BLT

HYDRAULIC COMPONENTS

Wärmetauscher

Heat Exchangers

SS Serie / Luft-Öl Version
SS Series / Air-Oil Version

Radiating mass data

Material	Aluminium
Nominal pressure	25 bar
Test pressure	35 bar
Max temperature	120 °C

Fluid compatibilty

Mineral oils, hl, hlp, water-oil emulsion.

Installation

We recommend to install a by-pass valve in parallel to the heat exchanger, for its protection during the starting up. Make sure there is no obstacle to the air flow.

Maintenance

Oil side cleaning

LFlushing with a detergent or a degreasing product compatible with aluminium, eliminates the dirt.
To remove the residuals, use compressed air.

Air side cleaning

It can be done by using compressed air or water and paying attention to the jet direction for not spoiling the vanes. If oil or grease has to be removed, clean with a jet of steam or hot water. Make sure that the electric motor is disconnected and properly protected.

Materials

Fan	Steel or hard plastic
Fan case	Steel or hard plastic
Fan protection	Steel or hard plastic

SS Serie / Daten zur Wärmetauscherauswahl

SS Series / Data relating to heat exchanger selection

Here you can find three different series of exchangers:
- **series "SS"** standard
- **series "SS2"** with double passage for reduced flows, but with bigger power of heat exchange
- **series "SD"** for high flows.

On the abscissas you can find the oil flow going through the exchanger, expressed in (lt/min), while on the ordinates you can find the dissipation performance for each centigrade degree, expressed in (kcal/h °C); or in (kW/°C).
The specific dissipation heat (η) is the result of the ratio between thermic power (Q) of the exchanger and the difference of the temperature between oil input and the ambient temperature (oil T° - air T°), using the following formula:

$$\eta = \frac{Q\ (kcal/h)}{\text{oil } T^{o} - \text{air } T^{o}\ (^{o}C)}$$

Supposing the exchanger can dissipate 3000 (kcal/h) and you have a temperature difference (oil T° - air T°) = 30 (°C):

$$\eta = \frac{3000\ (kcal/h)}{30\ (^{o}C)} = 100\ (kcal/h\ ^{o}C)$$

When the thermic power (Q) of the exchanger is unknown, it is possible to calculate it empirically using the following formula:

$Q = 0\ ,40 \cdot V \cdot \Delta to$

Where:
V = oil flow in (lt/h)
Δto = temperature difference between oil in and out

0,40 is an approximate value or it can be used for hydraulic oil (when specific weight and specific heat are unknown).

0,40 (kcal/lt°C) = c·y
dove:
C = specific heat (kcal/kg°C)
Y = specific weight (kg/dm^3)

Supposing the flow is 6000 (lt/h) and the difference between oil in and out (Δto) is 8 (°C) the thermic power of the exchanger is:

$Q = 0{,}40 \cdot 6000\ 8 = 19200$ kcal/h

The above curves are valid when the cooler element is activated.

SS Serie / Typenbezeichnung
SS Series / Model type

SS20 14 00 A - P

Type
SS10
SS15
SS20
SS24
SS30
SS40
SS50
SS215 (2pass)
SS220 (2pass)
SS224 (2pass)
SS230 (2pass)
SS240 (2pass)
SD20
SD24
SD30
SD40

Bimetallic fixed temperature switches	
00	No switch

To choose switch
see pages 25 - 26 - 27

Foot flanges / Electric connection	
P	With foot flanges
E	With electric connection
PE	Con staffe di fissaggio e con cablaggio elettrico With foot flanges and with electric connection

P - PE
applicable only for SS10; SS15; SS20; SS24; SS30; SS40; SS215; SS220; SS224; SS230; SS240.

E
applicable only for SS50; SD20; SD30; SD40.

Fans	
A	Drawing
B	Blowing

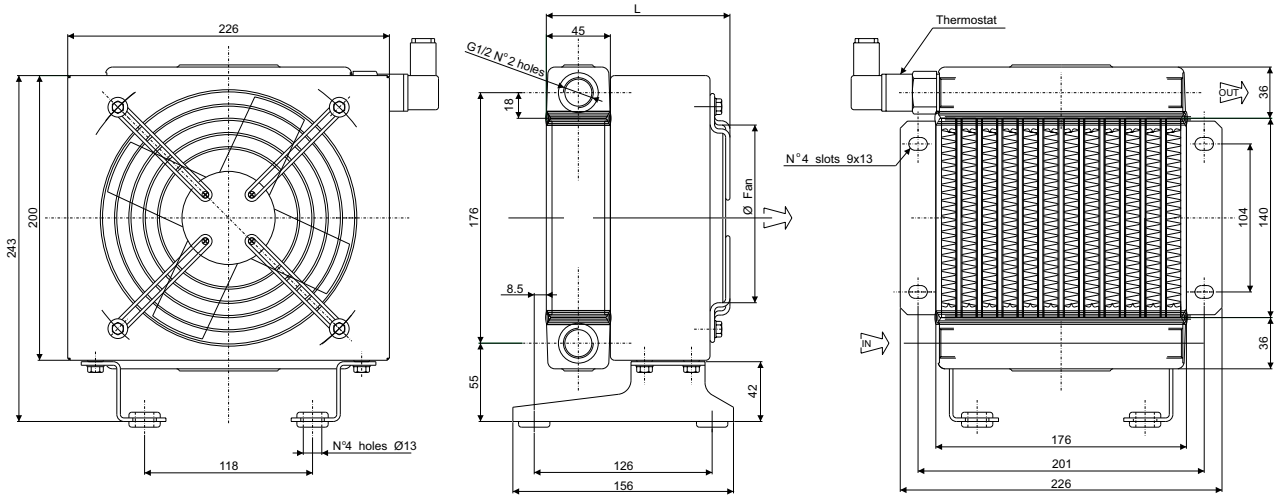
Fan Motor	
01	230V 50/60 Hz single phase
03	400V 50/60 Hz three phase ***
14	230/400V 50/60 Hz three phase B14
12	12V CC
24	24V CC
G2	Arranged for hydraulic motor GR.2

*** SS50 230/400V 50/60 Hz - Three phase

SS Serie / Technische Daten
SS Series / Technical features

Tipologia Type	Frequenza Frequency Hz	Tensione Voltage V	N° Giri/min RPM	Potenza Power kW	Diam. Ventola Ø FAN (mm)	dB (A)	L (mm)	Q air (m^3/h)	Cap. (lt)	Peso Weight (kg)	IP
01	50	220	2600	0.023/0.026	170	52	122	640	0.28	6	54
03	50	380	2490	0.032/0.027	170	52	122	670	0.28	6	54
12	DC	12	4101	0.076	167	71	167	569	0.28	5	68
24	DC	24	4101	0.076	167	71	167	560	0.28	5	68

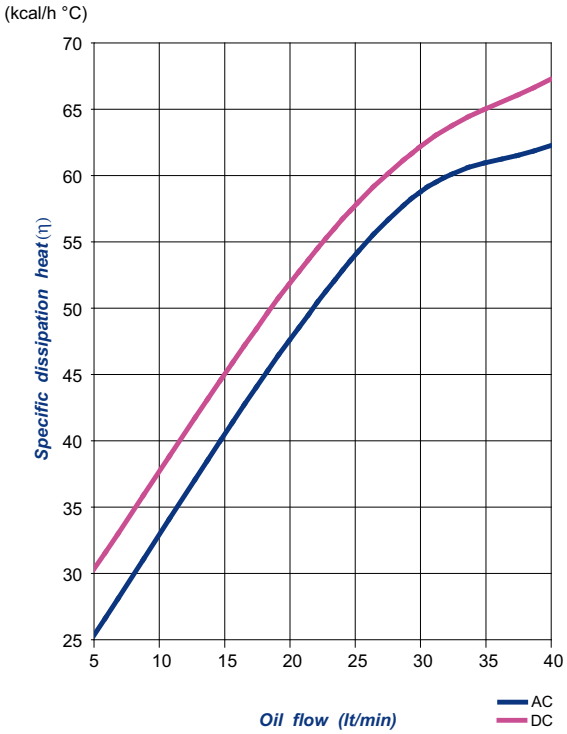
Suggested oil flow from 5 to 40 (lt/min)



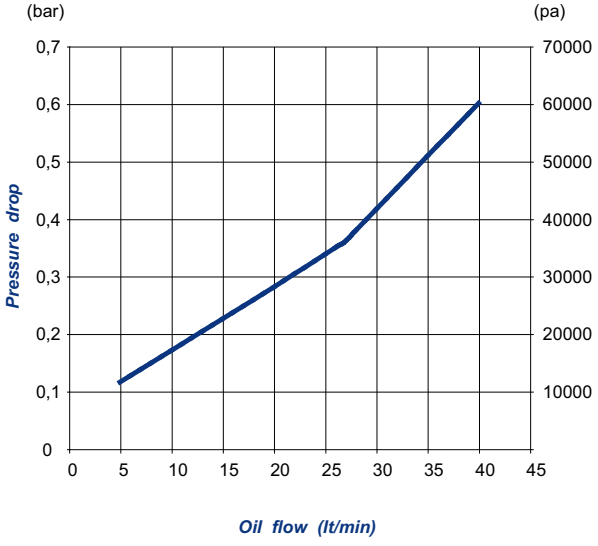
Correction factor

CST	10	15	20	32	40	50	60	80	100	200
F	0.51	0.66	0.76	1	1.22	1.4	1.6	1.9	2.1	3.4

Performance diagram



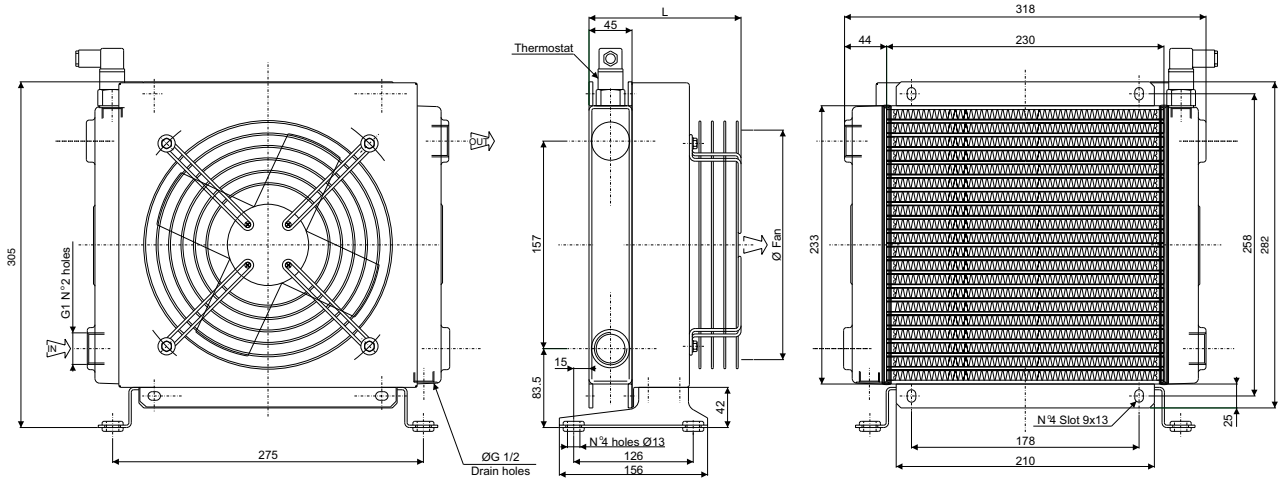
Pressure drop diagram (32 cst)



SS Serie / Technische Daten
SS Series / Technical features

Tipologia Type	Frequenza Frequency Hz	Tensione Voltage V	N° Giri/min RPM	Potenza Power kW	Diam. Ventola Ø FAN (mm)	dB (A)	L (mm)	Q air (m^3/h)	Cap. (lt)	Peso Weight (kg)	IP
01	50	220	2500	0.055/0.060	200	52	170.5	715	0.48	7	54
03	50	380	2300	0.035/0.030	200	52	170.5	660	0.48	7	54
14	50 60	230/400 276/480	1350 1620	0.25 0.30	200	67	347	700	0.48	10	55
12	DC	12	3305	0.087	225	75	157	999	0.48	6.5	68
24	DC	24	3305	0.087	225	75	157	994	0.48	6.5	68
G2	-	-	-	-	200	-	200.5	-	0.48	6	-

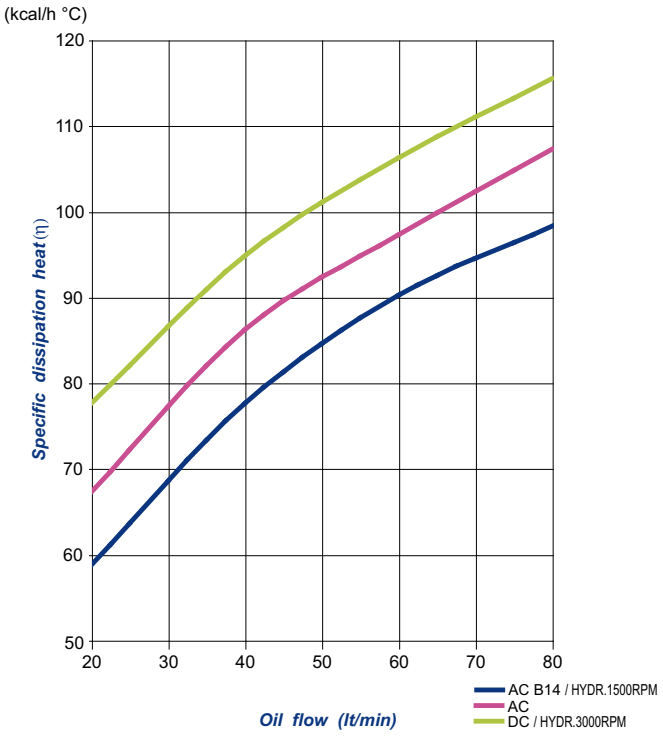
Suggested oil flow from 20 to 80 (lt/min)



