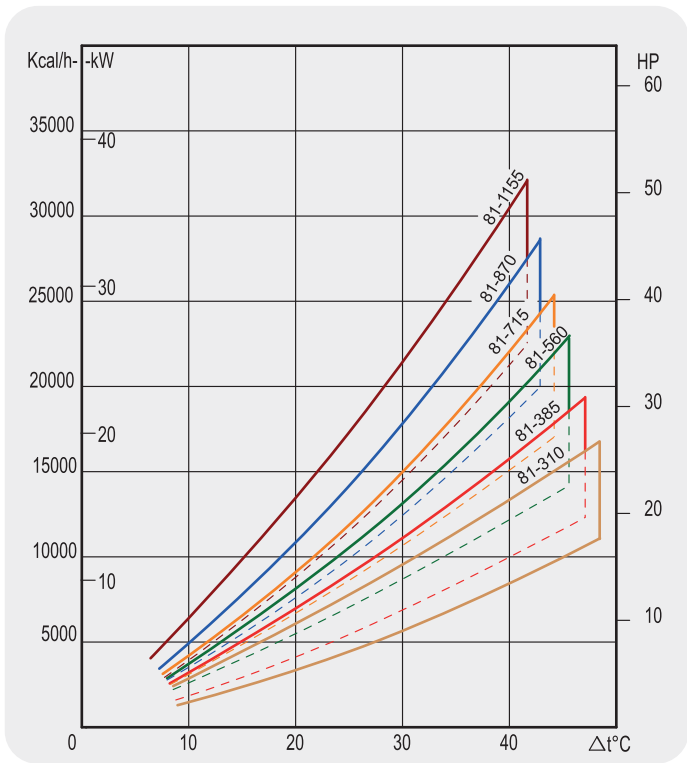
| TIPO<br>TYPE  | PORTATA<br>OLIO<br>OIL FLOW<br>(lt/min) | HP DISSIPATION OIL<br>HP DISSIPATED WITH<br>OIL<br>=55°C H2O=20°C | CAPACITÀ<br>CAPACITY<br>(lt) | kg   | DIMENSIONI - Overall dimension |      |      |        |    |    |      |       |    |    |      |       |    |    |      |
|---------------|-----------------------------------------|-------------------------------------------------------------------|------------------------------|------|--------------------------------|------|------|--------|----|----|------|-------|----|----|------|-------|----|----|------|
|               |                                         |                                                                   |                              |      | ØF                             | I    | L1   | 1 Pass |    |    |      | 2Pass |    |    |      | 4Pass |    |    |      |
|               |                                         |                                                                   |                              |      |                                |      |      | A      | B  | C  | L    | A     | B  | C  | L    | A     | B  | C  | L    |
| MG 81-310-..  | 50-120                                  | 11-18                                                             | 1.2                          | 5.7  | 1 1/2"                         | 310  | 314  | 90     | 90 | 92 | 494  | 72    | 64 | 74 | 494  | 72    | 64 | 74 | 450  |
| MG 81-385-..  | 50-120                                  | 13-21                                                             | 1.4                          | 6.0  | 1 1/2"                         | 385  | 389  | 90     | 90 | 92 | 569  | 72    | 64 | 74 | 569  | 72    | 64 | 74 | 525  |
| MG 81-560-..  | 60-150                                  | 16-25                                                             | 2                            | 7.5  | 1 1/2"                         | 560  | 564  | 90     | 90 | 92 | 744  | 72    | 64 | 74 | 744  | 72    | 64 | 74 | 700  |
| MG 81-715-..  | 75-180                                  | 20-29                                                             | 2.4                          | 8.0  | 1 1/2"                         | 715  | 719  | 90     | 90 | 92 | 899  | 72    | 64 | 74 | 899  | 72    | 64 | 74 | 855  |
| MG 81-870-..  | 75-180                                  | 24-34                                                             | 2.9                          | 10.0 | 1 1/2"                         | 870  | 874  | 90     | 90 | 92 | 1054 | 72    | 64 | 74 | 1054 | 72    | 64 | 74 | 1010 |
| MG 81-1155-.. | 75-180                                  | 29-40                                                             | 3.8                          | 13.5 | 1 1/2"                         | 1155 | 1159 | 90     | 90 | 92 | 1339 | 72    | 64 | 74 | 1339 | 72    | 64 | 74 | 1295 |

### DIAGRAMMA RENDIMENTO

Alla portata massima e minima indicata in tabella

### PERFORMANCE DIAGRAM

At the maximum and minimum flow stated in schedule

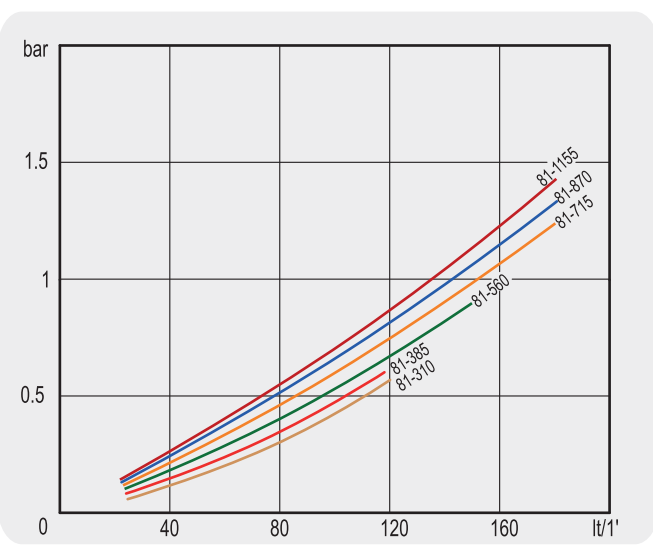


### FATTORE DI CORREZIONE (F)-PERDITE DI CARICO

### CORRECTION FACTOR (F)-PRESSURE DROP

| cSt | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0.5 | 0.65 | 0.77 | 1  | 1.2 | 1.4 | 1.6 | 1.9 | 2.1 | 3.3 | 4.3 |

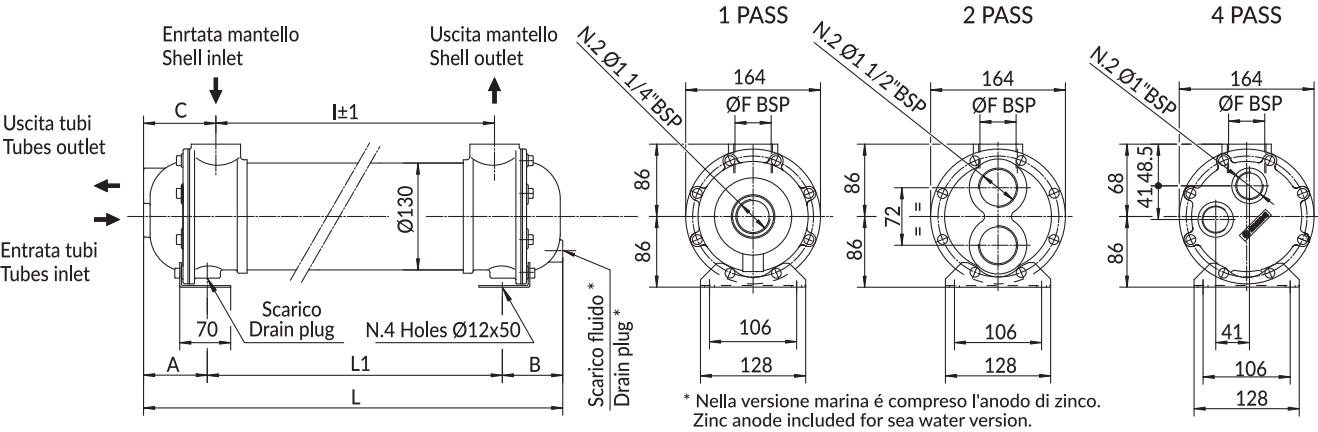
### PERDITE DI CARICO (32 cSt) PRESSURE DROP (32 cSt)







Con circuito acqua ispezionabile a uno-due-quattro passaggi. One-two-four ways inspectable water circuit



Le dimensioni e le caratteristiche tecniche non sono impegnative. Over-all dimension and technical characteristics are not binding.

| TIPO<br>TYPE |  | TUBI<br>TUBES | PIASTRA TUBIERA<br>TUBES SHEET |  | DEFLETTORI<br>BAFFLES |  | FONDI<br>COVERS |  | MANTELLO<br>SHELL |  | GUARNIZIONI<br>SEALS |  |
|--------------|--|---------------|--------------------------------|--|-----------------------|--|-----------------|--|-------------------|--|----------------------|--|
| STANDARD     |  | CuDHP         | CuZn40                         |  | CuZn37                |  | CuZn40          |  | Fe510.2           |  | Rubber-cork          |  |
| SEA WATER    |  | CuNi10Mn1Fe   | CuZn40                         |  | CuZn37                |  | CuZn40          |  | Fe510.2           |  | Rubber-cork          |  |

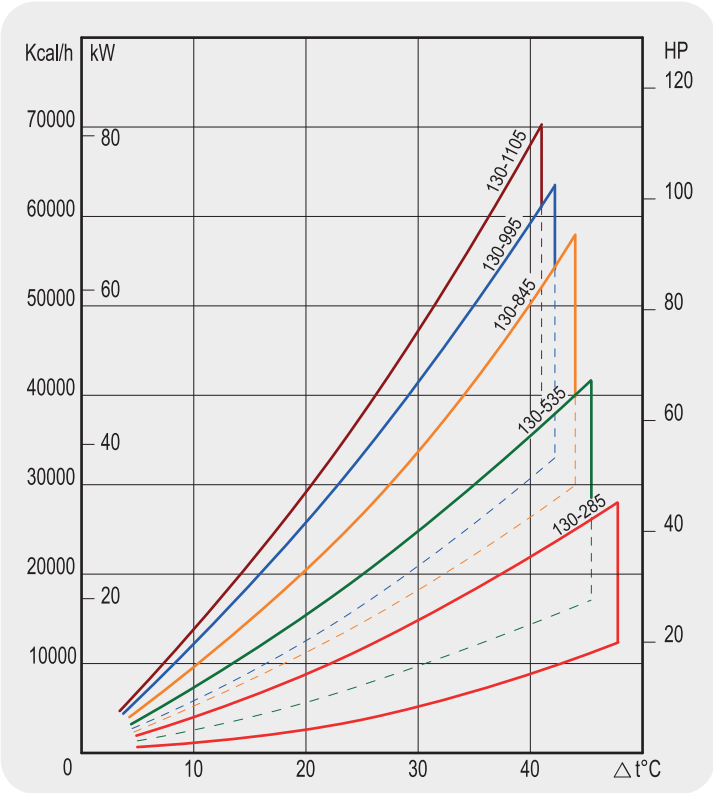
| TIPO<br>TYPE  | PORTATA<br>OLIO<br>OIL FLOW<br>(l/min) | HP DISSIPATION OLIO<br>HP DISSIPATED WITHK<br>OIL<br>=55°C H2O=20°C | CAPACITÀ<br>CAPACITY<br>(lt) | kg | DIMENSIONI - Overall dimension |      |      |        |    |    |      |       |    |    |      |       |    |    |      |
|---------------|----------------------------------------|---------------------------------------------------------------------|------------------------------|----|--------------------------------|------|------|--------|----|----|------|-------|----|----|------|-------|----|----|------|
|               |                                        |                                                                     |                              |    | ØF                             | I    | L1   | 1 Pass |    |    |      | 2Pass |    |    |      | 4Pass |    |    |      |
|               |                                        |                                                                     |                              |    |                                |      |      | A      | B  | C  | L    | A     | B  | C  | L    | A     | B  | C  | L    |
| MG 130-285-.. | 60-160                                 | 12-30                                                               | 3                            | 16 | 1 1/2"                         | 285  | 303  | 85     | 85 | 94 | 473  | 80    | 75 | 89 | 458  | 80    | 75 | 89 | 458  |
| MG 130-535-.. | 80-200                                 | 18-48                                                               | 5.2                          | 22 | 1 1/2"                         | 535  | 553  | 85     | 85 | 94 | 723  | 80    | 75 | 89 | 708  | 80    | 75 | 89 | 708  |
| MG 130-845-.. | 120-280                                | 35-68                                                               | 7.9                          | 28 | 1 1/2"                         | 845  | 863  | 85     | 85 | 94 | 1033 | 80    | 75 | 89 | 1018 | 80    | 75 | 89 | 1018 |
| MG 130-995-.. | 120-280                                | 41-78                                                               | 9.2                          | 32 | 1 1/2"                         | 995  | 1013 | 85     | 85 | 94 | 1183 | 80    | 75 | 89 | 1168 | 80    | 75 | 89 | 1168 |
| MG 130-870-.. | 120-280                                | 50-90                                                               | 10                           | 35 | 1 1/2"                         | 1105 | 1293 | 85     | 85 | 94 | 1293 | 80    | 75 | 89 | 1278 | 80    | 75 | 89 | 1278 |

DIAGRAMMA RENDIMENTO

Alla portata massima e minima indicata in tabella

PERFORMANCE DIAGRAM

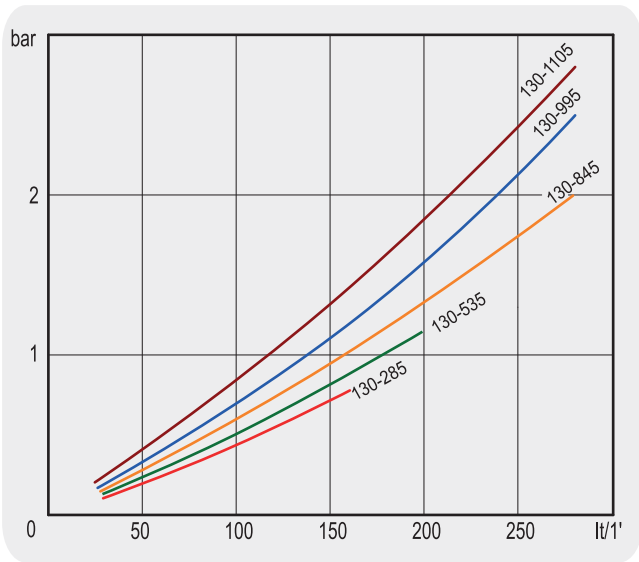
At the maximum and minimum flow stated in schedule



FATTORE DI CORREZIONE (F)-PERDITE DI CARICO  
CORRECTION FACTOR (F)-PRESSURE DROP

| cSt | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0.5 | 0.65 | 0.77 | 1  | 1.2 | 1.4 | 1.6 | 1.9 | 2.1 | 3.3 | 4.3 |

PERDITE DI CARICO (32 cSt) PRESSURE DROP (32 cSt)

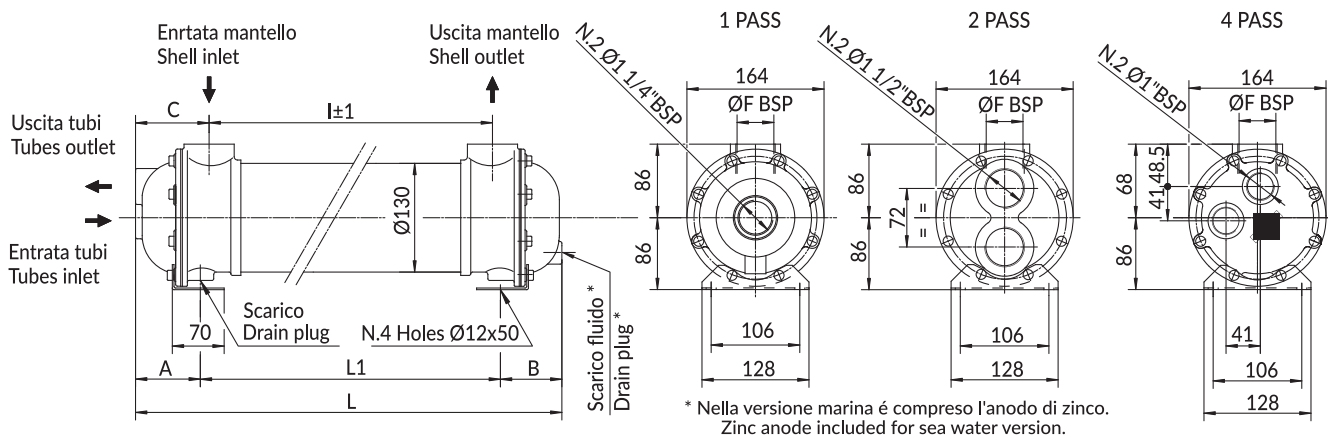




# MG Shell & Tubes

## MG 131

Con circuito acqua ispezionabile a uno-due-quattro passaggi. One-two-four ways inspectable water circuit



Le dimensioni e le caratteristiche tecniche non sono impegnative. Over-all dimension and technical characteristics are not binding.

| TIPO<br>TYPE | TUBI<br>TUBES | PIASTRA TUBIERA<br>TUBES SHEET | DEFLETTORI<br>BAFFLES | FONDI<br>COVERS | MANTELLO<br>SHELL | GUARNIZIONI<br>SEALS |
|--------------|---------------|--------------------------------|-----------------------|-----------------|-------------------|----------------------|
| STANDARD     | CuDHP         | CuZN40                         | CuZN37                | CuZN40          | Fe510.2           | Rubber-cork          |
| SEA WATER    | CuNi10Mn1Fe   | CuZN40                         | CuZN37                | CuZN40          | Fe510.2           | Rubber-cork          |

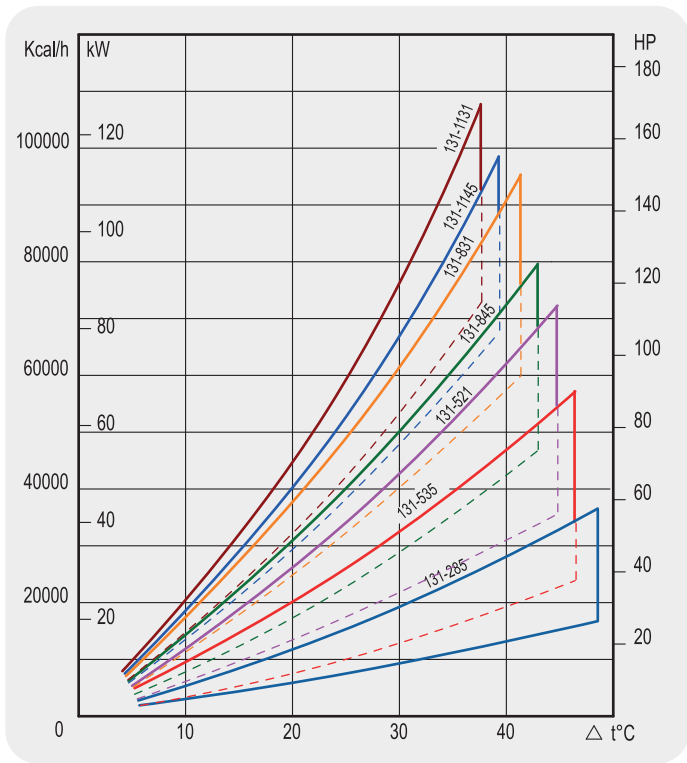
| TIPO<br>TYPE   | PORTATA<br>OLIO<br>OIL FLOW<br>(lt/min) | HP DISSIPATION CON OLIO<br>HP DISSIPATED WITH<br>OIL<br>=55°C H2O=20°C | CAPACITÀ<br>CAPACITY<br>(lt) | kg | DIMENSIONI - Overall dimension |      |      |        |    |    |      |       |    |    |      |       |    |    |      |
|----------------|-----------------------------------------|------------------------------------------------------------------------|------------------------------|----|--------------------------------|------|------|--------|----|----|------|-------|----|----|------|-------|----|----|------|
|                |                                         |                                                                        |                              |    | ØF                             | I    | L1   | 1 Pass |    |    |      | 2Pass |    |    |      | 4Pass |    |    |      |
|                |                                         |                                                                        |                              |    |                                |      |      | A      | B  | C  | L    | A     | B  | C  | L    | A     | B  | C  | L    |
| MG 131-285-..  | 50-140                                  | 17-38                                                                  | 2.7                          | 17 | 1 1/2"                         | 285  | 303  | 85     | 85 | 94 | 473  | 80    | 75 | 89 | 458  | 80    | 75 | 89 | 458  |
| MG 131-535-..  | 80-200                                  | 24-63                                                                  | 4.5                          | 23 | 1 1/2"                         | 535  | 553  | 85     | 85 | 94 | 723  | 80    | 75 | 89 | 708  | 80    | 75 | 89 | 708  |
| MG 131-521-..  | 120-280                                 | 40-82                                                                  | 4.6                          | 23 | 2"                             | 521  | 555  | 85     | 85 | 94 | 725  | 80    | 75 | 97 | 710  | 80    | 75 | 97 | 710  |
| MG 131-845-..  | 100-250                                 | 56-96                                                                  | 6.9                          | 29 | 1 1/2"                         | 845  | 863  | 85     | 85 | 94 | 1033 | 80    | 75 | 89 | 1018 | 80    | 75 | 89 | 1018 |
| MG 131-831-..  | 160-400                                 | 77-120                                                                 | 7                            | 29 | 2"                             | 831  | 866  | 85     | 85 | 94 | 1036 | 80    | 75 | 97 | 1020 | 80    | 75 | 97 | 1020 |
| MG 131-1145-.. | 120-280                                 | 85-132                                                                 | 8                            | 36 | 1 1/2"                         | 1145 | 1163 | 85     | 85 | 94 | 1333 | 80    | 75 | 89 | 1318 | 80    | 75 | 89 | 1318 |
| MG 131-1131-.. | 160-420                                 | 102-153                                                                | 8.1                          | 36 | 2"                             | 1131 | 1165 | 85     | 85 | 94 | 1335 | 80    | 75 | 97 | 1320 | 80    | 75 | 97 | 1320 |

### DIAGRAMMA RENDIMENTO

Alla portata massima e minima indicata in tabella

### PERFORMANCE DIAGRAM

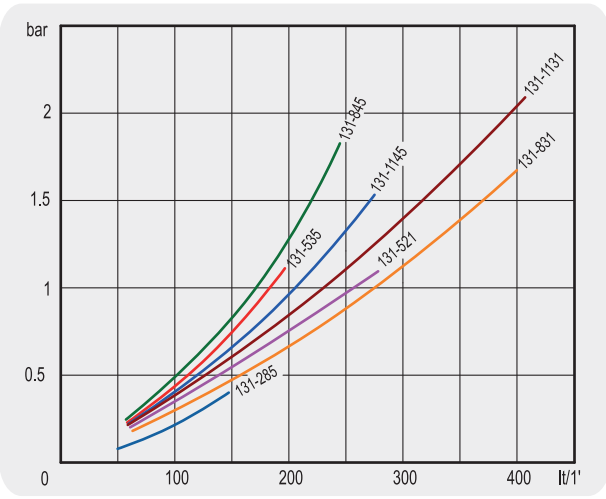
At the maximum and minimum flow stated in schedule



### FATTORE DI CORREZIONE (F)-PERDITE DI CARICO CORRECTION FACTOR (F)-PRESSURE DROP

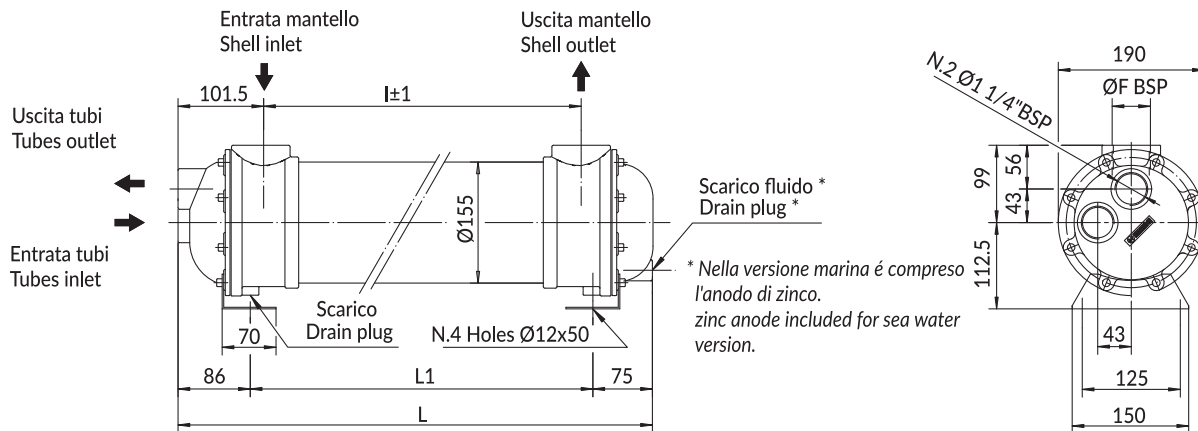
| cSt | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0.5 | 0.65 | 0.77 | 1  | 1.2 | 1.4 | 1.6 | 1.9 | 2.1 | 3.3 | 4.3 |

### PERDITE DI CARICO (32 cSt) PRESSURE DROP (32 cSt)





Con circuito acqua ispezionabile a quattro passaggi. Four ways inspectable water circuit



Le dimensioni e le caratteristiche tecniche non sono impegnative. Over-all dimension and technical characteristics are not binding.

| TIPO<br>TYPE | TUBI<br>TUBES | PIASTRA TUBIERA<br>TUBES SHEET | DEFLETTORI<br>BAFFLES | FONDI<br>COVERS | MANTELLO<br>SHELL | GUARNIZIONI<br>SEALS |
|--------------|---------------|--------------------------------|-----------------------|-----------------|-------------------|----------------------|
| STANDARD     | CuDHP         | CuZN40                         | CuZN37                | CuZN40          | Fe510.2           | Rubber-cork          |
| SEA WATER    | CuNi10Mn1Fe   | CuZN40                         | CuZN37                | CuZN40          | Fe510.2           | Rubber-cork          |

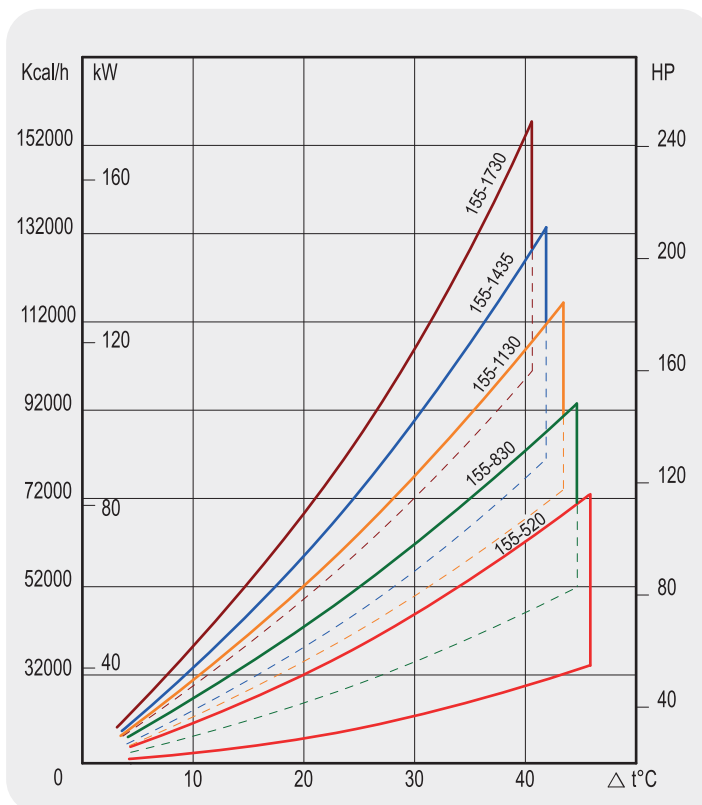
| TIPO<br>TYPE  | PORTATA<br>OLIO<br>OIL FLOW<br>(lt/min) | HP DISSIPATI CON OLIO<br>HP DISSIPATED WITH OIL<br>=55°C H2O=20°C | CAPACITÀ<br>CAPACITY<br>(lt) | kg | DIMENSIONI - Overall dimension |      |      |      |
|---------------|-----------------------------------------|-------------------------------------------------------------------|------------------------------|----|--------------------------------|------|------|------|
|               |                                         |                                                                   |                              |    | ØF                             | I    | L    | L1   |
| MG 155-520-4  | 120-300                                 | 55-120                                                            | 6.4                          | 35 | 2"                             | 520  | 712  | 551  |
| MG 155-830-4  | 140-380                                 | 95-155                                                            | 9.6                          | 43 | 2"                             | 830  | 1022 | 861  |
| MG 155-1130-4 | 160-420                                 | 115-185                                                           | 12.8                         | 51 | 2"                             | 1130 | 1322 | 1161 |
| MG 155-1435-4 | 180-450                                 | 135-235                                                           | 16                           | 58 | 2"                             | 1435 | 1627 | 1466 |
| MG 155-1730-4 | 180-450                                 | 160-250                                                           | 19                           | 66 | 2"                             | 1730 | 1922 | 1761 |

