



SERIE RO  
Scambiatori di calore  
ARIA/OLIO  
AIR/OIL heat exchangers

# SERIE RO



Il presente catalogo illustra gli scambiatori di calore della serie RO costruiti in acciaio e rame. Ogni scheda fornisce i dati tecnici relativi allo scambiatore impiegato per il raffreddamento di circuiti oleodinamici e ai ventilatori azionati da motore elettrico o idraulico.

#### Caratteristiche tecniche massa radiante:

Materiale: acciaio e rame  
Pressione di esercizio: 15 bar  
Pressione di collaudo: 22 bar  
Temperatura massima di esercizio: 120°C

#### INSTALLAZIONE

Lo scambiatore deve essere installato in modo tale da evitare la presenza di ostacoli alla circolazione dell'aria, rispettando la distanza minima dalla parete (1/2 diametro ventola) in modo da assicurare il naturale flusso dell'aria di raffreddamento. Può essere montato sia in posizione orizzontale che verticale.

Gli scambiatori di calore aria/olio RO sono normalmente utilizzati per il raffreddamento di circuiti oleodinamici e installati sulle linee di ritorno, devono essere protetti da urti e vibrazioni meccaniche mediante supporti elastici e collegati all'impianto mediante tubi flessibili.

Per evitare danni che brusche variazioni di portata o eventuali colpi d'ariete o pulsazioni continue arrecano agli scambiatori.

#### FLUIDI COMPATIBILI

- Oli minerali

#### MANUTENZIONE

##### Pulizia lato olio

Dopo aver smontato lo scambiatore effettuare la pulizia facendo circolare all'interno del radiatore un prodotto sgrassante compatibile con leghe d'acciaio. Effettuare un lavaggio con olio idraulico prima di ricollegare lo scambiatore all'impianto.

##### Pulizia lato aria

Eseguire questa operazione mediante aria compressa. Assicurarsi che la direzione del getto sia parallela alle alette per non danneggiarle. Se l'intasamento dello scambiatore è causato da un accumulo di olio o di grasso, la pulizia potrà essere effettuata con un getto di vapore o di acqua calda. Durante le operazioni di pulizia il motore elettrico dovrà essere convenientemente protetto.

#### SICUREZZA

Nell'utilizzo dello scambiatore occorre attenersi ad alcune importanti avvertenze:

- Non togliere le protezioni delle ventole
- Far eseguire i collegamenti elettrici a personale specializzato seguendo gli schemi allegati
- Le superfici esterne dello scambiatore potrebbero avere temperature molto elevate, occorre quindi prevedere nel montaggio adeguate protezioni o posizionamenti poco accessibili
- Non intervenire sul motore idraulico senza prima aver scollegato i tubi

- Temperatura ingresso olio: 80°C
- Temperatura ambiente: 40°C
- Ventilatore elettrico 12 Volt

Occorre calcolare il coefficiente di scambio termico espresso in KW/°C dividendo la potenza da dissipare, per la differenza di temperatura tra olio e ambiente:

$$8KW : 40 \text{ } ^\circ\text{C} (80^\circ\text{C}-40^\circ\text{C}) = 0,20 \text{ kW}/^\circ\text{C}$$

Occorre valutare sui diagrammi di rendimento quale scambiatore a corrente continua esprime la potenza specifica risultante (0,20kW/°C) con una portata di 50 lt/1'.

#### ESEMPIO DI SCELTA DELLO SCAMBIATORE

Per effettuare la scelta dello scambiatore si procede secondo l'esempio seguente:

- Potenza da dissipare: 8 kW
- Portata olio ISO VG 46: 50 lt/1'



This catalogue describes RO SERIES COOLERS made of copper and steel.

Each data sheet provides the technical information about the heat exchanger used for cooling oil hydraulic system and about fans operated by electric or hydraulic motor

#### Core's technical specification:

Material: copper and steel

Working pressure: 15 bar

Test pressure: 22 bar

Max working temperature: 120°C

### INSTALLATION

The heat exchanger should be installed in such a way that there should be no obstacles to the air flow, respecting the minimum distance from the wall (1/2 fan diameter) so as to ensure a natural flow of cooling air.

The cooler can be fitted in vertical and horizontal position. RO series coolers are normally used for cooling hydraulic circuits and installed on the return lines: they must be protected from impact and mechanical vibrations by support and must be connected to the circuit with flexible pipes. To prevent any damage caused by changes in flow, hammering and pulsations we recommend installing a by-pass valve.

### COMPATIBLE FLUIDS

- Mineral oils

### MAINTENANCE

#### Cleaning oil side

After having dismantled the exchanger, carry out the cleaning procedure by circulating de-greasing substance inside the radiator compatible with steel. Wash with hydraulic oil before reconnecting the cooler.

#### Cleaning air side

Carry out this procedure using compressed air. Make sure that the direction of the jet is parallel to the fins so that they are not damaged.

If the blockage of the exchanger is caused by build up of oil or grease, cleaning can be carried out using a jet of steam or hot water.

During cleaning procedures the electric motor must be adequately protected.

### SAFETY

- Do not remove the fan grilles
- Electrical connections must be made by skilled electricians in accordance with the attached electrical diagrams
- Exterior surfaces of heat exchangers may reach high



temperatures so adequate guards must be installed or the unit must be mounted in an inaccessible position

- Do not perform work on the hydraulic motor until the hydraulic pipelines have been disconnected

### HOW TO CHOOSE RIGHT HEAT EXCHANGER

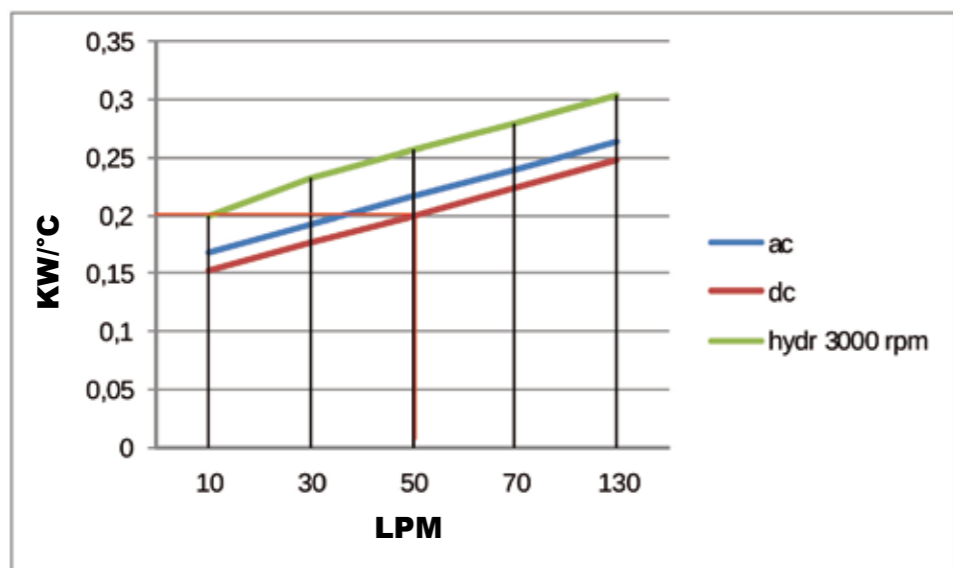
To choose right heat exchanger follows the below example:  
Power to dissipate: 8 KW

Oil flow ISO VG 46: 50 lt/1'  
Inlet oil temperature: 80°C  
Ambient temperature: 40°C  
Electric fan 12 Volt

You can calculate the specific coefficient of heat exchange (kW/°C) if you divide the power to dissipate with the difference between oil input temperature and ambient temperature:

$$8KW : 40 \text{ }^{\circ}\text{C} (80^{\circ}\text{C}-40^{\circ}\text{C})= 0,20 \text{ kW/}^{\circ}\text{C}$$

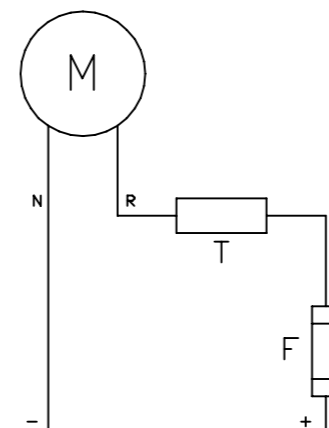
Note the oil flow (50 lt/1') and specific exchange power (0,20 kW/°C) and research the cooler that has in performance diagram this result with direct electric fan.



Lo scambiatore selezionato è il modello RO60/V4 – 12/24 V.  
Per la corretta denominazione del prodotto consultare la scheda di CODIFICA PRODOTTO.  
Se non sono conosciuti tutti i dati contattare IRA RADIATORI.

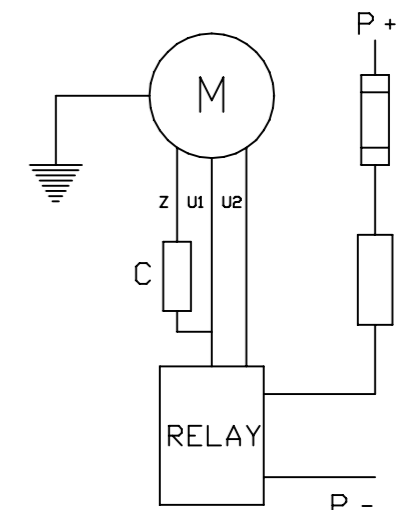
The selected heat exchanger is model RO60/V4 – 12/24 V.  
For a complete description of heat exchanger consult the PRODUCT ORDERING CODE page.  
If you don't know all required data for selecting cooler, please contact IRA RADIATORI.

CABLAGGIO 12/24 V - C.C.  
12/24 V D.C. WIRING



N - NERO / BLACK  
R - ROSSO / RED  
T - TERMOSTATO / THERMO SWITCH  
F - FUSIBILE / FUSE

CABLAGGIO 230 V - C.A.  
230 V A.C. WIRING



Z - MARRONE / BROWN  
U1 - NERO / BLACK  
U2 - VERDE / GREEN  
T - TERMOSTATO / THERMO SWITCH  
F - FUSIBILE / FUSE  
P - ALIMENTAZIONE A RELE' / RELAY CURRENT SUPPLY  
C - CONDENSATORE / VOLT CAPACITOR

## Codifica prodotto serie RO

Ordering code RO series

**R O 6 0 / V 4 V 1 2 A 4 0 X X**

Serie Series	Modello Model	Ventilazione Fan	A/S	TERM.	ACC/MOD
-----------------	------------------	---------------------	-----	-------	---------

RO = RADIATORE OLIO ACCIAIO/RAME / OIL COOLER COPPER AND STEEL

V12 VCC  
V24 VCC  
V230 VAC  
V400 VAC  
V230/400 VAC B14  
GR1  
GR2

A = ASPIRANTE/SUCKING  
S = SOFFIANTE/BLOWING

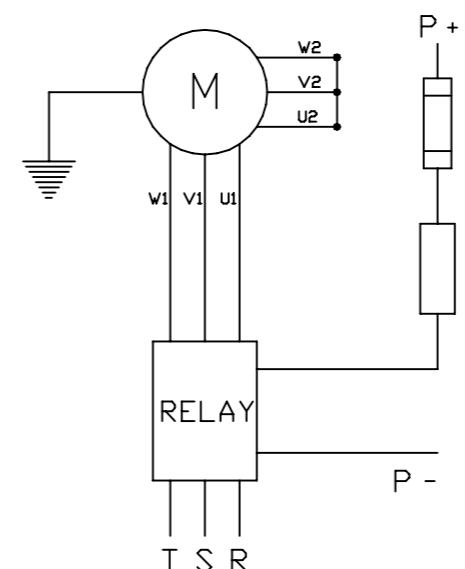
TERMOSTATI/THERMOSTAT  
30 = 30/38°  
40 = 40/48°  
50 = 50/60°

ACCESSORI / MODIFICHE  
COMPLEMENTS/MODIFICATIONS  
P = PIEDI / FEET  
A = MODIFICA SULLO STANDARD  
A = CHANGE ON STANDARD VERSION

**ESEMPIO:**  
**RO60/V412V40**  
MODELLO RO60/V4 COMPLETO DI ELETTROVENTOLA  
12 VOLT ASPIRANTE E TERMOSTATO FISSO T40/48°C.

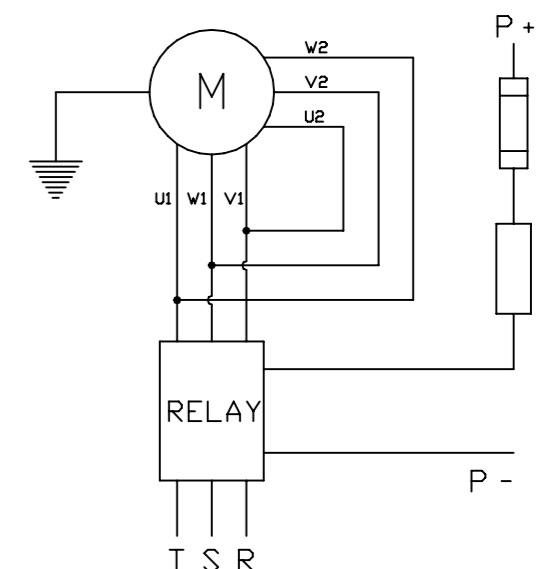
**EXAMPLE:**  
**RO60/V412V40**  
MODEL RO60/V4 COMPLETE WITH ELECTRIC FAN 12V  
SUCKING, FIXED THERMOSTAT T40/48°C.

CABLAGGIO 230/400 V A STELLA  
230/400V STAR WIRING

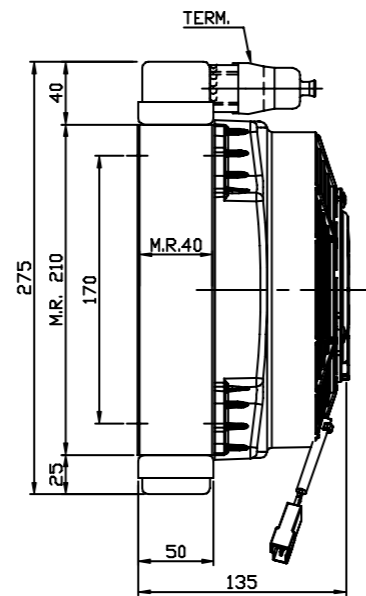
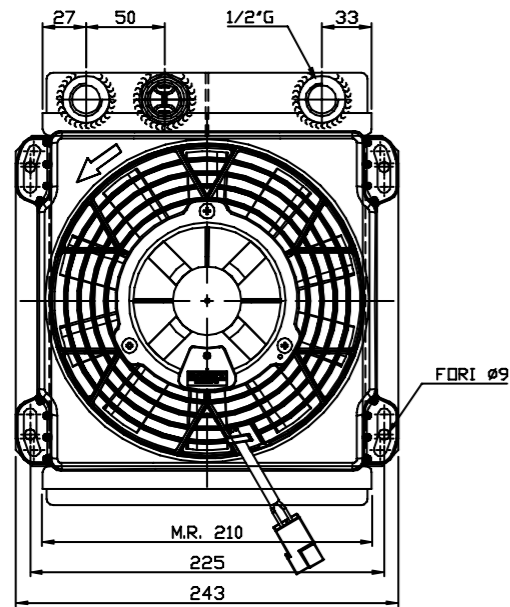


U1 - NERO / BLACK  
U2 - VERDE / GREEN  
V1 - AZZURRO / BLUE  
V2 - BIANCO / WHITE  
W1 - MARRONE / BROWN  
W2 - GIALLO / YELLOW  
T - TERMOSTATO / THERMO SWITCH  
F - FUSIBILE / FUSE  
P - ALIMENTAZIONE RELE' / RELAY CURRENT SUPPLY

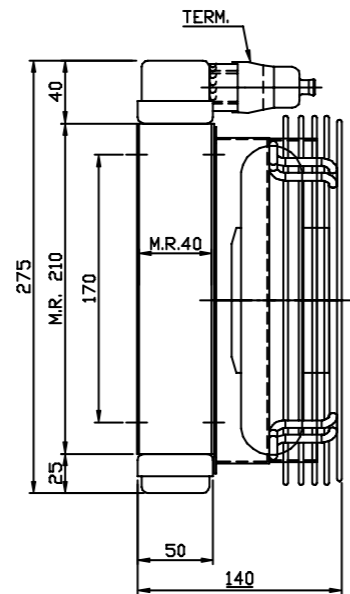
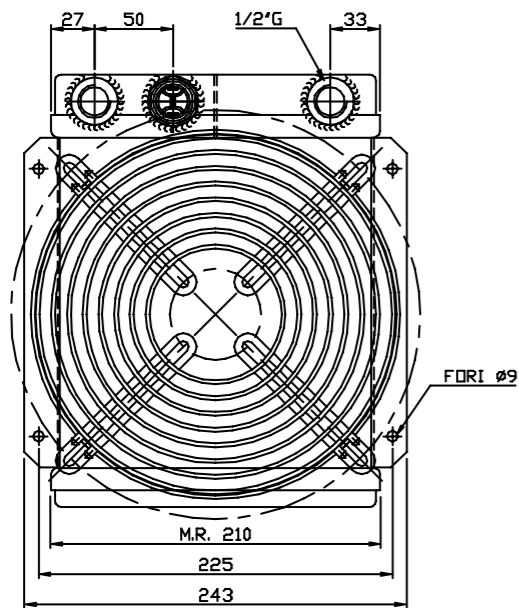
CABLAGGIO 230/400 V A TRIANGOLO  
230/400V TRIANGLE WIRING



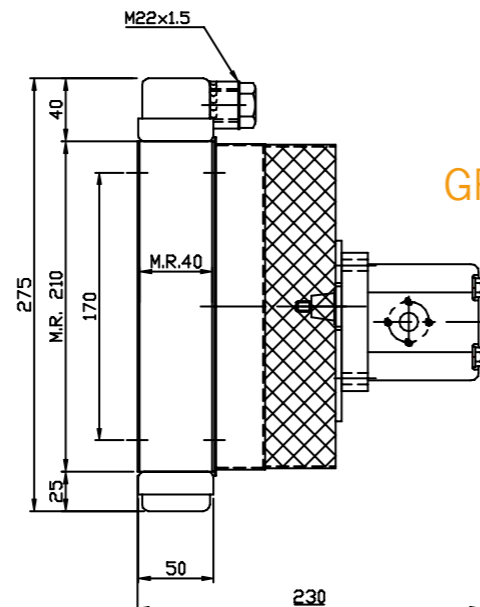
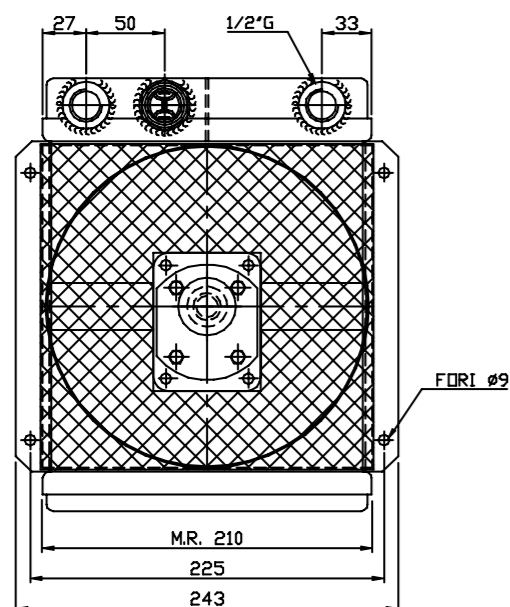
U1 - NERO / BLACK  
U2 - VERDE / GREEN  
V1 - AZZURRO / BLUE  
V2 - BIANCO / WHITE  
W1 - MARRONE / BROWN  
W2 - GIALLO / YELLOW  
T - TERMOSTATO / THERMO SWITCH  
F - FUSIBILE / FUSE  
P - ALIMENTAZIONE RELE' / RELAY CURRENT SUPPLY



Vcc



Vac



GR1

DATI TECNICI - TECHNICAL DATA

TENSIONE VOLTAGE	ASSORBIMENTO CURRENT	PORTATA ARIA AIR FLOW	PROTEZIONE PROTECTION	Ø
V	A	m <sup>3</sup> /h	IP	mm
12	6,2	630	68	190
24	3,1	630	68	190
230 Hz 50/60	0,30 / 0,34	890 / 990	44	200
230/400 Hz 50/60	0,29-0,17 / 0,23-0,13	890 / 990	44	200
Predisposizione GR1 - Prepared for GR1			/	190

DIAGRAMMA DI RENDIMENTO - PERFORMANCE DIAGRAM

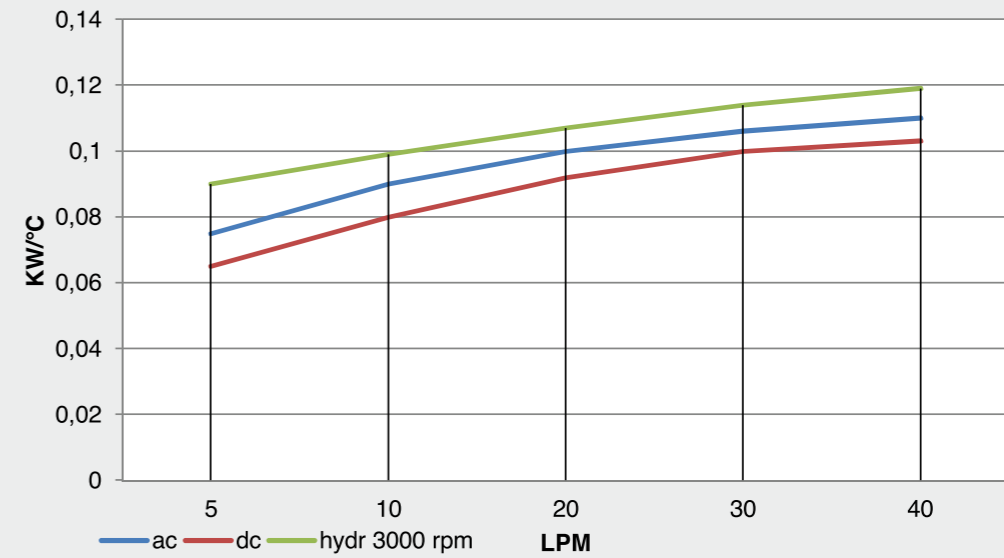
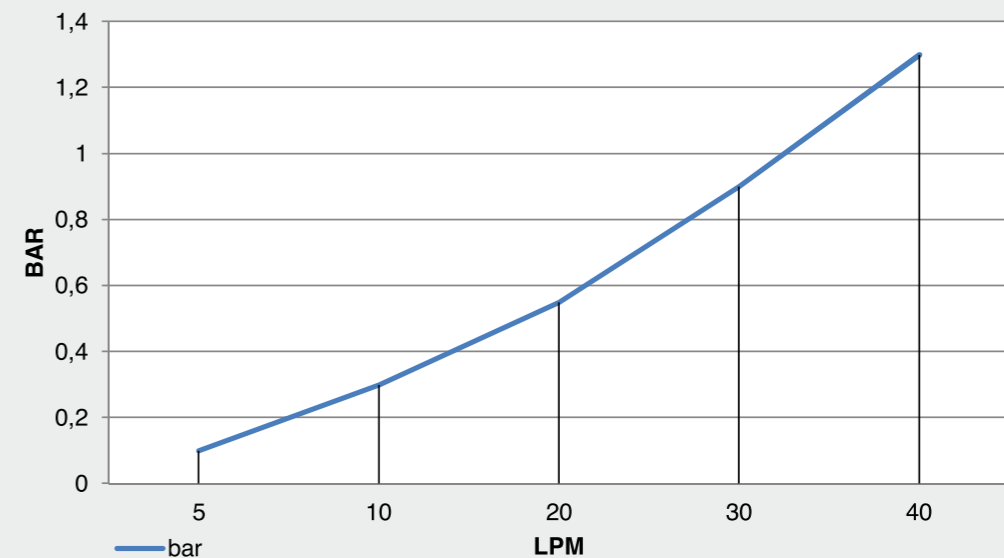
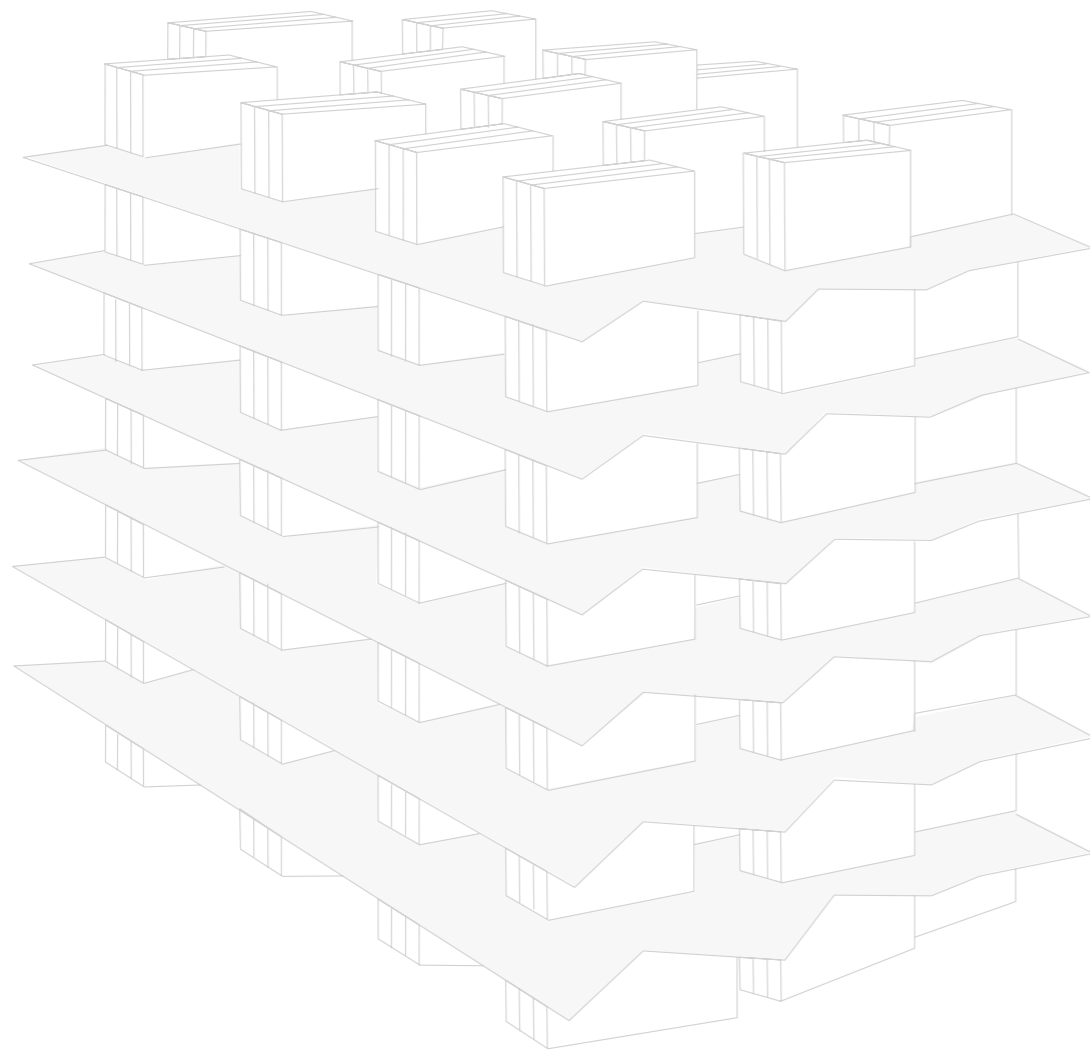
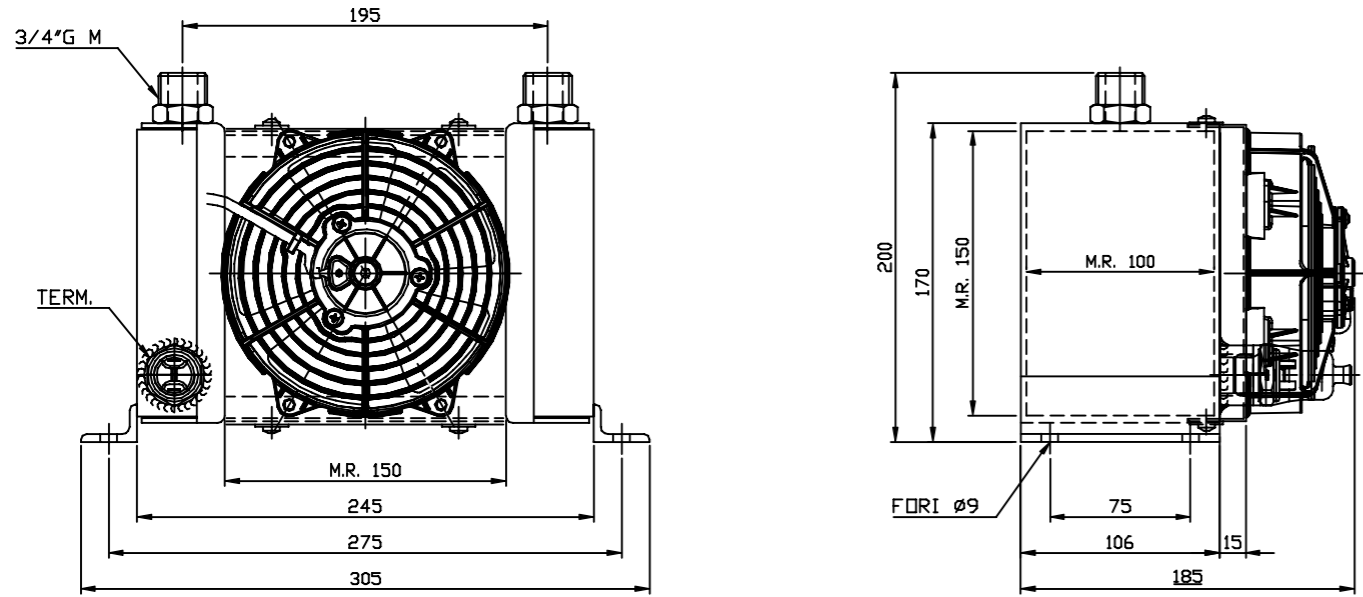