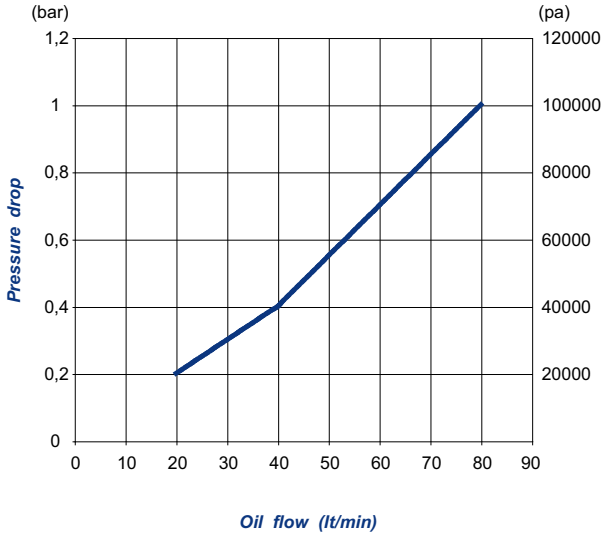
Correction factor

CST	10	15	20	32	40	50	60	80	100	200
F	0.51	0.66	0.76	1	1.22	1.4	1.6	1.9	2.1	3.4

Performance diagram



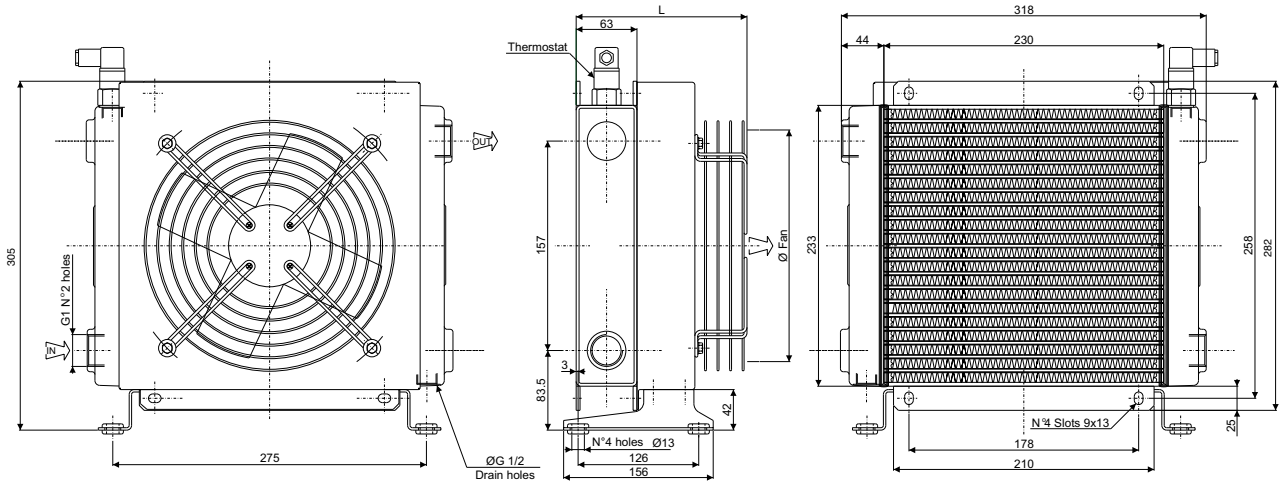
Pressure drop diagram (32 cst)



SS Serie / Technische Daten
SS Series / Technical features

Tipologia Type	Frequenza Frequency Hz	Tensione Voltage V	N° Giri/min RPM	Potenza Power kW	Diam. Ventola Ø FAN (mm)	dB (A)	L (mm)	Q air (m^3/h)	Cap. (lt)	Peso Weight (kg)	IP
01	50/60	230	2500/2700	0.055/0.060	200	55	188.5	715	0.68	8	44
03	50/60	380	1400/1650	0.035/0.030	200	50	188.5	340	0.68	8	44
14	50 60	230/400 276/480	1350 1620	0.25 0.30	200	67	365	700	0.68	11	55
12	DC	12	3305	0.087	225	75	175	999	0.68	7	68
24	DC	24	3305	0.087	225	75	175	994	0.68	7	68
G2	-	-	-	-	200	-	218.5	-	0.68	7	-

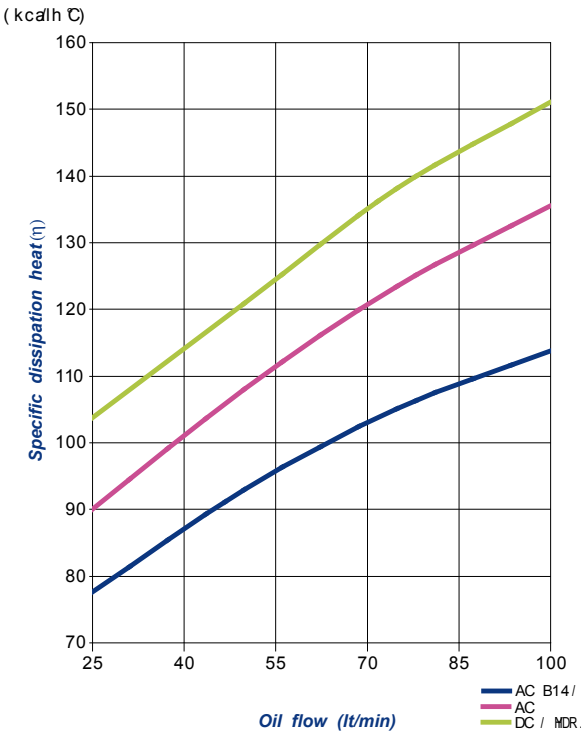
Suggested oil flow from 30 to 100 (lt/min)



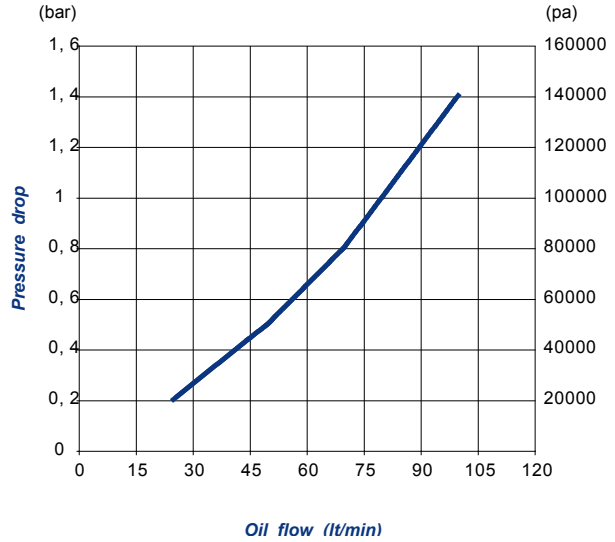
Correction factor

CST	10	15	20	32	40	50	60	80	100	200
F	0.51	0.66	0.76	1	1.22	1.4	1.6	1.9	2.1	3.4

Performance diagram



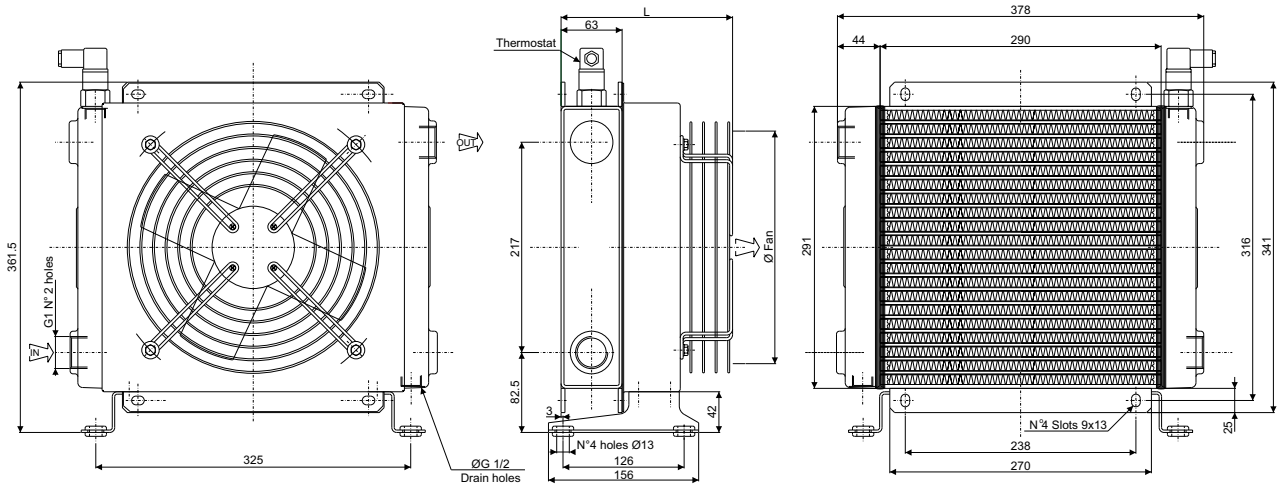
Pressure drop diagram (32 cst)



SS Serie / Technische Daten
SS Series / Technical features

Tipologia Type	Frequenza Frequency Hz	Tensione Voltage V	N° Giri/min RPM	Potenza Power kW	Diam. Ventola Ø FAN (mm)	dB (A)	L (mm)	Q air (m^3/h)	Cap. (lt)	Peso Weight (kg)	IP
01	50	220	2400	0.080/0.090	250	60	178	1310	0.9	11	54
03	50	380	2400	0.055/0.052	250	60	178	1440	0.9	11	54
14	50 60	230/400 276/480	1350 1620	0.25 0.30	250	68	364	1500	0.9	15.5	55
12	DC	12	3005	0.106	280	74	175	1404	0.9	10	68
24	DC	24	3005	0.106	280	74	175	1477	0.9	10	68
G2	-	-	-	-	250	-	217.5	-	0.9	10	-

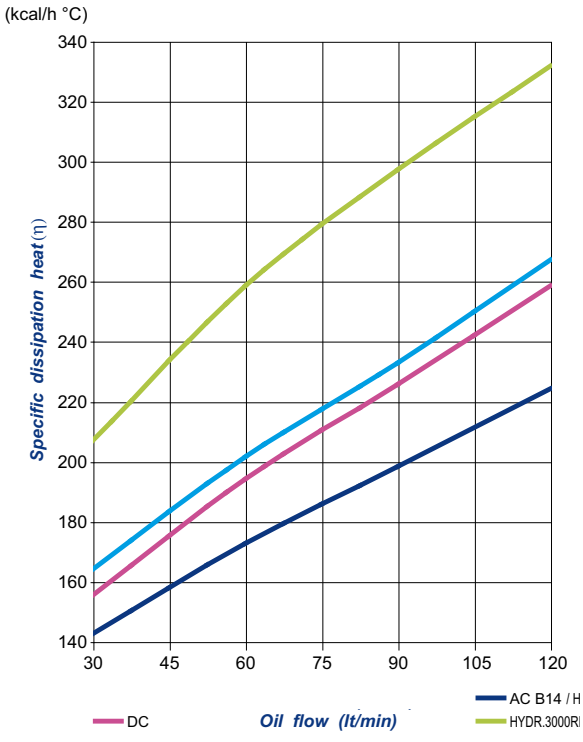
Suggested oil flow from 40 to 120 (lt/min)



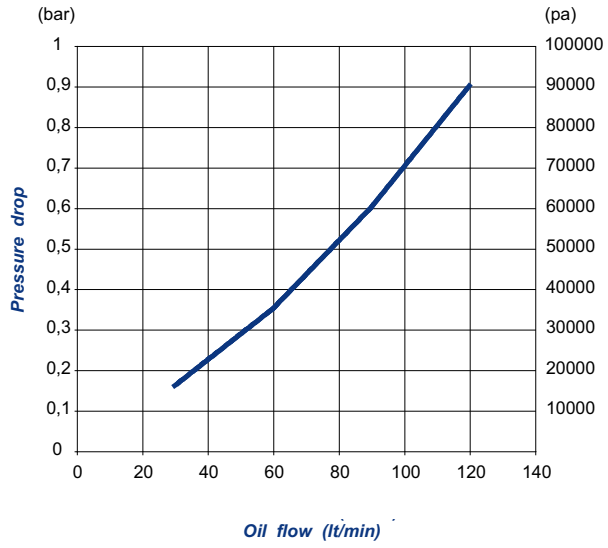
Correction factor

CST	10	15	20	32	40	50	60	80	100	200
F	0.51	0.66	0.76	1	1.22	1.4	1.6	1.9	2.1	3.4

Performance diagram



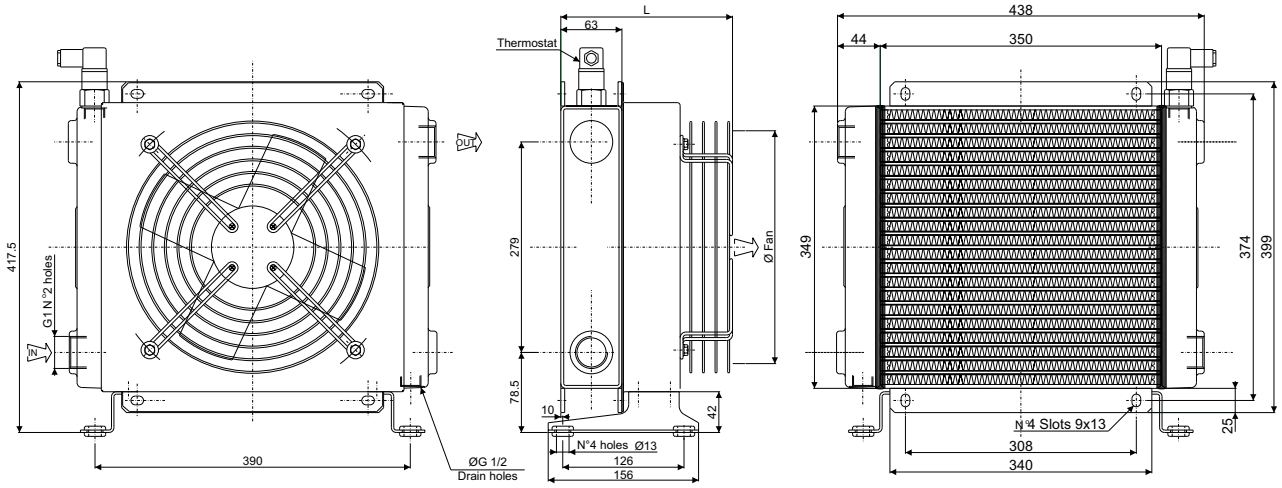
Pressure drop diagram (32 cst)