#### DIAGRAMMA RENDIMENTO

Alla portata massima e minima indicata in tabella

#### PERFORMANCE DIAGRAM

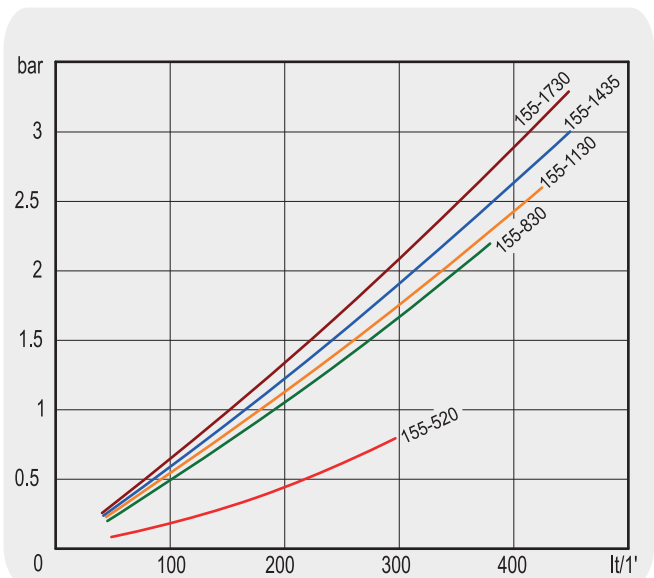
At the maximum and minimum flow stated in schedule



#### FATTORE DI CORREZIONE (F)-PERDITE DI CARICO CORRECTION FACTOR (F)-PRESSURE DROP

| cSt | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0.5 | 0.65 | 0.77 | 1  | 1.2 | 1.4 | 1.6 | 1.9 | 2.1 | 3.3 | 4.3 |

#### PERDITE DI CARICO (32 cSt) PRESSURE DROP (32 cSt)

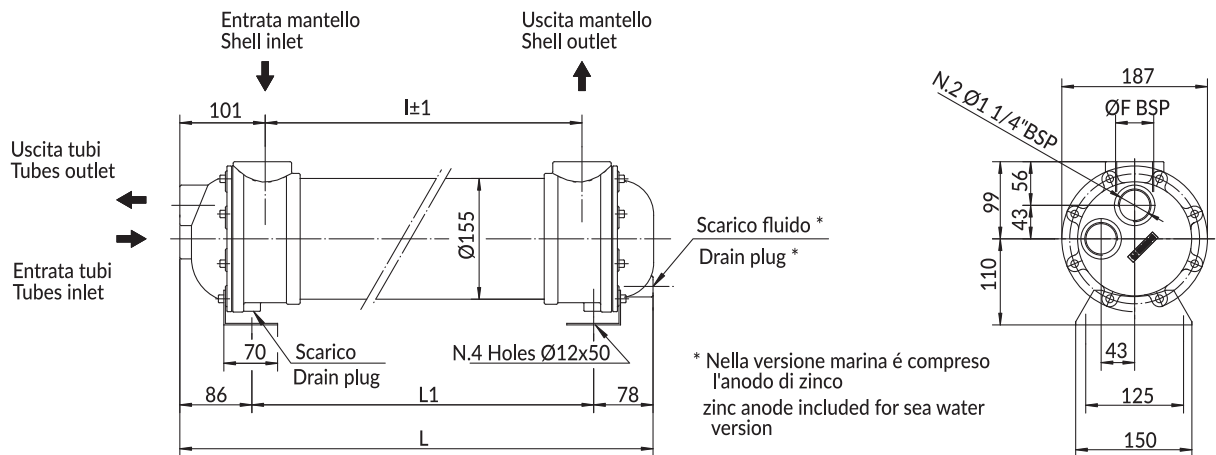




# MG Shell & Tubes

## MG 157

Con circuito acqua ispezionabile a quattro passaggi. Four ways inspectable water circuit



Le dimensioni e le caratteristiche non sono impegnative. Over-all dimension and technical characteristics are not binding.

| TIPO<br>TYPE | TUBI<br>TUBES | PIASTRA TUBIERA<br>TUBES SHEET | DEFLETTORI<br>BAFFLES | FONDI<br>COVERS | MANTELLO<br>SHELL | GUARNIZIONI<br>SEALS |
|--------------|---------------|--------------------------------|-----------------------|-----------------|-------------------|----------------------|
| STANDARD     | CuDHP         | CuZn40                         | CuZn37                | CuZn40          | Fe510.2           | Rubber-cork          |
| SEA WATER    | CuNi10Mn1Fe   | CuZn40                         | CuZn37                | CuZn40          | Fe510.2           | Rubber-cork          |

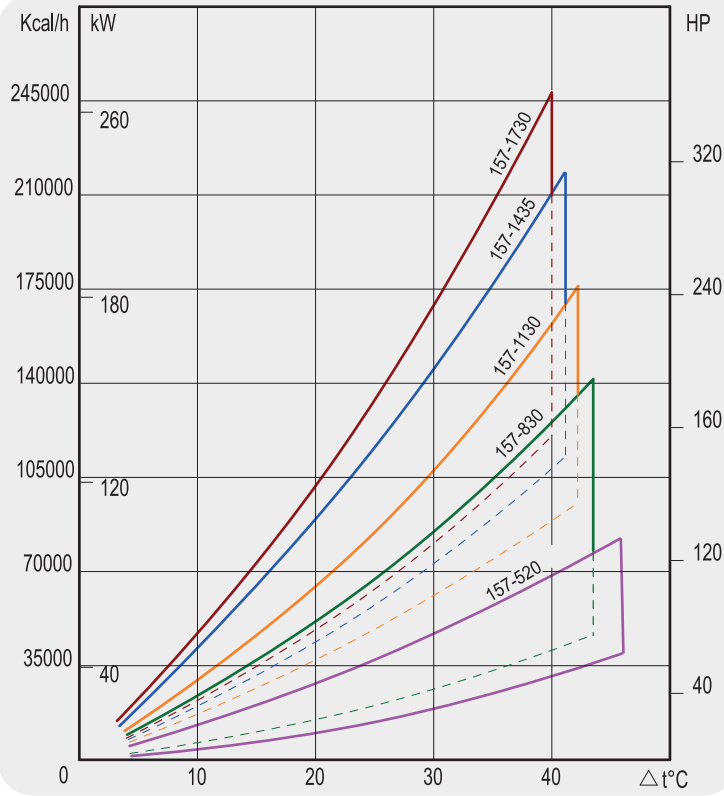
| TIPO<br>TYPE    | PORTATA OLIO<br>OIL FLOW<br>(lt/min) | HP DISSIPATI CON OLIO<br>HP DISSIPATED WITH OIL<br>=55°C H2O=20°C | CAPACITÀ<br>CAPACITY<br>(lt) | kg | DIMENSIONI - Overall dimension |      |      |      |
|-----------------|--------------------------------------|-------------------------------------------------------------------|------------------------------|----|--------------------------------|------|------|------|
|                 |                                      |                                                                   |                              |    | ØF                             | I    | L    | L1   |
| MG 157-520-4..  | 120-300                              | 35-92                                                             | 5.5                          | 40 | 2"                             | 520  | 711  | 547  |
| MG 157-830-4..  | 140-380                              | 54-166                                                            | 8.4                          | 50 | 2"                             | 830  | 1021 | 857  |
| MG 157-1130-4.. | 160-420                              | 110-215                                                           | 11.3                         | 59 | 2"                             | 1130 | 1321 | 1157 |
| MG 157-1435-4.. | 180-450                              | 140-280                                                           | 14.1                         | 66 | 2"                             | 1435 | 1626 | 1462 |
| MG 157-1730-4.. | 180-450                              | 155-315                                                           | 17                           | 76 | 2"                             | 1730 | 1921 | 1757 |

### DIAGRAMMA RENDIMENTO

Alla portata massima e minima indicata in tabella

### PERFORMANCE DIAGRAM

At the maximum and minimum flow stated in schedule

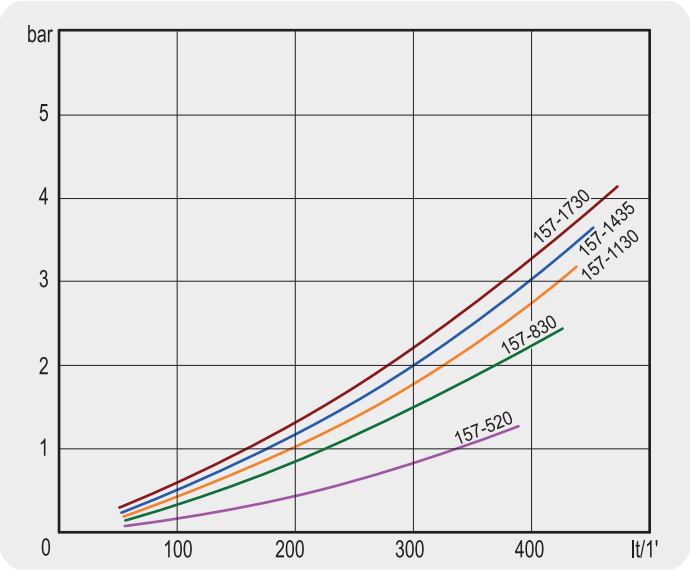


### FATTORE DI CORREZIONE (F)-PERDITE DI CARICO

### CORRECTION FACTOR (F)-PRESSURE DROP

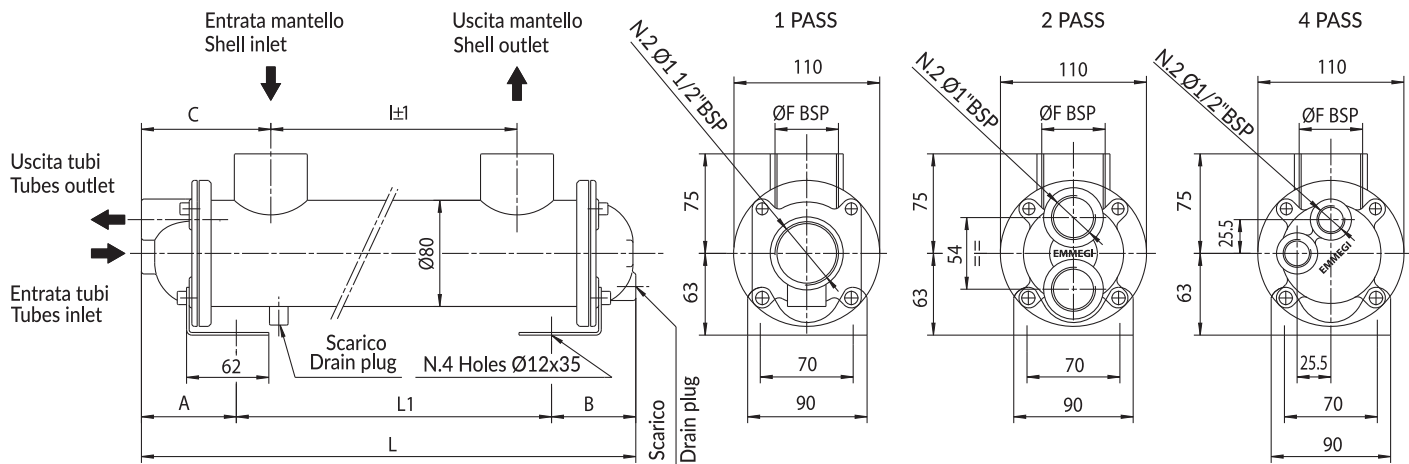
| cSt | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0.5 | 0.65 | 0.77 | 1  | 1.2 | 1.4 | 1.6 | 1.9 | 2.1 | 3.3 | 4.3 |

PERDITE DI CARICO (32 cSt)  
PRESSURE DROP (32 cSt)





Con circuito acqua ispezionabile a uno-due-quattro passaggi. One-two-four ways inspectable water circuit



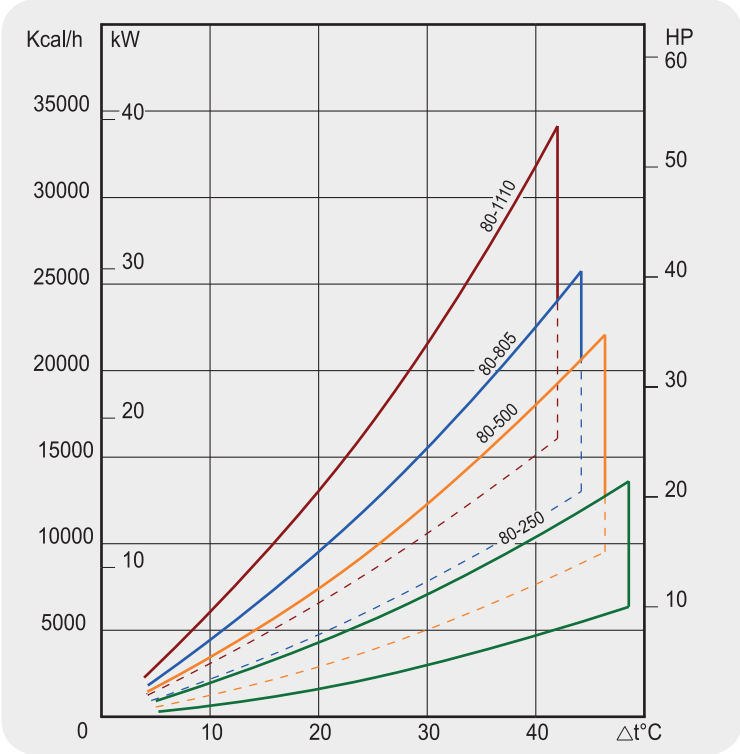
Le dimensioni e le caratteristiche tecniche non sono impegnative. Over-all dimension and technical characteristics are not binding.

| TIPO<br>TYPE | TUBI<br>TUBES | PIASTRA TUBIERA<br>TUBES SHEET | DEFLETTORI<br>BAFFLES | FONDI<br>COVERS | MANTELLO<br>SHELL | GUARNIZIONI<br>SEALS |
|--------------|---------------|--------------------------------|-----------------------|-----------------|-------------------|----------------------|
| AISI 304     | AISI 304      | AISI 304                       | AISI 304              | CuZn40          | AISI 304          | Graphite-kevlar      |

| TIPO<br>TYPE   | PORTATA<br>OLIO<br>OIL FLOW<br>(lt/min) | HP DISSIPATICO CON OLIO<br>HP DISSIPATED WITH<br>OIL<br>=55°C H2O=20°C | CAPACITÀ<br>CAPACITY<br>(lt) | kg | DIMENSIONI - Overall dimension |      |      |        |    |       |      |        |    |       |      |        |    |       |      |
|----------------|-----------------------------------------|------------------------------------------------------------------------|------------------------------|----|--------------------------------|------|------|--------|----|-------|------|--------|----|-------|------|--------|----|-------|------|
|                |                                         |                                                                        |                              |    | ØF                             | I    | L1   | 1 Pass |    |       |      | 2 Pass |    |       |      | 4 Pass |    |       |      |
|                |                                         |                                                                        |                              |    |                                |      |      | A      | B  | C     | L    | A      | B  | C     | L    | A      | B  | C     | L    |
| MGB 80-250-..  | 30-160                                  | 6-4                                                                    | 1.1                          | 6  | 1 1/2"                         | 250  | 325  | 90     | 90 | 127.5 | 505  | 72     | 64 | 127.5 | 461  | 72     | 64 | 127.5 | 461  |
| MGB 80-500-..  | 40-180                                  | 10-24                                                                  | 2                            | 9  | 1 1/2"                         | 500  | 575  | 90     | 90 | 127.5 | 755  | 72     | 64 | 127.5 | 711  | 72     | 64 | 127.5 | 711  |
| MGB 80-805-..  | 40-180                                  | 15-30                                                                  | 3                            | 12 | 1 1/2"                         | 805  | 880  | 90     | 90 | 127.5 | 1060 | 72     | 64 | 127.5 | 1016 | 72     | 64 | 127.5 | 1016 |
| MGB 80-1110-.. | 50-200                                  | 20-42                                                                  | 4                            | 15 | 1 1/2"                         | 1110 | 1185 | 90     | 90 | 127.5 | 1365 | 72     | 64 | 127.5 | 1321 | 72     | 64 | 127.5 | 1185 |

DIAGRAMMA RENDIMENTO  
Alla portata massima e minima indicata in tabella

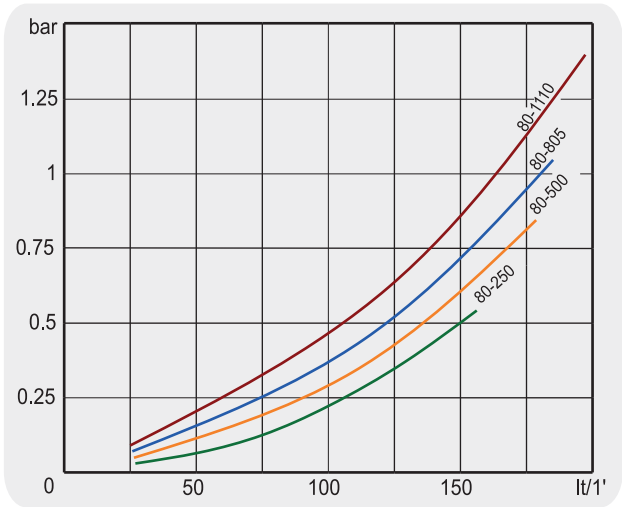
PERFORMANCE DIAGRAM  
At the maximum and minimum flow stated in schedule



FATTORE DI CORREZIONE (F)-PERDITE DI CARICO  
CORRECTION FACTOR (F)-PRESSURE DROP

| cSt | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0.5 | 0.65 | 0.77 | 1  | 1.2 | 1.4 | 1.6 | 1.9 | 2.1 | 3.3 | 4.3 |

PERDITE DI CARICO (32 cSt) PRESSURE DROP (32 cSt)

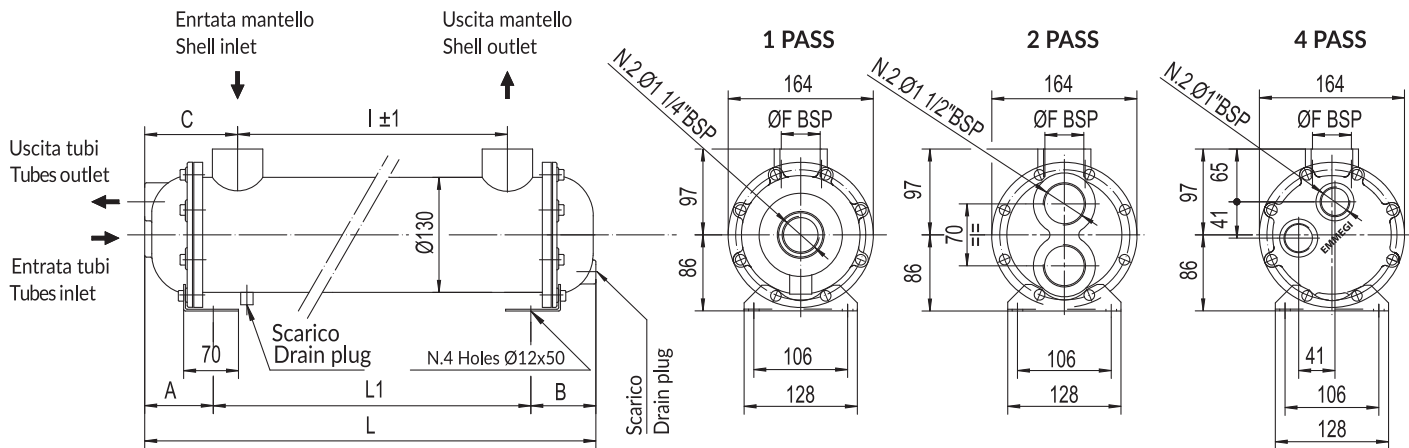




# MG Shell & Tubes

## MGB 130 - AISI 304

Con circuito acqua ispezionabile a uno-due-quattro passaggi. One-two-four ways inspectable water circuit



Le dimensioni e le caratteristiche tecniche non sono impegnative. Over-all dimension and technical characteristics are not binding.

| TIPO<br>TYPE | TUBI<br>TUBES | PIASTRA TUBIERA<br>TUBES SHEET | DEFLETTORI<br>BAFFLES | FONDI<br>COVERS | MANTELLO<br>SHELL | GUARNIZIONI<br>SEALS |
|--------------|---------------|--------------------------------|-----------------------|-----------------|-------------------|----------------------|
| AISI 304     | AISI 304      | AISI 304                       | AISI 304              | CuZn40          | AISI 304          | Graphite-kevlar      |

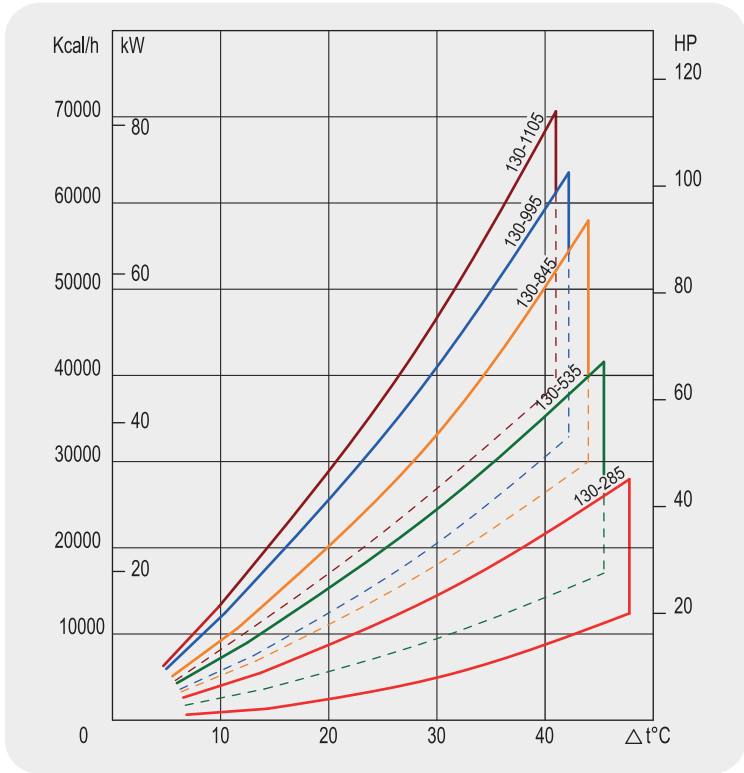
| TIPO<br>TYPE    | PORTATA<br>OLIO<br>OIL FLOW<br>(lt/min) | HP DISSIPATION OLIO<br>HP DISSIPATED WITH<br>OIL<br>=55°C H2O=20°C | CAPACITÀ<br>CAPACITY<br>(lt) | kg | DIMENSIONI - Overall dimension |      |        |    |       |      |      |        |    |       |      |      |        |    |       |      |      |
|-----------------|-----------------------------------------|--------------------------------------------------------------------|------------------------------|----|--------------------------------|------|--------|----|-------|------|------|--------|----|-------|------|------|--------|----|-------|------|------|
|                 |                                         |                                                                    |                              |    | ØF                             | I    | 1 Pass |    |       |      |      | 2 Pass |    |       |      |      | 4 Pass |    |       |      |      |
|                 |                                         |                                                                    |                              |    |                                |      | A      | B  | C     | L1   | L    | A      | B  | C     | L1   | L    | A      | B  | C     | L1   | L    |
| MGB 130-285-..  | 60-160                                  | 12-30                                                              | 3                            | 16 | 1 1/2"                         | 285  | 85     | 85 | 132   | 379  | 549  | 80     | 75 | 127   | 379  | 534  | 80     | 75 | 127   | 381  | 536  |
| MGB 130-535-..  | 80-200                                  | 18-48                                                              | 5.2                          | 22 | 1 1/2"                         | 535  | 85     | 85 | 129.5 | 624  | 794  | 80     | 75 | 124.5 | 624  | 779  | 80     | 75 | 124.5 | 626  | 781  |
| MGB 130-845-..  | 120-280                                 | 35-68                                                              | 7.9                          | 28 | 1 1/2"                         | 845  | 85     | 85 | 124.5 | 924  | 1094 | 80     | 75 | 119.5 | 924  | 1079 | 80     | 75 | 119.5 | 926  | 1081 |
| MGB 130-995-..  | 120-280                                 | 41-78                                                              | 9.2                          | 32 | 1 1/2"                         | 995  | 85     | 85 | 132   | 1089 | 1259 | 80     | 75 | 127   | 1089 | 1244 | 80     | 75 | 127   | 1091 | 1246 |
| MGB 130-1105-.. | 120-280                                 | 50-90                                                              | 10                           | 35 | 1 1/2"                         | 1105 | 85     | 85 | 129.5 | 1194 | 1364 | 80     | 75 | 124.5 | 1194 | 1349 | 80     | 75 | 124.5 | 1196 | 1351 |

### DIAGRAMMA RENDIMENTO

Alla portata massima e minima indicata in tabella

### PERFORMANCE DIAGRAM

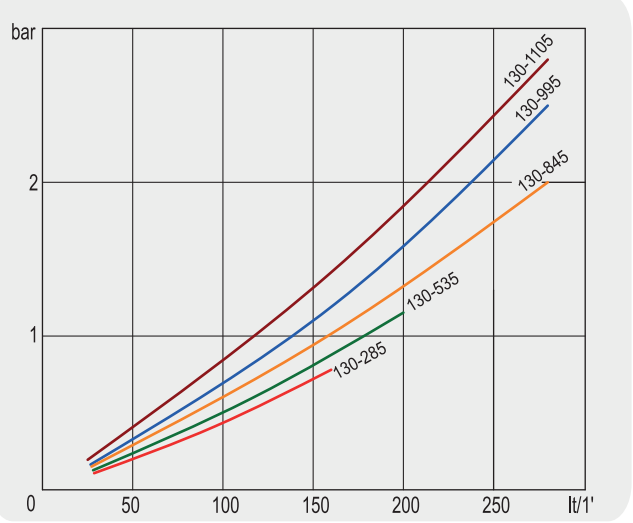
At the maximum and minimum flow stated in schedule



### FATTORE DI CORREZIONE (F)-PERDITE DI CARICO CORRECTION FACTOR (F)-PRESSURE DROP

| cSt | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0.5 | 0.65 | 0.77 | 1  | 1.2 | 1.4 | 1.6 | 1.9 | 2.1 | 3.3 | 4.3 |

### PERDITE DI CARICO (32 cSt) PRESSURE DROP (32 cSt)



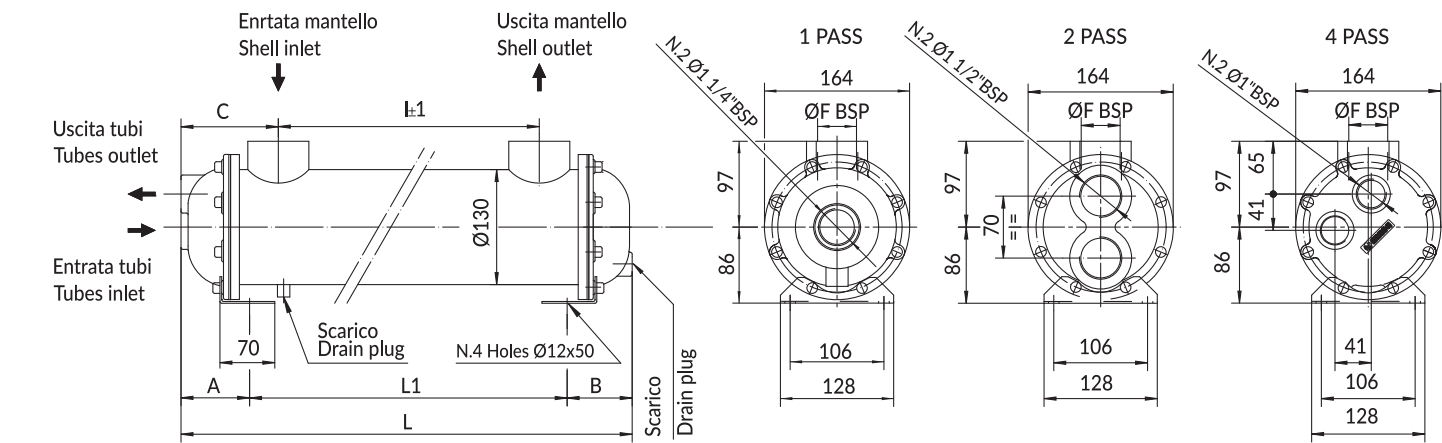


MG Shell & Tubes

MGB 131 - AISI 304



Con circuito acqua ispezionabile a uno-due-quattro passaggi. One-two-four ways inspectable water circuit

