Dutch Hydraulic Consultants

HANSA · TMP

HYDRAULIC COMPONENTS
HYDROSTATIC TRANSMISSIONS
GEARBOXES - ACCESSORIES

HT 42 / A / 200 / 1206 / IE

Air-Oil Heat Exchangers
Scambiatori di calore Aria-Olio
Serie HPA

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INFORMAZIONI GENERALI

Scambiatori Aria-Olio - Serie HPA

INTRODUZIONE

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

La massa radiante, in lega di alluminio ad alta resistenza, è ottenuta mediante un processo costruttivo di saldo-brasatura sotto vuoto.

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.
II 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 il nostro ufficio tecnico

• 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 il nostro ufficio tecnico.

• Installazione

Lo scambiatore deve essere installato in posizione orizzontale e rispettare la distanza minima dalle pareti (vedi fig.1) per assicurare il naturale afflusso dell'aria di raffreddamento .
Lo scambiatore è generalmente installato sulla linea di ritorno al serbatoio; deve inoltre essere protetto da colpi o vibrazioni mediante supporti antivibranti e tubi flessibili.
Evitare che lo scambiatore sia sottoposto a repentine variazioni di flusso, colpi d'ariete e polsazioni possono causare danni irreversibili agli elementi dello scambiatore .
Si raccomanda l'installazione di una valvola di by-pass (vedi fig. 2) a protezione dello scambiatore dall'innalzamento della pressione dovuta alla elevata viscosità del fluido durante le partenze a freddo.

GENERAL INFORMATIONS

Heat exchangers - HPA Series

DESCRIPTION

The air-oil heat exchangers are used for cooling oil in the hydraulic systems using as the cool on 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 bronze-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 our Tech. Dpt. 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 our Tech. Dpt.

• 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 hoses.
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.

DATI TECNICI

Manutenzione

È buona norma prestare particolare attenzione alla pulizia della massa radiante per garantire un naturale ricambio d'aria, ed evitare una diminuzione della 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 dovrà essere adeguatamente protetto.

TECHNICAL DATA

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

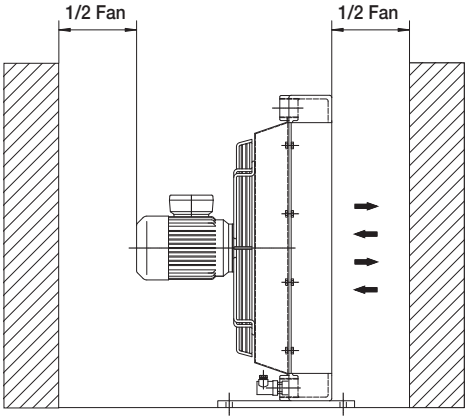


Fig.1

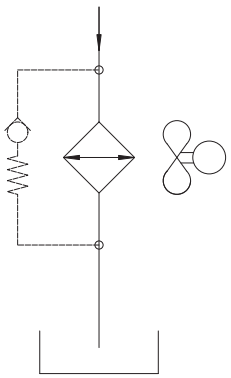


Fig.2

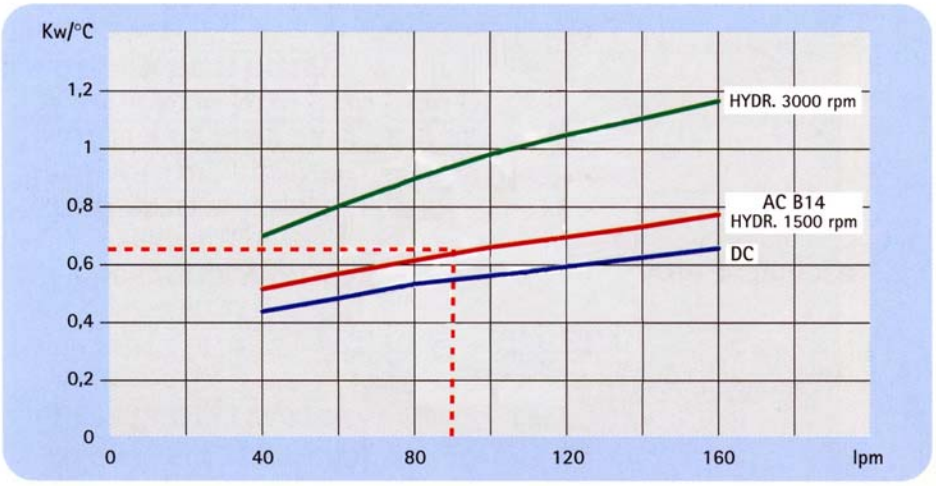
Dati tecnici *Technical Data*

P/N	V	Hz	kW	A	rpm	ø Fan	dB(A)	(m³/h)	IP	lt	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	64		32
243024###	24 DC	/	0,150	5,6	3100	280	78	1700	64		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 il ns. Ufficio Tecnico *Contact our Tech. Dpt.*

Diagramma rendimento *Performance diagram*



Esempio di scelta di uno scambiatore

Per effettuare la scelta di uno scambiatore si procede nel seguente modo :
Si calcola la potenza specifica di scambio espressa in kW / °C , conoscendo la potenza da dissipare ed il **Ä** T (differenza fra la temperatura di ingresso olio e la temperatura ambiente)
Esempio :

Potenza da dissipare	: 19,5 kW
Portata olio ISO VG 32	: 90 lt./ min.
Temperatura ingresso olio	: 60°C
Temperatura ambiente	: 30°C

Azionamento ventola M.E. 220/400 V - 50 Hz

$$P = \frac{19{,}5\ kW}{60°C - 30°C} = 0{,}65\ kW / °C$$

Data la portata dell'olio e la potenza specifica di scambio si procede alla ricerca del prodotto avvalendosi dei grafici riportati a catalogo relativi ai singoli modelli.
Lo scambiatore selezionato risulta il modello :
HPA 30-230/400V - 50 Hz cod. 243003

Per una completa identificazione del prodotto consultare la pagina "Denominazione codice prodotto".
Nel caso non siano conosciuti tutti i dati per la scelta, contattare il nostro Ufficio Tecnico

Example of how to choose a heat exchanger

Proceed with sizing the exchanger with a knowledge of the data as the example below shows :
You can calculate the specific heat exchange power kW / °C if you know the power to dissipate and the **Ä** *T (difference between the oil imput temperature and the ambient temperature)*
Example :

Power to dissipate	*: 19,5 kW*
ISO VG 32 Oil flow	*: 90 lt./ min.*
Oil Imput temperature	*: 60°C*
Ambient temperature	*: 30°C*

Fan operated with E.M. 220/400 V - 50 Hz

$$P = \frac{19{,}5\ kW}{60°C - 30°C} = 0{,}65\ kW / °C$$

Given the oil flow and specific exchange power, product research is made by referring to the graph in the catalogue wich is relevant to each model
The exchanger selected is the following :
HPA 30-230/400V - 50 Hz cod. 243003

For a complete description of the exchanger consult the " Order code " page.
If you do not have all mthe data required for selecting the model, contact our Tech. Dept.

Modulo richiesta dati

Sheet for cooler selection

CLIENTE *COMPANY*	
RICHIEDENTE *NAME*	

ARIA-OLIO *AIR-OIL*

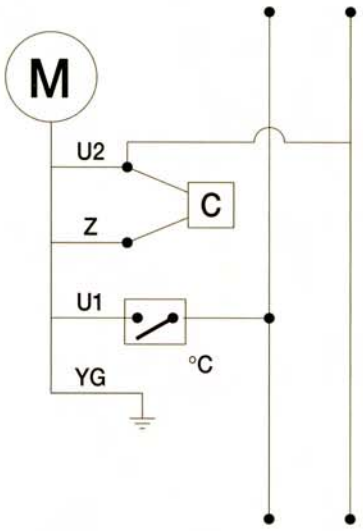
PORTATA OLIO *OIL FLOW RATE*	**lpm**	
POTENZA INSTALLATA *TOTAL POWER*	**kW**	
POTENZA DA DISSIPARE *POWER TO BE DISSIPATED*	**kW**	
TEMPERATURA INGRESSO OLIO *OIL TEMPERATURE INLET*	**°C**	
TEMPERATURA ARIA MAX *MAX AMBIENT TEMPERATURE*	**°C**	
VISCOSITÀ OLIO *OIL VISCOSITY*	**cst**	
PRESSIONE DI LAVORO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

TIPO DI VENTILAZIONE *TYPE OF FAN UNIT*

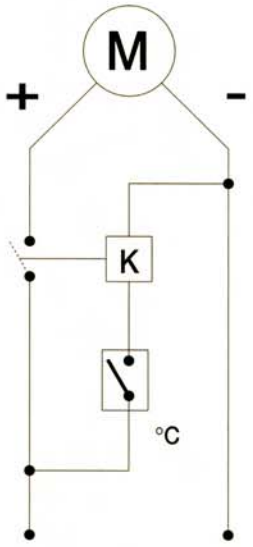
CORRENTE CONTINUA *DIRECT CURRENT*	**PREDISPOSTO MOTORE IDRAULICO** *PREPARATED FOR HYDRAULIC MOTOR*	**CORRENTE ALTERNATA** *ALTERNATE CURRENT*
12V	**GR. 2**	**MONOFASE 230V** *SINGLEPHASE 230V*
24V	**GR. 3**	**TRIFASE 230/400V** *THREEPHASE 230/400V*
		TENSIONE SPECIALE *SPECIAL VOLTAGE*
		50 HZ **60 HZ**

Collegamenti elettrici

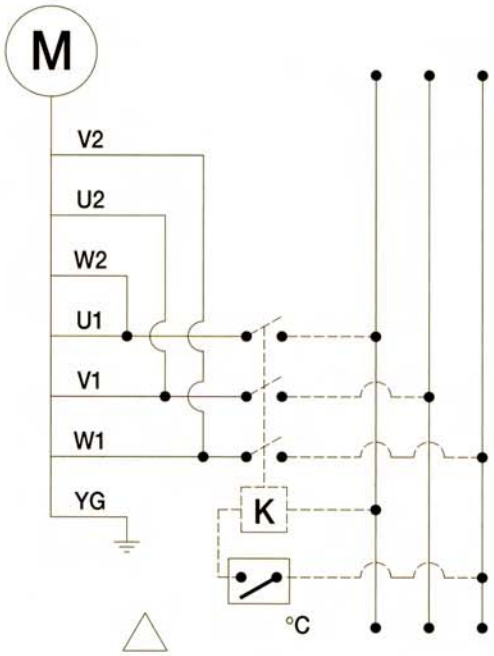
Electric Wiring



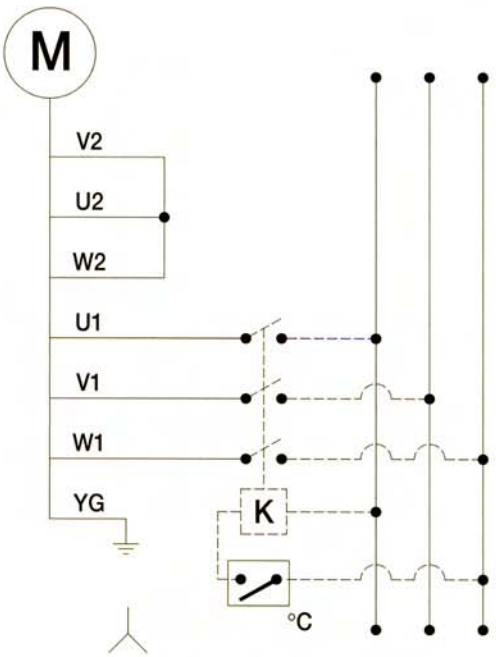
230V AC 1 PHASE



12-24V DC



230V AC 3 PHASE



400V AC 3 PHASE

°C = Termostato NA./Thermostat NO.
K = Relé/Relay

Denominazione codice prodotto *Aria-olio Serie HPA*

Ordering code *Air-oil HPA Series*

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*

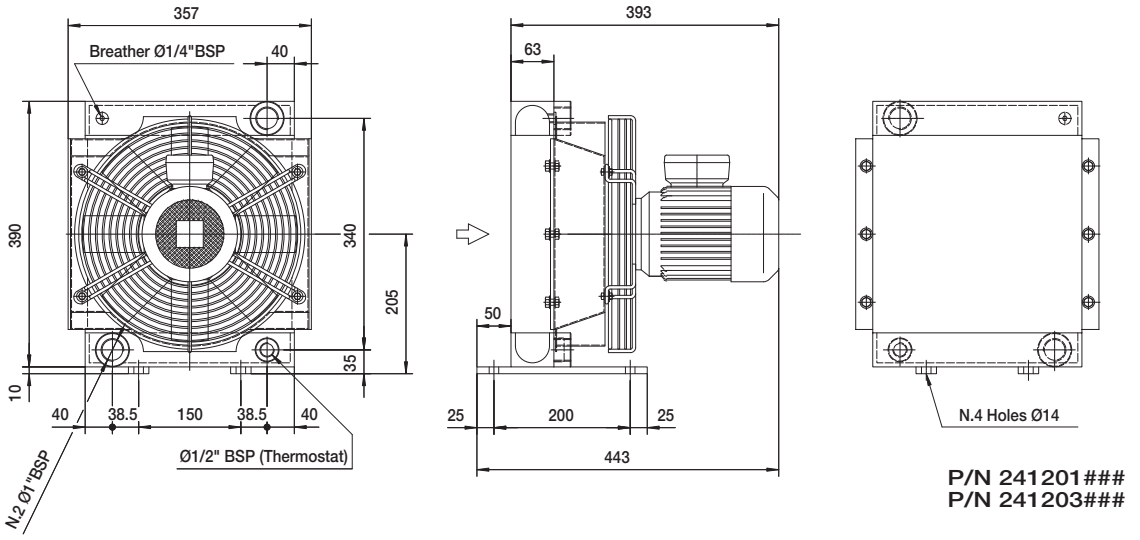
1	Termostato fisso *Fixed thermostat*	40-28°
2	Termostato fisso *Fixed thermostat*	50-38°
3	Termostato fisso *Fixed thermostat*	60-48°
4	Termostato fisso *Fixed thermostat*	70-58°
5	Termostato fisso *Fixed thermostat*	80-68°
6	Termostato fisso *Fixed thermostat*	90-78°
8	Termostato regolabile *Adjustable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

TIPO DI VENTILAZIONE *VENTILATING TYPE*

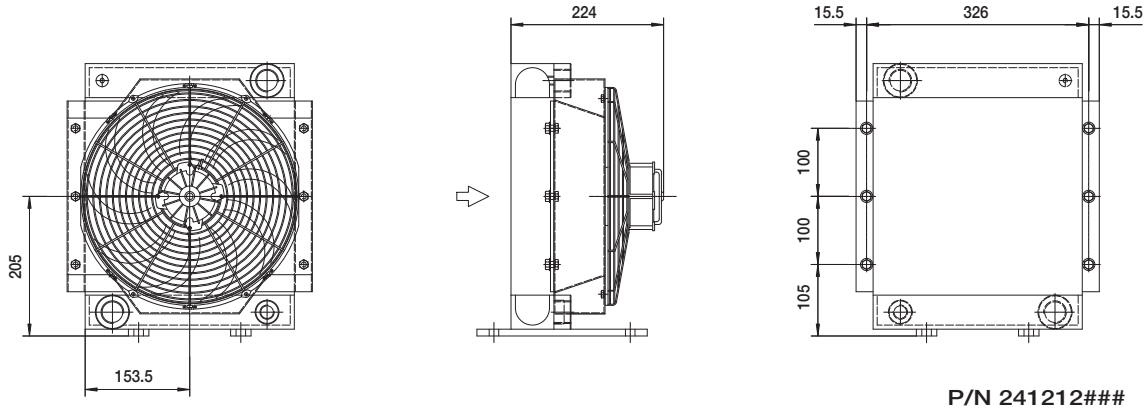
01	Aspirante *Suction air flow*
02	Soffiante *Blowing air flow*

HPA 12

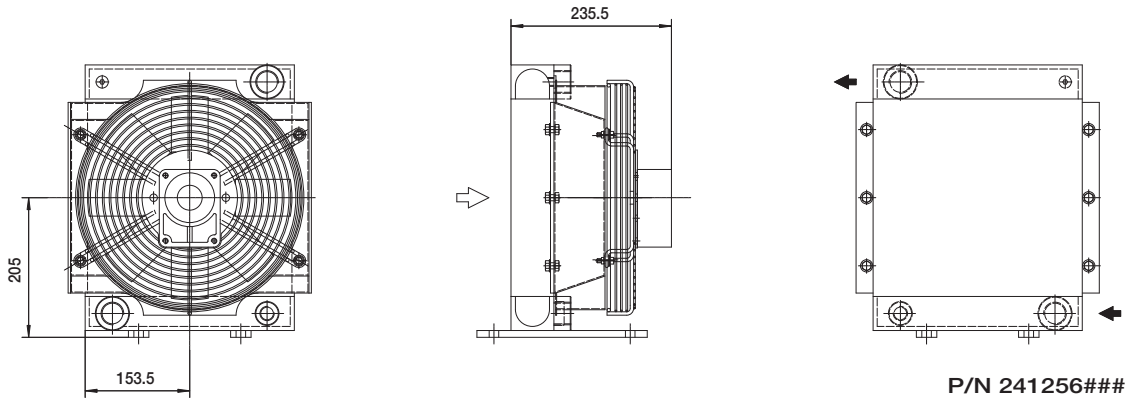
Dimensioni *Dimensions*



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

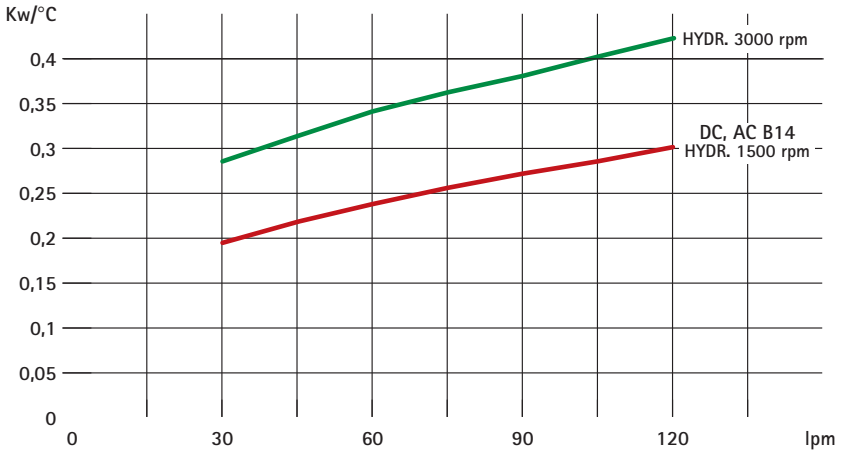
HPA 12

Dati tecnici *Technical Data*

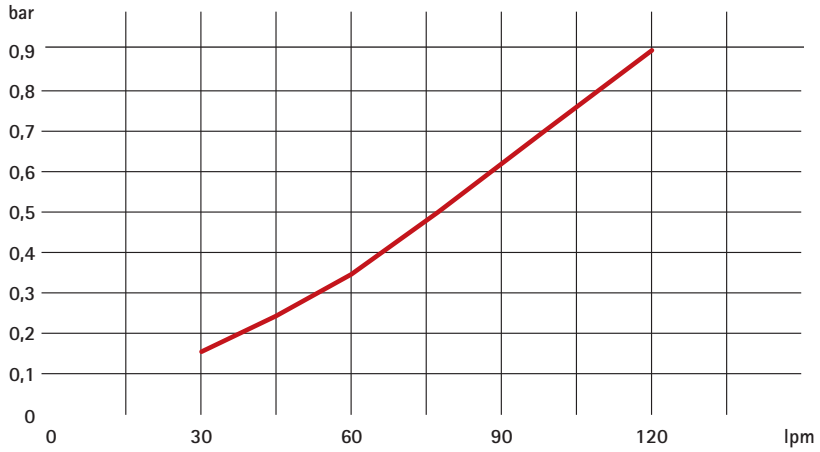
P/N	V	Hz	kW	A	rpm	ø Fan	dB(A)	(m³/h)	IP	lt	Kg
241203###	230-400 B14 AC	50/60	0,250	0,7	1450	315	72	1670	55	1,9	17
241212###	12 DC	/	0,160	11,3	3000	305	77	1590	65		15
241224###	24 DC	/	0,160	6,3	3000	305	80	1700	65		15
241256###	Prepared for Gr.2 hydraulic motor				☎	315	☎	☎	/		16

☎ Contattare il ns. Ufficio tecnico *Contact our Tech . Dpt*

Diagramma rendimento *Performance diagram*



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

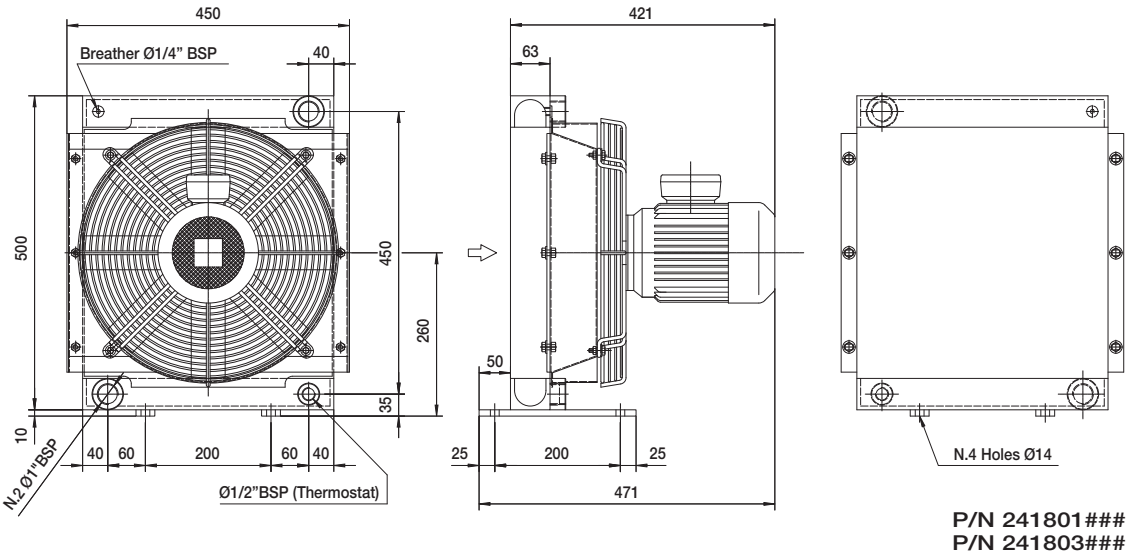


Fattore di correzione - F - (perdite di carico) *Correction factor - F - (Pressure drop)*