DIAGRAMMA PERDITE DI CARICO - PRESSURE DROP DIAGRAM



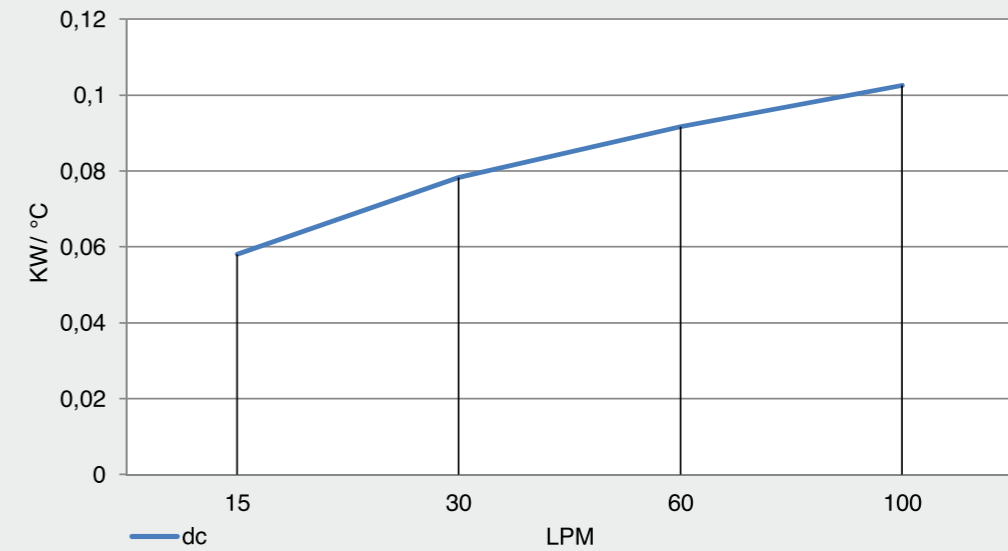
Portata olio - Oil flow: 5-40 lt/1'



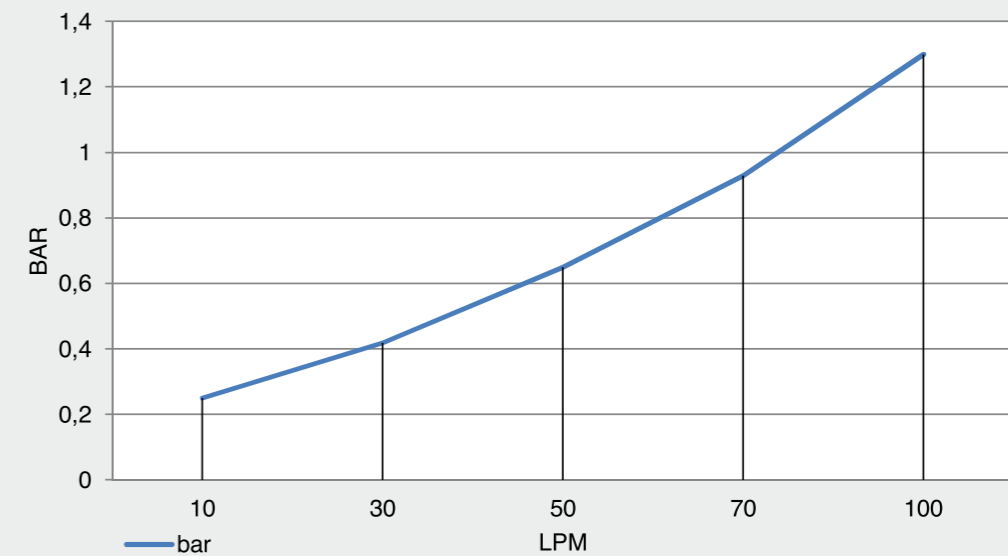
### DATI TECNICI - TECHNICAL DATA

TENSIONE VOLTAGE	ASSORBIMENTO CURRENT	PORTATA ARIA AIR FLOW	PROTEZIONE PROTECTION	Ø
V	A	m <sup>3</sup> /h	IP	mm
12	2,65	360	66	130
24	2,65	360	66	130

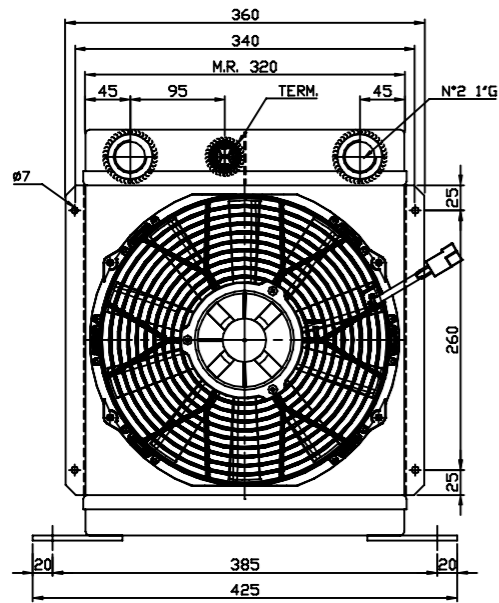
### DIAGRAMMA DI RENDIMENTO - PERFORMANCE DIAGRAM



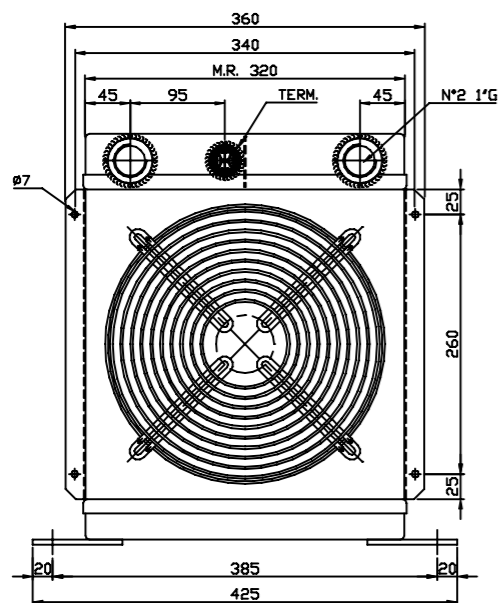
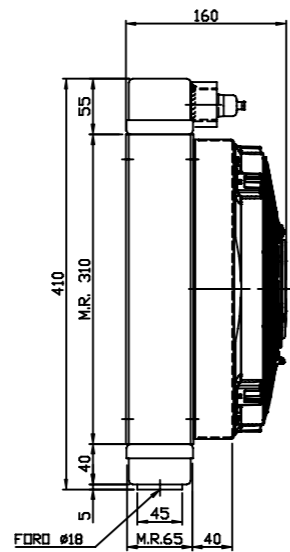
### DIAGRAMMA PERDITE DI CARICO - PRESSURE DROP DIAGRAM



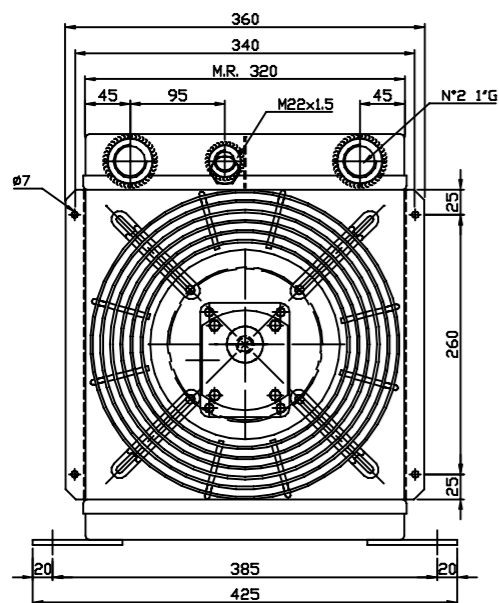
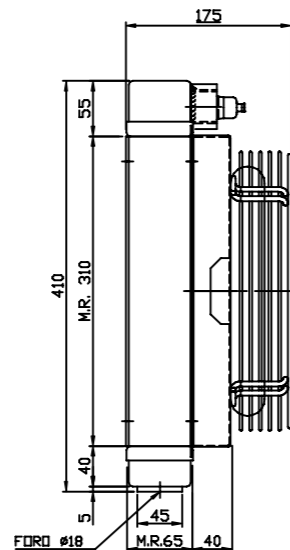
Portata olio - Oil flow: 10-100 lt/1'



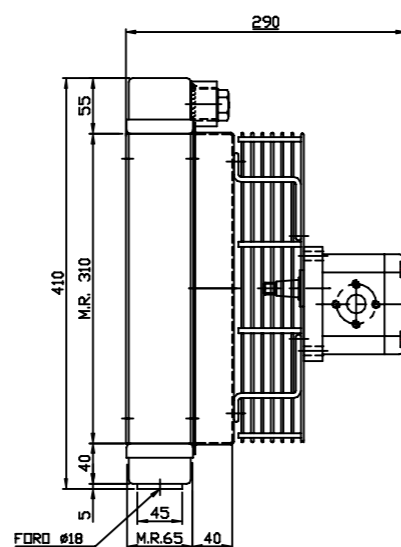
Vcc



Vac



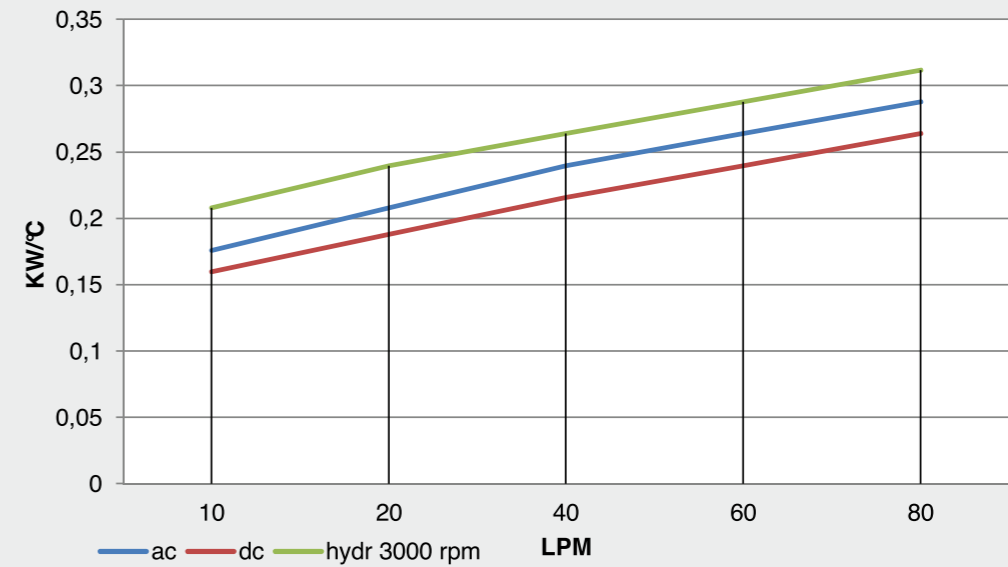
GR2



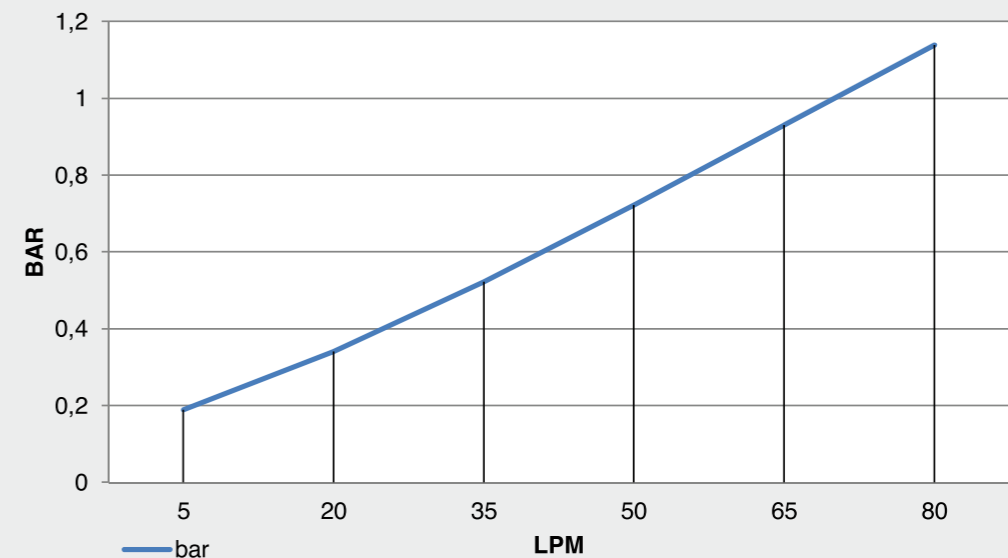
### DATI TECNICI - TECHNICAL DATA

TENSIONE VOLTAGE	ASSORBIMENTO CURRENT	PORTATA ARIA AIR FLOW	PROTEZIONE PROTECTION	Ø
V	A	m <sup>3</sup> /h	IP	mm
12	8	1260	68	280
24	4	1240	68	280
230 Hz 50/60	0,51 / 0,66	1820 / 1970	44	250
230/400 Hz 50/60	0,34-0,20 / 0,40-0,23	1830 / 1950	44	250
Predisposizione GR2 - Prepared for GR2				280

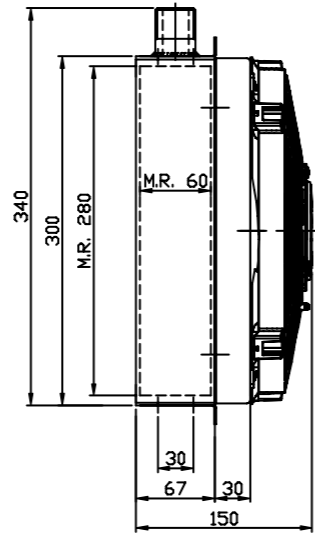
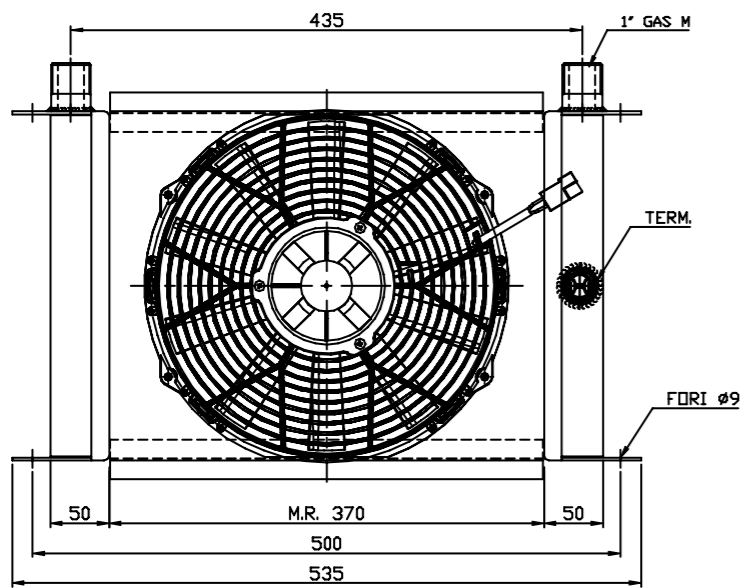
### DIAGRAMMA DI RENDIMENTO - PERFORMANCE DIAGRAM



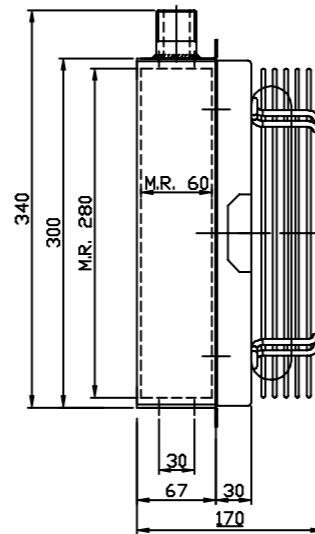
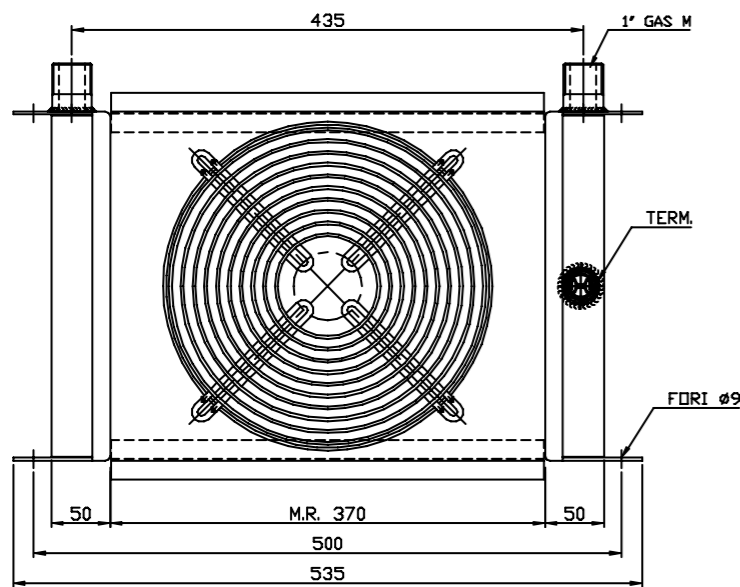
### DIAGRAMMA PERDITE DI CARICO - PRESSURE DROP DIAGRAM



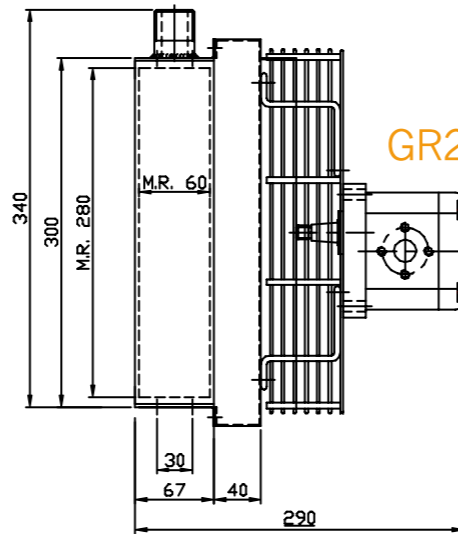
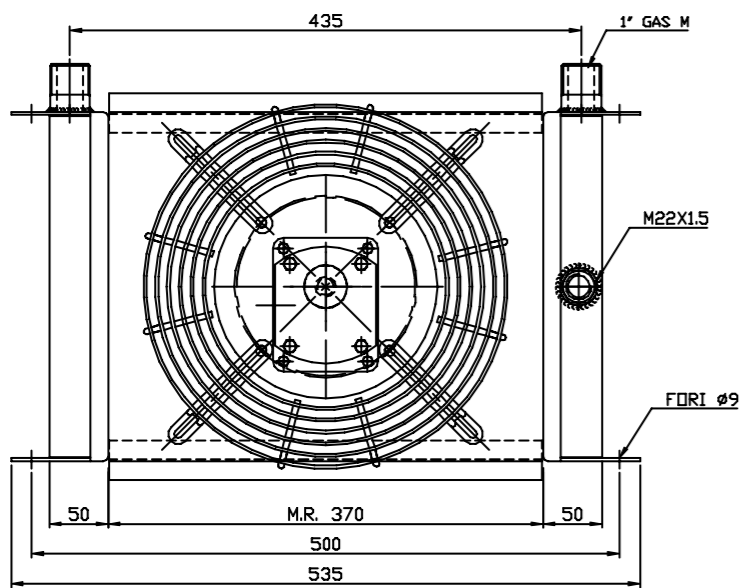
Portata olio - Oil flow: 5-80 lt/1'



Vcc



Vac



GR2

DATI TECNICI - TECHNICAL DATA

TENSIONE VOLTAGE	ASSORBIMENTO CURRENT	PORTATA ARIA AIR FLOW	PROTEZIONE PROTECTION	Ø
V	A	m <sup>3</sup> /h	IP	mm
12	8	1260	68	280
24	4	1240	68	280
230 Hz 50/60	0,51 / 0,66	1820 / 1970	44	250
230/400 Hz 50/60	0,34-0,20 / 0,40-0,23	1830 / 1950	44	250
Predisposizione GR2 - Prepared for GR2			/	280

DIAGRAMMA DI RENDIMENTO - PERFORMANCE DIAGRAM

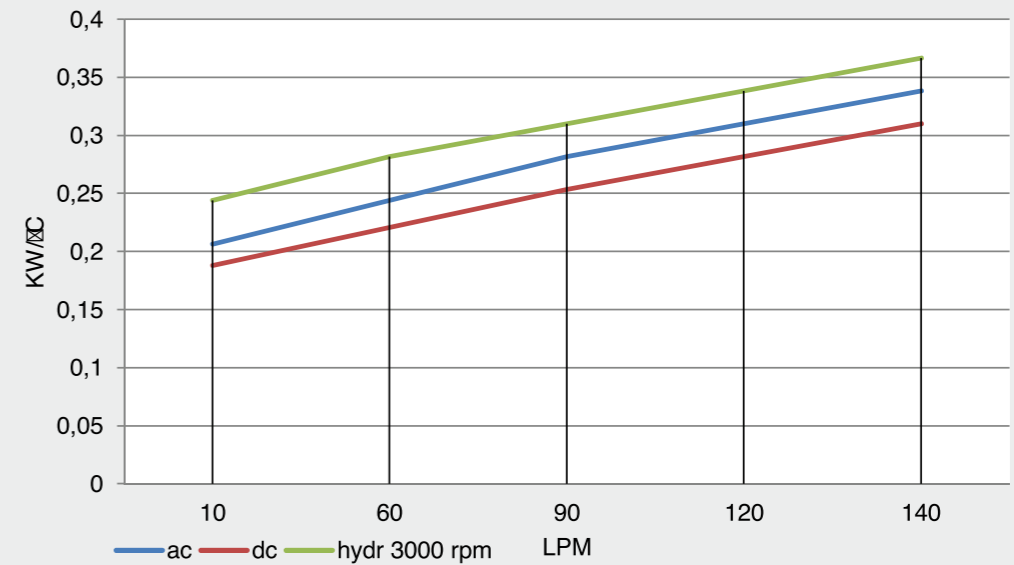
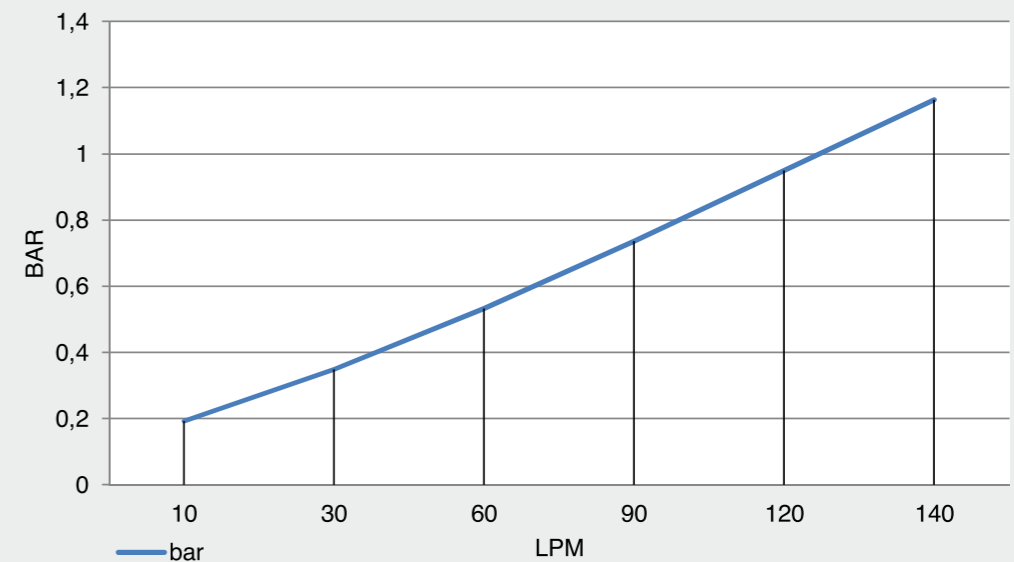
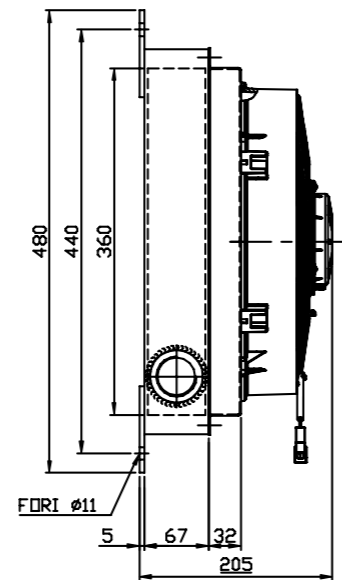
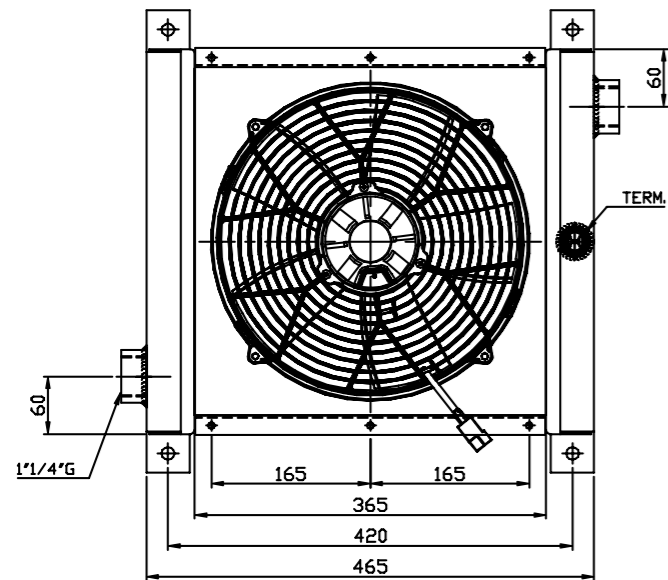