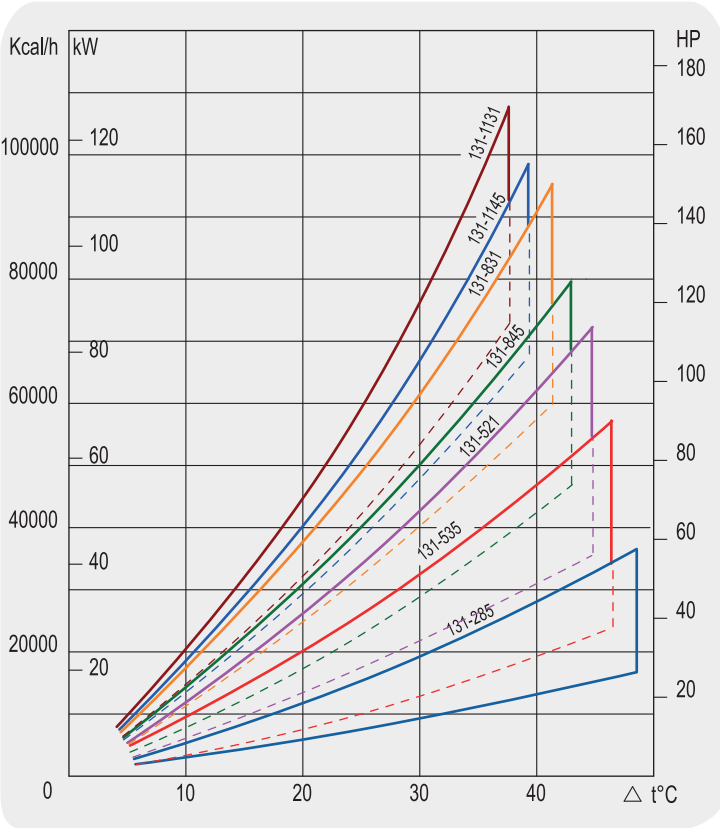


Le dimensioni e le caratteristiche tecniche non sono impegnative. Over-all dimension and technical characteristics are not binding.

| TIPO<br>TYPE | TUBI<br>TUBES | PIASTRA TUBIERA<br>TUBES SHEET | DEFLETTORI<br>BAFFLES | FONDI<br>COVERS | MANTELLO<br>SHELL | GUARNIZIONI<br>SEALS |
|--------------|---------------|--------------------------------|-----------------------|-----------------|-------------------|----------------------|
| AISI         | AISI 304      | AISI 304                       | AISI 304              | CuZn40          | AISI 304          | Graphite-kevlar      |

| TIPO<br>TYPE    | PORTATA<br>OLIO<br>OIL FLOW<br>(lt/min) | HP DISSIPATO CON OLIO<br>HP DISSIPATED WITH<br>OIL<br>=55°C H2O=20°C | CAPACITÀ<br>CAPACITY<br>(lt) | kg | DIMENSIONI - Overall dimension |      |      |        |    |       |      |       |    |    |      |       |    |      |      |      |
|-----------------|-----------------------------------------|----------------------------------------------------------------------|------------------------------|----|--------------------------------|------|------|--------|----|-------|------|-------|----|----|------|-------|----|------|------|------|
|                 |                                         |                                                                      |                              |    | ØF                             | I    | L1   | 1 Pass |    |       |      | 2Pass |    |    |      | 4Pass |    |      |      |      |
|                 |                                         |                                                                      |                              |    |                                |      |      | A      | B  | C     | L    | A     | B  | C  | L    | A     | B  | C    | L1   | L    |
| MGB 131-285-..  | 50-140                                  | 17-38                                                                | 2.7                          | 17 | 1 1/2"                         | 285  | 379  | 85     | 85 | 132   | 549  | 72    | 64 | 67 | 534  | 72    | 64 | 67.5 | 381  | 536  |
| MGB 131-535-..  | 80-200                                  | 24-63                                                                | 4.5                          | 23 | 1 1/2"                         | 535  | 624  | 85     | 85 | 129.5 | 794  | 72    | 64 | 67 | 779  | 72    | 64 | 67.5 | 626  | 781  |
| MGB 131-521-..  | 120-280                                 | 40-82                                                                | 4.6                          | 23 | 2"                             | 521  | 624  | 85     | 85 | 136.5 | 794  | 72    | 64 | 67 | 779  | 72    | 64 | 67.5 | 626  | 781  |
| MGB 131-845-..  | 100-250                                 | 56-96                                                                | 6.9                          | 29 | 1 1/2"                         | 845  | 924  | 85     | 85 | 124.5 | 1094 | 72    | 64 | 67 | 1079 | 72    | 64 | 67.5 | 926  | 1081 |
| MGB 131-831-..  | 160-400                                 | 77-120                                                               | 7                            | 29 | 2"                             | 831  | 924  | 85     | 85 | 131.5 | 1094 | 72    | 64 | 67 | 1079 | 72    | 64 | 67.5 | 926  | 1081 |
| MGB 131-1145-.. | 120-280                                 | 85-132                                                               | 8                            | 36 | 1 1/2"                         | 1145 | 1224 | 85     | 85 | 124.5 | 1394 | 72    | 64 | 67 | 1379 | 72    | 64 | 67.5 | 1224 | 1379 |
| MGB 131-1131-.. | 160-420                                 | 102-153                                                              | 8.1                          | 36 | 2"                             | 1131 | 1224 | 85     | 85 | 131.5 | 1394 | 72    | 64 | 67 | 1379 | 72    | 64 | 67.5 | 1224 | 1379 |

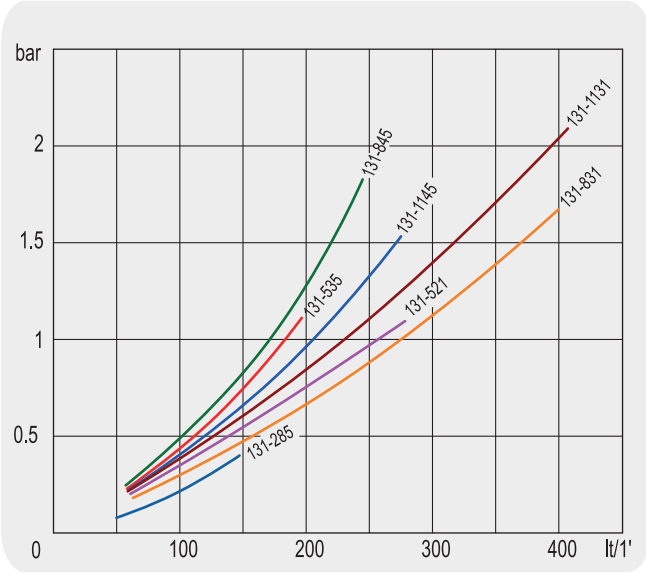
DIAGRAMMA RENDIMENTO  
Alla portata massima e minima indicata in tabella  
PERFORMANCE DIAGRAM  
At the maximum and minimum flow stated in schedule



FATTORE DI CORREZIONE (F)-PERDITE DI CARICO  
CORRECTION FACTOR (F)-PRESSURE DROP

| cSt | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0.5 | 0.65 | 0.77 | 1  | 1.2 | 1.4 | 1.6 | 1.9 | 2.1 | 3.3 | 4.3 |

PERDITE DI CARICO (32 cSt) PRESSURE DROP (32 cSt)

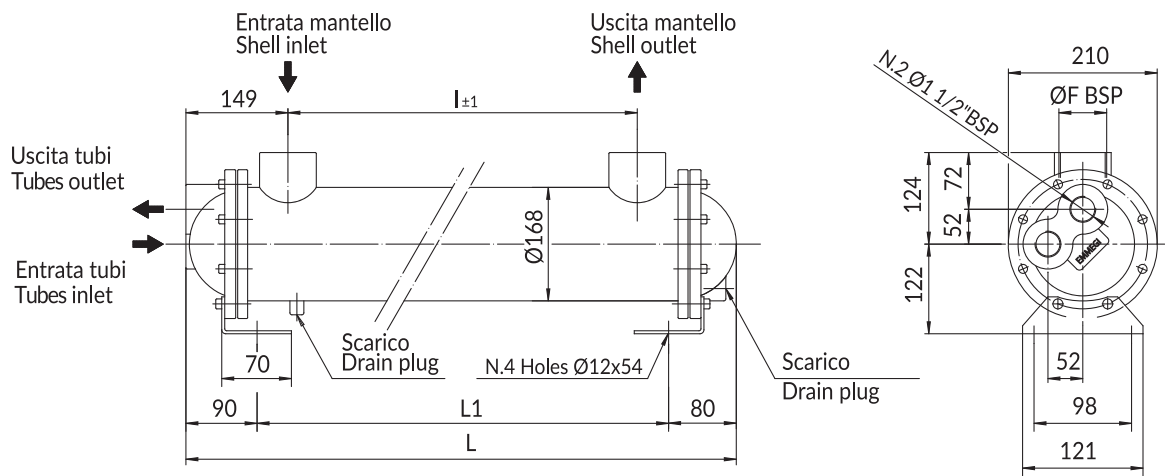




# MG Shell & Tubes

## MGB 168 - AISI 304

Con circuito acqua ispezionabile a quattro passaggi. Four ways inspectable water circuit



Le dimensioni e le caratteristiche tecniche non sono impegnative. Over-all dimension and technical characteristics are not binding.

| TIPO<br>TYPE | TUBI<br>TUBES | PIASTRA TUBIERA<br>TUBES SHEET | DEFLETTORI<br>BAFFLES | FONDI<br>COVERS | MANTELLO<br>SHELL | GUARNIZIONI<br>SEALS |
|--------------|---------------|--------------------------------|-----------------------|-----------------|-------------------|----------------------|
| AISI         | AISI 304      | AISI 304                       | AISI 304              | G25             | AISI 304          | Graphite-kevlar      |

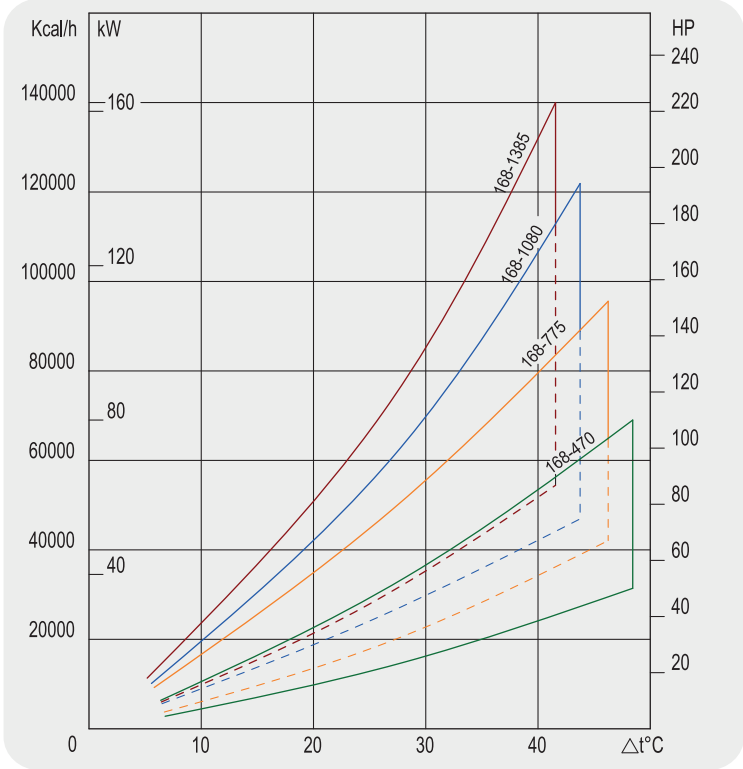
| TIPO<br>TYPE     | PORTATA OLIO<br>OIL FLOW<br>(lt/min) | HP DISSIPATI CON OLIO<br>HP DISSIPATED WITH OIL<br>=55°C H2O=20°C | CAPACITÀ<br>CAPACITY<br>(lt) | kg | DIMENSIONI - Overall dimension |      |      |      |
|------------------|--------------------------------------|-------------------------------------------------------------------|------------------------------|----|--------------------------------|------|------|------|
|                  |                                      |                                                                   |                              |    | 4 Pass                         |      |      |      |
|                  |                                      |                                                                   |                              |    | ØF                             | I    | L    | L1   |
| MGB 168-470-4..  | 100-450                              | 32-72                                                             | 8.3                          | 35 | 2"                             | 470  | 756  | 586  |
| MGB 168-775-4..  | 120-500                              | 45-105                                                            | 12.5                         | 43 | 2"                             | 775  | 1061 | 891  |
| MGB 168-1080-4.. | 150-550                              | 55-142                                                            | 16.7                         | 50 | 2"                             | 1080 | 1366 | 1196 |
| MGB 168-1385-4.. | 150-550                              | 70-172                                                            | 21                           | 57 | 2"                             | 1385 | 1671 | 1501 |

### DIAGRAMMA RENDIMENTO

Alla portata massima e minima indicata in tabella

### PERFORMANCE DIAGRAM

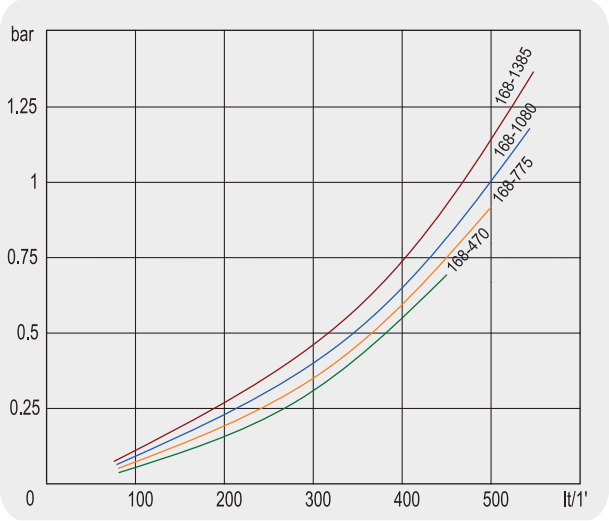
At the maximum and minimum flow stated in schedule



### FATTORE DI CORREZIONE (F)-PERDITE DI CARICO CORRECTION FACTOR (F)-PRESSURE DROP

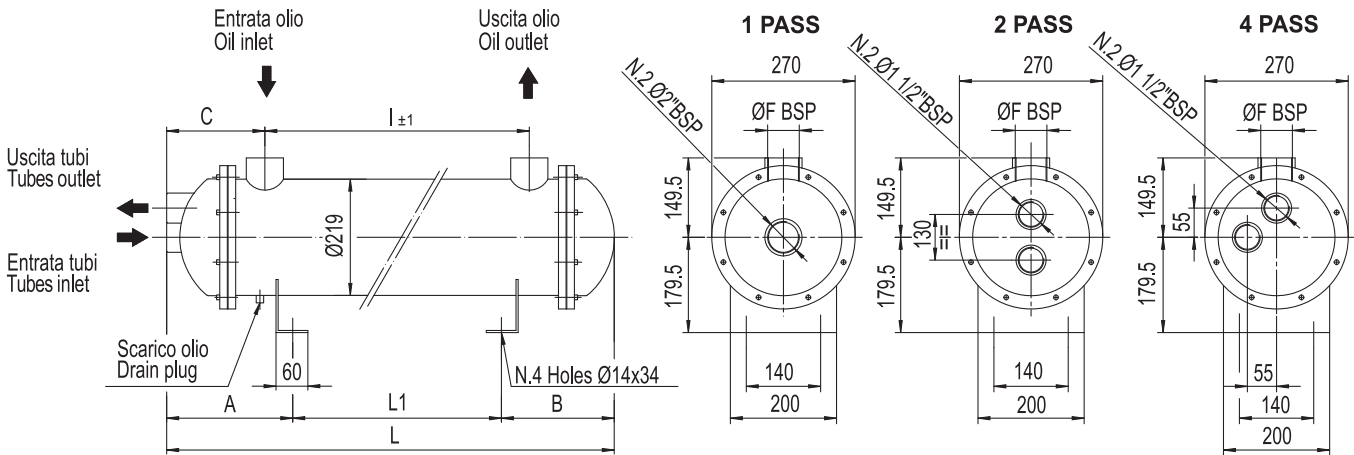
| cSt | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0.5 | 0.65 | 0.77 | 1  | 1.2 | 1.4 | 1.6 | 1.9 | 2.1 | 3.3 | 4.3 |

### PERDITE DI CARICO (32 cSt) PRESSURE DROP (32 cSt)





Con circuito acqua ispezionabile a uno-due-quattro passaggi. One-two-four ways inspectable water circuit



Le dimensioni e le caratteristiche tecniche non sono impegnative. Over-all dimension and technical characteristics are not binding.

| TIPO<br>TYPE | TUBI<br>TUBES | PIASTRA TUBIERA<br>TUBES SHEET | DEFLETTORI<br>BAFFLES | FONDI<br>COVERS | MANTELLO<br>SHELL | GUARNIZIONI<br>SEALS |
|--------------|---------------|--------------------------------|-----------------------|-----------------|-------------------|----------------------|
| STANDARD     | CuDHP         | CuZN40                         | CuZN37                | CuZN40          | AISI 304          | OR 4900              |
| AISI         | AISI 304      | AISI 304                       | AISI 304              | AISI 304        | AISI 304          | OR 4900              |

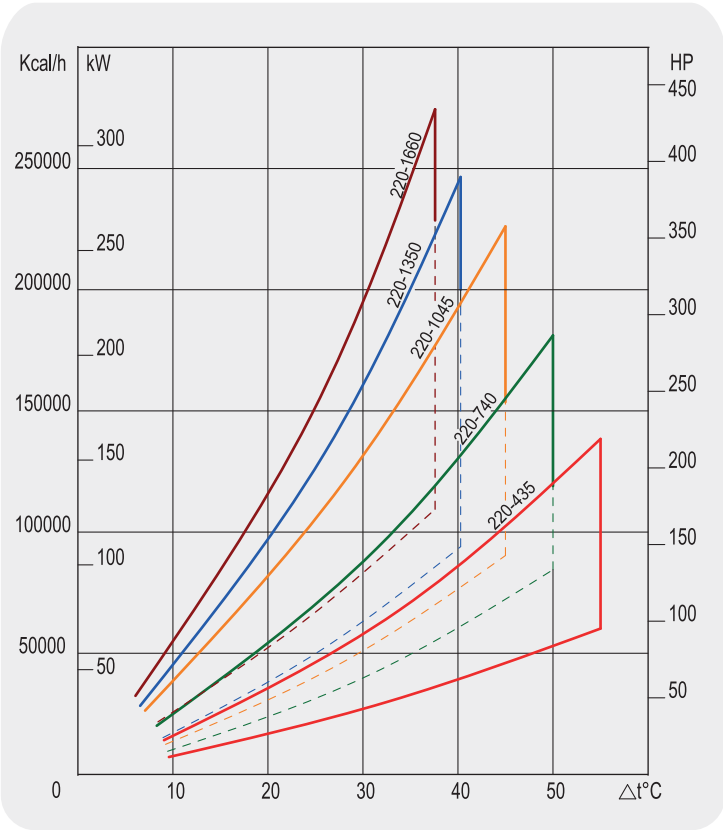
| TIPO<br>TYPE    | PORTATA<br>OLIO<br>OIL FLOW<br>(lt/min) | HP DISSIPATION OLIO<br>HP DISSIPATED WTK<br>OIL<br>=55°C H2O=20°C | CAPACITÀ<br>CAPACITY<br>(lt) | kg  | DIMENSIONI - Overall dimension |      |      |        |     |       |      |       |     |     |      |       |     |       |      |  |
|-----------------|-----------------------------------------|-------------------------------------------------------------------|------------------------------|-----|--------------------------------|------|------|--------|-----|-------|------|-------|-----|-----|------|-------|-----|-------|------|--|
|                 |                                         |                                                                   |                              |     | ØF                             | I    | L1   | 1 Pass |     |       |      | 2Pass |     |     |      | 4Pass |     |       |      |  |
|                 |                                         |                                                                   |                              |     |                                |      |      | A      | B   | C     | L    | A     | B   | C   | L    | A     | B   | C     | L    |  |
| MGB 220-435-..  | 80-800                                  | 50-120                                                            | 11                           | 48  | 2 1/2"                         | 435  | 322  | 264    | 225 | 208   | 811  | 235   | 225 | 179 | 782  | 235   | 225 | 178.5 | 782  |  |
| MGB 220-740-..  | 100-800                                 | 75-180                                                            | 16.8                         | 82  | 2 1/2"                         | 740  | 627  | 264    | 225 | 207.5 | 1116 | 235   | 225 | 179 | 1087 | 235   | 225 | 178.5 | 1087 |  |
| MGB 220-1045-.. | 100-800                                 | 100-250                                                           | 22.2                         | 110 | 2 1/2"                         | 1045 | 932  | 264    | 225 | 207.5 | 1421 | 235   | 225 | 179 | 1392 | 235   | 225 | 178.5 | 1392 |  |
| MGB 220-1350-.. | 100-250                                 | 125-320                                                           | 27.9                         | 120 | 2 1/2"                         | 1350 | 1237 | 264    | 225 | 207.5 | 1726 | 235   | 225 | 179 | 1697 | 235   | 225 | 178.5 | 1697 |  |
| MGB 220-1660-.. | 100-800                                 | 150-390                                                           | 33.6                         | 145 | 2 1/2"                         | 1660 | 1547 | 264    | 225 | 207.5 | 2036 | 235   | 225 | 179 | 2007 | 235   | 225 | 178.5 | 2007 |  |

DIAGRAMMA RENDIMENTO

Alla portata massima e minima indicata in tabella

PERFORMANCE DIAGRAM

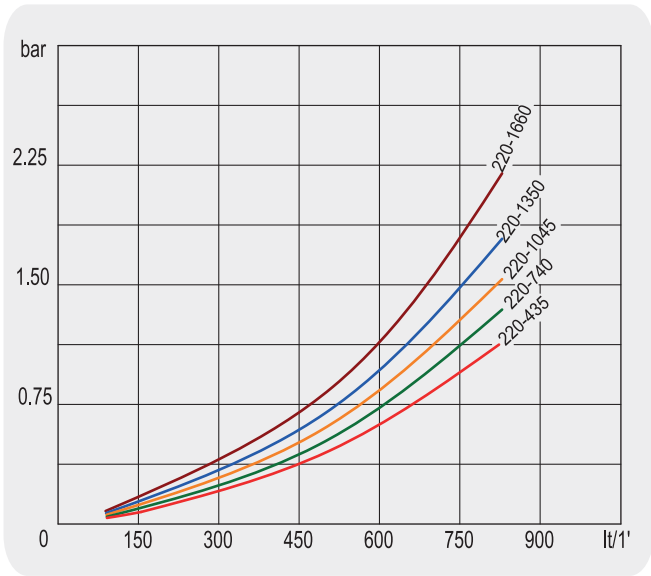
At the maximum and minimum flow stated in schedule



FATTORE DI CORREZIONE (F)-PERDITE DI CARICO  
CORRECTION FACTOR (F)-PRESSURE DROP

| cSt | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0.5 | 0.65 | 0.77 | 1  | 1.2 | 1.4 | 1.6 | 1.9 | 2.1 | 3.3 | 4.3 |

PERDITE DI CARICO (32 cSt) PRESSURE DROP (32 cSt)

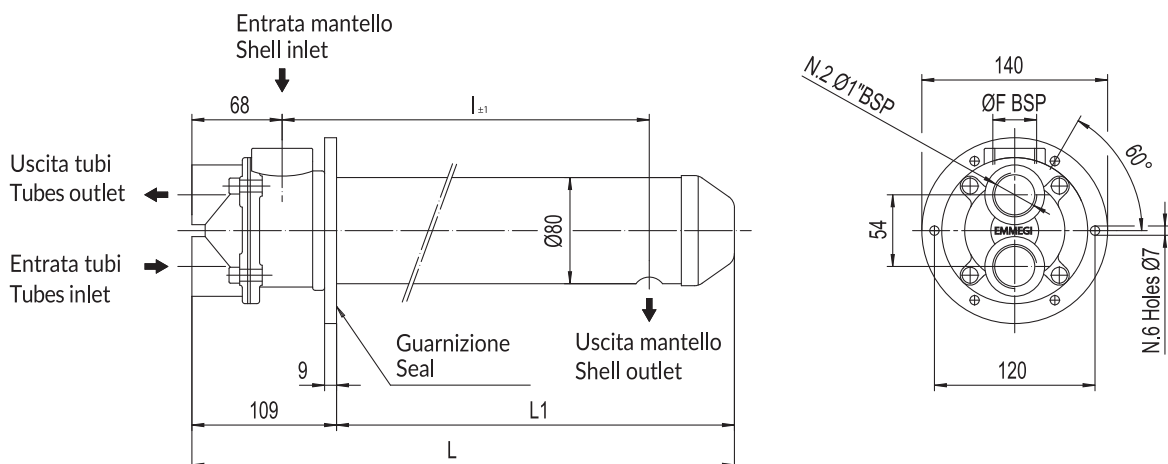




# MG Shell & Tubes

## MGF 80

Con circuito acqua ispezionabile a due passaggi. Two ways inspectable water circuit



Le dimensioni e le caratteristiche non sono impegnative. Over-all dimension and technical characteristics are not binding.

| TIPO<br>TYPE | TUBI<br>TUBES | PIASTRA TUBIERA<br>TUBES SHEET | DEFLETTORI<br>BAFFLES | FONDI<br>COVERS | MANTELLO<br>SHELL | GUARNIZIONI<br>SEALS |
|--------------|---------------|--------------------------------|-----------------------|-----------------|-------------------|----------------------|
| STANDARD     | CuDHP         | CuZn40                         | CuZn37                | CuZn40          | CuZn37            | Rubber-cork          |

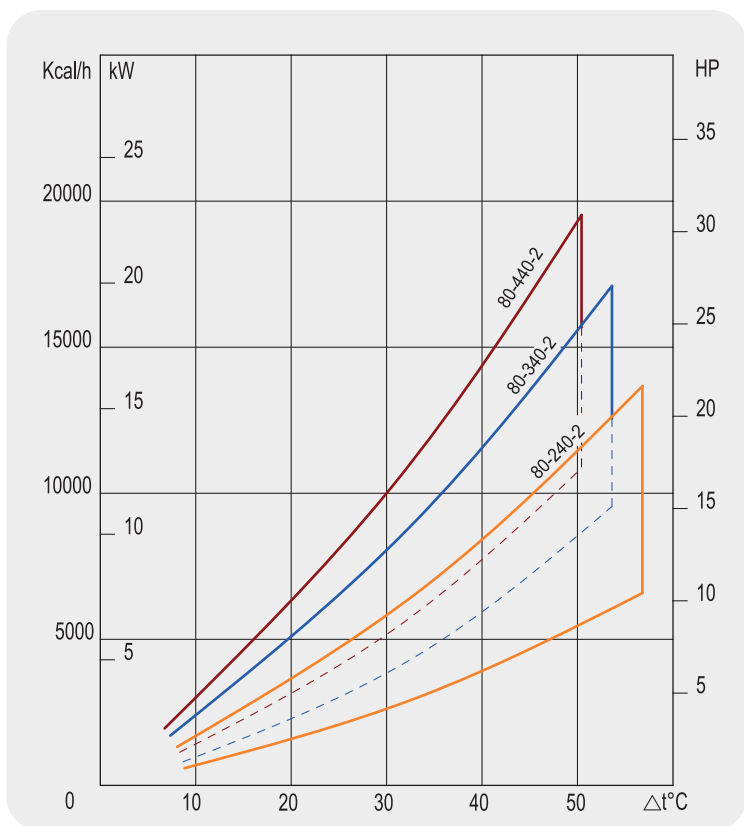
| TIPO<br>TYPE | PORTATA OLIO<br>OIL FLOW<br>(lt/min) | HP DISSIPATI CON OLIO<br>HP DISSIPATED WITH OIL<br>=55°C H2O=20°C | CAPACITÀ<br>CAPACITY<br>(lt) | kg  | DIMENSIONI - Overall dimension<br>2 Pass |     |     |     |
|--------------|--------------------------------------|-------------------------------------------------------------------|------------------------------|-----|------------------------------------------|-----|-----|-----|
|              |                                      |                                                                   |                              |     | ØF                                       | I   | L   | L1  |
| MGF 80-240-2 | 20-60                                | 3-6                                                               | 0.9                          | 5   | 1"                                       | 240 | 369 | 260 |
| MGF 80-340-2 | 30-70                                | 6-9                                                               | 1.2                          | 5.7 | 1"                                       | 340 | 469 | 360 |
| MGF 80-440-2 | 40-80                                | 9-12                                                              | 1.5                          | 6.4 | 1"                                       | 440 | 569 | 460 |

### DIAGRAMMA RENDIMENTO

Alla portata massima e minima indicata in tabella

### PERFORMANCE DIAGRAM

At the maximum and minimum flow stated in schedule

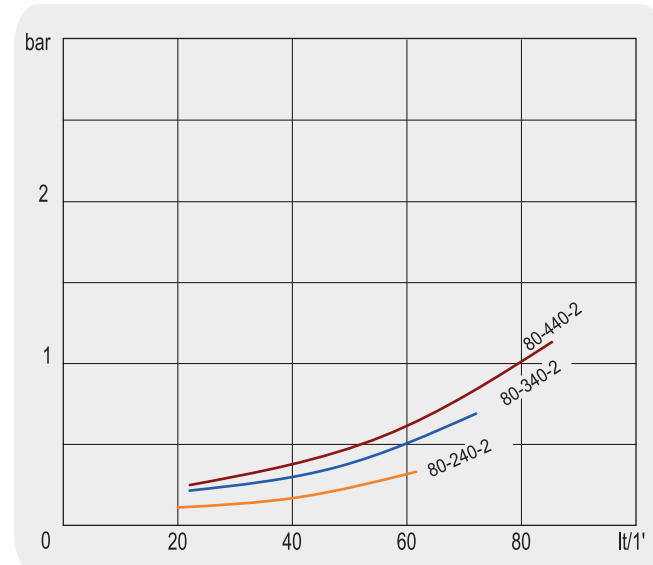


### FATTORE DI CORREZIONE (F)-PERDITE DI CARICO

### CORRECTION FACTOR (F)-PRESSURE DROP

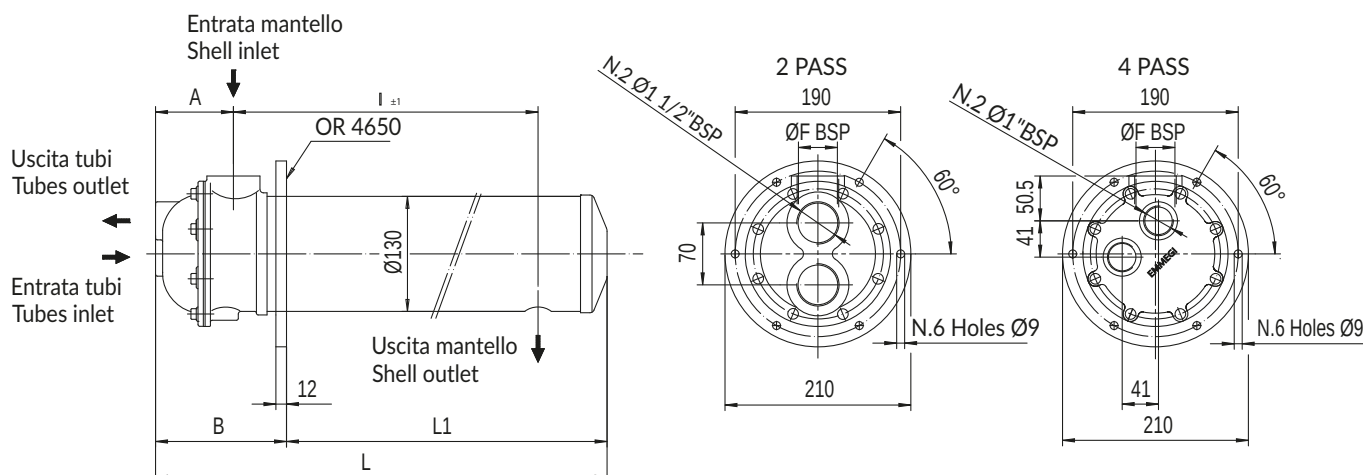
| cSt | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0.5 | 0.65 | 0.77 | 1  | 1.2 | 1.4 | 1.6 | 1.9 | 2.1 | 3.3 | 4.3 |

### PERDITE DI CARICO (32 cSt) PRESSURE DROP (32 cSt)





Con circuito acqua ispezionabile a due-quattro passaggi. Two-four ways inspectable water circuit.