SS Serie / Technische Daten
SS Series / Technical features

Tipologia Type	Frequenza Frequency Hz	Tensione Voltage V	N° Giri/min RPM	Potenza Power kW	Diam. Ventola Ø FAN (mm)	dB (A)	L (mm)	Q air (m^3/h)	Cap. (lt)	Peso Weight (kg)	IP
01	50	220	2300	0.145/0.175	300	62	213	2200	1.5	15	54
03	50	380	2340	0.075/0.095	300	62	213	1910	1.5	15	54
14	50 60	230/400 276/480	1370 1640	0.37 0.44	300	69	408	2000	1.5	20	55
12	DC	12	3090	0.218	305	82	217	2617	1.5	14	68
24	DC	24	3090	0.218	305	82	217	2324	1.5	14	68
G2	-	-	-	-	300	-	226.5	-	1.5	14.5	-

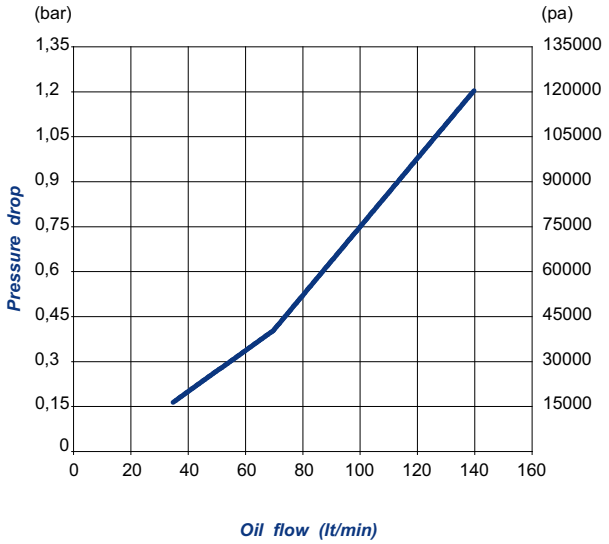
Suggested oil flow from 35 to 140 (lt/min)



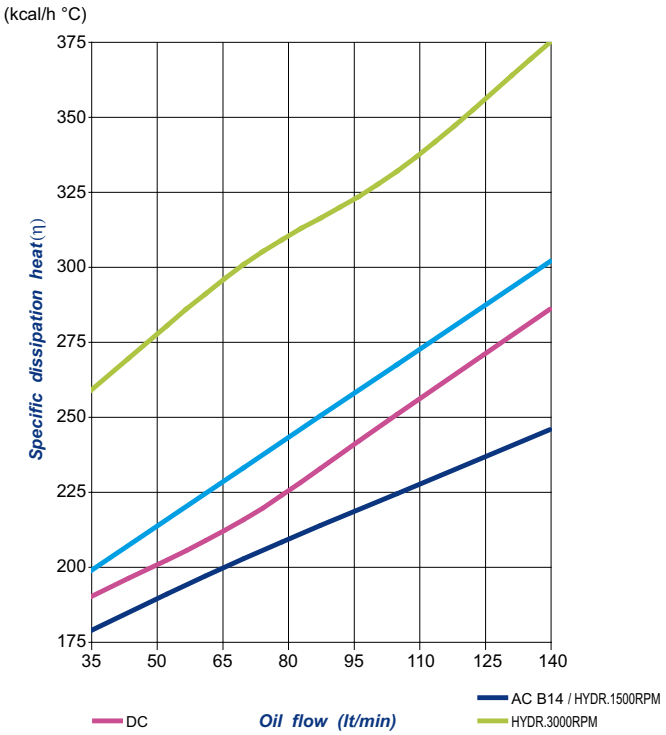
Correction factor

CST	10	15	20	32	40	50	60	80	100	200
F	0.51	0.66	0.76	1	1.22	1.4	1.6	1.9	2.1	3.4

Pressure drop diagram (32 cst)



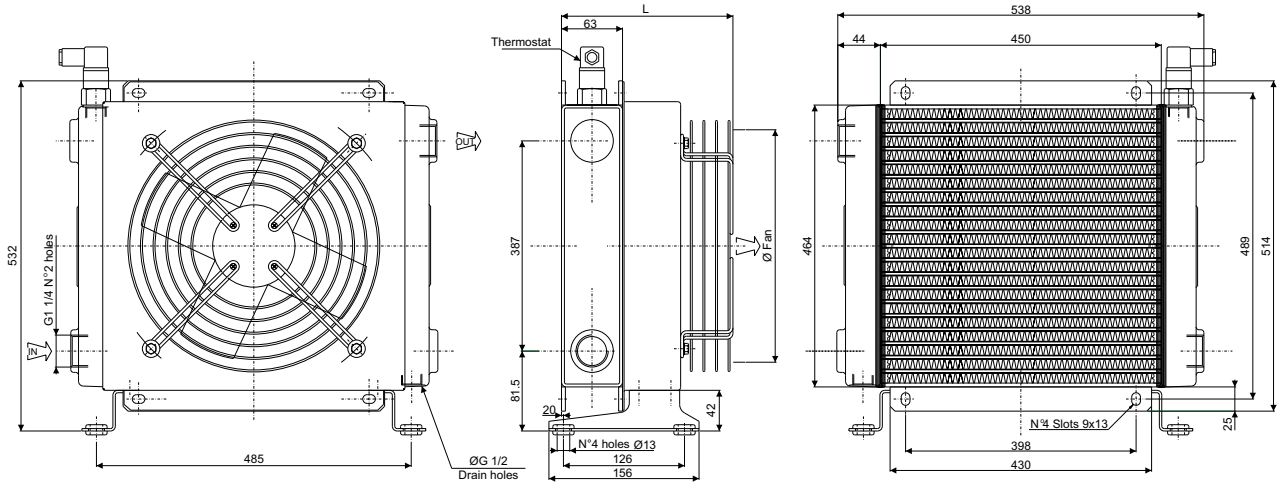
Performance diagram



SS Serie / Technische Daten
SS Series / Technical features

Tipologia Type	Frequenza Frequency Hz	Tensione Voltage V	N° Giri/min RPM	Potenza Power kW	Diam. Ventola Ø FAN (mm)	dB (A)	L (mm)	Q air (m^3/h)	Cap. (lt)	Peso Weight (kg)	IP
01	50/60	230	1380/1550	0.18/0.25	400	62	233	4000	2.6	21	44
03	50/60	380	1380/1520	0.18/0.25	400	70	233	4375	2.6	21	44
14	50 60	230/400 276/480	1390 1685	0.55 0.66	400	71	438	4000	2.6	25	55
12	DC	12	2248	0.151	385	77	206	2950	2.6	20	68
24	DC	24	2248	0.151	385	77	206	3101	2.6	20	68
G2	-	-	-	-	400	-	235.5	-	2.6	19	-

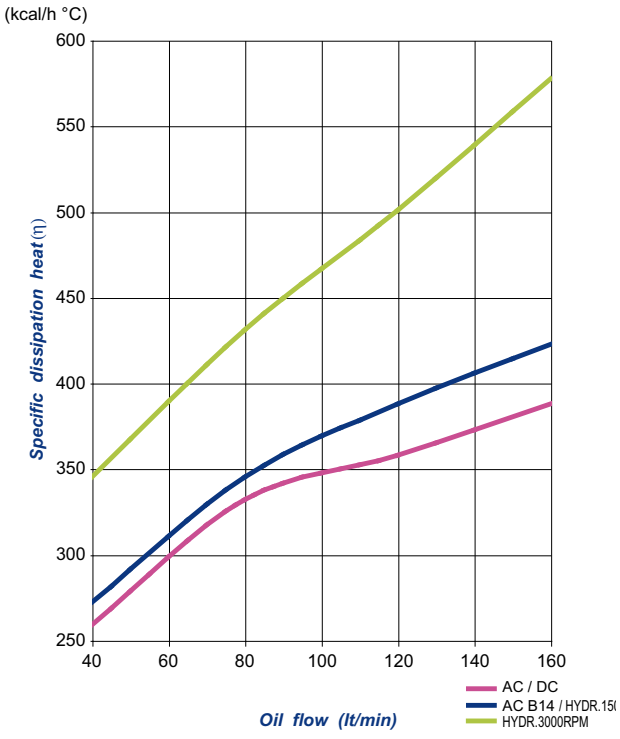
Suggested oil flow from 40 to 160 (lt/min)



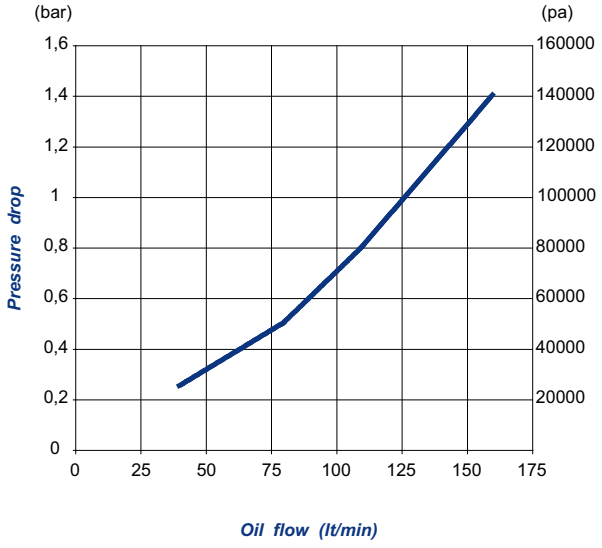
Correction factor

CST	10	15	20	32	40	50	60	80	100	200
F	0.51	0.66	0.76	1	1.22	1.4	1.6	1.9	2.1	3.4

Performance diagram



Pressure drop diagram (32 cst)

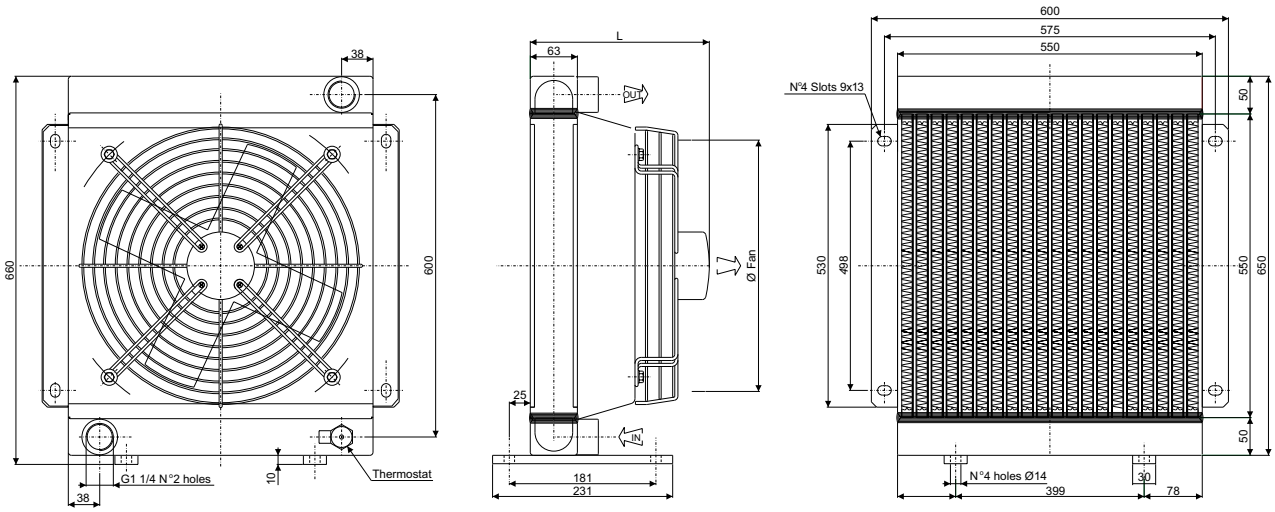


SS Serie / Technische Daten
SS Series / Technical features

Tipologia Type	Frequenza Frequency Hz	Tensione Voltage V	N° Giri/min RPM	Potenza Power kW	Diam. Ventola Ø FAN (mm)	dB (A)	L (mm)	Q air (m^3/h)	Cap. (lt)	Peso Weight (kg)	IP
03	50/60	230/400	1380/1540	0.2/0.28	450	75	183	6040	4.9	27	44
14	50 60	230/400 276/480	1390 1685	0.75 0.90	450	73	445	6830	4.9	30	55
12	DC	12	3005	0.106 x 2	280	74	237,5	4200	4.9	24	68
24	DC	24	3005	0.106 x 2	280	74	237.5	4200	4.9	24	68
G2	-	-	-	-	450	-	243.5	-	4.9	23	-

Suggested oil flow from 50 to 180 (lt/min)

