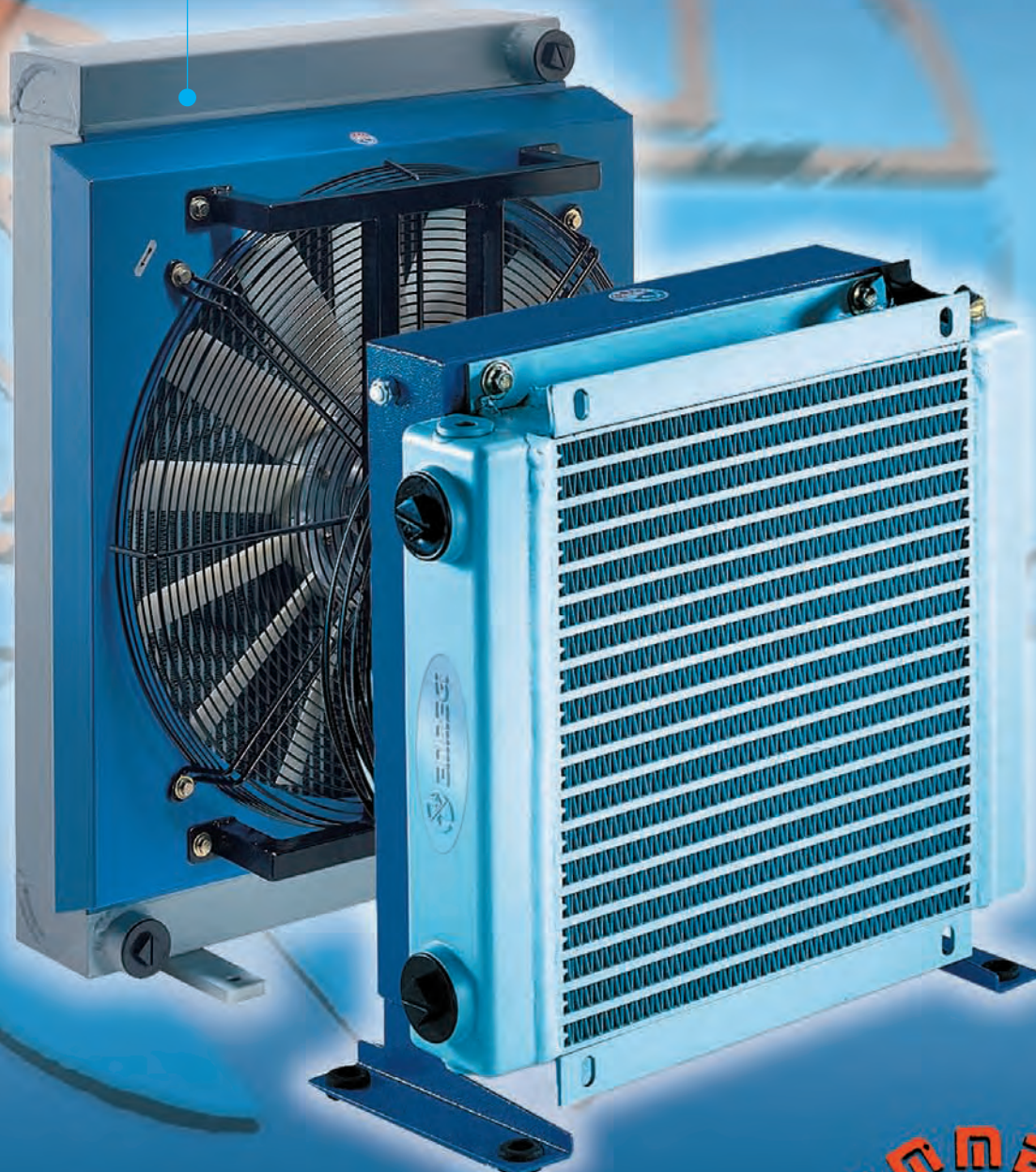


Scambiatori Aria-olio Serie HPA

*Air-oil heat-exchangers
HPA Series*



ENNEGI



Gli scambiatori di calore aria-olio EMMEGI, 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. La massa radiante, in lega d'alluminio ad alta resistenza, è ottenuta mediante un processo costruttivo di saldobrasatura sottovuoto. La particolare configurazione dei condotti aumenta la turbolenza del fluido e di conseguenza la capacità di scambio; inoltre la presenza di speciali turbolatori sull'alettatura del pacco radiante, migliora ulteriormente il coefficiente di trasmissione totale. 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: 20 bar.
- Pressione di collaudo: 35 bar.
- Temperatura max d'esercizio: 120°C
- Per particolari atmosfere aggressive consultare l'EMMEGI.

Installazione

Lo scambiatore può essere montato in posizione orizzontale o verticale, rispettando la distanza minima dalla parete (vedi fig.1), in modo da assicurare un naturale afflusso e deflusso dell'aria di raffreddamento.

Lo scambiatore è installato di norma, sulle tubazioni di ritorno dell'olio del serbatoio; deve inoltre essere protetto da urti e vibrazioni meccaniche mediante supporti e collegato all'impianto con tubazioni flessibili. È necessario evitare che sia sottoposto a brusche variazioni di portata, colpi d'ariete e pulsazioni continue che danneggiano in modo irreversibile la radiante.

Per preservare lo scambiatore dalla sovrappressione che si genera all'avviamento dell'impianto per elevata viscosità dell'olio, si suggerisce l'inserimento di una valvola di by-pass (vedi fig.2).

EMMEGI air-oil heat exchangers are used for cooling oil hydraulic systems using as the coolant ambient air that passes over the radiant 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 cooling pipes increase the turbulence of the fluid consequently of the exchange capacity; moreover, the presence of special jets 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.
- Consults EMMEGI for other fluids.

Technical specification of Cooler Element

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

Installation

The exchanger can be fitted in a horizontal position, respecting the minimum distance from the wall (see fig.1) so as to ensure a natural flow of cooling air.

The exchanger is usually installed on oil tank return piping; it must also be protected from impacts and mechanical vibrations by supports and must be connected to the plant with flexible pipes.

Avoid subjecting the exchanger to sudden changes in flow, hammering and pulsations that can cause irreversible damage to the element.

We recommend installing a by-pass valve (see fig.2) to protect the exchanger from over-pressure generated when the plants is started up due to high oil viscosity.

Manutenzione

È buona norma prestare particolare attenzione alla pulizia della massa radiante per garantire un naturale ricambio d'aria, ed evitare una diminuzione dell'efficienza termica.

Pulizia lato olio

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

Pulizia lato aria

La pulizia lato aria può essere effettuata con aria compressa o 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.

Esempio di scelta dello scambiatore

Per effettuare la scelta dello scambiatore si procede come segue:

Potenza da dissipare	:	19,5	[KW]
Portata olio ISO VG 32	:	90	[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 ΔT (differenza tra la temperatura olio ingresso e la temperatura ambiente).

$$P = \frac{19,5 \text{ KW}}{60^\circ - 30^\circ} = 0,65 \text{ KW/}^\circ\text{C}$$

Nota la portata olio (90 lpm) e la potenza specifica di scambio (0,65 KW/°C) si procede alla ricerca del prodotto avvalendosi dei grafici riportati a catalogo, relativi ai singoli modelli.

Maintenance

You should be particularly carefully in cleaning the cooler element to guarantee a natural exchange of air, in order to prevent a reduction in thermal efficiency.

Cleaning oil side

The exchanger should be dismantled to clean on the oil side. The dirt can be removed by flushing, in counter-current, de-greasing substance, compatible with aluminium. Wash with hydraulic oil before re-connecting the product to the plant.

Cleaning air side

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.

Oily 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.

Example of how to choose a heat exchanger

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

Power to dissipate	:	19,5	[KW]
ISO VG 32 oil flow	:	90	[lpm]
Oil input 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 dissipate and the ΔT (the difference between the oil input temperature and the ambient temperature).

$$P = \frac{19,5 \text{ KW}}{60^\circ - 30^\circ} = 0,65 \text{ KW/}^\circ\text{C}$$

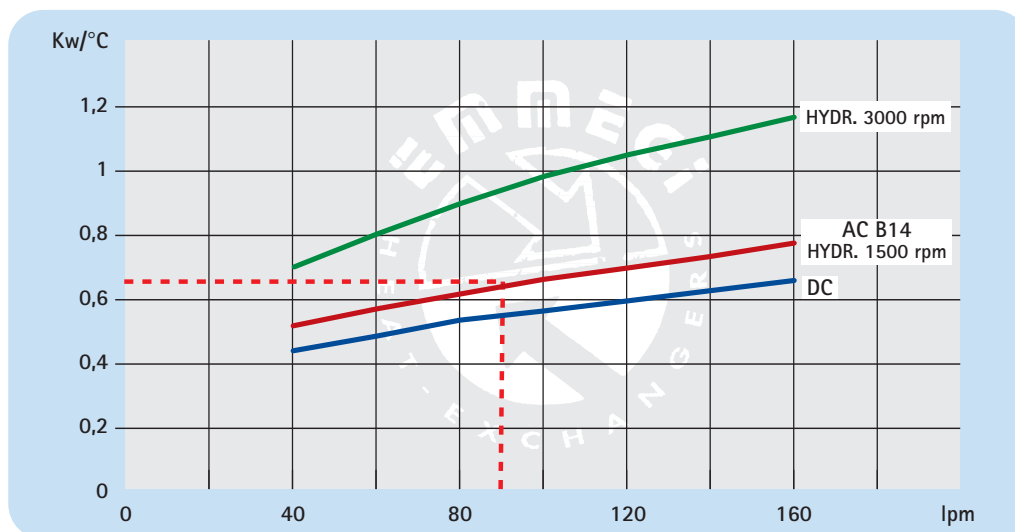
Note the oil flow (90lpm) and specific exchange power (0,65 KW/°C), product research is made by referring to the graph in the catalogue which is relevant to each model.

P/N	V	Hz	kW	A	rpm	ø Fan	dB(A)	(m ³ /h)	IP	It	Kg
243003###	230-400 B14 AC	50/60	0,750	1,8	1450	450	82	4000	55	6,8	37
243012###	12 DC	/	0,150	9,5	3100	280	74	1550	68		32
243024###	24 DC	/	0,150	5,6	3100	280	78	1700	68		32
243056###	Prepared for Gr.2 hydraulic motor				☎	450	☎	☎	/		35

Per il 12-24V i dati sono riferiti al singolo ventilatore For 12-24 V the data refers to each ventilator

☎ Contattare EMMEGI Contact EMMEGI

Diagramma rendimento *Performance diagram*



Lo scambiatore selezionato risulta il modello:
HPA 30 – 230/400V – 50Hz
cod. 243003###.

The exchanger selected is the following model:
HPA 30 – 230/400V – 50Hz
cod. 243003###.

Per la completa identificazione dello scambiatore consultare la pagina "DENOMINAZIONE CODICE PRODOTTO". Nel caso non siano conosciuti tutti i dati, per la scelta prendere contatto **EMMEGI**.

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.

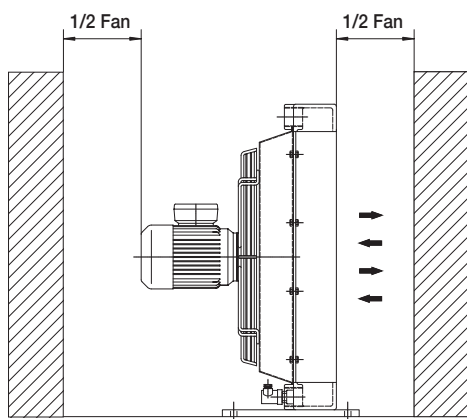


Fig.1

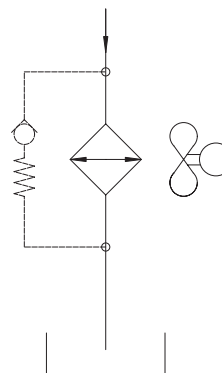
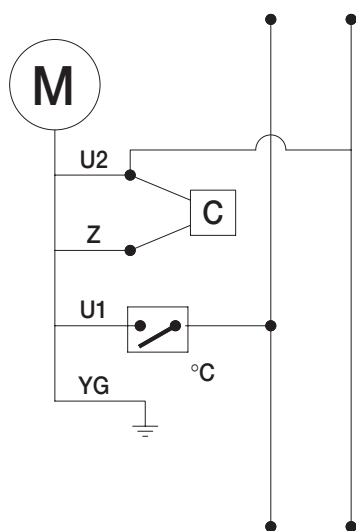


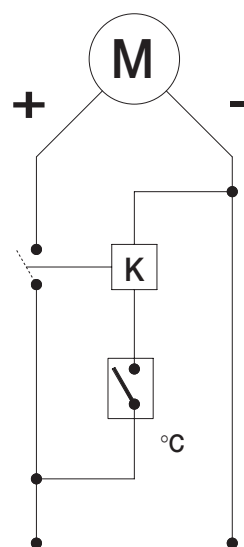
Fig.2

Collegamenti elettrici

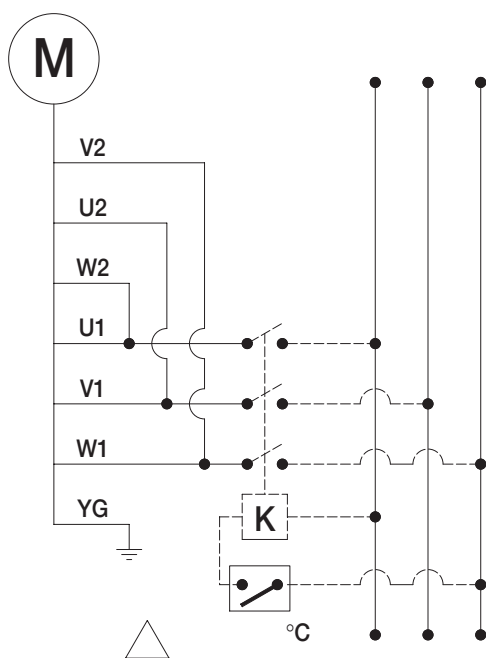
Electric Wiring



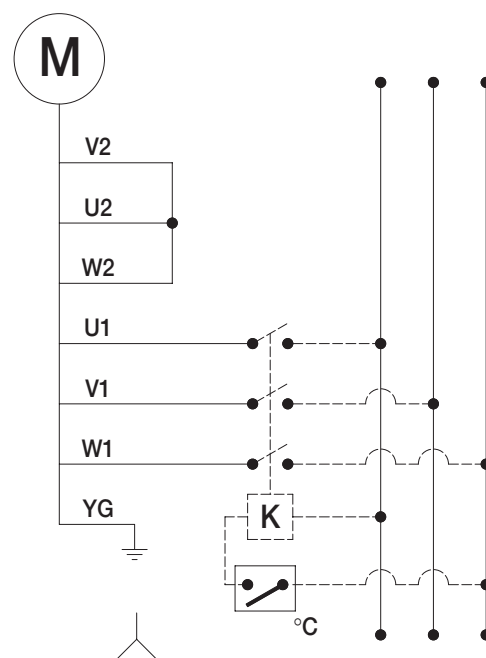
230V AC 1 PHASE



12-24V DC



230V AC 3 PHASE



400V AC 3 PHASE

°C = Termostato NA./Thermostat NO.

K = Relé/Relay

Modulo richiesta dati



Sheet for cooler selection

CLIENTE COMPANY	
RICHIEDENTE NAME	

ARIA-OLIO AIR-OIL

PORTATA OLIO OIL FLOW RATE	lpm	
POTENZA INSTALLATA TOTAL POWER	kW	
POTENZA DA DISSIPARE POWER TO BE DISSIPATED	kW	
TEMPERATURA INGRESSO OLIO OIL TEMPERATURE INLET	°C	
TEMPERATURA ARIA MAX MAX AMBIENT TEMPERATURE	°C	
VISCOSITÀ OLIO OIL VISCOSITY	cst	
PRESSIONE DI LAVORO WORKING PRESSURE	bar	

TIPO DI VENTILAZIONE TYPE OF FAN UNIT		
CORRENTE CONTINUA DIRECT CURRENT	PREDISPOSTO MOTORE IDRAULICO PREPARED FOR HYDRAULIC MOTOR	CORRENTE ALTERNATA ALTERNATE CURRENT
12V	GR. 2	MONOFASE 230V SINGLEPHASE 230V
24V	GR. 3	TRIFASE 230/400V THREEPHASE 230/400V
		TENSIONE SPECIALE SPECIAL VOLTAGE
		50 HZ 60 HZ

2

424

03

2

01

TIPO DI SISTEMA *COOLER SERIES*

424 (HPA 24)

TIPO DI MOTORIZZAZIONE *FAN MOTOR TYPE*

- 03 AC 230V-400V 50-60 Hz (B14)
- 12 DC 12V
- 24 DC 24V
- 54 Pred. per mot. idr. gr. 1 *Prep. for hydr. mot. gr. 1*
- 56 Pred. per mot. idr. gr. 2 *Prep. for hydr. mot. gr. 2*
- 58 Pred. per mot. idr. gr. 3 *Prep. for hydr. mot. gr. 3*

TERMOSTATI *THERMOSTATS*

- 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* 0-120° (TC2)

TIPO DI VENTILAZIONE *VENTILATING TYPE*

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

Serie HPA - HPA Series

HPA 12	pag. 8-9
HPA 18	pag. 10-11
HPA 24	pag. 12-13
HPA 30	pag. 14-15
HPA 36	pag. 16-17
HPA 42	pag. 18-19
HPA 50	pag. 20-21
HPA 52	pag. 22-23



Serie HPA 2pass - HPA 2pass Series

HPA 24 2 PASS	pag. 24-25
HPA 30 2 PASS	pag. 26-27
HPA 36 2 PASS	pag. 28-29
HPA 42 2 PASS	pag. 30-31
HPA 50 2 PASS	pag. 32-33
HPA 52 2 PASS	pag. 34-35

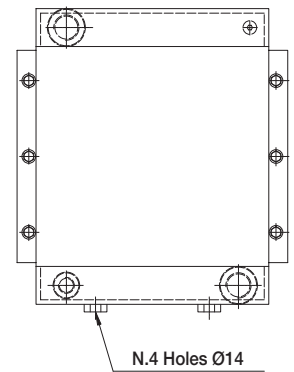
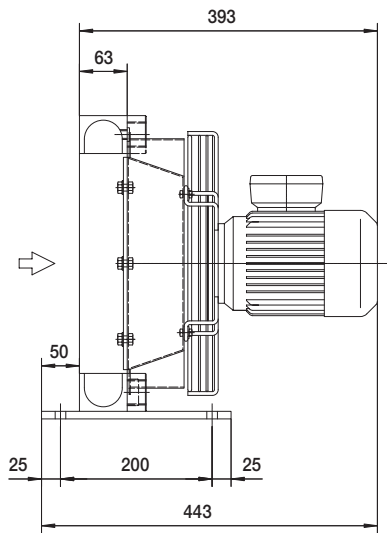
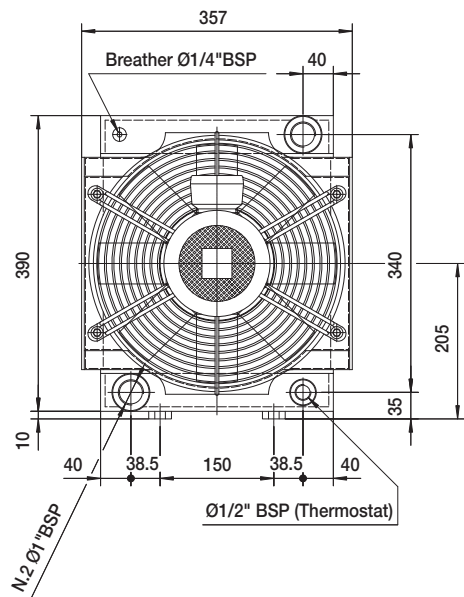


Serie HPA/2 - HPA/2 Series

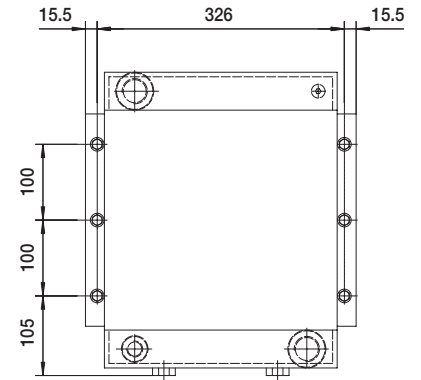
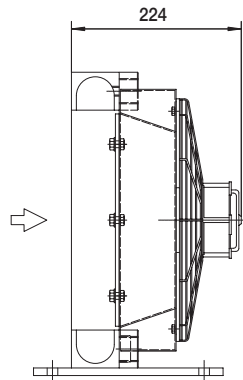
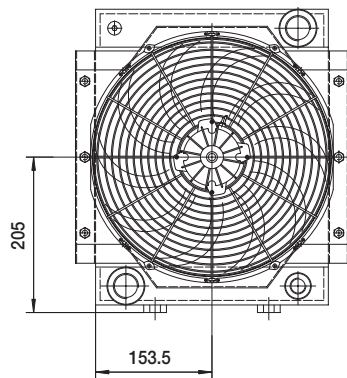
HPA 30/2	pag. 36-37
HPA 36/2	pag. 38-39
HPA 42/2	pag. 40-41
HPA 50/2	pag. 42-43
HPA 52/2	pag. 44-45
HPA 44/2	pag. 46-47
HPA 44/3	pag. 48-49



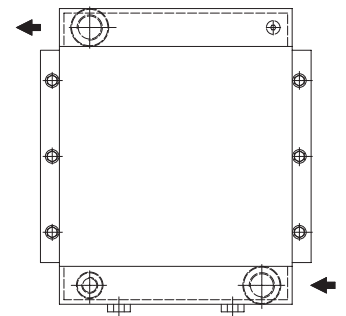
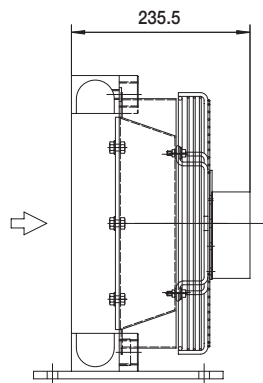
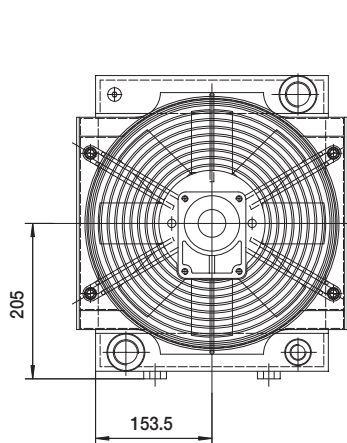
Dimensioni *Dimensions*



P/N 241201###
P/N 241203###



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



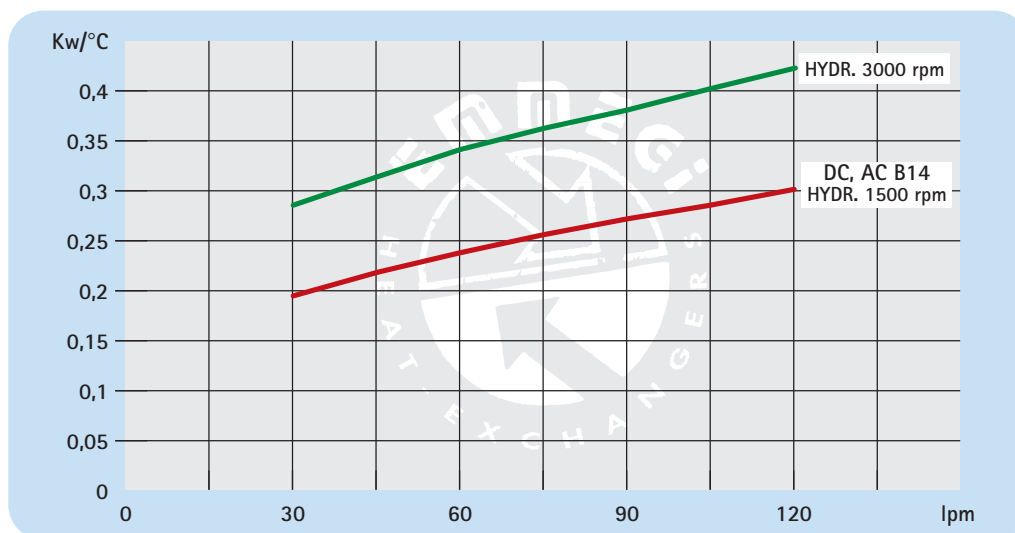
P/N 241256###

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

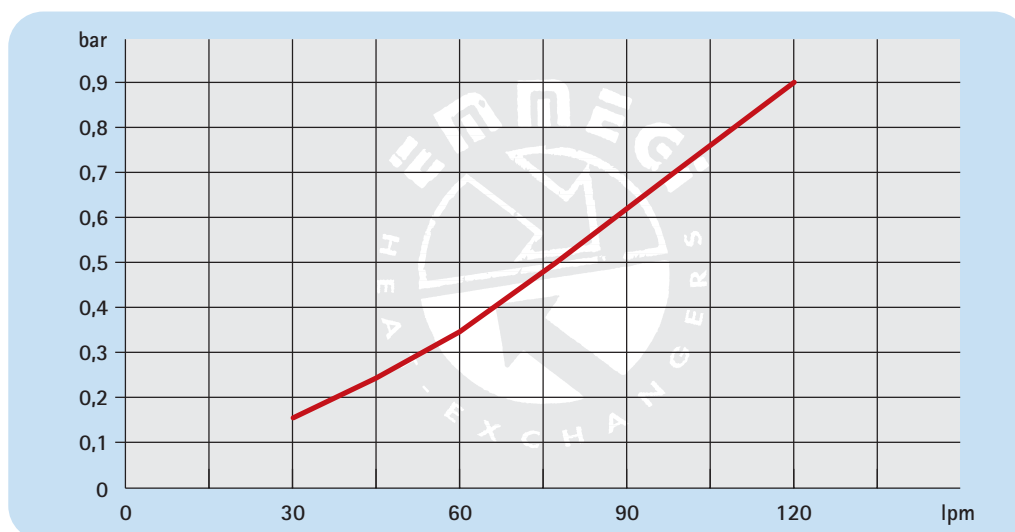
P/N	V	Hz	kW	A	rpm	ø Fan	dB(A)	(m³/h)	IP	It	Kg
241203###	230-400 B14 AC	50/60	0,250	0,7	1450	315	72	1670	55	1,9	17
241212###	12 DC	/	0,160	11,3	3000	305	77	1590	68		15
241224###	24 DC	/	0,160	6,3	3000	305	80	1700	68		15
241256###	Prepared for Gr.2 hydraulic motor				☎	315	☎	☎	/		16

