EMMEGI®
HEAT-EXCHANGERS

Scambiatori Aria-olio Serie HPA

Air-oil-exchangers HPA Series

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 conseguentemente la capacità di scambio.
La presenza, inoltre, di speciali turbolatori sull'alettatura del pacco radiante, migliora il coefficiente di trasmissione totale.
Il risultato è un prodotto tecnologicamente avanzato di dimensioni contenute, leggero e robusto.

Fluidi compatibili

. OIL 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 orrizontale 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. É 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 sovrapressione 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 exchangers 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 exchangers 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

É buona norma prestare particolare attenzione alla pulizia della massa radiante per garantire un naturale ricambio d' aria, ed evitare una diminuzione dell' efficenza 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 drovà 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).

$$P= \frac{19{,}5\ KW}{60°- 30°} = 0.65\ KW/°C$$

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 Δ T (the difference between the oil input temperature and the ambient temperature).

$$P= \frac{19{,}5\ KW}{60°- 30°} = 0.65\ KW/°C$$

Note the oil flow (90 lpm) 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.

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 B14AC	50	0,75	3 - 1,7	1440	450	82	4000	55	6,8	37
	265-460 B14 AC	60	0,86	3 - 1,7	1750						
243012 # # #	12 DC	/	0,115	9,58	2530	280	74	1550	65		32
243024 # # #	24 DC	/	0,125	5,2	2900	280	78	1700	65		32
243056 # # #	Prepared for Gr.2 hydraulic motor					450			/		35

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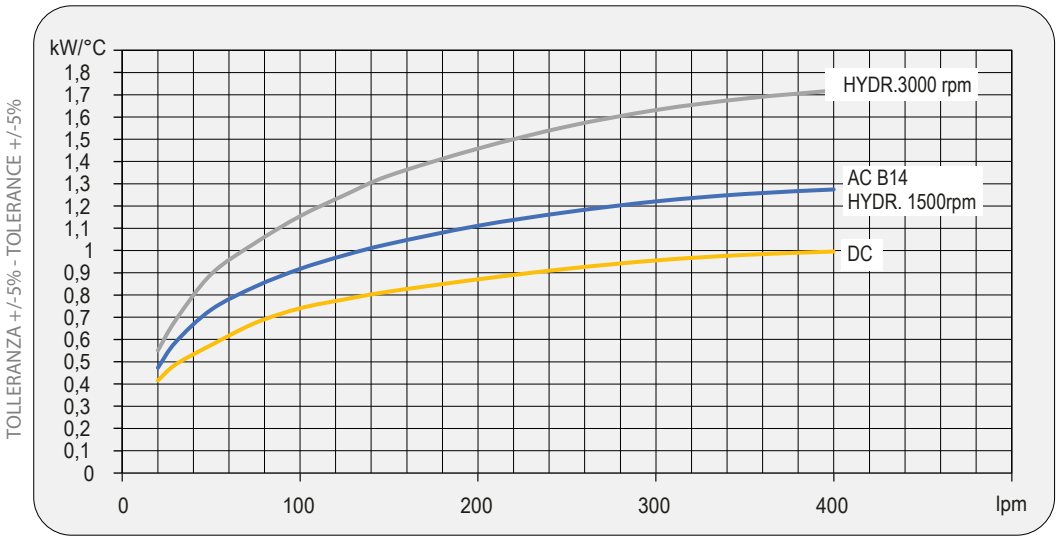
Diagramma rendimento Performance diagram



Lo scambiatore selezionato risulta il modello:
HPA 30 - 230/400 - 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.

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

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

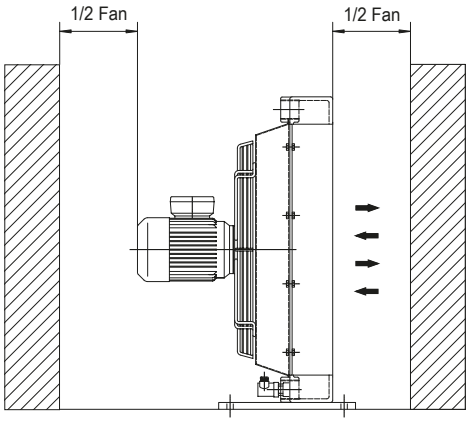


Fig.1

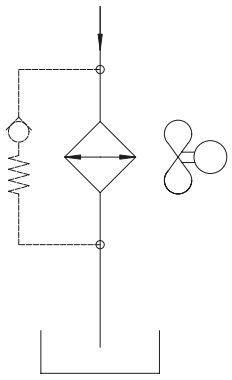
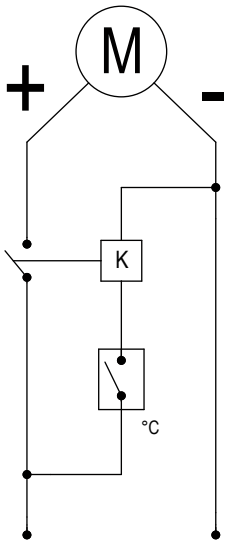
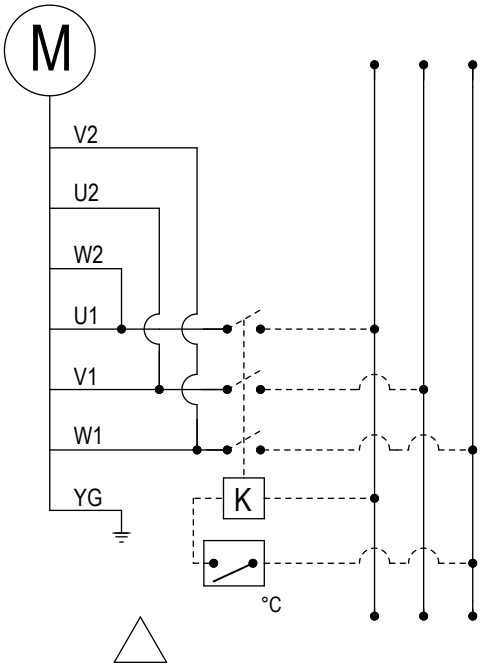


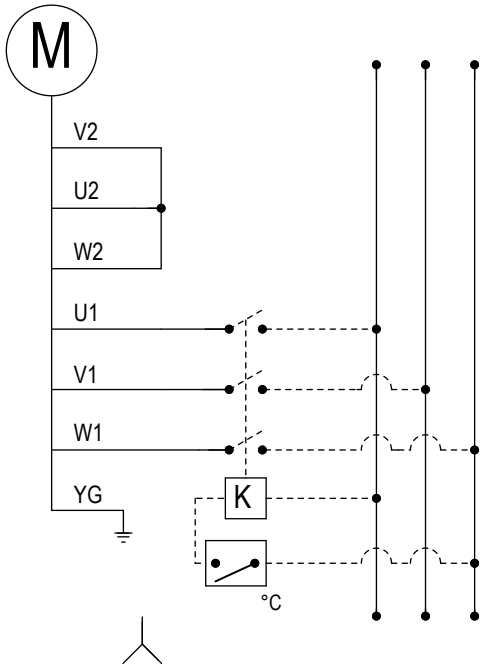
Fig.2



12-24V DC



230V-265V AC 3 PHASE



400V-460V AC 3 PHASE

°C = Termostato NA./Thermostat No.
K = Relè/Relay

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

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 *POWE 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*

- **12V**
- **24V**

PREDISTOSTO MOTORE IDRAULICO *PREPARATED FOR HYDRAULIC MOTOR*

- **GR.2**
- **GR.3**

CORRENTE ALTERNATA *ALTERNATE CURRENT*

- **TRIFASE 230-400V 265-460V** *THREEPHASE*

TENSIONE SPECIALE *SPECIAL VOLTAGE*

- **50 HZ**
- **60 HZ**

Denominazione codice prodotto *Aria-olio Serie HPA*

Ordering code *Air-oil HPA eries*

2	424	03	2	01

TIPO DI SISTEMA *COOLER SERIES*

424 (HPA 24)

TIPO DI MOTORIZZAZIONE *FAN MOTOR TYPE*

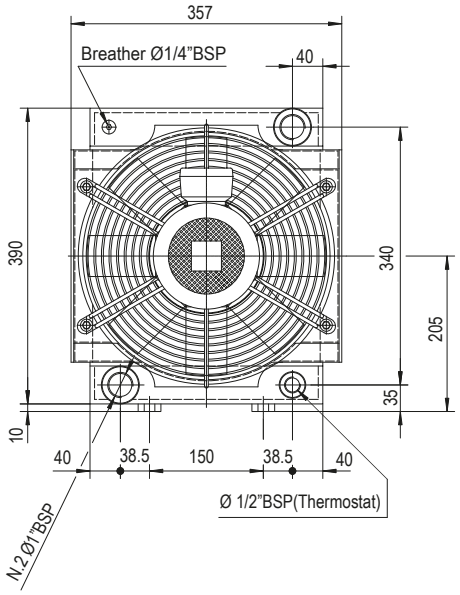
03	*AC 230V-400V 50Hz / AC 265-460 60Hz (B14)*	
12	*DC 12V*	
24	*DC 24V*	
56	*Pred. per mot. idr. gr.2*	*Pred. for hydr. mot. gr.2*
58	*Pred. per mot. idr. gr.3*	*Prep. for hydr. mot. gr.3*

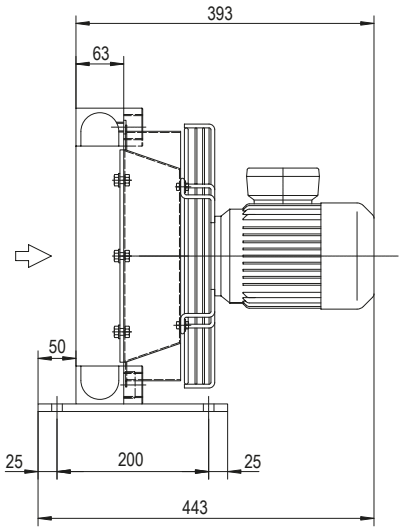
TERMOSTATI *THERMOSTATS*

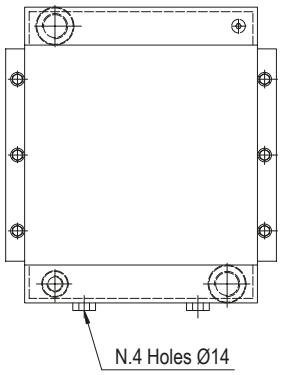
1	Termostato fisso	*Fixed thermostat*	40-28°
2	Termostato fisso	*Fixed thermostat*	*50-38°*
3	Termostato fisso	*Fixed thermostat*	*60-48°*
4	Termostato fisso	*Fixed thermostat*	*70-58°*
5	Termostato fisso	*Fixed thermostat*	*80-68°*
6	Termostato fisso	*Fixed thermostat*	*90-78°*
8	Termostato regolabile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

TIPO DI VENTILAZIONE *VENTILATING TYPE*

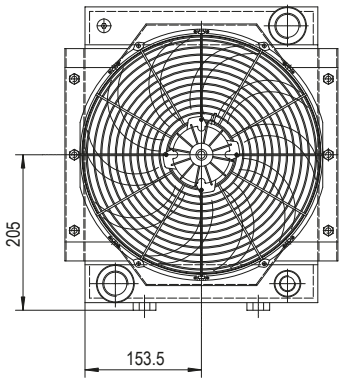
01	*Aspirante*	*Suction air flow*
02	*Soffiante*	*Blowing air flow*

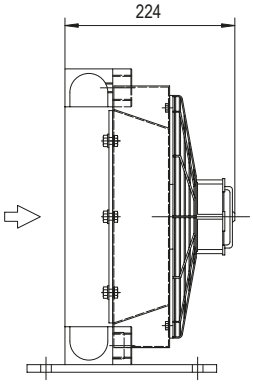


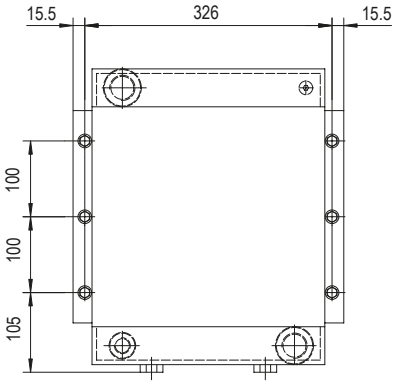




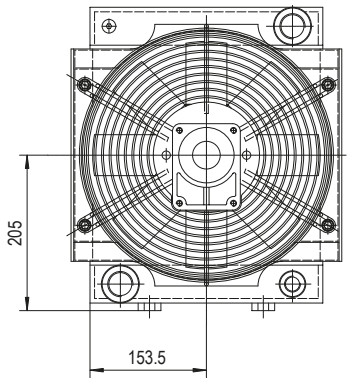
P/N 241203###

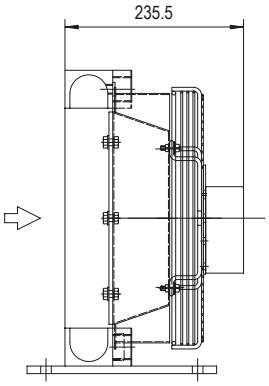


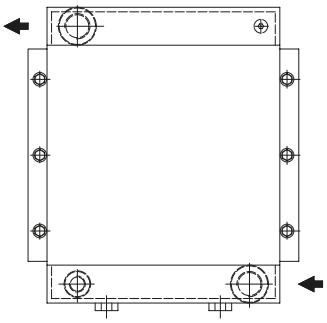




P/N 241212###
P/N 241224###







P/N 241256###

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

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 265-460 B14 AC	50 60	0,25 0,29	1,7 - 1 1,7 - 1	1350 1620	315	72 ☎	1670	55	1,9	17
241212###	12 DC	/	0,111	9,30	2600	305	77	1590	65	1,9	15
241224###	24 DC	/	0,148	6,15	3100	305	80	1700	65	1,9	15
241256###	Prepared for Gr.2 hydraulic motor				☎	315	☎	☎	/	1,9	16

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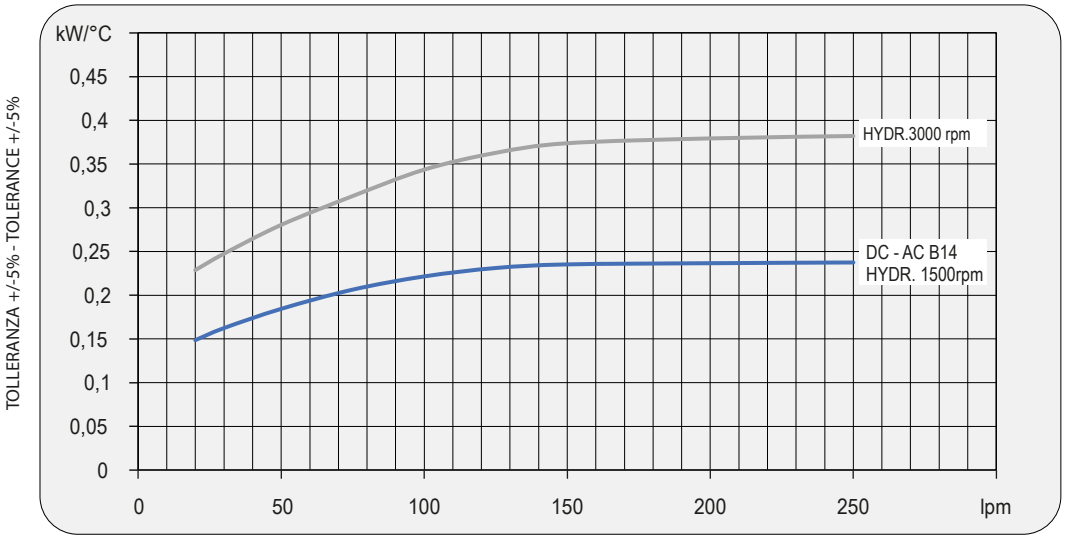
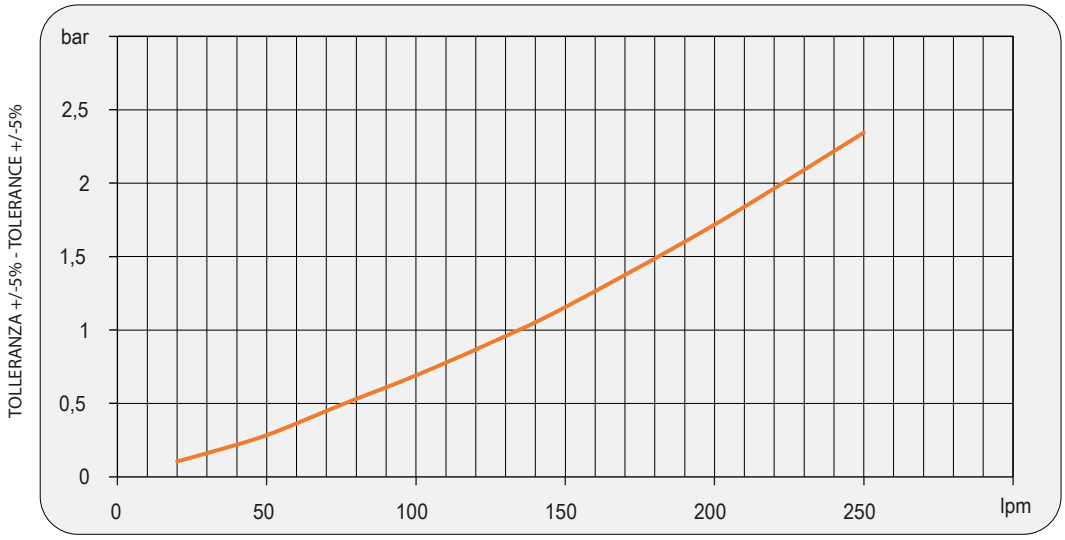
Diagramma rendimento Performance diagram

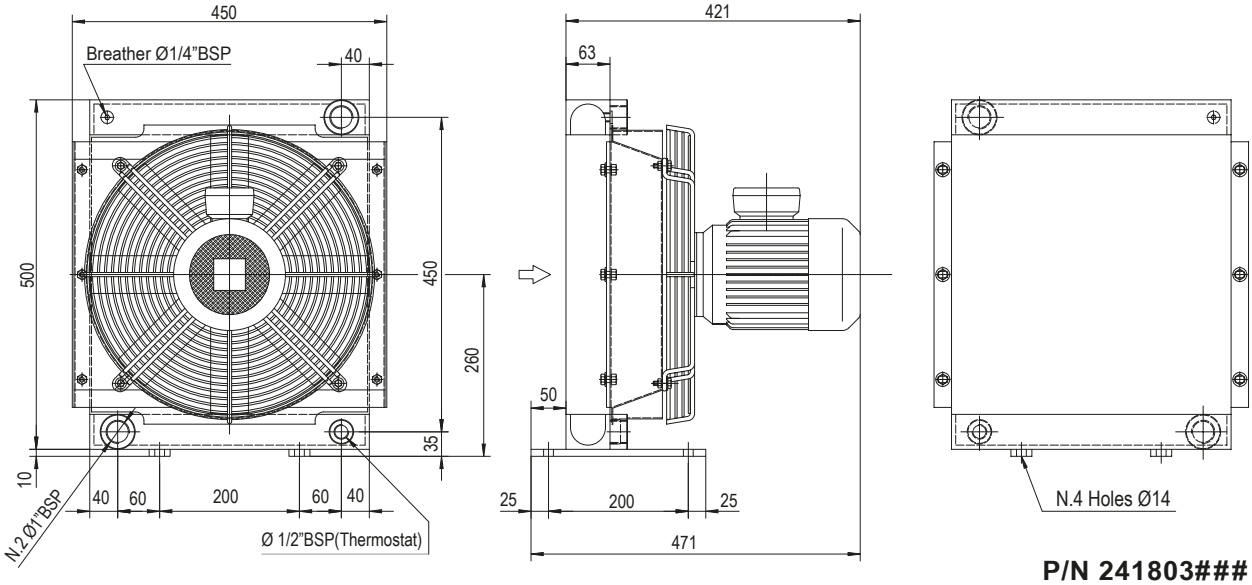


Perdite di carico Pressure drop (ISO VG 32)



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



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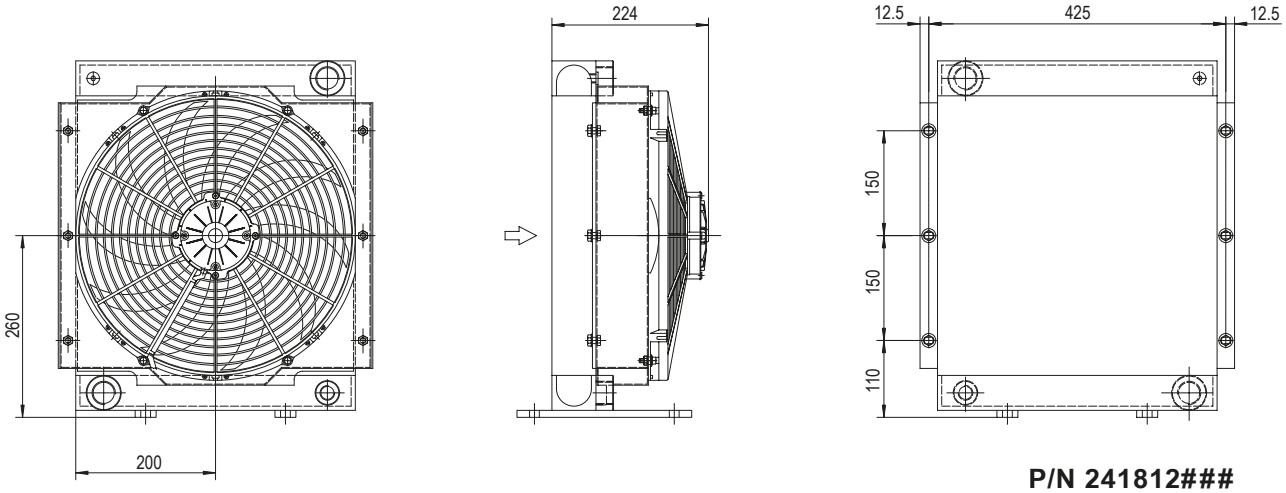
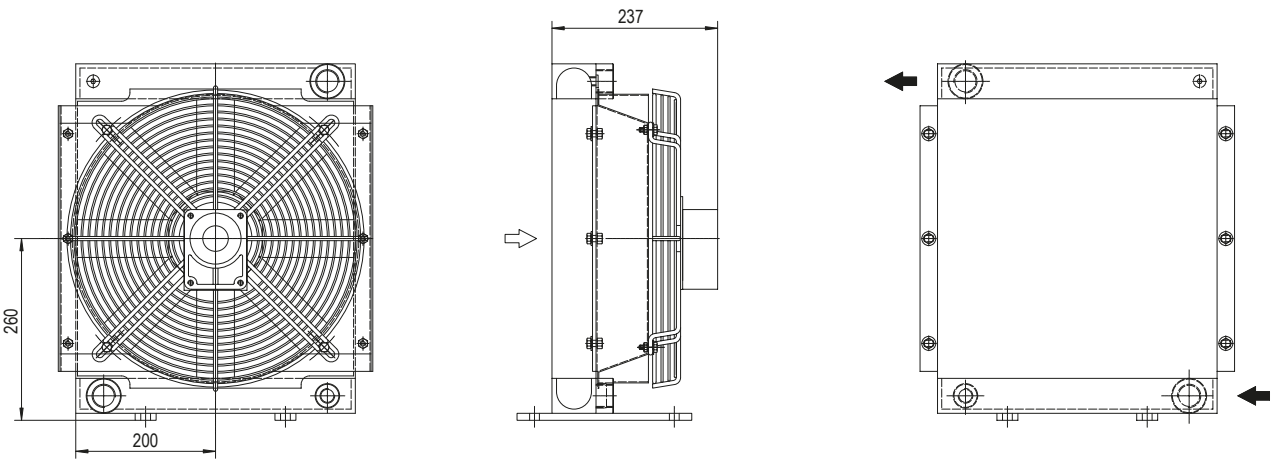


P/N 241812###
P/N 241824###



P/N 241856###

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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
241803###	230-400 B14 AC 265-460 B14 AC	50 60	0,37 0,43	1,9 - 1,1 1,9 - 1,1	1370 1650	400	77 ☎	3350 ☎	55	2,9	20
241812###	12 DC	/	0,187	15,6	2350	385	77	2950	65	2,9	18
241824###	24 DC	/	0,170	7,1	2580	385	81	3100	65	2,9	18
241856###	Prepared for Gr.2 hydraulic motor				☎	400	☎	☎	/	2,9	19

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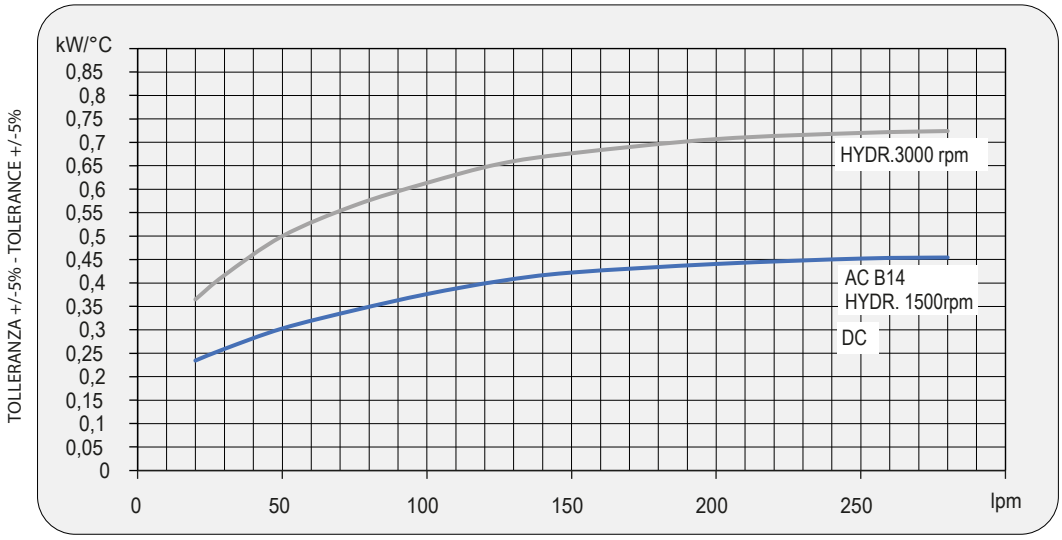
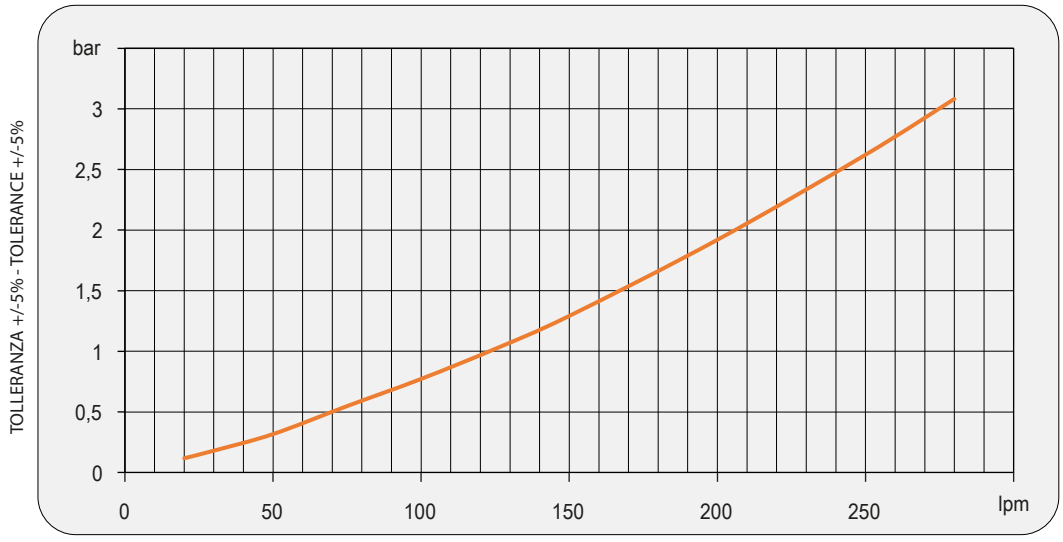
Diagramma rendimento Performance diagram

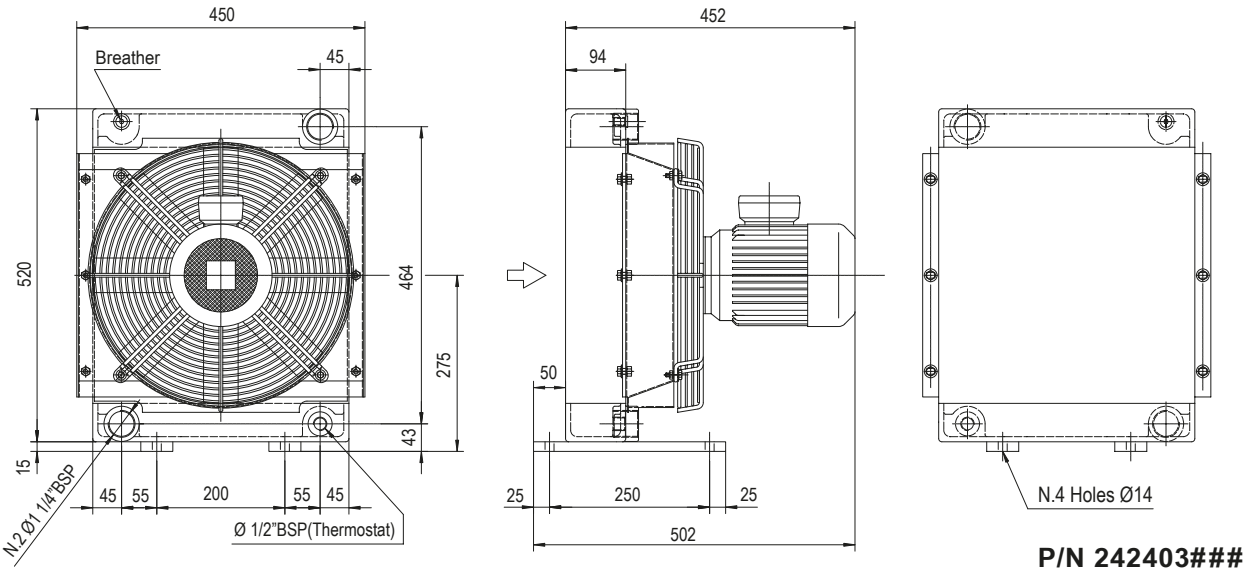


Perdite di carico Pressure drop (ISO VG 32)