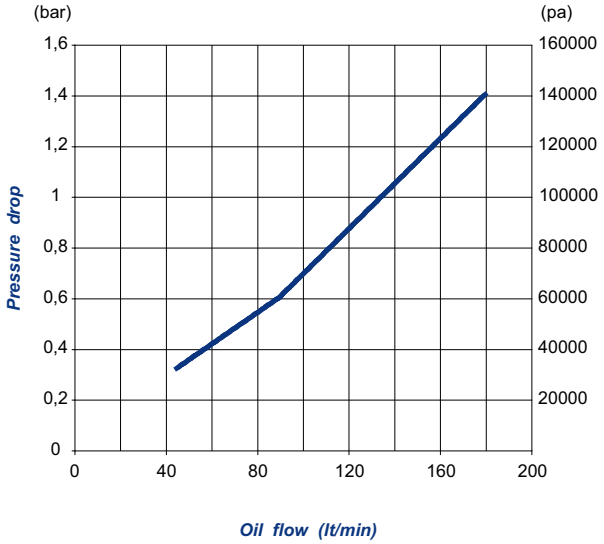
(x2) = double engine



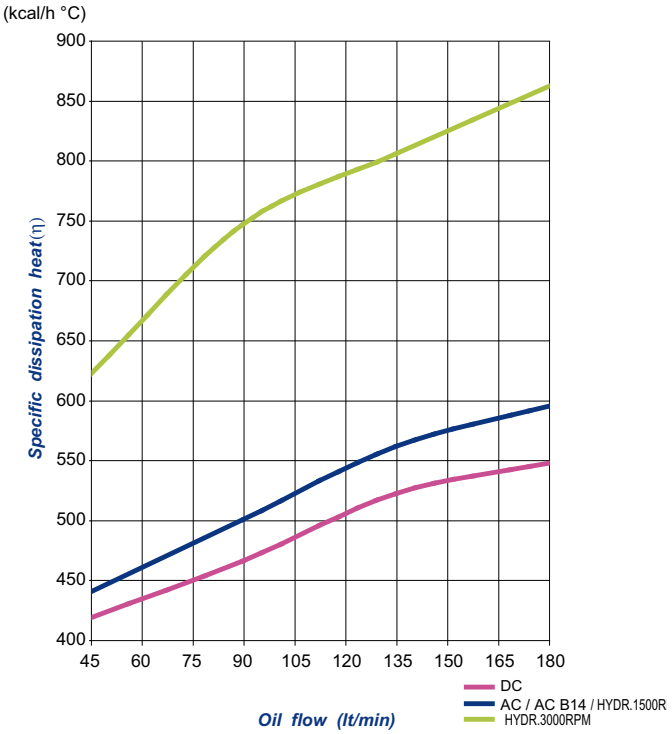
Correction factor

CST	10	15	20	32	40	50	60	80	100	200
F	0.51	0.66	0.76	1	1.22	1.4	1.6	1.9	2.1	3.4

Pressure drop diagram (32 cst)



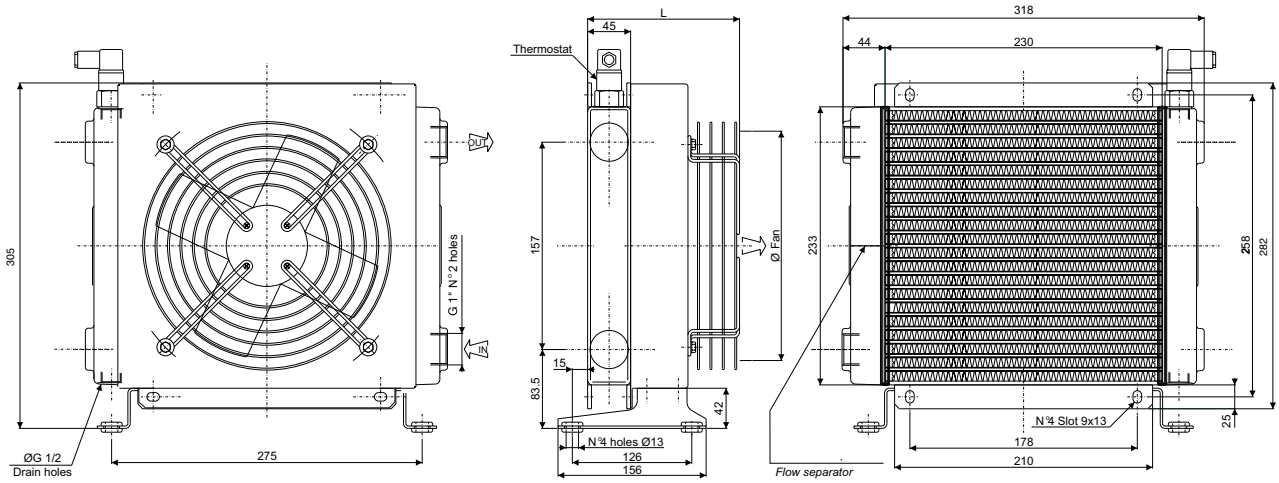
Performance diagram



SS Serie / Technische Daten
SS Series / Technical features

Tipologia Type	Frequenza Frequency Hz	Tensione Voltage V	N° Giri/min RPM	Potenza Power kW	Diam. Ventola Ø FAN (mm)	dB (A)	L (mm)	Q air (m^3/h)	Cap. (lt)	Peso Weight (kg)	IP
01	50/60	230	2500/2700	0.055/0.060	200	55	188.5	715	0.48	7	44
03	50/60	380	1400/1650	0.035/0.030	200	50	188.5	340	0.48	7	44
14	50 60	230/400 276/480	1350 1620	0.25 0.30	200	67	347	700	0.48	10	55
12	DC	12	3305	0.087	225	75	175	999	0.48	6.5	68
24	DC	24	3305	0.087	225	75	175	994	0.48	6.5	68
G2	-	-	-	-	200	-	200.5	-	0.48	6	-

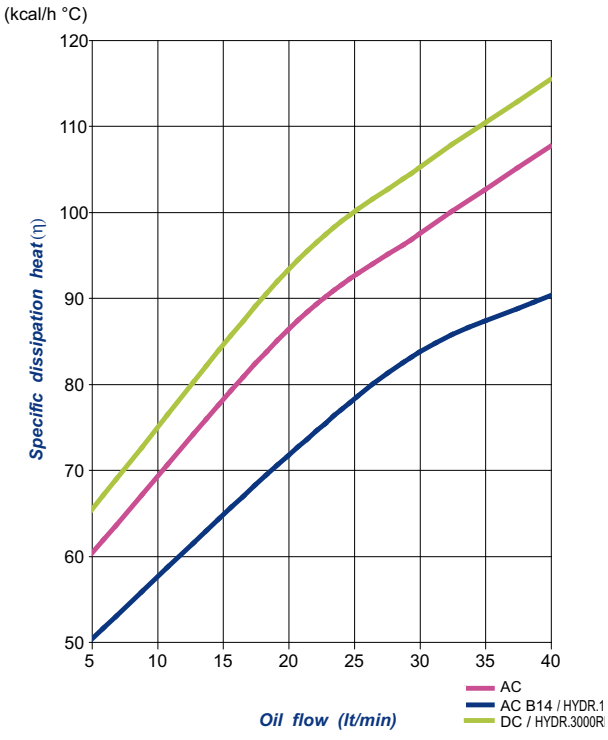
Suggested oil flow from 5 to 40 (lt/min)



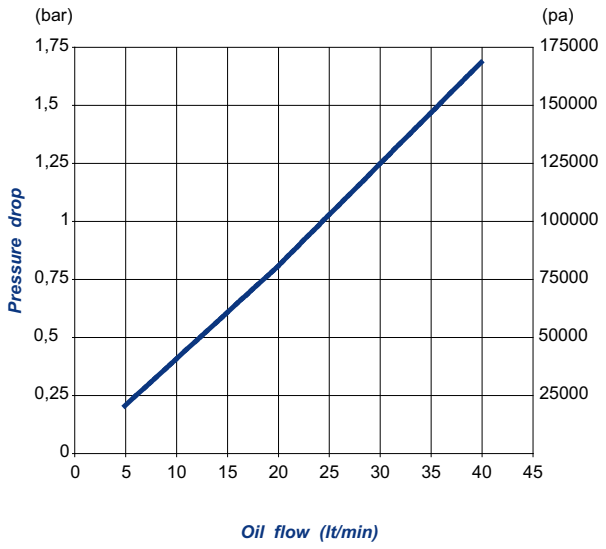
Correction factor

CST	10	15	20	32	40	50	60	80	100	200
F	0.51	0.66	0.76	1	1.22	1.4	1.6	1.9	2.1	3.4

Performance diagram



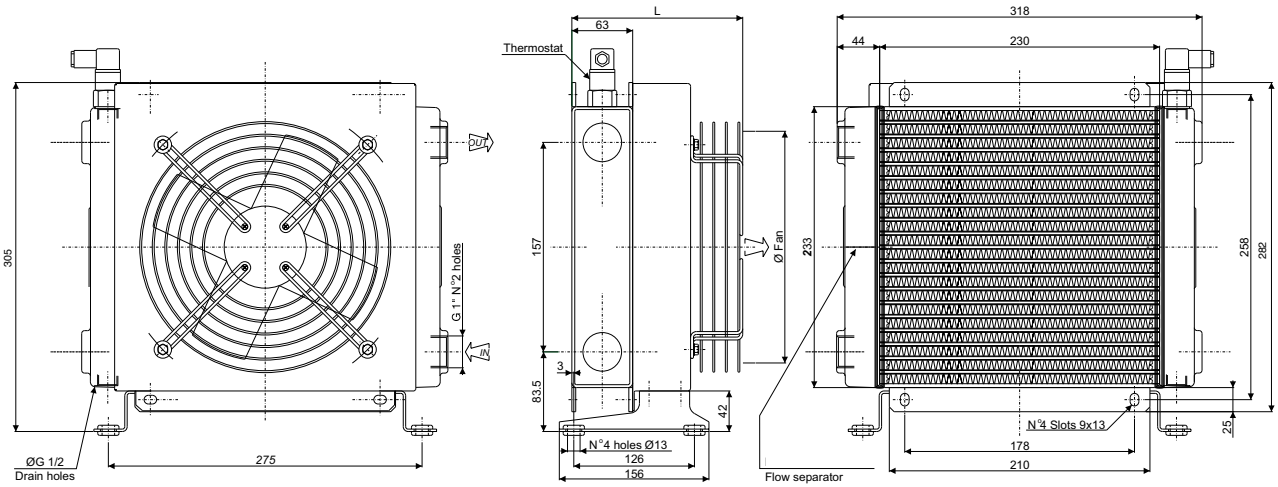
Pressure drop diagram (32 cst)



SS Serie / Technische Daten
SS Series / Technical features

Tipologia Type	Frequenza Frequency Hz	Tensione Voltage V	N° Giri/min RPM	Potenza Power kW	Diam. Ventola Ø FAN (mm)	dB (A)	L (mm)	Q air (m³/h)	Cap. (lt)	Peso Weight (kg)	IP
01	50/60	230	2500/2700	0.055/0.060	200	55	188.5	715	0.68	8	44
03	50/60	380	1400/1650	0.035/0.030	200	50	188.5	340	0.68	8	44
14	50 60	230/400 276/480	1350 1620	0.25 0.30	200	67	365	700	0.68	11	55
12	DC	12	3305	0.087	225	75	175	999	0.68	7	68
24	DC	24	3305	0.087	225	75	175	994	0.68	7	68
G2	-	-	-	-	200	-	218.5	-	0.68	7	-

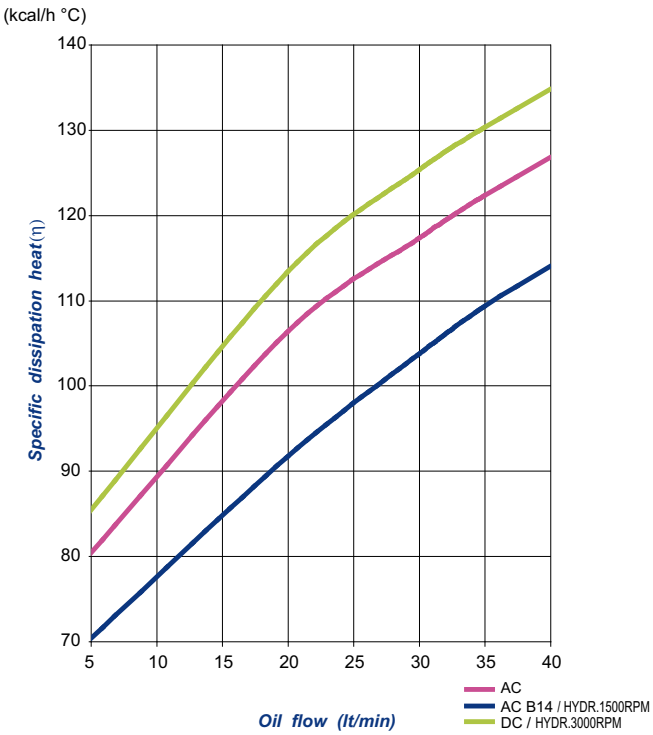
Suggested oil flow from 5 to 40 (lt/min)



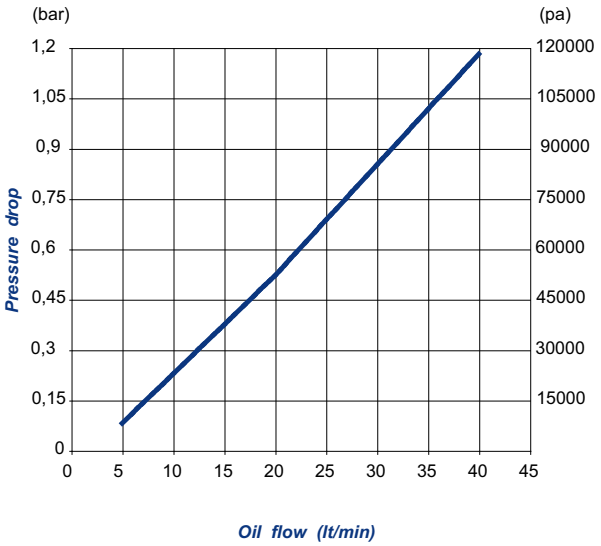
Correction factor

CST	10	15	20	32	40	50	60	80	100	200
F	0.51	0.66	0.76	1	1.22	1.4	1.6	1.9	2.1	3.4

Performance diagram



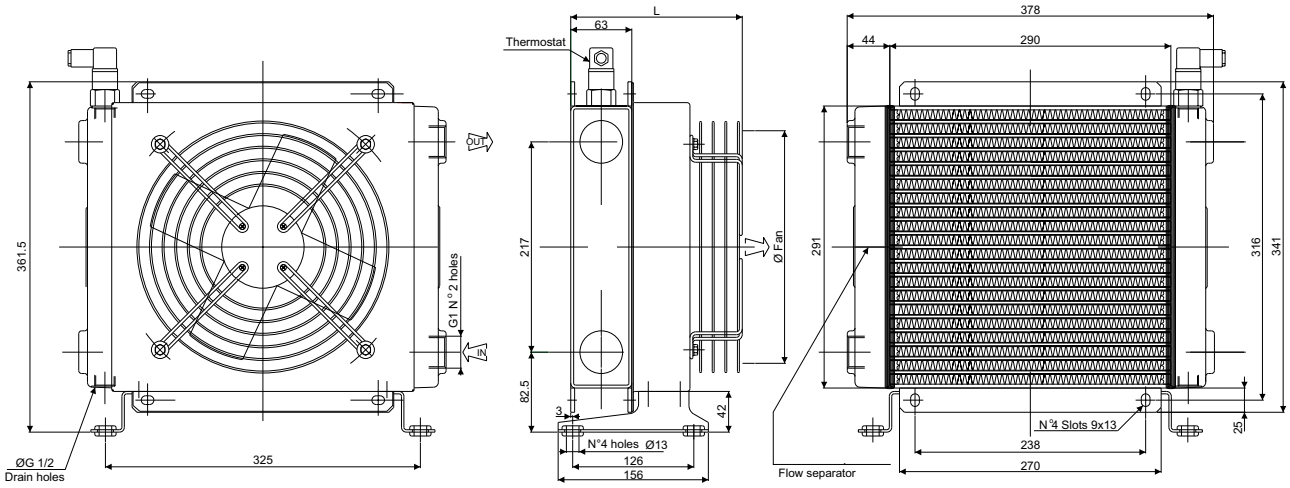
Pressure drop diagram (32 cst)



