

## COOLERS

Appropriate control of the oil temperature in hydraulic systems has the following advantages:

- Extended life of the hydraulic oil, eg when the oil temperature of 70 °C is reduced to 60 °C, the life of the oil will double.
- Longer hose and seal life. This results in less idle periods for the machine.
- Installation efficiency will increase as a result of the decrease in leakage losses.
- Safer operation because of lower temperatures of the hydraulic components.

If one compares water oil-coolers to air oil-coolers, it appears that a water oil-cooler is cheaper than an air oil-cooler and that it takes less space. The following arguments speak, however, in favour of an air oil-cooler.

- On mobile machines air oil-cooling is often the only solution.
- Possible leakage is immediately visible, before the results become serious for machine or environment.
- Air oil-coolers can be cleaned more easily than water oil-coolers (scaling).
- Air oil-coolers are cheaper in usage than water oil-coolers. The operating costs of water oil-coolers are higher than those of an air oil-cooler, namely by a factor of 20.

### Cooler calculation:

At first the total power installed needs to be known. It is sufficient to know the pressure (P) and the pump capacity (Q). The formula is: installed power =  $P \times Q = \dots \text{kW}$

612xn

- |      |                                     |
|------|-------------------------------------|
| P... | in bar                              |
| Q... | in l/min.                           |
| n... | is total output of the installation |

How many kW's should be removed?

The output of a hydraulic system is normally about 75% and so approximately 25% of the power installed will be transferred into heat, which will have to be removed.

### Example:

Installed power = 100 kW. Suppose the system is lightly loaded half the time (40 kW).

The cooler will have to remove:  $(1/2 \times (25\% \times 40)) + (1/2 \times (25\% \times 100)) = 17.5 \text{ kW}$ .

### Example:

Installed power = 100 kW. The cooler will have to remove 25% = 25 kW.

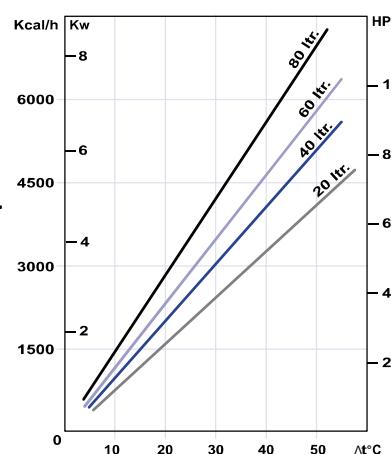
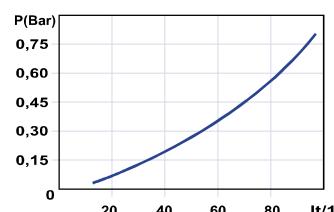
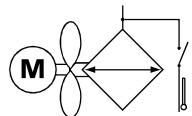
Some systems, however, generate considerably more or less heat than the above-mentioned 25%.

### Example:

Installed power = 100 kW. But now the system flows through a pressure relief valve for 1/3 of the operating time, and therefore all of the power installed is transferred into heat during that time.

Now the cooler will have to remove:  $(1/3 \times (100\% \times 100)) + (2/3 \times (25\% \times 100)) = 50 \text{ kW}$ .

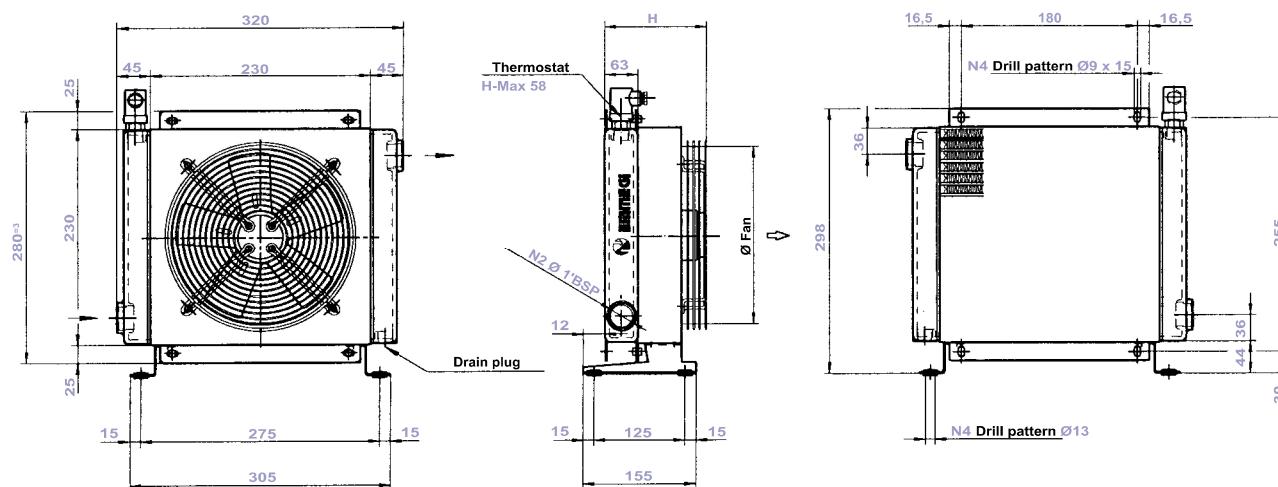


**OK 2015**

Air oil-coolers are applied to improve heat exchange between oil and the environment.

The coolers are supplied standard with a 40 - 48 °C thermostat.

<b>Material radiator:</b>	Aluminium
<b>Material fan:</b>	Steel or hard plastic
<b>Application:</b>	Mobile and stationary purposes
<b>Max. operating pressure:</b>	26 bar
<b>Viscosity:</b>	10 - 100 mm <sup>2</sup> / s (cSt)



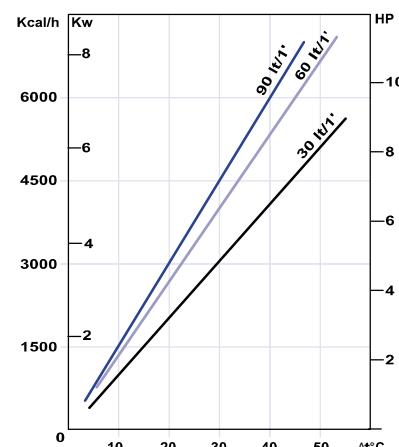
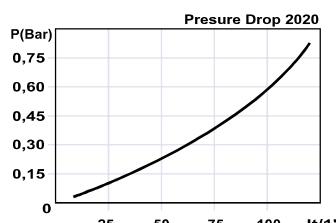
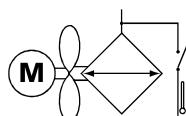
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2015K	01 03 12 24 56	1 2 3 4 5	01 02	IP 44	Ø 200	155	68	0,5	7	OK 2015K 01 2.01
2015K	01 03 12 24 56	1 2 3 4 5	01 02	IP 64	Ø 225	157	67	0,5	6,5	OK 2015K 12 2.01
2015K	01 03 12 24 56	1 2 3 4 5	01 02	IP 64	Ø 225	157	67	0,5	6,5	OK 2015K 24 2.01

AC 220 Volts  
AC 220 / 380 Volts  
DC 12 Volts  
DC 24 Volts  
Gr. 2 motor

30 - 38°C  
40 - 48°C  
50 - 60°C  
60 - 70°C  
70 - 80°C

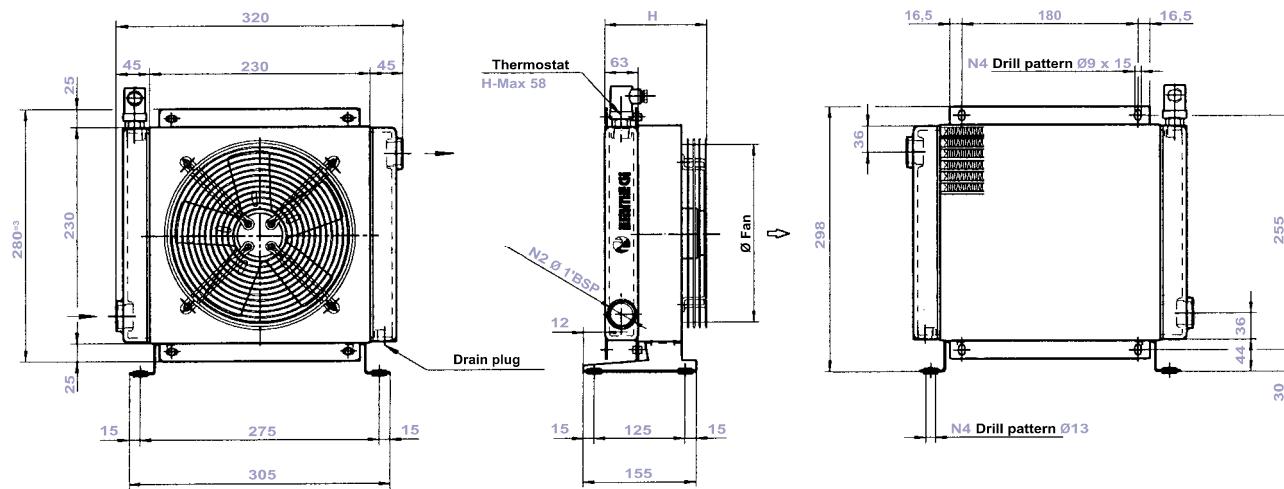
Sucking  
Blowing



**OK 2020**

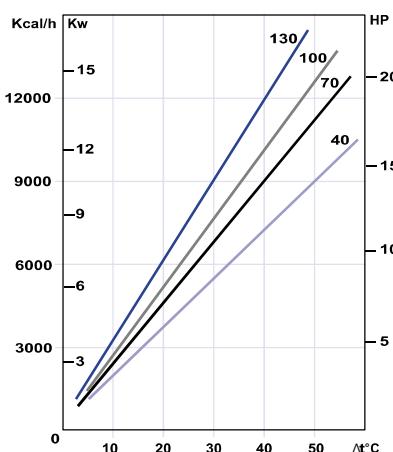
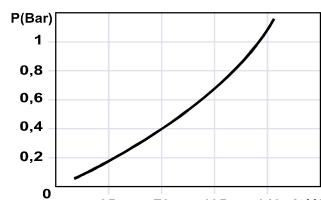
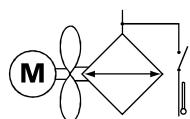
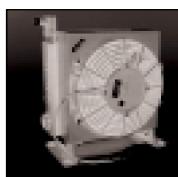
Air oil-coolers are applied to improve heat exchange between oil and the environment. The coolers are supplied standard with a 40 - 48 °C thermostat.

