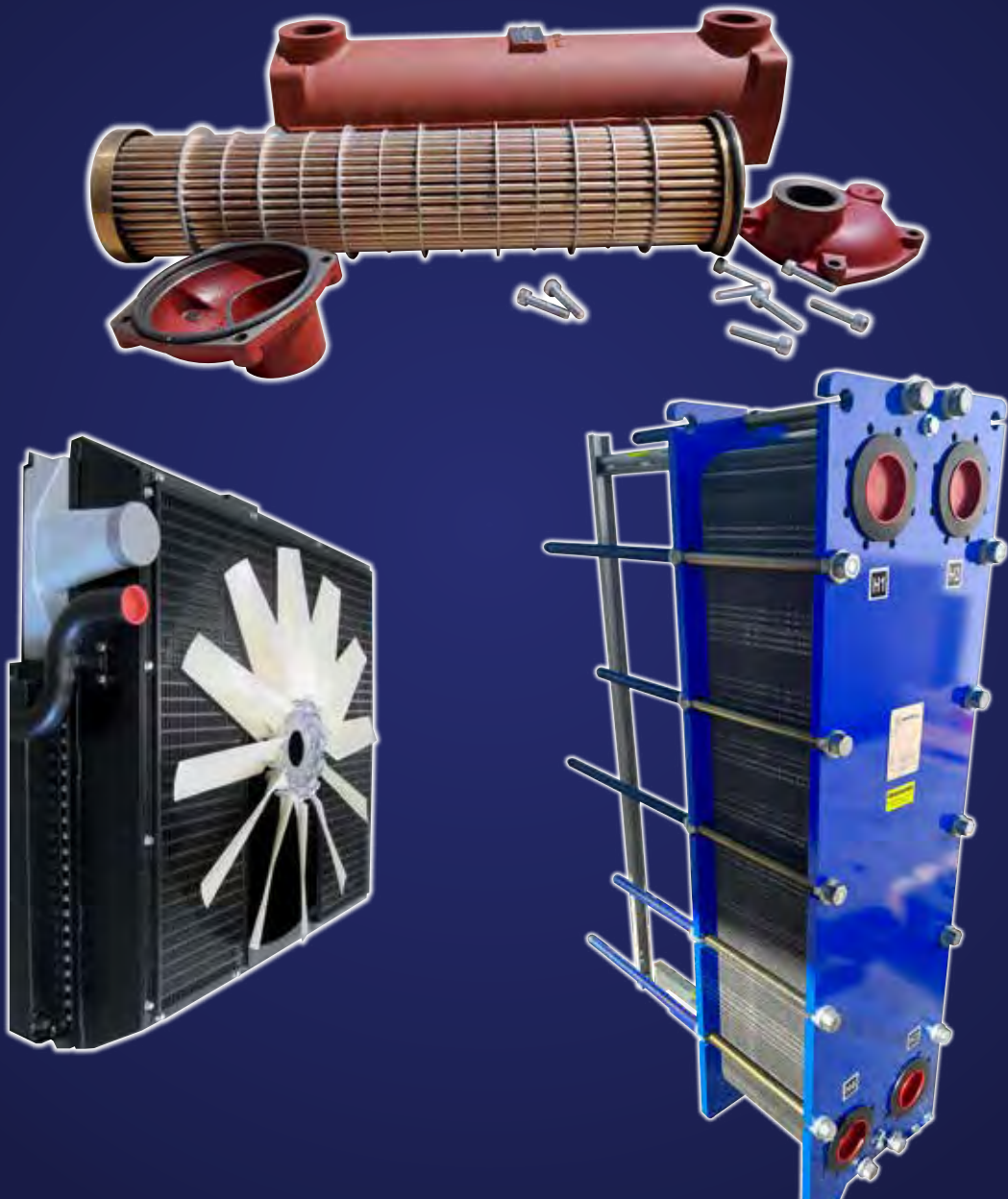




## STOCK PRODUCTS CATALOGUE



DESIGN | MANUFACTURE | MAINTENANCE  
OF HEAT TRANSFER EQUIPMENT

## A HEAT EXCHANGERS - OIL COOLERS - HEX

HEX – a heat exchanger for cooling oil with water.

This section contains stock heat exchangers for cooling oil with water.

Includes Dimensions and performance.

Options available:

*Copper or copper/nickel.*      *Stainless steel range.*

*Exhaust Gas cooling.*      *Marine Header Tank Heat Exchangers.*

Some Installation instructions for engine mounting.



## B ACX - HEAT EXCHANGERS FOR COOLING OIL WITH AIR

This section contains stock air coolers for cooling oil with air.

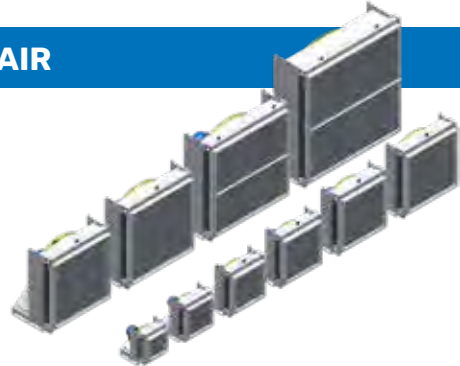
Includes Dimensions and performance graphs.

Options of 12 & 24 volt, single and three phase, and hydraulic motors.

Description of the Integral By-Pass system.

The information needed to select an ACX.

Some instructions on installation.



## C OIL COOLER PANELS

The Coolers only without fan/motor, no fan shroud. Just the cooler panel.

**TF Coolers** - Tube Fin coolers used for add on cooling with separate mounting blocks.

**HE Coolers** - High Efficiency coolers. Lighter construction and very efficient.

**ST Coolers** - Very tough coolers made from steel for tough conditions.

Replacement coolers - dimensions of the most popular oil coolers panels



## D CUSTOM COOLERS AND FANS

What to do when you need a new cooler made that doesn't appear in our catalogue.

What dimensions are needed.

Sketch showing dimensions required.

Information needed to make a cooler based on performance criteria.

NATA tested, top quality compressor coolers

Shell and tube Heat Exchangers



## E SERVICE AND REPLACEMENT

Service workshop

Plate Heat Exchangers

Mobile plant and Machinery



## F ACCESSORIES

Thermal by-pass Valves

Cooling Fans

Thermostatic Fan Controls

12/24 Volt Fans

# CONTENTS

## **SECTION A - Heat Exchangers - Oil Coolers**

DC and EC to PK range of Shell and Tube Oil Coolers .....	1
Performance of EC to PK Coolers .....	9
Stainless Steel Shell and Tube Oil Coolers .....	17
Exhaust Gas Heat Exchangers .....	18
Marine Cooling System .....	20
Header Tank Heat Exchanger .....	21

## **SECTION B - Air Cooled Oil Coolers - ACX**

ACX Coolers information .....	26
ACX Coolers with Integral Oil Pump .....	31
ACX Stacked Coolers .....	32
ACX Coolers .....	33

## **SECTION C - Oil Cooler Panels**

TF (Tube fin) Coolers .....	43
ST Steel Coolers .....	53
Oil Pressure Loss ST Steel Coolers .....	57
HE Coolers .....	58
Replacement Coolers .....	59
HP Heavy Duty Aluminium Oil Coolers .....	63

## **SECTION D - Custom Coolers and Fans**

How to size your custom air cooled cooler .....	74
Fans Design, Manufacture and Replacement .....	75
Cooling Packages .....	76
Compressor Coolers - Design and Manufacture .....	77
Shell and Tube Heat Exchangers .....	78

## **SECTION E - Service and Replacement**

Service Workshop .....	80
Plate Heat Exchangers .....	81
Mobile plant and Machinery .....	83

## **SECTION F - Accessories**

Thermal by-pass Valves .....	86
Cooling Fans .....	87
Thermostatic Fan Controls .....	88
12/24 Volt Fans .....	89

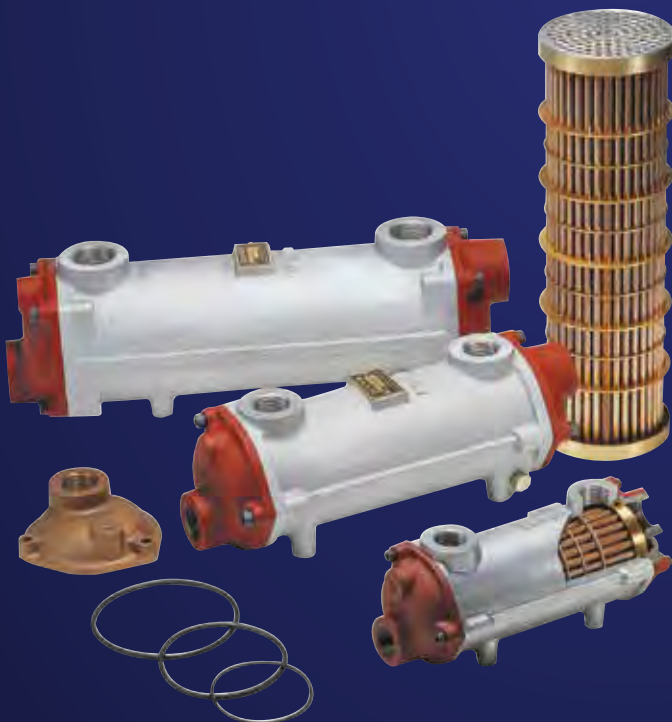
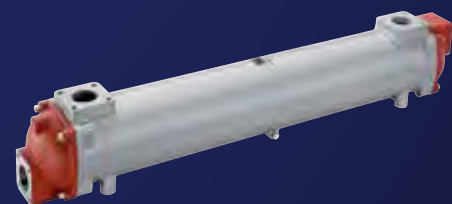
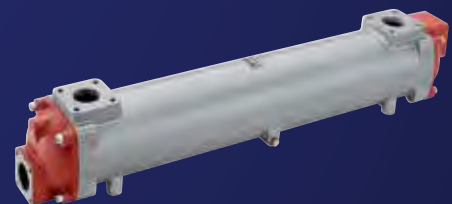
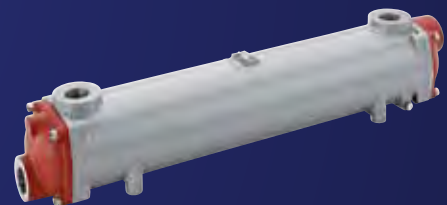
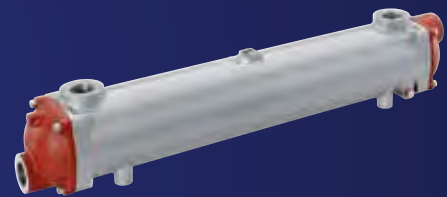
# SECTION A - Heat Exchangers - Oil Coolers

This catalogue is designed to assist our distributors by giving an easy reference to our product. We endeavour to keep the items listed in the catalogue on our shelves, however it pays to check availability with our office. It is important to remember that we are a heat exchanger company, we design and manufacture, so if you can not find what you need in the following pages, please contact us. In addition to making oil coolers, we also service them, so coolers can be sent to us for cleaning, repair and rebuild.

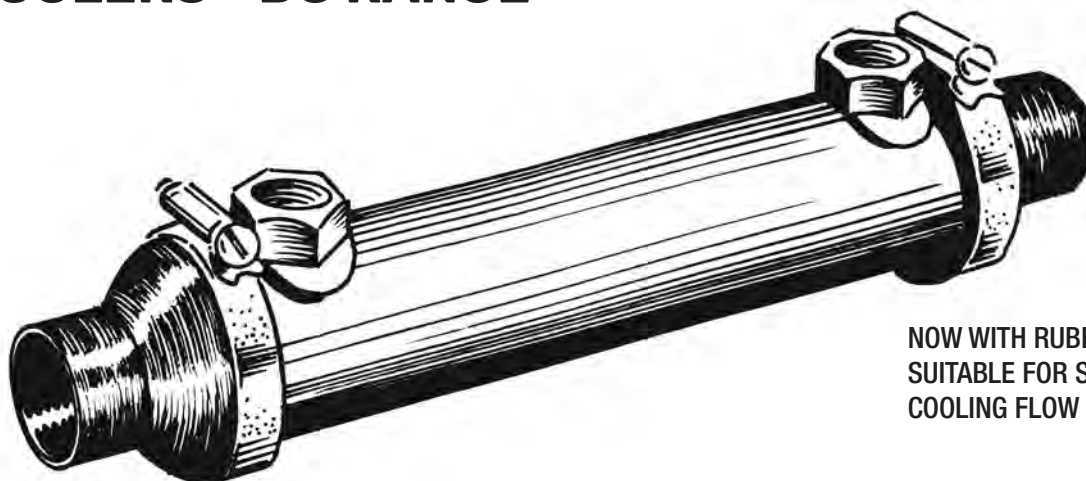
We support our distributors with backup advice, technical support and design software. For any heat exchanger enquiry contact us at the offices below

Western Australia: Ph (08) 9455 5933

Queensland: Ph (07) 3375 1544



## OIL COOLERS - DC RANGE



**NOW WITH RUBBER ENDS  
SUITABLE FOR SALTWATER  
COOLING FLOW**

Typical examples of oil coolers fitted to marine transmissions with an oil inlet temperature of 80°C and seawater temperature of 32°C.

Type	Maximum sea water flow for end cover type				Suitable for gearbox transmitting	
	A/D	B/E	C/F	None		
	Straight/90°	Straight/90°	Straight/90°			
	l/min	l/min	l/min	l/min	kW	Hp
<b>DC 50</b>	60	90	120	180	75	100
<b>DC 60</b>	60	90	120	180	120	160
<b>DC 90</b>	60	90	120	180	150	200
<b>DC 120</b>	60	90	120	180	180	240

Model No	Size (mm)	OD water pipe A / B / C	Oil Port thread (BSPP)	net dry Weight
<b>DC 50</b>	205 x 51	22mm/28mm/32mm	1/2"	0.7
<b>DC 60</b>	240 x 51	22mm/28mm/32mm	1/2"	0.9
<b>DC 90</b>	314 x 51	22mm/28mm/32mm	1/2"	1.1
<b>DC 120</b>	396 x 51	22mm/28mm/32mm	1/2"	1.4

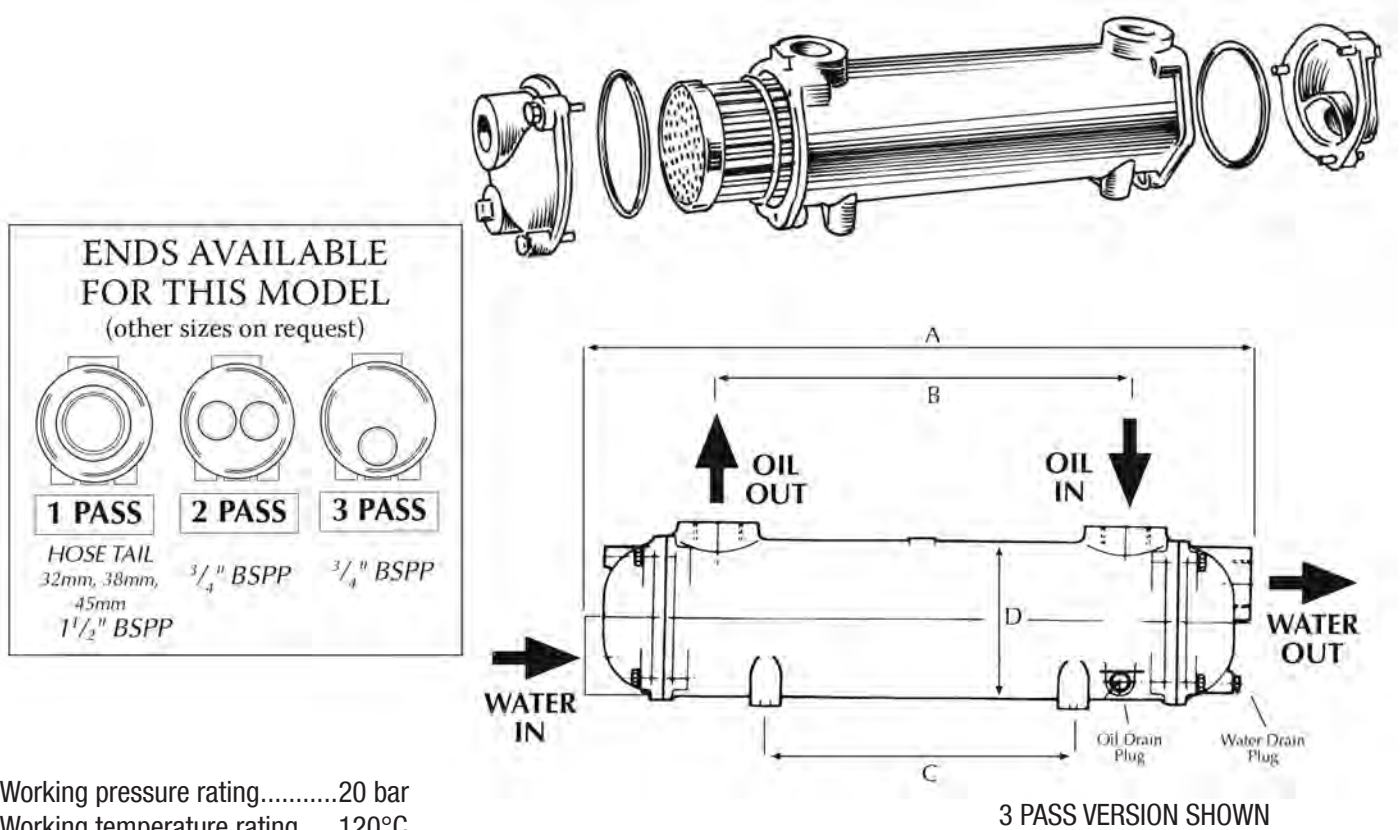
Maximum working oil pressure : 25 BAR  
 Maximum working water pressure : 3 BAR  
 Maximum working temperature : 125°C

**3/8" available on special order**

### Materials of construction

Tubes : 90/10 Cupro Nickel  
 Tubeplate : Naval Brass  
 End Caps : Rubber  
 Shell : Brass

## REMOVABLE TUBESTACK COOLER



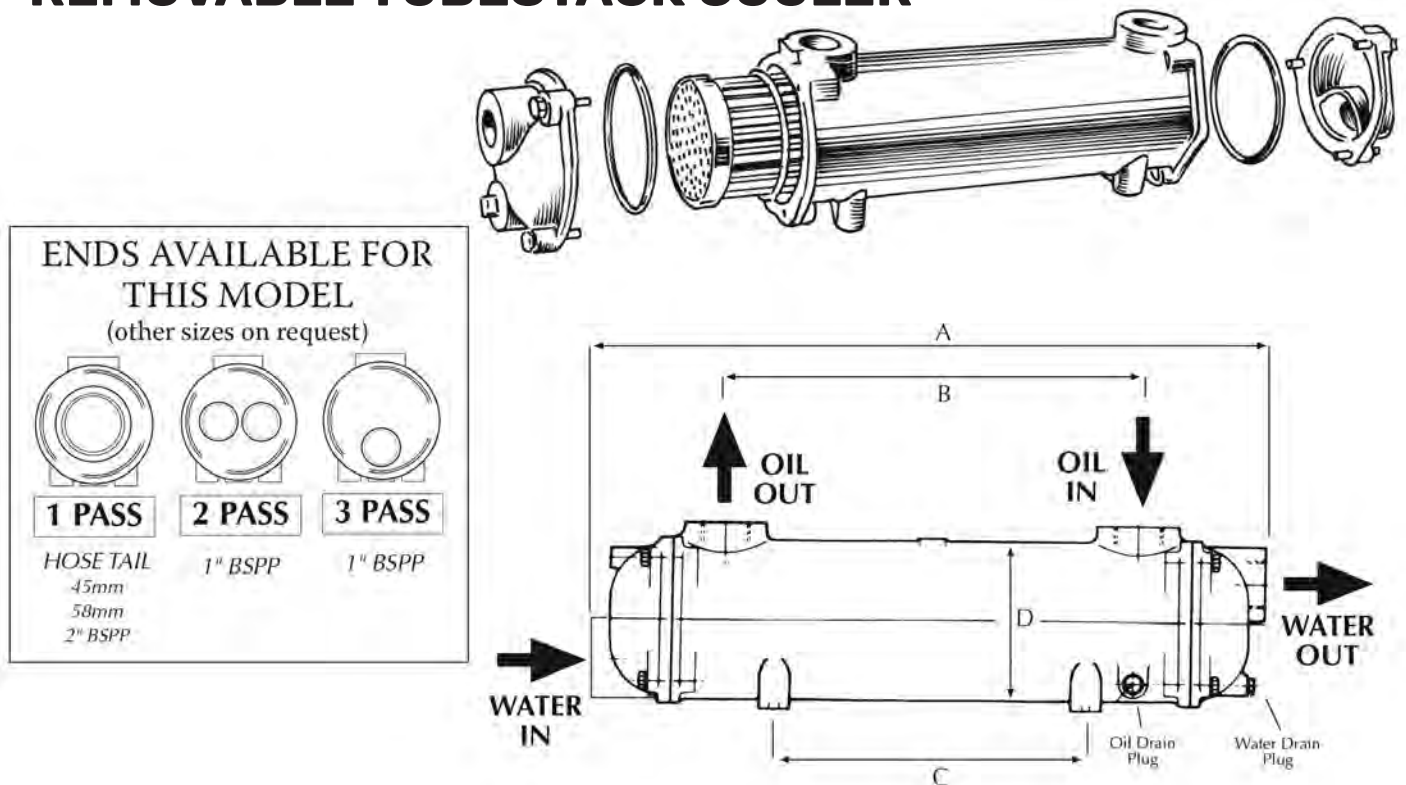
MODEL NUMBER	NET DRY WEIGHT kg	A OVERALL LENGTH mm	B CONNECTION CENTRES mm	C MOUNTING CENTRES mm TAPPED M8x10	D DIAMETER mm	OIL CONNECTION SIZE BSPP
EC80	2.4	174	60	60	86	1/2"
EC100	3.2	260	140	104	86	3/4"
EC120	3.8	346	226	190	86	3/4"
EC140	4.8	444	324	288	86	3/4"
EC160	5.7	572	452	416	86	3/4"

### Materials of construction

Tubes : 90/10 Cupro Nickel  
 Tubeplate : Naval Brass  
 End Caps : Cast bronze or cast iron  
 Shell : Cast aluminium

Other materials available including stainless steel on request.