SS Serie / Technische Daten
SS Series / Technical features

Tipologia Type	Frequenza Frequency Hz	Tensione Voltage V	N° Giri/min RPM	Potenza Power kW	Diam. Ventola Ø FAN (mm)	dB (A)	L (mm)	Q air (m^3/h)	Cap. (lt)	Peso Weight (kg)	IP
01	50	220	2400	0.080/0.090	250	60	178	1310	0.9	11	54
03	50	380	2400	0.055/0.030	250	60	178	1440	0.9	11	54
14	50 60	230/400 276/480	1350 1620	0.25 0.30	250	67	364	1500	0.9	15,5	55
12	DC	12	3005	0.106	280	74	175	1404	0.9	10	68
24	DC	24	3005	0.106	280	74	175	1477	0.9	10	68
G2	-	-	-	-	250	-	217.5	-	0.9	10	-

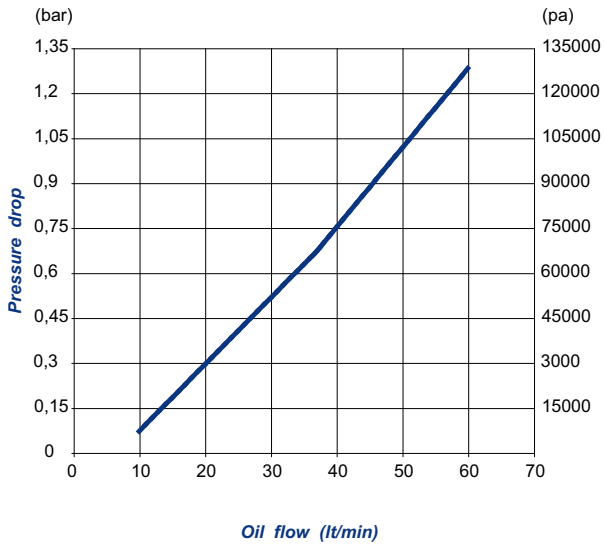
Suggested oil flow from 10 to 60 (lt/min)



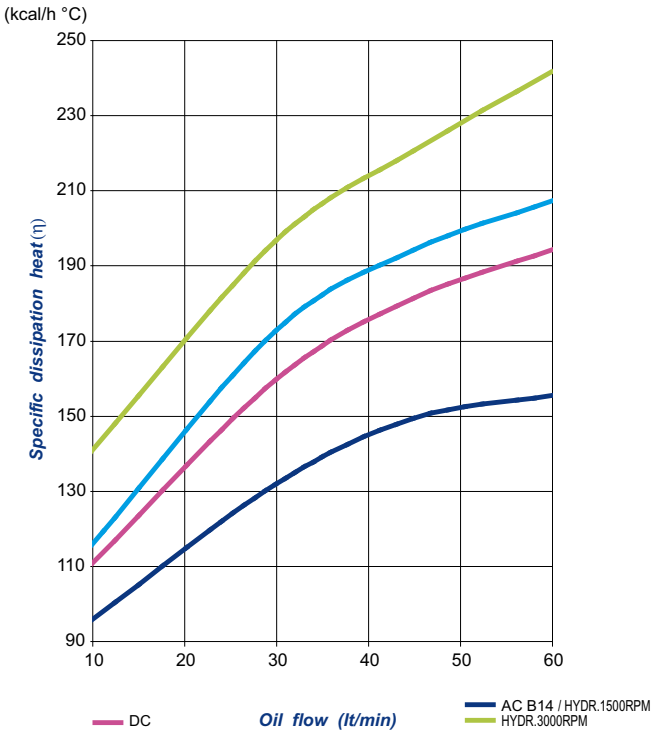
Correction factor

CST	10	15	20	32	40	50	60	80	100	200
F	0.51	0.66	0.76	1	1.22	1.4	1.6	1.9	2.1	3.4

Pressure drop diagram (32 cst)



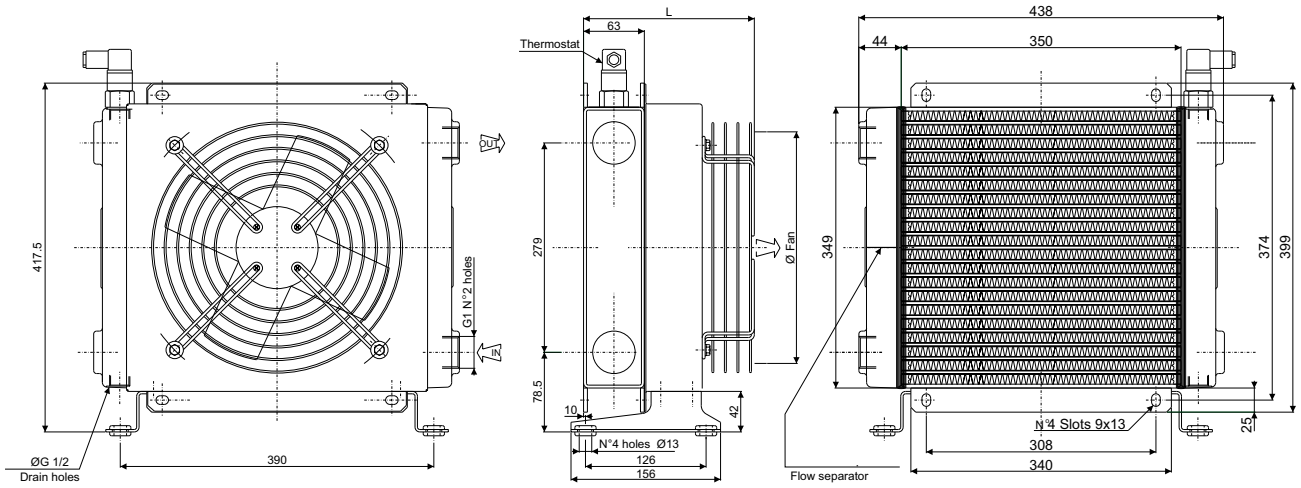
Performance diagram



SS Serie / Technische Daten
SS Series / Technical features

Tipologia Type	Frequenza Frequency Hz	Tensione Voltage V	N° Giri/min RPM	Potenza Power kW	Diam. Ventola Ø FAN (mm)	dB (A)	L (mm)	Q air (m^3/h)	Cap. (lt)	Peso Weight (kg)	IP
01	50	220	2300	0.145/0.175	300	62	213	2200	1.5	15	54
03	50	380	2340	0.075/0.095	300	62	213	1910	1.5	15	54
14	50 60	230/400 276/480	1370 1640	0.37 0.44	300	69	408	2000	1.5	20	55
12	DC	12	3090	0.218	305	82	217	2616	1.5	14	68
24	DC	24	3090	0.218	305	82	217	2324	1.5	14	68
G2	-	-	-	-	300	-	226.5	-	1.5	14.5	-

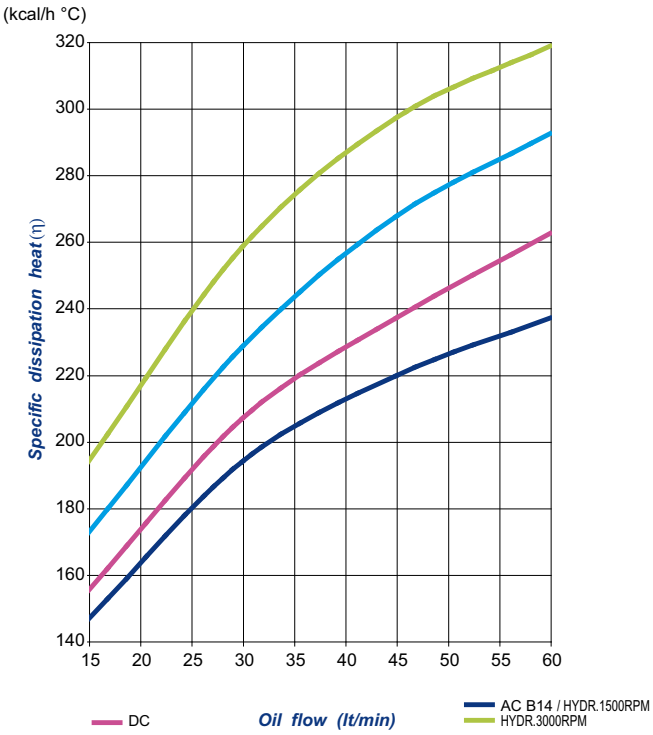
Suggested oil flow from 15 to 60 (lt/min)



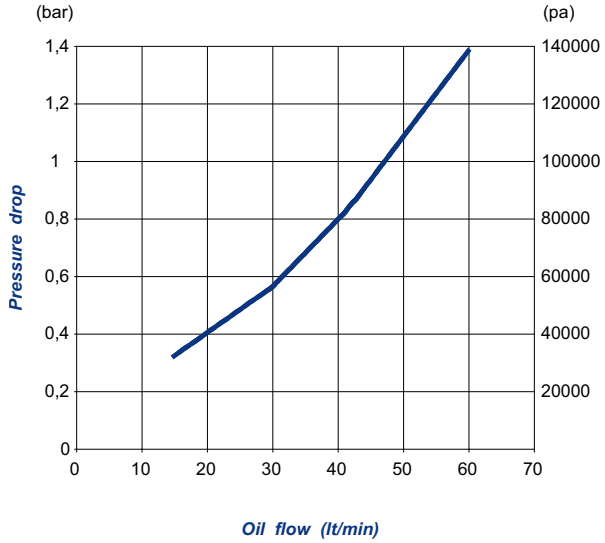
Correction factor

CST	10	15	20	32	40	50	60	80	100	200
F	0.51	0.66	0.76	1	1.22	1.4	1.6	1.9	2.1	3.4

Performance diagram



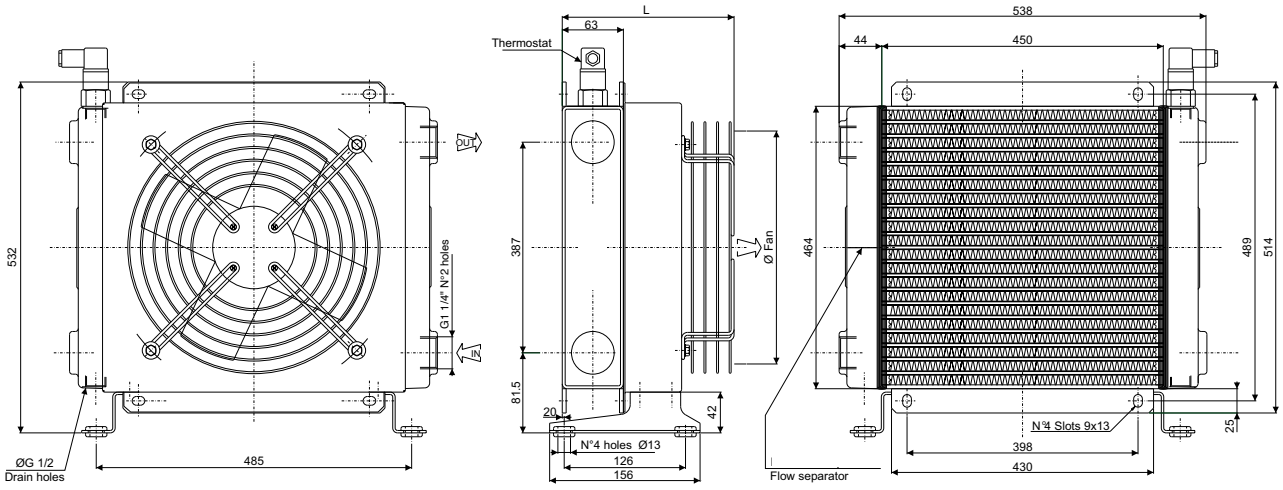
Pressure drop diagram (32 cst)



SS Serie / Technische Daten
SS Series / Technical features

Tipologia Type	Frequenza Frequency Hz	Tensione Voltage V	N° Giri/min RPM	Potenza Power kW	Diam. Ventola Ø FAN (mm)	dB (A)	L (mm)	Q air (m^3/h)	Cap. (lt)	Peso Weight (kg)	IP
01	50/60	230	1380/1550	0.18/0.25	400	62	233	4000	2.6	21	44
03	50/60	380	1380/1520	0.18/0.25	400	70	233	4375	2.6	21	44
14	50 60	230/400 276/480	1390 1685	0.55 0.66	400	71	438	4000	2.6	25	55
12	DC	12	2248	0.151	385	77	206	2950	2.6	20	68
24	DC	24	2248	0.151	385	77	206	3101	2.6	20	68
G2	-	-	-	-	400	-	236.5	-	2.6	19	-