**Material radiator:** Aluminium  
**Material fan:** Steel or hard plastic  
**Application:** Mobile and stationary purposes  
**Max. operating pressure:** 26 bar  
**Viscosity:** 10 - 100 mm<sup>2</sup> / s (cSt)



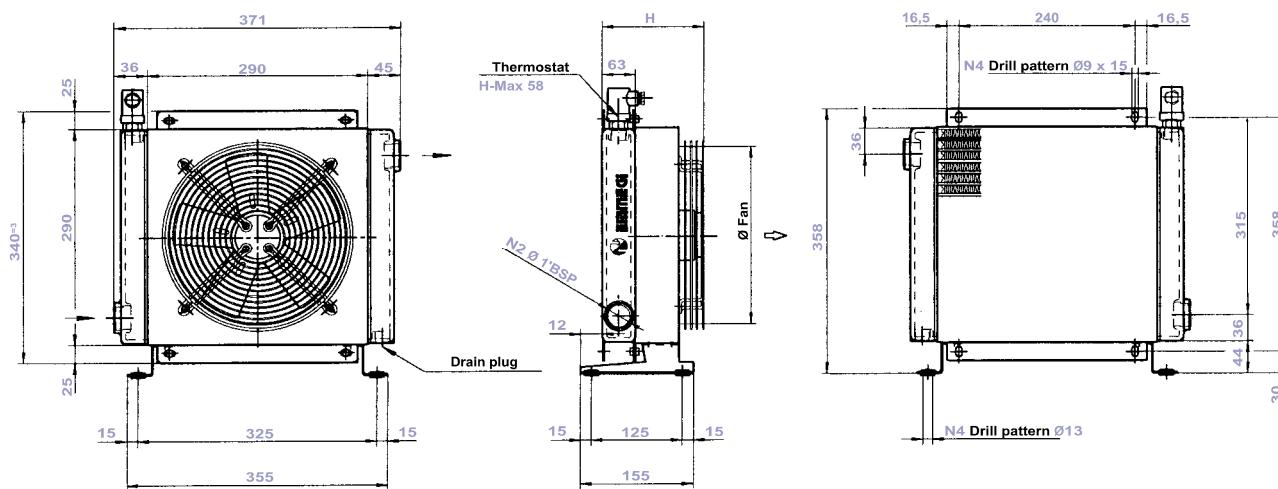
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2020K	01 03 12 24 56	1 2 3 4 5 6	01 02	IP 44	Ø 200	168	68	0,7	8	OK 2020K 01 2.01
2020K	01 03 12 24 56	1 2 3 4 5 6	01 02	IP 64	Ø 225	175	67	0,7	7	OK 2020K 12 2.01
2020K	01 03 12 24 56	1 2 3 4 5 6	01 02	IP 64	Ø 225	175	67	0,7	7	OK 2020K 24 2.01

AC 220 Volts	30 - 38°C	Sucking
AC 220 / 380 Volts	40 - 48°C	Blowing
DC 12 Volts	50 - 60°C	
DC 24 Volts	60 - 70°C	
Gr 2 motor	70 - 80°C	

**OK 2020**

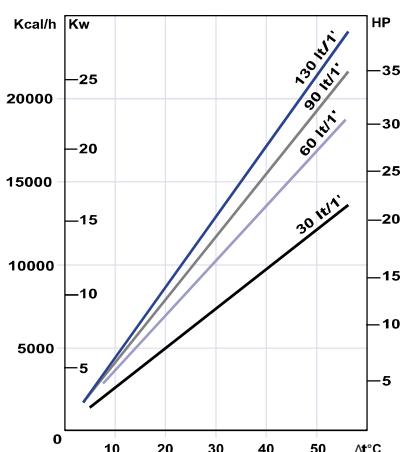
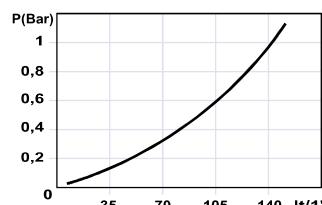
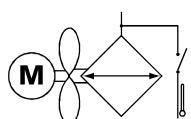
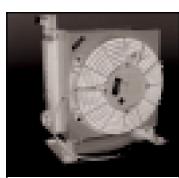
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**Material radiator:** Aluminium  
**Material fan:** Steel or hard plastic  
**Application:** Mobile and stationary purposes  
**Max. operating pressure:** 26 bar  
**Viscosity:** 10 - 100 mm<sup>2</sup> / s (cSt)



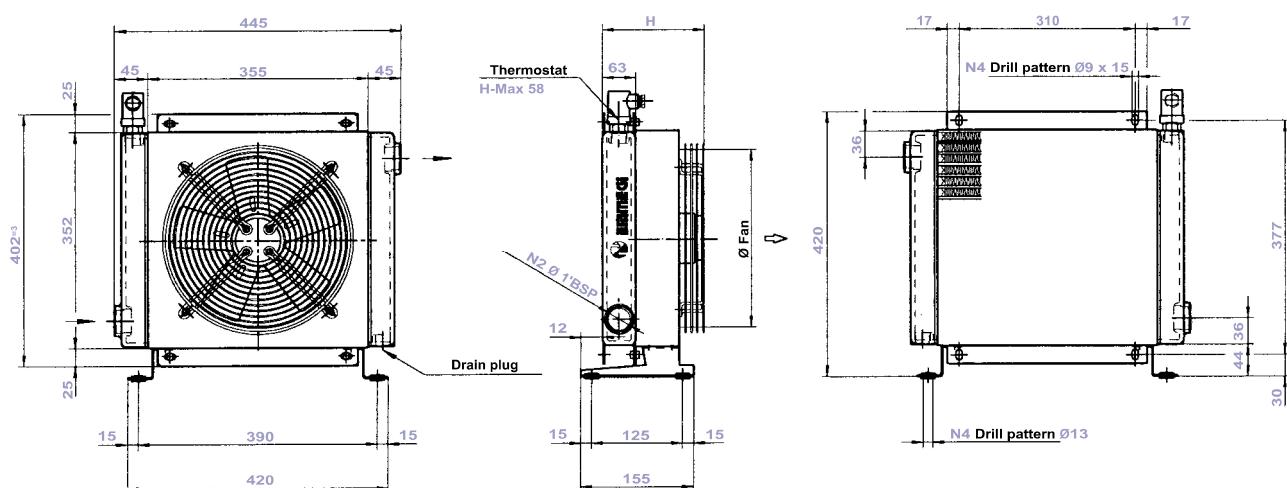
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2024K	01 03 12 24 56	1 2 3 4 5	01 02	IP 44	Ø 250	168	69	1	11	OK 2024K 01 2.01
2024K	01 03 12 24 56	1 2 3 4 5	01 02	IP 64	Ø 280	175	67	1	10	OK 2024K 12 2.01
2024K	01 03 12 24 56	1 2 3 4 5	01 02	IP 64	Ø 280	175	67	1	10	OK 2024K 24 2.01

AC 220 Volts  
DC 220 / 380 Volts  
DC 12 Volts  
DC 24 Volts  
Gr 2 motor  
30 - 38°C  
40 - 48°C  
50 - 60°C  
60 - 70°C  
70 - 80°C  
Sucking  
Blowing

**OK 2030**

Air oil-coolers are applied to improve heat exchange between oil and the environment. The coolers are supplied standard with a 40 - 48 °C thermostat.

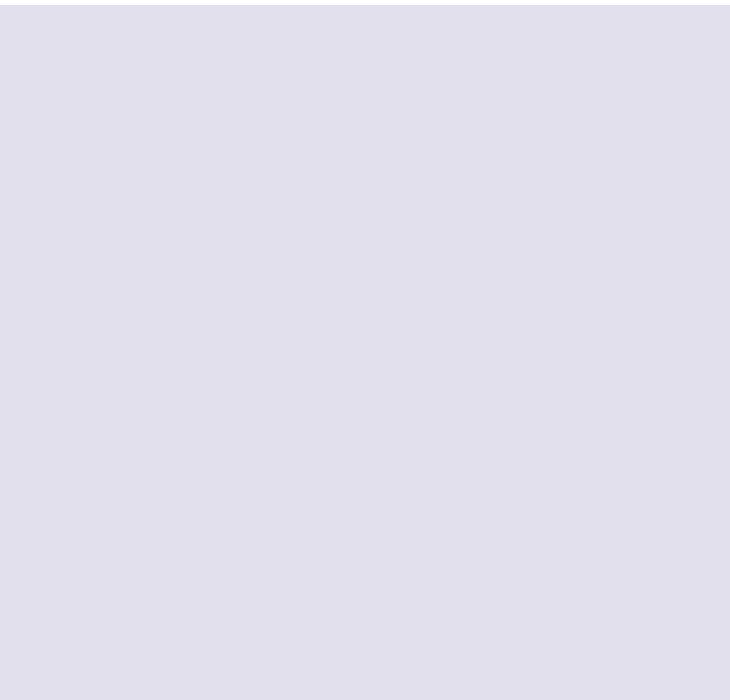
**Material radiator:** Aluminium  
**Material fan:** Steel or hard plastic  
**Application:** Mobile and stationary purposes  
**Max. operating pressure:** 26 bar  
**Viscosity:** 10 - 100 mm<sup>2</sup> / s (cSt)