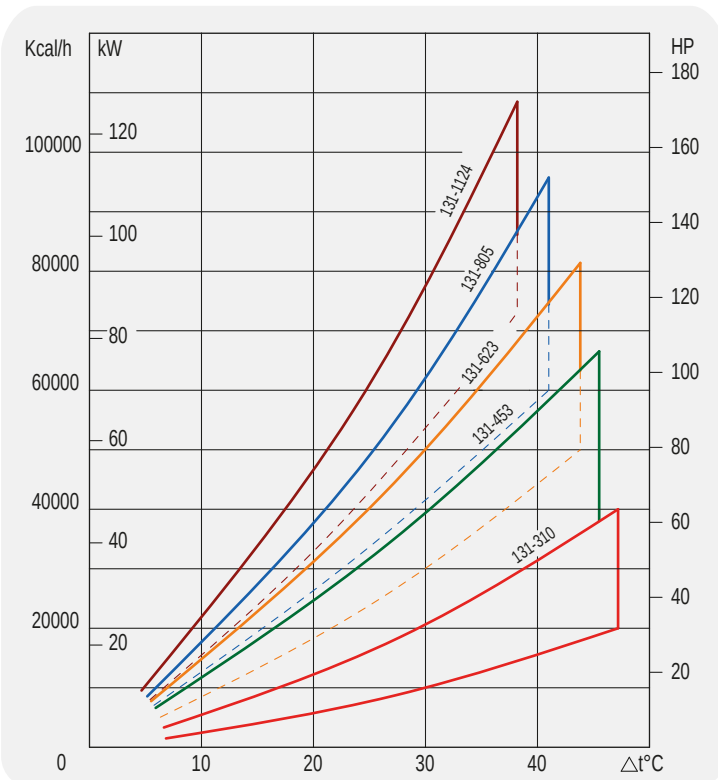


Le dimensioni e le caratteristiche non sono impegnative. Over-all dimension and technical characteristics are not binding.

| TIPO<br>TYPE    | TUBI<br>TUBES                           | PIASTRA TUBIERA<br>TUBES SHEET                                       | DEFLETTORI<br>BAFFLES        | FONDI<br>COVERS | MANTELLO<br>SHELL              | GUARNIZIONI<br>SEALS |      |      |        |      |      |      |    |     |
|-----------------|-----------------------------------------|----------------------------------------------------------------------|------------------------------|-----------------|--------------------------------|----------------------|------|------|--------|------|------|------|----|-----|
| STANDARD        | cuDHP                                   | CUZn40                                                               | CUZn37                       | CUZn40          | Fe 360<br>UNI EN 10305 - 03    | Rubber-cork          |      |      |        |      |      |      |    |     |
| TIPO<br>TYPE    | PORTATA<br>OLIO<br>OIL FLOW<br>(lt/min) | HP DISSIPATI CON OLIO<br>HP DISSIPATED WITH<br>OIL<br>=55°C H2O=20°C | CAPACITÀ<br>CAPACITY<br>(lt) | kg              | DIMENSIONI - Overall dimension |                      |      |      |        |      |      |      |    |     |
|                 |                                         |                                                                      |                              |                 | 2 Pass                         |                      |      |      | 4 Pass |      |      |      |    |     |
|                 |                                         |                                                                      |                              |                 | ØF                             | I                    | L1   | L    | ØF     | I    | L1   | L    | A  | B   |
| MGF 131-310-..  | 50-150                                  | 20-40                                                                | 3.2                          | 16              | 1 1/2"                         | 310                  | 314  | 462  | 1 1/2" | 310  | 314  | 462  | 88 | 148 |
| MGF 131-453-..  | 100-150                                 | 40-75                                                                | 4.3                          | 22              | 1 1/2"                         | 453                  | 465  | 613  | 1 1/2" | 453  | 465  | 613  | 88 | 148 |
| MGF 131-623-..  | 150-300                                 | 58-96                                                                | 5.7                          | 28              | 2"                             | 623                  | 635  | 795  | 2"     | 623  | 635  | 795  | 95 | 160 |
| MGF 131-805-..  | 150-350                                 | 78-118                                                               | 7.1                          | 32              | 2"                             | 805                  | 817  | 977  | 2"     | 805  | 817  | 977  | 95 | 160 |
| MGF 131-1124-.. | 200-400                                 | 105-150                                                              | 9.6                          | 35              | 2"                             | 1124                 | 1136 | 1296 | 2"     | 1124 | 1136 | 1296 | 95 | 160 |

### DIAGRAMMA RENDIMENTO

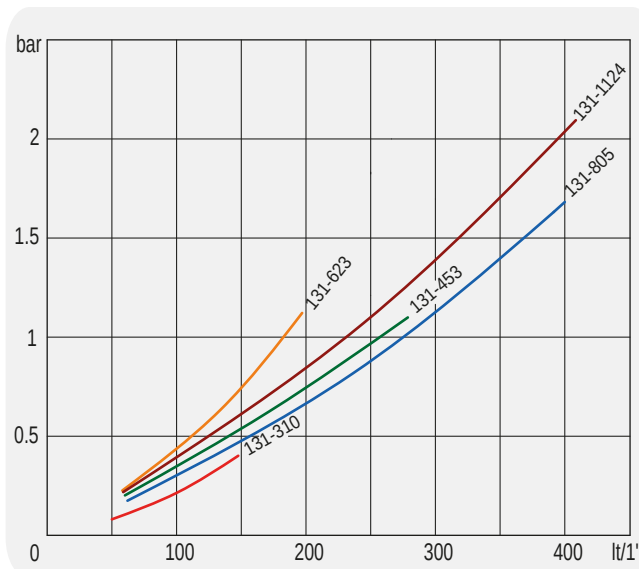
Alla portata massima e minima indicata in tabella  
PERFORMANCE DIAGRAM  
At the maximum and minimum flow stated in schedule



### FATTORE DI CORREZIONE (F)-PERDITE DI CARICO CORRECTION FACTOR (F)-PRESSURE DROP

| cSt | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0.5 | 0.65 | 0.77 | 1  | 1.2 | 1.4 | 1.6 | 1.9 | 2.1 | 3.3 | 4.3 |

### PERDITE DI CARICO (32 cSt) PRESSURE DROP (32 cSt)









## Scambiatori a Piastre Saldobrasate Brazed Plate Heat Exchangers



## PB Series

### Brazed Plate Series

#### APPLICAZIONI:

#### APPLICATIONS:

Dove è possibile impiegare acqua per il raffreddamento dei fluidi di processo, gli scambiatori a piastre saldobrasate della gamma PB, si prestano come la soluzione di raffreddamento ottimale per svariate applicazioni industriali quali:

When water can be used to cool the process fluids, the PB range of heat exchangers with brazed plates are the optimal cooling solution for various industrial

Impianti oleodinamici.  
Macchine utensili.  
Altro su richiesta.

Hydraulic systems.  
Machine tools.  
Others on request.





## Serie PB - PB Series

| Modello<br>Model |
|------------------|
| PB014            |
| PB022            |
| PB031            |
| PB034            |
| PB047            |
| PB060            |
| PB110            |
| PB170            |





## Scambiatori a Piastre Saldobrasate

### Brazed Plate Heat Exchangers

#### *Vantaggi degli scambiatori a piastre saldobrasate*

- Alto coefficiente di scambio termico;
- Dimensioni contenute con alte performance;
- Alta resistenza alla pressione e temperatura;
- Connessioni in AISI 321;
- Facile installazione;

Gli scambiatori a piastre sono costituiti da piastre corrugate.

Le piastre sono ruotate di 180° l'una dall'altra al fine di creare un reticolo di canali intersecati. I fluidi possono fluire sia in controcorrente che equicorrente.

Le piastre sono unite insieme tra loro con materiale brasante in speciali forni sottovuoto.

La speciale corrugazione permette al fluido di turbolare aumentando lo scambio termico e riducendo i depositi di sporco nelle piastre.

#### *Advantages of Brazed Plate Heat Exchangers*

- High heat transfer coefficient;
- Small unit size with high heat transfer capacity;
- High resistance to pressure and temperature fluctuations;
- Stainless steel connections;
- Easy installation;

Brazed plate heat exchangers consist of stainless steel plate packs, which have embossed chevron patterns. The plates are turned 180° to each other, causing the plate ridges to intersect, and creating a lattice of intersecting channels. The fluids can flow in counter-current or co-current way.

The entire construction is sealed together by the means of brazing in a special vacuum furnace.

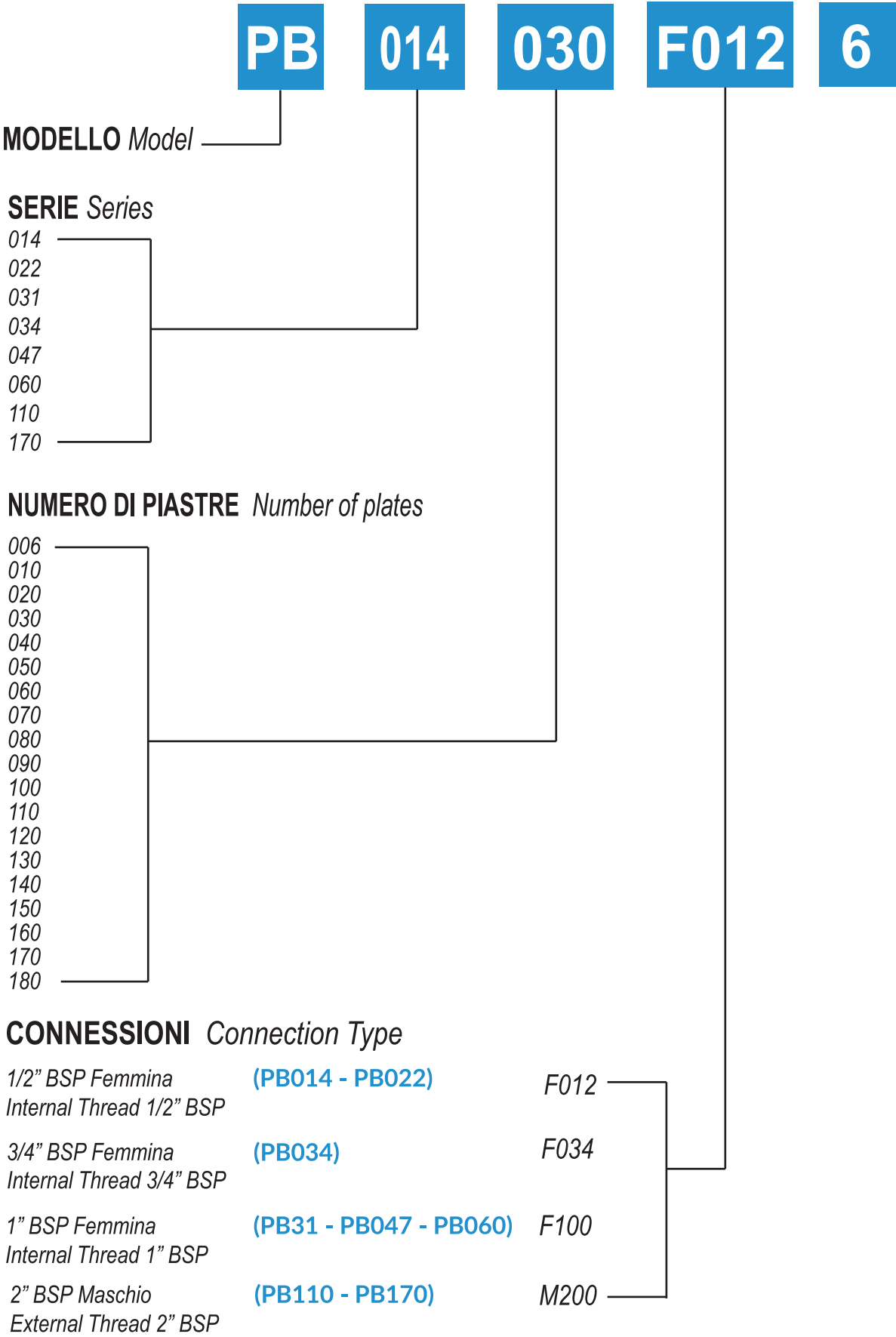
Special corrugation patterns promote high turbulence flow. Turbulence dramatically improves heat transfer rates and reduces the amount of deposits inside the unit.





Denominazione codice prodotto

Ordering code



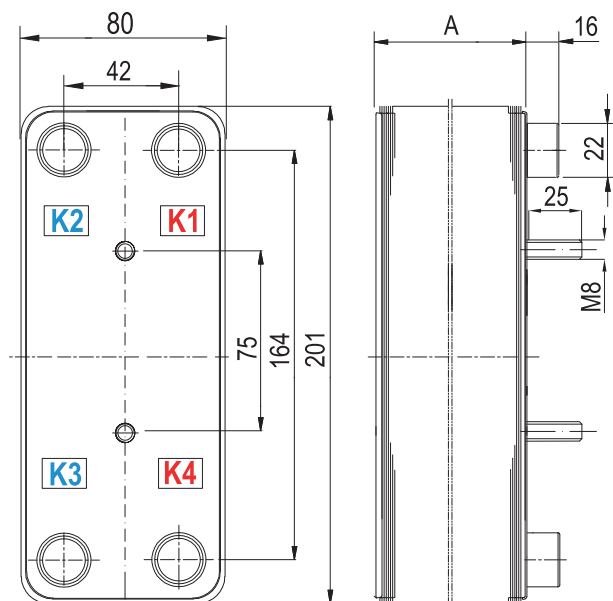




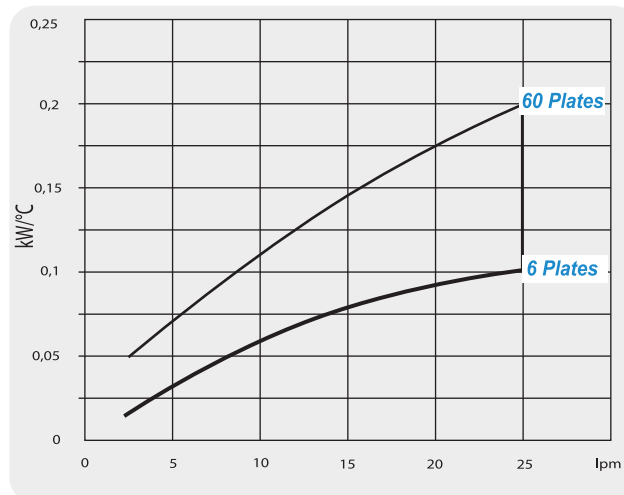
# PB Series

## PB014

### Dimensioni    Dimensions



### Diagramma rendimento    Performance diagram - ISO VG46 @50°C

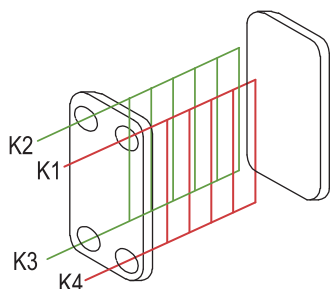


### Rapporto portata olio/acqua 2:1 - flow ratio 2:1

Per informazioni inerenti la perdita di carico contattare EMMEGI.  
For pressure drop information please contact EMMEGI.

| Collegamenti Standard<br>Standard of Connection<br>Location                        | Connessioni<br>Connection Types          |
|------------------------------------------------------------------------------------|------------------------------------------|
| <b>K1 / K4</b> - Ingresso/uscita caldo<br><b>K1 / K4</b> - Inlet/Outlet Hot Side   | G 1/2" Femmina<br>Internal Thread G 1/2" |
| <b>K3 / K2</b> - Ingresso/uscita freddo<br><b>K3 / K2</b> - Inlet/Outlet Cold Side | G 1/2" Femmina<br>Internal Thread G 1/2" |

A richiesta connessioni speciali  
Special connections on request



| Condizioni di esercizio<br>Working Conditions  |        |
|------------------------------------------------|--------|
| Massima Temperatura<br>Max. Working Pressure   | 230°C  |
| Minima Temperatura<br>Min. Working Temperature | -10°C  |
| Massima Pressione<br>Max. Working Pressure     | 30 bar |

| Materiali Utilizzati<br>Materials |           |
|-----------------------------------|-----------|
| Piastre<br>Plate                  | Aisi 316  |
| Attacchi<br>Connection            | Aisi 316  |
| Brasatura<br>Brazing Material     | Cu 99,95% |

| N° Piastre<br>Plate No. | A (mm) | Peso (kg)<br>Weight (kg) | Capacità per circuito<br>Channel Volume<br>(lt) |
|-------------------------|--------|--------------------------|-------------------------------------------------|
| 6                       | 23     | 0.9                      | 0.1                                             |
| 10                      | 32     | 1.1                      | 0.1                                             |
| 20                      | 55     | 1.6                      | 0.2                                             |
| 30                      | 78     | 2.1                      | 0.33                                            |
| 40                      | 101    | 2.6                      | 0.4                                             |
| 50                      | 124    | 3.1                      | 0.6                                             |
| 60                      | 147    | 3.5                      | 0.7                                             |

Le dimensioni di ingombro e le caratteristiche tecniche non sono impegnative  
Overall dimensions and technical characteristic are not binding





Dimensioni    Dimensions

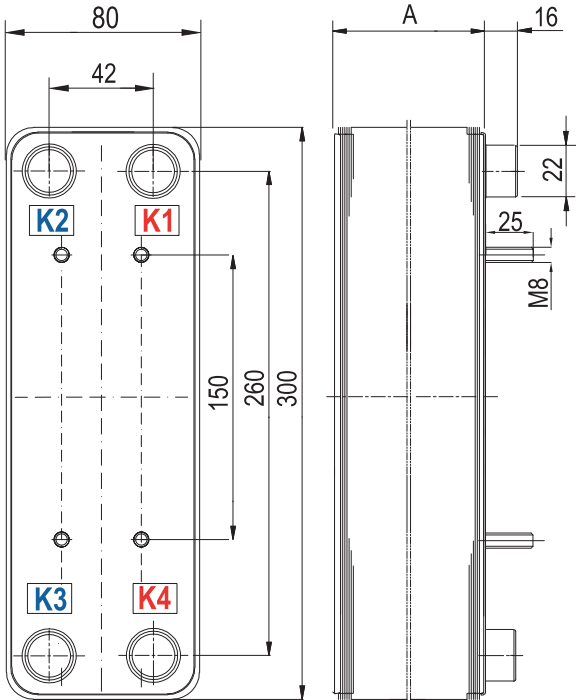
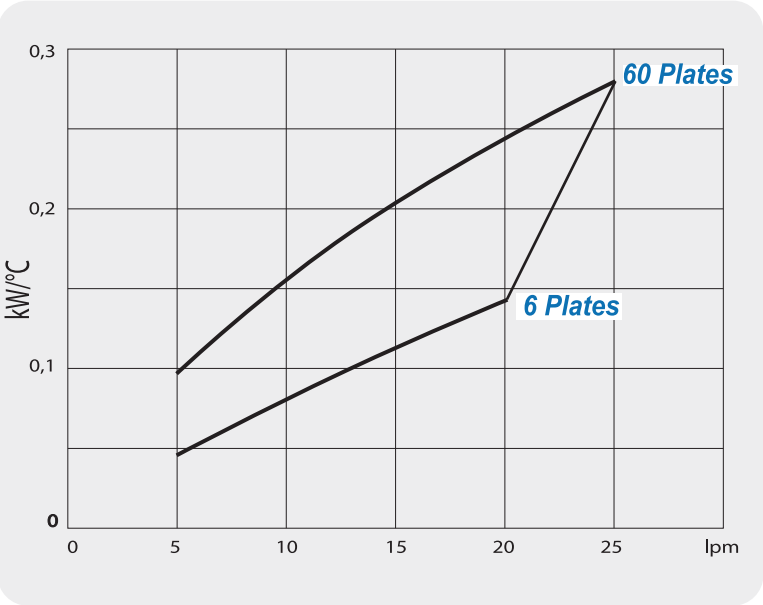


Diagramma rendimento    Performance diagram - ISO VG46 @50°C



Rapporto portata olio/acqua 2:1 - flow ratio 2:1

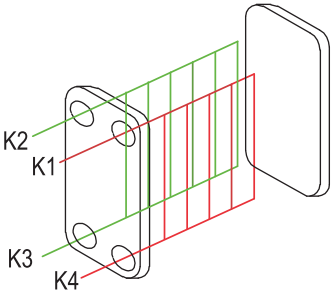
Per informazioni inerenti la perdita di carico contattare EMMEGI.  
For pressure drop information please contact EMMEGI.

| Collegamenti Standard<br>Standard of Connection<br>Location          | Connessioni<br>Connection Types          |
|----------------------------------------------------------------------|------------------------------------------|
| K1 / K4 - Ingresso/uscita caldo<br>K1 / K4 - Inlet/Outlet Hot Side   | G 1/2" Femmina<br>Internal Thread G 1/2" |
| K3 / K2 - Ingresso/uscita freddo<br>K3 / K2 - Inlet/Outlet Cold Side | G 1/2" Femmina<br>Internal Thread G 1/2" |

A richiesta connessioni speciali  
Special connections on request

| Condizioni di esercizio<br>Working Conditions  |        |
|------------------------------------------------|--------|
| Massima Temperatura<br>Max. Working Pressure   | 230°C  |
| Minima Temperatura<br>Min. Working Temperature | -10°C  |
| Massima Pressione<br>Max. Working Pressure     | 30 bar |

| Materiali Utilizzati<br>Materials |           |
|-----------------------------------|-----------|
| Piastre<br>Plate                  | Aisi 316  |
| Attacchi<br>Connection            | Aisi 316  |
| Brasatura<br>Brazing Material     | Cu 99,95% |



Le dimensioni di ingombro e le caratteristiche tecniche non sono impegnative  
Overall dimensions and technical characteristic are not binding

| N° Piastre<br>Plate No. | A (mm) | Peso ( kg)<br>Weight (kg) | Capacità per circuito<br>Channel Volume<br>(lt) |
|-------------------------|--------|---------------------------|-------------------------------------------------|
| 6                       | 23     | 1.2                       | 0.1                                             |
| 10                      | 32     | 1.5                       | 0.2                                             |
| 20                      | 55     | 2.3                       | 0.4                                             |
| 30                      | 78     | 3.0                       | 0.5                                             |
| 40                      | 101    | 3.7                       | 0.7                                             |
| 50                      | 124    | 4.5                       | 0.9                                             |
| 60                      | 147    | 5.2                       | 1.1                                             |



# PB Series

## PB031

### Dimensioni    Dimensions

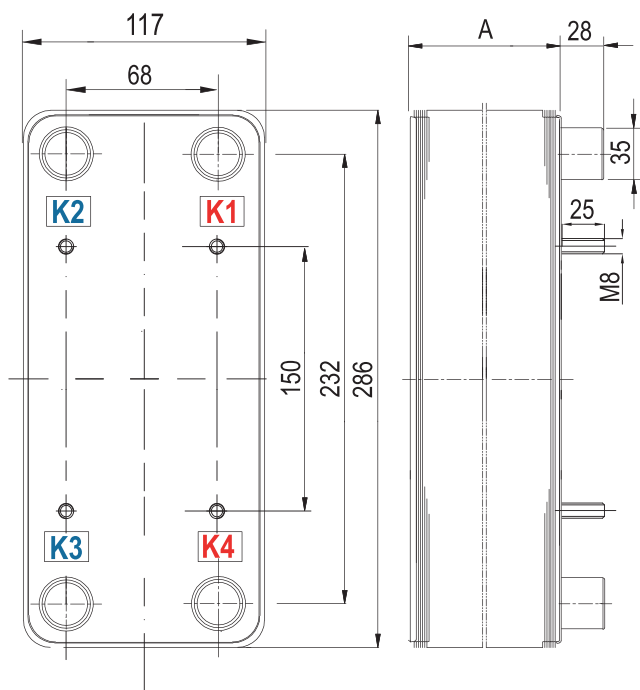
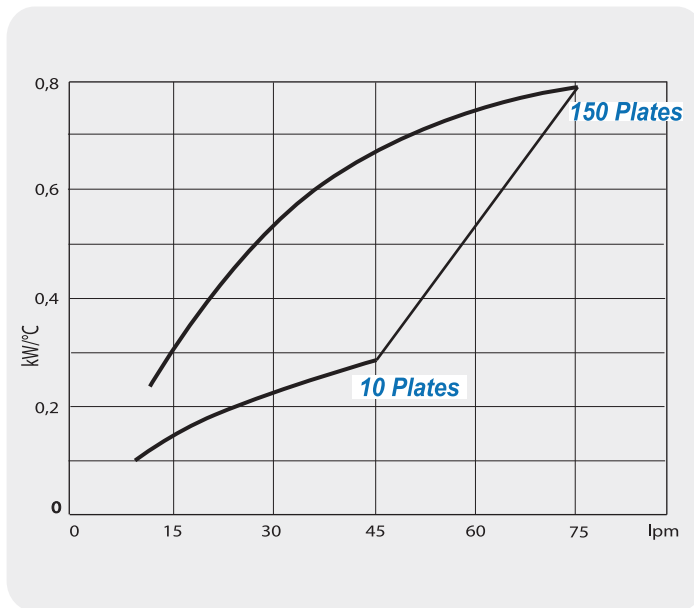


Diagramma rendimento    Performance diagram - ISO VG46 @50°C



Rapporto portata olio/acqua 2:1 - flow ratio 2:1

Per informazioni inerenti la perdita di carico contattare EMMEGI.  
For pressure drop information please contact EMMEGI.