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 18

Dimensioni *Dimensions*



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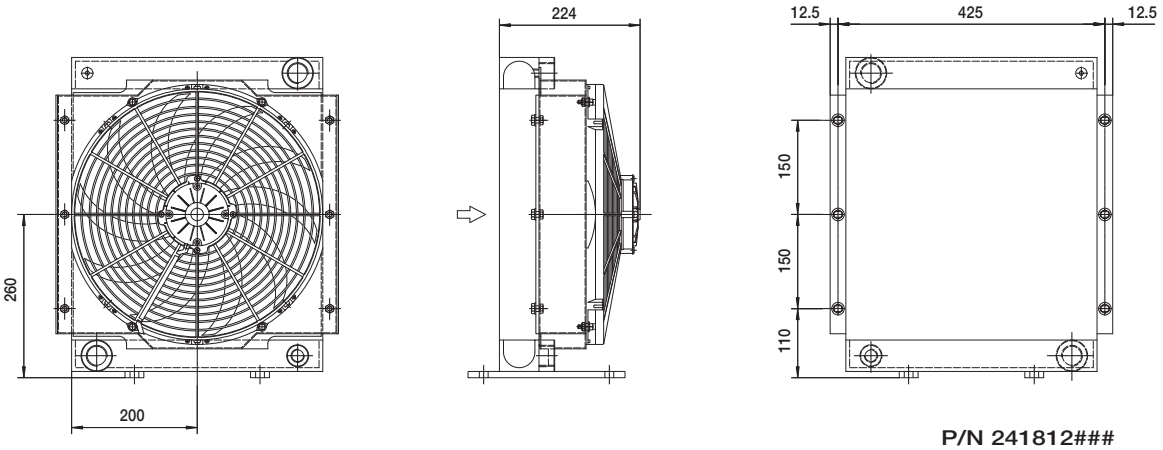
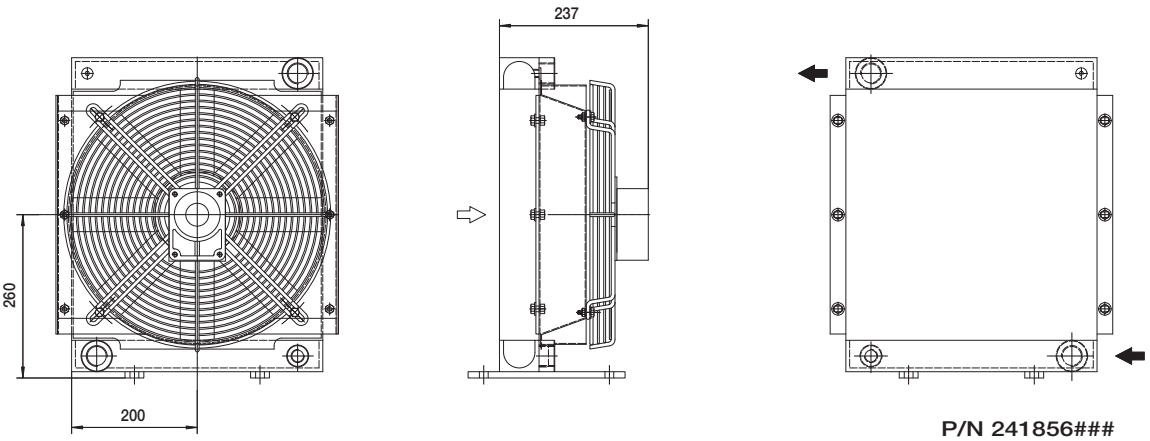


P/N 241812###
P/N 241824###



P/N 241856###

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

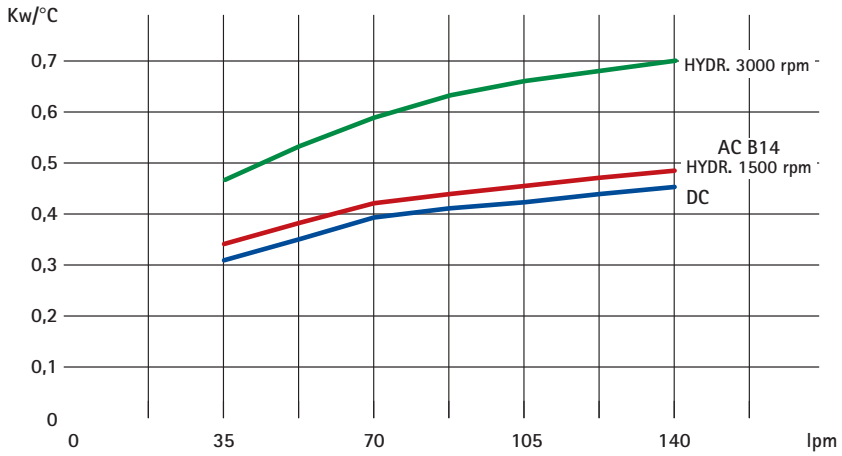
HPA 18

Dati tecnici *Technical Data*

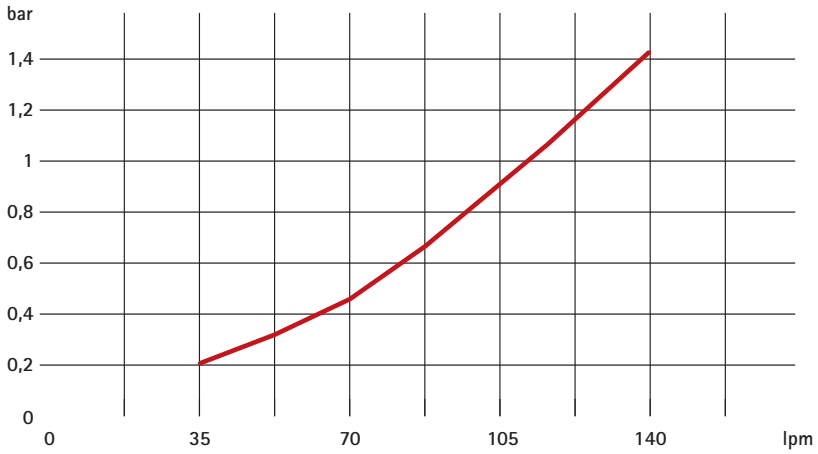
P/N	V	Hz	kW	A	rpm	ø Fan	dB(A)	(m³/h)	IP	lt	Kg
241803###	230-400 B14 AC	50/60	0,370	0,95	1450	400	77	3350	55	2,9	20
241812###	12 DC	/	0,210	13,3	2500	385	77	2950	65		18
241824###	24 DC	/	0,210	9,3	2500	385	81	3100	65		18
241856###	Prepared for Gr.2 hydraulic motor				☎	400	☎	☎	/		19

☎ Contattare il ns. Ufficio tecnico *Contact our Tech . Dpt*

Diagramma rendimento *Performance diagram*



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

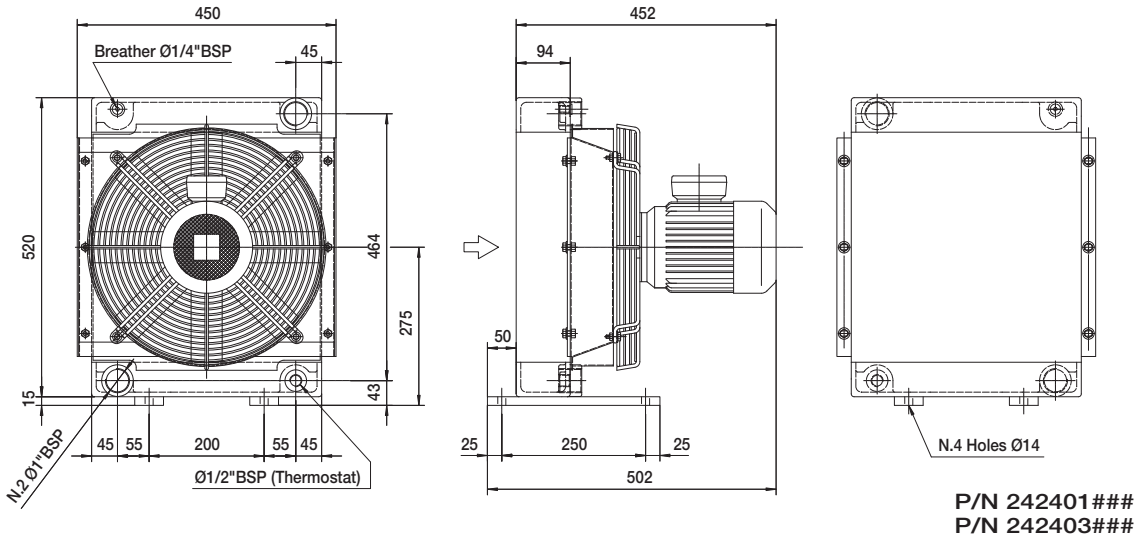


Fattore di correzione - F - (perdite di carico) *Correction factor - F - (Pressure drop)*

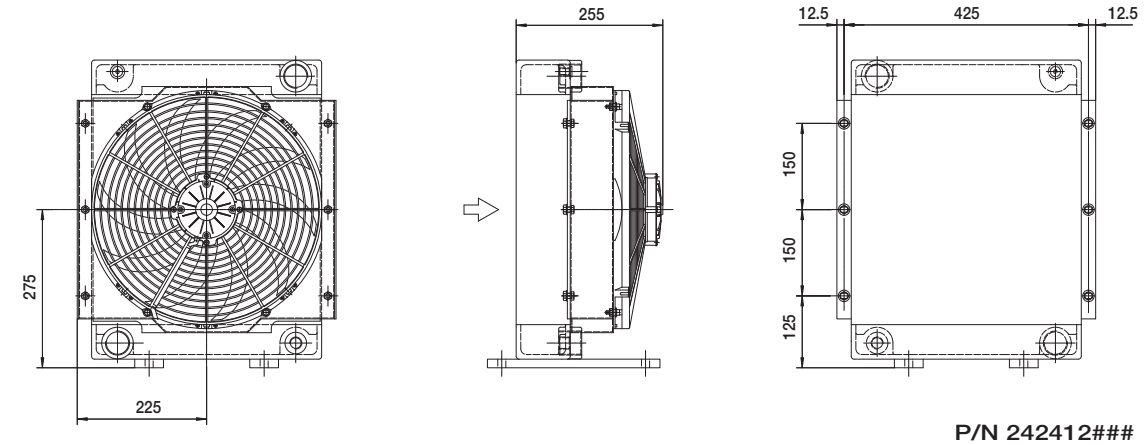
cst	10	15	20	30	40	50	60	80	100	200	300
F	0,5	0,65	0,77	1	1,2	1,4	1,6	1,9	2,1	3,3	4,3

HPA 24

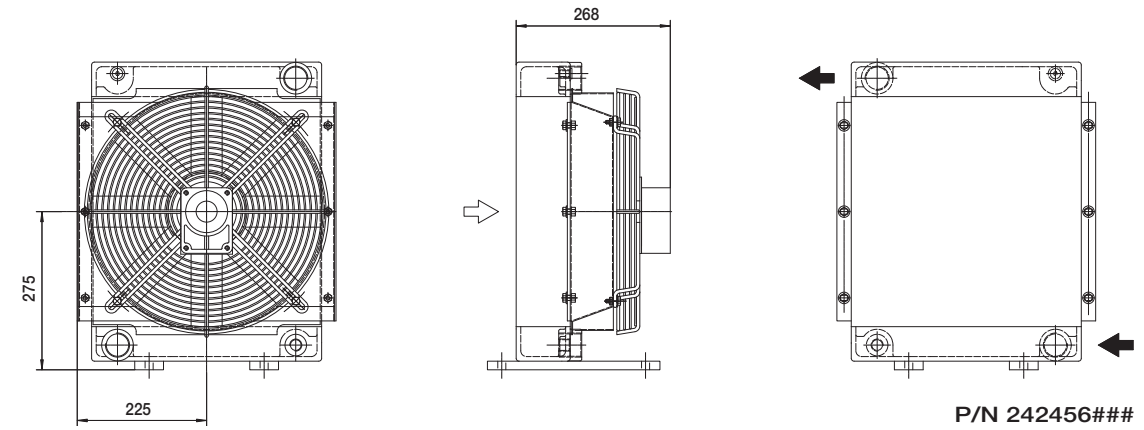
Dimensioni *Dimensions*



P/N 242401###
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

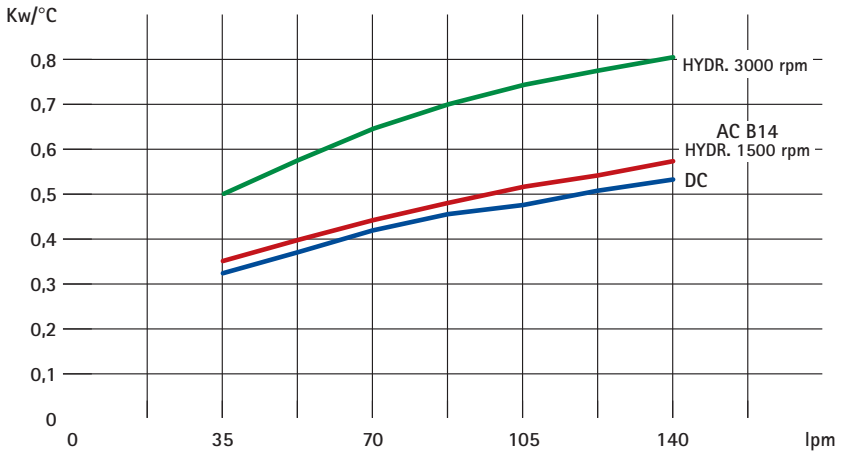
HPA 24

Dati tecnici *Technical Data*

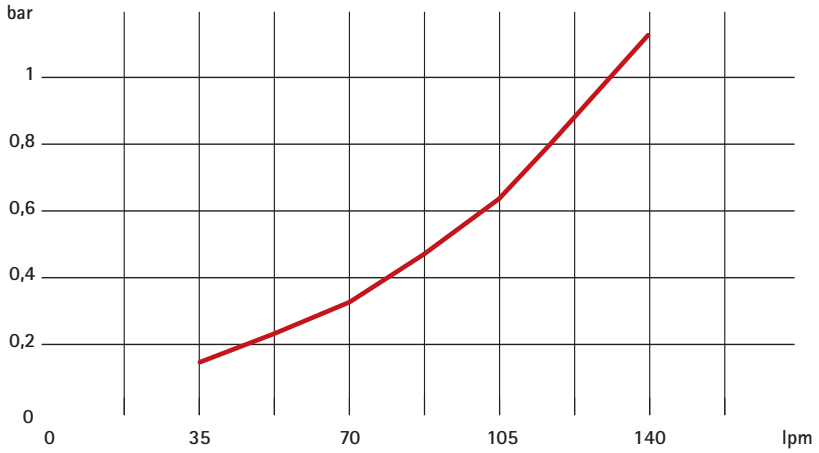
P/N	V	Hz	kW	A	rpm	ø Fan	dB(A)	(m³/h)	IP	lt	Kg
242403###	230-400 B14 AC	50/60	0,550	1,35	1450	400	79	2800	55	6,2	28
242412###	12 DC	/	0,210	13,2	2500	385	77	2100	65		22
242424###	24 DC	/	0,210	8,4	2500	385	80	2250	65		22
242456###	Prepared for Gr.2 hydraulic motor				☎	400	☎	☎	/		23

☎ Contattare il ns. Ufficio tecnico *Contact our Tech . Dpt*

Diagramma rendimento *Performance diagram*



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

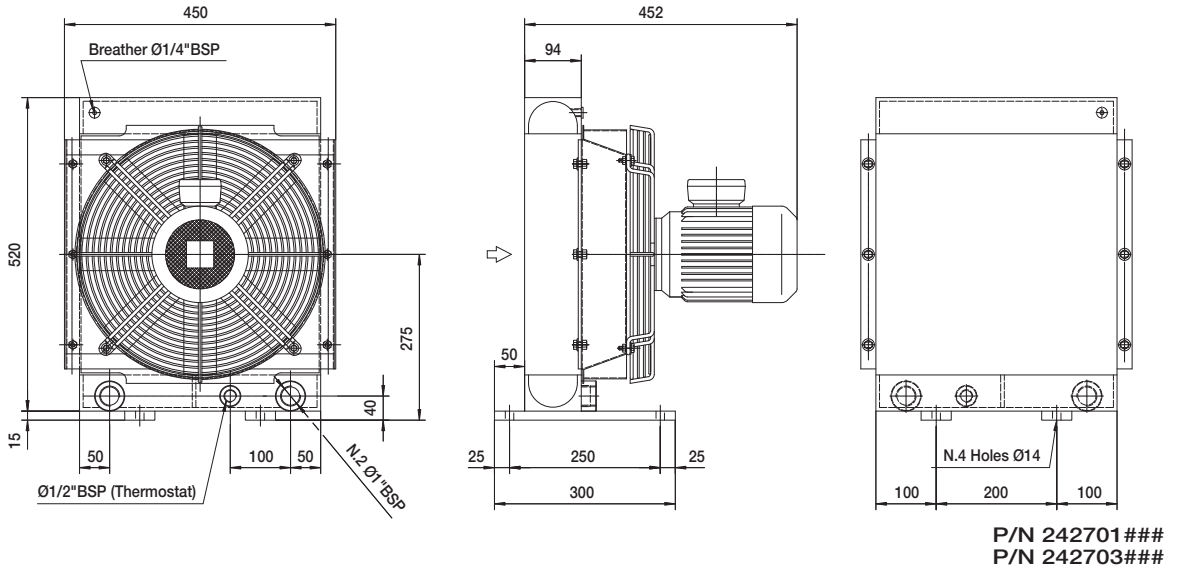


Fattore di correzione - F - (perdite di carico) *Correction factor - F - (Pressure drop)*

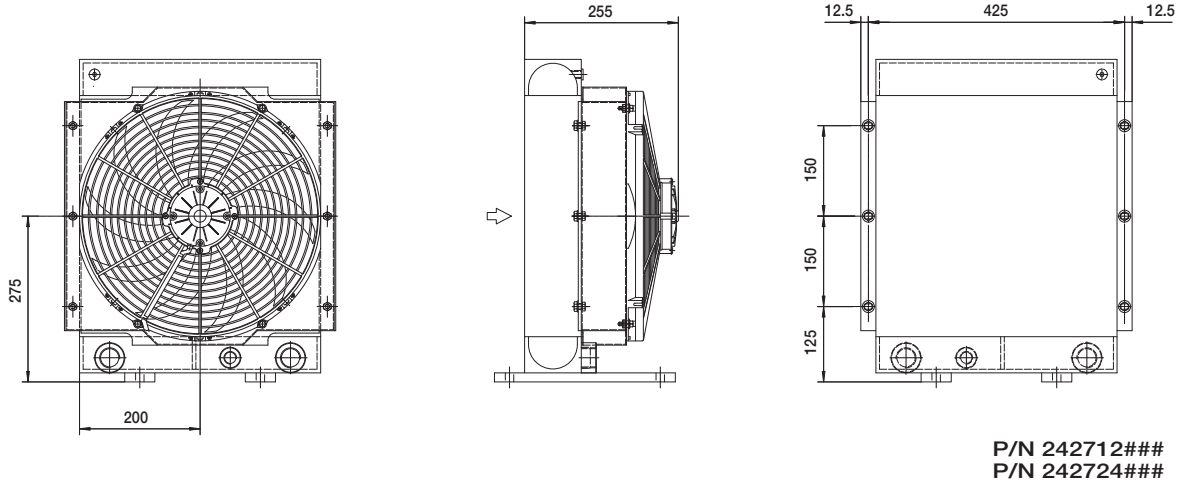
cst	10	15	20	30	40	50	60	80	100	200	300
F	0,5	0,65	0,77	1	1,2	1,4	1,6	1,9	2,1	3,3	4,3

HPA 24 - 2 Pass

Dimensioni *Dimensions*



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



P/N 242712###
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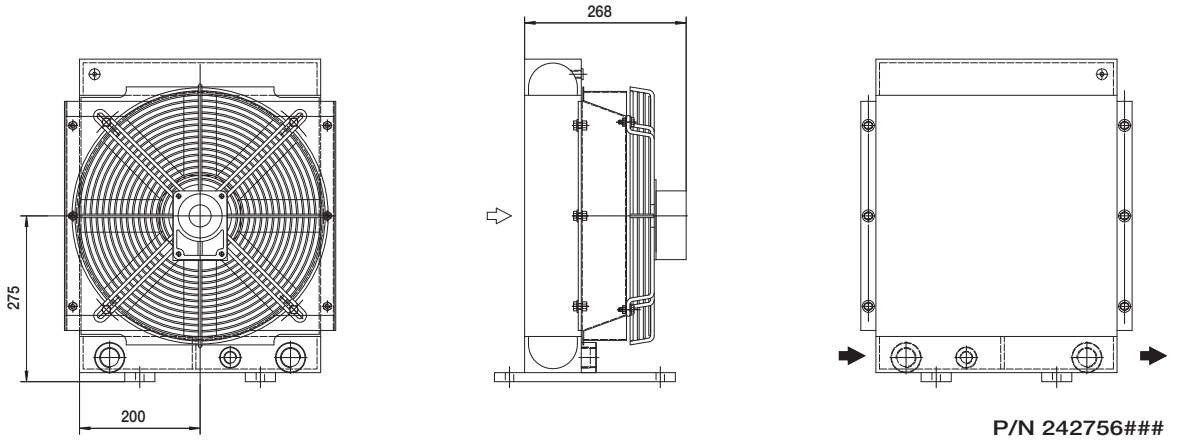


P/N 242756###

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

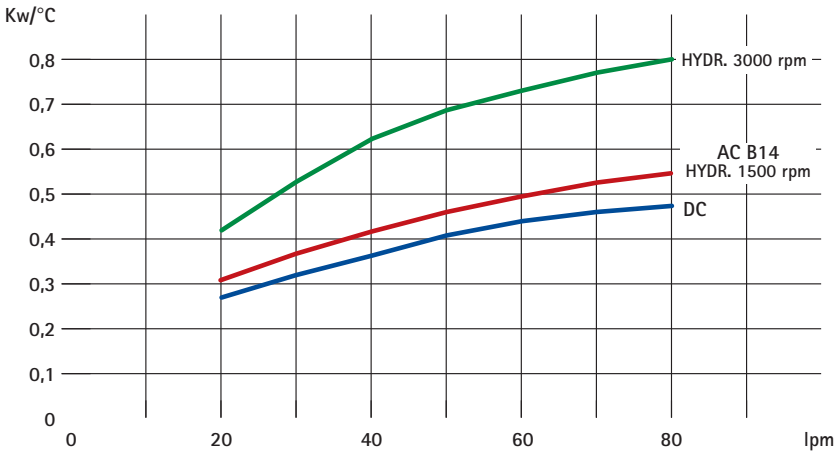
HPA 24 - 2 Pass

Dati tecnici *Technical Data*

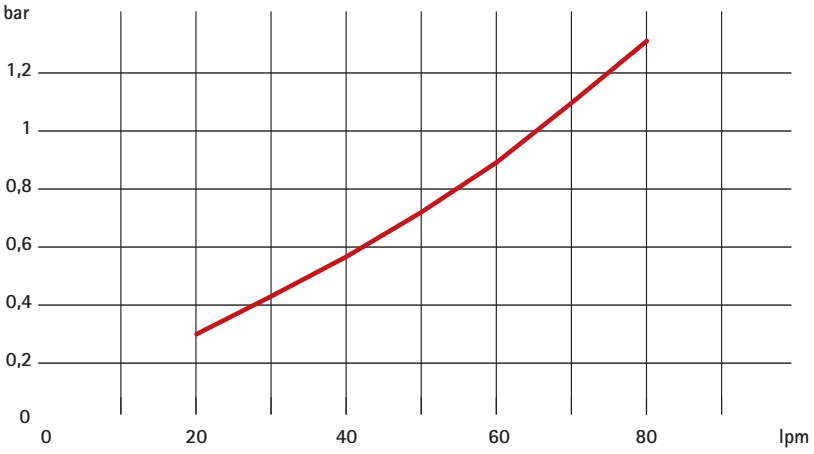
P/N	V	Hz	kW	A	rpm	ø Fan	dB(A)	(m³/h)	IP	lt	Kg
242703###	230-400 B14 AC	50/60	0,550	1,35	1450	400	79	2800	55	6,2	28
242712###	12 DC	/	0,210	13,2	2500	385	77	2100	65		22
242724###	24 DC	/	0,210	8,4	2500	385	80	2250	65		22
242756###	Prepared for Gr.2 hydraulic motor				☎	400	☎	☎	/		23