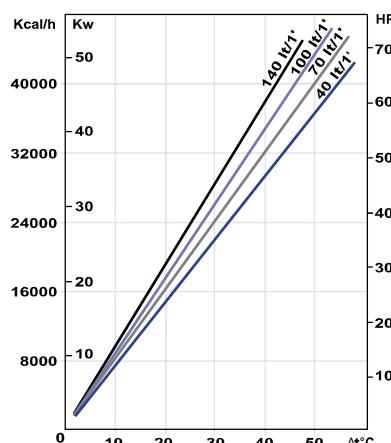
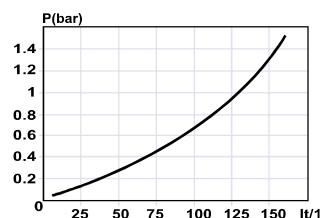
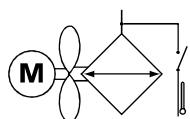
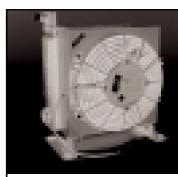


TYPE	VENTILATING UNIT	THERMOSTAT	FAN DIRECTION	PROTECTION CLASS	FAN	H	NOISE LEVEL dB(A)	CAPACITY L	WEIGHT KG	ORDER NO
2030K	01 03 12 24 56	1 2 3 4 5	01 02	IP 44	Ø 300	170	70	1,6	15	OK 2030K 01 2.01
2030K	01 03 12 24 56	1 2 3 4 5	01 02	IP 53	Ø 305	211	68	1,6	14	OK 2030K 12 2.01
2030K	01 03 12 24 56	1 2 3 4 5	01 02	IP 53	Ø 305	211	68	1,6	14	OK 2030K 24 2.01

AC 230 Volts  
 AC 220 / 380 Volts  
 DC 12 Volts  
 DC 24 Volts  
 Gr 2 motor  
 30 - 38°C  
 40 - 48°C  
 50 - 60°C  
 60 - 70°C  
 70 - 80°C

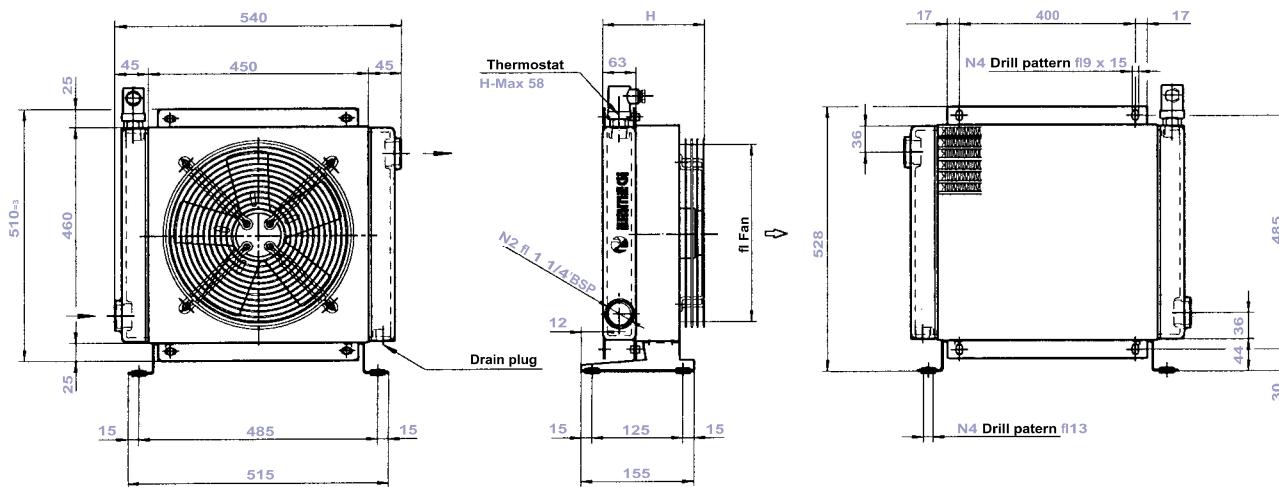
Sucking  
 Blowing



**OK 2040**

Air oil-coolers are applied to improve heat exchange between oil and the environment. The coolers are supplied standard with a 40 - 48 °C thermostat.

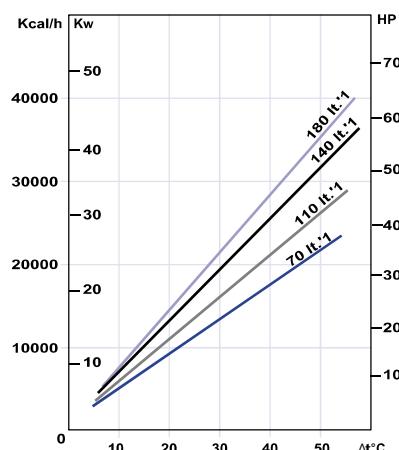
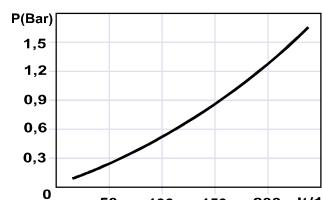
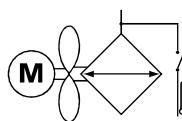
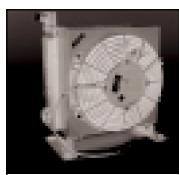
**Material radiator:** Aluminium  
**Material fan:** Steel or hard plastic  
**Application:** Mobile and stationary purposes  
**Max. operating pressure:** 26 bar  
**Viscosity:** 10 - 100 mm<sup>2</sup> / s (cSt)



TYPE	VENTILATING UNIT	THERMOSTAT	FAN DIRECTION	PROTECTION CLASS	FAN	H	NOISE LEVEL DB(A)	CAPACITY	WEIGHT KG	ORDER NO
2040K	01 03 12 24 56	1 2 3 4 5	01 02	IP 54	Ø 400	198	72	2,7	21	OK 2040K 01 2.01
2040K	01 03 12 24 56	1 2 3 4 5	01 02	IP 53	Ø 385	211	70	2,7	20	OK 2040K 12 2.01
2040K	01 03 12 24 56	1 2 3 4 5	01 02	IP 53	Ø 385	211	70	2,7	20	OK 2040K 24 2.01

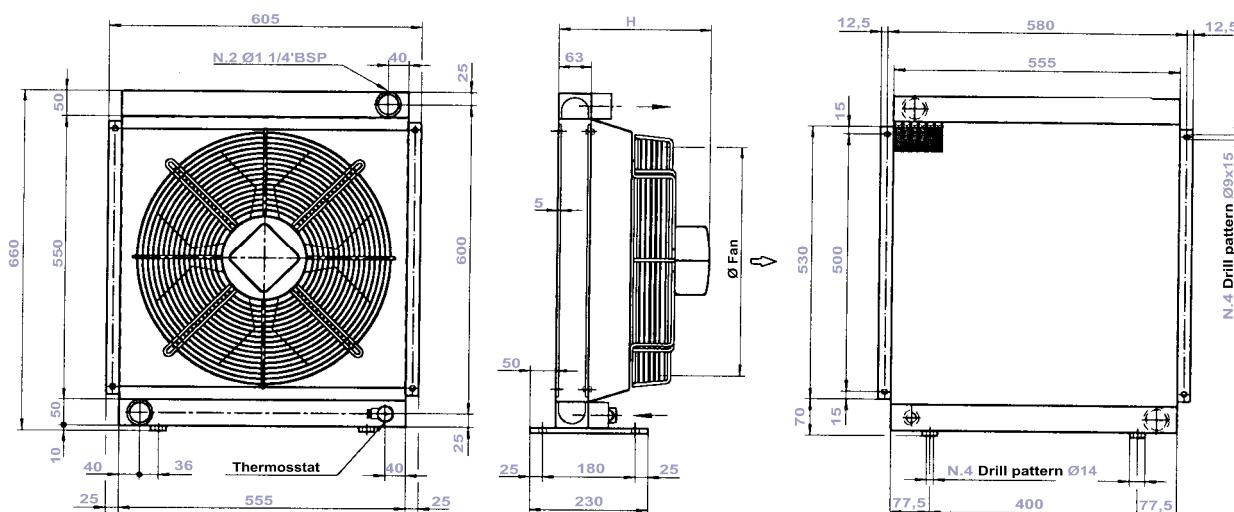
AC 220 Volts  
DC 220 / 380 Volts  
DC 12 Volts  
DC 24 Volts  
Gr. 2 motor  
30 - 38°C  
40 - 48°C  
50 - 60°C  
60 - 70°C  
70 - 80°C

Sucking  
Blowing

**OK 2050**

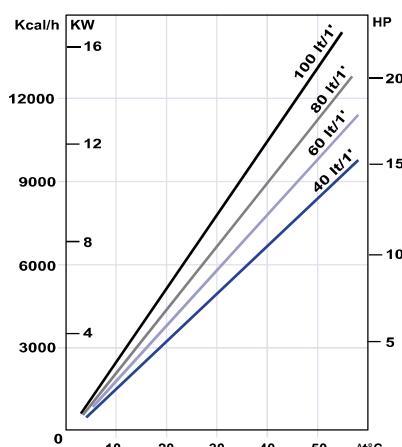
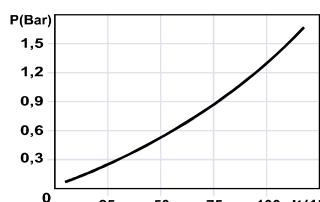
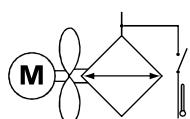
Air oil-coolers are applied to improve heat exchange between oil and the environment. The coolers are supplied standard with a 40 - 48 °C thermostat.