## REMOVABLE TUBESTACK COOLER



Working pressure rating.....20 bar  
Working temperature rating .....120°C

3 PASS VERSION SHOWN

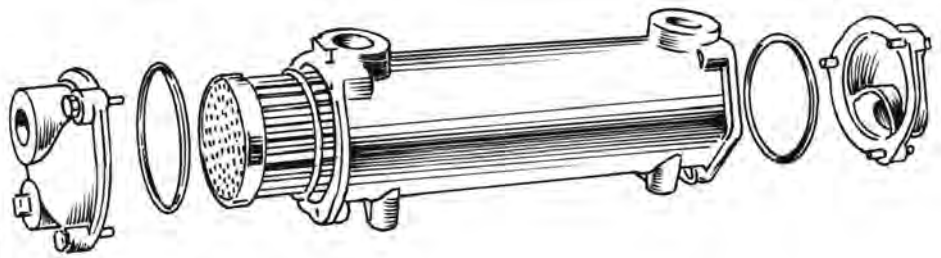
MODEL NUMBER	NET DRY WEIGHT kg	A OVERALL LENGTH mm	B CONNECTION CENTRES mm	C MOUNTING CENTRES mm TAPPED M8x12	D DIAMETER mm	OIL CONNECTION SIZE BSPP
<b>FC80</b>	5.5	272	116	104	108	1"
<b>FC100</b>	6.3	358	202	190	108	1"
<b>FC120</b>	7.3	456	300	288	108	1"
<b>FC140</b>	9.4	584	428	288	108	1"
<b>FC160</b>	11.0	730	574	434	108	1"

### Materials of construction




Tubes : 90/10 Cupro Nickel  
 Tubeplate : Naval Brass  
 End Caps : Cast bronze or cast iron  
 Shell : Cast aluminium

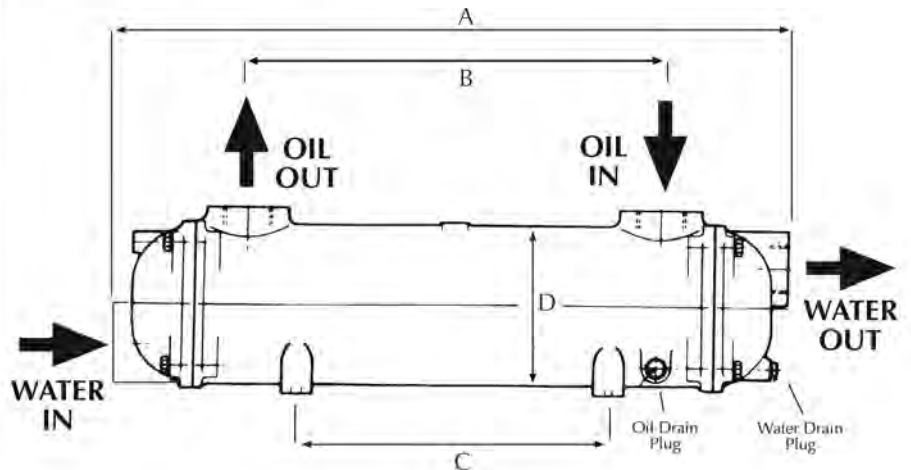
Other materials available including stainless steel on request.

# REMOVABLE TUBESTACK COOLER



**ENDS AVAILABLE FOR THIS MODEL**  
(other sizes on request)

		
<b>1 PASS</b>	<b>2 PASS</b>	<b>3 PASS</b>
HOSE TAIL 45mm, 58mm 2 1/2" BSPP	1 1/4" BSPP	1 1/4" BSPP



Working pressure rating.....20 bar  
Working temperature rating .....120°C

3 PASS VERSION SHOWN

MODEL NUMBER	NET DRY WEIGHT kg	A OVERALL LENGTH mm	B CONNECTION CENTRES mm	C MOUNTING CENTRES mm TAPPED M8x12	D DIAMETER mm	OIL CONNECTION SIZE BSPP
FG 80	8.5	374	196	92	128	1 1/4"
FG100	10.0	472	294	190	128	1 1/4"
FG120	12.0	600	422	318	128	1 1/4"
FG140	14.5	746	568	464	128	1 1/4"
FG160	17.5	924	746	642	128	1 1/4"
FG200	24.0	1330	1152	1048	128	1 1/4"

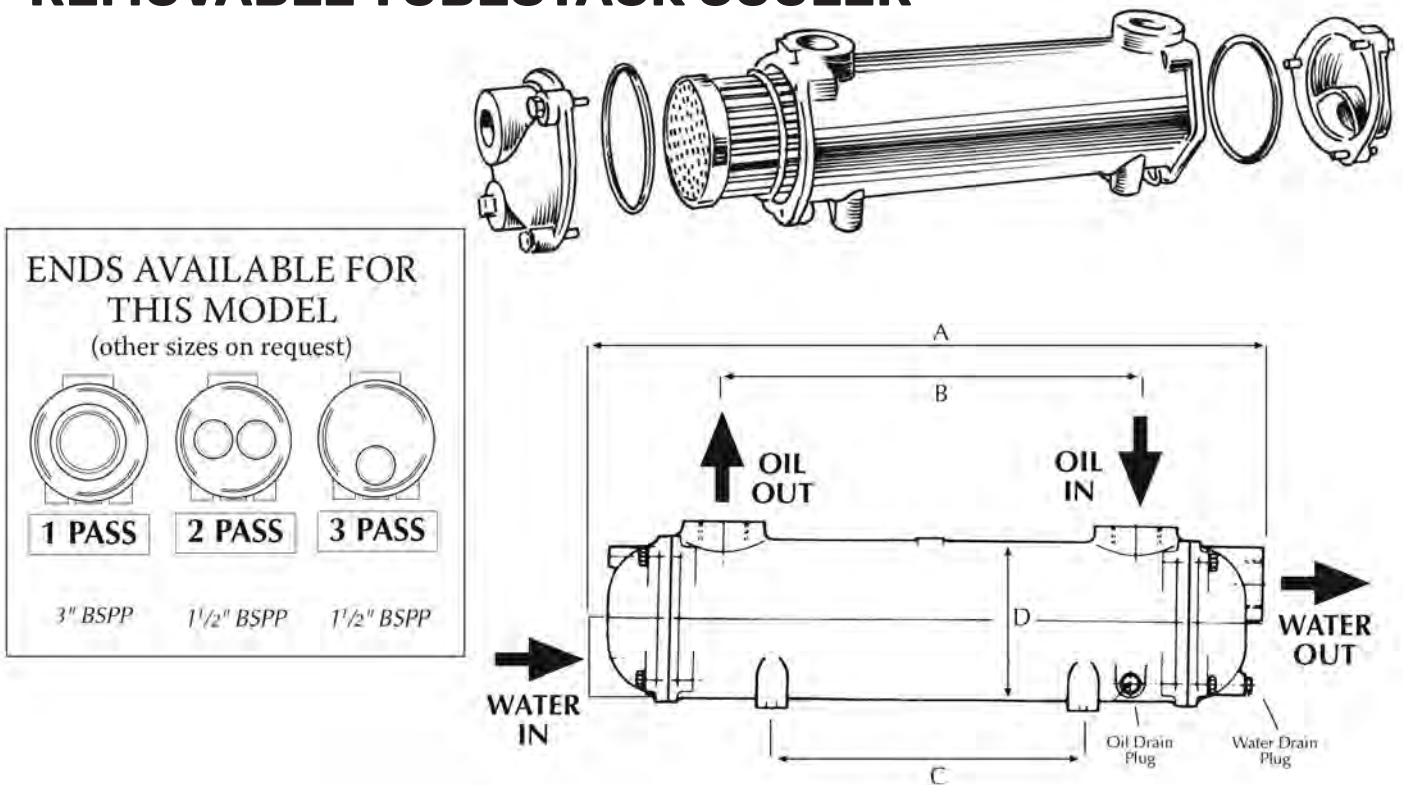
### Materials of construction

- Tubes : 90/10 Cupro Nickel
- Tubeplate : Naval Brass
- End Caps : Cast bronze or cast iron
- Shell : Cast aluminium




Other materials available including stainless steel on request.



## REMOVABLE TUBESTACK COOLER



**ENDS AVAILABLE FOR THIS MODEL**  
(other sizes on request)

		
<b>1 PASS</b>	<b>2 PASS</b>	<b>3 PASS</b>
3" BSPP	1 1/2" BSPP	1 1/2" BSPP

Working pressure rating.....20 bar  
Working temperature rating .....120°C

3 PASS VERSION SHOWN

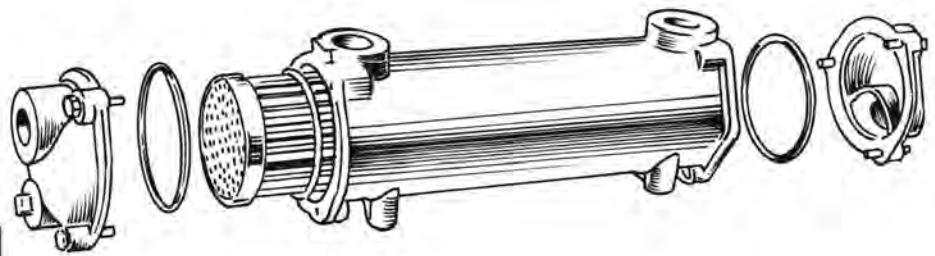
MODEL NUMBER	NET DRY WEIGHT kg	A OVERALL LENGTH mm	B CONNECTION CENTRES mm	C MOUNTING CENTRES mm TAPPED M10x15	D DIAMETER mm	OIL CONNECTION SIZE BSPP
GL140	18	502	272	108	162	1 1/2"
GL180	21	630	400	236	162	1 1/2"
GL240	25	776	546	382	162	1 1/2"
GL320	30	954	724	560	162	1 1/2"
GL400	36	1156	926	762	162	1 1/2"
GL480	42	1360	1130	966	162	1 1/2"

### Materials of construction


Tubes : 90/10 Cupro Nickel  
Tubeplate : Naval Brass  
End Caps : Cast bronze or cast iron  
Shell : Cast aluminium

Other materials available including stainless steel on request.

# REMOVABLE TUBESTACK COOLER

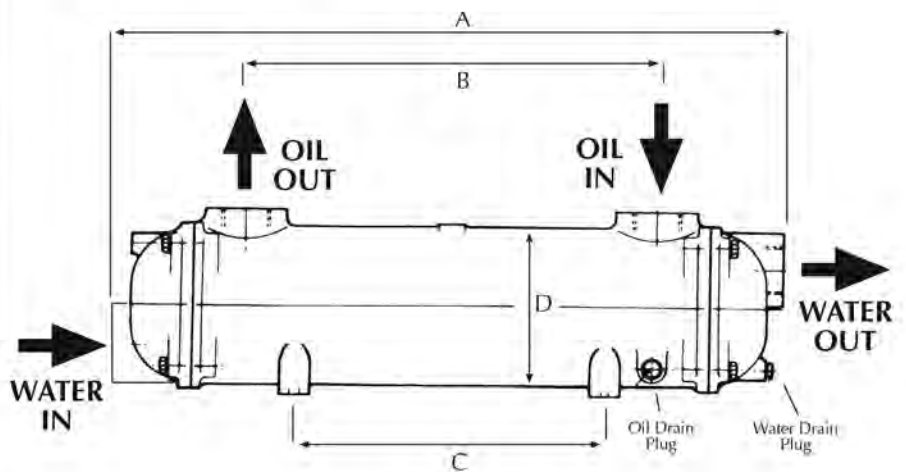


**ENDS AVAILABLE FOR THIS MODEL**  
(other sizes on request)



**1 PASS**    **2 PASS**    **3 PASS**

FLANGE 104mm Ø    2" BSPP    2" BSPP



Working pressure rating.....20 bar  
Working temperature rating .....120°C

3 PASS VERSION SHOWN

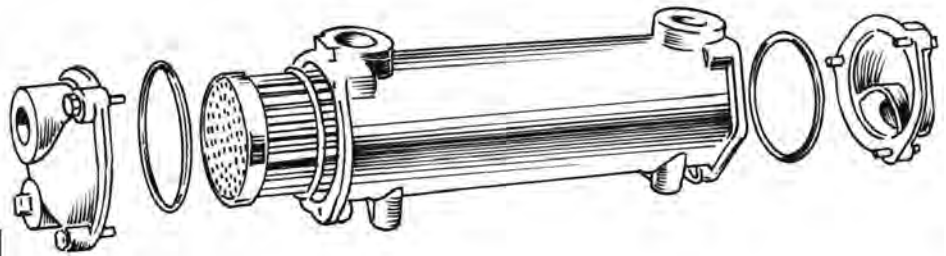
MODEL NUMBER	NET DRY WEIGHT kg	A OVERALL LENGTH mm	B CONNECTION CENTRES mm	C MOUNTING CENTRES mm TAPPED M12x18	D DIAMETER mm	OIL CONNECTION SIZE BSPP
GK190	34	674	370	236	198	2"
GK250	39	820	516	382	198	2"
GK320	46	998	694	560	198	2"
GK400	54	1200	896	762	198	2"
GK480	62	1404	1100	966	198	2"
GK600	74	1708	1404	1270	198	2"

**Materials of construction**


- Tubes : 90/10 Cupro Nickel
- Tubeplate : Naval Brass
- End Caps : Cast bronze or cast iron
- Shell : Cast aluminium

Other materials available including stainless steel on request.

# REMOVABLE TUBESTACK COOLER




**ENDS AVAILABLE FOR THIS MODEL**  
(other sizes on request)




**1 PASS**

FLANGE  
130mm Ø



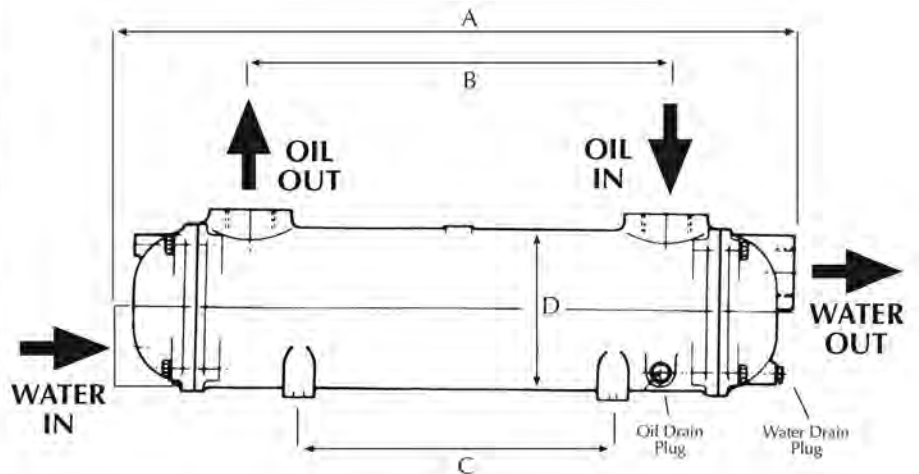
**2 PASS**

2 1/2" BSPP



**3 PASS**

2 1/2" BSPP



3 PASS VERSION SHOWN

Working pressure rating.....20 bar  
Working temperature rating .....120°C

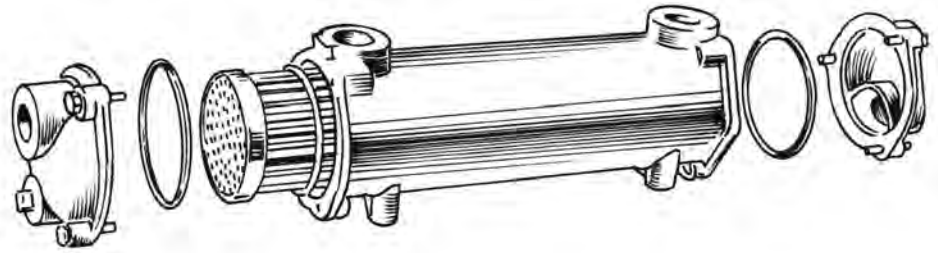
MODEL NUMBER	NET DRY WEIGHT kg	A OVERALL LENGTH mm	B CONNECTION CENTRES mm	C MOUNTING CENTRES mm TAPPED M16x24	D DIAMETER mm	OIL CONNECTION SIZE BSPP
<b>JK190</b>	58	704	340	236	232	2 1/2"
<b>JK250</b>	66	850	486	382	232	2 1/2"
<b>JK320</b>	78	1028	664	560	232	2 1/2"
<b>JK400</b>	92	1230	866	762	232	2 1/2"
<b>JK480</b>	105	1434	1070	966	232	2 1/2"
<b>JK600</b>	126	1738	1374	1270	232	2 1/2"

**Materials of construction**




- Tubes : 90/10 Cupro Nickel
- Tubeplate : Naval Brass
- End Caps : Cast bronze or cast iron
- Shell : Cast aluminium

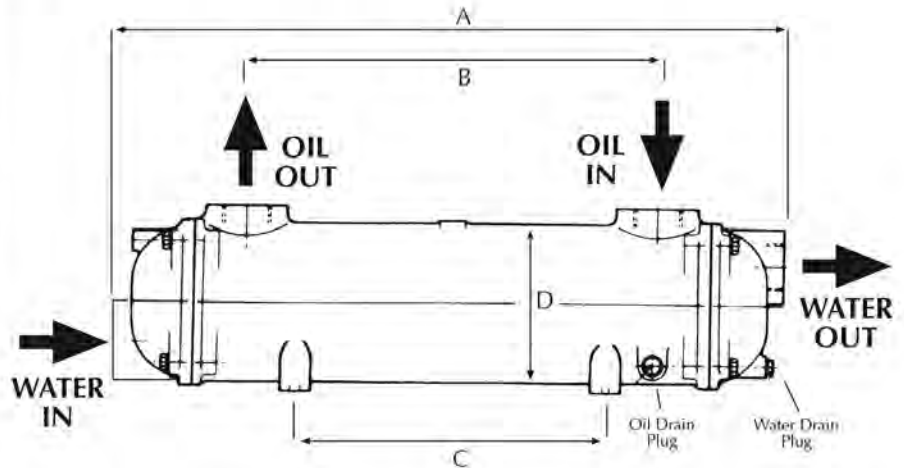
Other materials available including stainless steel on request.

# REMOVABLE TUBESTACK COOLER



**ENDS AVAILABLE FOR THIS MODEL**  
(other sizes on request)

		
<b>1 PASS</b>	<b>2 PASS</b>	<b>3 PASS</b>
FLANGE 150mm Ø	3" BSPP	3" BSPP



Working pressure rating.....20 bar  
Working temperature rating .....120°C

3 PASS VERSION SHOWN

MODEL NUMBER	NET DRY WEIGHT kg	A OVERALL LENGTH mm	B CONNECTION CENTRES mm	C MOUNTING CENTRES mm TAPPED M16x24	D DIAMETER mm	OIL CONNECTION SIZE BSPP
PK190	81	754	330	236	278	3"
PK250	94	900	476	382	278	3"
PK320	110	1078	654	560	278	3"
PK400	125	1280	856	762	278	3"
PK480	140	1484	1060	966	278	3"
PK600	158	1788	1364	1270	278	3"

**Materials of construction**

- Tubes : 90/10 Cupro Nickel
- Tubeplate : Naval Brass
- End Caps : Cast bronze or cast iron
- Shell : Cast aluminium

Other materials available including stainless steel on request.

# MAXIMUM FLOW OF EC TO PK COOLERS

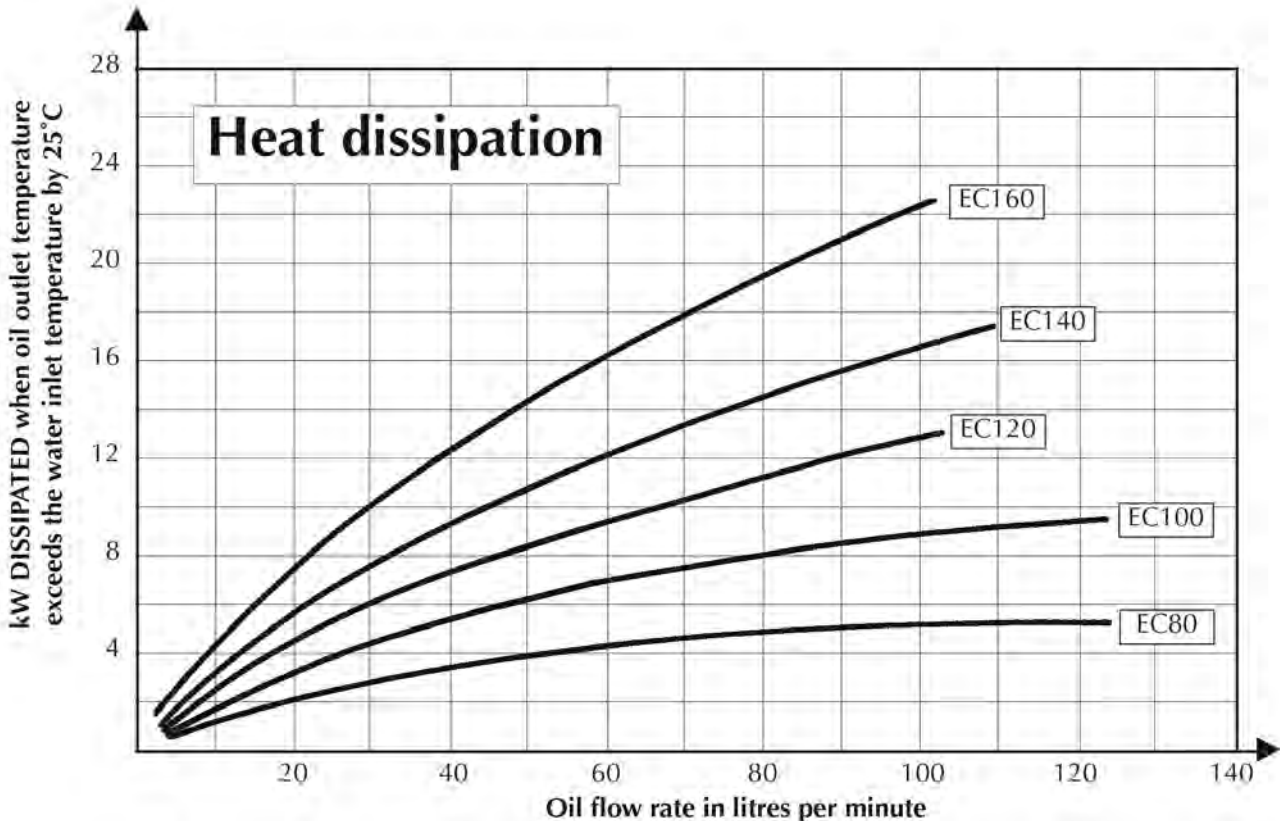
Typical information for 3-pass units, for other configurations please contact us.