☎ Contattare EMMEGI Contact EMMEGI

Diagramma rendimento *Performance diagram*



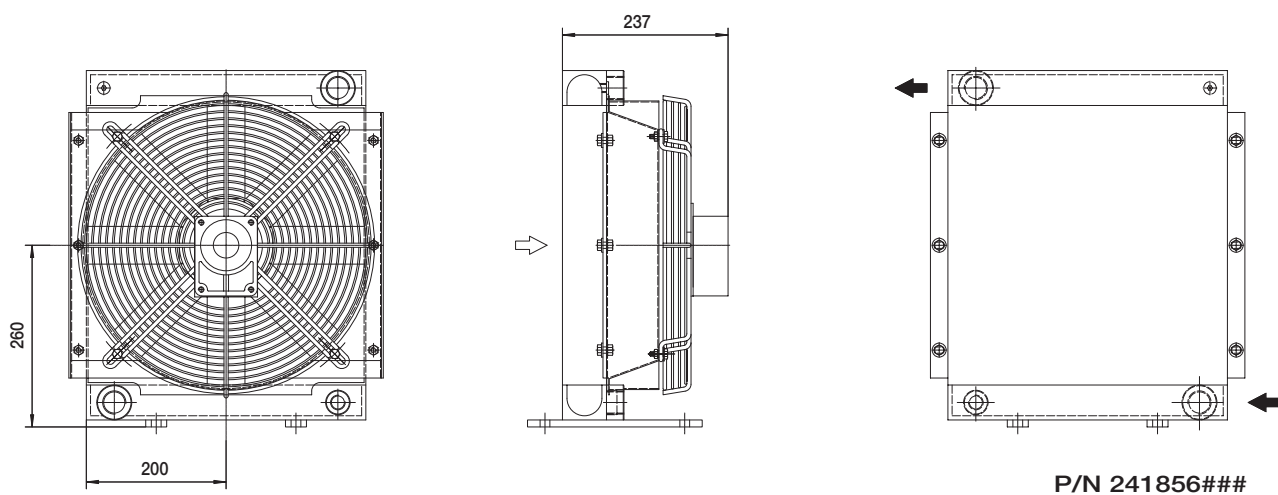
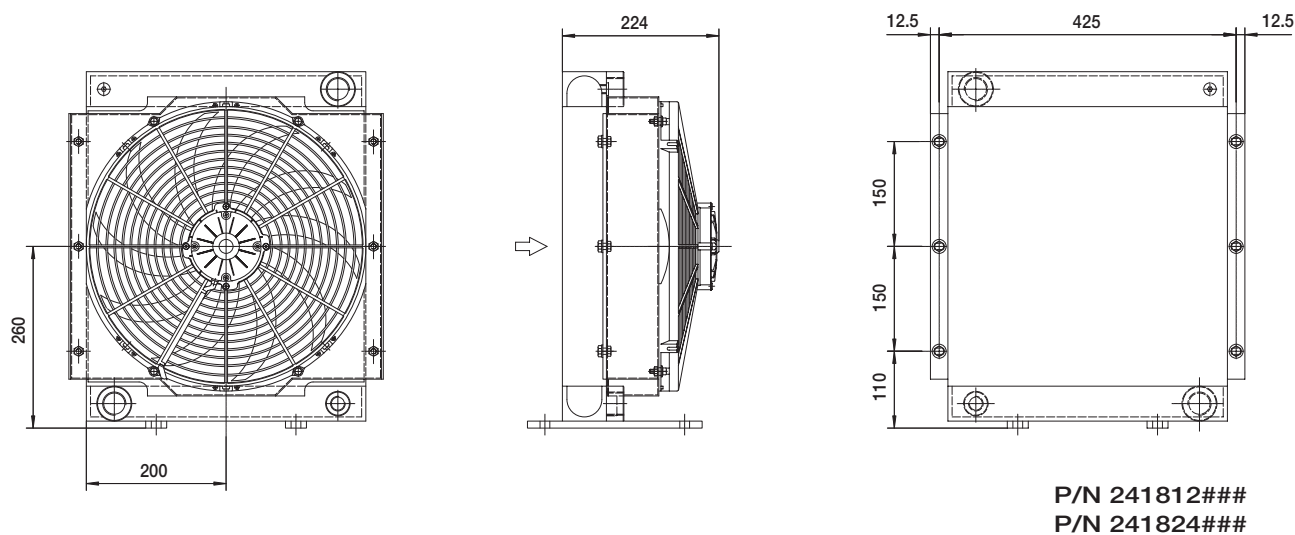
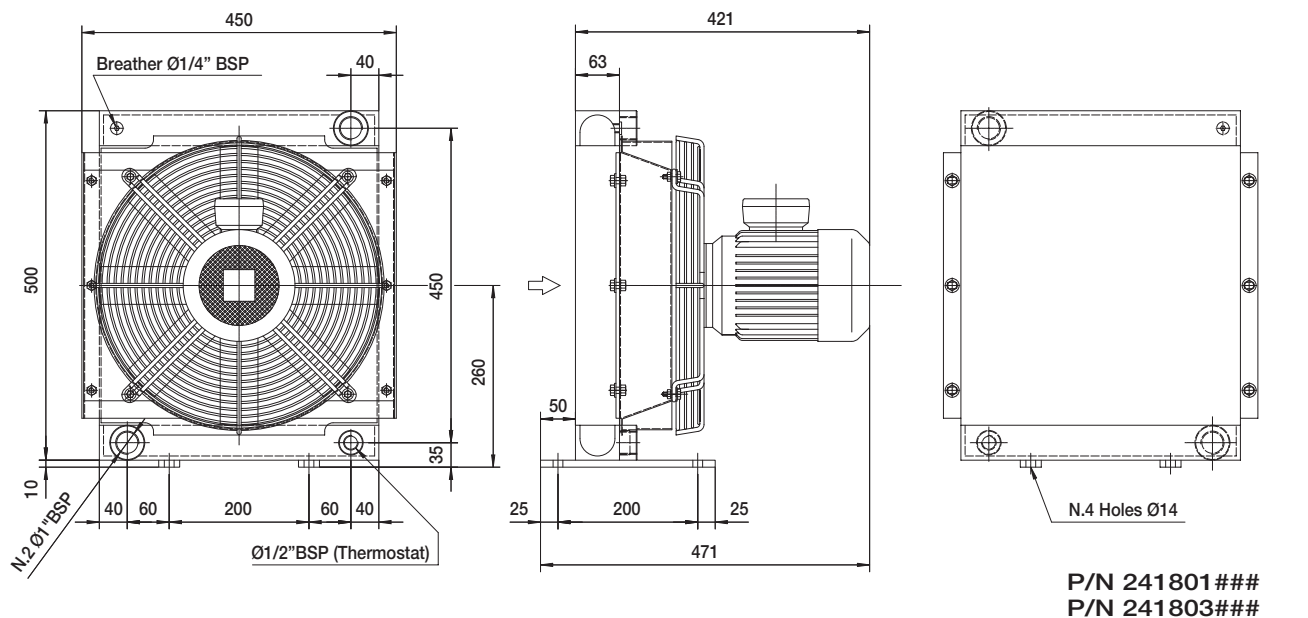
Perdite di carico *Pressure drop (ISO VG 32)*



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*

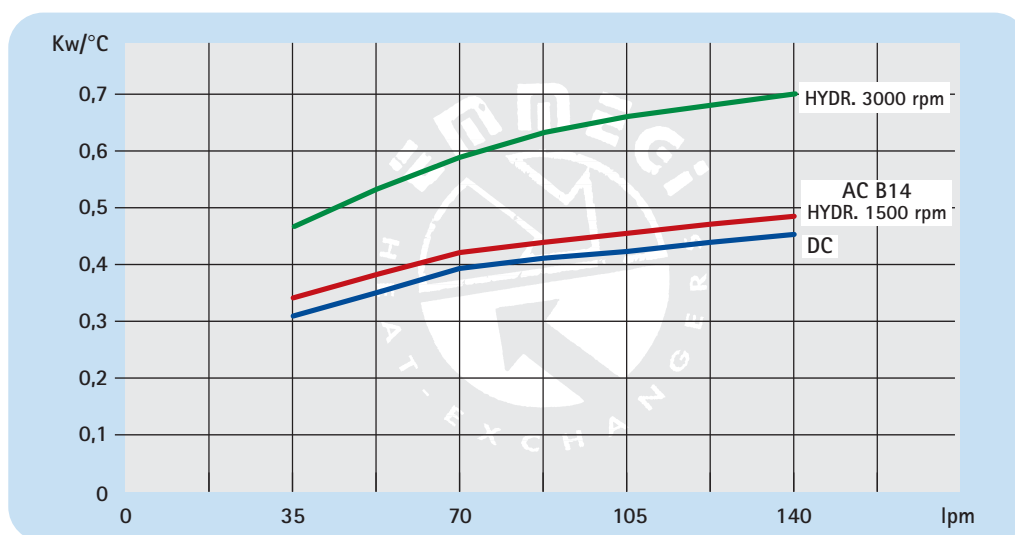


Le dimensioni di ingombro e le caratteristiche tecniche non sono impegnative
Over-all dimensions and technical characteristic are not binding

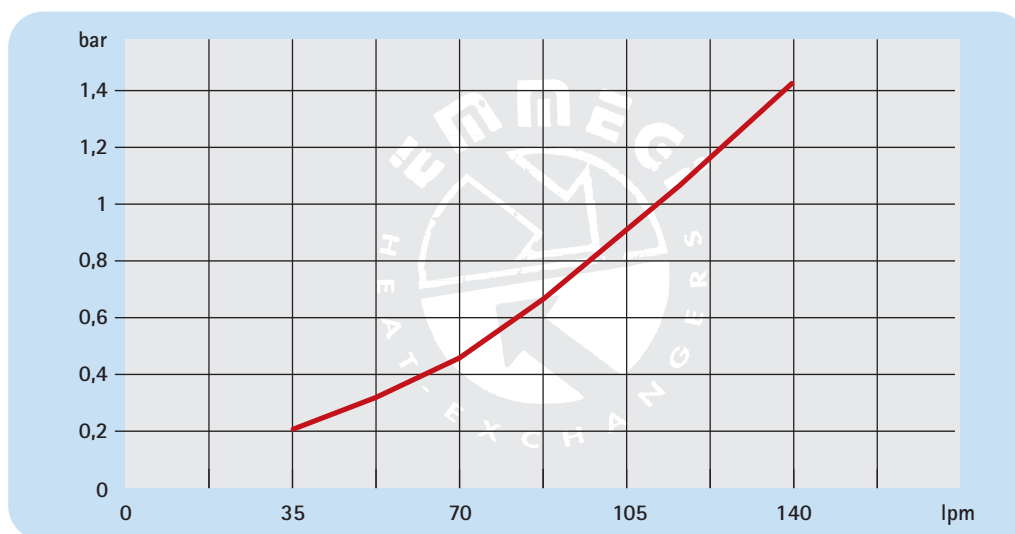
P/N	V	Hz	kW	A	rpm	ø Fan	dB(A)	(m³/h)	IP	It	Kg
241803###	230-400 B14 AC	50/60	0,370	0,95	1450	400	77	3350	55	2,9	20
241812###	12 DC	/	0,210	13,3	2500	385	77	2950	68		18
241824###	24 DC	/	0,210	9,3	2500	385	81	3100	68		18
241856###	Prepared for Gr.2 hydraulic motor				☎	400	☎	☎	/		19

☎ Contattare EMMEGI Contact EMMEGI

Diagramma rendimento *Performance diagram*



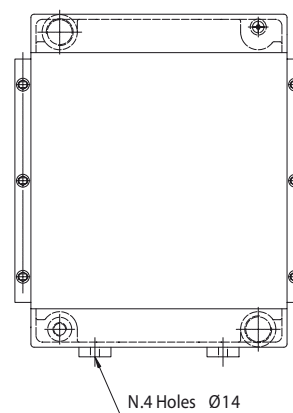
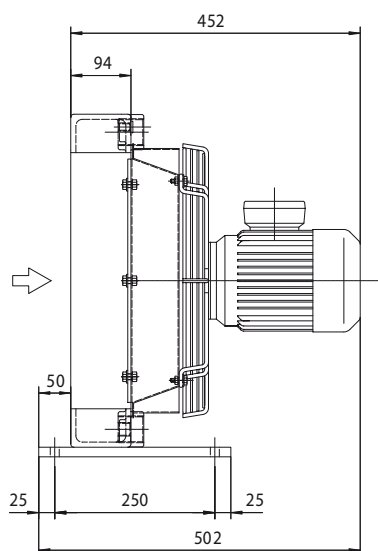
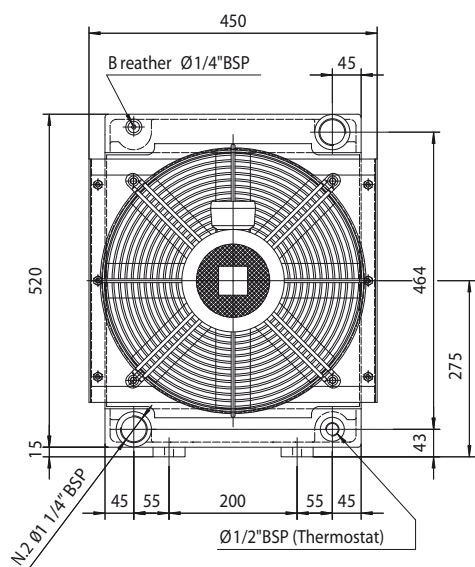
Perdite di carico *Pressure drop (ISO VG 32)*



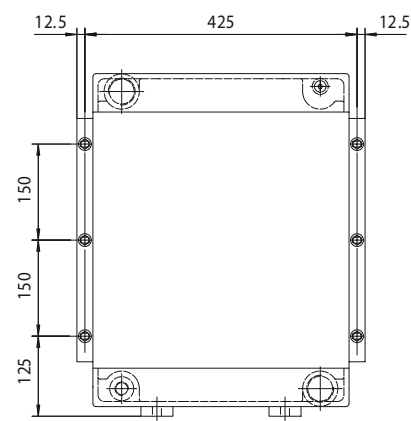
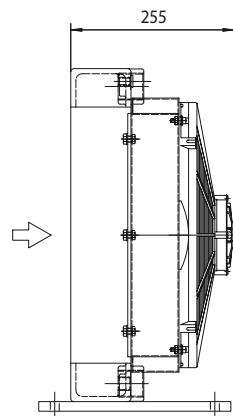
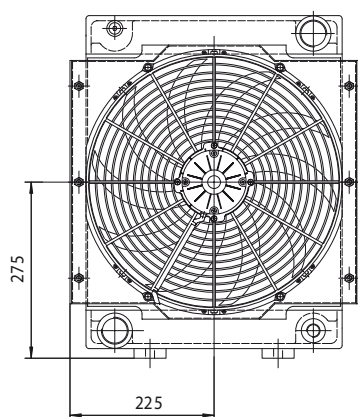
Fattore di correzione - F - (perdite di carico) *Correction factor - F - (Pressure drop)*

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

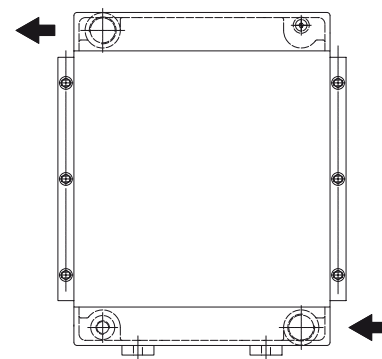
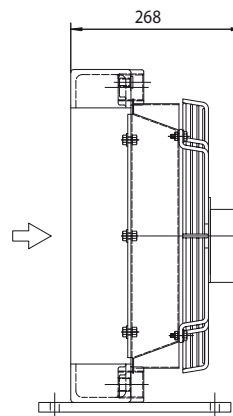
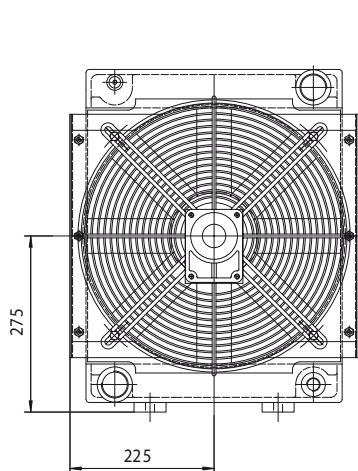
Dimensioni Dimensions



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P/N 242403###



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



P/N 242456###

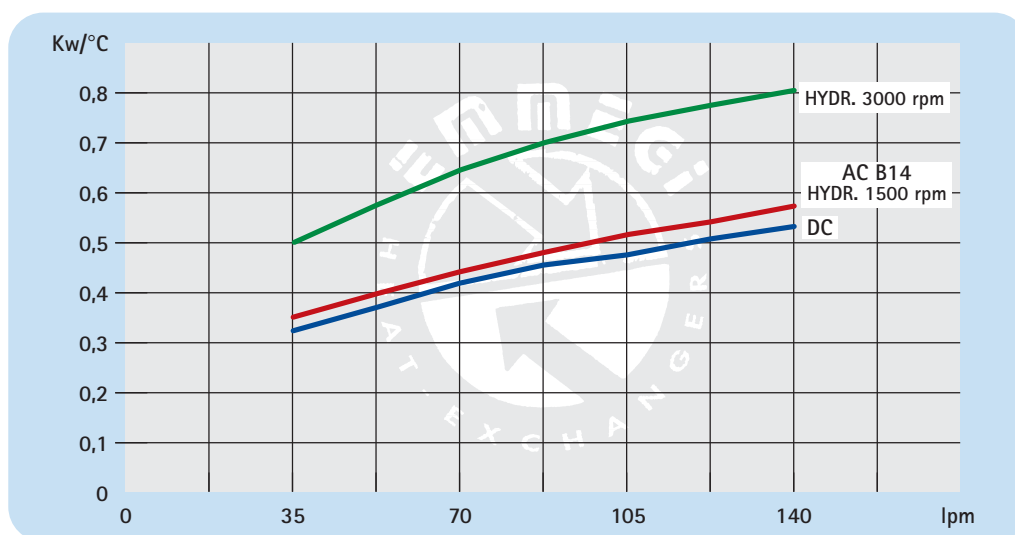
Le dimensioni di ingombro e le caratteristiche tecniche non sono impegnative
Over-all dimensions and technical characteristic are not binding

Dati tecnici *Technical Data*

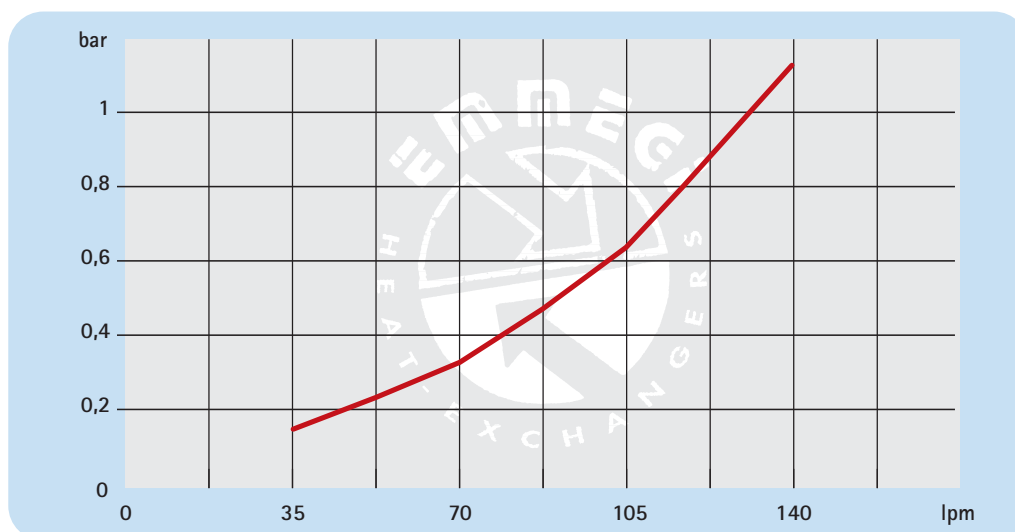
P/N	V	Hz	kW	A	rpm	ø Fan	dB(A)	(m³/h)	IP	It	Kg
242403###	230-400 B14 AC	50/60	0,550	1,35	1450	400	79	2800	55	6,2	28
242412###	12 DC	/	0,210	13,2	2500	385	77	2100	68		22
242424###	24 DC	/	0,210	8,4	2500	385	80	2250	68		22
242456###	Prepared for Gr.2 hydraulic motor				☎	400	☎	☎	/		23

☎ Contattare EMMEGI *Contact EMMEGI*

Diagramma rendimento *Performance diagram*



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



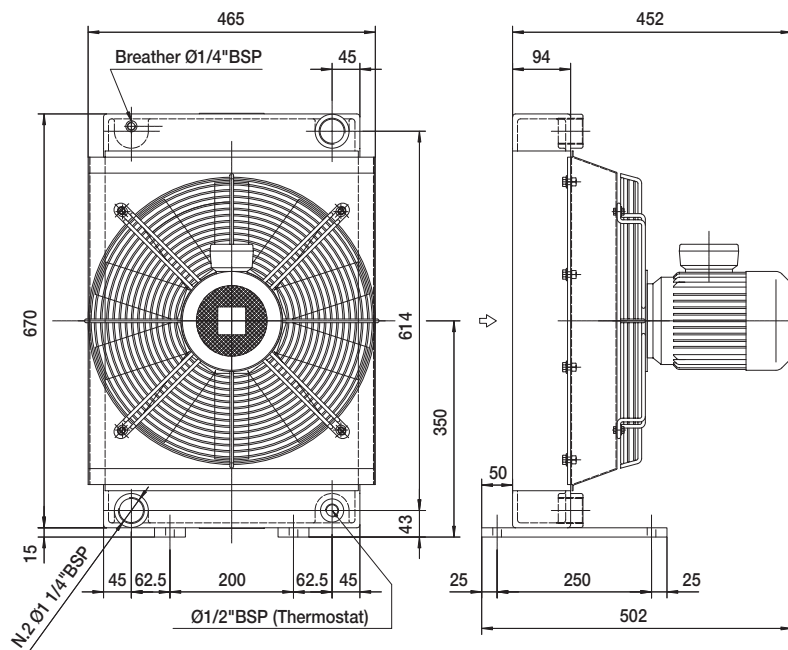
Fattore di correzione - F - (perdite di carico) *Correction factor - F - (Pressure drop)*