☎ Contattare il ns. Ufficio tecnico *Contact our Tech . Dpt*

Diagramma rendimento *Performance diagram*



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

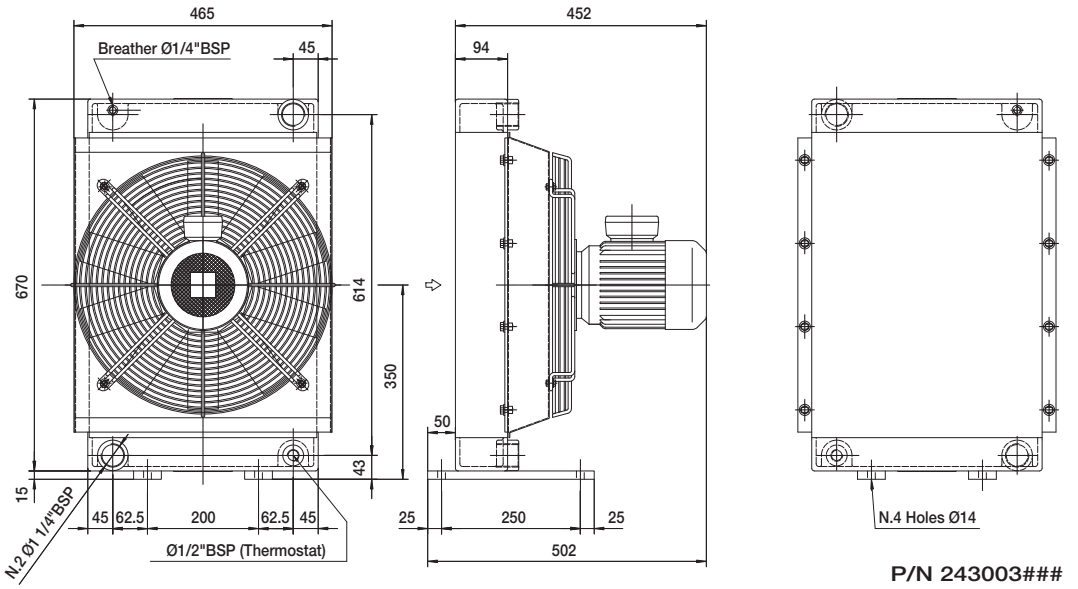


Fattore di correzione - F - (perdite di carico) *Correction factor - F - (Pressure drop)*

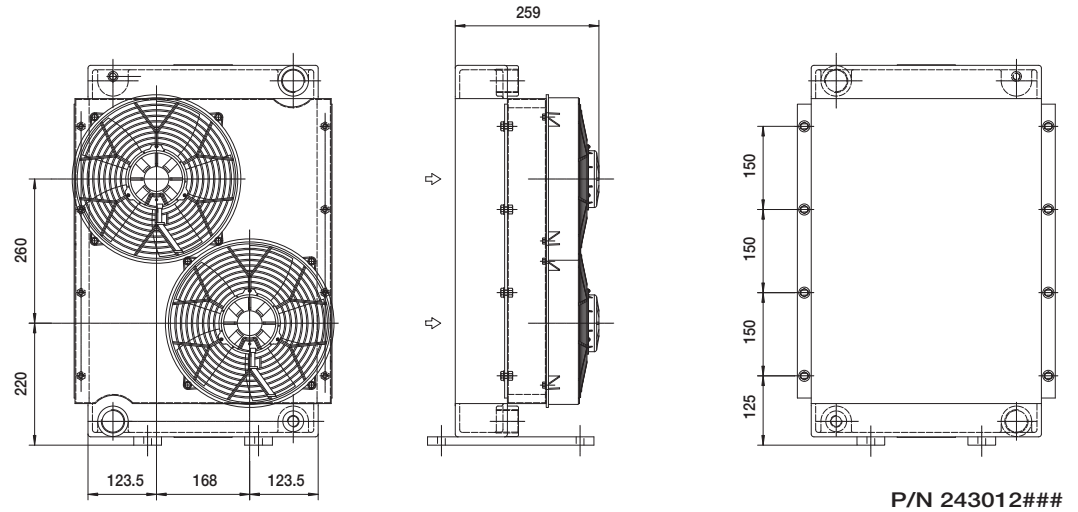
cst	10	15	20	30	40	50	60	80	100	200	300
F	0,5	0,65	0,77	1	1,2	1,4	1,6	1,9	2,1	3,3	4,3

HPA 30

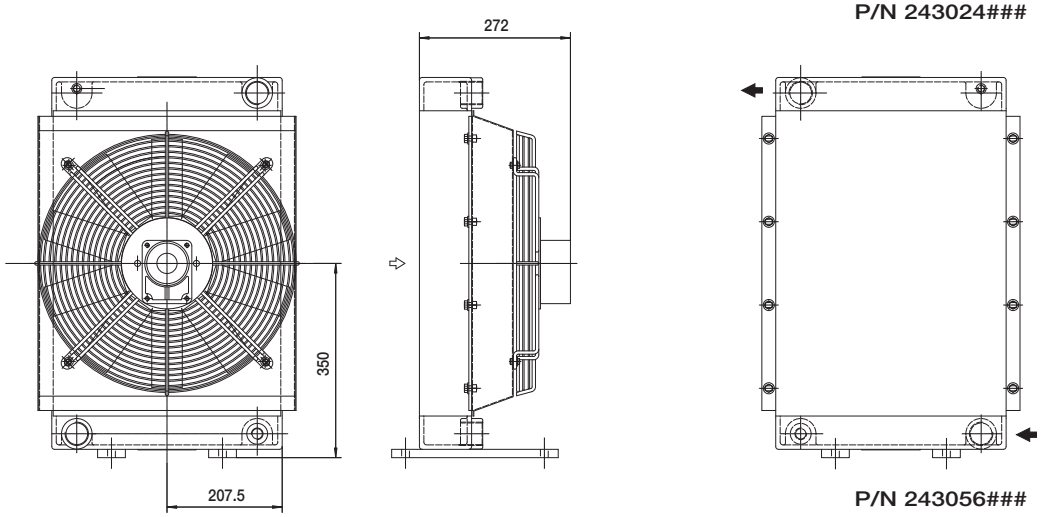
Dimensioni *Dimensions*



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

HPA 30

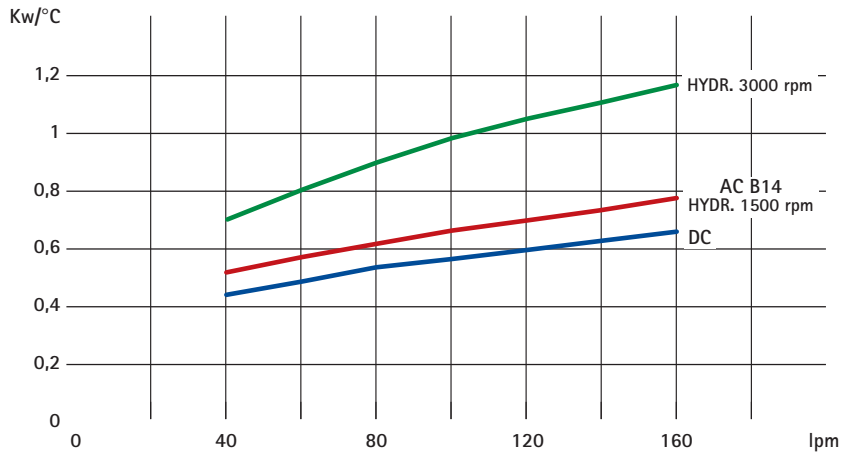
Dati tecnici *Technical Data*

P/N	V	Hz	kW	A	rpm	ø Fan	dB(A)	(m³/h)	IP	lt	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	65		32
243024###	24 DC	/	0,150	5,6	3100	280	78	1700	65		32
243056###	Prepared for Gr.2 hydraulic motor				☎	450	☎	☎	/		35

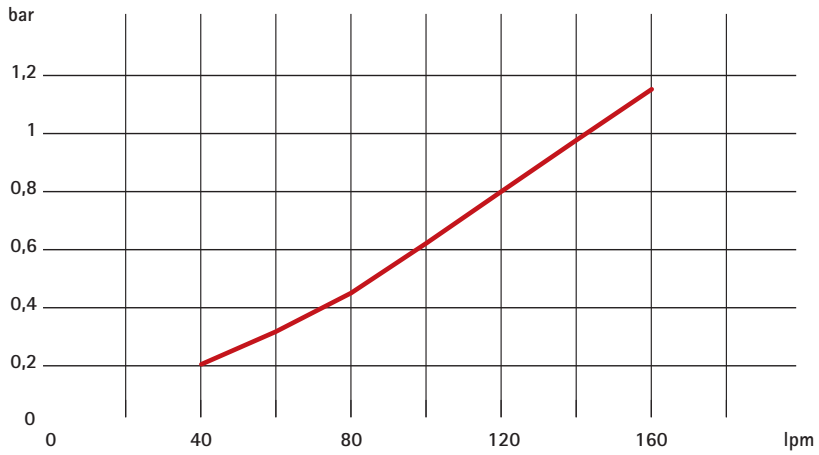
Per il 12-24V i dati sono riferiti al singolo ventilatore *For 12-24V the data refers to each ventilator*

☎ Contattare il ns. Ufficio tecnico *Contact our Tech . Dpt*

Diagramma rendimento *Performance diagram*



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

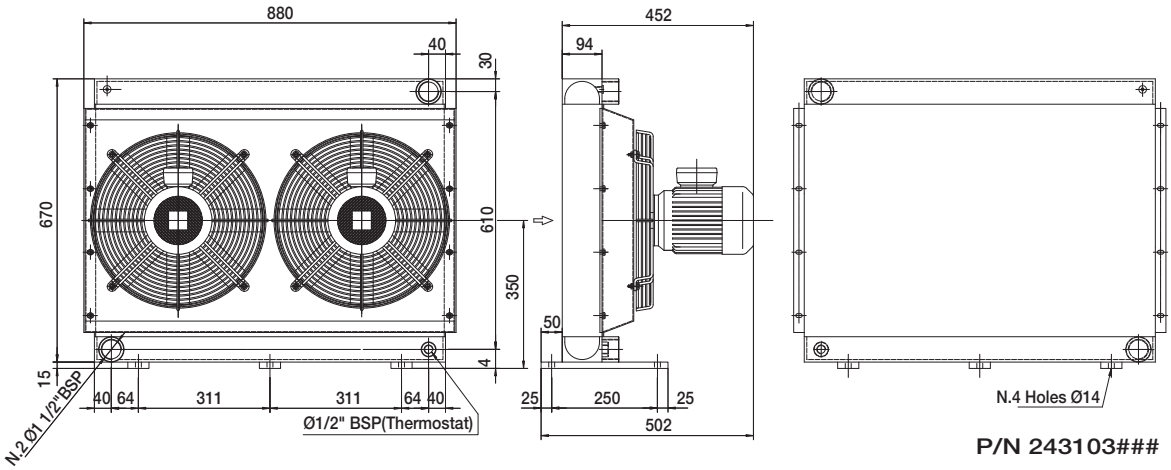


Fattore di correzione - F - (perdite di carico) *Correction factor - F - (Pressure drop)*

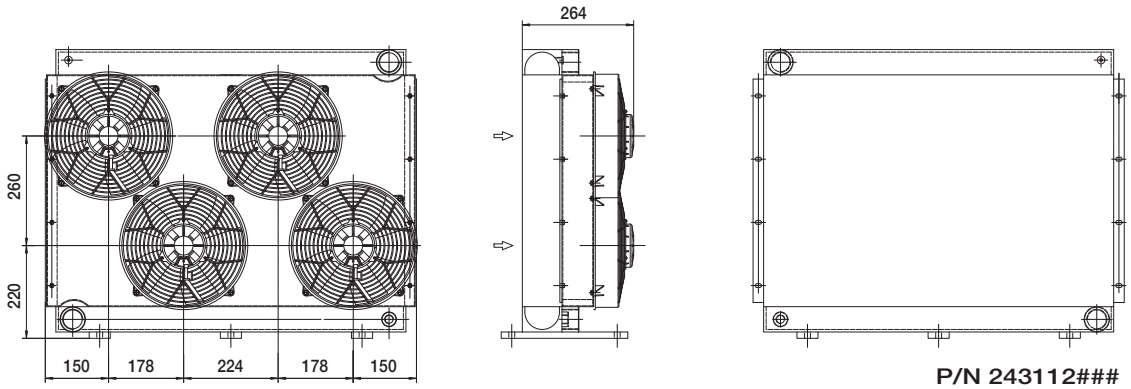
cst	10	15	20	30	40	50	60	80	100	200	300
F	0,5	0,65	0,77	1	1,2	1,4	1,6	1,9	2,1	3,3	4,3

HPA 30 / 2

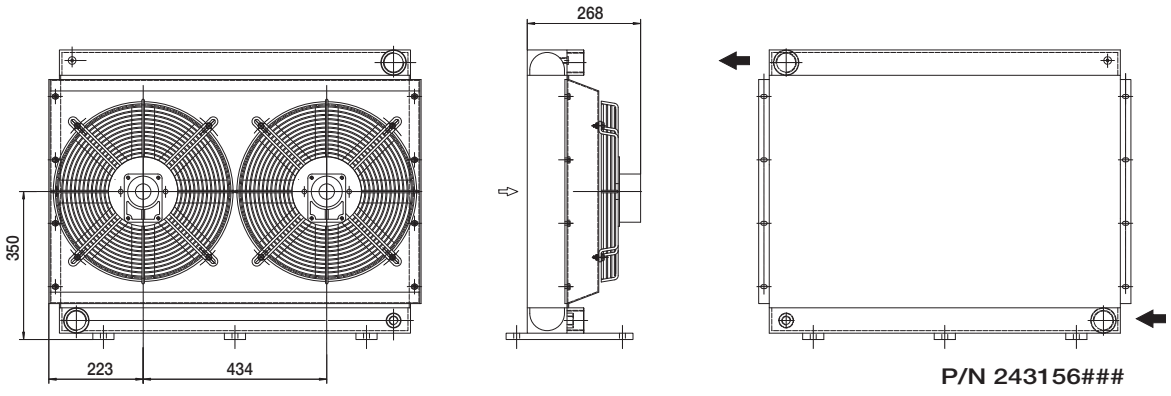
Dimensioni *Dimensions*



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

HPA 30 / 2

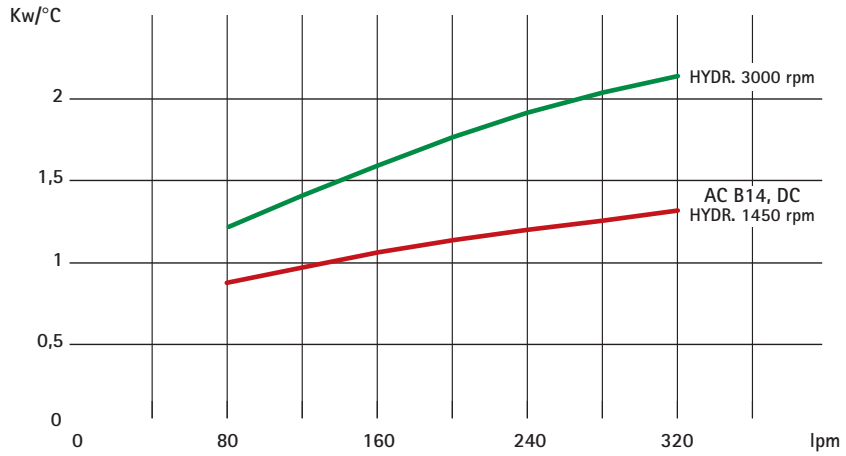
Dati tecnici *Technical Data*

P/N	V	Hz	kW	A	rpm	ø Fan	dB(A)	(m³/h)	IP	lt	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	65		64
243124###	24 DC	/	0,150	5,6	3100	280	81	1700	65		64
243156###	Prepared for Gr.2 hydraulic motor				☎	400	☎	☎	/		70

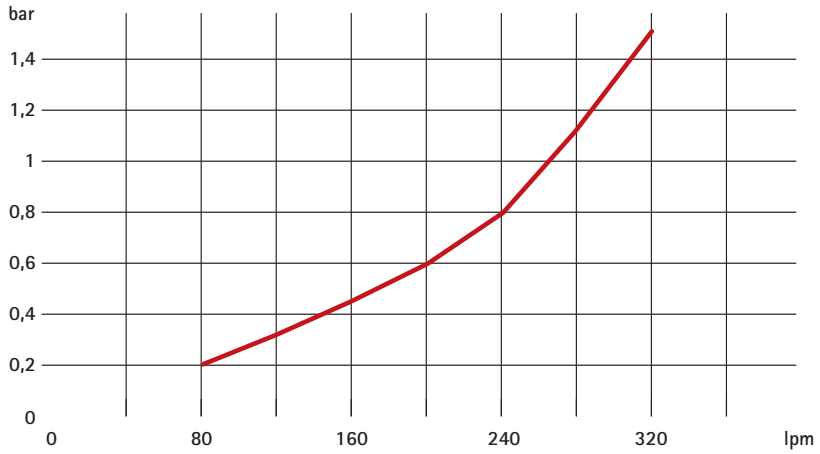
I dati sono riferiti al singolo ventilatore *The data refers to each ventilator*

☎ Contattare il ns. Ufficio tecnico *Contact our Tech . Dpt*

Diagramma rendimento *Performance diagram*



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

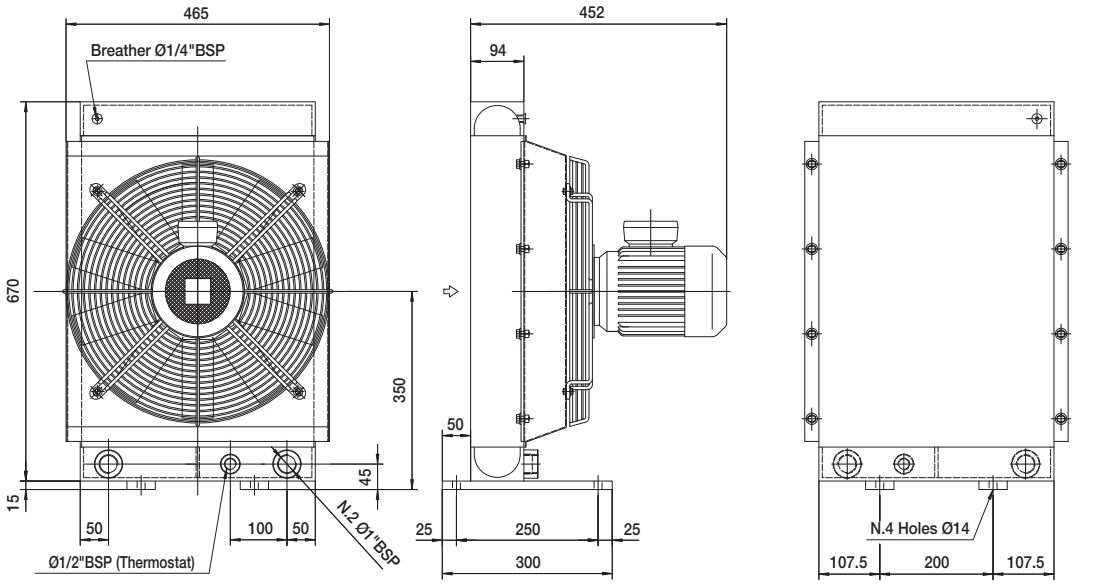


Fattore di correzione - F - (perdite di carico) *Correction factor - F - (Pressure drop)*

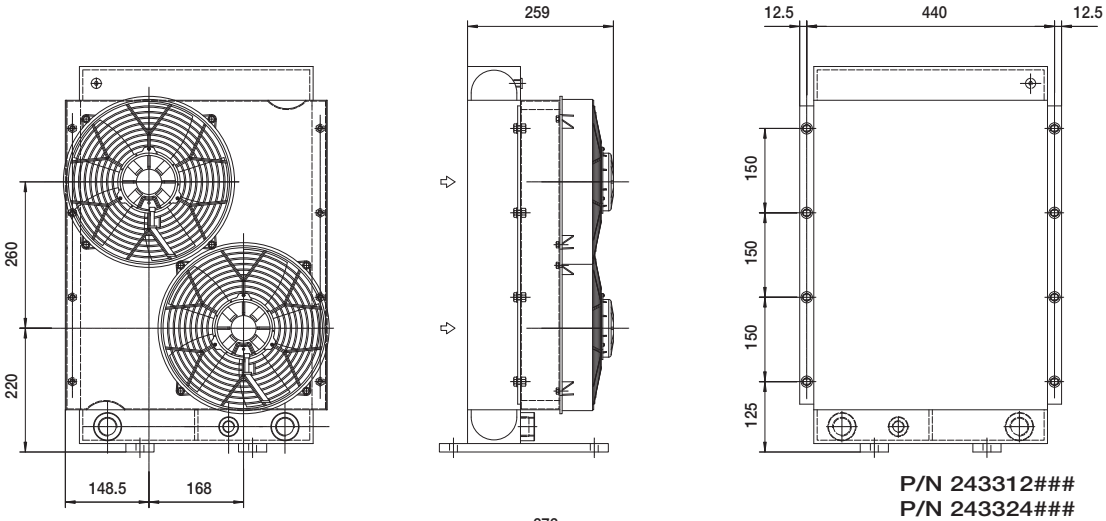
cst	10	15	20	30	40	50	60	80	100	200	300
F	0,5	0,65	0,77	1	1,2	1,4	1,6	1,9	2,1	3,3	4,3

HPA 30 - 2 Pass

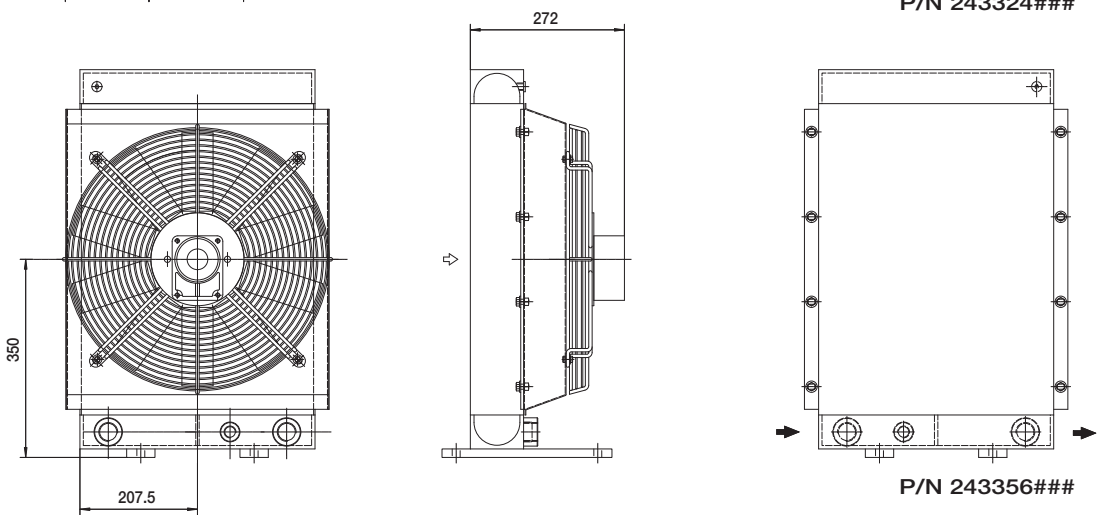
Dimensioni *Dimensions*



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

HPA 30 - 2 Pass

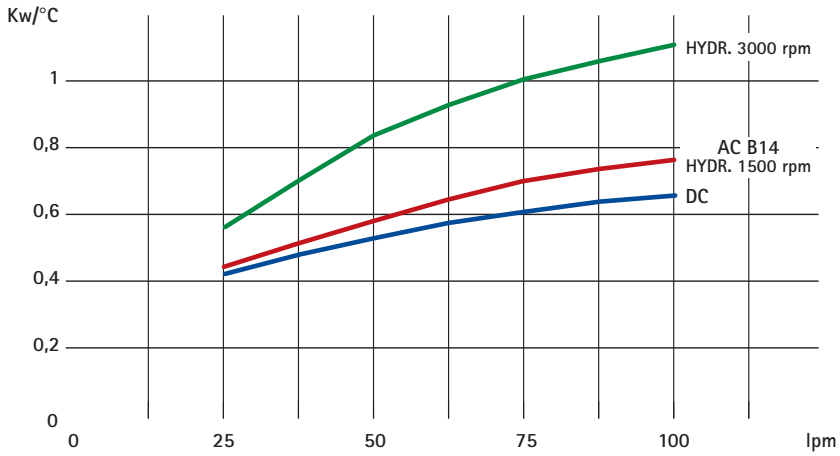
Dati tecnici *Technical Data*

P/N	V	Hz	kW	A	rpm	ø Fan	dB(A)	(m³/h)	IP	lt	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	65		32
243324###	24 DC	/	0,150	5,6	3100	280	78	1700	65		32
243356###	Prepared for Gr.2 hydraulic motor				☎	450	☎	☎	/		35