**Material radiator:** Aluminium  
**Material fan:** Steel or hard plastic  
**Application:** Mobile and stationary purposes  
**Max. operating pressure:** 26 bar  
**Viscosity:** 10 - 100 mm<sup>2</sup> / s (cSt)



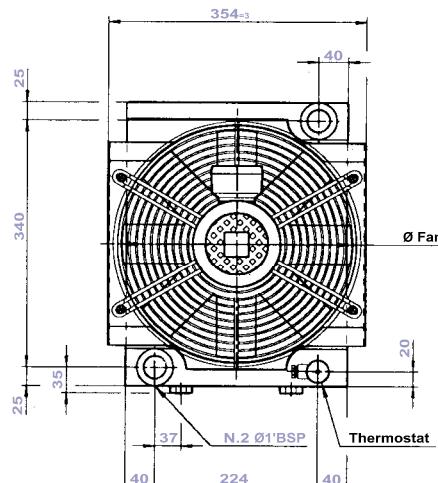
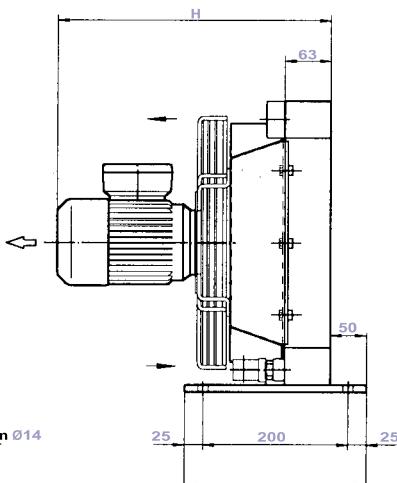
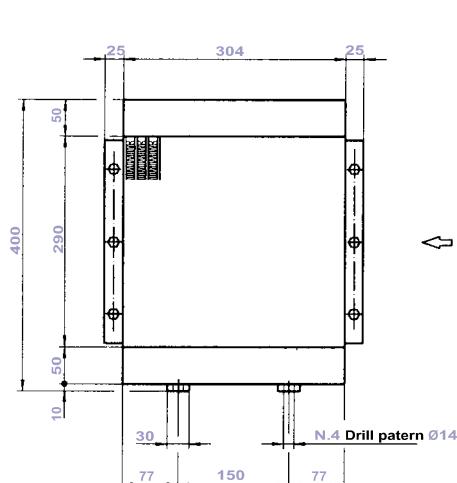
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2050K	01 03 12 24 56	1 2 3 4 5	01 02	IP 54	Ø 450	296	74	5	27	OK 2050K 01 2.01
2050K	01 03 12 24 56	1 2 3 4 5	01 02	IP 64	Ø 280	208	74	5	24	OK 2050K 12 2.01
2050K	01 03 12 24 56	1 2 3 4 5	01 02	IP 64	Ø 280	208	74	5	24	OK 2050K 24 2.01

AC 220 Volts  
 AC 220 / 380 Volts  
 DC 12 Volts  
 DC 24 Volts  
*Gr 2 motor*  
 30 - 38°C  
 40 - 48°C  
 50 - 60°C  
 60 - 70°C  
 70 - 80°C  
 Sucking  
 Blowing

**OK HPA-12**

Air oil-coolers are applied to improve heat exchange between oil and the environment. The coolers are supplied standard with a 40 - 48 °C thermostat.

**Material radiator:** Aluminium  
**Material fan:** Steel or hard plastic  
**Application:** Mobile and stationary purposes  
**Max. operating pressure:** 26 bar  
**Viscosity:** 10 - 100 mm<sup>2</sup> / s (cSt)

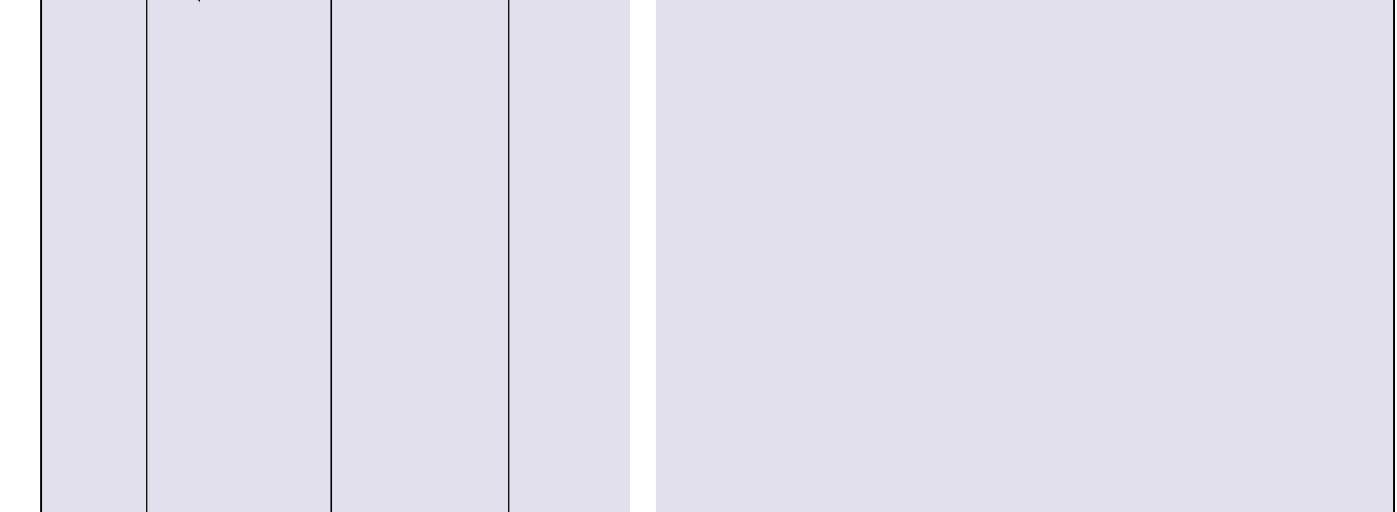


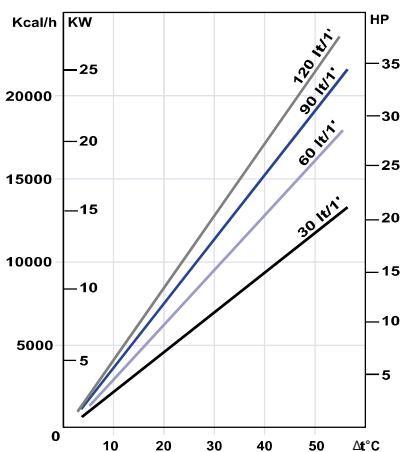
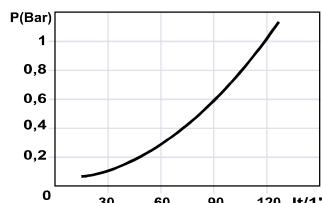
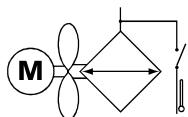
TYPE	VENTILATING UNIT	THERMOSTAT	FAN DIRECTION	PROTECTION CLASS	FAN	H	NOISE LEVEL DB(A)	CAPACITY L	WEIGHT KG	ORDER NO
HPA-12	01 03 12 24 56	1 2 3 4 5	01 02	IP 55	Ø 300	389	72	1,9	17	OK HPA-12 03 2.01
HPA-12	01 03 12 24 56	1 2 3 4 5	01 02	IP 53	Ø 305	223	70	1,9	15	OK HPA-12 12 2.01
HPA-12	01 03 12 24 56	1 2 3 4 5	01 02	IP 53	Ø 305	223	70	1,9	15	OK HPA-12 24 2.01

AC 220 Volts  
 AC 220 / 380 Volts  
 DC 12 Volts  
 DC 24 Volts  
 Gr. 2 motor

30 - 38°C  
 40 - 48°C  
 50 - 60°C  
 60 - 70°C  
 70 - 80°C

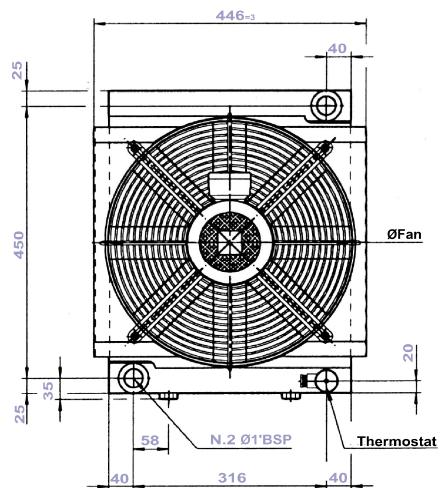
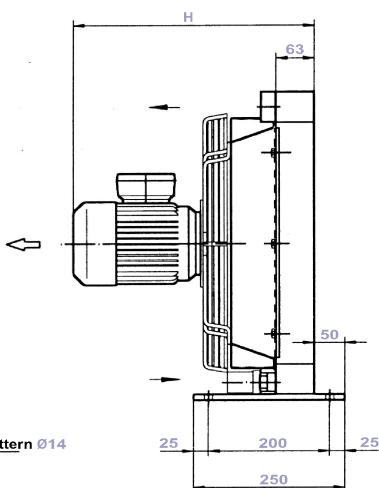
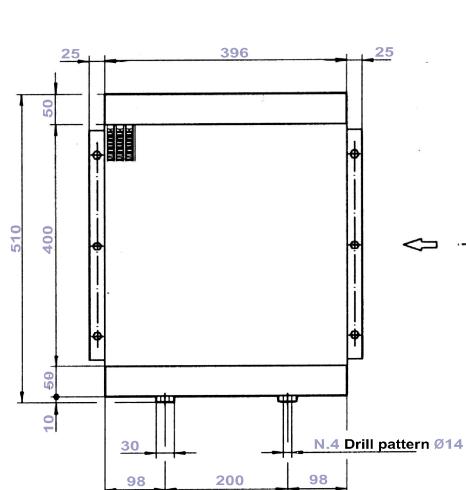
Sucking  
 Blowing



**OK HPA 18**

Air oil-coolers are applied to improve heat exchange between oil and the environment. The coolers are supplied standard with a 40 - 48 °C thermostat.