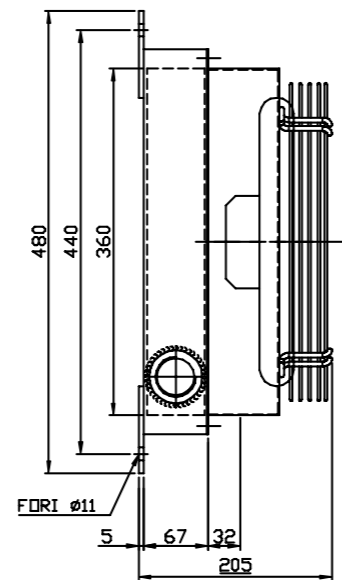
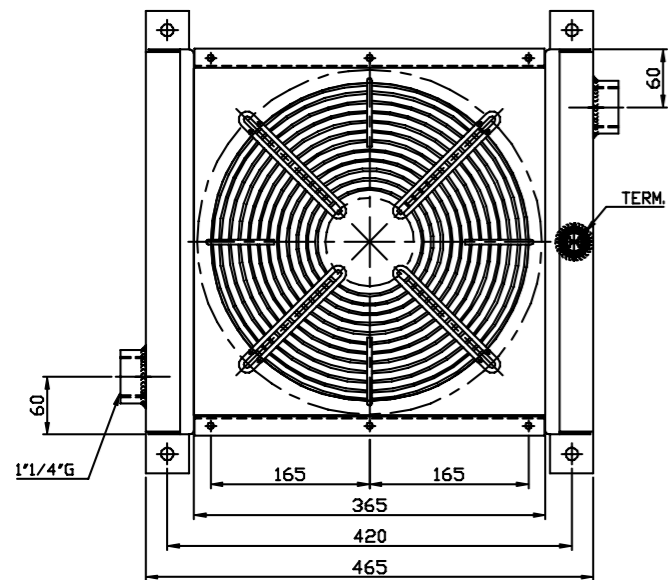
DIAGRAMMA PERDITE DI CARICO - PRESSURE DROP DIAGRAM



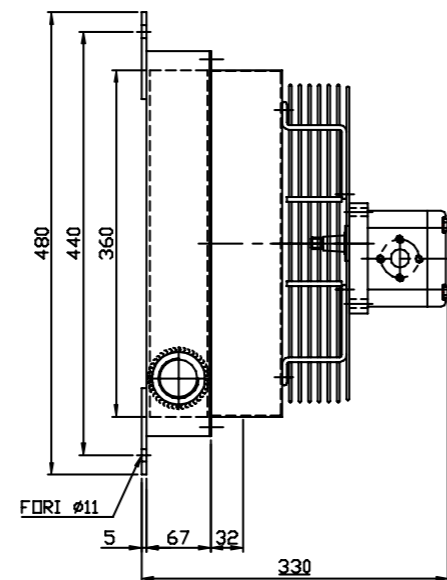
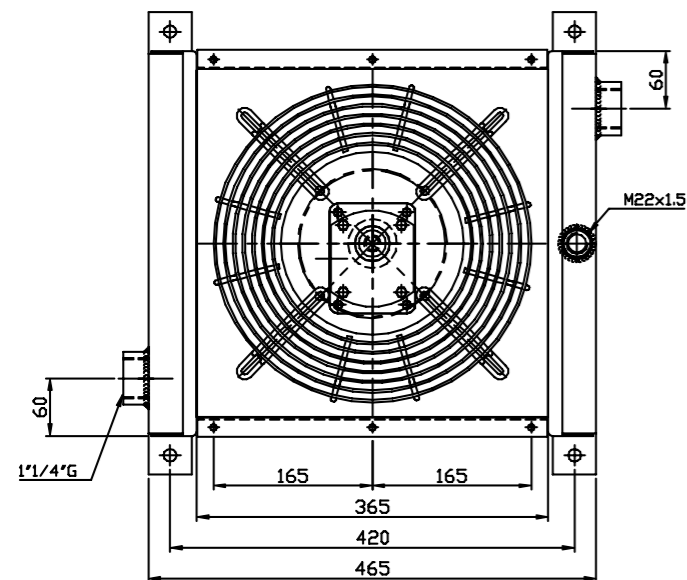
Portata olio - Oil flow: 10-140 lt/1'



Vcc



Vac



GR2

DATI TECNICI - TECHNICAL DATA

TENSIONE VOLTAGE	ASSORBIMENTO CURRENT	PORTATA ARIA AIR FLOW	PROTEZIONE PROTECTION	Ø
V	A	m <sup>3</sup> /h	IP	mm
12	11,4	1800	68	2305
24	5,5	1780	68	305
230 Hz 50/60	1,1 / 1,55	3410 / 3740	44	300
230/400 Hz 50/60	0,62-0,36 / 0,83-0,48	3130 / 3350	44	300
Predisposizione GR2 - Prepared for GR2			/	300

DIAGRAMMA DI RENDIMENTO - PERFORMANCE DIAGRAM

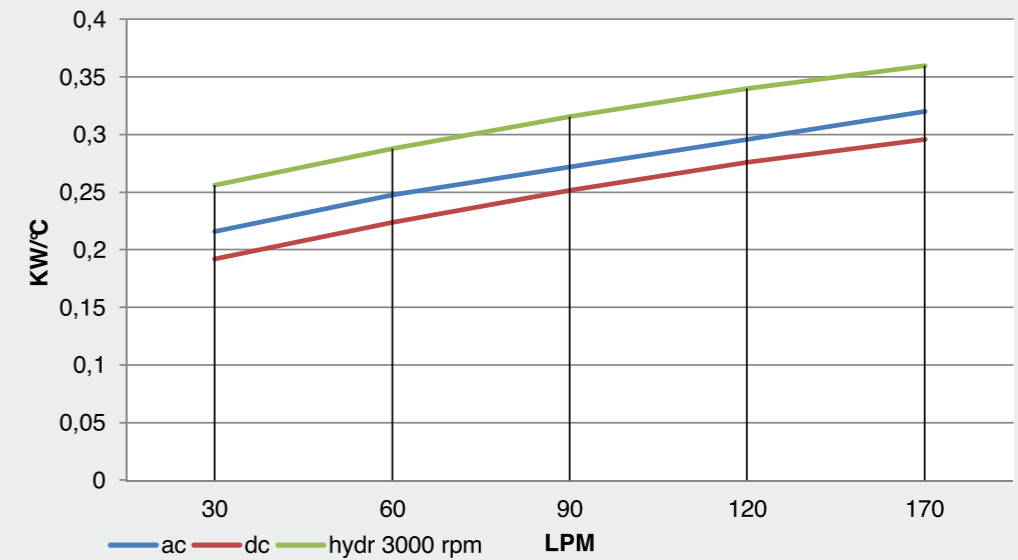
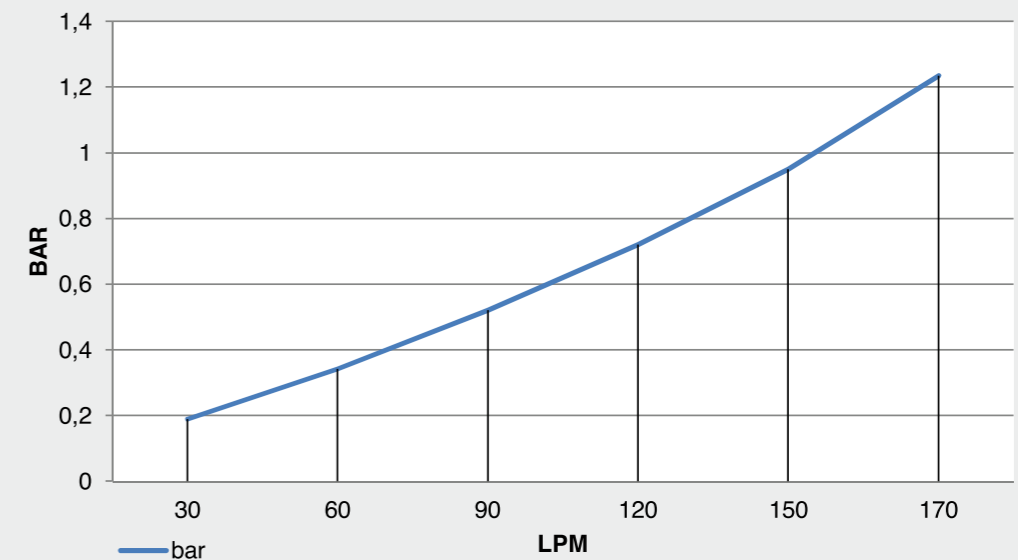
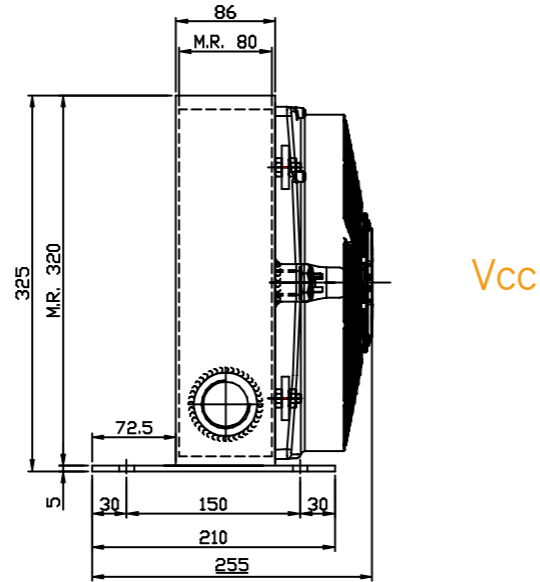
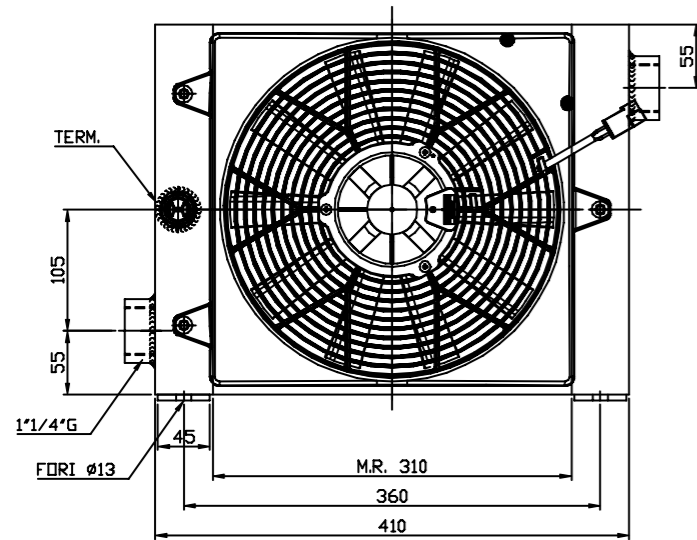


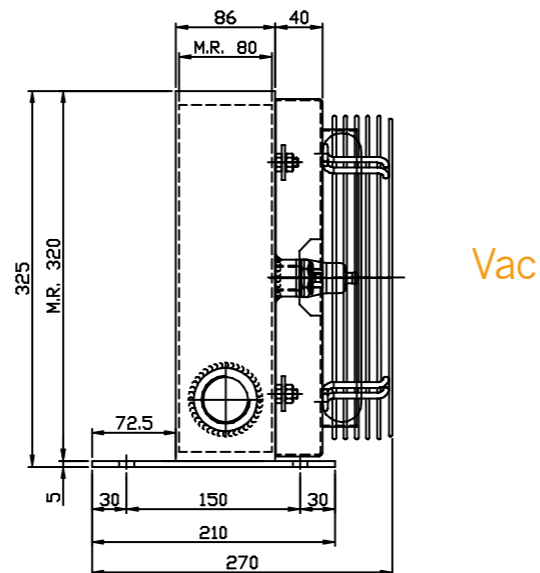
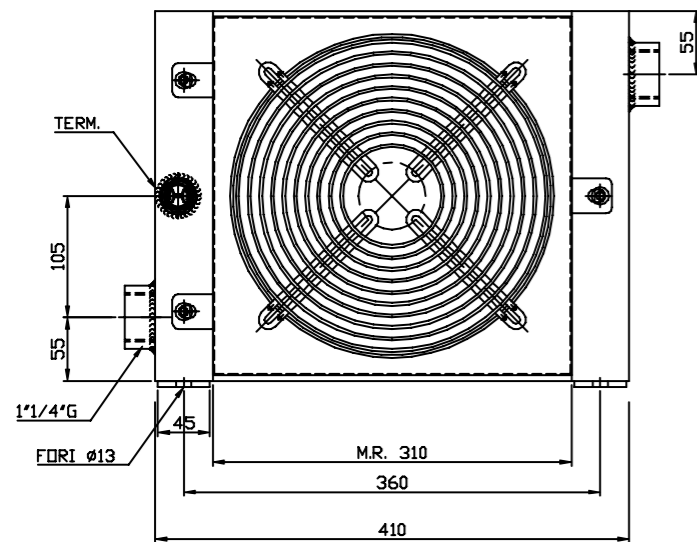
DIAGRAMMA PERDITE DI CARICO - PRESSURE DROP DIAGRAM



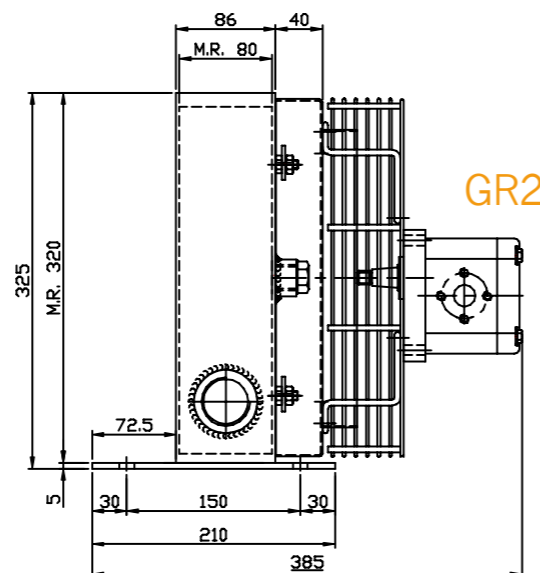
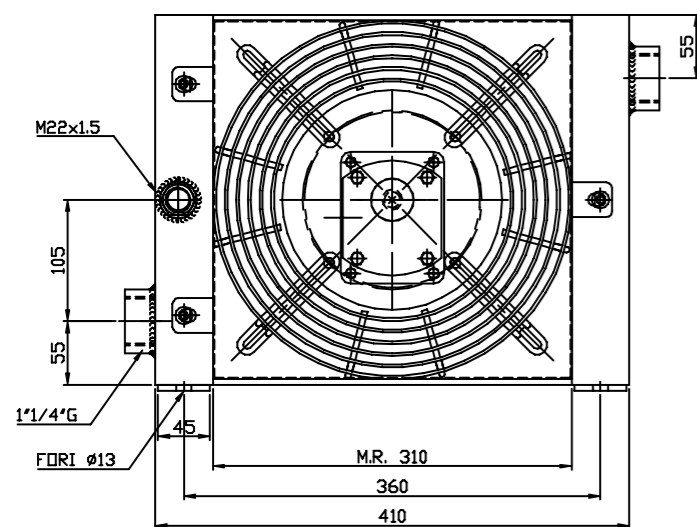
Portata olio - Oil flow: 25-170 lt/1'



Vcc



Vac



GR2

DATI TECNICI - TECHNICAL DATA

TENSIONE VOLTAGE	ASSORBIMENTO CURRENT	PORTATA ARIA AIR FLOW	PROTEZIONE PROTECTION	Ø
V	A	m <sup>3</sup> /h	IP	mm
12	7,3	1450	68	280
24	3,7	1470	68	280
230 Hz 50/60	0,51 / 0,66	1820 / 1970	44	250
230/400 Hz 50/60	0,34-0,20 / 0,40-0,23	1830 / 1950	44	250
Predisposizione GR2 - Prepared for GR2				280

DIAGRAMMA DI RENDIMENTO - PERFORMANCE DIAGRAM

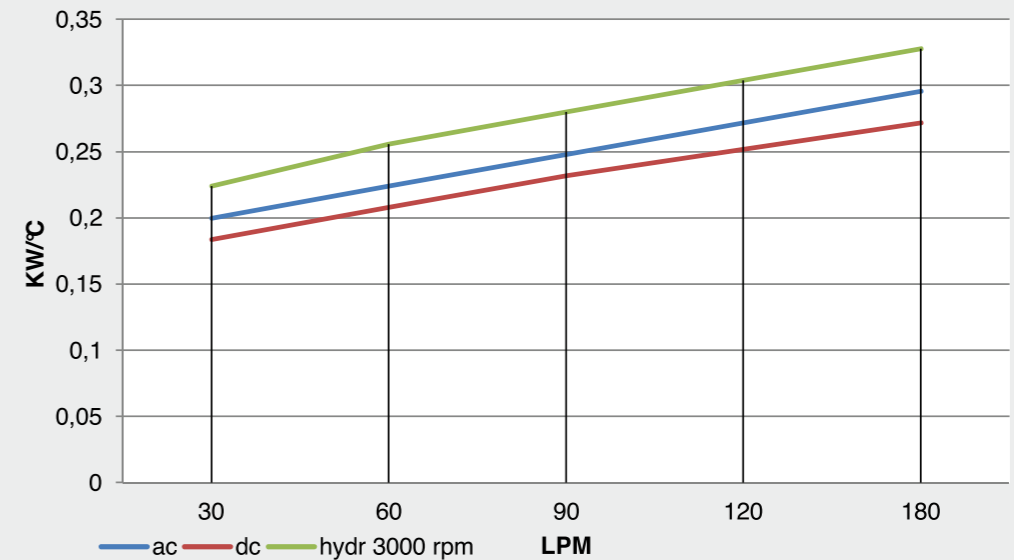
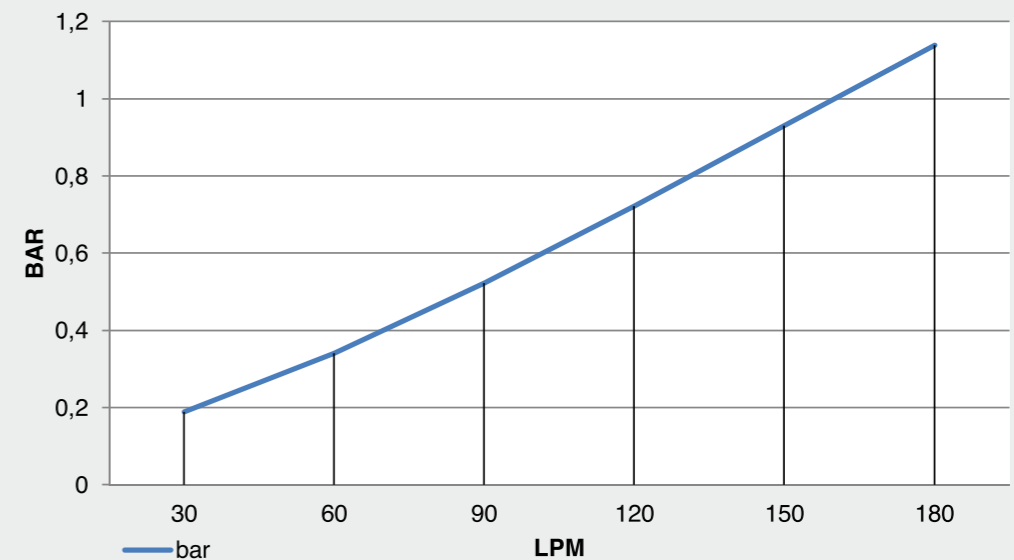
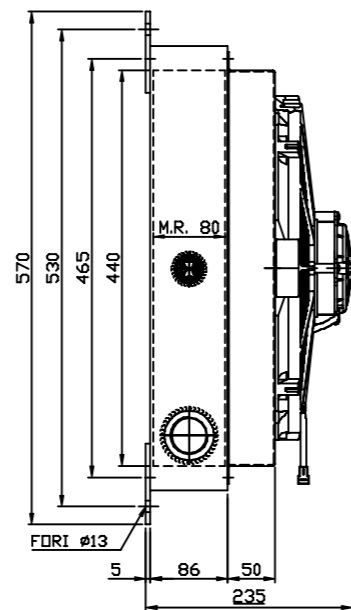
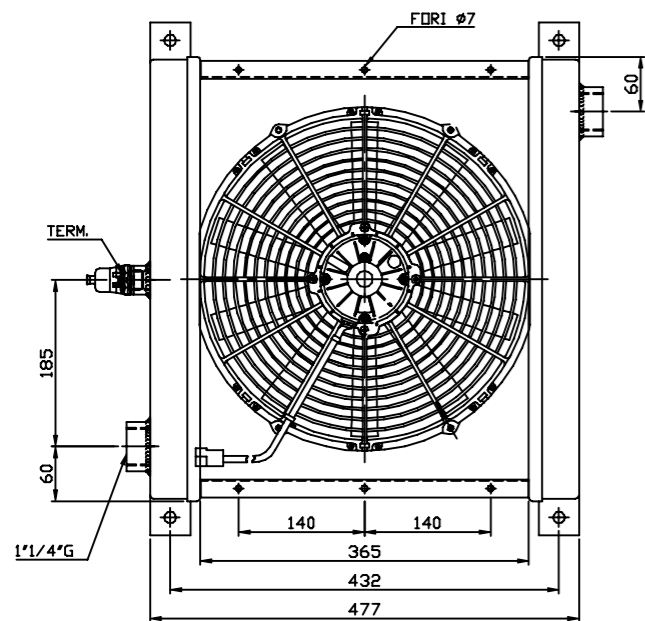


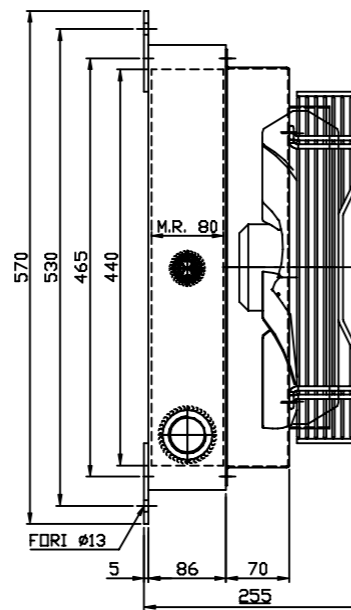
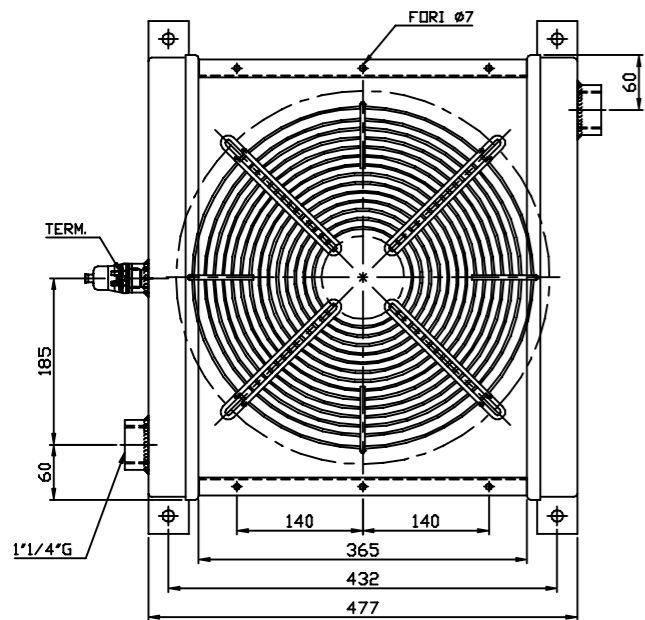
DIAGRAMMA PERDITE DI CARICO - PRESSURE DROP DIAGRAM



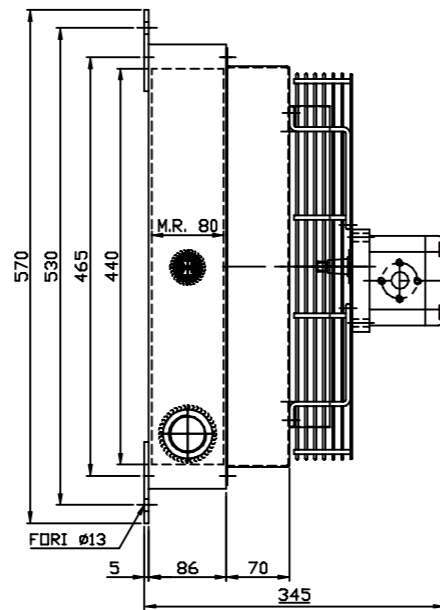
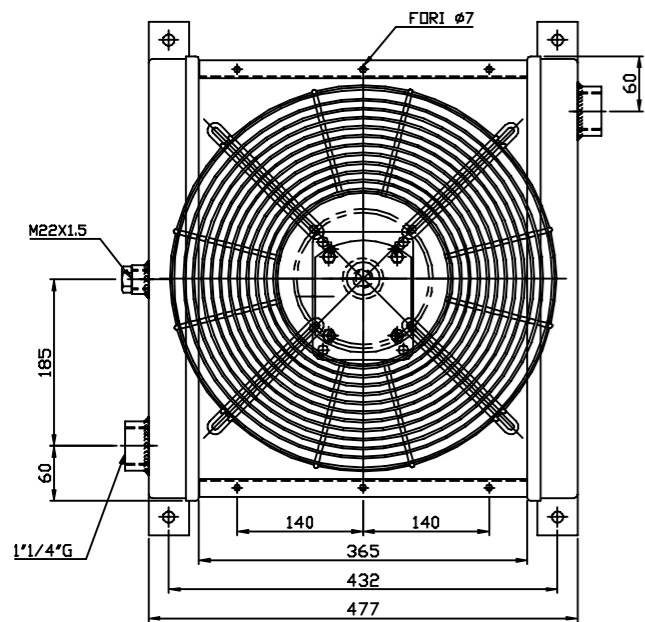
Portata olio - Oil flow: 30-180 lt/1'



Vcc



Vac



GR2

DATI TECNICI - TECHNICAL DATA

TENSIONE VOLTAGE	ASSORBIMENTO CURRENT	PORTATA ARIA AIR FLOW	PROTEZIONE PROTECTION	Ø
V	A	m <sup>3</sup> /h	IP	mm
12	18,7	2840	68	350
24	10,1	2810	68	350
230 Hz 50/60	0,58 / 0,80	3250 / 3640	44	350
230/400 Hz 50/60	0,73-0,42 / 0,64-0,37	3340 / 3815	44	350
Predisposizione GR2 - Prepared for GR2			/	300