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

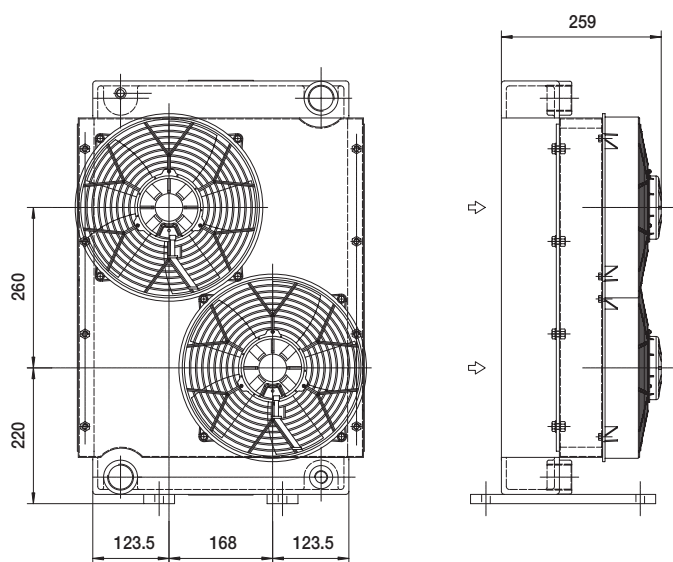


HPA 24

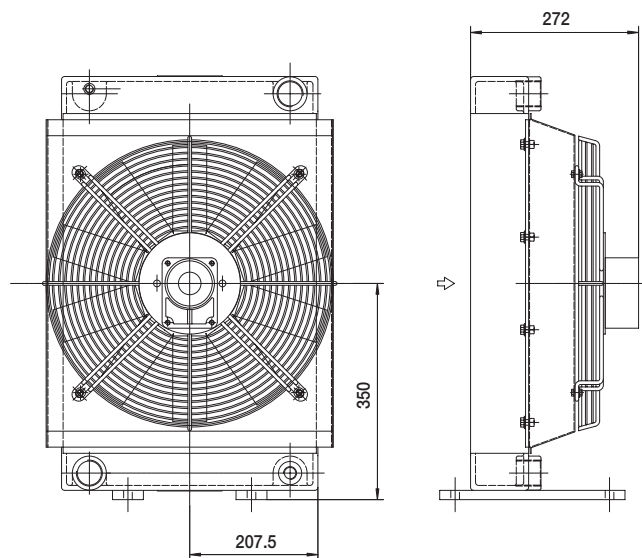
Dimensioni *Dimensions*



P/N 243003###



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



P/N 243056###

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

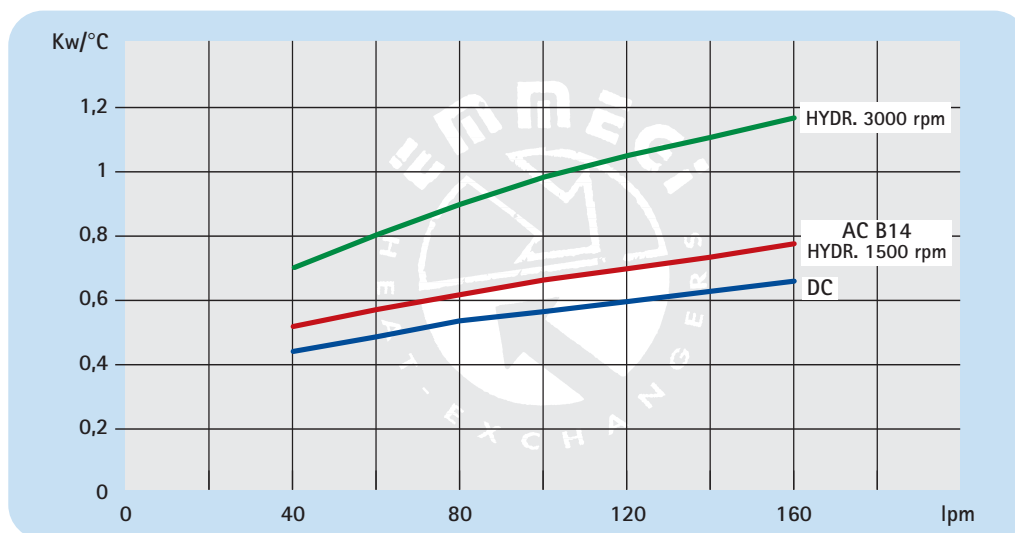
Dati tecnici *Technical Data*

P/N	V	Hz	kW	A	rpm	ø Fan	dB(A)	(m³/h)	IP	It	Kg
243003###	230-400 B14 AC	50/60	0,750	1,8	1450	450	82	4000	55	6,8	37
243012###	12 DC	/	0,150	9,5	3100	280	74	1550	68		32
243024###	24 DC	/	0,150	5,6	3100	280	78	1700	68		32
243056###	Prepared for Gr.2 hydraulic motor				☎	450	☎	☎	/		35

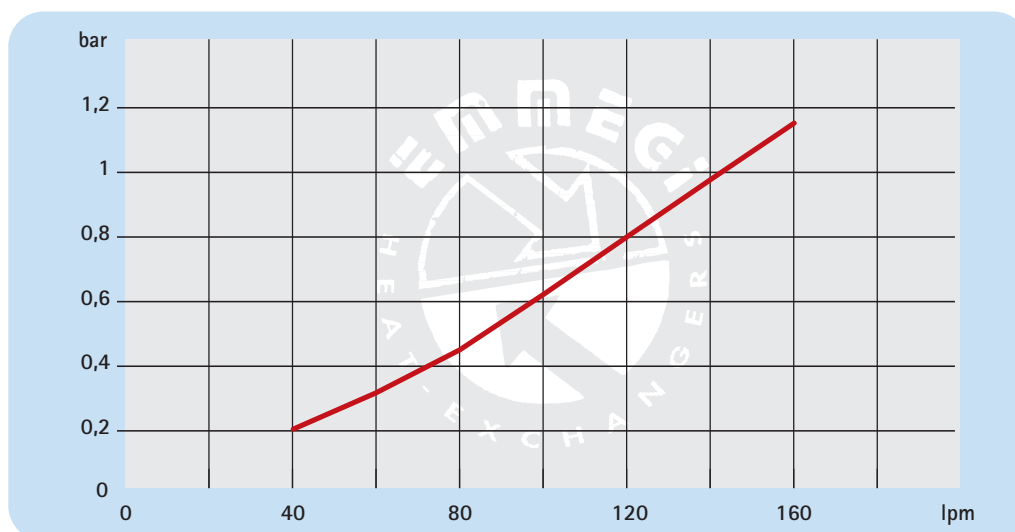
Per il 12-24V i dati sono riferiti al singolo ventilatore For 12-24 V the data refers to each ventilator

☎ Contattare EMMEGI Contact EMMEGI

Diagramma rendimento *Performance diagram*



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



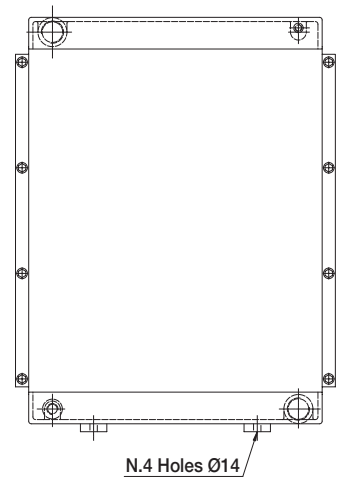
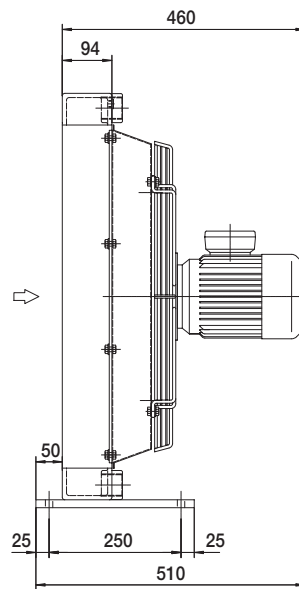
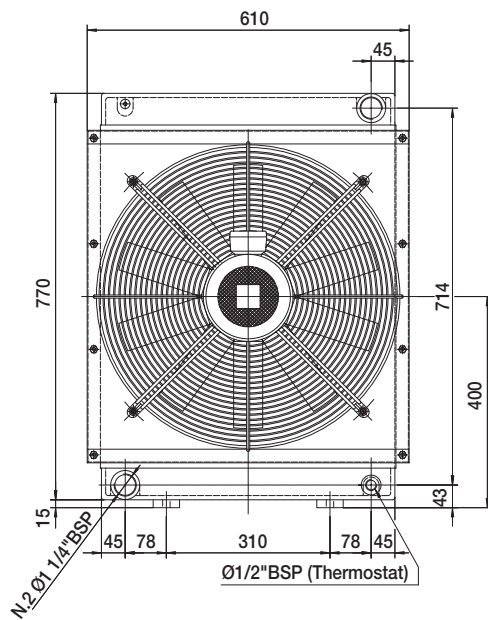
Fattore di correzione - F - (perdite di carico) *Correction factor - F - (Pressure drop)*

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

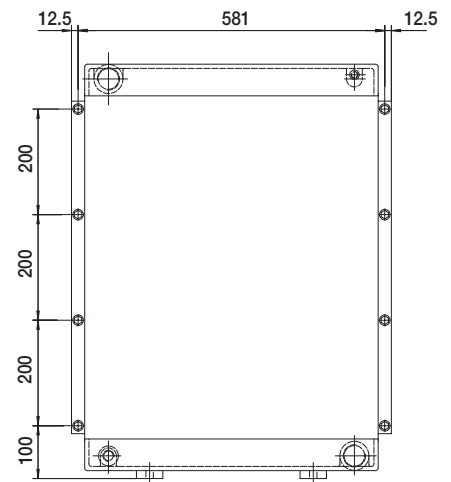
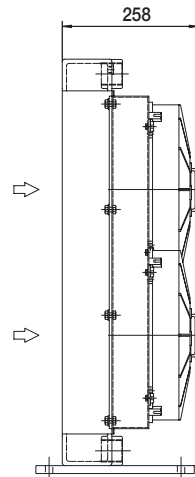
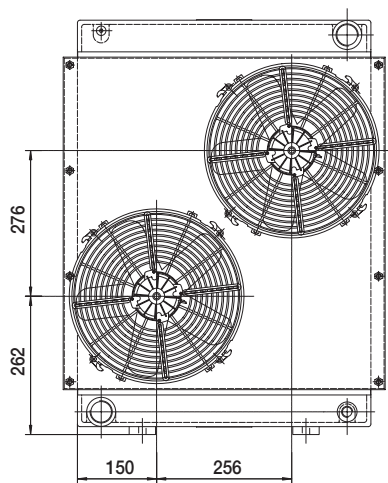


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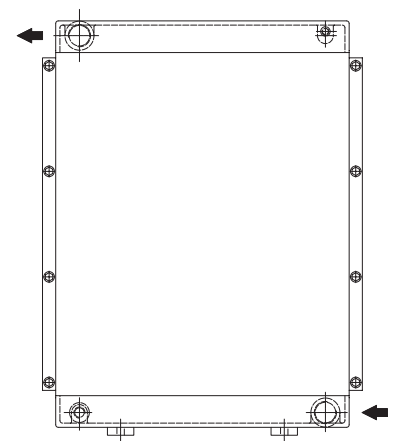
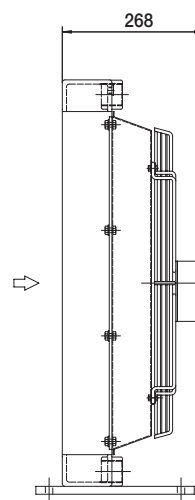
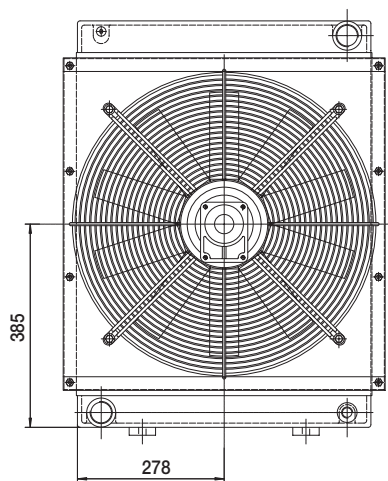
Dimensioni *Dimensions*



P/N 243603###



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



P/N 243656###

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

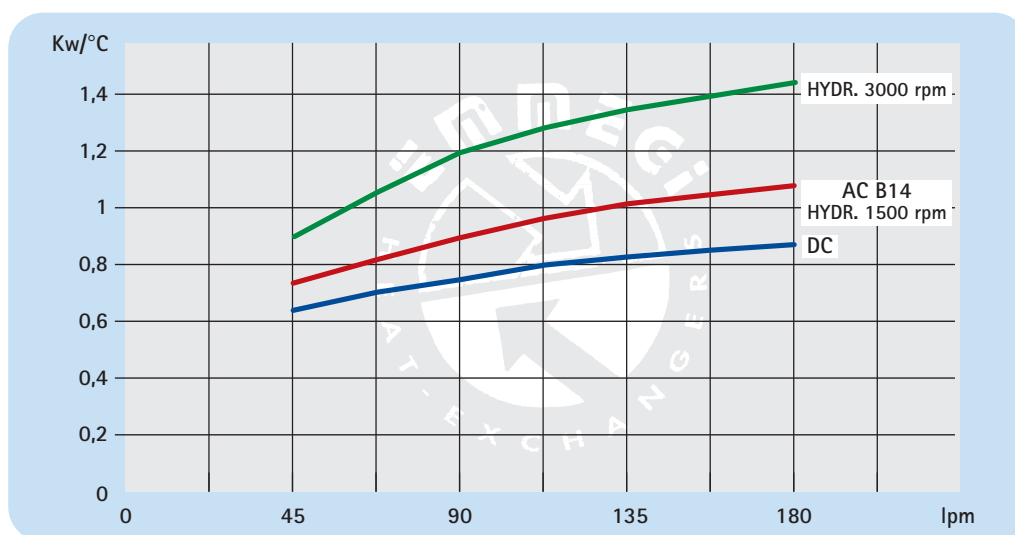
Dati tecnici *Technical Data*

P/N	V	Hz	kW	A	rpm	ø Fan	dB(A)	(m³/h)	IP	It	Kg
243603###	230-400 B14 AC	50/60	1,1	2,32	1450	500	82	5650	55	9,4	60
243612###	12 DC	/	0,200	12,5	3100	305	83	2100	68		50
243624###	24 DC	/	0,200	7,8	3100	305	84	2400	68		50
243656###	Prepared for Gr.2 hydraulic motor				☎	500	☎	☎	/		52

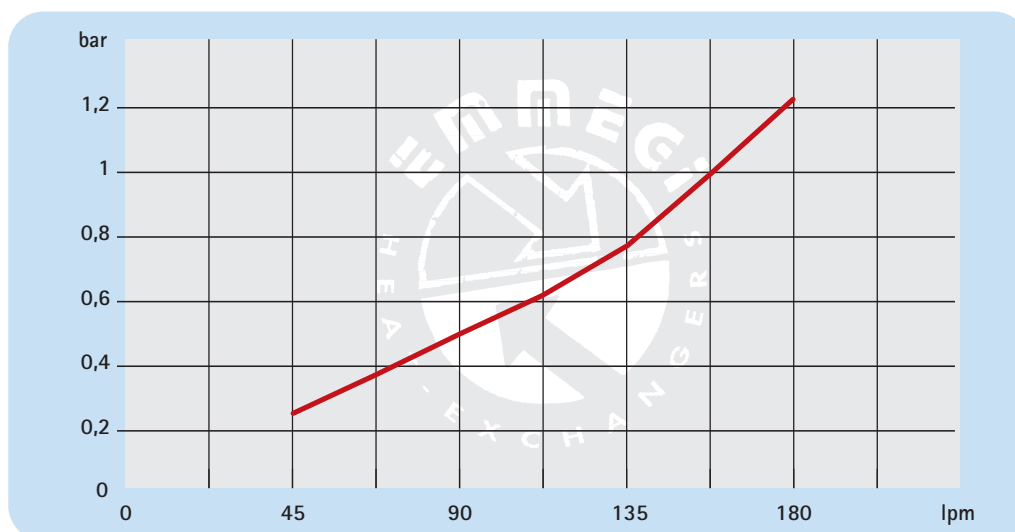
Per il 12-24V i dati sono riferiti al singolo ventilatore For 12-24 V the data refers to each ventilator

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Diagramma rendimento *Performance diagram*



Perdite di carico *Pressure drop (32 CST)*



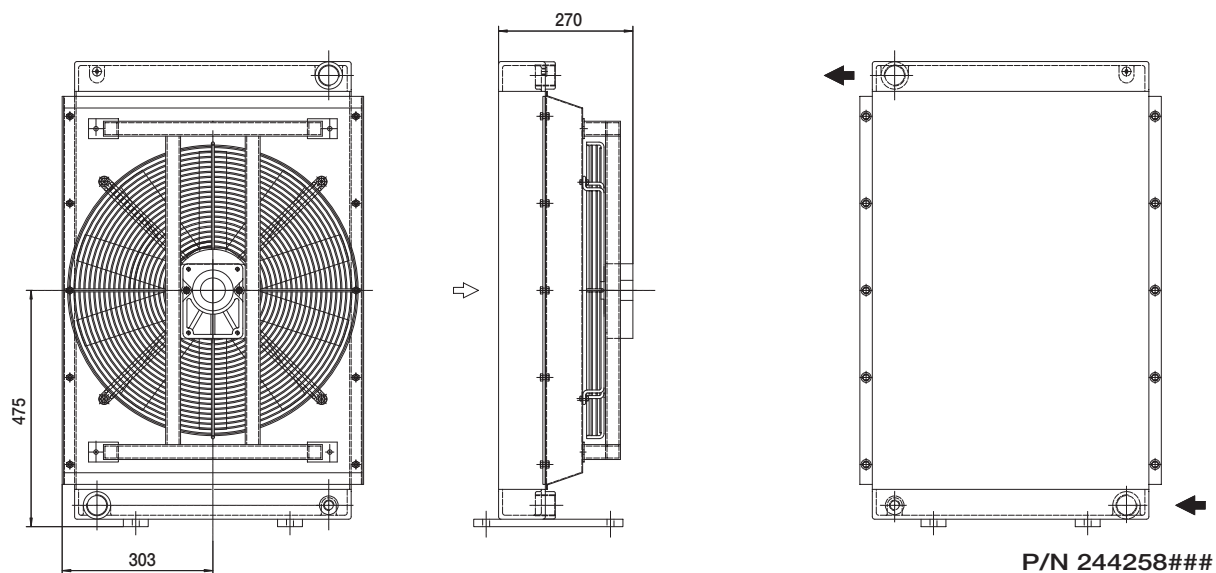
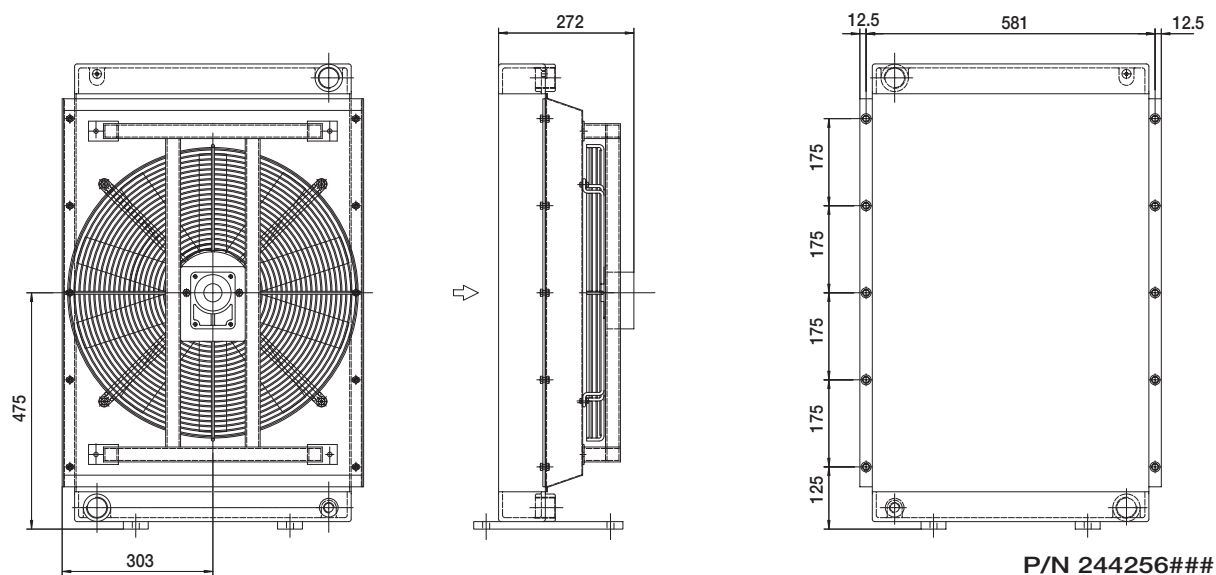
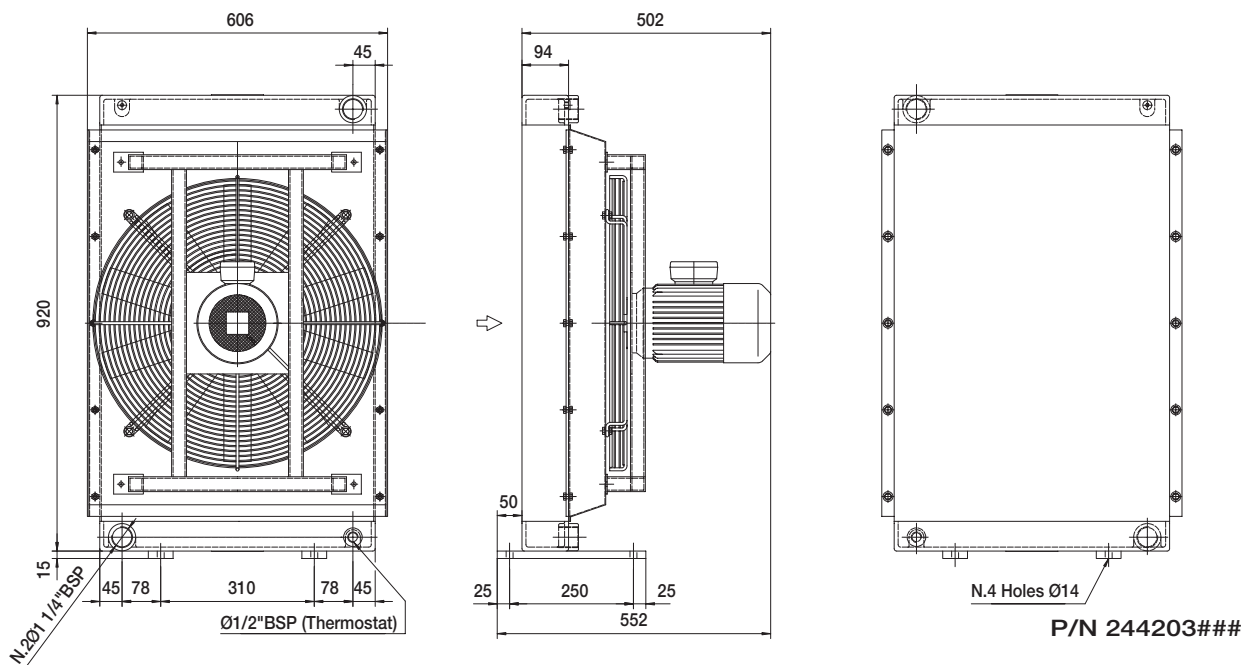
Fattore di correzione - F - (perdite di carico) *Correction factor - F - (Pressure drop)*

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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Dimensioni *Dimensions*



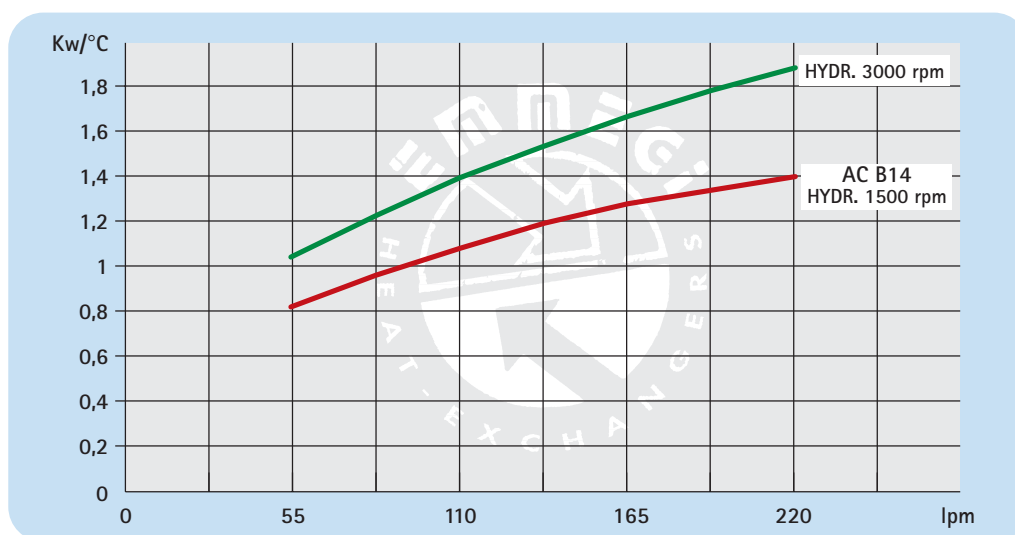
Le dimensioni di ingombro e le caratteristiche tecniche non sono impegnative
Over-all dimensions and technical characteristic are not binding

Dati tecnici *Technical Data*

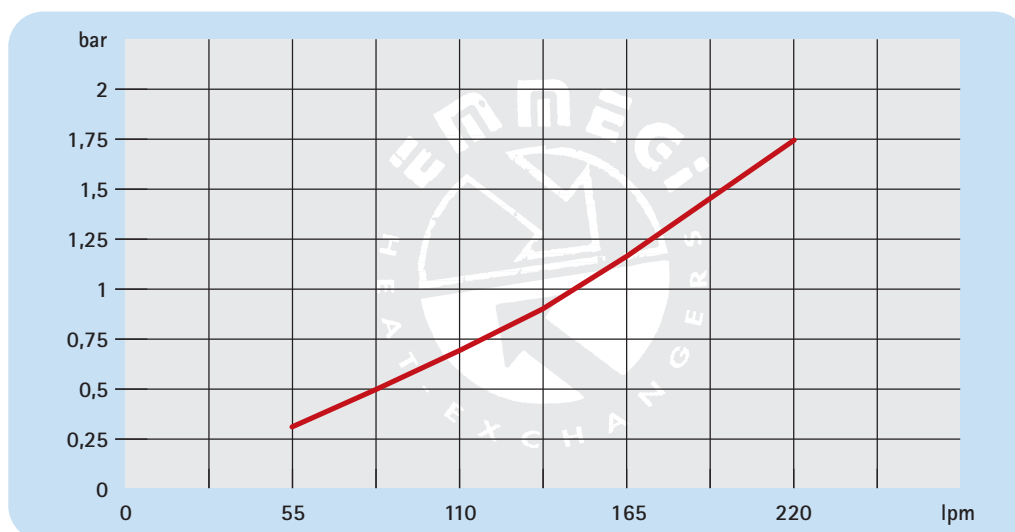
P/N	V	Hz	kW	A	rpm	ø Fan	dB(A)	(m³/h)	IP	It	Kg
244203###	230-400 B14 AC	50/60	1,1	2,5	1450	560	84	7550	55	10,6	65
244256###	Prepared for Gr.2 hydraulic motor				☎	560	☎	☎	/		58
244258###	Prepared for Gr.3 hydraulic motor				☎	560	☎	☎	/		58