TYPE	maximum oil flow	maximum sea water flow	maximum fresh water flow	internal oil volume	internal water volume
EC 80-1425-1	80	54	80	0.26	0.31
EC 100-1425-2	92	"	"	0.49	0.44
EC 120-1425-3	77	"	"	0.74	0.57
EC 140-1425-4	68	"	"	0.97	0.71
EC 160-1425-5	64	"	"	1.30	0.91
FC 80-1426-1	140	95	140	0.75	0.65
FC 100-1426-2	145	"	"	1.10	0.84
FC 120-1426-3	116	"	"	1.50	1.06
FC 140-1426-4	105	"	"	2.00	1.35
FC 160-1426-5	96	"	"	2.60	1.68
FG 80-1427-1	192	125	190	1.64	1.26
FG 100-1427-2	190	"	"	2.40	1.56
FG 120-1427-3	160	"	"	3.00	1.96
FG 140-1427-4	160	"	"	3.90	2.42
FG 160-1427-5	145	"	"	5.00	2.97
FG 200-1427-7	130	"	"	7.58	4.53
GL 140-1428-2	300	225	330	3.60	3.10
GL 180-1428-3	285	"	"	4.80	3.80
GL 240-1428-4	280	"	"	6.30	4.60
GL 320-1428-5	270	"	"	8.00	5.50
GL 400-1428-6	240	"	"	10.00	6.60
GL 480-1428-7	235	"	"	12.20	7.70
GK 190-1658-3	460	325	490	7.00	6.30
GK 250-1658-4	445	"	"	9.00	7.50
GK 320-1658-5	430	"	"	11.60	9.00
GK 400-1658-6	420	"	"	14.60	10.60
GK 480-1658-7	400	"	"	17.40	12.30
GK 600-1658-8	365	"	"	22.10	14.70
JK 190-1661-3	830	460	700	9.70	8.80
JK 250-1661-4	740	"	"	12.50	10.40
JK 320-1661-5	690	"	"	16.10	12.50
JK 400-1661-6	650	"	"	20.30	14.70
JK 480-1661-7	620	"	"	24.20	17.10
JK 600-1661-8	600	"	"	30.70	20.40
PK 190-1669-3	1600	700	1050	13.60	16.00
PK 250-1669-4	1240	"	"	17.70	18.60
PK 320-1669-5	1060	"	"	22.60	21.80
PK 400-1669-6	950	"	"	28.50	25.30
PK 480-1669-7	890	"	"	34.00	29.00
PK 600-1669-8	750	"	"	42.50	34.40
PK 800-1669-9	630	"	"	55.20	44.70

\* Maximum permitted oil flow on Shell Tellus 37 at 60°C

Exceeding the maximum permitted water flow may cause tube failure.

# EC RANGE



**Correction factors**

**Temperature Difference**

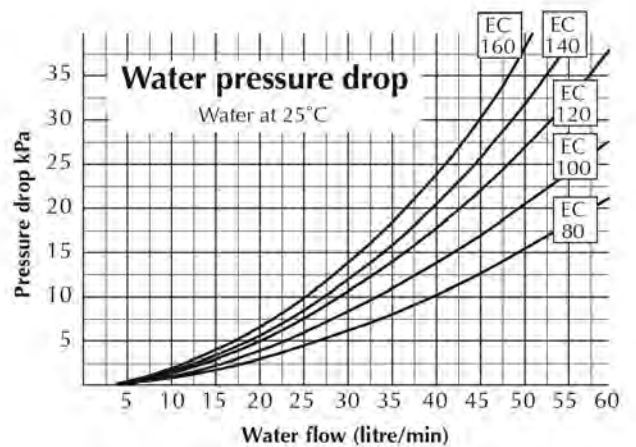
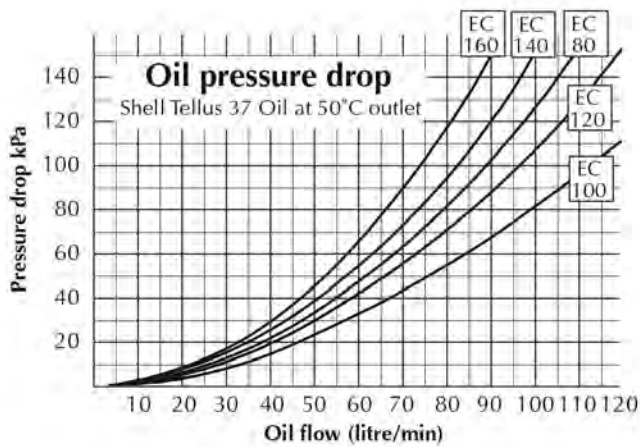
When the oil outlet temperature exceeds the water inlet temperature by other than 25°C multiply the kW dissipation figure by the following correction factor –

15°C	20°C	25°C	30°C	35°C
0.6	0.8	1	1.2	1.4

**Water Flow Rate**

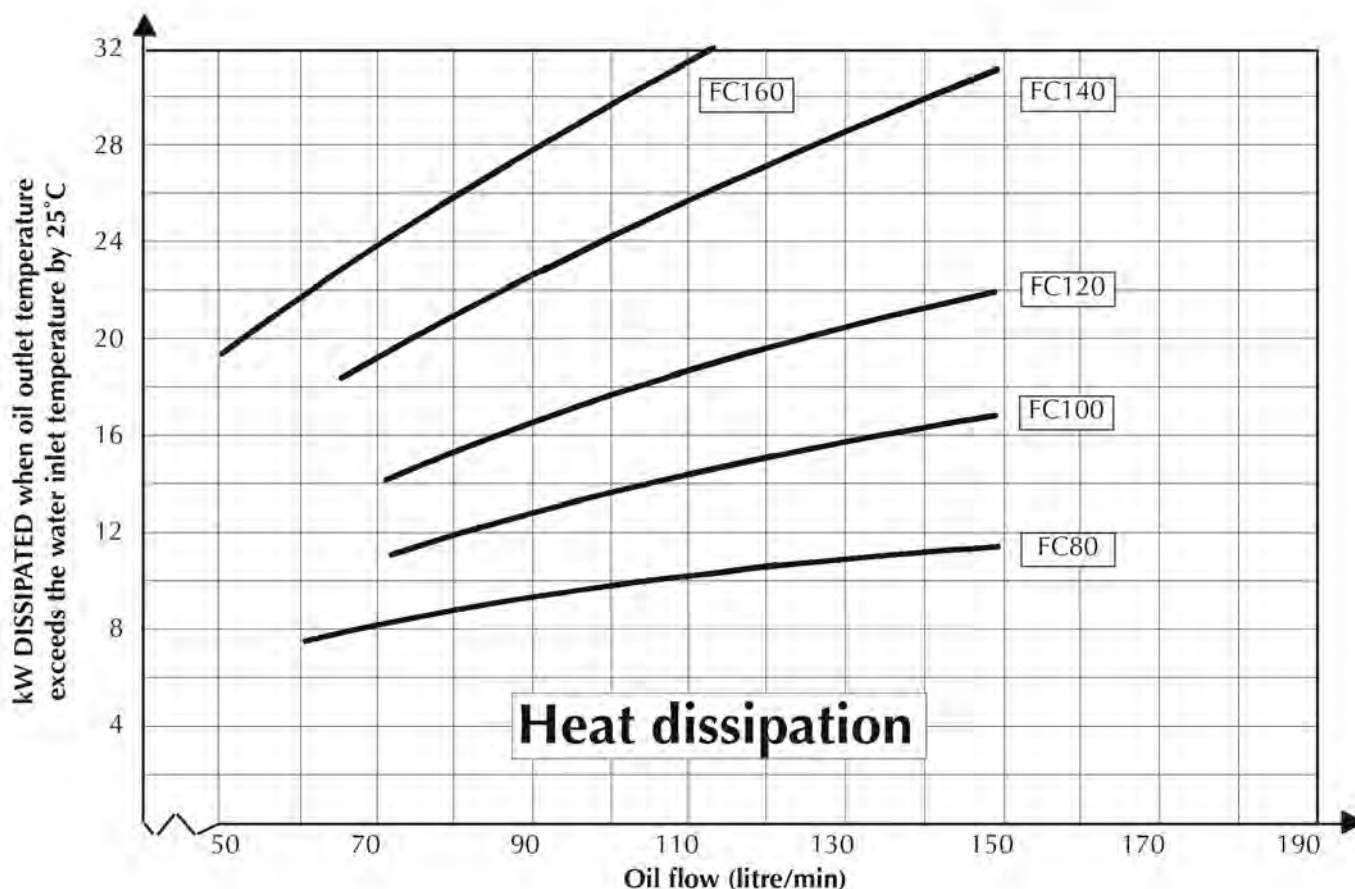
The heat dissipation figures are based on a water flow rate which is 50% of the oil flow. For other water flow rates, multiply the dissipation figure by the following correction factor –

25%	50%	100%
0.8	1	1.2



For dimensions see water/oil cooler technical data sheet in this catalogue

## FC RANGE



**Correction factors**

### Temperature Difference

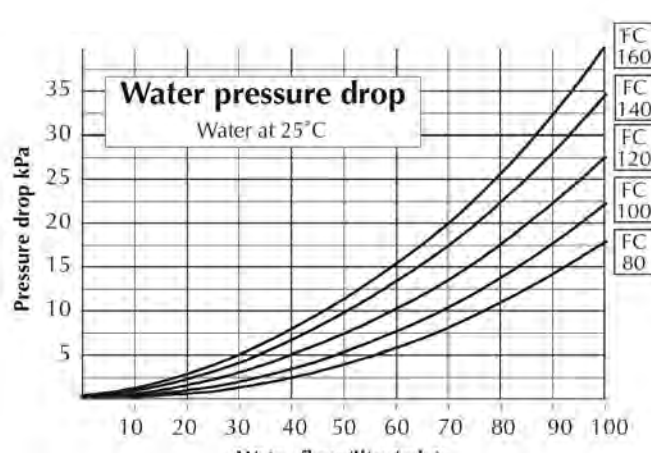
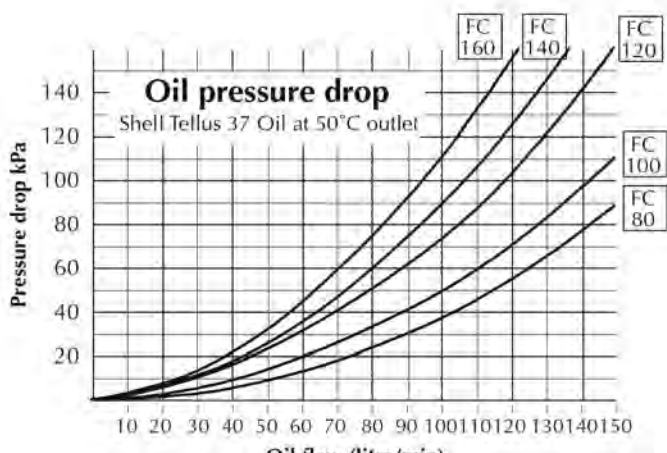
When the oil outlet temperature exceeds the water inlet temperature by other than 25°C multiply the kW dissipation figure by the following correction factor –

15°C	20°C	25°C	30°C	35°C
0.6	0.8	1	1.2	1.4

### Water Flow Rate

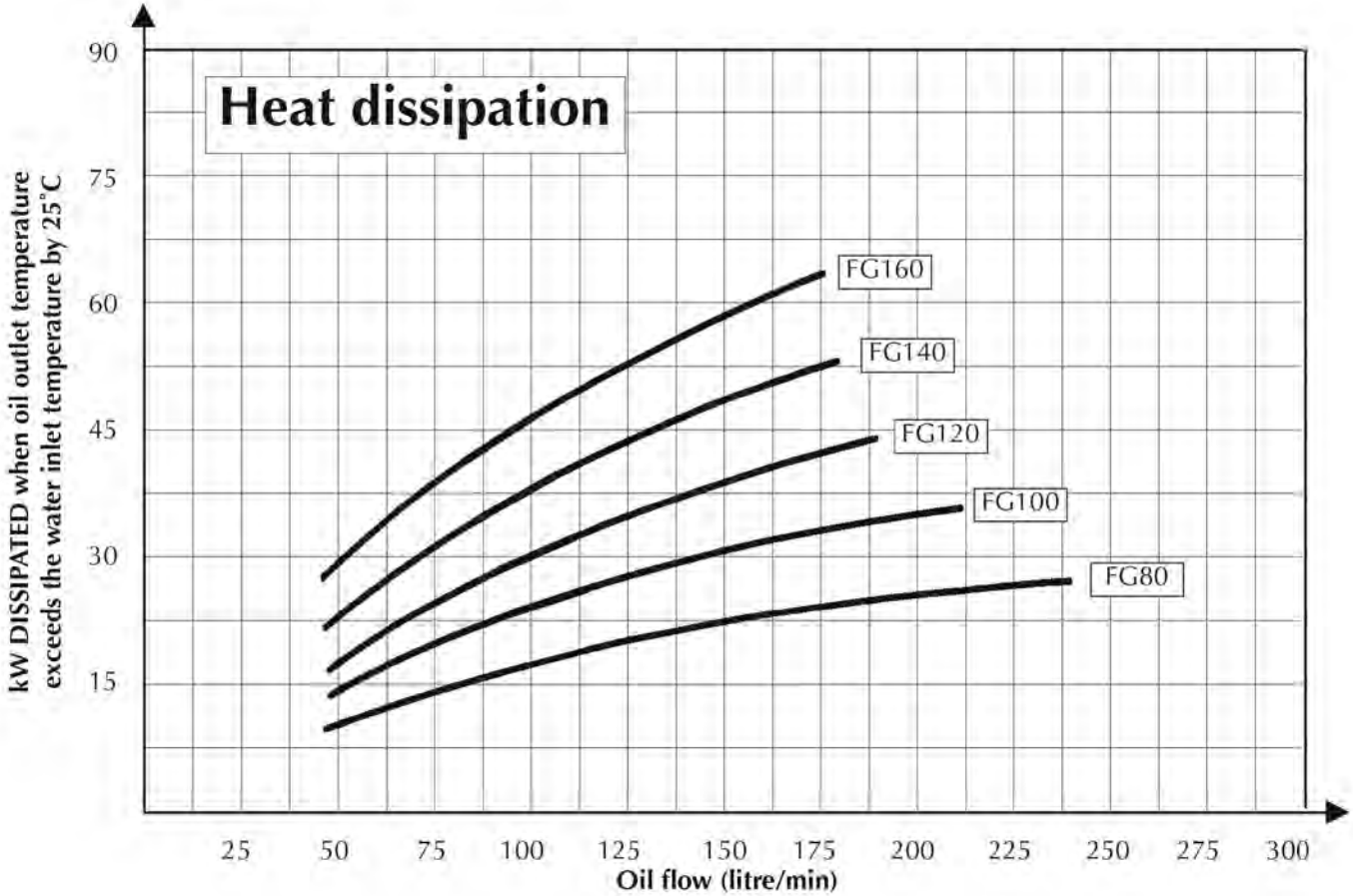
The heat dissipation figures are based on a water flow rate which is 50% of the oil flow. For other water flow rates, multiply the dissipation figure by the following correction factor –

25%	50%	100%
0.8	1	1.2



For dimensions see water/oil cooler technical data sheet in this catalogue

# FG RANGE



**Correction factors**

**Temperature Difference**

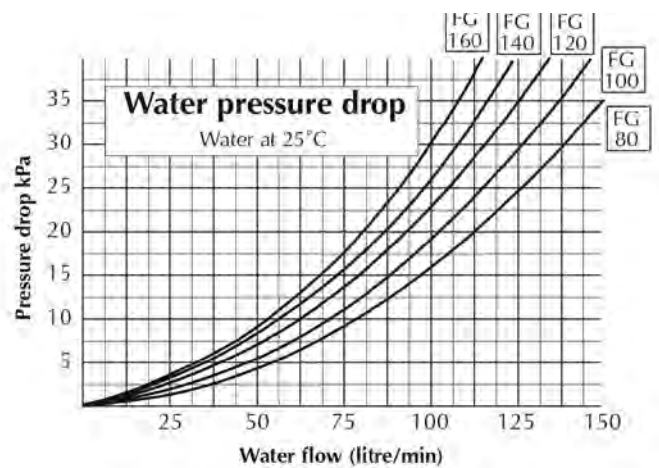
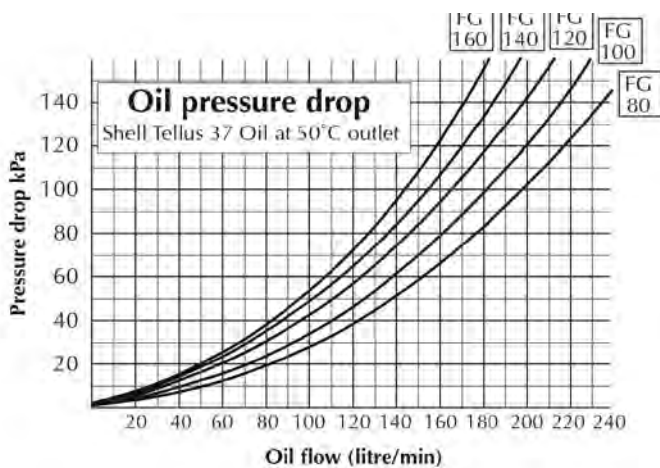
When the oil outlet temperature exceeds the water inlet temperature by other than 25°C multiply the kW dissipation figure by the following correction factor –

15°C	20°C	25°C	30°C	35°C
0.6	0.8	1	1.2	1.4

**Water Flow Rate**

The heat dissipation figures are based on a water flow rate which is 50% of the oil flow. For other water flow rates, multiply the dissipation figure by the following correction factor –

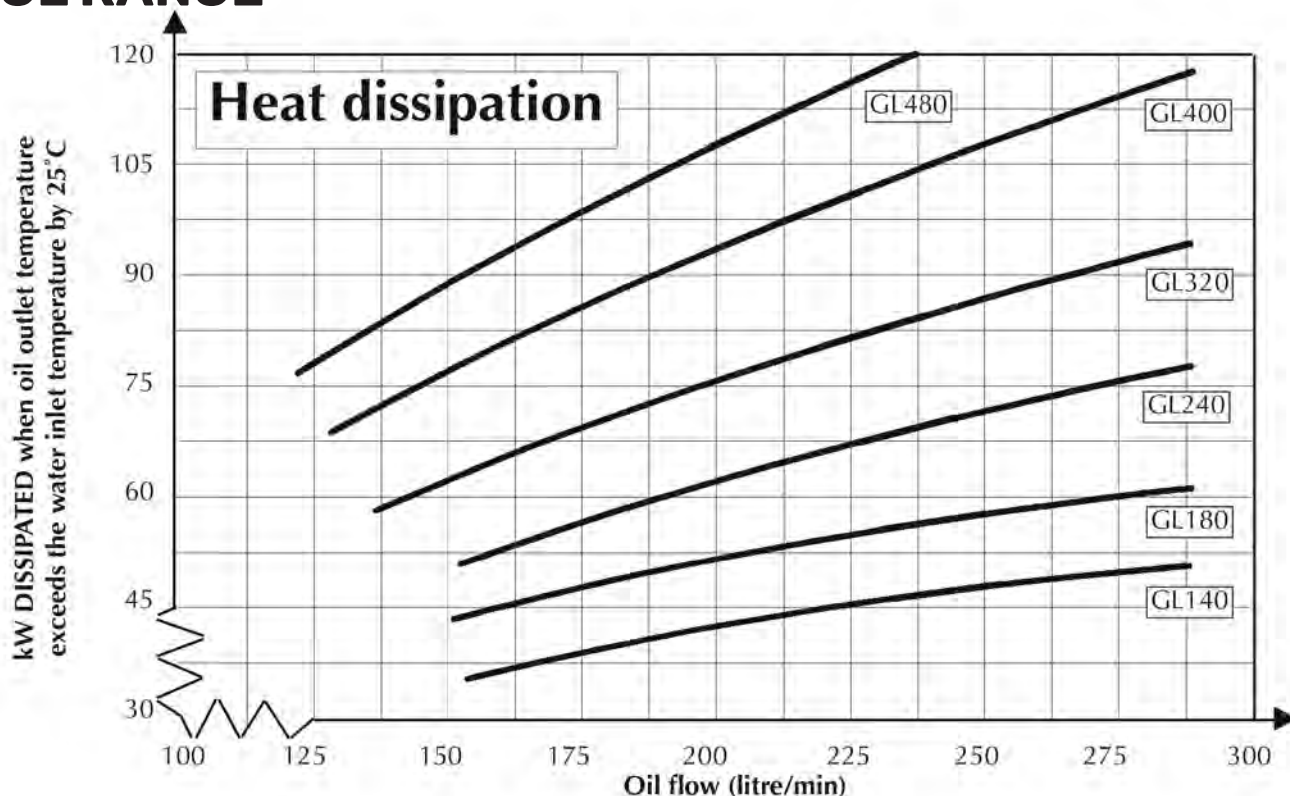
25%	50%	100%
0.8	1	1.2



For dimensions see water/oil cooler technical data sheet in this catalogue



## GL RANGE



**Correction factors**

### Temperature Difference

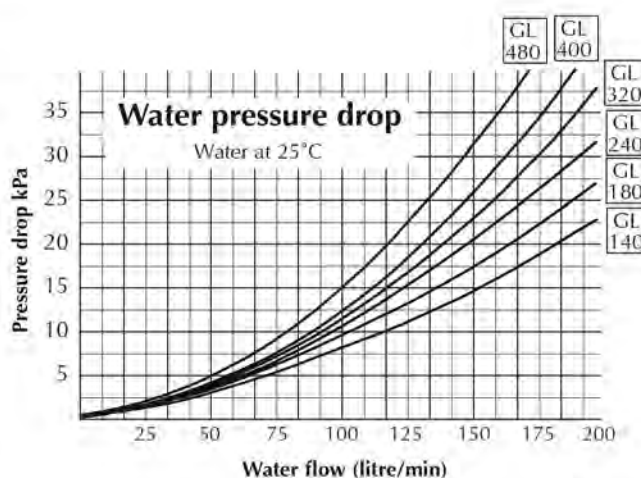
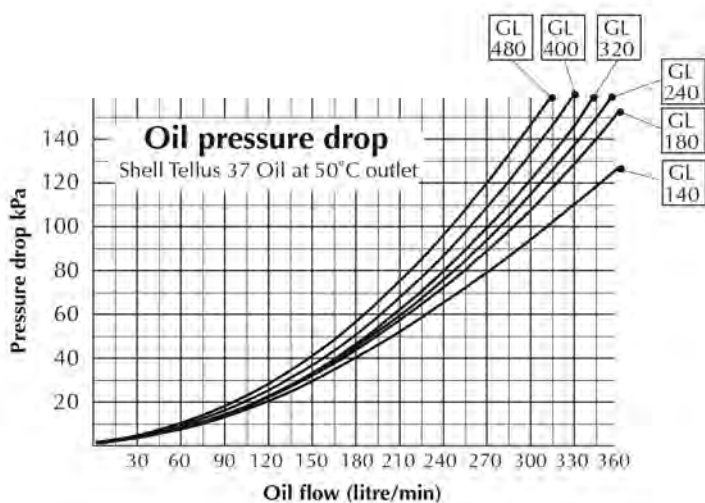
When the oil outlet temperature exceeds the water inlet temperature by other than 25°C multiply the kW dissipation figure by the following correction factor –