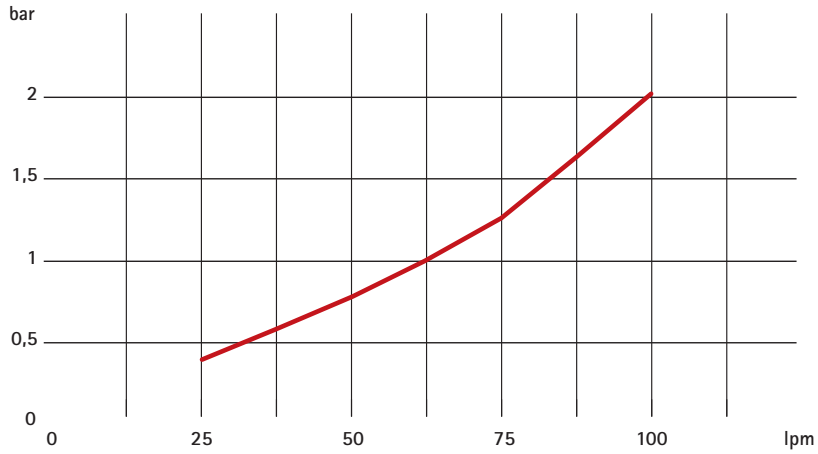
I dati sono riferiti al singolo ventilatore *The data refers to each ventilator*

☎ Contattare il ns. Ufficio tecnico *Contact our Tech . Dpt*

Diagramma rendimento *Performance diagram*



Perdite di carico *Pressure drop* (32 CST)

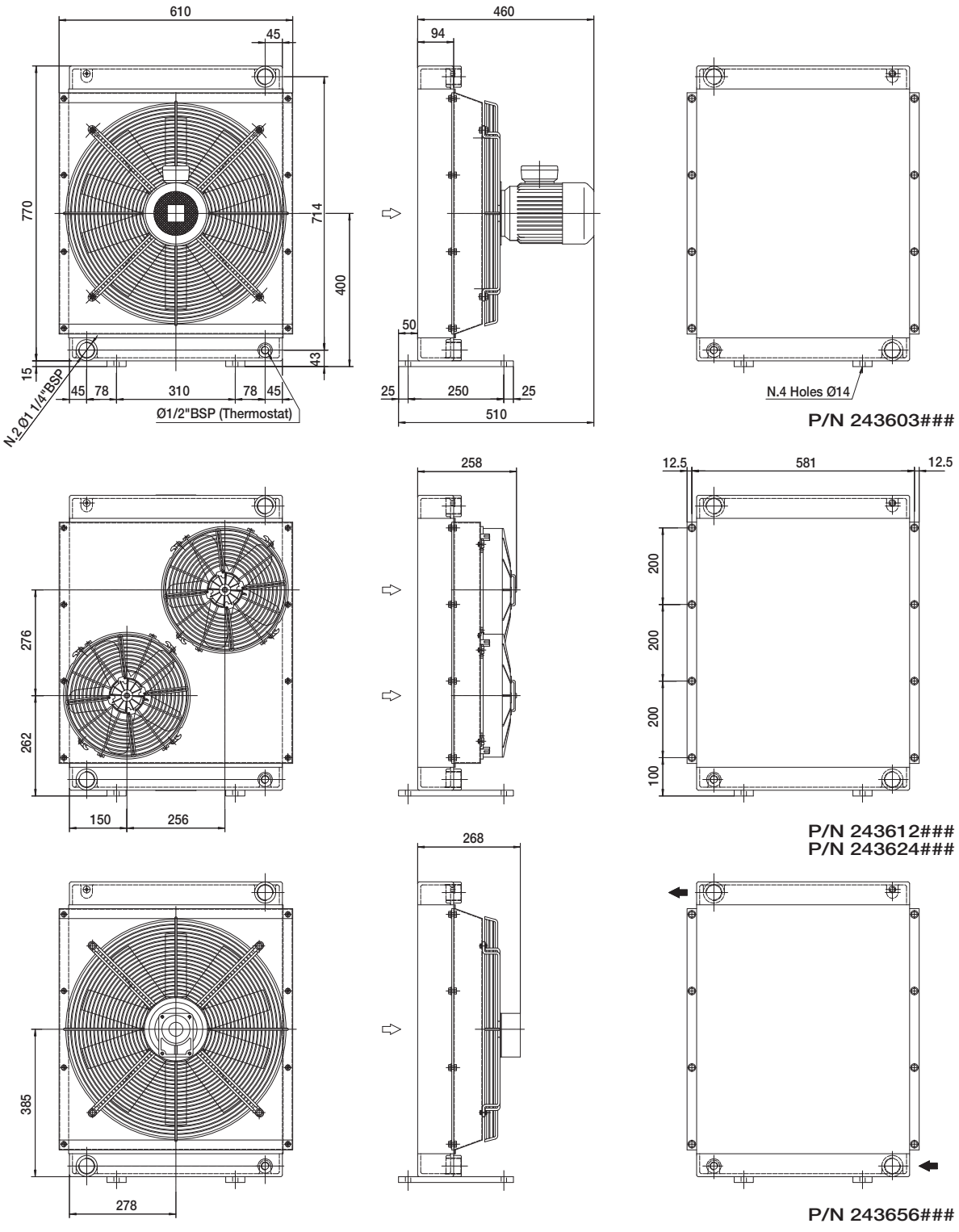


Fattore di correzione - F - (perdite di carico) *Correction factor - F - (Pressure drop)*

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

Dimensioni *Dimensions*



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

HPA 36

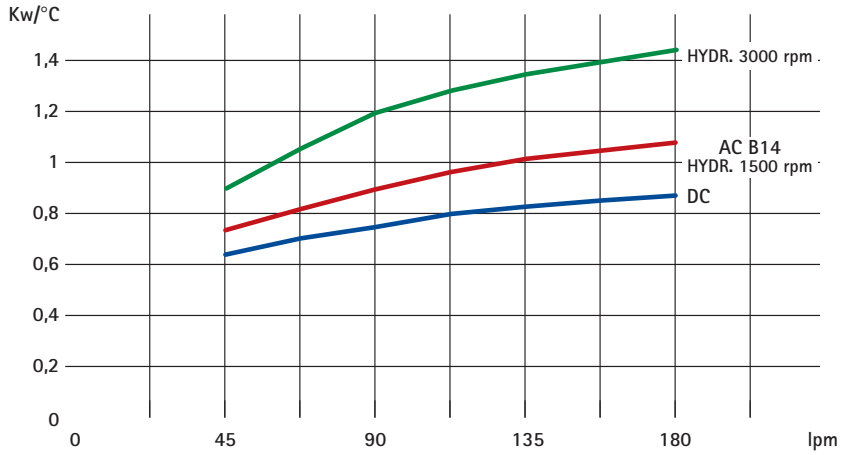
Dati tecnici *Technical Data*

P/N	V	Hz	kW	A	rpm	ø Fan	dB(A)	(m³/h)	IP	lt	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	64		50
243624###	24 DC	/	0,200	7,8	3100	305	84	2400	64		50
243656###	Prepared for Gr.2 hydraulic motor				☎	500	☎	☎	/		52

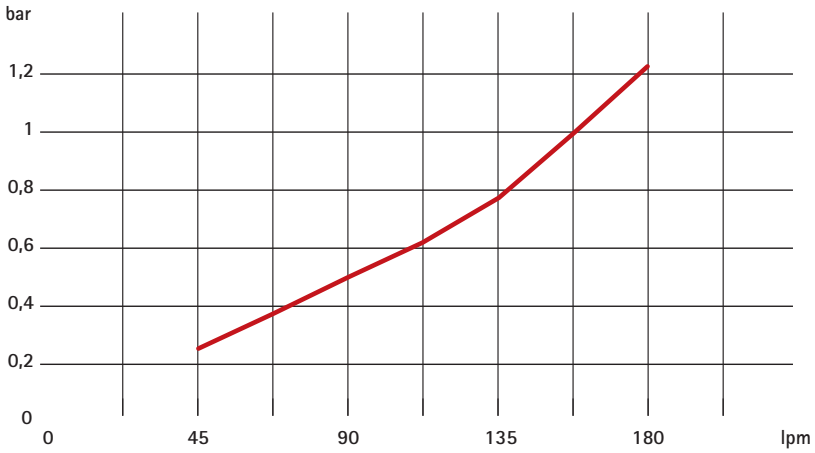
Per il 12-24V i dati sono riferiti al singolo ventilatore *For 12-24V the data refers to each ventilator*

☎ Contattare il ns. Ufficio tecnico *Contact our Tech . Dpt*

Diagramma rendimento *Performance diagram*



Perdite di carico *Pressure drop* (32 CST)

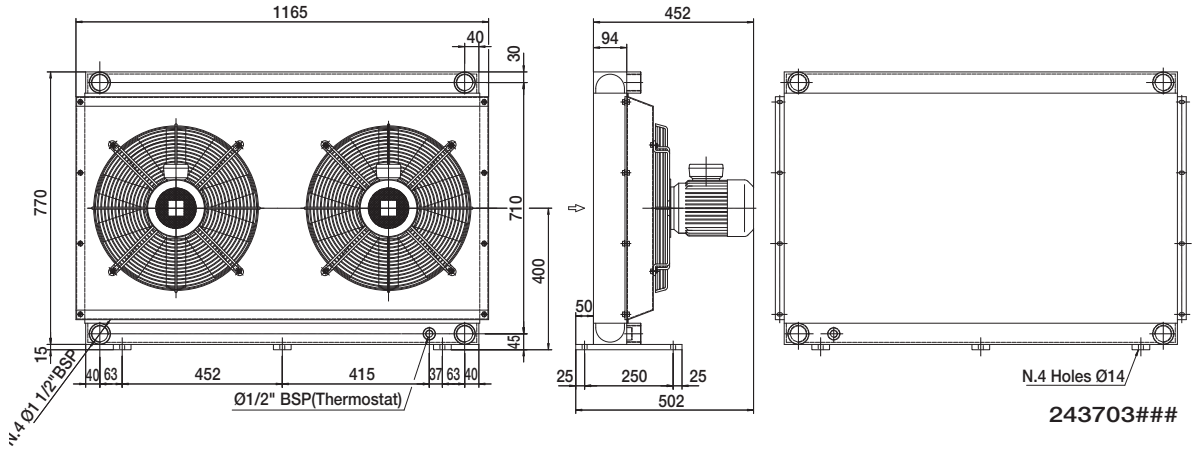


Fattore di correzione - F - (perdite di carico) *Correction factor - F - (Pressure drop)*

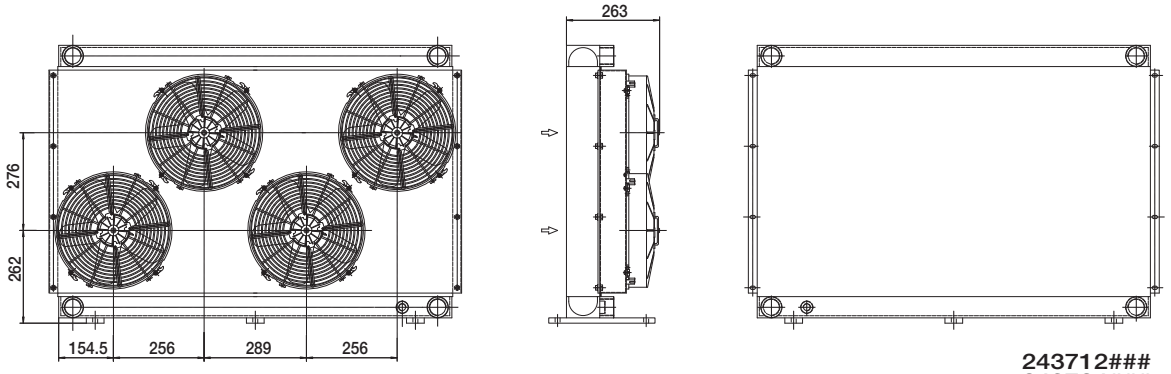
cst	10	15	20	30	40	50	60	80	100	200	300
F	0,5	0,65	0,77	1	1,2	1,4	1,6	1,9	2,1	3,3	4,3

HPA 36 / 2

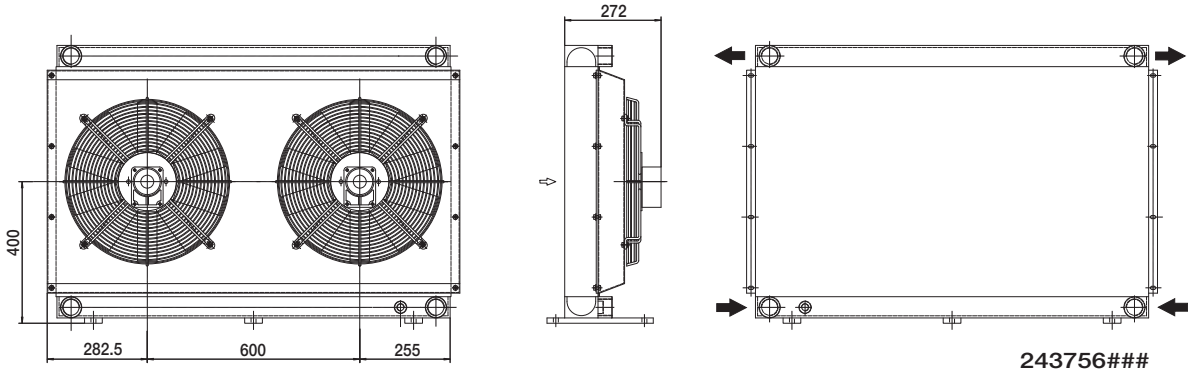
Dimensioni *Dimensions*



243703###



243712###
243724###



243756###

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

HPA 36 / 2

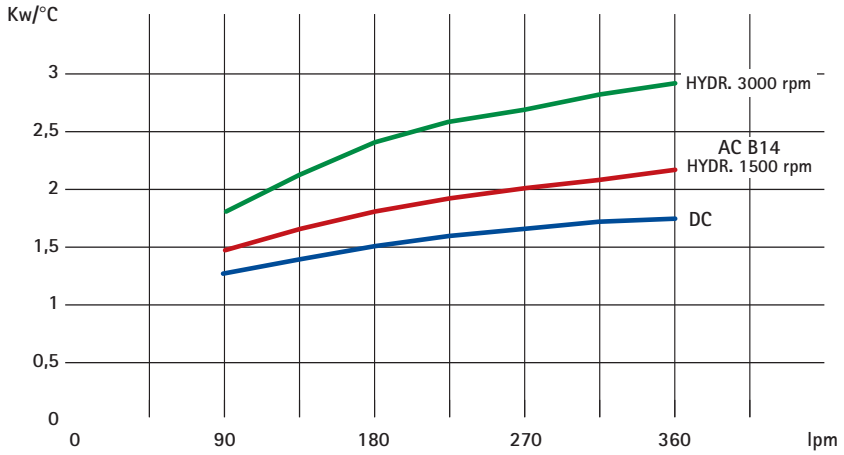
Dati tecnici *Technical Data*

P/N	V	Hz	kW	A	rpm	ø Fan	dB(A)	(m³/h)	IP	lt	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	64		100
243724###	24 DC	/	0,200	7,8	3100	305	87	2400	64		100
243756###	Prepared for Gr.2 hydraulic motor				☎	450	☎	☎	/		102

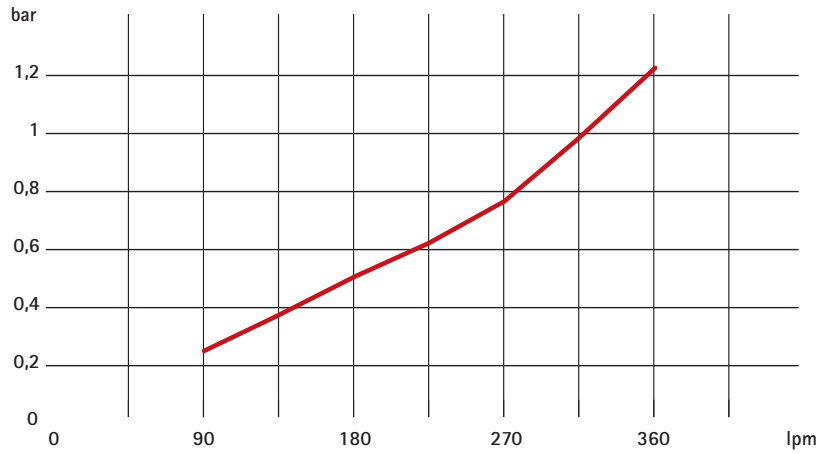
I dati sono riferiti al singolo ventilatore *The data refers to each ventilator*

☎ Contattare il ns. Ufficio tecnico *Contact our Tech . Dpt*

Diagramma rendimento *Performance diagram*



Perdite di carico *Pressure drop* (32 CST)

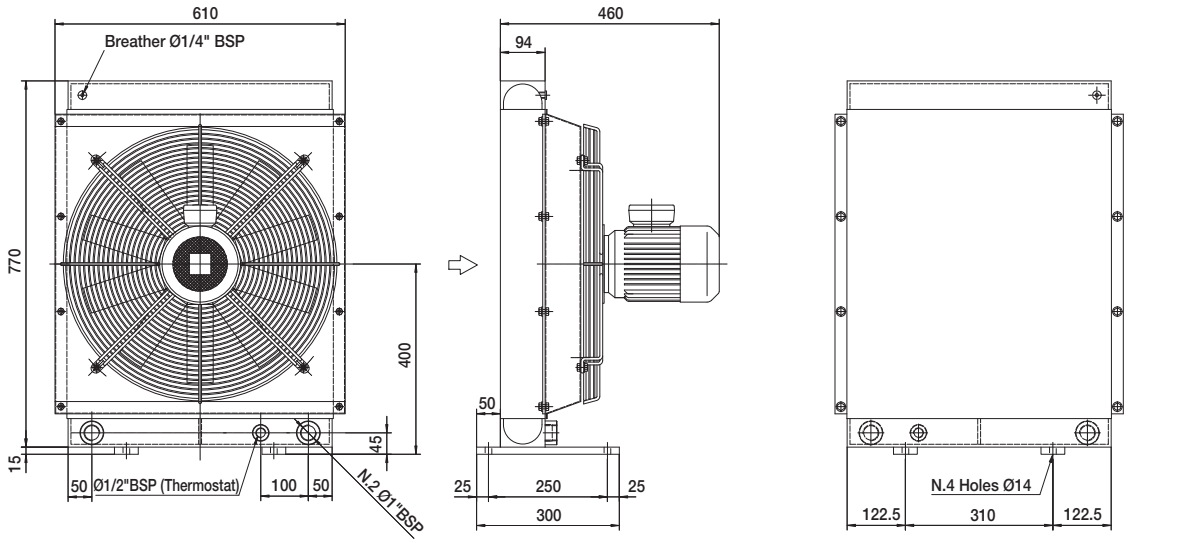


Fattore di correzione - F - (perdite di carico) *Correction factor - F - (Pressure drop)*

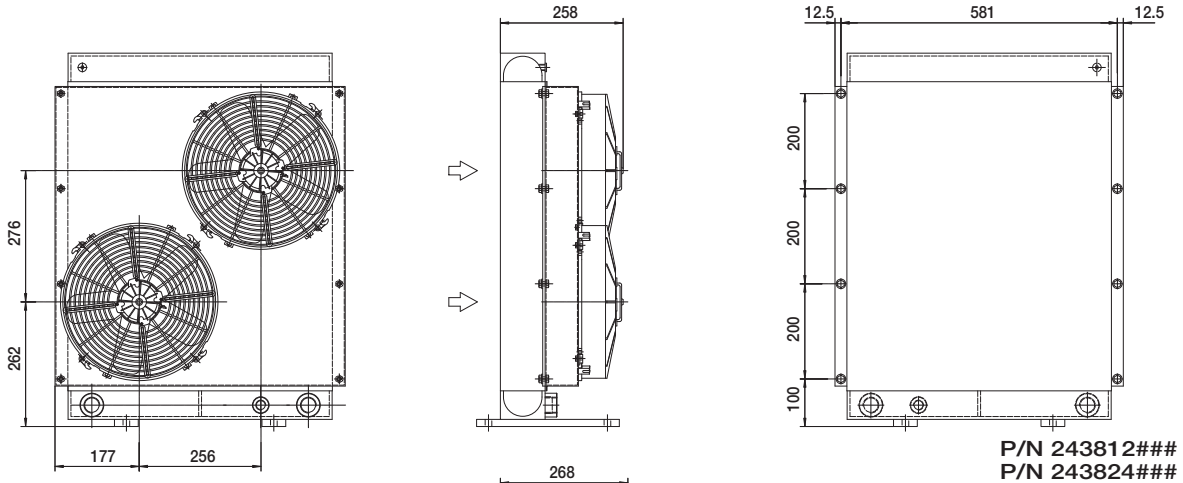
cst	10	15	20	30	40	50	60	80	100	200	300
F	0,5	0,65	0,77	1	1,2	1,4	1,6	1,9	2,1	3,3	4,3

HPA 36 - 2 Pass

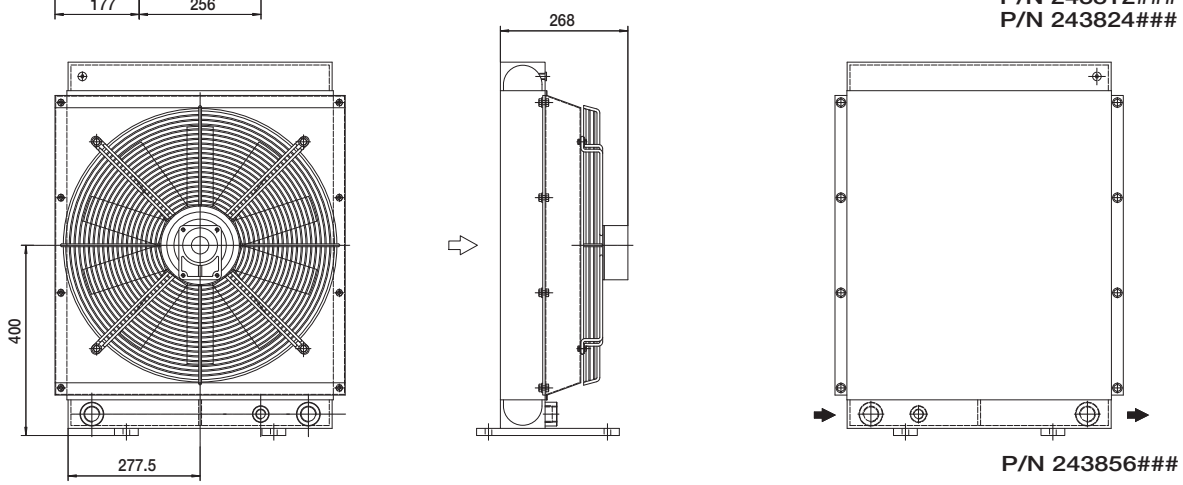
Dimensioni *Dimensions*



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

HPA 36 - 2 Pass

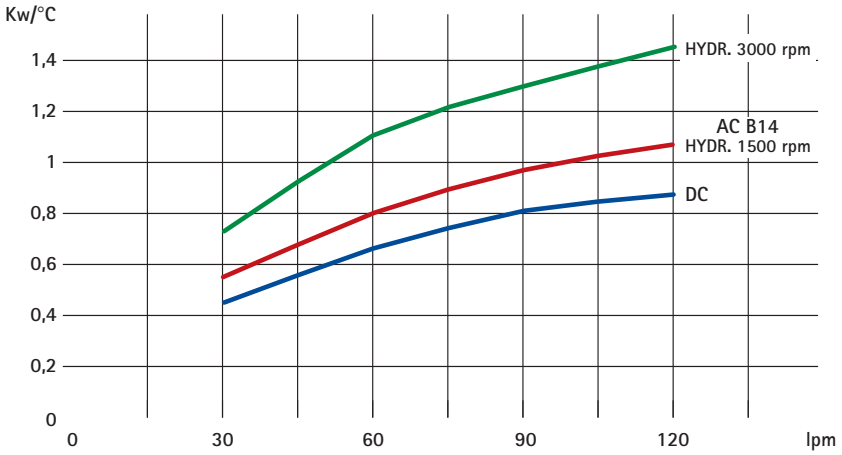
Dati tecnici *Technical Data*

P/N	V	Hz	kW	A	rpm	ø Fan	dB(A)	(m³/h)	IP	lt	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	64		50
243824###	24 DC	/	0,200	7,8	3100	305	84	2400	64		50
243856###	Prepared for Gr.2 hydraulic motor				☎	500	☎	☎	/		52