☎ Contattare EMMEGI *Contact EMMEGI*

Diagramma rendimento *Performance diagram*



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



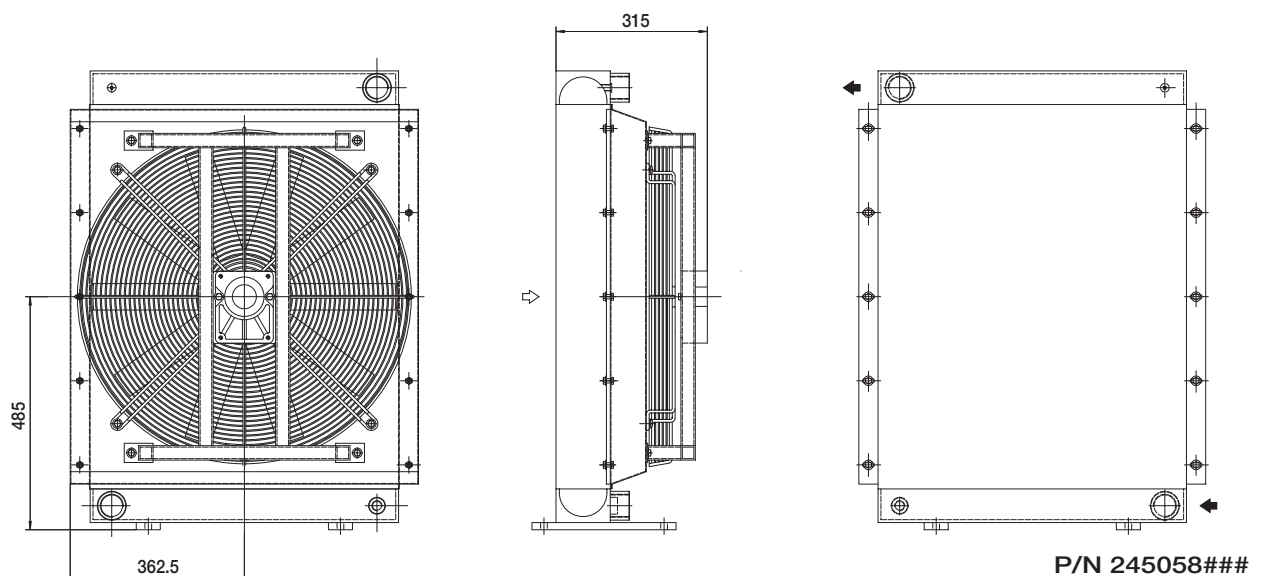
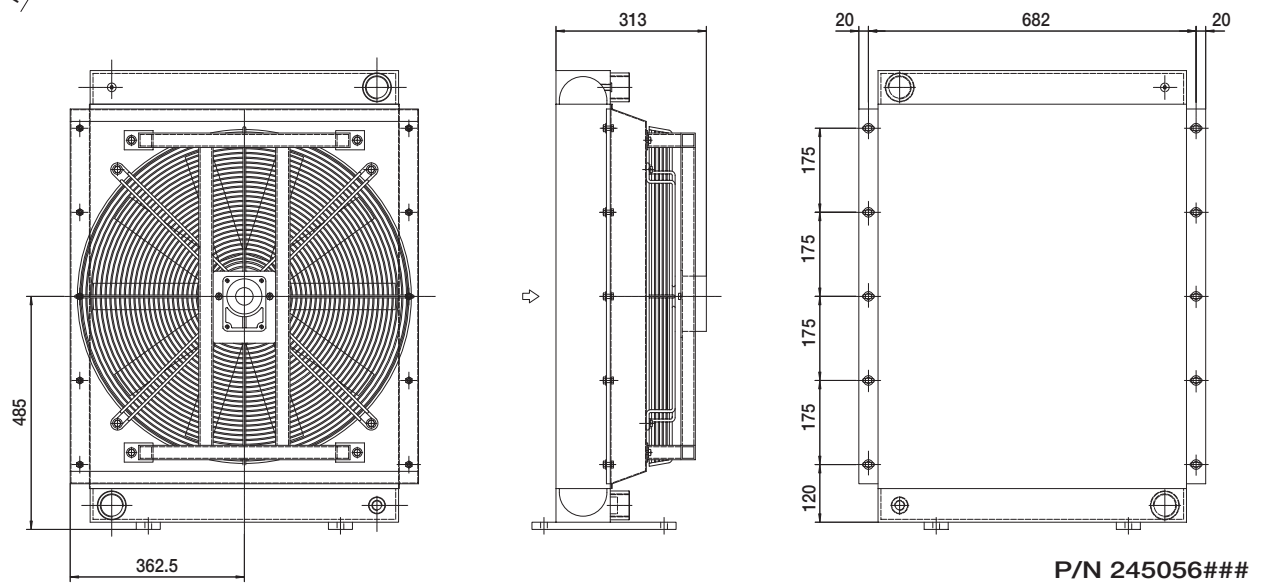
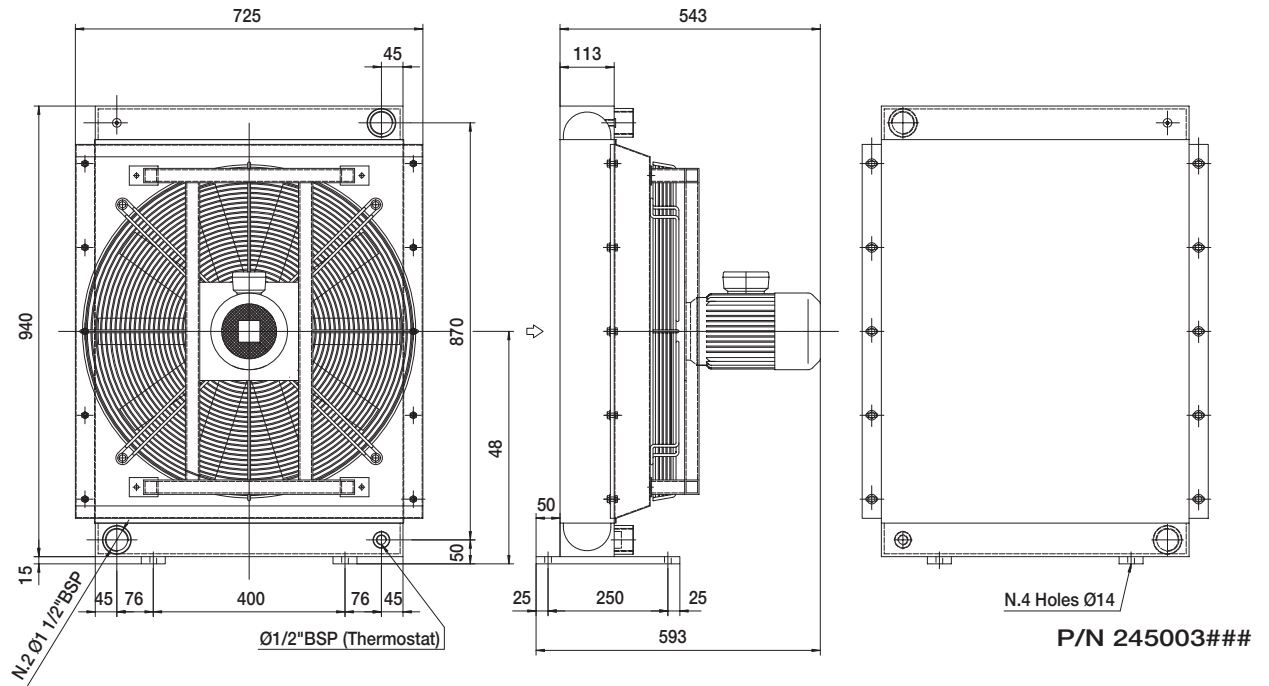
Fattore di correzione - F - (perdite di carico) *Correction factor - F - (Pressure drop)*

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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Dimensioni *Dimensions*



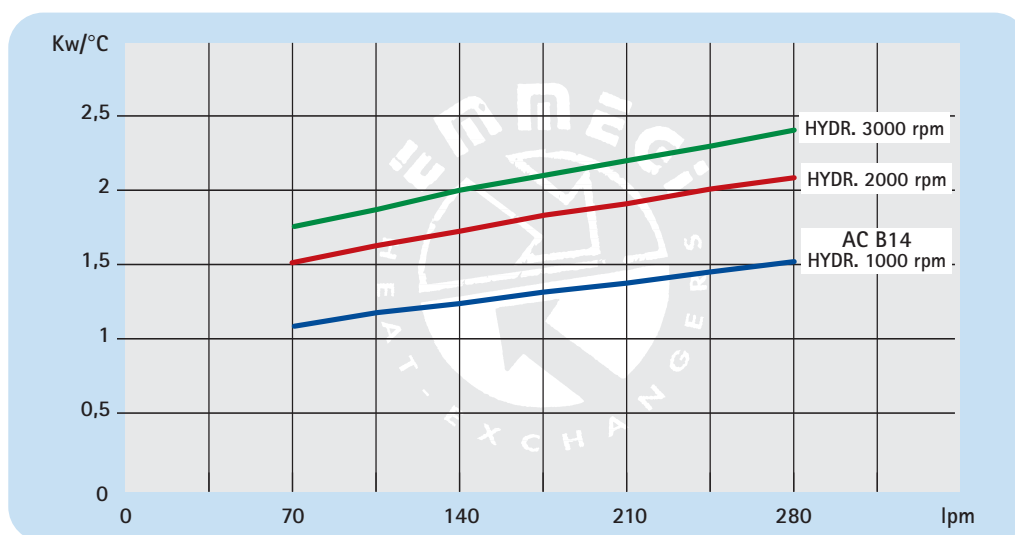
Le dimensioni di ingombro e le caratteristiche tecniche non sono impegnative
Over-all dimensions and technical characteristic are not binding

Dati tecnici *Technical Data*

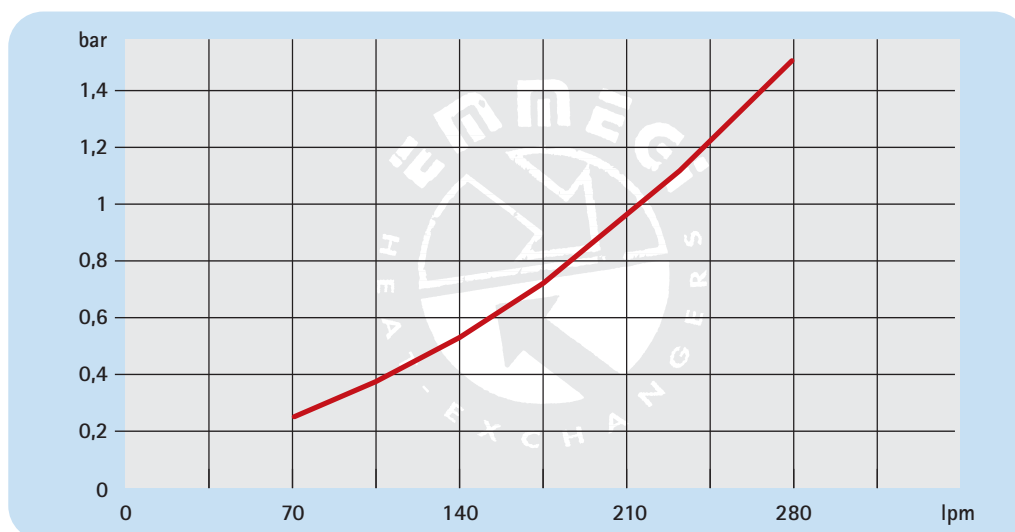
P/N	V	Hz	kW	A	rpm	ø Fan	dB(A)	(m³/h)	IP	It	Kg
245003###	230-400 B14 AC	50/60	1,1	2,8	980	630	80	7550	55	14,2	90
245056###	Prepared for Gr.2 hydraulic motor				☎	630	☎	☎	/		83
245058###	Prepared for Gr.3 hydraulic motor				☎	630	☎	☎	/		83

☎ Contattare EMMEGI *Contact EMMEGI*

Diagramma rendimento *Performance diagram*



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



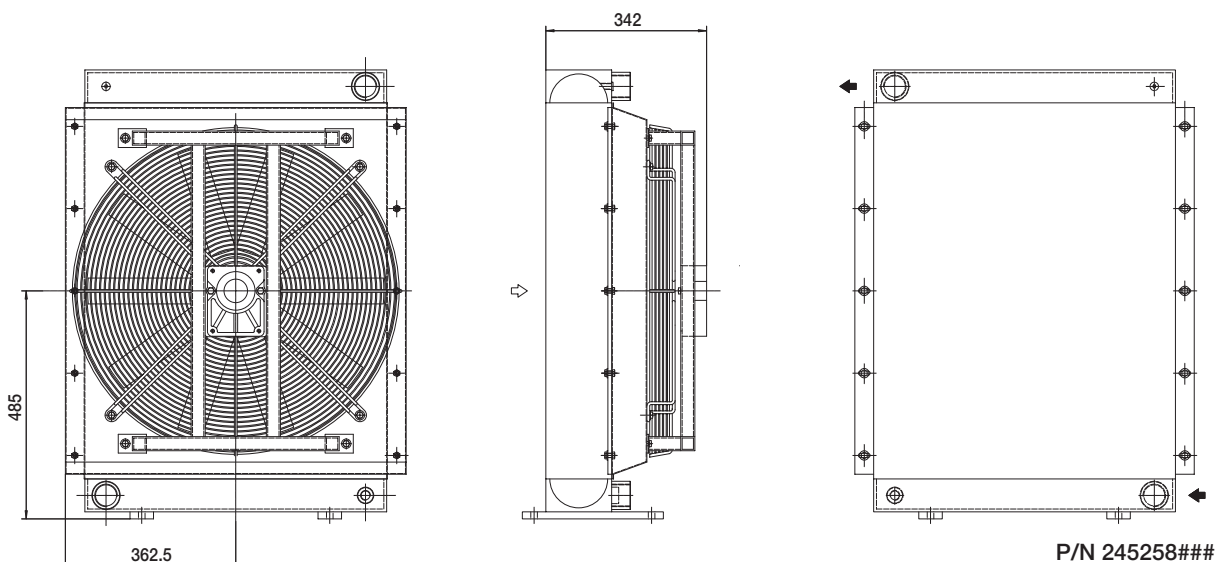
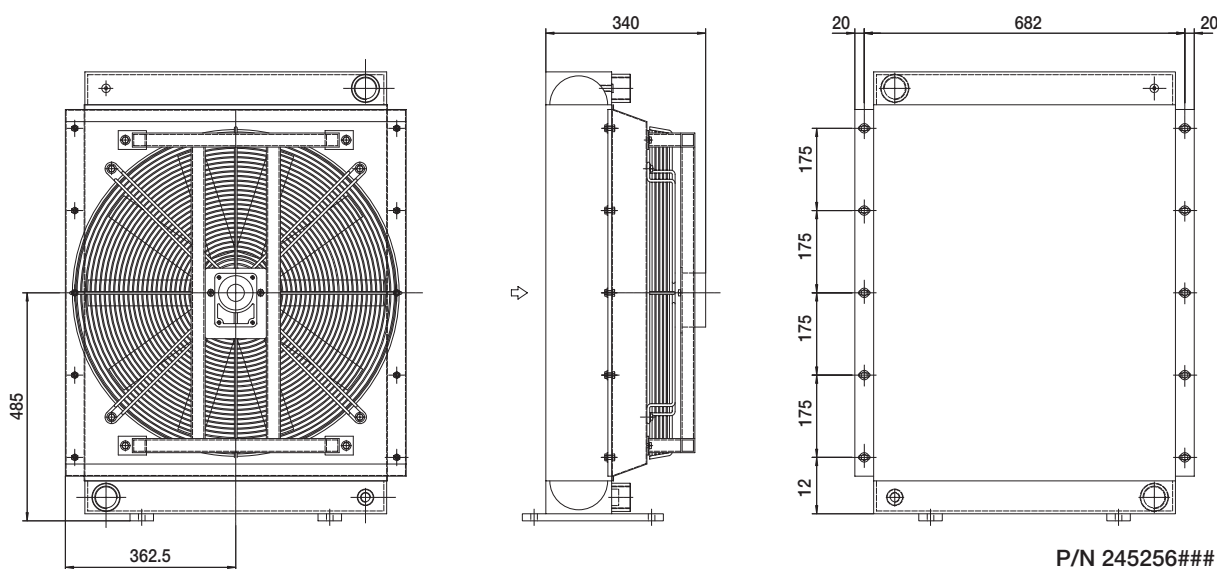
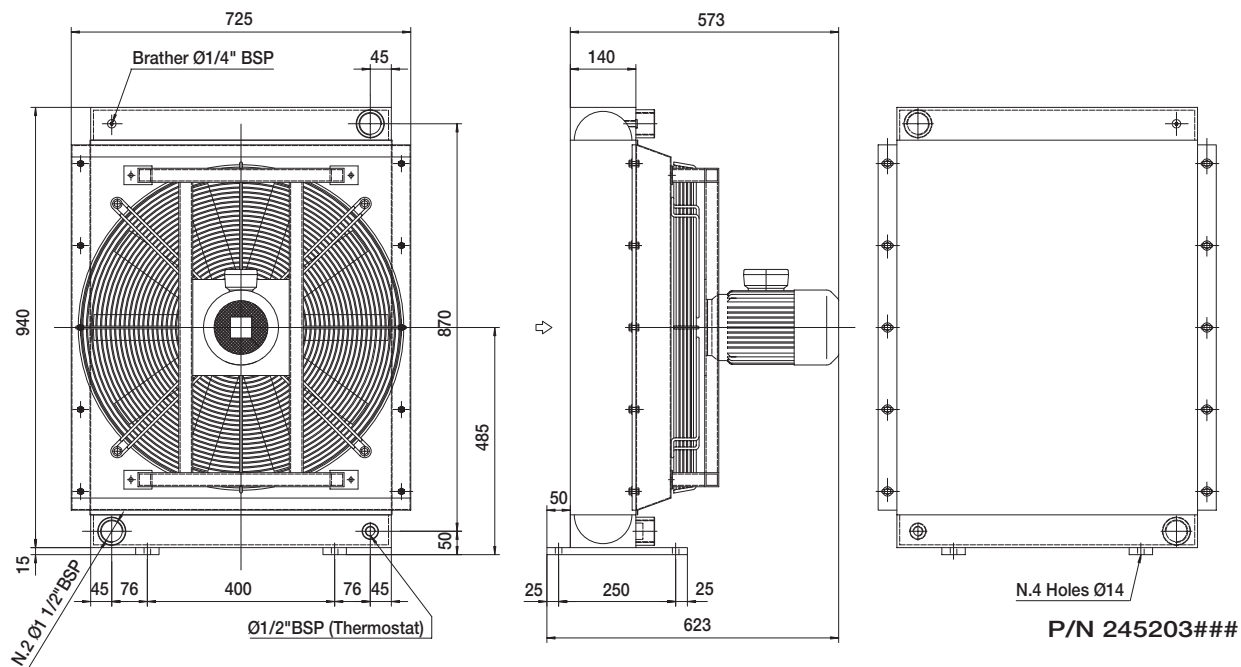
Fattore di correzione - F - (perdite di carico) *Correction factor - F - (Pressure drop)*

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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Dimensioni *Dimensions*



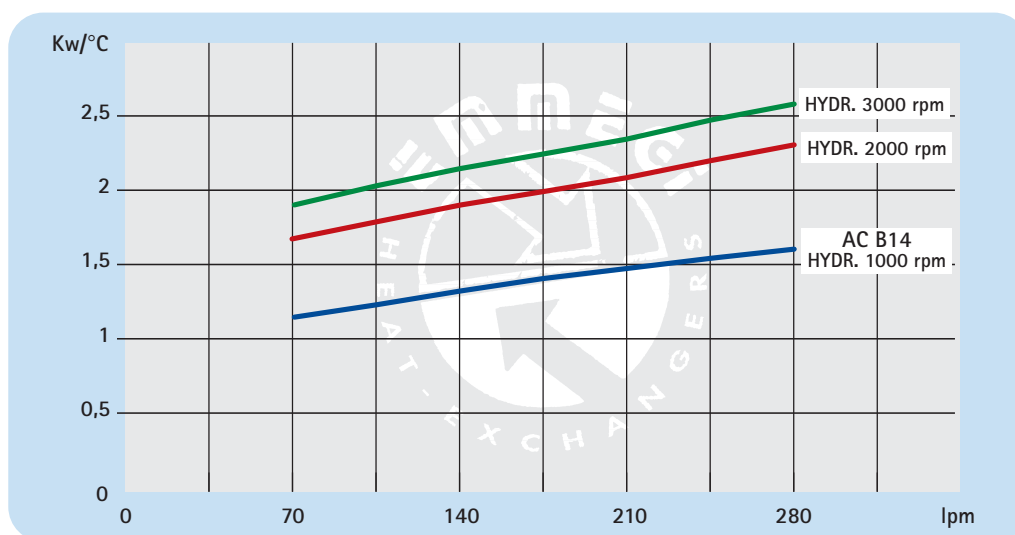
Le dimensioni di ingombro e le caratteristiche tecniche non sono impegnative
Over-all dimensions and technical characteristic are not binding

Dati tecnici *Technical Data*

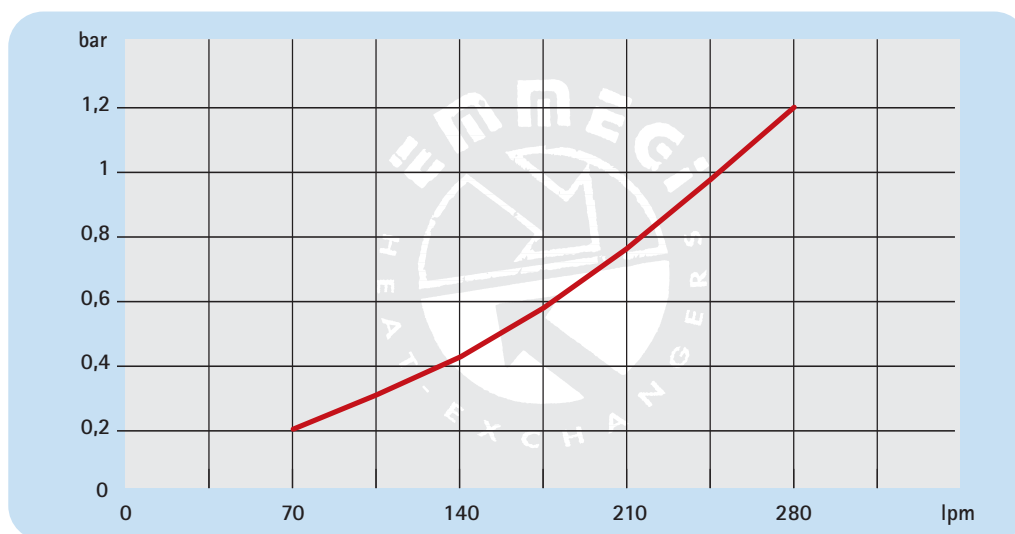
P/N	V	Hz	kW	A	rpm	ø Fan	dB(A)	(m³/h)	IP	It	Kg
245203###	230-400 B14 AC	50/60	1,1	2,82	980	630	80	7050	55	17,7	95
245256###	Prepared for Gr.2 hydraulic motor				☎	630	☎	☎	/		89
245258###	Prepared for Gr.3 hydraulic motor				☎	630	☎	☎	/		89

☎ Contattare EMMEGI *Contact EMMEGI*

Diagramma rendimento *Performance diagram*



Perdite di carico *Pressure drop (32 CST)*



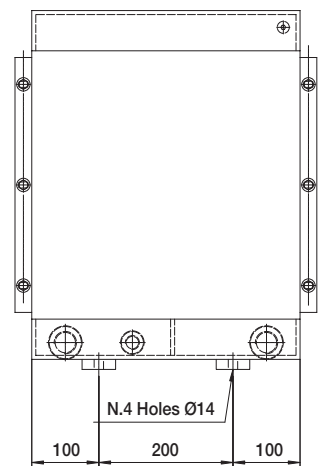
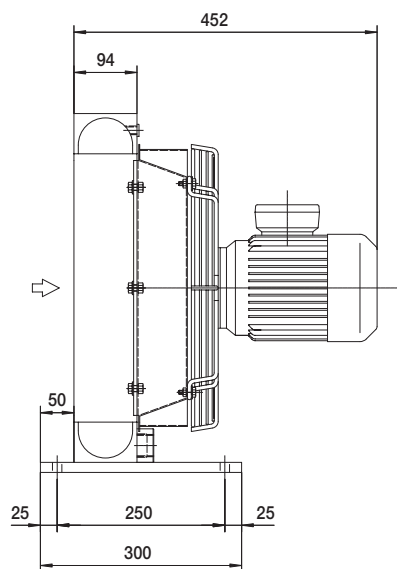
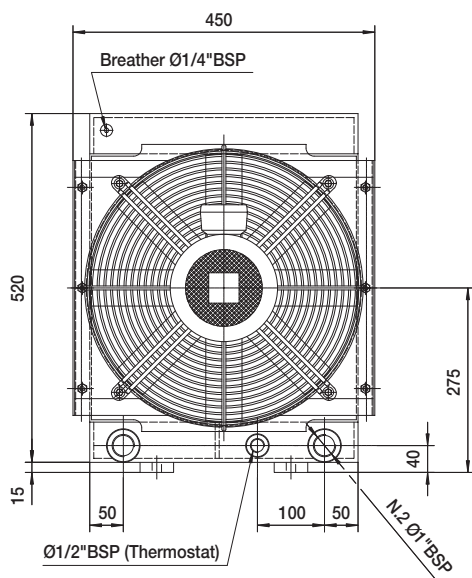
Fattore di correzione - F - (perdite di carico) *Correction factor - F - (Pressure drop)*