**Material radiator:** Aluminium  
**Material fan:** Steel or hard plastic  
**Application:** Mobile and stationary purposes  
**Max. operating pressure:** 26 bar  
**Viscosity:** 10 - 100 mm<sup>2</sup> / s (cSt)

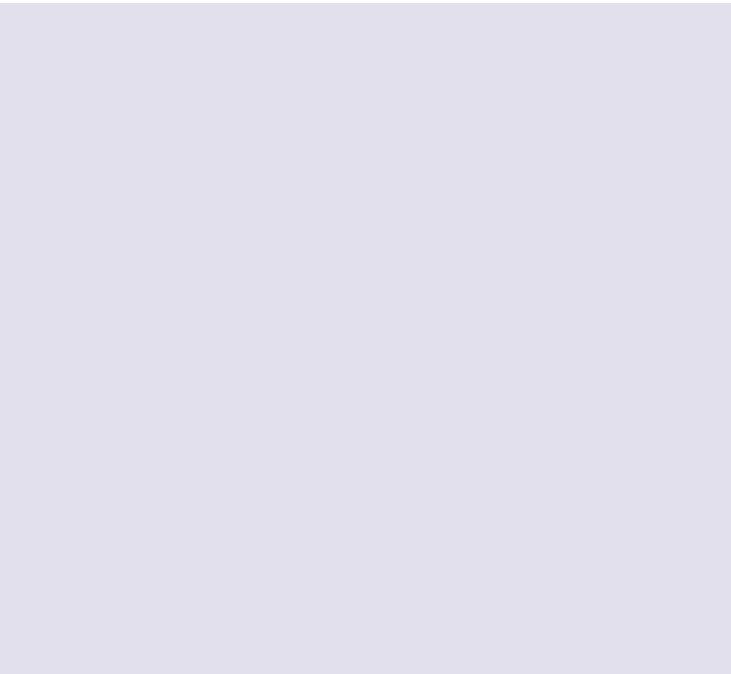


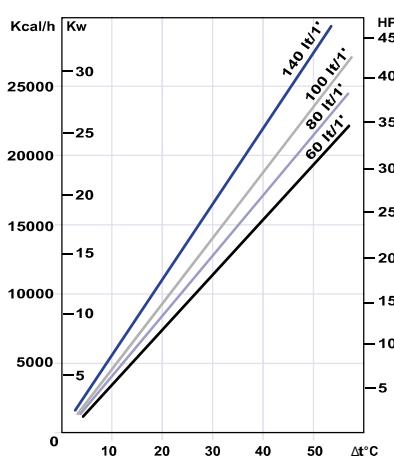
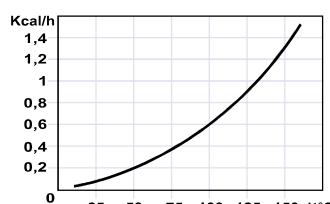
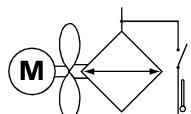
TYPE	VENTILATING UNIT	THERMOSTAT	FAN DIRECTION	PROTECTION CLASS	FAN	H	NOISE LEVEL DB(A)	CAPACITY L	WEIGHT KG	ORDER NO
HPA-18	01 03 12 24 56	1 2 3 4 5	01 02	IP 55	Ø 400	389	73	2,9	20	OK HPA-18 03 2.01
HPA-18	01 03 12 24 56	1 2 3 4 5	01 02	IP 53	Ø 385	223	70	2,9	18	OK HPA-18 12 2.01
HPA-18	01 03 12 24 56	1 2 3 4 5	01 02	IP 53	Ø 385	223	70	2,9	18	OK HPA-18 24 2.01

AC 220 Volts  
DC 220 / 380 Volts  
DC 12 Volts  
DC 24 Volts  
Gr 2 motor

30 - 38°C  
40 - 48°C  
50 - 60°C  
60 - 70°C  
70 - 80°C

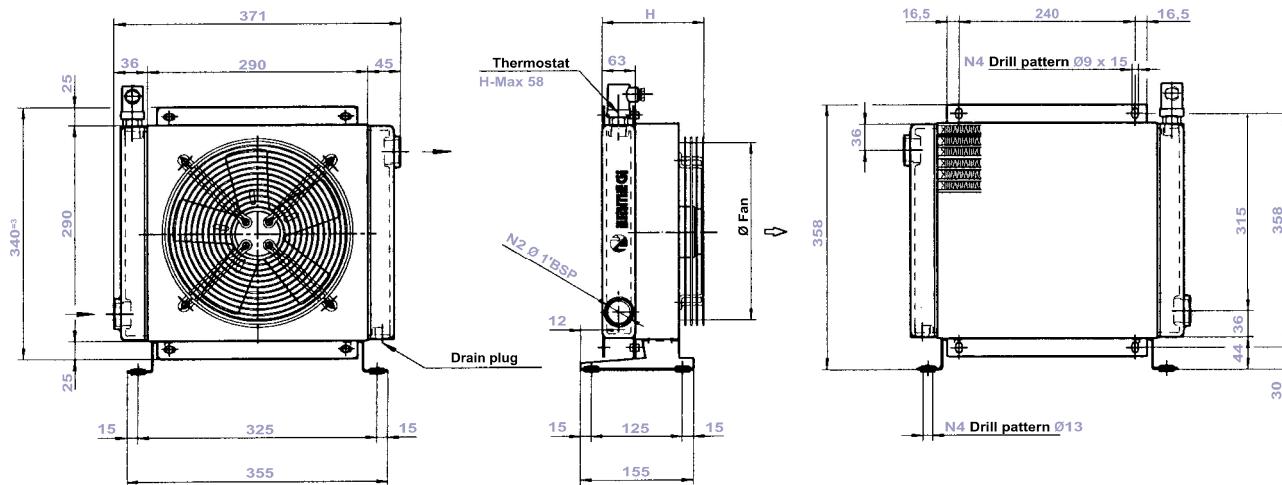
Sucking  
Blowing



**OK HPA-24**

Air oil-coolers are applied to improve heat exchange between oil and the environment. The coolers are supplied standard with a 40 - 48 °C thermostat.

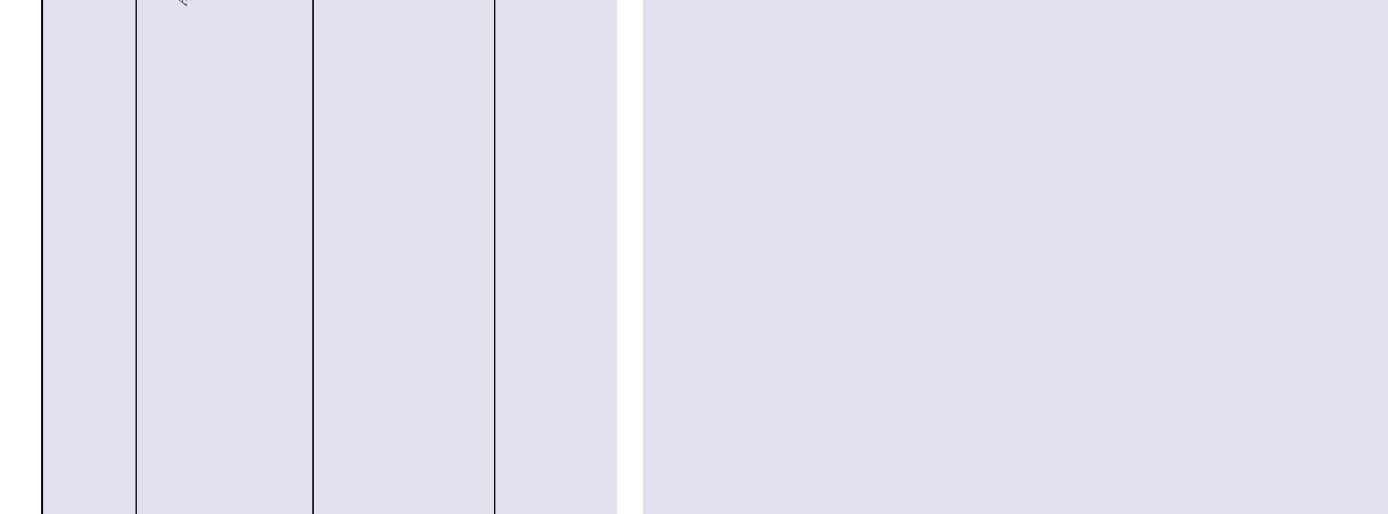
**Material radiator:** Aluminium  
**Material fan:** Steel or hard plastic  
**Application:** Mobile and stationary purposes  
**Max. operating pressure:** 26 bar  
**Viscosity:** 10 - 100 mm<sup>2</sup> / s (cSt)

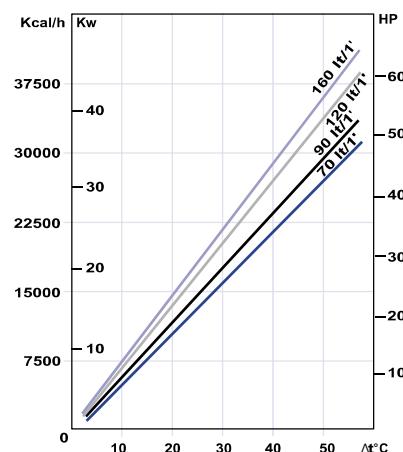
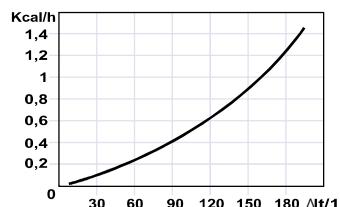
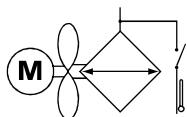


TYPE	VENTILATING UNIT	THERMOSTAT	FAN DIRECTION	PROTECTION CLASS	FAN	H	NOISE LEVEL DB(A)	CAPACITY L	WEIGHT KG	ORDER NO
HPA-24	01 03 12 24 56	1 2 3 4 5	01 02	IP 55	Ø 400	430	73	6,2	28	OK HPA-24 03 2.01
HPA-24	01 03 12 24 56	1 2 3 4 5	01 02	IP 53	Ø 385	254	70	6,2	22	OK HPA-24 12 2.01
HPA-24	01 03 12 24 56	1 2 3 4 5	01 02	IP 53	Ø 385	254	70	6,2	22	OK HPA-24 24 2.01

AC 220 / 380 Volts  
DC 12 Volts  
DC 24 Volts  
Gr. 2 motor  
30 - 38°C  
40 - 48°C  
50 - 60°C  
60 - 70°C  
70 - 80°C