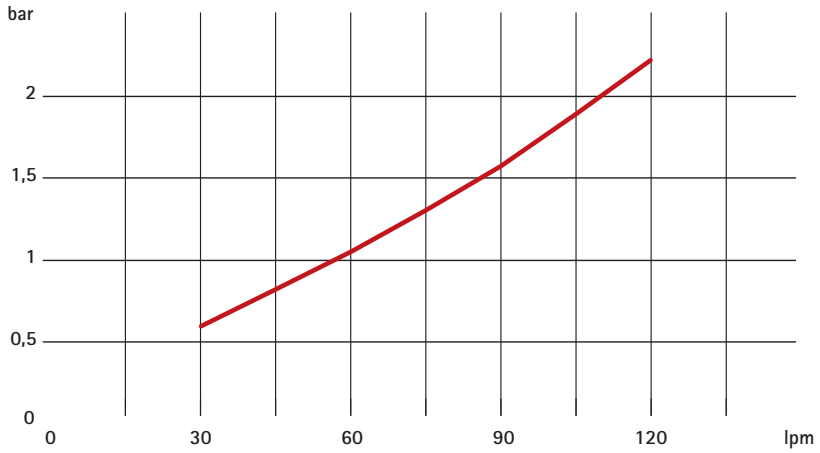
Per il 12-24V i dati sono riferiti al singolo ventilatore *For 12-24V the data refers to each ventilator*

☎ Contattare il ns. Ufficio tecnico *Contact our Tech . Dpt*

Diagramma rendimento *Performance diagram*



Perdite di carico *Pressure drop* (32 CST)

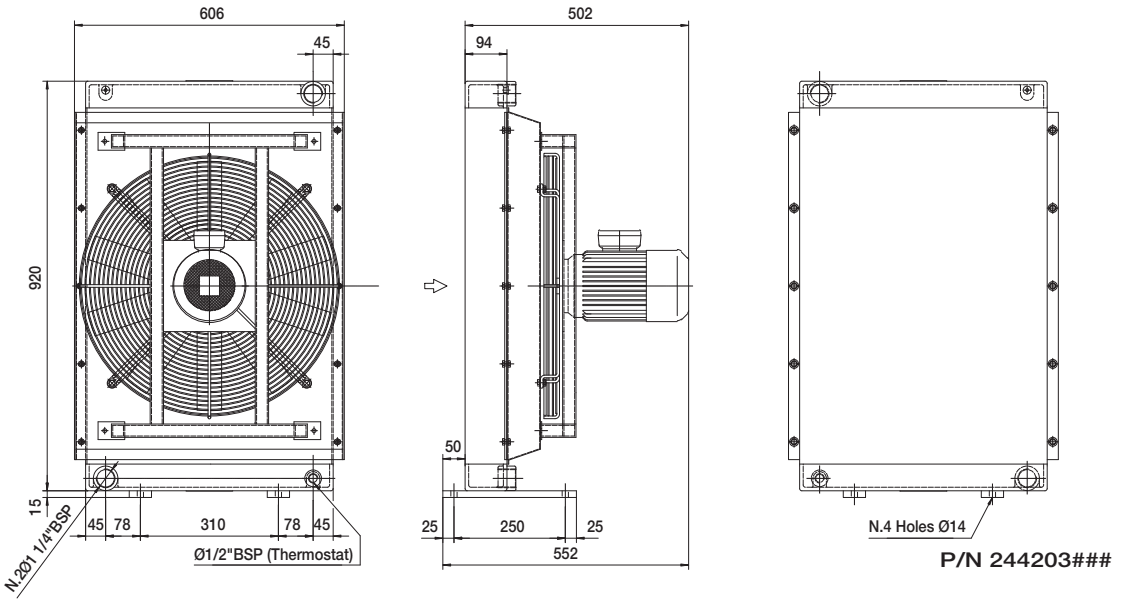


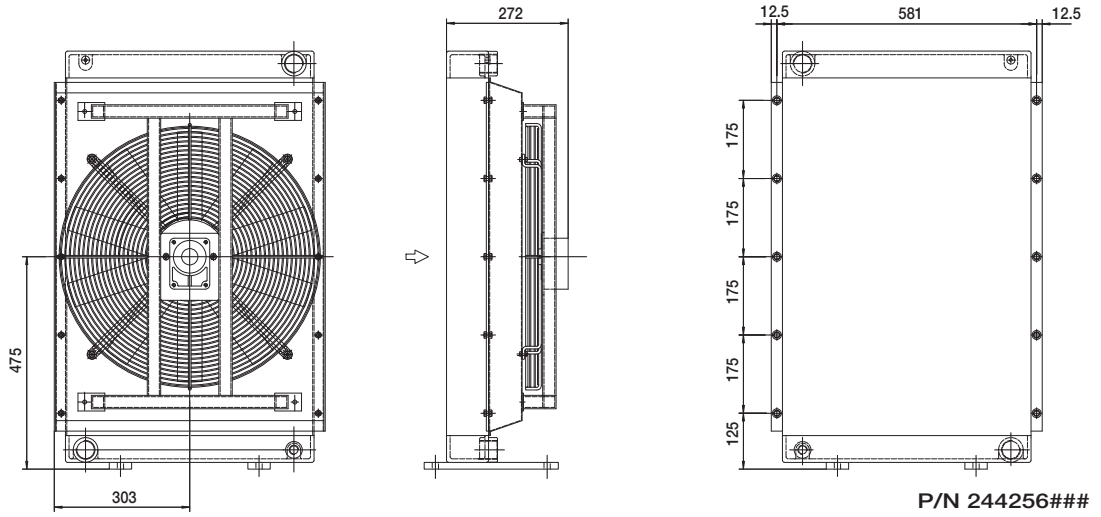
Fattore di correzione - F - (perdite di carico) *Correction factor - F - (Pressure drop)*

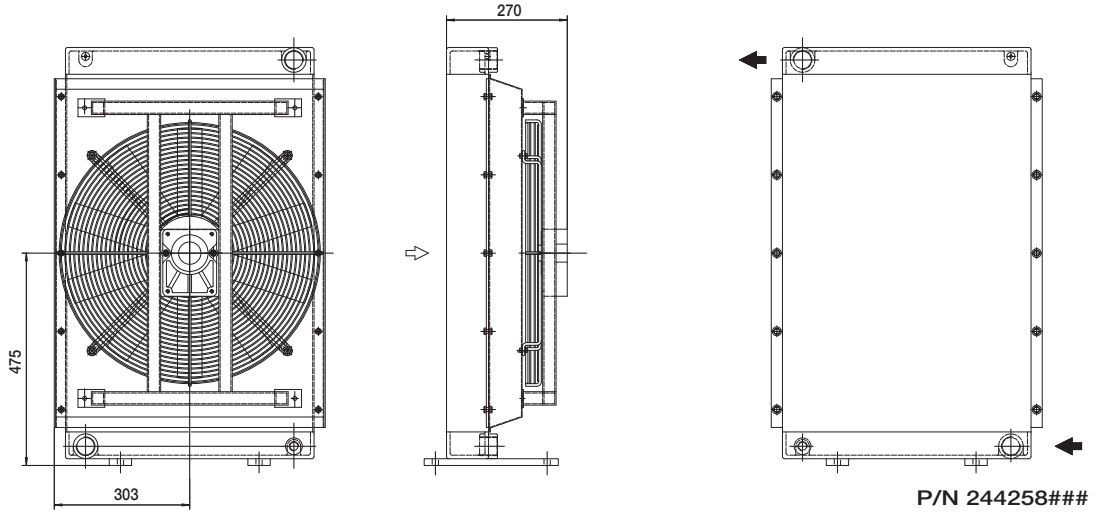
cst	10	15	20	30	40	50	60	80	100	200	300
F	0,5	0,65	0,77	1	1,2	1,4	1,6	1,9	2,1	3,3	4,3

HPA 42

Dimensioni *Dimensions*







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

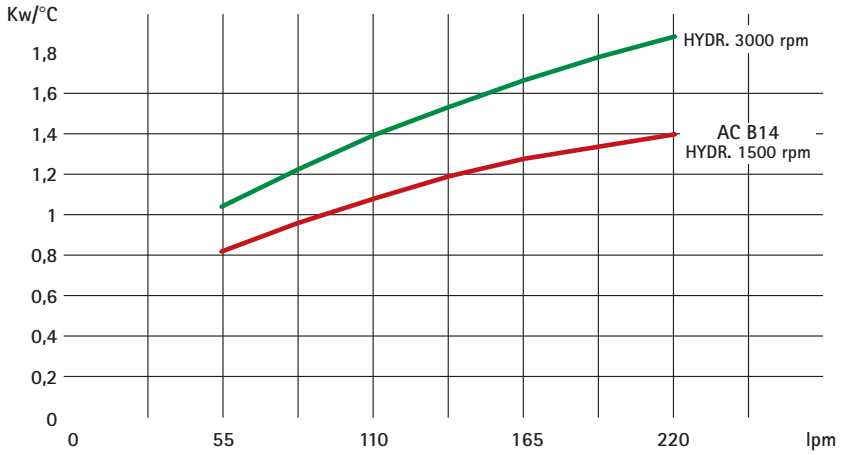
HPA 42

Dati tecnici *Technical Data*

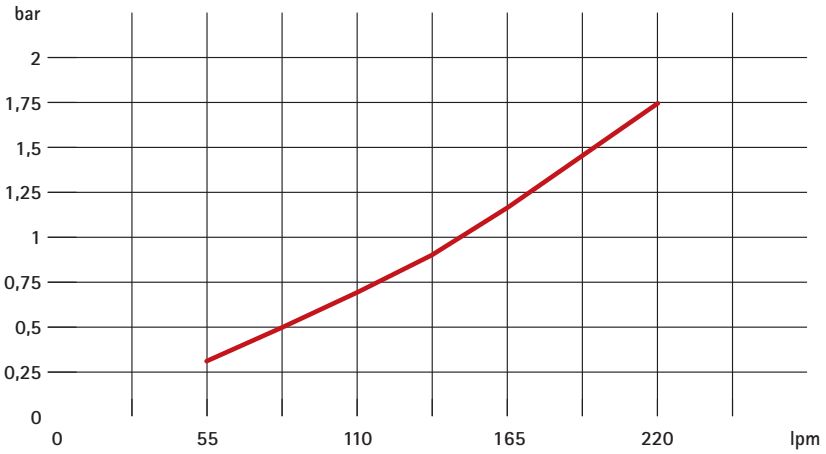
P/N	V	Hz	kW	A	rpm	ø Fan	dB(A)	(m³/h)	IP	lt	Kg
244203###	230-400 B14 AC	50/60	1,1	2,5	1450	560	84	7550	55	10,6	65
244256###	Prepared for Gr.2 hydraulic motor				☎	560	☎	☎	/		58
244258###	Prepared for Gr.3 hydraulic motor				☎	560	☎	☎	/		58

☎ Contattare il ns. Ufficio tecnico *Contact our Tech . Dpt*

Diagramma rendimento *Performance diagram*



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

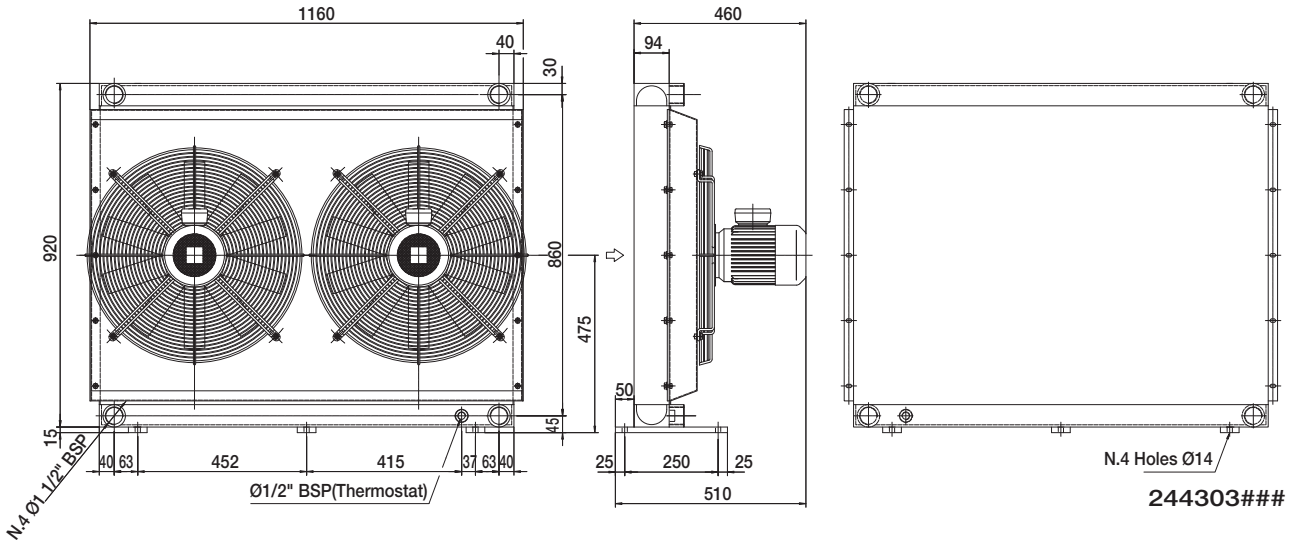


Fattore di correzione - F - (perdite di carico) *Correction factor - F - (Pressure drop)*

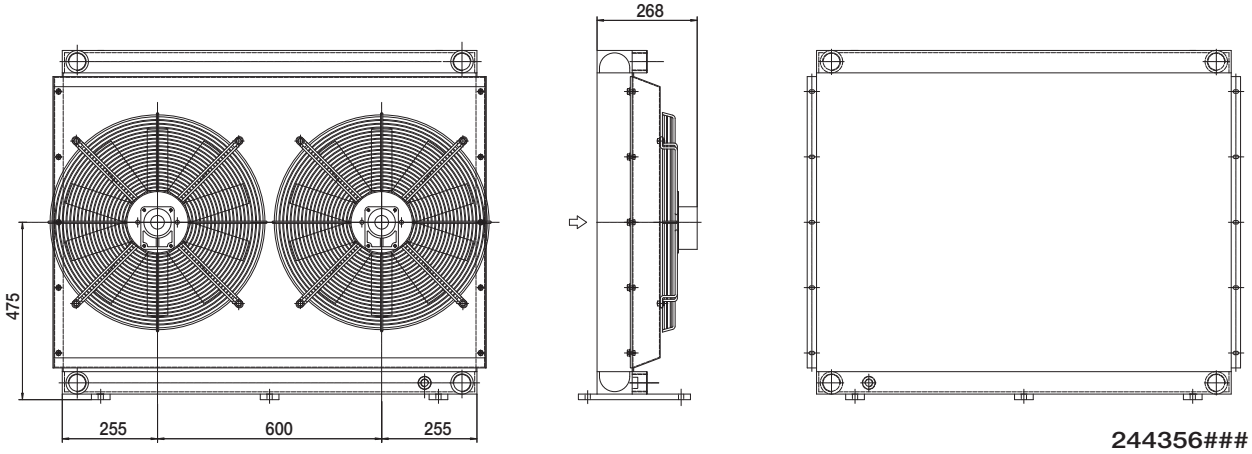
cst	10	15	20	30	40	50	60	80	100	200	300
F	0,5	0,65	0,77	1	1,2	1,4	1,6	1,9	2,1	3,3	4,3

HPA 42 / 2

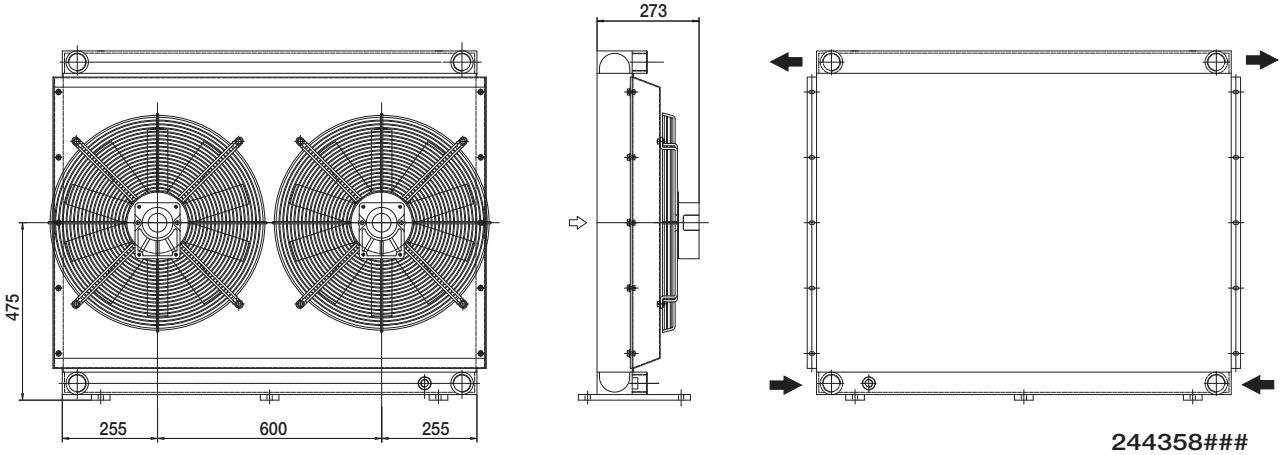
Dimensioni *Dimensions*



244303###



244356###



244358###

HPA 42 / 2

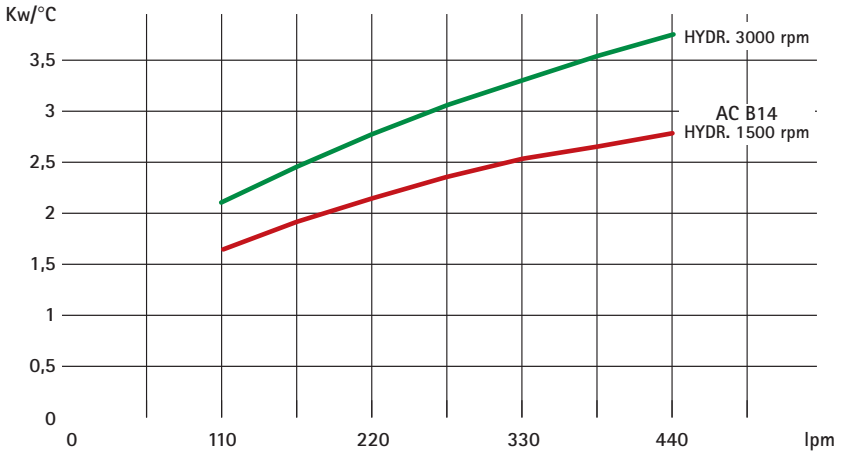
Dati tecnici *Technical Data*

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

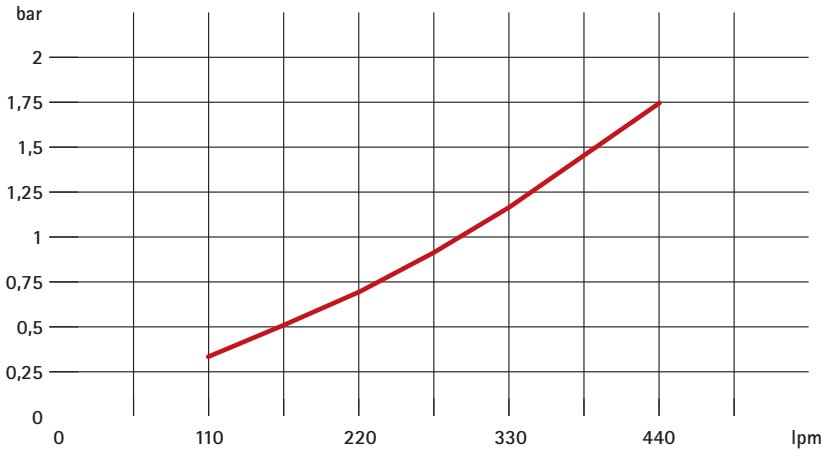
I dati sono riferiti al singolo ventilatore *The data refers to each ventilator*

☎ Contattare il ns. Ufficio tecnico *Contact our Tech . Dpt*

Diagramma rendimento *Performance diagram*



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

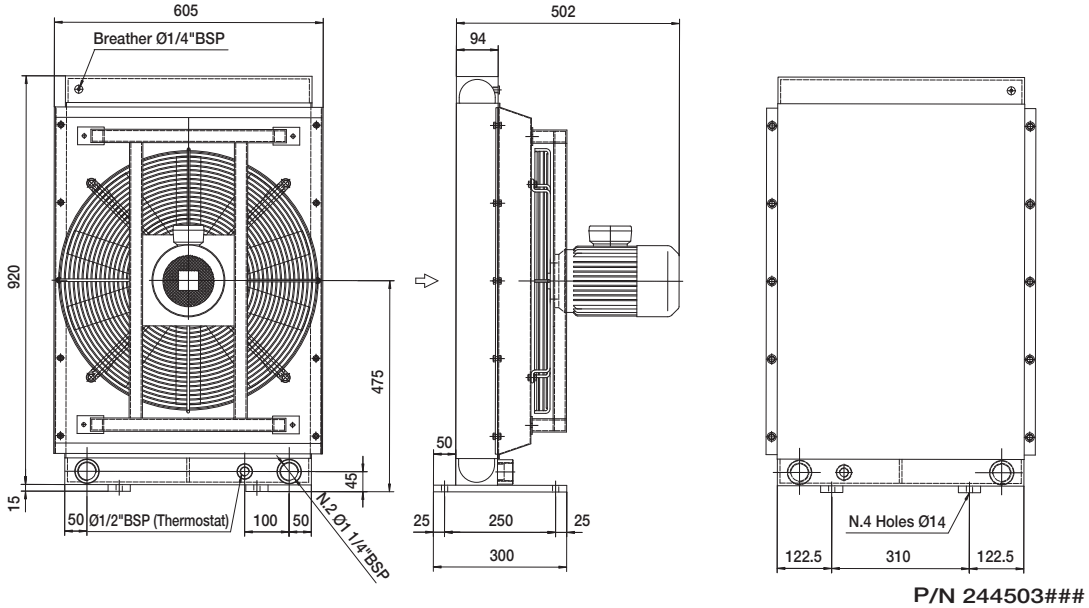


Fattore di correzione - F - (perdite di carico) *Correction factor - F - (Pressure drop)*