Collegamenti Standard  
Standard of Connection  
Location

**K1 / K4** - Ingresso/uscita caldo  
**K1 / K4** - Inlet/Outlet Hot Side

**K3 / K2** - Ingresso/uscita freddo  
**K3 / K2** - Inlet/Outlet Cold Side

Connessioni  
Connection Types

G 1" Femmina  
Internal Thread G 1"

G 1" Femmina  
Internal Thread G 1"

A richiesta connessioni speciali  
Special connections on request

| N° Piastre<br>Plate No. | A (mm) | Peso ( kg )<br>Weight (kg) | Capacità per circuito<br>Channel Volume<br>(lt) |
|-------------------------|--------|----------------------------|-------------------------------------------------|
| 10                      | 33     | 2.7                        | 0.3                                             |
| 20                      | 57     | 3.9                        | 0.6                                             |
| 30                      | 81     | 5.0                        | 0.9                                             |
| 40                      | 104    | 6.2                        | 1.2                                             |
| 50                      | 128    | 7.3                        | 1.5                                             |
| 60                      | 151    | 8.4                        | 1.8                                             |
| 70                      | 175    | 9.6                        | 2.1                                             |
| 80                      | 198    | 10.7                       | 2.4                                             |
| 90                      | 222    | 11.9                       | 2.7                                             |
| 100                     | 245    | 13.0                       | 3.1                                             |
| 110                     | 269    | 14.1                       | 3.4                                             |
| 120                     | 292    | 15.3                       | 3.7                                             |
| 130                     | 316    | 16.4                       | 4.0                                             |
| 140                     | 339    | 17.6                       | 4.3                                             |
| 150                     | 363    | 18.7                       | 4.6                                             |

### Condizioni di esercizio Working Conditions

Massima Temperatura  
Max. Working Pressure    230°C

Minima Temperatura  
Min. Working Temperature    -10°C

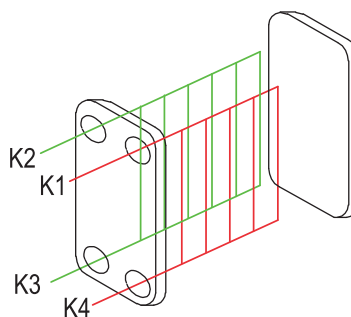
Massima Pressione  
Max. Working Pressure    30 bar

### Materiali Utilizzati Materials

Piastre  
Plate    Aisi 316

Attacchi  
Connection    Aisi 316

Brasatura  
Brazing Material    Cu 99,95%



Le dimensioni di ingombro e le caratteristiche tecniche non sono impegnative  
Overall dimensions and technical characteristic are not binding



Dimensioni    Dimensions

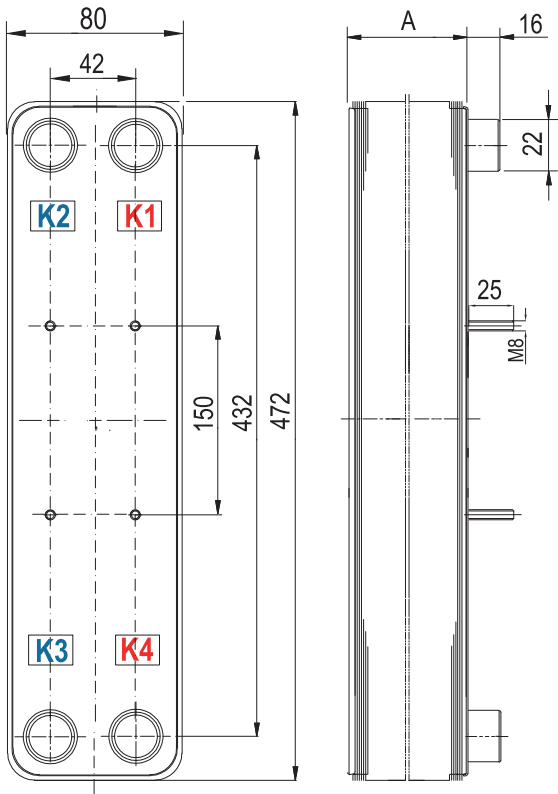
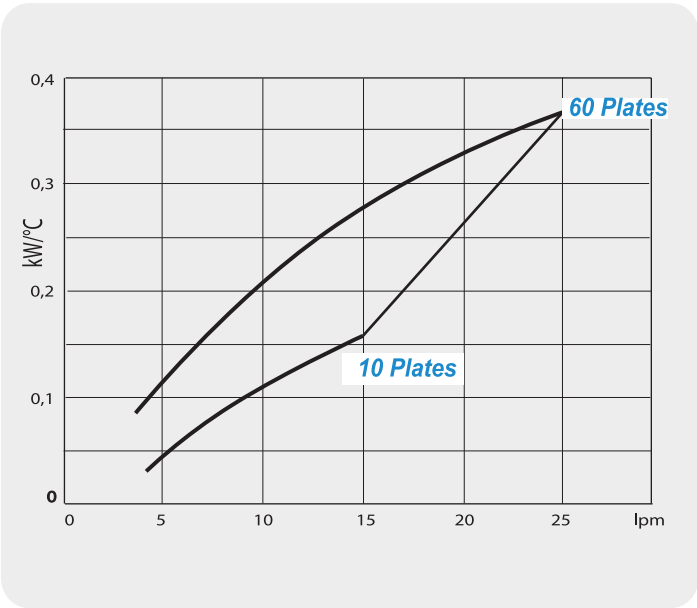


Diagramma rendimento    Performance diagram - ISO VG46 @50°C



Rapporto portata olio/acqua 2:1 - flow ratio 2:1

Per informazioni inerenti la perdita di carico contattare EMMEGI.  
For pressure drop information please contact EMMEGI.

Collegamenti Standard  
Standard of Connection  
Location

K1 / K4 - Ingresso/uscita caldo  
K1 / K4 - Inlet/Outlet Hot Side

K3 / K2 - Ingresso/uscita freddo  
K3 / K2 - Inlet/Outlet Cold Side

Connessioni  
Connection Types

G 3/4" Femmina  
Internal Thread G 3/4"

G 3/4" Femmina  
Internal Thread G 3/4"

A richiesta connessioni speciali  
Special connections on request

Condizioni di esercizio  
Working Conditions

Massima Temperatura  
Max. Working Pressure 230°C

Minima Temperatura  
Min. Working Temperature -10°C

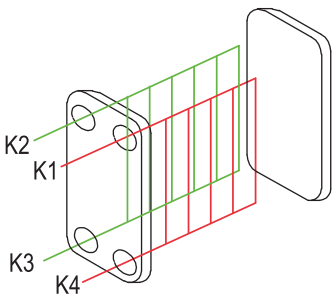
Massima Pressione  
Max. Working Pressure 30 bar

Materiali Utilizzati  
Materials

Piastre  
Plate Aisi 316

Attacchi  
Connection Aisi 316

Brasatura  
Brazing Material Cu 99,95%



Le dimensioni di ingombro e le caratteristiche tecniche non sono impegnative  
Overall dimensions and technical characteristic are not binding

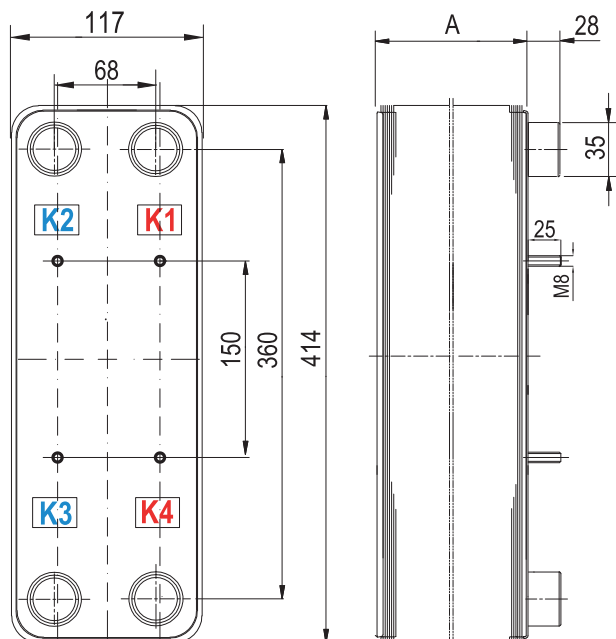
| N° Piastre<br>Plate No. | A (mm) | Peso ( kg )<br>Weight (kg) | Capacità per circuito<br>Channel Volume<br>(lt) |
|-------------------------|--------|----------------------------|-------------------------------------------------|
| 10                      | 32     | 2.4                        | 0.3                                             |
| 20                      | 55     | 3.5                        | 0.5                                             |
| 30                      | 78     | 4.7                        | 0.8                                             |
| 40                      | 101    | 5.8                        | 1.1                                             |
| 50                      | 124    | 7.0                        | 1.3                                             |
| 60                      | 147    | 8.2                        | 1.6                                             |



# PB Series

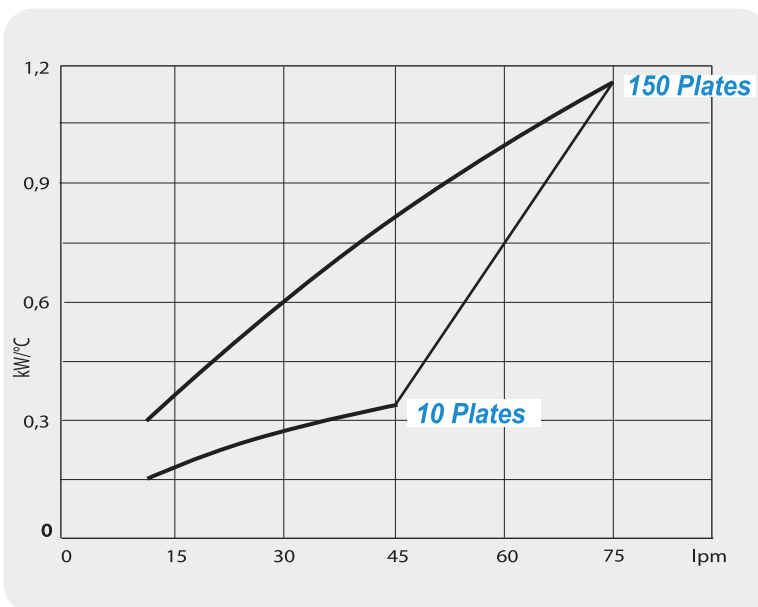
## PB047

### Dimensioni Dimensions



### Diagramma rendimento

Performance diagram - ISO VG46 @50°C



Rapporto portata olio/acqua 2:1 - flow ratio 2:1

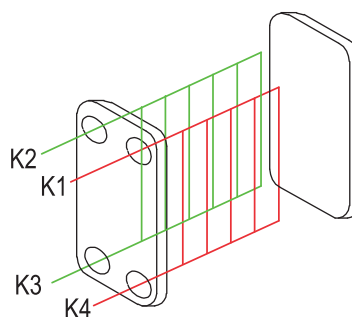
Per informazioni inerenti la perdita di carico contattare EMMEGI.  
For pressure drop information please contact EMMEG.

| Collegamenti Standard<br>Standard of Connection<br>Location                        | Connessioni<br>Connection Types      |
|------------------------------------------------------------------------------------|--------------------------------------|
| <b>K1 / K4</b> - Ingresso/uscita caldo<br><b>K1 / K4</b> - Inlet/Outlet Hot Side   | G 1" Femmina<br>Internal Thread G 1" |
| <b>K3 / K2</b> - Ingresso/uscita freddo<br><b>K3 / K2</b> - Inlet/Outlet Cold Side | G 1" Femmina<br>Internal Thread G 1" |

A richiesta connessioni speciali  
Special connections on request

| N° Piastre<br>Plate No. | A (mm) | Peso ( kg)<br>Weight (kg) | Capacità per circuito<br>Channel Volume<br>(lt) |
|-------------------------|--------|---------------------------|-------------------------------------------------|
| 10                      | 34     | 3.8                       | 0.5                                             |
| 20                      | 57     | 5.5                       | 0.9                                             |
| 30                      | 81     | 7.1                       | 1.4                                             |
| 40                      | 104    | 8.8                       | 1.9                                             |
| 50                      | 128    | 10.5                      | 2.3                                             |
| 60                      | 151    | 12.2                      | 2.8                                             |
| 70                      | 175    | 13.9                      | 3.3                                             |
| 80                      | 198    | 15.5                      | 3.7                                             |
| 90                      | 222    | 19.2                      | 4.2                                             |
| 100                     | 245    | 18.9                      | 4.7                                             |
| 110                     | 269    | 20.6                      | 5.1                                             |
| 120                     | 292    | 22.3                      | 5.6                                             |
| 130                     | 316    | 23.9                      | 6.0                                             |
| 140                     | 339    | 25.6                      | 6.5                                             |
| 150                     | 363    | 27.3                      | 7.0                                             |

| Condizioni di esercizio<br>Working Conditions  |           |
|------------------------------------------------|-----------|
| Massima Temperatura<br>Max. Working Pressure   | 230°C     |
| Minima Temperatura<br>Min. Working Temperature | -10°C     |
| Massima Pressione<br>Max. Working Pressure     | 30 bar    |
| Materiali Utilizzati<br>Materials              |           |
| Piastre<br>Plate                               | Aisi 316  |
| Attacchi<br>Connection                         | Aisi 316  |
| Brasatura<br>Brazing Material                  | Cu 99,95% |



Le dimensioni di ingombro e le caratteristiche tecniche non sono impegnative  
Overall dimensions and technical characteristic are not binding



Dimensioni    Dimensions

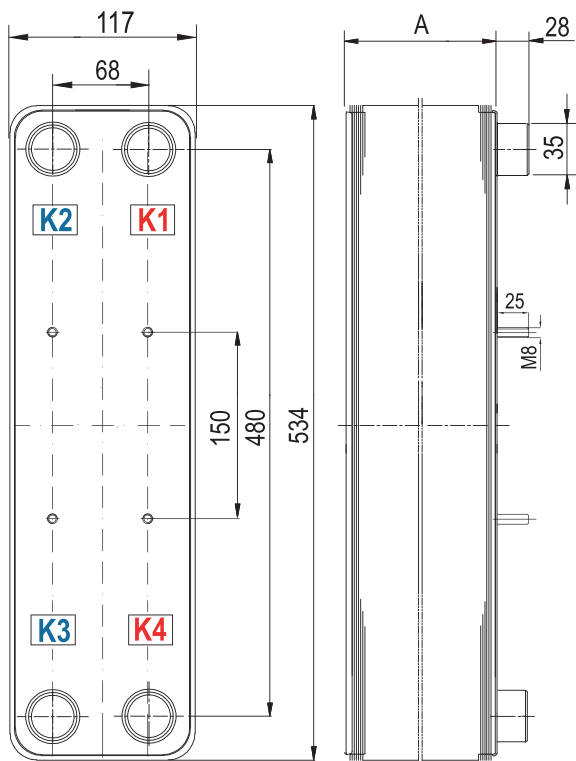
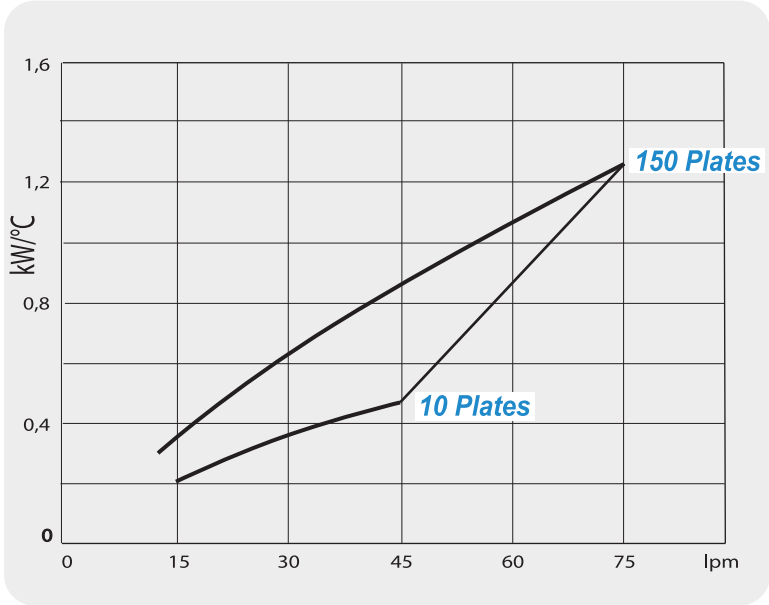


Diagramma rendimento  
Performance diagram - ISO VG46 @50°C



Rapporto portata olio/acqua 2:1 - flow ratio 2:1

Per informazioni inerenti la perdita di carico contattare EMMEGI.  
For pressure drop information please contact EMMEG.

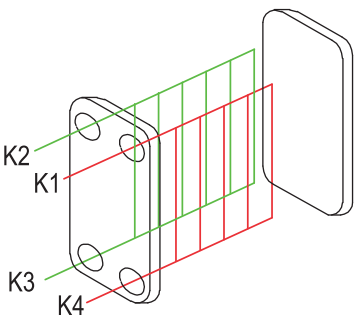
|                                                                      |                                      |
|----------------------------------------------------------------------|--------------------------------------|
| Collegamenti Standard<br>Standard of Connection<br>Location          | Connessioni<br>Connection Types      |
| K1 / K4 - Ingresso/uscita caldo<br>K1 / K4 - Inlet/Outlet Hot Side   | G 1" Femmina<br>Internal Thread G 1" |
| K3 / K2 - Ingresso/uscita freddo<br>K3 / K2 - Inlet/Outlet Cold Side | G 1" Femmina<br>Internal Thread G 1" |

A richiesta connessioni speciali  
Special connections on request

| N° Piastre<br>Plate No. | A (mm) | Peso (kg)<br>Weight (kg) | Capacità per circuito<br>Channel Volume<br>(lt) |
|-------------------------|--------|--------------------------|-------------------------------------------------|
| 10                      | 34     | 4.3                      | 0.6                                             |
| 20                      | 57     | 7.0                      | 1.2                                             |
| 30                      | 81     | 9.2                      | 1.8                                             |
| 40                      | 104    | 11.4                     | 2.4                                             |
| 50                      | 128    | 13.6                     | 3.0                                             |
| 60                      | 151    | 15.7                     | 3.6                                             |
| 70                      | 175    | 17.9                     | 4.2                                             |
| 80                      | 198    | 20.1                     | 4.8                                             |
| 90                      | 222    | 22.3                     | 5.4                                             |
| 100                     | 245    | 24.5                     | 6.0                                             |
| 110                     | 269    | 26.7                     | 6.5                                             |
| 120                     | 292    | 28.9                     | 7.1                                             |
| 130                     | 316    | 31.1                     | 7.7                                             |
| 140                     | 339    | 33.3                     | 8.3                                             |
| 150                     | 363    | 35.5                     | 8.9                                             |

| Condizioni di esercizio<br>Working Conditions  |        |
|------------------------------------------------|--------|
| Massima Temperatura<br>Max. Working Pressure   | 230°C  |
| Minima Temperatura<br>Min. Working Temperature | -10°C  |
| Massima Pressione<br>Max. Working Pressure     | 30 bar |

| Materiali Utilizzati<br>Materials |           |
|-----------------------------------|-----------|
| Piastre<br>Plate                  | Aisi 316  |
| Attacchi<br>Connection            | Aisi 316  |
| Brasatura<br>Brazing Material     | Cu 99,95% |



Le dimensioni di ingombro e le caratteristiche tecniche non sono impegnative  
Overall dimensions and technical characteristic are not binding



# PB Series

## PB110

### Dimensioni Dimensions

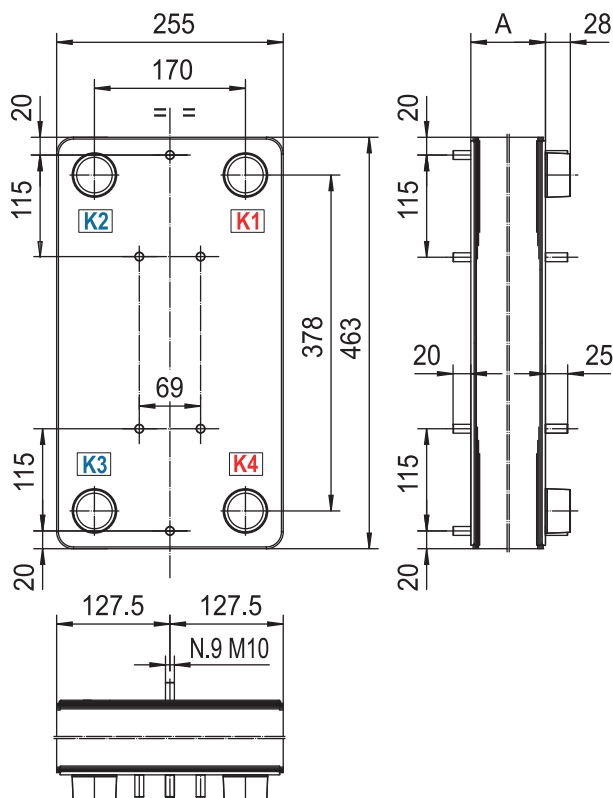
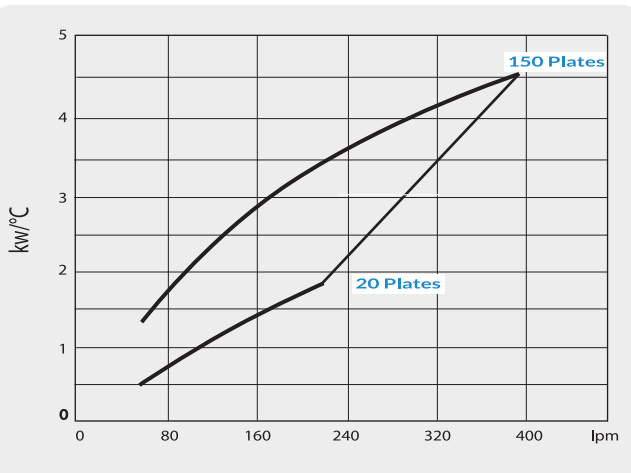


Diagramma rendimento Performance diagram - ISO VG46 @50°C



Rapporto portata olio/acqua 2:1 - flow ratio 2:1

Per informazioni inerenti la perdita di carico contattare EMMEGI.  
For pressure drop information please contact EMMEGI.

Collegamenti Standard  
Standard of Connection  
Location

Connessioni  
Connection Types

K1 / K4 - Ingresso/uscita caldo  
K1 / K4 - Inlet/Outlet Hot Side

G 2" Maschio  
External Thread G 2"

K3 / K2 - Ingresso/uscita freddo  
K3 / K2 - Inlet/Outlet Cold Side

G 2" Maschio  
External Thread G 2"

A richiesta connessioni speciali  
Special connections on request

| N° Piastre<br>Plate No. | A (mm) | Peso ( kg )<br>Weight (kg) | Capacità per circuito<br>Channel Volume<br>(lt) |
|-------------------------|--------|----------------------------|-------------------------------------------------|
| 20                      | 59     | 16.9                       | 1.6                                             |
| 30                      | 83     | 20.9                       | 2.4                                             |
| 40                      | 107    | 25.0                       | 3.2                                             |
| 50                      | 131    | 29.1                       | 4.0                                             |
| 60                      | 155    | 33.2                       | 4.8                                             |
| 70                      | 179    | 37.3                       | 5.6                                             |
| 80                      | 203    | 41.3                       | 6.4                                             |
| 90                      | 227    | 45.4                       | 7.2                                             |
| 100                     | 251    | 49.5                       | 8.0                                             |
| 110                     | 275    | 53.6                       | 8.8                                             |
| 120                     | 299    | 57.7                       | 9.6                                             |
| 130                     | 323    | 61.7                       | 10.4                                            |
| 140                     | 347    | 65.8                       | 11.2                                            |
| 150                     | 371    | 69.9                       | 12.0                                            |

### Condizioni di esercizio Working Conditions

Massima Temperatura  
Max. Working Pressure 230°C

Minima Temperatura  
Min. Working Temperature -10°C

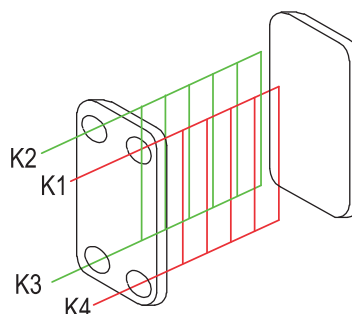
Massima Pressione  
Max. Working Pressure 30 bar

### Materiali Utilizzati Materials

Piastre  
Plate Aisi 316

Attacchi  
Connection Aisi 316

Brasatura  
Brazing Material Cu 99,95%



Le dimensioni di ingombro e le caratteristiche tecniche non sono impegnative  
Overall dimensions and technical characteristic are not binding



## Dimensioni Dimensions

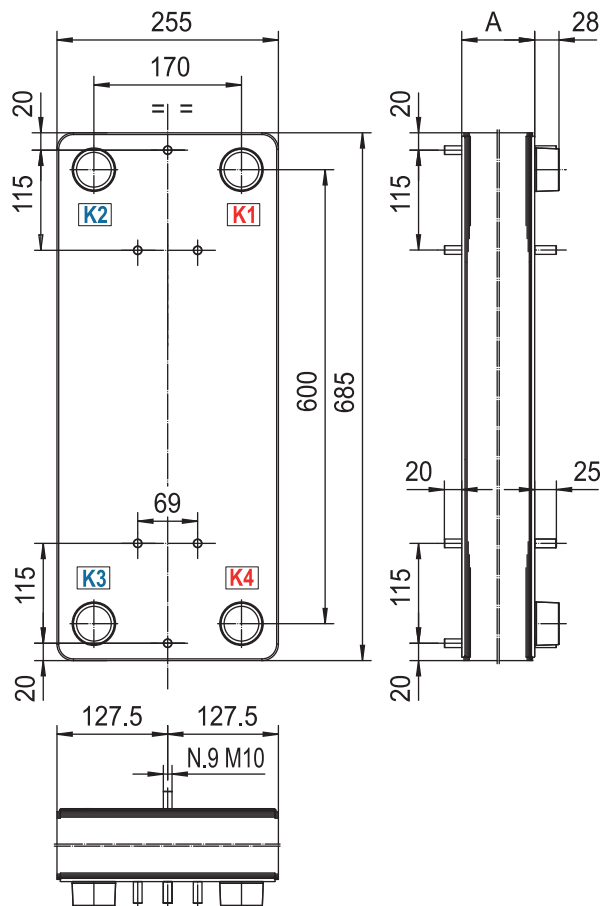
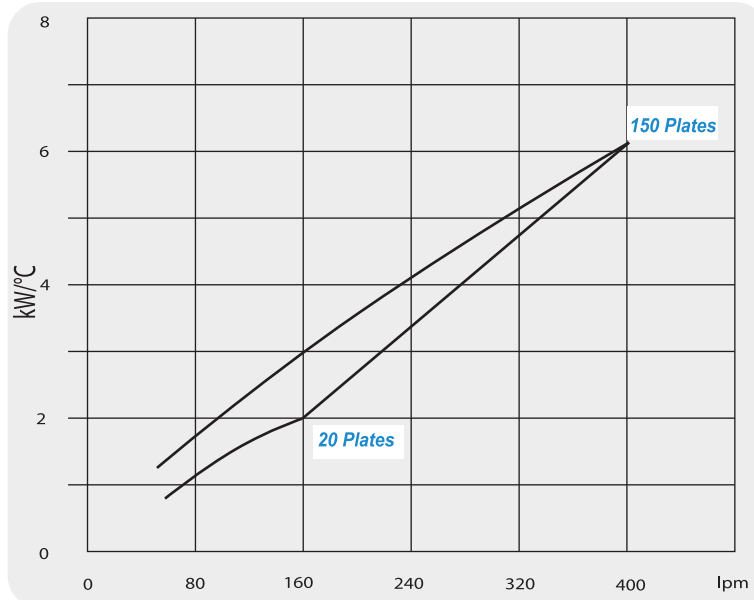


Diagramma rendimento Performance diagram - ISO VG46 @50°C



Rapporto portata olio/acqua 2:1 - flow ratio 2:1

Per informazioni inerenti la perdita di carico contattare EMMEGI.  
For pressure drop information please contact EMMEGI.