15°C	20°C	25°C	30°C	35°C
0.6	0.8	1	1.2	1.4

### Water Flow Rate

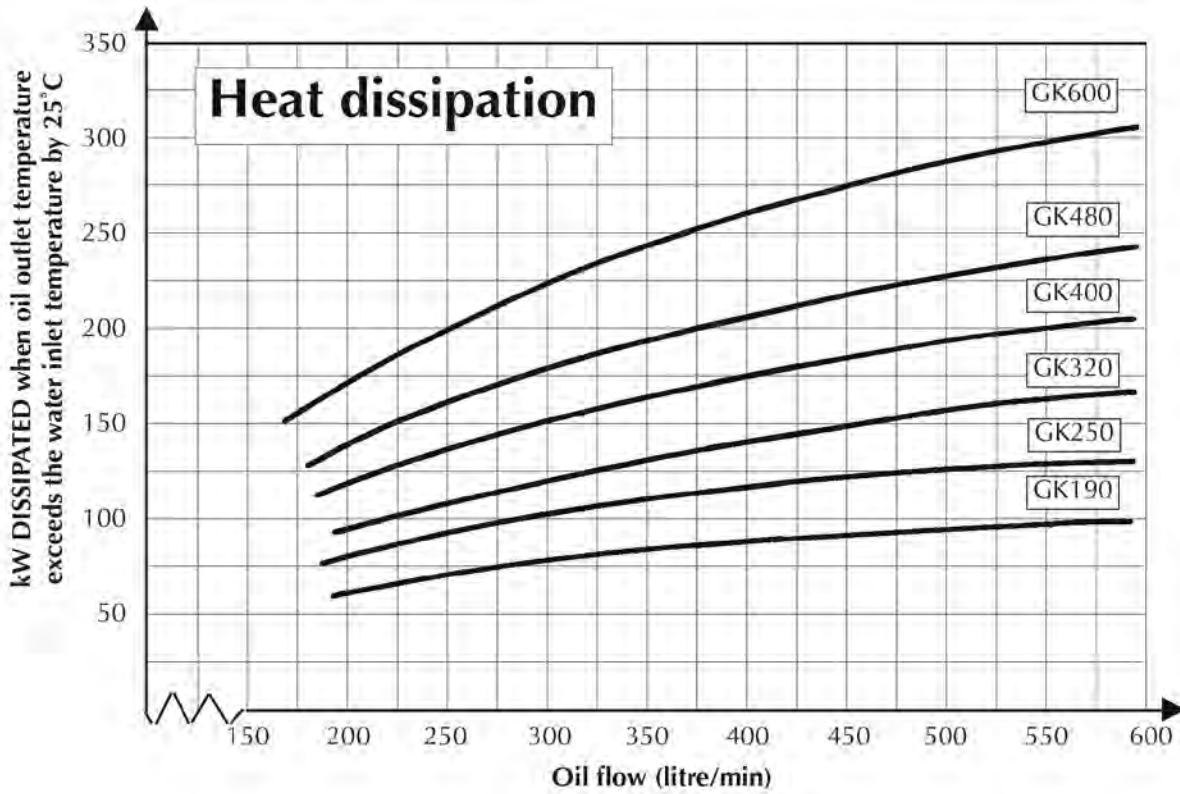
The heat dissipation figures are based on a water flow rate which is 50% of the oil flow. For other water flow rates, multiply the dissipation figure by the following correction factor –

25%	50%	100%
0.8	1	1.2



For dimensions see water/oil cooler technical data sheet in this catalogue

# GK RANGE



**Correction factors**

**Temperature Difference**

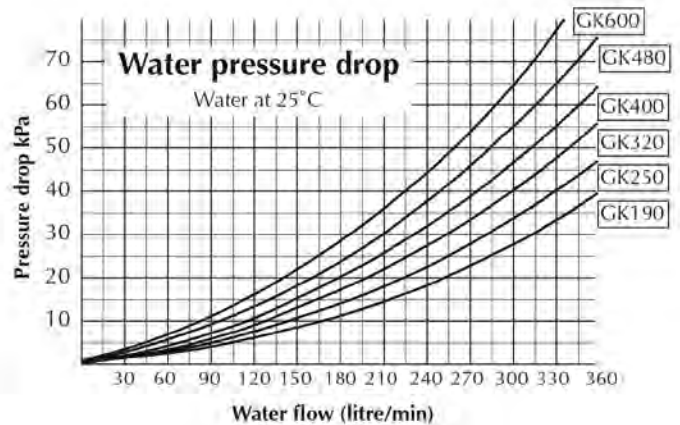
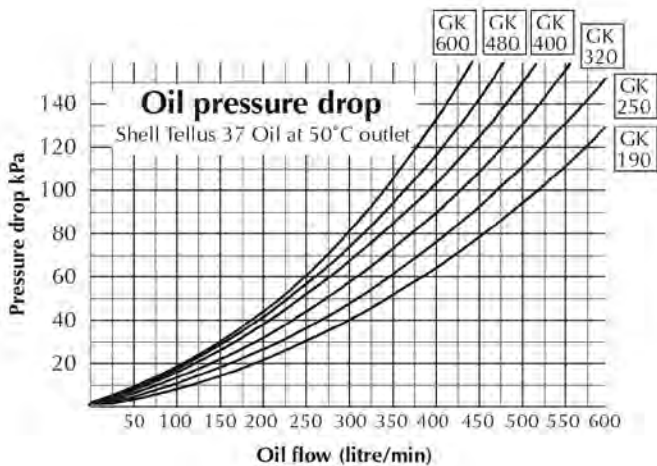
When the oil outlet temperature exceeds the water inlet temperature by other than 25°C multiply the kW dissipation figure by the following correction factor –

15°C	20°C	25°C	30°C	35°C
0.6	0.8	1	1.2	1.4

**Water Flow Rate**

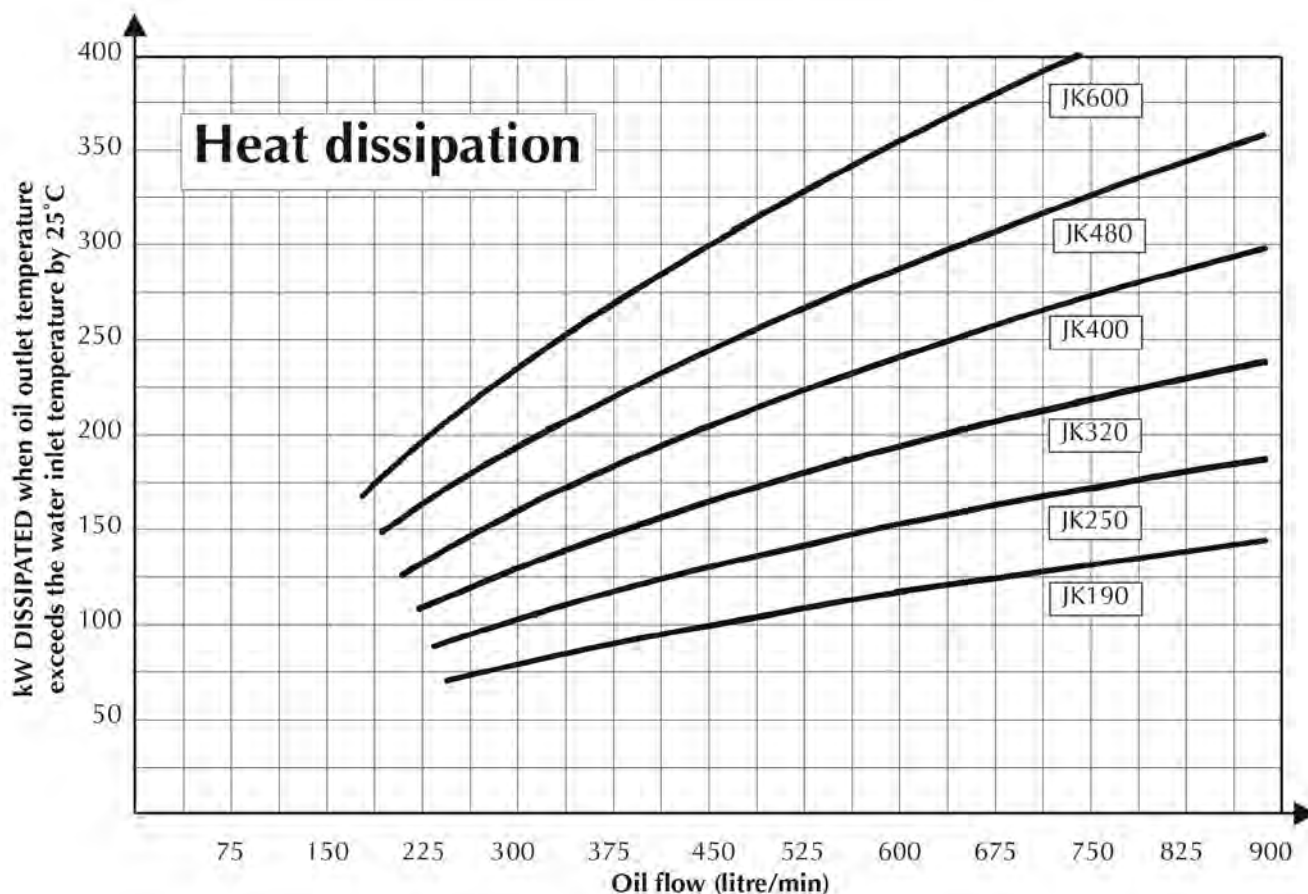
The heat dissipation figures are based on a water flow rate which is 50% of the oil flow. For other water flow rates, multiply the dissipation figure by the following correction factor –

25%	50%	100%
0.8	1	1.2



For dimensions see water/oil cooler technical data sheet in this catalogue

## JK RANGE



**Correction factors**

### Temperature Difference

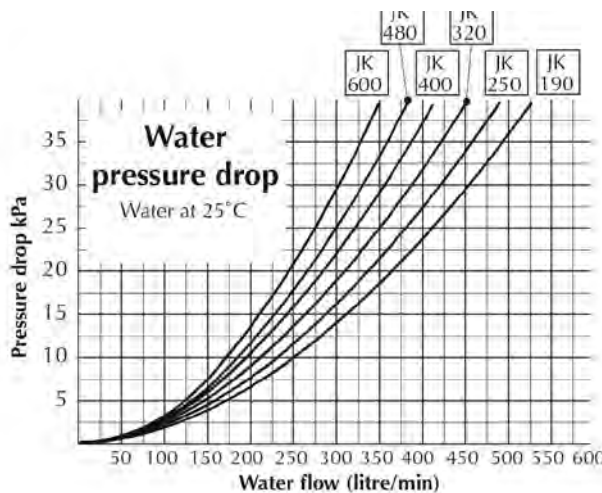
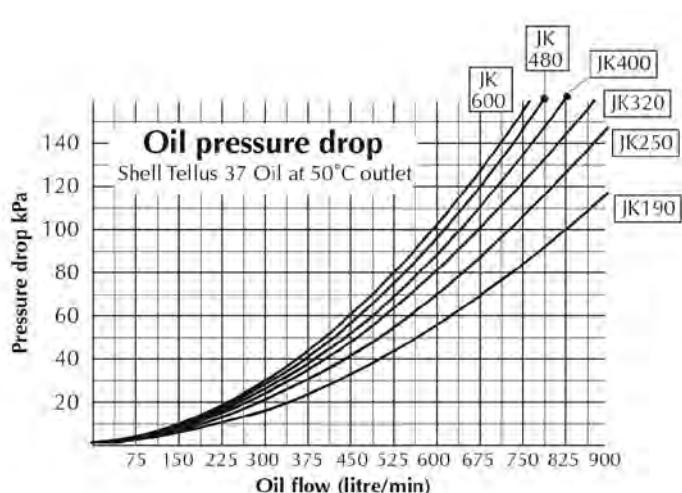
When the oil outlet temperature exceeds the water inlet temperature by other than 25°C multiply the kW dissipation figure by the following correction factor –

15°C	20°C	25°C	30°C	35°C
0.6	0.8	1	1.2	1.4

### Water Flow Rate

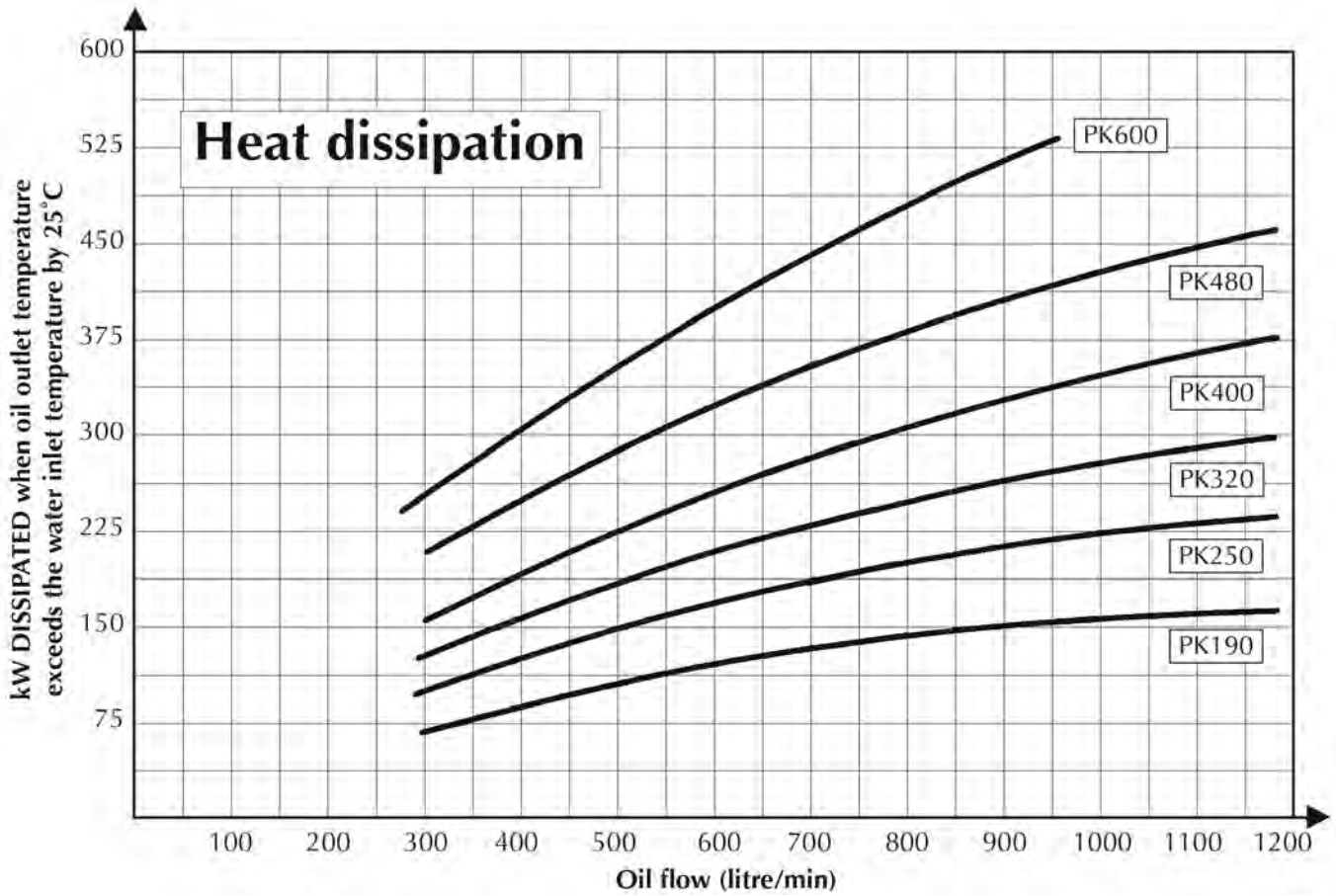
The heat dissipation figures are based on a water flow rate which is 50% of the oil flow. For other water flow rates, multiply the dissipation figure by the following correction factor –

25%	50%	100%
0.8	1	1.2



For dimensions see water/oil cooler technical data sheet in this catalogue

# PK RANGE



**Correction factors**

**Temperature Difference**

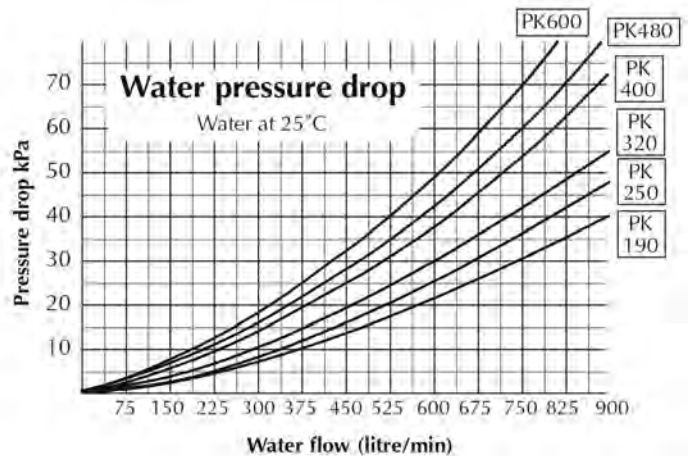
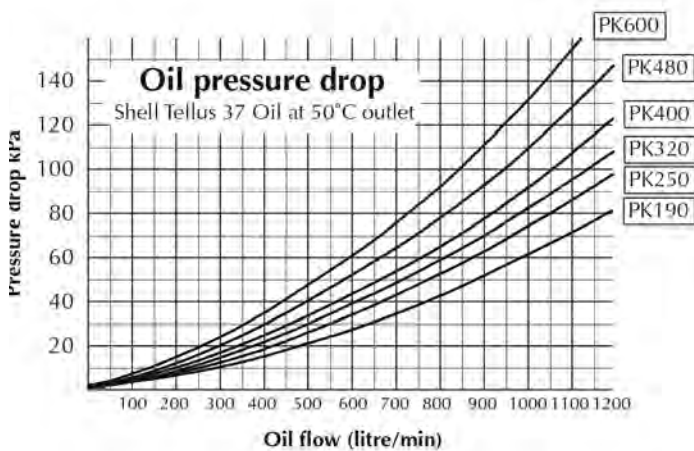
When the oil outlet temperature exceeds the water inlet temperature by other than 25°C multiply the kW dissipation figure by the following correction factor –

15°C	20°C	25°C	30°C	35°C
0.6	0.8	1	1.2	1.4

**Water Flow Rate**

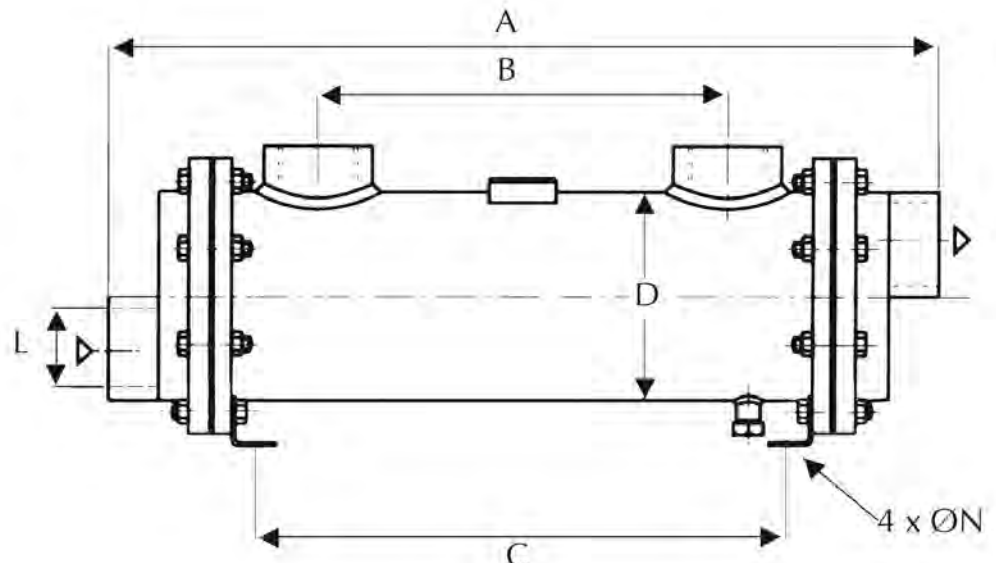
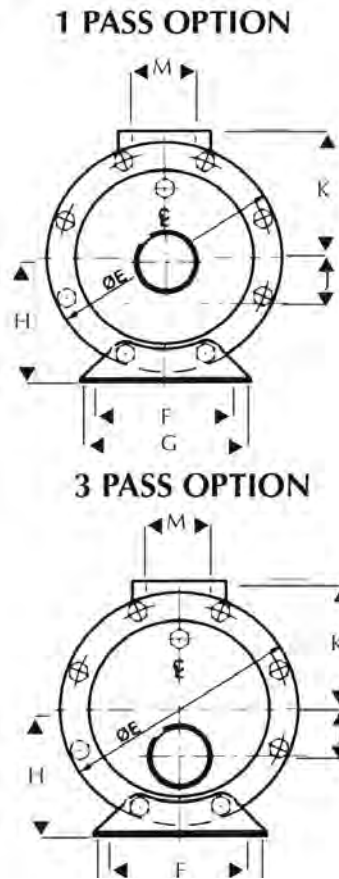
The heat dissipation figures are based on a water flow rate which is 50% of the oil flow. For other water flow rates, multiply the dissipation figure by the following correction factor –

25%	50%	100%
0.8	1	1.2



For dimensions see water/oil cooler technical data sheet in this catalogue

# STAINLESS STEEL COOLER



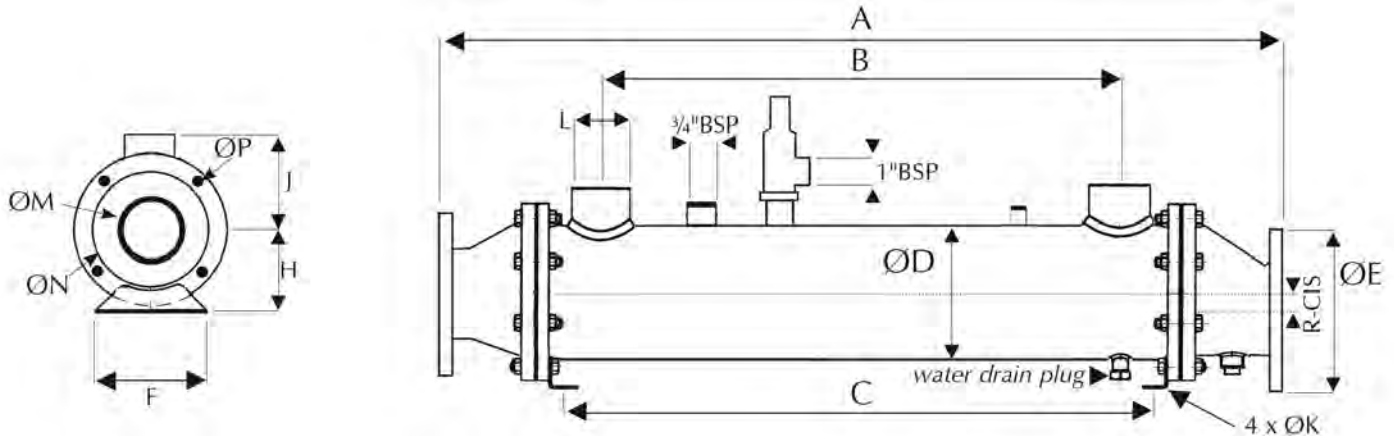
**These extremely robust heat exchangers are built entirely from 316 stainless steel. Tubes are expanded into tubeplates and ends are removable for tube cleaning. Please contact us to perform thermal calculations.**

Working pressure rating.....30 bar  
 Working temperature rating .....200°C

MODEL	A mm	B mm	C mm	D mm	E mm	F mm	G mm	H mm	J mm	K mm	L BSPP(“)	M BSPP(“)	N mm
SB 4507-2	460	266	310	89	136	60	90	75	22	70	G1	G1	9
SB 4507-4	734	540	584	89	136	60	90	75	22	70	G1	G1	9
SB 4507-6	1114	920	964	89	136	60	90	75	22	70	G1	G1	9
SC 4508-4	764	520	584	114	160	80	110	90	28	85	G11/4	G11/4	9
SC 4508-6	1144	900	964	114	160	80	110	90	28	85	G11/4	G11/4	9
SC 4508-8	1652	1408	1472	114	160	80	110	90	28	85	G11/4	G11/4	9
SD 4509-4	764	510	584	141	194	100	130	105	35	100	G11/2	G11/2	11
SD 4509-6	1134	890	964	141	194	100	130	105	35	100	G11/2	G11/2	11
SD 4509-8	1652	1398	1472	141	194	100	130	105	35	100	G11/2	G11/2	11
SE 4510-4	804	490	584	168	220	130	160	120	45	120	G2	G2	11
SE 4510-6	1184	870	964	168	220	130	160	120	45	120	G2	G2	11
SE 4510-8	1692	1378	1472	168	220	130	160	120	45	120	G2	G2	11
SE 4510-9	2200	1886	1980	168	220	130	160	120	45	120	G2	G2	11
SF 4511-4	8341	470	574	219	284	180	220	150	60	150	G21/2	G21/2	14
SF 4511-6	1214	850	954	219	284	180	220	150	60	150	G21/2	G21/2	14
SF 4511-8	1722	1358	1462	219	284	180	220	150	60	150	G21/2	G21/2	14
SF 4511-9	2230	1866	1970	219	284	180	220	150	60	150	G21/2	G21/2	14
SG 4512-4	844	430	574	273	340	250	290	180	70	180	G3	G3	14
SG 4512-6	1224	810	954	273	340	250	290	180	70	180	G3	G3	14
SG 4512-8	1732	1318	1462	273	340	250	290	180	70	180	G3	G3	14
SG 4512-9	2240	1826	1970	273	340	250	290	180	70	180	G3	G3	14

# EXHAUST GAS HEAT EXCHANGER

These heat exchangers are designed to remove thermal energy from the exhaust gas of natural gas, diesel and bio-fuel engines and transfer it to the water circuit. The extracted heat can be used for space heating, domestic hot water and any industrial process that requires hot water. Used in conjunction with jacket water, charge air, fuel and oil coolers, Bowman units can reclaim up to 60% of waste heat from an engine. Fully welded stainless steel construction for reliability and durability.