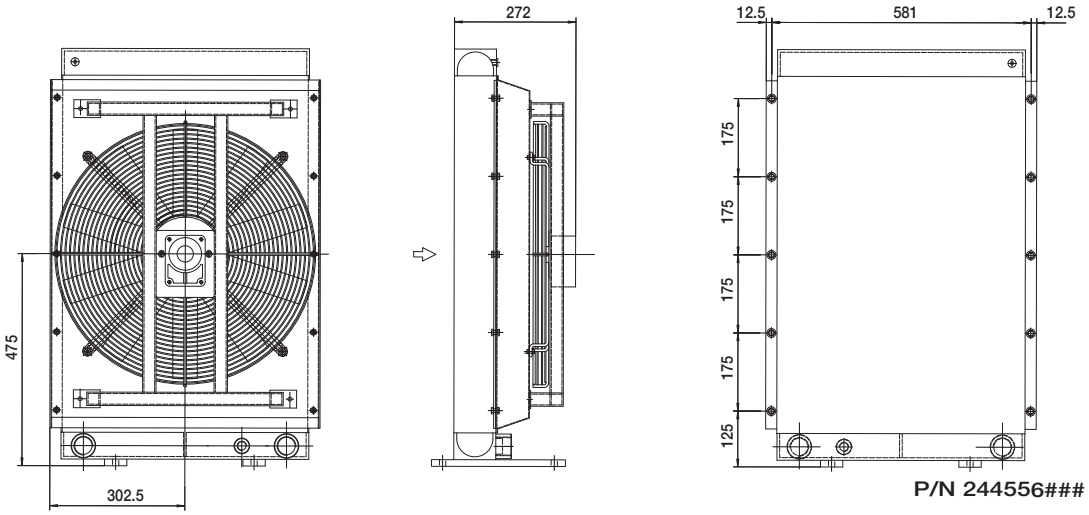
cst	10	15	20	30	40	50	60	80	100	200	300
F	0,5	0,65	0,77	1	1,2	1,4	1,6	1,9	2,1	3,3	4,3

HPA 42 - 2 Pass

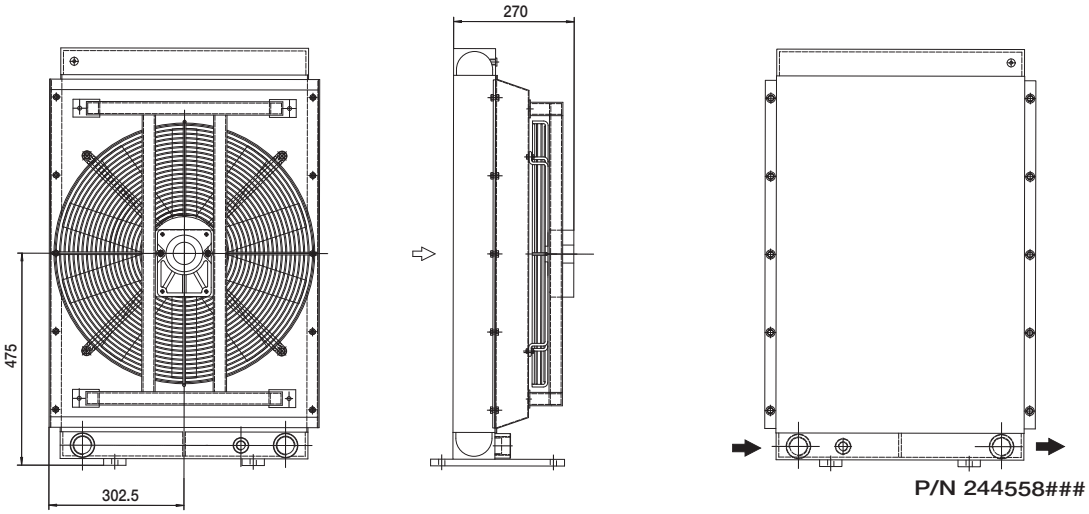
Dimensioni *Dimensions*



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

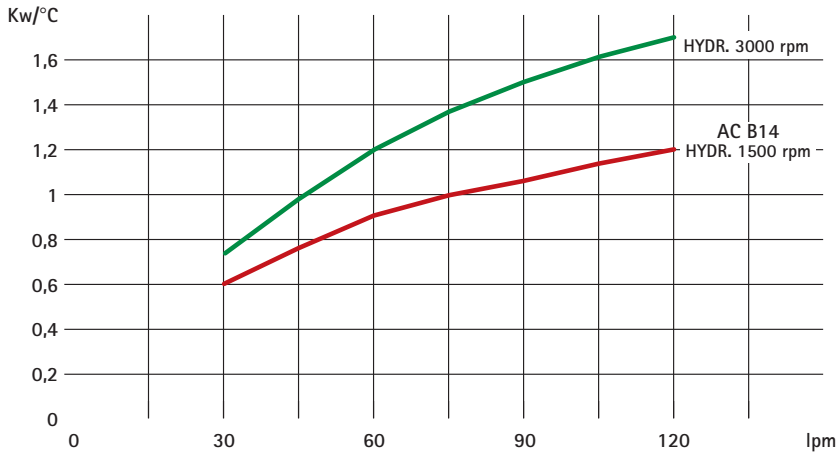
HPA 42 - 2 Pass

Dati tecnici *Technical Data*

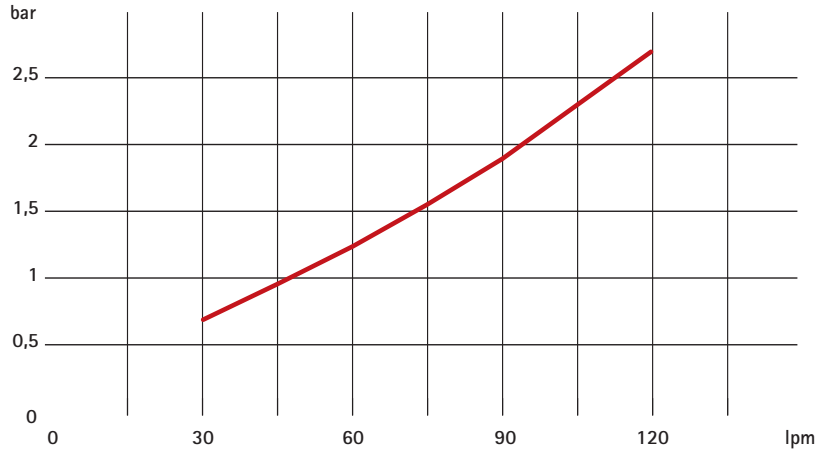
P/N	V	Hz	kW	A	rpm	ø Fan	dB(A)	(m³/h)	IP	lt	Kg
244503###	230-400 B14 AC	50/60	1,1	2,5	1450	560	84	7550	55	10,6	65
244556###	Prepared for Gr.2 hydraulic motor				☎	560	☎	☎	/		58
244558###	Prepared for Gr.3 hydraulic motor				☎	560	☎	☎	/		58

☎ Contattare il ns. Ufficio tecnico *Contact our Tech . Dpt*

Diagramma rendimento *Performance diagram*



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

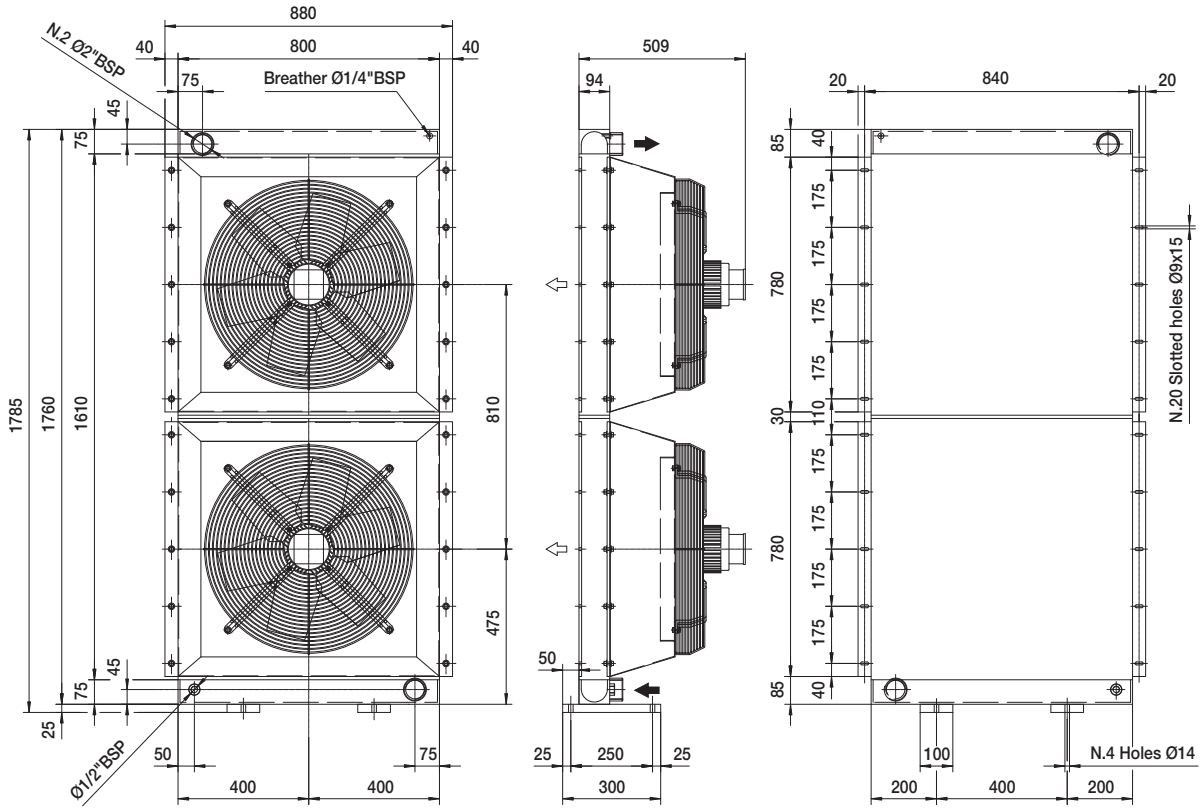


Fattore di correzione - F - (perdite di carico) *Correction factor - F - (Pressure drop)*

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

Dimensioni *Dimensions*



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

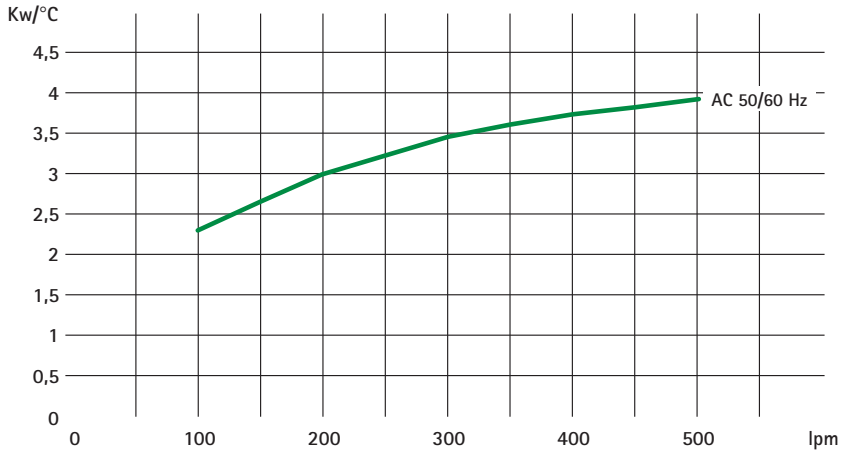
HPA 44 / 2

Dati tecnici *Technical Data*

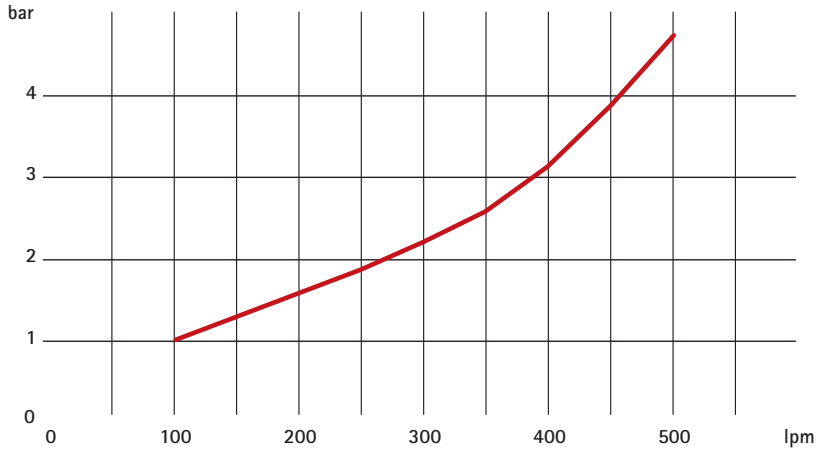
P/N	V	Hz	kW	A	rpm	ø Fan	dB(A)	(m³/h)	IP	lt	Kg
041650B40050#	230-400 AC	50	1,1	1,3	1420	560	78	10000	55	25	140
041650B40060#	230-400 AC	60	1,1	1,3	1720	560	78	10000	55		140

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)

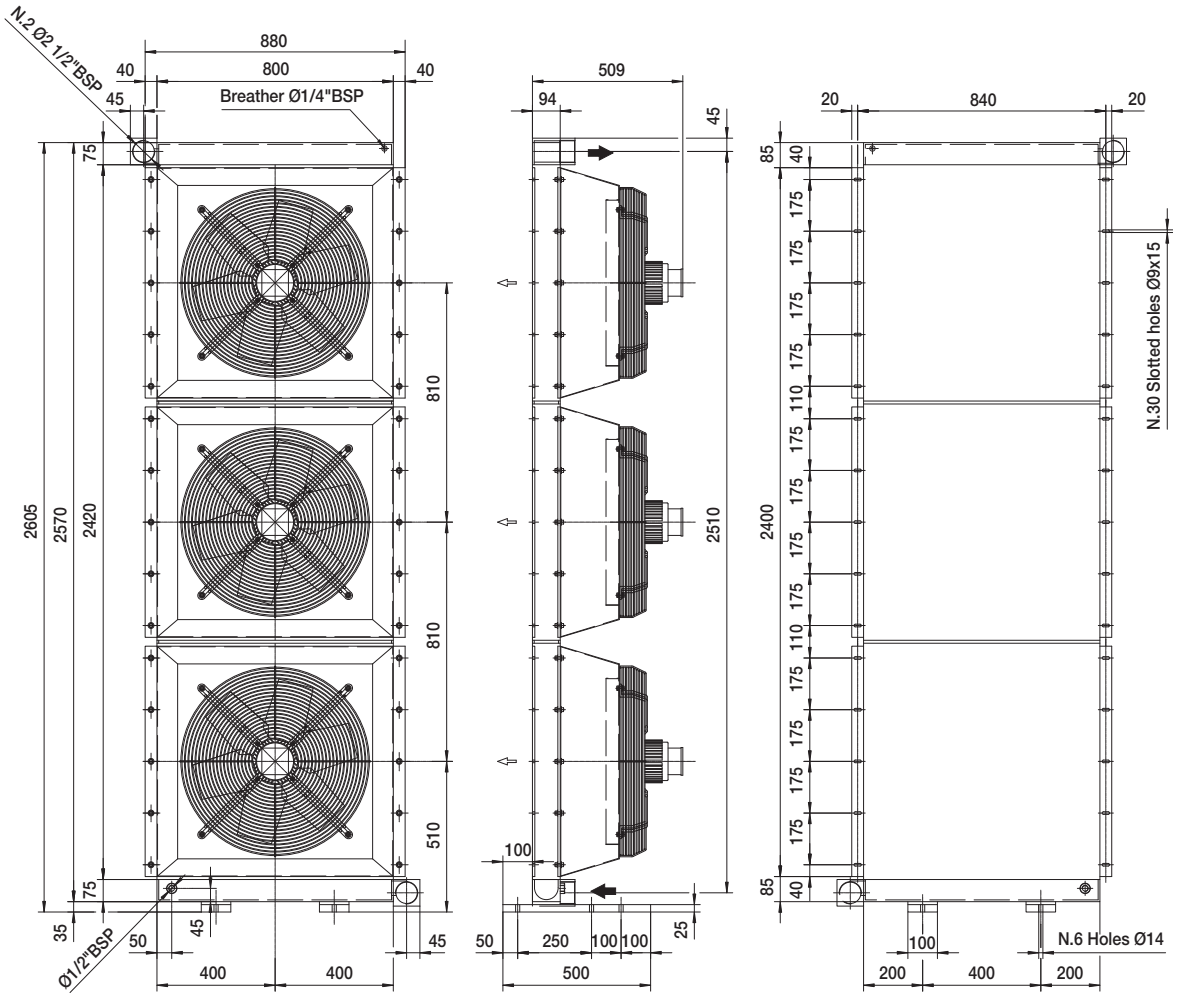


Fattore di correzione - F - (perdite di carico) *Correction factor - F - (Pressure drop)*

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 / 3

Dimensioni *Dimensions*



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

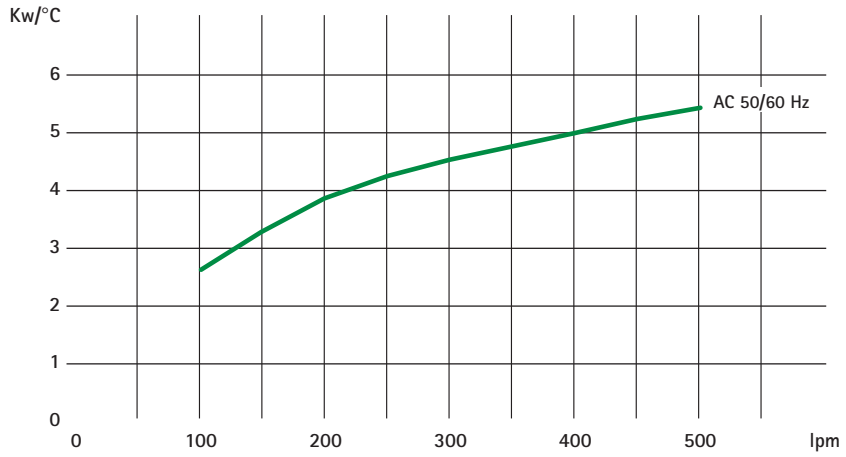
HPA 44 / 3

Dati tecnici *Technical Data*

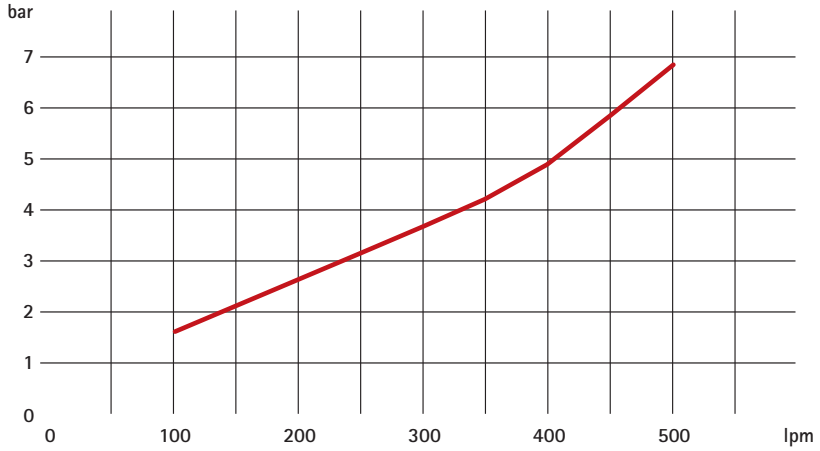
P/N	V	Hz	kW	A	rpm	ø Fan	dB(A)	(m³/h)	IP	lt	Kg
041240B40050#	230-400 AC	50	1,1	1,3	1420	560	81	10000	55	35	210
041240B40060#	230-400 AC	60	1,1	1,3	1720	560	81	10000	55		210

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

Diagramma rendimento *Performance diagram*



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

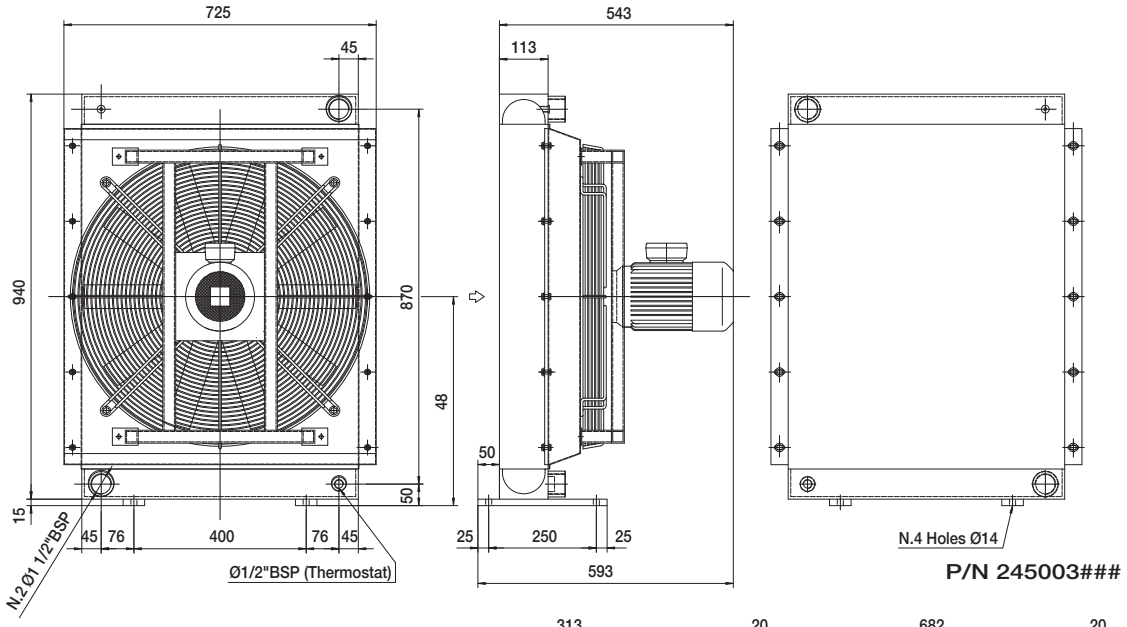


Fattore di correzione - F - (perdite di carico) *Correction factor - F - (Pressure drop)*

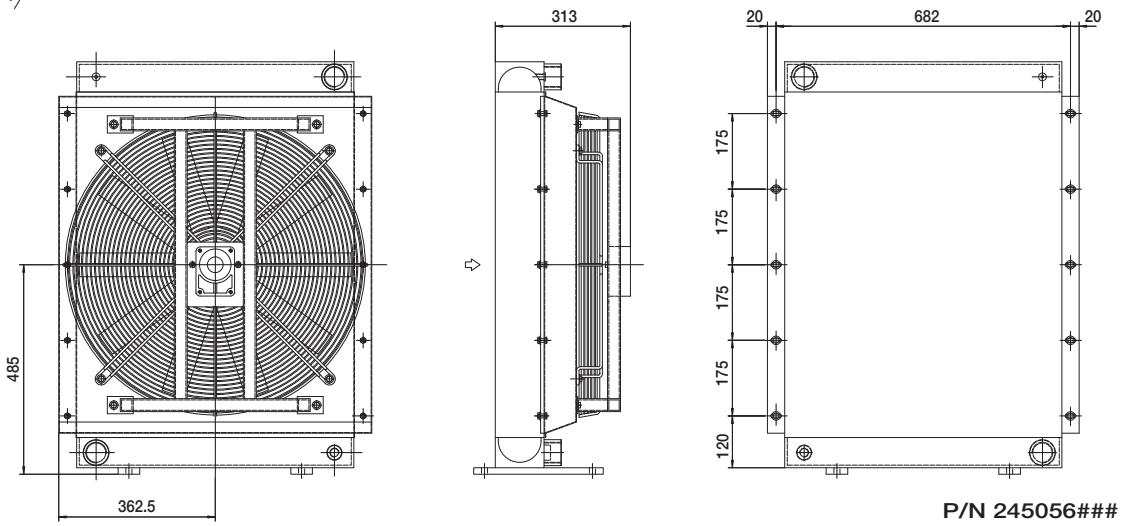
cst	10	15	20	30	40	50	60	80	100	200	300
F	0,5	0,65	0,77	1	1,2	1,4	1,6	1,9	2,1	3,3	4,3