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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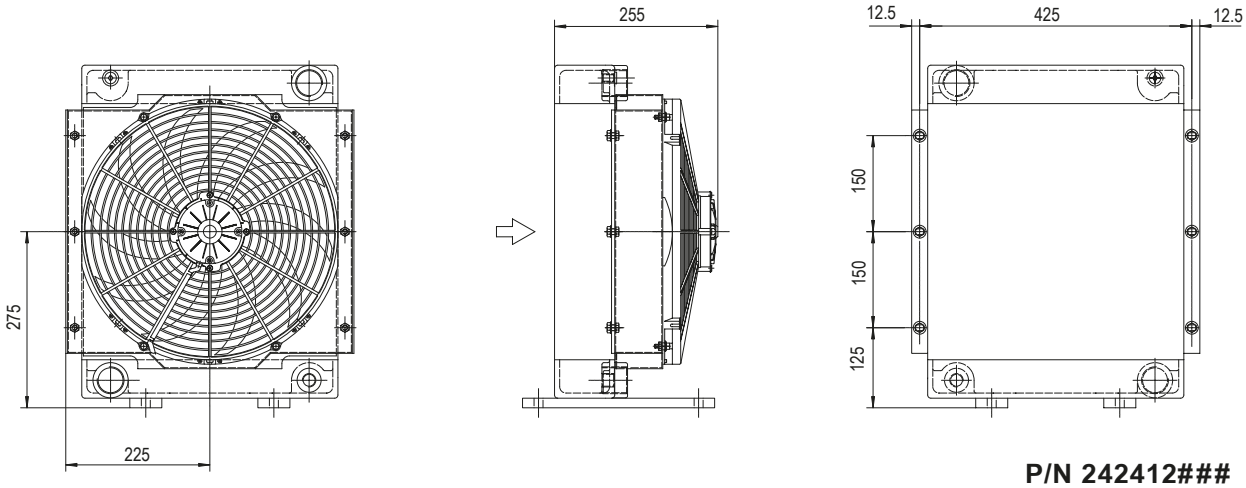
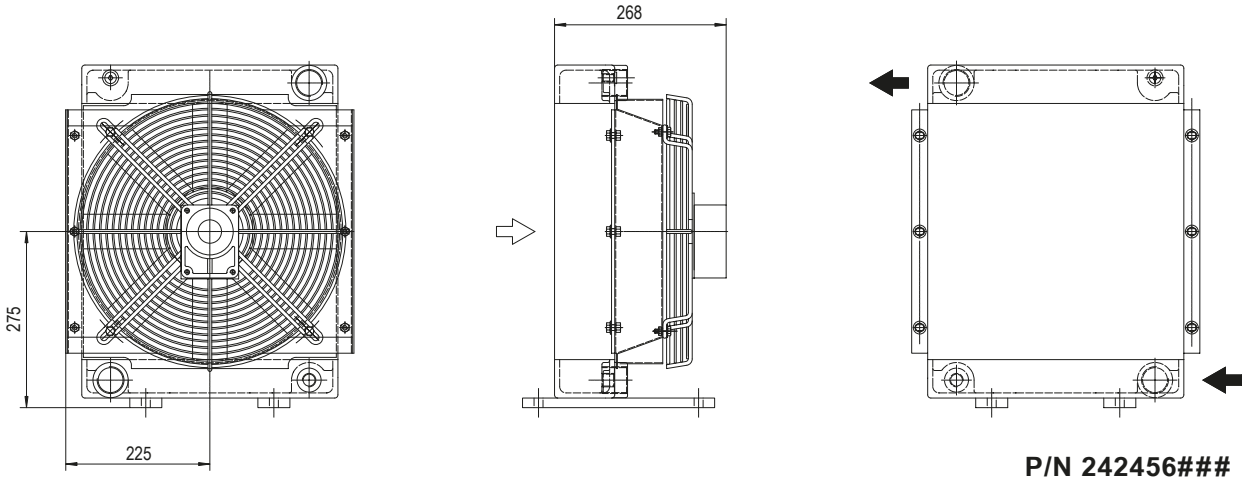


P/N 242412###
P/N 242424###



P/N 242456###

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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
242403###	230-400 B14 AC 265-460 B14 AC	50 60	0,55 0,63	2,9 - 1,7 2,9 - 1,7	1380 1690	400	79 ☎	2800 ☎	55	2,9	28
242412###	12 DC	/	0,187	15,6	2350	385	77	2100	65	2,9	28
242424###	24 DC	/	0,170	7,1	2580	305	80	2250	65	2,9	22
242456###	Prepared for Gr.2 hydraulic motor				☎	400	☎	☎	/	2,9	23

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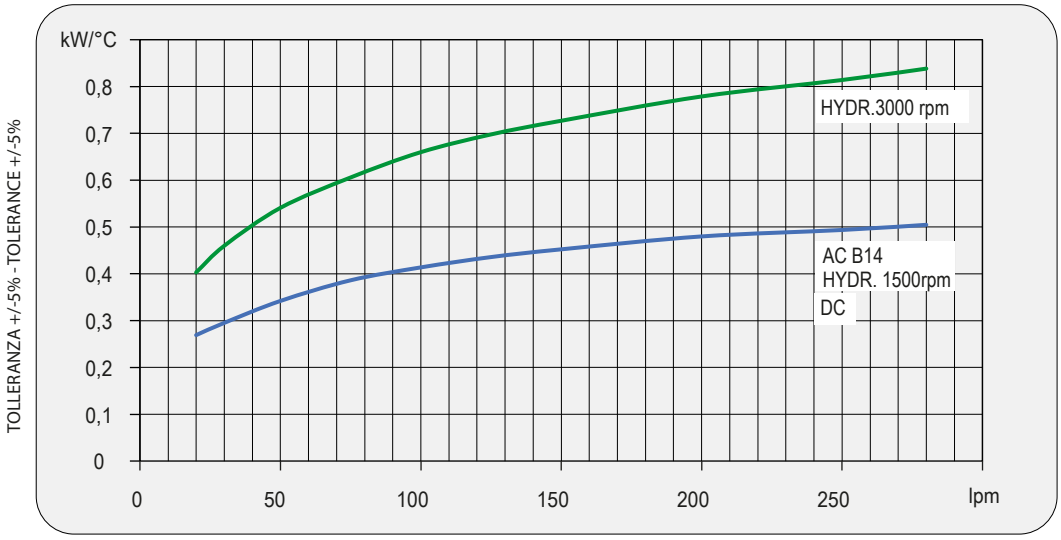
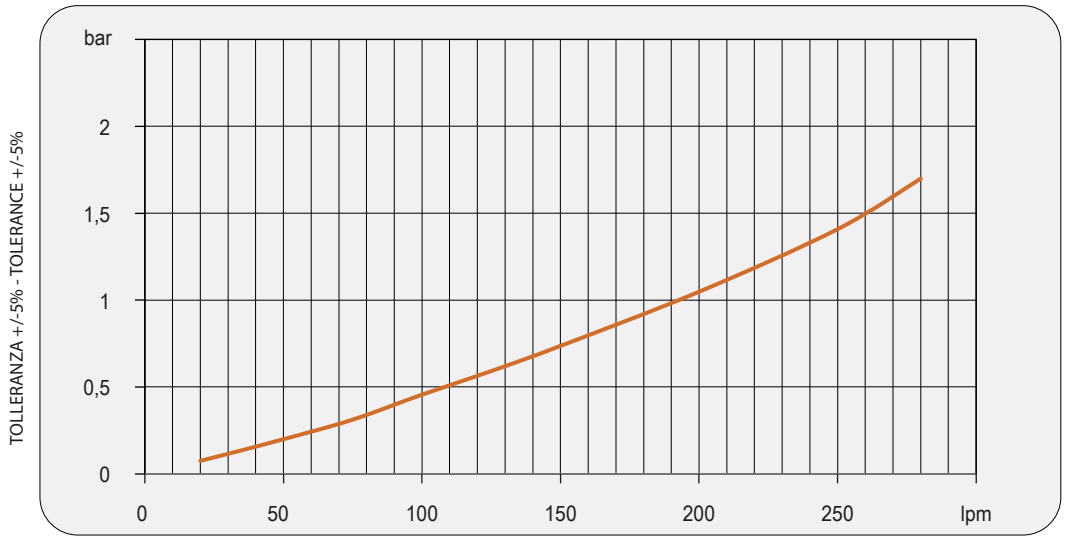
Diagramma rendimento Performance diagram

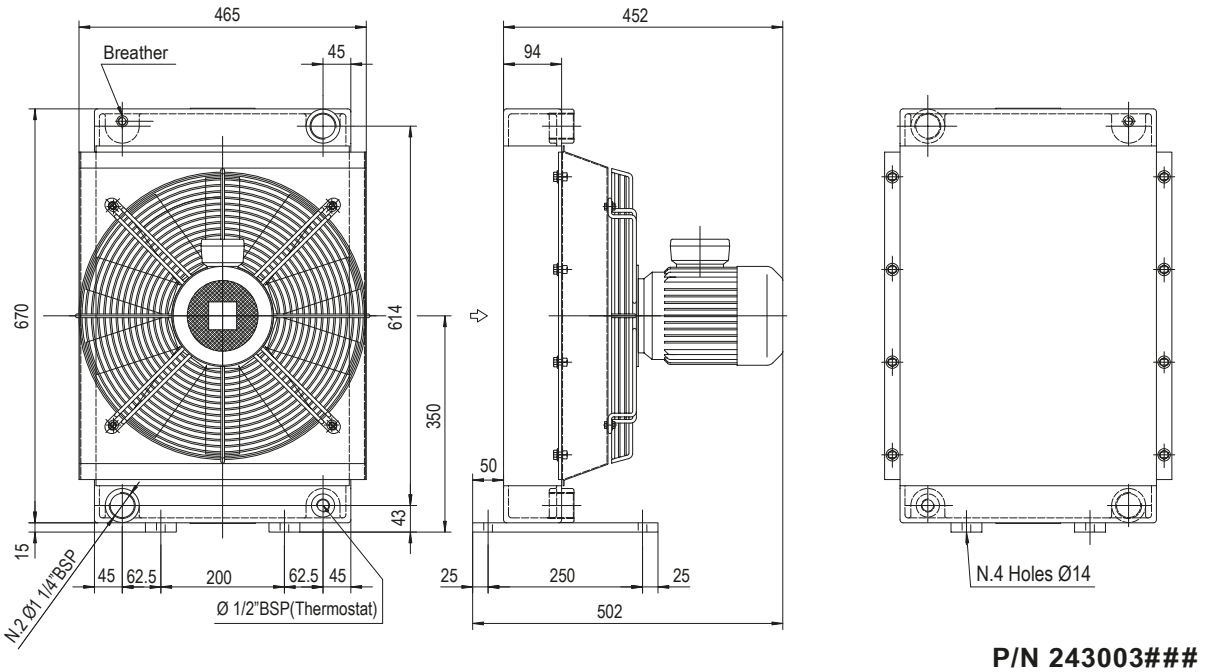


Perdite di carico Pressure drop (ISO VG 32)

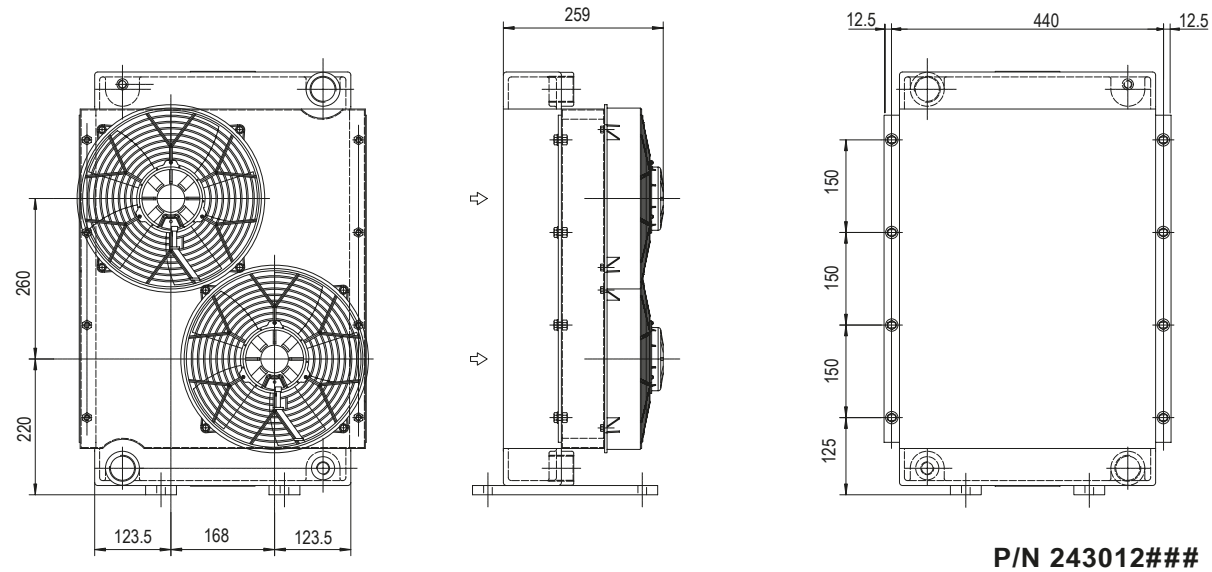


Fattore di correzione-F-(perdite di carico) Correction factor-F-(Pressure drop)

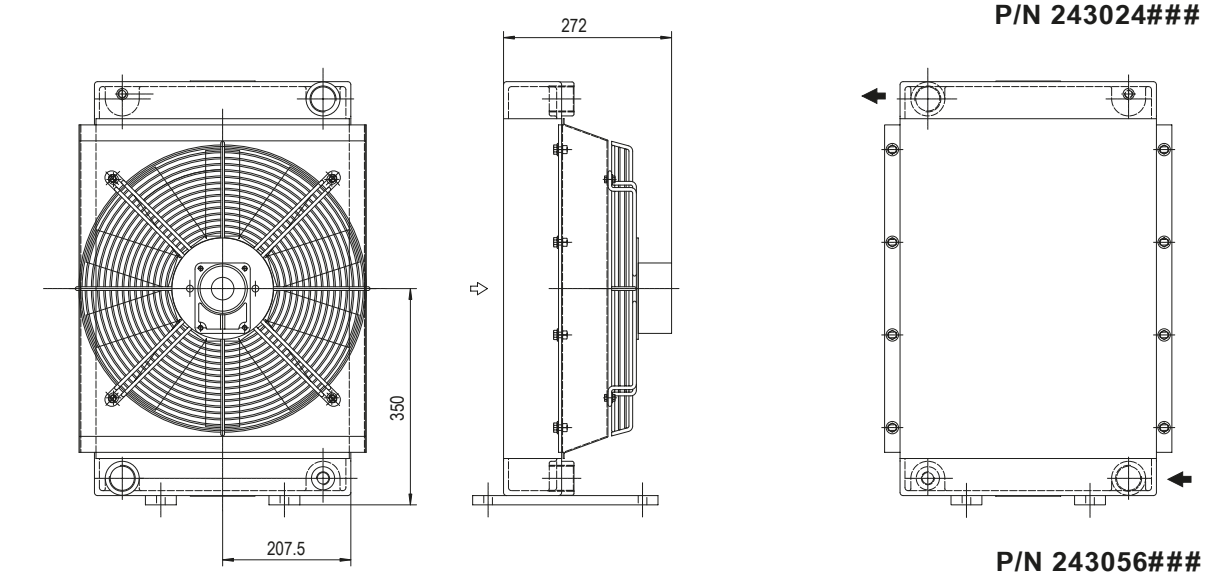
cst	10	15	20	30	40	50	60	80	100	200	300
F	0,5	0,65	0,77	1	1,2	1,4	1,6	1,9	2,1	3,3	4,3



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(±10%)	A (±10%)	rpm	Ø Fan	dB (A)	(m³/ h)	IP	lt	Kg
243003###	230-400 B14 AC 265-460 B14 AC	50 60	0,75 0,86	3 - 1,7 3 - 1,7	1440 1750	450	82 ☎	4000 ☎	55	6,8	37
243012###	12 DC	/	0,115	9,58	2530	280	74	1550	65	6,8	32
243024###	24 DC	/	0,125	5,20	2900	280	78	1700	65	6,8	32
243056###	Prepared for Gr.2 hydraulic motor				☎	450	☎	☎	/	6,8	35

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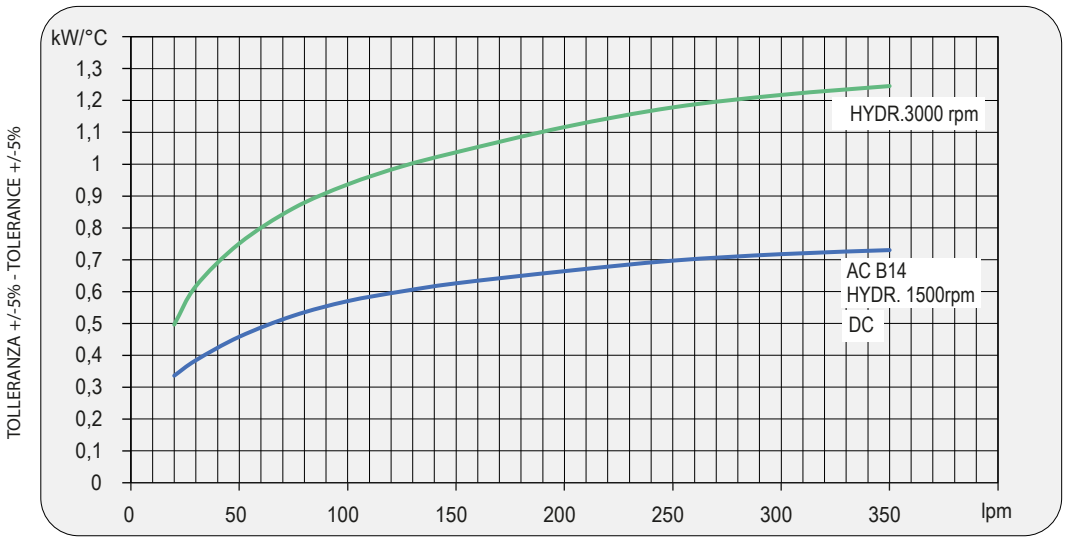
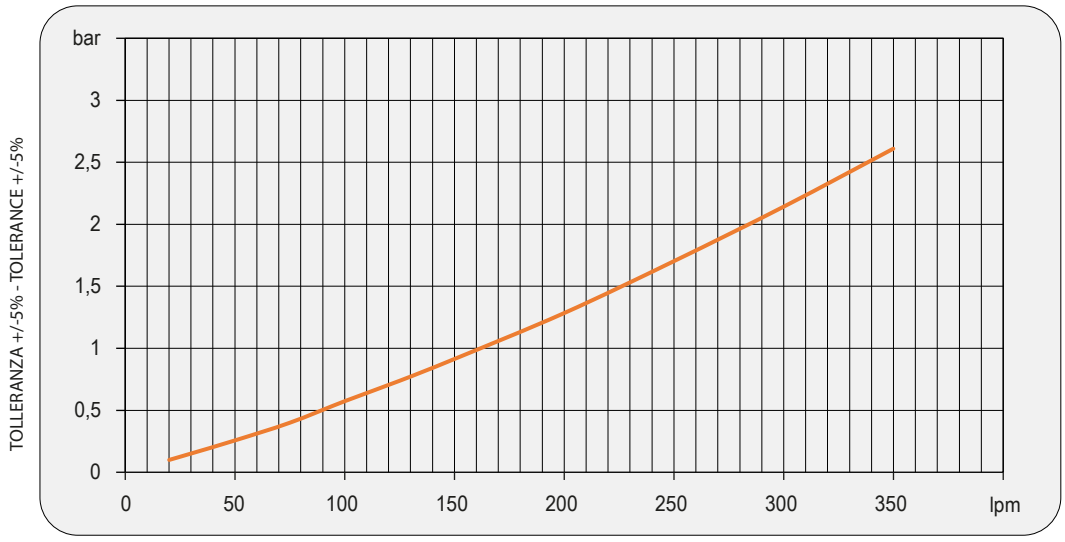
Diagramma rendimento Performance diagram

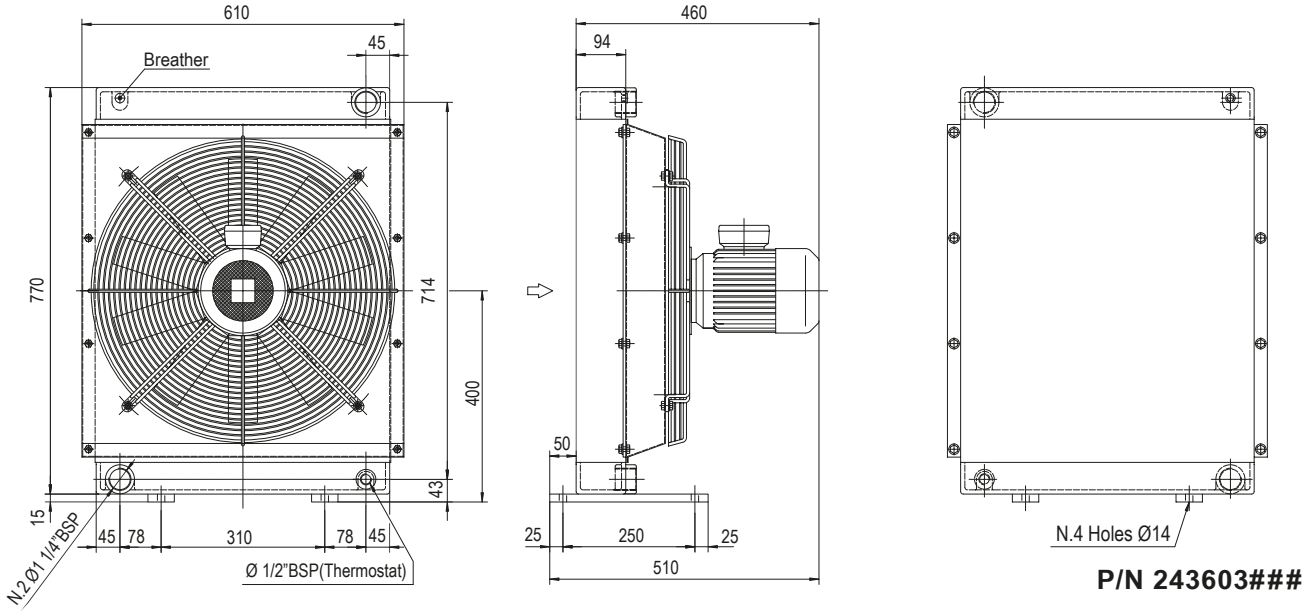


Perdite di carico Pressure drop (ISO VG 32)

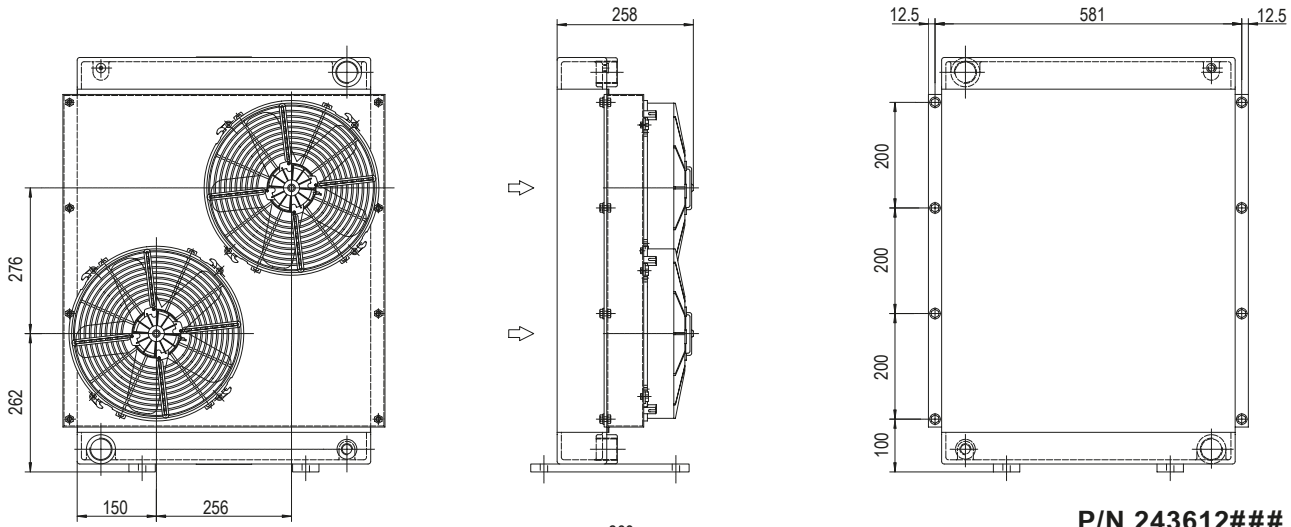


Fattore di correzione-F-(perdite di carico) Correction factor-F-(Pressure drop)

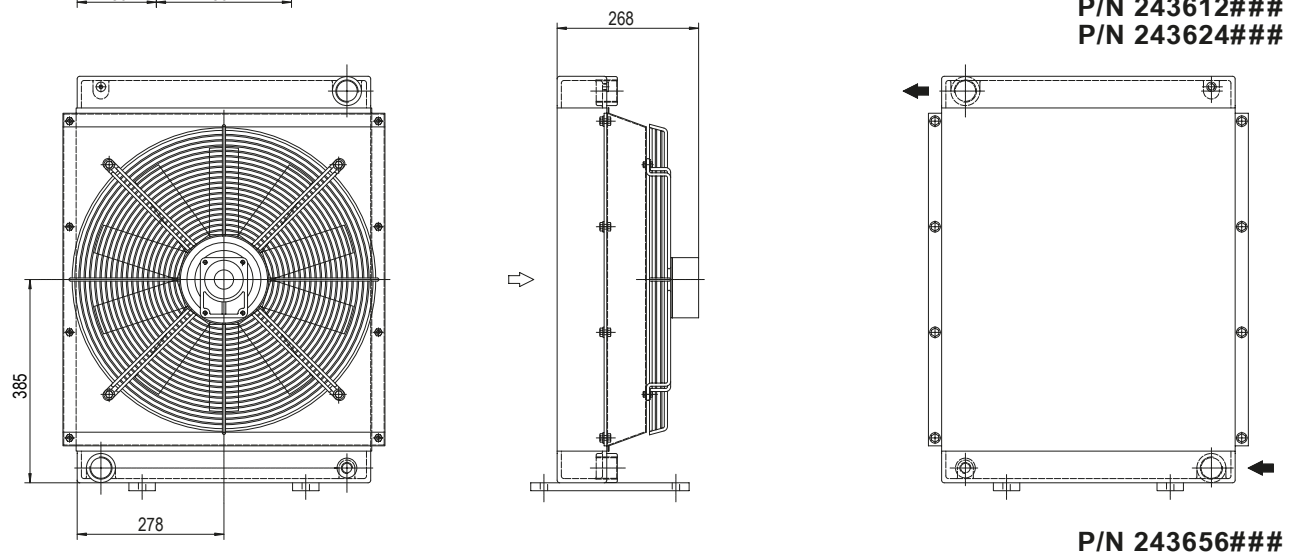
cst	10	15	20	30	40	50	60	80	100	200	300
F	0,5	0,65	0,77	1	1,2	1,4	1,6	1,9	2,1	3,3	4,3



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(±10%)	A (±10%)	rpm	Ø Fan	dB (A)	(m³/ h)	IP	lt	Kg
243603###	230-400 B14 AC 265-460 B14 AC	50 60	1,1 1,3	4,5 - 2,6 4,5 - 2,6	1440 1730	500	82 ☎	5650 ☎	55	9,4	60
243612###	12 DC	/	0,160	13,30	2560	305	83	2100	64	9,4	50
243624###	24 DC	/	0,177	7,35	3000	305	84	2400	64	9,4	50
243656###	Prepared for Gr.2 hydraulic motor				☎	450	☎	☎	/	9,4	52

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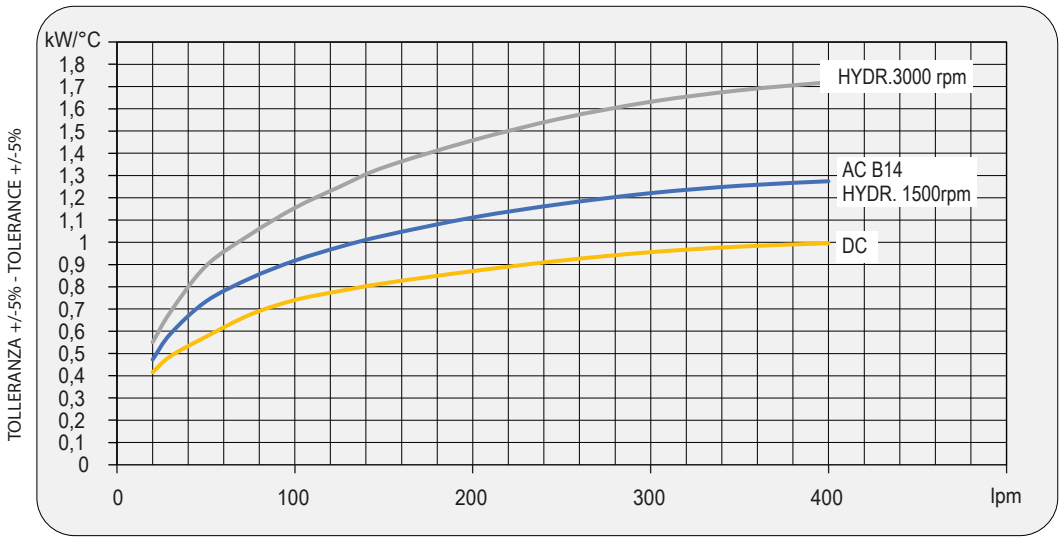
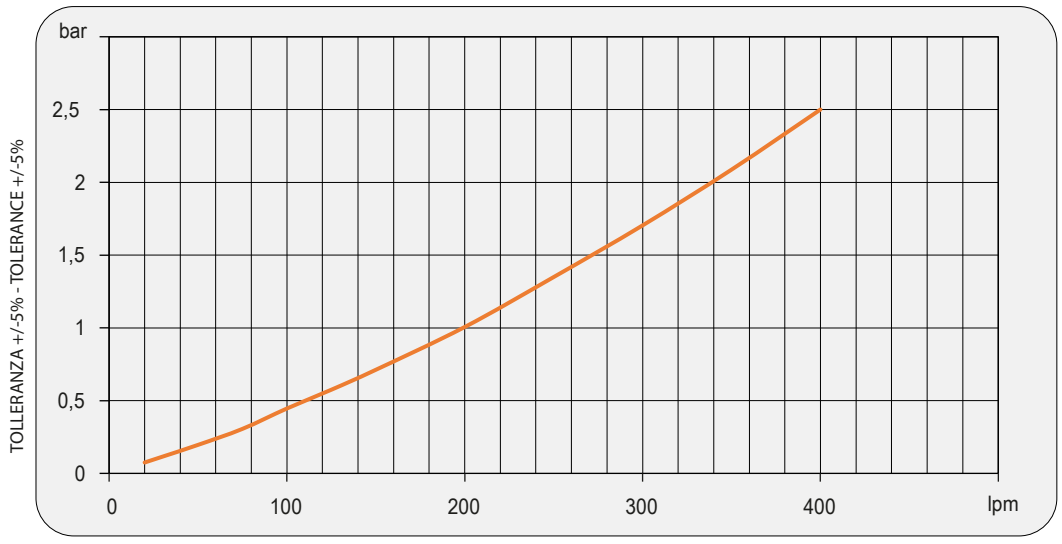
Diagramma rendimento Performance diagram

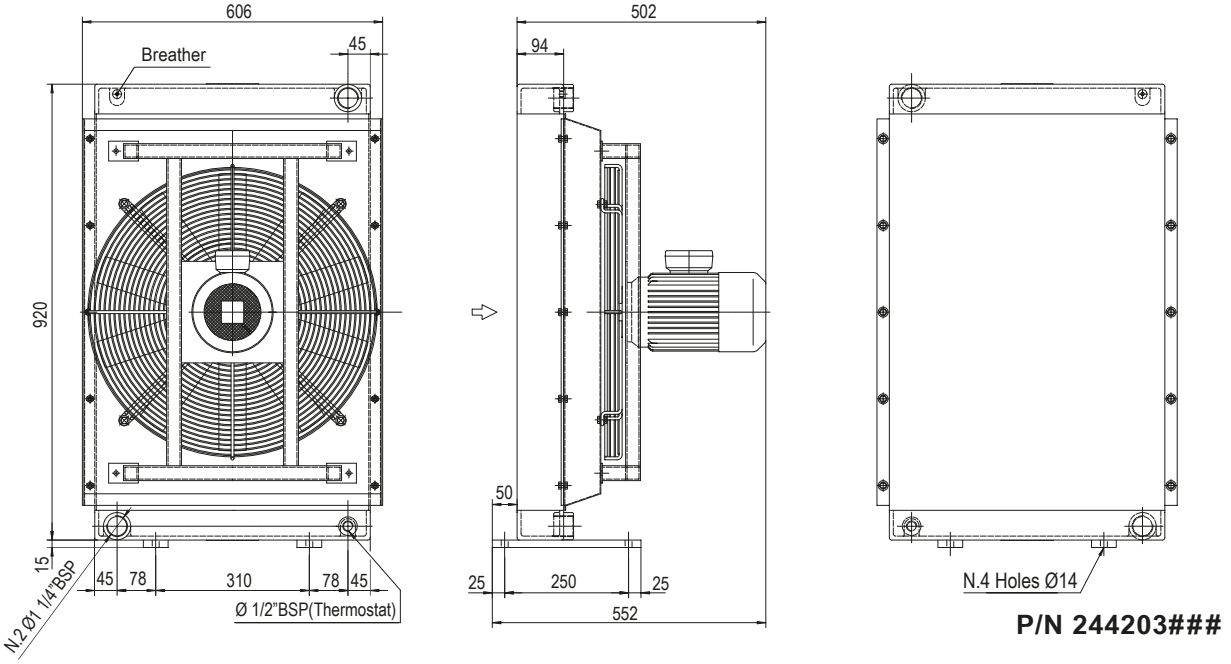


Perdite di carico Pressure drop (ISO VG 32)