	GAS	WATER
Working pressure rating	0.5 bar	4 bar
Working temperature rating	700°C	110°C

MODEL	A mm	B mm	C mm	D mm	E mm	F mm	H mm	J mm	K mm	L	M mm	N mm	P mm	R mm	Kgs
2-25-3737-4	754	540	584	60.3	100	75	83	60	9	RP3/4"	34	75	4x11	16	10
2-25-3737-5	932	718	762	60.3	100	75	83	60	9	RP3/4"	34	75	4x11	16	12
3-32-3738-5	962	718	762	89	140	60	75	70	9	RP1"	54	110	4x14	16	18
3-40-3738-6	1164	920	964	89	140	60	75	70	9	RP1"	54	110	4x14	16	20
3-60-3738-8	1672	1428	1472	89	140	60	75	70	9	RP1"	54	110	4x14	16	27
4-32-3739-5	992	698	762	114	160	80	90	85	9	RP1 1/2"	66	130	4x14	22	24
4-40-3739-6	1194	900	964	114	160	80	90	85	9	RP1 1/2"	66	130	4x14	22	28
4-60-3739-8	1702	1408	1472	114	160	80	90	85	9	RP1 1/2"	66	130	4x14	22	42
5-32-3740-5	1032	688	762	141	190	100	105	100	11	RP2"	82	150	4x18	26	36
5-40-3740-6	1234	890	964	141	190	100	105	100	11	RP2"	82	150	4x18	26	39
5-60-3740-8	1742	1398	1472	141	190	100	105	100	11	RP2"	82	150	4x18	26	51
6-32-3741-5	1082	668	762	168	210	130	120	140	11	DN60*	104	170	4x18	28	51
6-40-3741-6	1284	870	964	168	210	130	120	140	11	DN60*	104	170	4x18	28	53
6-60-3741-8	1792	1378	1472	168	210	130	120	140	11	DN60*	104	170	4x18	28	75
8-32-3742-5	1152	648	752	219	240	180	150	180	14	DN80*	130	200	8x18	40	85
8-40-3742-6	1354	850	954	219	240	180	150	180	14	DN80*	130	200	8x18	40	98
8-60-3742-8	1862	1358	1462	219	240	180	150	180	14	DN80*	130	200	8x18	40	121
10-32-3743-5	1232	608	752	273	265	250	180	220	14	DN100*	154	225	8x18	55	132
10-40-3743-6	1434	810	954	273	265	250	180	220	14	DN100*	154	225	8x18	55	146
10-60-3743-8	1942	1318	1462	273	265	250	180	220	14	DN100*	154	225	8x18	55	181
12-32-3744-5	1332	538	738	324	320	300	220	270	18	DN150*	204	280	8x18	55	190
12-40-3744-6	1534	740	940	324	320	300	220	270	18	DN150*	204	280	8x18	55	208
12-60-3744-8	2042	1248	1448	324	320	300	220	270	18	DN150*	204	280	8x18	55	262

## EXHAUST GAS HEAT EXCHANGER

Following are some typical examples of exhaust gas heat exchanger performance.

For specific designs or larger sizes contact our sales department.

The figures below are a general guide and are not based on any particular natural gas engine.

They assume an air/fuel ratio of 10.23 : 1 by volume, a fuel consumption of 0.34m<sup>3</sup>/kWh

(measured at 1.013 bar and 15°C) and and exhaust gas temperature of 600°C and a water inlet temperature of 80°C.

Type	Gen Set Rating		Performance		
	Typical engine power kW	Exhaust gas flow kg/min	Exhaust gas outlet temperature °C	Heat recovery kW	Exhaust pressure drop kPa
<b>2-25-3737-4</b>	16	1.2	210	9.5	2.4
<b>2-32-3737-5</b>	16	1.2	170	10.5	2.8
<b>3-32-3738-5</b>	32	2.4	210	19	2.4
<b>3-40-3738-6</b>	32	2.4	170	21	2.8
<b>3-60-3738-8</b>	32	2.4	120	23	3.4
<b>4-32-3739-5</b>	60	4.5	210	35	2.2
<b>4-40-3739-6</b>	60	4.5	170	39	2.4
<b>4-60-3739-8</b>	60	4.5	120	43	3.0
<b>5-32-3740-5</b>	90	6.7	210	52	2.1
<b>5-40-3740-6</b>	90	6.7	170	57	2.4
<b>5-60-3740-8</b>	90	6.7	120	65	2.9
<b>6-32-3741-5</b>	140	10.5	210	82	2.2
<b>6-40-3741-6</b>	140	10.5	170	90	2.4
<b>6-60-3741-8</b>	140	10.5	120	101	3.0
<b>8-32-3742-5</b>	250	18.7	210	147	2.3
<b>8-40-3742-6</b>	250	18.7	170	160	2.5
<b>8-60-3742-8</b>	250	18.7	120	181	3.0
<b>10-32-3743-5</b>	400	30.0	210	236	2.4
<b>10-40-3743-6</b>	400	30.0	170	256	2.6
<b>10-60-3743-8</b>	400	30.0	120	288	3.1
<b>12-32-3744-5</b>	600	45.0	210	353	2.3
<b>12-40-3744-6</b>	600	45.0	170	380	2.5
<b>12-60-3744-8</b>	600	45.0	120	425	3.1

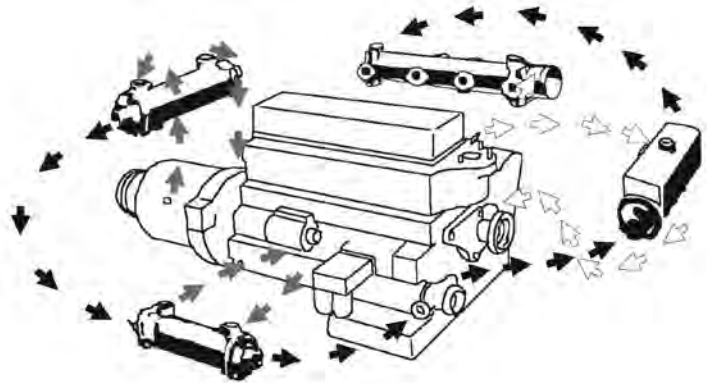
# MARINE COOLING SYSTEMS

We can design individual components or complete systems to keep your vessel running cool. We have a range of universal heat exchangers as well as units specifically designed for particular engines. Please contact us for more information.

## SYSTEM 1

A typical arrangement showing the position of the heat exchanger, sea water cooled exhaust manifold and oil coolers on a marine engine.

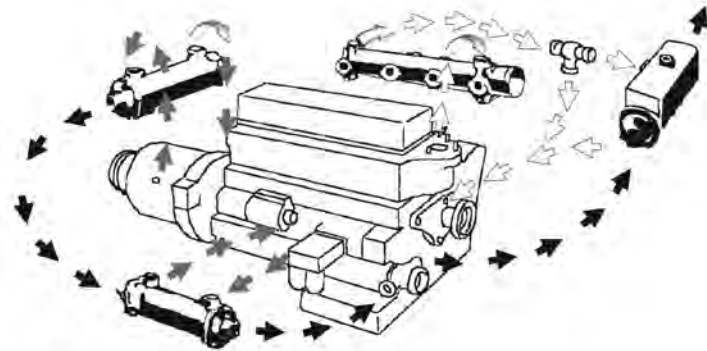
- ➔ seawater
- ➔ oil
- ⇨ freshwater



## SYSTEM 2

A typical arrangement showing the position of the heat exchanger, water cooled exhaust manifold and oil coolers on a marine engine.

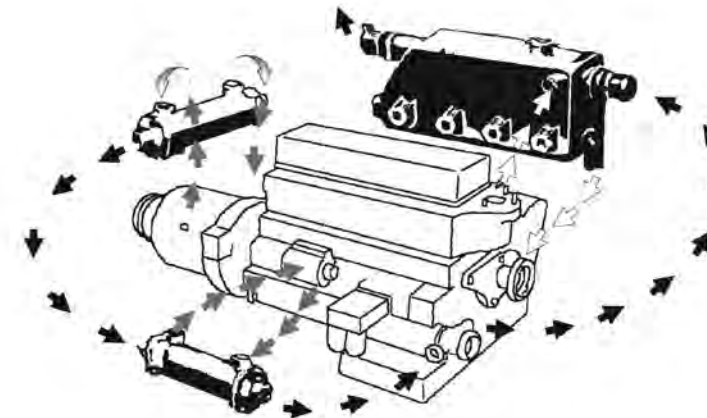
- ➔ seawater
- ➔ oil
- ⇨ freshwater



## SYSTEM 3

A typical arrangement showing the position of the heat exchanger/water cooled exhaust manifold and oil coolers on a marine engine.

- ➔ seawater
- ➔ oil
- ⇨ freshwater





# HEADER TANK HEAT EXCHANGER

These header tank heat exchangers can be used for marine engines as well as for various land-based duties such as engine testing and development work, generator sets, fire pumps and combined heat and power systems. They incorporate a quiet zone header tank and removeable tube stack which is held in position by O-rings to expand and contract freely within the cast housing, thus minimising thermal stress.

## Installation

The header tank exchanger should be mounted with the header tank above the cylinder level and with the engine water circuit arranged so that it is self-venting on initial filling. A by-pass type thermostat should be used and arranged so that only the heat exchanger is by-passed when the engine is cold. All other components including a water jacketed exhaust manifold, if fitted, any oil coolers, charge air coolers and exhaust gas heat exchangers should be so positioned in the circuit so that they always receive the full flow of the engine water pump.

Thermostats of the type used on some automotive engines which simply interrupt the cooling water flow when the engine is cold, are not recommended. For unattended operation, automatic engine shut down equipment should be provided.

The range of header tank heat exchangers showing their power ratings, various water volumes and our equivalent non header tanks shell and tube units.

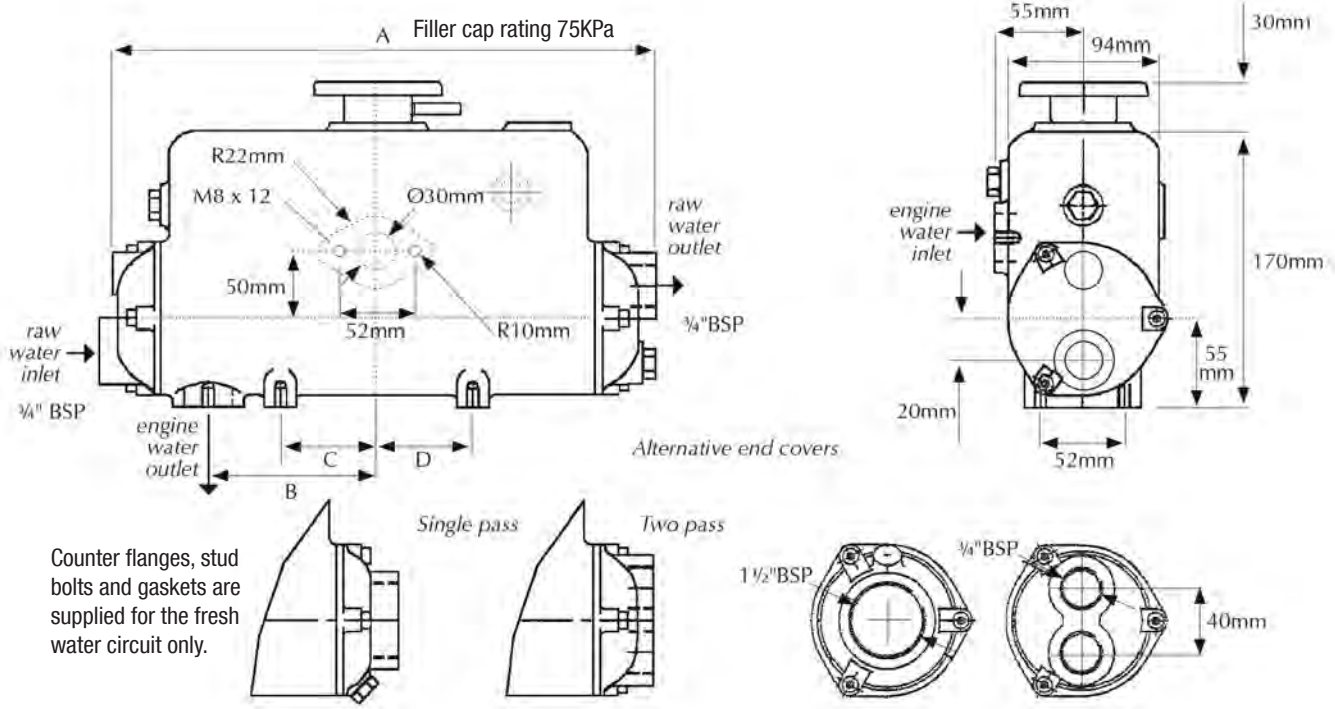
Type	Typical engine suitability		Raw water volume litres	Engine Water Volume litres	Header tank capacity litres	Shell and tube heat exchanger
	kW	HP				
DH90	15	20	0.21	0.80	0.54	DC90
DH120	20	27	0.28	1.25	0.90	DC120
EH100	40	54	0.45	1.30	0.90	EC100
EH200	50	67	0.60	2.20	1.32	EC120
FH100	60	80	0.85	3.25	20.8	FC100
FH200	90	120	1.10	4.50	2.93	FC120
FH300	120	160	1.55	6.55	4.12	FG100
FH400	150	200	2.00	9.15	5.70	FG120
FH500	190	255	2.40	11.40	7.50	FG140
GH200	180	240	3.10	10.90	6.20	GL140
GH300	250	335	3.0	14.85	8.54	GL180
GH400	320	428	4.60	18.10	11.24	GL240
KH200	360	482	6.30	18.80	13.00	GK190
KH300	450	600	7.50	25.60	17.33	GK250
KH400	550	737	9.00	33.50	22.56	GK320
JH200	550	737	8.80	27.20	18.56	JK190
JH300	700	938	10.40	36.90	24.80	JK250
JH400	850	1140	12.50	46.30	32.26	JK320
PH200	950	1273	18.60	49.00	34.24	PK250
PH300	1200	1608	21.80	64.00	44.63	PK320
PH400	1400	1876	25.30	81.00	56.43	PK400

Maximum working raw water pressure = 15 bar

Maximum working engine water pressure = 1 bar (filler cap rating dependent)

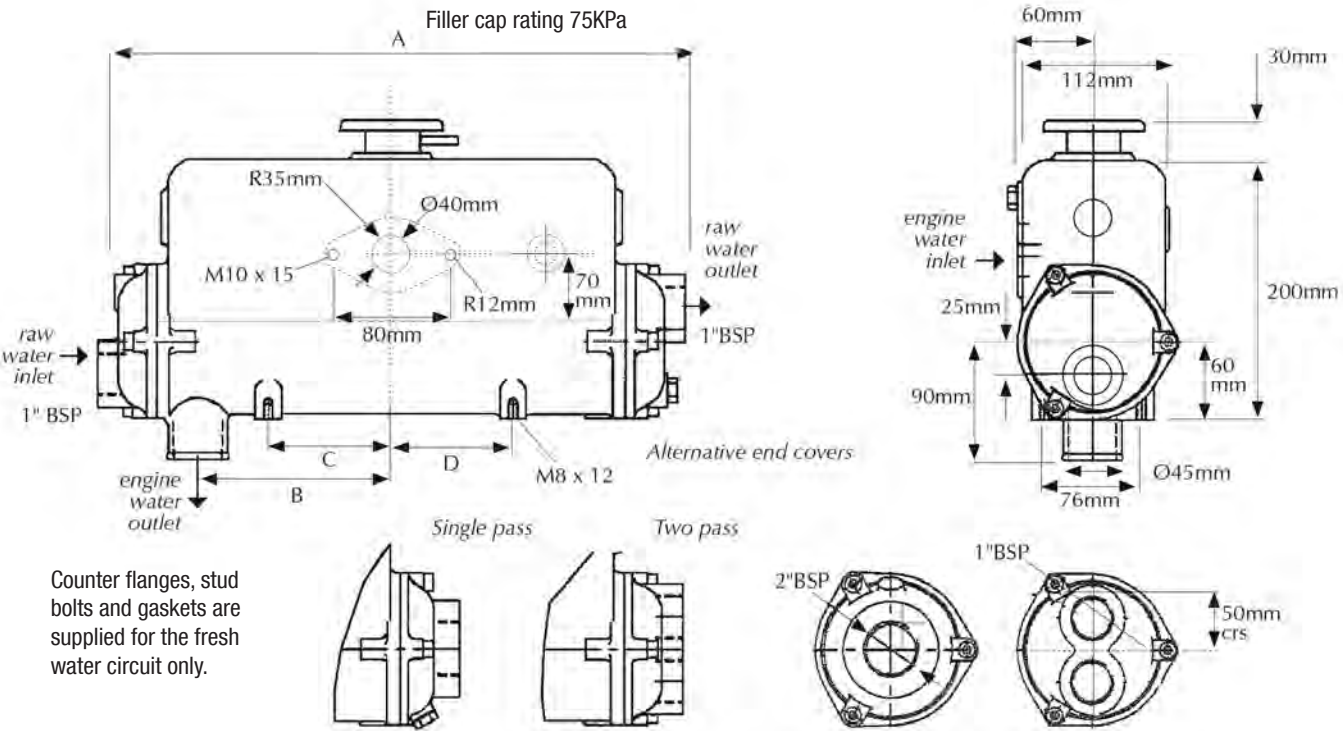
Maximum working temperature = 110°C

# HEADER TANK HEAT EXCHANGER



	WT	A	B	C	D		WT	A	B	C	D
<b>EH100</b>	5kg	260mm	62mm	20mm	60mm	<b>EH200</b>	6kg	346mm	105mm	60mm	60mm

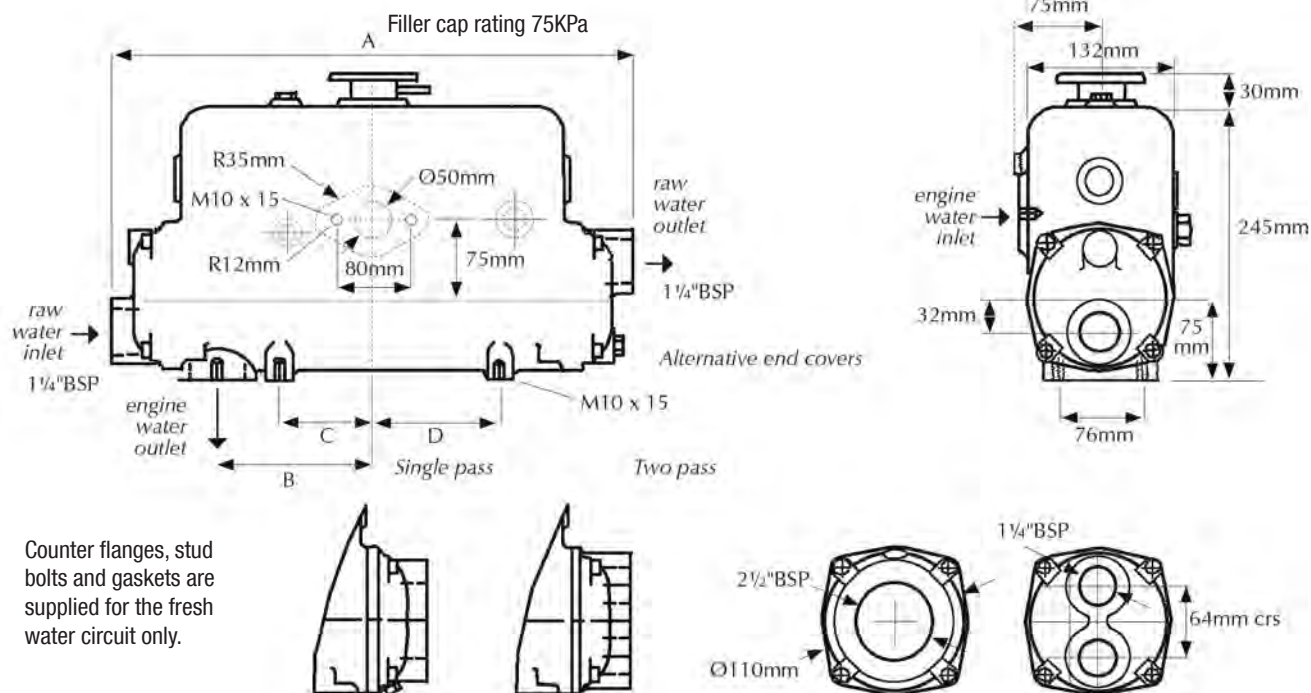
Engine inlet and outlet flanges have identical dimensions.