Collegamenti Standard  
Standard of Connection  
Location

Connessioni  
Connection Types

K1 / K4 - Ingresso/uscita caldo  
K1 / K4 - Inlet/Outlet Hot Side

G 2" Maschio  
External Thread G 2"

K3 / K2 - Ingresso/uscita freddo  
K3 / K2 - Inlet/Outlet Cold Side

G 2" Maschio  
External Thread G 2"

### Condizioni di esercizio Working Conditions

Massima Temperatura  
Max. Working Pressure 230°C

Minima Temperatura  
Min. Working Temperature -10°C

Massima Pressione  
Max. Working Pressure 30 bar

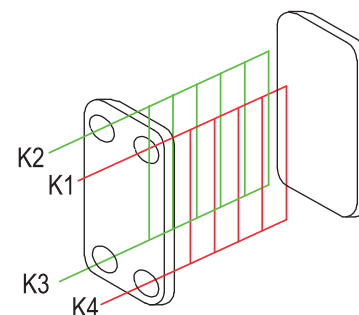
### Materiali Utilizzati Materials

Piastre  
Plate Aisi 316

Attacchi  
Connection Aisi 316

Brasatura  
Brazing Material Cu 99,95%

| N° Piastre<br>Plate No. | A (mm) | Peso (kg)<br>Weight (kg) | Capacità per circuito<br>Channel Volume (lt) |
|-------------------------|--------|--------------------------|----------------------------------------------|
| 20                      | 59     | 23.8                     | 2.5                                          |
| 30                      | 83     | 30.0                     | 3.8                                          |
| 40                      | 107    | 36.2                     | 5.1                                          |
| 50                      | 131    | 42.4                     | 6.3                                          |
| 60                      | 155    | 48.5                     | 7.6                                          |
| 70                      | 179    | 54.7                     | 8.9                                          |
| 80                      | 203    | 60.9                     | 10.1                                         |
| 90                      | 227    | 67.0                     | 11.4                                         |
| 100                     | 251    | 73.2                     | 12.7                                         |
| 110                     | 275    | 79.4                     | 13.9                                         |
| 120                     | 299    | 85.5                     | 15.2                                         |
| 130                     | 323    | 91.7                     | 16.4                                         |
| 140                     | 347    | 97.9                     | 17.7                                         |
| 150                     | 371    | 104.1                    | 19.0                                         |



Le dimensioni di ingombro e le caratteristiche tecniche non sono impegnative  
Overall dimensions and technical characteristic are not binding

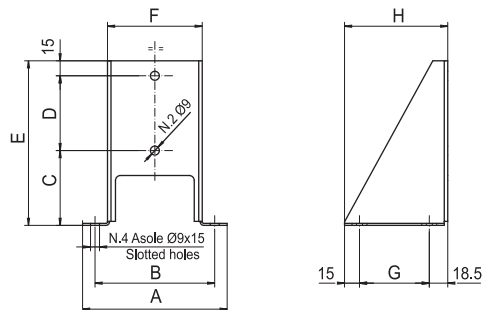


PB Series

PB Series

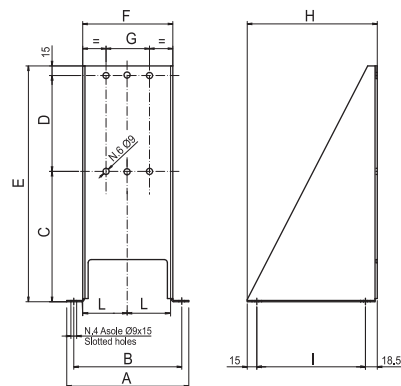
STAFFE DI FISSAGGIO SERIE PB (OPTIONAL) assemblaggio a cura del cliente

PB Series Supporting frame (OPTIONAL) the assembling is at customer care



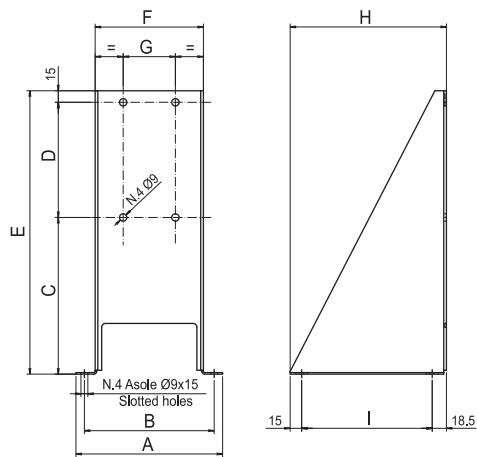
| MODELLO<br>MODEL | Dimensioni<br>Dimensions |   |   |   |   |   |   |   | Staffe di fissaggio<br>Supporting frame |
|------------------|--------------------------|---|---|---|---|---|---|---|-----------------------------------------|
|                  | A                        | B | C | D | E | F | G | H | P/N                                     |

|       |     |     |    |     |     |    |    |     |         |
|-------|-----|-----|----|-----|-----|----|----|-----|---------|
| PB014 | 145 | 120 | 75 | 165 | 165 | 95 | 70 | 104 | 0533920 |
|-------|-----|-----|----|-----|-----|----|----|-----|---------|



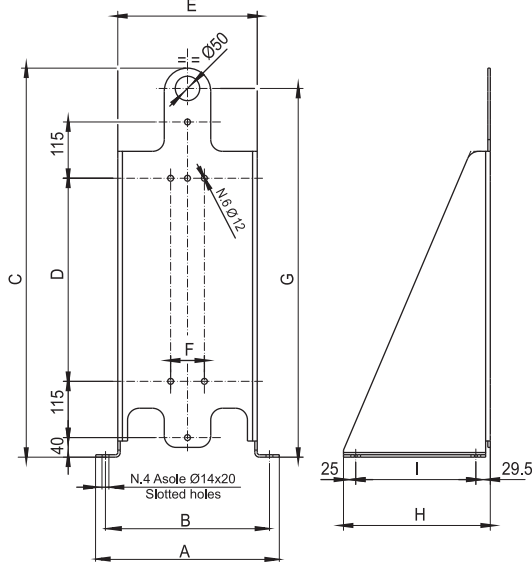
| MODELLO<br>MODEL | Dimensioni<br>Dimensions |   |   |   |   |   |   |   | Staffe di fissaggio<br>Supporting frame |
|------------------|--------------------------|---|---|---|---|---|---|---|-----------------------------------------|
|                  | A                        | B | C | D | E | F | G | H | P/N                                     |

|       |     |     |    |     |     |    |    |       |         |
|-------|-----|-----|----|-----|-----|----|----|-------|---------|
| PB022 | 145 | 120 | 87 | 150 | 252 | 95 | 42 | 103.5 | 053393A |
|-------|-----|-----|----|-----|-----|----|----|-------|---------|



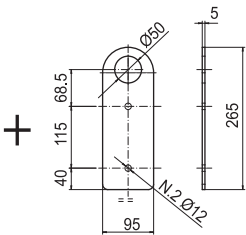
| MODELLO<br>MODEL | Dimensioni<br>Dimensions |   |   |   |   |   |   |   |   | Staffe di fissaggio<br>Supporting frame |
|------------------|--------------------------|---|---|---|---|---|---|---|---|-----------------------------------------|
|                  | A                        | B | C | D | E | F | G | H | I | P/N                                     |

|       |     |     |     |     |     |     |    |     |     |         |
|-------|-----|-----|-----|-----|-----|-----|----|-----|-----|---------|
| PB031 | 191 | 169 | 80  | 150 | 245 | 141 | 68 | 204 | 170 | 0533940 |
| PB034 | 145 | 120 | 173 | 150 | 338 | 95  | 42 | 104 | 170 | 0533950 |
| PB047 | 191 | 169 | 144 | 150 | 309 | 141 | 68 | 204 | 170 | 0533960 |
| PB034 | 145 | 169 | 204 | 150 | 369 | 141 | 68 | 204 | 170 | 0533970 |



| MODELLO<br>MODEL | Dimensioni<br>Dimensions |   |   |   |   |   |   |   |   | Staffe di fissaggio<br>Supporting frame |
|------------------|--------------------------|---|---|---|---|---|---|---|---|-----------------------------------------|
|                  | A                        | B | C | D | E | F | G | H | I | P/N                                     |

|       |     |     |     |     |     |    |     |     |     |         |
|-------|-----|-----|-----|-----|-----|----|-----|-----|-----|---------|
| PB110 | 375 | 335 | 573 | 193 | 285 | 69 | 532 | 300 | 245 | 053398A |
| PB170 | 375 | 335 | 795 | 415 | 285 | 69 | 754 | 300 | 245 | 053399A |



This image shows a full page of blank graph paper. The grid consists of small, uniform squares formed by thin, light gray lines. There are no margins, text, or other markings on the page.





**Accessori**  
Accessories



# Regolatore di temperatura

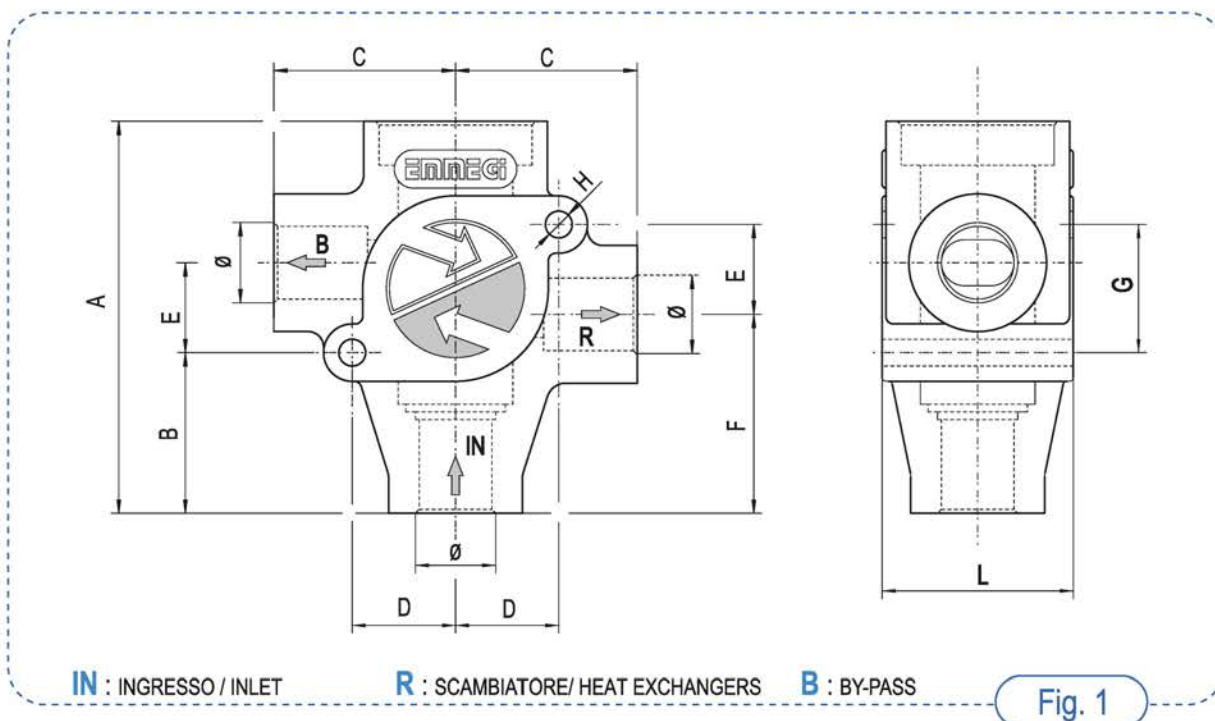
## Temperature regulator

### Installazione

Il regolatore di temperatura viene installato nel circuito tra pompa e scambiatore di calore. Funziona come un by-pass regolabile mantenendo costante la temperatura in serbatoio (fig.2)

### Installation

The temperature regulator is installed in the oil circuit between the pump and the heat exchanger. It works as a by-pass regulator and the oil reservoir temperature is held constant. (see fig.2)



| TIPO<br>TYPE | Ø BSP  | A   | B  | C    | D    | E    | F    | G  | H     | L  |
|--------------|--------|-----|----|------|------|------|------|----|-------|----|
| 012          | 1/2"   | 102 | 41 | 46,5 | 27   | 23   | 51   | 33 | Ø 6,5 | 50 |
| 034          | 3/4"   | 102 | 41 | 46,5 | 27   | 23   | 51   | 33 | Ø 6,5 | 50 |
| 100          | 1"     | 122 | 49 | 55,5 | 43,5 | 32,5 | 59,5 | 43 | Ø 8,5 | 64 |
| 112          | 1 1/2" | 122 | 49 | 55,5 | 43,5 | 32,5 | 59,5 | 43 | Ø 8,5 | 64 |

### Caratteristiche Tecniche

Corpo in alluminio;  
Temperatura costante;  
Alta precisione di regolazione;  
Regolazione indipendente dalla pressione olio;  
Basse perdite di carico;  
Costruzione robusta;  
Insensibile alla pulsazioni;  
Funzionamento indipendente dalla posizione di montaggio;  
Assenza di manutenzione;  
Affidabilità;  
Pressione max. di esercizio: 8 bar.  
Temperatura max. di esercizio: 120°C

### Technical Features

Aluminium body;  
Fixed temperature values;  
Sharp regulating accuracy;  
Not sensitive to oil pressure;  
Low pressure drop values;  
Solid design;  
Shockproof;  
Not sensitive to installation position;  
Maintenance-free;  
Long service life  
Working pressure: 8 bar.  
Max temperature: 120°C







### REGOLAZIONE DELLE VALVOLE

| Temp. inizio apertura | Temp. completa apertura |
|-----------------------|-------------------------|
| 40 C°                 | 50 C°                   |
| 55 C°                 | 65 C°                   |
| 70 C°                 | 80 C°                   |
| 80 C°                 | 90 C°                   |

Per identificare il codice completo comporre tipo e temperature di inizio e completa apertura della valvola;

Es. Tipo 100 - temperatura 40 - 50°C:  
CODICE : 1004050

### STANDARD TEMPERATURE RANGES

| Starting temperature | Full open temperature |
|----------------------|-----------------------|
| 40 C°                | 50 C°                 |
| 55 C°                | 65 C°                 |
| 70 C°                | 80 C°                 |
| 80 C°                | 90 C°                 |

The part number of the valve is composed by type and starting and final temperature.

Es. Type 100 - temperature 40 - 50°C:  
CODICE : 1004050

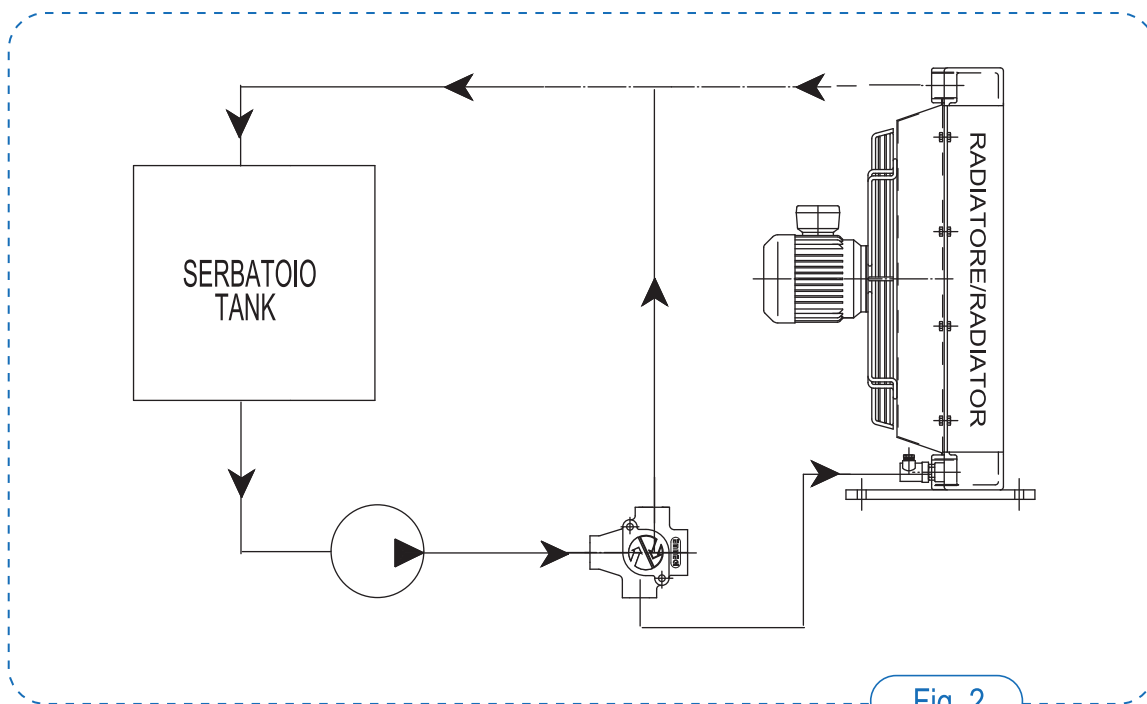
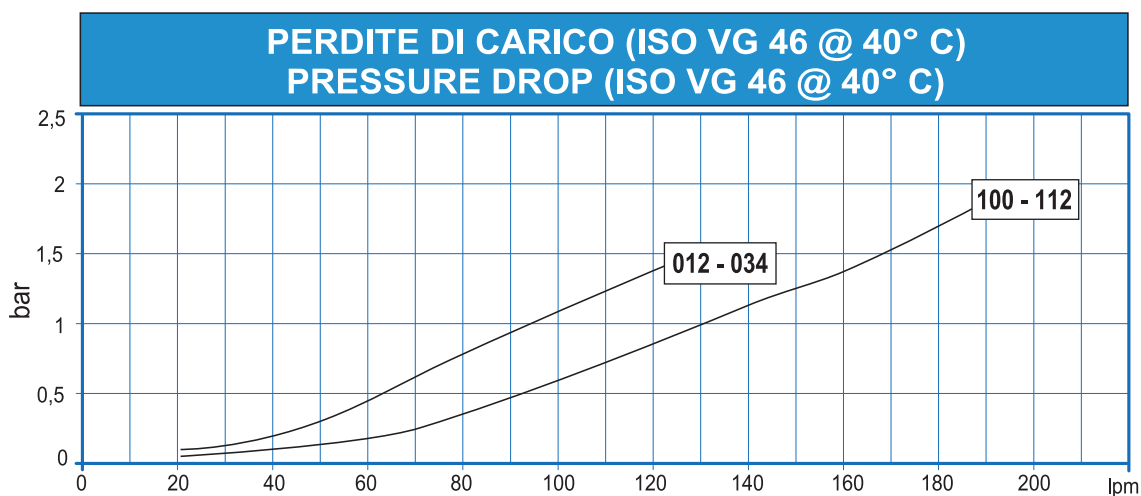


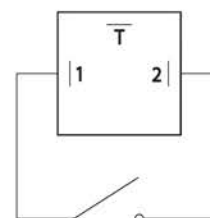
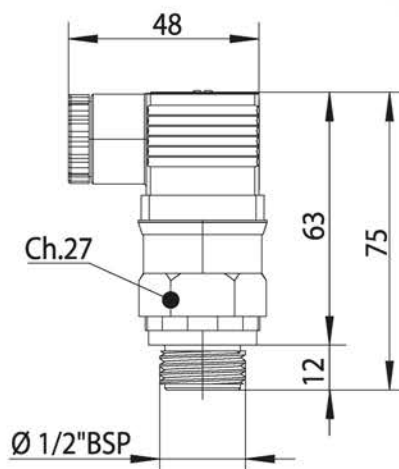
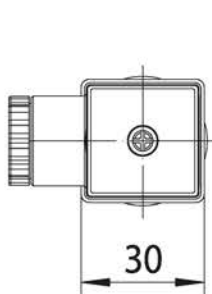
Fig. 2





# Termostato bimetallico TM4

## Bimetallic thermostat TM4



| Tipo NA<br>Type NO | Taratura<br>Temperature range | Codice<br>Code | Tipo NC<br>Type NC | Taratura<br>Temperature range | Codice<br>Code |
|--------------------|-------------------------------|----------------|--------------------|-------------------------------|----------------|
| TM 44 A1           | 40 - 28 °C                    | 0510540        | TM 44 C1           | 40 - 28 °C                    | 0510340        |
| TM 45 A1           | 50 - 38 °C                    | 0510550        | TM 45 C1           | 50 - 38 °C                    | 0510350        |
| TM 46 A1           | 60 - 48 °C                    | 0511160        | TM 46 C1           | 60 - 48 °C                    | 0511360        |
| TM 47 A1           | 70 - 58 °C                    | 0510570        | TM 47 C1           | 70 - 58 °C                    | 0510370        |
| TM 48 A1           | 80 - 68 °C                    | 0510580        | TM 48 C1           | 80 - 68 °C                    | 0510380        |
| TM 49 A1           | 90 - 78 °C                    | 0510590        | TM 49 C1           | 90 - 78 °C                    | 0510390        |

I termostati serie TM4/A1-TM4/C1 permettono la chiusura o l'apertura di un contatto elettrico al raggiungimento di un valore fisso di temperatura. Il connettore elettrico permette una rotazione di 360° rispetto al corpo del termostato.

The thermostat TM4/A1-TM4/C1 series allow the closing or the opening of an electrical contact when the fluid temperature reaches the set-point value. Electrical connector has 360° free rotation to the thermostat body.

### CARATTERISTICHE TECNICHE

Temperatura d'impiego: da -20°C a 120°C  
 Precisione d'intervento:  $\pm 3.5^\circ\text{C}$   
 Valore fisso d'isteresi:  $\sim 12^\circ\text{C}$  del valore impostato  
 Corpo: ottone  
 Attacco di processo:  $\frac{1}{2}$ " BSP (guarnizione NBR inclusa)  
 Pressione massima: 200 bar  
 Montaggio: in ogni posizione  
 Peso: 70 gr.

### TECHNICAL FEATURES

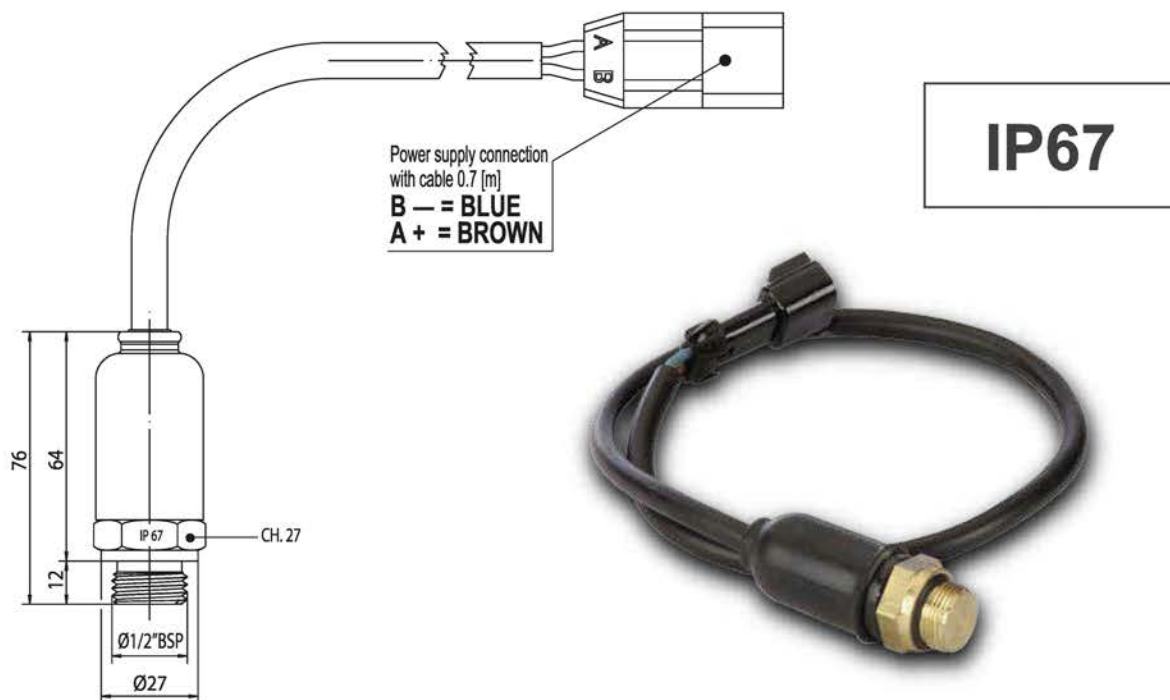
Working temperature: from -20°C to 120°C  
 Switching accuracy:  $\pm 3.5^\circ\text{C}$   
 Fixed hysteresis value:  $\sim 12^\circ\text{C}$   
 Body material: brass  
 Thread connection:  $\frac{1}{2}$ "BSP (NBR sealing included)  
 Max pressure: 200 bar  
 Mounting: in any position  
 Weight: 70 gr

### CARATTERISTICHE ELETTRICHE

Attacco elettrico secondo norme DIN 43650  
 Protezione elettrica secondo norme DIN 40050 IP65  
 Massimo carico sui contatti: 10A

### ELECTRIC FEATURES

Electric connection according to DIN 43650  
 Electric protection according to DIN 40050 IP65  
 Maximum contact load: 10A



| Tipo NA<br>Type NO | Taratura<br>Temperature range | Codice<br>Code | Tipo NC<br>Type NC | Taratura<br>Temperature range | Codice<br>Code |
|--------------------|-------------------------------|----------------|--------------------|-------------------------------|----------------|
| TM 44 A1/ P1       | 40 - 28 °C                    | 0510440        | TM 44 C1/P1        | 40 - 28 °C                    | 0510240        |
| TM 45 A1/ P1       | 50 - 38 °C                    | 0510450        | TM 45 C1/P1        | 50 - 38 °C                    | 0510250        |
| TM 46 A1/ P1       | 60 - 48 °C                    | 0510460        | TM 46 C1/P1        | 60 - 48 °C                    | 0510260        |
| TM 47 A1/ P1       | 70 - 58 °C                    | 0510470        | TM 47 C1/P1        | 70 - 58 °C                    | 0510270        |
| TM 48 A1/ P1       | 80 - 68 °C                    | 0510480        | TM 48 C1/P1        | 80 - 68 °C                    | 0510280        |
| TM 49 A1/ P1       | 90 - 78 °C                    | 0510490        | TM 49 C1/P1        | 90 - 78 °C                    | 0510290        |

La fornitura è comprensiva di ulteriore connettore maschio per linea alimentazione P/N 0496950  
The supply includes a male connector for the connection to the power supply P/N 0496950

### CARATTERISTICHE TECNICHE

Temperatura d'impiego: da -20°C a 120°C  
Precisione d'intervento: ±3.5°C  
Valore fisso d'isteresi: ~12°C del valore impostato  
Corpo: ottone  
Attacco di processo: ½" BSP (guarnizione NBR inclusa)  
Pressione massima: 200 bar  
Montaggio: in ogni posizione  
Peso: 70 gr.

### TECHNICAL FEATURES

Working temperature: from -20°C to 120°C  
Switching accuracy: ±3.5°C  
Fixed hysteresis value: ~12°C  
Body material: brass  
Thread connection: ½"BSP (NBR sealing included)  
Max pressure: 200 bar  
Mounting: in any position  
Weight: 70 gr

### CARATTERISTICHE ELETTRICHE

Attacco elettrico secondo norme DIN 43650  
Protezione elettrica secondo norme DIN 40050 IP67  
Massimo carico sui contatti: 10A

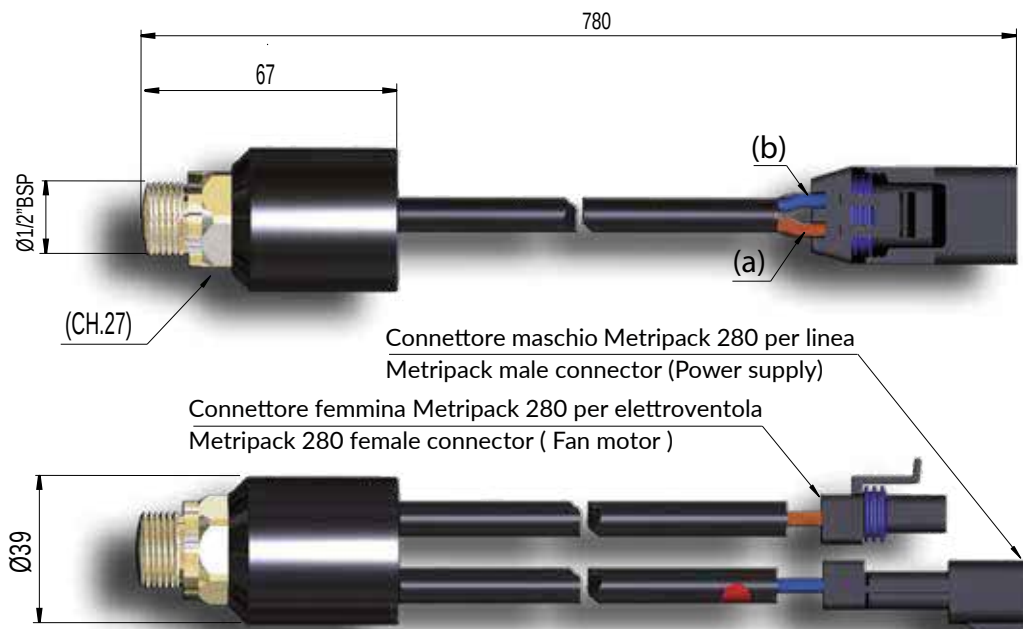
### ELECTRIC FEATURES

Electric connection according to DIN 43650  
Electric protection according to DIN 40050 IP67  
Maximum contact load: 10A



# Termostato fisso TMR4 con relè di potenza incorporato

## TMR4 fixed thermostat with integrated relay



La fornitura è comprensiva di ulteriore connettore maschio per linea alimentazione P/N 0496950  
The supply includes a male connector for the connection to the power supply P/N 0496950

| Tipo<br>Type | Taratura<br>Temperature range | Codice<br>Code | V     | Tipo<br>Type | Taratura<br>Temperature range | Codice<br>Code |
|--------------|-------------------------------|----------------|-------|--------------|-------------------------------|----------------|
| TMR 44       | 40 - 28 °C                    | 0590140        | 12 DC | TMR 47       | 70 - 58 °C                    | 0590170        |
| TMR 45       | 50 - 38 °C                    | 0590150        | 12 DC | TMR 48       | 80 - 68 °C                    | 0590180        |
| TMR 46       | 60 - 48 °C                    | 0590160        | 12 DC | TMR 49       | 90 - 78 °C                    | 0590190        |
| TMR 44       | 40 - 28 °C                    | 0590040        | 24 DC | TMR 47       | 70 - 58 °C                    | 0590070        |
| TMR 45       | 50 - 38 °C                    | 0590050        | 24 DC | TMR 48       | 80 - 68 °C                    | 0590080        |
| TMR 46       | 60 - 48 °C                    | 0590060        | 24 DC | TMR 49       | 90 - 78 °C                    | 0590090        |

\*Disponibile versione TMR5 per assorbimento fino a 40A.  
TMR5 version available for input current up to 40A.