Sucking  
Blowing

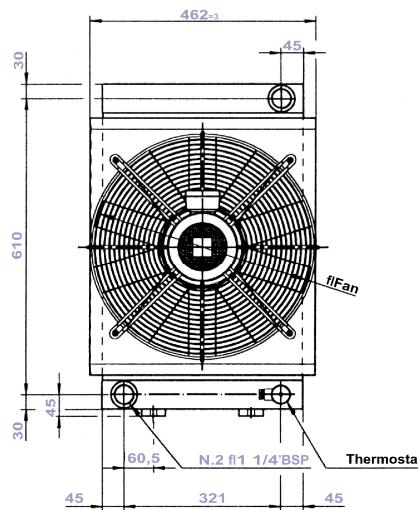
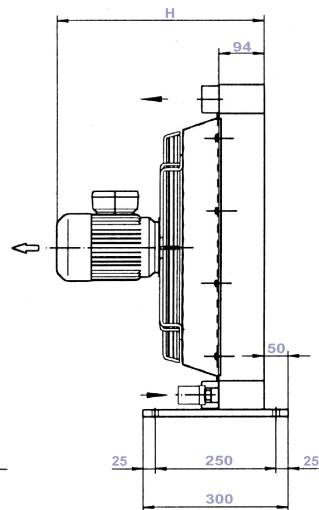
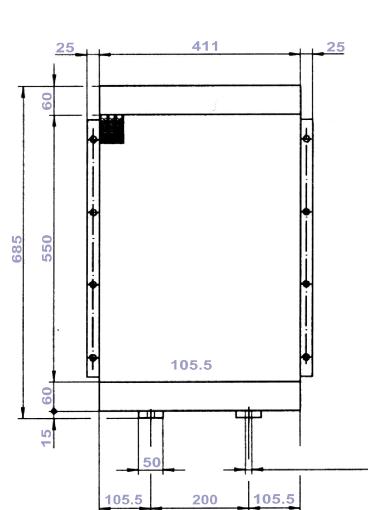




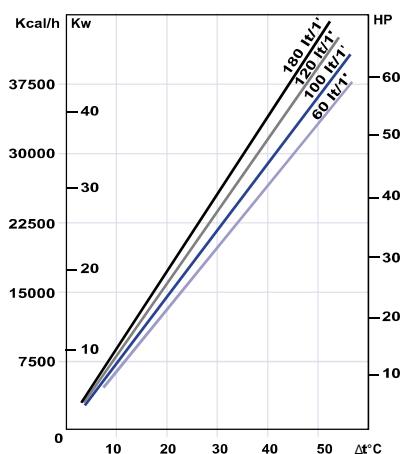
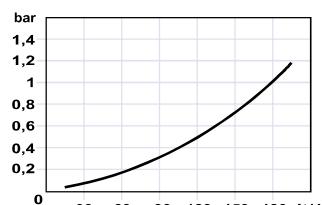
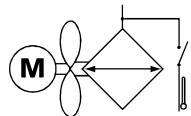
**OK HPA-30**

Air oil-coolers are applied to improve heat exchange between oil and the environment. The coolers are supplied standard with a 40 - 48 °C thermostat.

<b>Material radiator:</b>	Aluminium
<b>Material fan:</b>	Steel or hard plastic
<b>Application:</b>	Mobile and stationary purposes
<b>Max. operating pressure:</b>	26 bar
<b>Viscosity:</b>	10 - 100 mm <sup>2</sup> / s (cSt)



Type	Ventilating Unit	Thermostat					Fan Direction	Protection Class	Fan	H	Noise Level dB(A)	Capacity L	Weight kg	Order No
HPA-30	03 12 24 56 58	1	2	3	4	5	01 02	IP 55	Ø 450	429	74	6,8	37	OK HPA-30 03 20.1
HPA-30	03 12 24 56 58	1	2	3	4	5	01 02	IP 64	Ø 280	254	74	6,8	37	OK HPA-30 12 20.1
HPA-30	03 12 24 56 58	1	2	3	4	5	01 02	IP 64	Ø 280	254	74	6,8	37	OK HPA-30 24 20.1
HPA-30	03 12 24 56 58	1	2	3	4	5	01 02	IP 64	Ø 450	274	74	35	35	OK HPA-30 56 30.1

**OK HPA 36**

Air oil-coolers are applied to improve heat exchange between oil and the environment. The coolers are supplied standard with a 40 - 48 °C thermostat.

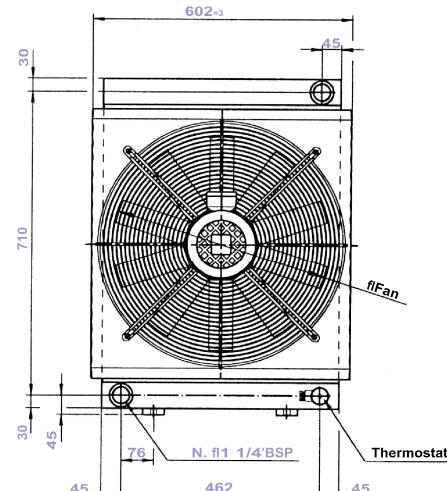
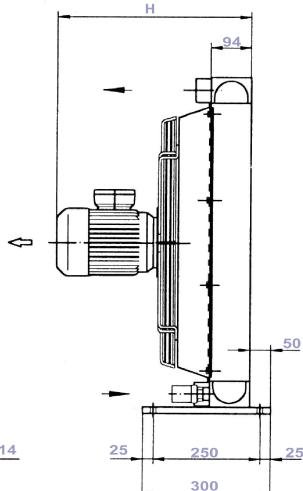
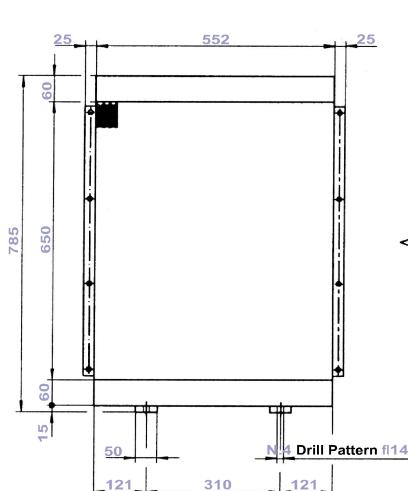
**Material radiator:** Aluminium

**Material fan:** Steel or hard plastic

**Application:** Mobil and stationary purposes

**Max. operating pressure:** 26 bar

**Viscosity:** 10 - 100 mm<sup>2</sup> / s (cSt)



TYPE	VENTILATING UNIT	THERMOSTAT	FAN DIRECTION
HPA-36	03 12 24 56 58	1 2 3 4 5	01 02
HPA-36	03 12 24 56 58	1 2 3 4 5	01 02
HPA-36	03 12 24 56 58	1 2 3 4 5	01 02

PROTECTION CLASS	FAN	H	NOISE LEVEL DB(A)	CAPACITY L	WEIGHT KG	ORDER NO
IP 55	Ø 500	460	76	9,4	60	OK HPA-36 03 20.1
IP 64	Ø 305	254	76	9,4	60	OK HPA-36 12 20.1
IP 64	Ø 305	254	76	9,4	50	OK HPA-36 24 20.1

AC 220 / 380 Volts

DC 12 Volts

DC 24 Volts

Gr. 2 motor

Gr. 3 motor

30 - 38°C

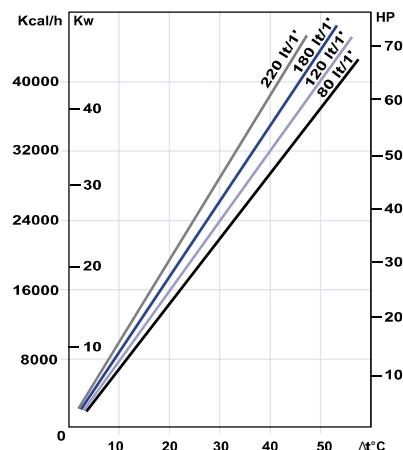
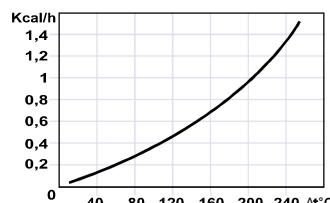
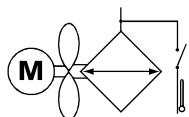
40 - 48°C

50 - 60°C

60 - 70°C

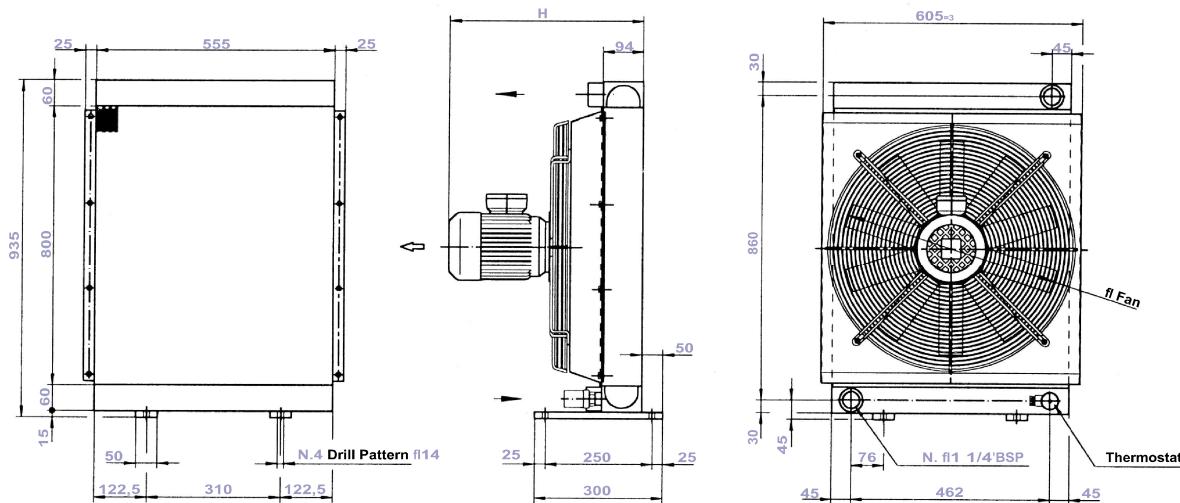
70 - 80°C

Sucking  
Blowing

**OK HPA-42**

Air oil-coolers are applied to improve heat exchange between oil and the environment. The coolers are supplied standard with a 40 - 48 °C thermostat.