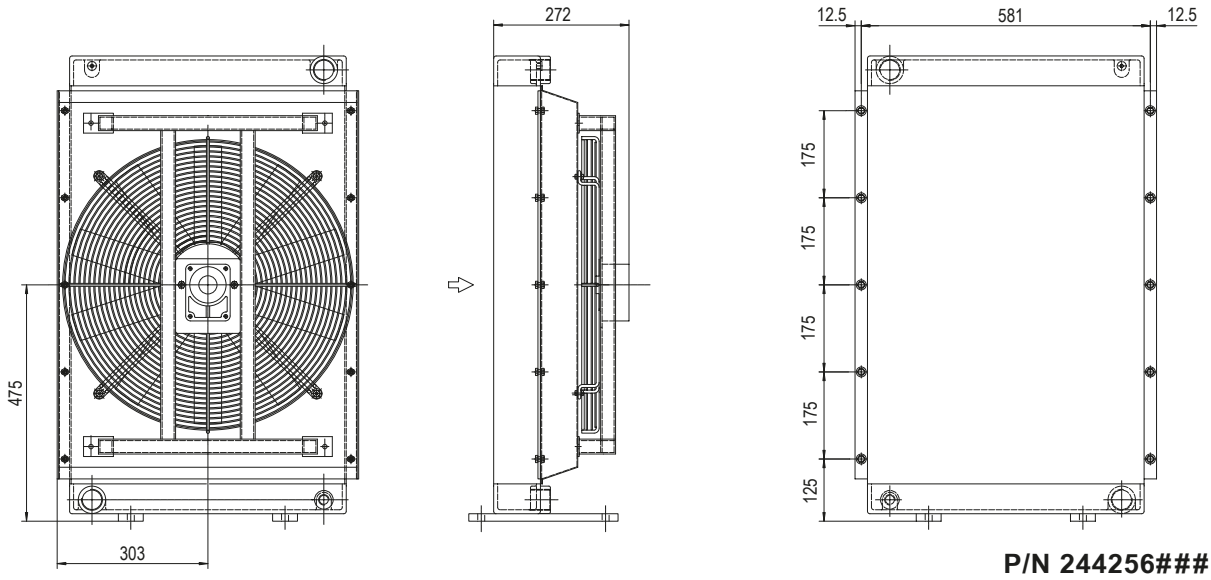


Fattore di correzione-F-(perdite di carico) Correction factor-F-(Pressure drop)

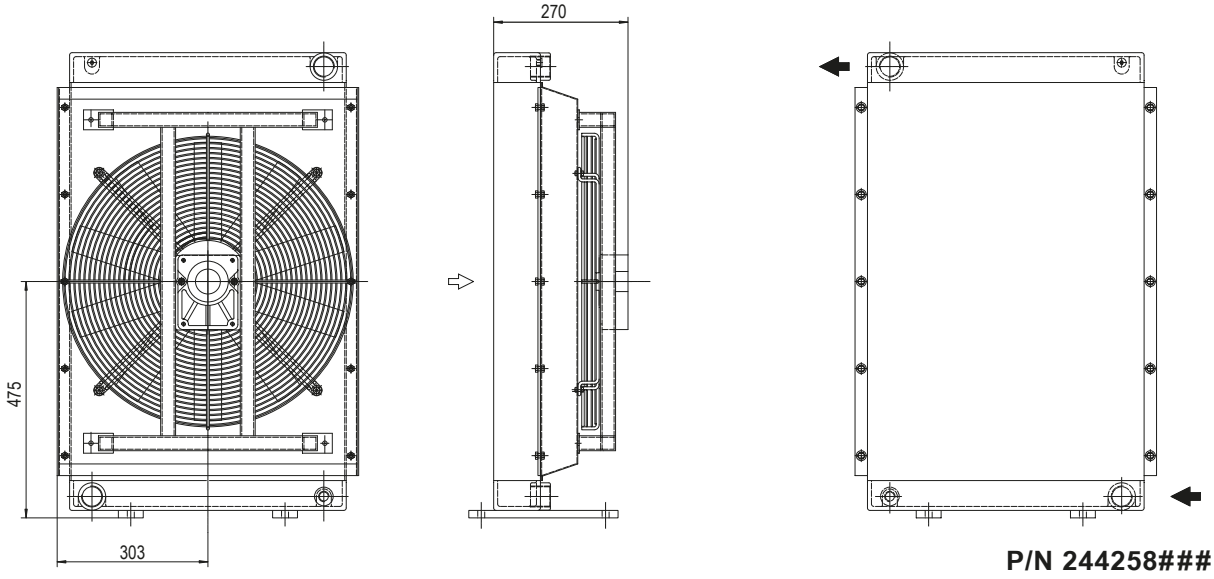
cst	10	15	20	30	40	50	60	80	100	200	300
F	0,5	0,65	0,77	1	1,2	1,4	1,6	1,9	2,1	3,3	4,3



P/N 244203###



P/N 244256###



P/N 244258###

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
244203###	230-400 B14 AC 265-460 B14 AC	50 60	1,1 1,3	4,5 - 2,6 4,5 - 2,6	1440 1730	560	84 ☎	7550 ☎	55	10,6	65
244256###	Prepared for Gr.2 hydraulic motor				☎	560	☎	☎	/	10,6	58
244258###	Prepared for Gr.3 hydraulic motor				☎	560	☎	☎	/	10,6	58

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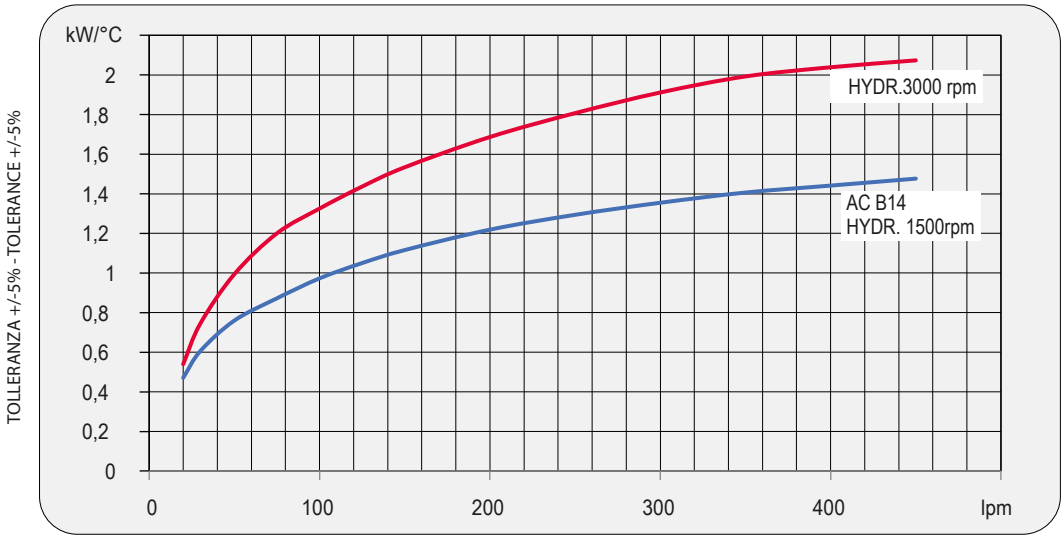
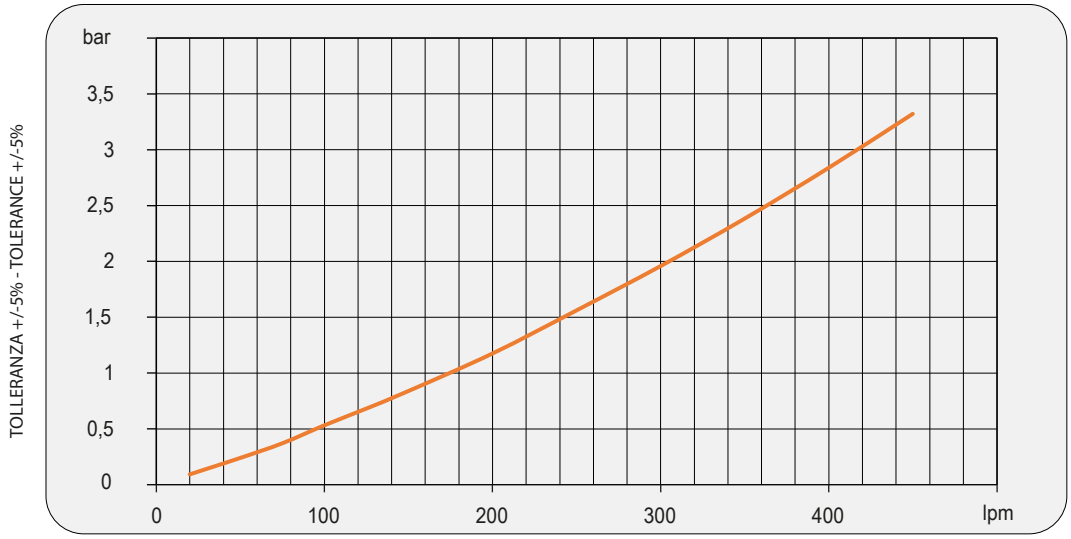
Diagramma rendimento Performance diagram

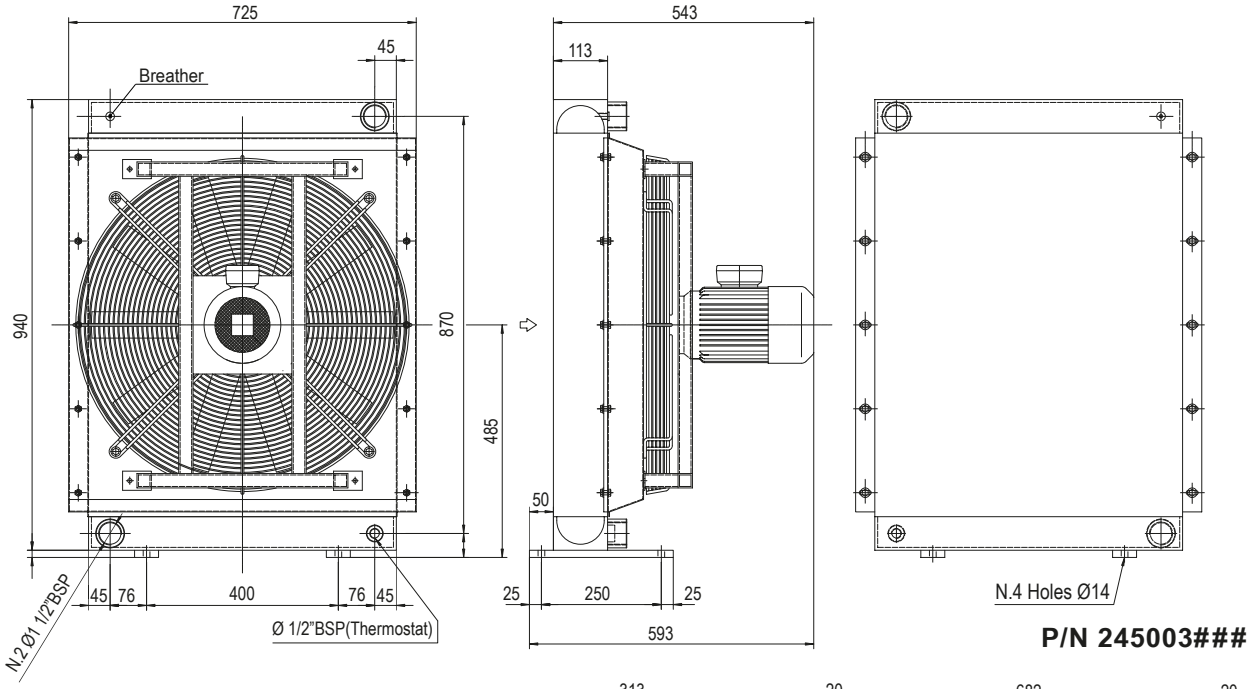


Perdite di carico Pressure drop (ISO VG 32)

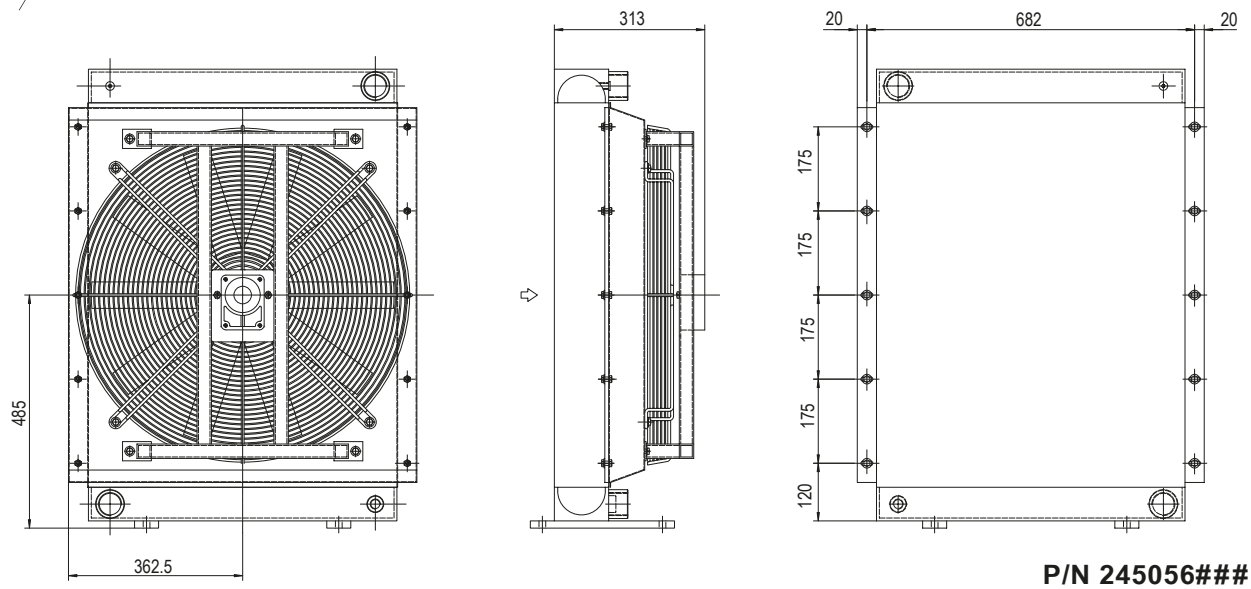


Fattore di correzione-F-(perdite di carico) Correction factor-F-(Pressure drop)

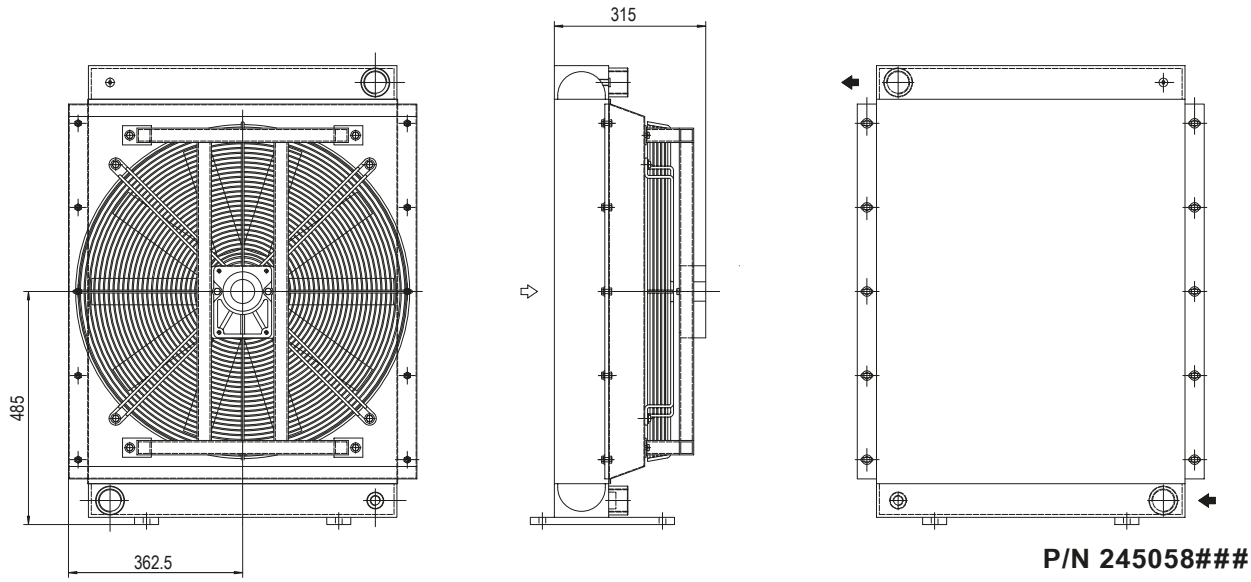
cst	10	15	20	30	40	50	60	80	100	200	300
F	0,5	0,65	0,77	1	1,2	1,4	1,6	1,9	2,1	3,3	4,3



P/N 245003###



P/N 245056###



P/N 245058###

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
245003###	230-400 B14 AC 265-460 B14 AC	50 60	1,1 1,3	5 - 2,9 5 - 2,9	936 1123	630	80 📞	7550 📞	55	14,2	90
245056###	Prepared for Gr.2 hydraulic motor				📞	630	📞	📞	/	14,2	83
245058###	Prepared for Gr.3 hydraulic motor				📞	630	📞	📞	/	14,2	83

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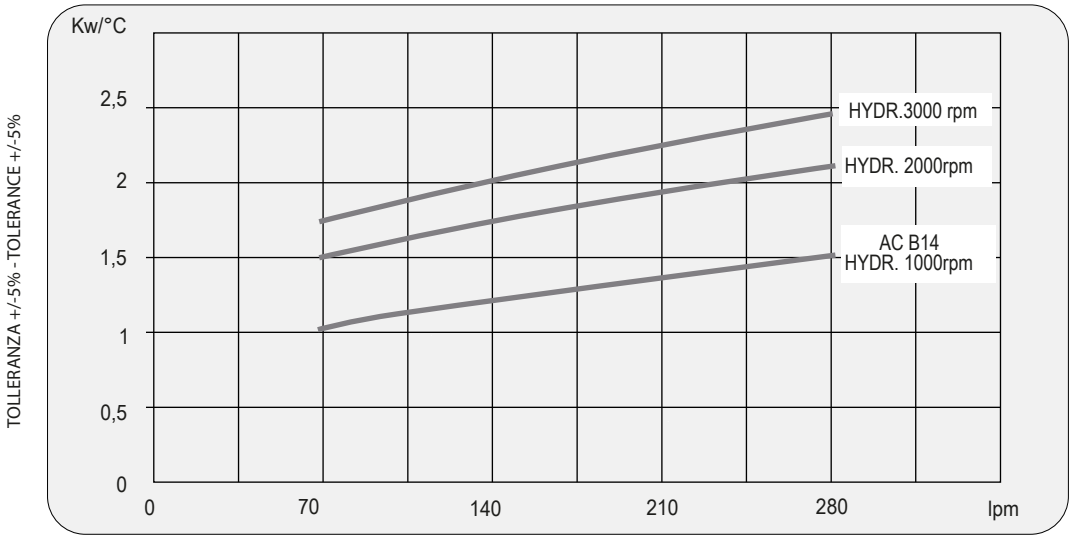
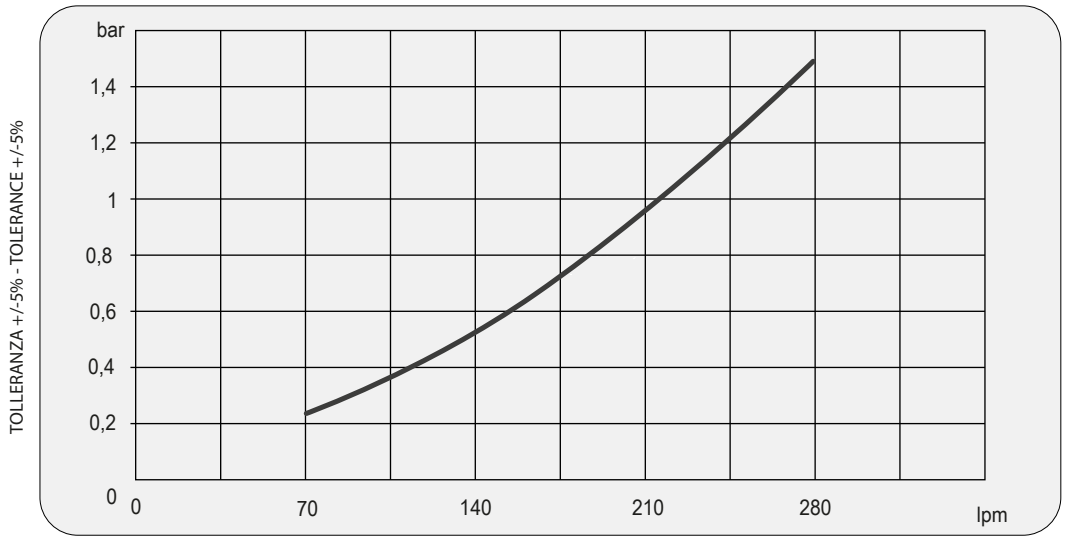
Diagramma rendimento Performance diagram



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

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 265-460 B14 AC	50 60	1,1 1,3	5 - 2,9 5 - 2,9	936 1123	630	80 📞	7550 📞	55	14,2	90
245056###	Prepared for Gr.2 hydraulic motor				📞	630	📞	📞	/	14,2	83
245058###	Prepared for Gr.3 hydraulic motor				📞	630	📞	📞	/	14,2	83

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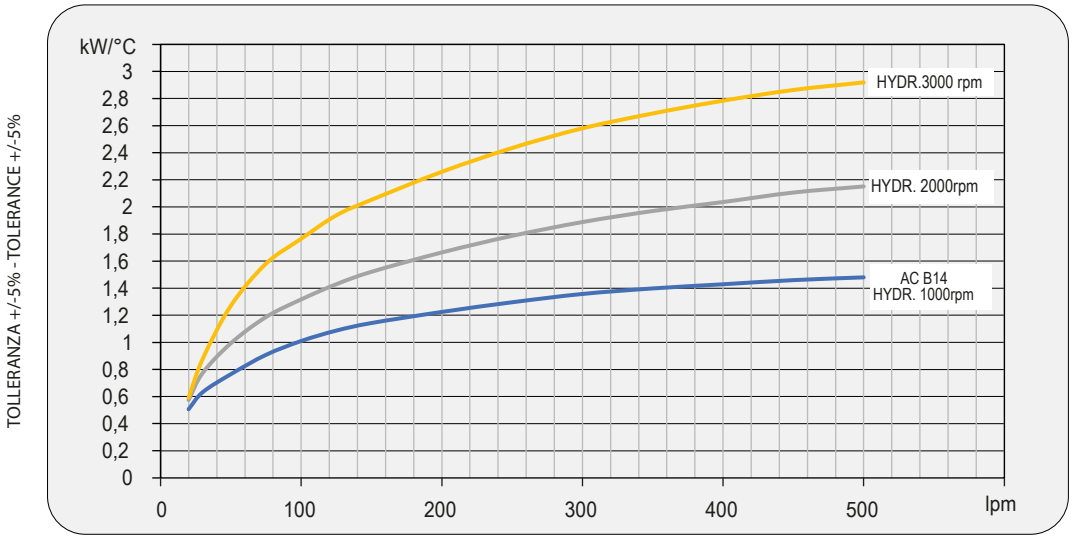
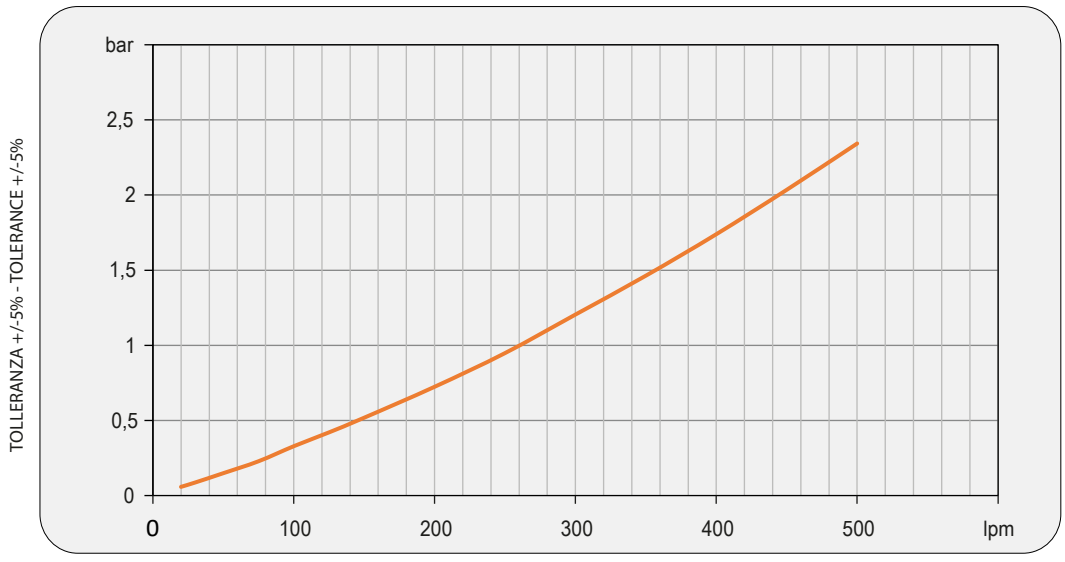
Diagramma rendimento Performance diagram

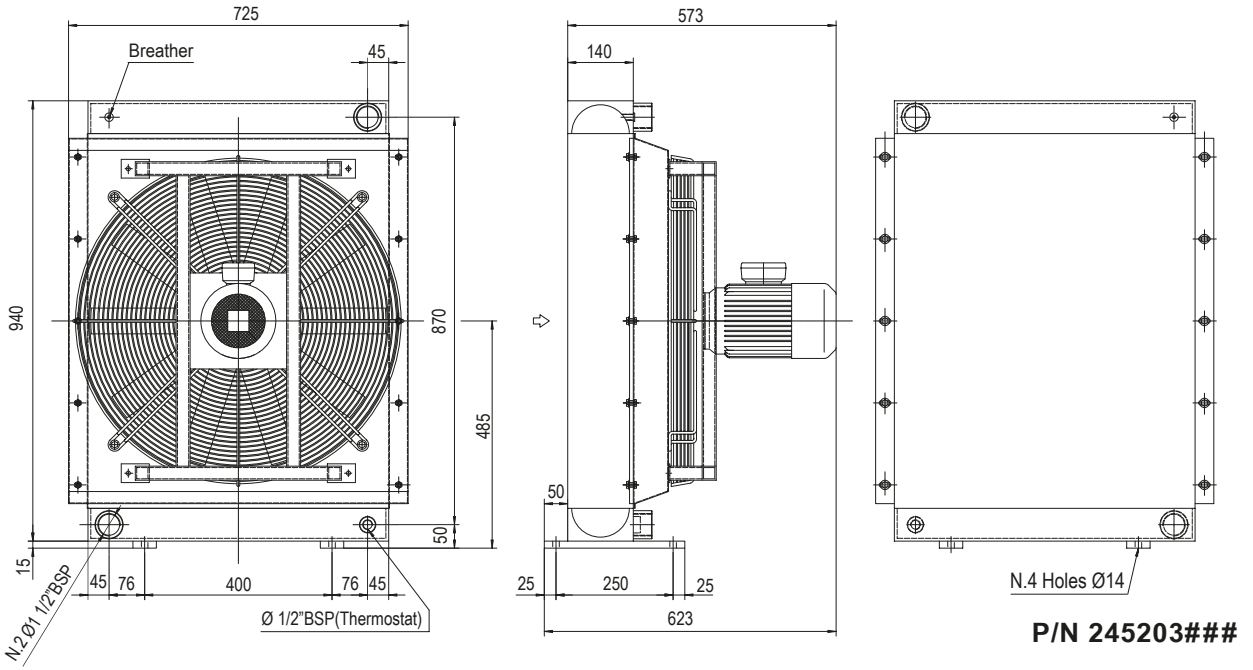


Perdite di carico Pressure drop (ISO VG 32)

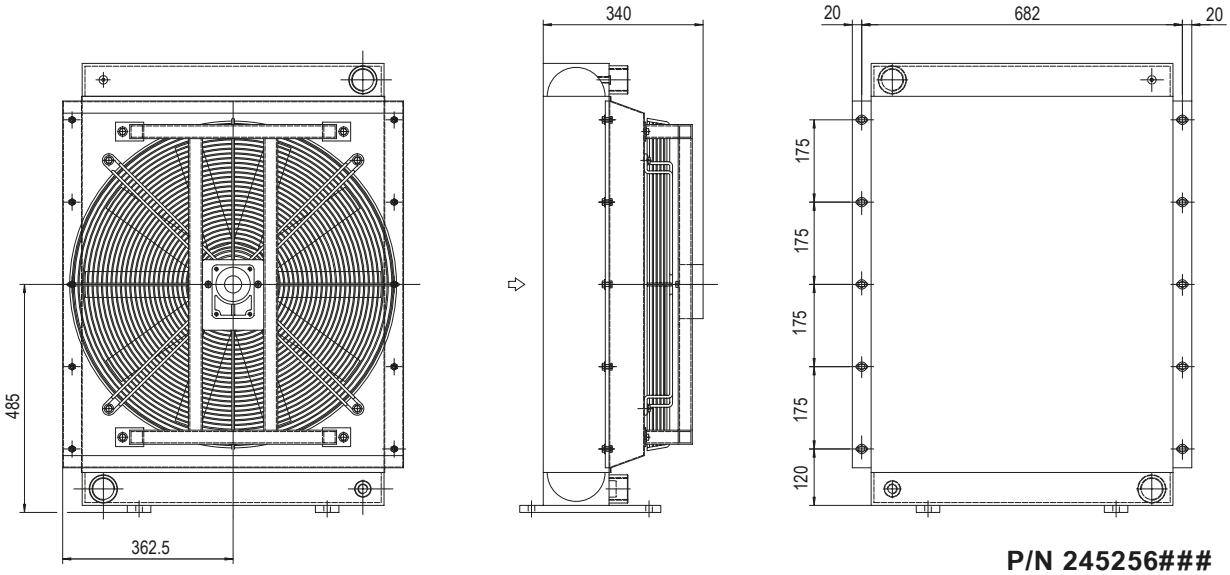


Fattore di correzione-F-(perdite di carico) Correction factor-F-(Pressure drop)