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

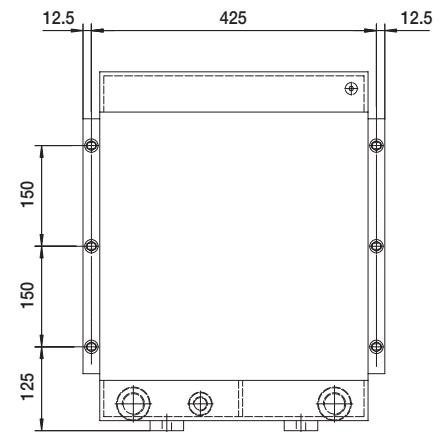
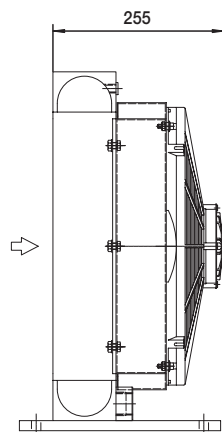
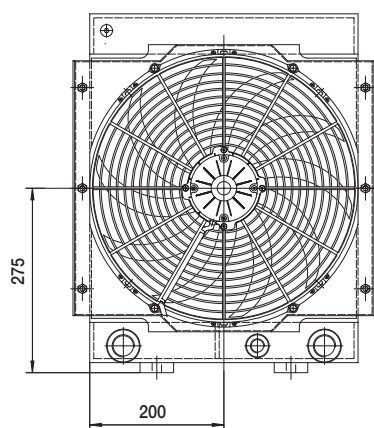


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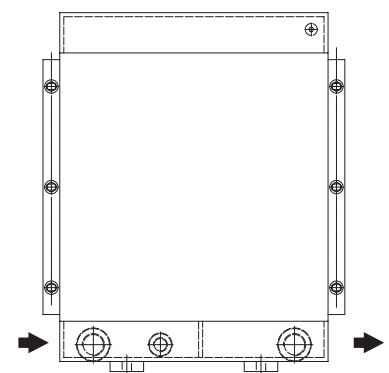
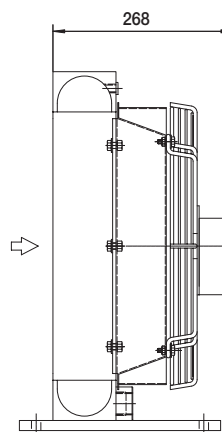
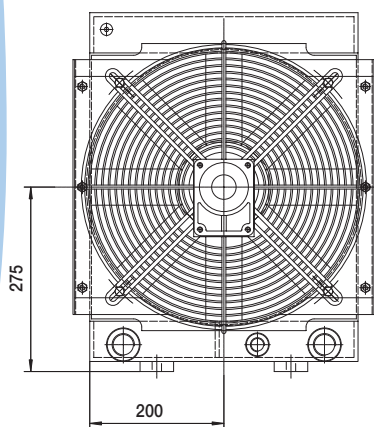
Dimensioni *Dimensions*



P/N 242701###
P/N 242703###



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



P/N 242756###

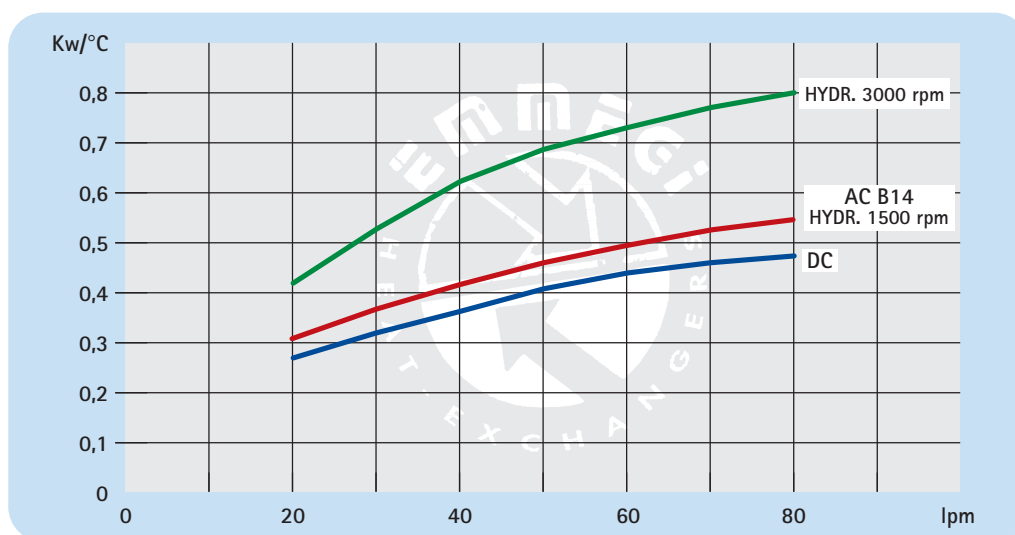
Le dimensioni di ingombro e le caratteristiche tecniche non sono impegnative
Over-all dimensions and technical characteristic are not binding

Dati tecnici *Technical Data*

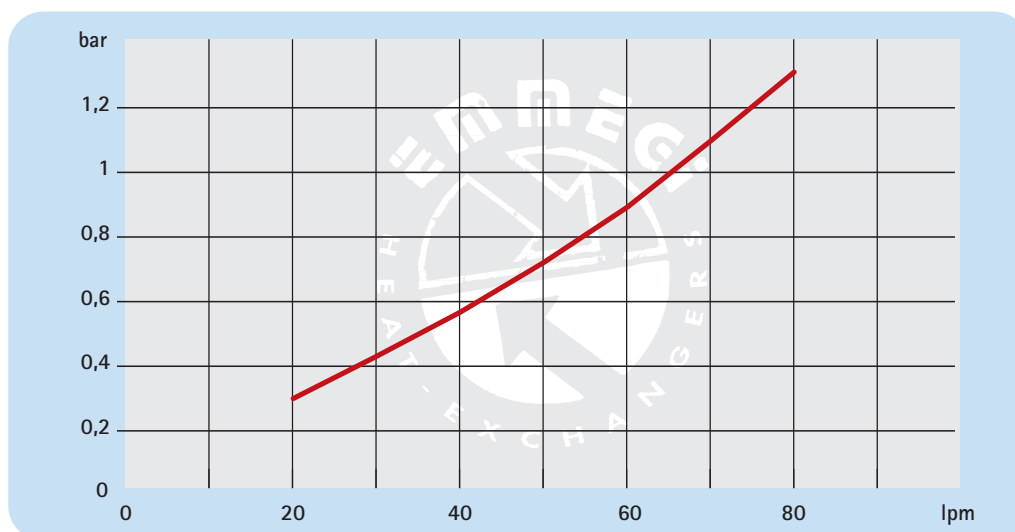
P/N	V	Hz	kW	A	rpm	ø Fan	dB(A)	(m³/h)	IP	It	Kg
242703###	230-400 B14 AC	50/60	0,550	1,35	1450	400	79	2800	55	6,2	28
242712###	12 DC	/	0,210	13,2	2500	385	77	2100	68		22
242724###	24 DC	/	0,210	8,4	2500	385	80	2250	68		22
242756###	Prepared for Gr.2 hydraulic motor				☎	400	☎	☎	/		23

☎ Contattare EMMEGI *Contact EMMEGI*

Diagramma rendimento *Performance diagram*



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



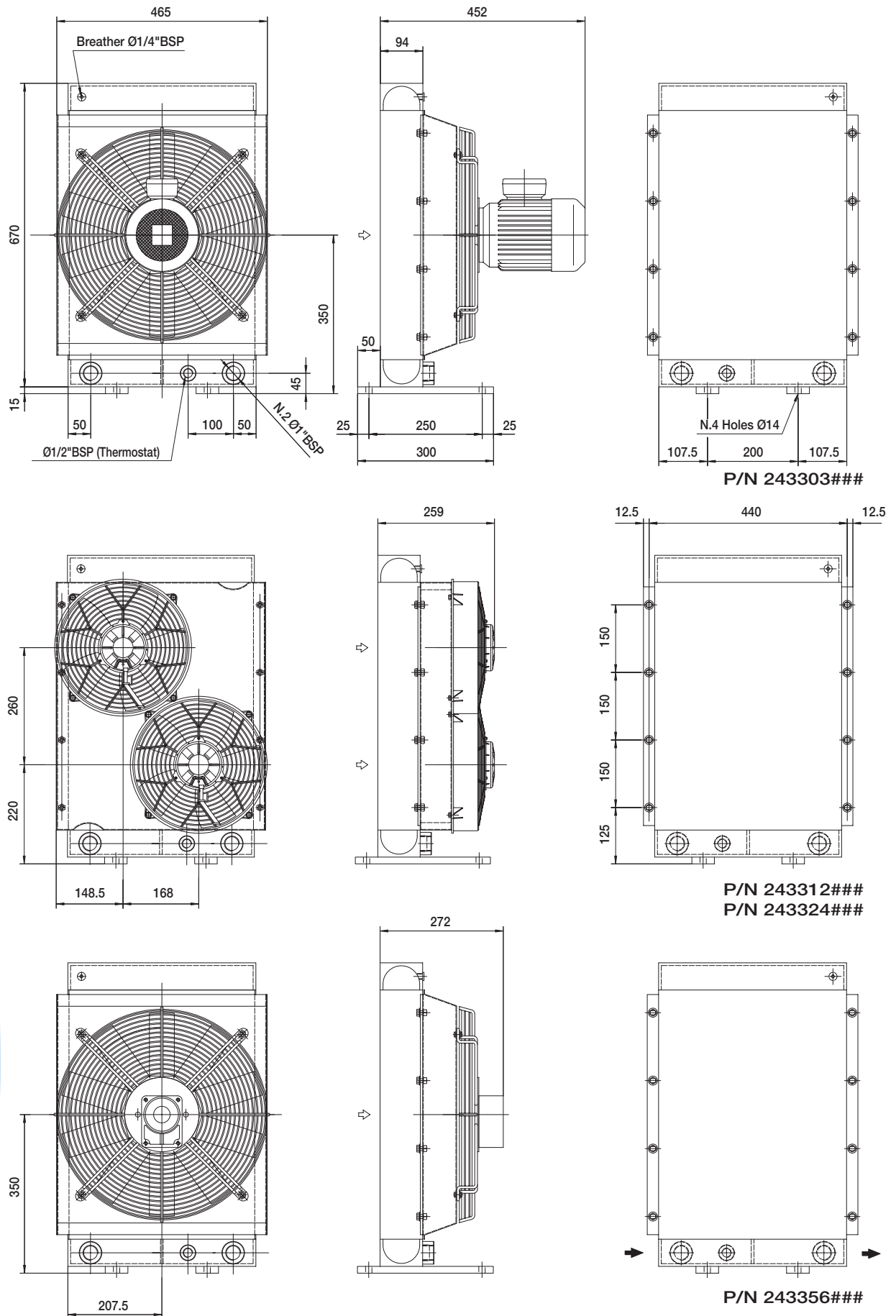
Fattore di correzione - F - (perdite di carico) *Correction factor - F - (Pressure drop)*

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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Dimensioni *Dimensions*



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

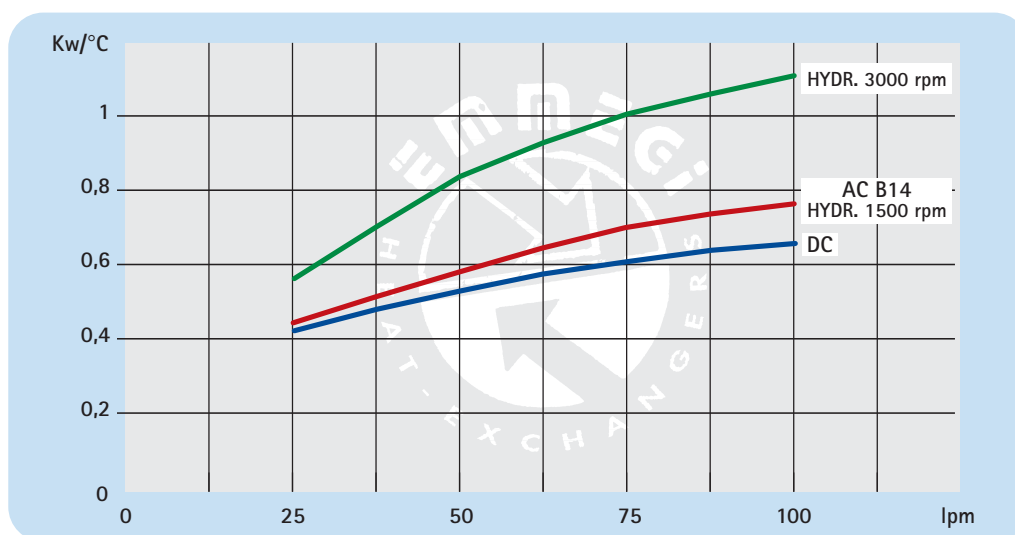
Dati tecnici *Technical Data*

P/N	V	Hz	kW	A	rpm	ø Fan	dB(A)	(m³/h)	IP	It	Kg
243303###	230-400 B14 AC	50/60	0,750	1,8	1450	450	82	4000	55	6,8	37
243312###	12 DC	/	0,150	9,5	3100	280	74	1550	68		32
243324###	24 DC	/	0,150	5,6	3100	280	78	1700	68		32
243356###	Prepared for Gr.2 hydraulic motor				☎	450	☎	☎	/		35

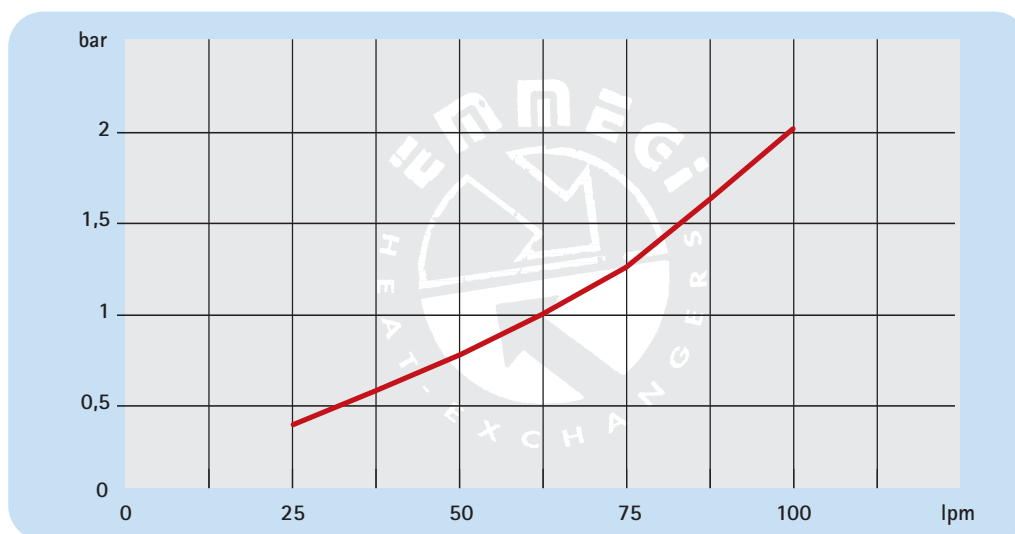
Per il 12-24V i dati sono riferiti al singolo ventilatore For 12-24 V the data refers to each ventilator

☎ Contattare EMMEGI Contact EMMEGI

Diagramma rendimento *Performance diagram*



Perdite di carico *Pressure drop (32 CST)*



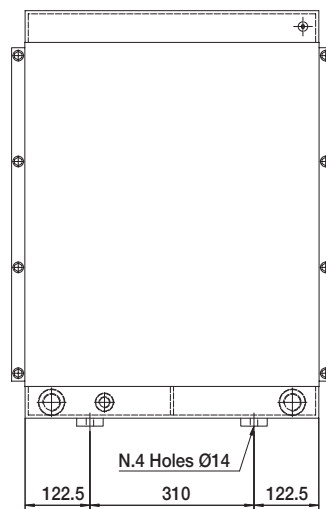
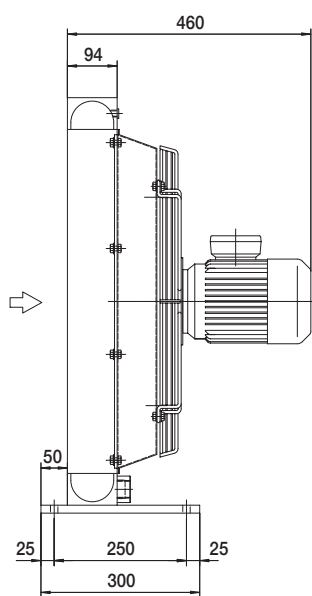
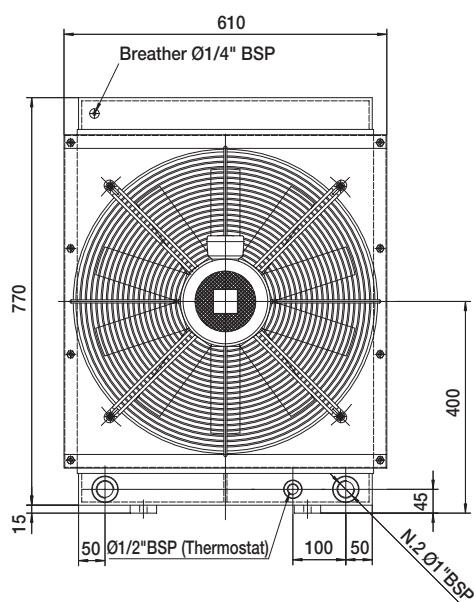
Fattore di correzione - F - (perdite di carico) *Correction factor - F - (Pressure drop)*

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

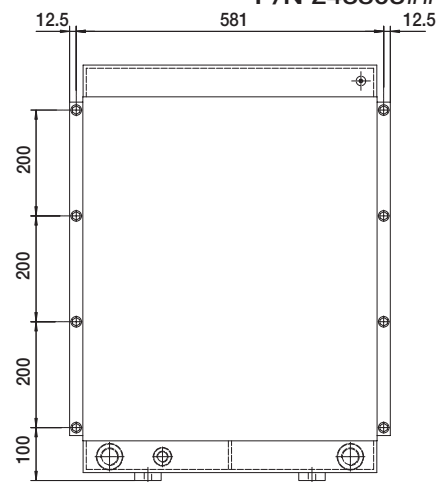
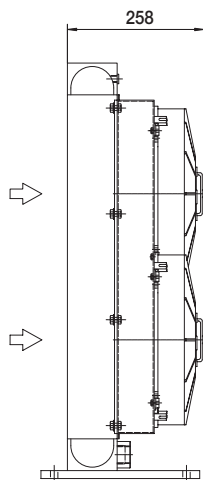
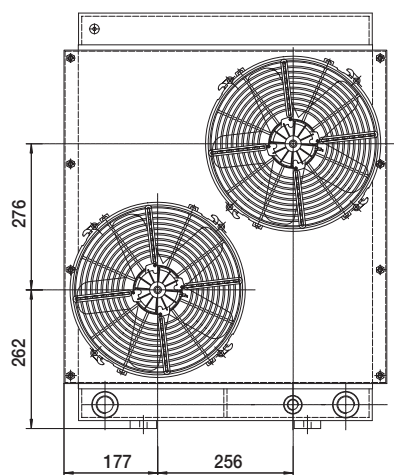


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Dimensioni *Dimensions*

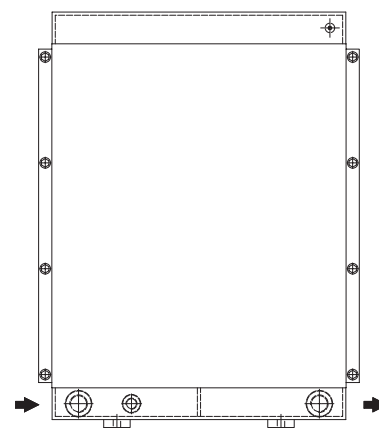
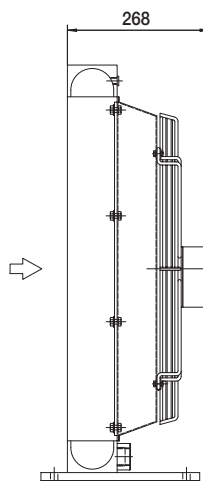
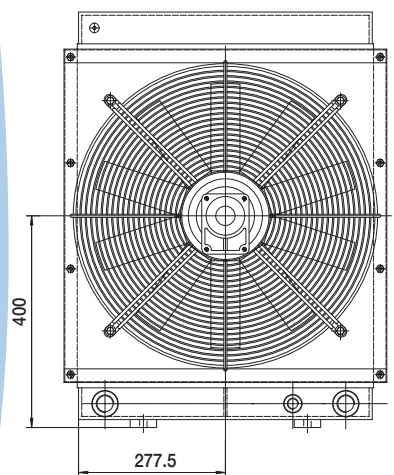


P/N 243803###



P/N 243812###

P/N 243824###



P/N 243856###

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

Dati tecnici *Technical Data*

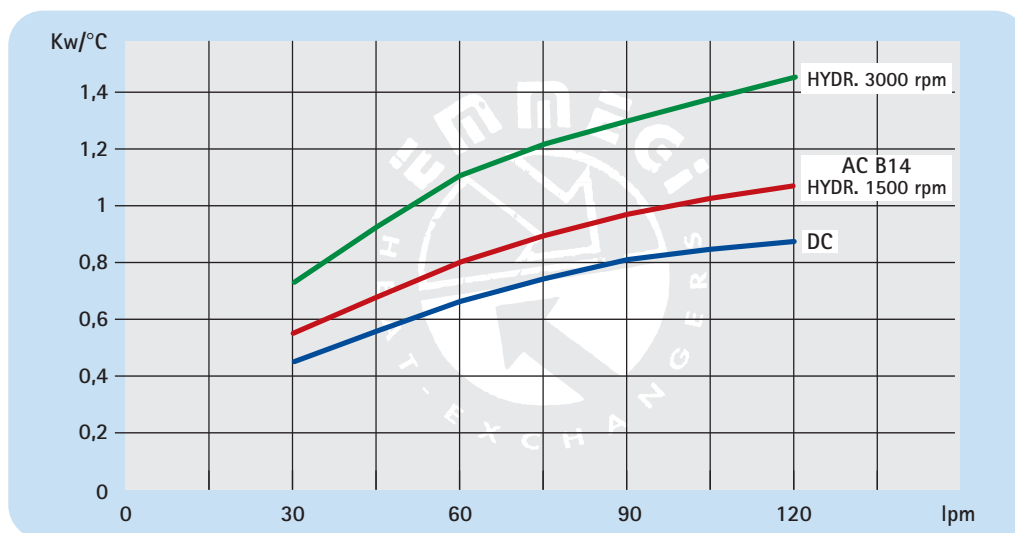


P/N	V	Hz	kW	A	rpm	ø Fan	dB(A)	(m³/h)	IP	It	Kg
243803###	230-400 B14 AC	50/60	1,1	2,32	1450	500	82	5650	55	9,4	60
243812###	12 DC	/	0,200	12,5	3100	305	83	2100	68		50
243824###	24 DC	/	0,200	7,8	3100	305	84	2400	68		50
243856###	Prepared for Gr.2 hydraulic motor				☎	500	☎	☎	/		52

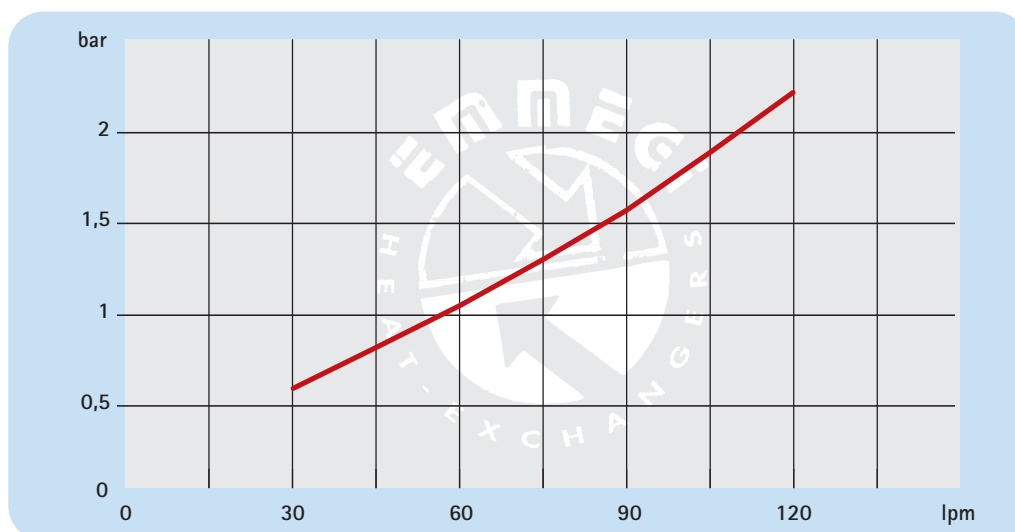
Per il 12-24V i dati sono riferiti al singolo ventilatore For 12-24 V the data refers to each ventilator