**Material radiator:** Aluminium  
**Material fan:** Steel or hard plastic  
**Application:** Mobile and stationary purposes  
**Max. operating pressure:** 26 bar  
**Viscosity:** 10 - 100 mm<sup>2</sup> / s (cSt)

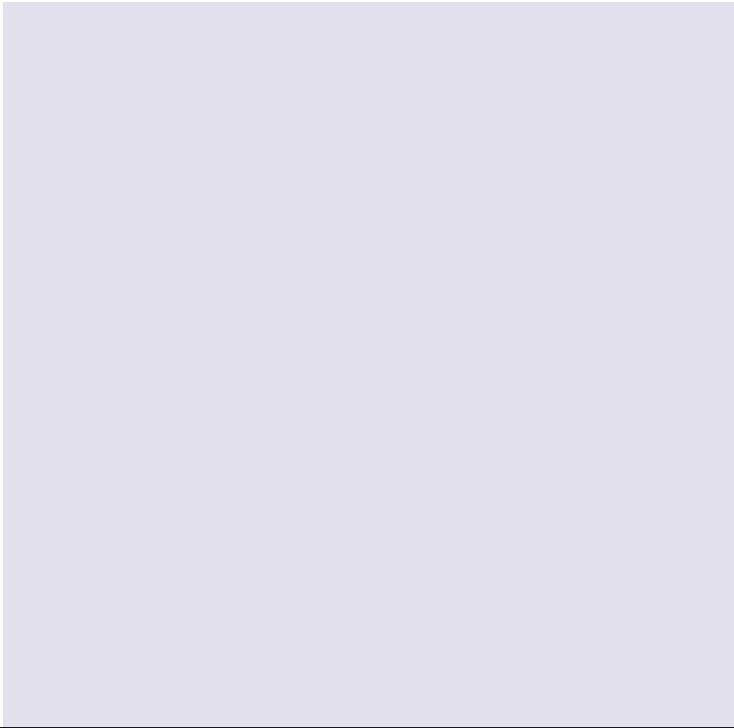


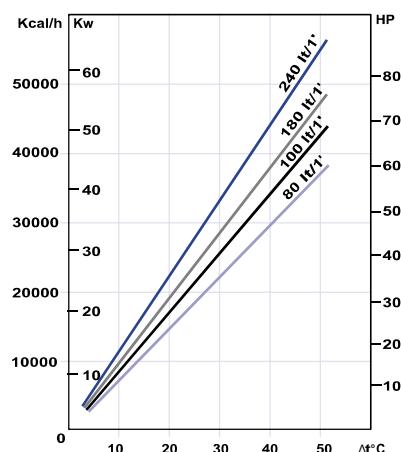
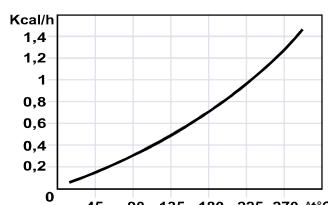
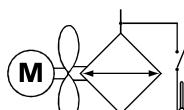
TYPE	VENTILATING UNIT	THERMOSTAT	FAN DIRECTION	PROTECTION CLASS	FAN	H	NOISE LEVEL DB(A)	CAPACITY L	WEIGHT KG	ORDER NO
HPA-42	03 56 58	1 2 3 4 5	01 02	IP 55	Ø 560	460	77	10,6	65	OK HPA-42 03 20.1

AC 220/ 380 Volts  
Gr. 2 motor  
Gr. 3 motor

30 - 38°C  
40 - 48°C  
50 - 60°C  
60 - 70°C  
70 - 80°C

Sucking  
Blowing



**OK HPA-50**

Air oil-coolers are applied to improve heat exchange between oil and the environment. The coolers are supplied standard with a 40 - 48 °C thermostat.

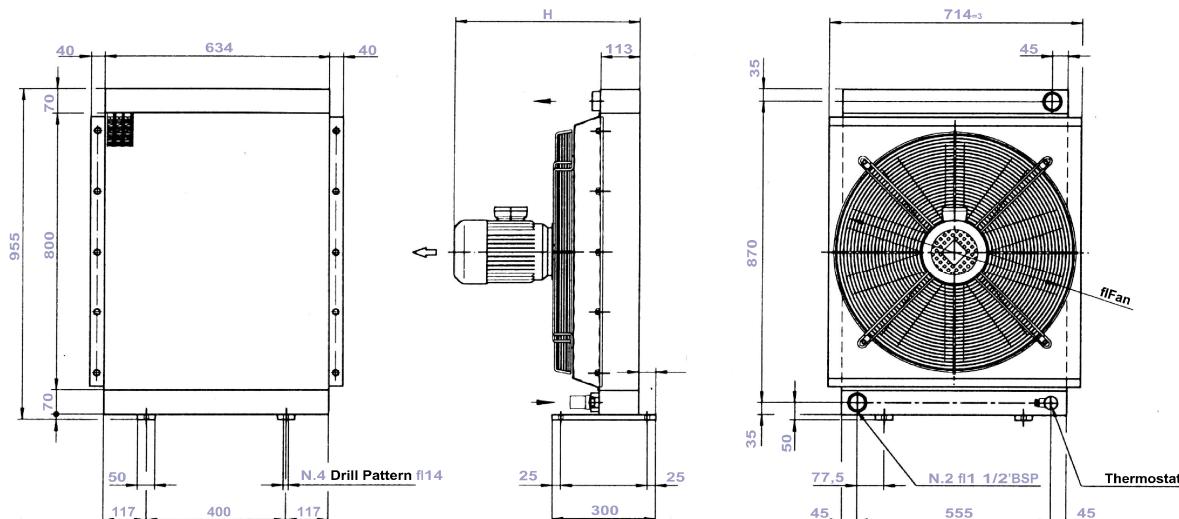
**Material radiator:** Aluminium

**Material fan:** Steel or hard plastic

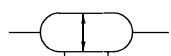
**Application:** Mobil and stationary purposes

**Max. operating pressure:** 26 bar

**Viscosity:** 10 - 100 mm<sup>2</sup> / s (cSt)



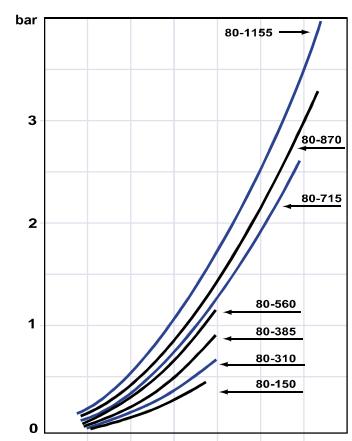
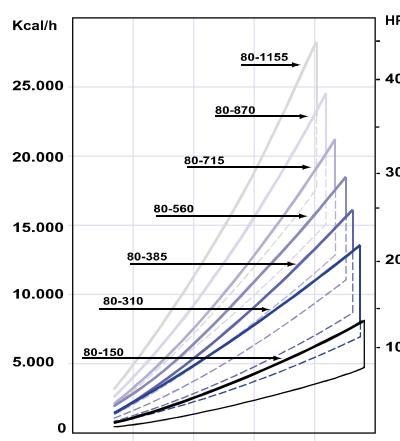
TYPE	VENTILATING UNIT	THERMOSTAT	FAN DIRECTION	PROTECTION CLASS	FAN	H	NOISE LEVEL DB(A)	L	CAPACITY	WEIGHT KG	ORDER NO
HPA-50	03 56 58 AC 220/380 V/ols Gr. 2 motor Gr. 3 motor	1 2 3 4 5	01 02 Sucking Blowing	IP 55	Ø 630	543	78	14,2	90	OK HPA-50 03 20.1	

**WK MG-80**

The temperature reduction that can be realized by a cooler depends on the:

- ambient temperature
- cooling water temperature
- amount of cooling water
- capacity of the cooler

Water coolers are often used in an area with danger of explosion.



**Max. operating pressure:** 12 bar

**Pipe material:** CU DHP

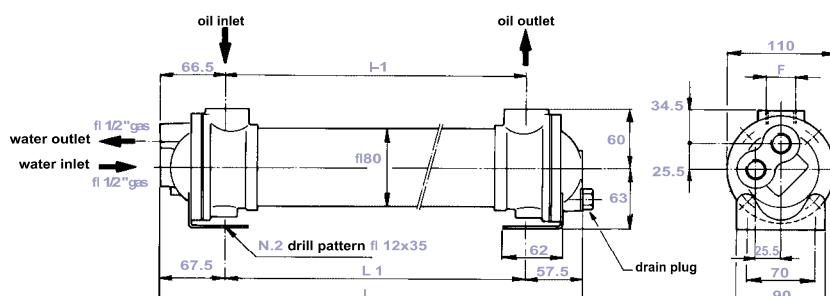
**Plate:** CU Zn 40

**Deflector:** CU Zn 37

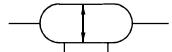
**Cover:** CU Zn 40

**Shell:** Fe 510.2

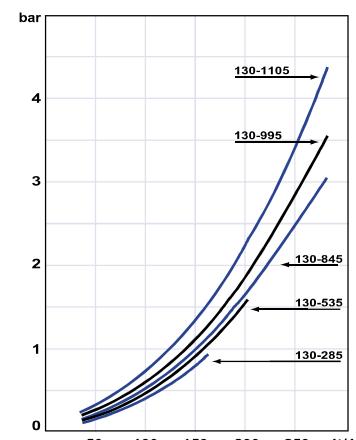
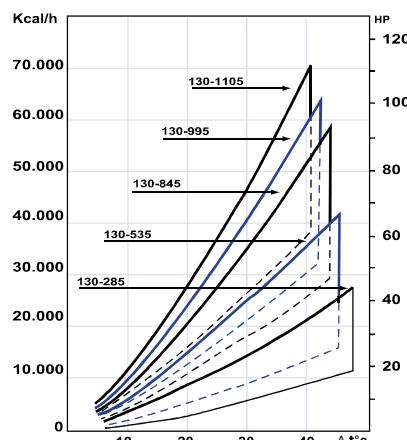
Also available in seawater-proof design.