DIAGRAMMA DI RENDIMENTO - PERFORMANCE DIAGRAM

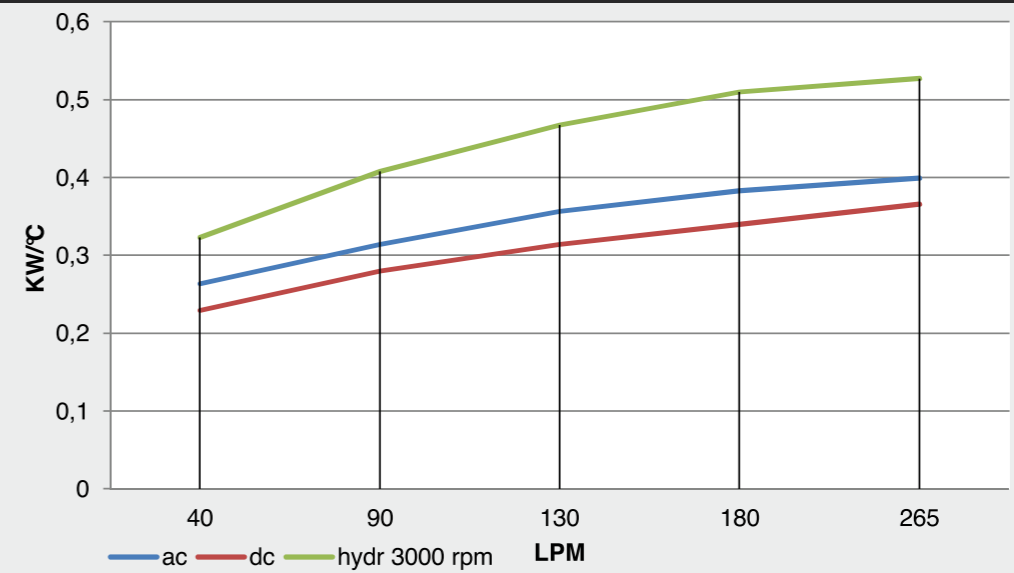
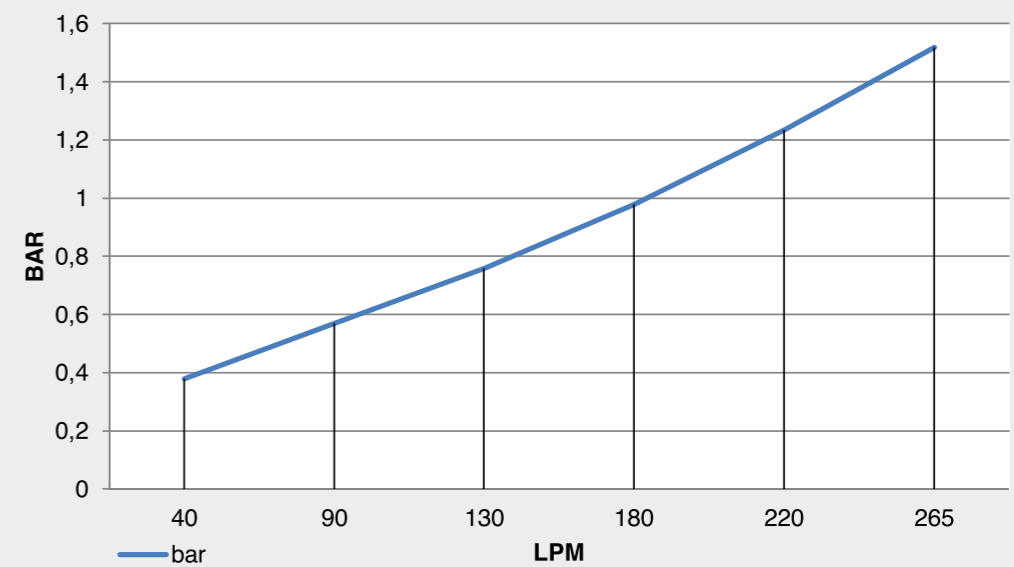
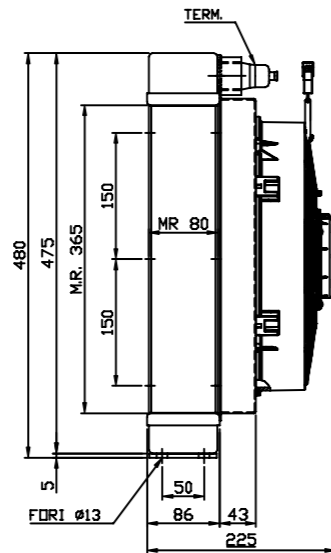
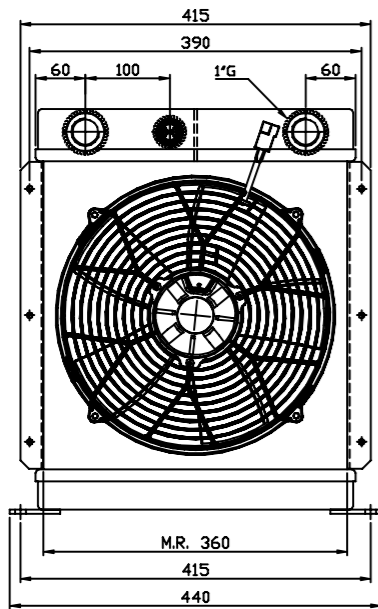


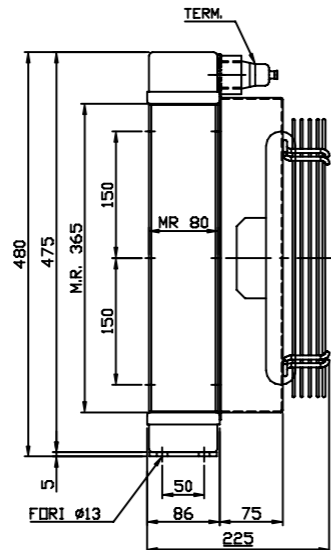
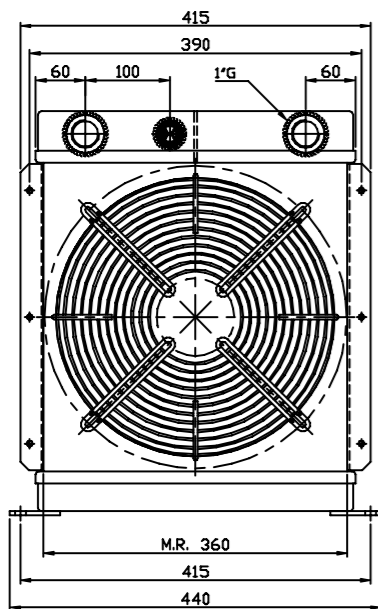
DIAGRAMMA PERDITE DI CARICO - PRESSURE DROP DIAGRAM



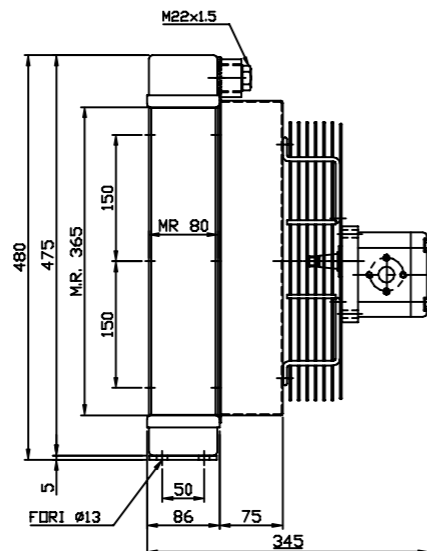
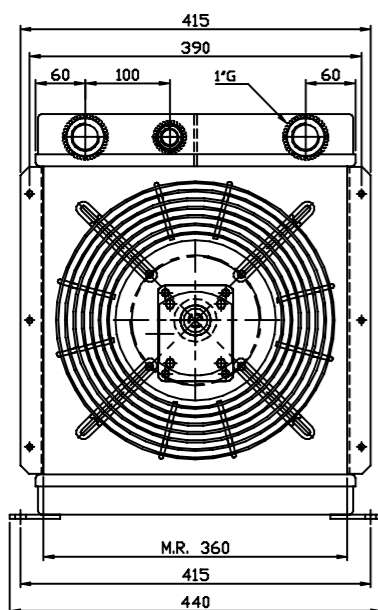
Portata olio - Oil flow: 40-265 lt/1'



Vcc



Vac



GR2

DATI TECNICI - TECHNICAL DATA

TENSIONE VOLTAGE	ASSORBIMENTO CURRENT	PORTATA ARIA AIR FLOW	PROTEZIONE PROTECTION	Ø
V	A	m <sup>3</sup> /h	IP	mm
12	20,7	2490	68	305
24	10	2520	68	305
230 Hz 50/60	1,1 / 1,55	3410 / 3740	44	300
230/400 Hz 50/60	0,62-0,36 / 0,83-0,48	3130 / 3350	44	300
Predisposizione GR2 - Prepared for GR2			/	300

DIAGRAMMA DI RENDIMENTO - PERFORMANCE DIAGRAM

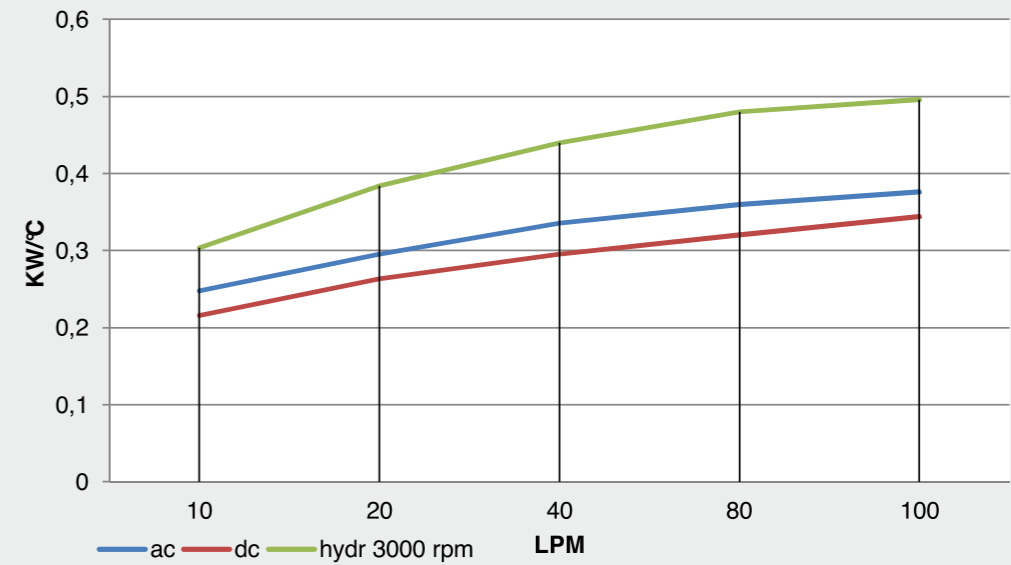
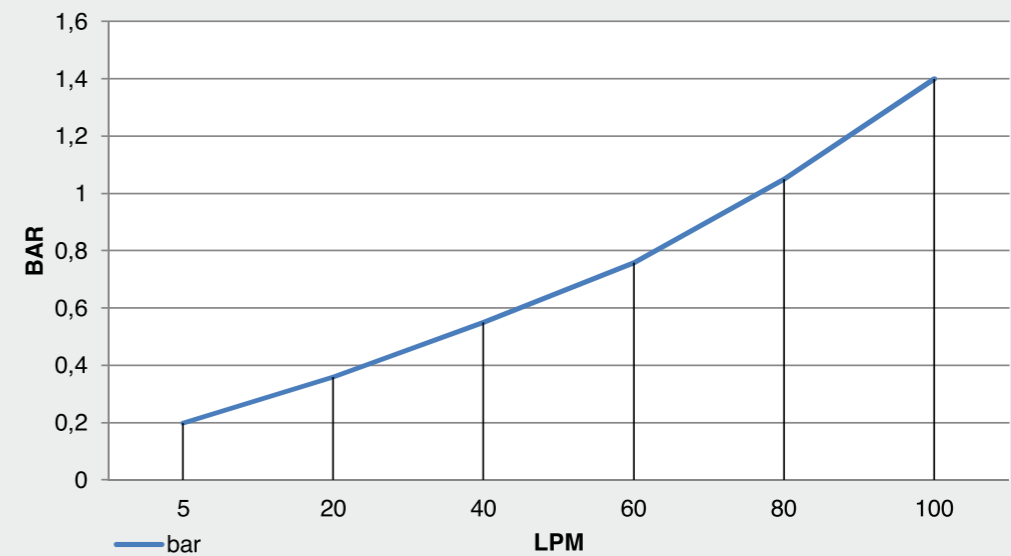
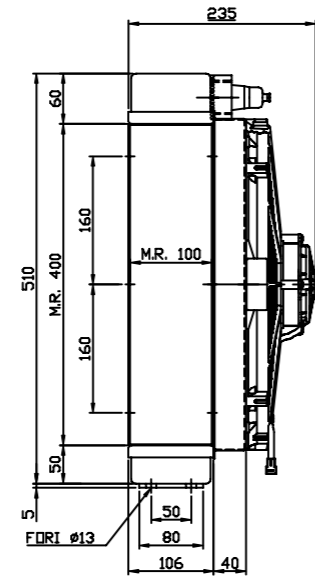
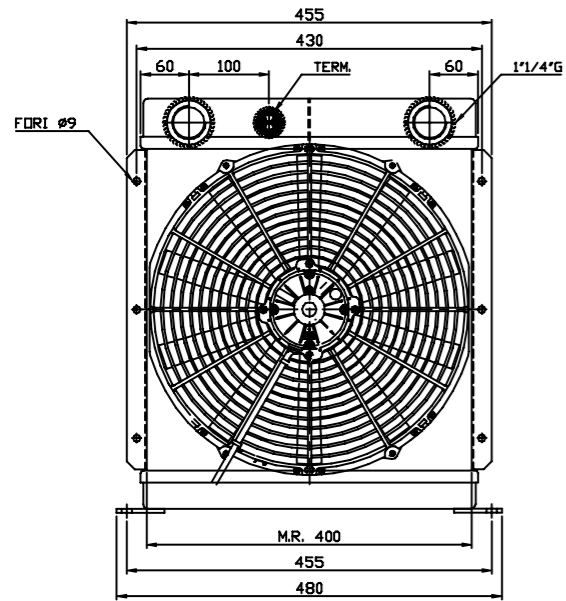


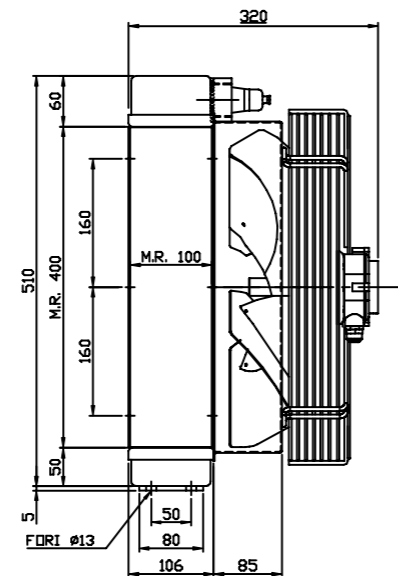
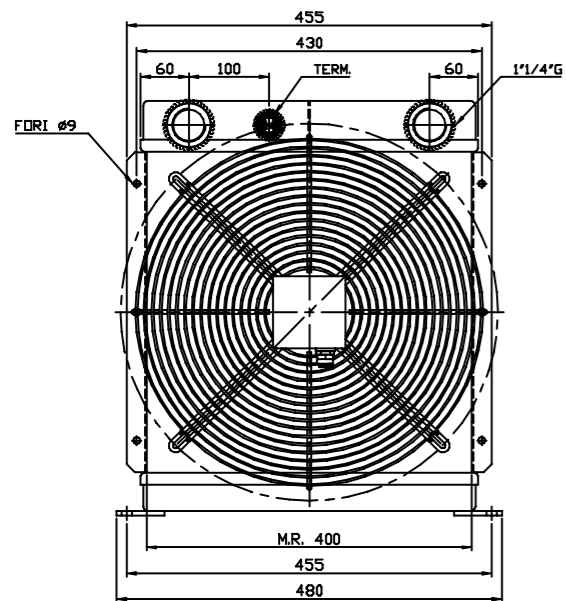
DIAGRAMMA PERDITE DI CARICO - PRESSURE DROP DIAGRAM



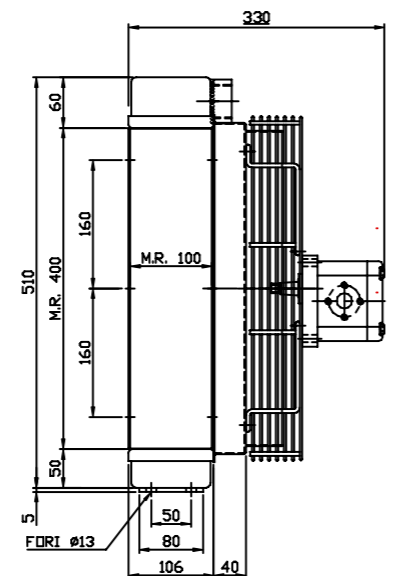
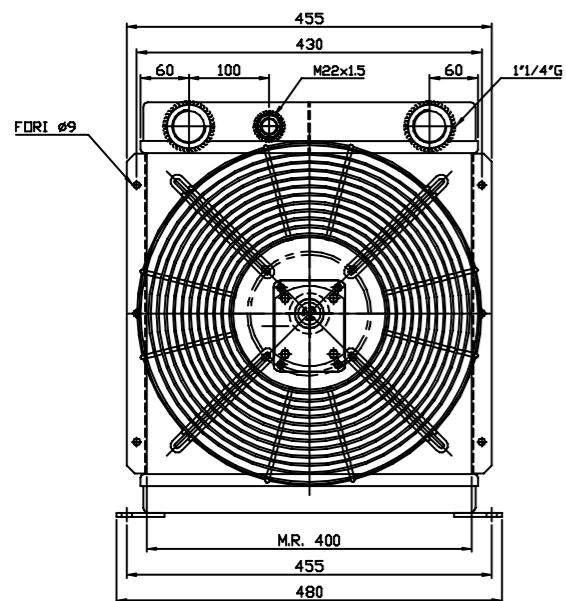
Portata olio - Oil flow: 10-100 lt/1'



Vcc



Vac

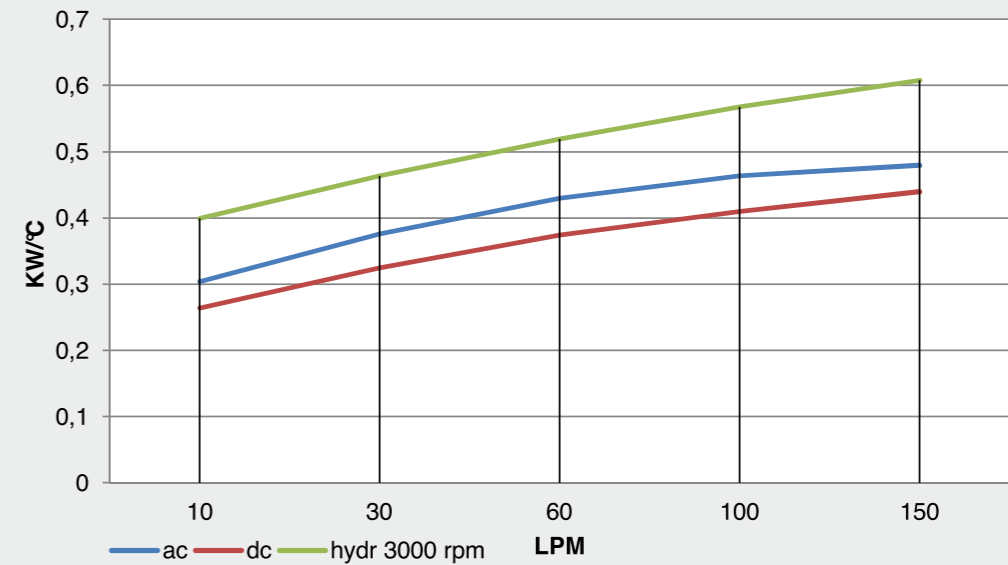


GR2

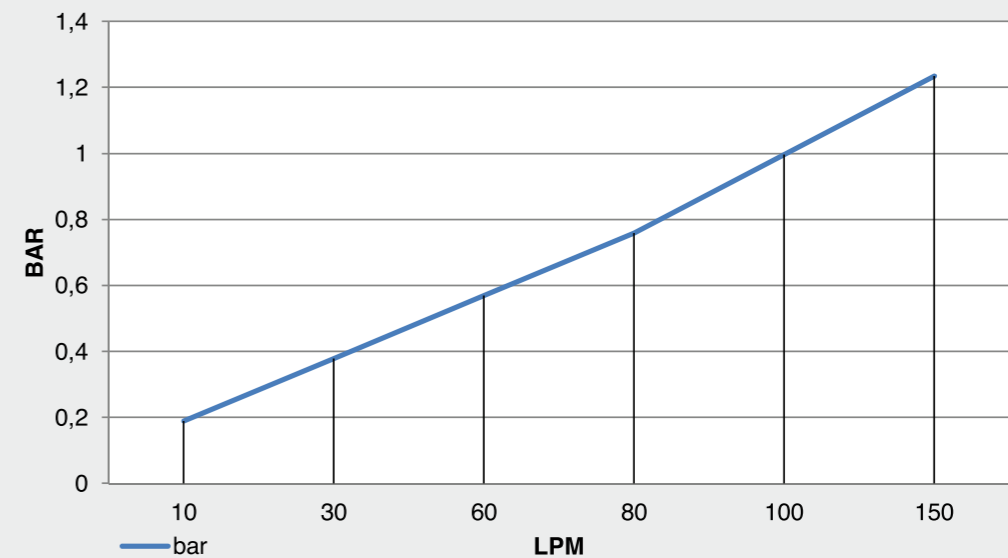
### DATI TECNICI - TECHNICAL DATA

TENSIONE VOLTAGE	ASSORBIMENTO CURRENT	PORTATA ARIA AIR FLOW	PROTEZIONE PROTECTION	Ø
V	A	m <sup>3</sup> /h	IP	mm
12	18,1	3220	68	385
24	8	3080	68	385
230 Hz 50/60	0,73 / 1,06	4235 / 4950	44	400
230/400 Hz 50/60	0,76-0,44 / 0,68-0,39	4000 / 4610	44	400
Predisposizione GR2 - Prepared for GR2			/	380

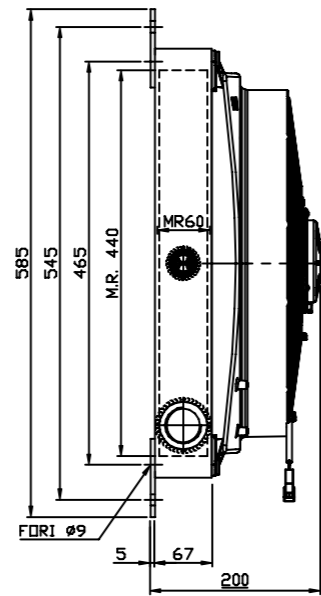
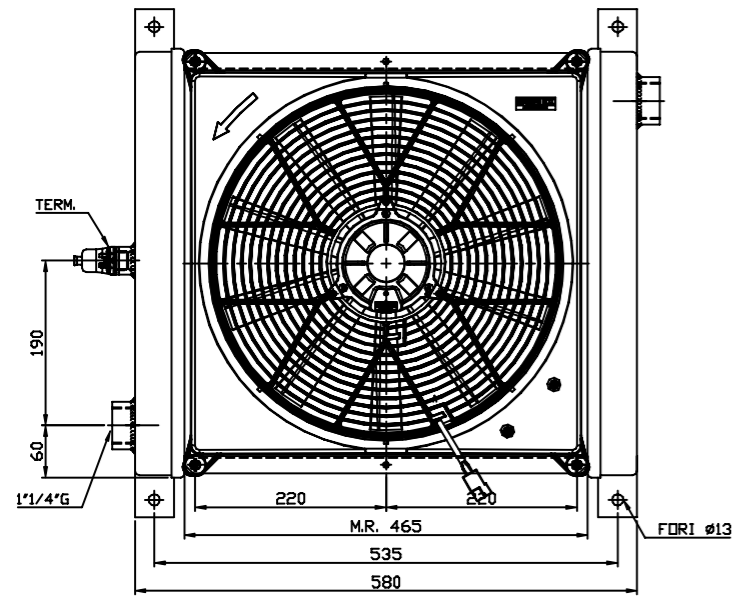
### DIAGRAMMA DI RENDIMENTO - PERFORMANCE DIAGRAM



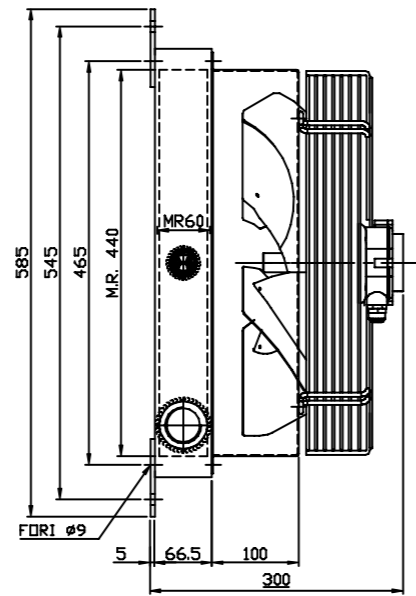
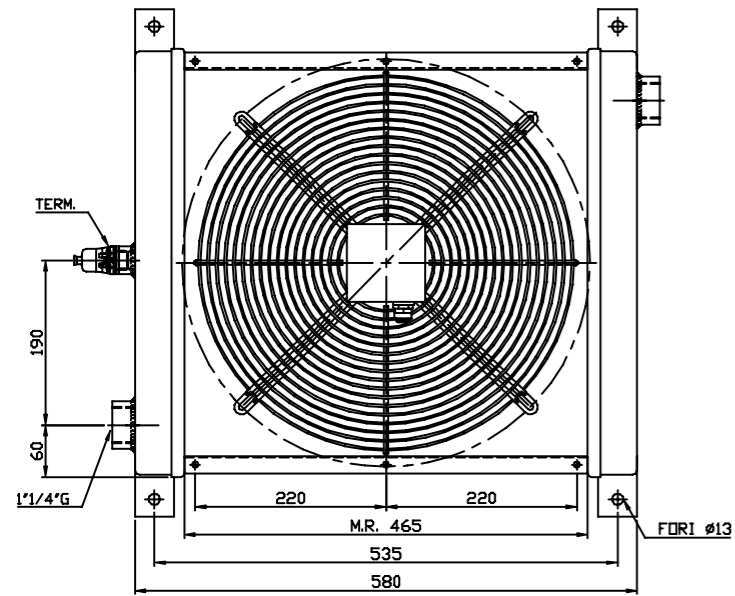
### DIAGRAMMA PERDITE DI CARICO - PRESSURE DROP DIAGRAM



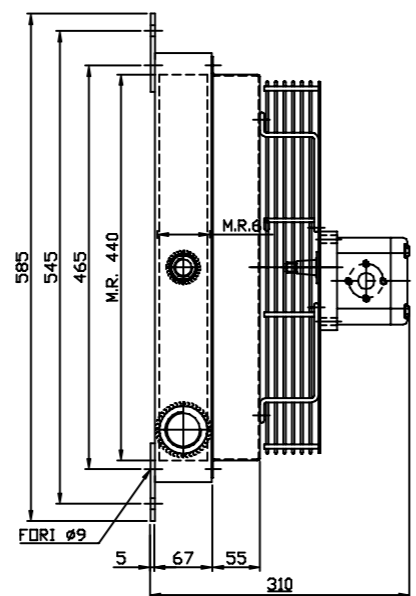
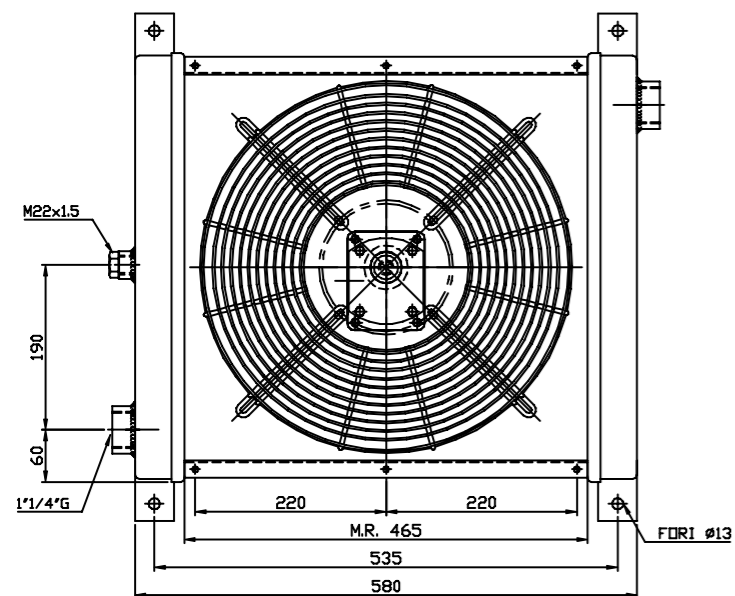
Portata olio - Oil flow: 10-150 lt/1'



Vcc



Vac



GR2

DATI TECNICI - TECHNICAL DATA

TENSIONE VOLTAGE	ASSORBIMENTO CURRENT	PORTATA ARIA AIR FLOW	PROTEZIONE PROTECTION	Ø
V	A	m <sup>3</sup> /h	IP	mm
12	18,1	3220	68	385
24	8	3080	68	385
230 Hz 50/60	0,73 / 1,06	4235 / 4950	44	400
230/400 Hz 50/60	0,76-0,44 / 0,68-0,39	4000 / 4610	44	400
Predisposizione GR2 - Prepared for GR2			/	400