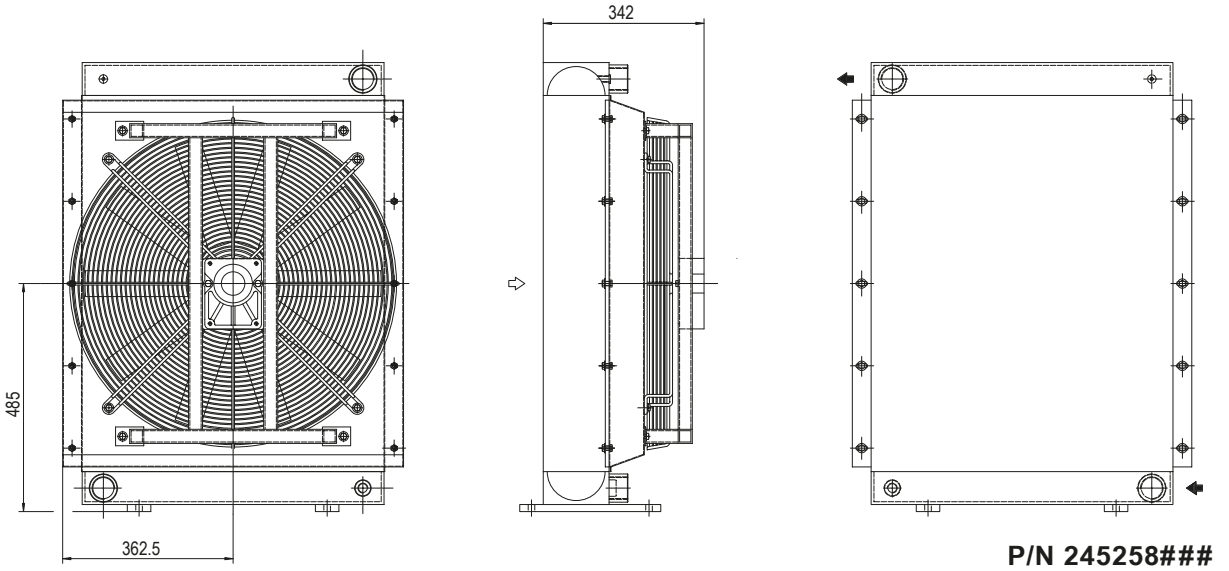
cst	10	15	20	30	40	50	60	80	100	200	300
F	0,5	0,65	0,77	1	1,2	1,4	1,6	1,9	2,1	3,3	4,3



P/N 245203###



P/N 245256###



P/N 245258###

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
245203###	230-400 B14 AC 265-460 B14 AC	50 60	1,1 1,3	5 - 2,9 5 - 2,9	936 1123	630	80 ☎	7050 ☎	55	17,7	95
245256###	Prepared for Gr.2 hydraulic motor				☎	630	☎	☎	/	17,7	89
245258###	Prepared for Gr.3 hydraulic motor				☎	630	☎	☎	/	17,7	89

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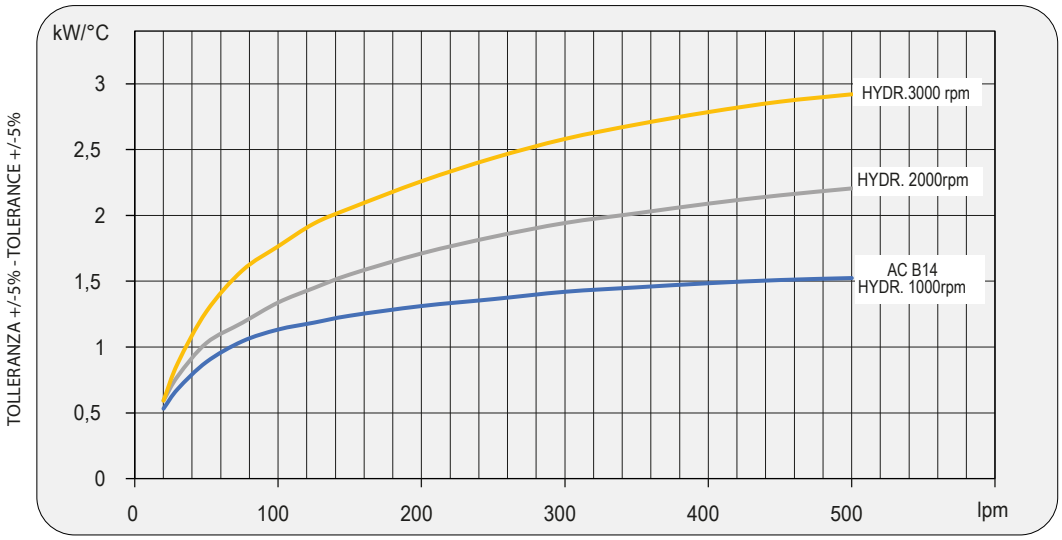
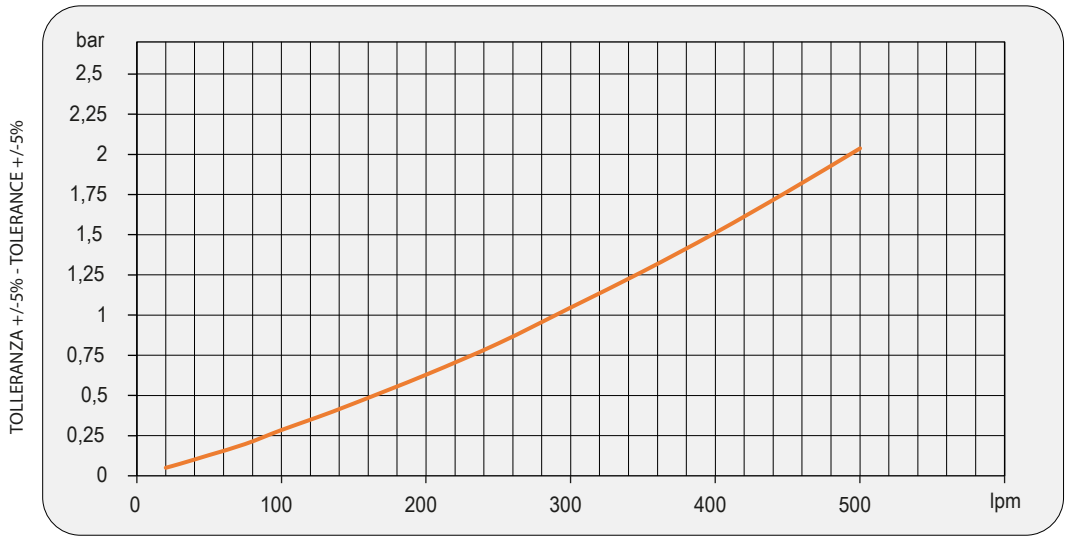
Diagramma rendimento Performance diagram

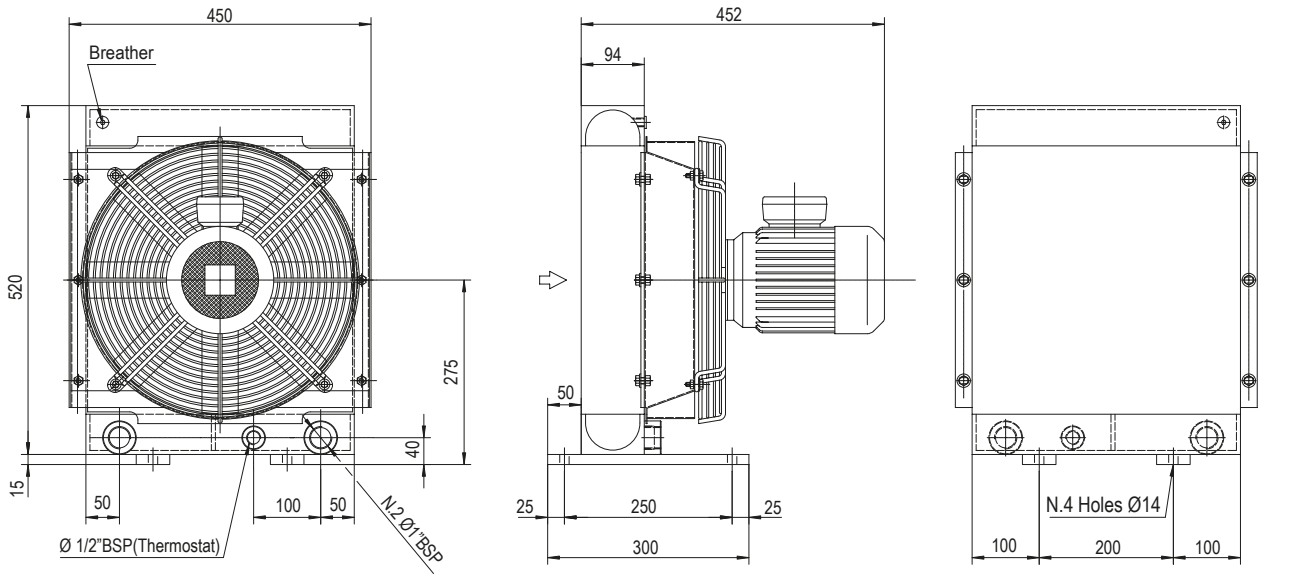


Perdite di carico Pressure drop (ISO VG 32)

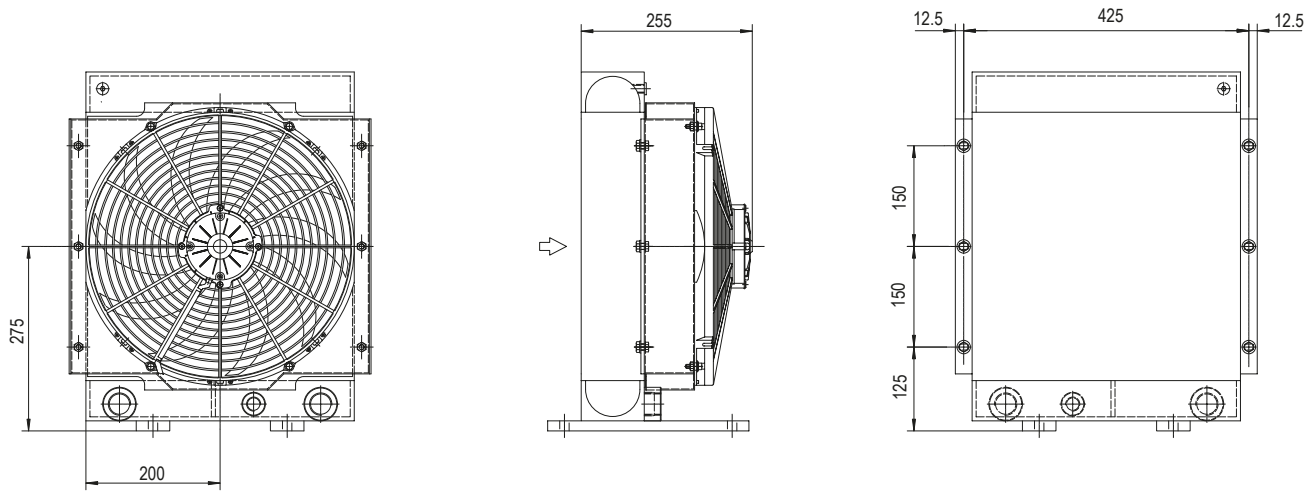


Fattore di correzione-F-(perdite di carico) Correction factor-F-(Pressure drop)

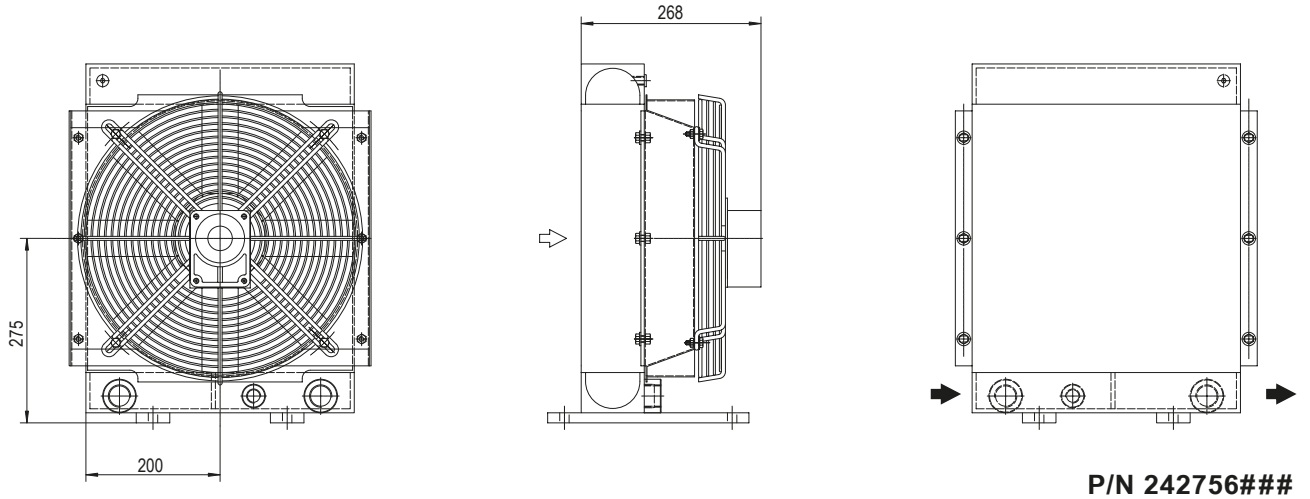
cst	10	15	20	30	40	50	60	80	100	200	300
F	0,5	0,65	0,77	1	1,2	1,4	1,6	1,9	2,1	3,3	4,3



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(±10%)	A (±10%)	rpm	Ø Fan	dB (A)	(m³/ h)	IP	lt	Kg
242703###	230-400 B14 AC 265-460 B14 AC	50 60	0,55 0,63	2,9 - 1,7 2,9 - 1,7	1380 1690	400	79 ☎	2800 ☎	55	2,9	28
242712###	12 DC	/	0,187	15,6	2350	385	77	2100	65	2,9	22
242724###	24 DC	/	0,170	7,1	2580	305	80	2250	65	2,9	22
242756###	Prepared for Gr.2 hydraulic motor				☎	400	☎	☎	/	2,9	23

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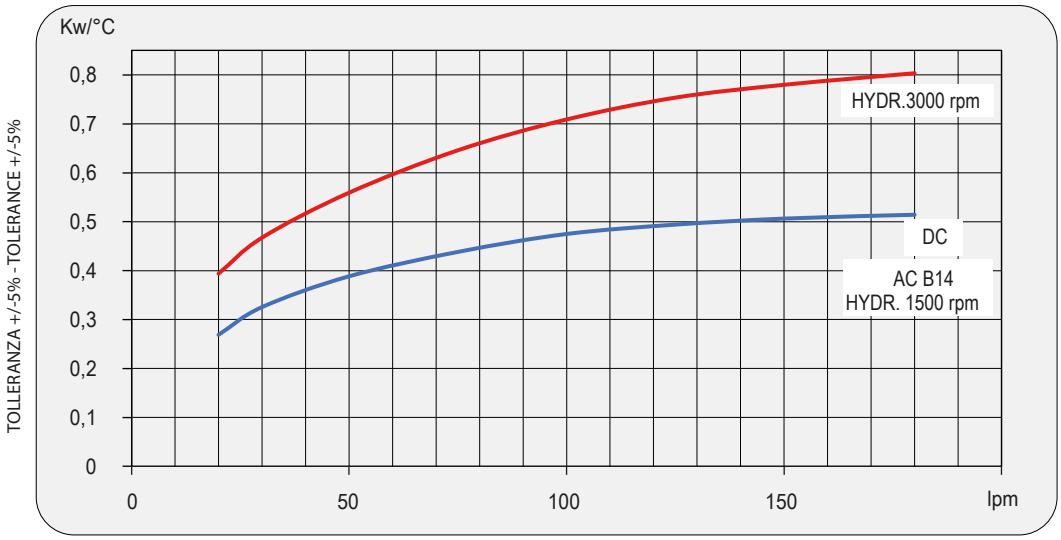
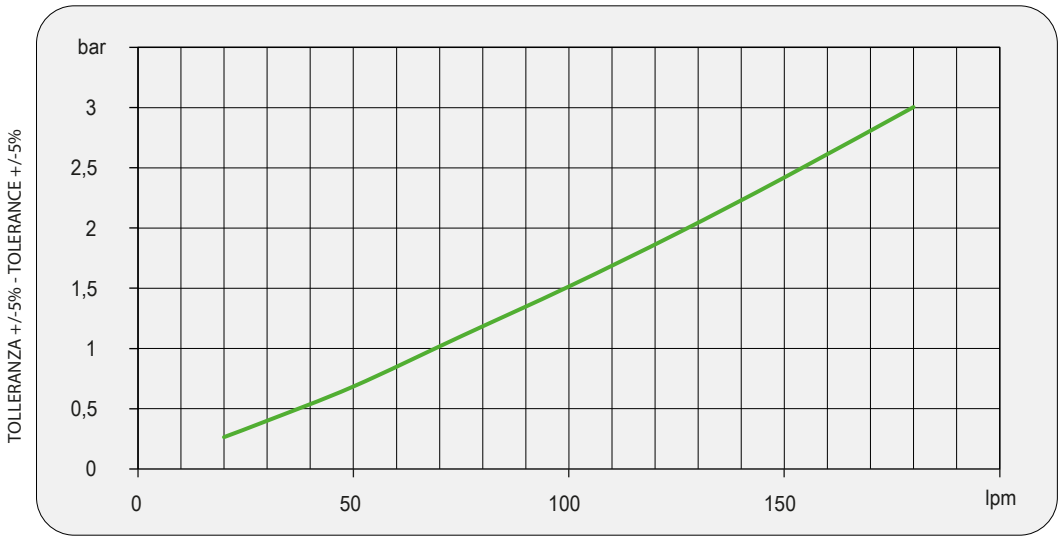
Diagramma rendimento Performance diagram

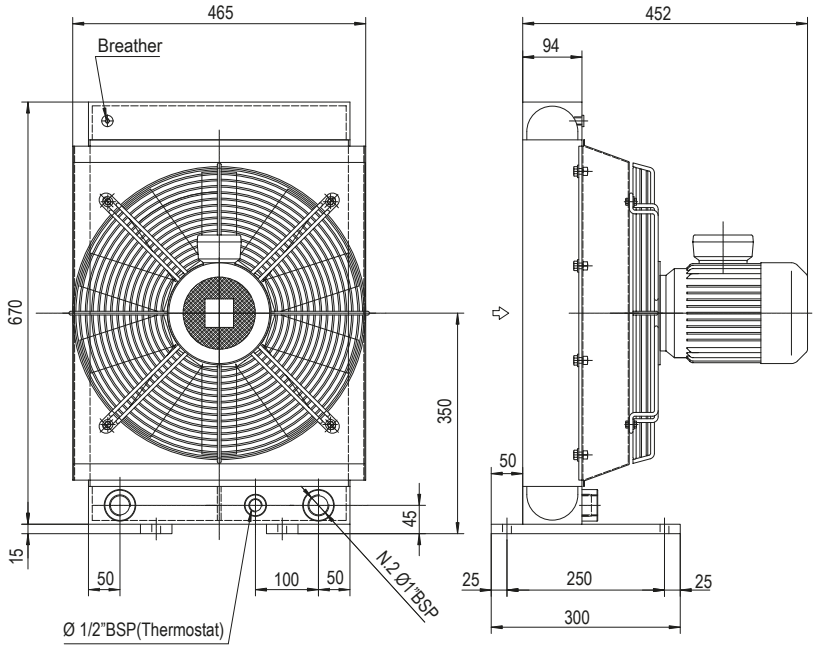


Perdite di carico Pressure drop (ISO VG 32)

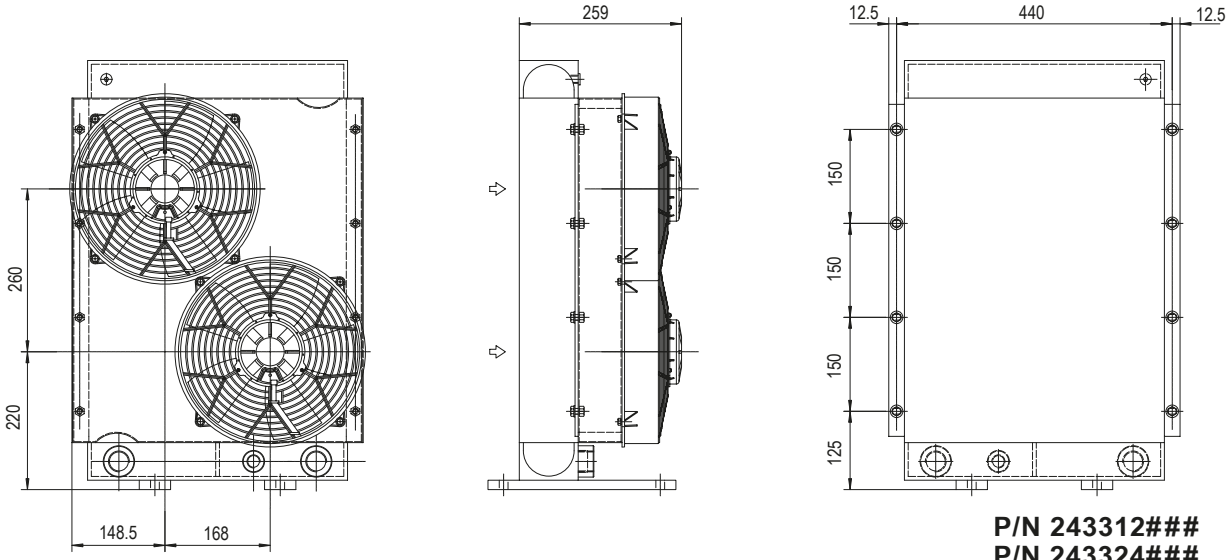


Fattore di correzione-F-(perdite di carico) Correction factor-F-(Pressure drop)

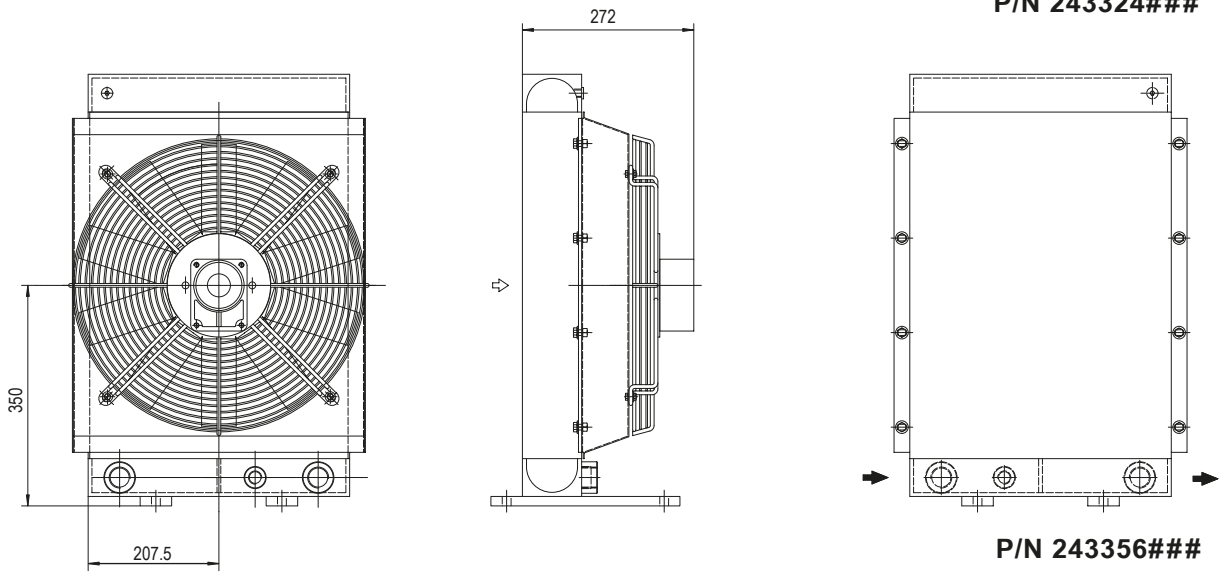
cst	10	15	20	30	40	50	60	80	100	200	300
F	0,5	0,65	0,77	1	1,2	1,4	1,6	1,9	2,1	3,3	4,3



P/N 243303###



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



P/N 243356###

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
243303###	230-400 B14 AC 265-460 B14 AC	50 60	0,75 0,86	3 - 1,7 3 - 1,7	1440 1750	450	82 📞	4000 📞	55	6,8	37
243312###	12 DC	/	0,115	9,58	2530	280	74	1550	65	6,8	32
243324###	24 DC	/	0,125	5,2	2900	280	78	1700	65	6,8	32
243356###	Prepared for Gr.2 hydraulic motor				📞	450	📞	📞	/	6,8	35

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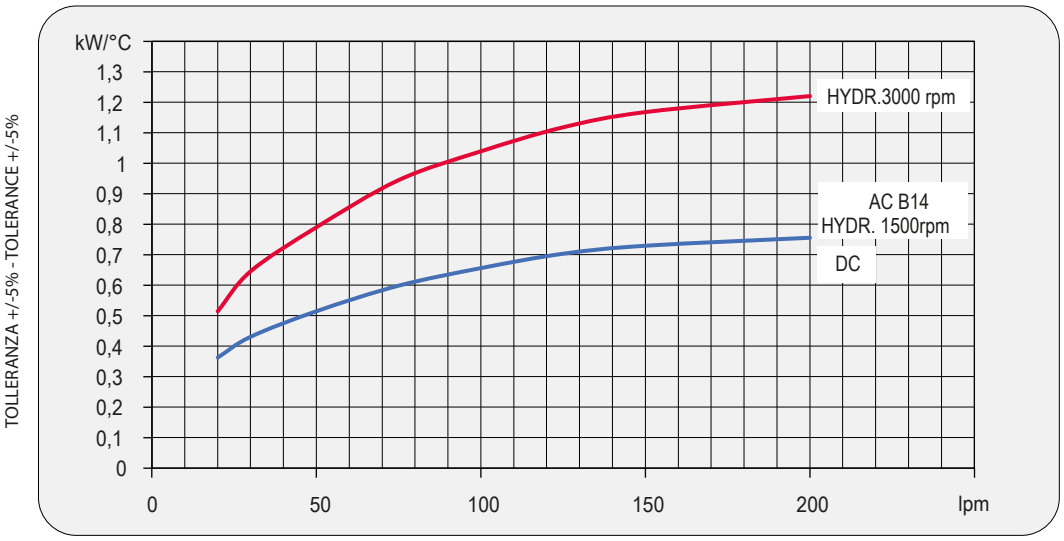
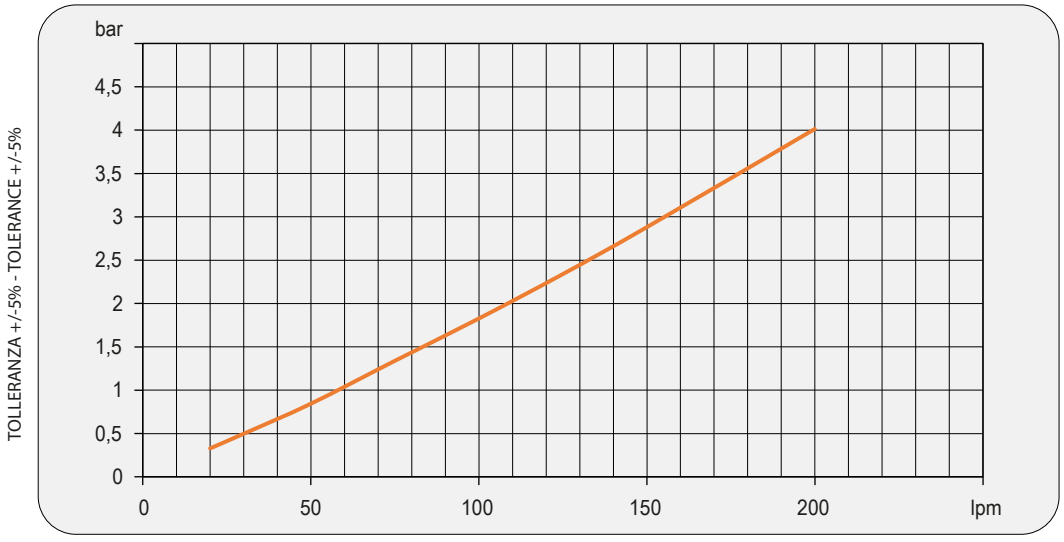
Diagramma rendimento Performance diagram



Perdite di carico Pressure drop (ISO VG 32)

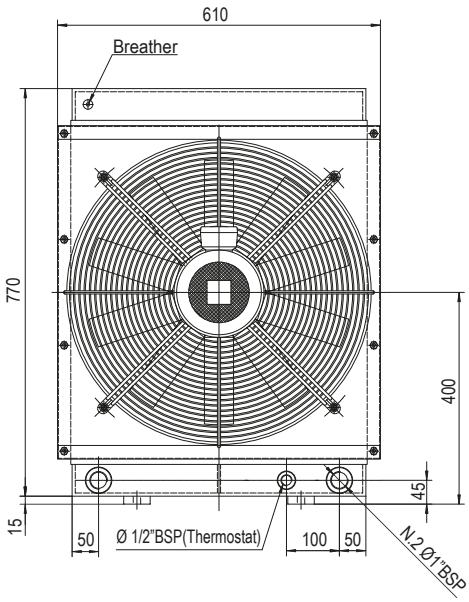


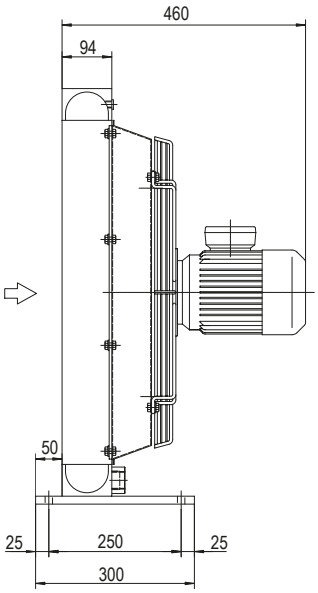
Fattore di correzione-F-(perdite di carico) Correction factor-F-(Pressure drop)

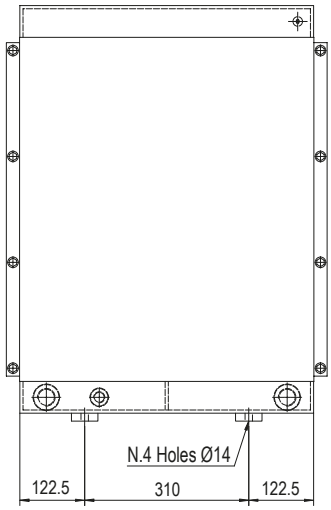
cst	10	15	20	30	40	50	60	80	100	200	300
F	0,5	0,65	0,77	1	1,2	1,4	1,6	1,9	2,1	3,3	4,3