☎ Contattare EMMEGI Contact EMMEGI

Diagramma rendimento *Performance diagram*



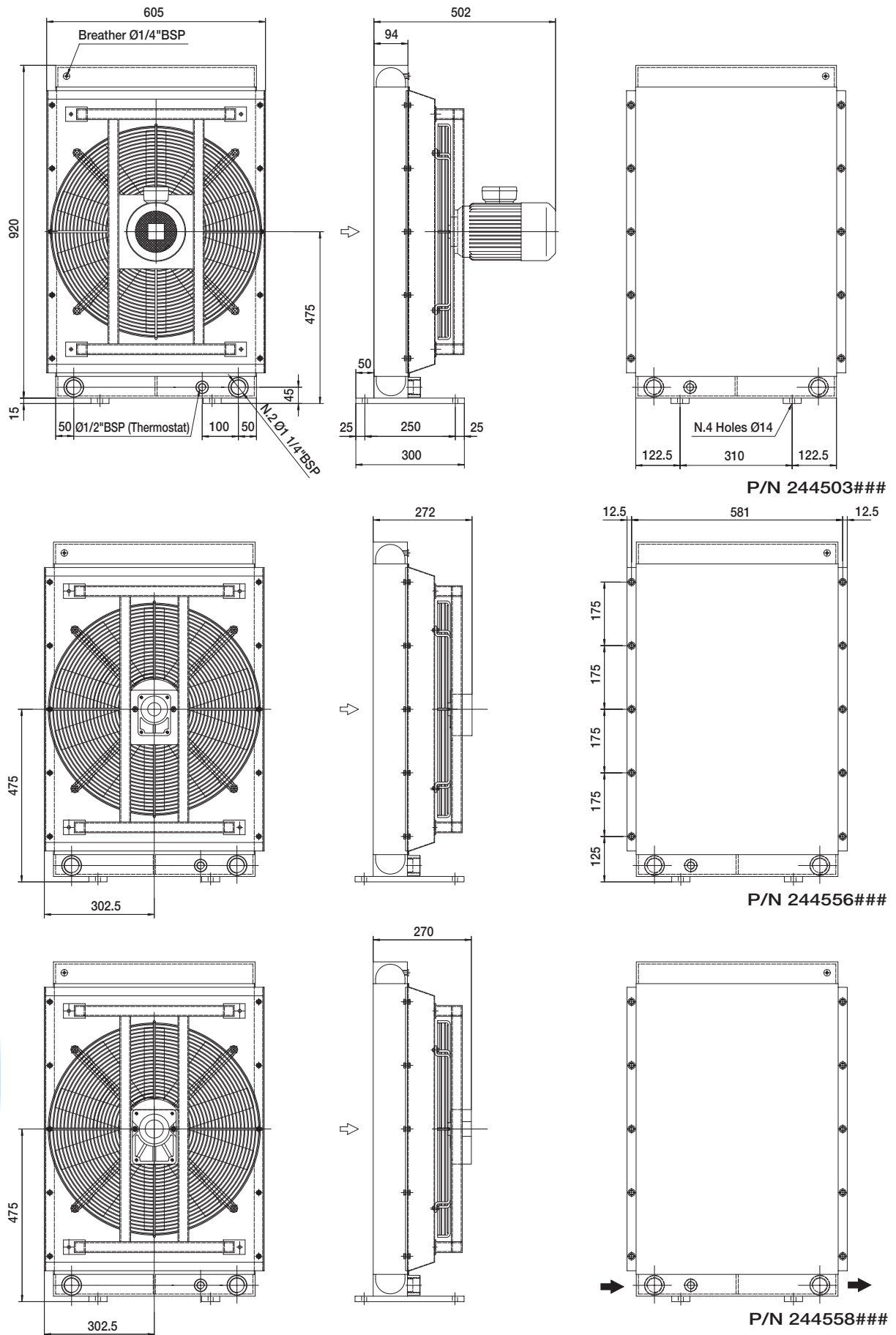
Perdite di carico *Pressure drop (32 CST)*



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*



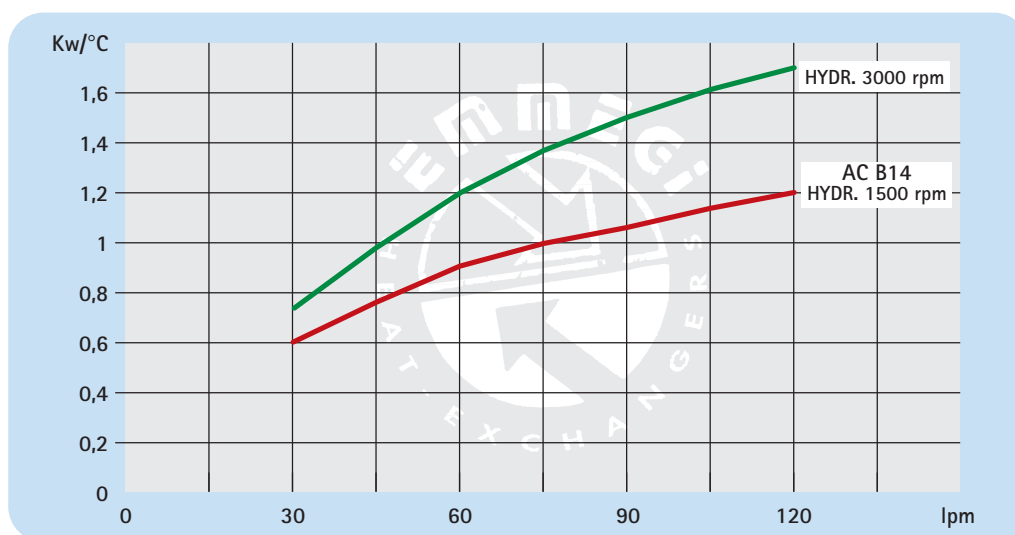
Le dimensioni di ingombro e le caratteristiche tecniche non sono impegnative
Over-all dimensions and technical characteristic are not binding

Dati tecnici *Technical Data*

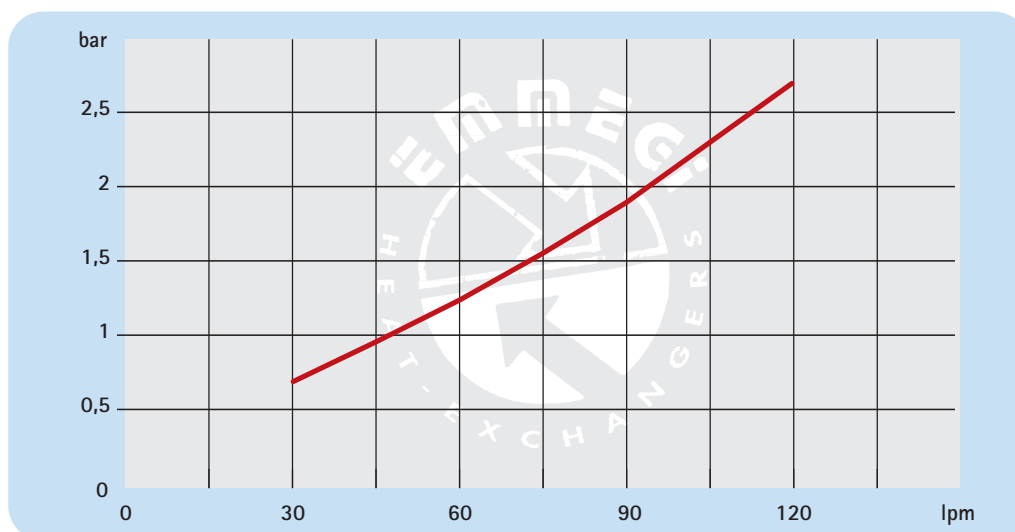
P/N	V	Hz	kW	A	rpm	ø Fan	dB(A)	(m³/h)	IP	lt	Kg
244503###	230-400 B14 AC	50/60	1,1	2,5	1450	560	84	7550	55	10,6	65
244556###	Prepared for Gr.2 hydraulic motor				☎	560	☎	☎	/		58
244558###	Prepared for Gr.3 hydraulic motor				☎	560	☎	☎	/		58

☎ Contattare EMMEGI *Contact EMMEGI*

Diagramma rendimento *Performance diagram*



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



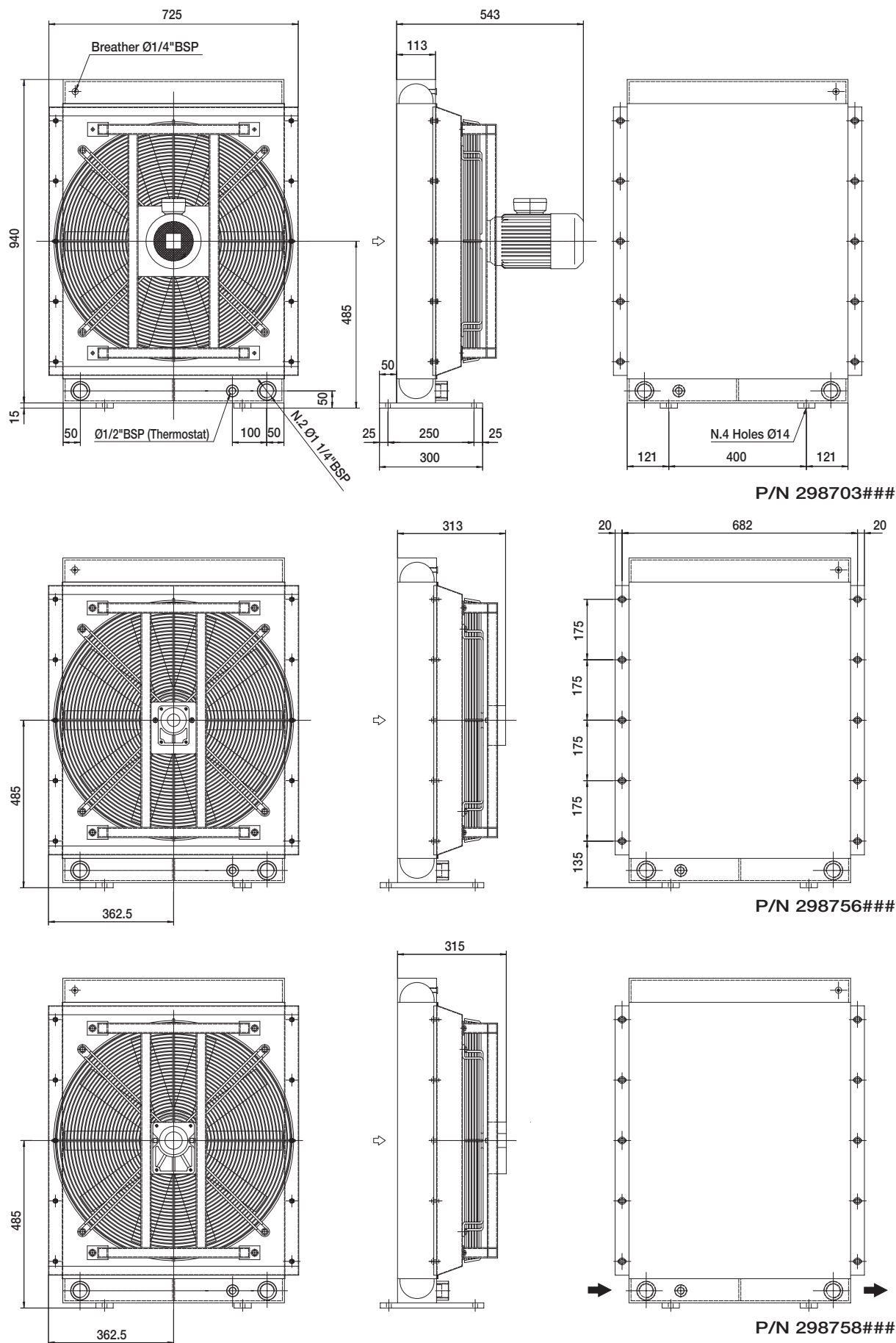
Fattore di correzione - F - (perdite di carico) *Correction factor - F - (Pressure drop)*

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



HPA 42 2PASS

Dimensioni *Dimensions*



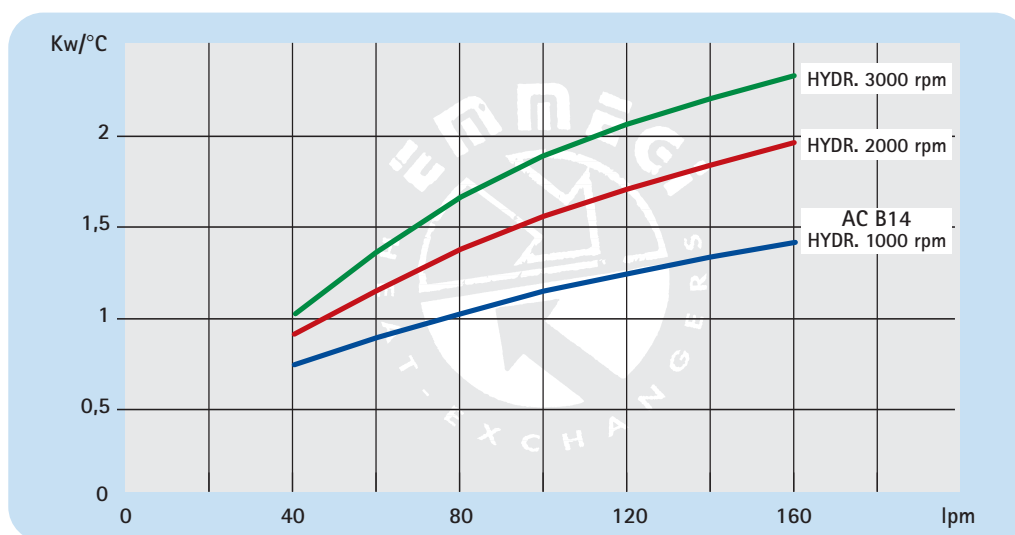
Le dimensioni di ingombro e le caratteristiche tecniche non sono impegnative
Over-all dimensions and technical characteristic are not binding

Dati tecnici *Technical Data*

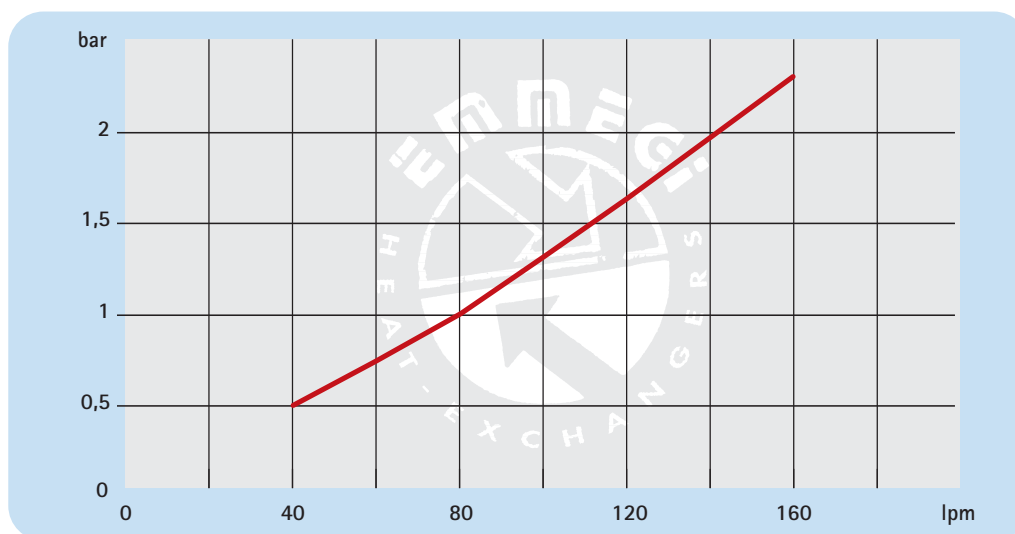
P/N	V	Hz	kW	A	rpm	ø Fan	dB(A)	(m³/h)	IP	It	Kg
298703###	230-400 B14 AC	50/60	1,1	2,8	980	630	80	7550	55		90
298756###	Prepared for Gr.2 hydraulic motor				☎	630	☎	☎	/	14,2	83
298758###	Prepared for Gr.3 hydraulic motor				☎	630	☎	☎	/		83

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Diagramma rendimento *Performance diagram*



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



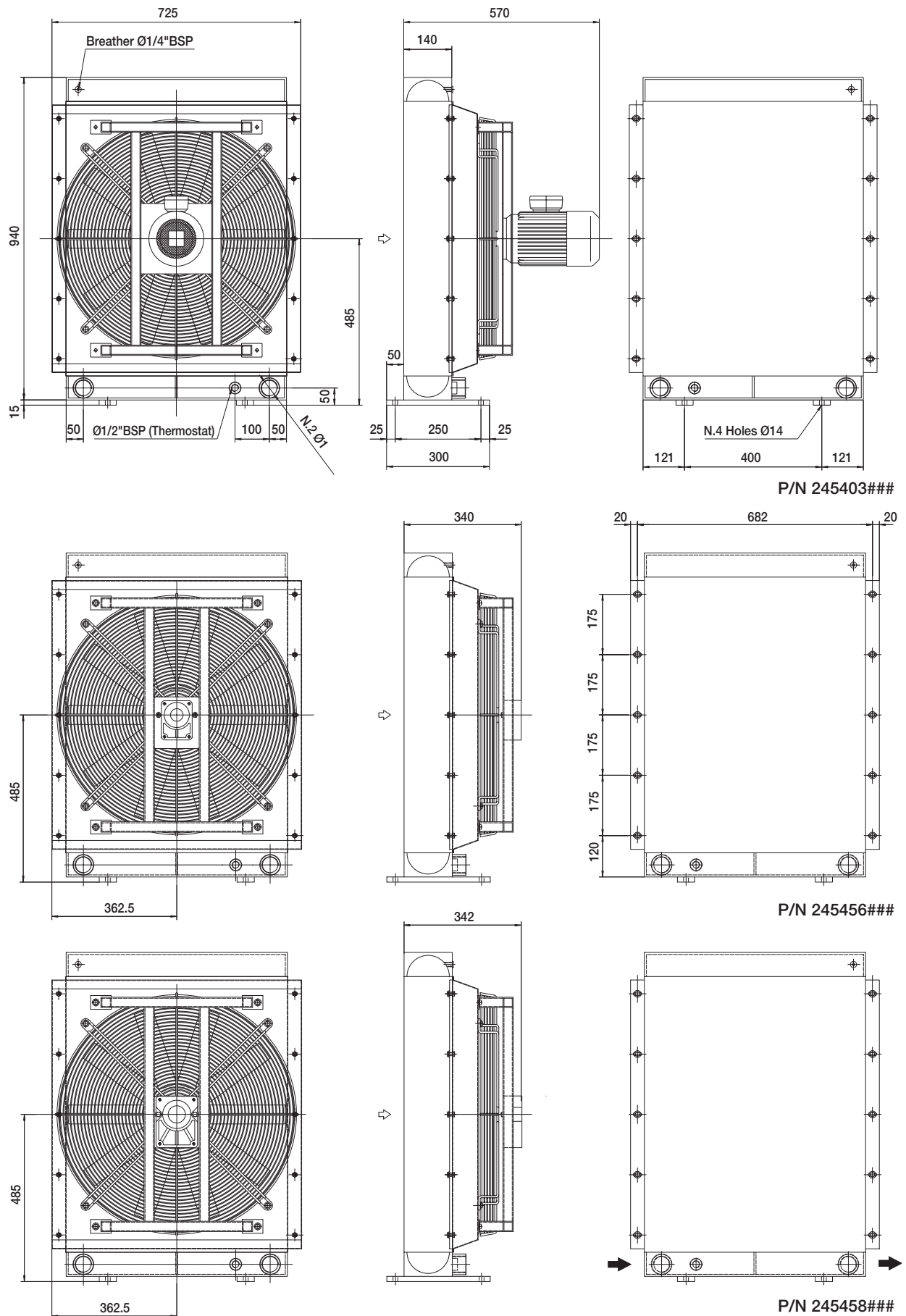
Fattore di correzione - F - (perdite di carico) *Correction factor - F - (Pressure drop)*

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



HPA 50 2PASS

Dimensioni *Dimensions*



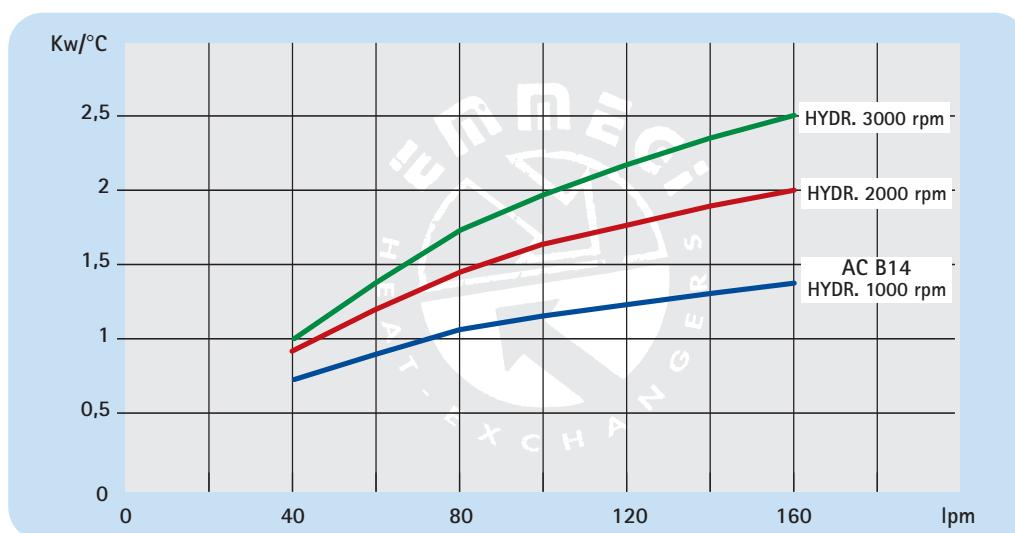
Le dimensioni di ingombro e le caratteristiche tecniche non sono impegnative
Over-all dimensions and technical characteristic are not binding

Dati tecnici *Technical Data*

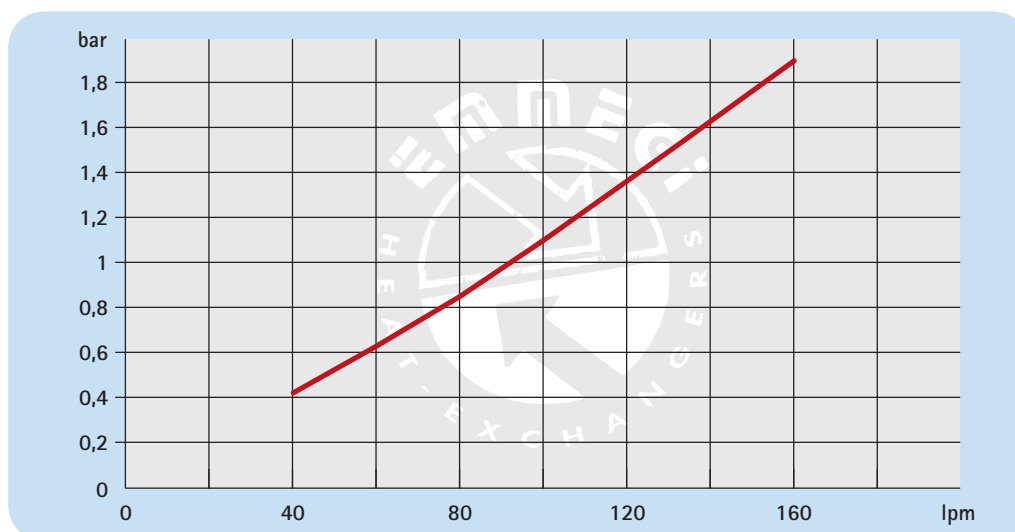
P/N	V	Hz	kW	A	rpm	ø Fan	dB(A)	(m³/h)	IP	It	Kg
245403###	230-400 B14 AC	50/60	1,1	2,82	980	630	80	7050	55		95
245456###	Prepared for Gr.2 hydraulic motor				☎	630	☎	☎	/	17,7	89
245458###	Prepared for Gr.3 hydraulic motor				☎	630	☎	☎	/		89

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Diagramma rendimento *Performance diagram*