DIAGRAMMA DI RENDIMENTO - PERFORMANCE DIAGRAM

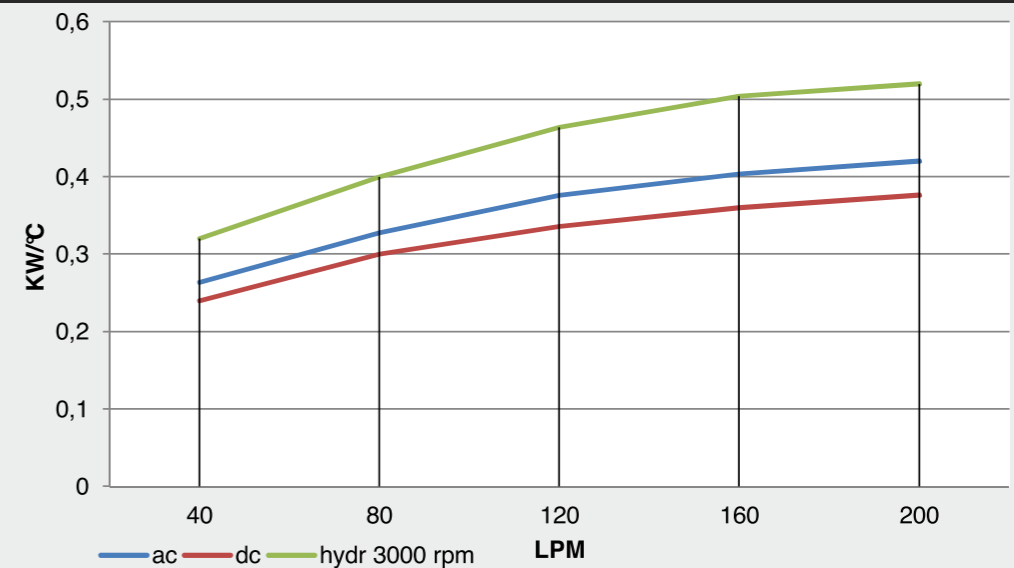
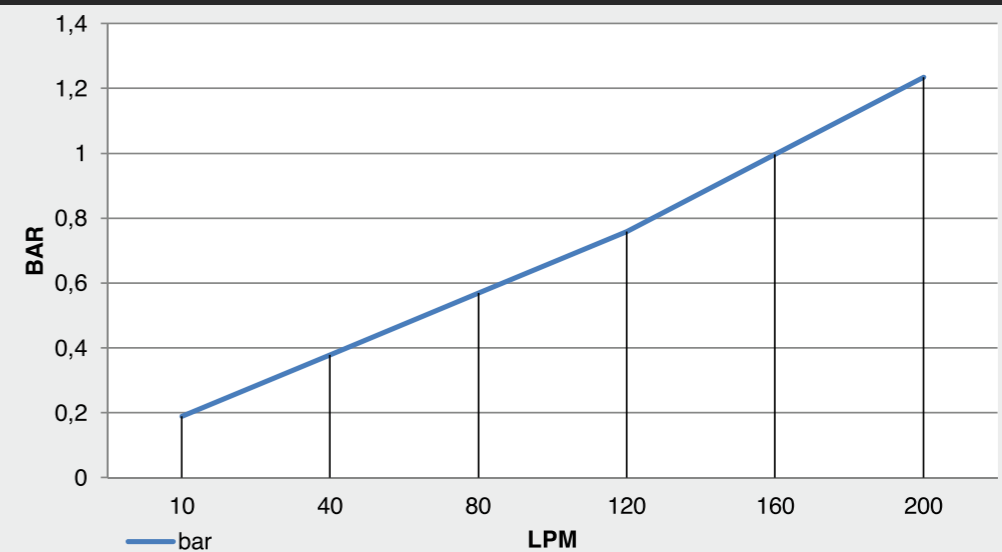
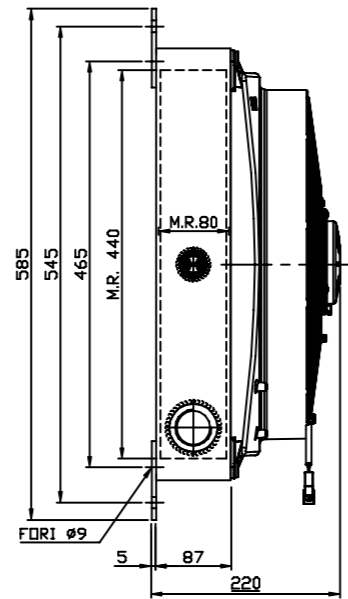
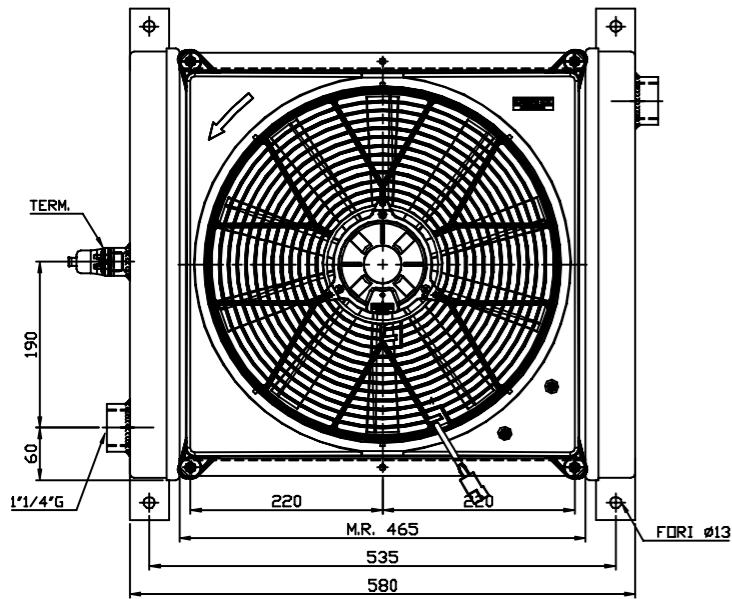


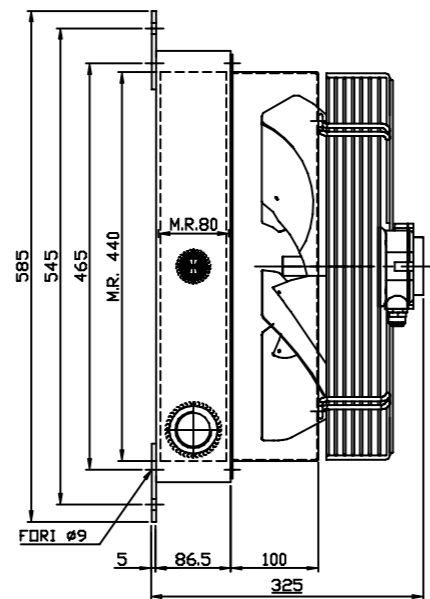
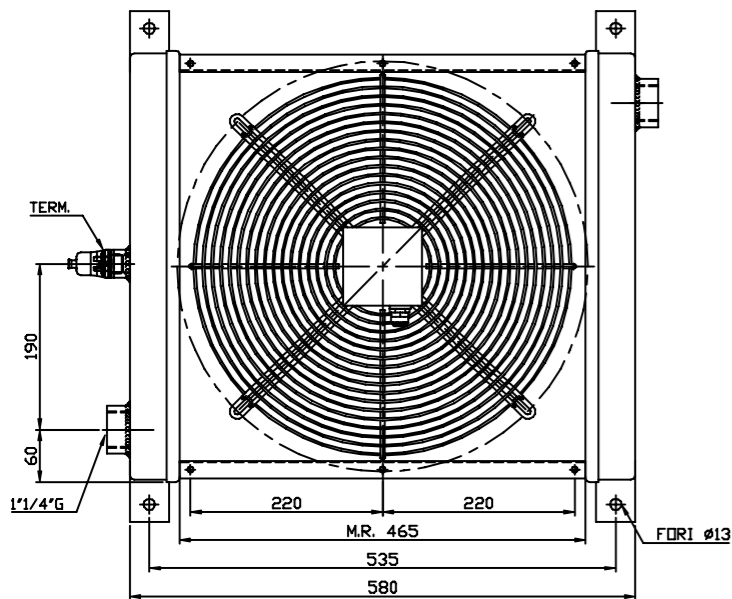
DIAGRAMMA PERDITE DI CARICO - PRESSURE DROP DIAGRAM



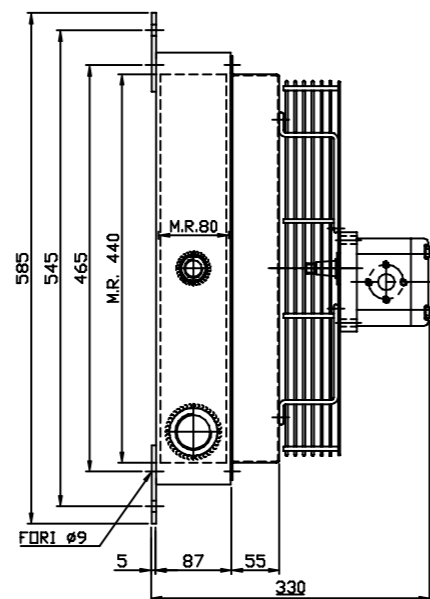
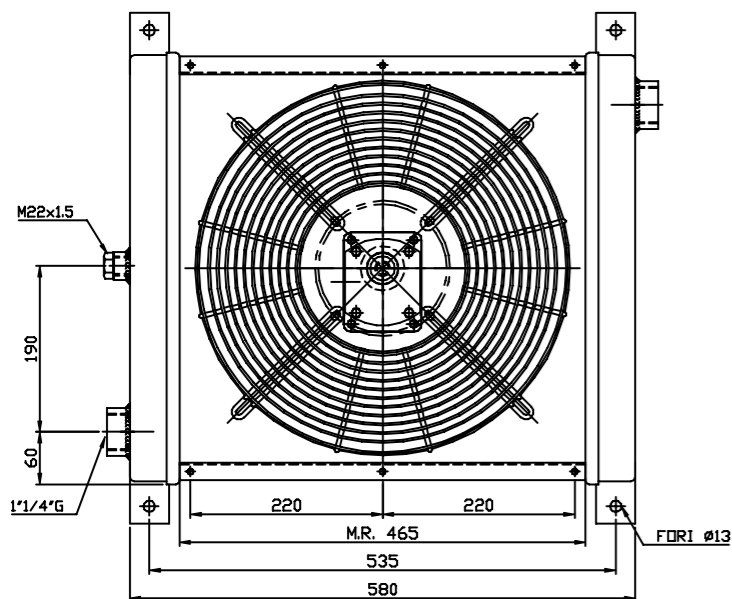
Portata olio - Oil flow: 40-200 lt/1'



Vcc



Vac



GR2

DATI TECNICI - TECHNICAL DATA

TENSIONE VOLTAGE	ASSORBIMENTO CURRENT	PORTATA ARIA AIR FLOW	PROTEZIONE PROTECTION	Ø
V	A	m <sup>3</sup> /h	IP	mm
12	18,1	3220	68	385
24	8	3080	68	385
230 Hz 50/60	0,73 / 1,06	4235 / 4950	44	400
230/400 Hz 50/60	0,76-0,44 / 0,68-0,39	4000 / 4610	44	400
Predisposizione GR2 - Prepared for GR2				400

DIAGRAMMA DI RENDIMENTO - PERFORMANCE DIAGRAM

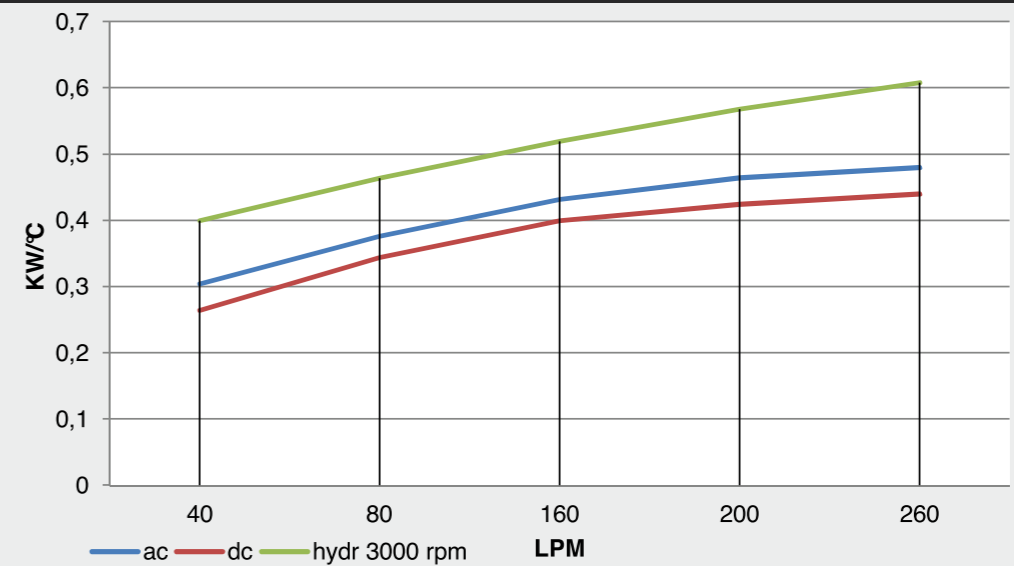
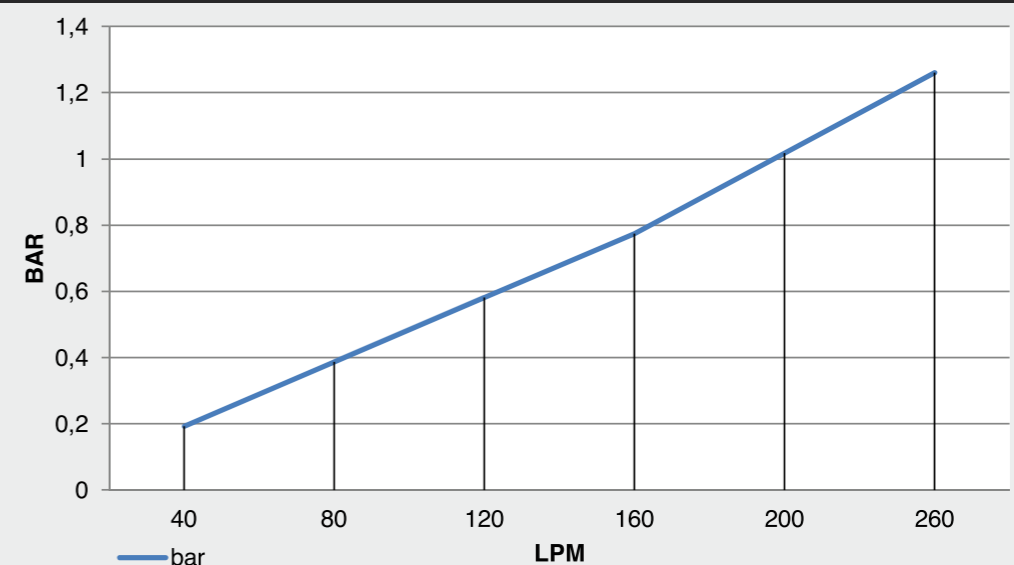
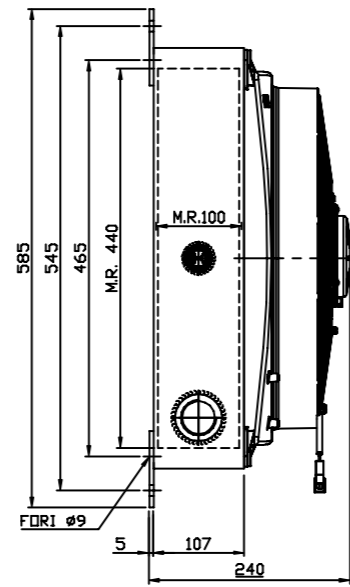
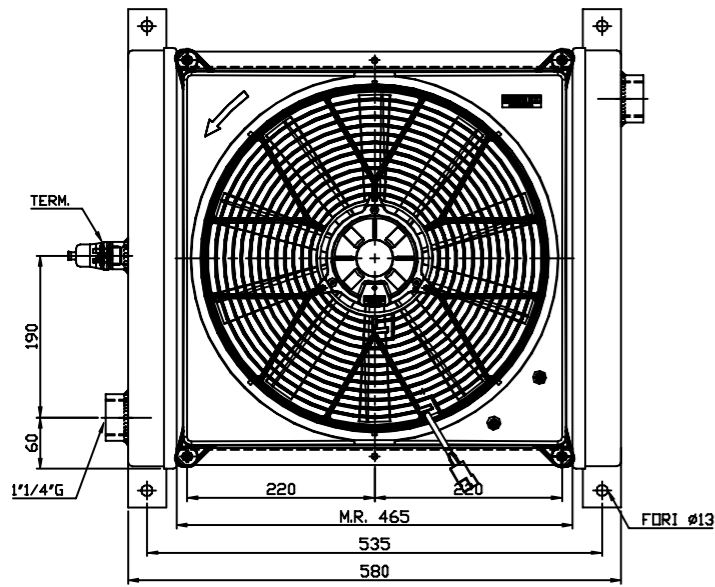


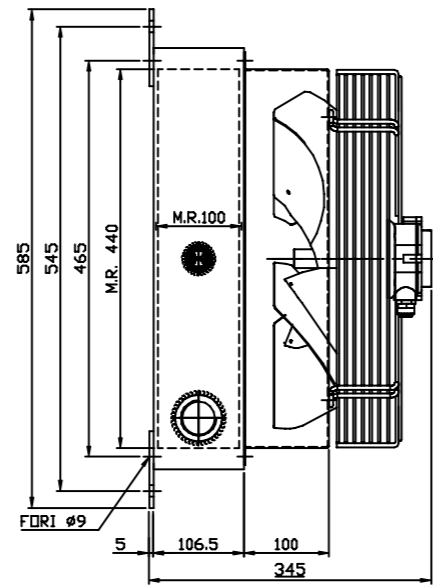
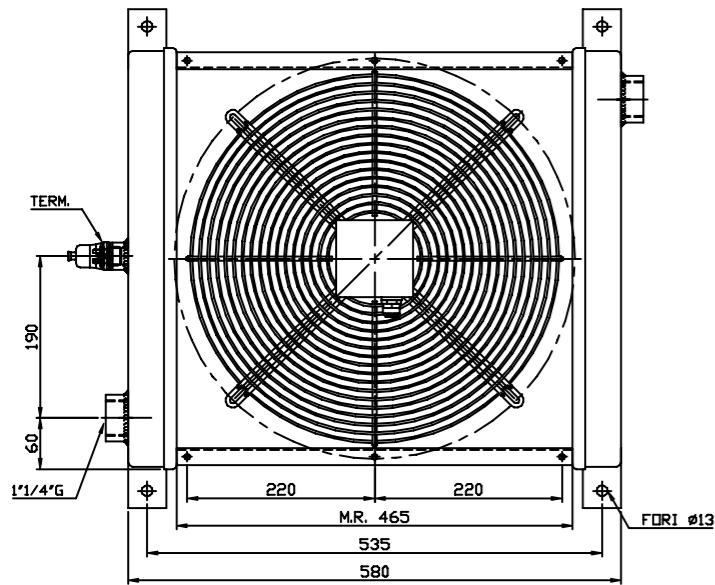
DIAGRAMMA PERDITE DI CARICO - PRESSURE DROP DIAGRAM



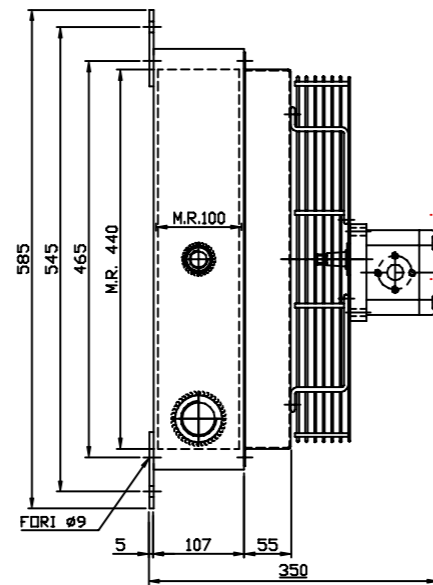
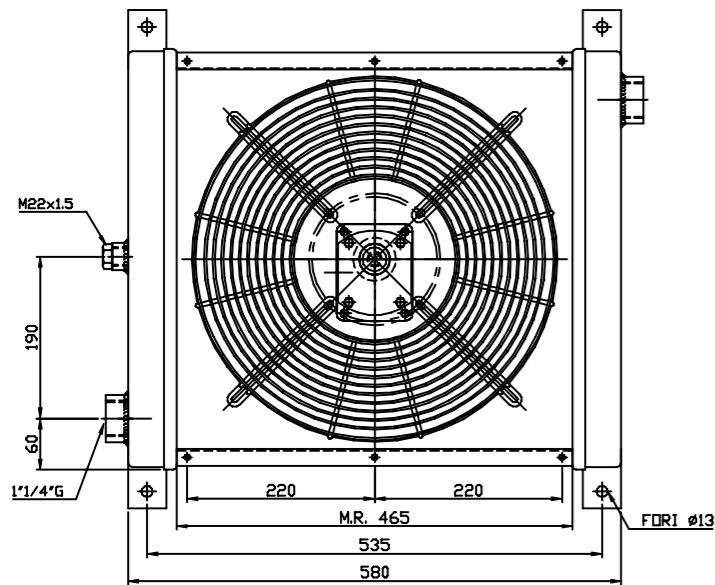
Portata olio - Oil flow: 40-260 lt/1'



Vcc



Vac



GR2

DATI TECNICI - TECHNICAL DATA

TENSIONE VOLTAGE	ASSORBIMENTO CURRENT	PORTATA ARIA AIR FLOW	PROTEZIONE PROTECTION	Ø
V	A	m <sup>3</sup> /h	IP	mm
12	18,1	3220	68	385
24	8	3080	68	385
230 Hz 50/60	0,73 / 1,06	4235 / 4950	44	400
230/400 Hz 50/60	0,76-0,44 / 0,68-0,39	4000 / 4610	44	400
Predisposizione GR2 - Prepared for GR2			/	400

DIAGRAMMA DI RENDIMENTO - PERFORMANCE DIAGRAM

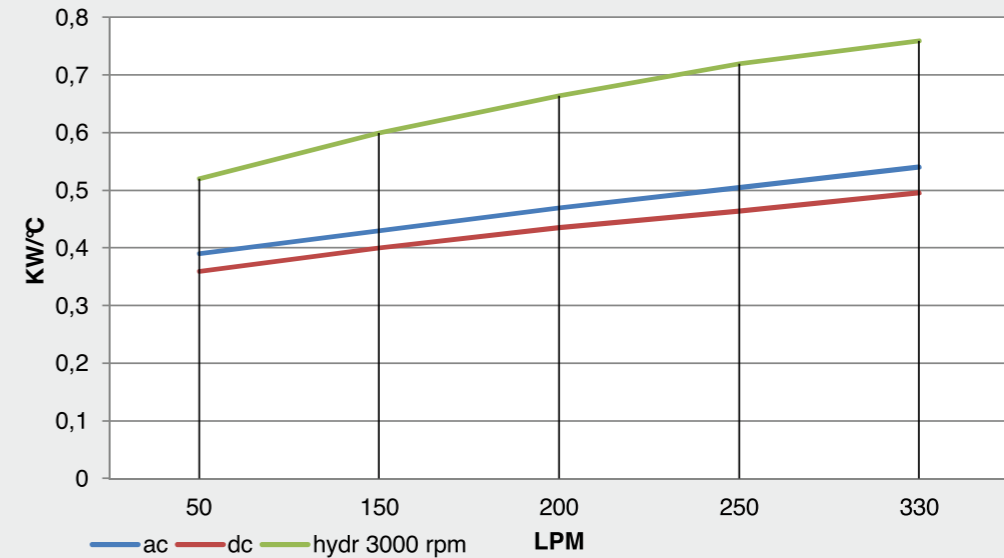
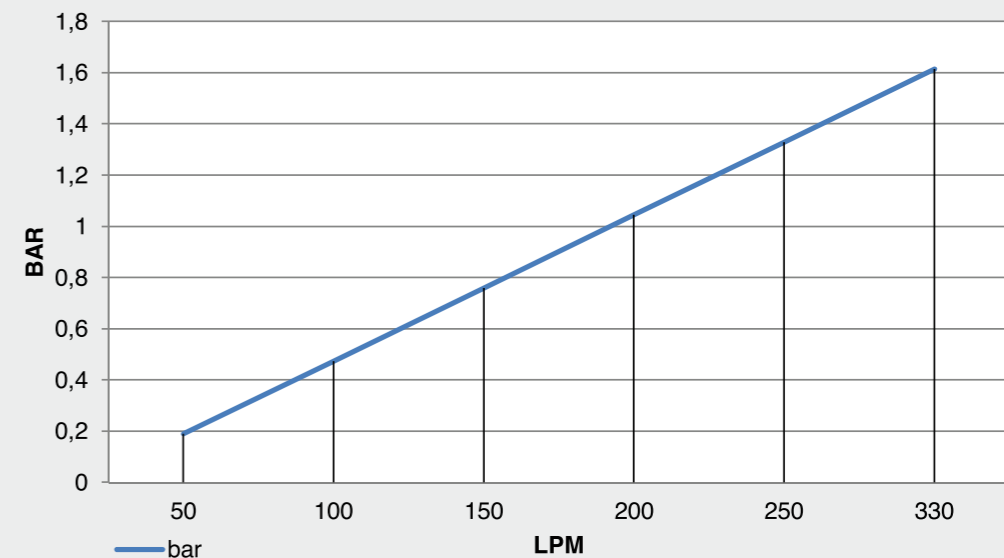
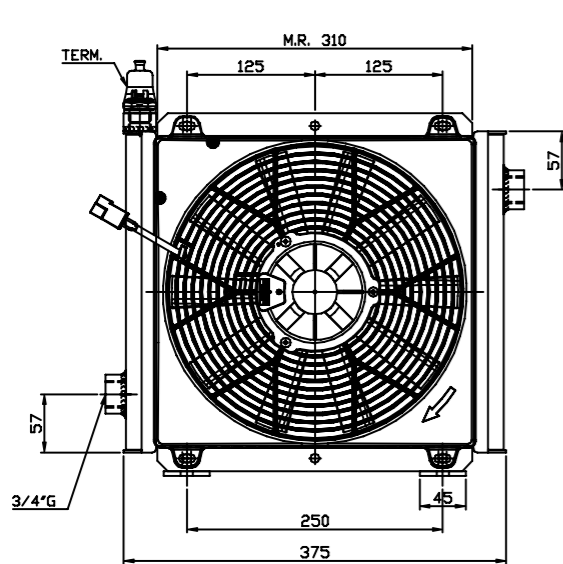


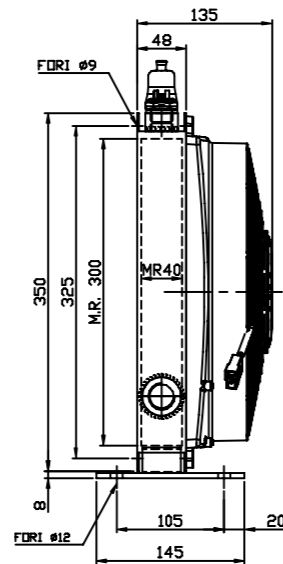
DIAGRAMMA PERDITE DI CARICO - PRESSURE DROP DIAGRAM



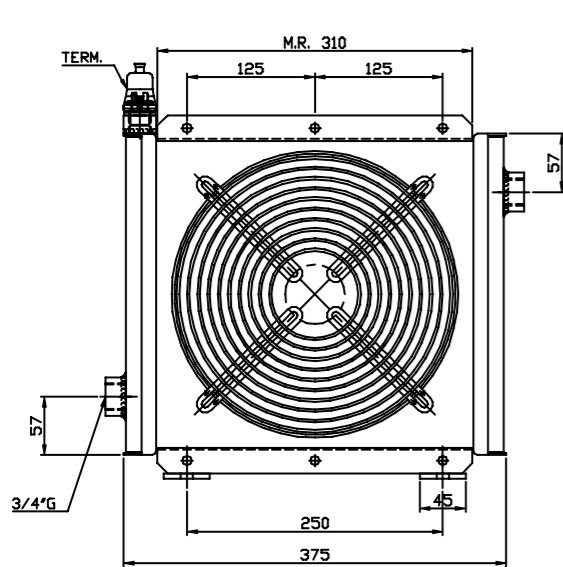
Portata olio - Oil flow: 50-330 lt/1'



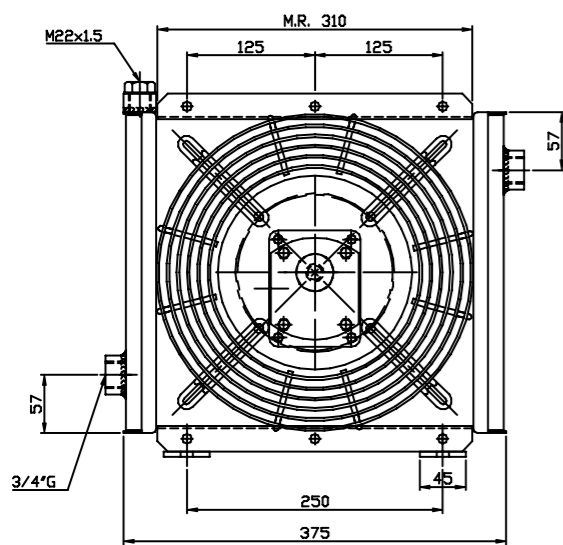
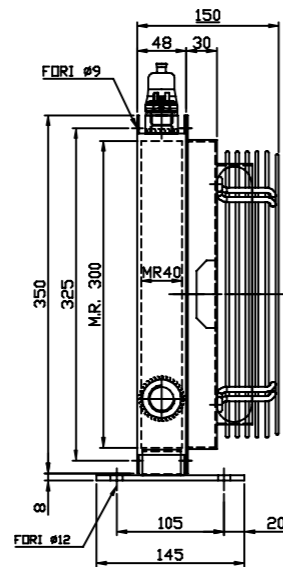
Vcc