### CARATTERISTICHE TECNICHE

Temperatura d'impiego : da -20°C a 120°C  
Precisione d'intervento :  $\pm 3.5^{\circ}\text{C}$   
Valore fisso d'isteresi:  $\sim 12^{\circ}\text{C}$  del valore impostato  
Corpo: ottone  
Attacco di processo:  $\frac{1}{2}$ " BSP (guarnizione NBR inclusa)  
Pressione massima : 200 bar  
Montaggio : in ogni posizione  
Peso : 0.35 kg.

### CARATTERISTICHE ELETTRICHE

Attacco elettrico secondo norme DIN 43650  
Protezione elettrica secondo norme DIN 40050 IP67  
Tensione di alimentazione : 12V / 24V CC  
Massimo carico sui contatti : 30A  
(a) Pin positivo : cavo marrone  
(b) Pin negativo : cavo blu

### TECHNICAL FEATURES

Working temperature : from -20°C to 120°C  
Switching accuracy :  $\pm 3.5^{\circ}\text{C}$   
Fixed hysteresis value :  $\sim 12^{\circ}\text{C}$   
Body material : brass  
Thread connection :  $\frac{1}{2}$ " BSP (NBR sealing included)  
Max pressure : 200 bar  
Mounting : in any position  
Weight : 0.35 kg

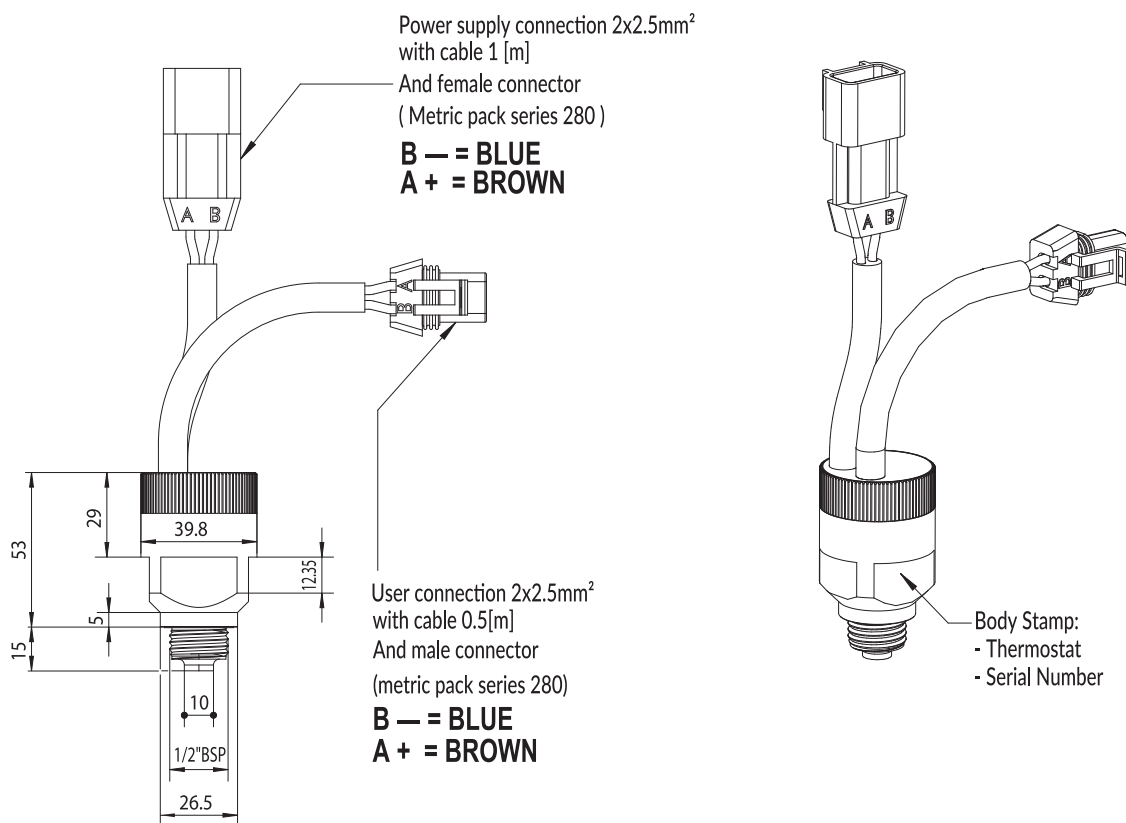
### ELECTRIC FEATURES

Electric connection according to DIN 43650  
Electric protection according to DIN 40050 IP67  
Power supply : 12V / 24V DC  
Maximum contact load : 30A  
(a) Positive pin : brown cable  
(b) Negative pin : blue cable



# Termostato fisso TMS4 con relè soft-start integrato

TMS4 fixed thermostat with integrated relay and soft start



La fornitura è comprensiva di ulteriore connettore maschio per linea alimentazione P/N 0496950  
The supply includes a male connector for the connection to the power supply P/N 0496950

| Tipo<br>Type | Temperatura d'impiego<br>Fix setting temperature | Codice<br>Code | Tipo<br>Type | Temperatura d'impiego<br>Fix setting temperature | Codice<br>Code |
|--------------|--------------------------------------------------|----------------|--------------|--------------------------------------------------|----------------|
| TMS 44       | 40 ° C                                           | 074564A        | TMS 47       | 70 ° C                                           | 074567A        |
| TMS 45       | 50 ° C                                           | 074565A        | TMS 48       | 80 ° C                                           | 074568A        |
| TMS 46       | 60 ° C                                           | 074566A        | TMS 49       | 90 ° C                                           | 074569A        |

Ad una fissata temperatura di intervento il termostato permette l'avviamento della ventola con un aumento progressivo della velocità di rotazione.

Il motore raggiunge la sua velocità di regime in circa 5 secondi.

Quando la temperatura decresce di ~5°C il motore della ventola si spegne.

## Dati tecnici

Precisione d'intervento:  $\pm 3.5^{\circ}\text{C}$   
Differenziale fisso:  $\sim 5^{\circ}\text{C}$   
Contatti elettrici: NA  
Posizione di montaggio: in ogni posizione  
Tensione di alimentazione: da 10 a 28V CC  
Massimo carico sui contatti: 25A  
Protezione elettrica secondo norme DIN 40050: IP 67  
Peso: 0.35 Kg  
Filettatura: 1/2" BSP (guarnizione NBR inclusa)  
Pressione massima: 200 bar

At the fix setting temperature the fan's motor starts with a progressive increasing of the rotation speed.

The motor reaches the maximum speed after about 5 seconds.

When the temperature decreases  $\sim 5^{\circ}\text{C}$  the fan's motor switch-off.

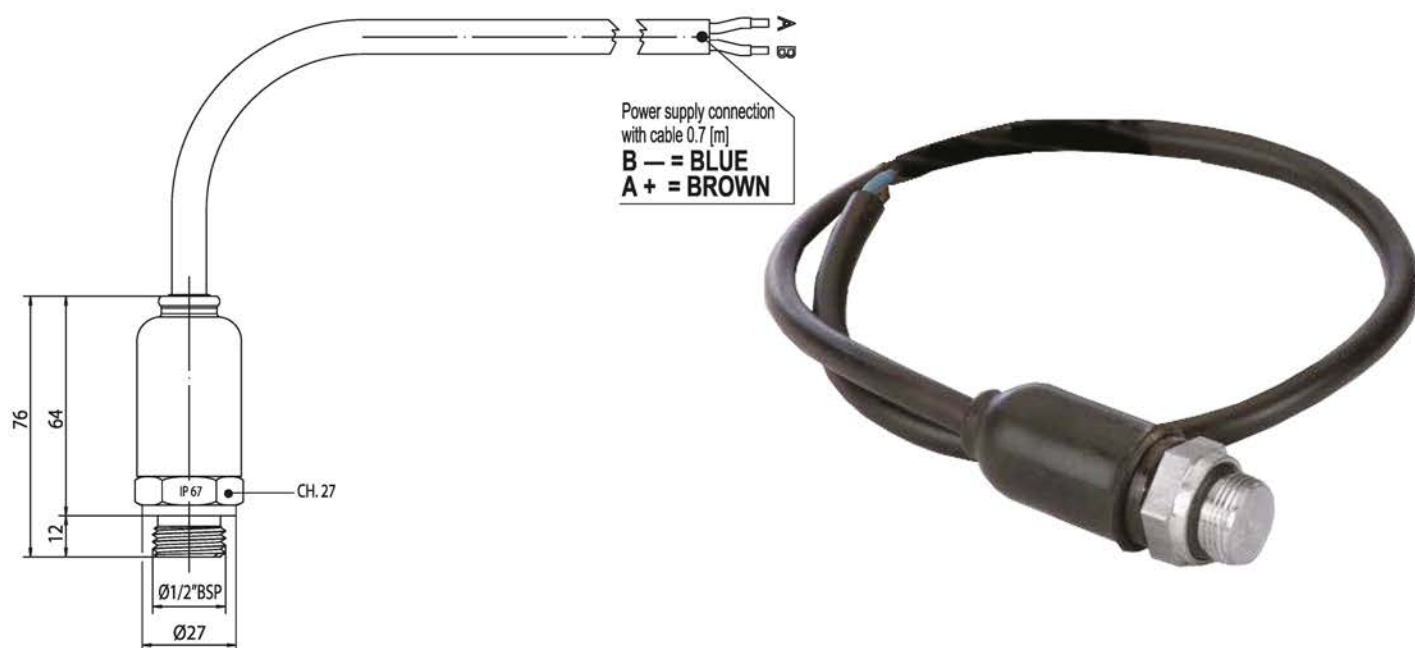
## Technical data

Switching accuracy:  $\pm 3.5^{\circ}\text{C}$   
Fixed hysteresis:  $\sim 5^{\circ}\text{C}$   
Electric contact: NO  
Assembly: In any position  
Power supply from: 10 to 28V DC  
Maximum charge on contacts: 25A  
Electric protection according DIN 40050: IP 67  
Weight: 0.35 Kg  
Thread: 1/2" BSP (NBR sealing included)  
Max pressure: 200 bar



# Termostato bimetallico TM4/XP1 AISI 316

## Bimetallic thermostat TM4/XP1 AISI 316



| Tipo NA<br>Type NO | Taratura<br>Temperature range | Codice<br>Code |  | Tipo NC<br>Type NC | Taratura<br>Temperature range | Codice<br>Code |
|--------------------|-------------------------------|----------------|--|--------------------|-------------------------------|----------------|
| TM 44 AX1/ P1      | 40 - 28 °C                    | 0484660        |  | TM 44 CX1 / P1     | 40 - 28 °C                    | 0484720        |
| TM 45 AX1/ P1      | 50 - 38 °C                    | 0484670        |  | TM 45 CX1 / P1     | 50 - 38 °C                    | 0484730        |
| TM 46 AX1/ P1      | 60 - 48 °C                    | 0484680        |  | TM 46 CX1 / P1     | 60 - 48 °C                    | 0484740        |
| TM 47 AX1/ P1      | 70 - 58 °C                    | 0484690        |  | TM 47 CX1 / P1     | 70 - 58 °C                    | 0484760        |
| TM 48 AX1/ P1      | 80 - 68 °C                    | 0484700        |  | TM 48 CX1 / P1     | 80 - 68 °C                    | 0484770        |
| TM 49 AX1/ P1      | 90 - 78 °C                    | 0484710        |  | TM 49 CX1 / P1     | 90 - 78 °C                    | 0484780        |

### CARATTERISTICHE TECNICHE

Temperatura d'impiego: da -20°C a 120°C  
Precisione d'intervento:  $\pm 3.5^{\circ}\text{C}$   
Valore fisso d'isteresi:  $\sim 12^{\circ}\text{C}$  del valore impostato  
Corpo: AISI 316  
Attacco di processo:  $\frac{1}{2}$ " BSP (guarnizione NBR inclusa)  
Pressione massima: 200 bar  
Montaggio: in ogni posizione  
Peso: 70 gr.

### CARATTERISTICHE ELETTRICHE

Attacco elettrico secondo norme DIN 43650  
Protezione elettrica secondo norme DIN 40050 IP67  
Massimo carico sui contatti: 10A

### TECHNICAL FEATURES

Working temperature: from -20°C to 120°C  
Switching accuracy:  $\pm 3.5^{\circ}\text{C}$   
Fixed hysteresis value:  $\sim 12^{\circ}\text{C}$   
Body material: AISI 316  
Thread connection:  $\frac{1}{2}$ " BSP (NBR sealing included)  
Max pressure: 200 bar  
Mounting: in any position  
Weight: 70 gr

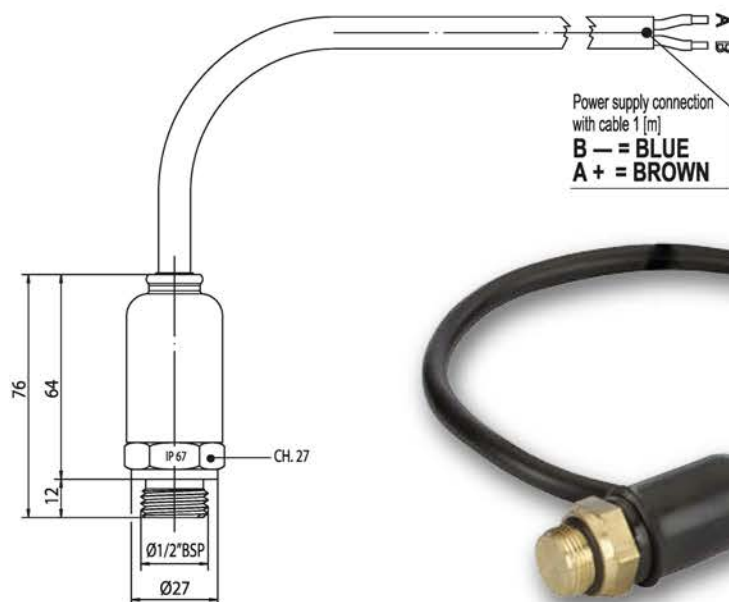
### ELECTRIC FEATURES

Electric connection according to DIN 43650  
Electric protection according to DIN 40050 IP67  
Maximum contact load: 10A



# Termostato bimetallico TM46A1/AT ATEX

## Bimetallic thermostat TM46A1/AT ATEX



CE II 3G/D EEx m T4

| Tipo NA<br>Type NO | Taratura<br>Temperature range | Codice<br>Code |
|--------------------|-------------------------------|----------------|
| TM 44 A1 / AT      | 40 - 28 °C                    | 0576110        |
| TM 45 A1 / AT      | 50 - 38 °C                    | 0576120        |
| TM 46 A1 / AT      | 60 - 48 °C                    | 0576130        |
| TM 47 A1 / AT      | 70 - 58 °C                    | 0576140        |
| TM 48 A1 / AT      | 80 - 68 °C                    | 0576150        |
| TM 49 A1 / AT      | 90 - 78 °C                    | 0576160        |

### CARATTERISTICHE TECNICHE

Temperatura d'impiego: da -20°C a 120°C  
 Precisione d'intervento:  $\pm 3.5^\circ\text{C}$   
 Valore fisso d'isteresi:  $\sim 12^\circ\text{C}$  del valore impostato  
 Corpo: ottone  
 Attacco di processo:  $\frac{1}{2}$ " BSP (guarnizione NBR inclusa)  
 Pressione massima: 200 bar  
 Montaggio: in ogni posizione  
 Peso: 70 gr.

### TECHNICAL FEATURES

Working temperature: from -20°C to 120°C  
 Switching accuracy:  $\pm 3.5^\circ\text{C}$   
 Fixed hysteresis value:  $\sim 12^\circ\text{C}$   
 Body material: brass  
 Thread connection:  $\frac{1}{2}$ " BSP (NBR sealing included)  
 Max pressure: 200 bar  
 Mounting: in any position  
 Weight: 70 gr

### CARATTERISTICHE ELETTRICHE

Attacco elettrico secondo norme DIN 43650  
 Protezione elettrica secondo norme DIN 40050 IP67  
 Massimo carico sui contatti: 10A

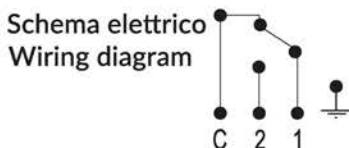
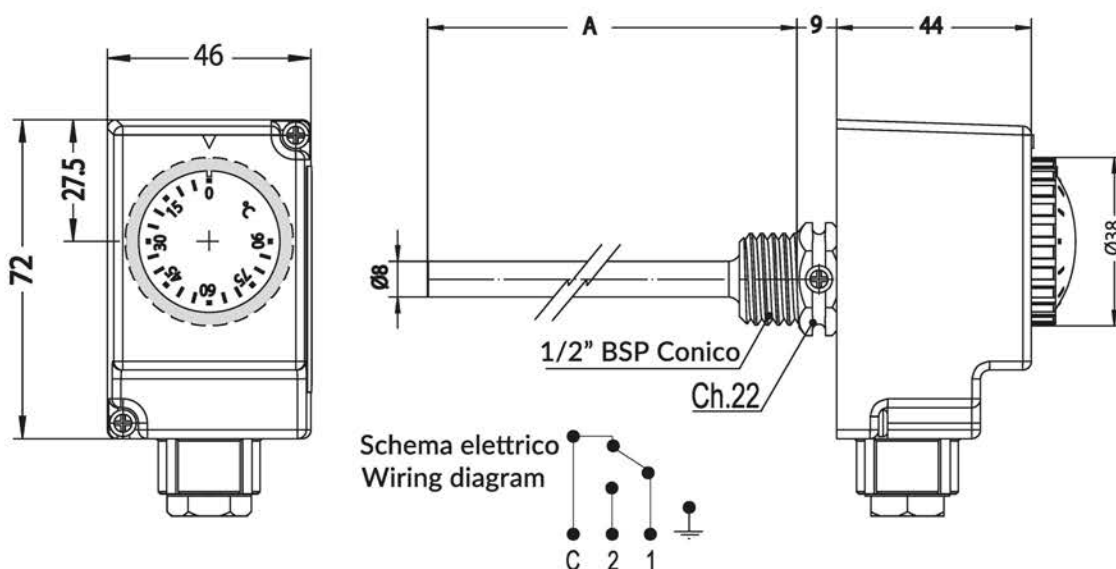
### ELECTRIC FEATURES

Electric connection according to DIN 43650  
 Electric protection according to DIN 40050 IP67  
 Maximum contact load: 10A



## Termostato regolabile TC2

Adjustable thermostat TC2



| Tipo<br>Type  | Codice<br>Code | Campo di regolazione<br>Temperature range | A<br>(mm) |
|---------------|----------------|-------------------------------------------|-----------|
| TC2-RE - L100 | 0300250        | 0 - 90°C                                  | 97        |
| TC2-RE - L200 | 0300260        | 0 - 90°C                                  | 197       |

Termostato ad immersione incatolato ad espansione di liquido, unipolare con contatti in commutazione, completo di guaina di protezione a tenuta stagna.

Boxed immersion thermostat with liquid expansion, unipolar contacts, complete with a waterproof pocket.

### Dati tecnici

Precisione d'intervento:  $\pm 3^{\circ}\text{C}$   
 Differenziale:  $4^{\circ}\text{C}$   
 Massimo carico sui contatti:  
     contatto 1 10A (250V AC)  
     contatto 2 6A (250V AC)  
 Pressacavo: M20X1.5  
 Temperatura max. testa:  $80^{\circ}\text{C}$   
 Temperatura max. bulbo:  $150^{\circ}\text{C}$   
 Grado di protezione: IP 40

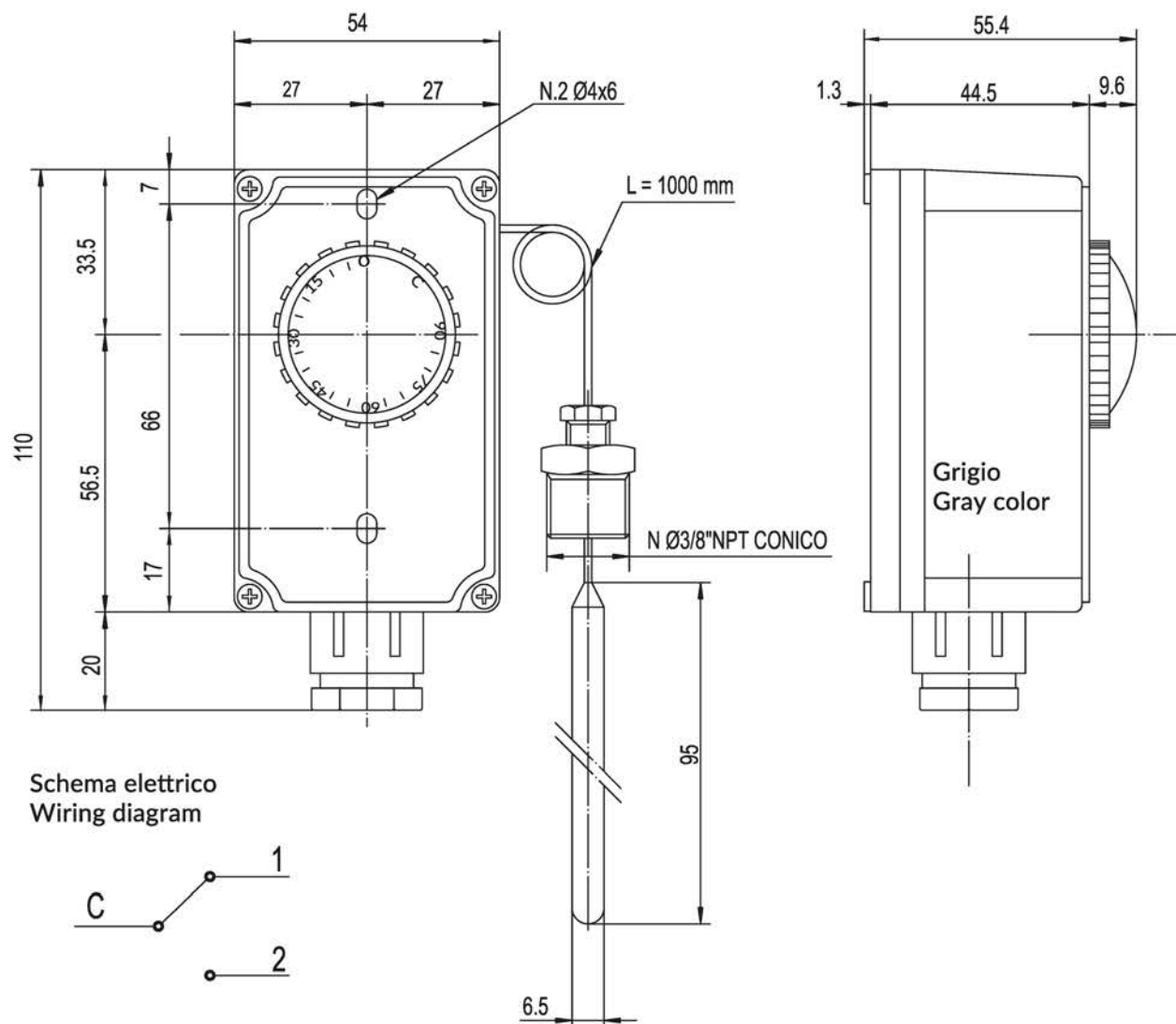
### Technical data

Switching accuracy:  $\pm 3^{\circ}\text{C}$ ;  
 Differential:  $4^{\circ}\text{C}$   
 Maximum contact load:  
     contact 1 10A (250V AC)  
     contact 2 6A (250V AC)  
 Cable gland: M20X1.5  
 Max. heat temperature:  $80^{\circ}\text{C}$   
 Max. sensing bulb temperature:  $150^{\circ}\text{C}$   
 Degree of protection: IP 40



# Termostato regolabile TC2 L= 1000 mm

Adjustable thermostat TC2 L= 1000 mm



## Codice : 0387290 Dati tecnici

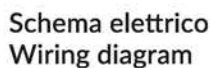
Campo di regolazione: 0 - 90°C  
Precisione d'intervento:  $\pm 3^\circ\text{C}$   
Differenziale: 4°C  
Massimo carico sui contatti:  
    contatto 1 10A (250V AC)  
    contatto 2 6A (250V AC)  
Pressacavo: M20X1.5  
Temperatura max. testa: 80°C  
Temperatura max. bulbo: 150°C  
Grado di protezione: IP 40

## Code: 0387290 Technical data

Temperature range: 0 - 90°C  
Switching accuracy:  $\pm 3^\circ\text{C}$  ;  
Differential: 4°C  
Maximum contact load:  
    contact 1 10A (250V AC)  
    contact 2 6A (250V AC)  
Cable gland: M20X1.5  
Max. heat temperature: 80°C  
Max. sensing bulb temperature: 150°C  
Degree of protection: IP 40







## Dati tecnici

Campo di regolazione: 0 - 120°C  
 Precisione d'intervento:  $\pm 3^\circ\text{C}$   
 Differenziale: 4°C  
 Massimo carico sui contatti:  
     contatto 1 16A (250V AC)  
     contatto 2 6A (250V AC)  
 Temperatura max. testa: 85°C  
 Temperatura max. bulbo: 150°C

## Technical data

Temperature range: 0 - 120°C  
Switching accuracy:  $\pm 3^{\circ}\text{C}$ ;  
Differential: 4°C  
Maximum contact load:  
    contact 1 16A (250V AC)  
    contact 2 6A (250V AC)  
Max. heat temperature: 85°C  
Max. sensing bulb temperature: 150°C

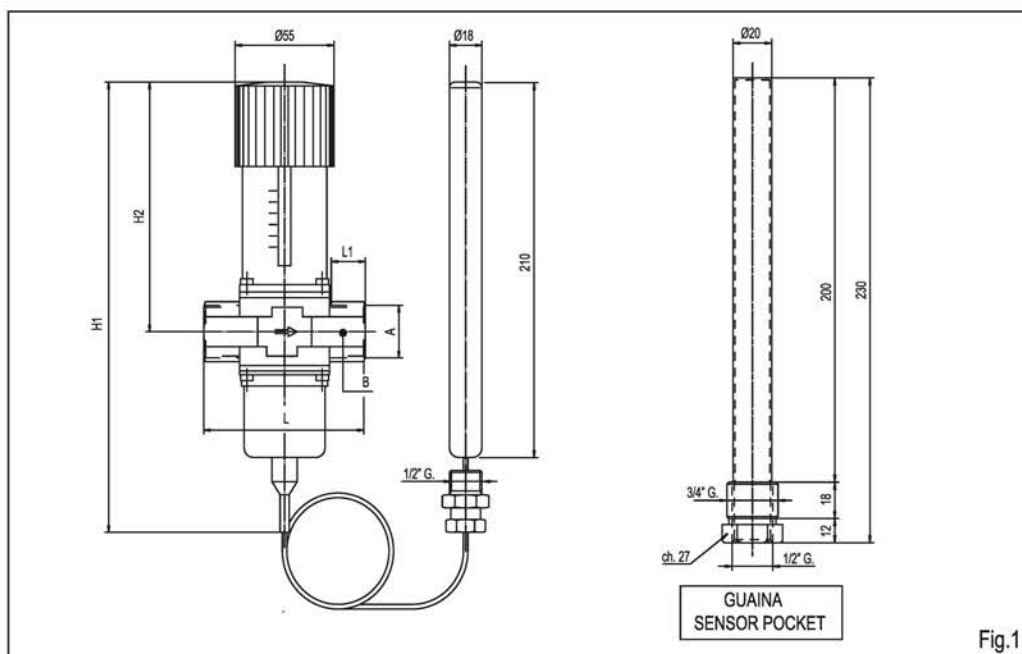


Fig.1

| Tipo<br>Type | Codice<br>Code | H1  | H2  | L  | L1 | A      | B     | kg   |
|--------------|----------------|-----|-----|----|----|--------|-------|------|
| AVTA 10      | 0941860        | 240 | 133 | 72 | 14 | 3/8" G | NV 27 | 1,45 |
| AVTA 15      | 0941870        | 240 | 133 | 72 | 14 | 1/2" G | NV 27 | 1,45 |
| AVTA 20      | 0941880        | 240 | 133 | 90 | 16 | 3/4" G | NV 32 | 1,50 |
| AVTA 25      | 0941890        | 250 | 138 | 95 | 19 | 1" G   | NV 41 | 1,65 |

## Funzionamento

Le valvole termostatiche AVTA sono utilizzate per il controllo e la regolazione dell'acqua, in diverse applicazioni, ove è richiesto il raffreddamento del circuito.