	WT	A	B	C	D		WT	A	B	C	D
<b>FH100</b>	8kg	358mm	100mm	45mm	95mm	<b>FH200</b>	11kg	454mm	150mm	95mm	95mm

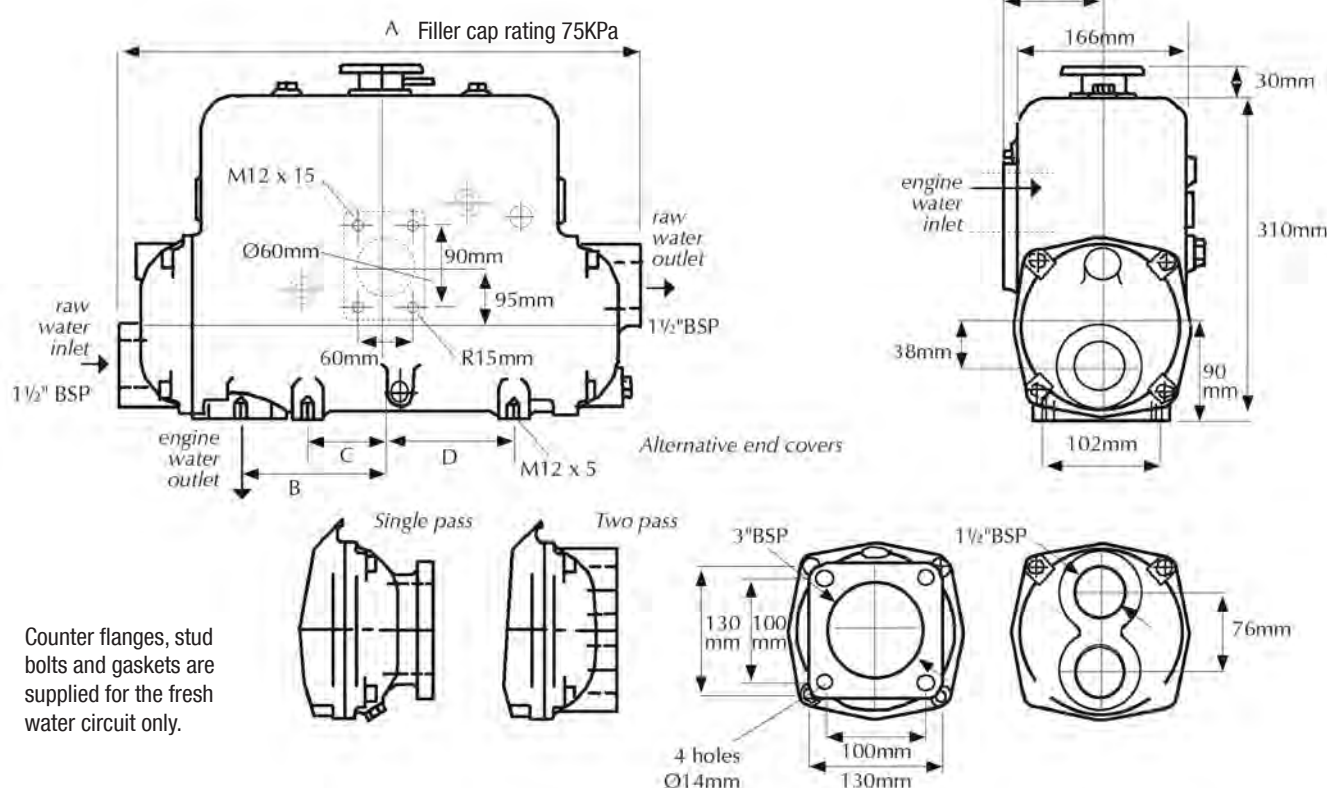
Engine inlet and outlet flanges have identical dimensions.

# HEADER TANK HEAT EXCHANGER



	WT	A	B	C	D		WT	A	B	C	D		WT	A	B	C	D
<b>FH300</b>	14kg	472mm	140mm	84mm	116mm	<b>FH400</b>	17kg	600mm	200mm	144mm	144mm	<b>FH500</b>	20kg	746mm	270mm	217mm	217mm

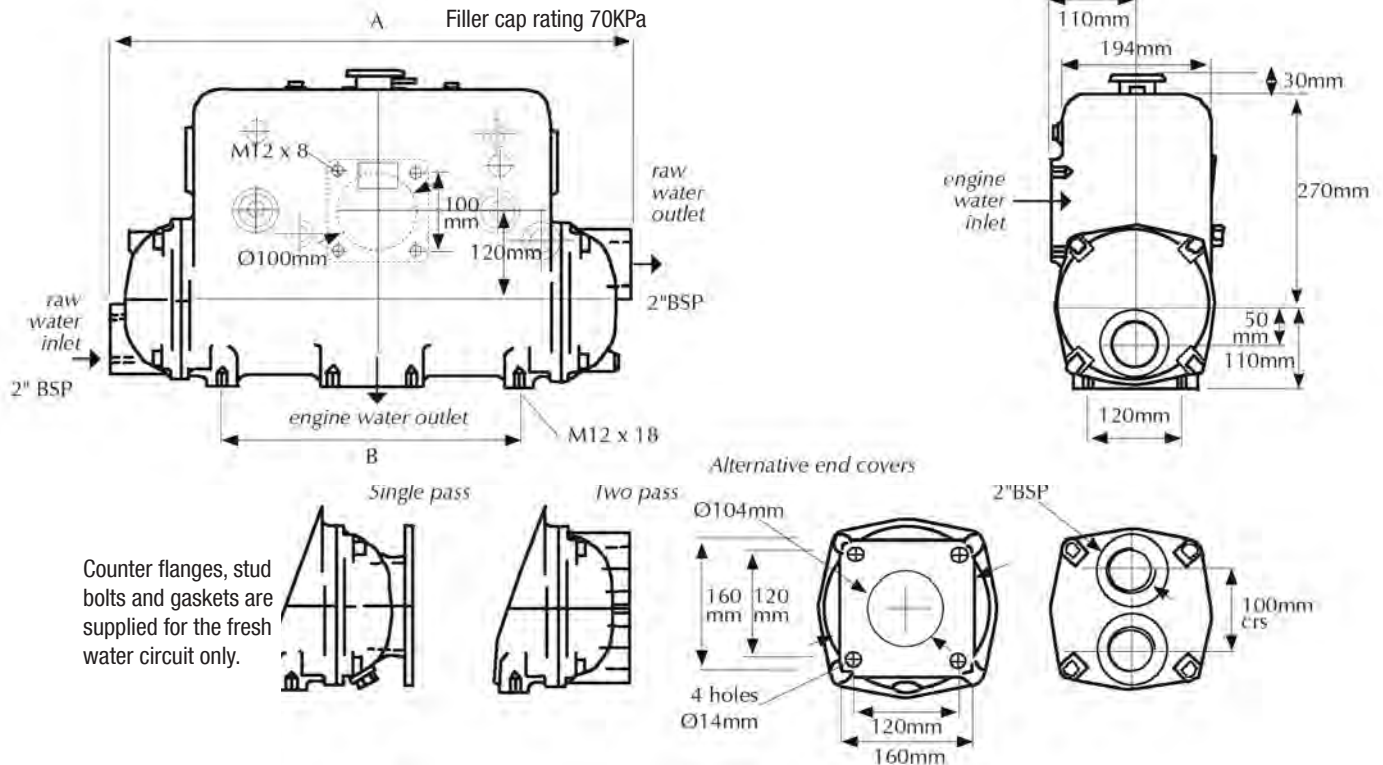
Engine inlet and outlet flanges have identical dimensions.



	WT	A	B	C	D		WT	A	B	C	D		WT	A	B	C	D
<b>GH200</b>	24kg	502mm	135mm	70mm	130mm	<b>GH300</b>	29kg	630mm	195mm	70mm	130mm	<b>GH400</b>	34kg	776mm	270mm	146mm	200mm

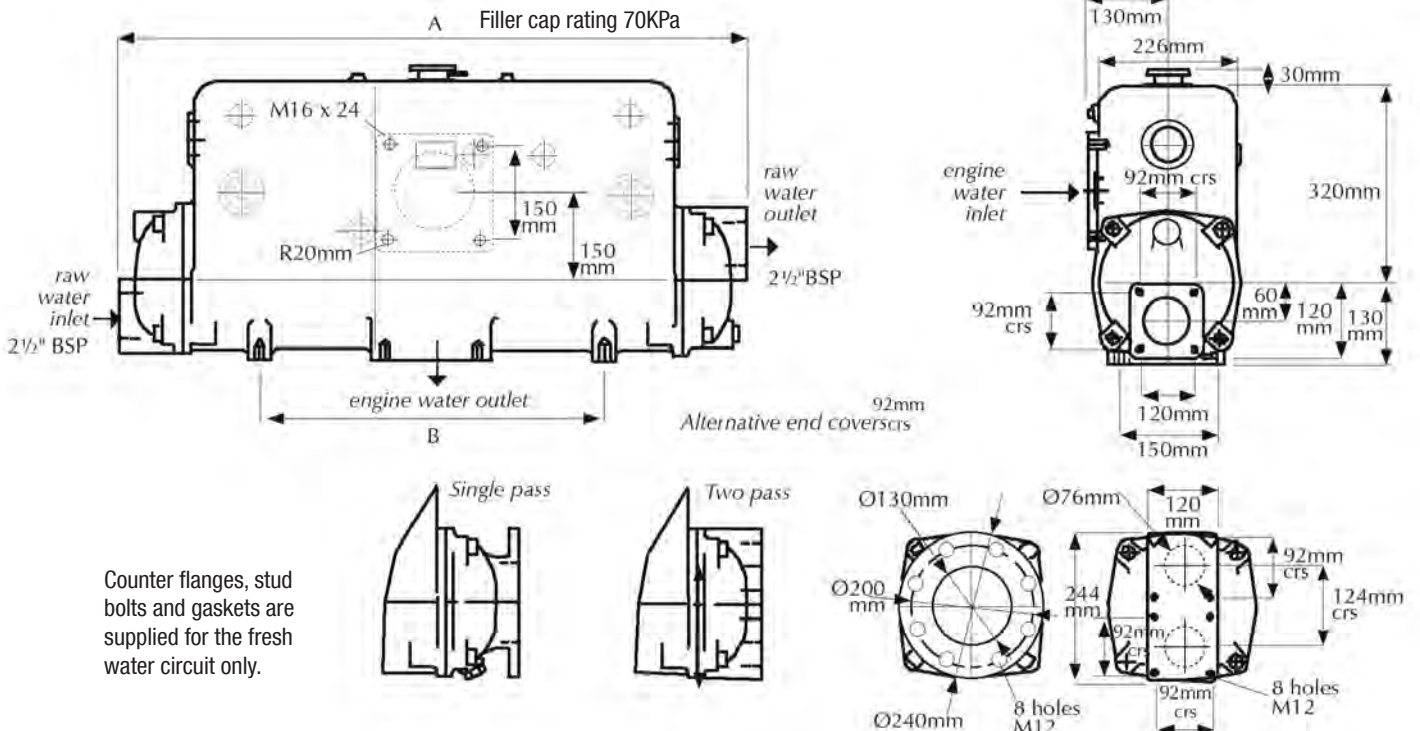
Engine inlet and outlet flanges have identical dimensions.

# HEADER TANK HEAT EXCHANGER



	WT	A	B		WT	A	B		WT	A	B
<b>KH200</b>	51kg	260mm	62mm	<b>KH300</b>	59kg	820mm	382mm	<b>KH400</b>	67kg	998mm	560mm

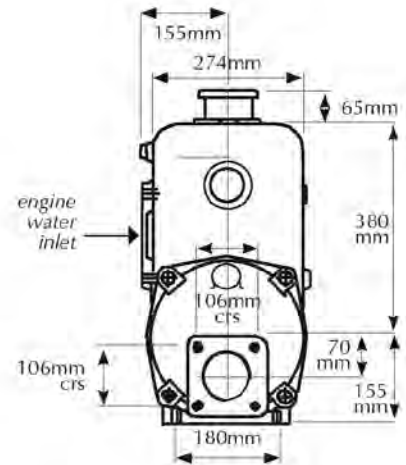
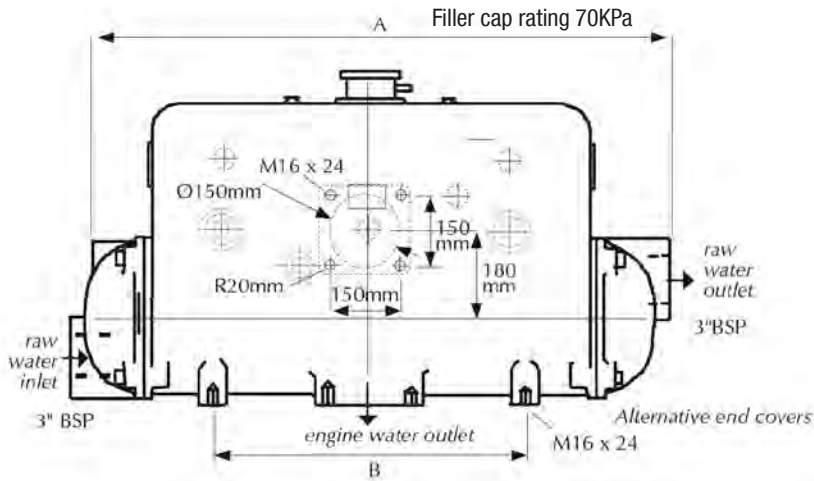
Engine inlet and outlet flanges have identical dimensions.



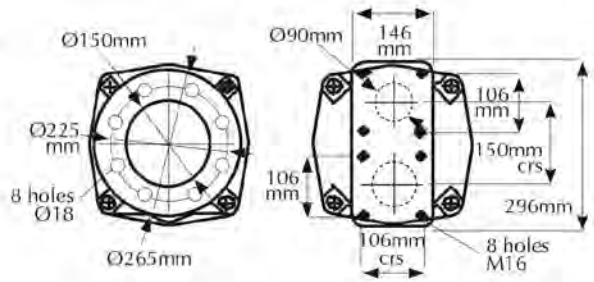
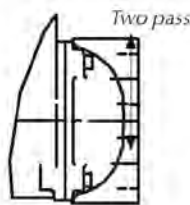
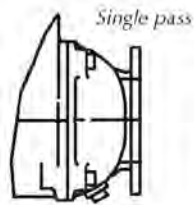
	WT	A	B		WT	A	B		WT	A	B
<b>JH200</b>	82kg	704mm	382mm	<b>JH300</b>	93kg	850mm	382mm	<b>JH400</b>	106kg	1028mm	560mm

Engine inlet and outlet flanges have identical dimensions.

# HEADER TANK HEAT EXCHANGER



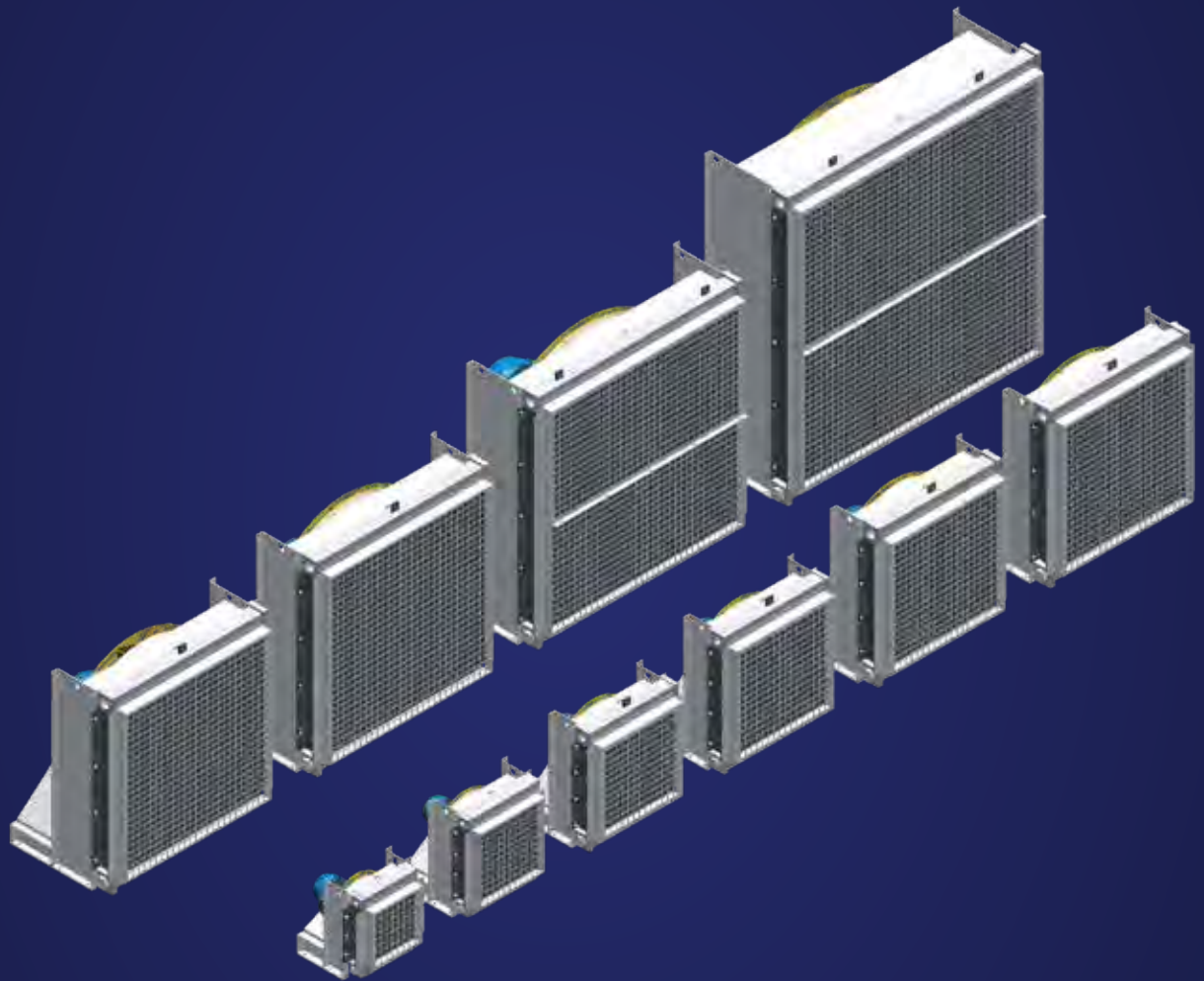
Counter flanges, stud bolts and gaskets are supplied for the fresh water circuit only.



	WT	A	B		WT	A	B		WT	A	B
<b>PH200</b>	136kg	890mm	382mm	<b>PH300</b>	156kg	1078mm	560mm	<b>PH400</b>	190kg	1280mm	762mm

Engine inlet and outlet flanges have identical dimensions.

## SECTION B - Air Cooled Oil Coolers - ACX





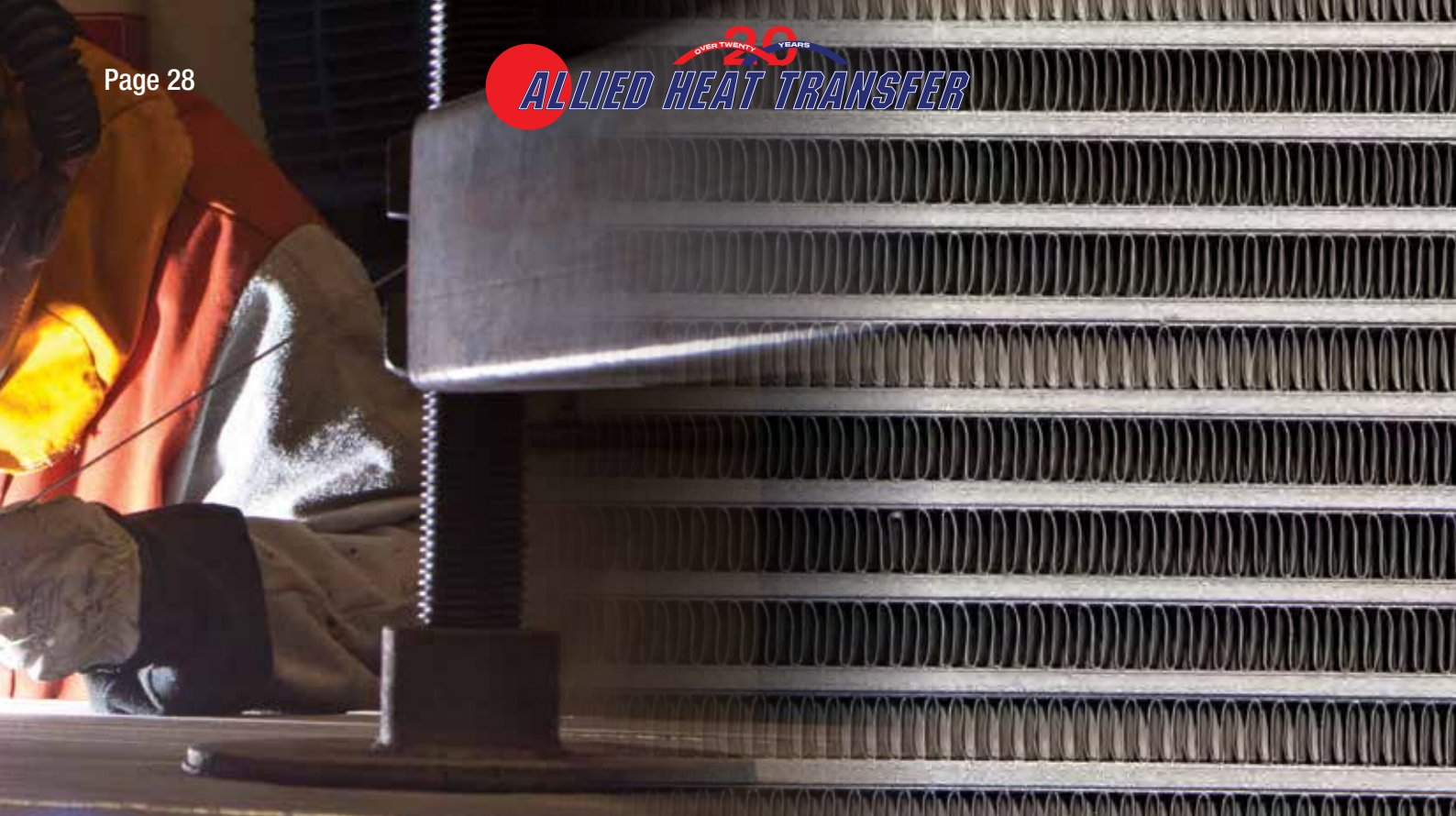
## **Allied Heat Transfer has over 100 years combined experience in the design and manufacture of oil coolers.**

Air cooled oil coolers are shown here in this catalogue and water cooled in the heat exchanger catalogue.

For a custom made cooler please contact us.