HPA 50

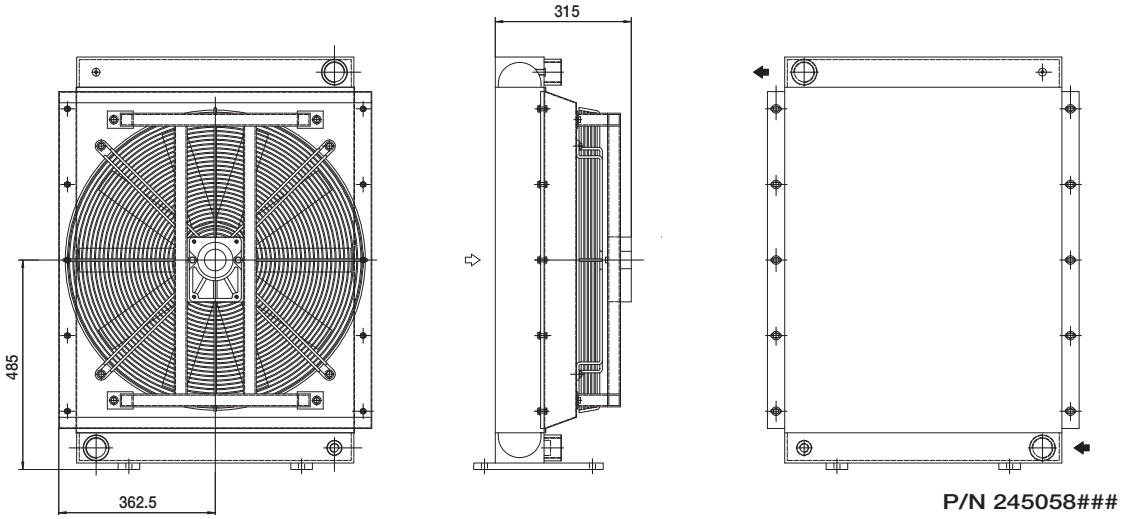
Dimensioni *Dimensions*



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

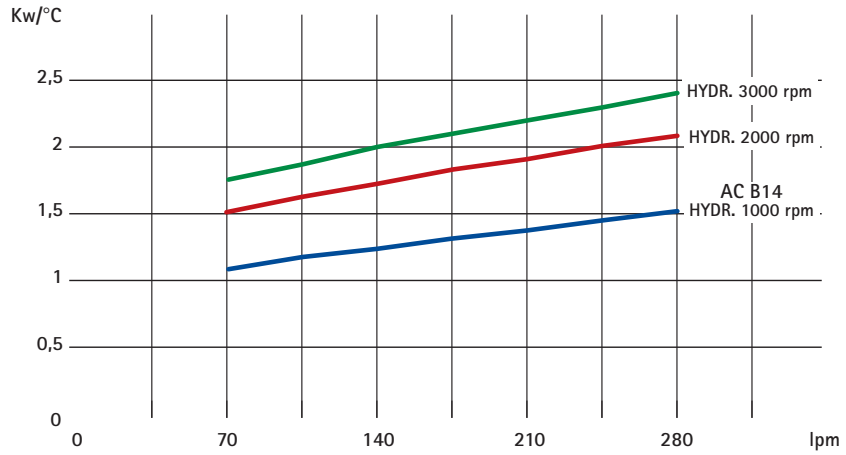
HPA 50

Dati tecnici *Technical Data*

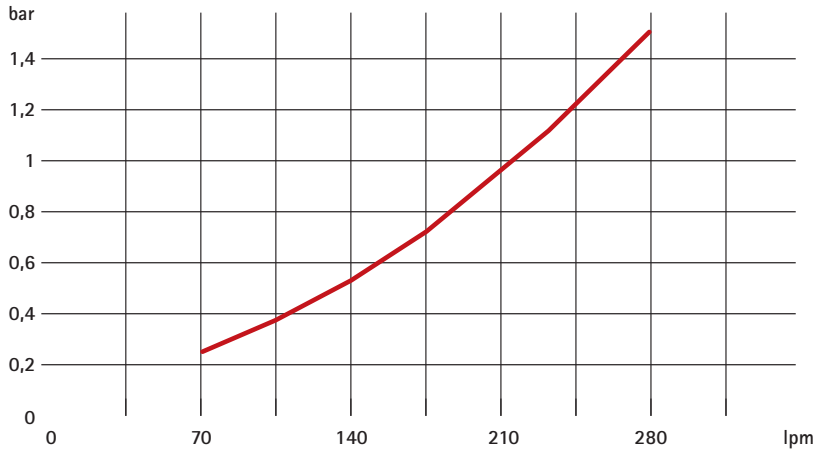
P/N	V	Hz	kW	A	rpm	ø Fan	dB(A)	(m³/h)	IP	lt	Kg
245003###	230-400 B14 AC	50/60	1,1	2,8	980	630	80	7550	55	14,2	90
245056###	Prepared for Gr.2 hydraulic motor				☎	630	☎	☎	/		83
245058###	Prepared for Gr.3 hydraulic motor				☎	630	☎	☎	/		83

☎ Contattare il ns. Ufficio tecnico *Contact our Tech . Dpt*

Diagramma rendimento *Performance diagram*



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

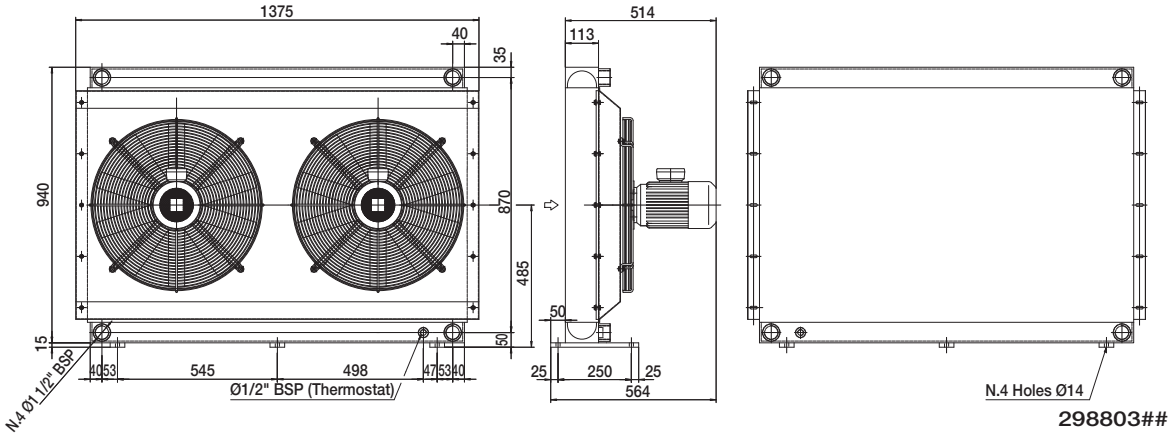


Fattore di correzione - F - (perdite di carico) *Correction factor - F - (Pressure drop)*

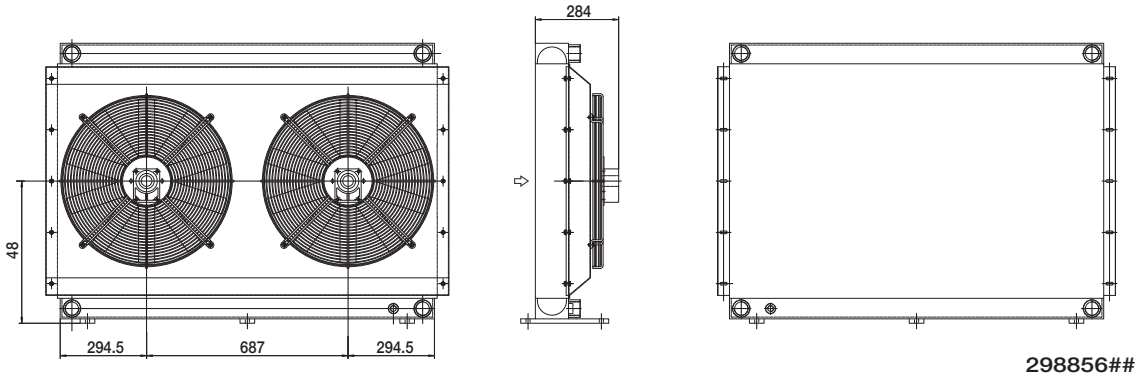
cst	10	15	20	30	40	50	60	80	100	200	300
F	0,5	0,65	0,77	1	1,2	1,4	1,6	1,9	2,1	3,3	4,3

HPA 50 / 2

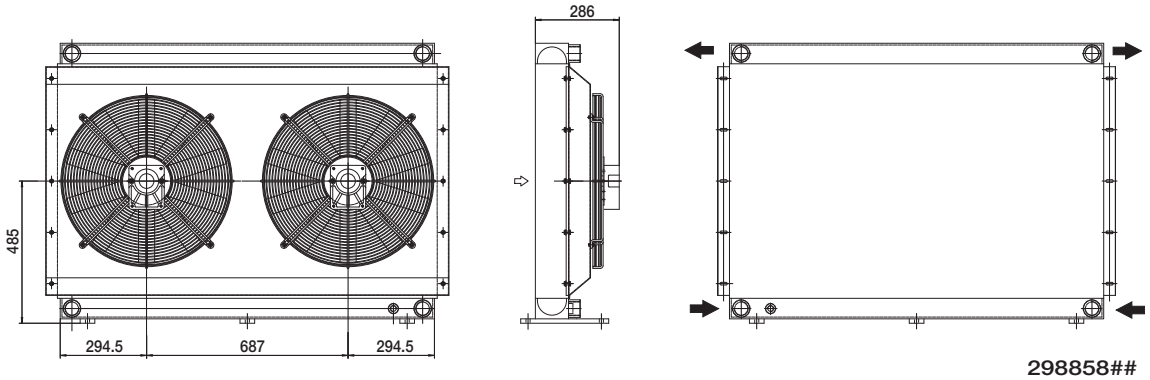
Dimensioni *Dimensions*



298803##



298856##



298858##

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

HPA 50 / 2

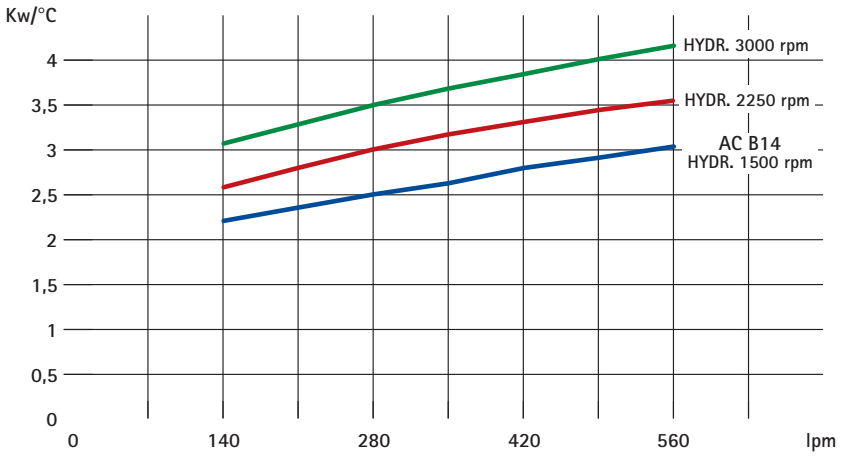
Dati tecnici *Technical Data*

P/N	V	Hz	kW	A	rpm	ø Fan	dB(A)	(m³/h)	IP	lt	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

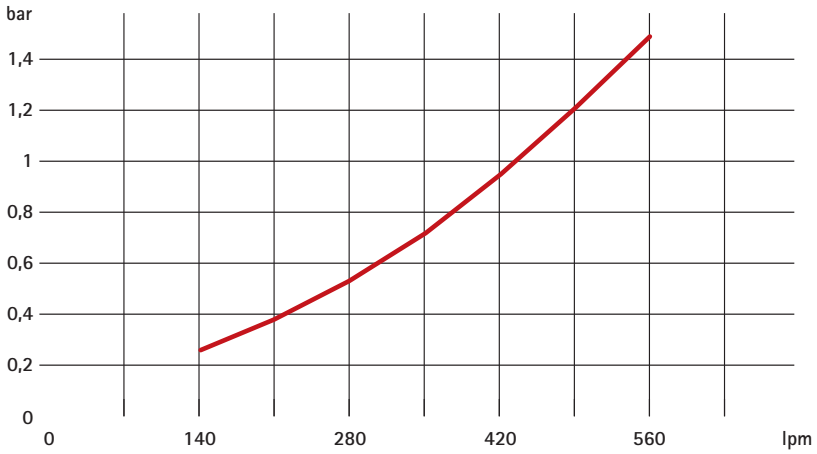
I dati sono riferiti al singolo ventilatore *The data refers to each ventilator*

☎ Contattare il ns. Ufficio tecnico *Contact our Tech . Dpt*

Diagramma rendimento *Performance diagram*



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

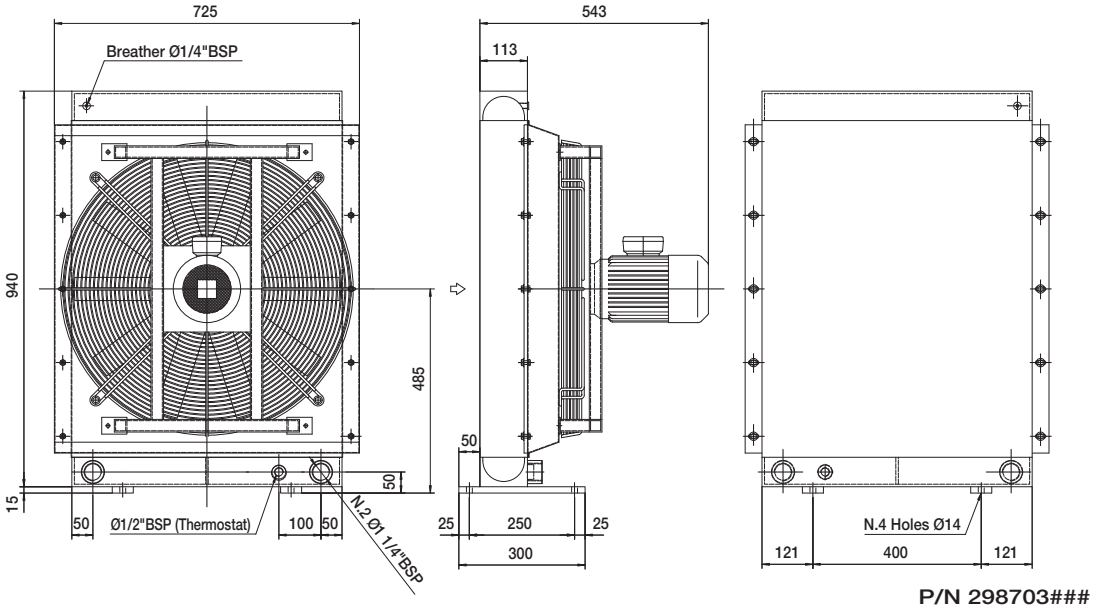


Fattore di correzione - F - (perdite di carico) *Correction factor - F - (Pressure drop)*

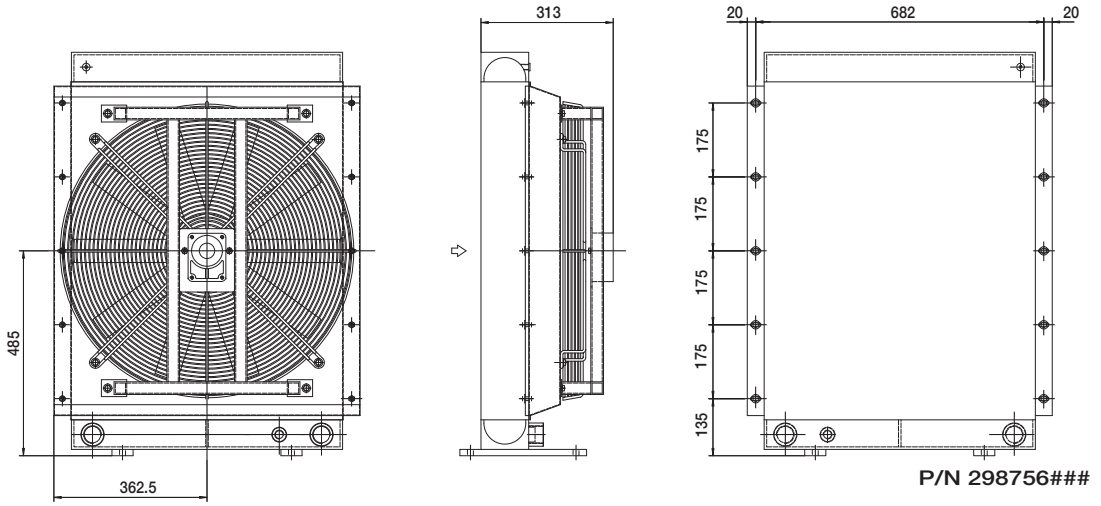
cst	10	15	20	30	40	50	60	80	100	200	300
F	0,5	0,65	0,77	1	1,2	1,4	1,6	1,9	2,1	3,3	4,3

HPA 50 - 2 Pass

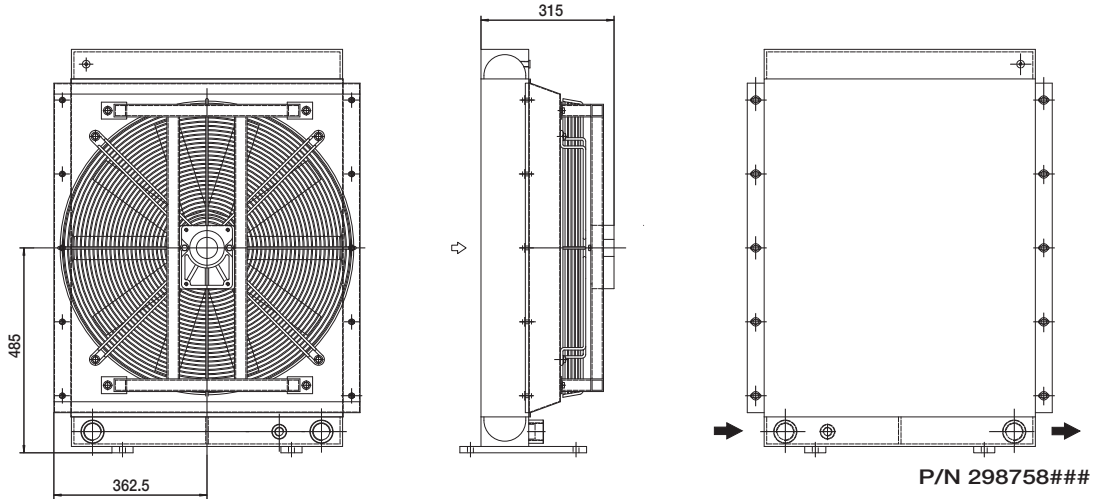
Dimensioni *Dimensions*



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

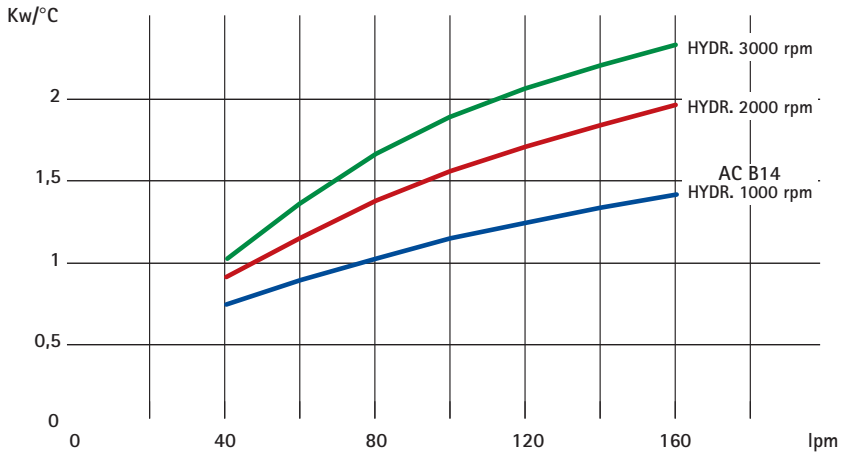
HPA 50 - 2 Pass

Dati tecnici *Technical Data*

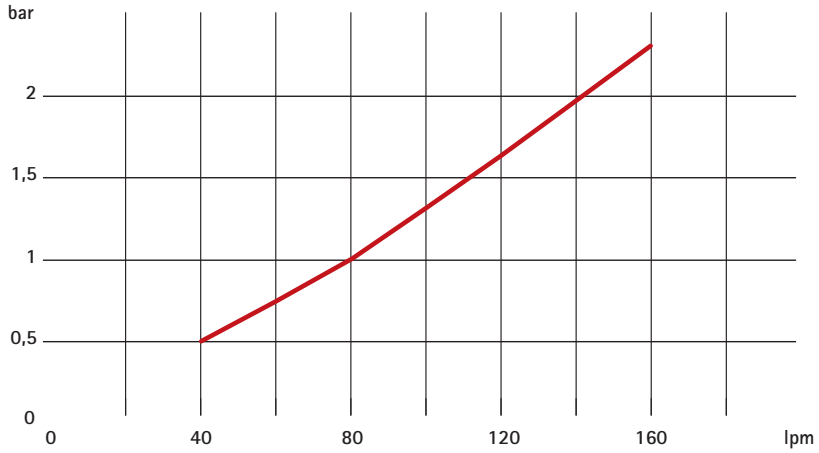
P/N	V	Hz	kW	A	rpm	ø Fan	dB(A)	(m³/h)	IP	lt	Kg
298703###	230-400 B14 AC	50/60	1,1	2,8	980	630	80	7550	55	14,2	90
298756###	Prepared for Gr.2 hydraulic motor				☎	630	☎	☎	/		83
298758###	Prepared for Gr.3 hydraulic motor				☎	630	☎	☎	/		83

☎ Contattare il ns. Ufficio tecnico *Contact our Tech . Dpt*

Diagramma rendimento *Performance diagram*



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

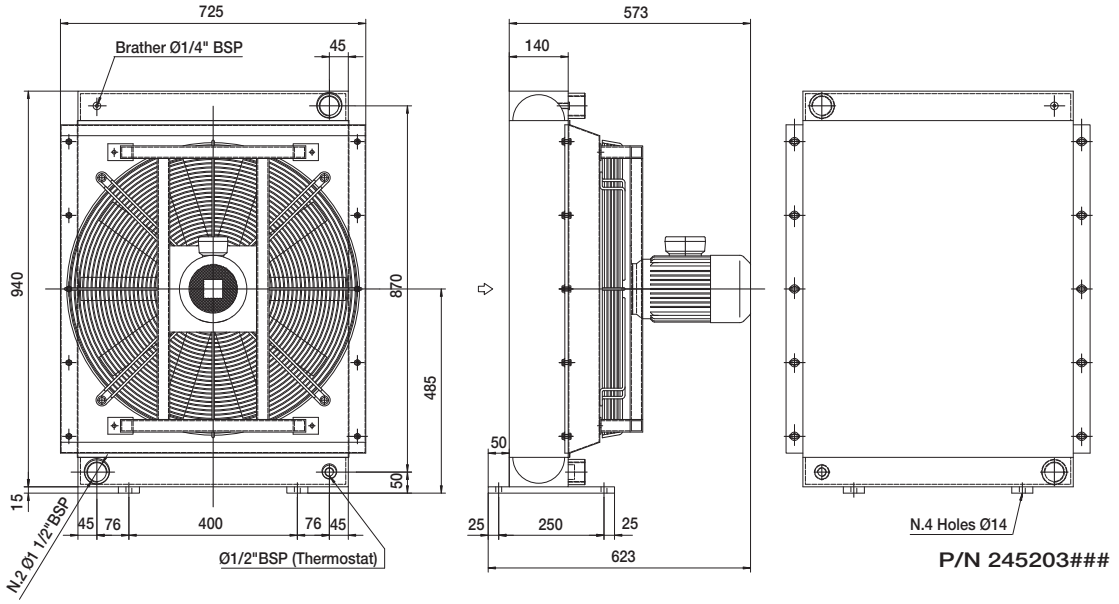


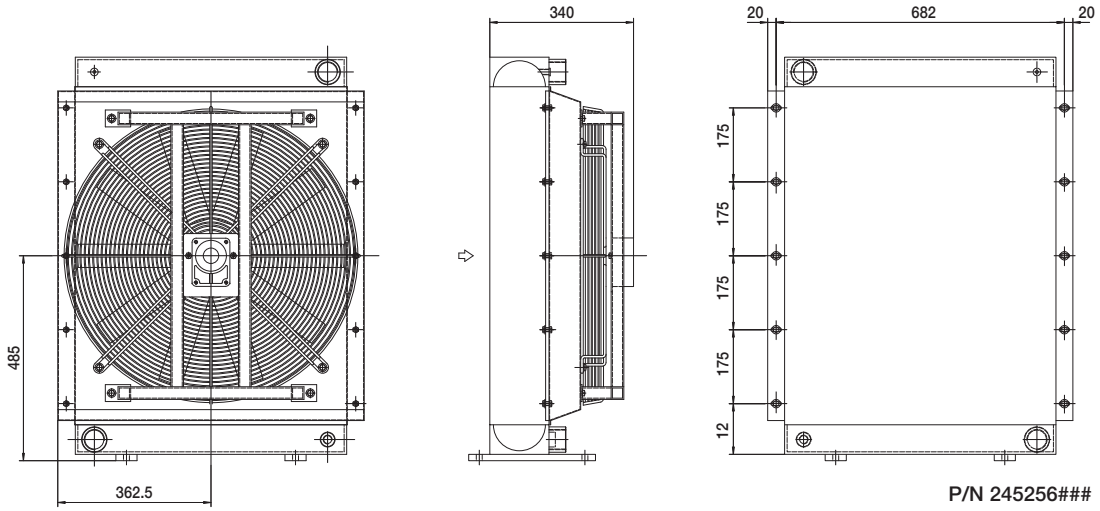
Fattore di correzione - F - (perdite di carico) *Correction factor - F - (Pressure drop)*