Serie HPA

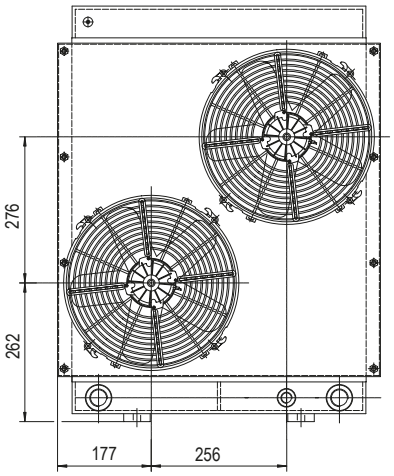
HPA 36 2 PASS

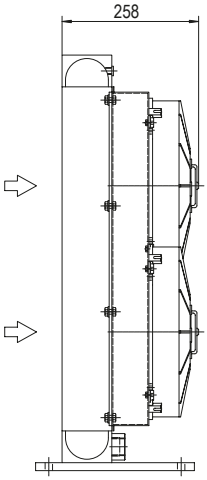


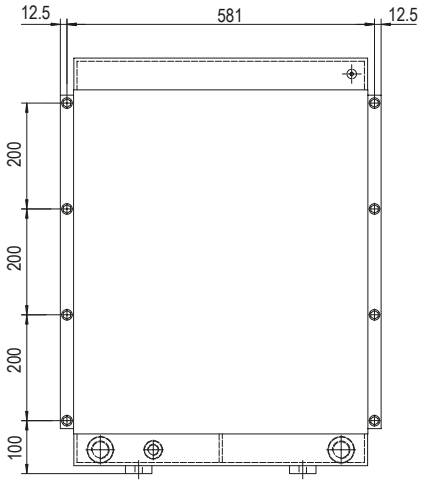




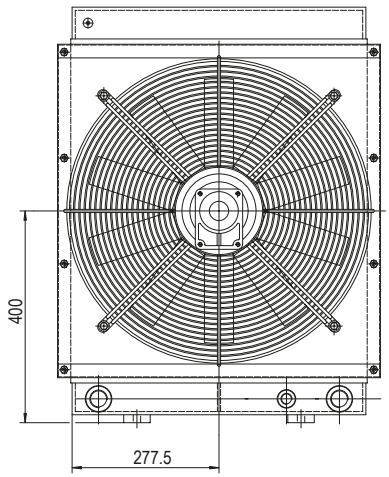
P/N 243803###

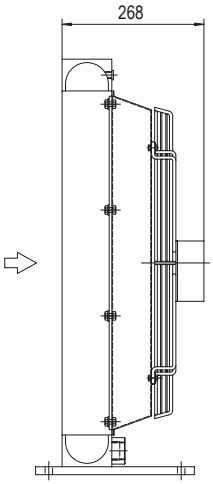


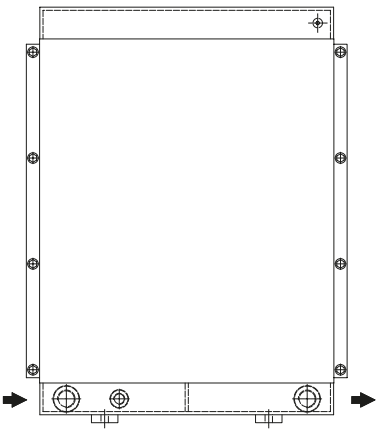




P/N 243812###
P/N 243824###







P/N 243856###

Le dimensioni di ingombro e le caratteristiche tecniche non sono impegnative
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	It	Kg
243803###	230-400 B14 AC 265-460 B14 AC	50 60	1,1 1,3	4,5 - 2,6 4,5 - 2,6	1440 1730	450	82 ☎	5650 ☎	55	9,4	60
243812###	12 DC	/	0,160	13,30	2560	305	83	2100	64	9,4	50
243824###	24 DC	/	0,177	7,35	3000	305	84	2400	64	9,4	50
243856###	Prepared for Gr.2 hydraulic motor				☎	450	☎	☎	/	9,4	52

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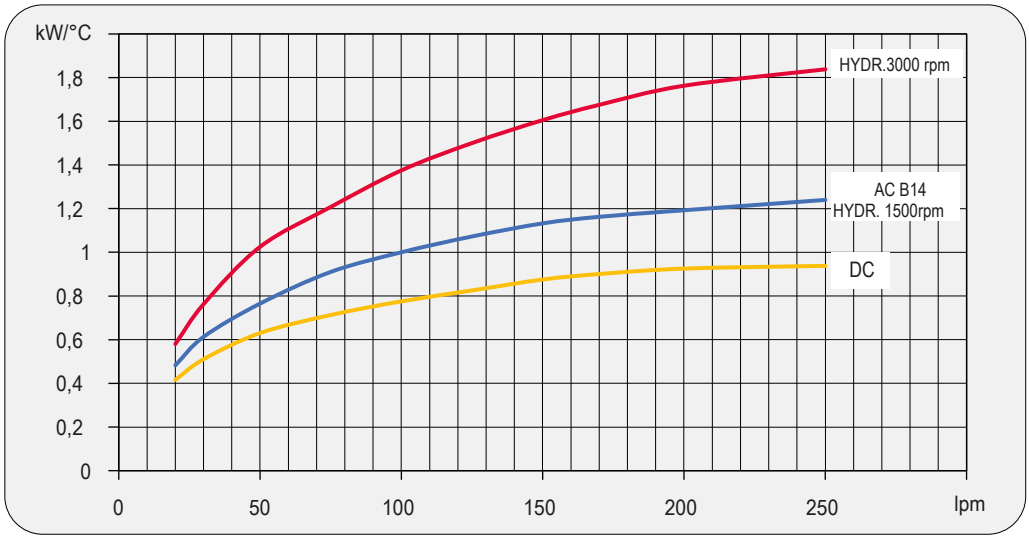
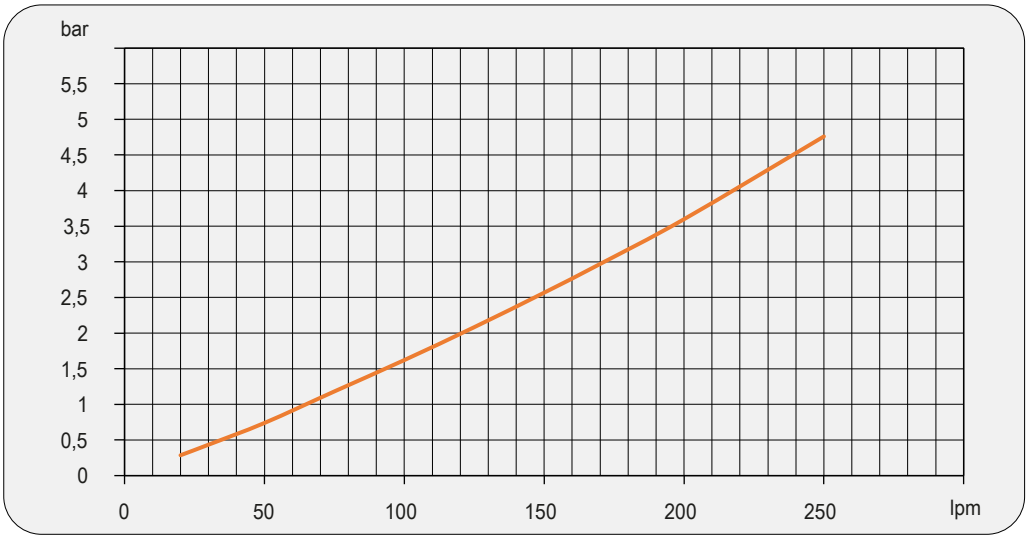
Diagramma rendimento Performance diagram



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

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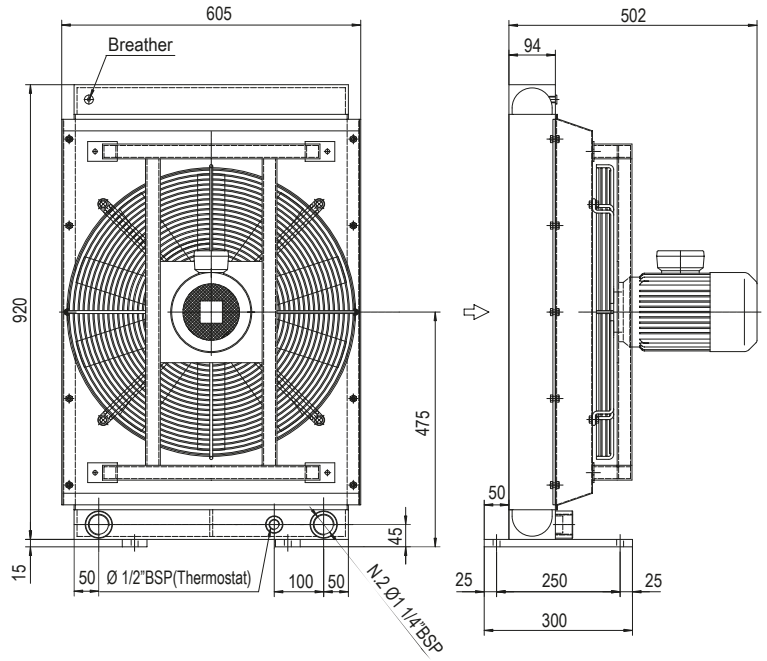
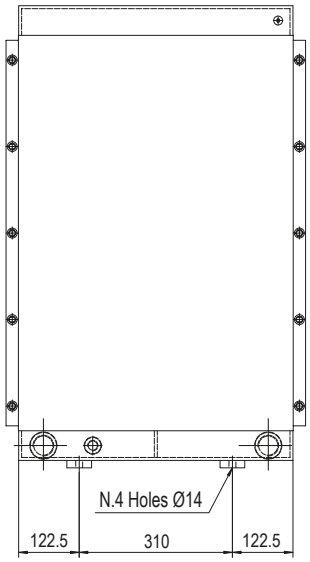
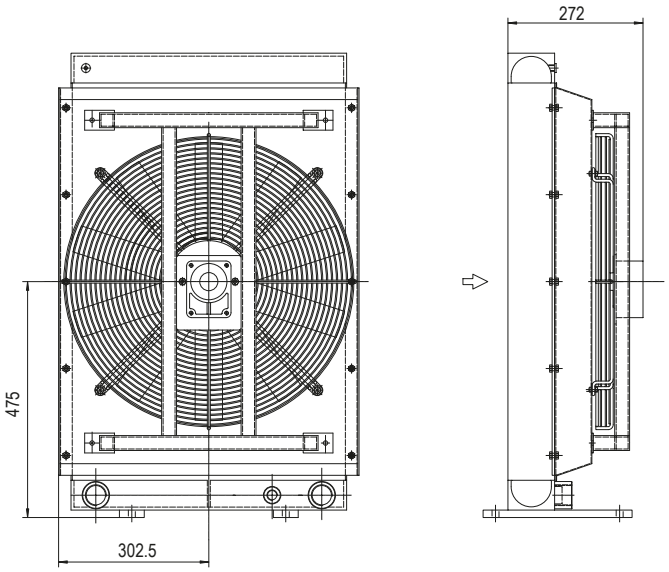
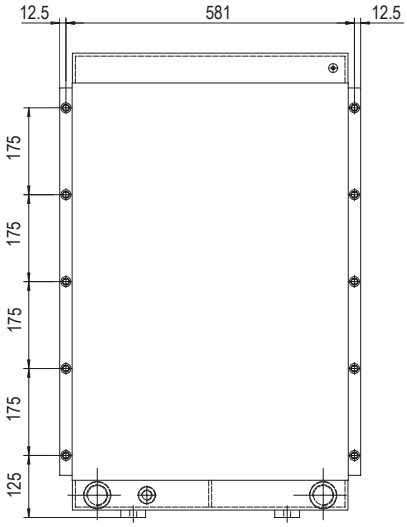


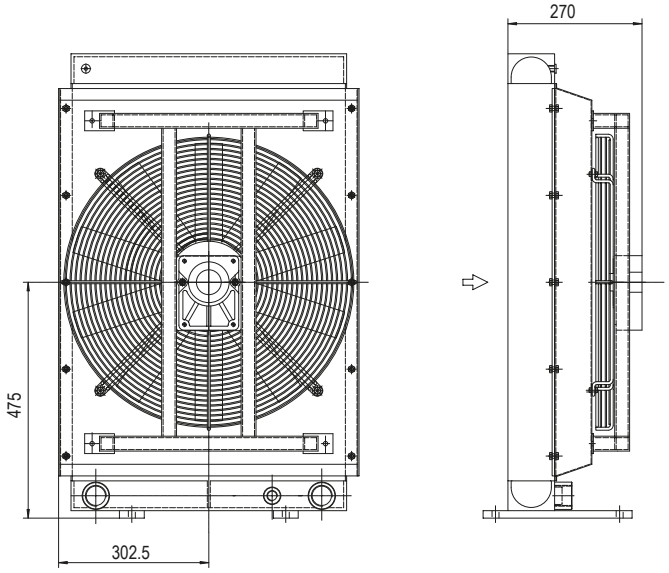


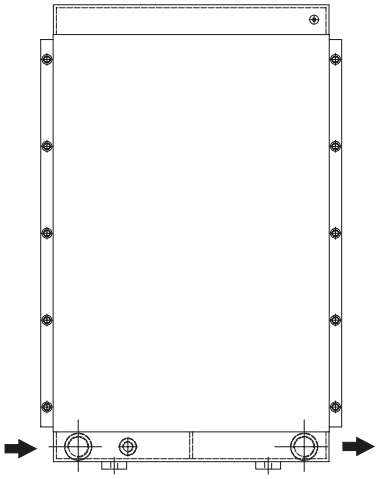
P/N 244503###





P/N 244556###





P/N 244558###

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
244503###	230-400 B14 AC 265-460 B14 AC	50 60	1,1 1,3	4,5 - 2,6 4,5 - 2,6	1440 1730	560	84 ☎	7550 ☎	55	10,6	65
244556###	Prepared for Gr.2 hydraulic motor				☎	560	☎	☎	/	10,6	58
244558###	Prepared for Gr.3 hydraulic motor				☎	560	☎	☎	/	10,6	58

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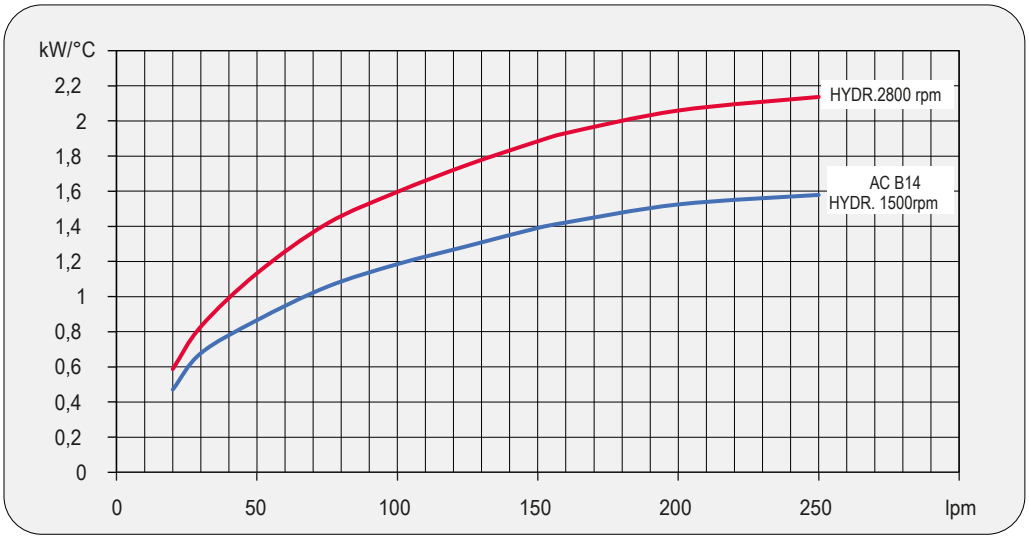
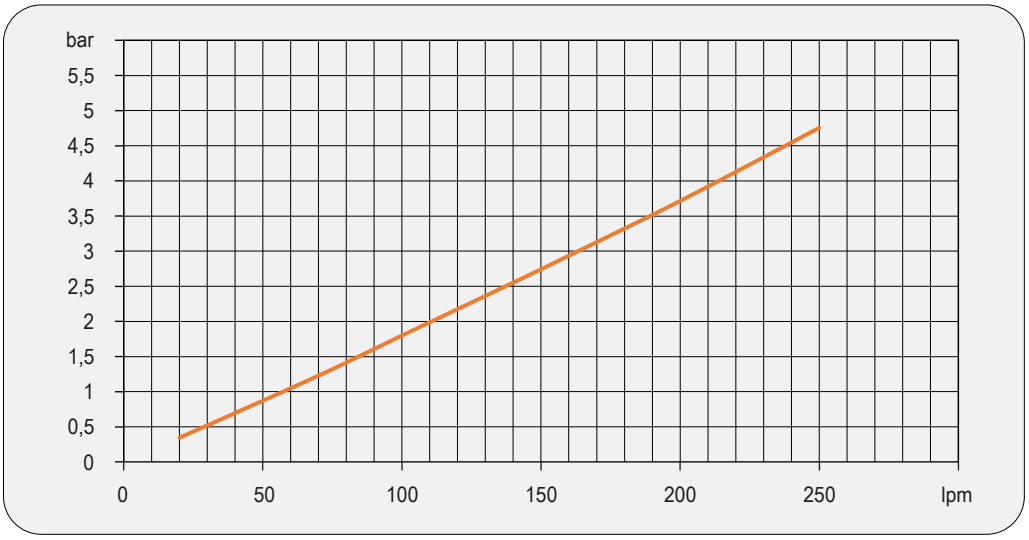
Diagramma rendimento Performance diagram

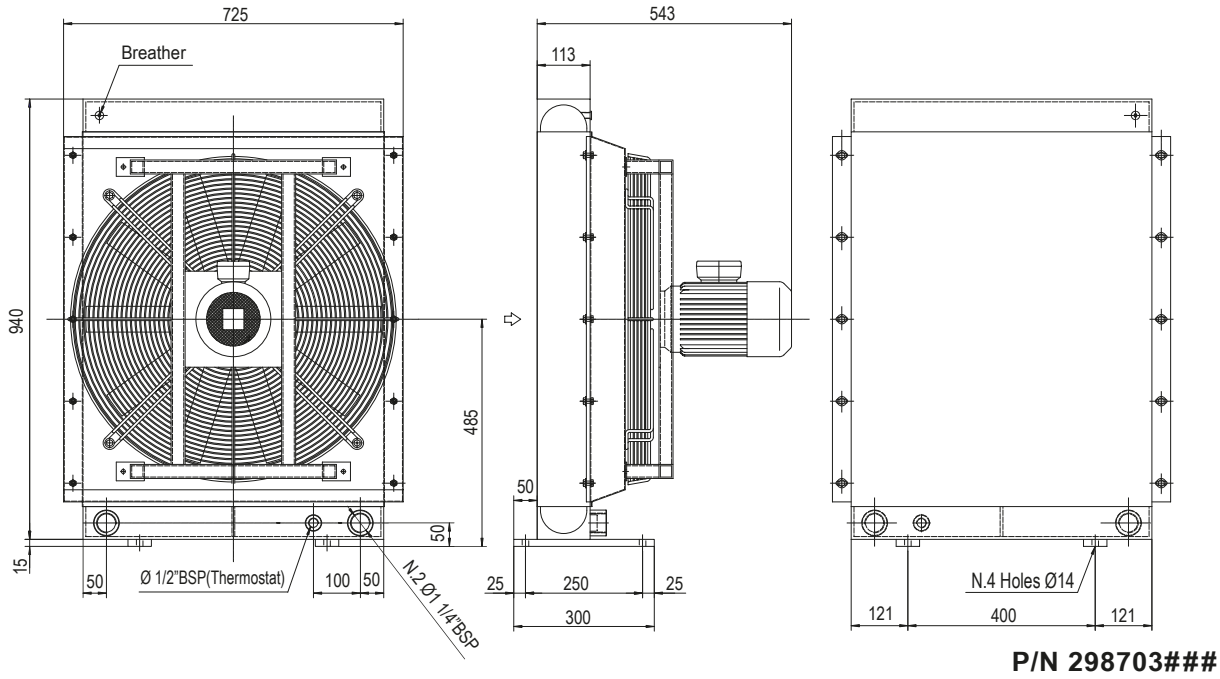


Perdite di carico Pressure drop (ISO VG 32)

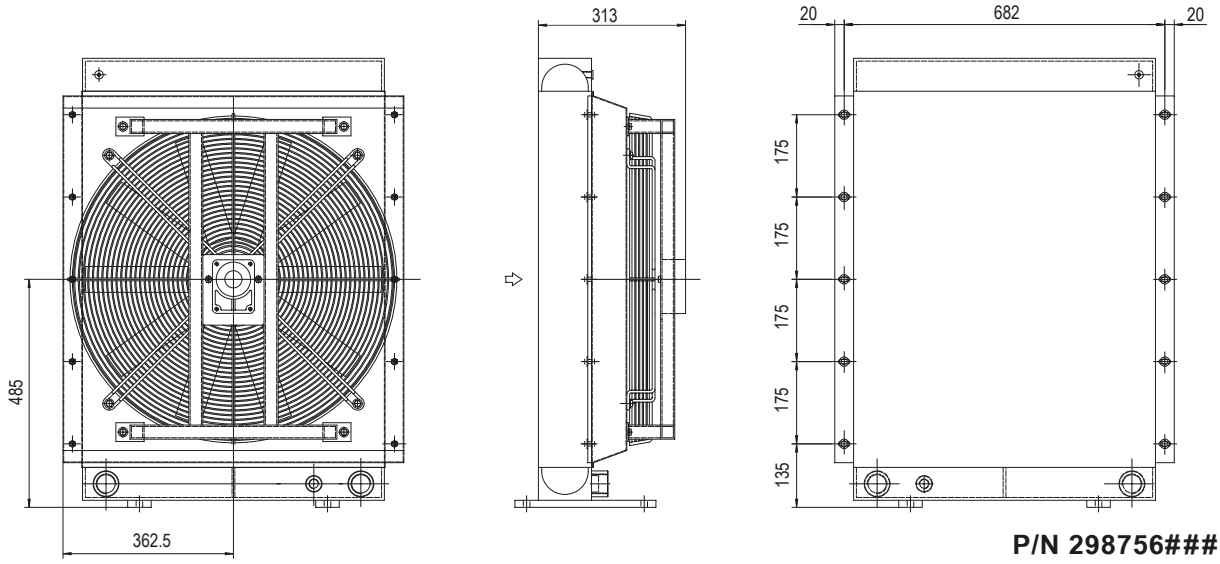


Fattore di correzione-F-(perdite di carico) Correction factor-F-(Pressure drop)

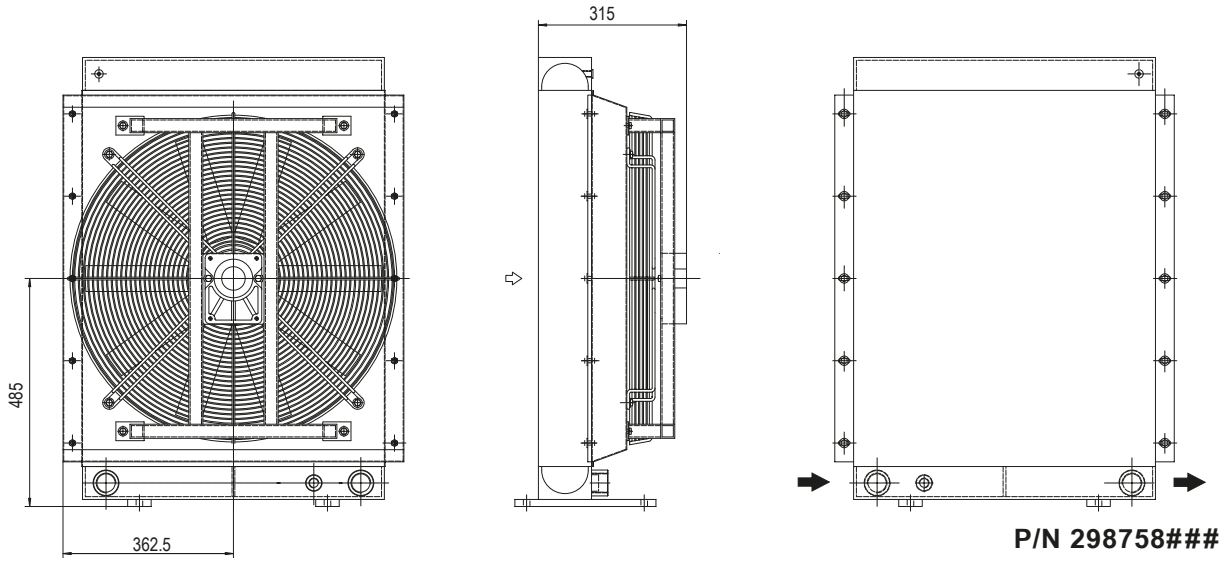
cst	10	15	20	30	40	50	60	80	100	200	300
F	0,5	0,65	0,77	1	1,2	1,4	1,6	1,9	2,1	3,3	4,3



P/N 298703###



P/N 298756###



P/N 298758###

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
298703###	230-400 B14 AC 265-460 B14 AC	50 60	1,1 1,3	5 - 2,9 5 - 2,9	936 1123	630	80 ☎	7550 ☎	55	14,2	90
298756###	Prepared for Gr.2 hydraulic motor				☎	630	☎	☎	/	14,2	83
298758###	Prepared for Gr.3 hydraulic motor				☎	630	☎	☎	/	14,2	83

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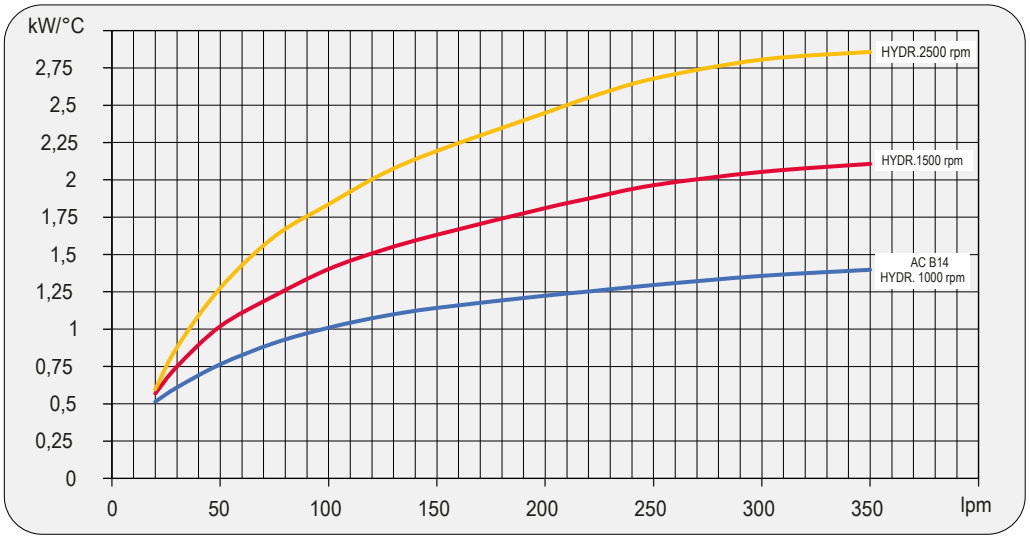
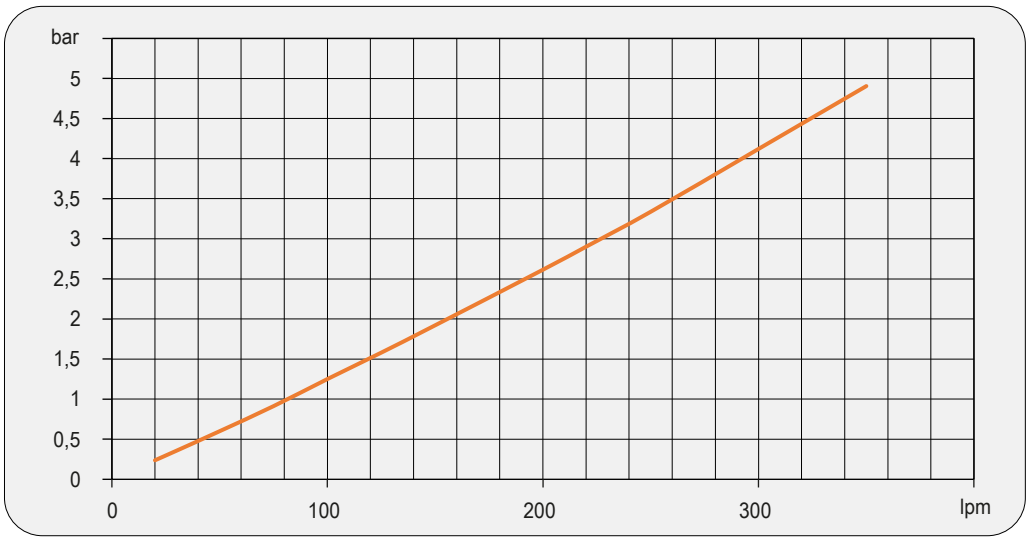
Diagramma rendimento Performance diagram

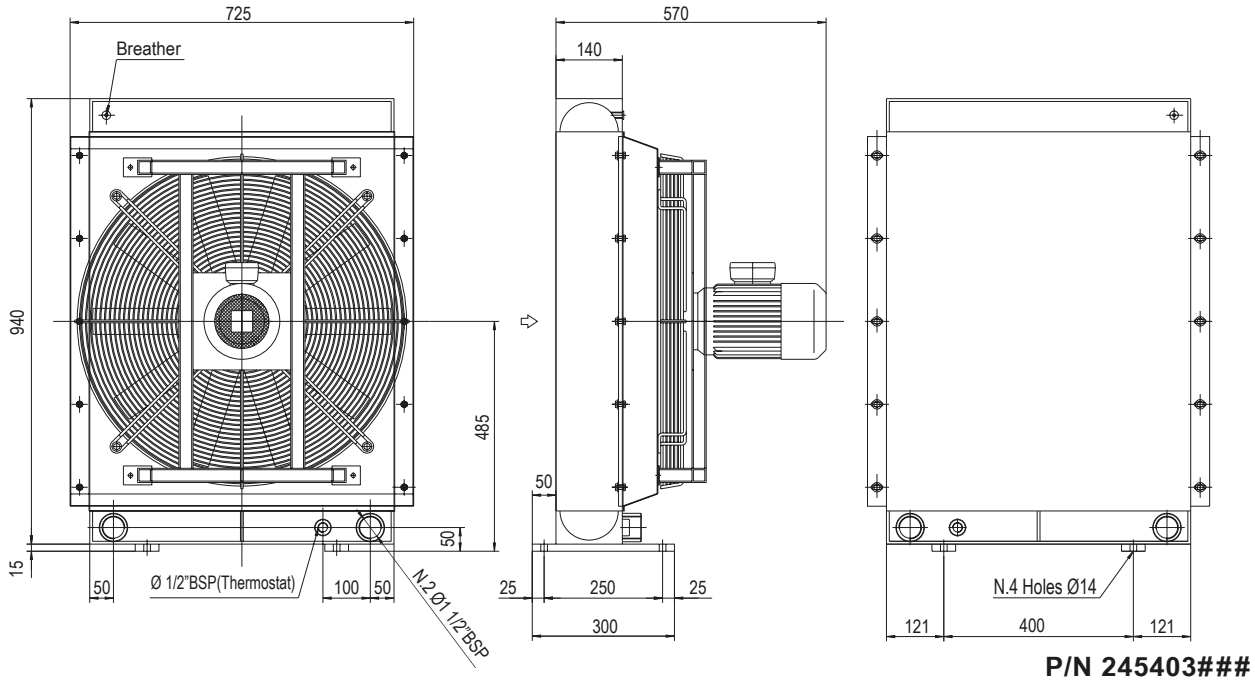


Perdite di carico Pressure drop (ISO VG 32)