TYPE	OIL FLOW L/MIN	CAPACITY	WEIGHT KG	Ø F	I	L	L1	ORDER NO
MG 80-150-4	25-75	0.65	4.5	1"	150	276	148	OKMG800150
MG 80-310-4	25-80	1.1	5.7	1"	310	436	308	OKMG800310
MG 80-385-4	25-80	1.3	6	1"	385	511	383	OKMG800385
MG 80-560-4	25-80	1.9	7.5	1"	560	686	558	OKMG800560
MG 80-715-4	35-120	2.3	8	1"	715	841	713	OKMG800715
MG 80-870-4	40-130	2.8	10	1"	870	996	868	OKMG800870
MG 80-1155-4	40-130	3.7	13.5	1"	1155	1281	1153	OKMG801155

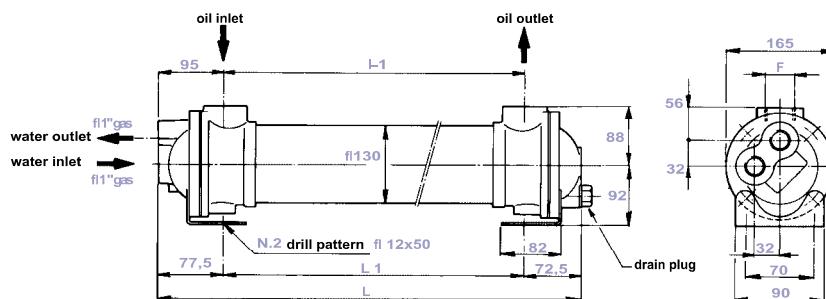
**WK MG-130**

The temperature reduction that can be realized by a cooler depends on the:  
 - ambient temperature  
 - cooling water temperature  
 - amount of cooling water  
 - capacity of the cooler  
 Water coolers are often used in an area with danger of explosion

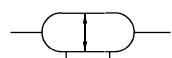


<b>Max. operating pressure:</b>	12 bar
<b>Pipe material:</b>	CU DHP
<b>Plate:</b>	CU Zn 40
<b>Deflector:</b>	CU Zn 37
<b>Cover:</b>	CU Zn 40
<b>Shell:</b>	Fe 510.2

Also available in seawater-proof design.



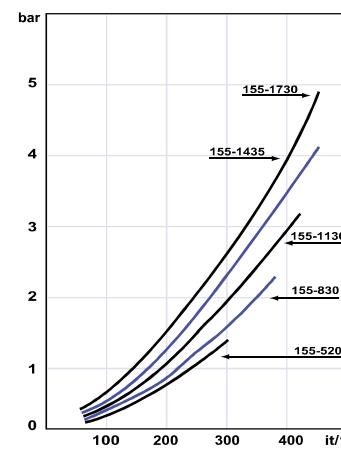
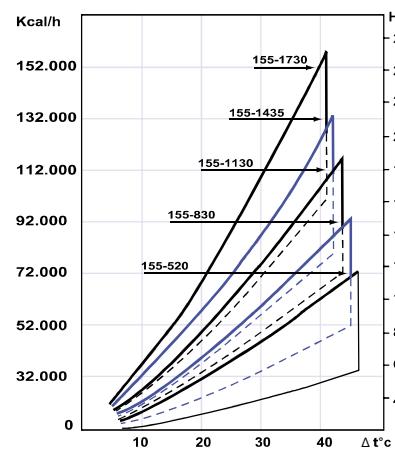
TYPE	OIL FLOW L/MIN	CAPACITY L	WEIGHT KG	$\emptyset$ F	I	L	L1	ORDER NO
MG 130-285-4	60-160	3	16	1 1/2"	285	460	300	OKMG1300285
MG 130-535-4	80-200	5.2	22	1 1/2"	535	710	550	OKMG1300535
MG 130-845-4	120-280	7.9	28	1 1/2"	845	1020	860	OKMG1300845
MG 130-995-4	120-280	9.2	32	1 1/2"	995	1170	1010	OKMG1300995
MG 130-1105-4	120-280	10	35	1 1/2	1105	1280	1120	OKMG1301105

**WK MG - 155**

The temperature reduction that can be realized by a cooler depends on the:

- ambient temperature
- cooling water temperature
- amount of cooling water
- capacity of the cooler

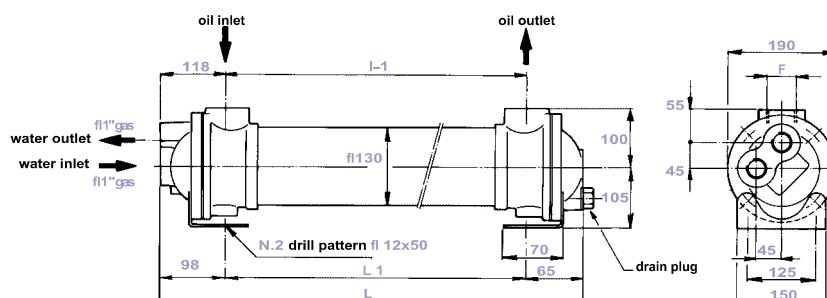
Water coolers are often used in an area with danger of explosion



**Max. operating pressure:** 12 bar

**Pipe material:** CU DHP  
**Plate:** CU Zn 40  
**Deflector:** CU Zn 37  
**Cover:** CU Zn 40  
**Shell:** Fe 510.2

Also available in seawater-proof design.



TYPE	OIL FLOW L/MIN	CAPACITY	WEIGHT KG	Ø F	I	L	L1	ORDER NO
MG 155-520-4	120-300	6.4	35	2"	520	705	554	OKMG1550520
MG 155-830-4	140-380	9.6	43	2"	830	1015	864	OKMG1550830
MG 155-1130-4	160-420	12.8	51	2"	1130	1315	1164	OKMG1551130
MG 155-1435	180-450	16	58	2"	1435	1620	1469	OKMG1551435
MG 155-1730	180-450	19	66	2"	1730	1915	1764	OKMG1551730

AIR OIL-COOLERS														
ORDER NO	DESCRIPTION	2015	2020	2024	2030	2040	2050	Hpa-12	Hpa-18	Hpa-24	Hpa-30	Hpa-36	Hpa-42	Hpa-50
OK9201530N	2015-20 Ventilator 12VDC (Motor, fan and grill)													
OK9202430N	2015-20 Ventilator 24VDC (Motor, fan and grill)													
OK9202435N	2015-20 Ventilator 220VAC (Motor and fan)													
OK9202440	2024 Ventilator 12VDC (Motor, fan and grill)													
OK9203030N	2024 Ventilator 24VDC (Motor, fan and grill)													
OK9203035N	2024 Ventilator 220VAC (Motor and fan)													
OK9203040	2030 Ventilator 12VDC (Motor, fan and grill)													
OK9204030N	2030 Ventilator 24VDC (Motor, fan and grill)													
OK9204035N	2030 Ventilator 220VAC (Motor and fan)													
OK9204040	2040 Ventilator 12VDC (Motor, fan and grill)													
	2040 Ventilator 24VDC (Motor, fan and grill)													
	2040 Ventilator 220VAC (Motor and fan)													
OK9205030N	2050 Ventilator 12VDC (Motor, fan and grill)													
OK9205035N	2050 Ventilator 24VDC (Motor, fan and grill)													
OK9205040	2050 Ventilator 380VAC (Motor and fan)													
OK9HPA1230	HPA-12 Ventilator 12VDC (Motor, fan and grill)													
OK9HPA1235	HPA-12 Ventilator 24VDC (Motor, fan and grill)													
OK9HPA1240	HPA-12 Motor B14 380VAC 0,18 KW													
OK9HPA182430	HPA-18/24 Ventilator 12VDC (Motor, fan and grill)													
OK9HPA182435	HPA-18/24 Ventilator 24VDC (Motor, fan and grill)													
OK9HPA1840	HPA-18 Motor B14 380VAC 0,25 KW													
OK9HPA243040	HPA-24/30 Motor B14 380VAC 0,37KW													
OK9HPA3030	HPA-30 Ventilator 12VDC (Motor, fan and grill)													
OK9HPA3035	HPA-30 Ventilator 24VDC (Motor, fan and grill)													
OK9HPA3630	HPA-36 Ventilator 24VDC (Motor, fan and grill)													
OK9HPA3635	HPA-36 Ventilator 24VDC (Motor, fan and grill)													
OK9HPA3640	HPA-36 Motor B14 380VAC 0,55KW													
OK9HPA4240	HPA-42 Motor B14 380VAC 0,75KW													
OK9HPA5040	HPA-50 Motor B14 380VAC 0,75KWO													
OK93038	Temperature switch 30-38°													
OK94048	Temperature switch 40-48°													
OK95060	Temperature switch 50-60°													
OK96070	Temperature switch 60-70°													
OK97080	Temperature switch 70-80°													
WATER OIL-COOLERS														
ORDER NO	DESCRIPTION	MG-80			MG-130			MG-155						
OK9MG8001	Front cover MG-80													
OK9MG8002	Back cover MG-80													
OK9MG8003	Seal front cover MG-80													
OK9MG8004	Seal back cover MG-80													
OK9MG13001	Front cover MG-130													
OK9MG13002	Back cover MG-130													
OK9MG13003	Seal front cover MG-130													
OK9MG13004	Seal back cover MG-130													
OK9MG15501	Front cover MG-155													
OK9MG15502	Back cover MG-155													
OK9MG15503	Seal front cover MG-155													
OK9MG15504	Seal back cover MG-155													