Il funzionamento della valvola avviene tramite un elemento sensibile che, all'aumentare o al diminuire della temperatura del fluido primario, comanda l'apertura o chiusura della stessa, regolando di conseguenza il flusso dell'acqua di raffreddamento.

La valvola AVTA, può essere installata sul circuito acqua dello scambiatore sia in mandata che sul ritorno.

## Settori di applicazione

- MACCHINE INIEZIONE PLASTICA
- COMPRESSORI
- POMPE PER IL VUOTO
- MACCHINE LAVAGGIO A SECCO
- IMPIANTI DI DISTILLAZIONE
- MACCHINE DA STAMPA
- IMPIANTI IDRAULICI
- FRANTUMATORI, MESCOLATORI

## Functioning

Self-acting AVTA cooling water valves are widely used for temperature regulation in many different machines and installations where cooling is a requirement.

AVTA always opens to admit flow on rising sensor temperature.

The valve can be installed either in the cooling water flow line.

## Applications

- INJECTION MOULDING MACHINES
- COMPRESSORS
- VACUUM PUMPS
- DRY CLEANING MACHINES
- DISTILLATION PLANT
- PRINTING MACHINES
- HYDRAULIC SYSTEMS
- ROLLERS, MILLS





# Valvola termostatica AVTA

## AVTA thermostatic valve

### Specifiche Tecniche

#### VALVOLA:

- Apertura/funzionamento gestito dall' elemento sensibile a contatto con il fluido
- Temperatura min/max -25°C/ +130°C
- Pressione differenziale 0-10 bar
- Pressione di collaudo : 25 bar
- Pressione massima al sensore : 25 bar
- Le valvole AVTA si auto-regolano in riferimento alla pressione di circuito. Il punto di apertura non viene influenzato dal valore della pressione differenziale  $\Delta p$  ( perdita di carico)

#### ELEMENTO SENSIBILE :

- Dimensioni :  $\varnothing$  18 x 210 mm
- Posizionare come descritto in Fig.02
- Massima pressione : 25 bar

### Installazione

#### VALVOLA:

Montare la valvola in modo che il flusso sia nella direzione indicata dalla freccia sul corpo valvola. Il corpo può essere montato in ogni posizione. Inserire un filtro a monte della valvola.

#### TUBO CAPILLARE :

Installare il tubo capillare senza piegature brusche.  
Svolgere il tubo capillare alle sue estremità.

#### NOTA

L'elemento sensibile deve poter registrare le variazioni della temperatura dell'acqua di raffreddamento, in fase di avviamento dell'impianto. Può essere necessaria, pertanto, una linea in by-pass con valvola di intercettazione per assicurare il fluido all'elemento sensibile durante l'avviamento, quando la valvola può essere chiusa.

### Technical Specification

#### VALVE :

- Opens on rising sensor temperature
- Media temperature from -25 to 130°C
- Differential pressure : 0-10 bar
- Max. test pressure : 25 bar
- Max. pressure on sensor : 25 bar
- The valves are pressure- relieved, i.e. the degree of opening is not affected by differential pressure  $\Delta p$  (pressure drop).

#### SENSOR :

- Dimensions :  $\varnothing$  18x210 mm
- To be positioned as shown in Fig.02
- Max pressure 25 bar

### Installation

#### VALVE :

Mount the valve in such a way that flow is in the direction indicated by the arrow on the valve body. The valve body can be mounted in any positions. Insert a filter in the piping before of the valve.

#### CAPILLARY TUBE :

Install the capillary tube without sharp bends. Relieve the capillary tube at the ends.

#### NOTE

At system starting, the sensor must be able to feel temperature variations of the cooling water. Therefore a by-pass line with shut-off valve may be necessary to ensure the flow at the sensor during start up, when the valve may be closed.





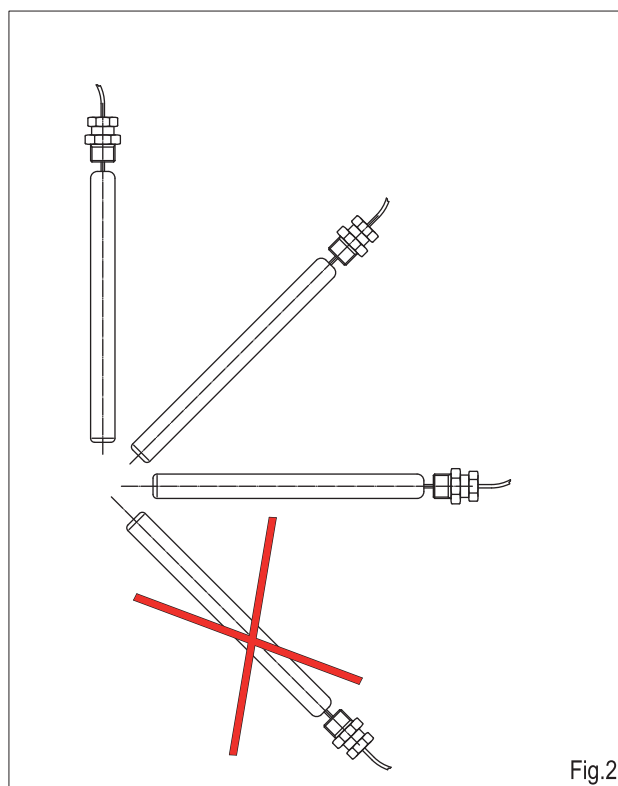


Fig.2

| TIPO / TYPE | CODICE / CODE | H1  | H2  | L  | L1 | A      | B     | kg   |
|-------------|---------------|-----|-----|----|----|--------|-------|------|
| AVTA 10     | 0941860       | 240 | 133 | 72 | 14 | 3/8" G | NV 27 | 1,45 |
| AVTA 15     | 0941870       | 240 | 133 | 72 | 14 | 1/2" G | NV 27 | 1,45 |
| AVTA 20     | 0941880       | 240 | 133 | 90 | 16 | 1/2" G | NV 32 | 1,5  |
| AVTA 25     | 0941890       | 250 | 138 | 95 | 19 | 1" G   | NV 41 | 1,65 |

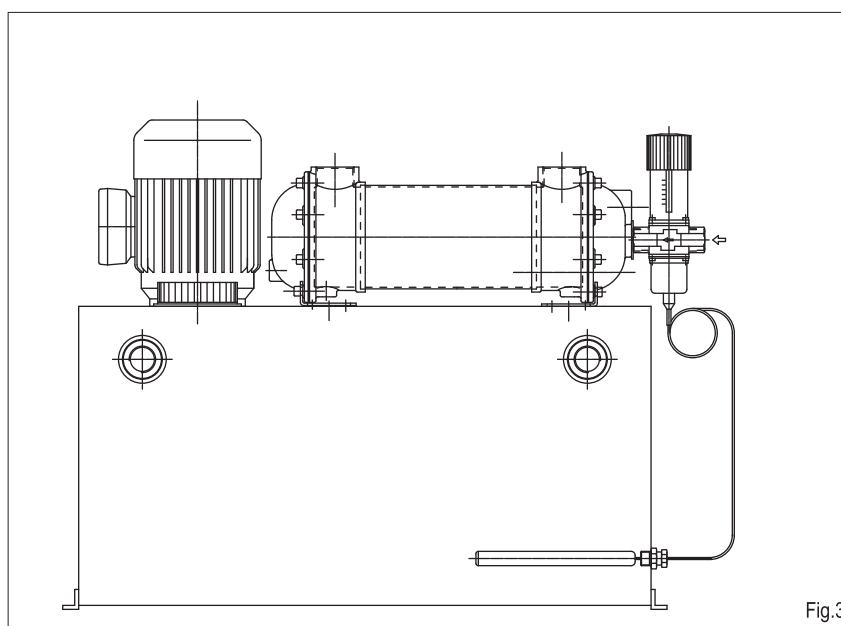


Fig.3



## ESC - Variatore Elettronico (12V-24V)

### ESC - Eletronic Speed Control (12V-24V)

## Regolazione della velocità elettroventole DC

Il dimensionamento degli scambiatori è generalmente effettuato imponendo le condizioni più restrittive ed estreme riscontrabili dal cliente in fase di utilizzo (es. potenza da dissipare massima, temperatura ambiente elevata ecc.). Spesso tali condizioni vengono raggiunte solo per periodi di tempo limitati, pertanto lo scambiatore risulta sovradimensionato durante le condizioni "usuali" di utilizzo.

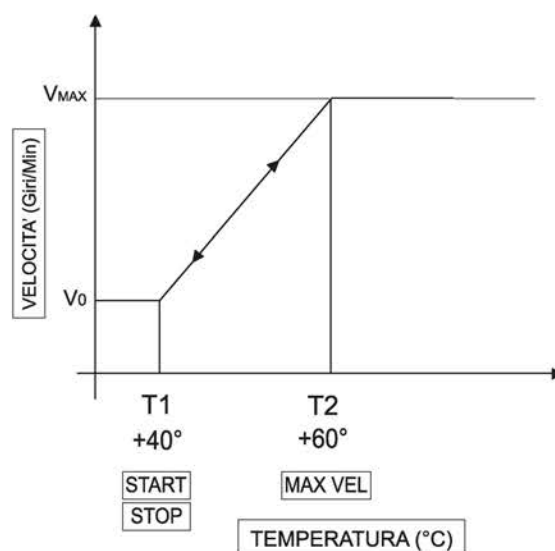
Nel campo degli scambiatori allestiti con elettroventole a corrente continua, a 12V o 24V, una delle soluzioni proponibili è quella di utilizzare dei termostati di tipo ON/OFF, per l'attivazione o lo spegnimento della ventola. Questo tipo di funzionamento però, oltre a non avere un controllo raffinato sulla temperatura del fluido, sottopone la ventola a continui cicli di accensione che ne causano l'usura prematura delle spazzole.

Risulta quindi fondamentale poter controllare le prestazioni dello scambiatore e regolarne il funzionamento in modo dinamico in funzione delle condizioni di lavoro effettive.

È stato quindi introdotto il sistema con variatore elettronico di velocità e sonda NTC, in grado di regolare la velocità della elettroventola in funzione della temperatura del fluido.

## Principio di funzionamento

Il variatore elettronico è in grado di variare la tensione disponibile alla elettroventola, da 0V alla massima tensione disponibile (12V o 24V a seconda del caso), regolando di conseguenza la velocità di rotazione delle pale e quindi le prestazioni dello scambiatore. La regolazione viene effettuata in modo lineare, in funzione della temperatura, all'interno di un campo definito (per lo standard 40°C-60°C). Per temperature del fluido inferiori al limite minimo, la ventola rimarrà spenta; per temperature superiori al limite massimo, la ventola andrà alla sua velocità di rotazione nominale.



## Vantaggi

- Controllo della temperatura del fluido.
- Riduzione delle correnti di spunto, aumento vita utile della ventola e dei componenti dell'impianto elettrico del cliente.
- Risparmio energetico.
- Riduzione della rumorosità della ventola.
- Utilizzabile con ventole di qualsiasi fornitore.
- Semplicità di installazione e collegamento.
- Pulizia della massa radiante (per la versione dotata di inversione).



| Codice<br>Code | Descrizione<br>Description                                    |
|----------------|---------------------------------------------------------------|
| 059001A        | VARIATORE DI VELOCITA' CON INVERSIONE DI SENSO DI ROTAZIONE   |
| 059003A        | VARIATORE DI VELOCITA' SENZA INVERSIONE DI SENSO DI ROTAZIONE |
| 0523130        | SONDA DI TEMPERATURA NTC 1/2" BSP                             |
| 0523180        | SONDA DI TEMPERATURA NTC 1/4" BSP                             |
| 0590020        | SONDA DI TEMPERATURA M14x1,0                                  |
| 0590210        | SONDA DI TEMPERATURA M22x1,5                                  |



### Speed regulation for DC electric fans

Coolers are usually sized using the most extreme conditions that the customer can expect during operation (Es. maximum cooling power, highest ambient temperature, etc). Often such conditions are reached only for limited periods, so the cooler is oversized for the "usual" working conditions.

Normally, an ON/OFF thermal switch is used for fan control.

This kind of solution does not perform a good control of fluid temperature and stress fan motor with multiple switching cycles, causing a reduction of brush life.

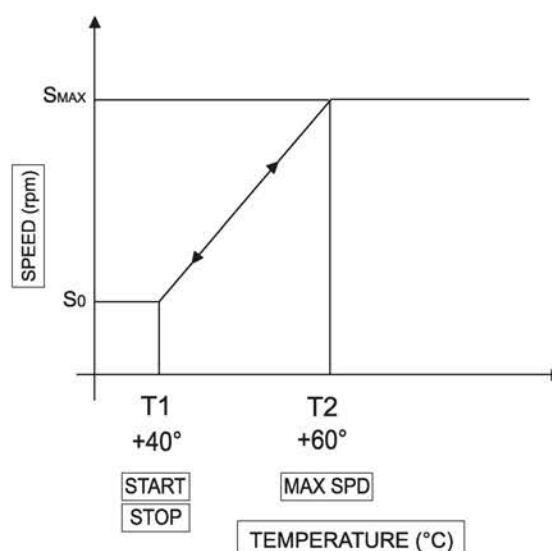
A dynamic control of the temperature can improve the performance and efficiency of the complete system, adapting fan behaviour to working condition.

### Working Principle

The ESC is able to control the voltage supplied to the electric fan, from 0 V to the maximum voltage (12V or 24V depending on the fan), varying speed and cooler performance.

The controller works lineary, depending on temperature, in a defined range (standard is 40°C to 60°C).

If fluid temperature is lower than minimum threshold fan will stay powered off; if over than maximum, speed will be the nominal one.



### Advantages

- Fluid temperature control.
- Reduction of inrush current, increased expected life of the fan.
- Energy saving.
- Noise reduction.
- Can be used with fans from different suppliers.
- Simple to install and connect.
- Can be used to clean the cooling core (For model with inversion function).



| Codice<br>Code | Descrizione<br>Description                                |
|----------------|-----------------------------------------------------------|
| 059001A        | ELECTRONIC SPEED CONTROL WITH REVERSIBLE FAN DIRECTION    |
| 059003A        | ELECTRONIC SPEED CONTROL WITHOUT REVERSIBLE FAN DIRECTION |
| 0523130        | TEMPERATURE SENSOR NTC 1/2" BSP                           |
| 0523180        | TEMPERATURE SENSOR NTC 1/4" BSP                           |
| 0590020        | TEMPERATURE SENSOR M14x1,0                                |
| 0590210        | TEMPERATURE SENSOR M22x1,5                                |





# ESC - Variatore Elettronico (12V-24V)

## ESC - Electronic Speed Control (12V-24V)

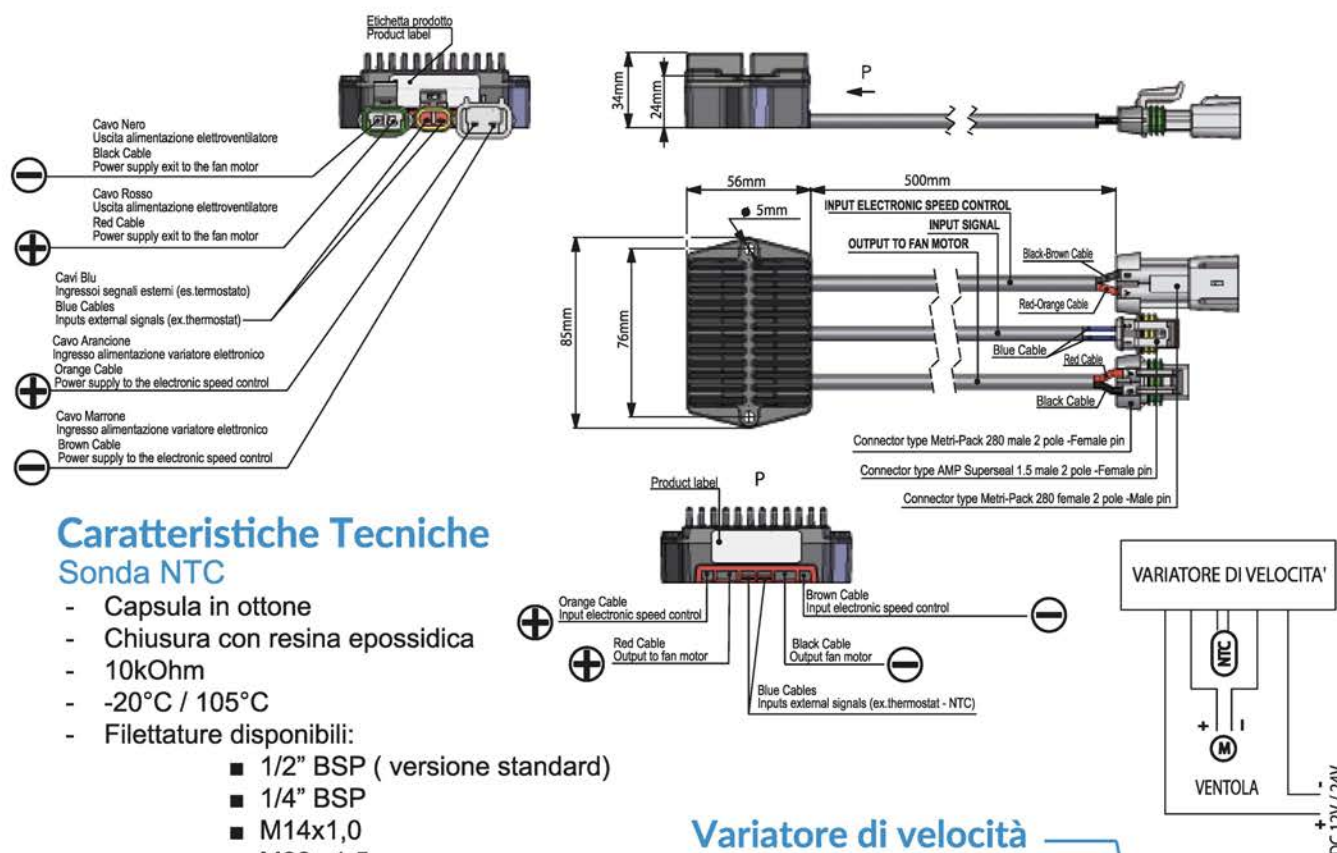
### Installazione

Il sistema è di semplice installazione:

- la sonda NTC standard è dotata di filettatura 1/2" BSP e viene collocata nella posizione normalmente riservata al termostato.
- il variatore dispone di due fori passanti per il fissaggio con viti M6.
- il variatore è dotato di connettori Plug and Play immediatamente installabili sui prodotti EMMEGI.
- il variatore include rele' di potenza e protezioni che non richiedono ulteriori cablaggi.

I connettori sono a tenuta stagna e, se correttamente installati, mantengono il grado di protezione del variatore (IP67).

### Collegamenti e connettori come da schema sotto



### Caratteristiche Tecniche

#### Sonda NTC

- Capsula in ottone
- Chiusura con resina epossidica
- 10kOhm
- -20°C / 105°C
- Filettature disponibili:
  - 1/2" BSP ( versione standard)
  - 1/4" BSP
  - M14x1,0
  - M22 x1,5

### Variatore di velocità

#### Variatore di velocità

- Tensione di alimentazione da 7 a 40V DC
- Corrente di lavoro (in continuo) massima:
  - 25A per modello con inversione
  - 30A per modello senza inversione
- Intervento protezione 35A
- Corrente in standby 4mA a 24V
- Durata oltre 200.000 cicli
- Funzione Soft-Start sempre attiva
- Protezione contro inversione accidentale della polarità
- Grado di protezione IP67
- Elettronica protetta in caso di blocco improvviso della ventola (si consiglia in ogni caso di installare un fusibile per ogni ventola).
- Protezione da Load-Dump
- Lunghezza cavi 500mm.



Sonda NTC



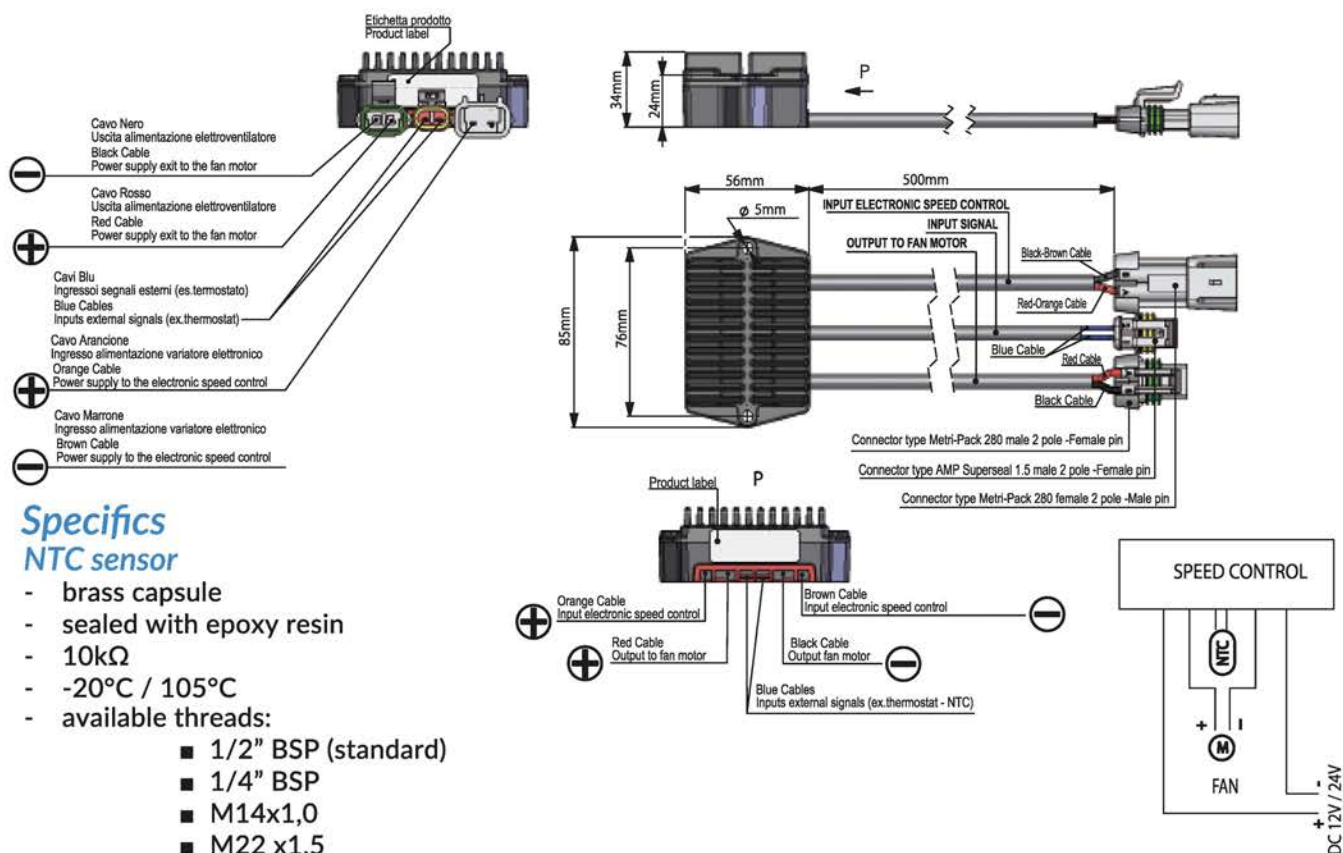
### Installation

The device is easy to install:

- Standard NTC sensor is 1/2" BSP threaded and is installed in the same position of the thermostat.
- The device has two through holes for M6 screws for fixing.
- The device is equipped with plug and play connections, suitable to EMMEGI DC models.
- Power relay and protection are included, avoiding external cabling system.

Connectors and device are water proof; if correctly installed, the system is guaranteed for IP67.

### Cabling and connections as following diagram



### Specifics

#### NTC sensor

- brass capsule
- sealed with epoxy resin
- 10kΩ
- -20°C / 105°C
- available threads:
  - 1/2" BSP (standard)
  - 1/4" BSP
  - M14x1,0
  - M22 x1,5

### Speed Control

- Voltage range: 7 - 40V DC
- Working current (maximum for continuous use):
  - 25A with reverse
  - 30A without reverse
- Protection: 35A.
- Stand-by current 4mA at 24V.
- Expected working life over 200.000 cycles.
- Soft-start function: always active.
- Reverse polarity protection: always active.
- Load dump protection.
- IP67 sealed.
- Electronic device protected against unexpected fan blockage (a fuse per each fan is recommended)
- Cable length 500mm..

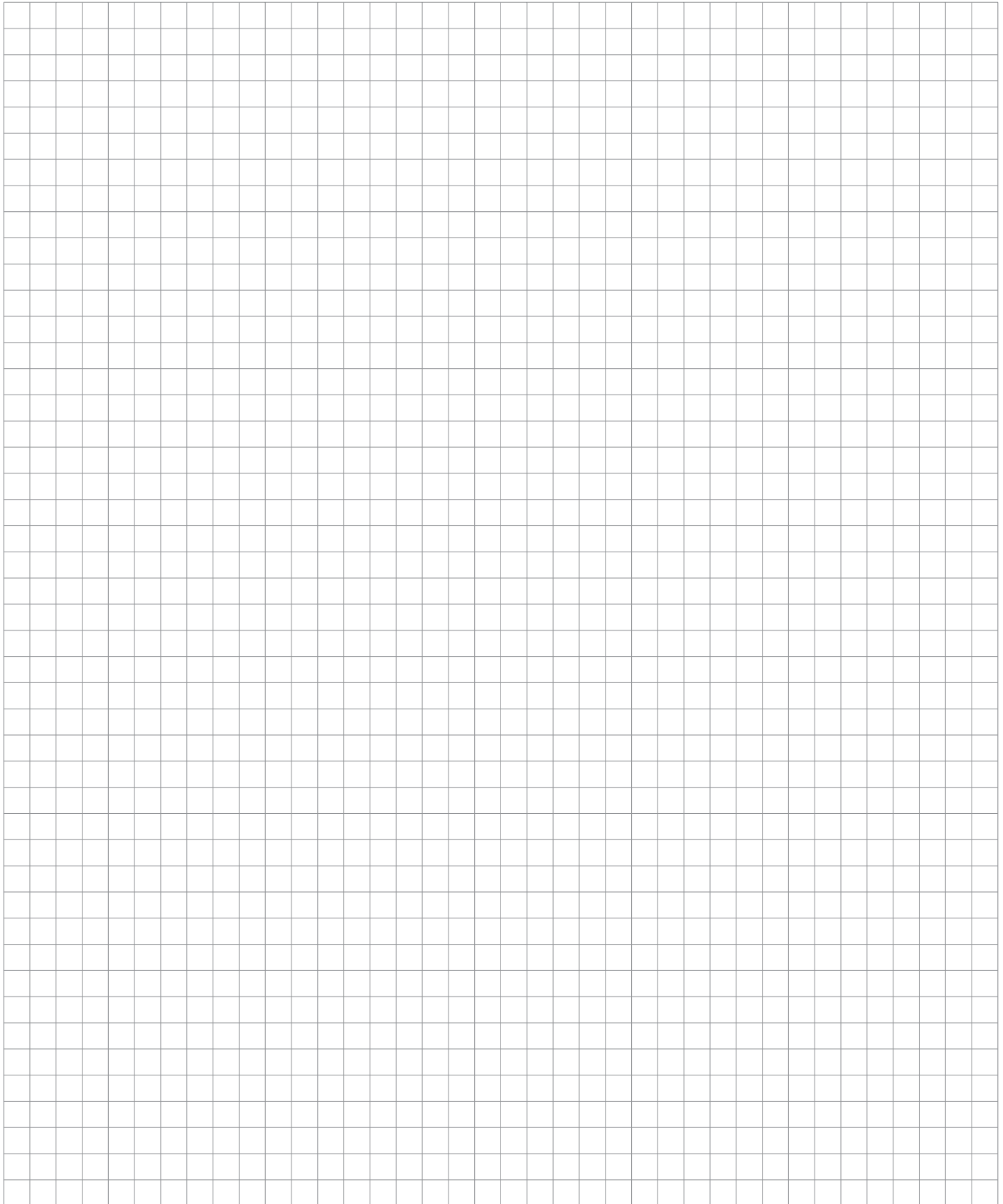
### Speed controller



NTC sensor







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