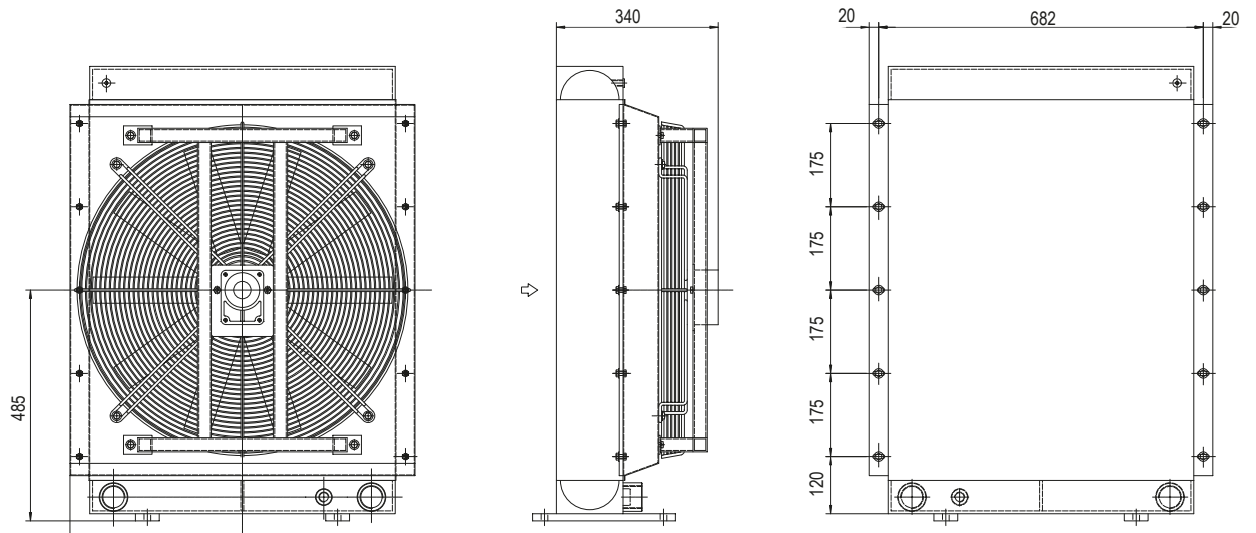


Fattore di correzione-F-(perdite di carico) Correction factor-F-(Pressure drop)

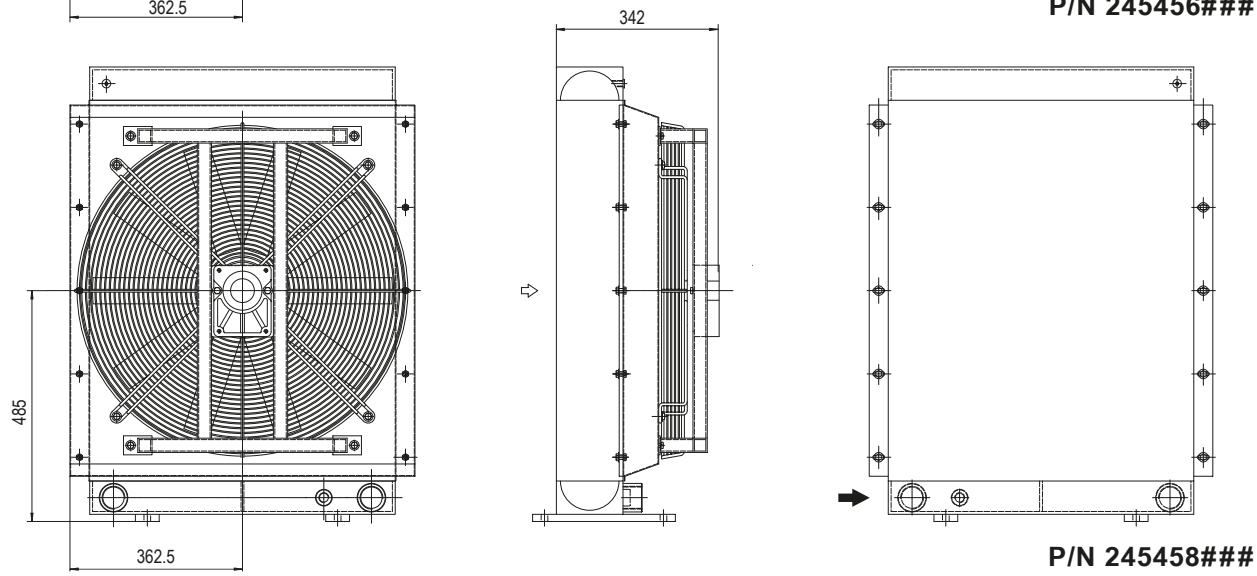
cst	10	15	20	30	40	50	60	80	100	200	300
F	0,5	0,65	0,77	1	1,2	1,4	1,6	1,9	2,1	3,3	4,3



P/N 245403###



P/N 245456###



P/N 245458###

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
245403###	230-400 B14 AC 265-460 B14 AC	50 60	1,1 1,3	5 - 2,9 5 - 2,9	936 1123	630	80 ☎	7050 ☎	55	17,7	95
245456###	Prepared for Gr.2 hydraulic motor				☎	630	☎	☎	/	17,7	89
245458###	Prepared for Gr.3 hydraulic motor				☎	630	☎	☎	/	17,7	89

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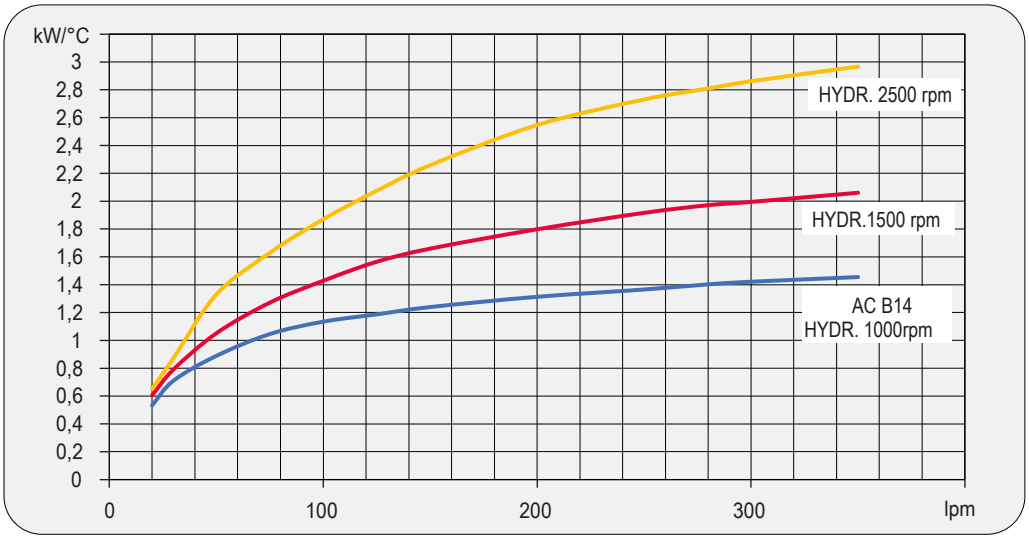
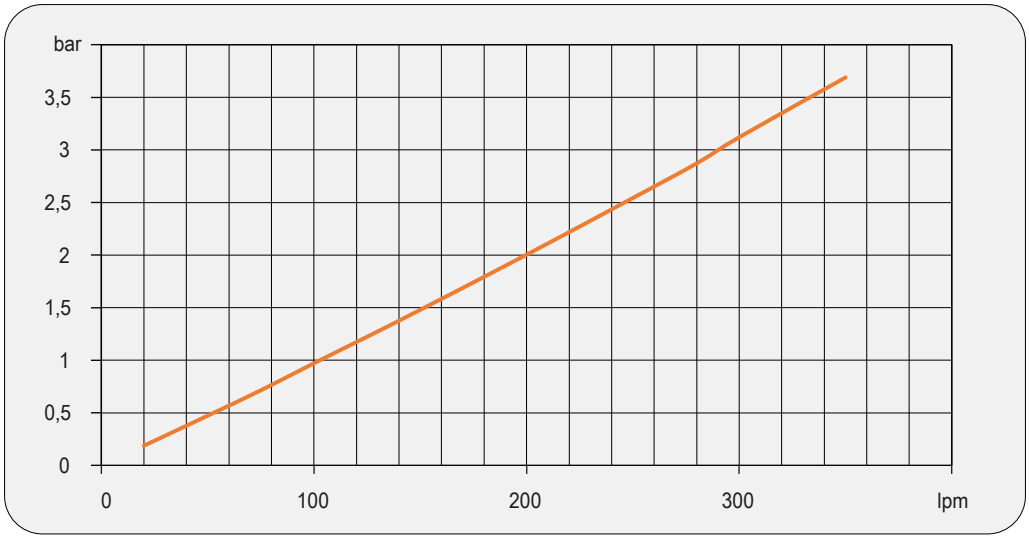
Diagramma rendimento Performance diagram

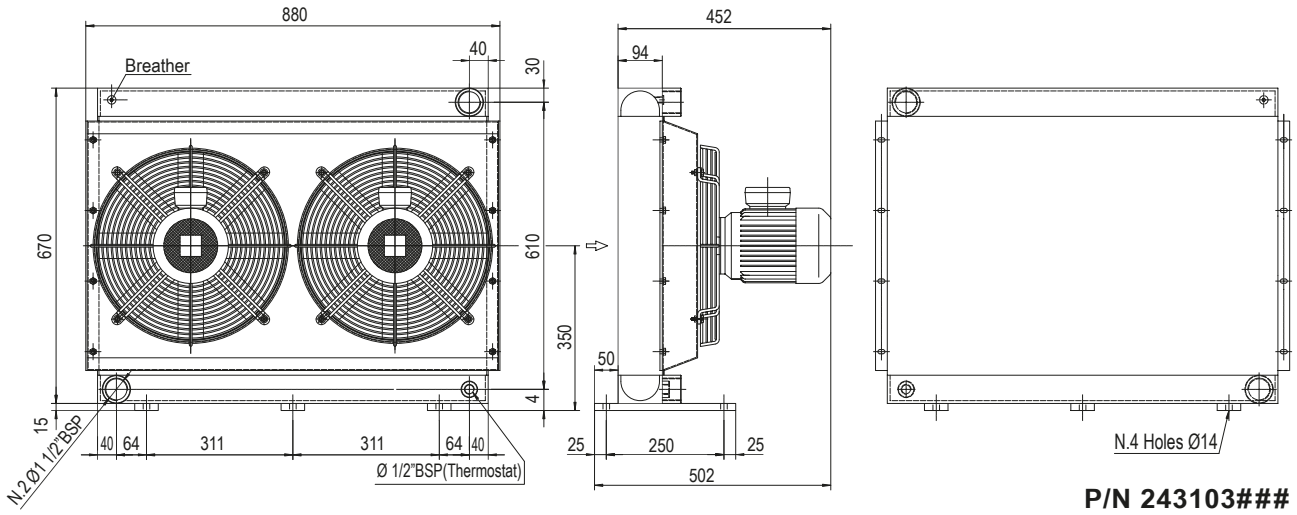


Perdite di carico Pressure drop (ISO VG 32)

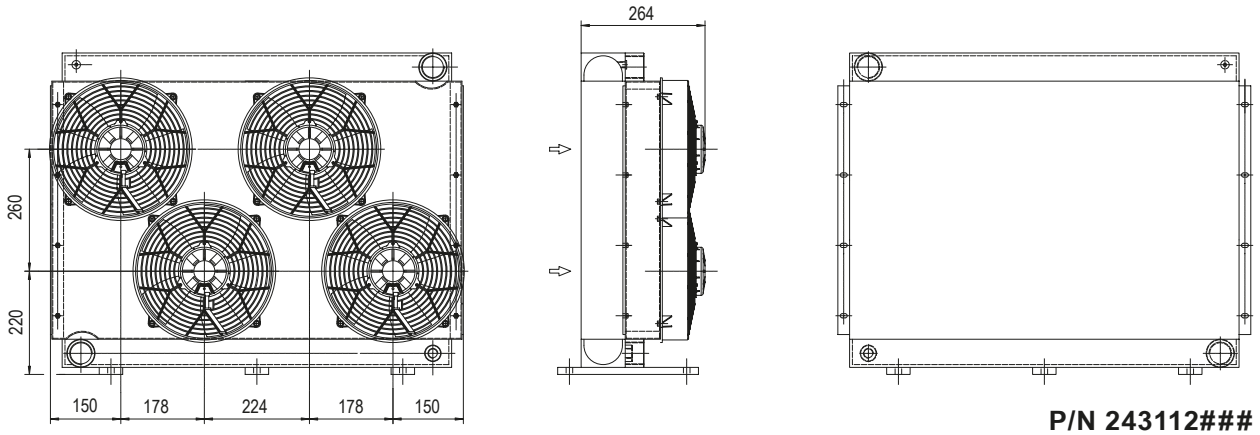


Fattore di correzione-F-(perdite di carico) Correction factor-F-(Pressure drop)

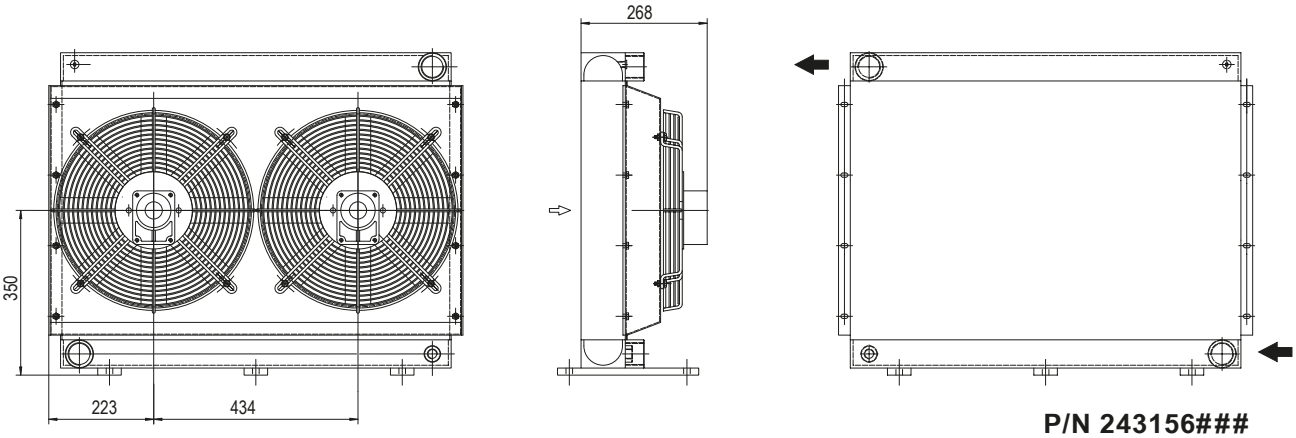
cst	10	15	20	30	40	50	60	80	100	200	300
F	0,5	0,65	0,77	1	1,2	1,4	1,6	1,9	2,1	3,3	4,3



P/N 243103###



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



P/N 243156###

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	It	Kg
243103###	230-400 B14 AC 265-460 B14 AC	50 60	0,55 0,63	2,9 - 1,7 2,9 - 1,7	1380 1690	400	79	3300	55	13,6	74
243112###	12 DC	/	0,115	9,58	2530	280	77	1550	65	13,6	64
243124###	24 DC	/	0,125	5,20	2900	280	81	1700	65	13,6	64
243156###	Prepared for Gr.2 hydraulic motor					400			/	13,6	70

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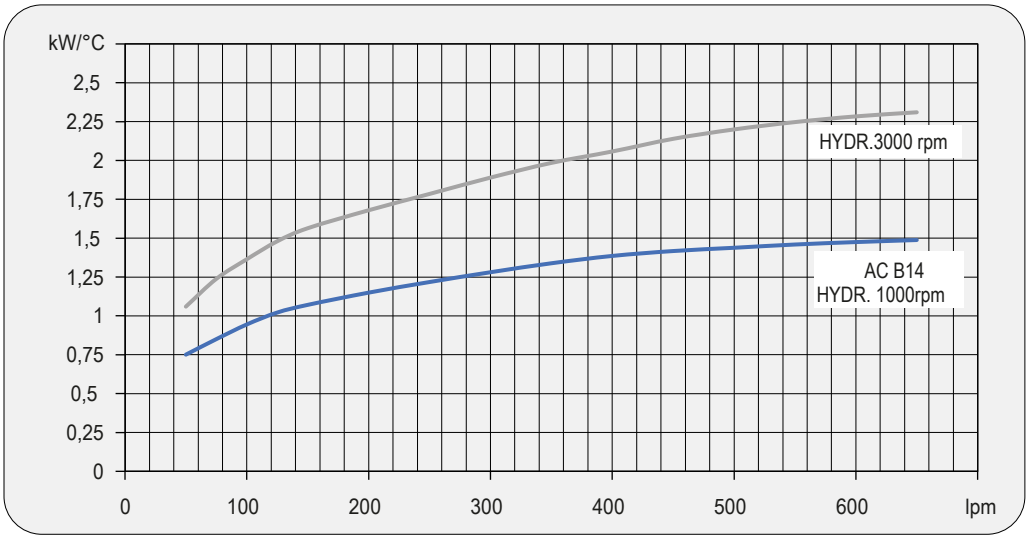
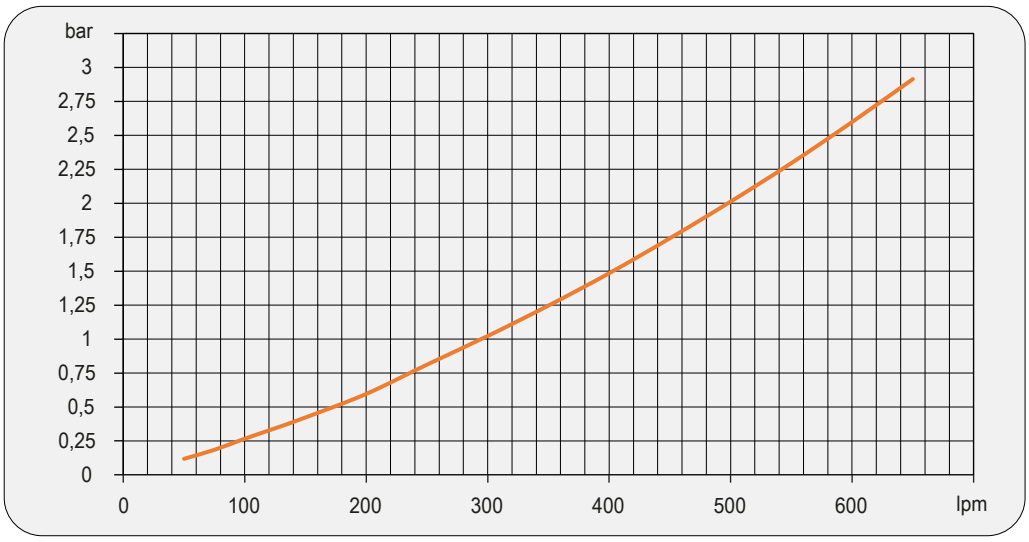
Diagramma rendimento Performance diagram

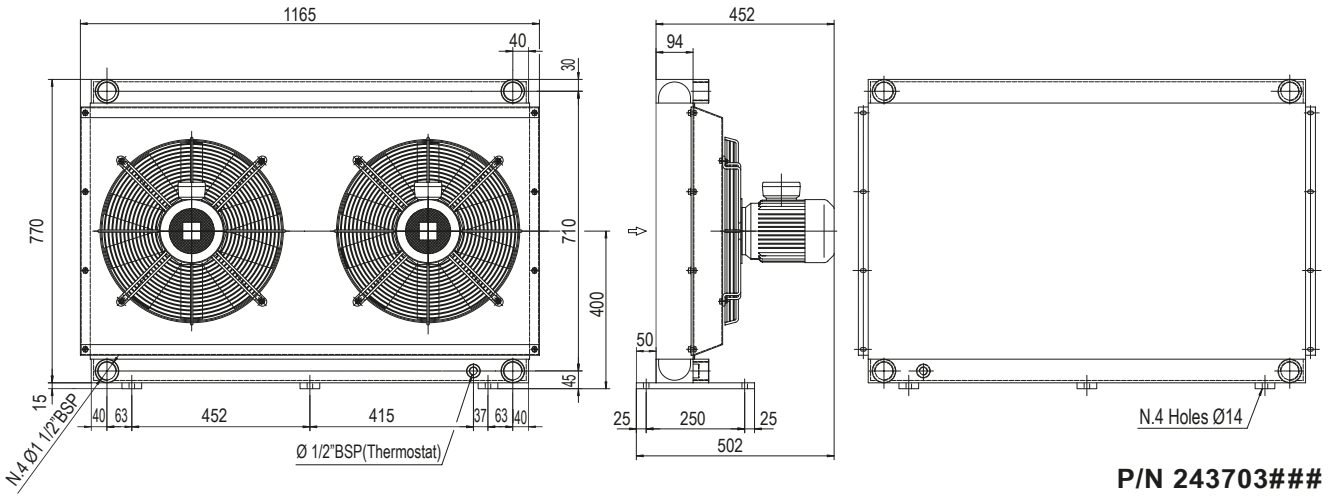


Perdite di carico Pressure drop (ISO VG 32)

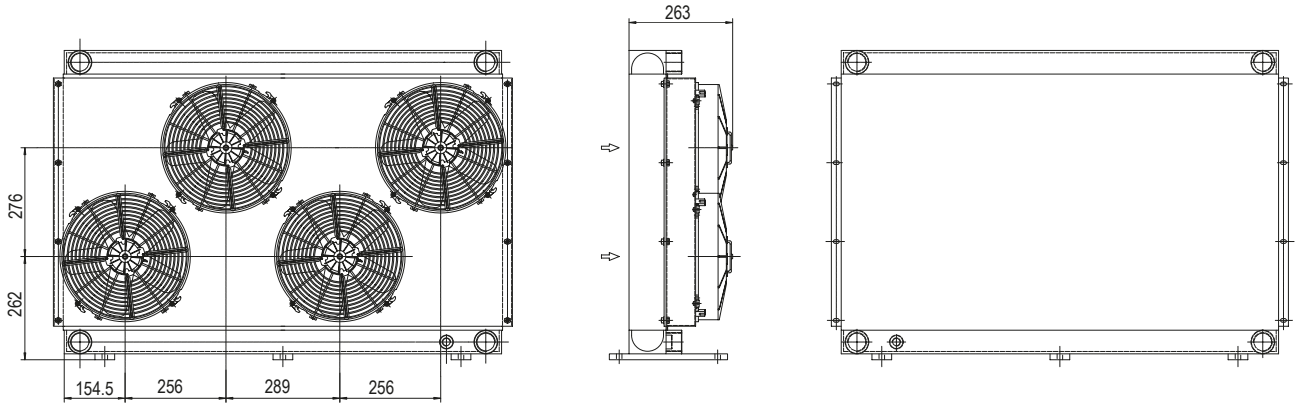


Fattore di correzione-F-(perdite di carico) Correction factor-F-(Pressure drop)

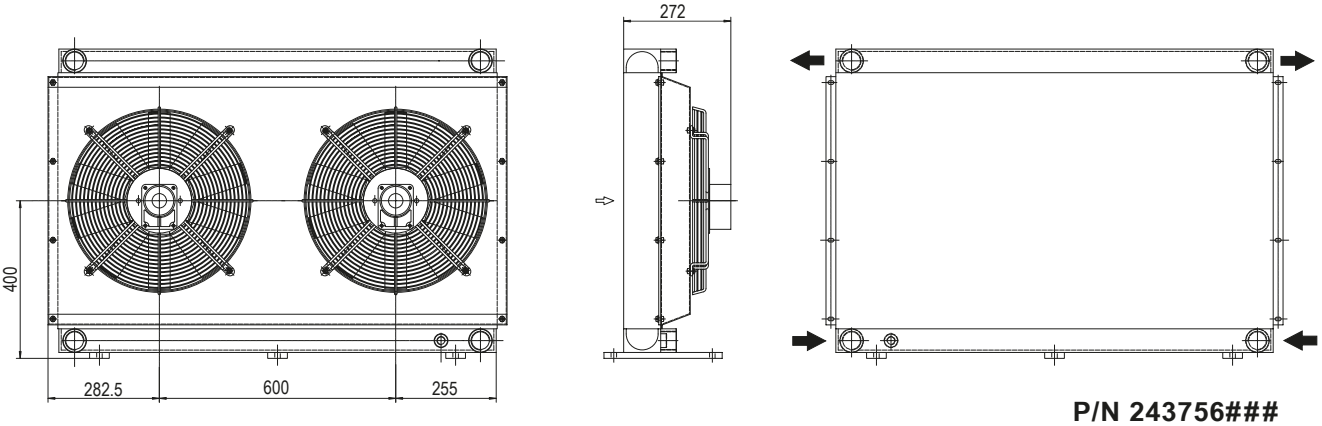
cst	10	15	20	30	40	50	60	80	100	200	300
F	0,5	0,65	0,77	1	1,2	1,4	1,6	1,9	2,1	3,3	4,3



P/N 243703###



P/N 243712###
P/N 243724###



P/N 243756###

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
243703###	230-400 B14 AC 265-460 B14 AC	50 60	0,75 0,86	3,2 - 1,9 3,2 - 1,9	1440 1750	450	85 ☎	4000	55	18,8	120
243712###	12 DC	/	0,160	13,30	2560	305	86	2100	64	18,8	100
243724###	24 DC	/	0,177	7,35	3000	305	87	2400	64	18,8	100
243756###	Prepared for Gr.2 hydraulic motor				☎	450	☎	☎	/	18,8	102

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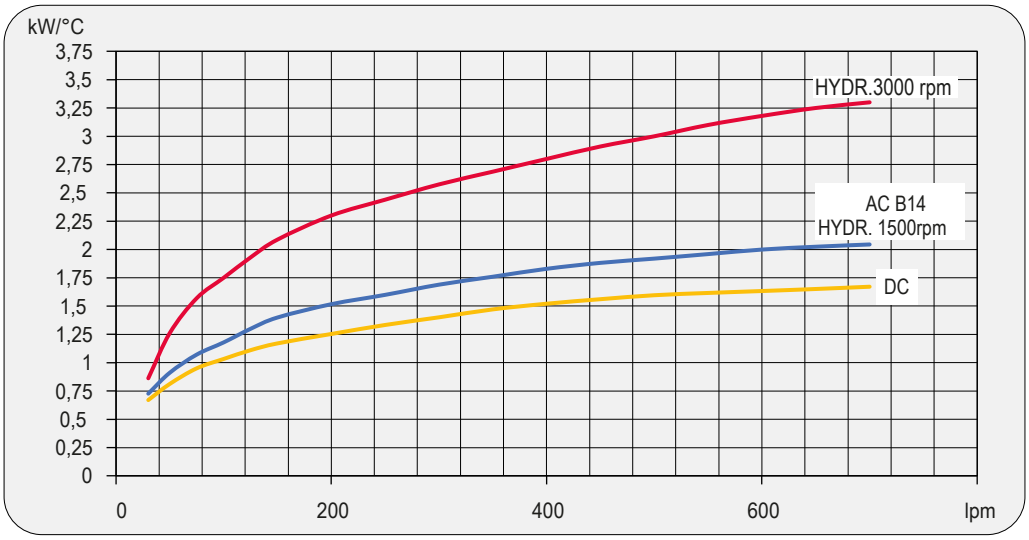
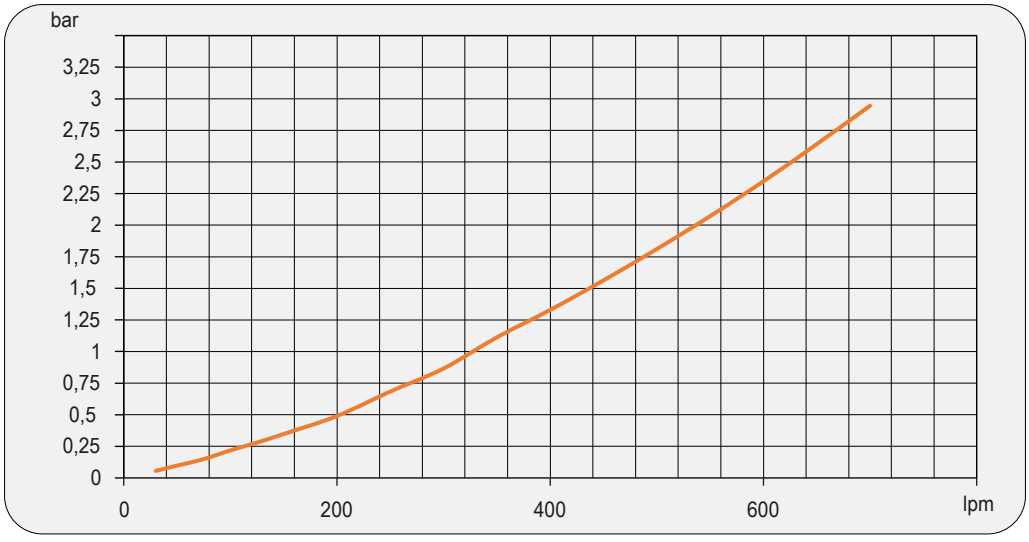
Diagramma rendimento Performance diagram

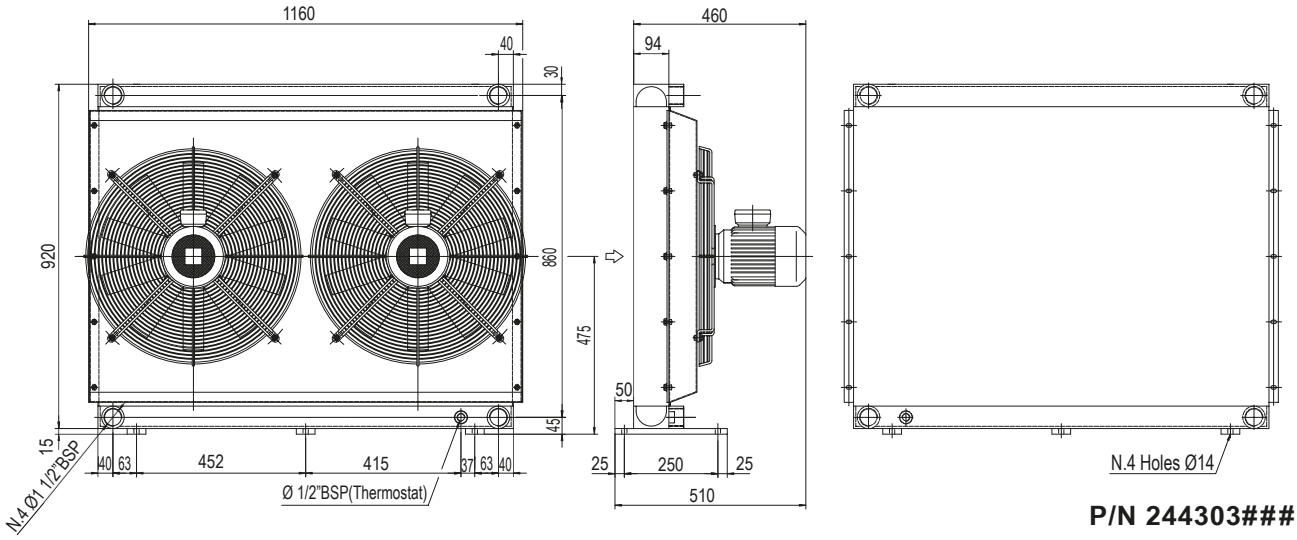


Perdite di carico Pressure drop (ISO VG 32)