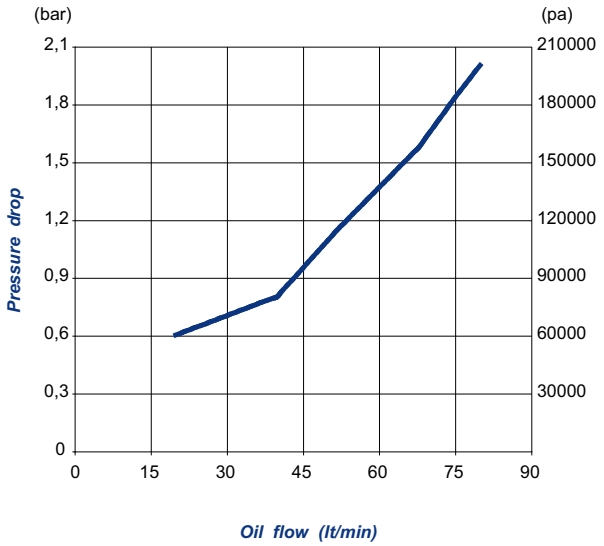
Suggested oil flow from 20 to 80 (lt/min)



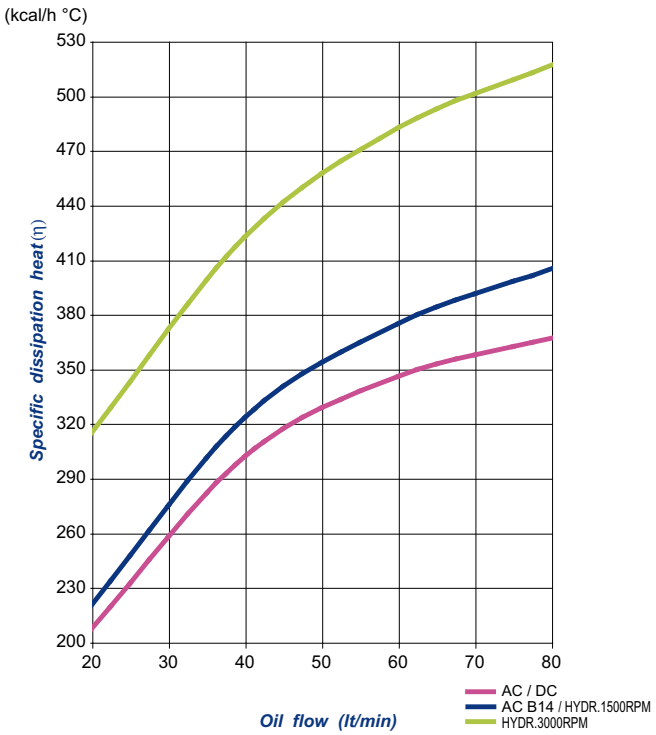
Correction factor

CST	10	15	20	32	40	50	60	80	100	200
F	0.51	0.66	0.76	1	1.22	1.4	1.6	1.9	2.1	3.4

Pressure drop diagram (32 cst)



Performance diagram

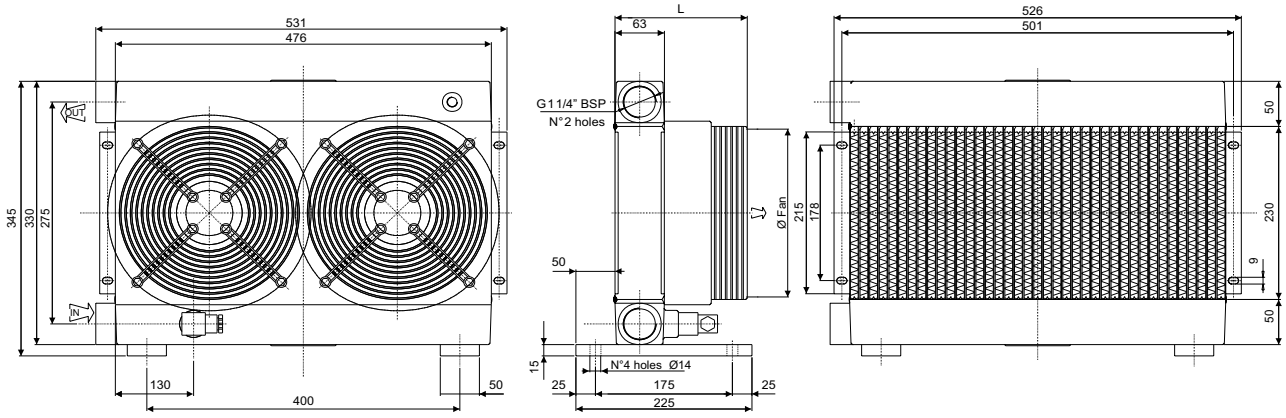


SS Serie / Technische Daten
SS Series / Technical features

Tipologia Type	Frequenza Frequency Hz	Tensione Voltage V	N° Giri/min RPM	Potenza Power kW	Diam. Ventola Ø FAN (mm)	dB (A)	L (mm)	Q air (m³/h)	Cap. (lt)	Peso Weight (kg)	IP
01	50	220	2500	0.055/0.060	200	52	188.5	1430	1.3	17	54
03	50	380	2300	0.035/0.030	200	52	188.5	1320	1.3	17	54
14	50 60	230/400 276/480	1350 1620	0.25 0.30	200	67	365	1400	1.3	23	55
12	DC	12	3305	0.087	225	75	175	1998	1.3	15	68
24	DC	24	3305	0.087	225	75	175	1988	1.3	15	68
G2	-	-	-	-	200	-	218.5	-	1.3	17	-

Suggested oil flow from 60 to 180 (lt/min)

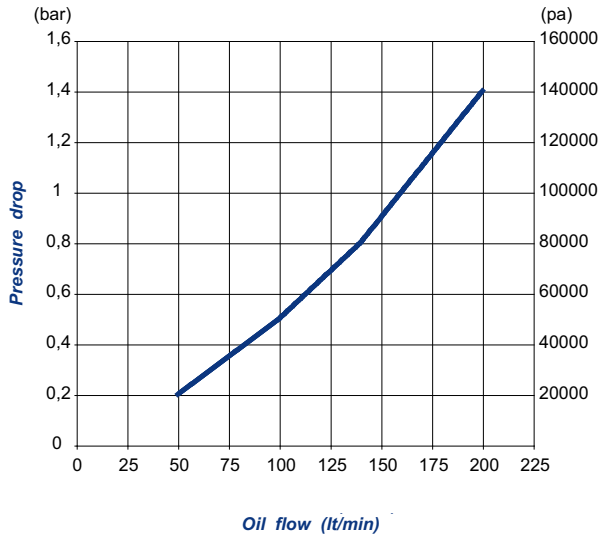
(x2) = double engine



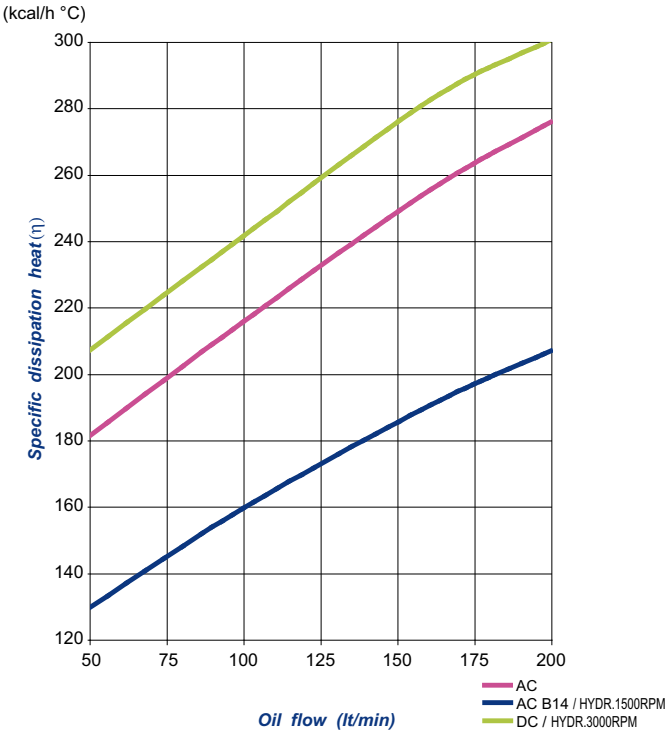
Correction factor

CST	10	15	20	32	40	50	60	80	100	200
F	0.51	0.66	0.76	1	1.22	1.4	1.6	1.9	2.1	3.4

Pressure drop diagram (32 cst)



Performance diagram

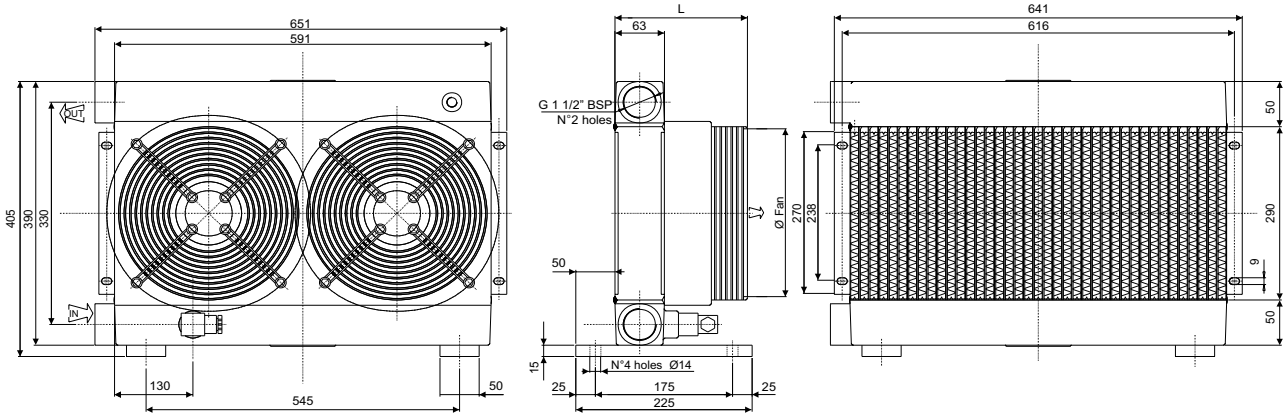


SS Serie / Technische Daten
SS Series / Technical features

Tipologia Type	Frequenza Frequency Hz	Tensione Voltage V	N° Giri/min RPM	Potenza Power kW	Diam. Ventola Ø FAN (mm)	dB (A)	L (mm)	Q air (m^3/h)	Cap. (lt)	Peso Weight (kg)	IP
50	220	2400	2400/2750	0.080/0.090	60	62	178	2620	1.9	23	54
50	380	2400	1400/1650	0.055/0.052	60	58	178	2880	1.9	23	54
14	50 60	230/400 276/480	1350 1620	0.25 0.30	250	68	364	3000	1.9	34	55
12	DC	12	3005	0.106	280	74	175	2808	1.9	21	68
24	DC	24	3005	0.106	280	74	175	2954	1.9	21	68
G2	-	-	-	-	250	-	217.5	-	1.9	23	-

Suggested oil flow from 80 to 220 (lt/min)

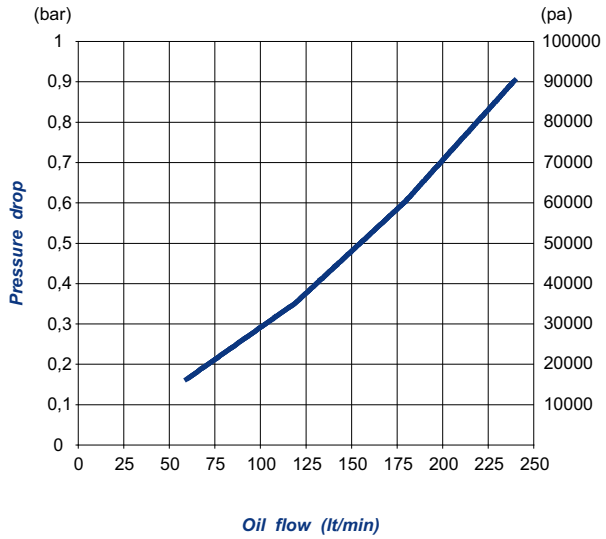
(x2) = double engine



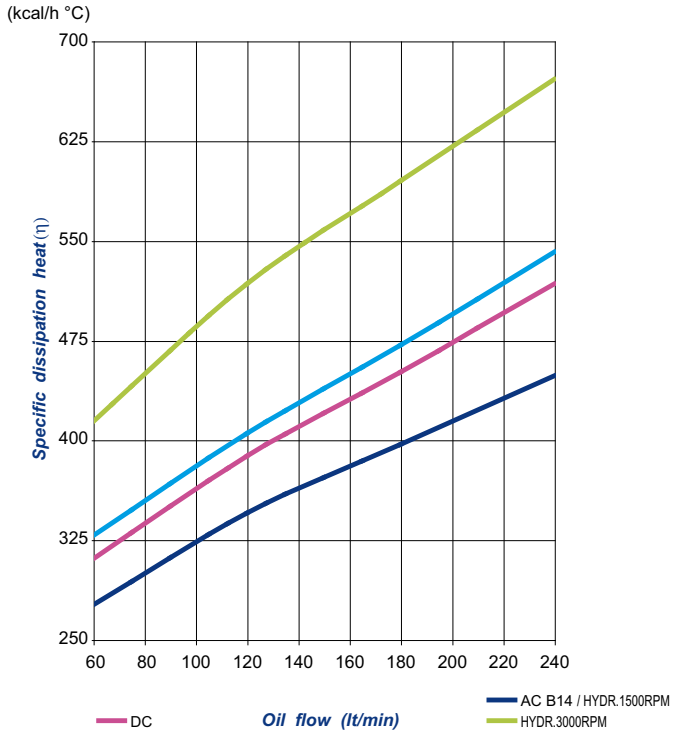
Correction factor

CST	10	15	20	32	40	50	60	80	100	200
F	0.51	0.66	0.76	1	1.22	1.4	1.6	1.9	2.1	3.4

Pressure drop diagram (32 cst)