Vac



GR2



DATI TECNICI - TECHNICAL DATA

TENSIONE VOLTAGE	ASSORBIMENTO CURRENT	PORTATA ARIA AIR FLOW	PROTEZIONE PROTECTION	Ø
V	A	m <sup>3</sup> /h	IP	mm
12	7,8	1290	68	280
24	3,9	1270	68	280
230 Hz 50/60	0,51 / 0,66	1820 / 1970	44	250
230/400 Hz 50/60	0,34-0,20 / 0,40-0,23	1830 / 1950	44	250
Predisposizione GR2 - Prepared for GR2			/	280

DIAGRAMMA DI RENDIMENTO - PERFORMANCE DIAGRAM

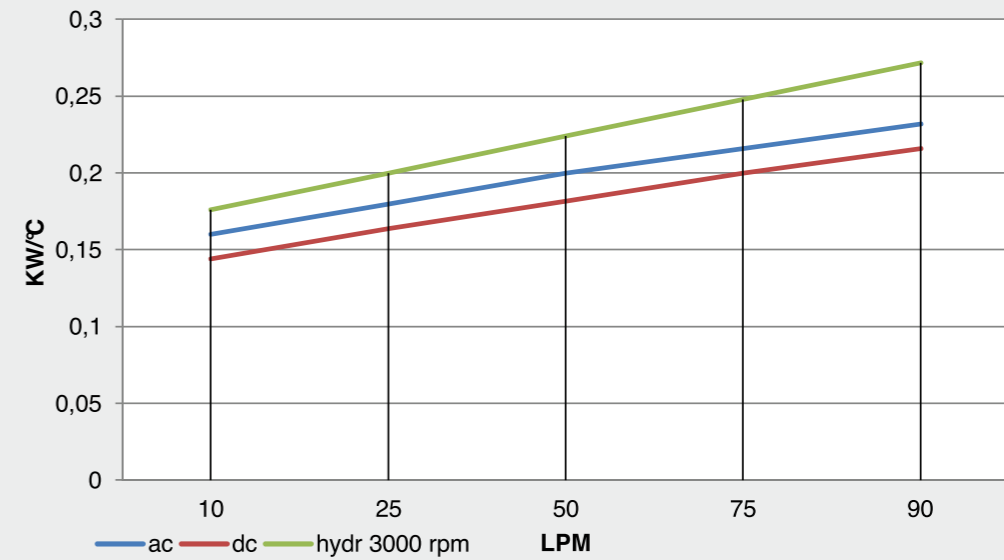
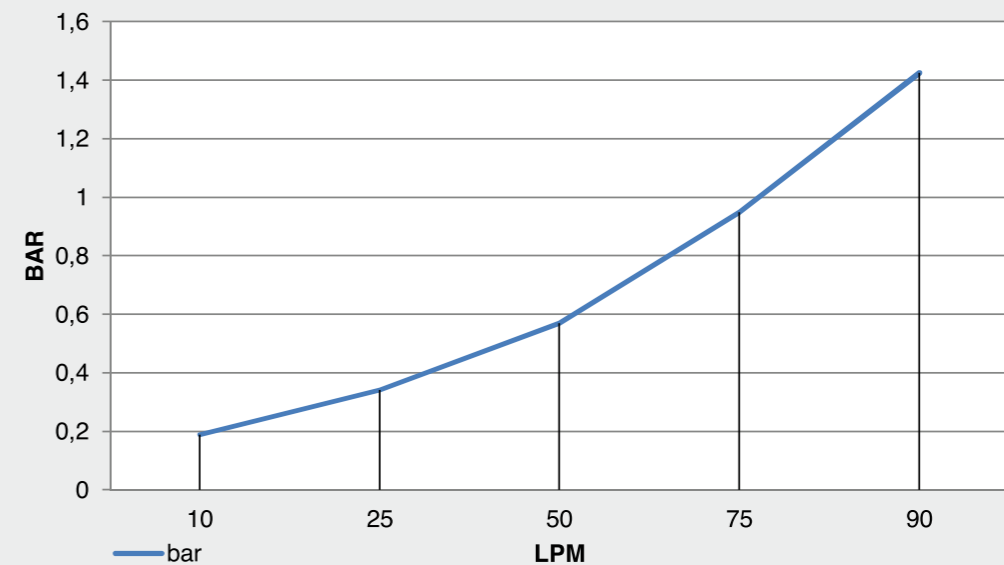
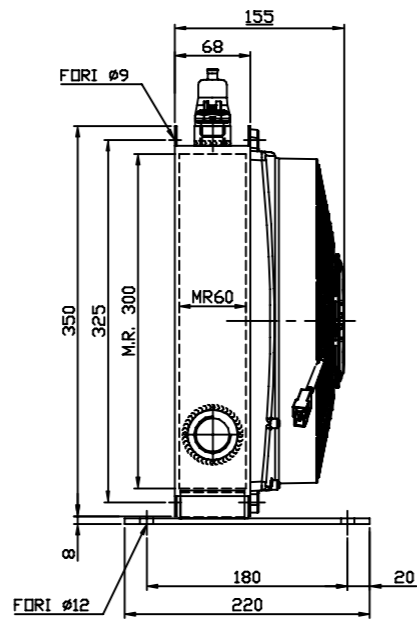
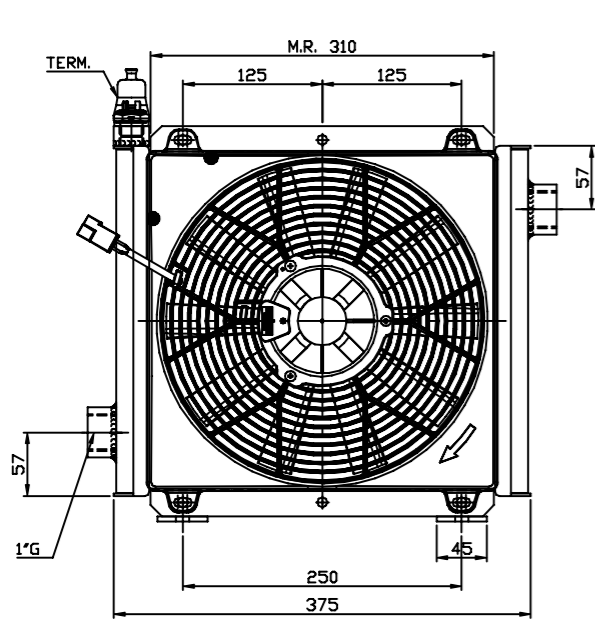


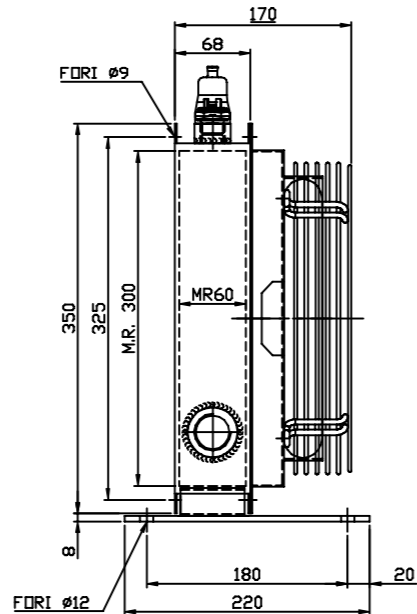
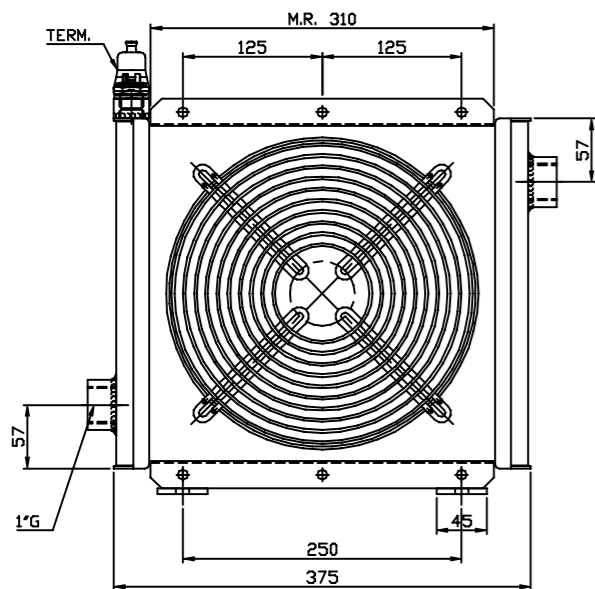
DIAGRAMMA PERDITE DI CARICO - PRESSURE DROP DIAGRAM



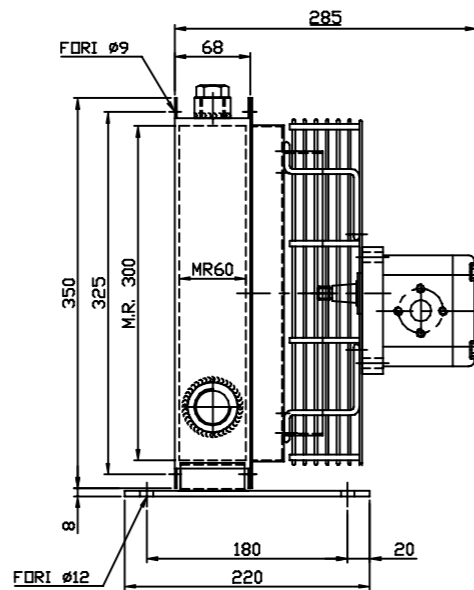
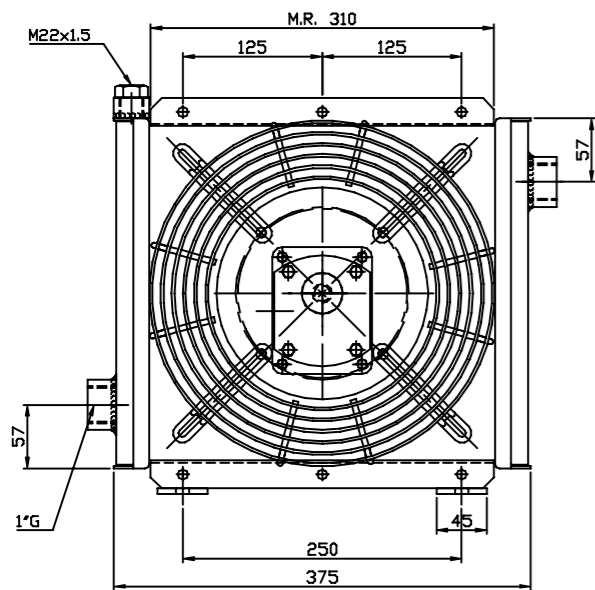
Portata olio - Oil flow: 10-90 lt/1'



Vcc



Vac



GR2

DATI TECNICI - TECHNICAL DATA

TENSIONE VOLTAGE	ASSORBIMENTO CURRENT	PORTATA ARIA AIR FLOW	PROTEZIONE PROTECTION	Ø
V	A	m <sup>3</sup> /h	IP	mm
12	7,8	1290	68	280
24	3,9	1270	68	280
230 Hz 50/60	0,51 / 0,66	1820 / 1970	44	250
230/400 Hz 50/60	0,34-0,20 / 0,40-0,23	1830 / 1950	44	250
Predisposizione GR2 - Prepared for GR2				280

DIAGRAMMA DI RENDIMENTO - PERFORMANCE DIAGRAM

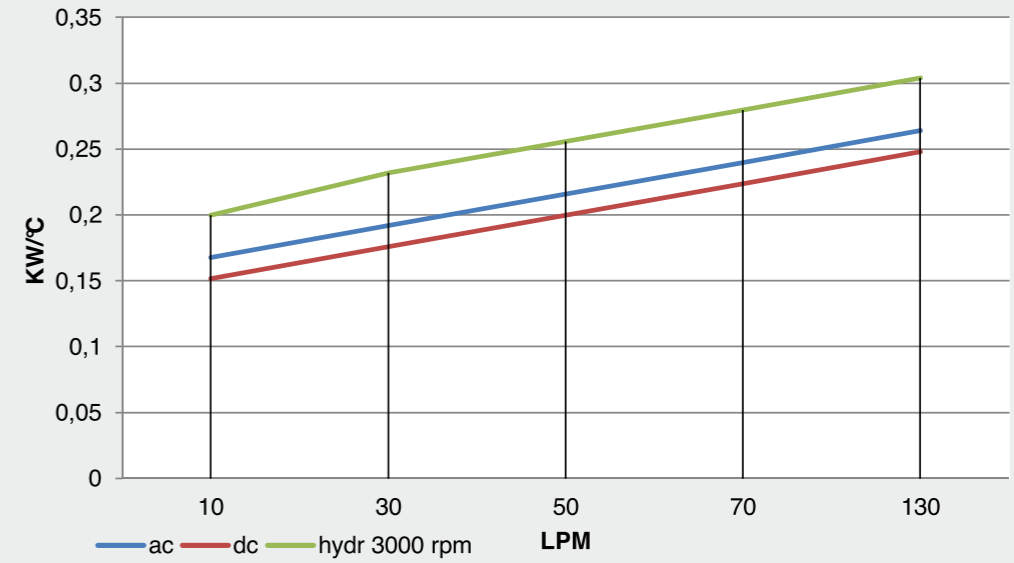
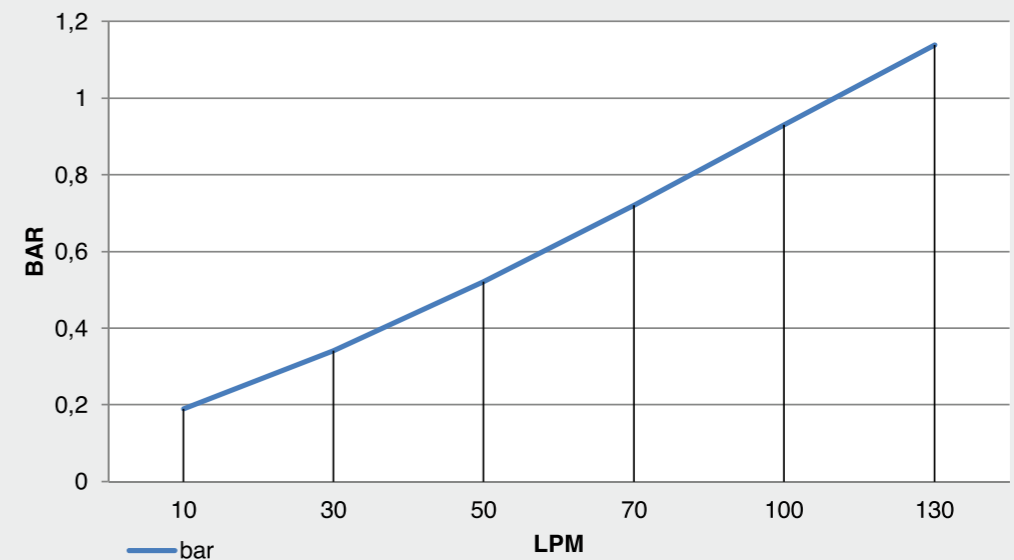
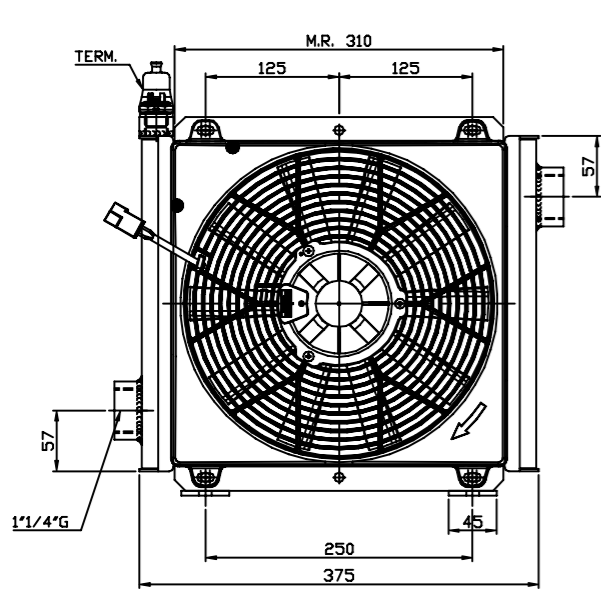


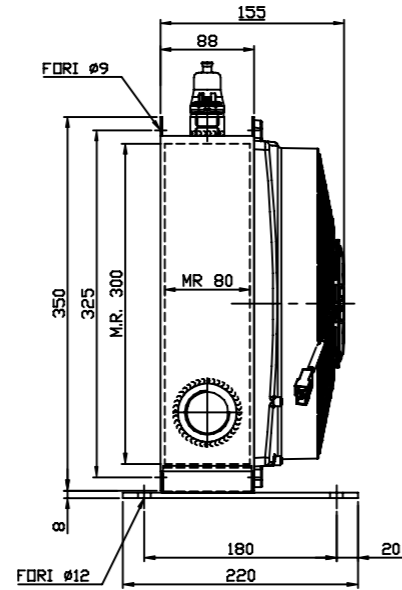
DIAGRAMMA PERDITE DI CARICO - PRESSURE DROP DIAGRAM



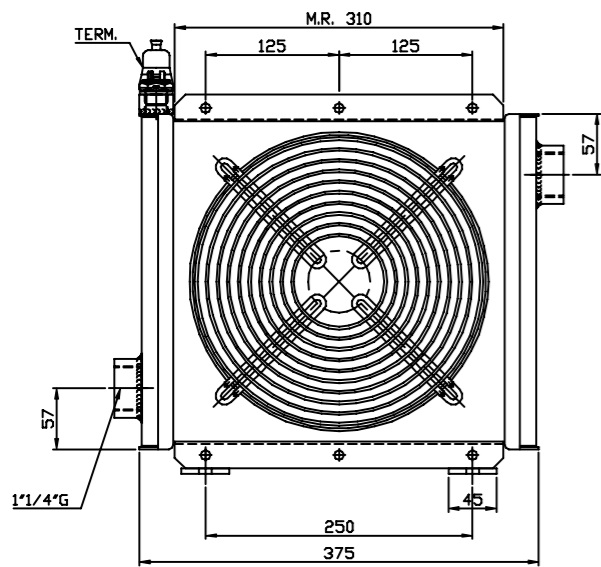
Portata olio - Oil flow: 10-130 lt/1'



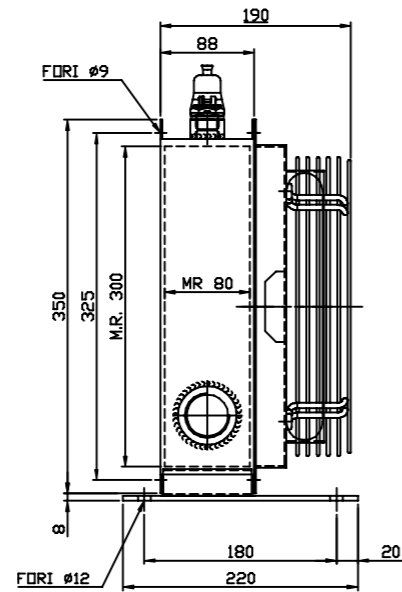
Vcc



Vac



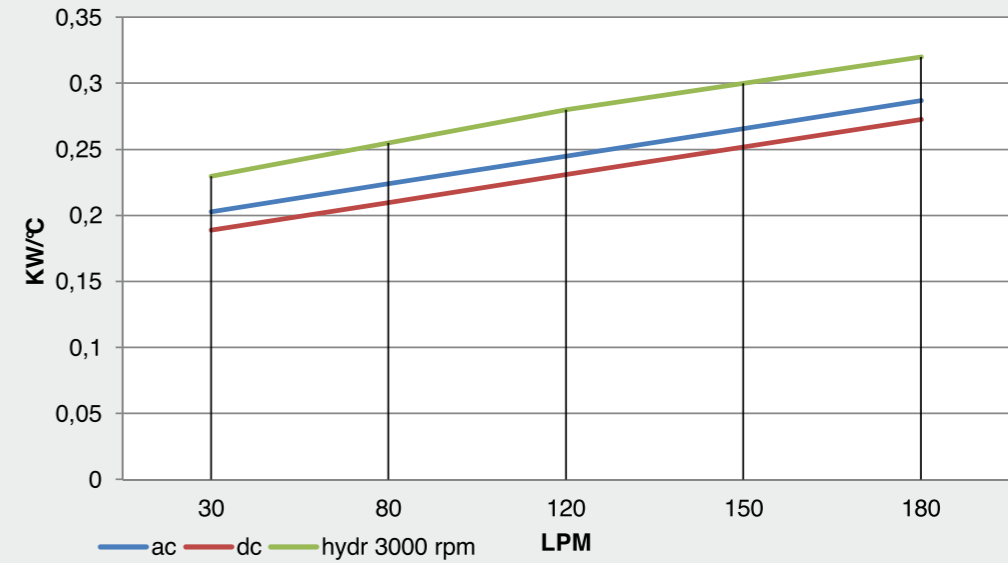
GR2



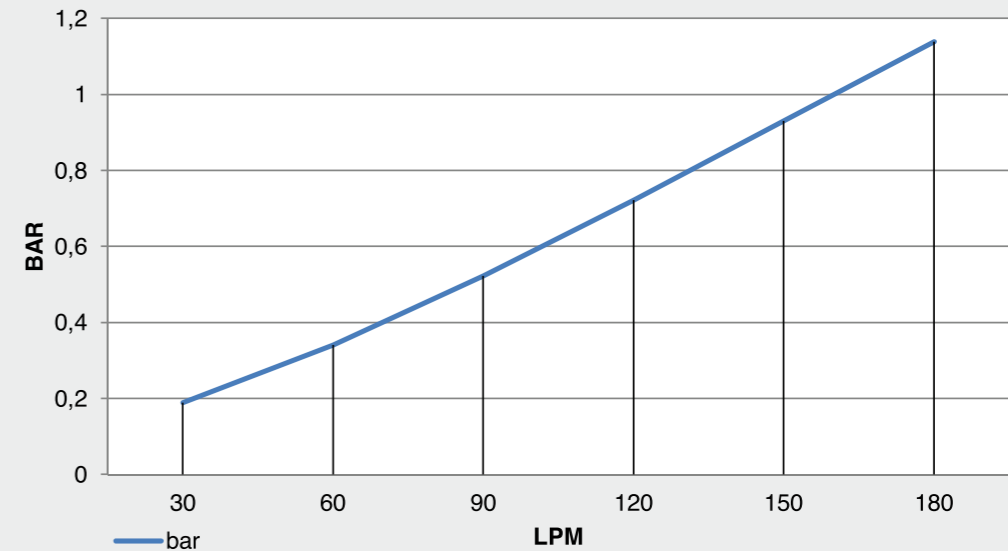
### DATI TECNICI - TECHNICAL DATA

TENSIONE VOLTAGE	ASSORBIMENTO CURRENT	PORTATA ARIA AIR FLOW	PROTEZIONE PROTECTION	Ø
V	A	m <sup>3</sup> /h	IP	mm
12	7,8	1290	68	280
24	3,9	1270	68	280
230 Hz 50/60	0,51 / 0,66	1820 / 1970	44	250
230/400 Hz 50/60	0,34-0,20 / 0,40-0,23	1830 / 1950	44	250
Predisposizione GR2 - Prepared for GR2				280

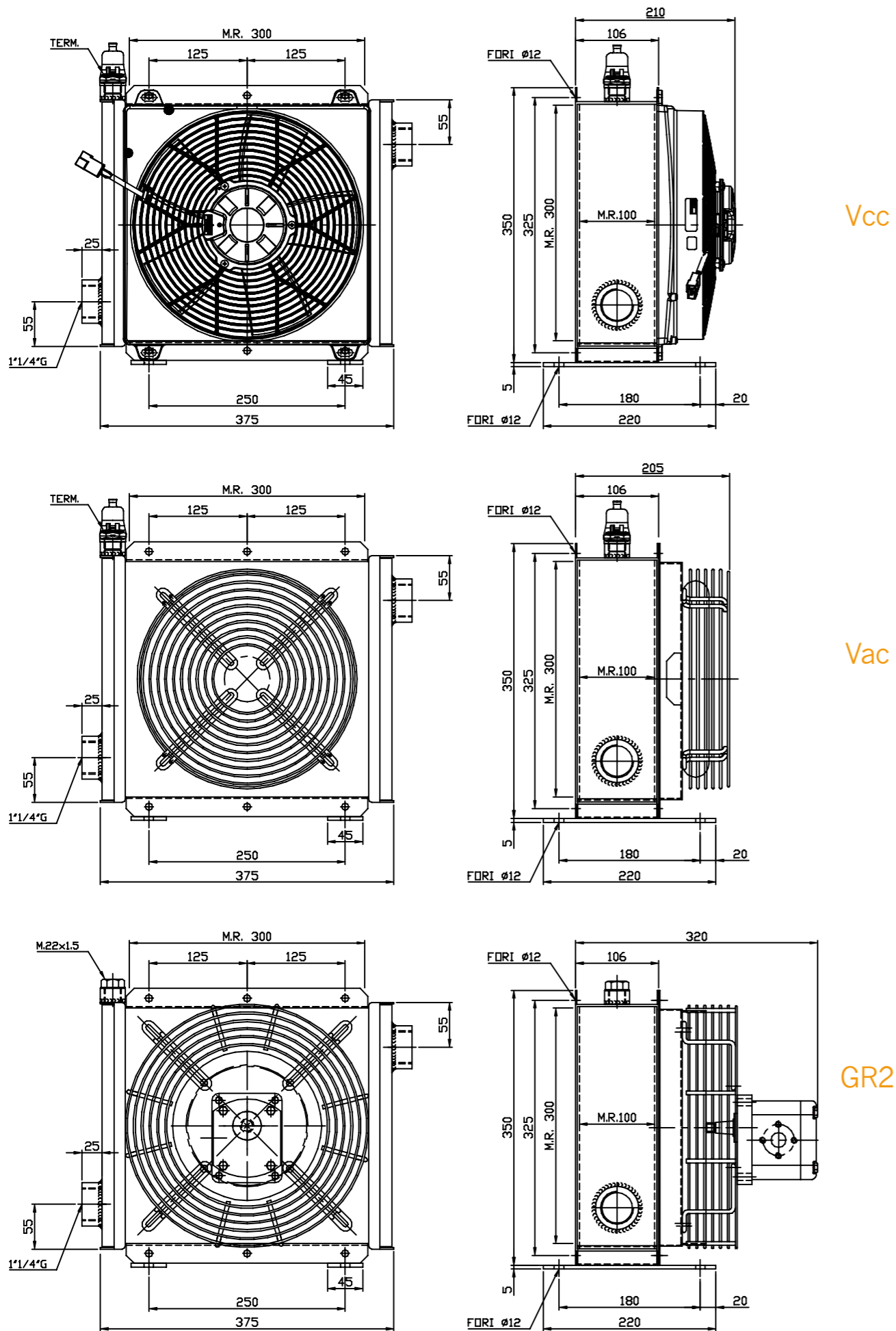
### DIAGRAMMA DI RENDIMENTO - PERFORMANCE DIAGRAM



### DIAGRAMMA PERDITE DI CARICO - PRESSURE DROP DIAGRAM



Portata olio - Oil flow: 30-180 lt/1'



DATI TECNICI - TECHNICAL DATA

TENSIONE VOLTAGE	ASSORBIMENTO CURRENT	PORTATA ARIA AIR FLOW	PROTEZIONE PROTECTION	Ø
V	A	m <sup>3</sup> /h	IP	mm
12	7,8	1290	68	280
24	3,9	1270	68	280
230 Hz 50/60	0,51 / 0,66	1820 / 1970	44	250
230/400 Hz 50/60	0,34-0,20 / 0,40-0,23	1830 / 1950	44	250
Predisposizione GR2 - Prepared for GR2			/	280