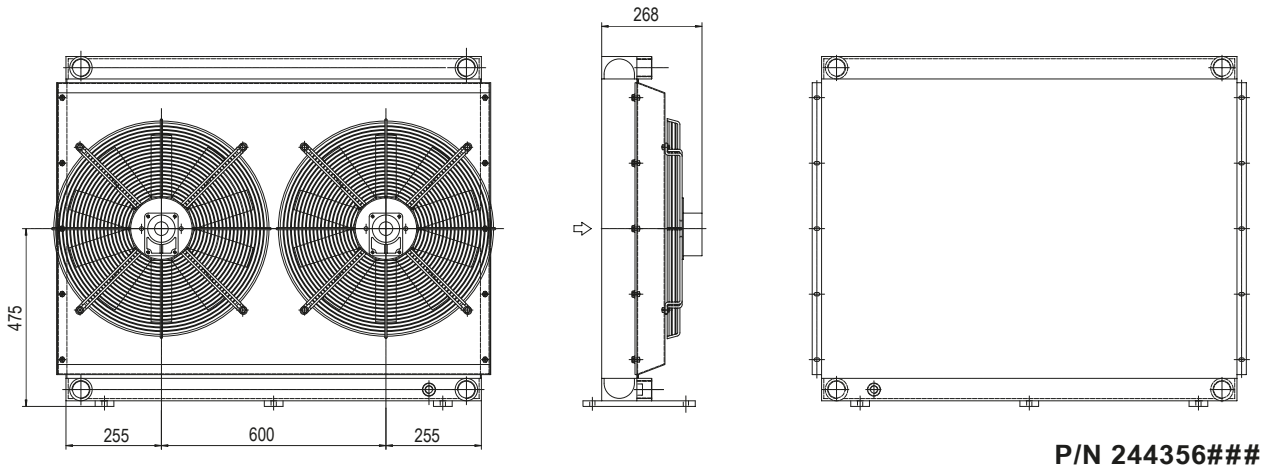


Fattore di correzione-F-(perdite di carico) Correction factor-F-(Pressure drop)

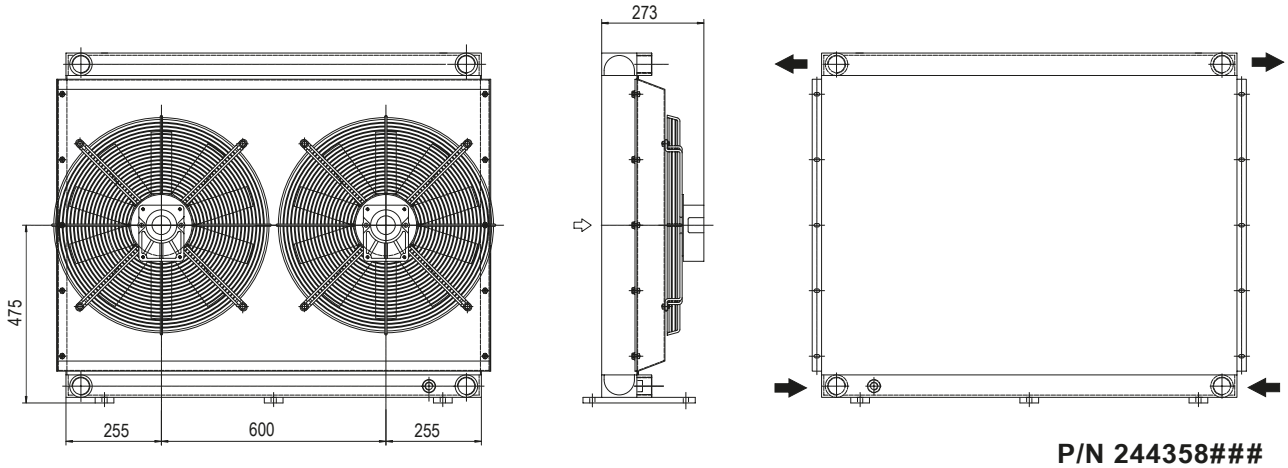
cst	10	15	20	30	40	50	60	80	100	200	300
F	0,5	0,65	0,77	1	1,2	1,4	1,6	1,9	2,1	3,3	4,3



P/N 244303###



P/N 244356###



P/N 244358###

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
244303###	230-400 B14 AC 265-460 B14 AC	50 60	1,1 1,3	4,5 - 2,6 4,5 - 2,6	1440 1730	500	87	7550	55	21,2	135
244356###	Prepared for Gr.2 hydraulic motor					500			/	21,2	122
244358###	Prepared for Gr.3 hydraulic motor					500			/	21,2	122

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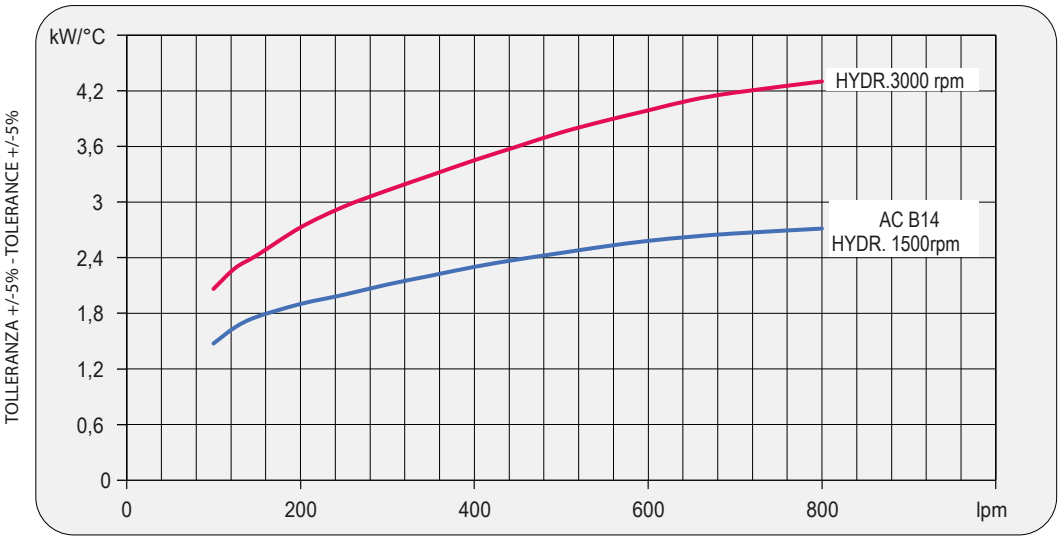
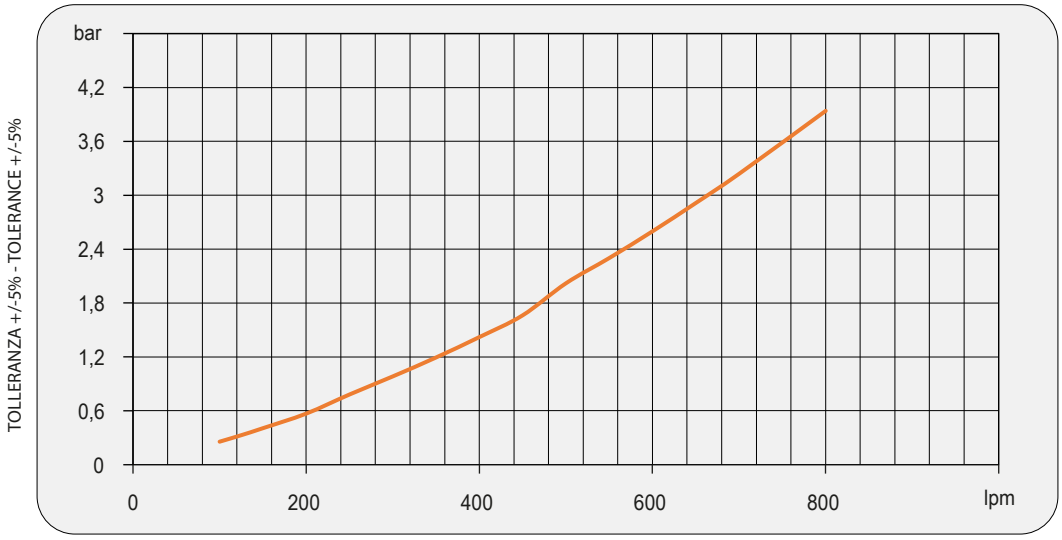
Diagramma rendimento Performance diagram

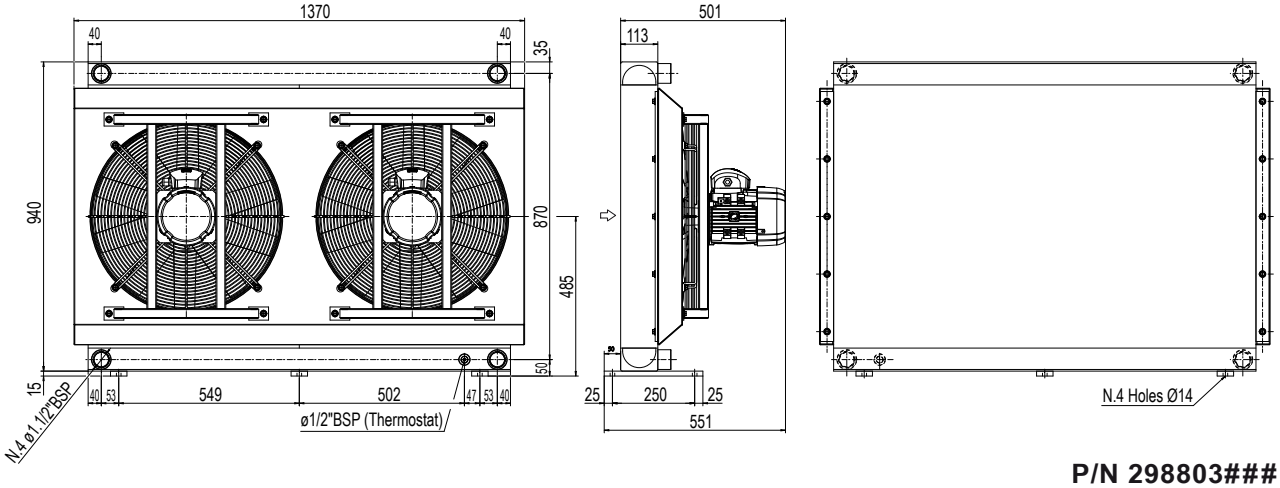


Perdite di carico Pressure drop (ISO VG 32)

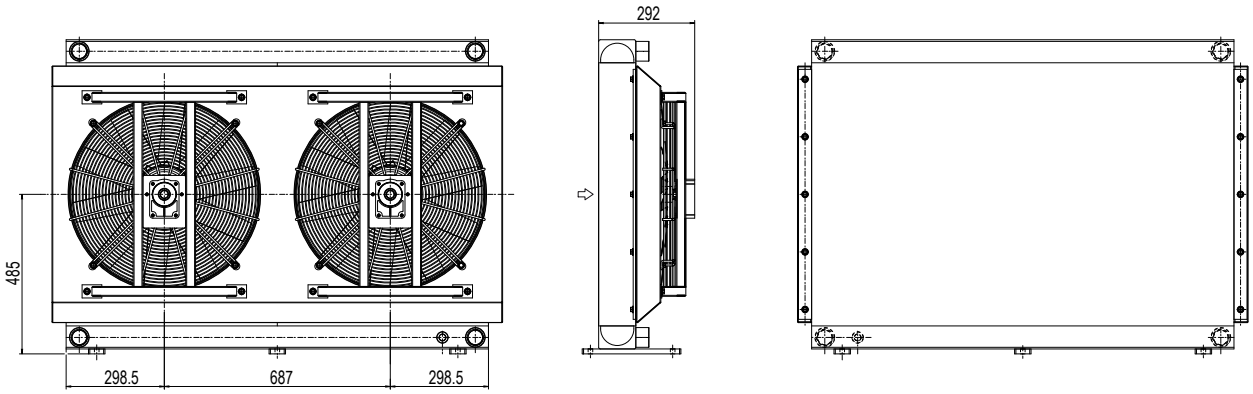


Fattore di correzione-F-(perdite di carico) Correction factor-F-(Pressure drop)

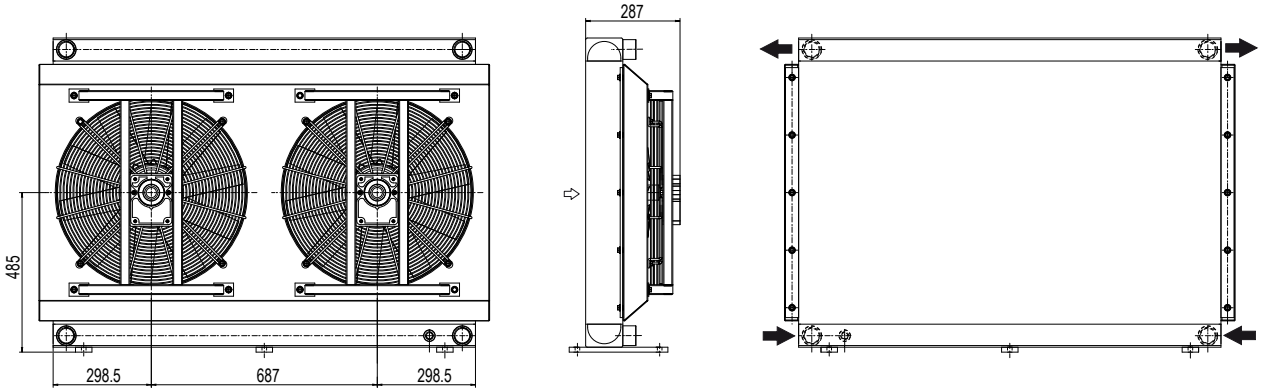
cst	10	15	20	30	40	50	60	80	100	200	300
F	0,5	0,65	0,77	1	1,2	1,4	1,6	1,9	2,1	3,3	4,3



P/N 298803###



P/N 298856###



P/N 298858###

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
298803###	230-400 B14 AC 265-460 B14 AC	50 60	1,1 1,3	4,5 - 2,6 4,5 - 2,6	1440 1730	560	87	8500	55	28,4	192
298856###	Prepared for Gr.2 hydraulic motor					560			/	28,4	180
298858###	Prepared for Gr.3 hydraulic motor					560			/	28,4	180

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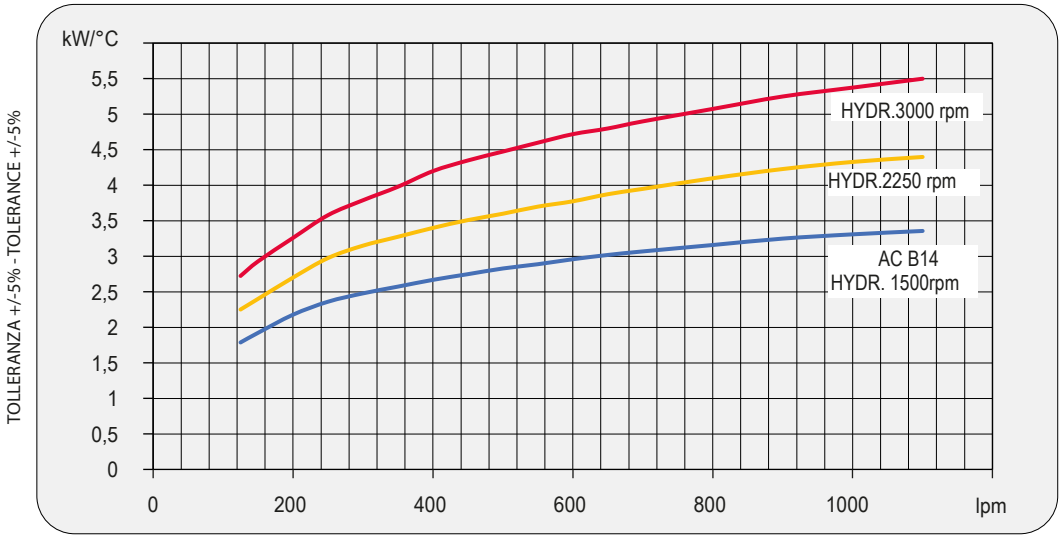
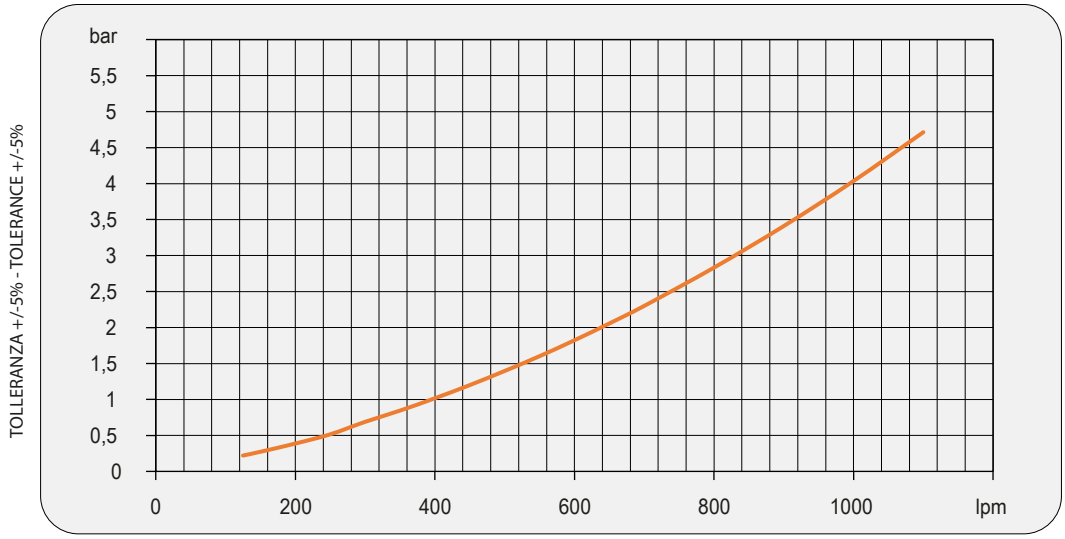
Diagramma rendimento Performance diagram

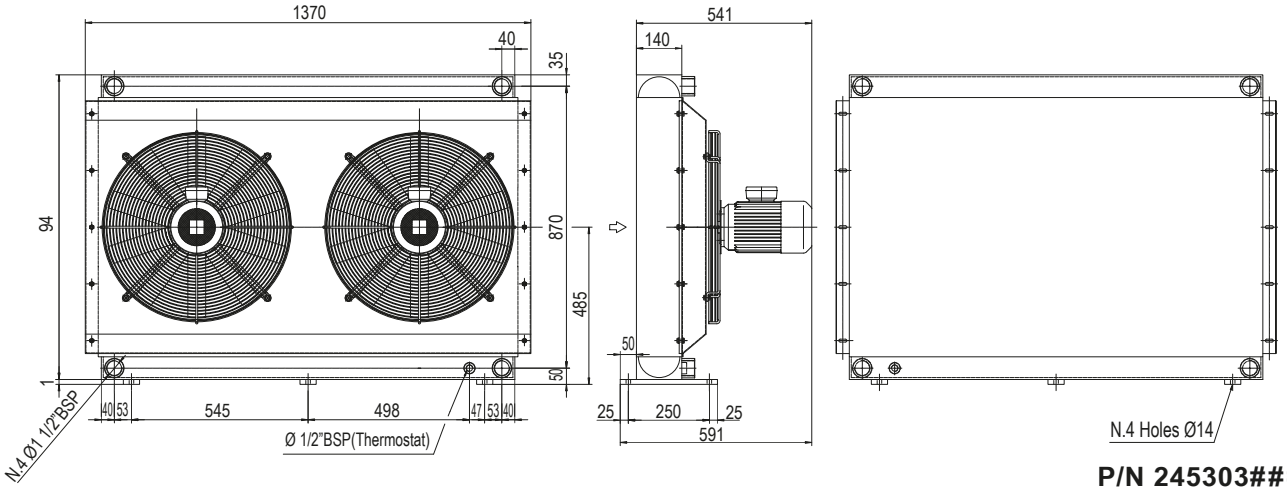


Perdite di carico Pressure drop (ISO VG 32)

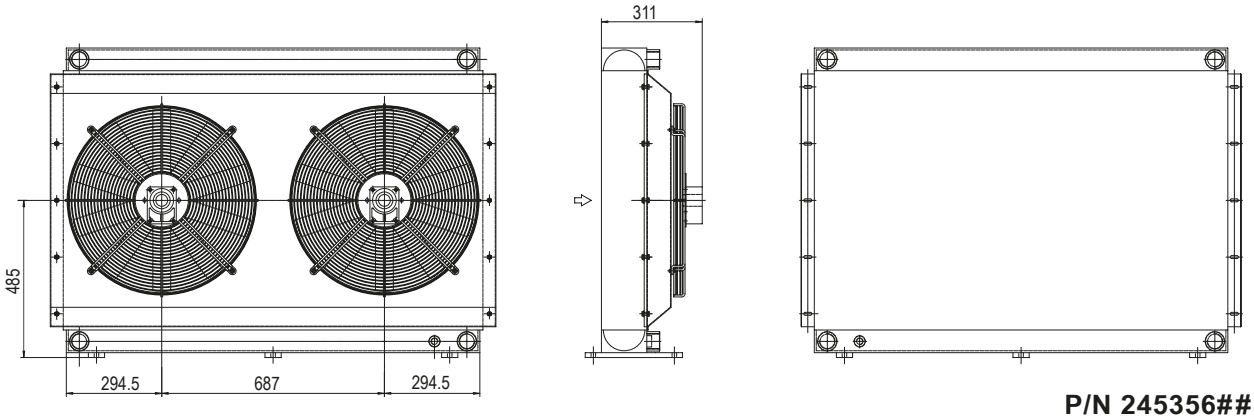


Fattore di correzione-F-(perdite di carico) Correction factor-F-(Pressure drop)

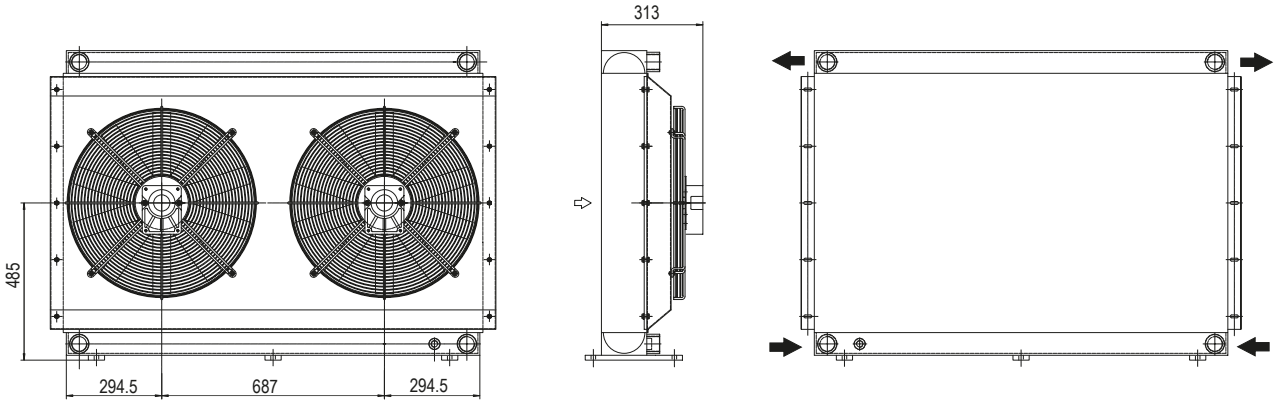
cst	10	15	20	30	40	50	60	80	100	200	300
F	0,5	0,65	0,77	1	1,2	1,4	1,6	1,9	2,1	3,3	4,3



P/N 245303###



P/N 245356###



P/N 245358###

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
245303###	230-400 B14 AC 265-460 B14 AC	50 60	1,1 1,3	4,5 - 2,6 4,5 - 2,6	1440 1730	560	87 📞	7750 📞	55	28,4	195
245356###	Prepared for Gr.2 hydraulic motor				📞	560	📞	📞	/	28,4	180
245358###	Prepared for Gr.3 hydraulic motor				📞	560	📞	📞	/	28,4	180

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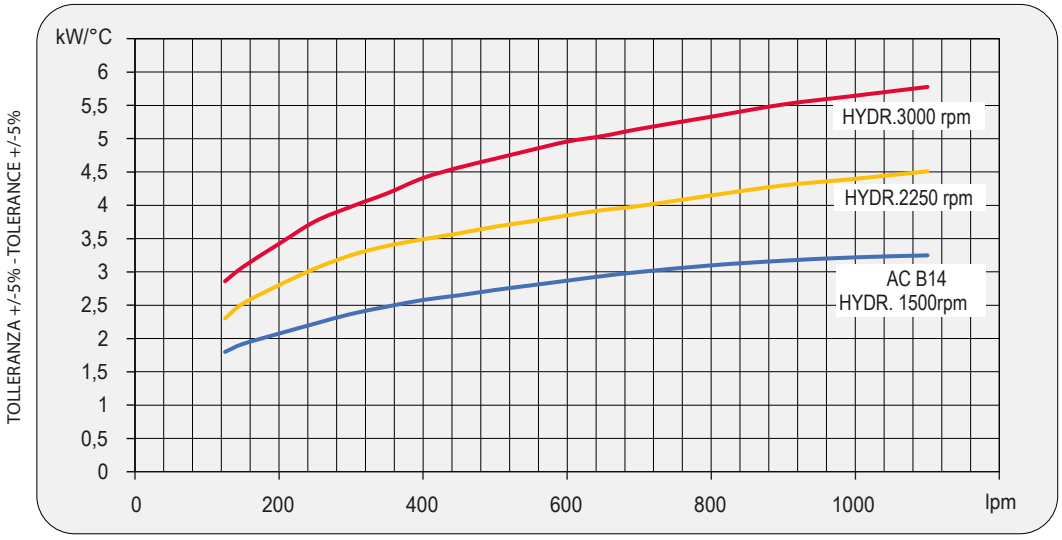
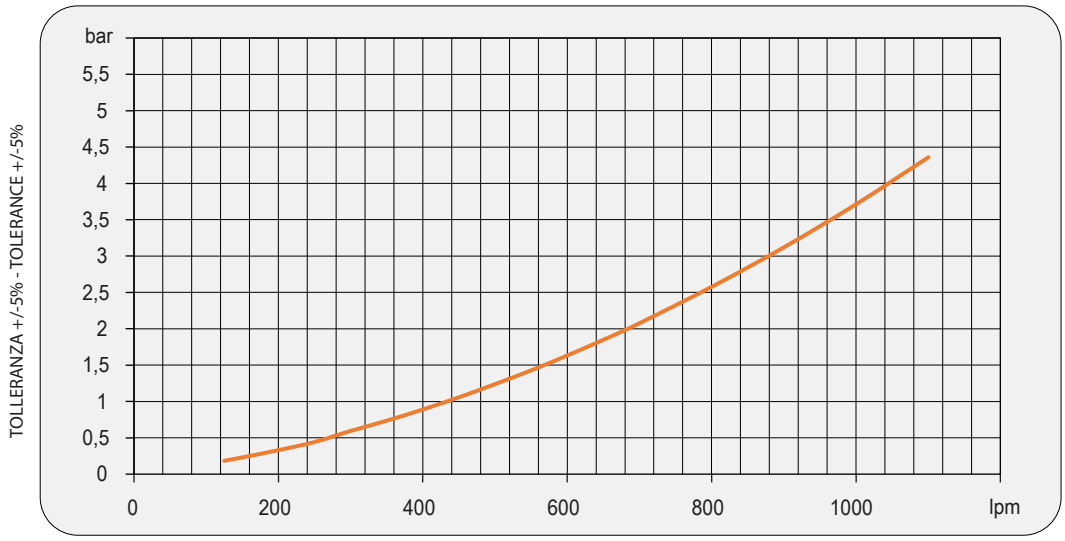
Diagramma rendimento Performance diagram

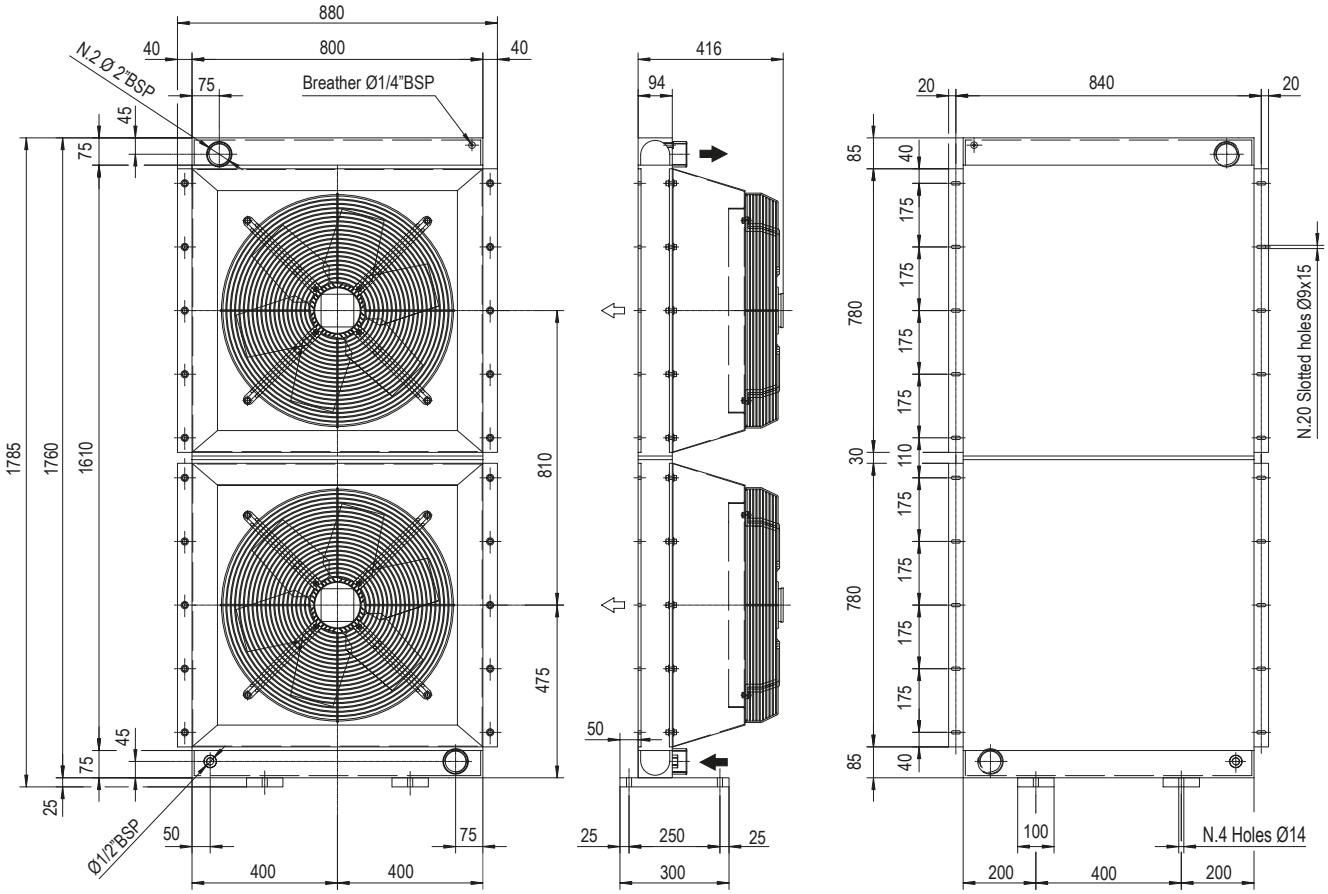


Perdite di carico Pressure drop (ISO VG 32)



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



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	It	Kg
041650C40050#	400 AC	50	1,3	2,4	1378	560	78	9500	54	25	140
041650C40060#	400-460 AC	60	1,3	2,5	1600	560	78	9500	54	25	140