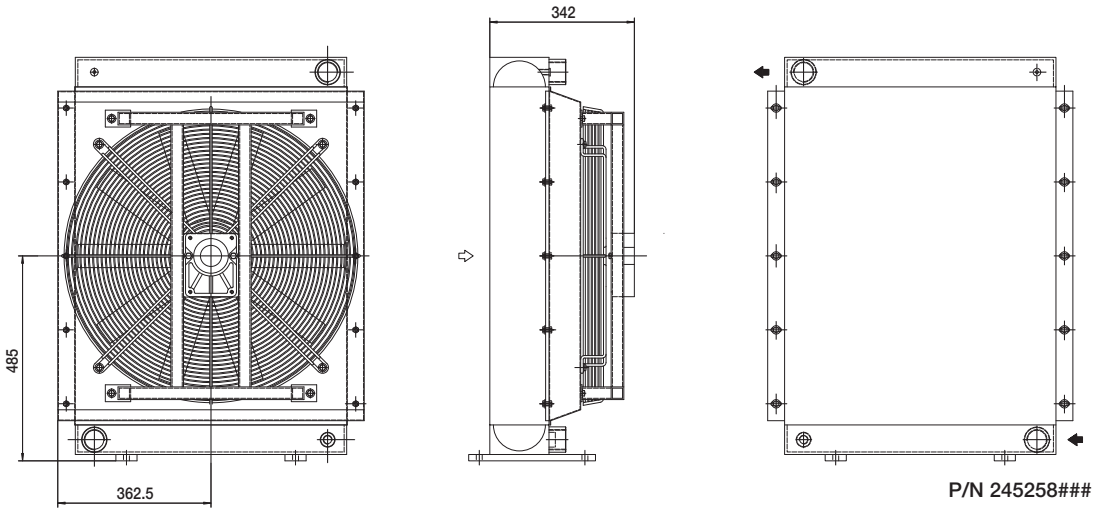
cst	10	15	20	30	40	50	60	80	100	200	300
F	0,5	0,65	0,77	1	1,2	1,4	1,6	1,9	2,1	3,3	4,3

HPA 52

Dimensioni *Dimensions*







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

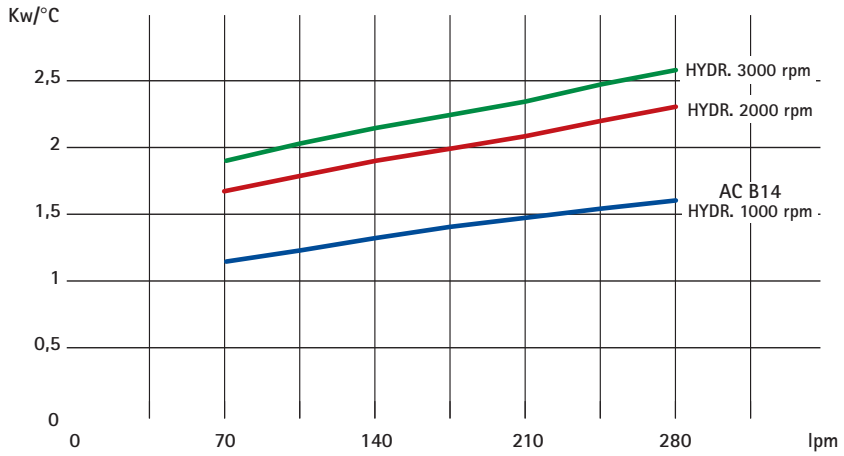
HPA 52

Dati tecnici *Technical Data*

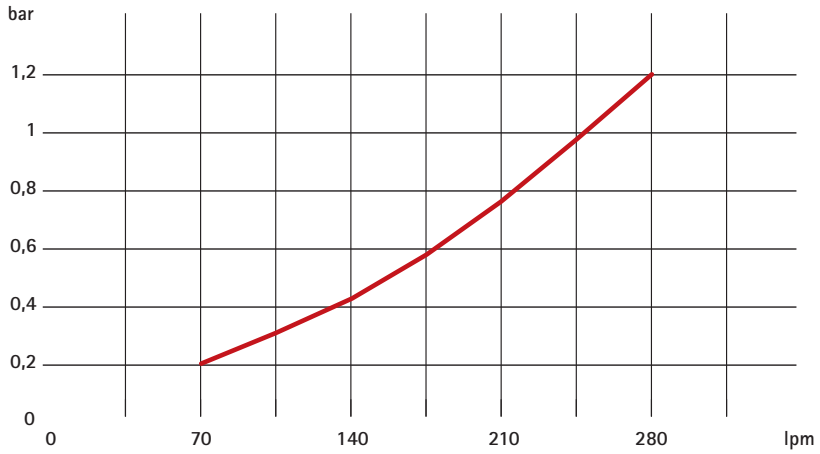
P/N	V	Hz	kW	A	rpm	ø Fan	dB(A)	(m³/h)	IP	lt	Kg
245203###	230-400 B14 AC	50/60	1,1	2,82	980	630	80	7050	55	17,7	95
245256###	Prepared for Gr.2 hydraulic motor				☎	630	☎	☎	/		89
245258###	Prepared for Gr.3 hydraulic motor				☎	630	☎	☎	/		89

☎ Contattare il ns. Ufficio tecnico *Contact our Tech . Dpt*

Diagramma rendimento *Performance diagram*



Perdite di carico *Pressure drop* (32 CST)

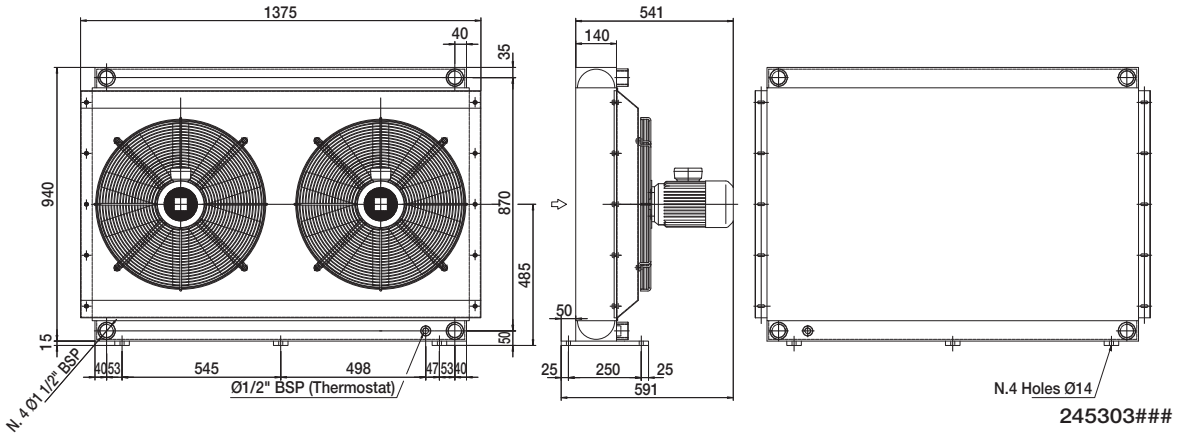


Fattore di correzione - F - (perdite di carico) *Correction factor - F - (Pressure drop)*

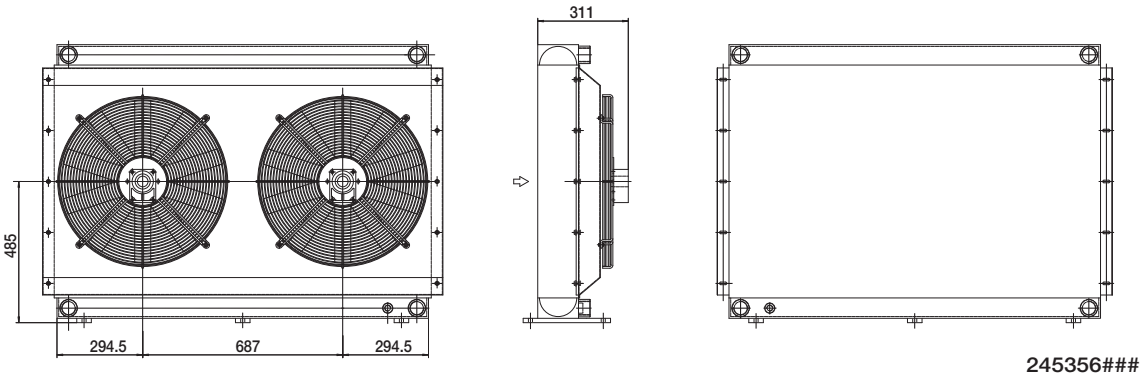
cst	10	15	20	30	40	50	60	80	100	200	300
F	0,5	0,65	0,77	1	1,2	1,4	1,6	1,9	2,1	3,3	4,3

HPA 52 / 2

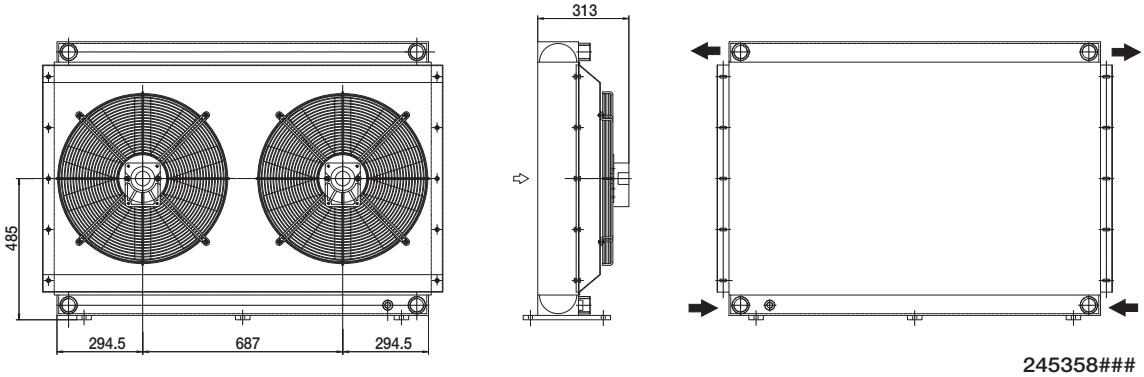
Dimensioni *Dimensions*



245303###



245356###



245358###

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

HPA 52 / 2

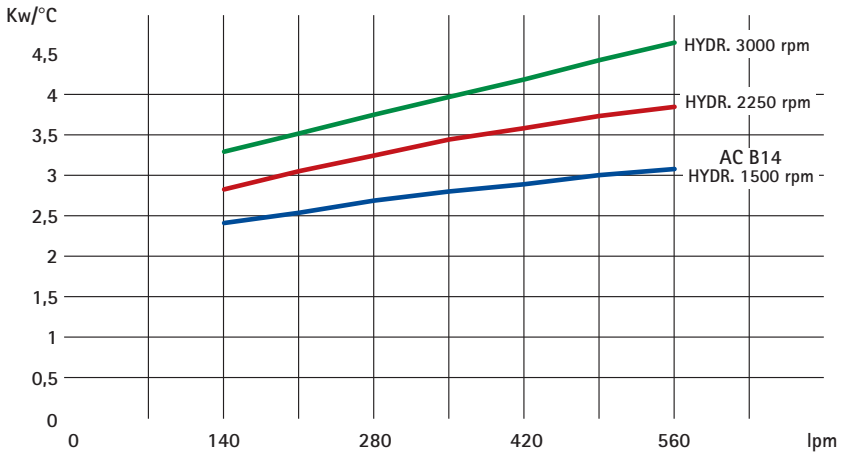
Dati tecnici *Technical Data*

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

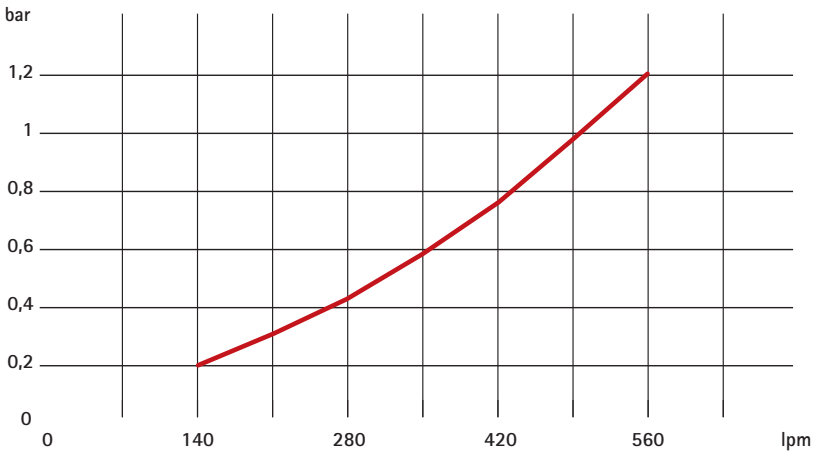
I dati sono riferiti al singolo ventilatore *The data refers to each ventilator*

☎ Contattare il ns. Ufficio tecnico *Contact our Tech . Dpt*

Diagramma rendimento *Performance diagram*



Perdite di carico *Pressure drop* (32 CST)

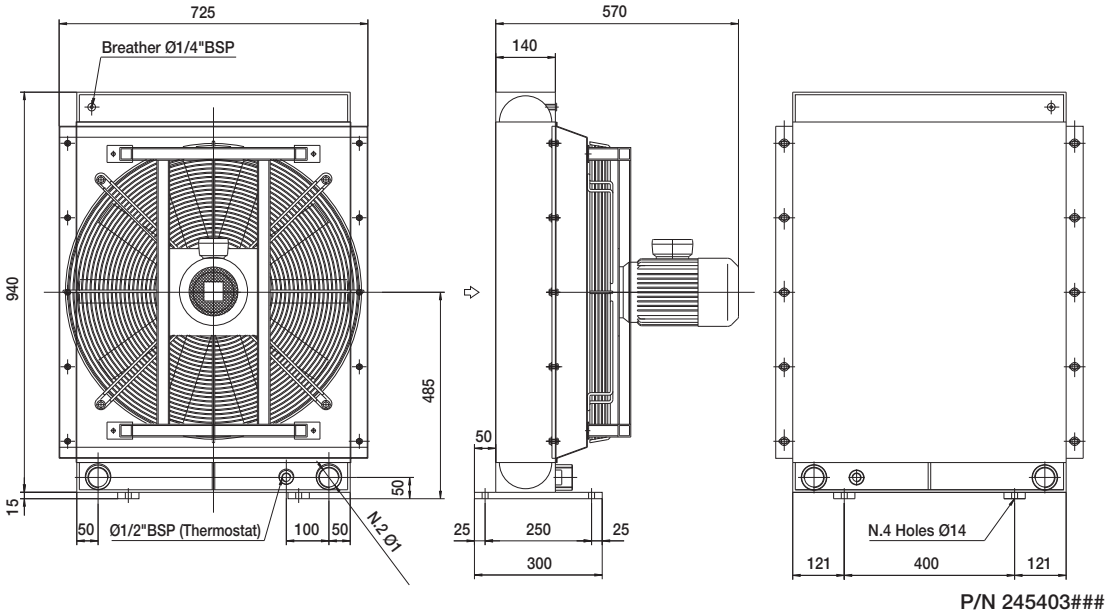


Fattore di correzione - F - (perdite di carico) *Correction factor - F - (Pressure drop)*

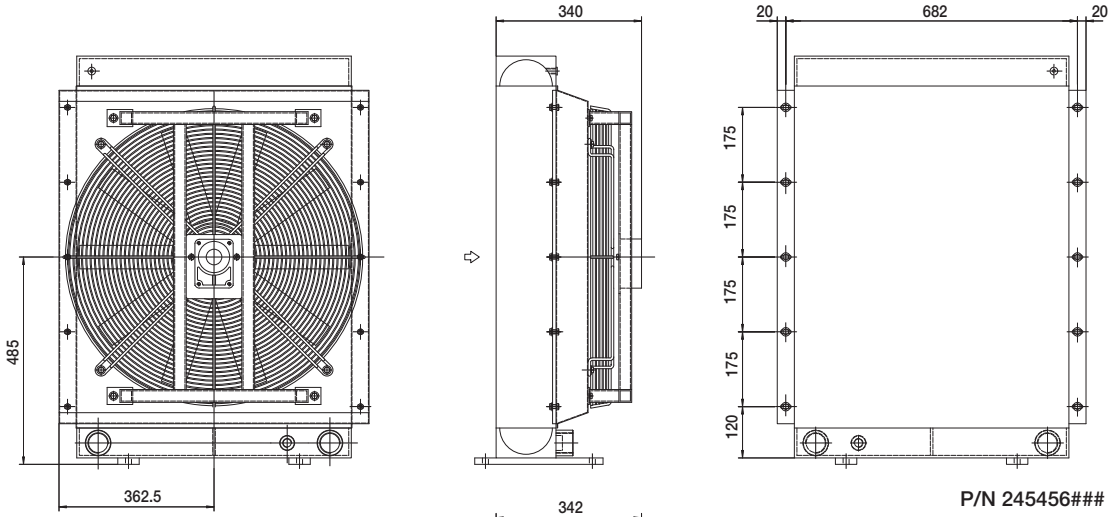
cst	10	15	20	30	40	50	60	80	100	200	300
F	0,5	0,65	0,77	1	1,2	1,4	1,6	1,9	2,1	3,3	4,3

HPA 52 - 2 Pass

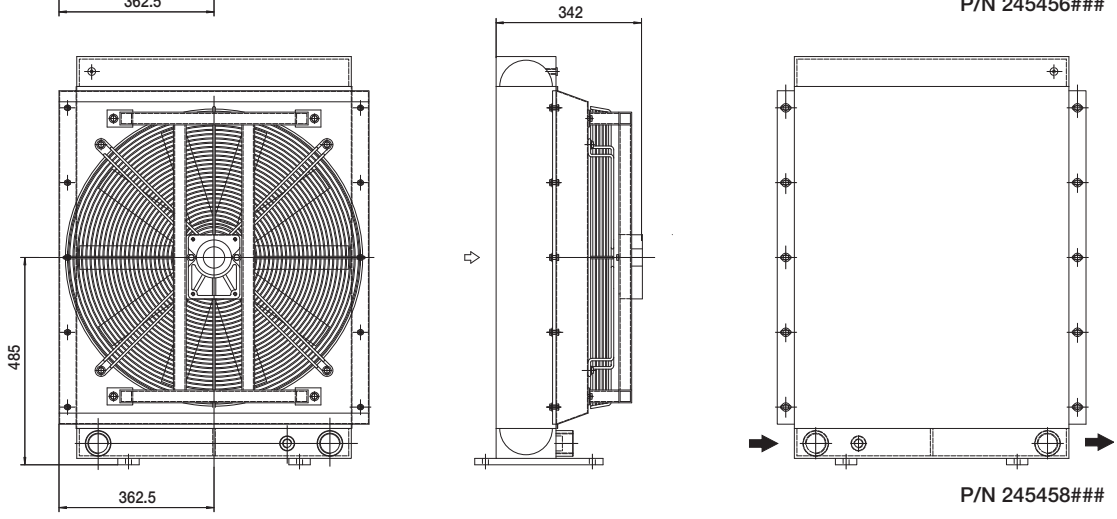
Dimensioni *Dimensions*



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

HPA 52 - 2 Pass

Dati tecnici *Technical Data*

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

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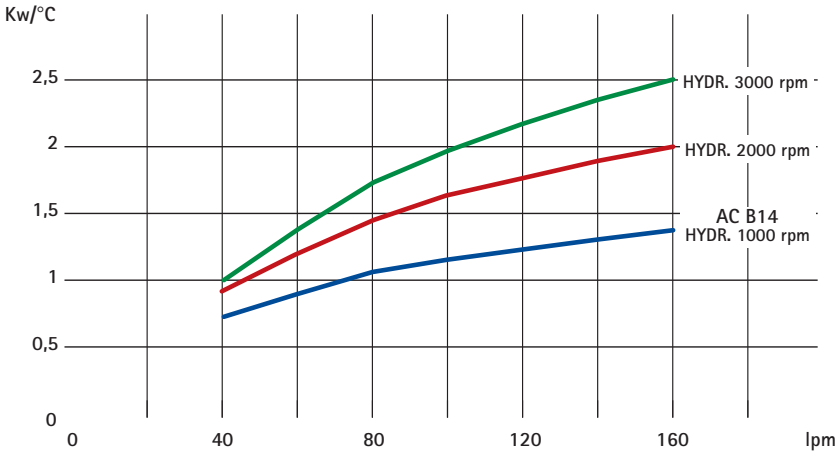
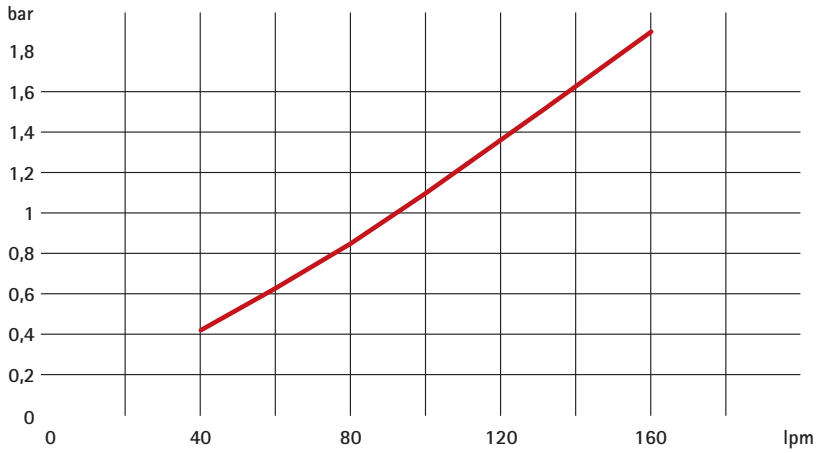
Diagramma rendimento *Performance diagram*



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

Poichè HANSA-TMP offre una gamma di prodotti molto estesa ed alcuni di questi vengono impiegati per più tipi di applicazioni, le informazioni riportate possono riferirsi solo a determinate situazioni.

Se nel catalogo non sono riportati tutti i dati necessari, si prega di contattare HANSA-TMP.
Al fine di poter fornire una risposta esauriente potrà rendersi necessaria la richiesta di dati specifici riguardanti l'applicazione in questione.

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If t he catalogue does not supply all the information required, please contact HANSA-TMP.

In order to provide a comprehensive reply to queries we may require specific data regarding the proposed application.

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HANSA-TMP reserves the right to amend specifications at their discretion.

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