DIAGRAMMA DI RENDIMENTO - PERFORMANCE DIAGRAM

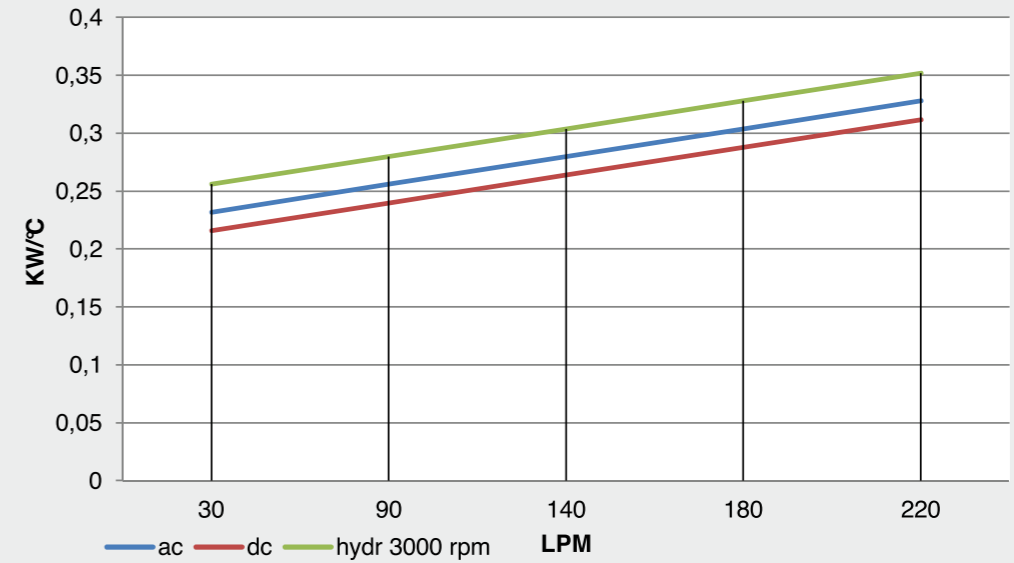
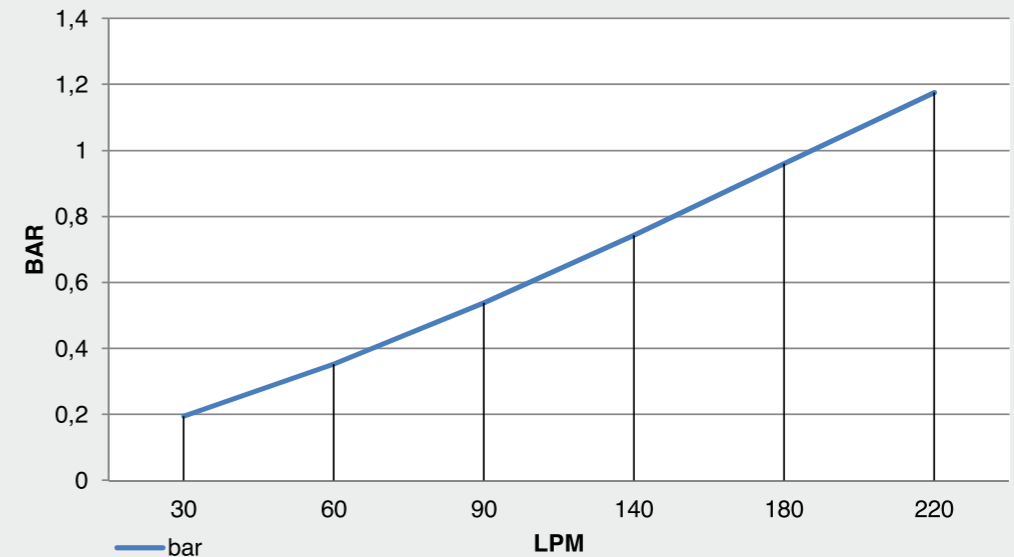
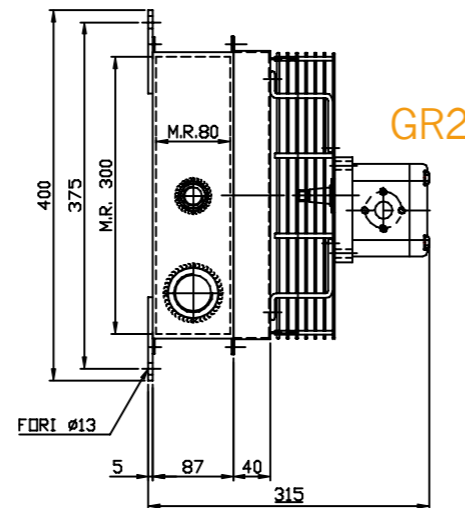
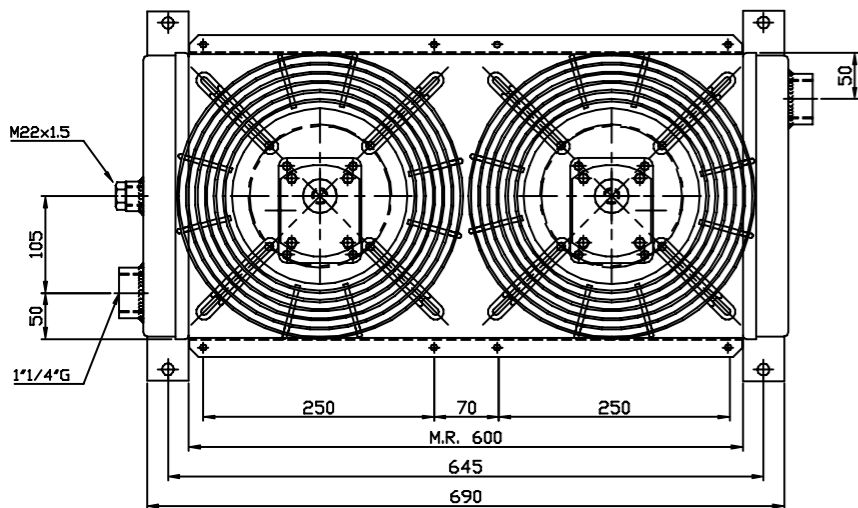
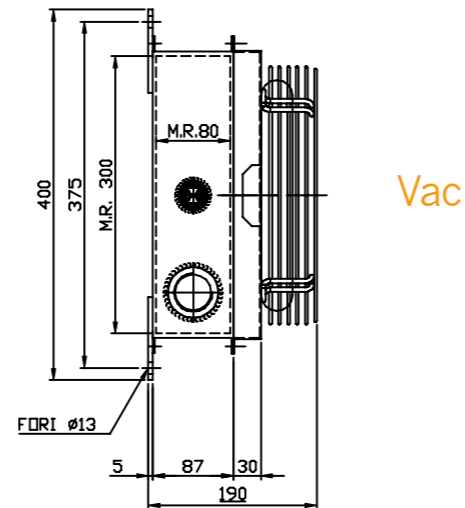
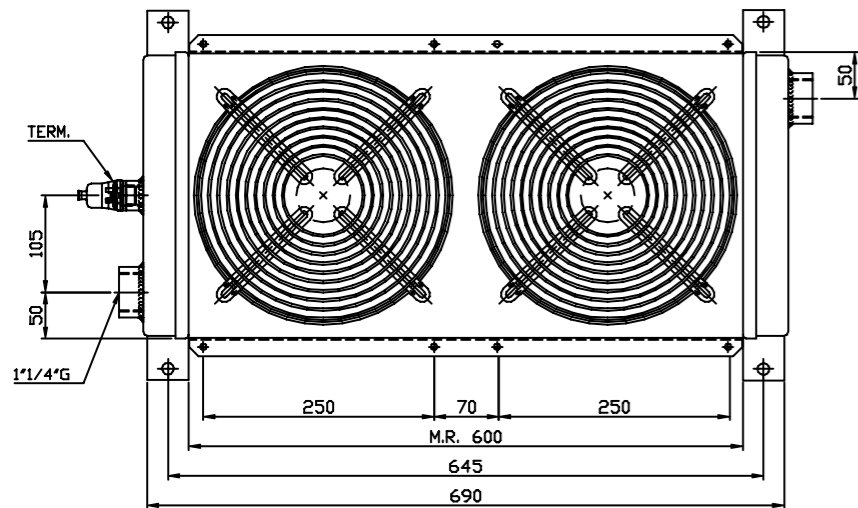
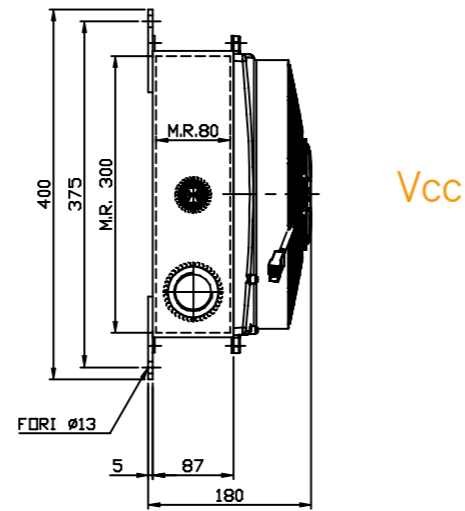
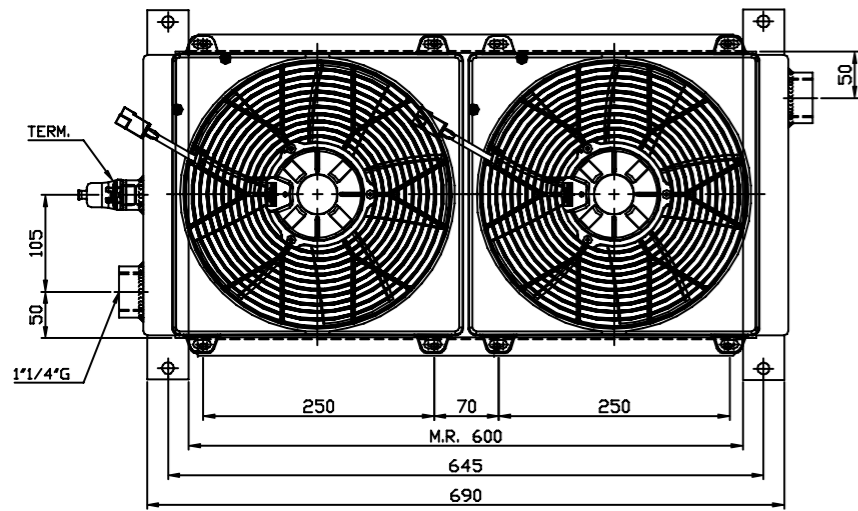


DIAGRAMMA PERDITE DI CARICO - PRESSURE DROP DIAGRAM



Portata olio - Oil flow: 30-220 lt/1'



DATI TECNICI - TECHNICAL DATA

TENSIONE VOLTAGE	ASSORBIMENTO CURRENT	PORTATA ARIA AIR FLOW	PROTEZIONE PROTECTION	Ø
V	A	m <sup>3</sup> /h	IP	mm
12	7,8 x 2	1290 x 2	68	280 x 2
24	3,9 x 2	1270 x 2	68	280 x 2
230 Hz 50/60	0,51 / 0,66 x 2	1820 / 1970 x 2	44	250 x 2
230/400 Hz 50/60	0,34-0,20 / 0,40-0,23 x 2	1830 / 1950 x 2	44	250 x 2
Predisposizione GR2 - Prepared for GR2			/	280 x 2

DIAGRAMMA DI RENDIMENTO - PERFORMANCE DIAGRAM

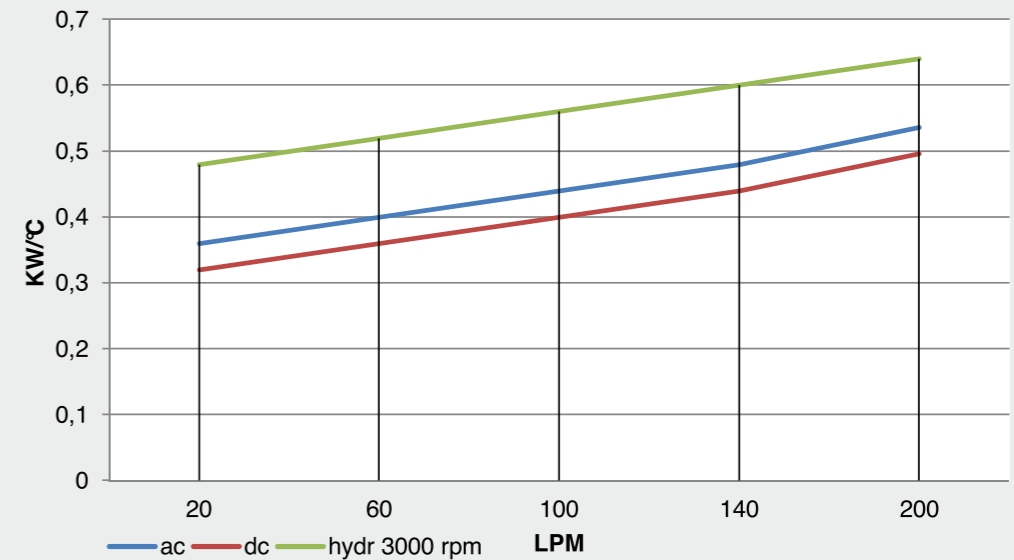
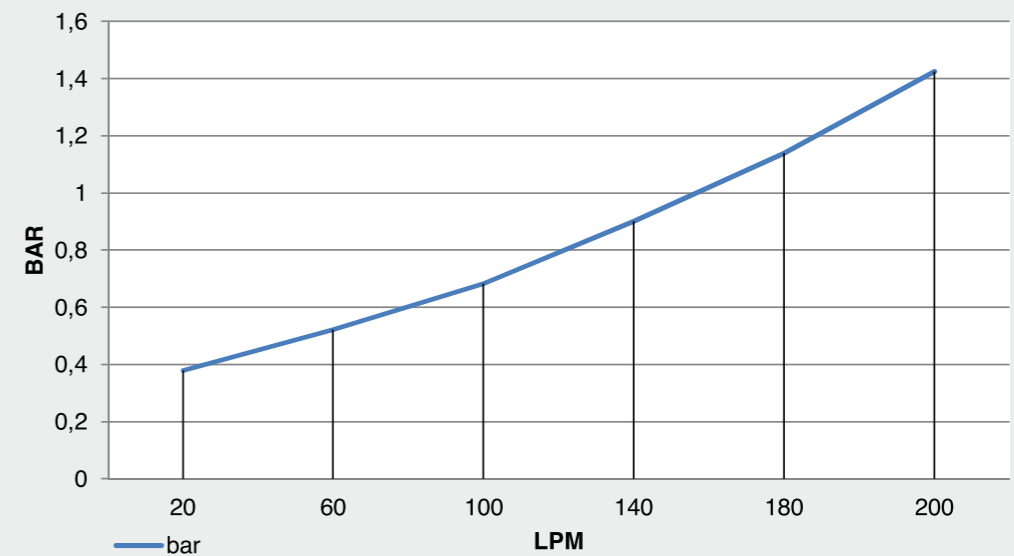
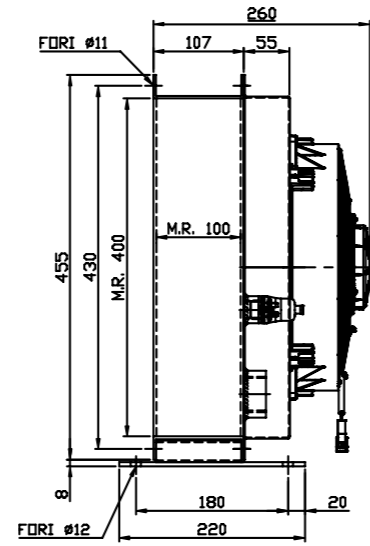
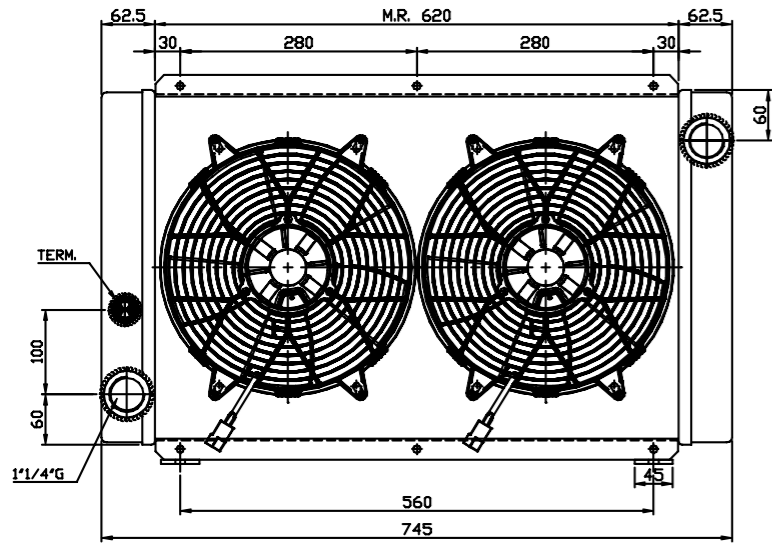


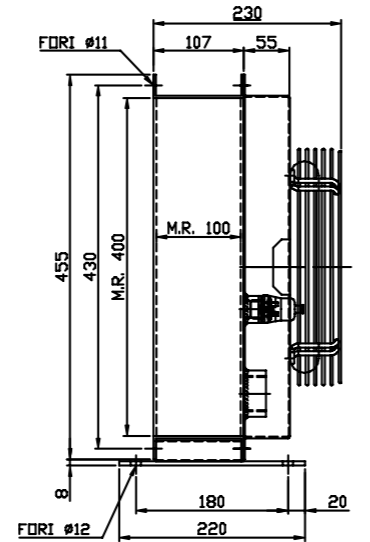
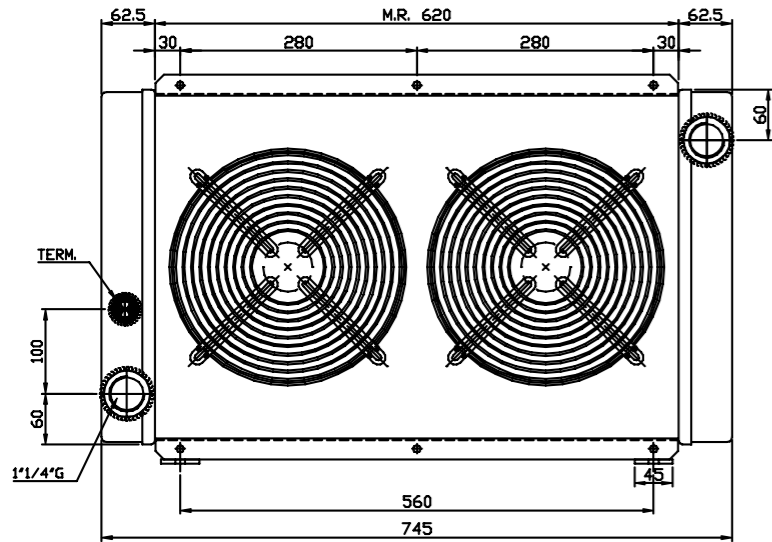
DIAGRAMMA PERDITE DI CARICO - PRESSURE DROP DIAGRAM



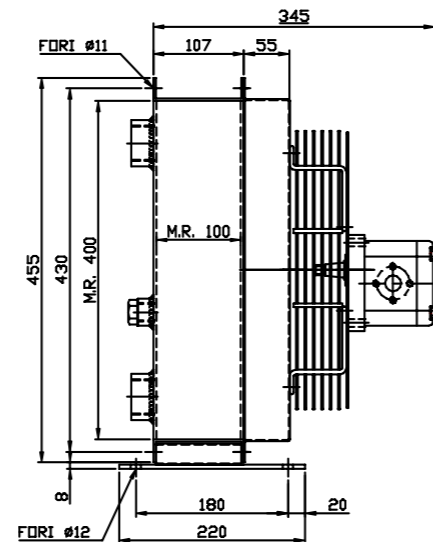
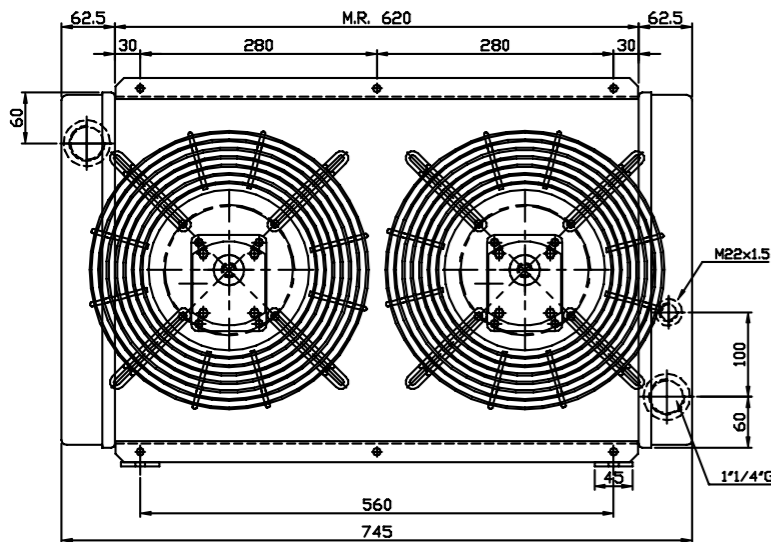
Portata olio - Oil flow: 20-200 lt/1'



Vcc



Vac

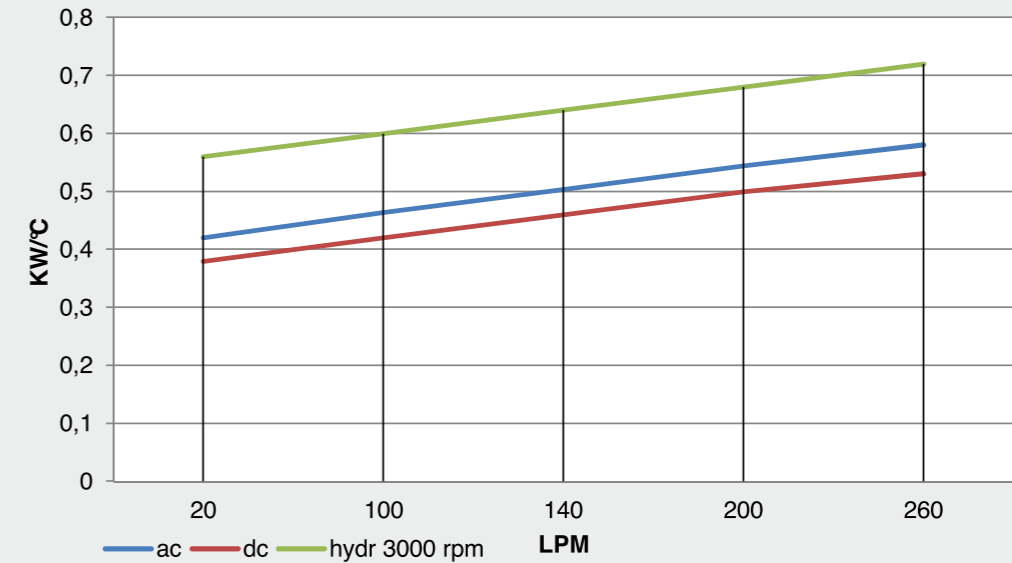


GR2

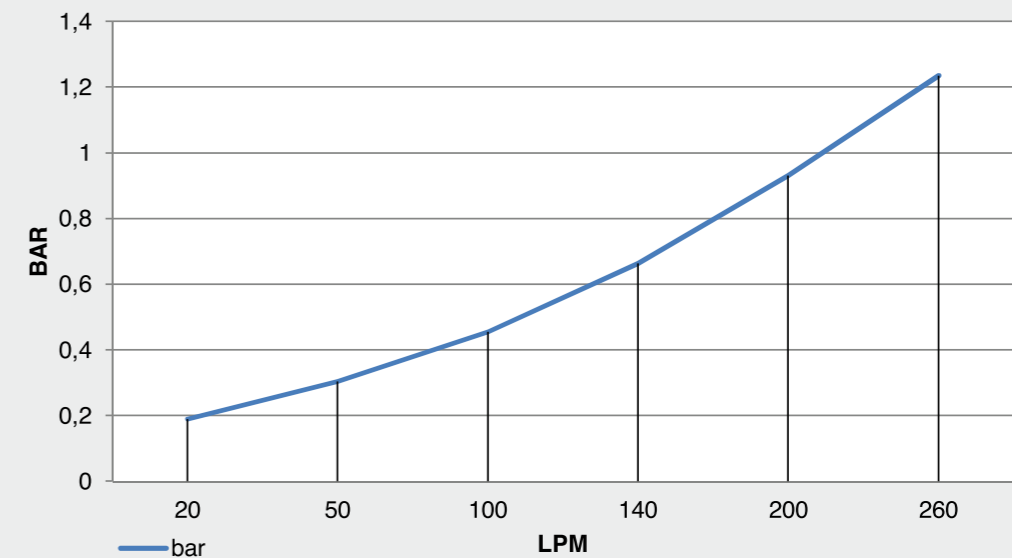
## DATI TECNICI - TECHNICAL DATA

TENSIONE VOLTAGE	ASSORBIMENTO CURRENT	PORTATA ARIA AIR FLOW	PROTEZIONE PROTECTION	Ø
V	A	m <sup>3</sup> /h	IP	mm
12	16,6 x 2	2010 x 2	68	280 x 2
24	8 x 2	2010 x 2	68	280 x 2
230 Hz 50/60	0,51 / 0,66 x 2	1820 / 1970 x 2	44	250 x 2
230/400 Hz 50/60	0,34-0,20 / 0,40-0,23 x 2	1830 / 1950 x 2	44	250 x 2
Predisposizione GR2 - Prepared for GR2			/	300 x 2

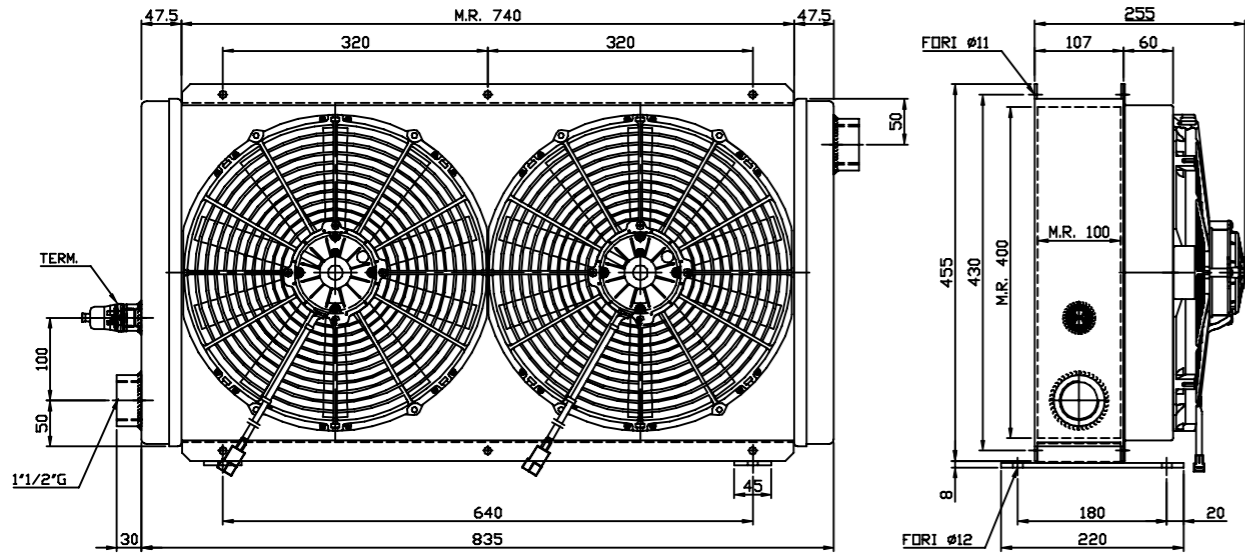
### DIAGRAMMA DI RENDIMENTO - PERFORMANCE DIAGRAM