Our experience has been used to develop a range of coolers with these features:

- *High quality, heavy duty aluminium construction*
- *High pressure, 30 bar maximum operating pressure*
- *High thermal efficiency*
- *In-built pressure bypass for start-up conditions*
- *Low noise, most packages less than 85 dB(A) at 1m*
- *Low power consumption*
- *Available with either 1 or 3 Phase AC, hydraulic or 12-24v DC fans*
- *All coolers in the range can be supplied with a double-shaft motor with integrated oil pump to provide the required oil flow rate*
- *Our coolers can be provided with a corrosion resistant coating upon request*
- *Our coolers are subjected to random batch cycle testing from 0 - 2.4 MPa at a frequency of 1 - 3 Hz with an average life of 500,000 cycles*



**Installation:**

When installing these coolers it is important that they are placed to allow free flowing air in to and out of the cooler, it is recommended to keep a distance equal to half the height of the cooler at the front and rear.

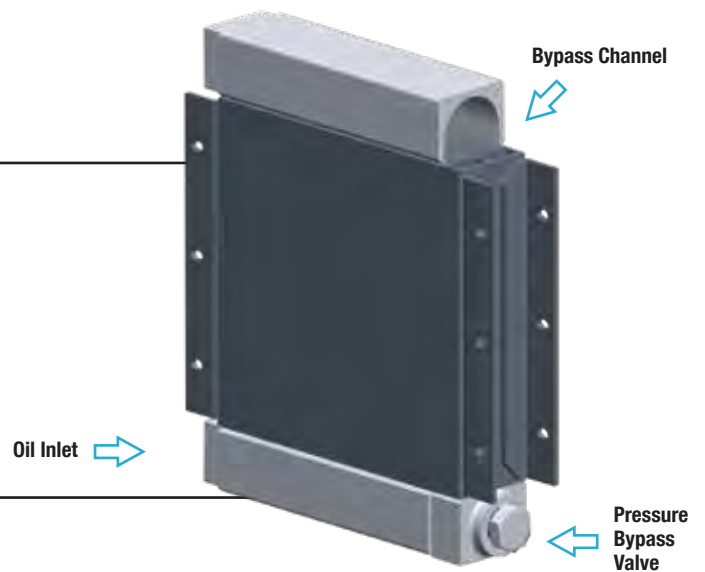
**Maintenance:**

These coolers do not require any maintenance other than ensuring they are kept clean; if the cooler becomes dirty and/or blocked either inside or outside the cooling performance will be reduced.

If cleaning the coolers with high-pressure water the direction of cleaning flow must be parallel to the fins to ensure the fins are not damaged, cleaning must be performed when the cooler is cold.

**Integral Pressure Bypass**

Every ACX cooler is manufactured and supplied with an integral Pressure Bypass Valve and Bypass Channel to divert flow past the heat transfer core when the oil is cold, for instance on start-up, preventing excessive pressure build up. Standard bypass pressure is 6 bar, 2 bar can be provided upon request.







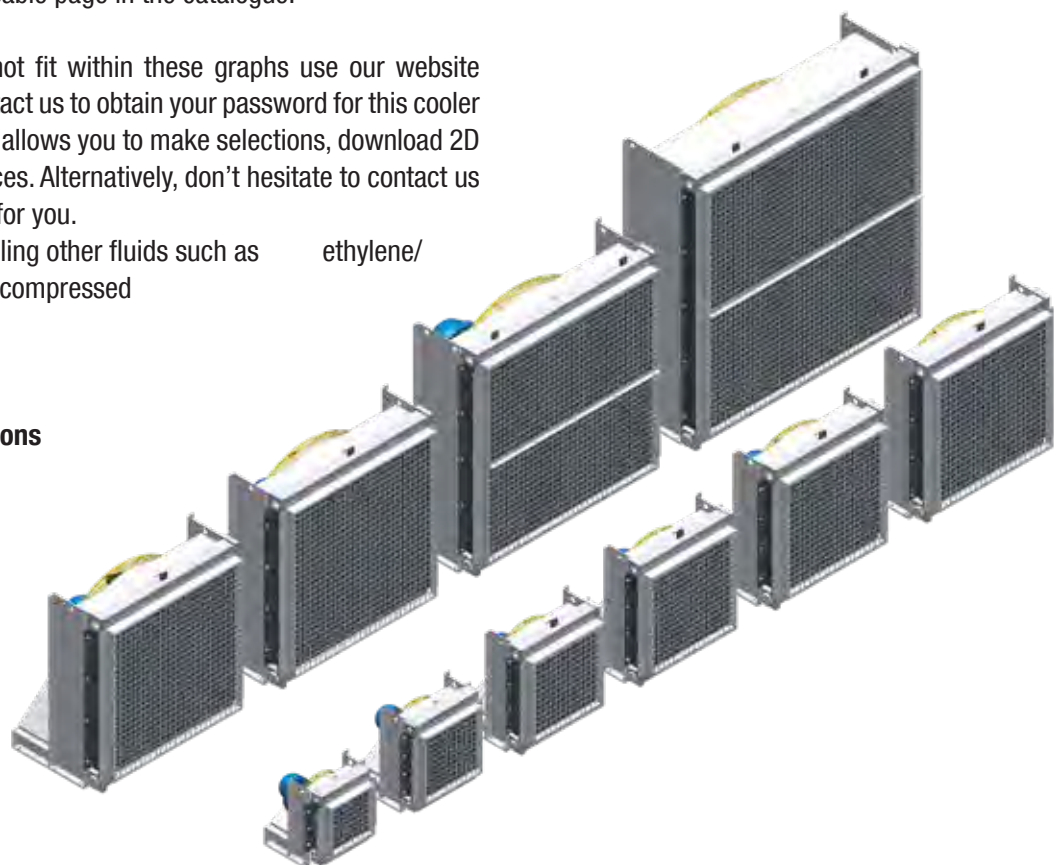
## ACX Air Cooled eXchangers

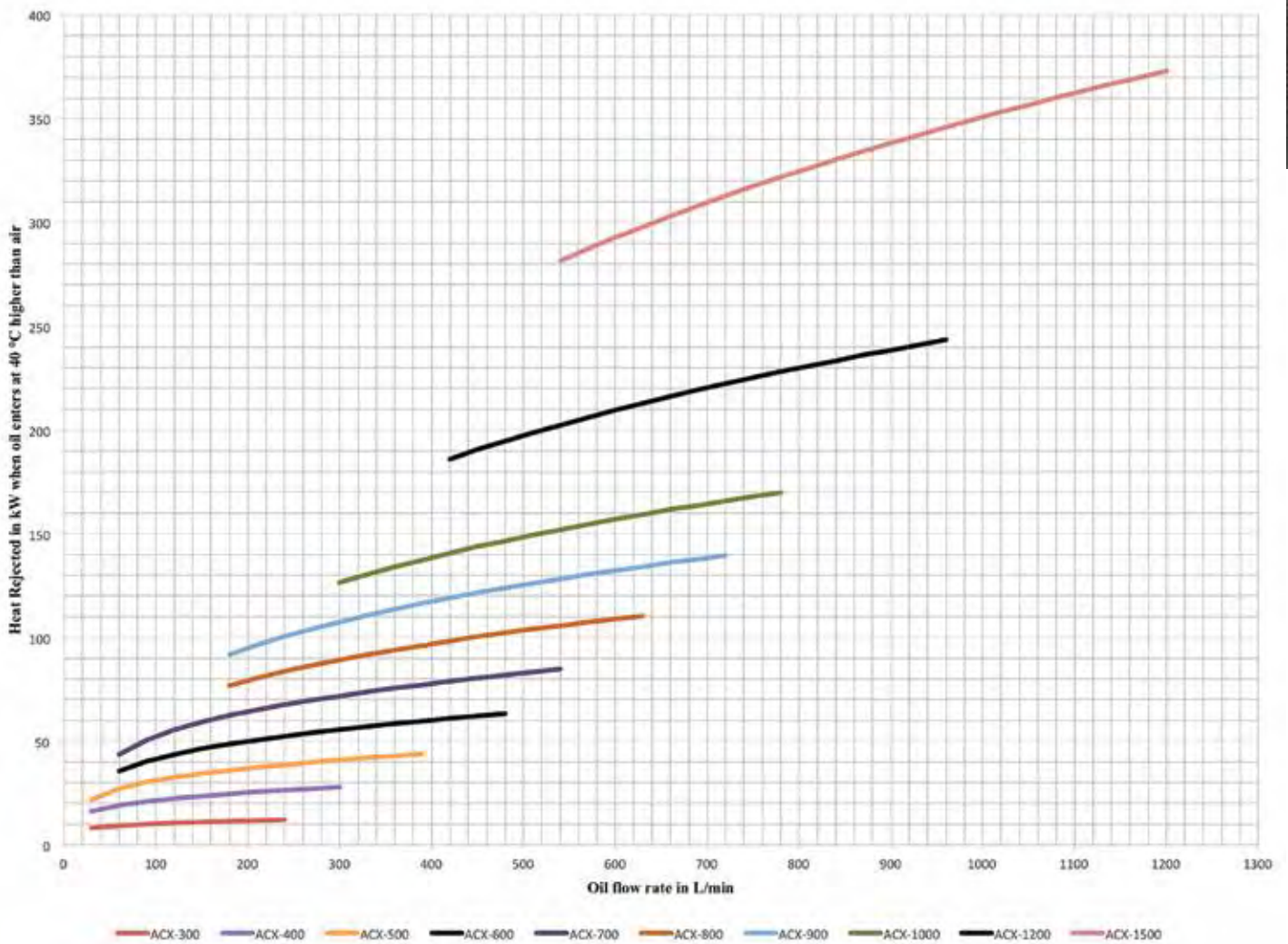
The graph on the following page shows the performance of each cooler, it can be used to determine which size cooler is required, further information on that cooler can be seen on the applicable page in the catalogue.

For design conditions that do not fit within these graphs use our website calculation program, please contact us to obtain your password for this cooler selection program. The program allows you to make selections, download 2D and 3D drawings and obtain prices. Alternatively, don't hesitate to contact us and we can perform the design for you.

ACX coolers can be used for cooling other fluids such as ethylene/glycol mixtures or as charge air/compressed air coolers.

**Please contact us for further information on these applications**





**Information needed to size oil coolers**

The oil type & viscosity ?

Max pressure loss through the oil cooler that you can accept ?

The oil flow ?

What will the max oil pressure in the cooler be ?

Amount of heat to be removed from the oil ?

The cooling air temp entering the cooler ?

Max oil temp your system can accommodate ?

Fan motor type: Hydraulic, 1 or 3 phase, 12 or 24v?

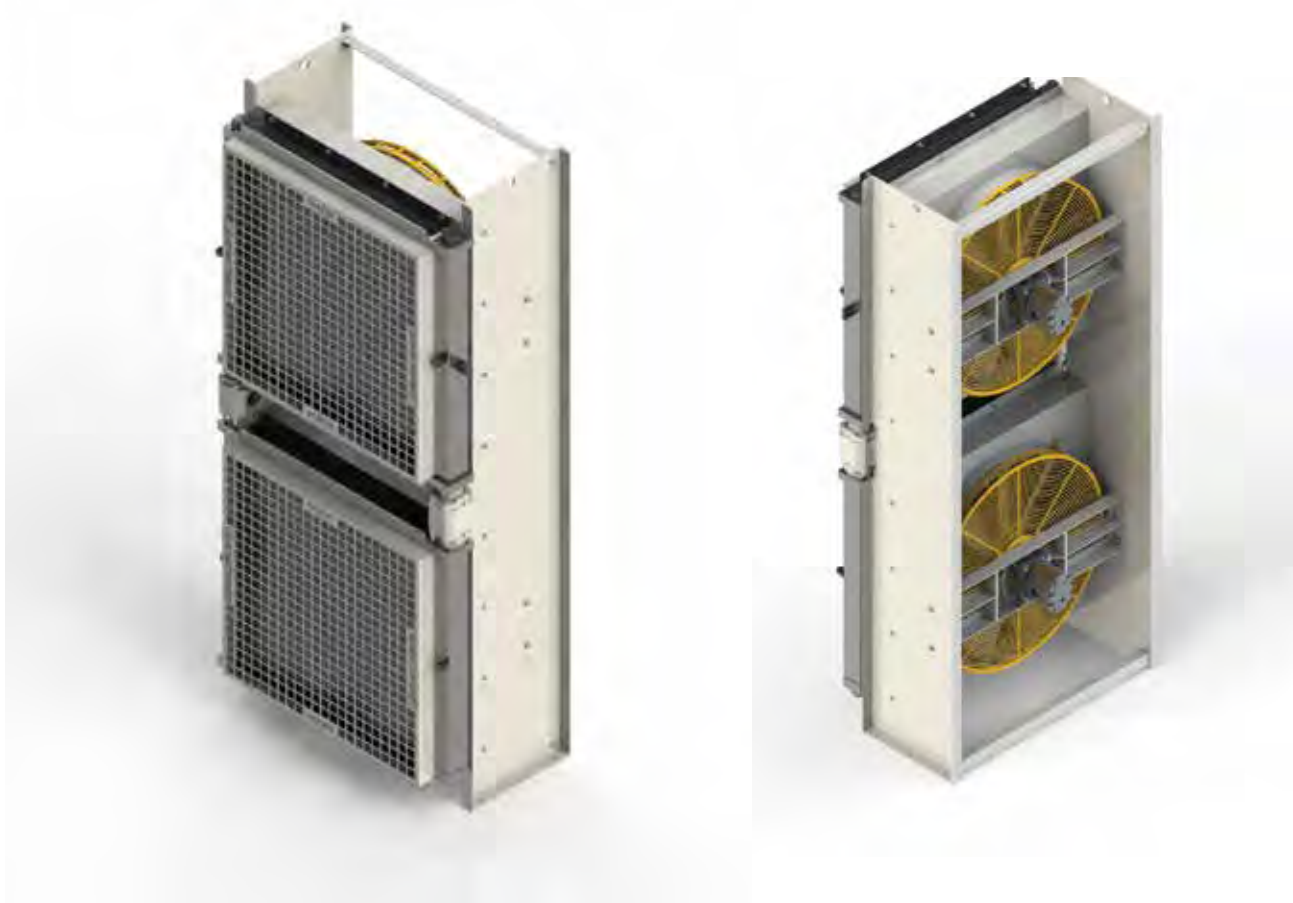
# ACX COOLERS

## With Integral Oil Pump



**All ACX Cooler sizes can have  
an Integral pump attached at selected flow rates.  
Up to 150 cSt viscosity**

# ACX STACKED COOLERS

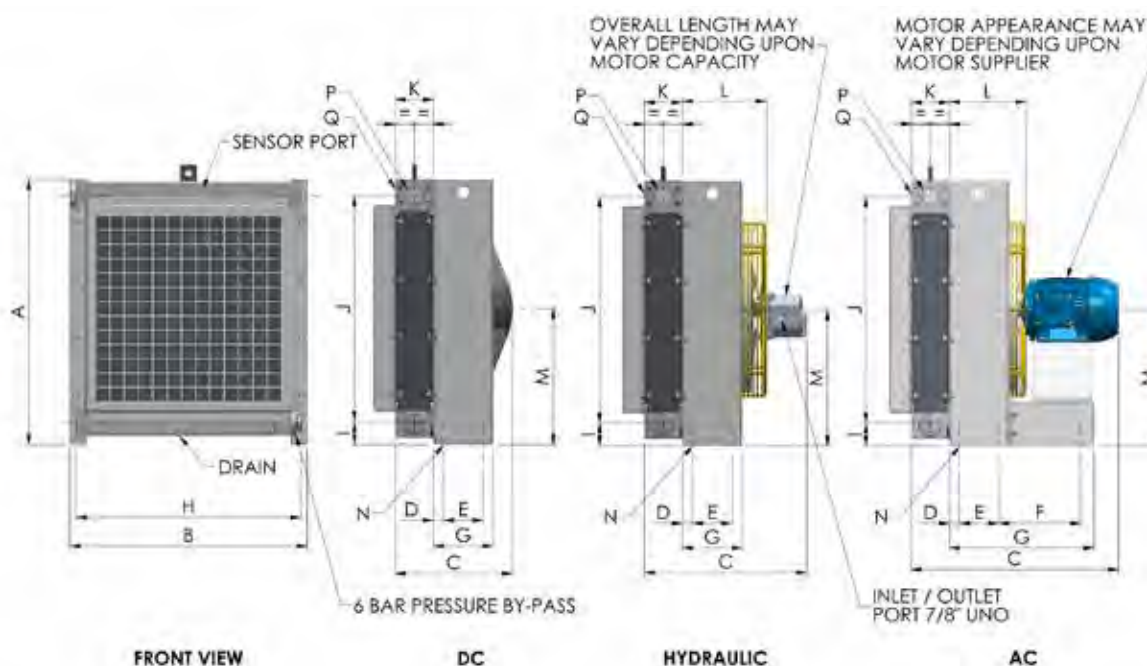
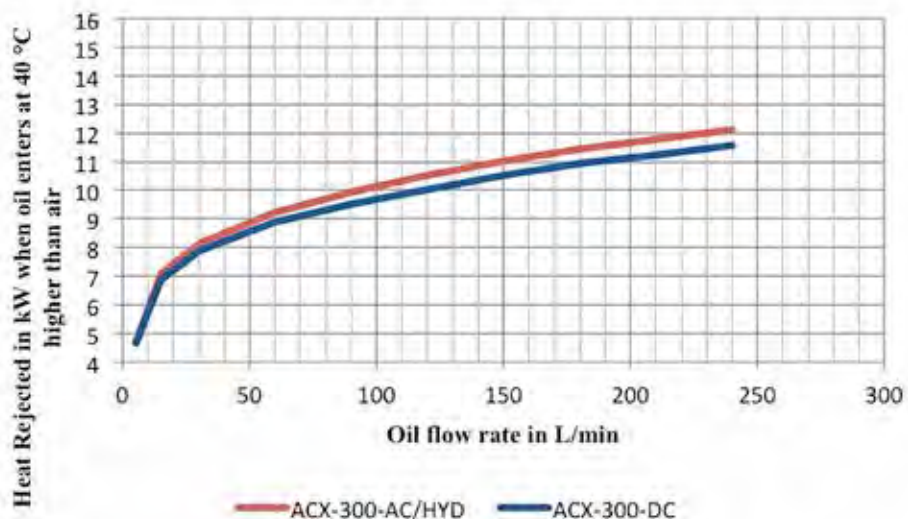


**All ACX Coolers can be stacked to increase heat rejection while maintaining a small foot print**

# ACX 300

MAXIMUM WORKING PRESSURE: 30 BAR

## ACX-300



MODEL ACX300	A	B	C	D	E	F	G	H	I	J	K	L	M	N (HOLES)	WEIGHT (kg)
AC, 0.37 kW, 2P	447	420	452	25	70	192	313	390	57	360	80	166	237	6 x Ø15	37
12-24V	477	420	359	25	70	-	120	390	57	360	80	-	237	4 x Ø15	19
HYDRAULIC	447	420	222	25	70	-	120	390	57	360	80	181	237	4 x Ø15	23

Estimated noise level dB(A) @ 1m: 82

Approximate oil volume (L): 3

STANDARD FAN CONFIGURATION IS SUCKER. BLOWER OPTION AND LOW NOISE AVAILABLE UPON REQUEST. ANTI-SPARKING/ANTI-STATIC ALSO AVAILABLE

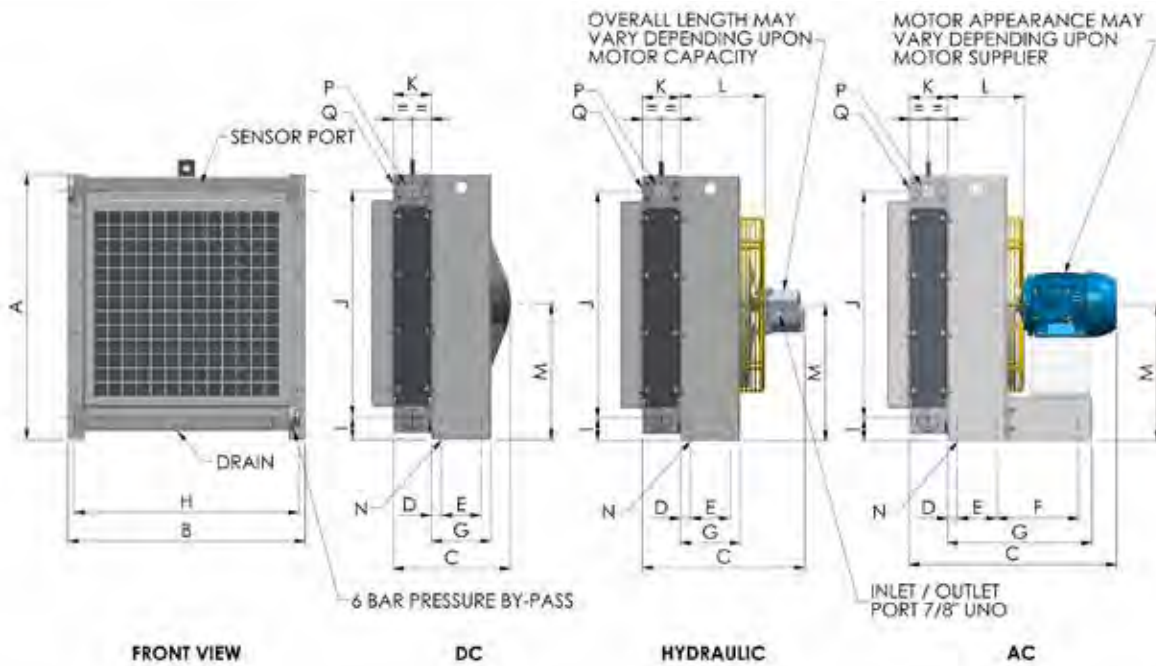
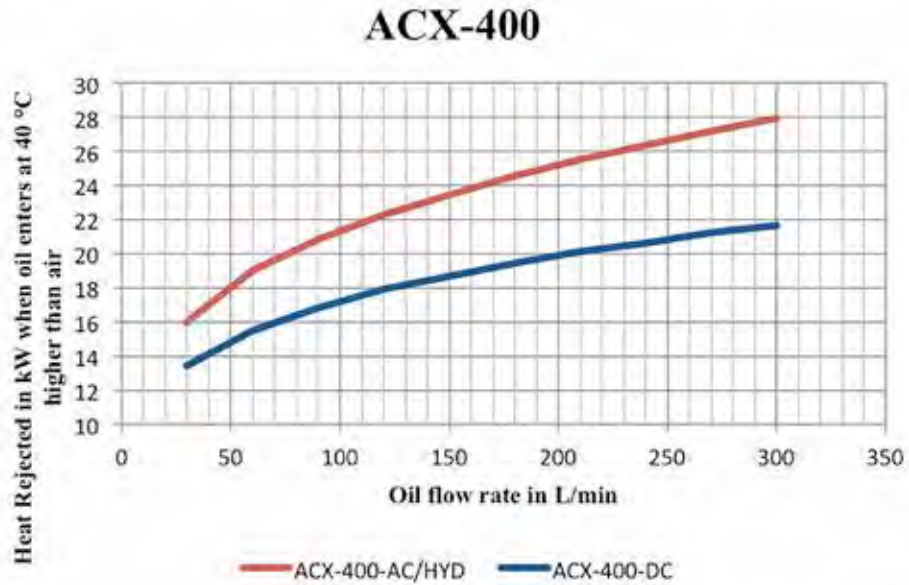
AC MOTOR SPECIFY VOLTAGE AND FREQUENCY WHEN ORDERING (ALL VOLTAGES AND SPECIFICATIONS AVAILABLE)