Perdite di carico *Pressure drop (32 CST)*



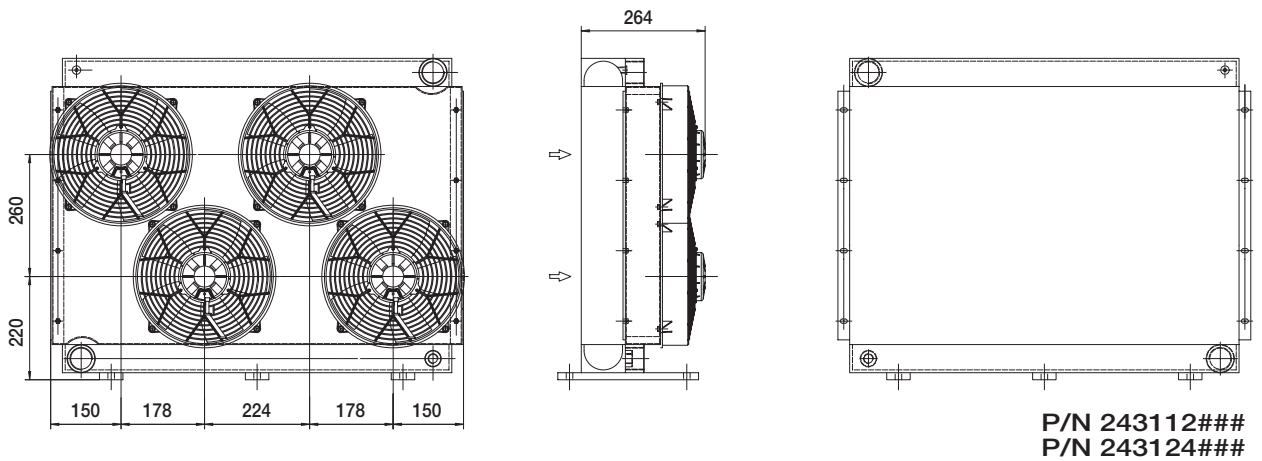
Fattore di correzione - F - (perdite di carico) *Correction factor - F - (Pressure drop)*

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



HPA 52 2PASS

HPA 30/2



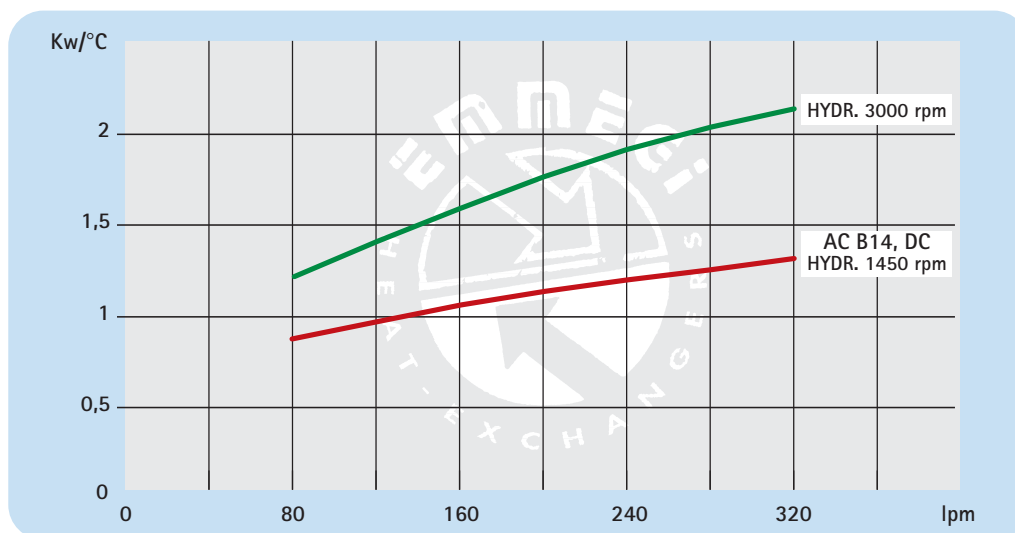
Dati tecnici *Technical Data*

P/N	V	Hz	kW	A	rpm	ø Fan	dB(A)	(m³/h)	IP	It	Kg
243103###	230-400 B14 AC	50/60	0,55	1,35	1450	400	79	3300	55	13,6	74
243112###	12 DC	/	0,150	9,5	3100	280	77	1550	68		64
243124###	24 DC	/	0,150	5,6	3100	280	81	1700	68		64
243156###	Prepared for Gr.2 hydraulic motor				☎	400	☎	☎	/		70

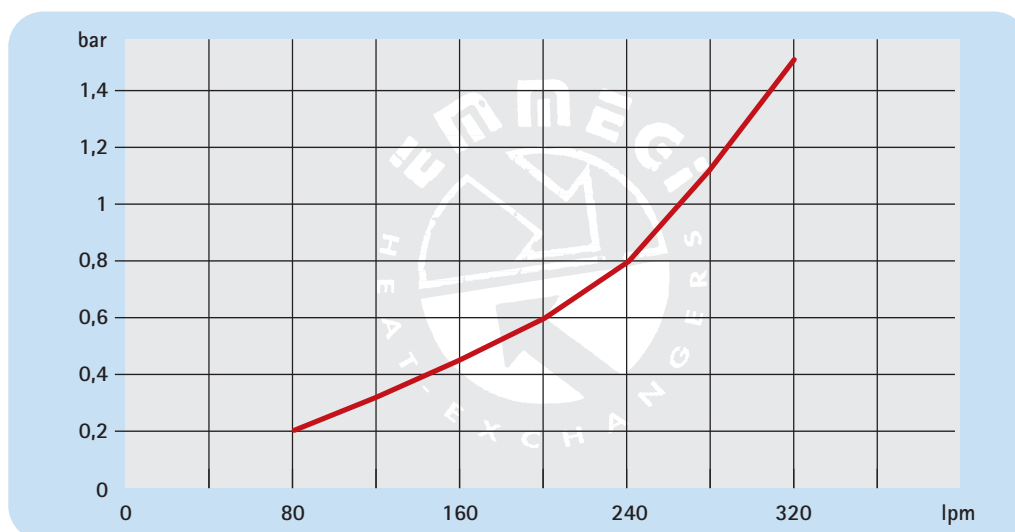
I dati sopraindicati sono riferiti al singolo ventilatore. *The data refers to each ventilator*

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Diagramma rendimento *Performance diagram*



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



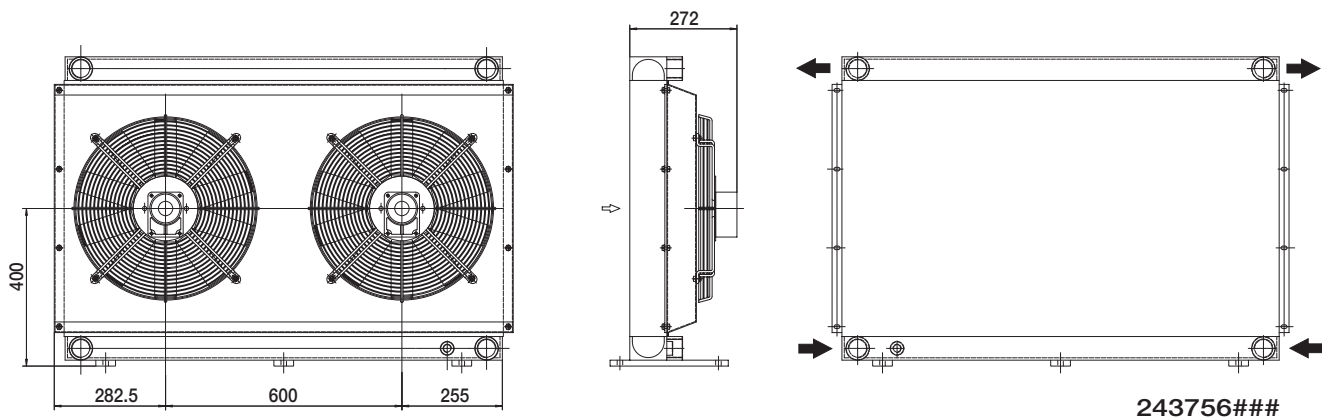
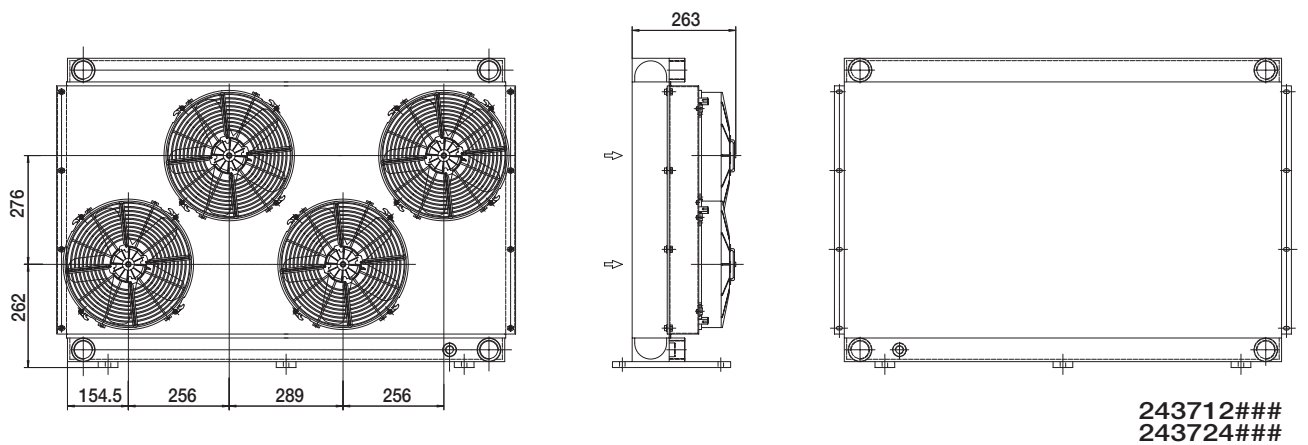
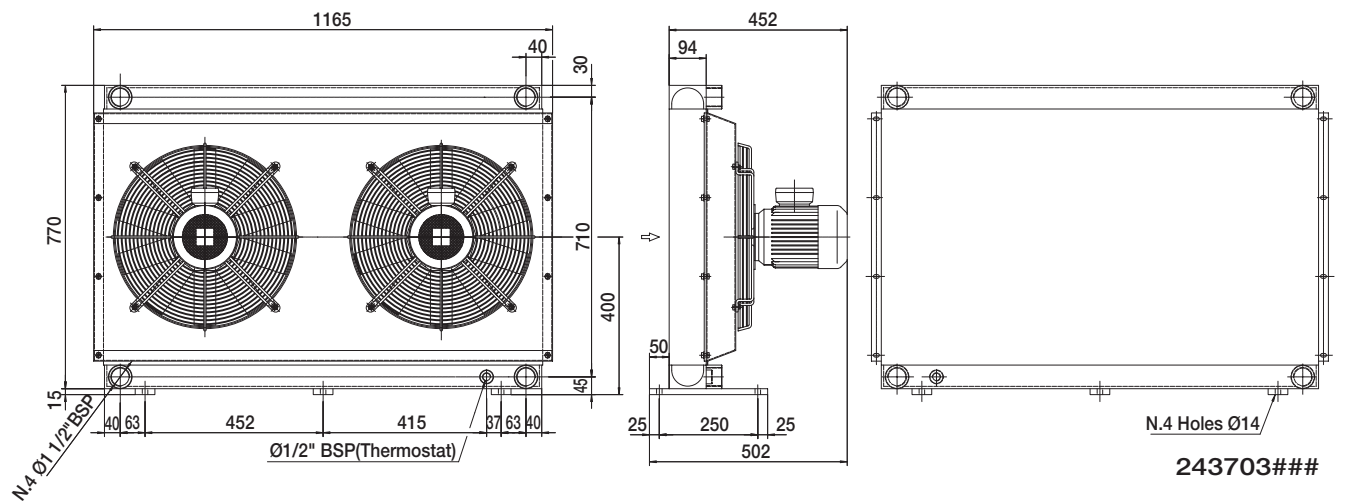
Fattore di correzione - F - (perdite di carico) *Correction factor - F - (Pressure drop)*

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



HPA 30/2

Dimensioni *Dimensions*



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

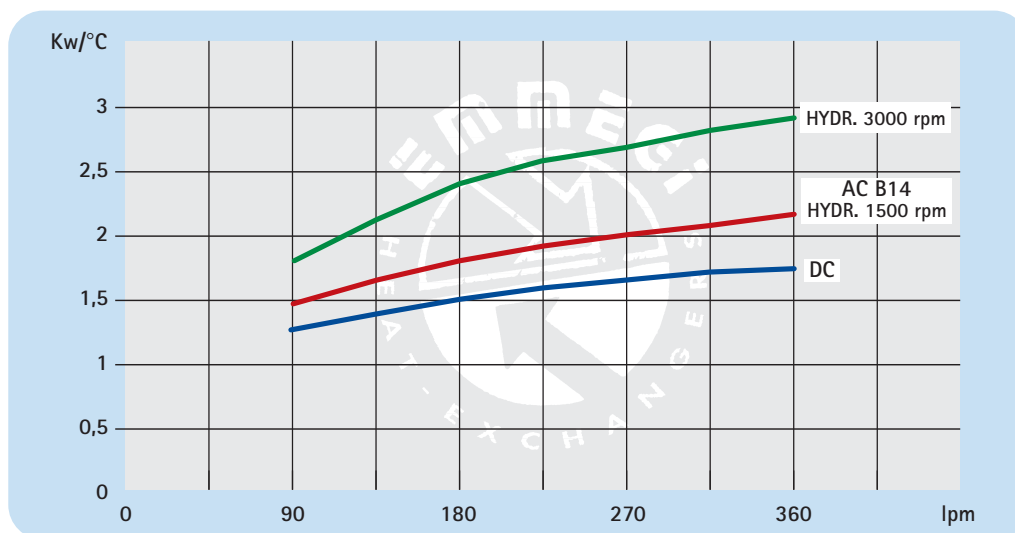
Dati tecnici *Technical Data*

P/N	V	Hz	kW	A	rpm	ø Fan	dB(A)	(m³/h)	IP	It	Kg
243703###	230-400 B14 AC	50/60	0,75	2,32	1450	450	85	4000	55	18,8	120
243712###	12 DC	/	0,200	12,5	3100	305	86	2100	68		100
243724###	24 DC	/	0,200	7,8	3100	305	87	2400	68		100
243756###	Prepared for Gr.2 hydraulic motor				☎	450	☎	☎	/		102

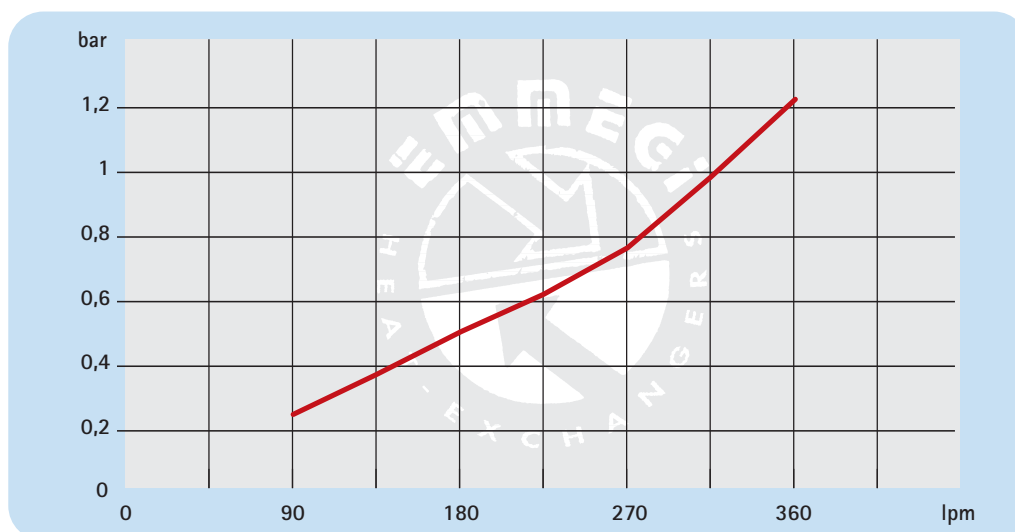
I dati sopra riportati sono riferiti al singolo ventilatore *The data refers to each ventilator*

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Diagramma rendimento *Performance diagram*



Perdite di carico *Pressure drop (32 CST)*



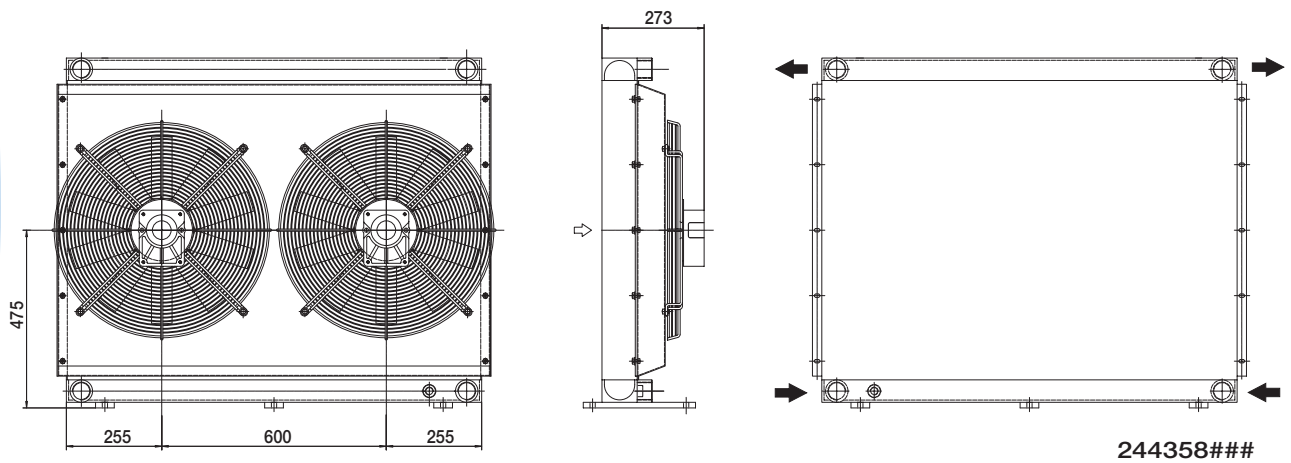
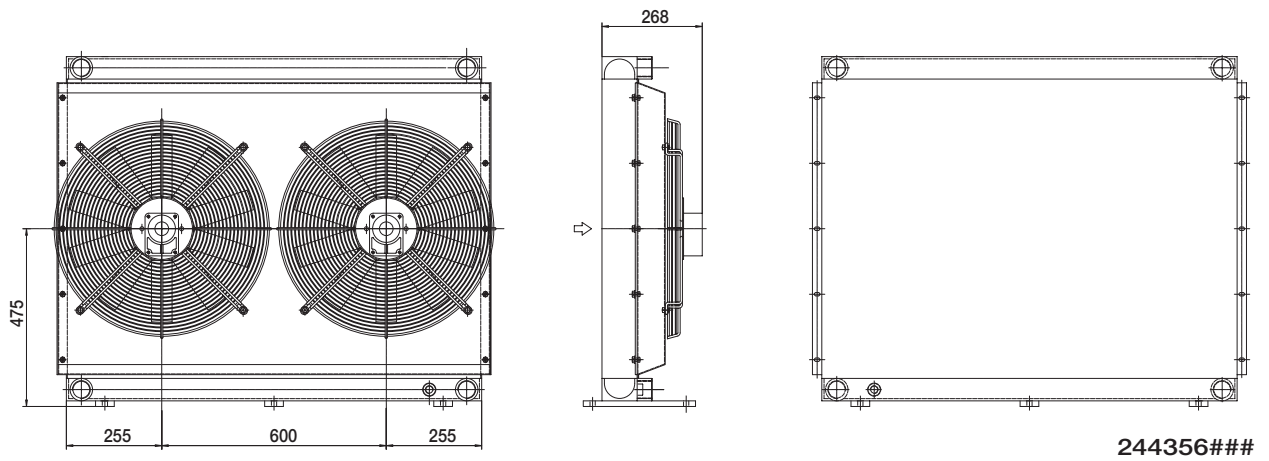
Fattore di correzione - F - (perdite di carico) *Correction factor - F - (Pressure drop)*

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



HPA 36/2

HPA 42/2



40

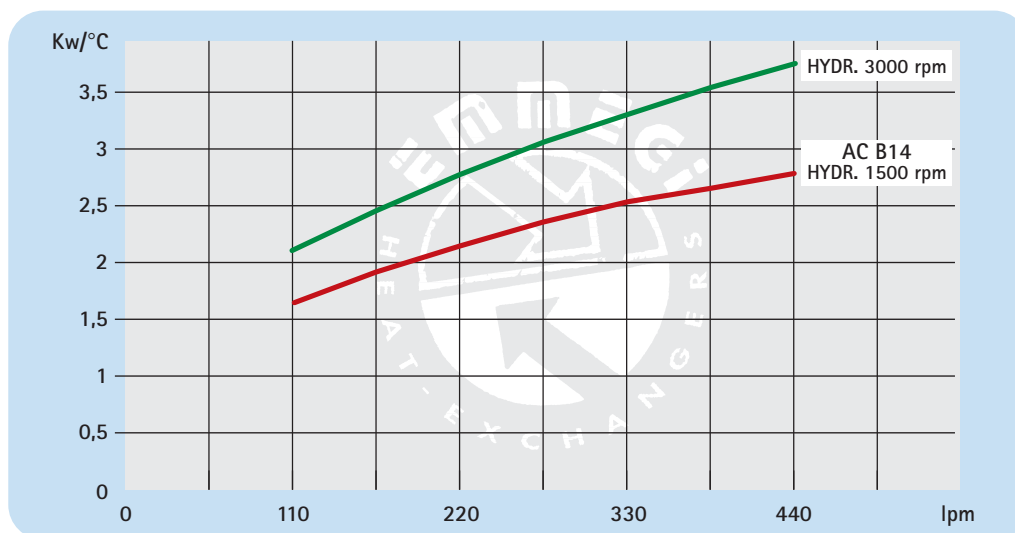
Dati tecnici *Technical Data*

P/N	V	Hz	kW	A	rpm	ø Fan	dB(A)	(m³/h)	IP	It	Kg
244303###	230-400 B14 AC	50/60	1,1	2,5	1450	500	87	7550	55		135
244356###	Prepared for Gr.2 hydraulic motor				☎	500	☎	☎	/	21,2	122
244358###	Prepared for Gr.3 hydraulic motor				☎	500	☎	☎	/		122

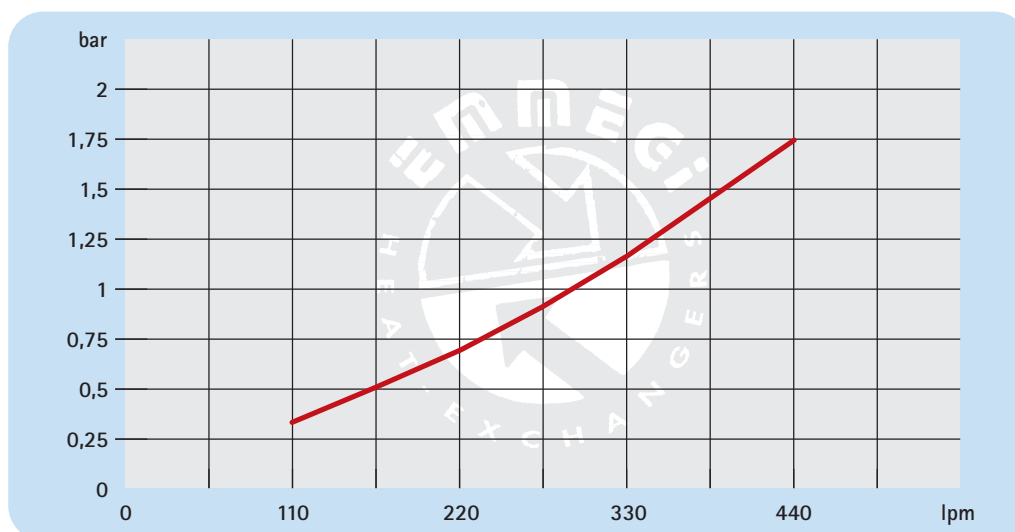
I dati sopraportati sono riferiti al singolo ventilatore *The data refers to each ventilator*

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Diagramma rendimento *Performance diagram*