Performance diagram

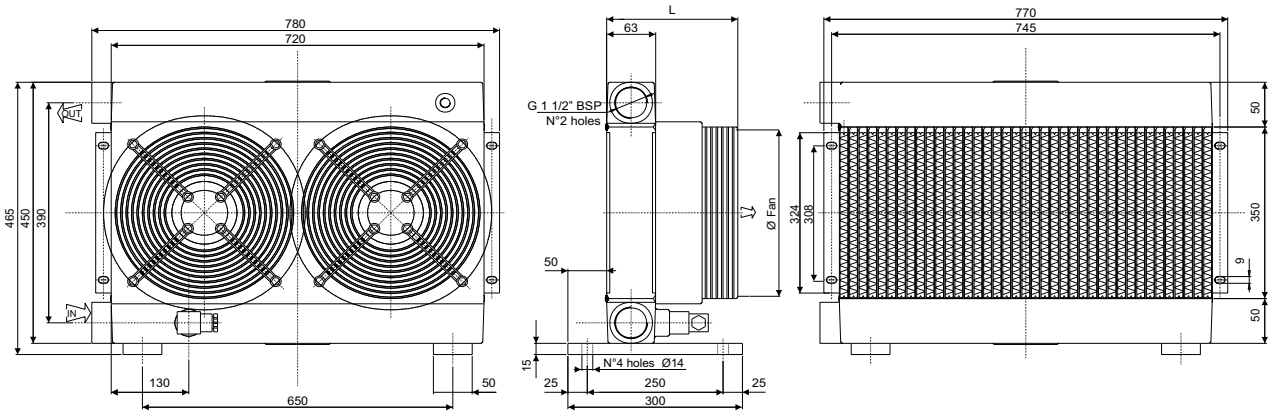


SS Serie / Technische Daten
SS Series / Technical features

Tipologia Type	Frequenza Frequency Hz	Tensione Voltage V	N° Giri/min RPM	Potenza Power kW	Diam. Ventola Ø FAN (mm)	dB (A)	L (mm)	Q air (m^3/h)	Cap. (lt)	Peso Weight (kg)	IP
01	50	220	2300	0.145/0.175	300	62	213	4400	3.1	31	54
03	50	380	2340	0.075/0.095	300	62	213	3820	3.1	31	54
14	50 60	230/400 276/480	1370 1640	0.37 0.44	300	69	408	4000	3.1	42	55
12	DC	12	3090	0.218	305	82	217	5234	3.1	29	68
24	DC	24	3090	0.218	305	82	217	4648	3.1	29	68
G2	-	-	-	-	300	-	226.5	-	3.1	30	-

Suggested oil flow from 80 to 260 (lt/min)

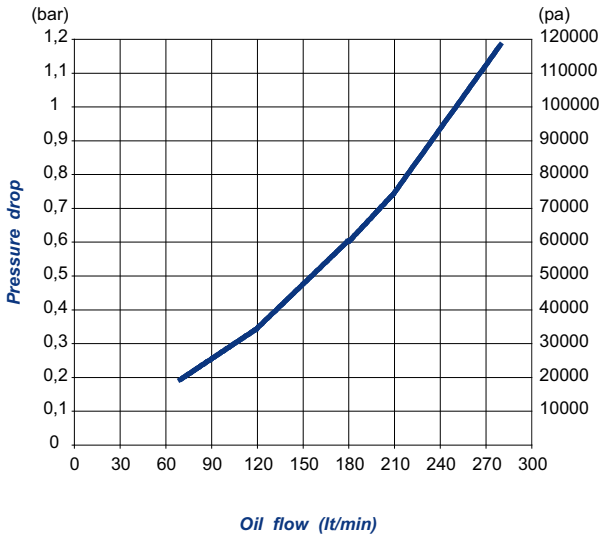
(x2) = double engine



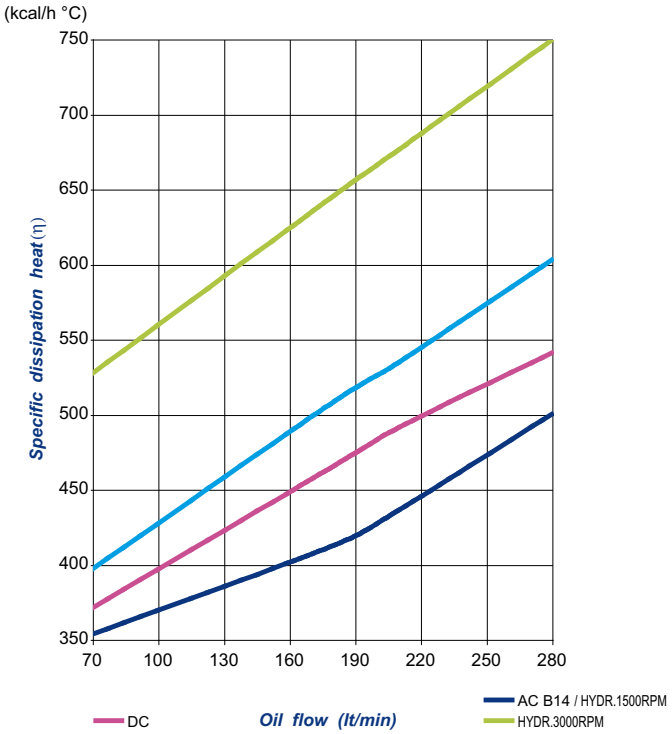
Correction factor

CST	10	15	20	32	40	50	60	80	100	200
F	0.51	0.66	0.76	1	1.22	1.4	1.6	1.9	2.1	3.4

Pressure drop diagram (32 cst)



Performance diagram

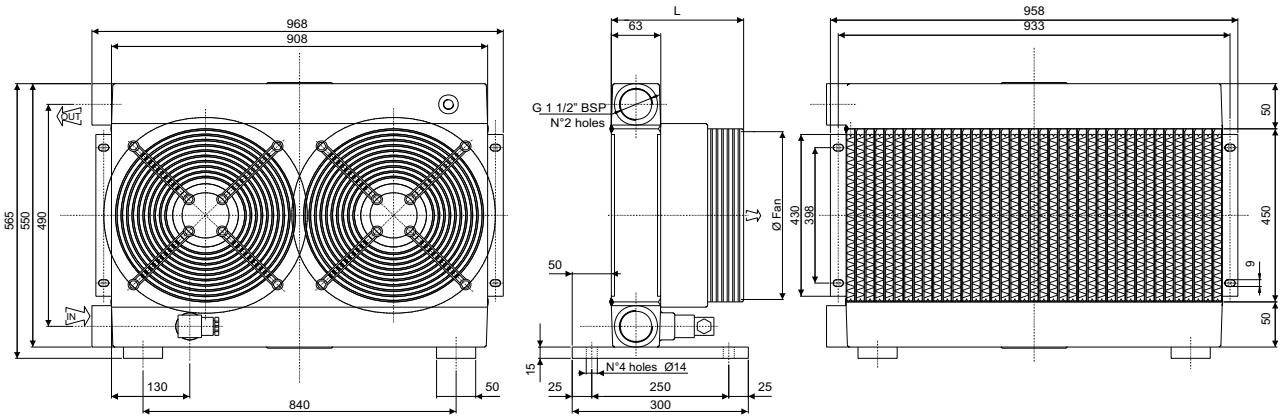


SS Serie / Technische Daten
SS Series / Technical features

Tipologia Type	Frequenza Frequency Hz	Tensione Voltage V	N° Giri/min RPM	Potenza Power kW	Diam. Ventola Ø FAN (mm)	dB (A)	L (mm)	Q air (m^3/h)	Cap. (lt)	Peso Weight (kg)	IP
01	50/60	230	1380/1550	0.18/0.25	400	62	233	8000	5.3	42	44
03	50/60	380	1380/1520	0.18/0.25	400	70	233	8750	5.3	42	44
14	50 60	230/400 276/480	1390 1685	0.55 0.66	400	71	438	8000	5.3	50	55
12	DC	12	2248	0.151	385	77	206	5900	5.3	41	68
24	DC	24	2248	0.151	385	77	206	6202	5.3	41	68
G2	-	-	-	-	400	-	236.5	-	5.3	39	-

Suggested oil flow from 80 to 300 (lt/min)

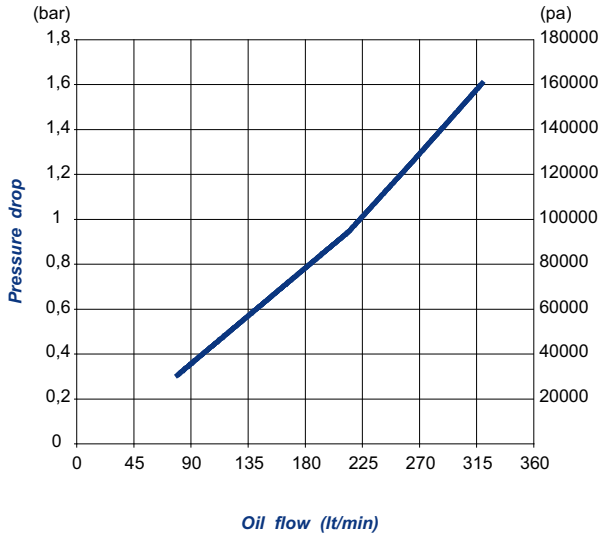
(x2) = double engine



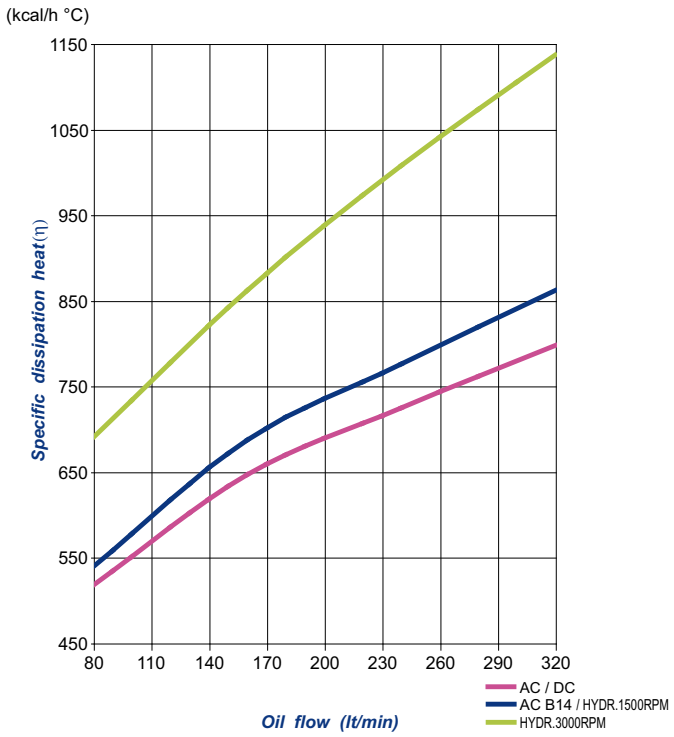
Correction factor

CST	10	15	20	32	40	50	60	80	100	200
F	0.51	0.66	0.76	1	1.22	1.4	1.6	1.9	2.1	3.4

Pressure drop diagram (32 cst)

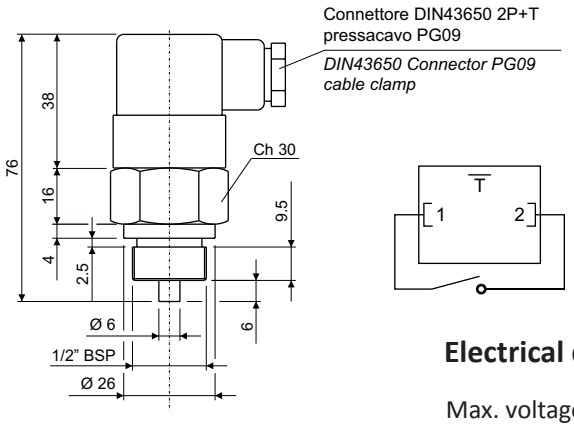


Performance diagram



SS Serie / Bimetallischer Festtemperaturschalter

SS Series / Bimetallic fixed temperature switch



Switch part number	Working temperature	Contact
T01	36-26°C	
T02	43-33°C	
T03	52-42°C	
T04	65-55°C	NA/NO
T05	75-65°C	
T06	85-75°C	
T07	95-85°C	

NO = normally open

Note: Assemble switch to the heat exchanger with a copper flat washer

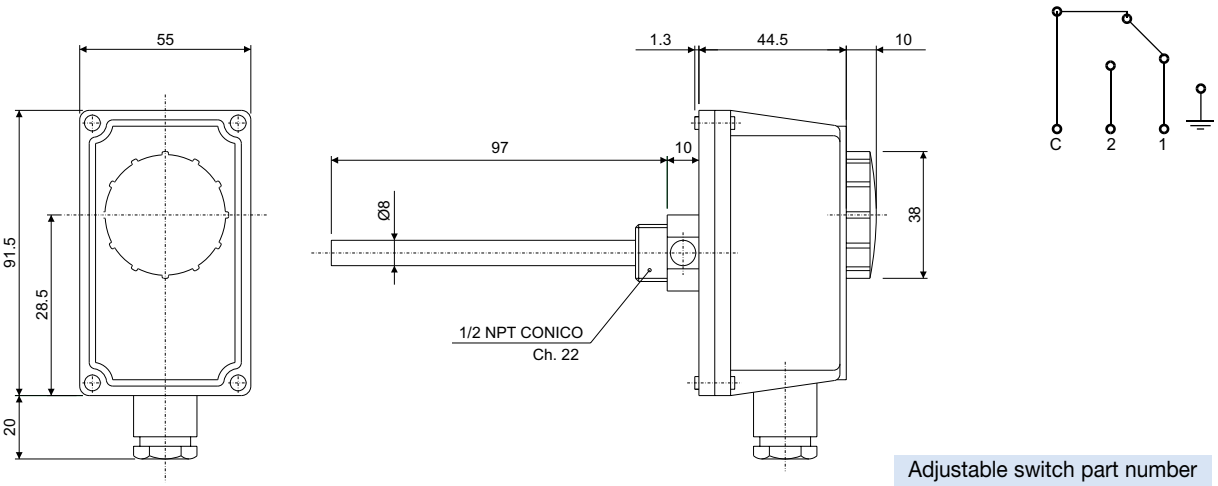
Electrical data

Max. voltage	250Vca
Max. current	10A
Tolerance	±5°C
Max. fixed hysteresis	15°C
Electrical connection	DIN43650
Protection degree	IP65
Max. temperature	130°C