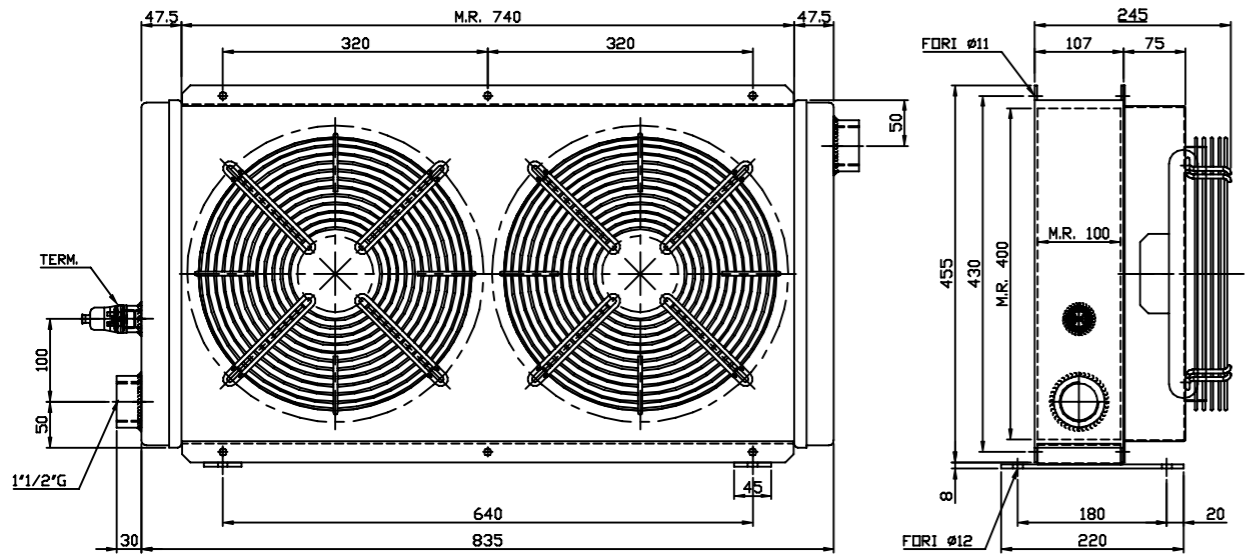
### DIAGRAMMA PERDITE DI CARICO - PRESSURE DROP DIAGRAM



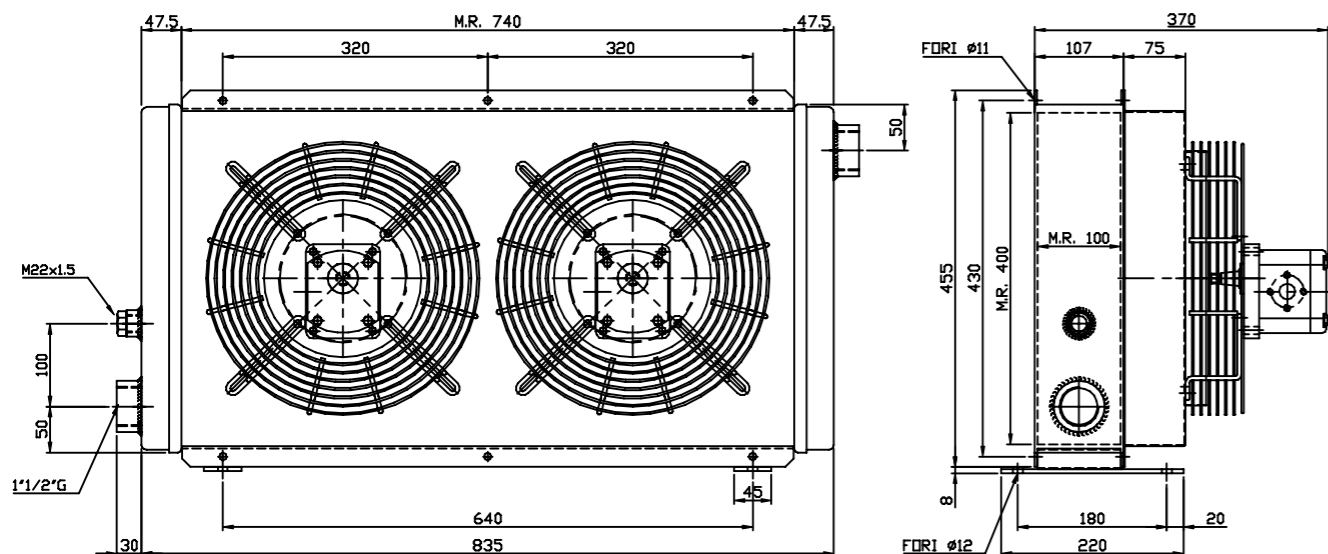
Portata olio - Oil flow: 20-260 lt/1'



Vcc



Vac

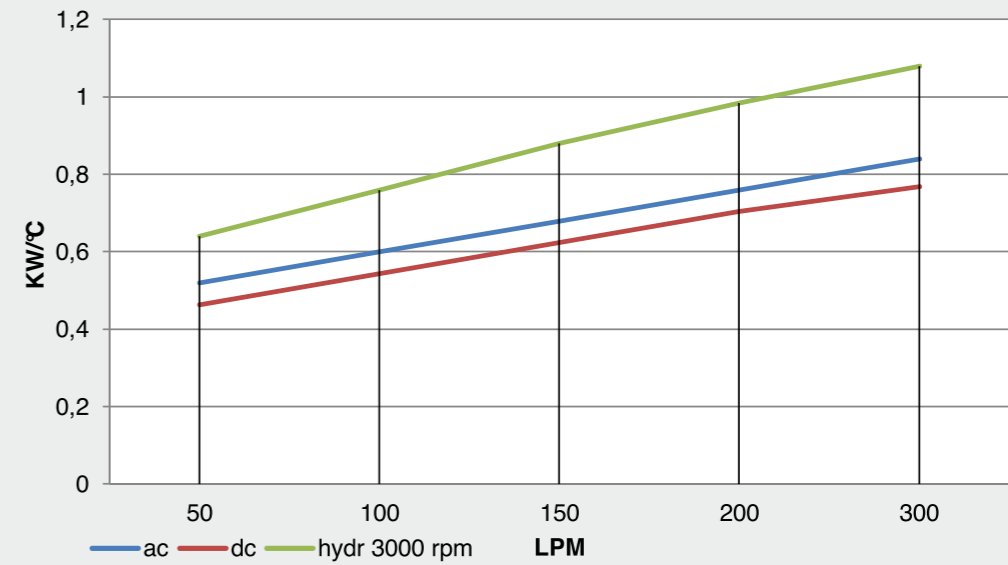


GR2

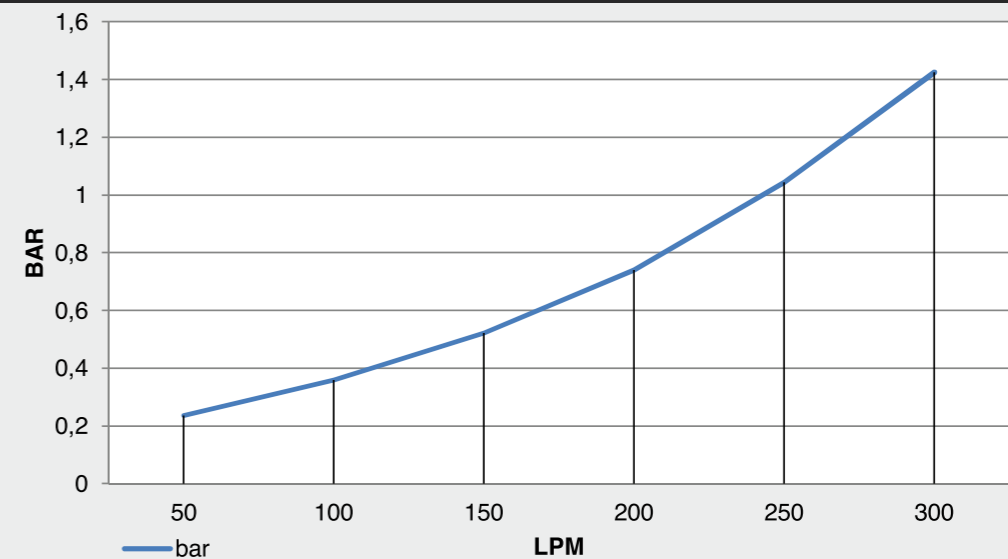
### DATI TECNICI - TECHNICAL DATA

TENSIONE VOLTAGE	ASSORBIMENTO CURRENT	PORTATA ARIA AIR FLOW	PROTEZIONE PROTECTION	Ø
V	A	m <sup>3</sup> /h	IP	mm
12	18,7 x 2	2840 x 2	68	350 x 2
24	10,1 x 2	2810 x 2	68	350 x 2
230 Hz 50/60	1,1 / 1,55 x 2	3410 / 3740 x 2	44	300 x 2
230/400 Hz 50/60	0,62-0,36 / 0,83-0,48 x 2	3130 / 3350 x 2	44	300 x 2
Predisposizione GR2 - Prepared for GR2			/	300 x 2

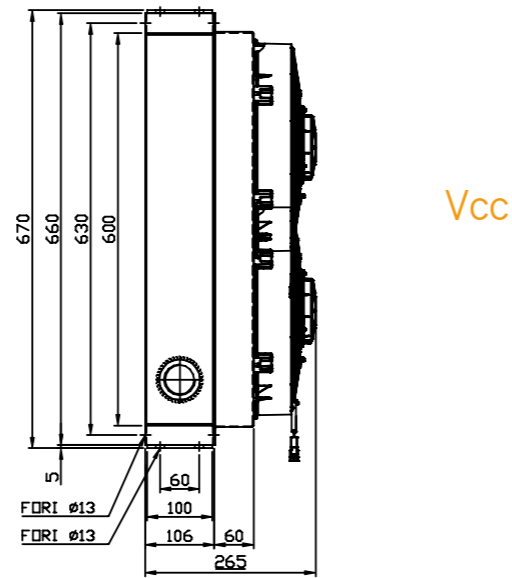
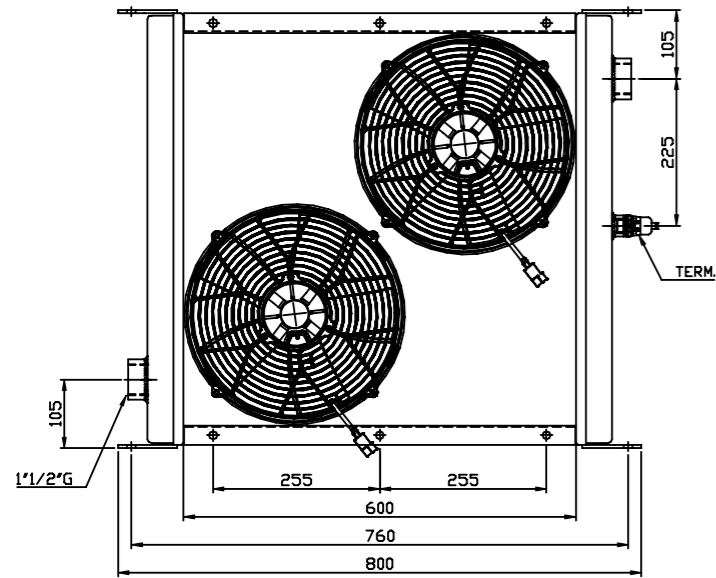
### DIAGRAMMA DI RENDIMENTO - PERFORMANCE DIAGRAM



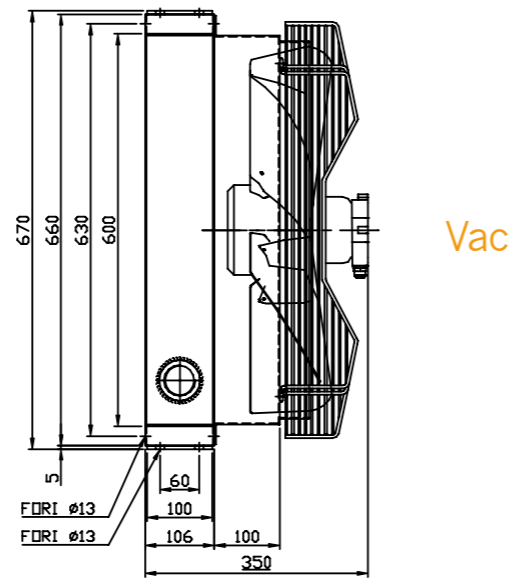
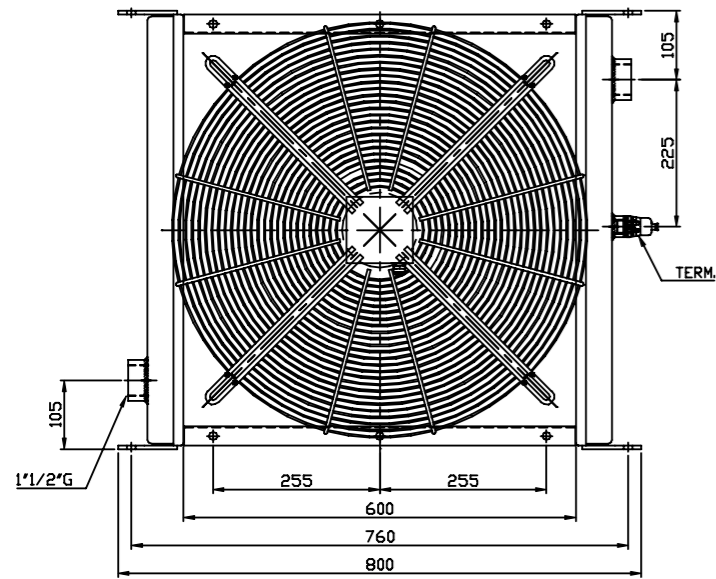
### DIAGRAMMA PERDITE DI CARICO - PRESSURE DROP DIAGRAM



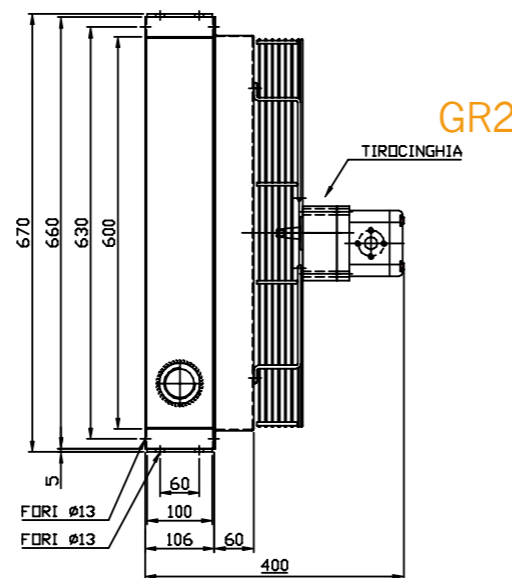
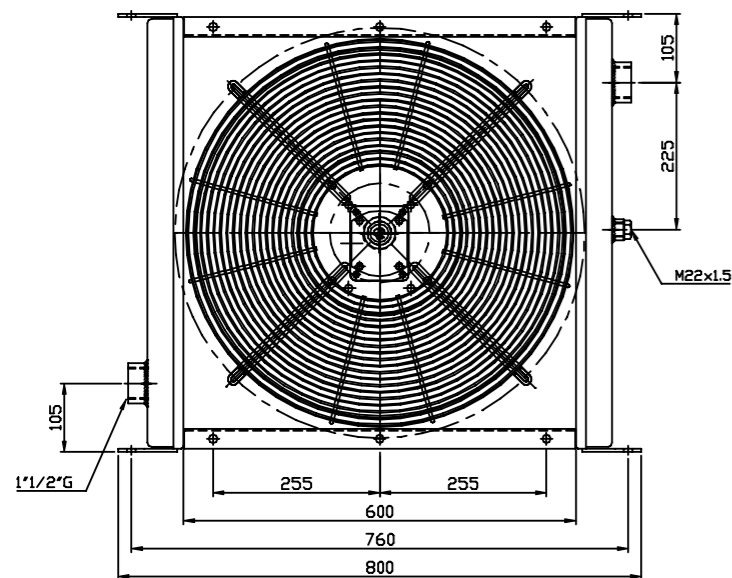
Portata olio - Oil flow: 50-300 lt/1'



Vcc



Vac



GR2

DATI TECNICI - TECHNICAL DATA

TENSIONE VOLTAGE	ASSORBIMENTO CURRENT	PORTATA ARIA AIR FLOW	PROTEZIONE PROTECTION	Ø
V	A	m <sup>3</sup> /h	IP	mm
12	20,7 x 2	2490 x 2	68	305 x 2
24	10 x 2	2520 x 2	68	305 x 2
230 Hz 50/60	4,15	10470	54	560
400/400 Hz 50/60	1,32 / 1,60	8910 / 10350	54	560
Predisposizione GR2 - Prepared for GR2			/	560

DIAGRAMMA DI RENDIMENTO - PERFORMANCE DIAGRAM

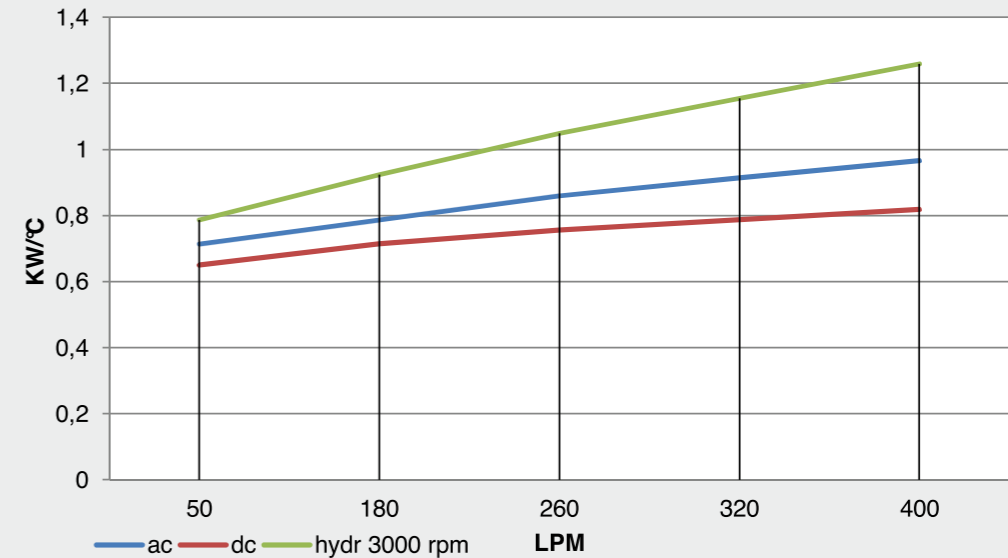
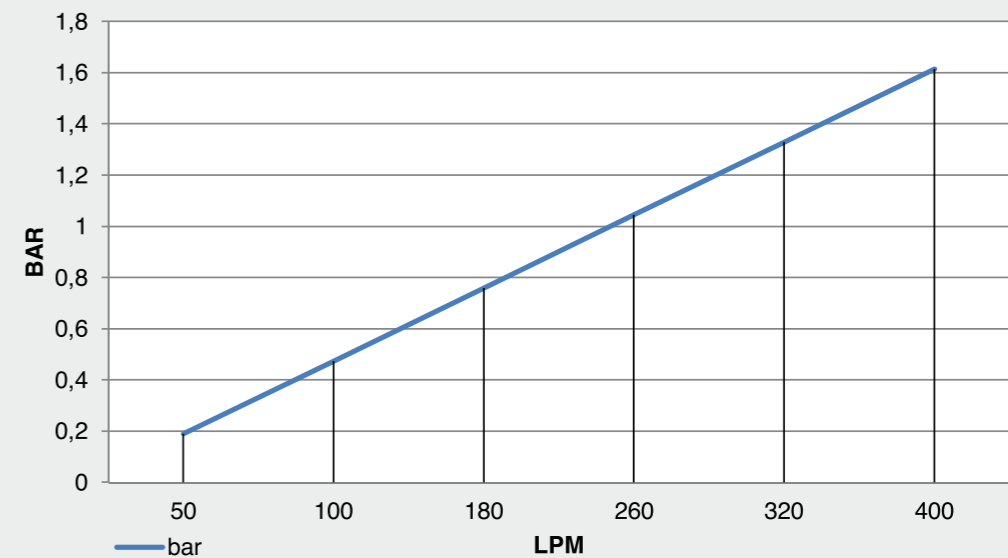
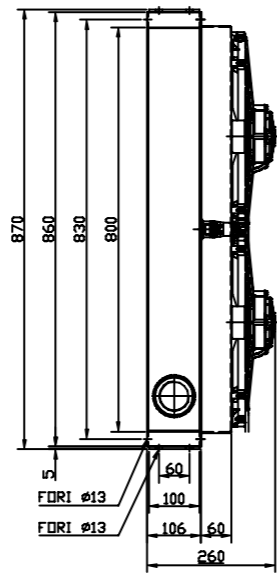
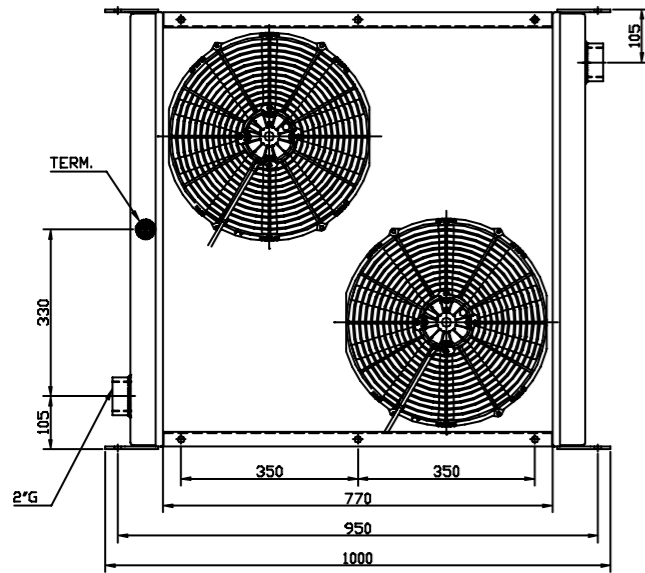


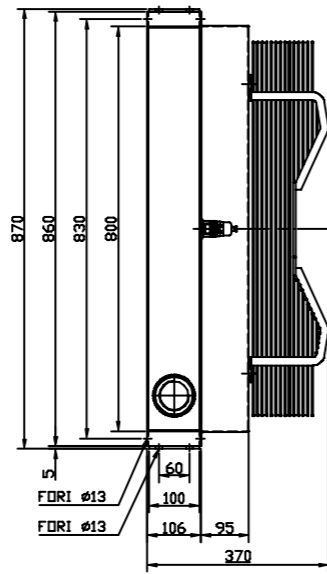
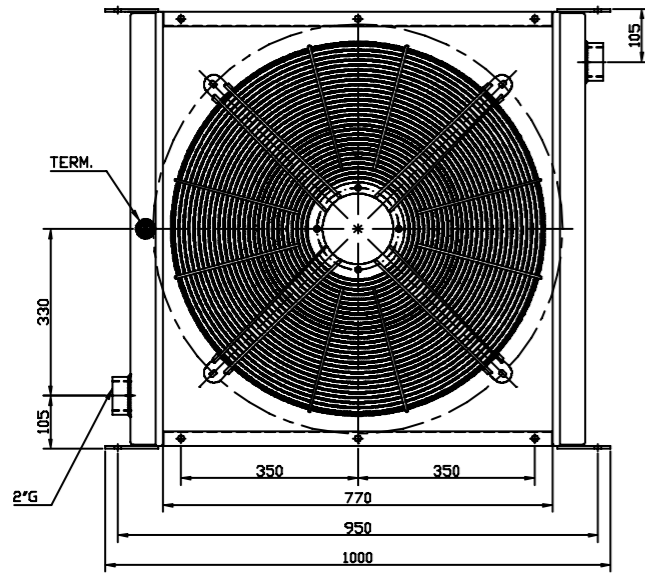
DIAGRAMMA PERDITE DI CARICO - PRESSURE DROP DIAGRAM



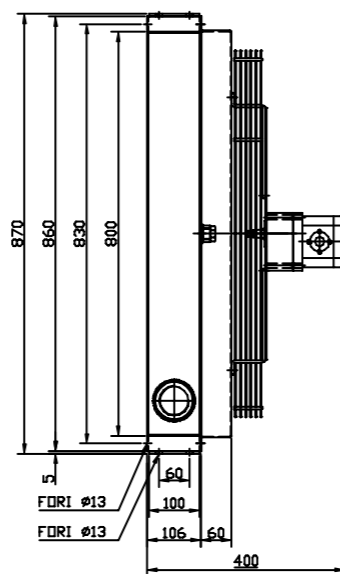
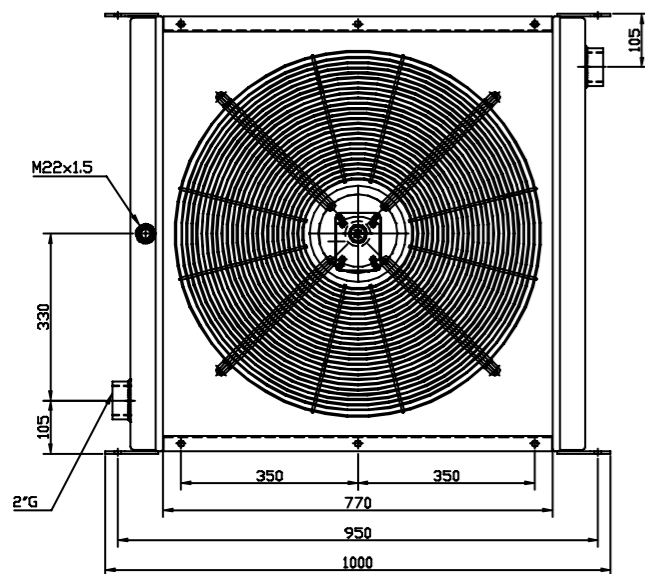
Portata olio - Oil flow: 50-400 lt/1'



Vcc



Vac



GR2

DATI TECNICI - TECHNICAL DATA

TENSIONE VOLTAGE	ASSORBIMENTO CURRENT	PORTATA ARIA AIR FLOW	PROTEZIONE PROTECTION	Ø
V	A	m <sup>3</sup> /h	IP	mm
12	18,1 x 2	3220 x 2	68	385 x 2
24	8 x 2	3080 x 2	68	385 x 2
230 Hz 50/60	3,9	11000	55	710
400/400 Hz 50/60	2,35 / 2,87	13950 / 17000	54	710
Predisposizione GR2 - Prepared for GR2			/	700

DIAGRAMMA DI RENDIMENTO - PERFORMANCE DIAGRAM

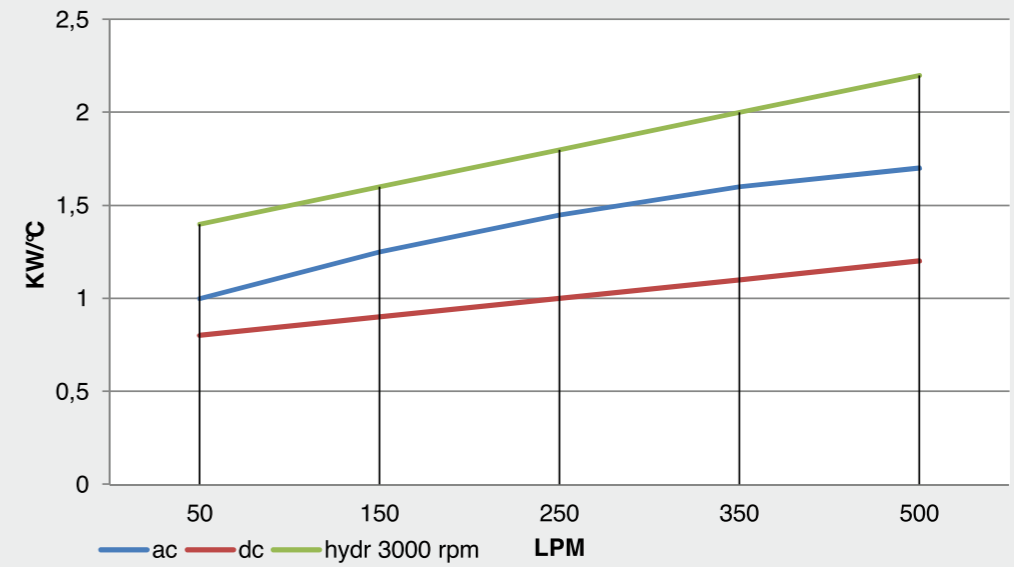


DIAGRAMMA PERDITE DI CARICO - PRESSURE DROP DIAGRAM