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



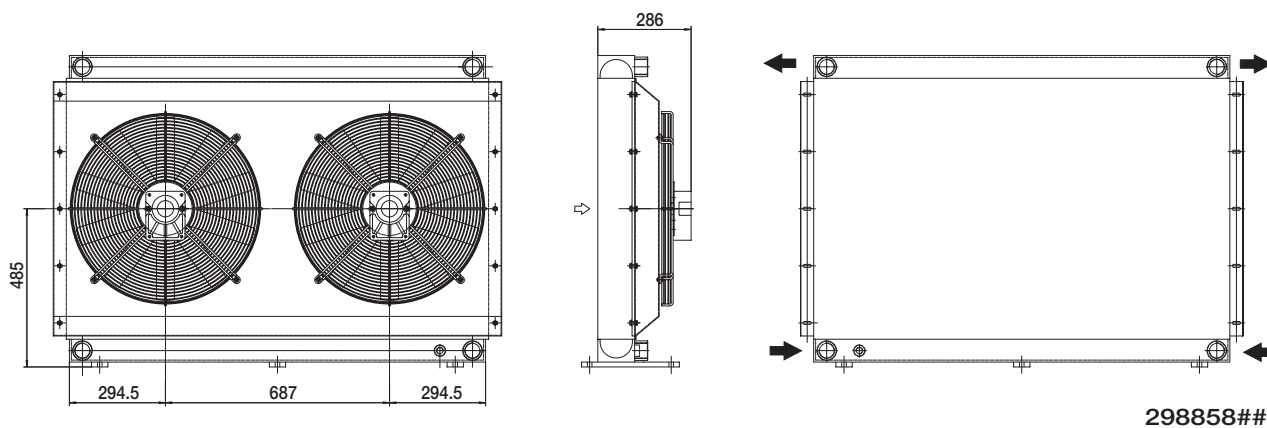
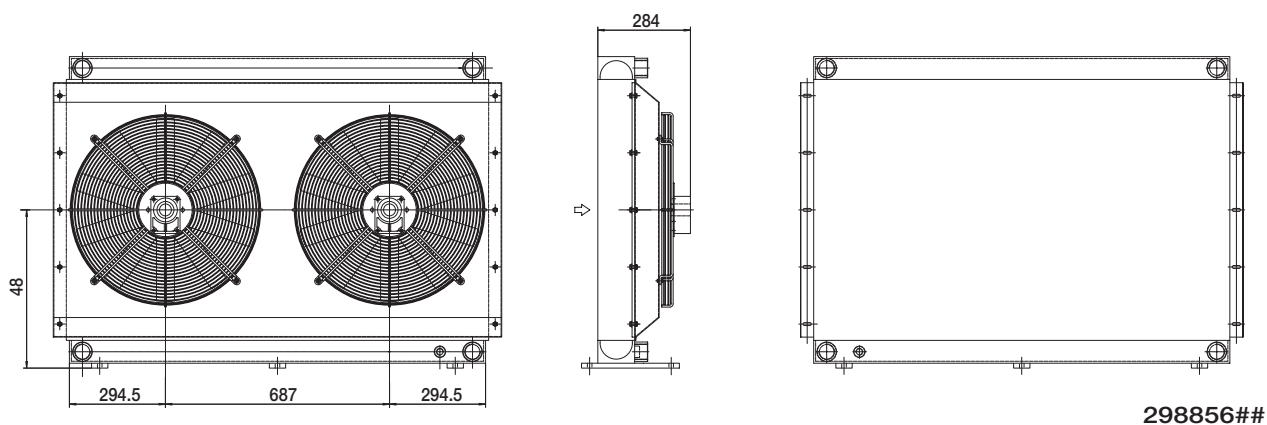
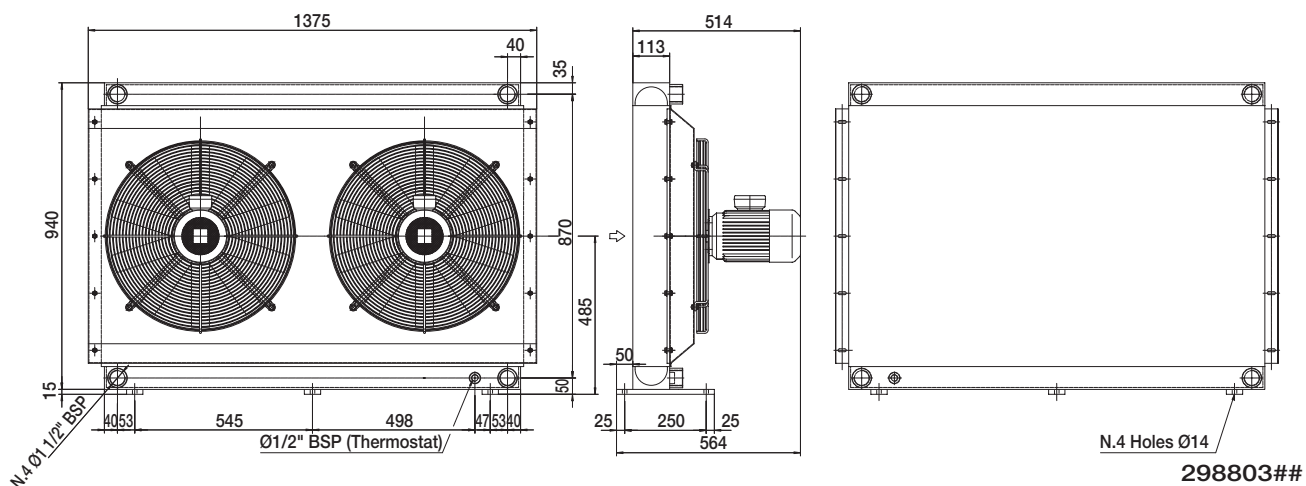
Fattore di correzione - F - (perdite di carico) *Correction factor - F - (Pressure drop)*

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



HPA 42/2

Dimensioni *Dimensions*



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

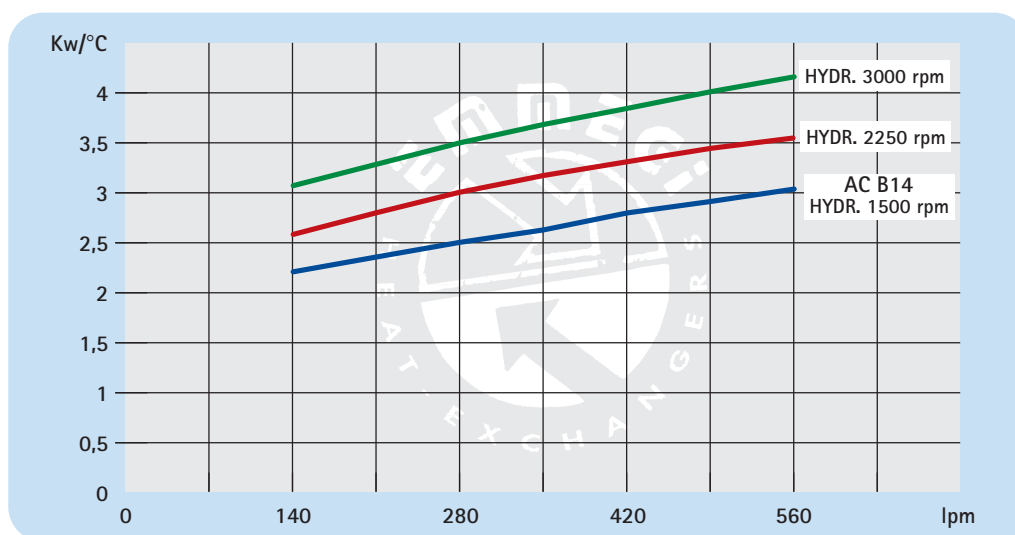
Dati tecnici *Technical Data*

P/N	V	Hz	kW	A	rpm	ø Fan	dB(A)	(m³/h)	IP	It	Kg
298803###	230-400 B14 AC	50/60	1,1	2,5	1450	560	87	8500	55	28,4	192
298856###	Prepared for Gr.2 hydraulic motor				☎	560	☎	☎	/		180
298858###	Prepared for Gr.3 hydraulic motor				☎	560	☎	☎	/		180

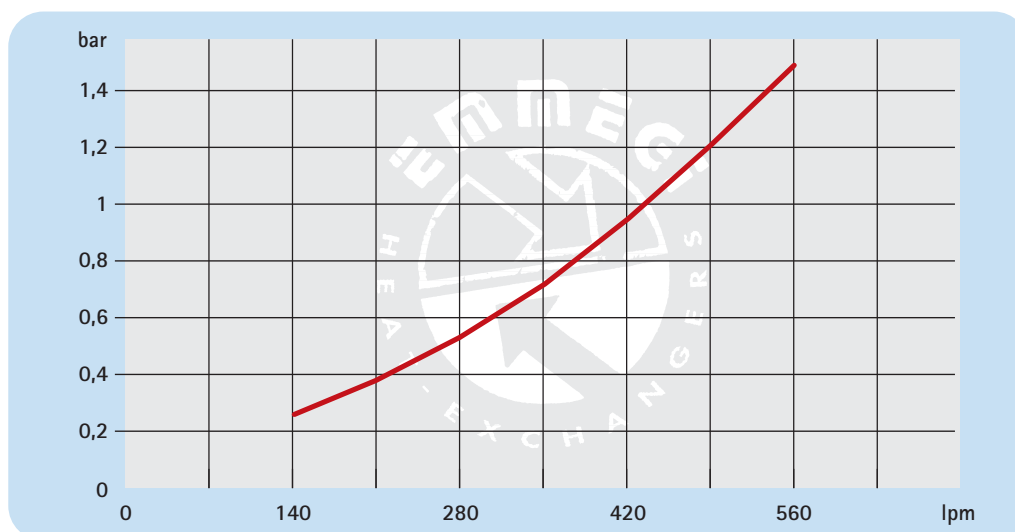
I dati sopraportati sono riferiti al singolo ventilatore *The data refers to each ventilator*

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Diagramma rendimento *Performance diagram*



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



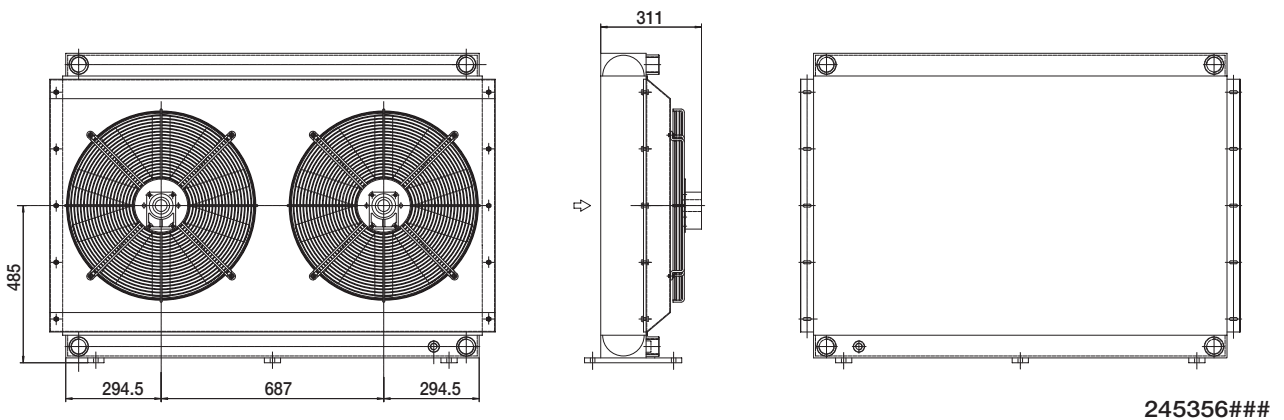
Fattore di correzione - F - (perdite di carico) *Correction factor - F - (Pressure drop)*

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



HPA 50/2

HPA 52/2



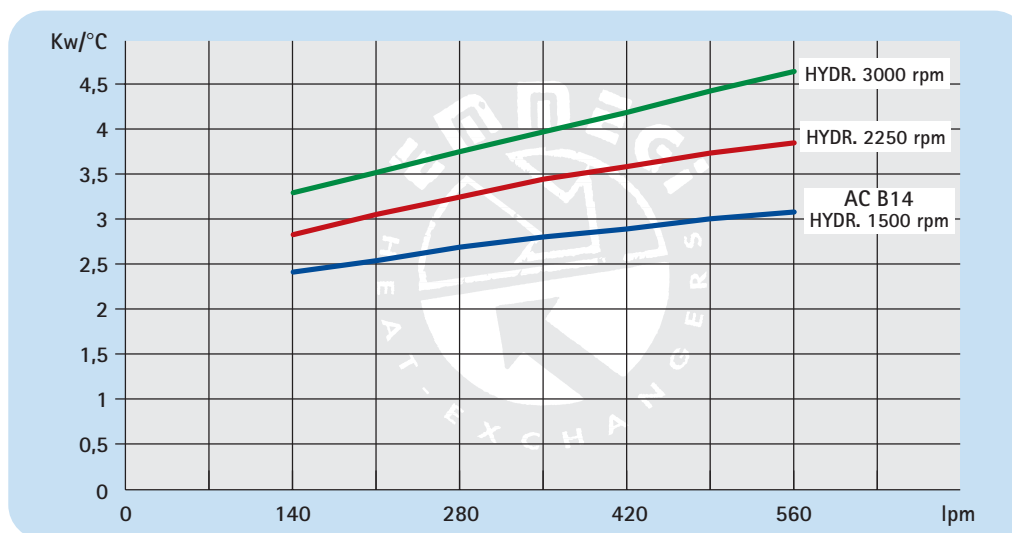
Dati tecnici *Technical Data*

P/N	V	Hz	kW	A	rpm	ø Fan	dB(A)	(m³/h)	IP	It	Kg
245303###	230-400 B14 AC	50/60	1,1	2,5	1450	560	87	7750	55		195
245356###	Prepared for Gr.2 hydraulic motor				☎	560	☎	☎	/	28,4	180
245358###	Prepared for Gr.3 hydraulic motor				☎	560	☎	☎	/		180

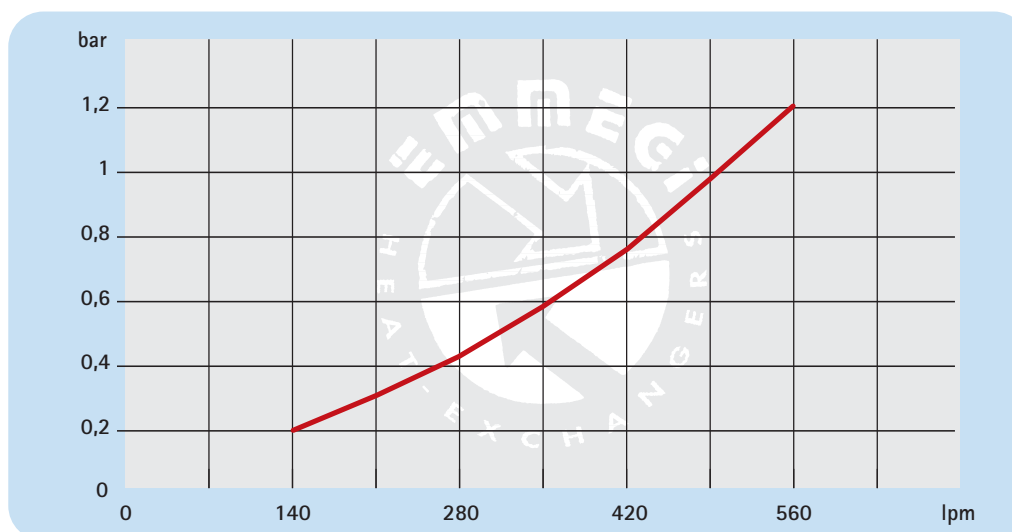
I dati soprariportati sono riferiti al singolo ventilatore *The data refers to each ventilator*

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Diagramma rendimento *Performance diagram*



Perdite di carico *Pressure drop (32 CST)*



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



HPA 52/2

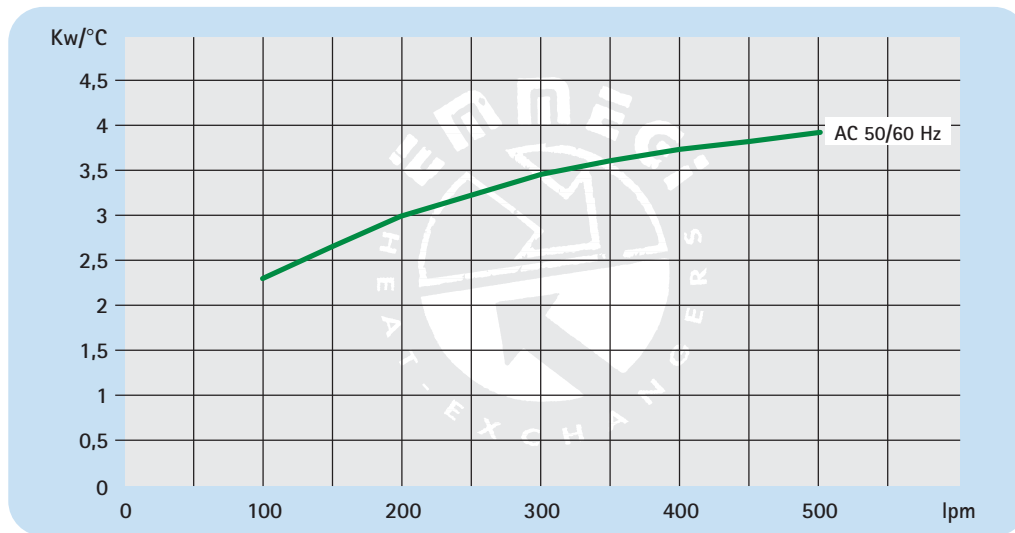


Dati tecnici *Technical Data*

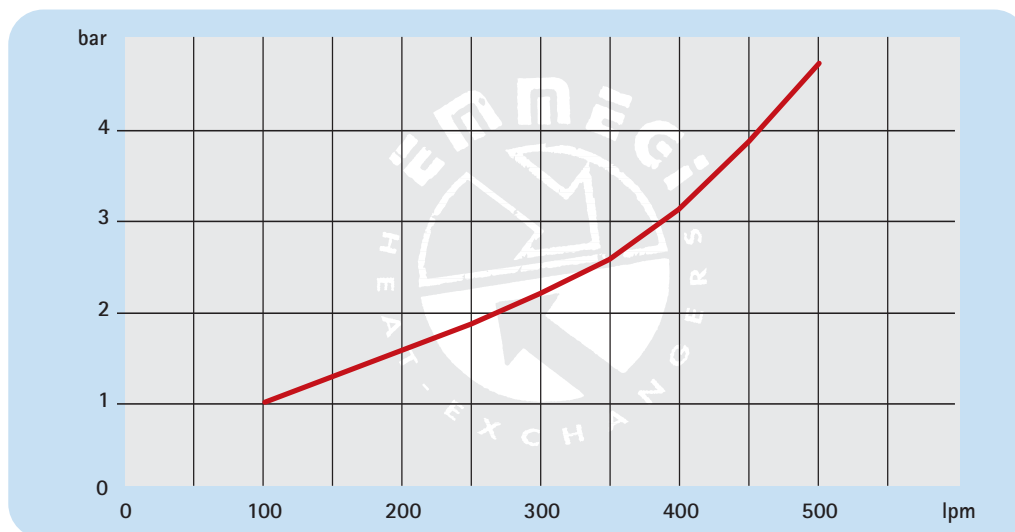
P/N	V	Hz	kW	A	rpm	ø Fan	dB(A)	(m³/h)	IP	It	Kg
041650B40050#	230-400 AC	50	1,1	1,3	1420	560	78	10000	55	25	140
041650B40060#	230-400 AC	60	1,1	1,3	1720	560	78	10000	55		140

I dati soprariportati sono riferiti al singolo ventilatore *The data refers to each ventilator*

Diagramma rendimento *Performance diagram*



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



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



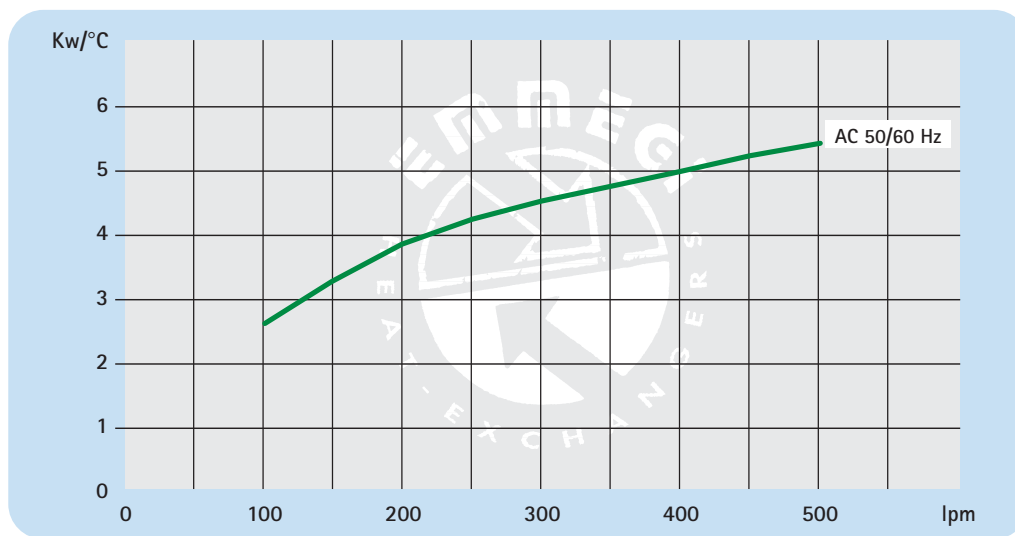
HPA 44/2

Dati tecnici *Technical Data*

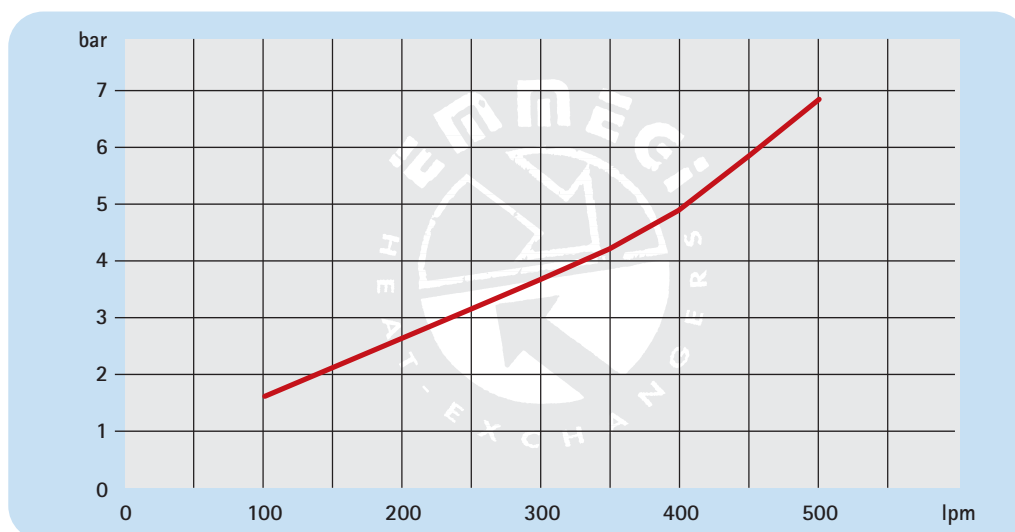
P/N	V	Hz	kW	A	rpm	ø Fan	dB(A)	(m³/h)	IP	It	Kg
041240B40050#	230-400 AC	50	1,1	1,3	1420	560	81	10000	55	35	210
041240B40060#	230-400 AC	60	1,1	1,3	1720	560	81	10000	55		210

I dati soprariportati sono riferiti al singolo ventilatore *The data refers to each ventilator*

Diagramma rendimento *Performance diagram*



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



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



HPA 44/3

[illegible]This image shows a full page of graph paper. It features a uniform grid of small squares across the entire surface. On the far left, there is a solid blue vertical band, which serves as a margin. The rest of the page is white with thin gray lines forming the grid. There are no markings, text, or drawings on the paper.

Note Notes

[illegible]

[illegible]This image shows a full page of graph paper. The background is white, covered by a uniform grid of thin, light gray horizontal and vertical lines. On the far left side, there is a decorative blue element consisting of several overlapping curved shapes, resembling a stylized wave or a series of connected arches. The rest of the page is empty grid space.

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USA

EMMEGI HEAT EXCHANGERS Inc.

(Main Office and Manufacturing)

3606 E. Southern Ave. Suite 2

Phoenix, AZ 85040 USA

Ph. +1 602 438 7101

Fax + 1 602 438 7127

<http://www.emmegiinc.com>

sales@emmegiinc.com

CHINA

EMMEGI HEAT EXCHANGERS

(Beijing) Co.,Ltd.

Unit 706,7/ F. Building A, China

Foreign Language Mansion,

89 West, 3 rd Ring (N) Road,

Haidian District, Beijing,

PR.China, Post code: 100089

Ph. + 86 10 88820971- Fax + 86 10 88820972

<http://www.emmegi-heat-exchangers.com>

emmegi@vip.sina.com

SWEDEN/FINLAND

EMMEGI HEAT EXCHANGERS

NORDIC AB.

Box 1136

262 22 ANGELHOLM

Visitors: Nybrovagen 4

Ph. + 46 (0) 431- 415096

Fax + 46 (0) 431- 415099

<http://www.emmegi-heat-exchangers.com>

info.nordic@emmegi-heat-exchangers.com

UK

EMMEGI UK

(Sales Office)

Evergreen, The Reddings

Cheltenham GL51 6RL

Ph. + 44 1242700151

Fax + 44 8707577659

<http://www.emmegi.co.uk>

sales@emmegi.co.uk

BRAZIL

EMMEGI BRAZIL

(Sales Office)

Rua Arno Luckow 61

Bairro Gloria - Joinville - SC - Brazil

89.217 - 211

Ph. +55-47-3422-1903

Mobile +55-47-9971-1763

<http://www.emmegi-heat-exchangers.com>

paulob@emmegi-heat-exchangers.com

ASIA / PACIFIC

EMMEGI HEAT EXCHANGERS Ltd

Unit 17.9/ F.Corporation Park,

11 On Lai Street, Siu Lek Yuen,

Shatin, Hong Kong

Ph. + 852-26473488- Fax + 852-26032119

<http://www.emmegi-heat-exchangers.com>

emmegi@biznetvigator.com

GERMANY

EMMEGI GmbH

-Wärmetauscher-

Am Hagelkreutz 13 - D 41469 Neuss

Ph. +49 213778720 - Fax +49 2137787229

vertrieb@emmegi-gmbh.de

<http://www.emmegi-gmbh.de>

SLOVAKIA

EMMEGI HEAT EXCHANGERS s.r.o.

Ul. M.Razusa 1

95514 Topolcany

Ph. + 421 387629212 - Fax + 421

387629222

<http://www.emmegi-heat-exchangers.com>

sro@emmegi-heat-exchangers.com

ITALIA

EMMEGI S.p.A.

Via Newton,52 - Zona Industriale

20062 Cassano d'Adda (MI) - Italy

Tel. +39 0363 360236 - Fax + 39 0363 360230

<http://www.emmegi-heat-exchangers.com>

info@emmegi-heat-exchangers.com