Materials

Body	Brass
Contacts	Silver plated

Temperature switch



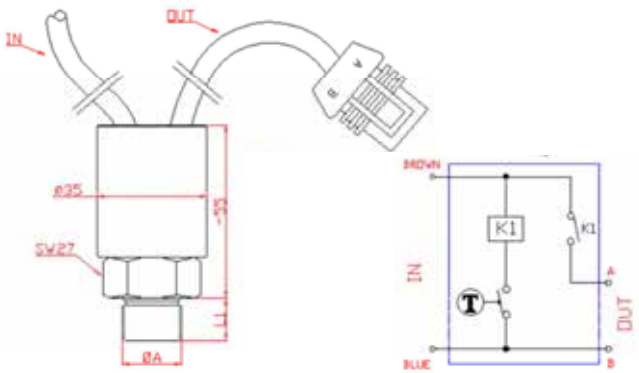
Adjustable switch part number
T08

Electrical data

Temperature range	0°±90°C
Tolerance	±5k
Temperature differential	6±2k
Degree of protection	IP 40
Insulation class	I
Temp. rate of change	<1k/min
Max. head temperature	80°C
Max. sensing bulb temp.	125°C
Storage temperature	-15°C 55°C
Time constant	<1'
Contacts rating	C-1:10(2.5)A/250V~ C-2:6(2.5)A/250V~
Output	cutoff or switching contacts
Switch action	1B
Installation location	normal environment
Fairlead type	M20x1.5

SS Serie / Zubehör
SS Series / Accessories

Temperature switch with integradet relay



Switch part number	A	Description	
T10	1/2" BSP	70-60 24V	Temperature switch with relay
T11		60-50 24V	
T12		50-40 24V	
T13		70-60 12V	
T14		60-50 12V	
T15		50-40 12V	

Standard connector

Optional

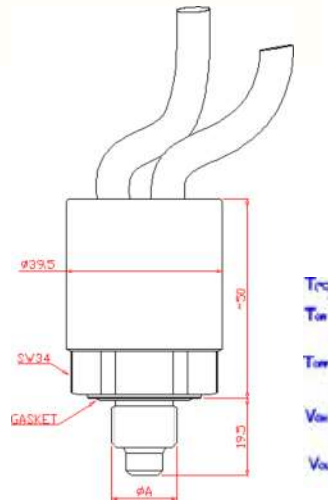
KIT-WPC-M

Electrical data

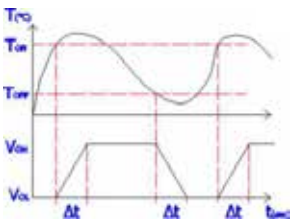
Electrical rating	30 @ 12VDC / 30 @ 24VDC
Fluid temperature range	-30/+130 °C (-22/+266°F)
Electrical contact	Silver plated
Electrical configuration	Normal open
Protection degree	Standard IP67
Intervention tolerance	±4,5 °C
Hysteresis	~15 °C

Electronic Thermostat with integrated soft starter control for direct currents loads

Cable electrical connection. Logic ON/OFF control 12 ÷ 24VDC / 20A



Timing diagram



Switch part number	A	Description	
T16	1/2" BSP	50-40 12-24V	Temperature switch with soft start
T17		60-50 12-24V	

Standard connector

Optional

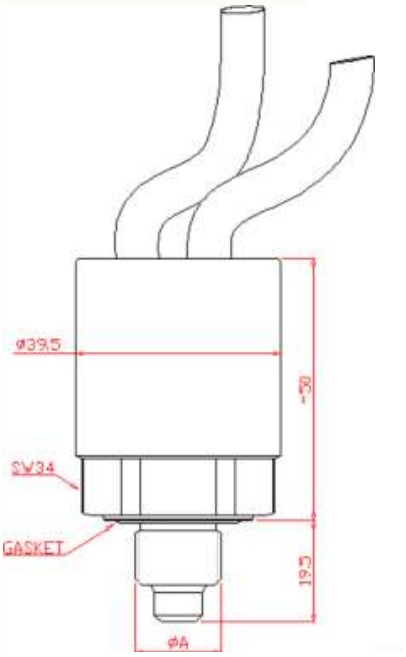
KIT-WPC-M

Electrical data

Electrical configuration	NO (standard) - NC on request
Supply voltage	12÷24Vdc
Maximum load	20A
Electrical protection	IP67 - DIN40050
Environmental temperature	-20÷ +80°C
Stocking temperature	-30÷ +90°C
Switching tolerance	±3.5°C withΔT ~1°C/min and environmental temperature 20÷25°C
Max pressure	200 bar
Housing	Brass
OR gasket	NBR
Electrical connection	Supply: bipolar wire lenght = 70cm (brown: positive / blu: negative) Load: bipolar wire lenght = 25cm with Metripack S280 female connector (terminal A: positive / B: negative)

SS Serie / Zubehör
SS Series / Accessories

Thermostat with speed regulstor snd reverse rotation program



Switch part number	A	Description
T18	1/2" BSP	60-45 12-24V
T19		65-50 12-24V — Thermostat with speed regulator and reverser on rotation

Standard connector

Optional

KIT-WPC-M

Technical features

Working temperature	-20°C ÷ +100°C
Switching accuracy	± 2°C
Weight	0,3 Kg
Body	in brass hexagonal, KEY34 with integral seal DIN
Electric features	Direct control to the electric engine for limiting the starting torque and the excessive energy during starting Standard execution power supply: 12-24 VDC Max load on contacts: 25A Electric protection according to DIN 40050, IP67
Standard electric wiring	Power supply: bipolar wire 1mm Signal: bipolar wire 0.35mm without connector
Warranty	see dedicated page
Spare parts	see dedicated page
Also Available	Different wire length Special electrical connection CU-TR for Russian market

On the instrument are settled the value of engine's start and the value at which the engine reaches the max speed. Within these values of temperature the engine speed adapts automatically to every temperature variations. The electric engine starts in a "soft-start" condition, with a progressive increase of the rotation during 30" or following a specific request indicated by the customer before the order. In addition this series includes a timed program that reverses the rotation of the engine: after 9 minutes of operative direction of rotation the engine stops, within 15" restarts and rotate for 60" with the opposite direction of rotation, then stops again and restart with the operative direction for 9 minutes. The instrument is made in one part in Brass that will be connected directly in contact with the fluid that need to be checked.

SS Serie / Verwendung und Wartung SS-ST-SD-SSPV-SSV

SS Series / Use and maintenance SS-ST-SD-SSPV-SSV

Installation

Air/oil heat exchanges are generally used for cooling oleodynamic equipments linked on the exhaust line where the exercise pressure isn't over 25 bar (max pressure admited for air/oil heat exchangers). If the exhaust pressure is over 25 bar (flow multiplication, oil viscosity) the heat exchangers are placed into indipendent cooling systems with recirculation pump and by-pass.
It' s advisable to mount the heat exchangers on anti-vibrants and to link inlets and outlets with flexible tubing.
The heat exchangers must be installed in order that there aren't obstacles to the air flow: the anterior and posterior distance has to be as much or superior to the radius of the fan mounted (scheme 2).
If he oleodynamic equipment is placed in environments where the oil temperature is subject to hight temperature range it's advisable to mount a byv-pass valve since with low temperatures oil viscosity rises considerably causing hight pressure drops that, in most cases, are bigger than the max pressure allowed. (scheme 1)

Electric part linking

Please be sure that Tension V, frequency Hz and rotation direction of the electric fan are as shown by the plate mounted on the heat exchangers. Follow accurately what's written in the electric scheme attached (scheme 3).

Air side maintenance

Disconnect electrically the heat exchanger.
Disassemble the conveyor, electric fan and thermosta (if present). All the impurities can be removed with a warm water jet paying attention that its direction is parallel to the fins to help with the discharge of the dirt.

Oil side maintenance

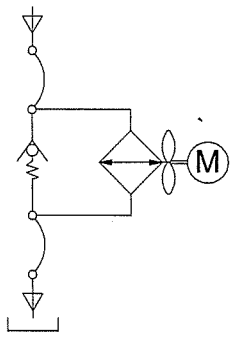
Disconnect hydraulically he heat exchanger; flux against the flow the heat exchanger with degreasing substances not aggressive for aluminium.
The intensity of the dirt will determine the duration of this operation that usually lasts from 15 to 30 minutes.
In case the desired clening isn't achieved repeat the operation as many times ad needed.

SS Serie / Luft-Öl Version

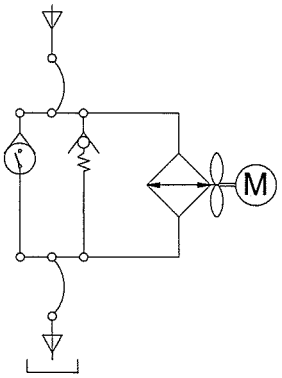
SS Series / Air-Oil Version

Scheme 1

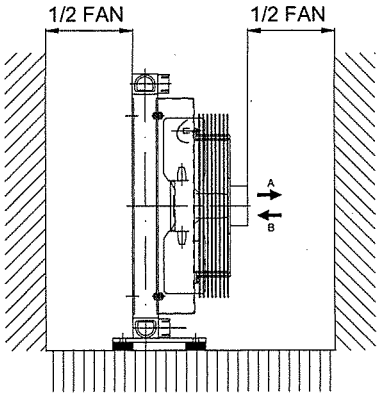
SSV / SSPV



SSV / SSPV

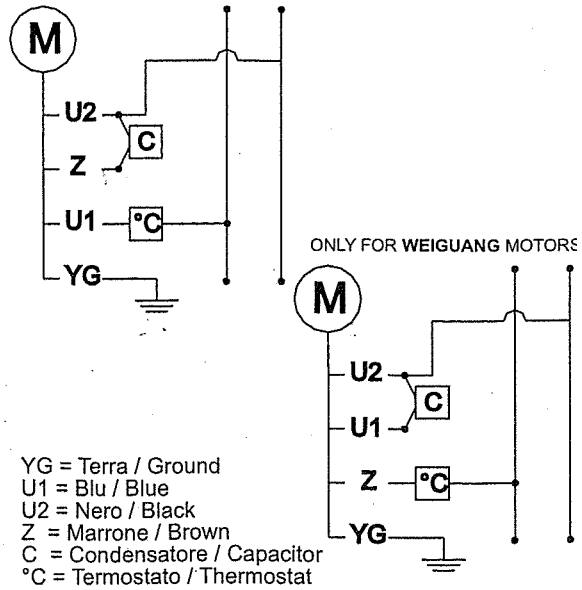


Scheme 2



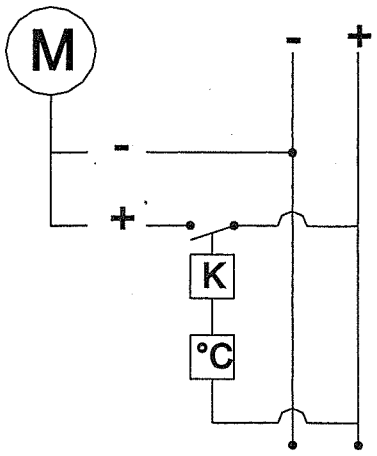
Scheme 3

230 V AC MON. ELECTRIC WIRING



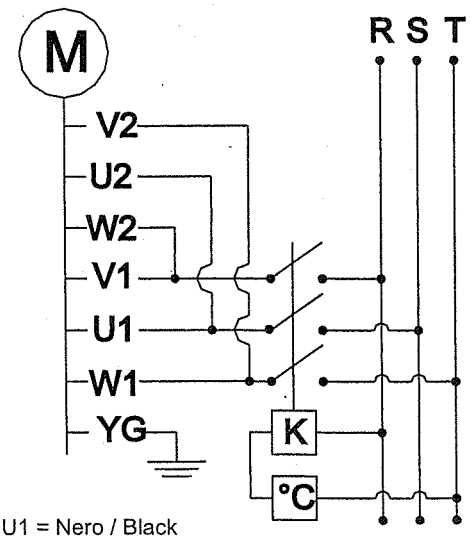
YG = Terra / Ground
U1 = Blu / Blue
U2 = Nero / Black
Z = Marrone / Brown
C = Condensatore / Capacitor
°C = Termostato / Thermostat

12-24 V DC ELECTRIC WIRING



K = Relè / Relay
°C = Termostato / Thermostat

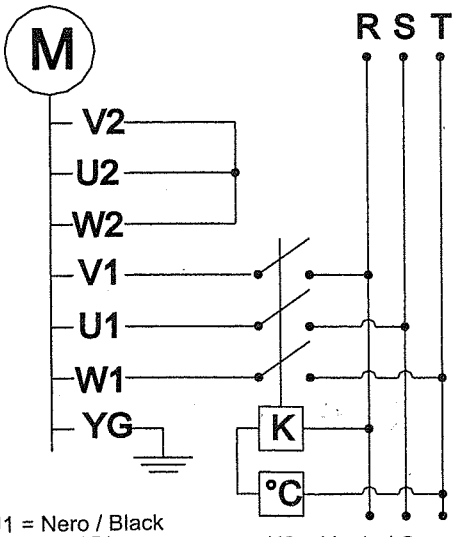
230V AC THREEPHASE ELECTRIC WIRING



U1 = Nero / Black
V1 = Blu / Blue
W1 = Marrone / Brown
YG = Terra / Ground
°C = Termostato / Thermostat

U2 = Verde / Green
V2 = Bianco / White
W2 = Giallo / Yellow
K = Relè / Relay

400V AC THREEPHASE ELECTRIC WIRING



U1 = Nero / Black
V1 = Blu / Blue
W1 = Marrone / Brown
YG = Terra / Ground
°C = Termostato / Thermostat

U2 = Verde / Green
V2 = Bianco / White
W2 = Giallo / Yellow
K = Relè / Relay

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