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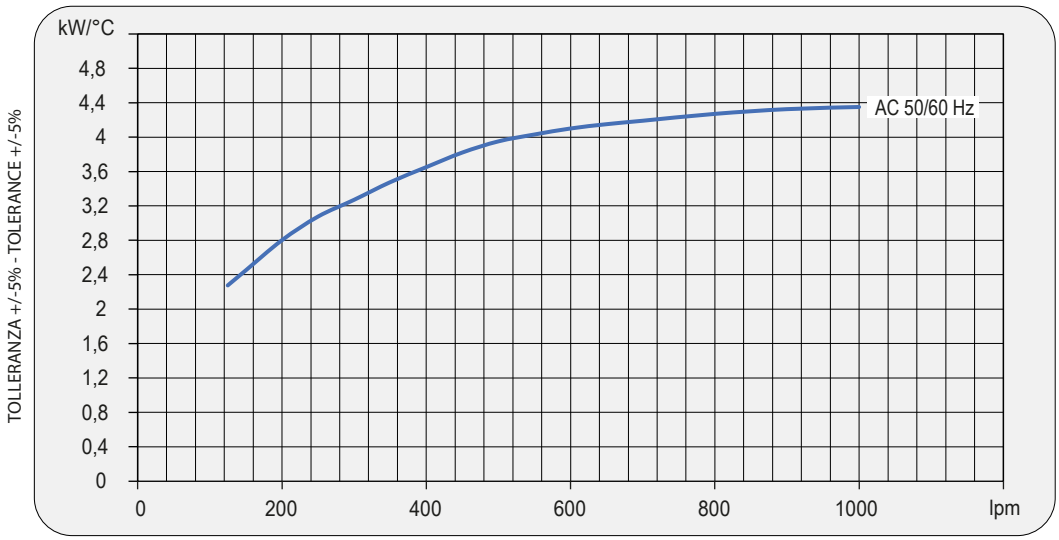
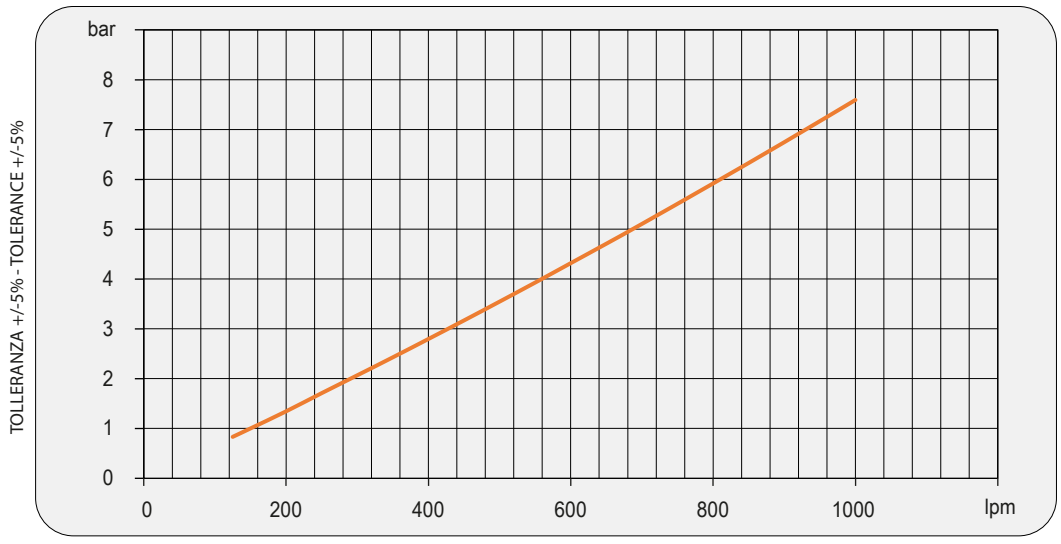
Diagramma rendimento Performance diagram

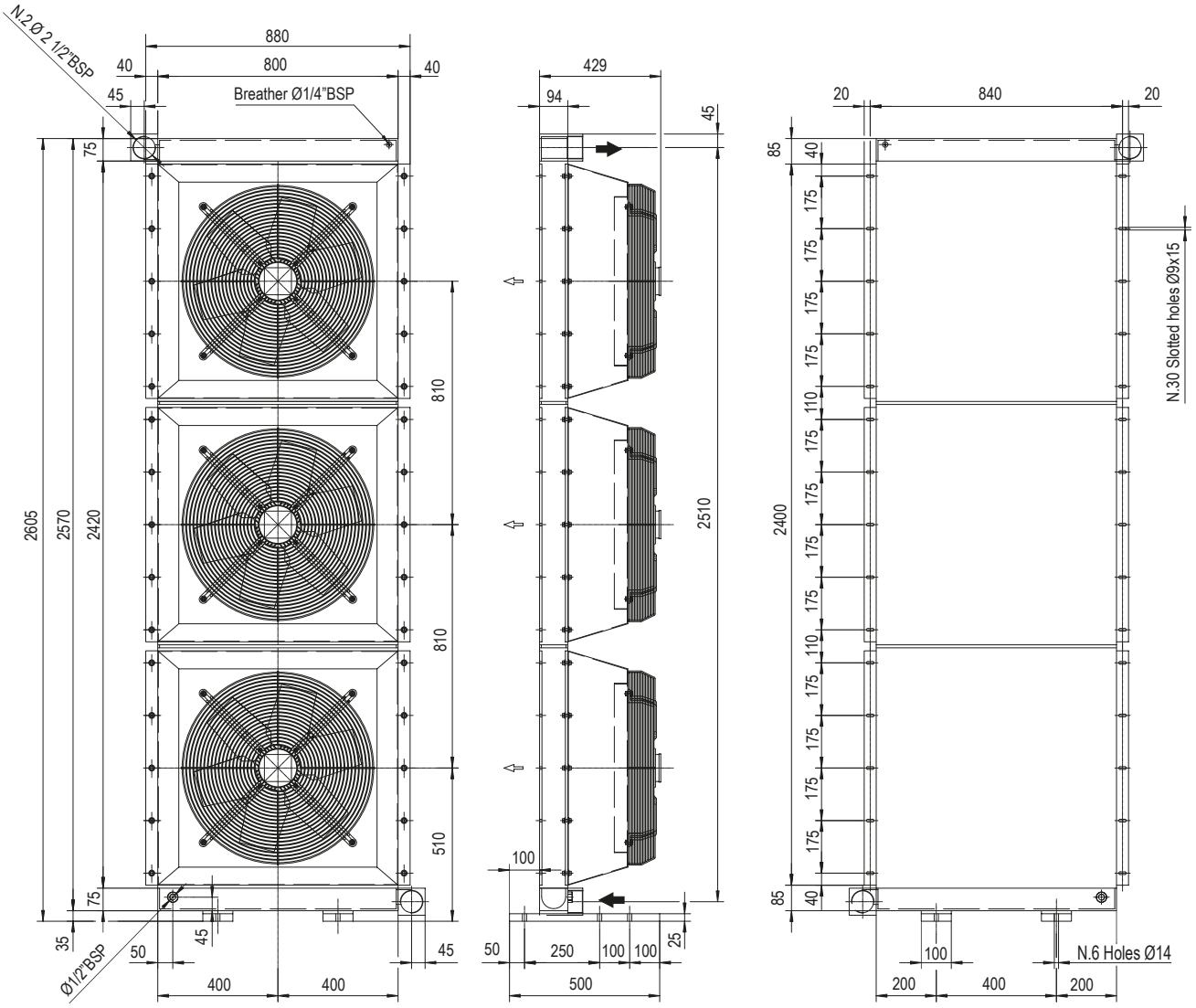


Perdite di carico Pressure drop (ISO VG 32)



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



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	It	Kg
041240C40050#	400 AC	50	1,3	2,4	1378	560	81	9500	54	35	210
041240C40060#	400-460 AC	60	1,3	2,5	1600	560	81	9500	54	35	210

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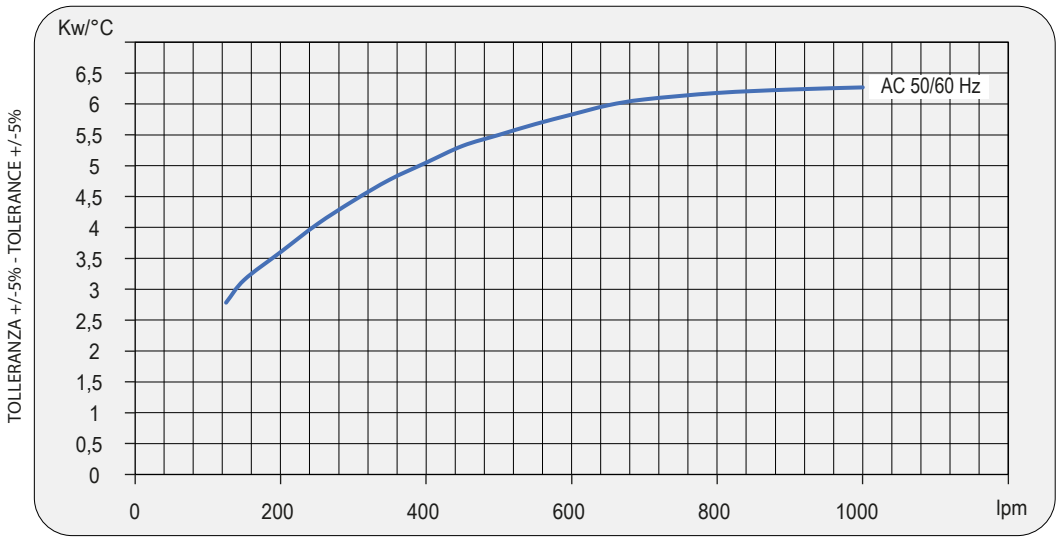
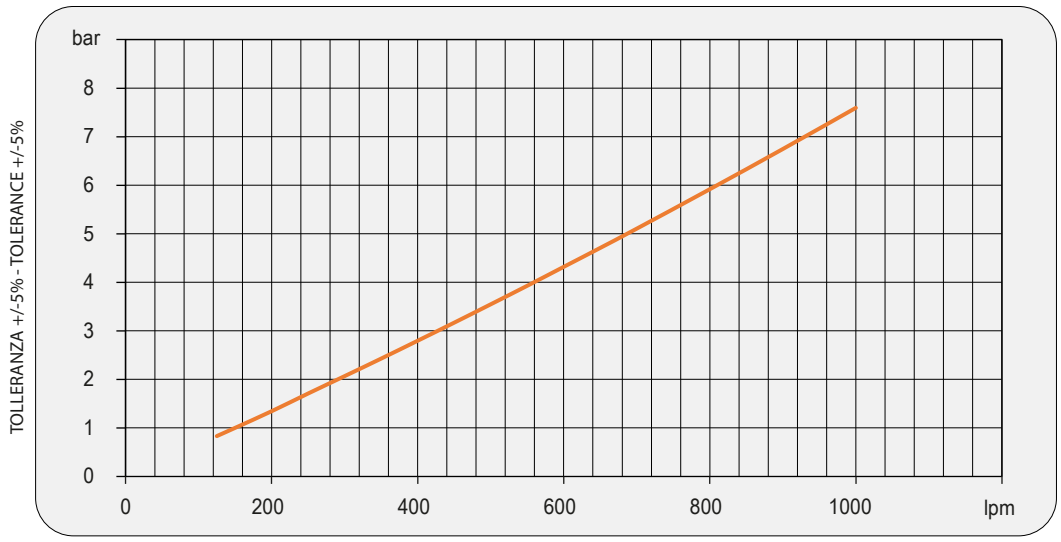
Diagramma rendimento Performance diagram

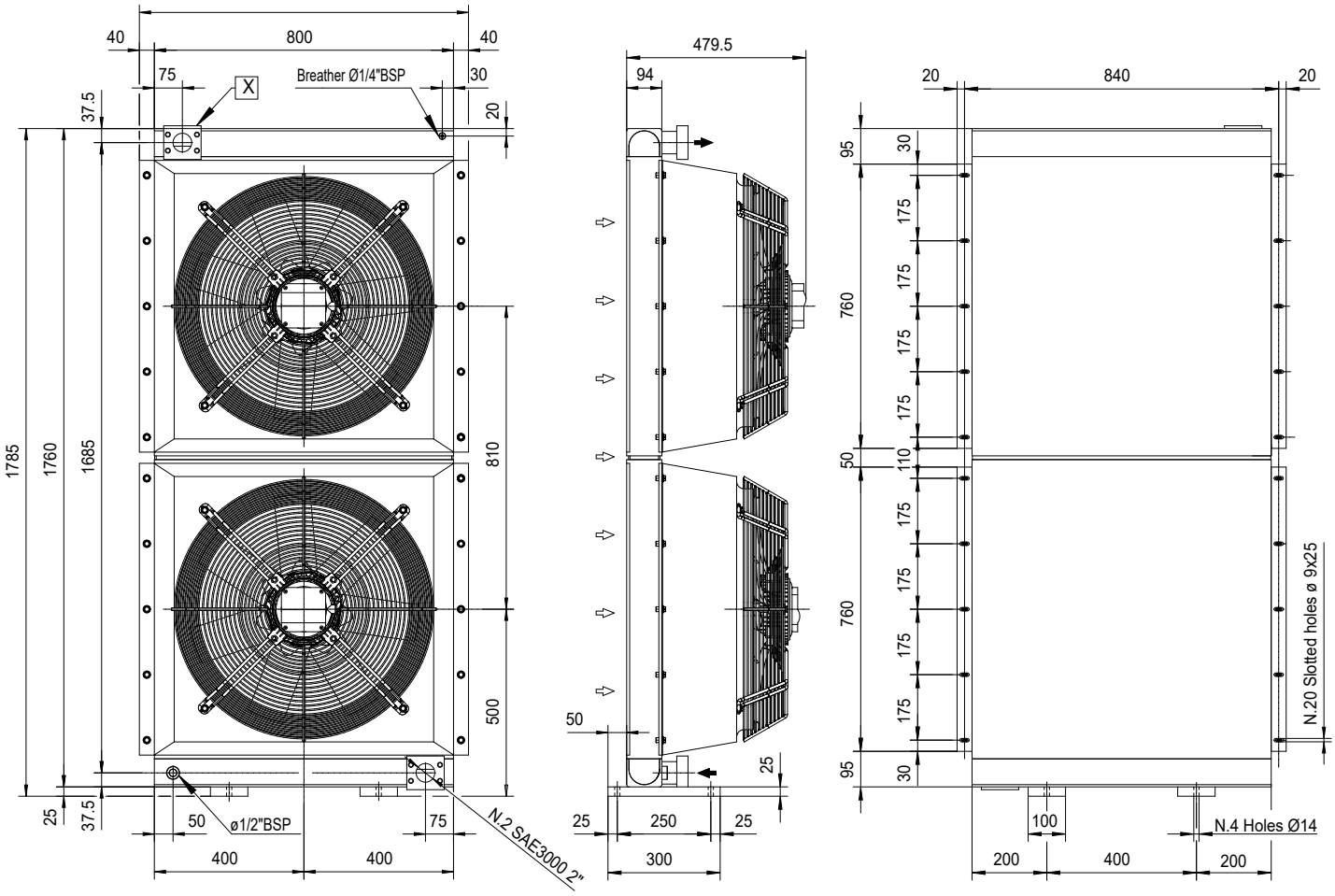


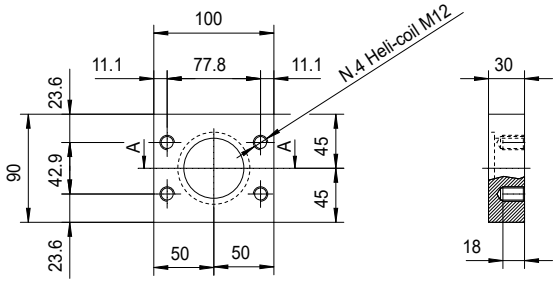
Perdite di carico Pressure drop (ISO VG 32)



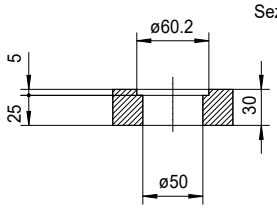
Fattore di correzione-F-(perdite di carico) Correction factor-F-(Pressure drop)

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





Sez. A-A



Part. X

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	It	Kg
A0351004005#1	400 AC (LS) ⅄	50	1,37	2,3	950	630	80	/	54	25	185
A0351004005#1	400 AC (HS) Δ	50	2,1	3,6	1300	630	86	/	54	25	185

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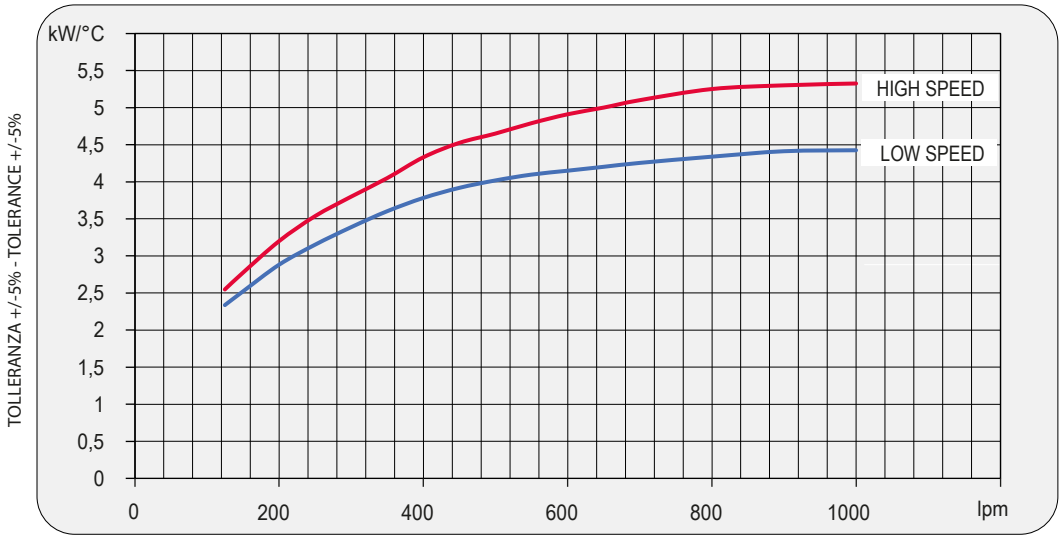
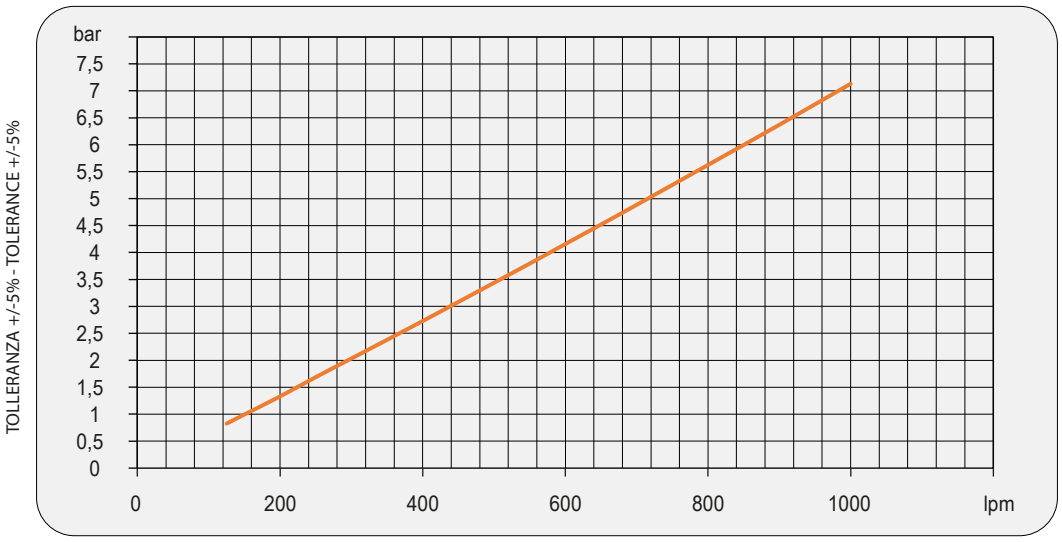
Diagramma rendimento Performance diagram



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

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) ⅄	50	1,37	2,3	950	630	80	/	54	25	185
A0351004005#1	400 AC (HS) Δ	50	2,1	3,6	1300	630	86	/	54	25	185

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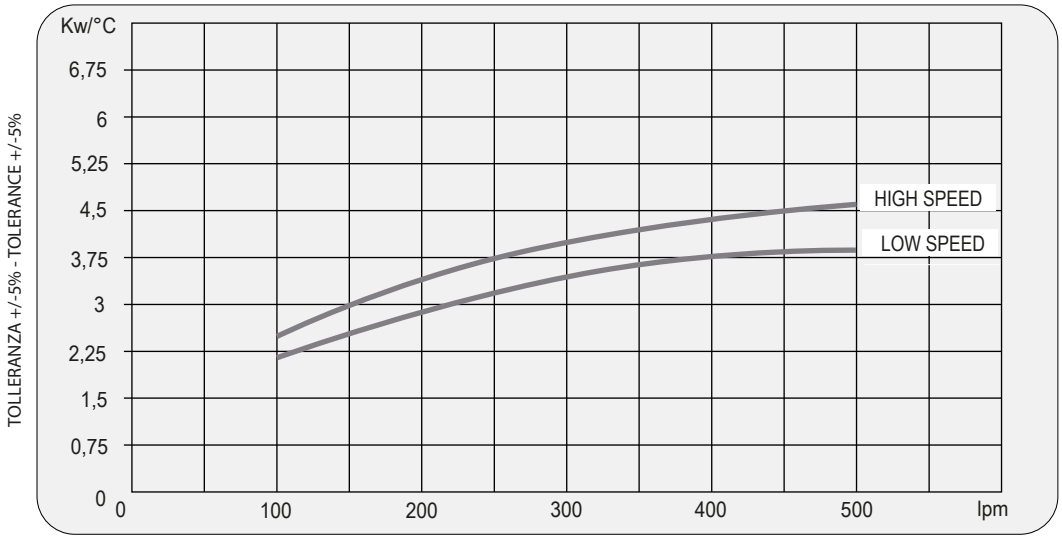
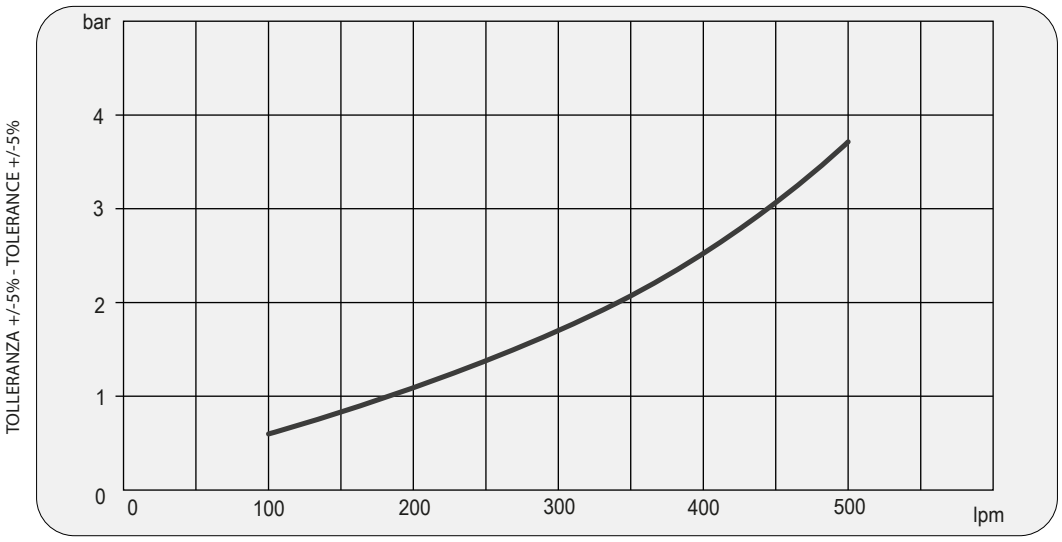
Diagramma rendimento Performance diagram

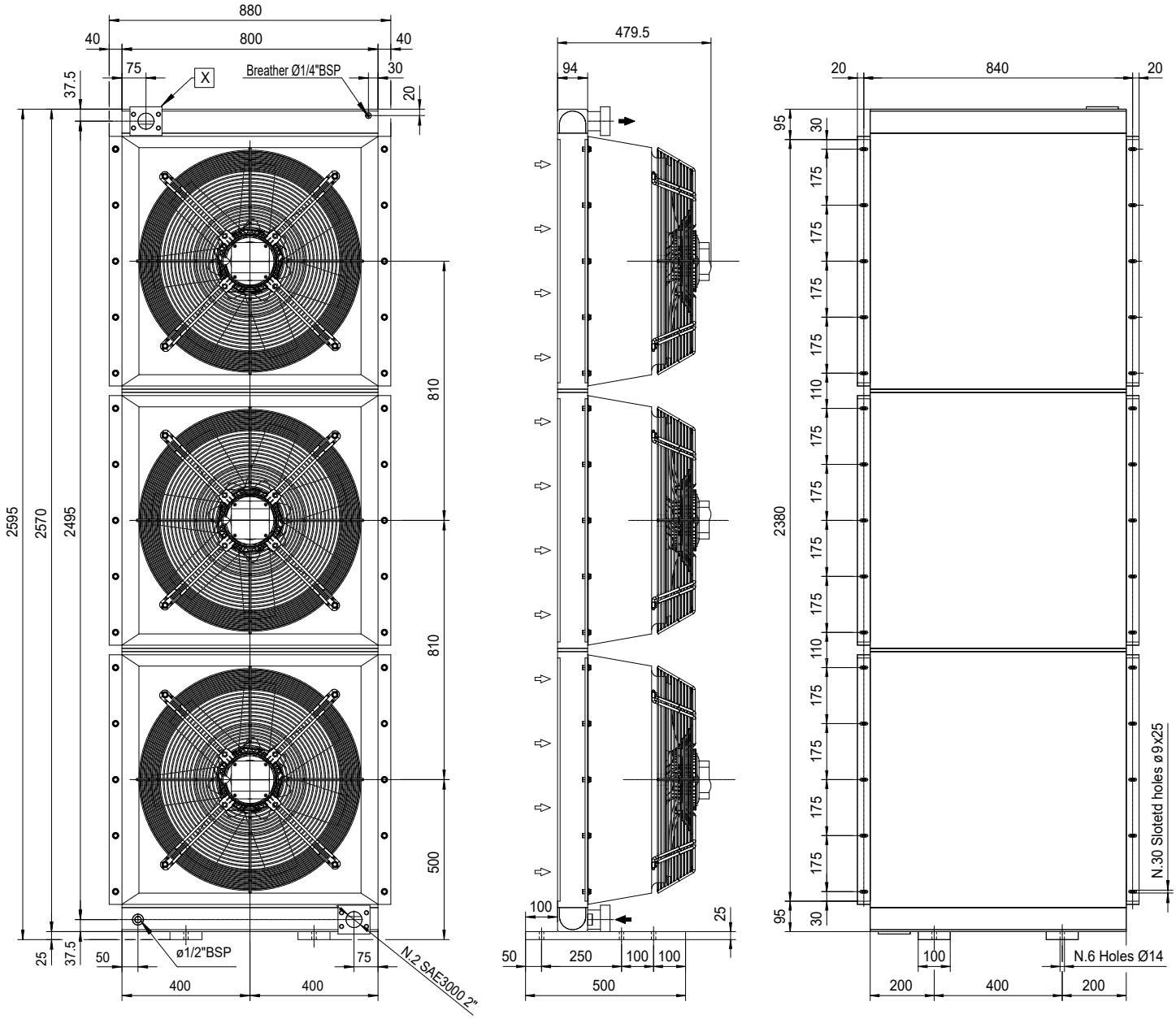


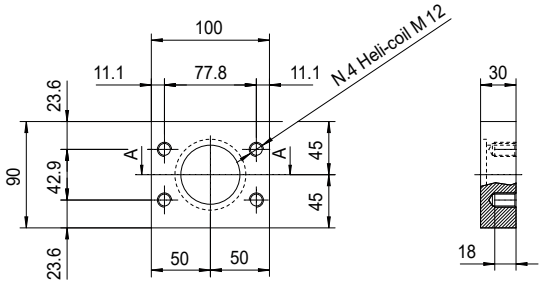
Perdite di carico Pressure drop (ISO VG 32)



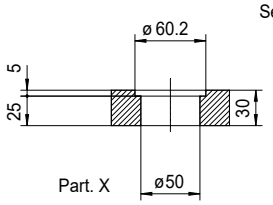
Fattore di correzione-F-(perdite di carico) Correction factor-F-(Pressure drop)

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





Sez. A-A



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	It	Kg
A0352004005#1	400 AC (LS) ⅄	50	1,37	2,3	950	630	80	/	54	35	255
A0352004005#1	400 AC (HS) Δ	50	2,1	3,6	1300	630	86	/	54	35	185

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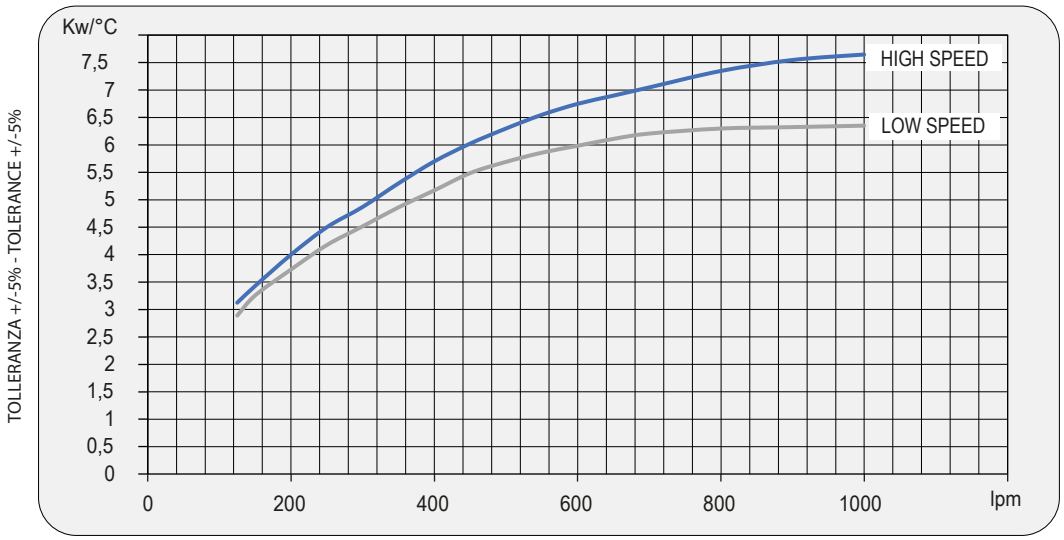
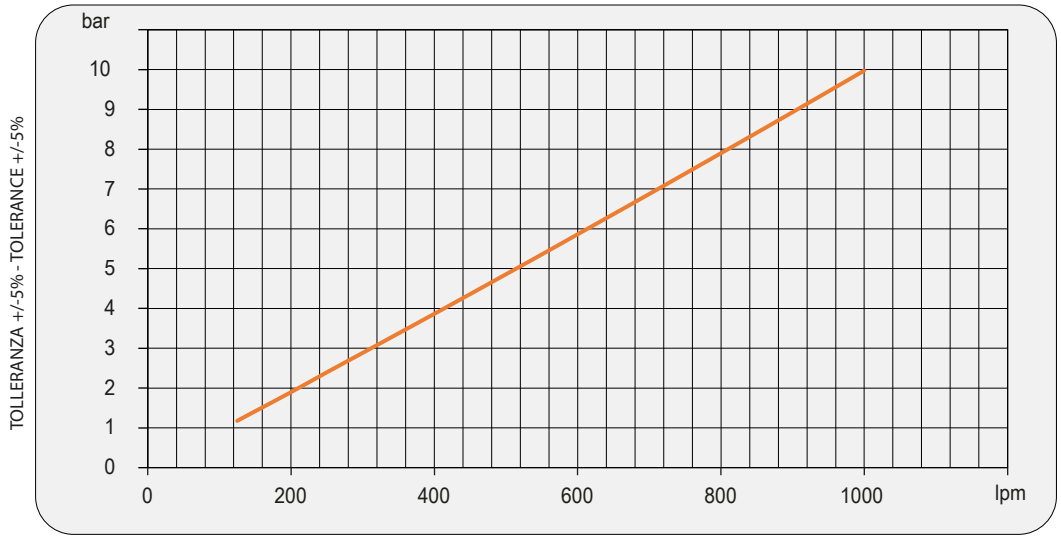
Diagramma rendimento Performance diagram



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