ALL DIMENSIONS IN MILLIMETERS

CONNECTIONS: ALL THREADS "P", 1" BSPP - ALL FLANGES "Q", 1" SAE CODE 61

# ACX 400

MAXIMUM WORKING PRESSURE: 30 BAR



MODEL ACX400	A	B	C	D	E	F	G	H	I	J	K	L	M	N (HOLES)	WEIGHT (kg)
AC, 0.55 kW, 2P	545	490	476	25	96	189	343	460	55	460	80	196	285	6 x Ø15	47
12-24V	545	490	285	25	96	-	146	460	55	460	80	-	285	4 x Ø15	26
HYDRAULIC	545	490	389	25	96	-	146	460	55	460	80	211	285	4 x Ø15	30

Estimated noise level dB(A) @ 1m: 82

Approximate oil volume (L): 5

STANDARD FAN CONFIGURATION IS SUCKER. BLOWER OPTION AND LOW NOISE AVAILABLE UPON REQUEST. ANTI-SPARKING/ANTI-STATIC ALSO AVAILABLE

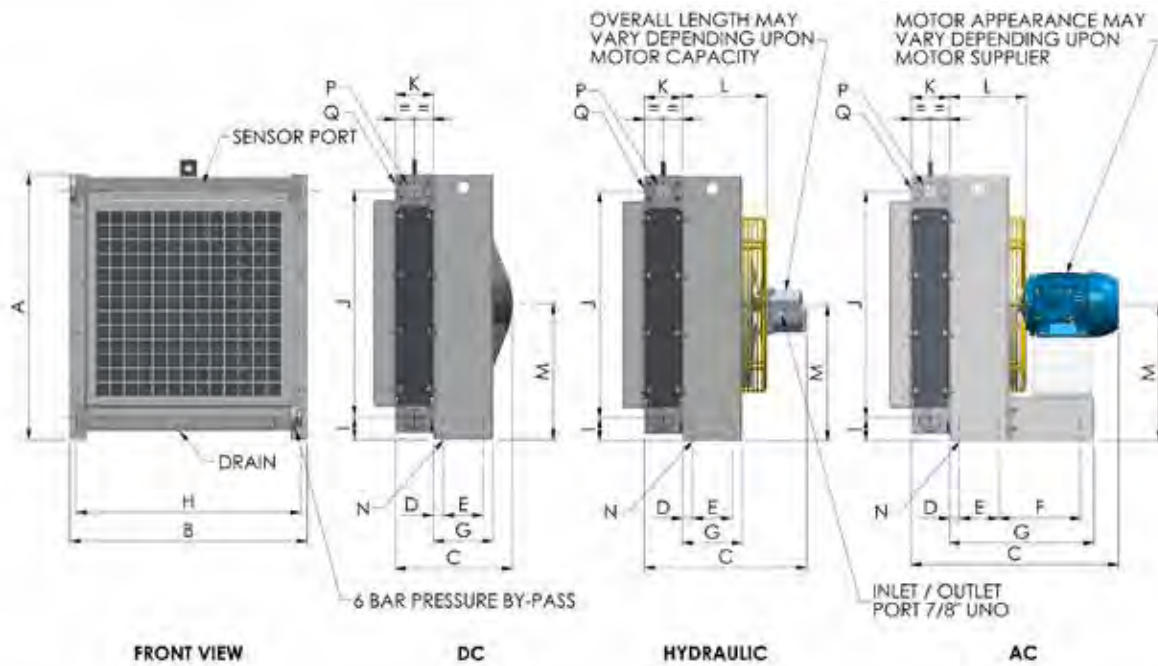
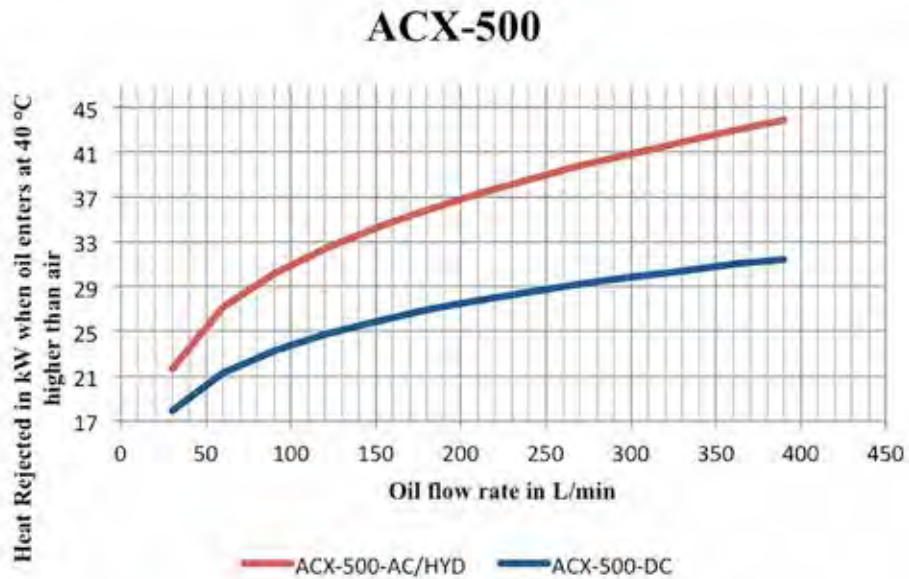
AC MOTOR SPECIFY VOLTAGE AND FREQUENCY WHEN ORDERING (ALL VOLTAGES AND SPECIFICATIONS AVAILABLE)

ALL DIMENSIONS IN MILLIMETERS

CONNECTIONS: ALL THREADS "P", 1" BSPP - ALL FLANGES "Q", 1" SAE CODE 61

# ACX 500

MAXIMUM WORKING PRESSURE: 30 BAR



MODEL ACX500	A	B	C	D	E	F	G	H	I	J	K	L	M	N (HOLES)	WEIGHT (kg)
AC, 0.75 kW, 2P	647	580	507	25	96	200	353	550	56	552	93	187	332	6 x Ø15	56
12-24V	647	580	287	25	96	-	146	550	56	552	93	-	332	4 x Ø15	34
HYDRAULIC	647	580	398	25	96	-	146	550	56	552	93	206	332	4 x Ø15	39

Estimated noise level dB(A) @ 1m: 82

Approximate oil volume (L): 7

STANDARD FAN CONFIGURATION IS SUCKER. BLOWER OPTION AND LOW NOISE AVAILABLE UPON REQUEST. ANTI-SPARKING/ANTI-STATIC ALSO AVAILABLE

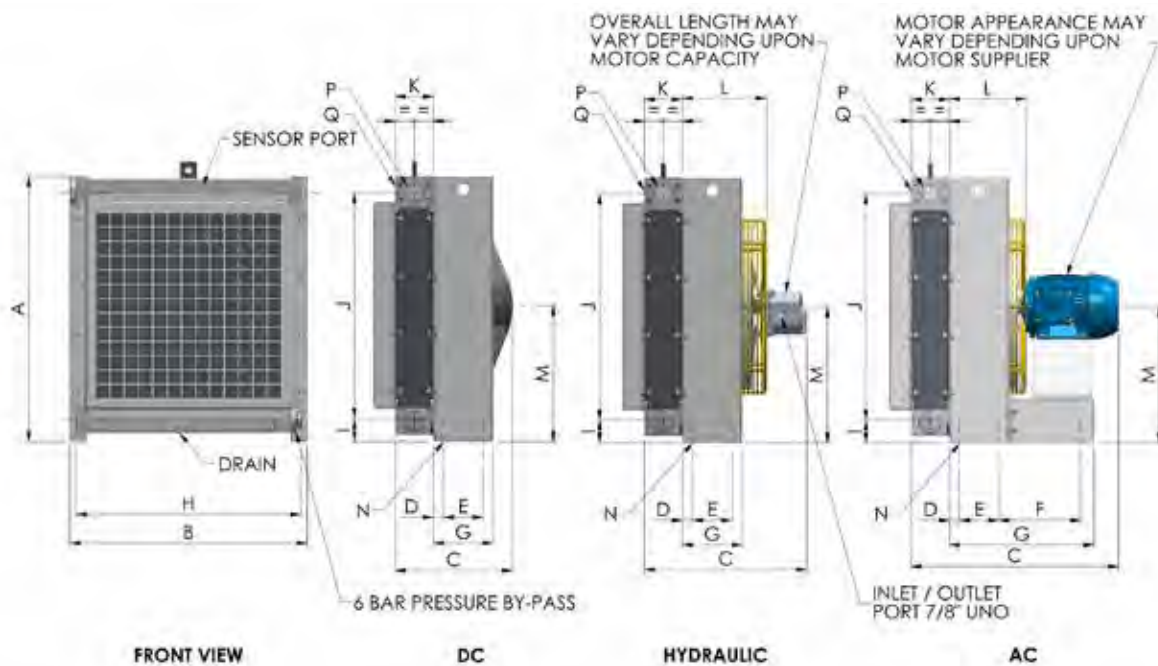
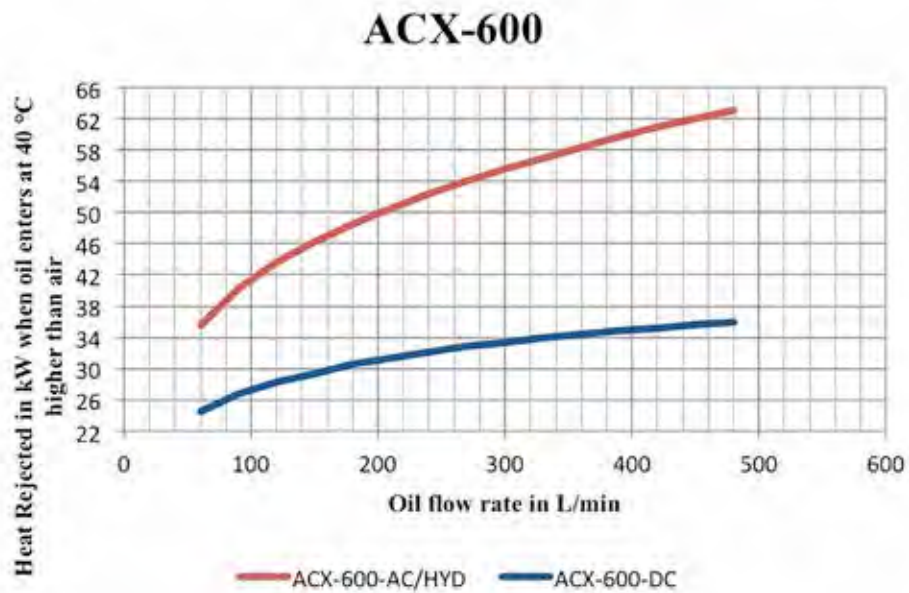
AC MOTOR SPECIFY VOLTAGE AND FREQUENCY WHEN ORDERING (ALL VOLTAGES AND SPECIFICATIONS AVAILABLE)

ALL DIMENSIONS IN MILLIMETERS

CONNECTIONS: ALL THREADS "P", 1½" BSPP - ALL FLANGES "Q", 1½" SAE CODE 61

# ACX 600

MAXIMUM WORKING PRESSURE: 30 BAR



MODEL ACX600	A	B	C	D	E	F	G	H	I	J	K	L	M	N (HOLES)	WEIGHT (kg)
AC, 1.1 kW, 2P	747	680	506	25	96	210	363	650	56	652	93	191	382	6 x Ø15	76
DC, 12-24V	747	680	287	25	96	-	146	650	56	652	93	-	382	4 x Ø15	45
HYDRAULIC	747	680	398	25	96	-	146	650	56	652	93	206	382	4 x Ø15	50

Estimated noise level dB(A) @ 1m: 82

Approximate oil volume (L): 9

STANDARD FAN CONFIGURATION IS SUCKER. BLOWER OPTION AND LOW NOISE AVAILABLE UPON REQUEST. ANTI-SPARKING/ANTI-STATIC ALSO AVAILABLE

AC MOTOR SPECIFY VOLTAGE AND FREQUENCY WHEN ORDERING (ALL VOLTAGES AND SPECIFICATIONS AVAILABLE)

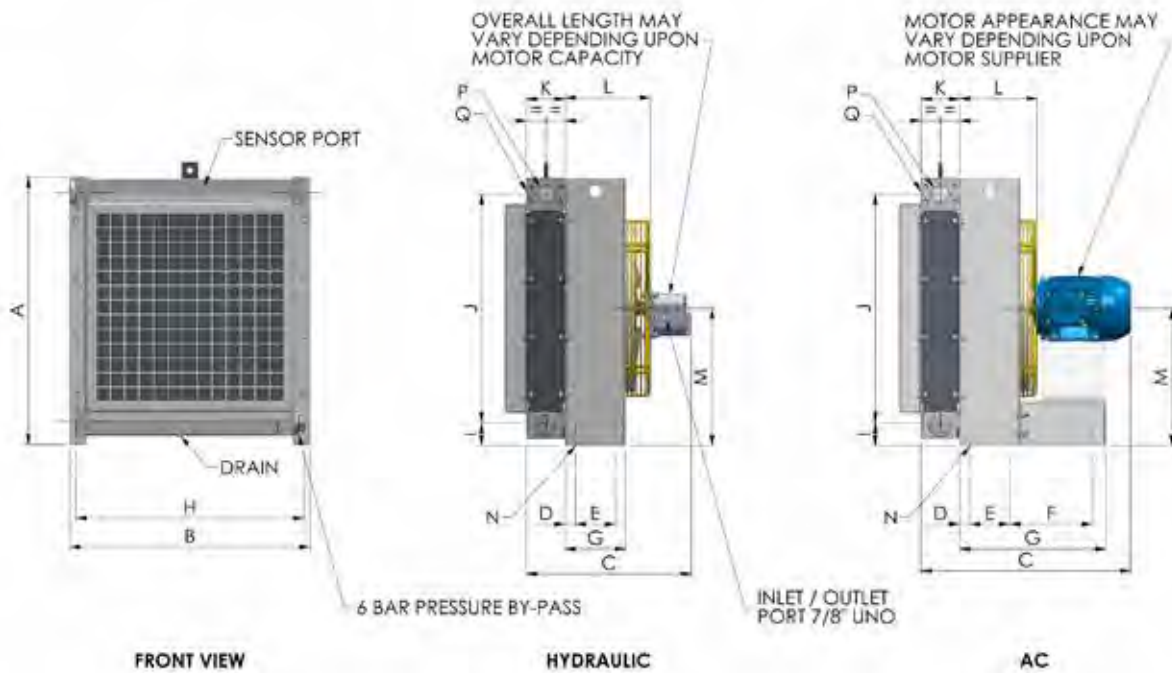
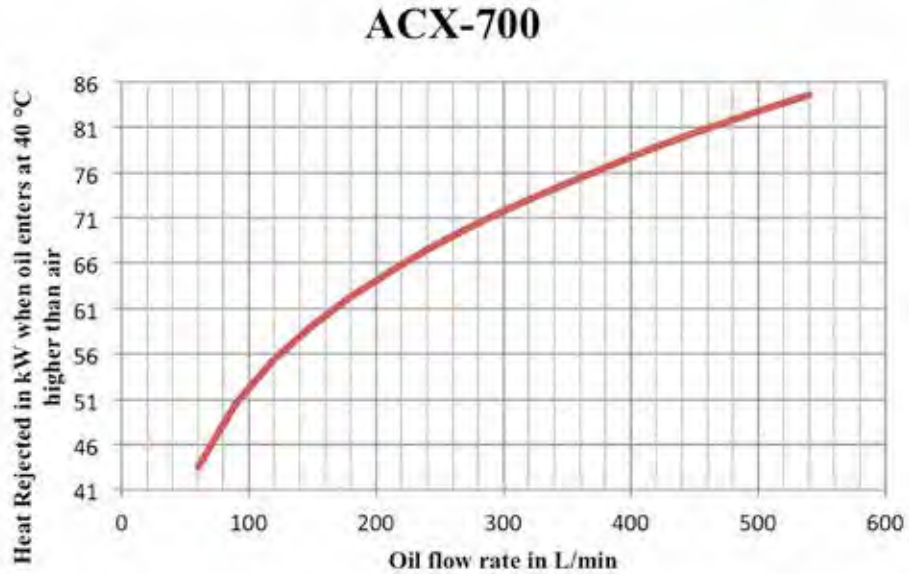
ALL DIMENSIONS IN MILLIMETERS

CONNECTIONS: ALL THREADS "P", 1/2" BSPP - ALL FLANGES "Q", 1/2" SAE CODE 61



# ACX 700

MAXIMUM WORKING PRESSURE: 30 BAR



MODEL ACX700	A	B	C	D	E	F	G	H	I	J	K	L	M	N (HOLES)	WEIGHT (kg)
AC, 1.5 kW, 6P	859	810	581	38	96	297	466	780	60	744	102	237	437	6 x Ø15	121
HYDRAULIC	859	810	525	38	96	-	171	780	60	744	102	245	437	4 x Ø15	81

Estimated noise level dB(A) @ 1m: 82

Approximate oil volume (L): 11

STANDARD FAN CONFIGURATION IS SUCKER. BLOWER OPTION AND LOW NOISE AVAILABLE UPON REQUEST. ANTI-SPARKING/ANTI-STATIC ALSO AVAILABLE

AC MOTOR SPECIFY VOLTAGE AND FREQUENCY WHEN ORDERING (ALL VOLTAGES AND SPECIFICATIONS AVAILABLE)

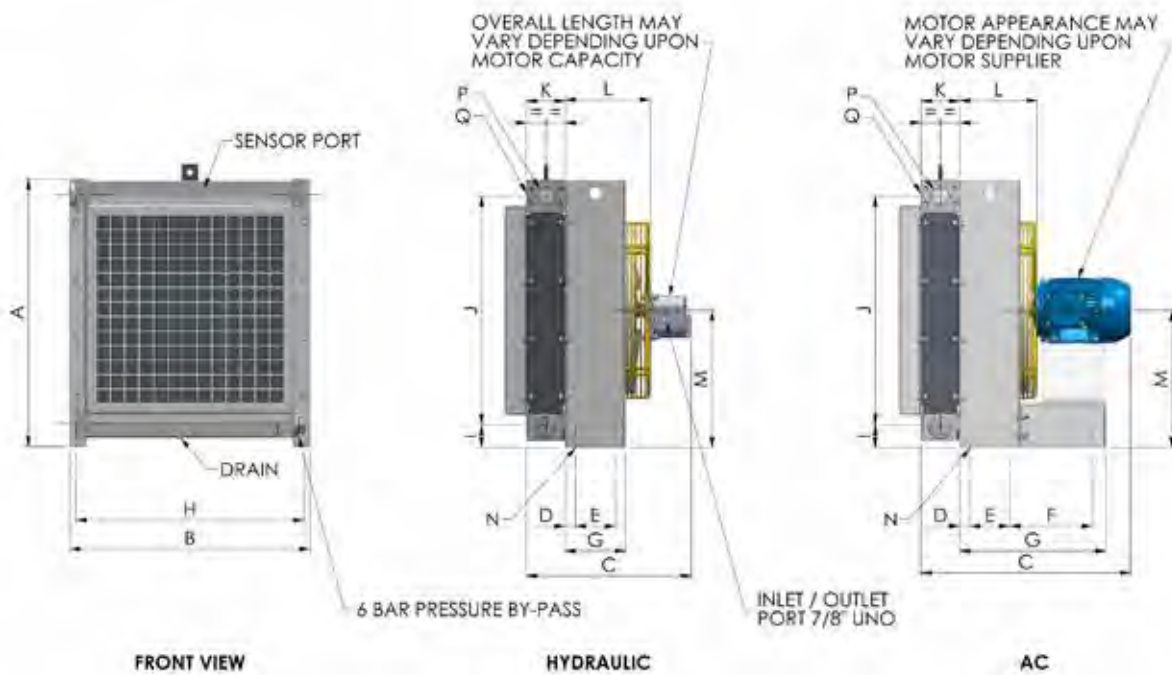
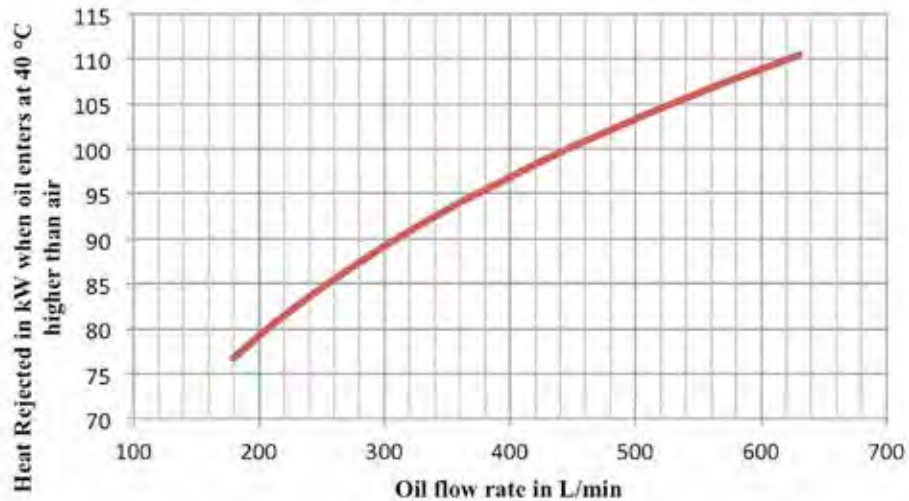
ALL DIMENSIONS IN MILLIMETERS

CONNECTIONS: ALL THREADS "P", 2" BSPP - ALL FLANGES "Q", 2" SAE CODE 61

# ACX 800

MAXIMUM WORKING PRESSURE: 30 BAR

## ACX-800



MODEL ACX800	A	B	C	D	E	F	G	H	I	J	K	L	M	N (HOLES)	WEIGHT (kg)
AC, 1.5 kW, 6P	959	910	636	38	96	294	463	880	60	854	102	161	487	6 x Ø15	138
HYDRAULIC	959	910	517	38	96	-	171	880	60	854	102	237	487	4 x Ø15	97

Estimated noise level dB(A) @ 1m: 82

Approximate oil volume (L): 14

STANDARD FAN CONFIGURATION IS SUCKER. BLOWER OPTION AND LOW NOISE AVAILABLE UPON REQUEST. ANTI-SPARKING/ANTI-STATIC ALSO AVAILABLE

AC MOTOR SPECIFY VOLTAGE AND FREQUENCY WHEN ORDERING (ALL VOLTAGES AND SPECIFICATIONS AVAILABLE)

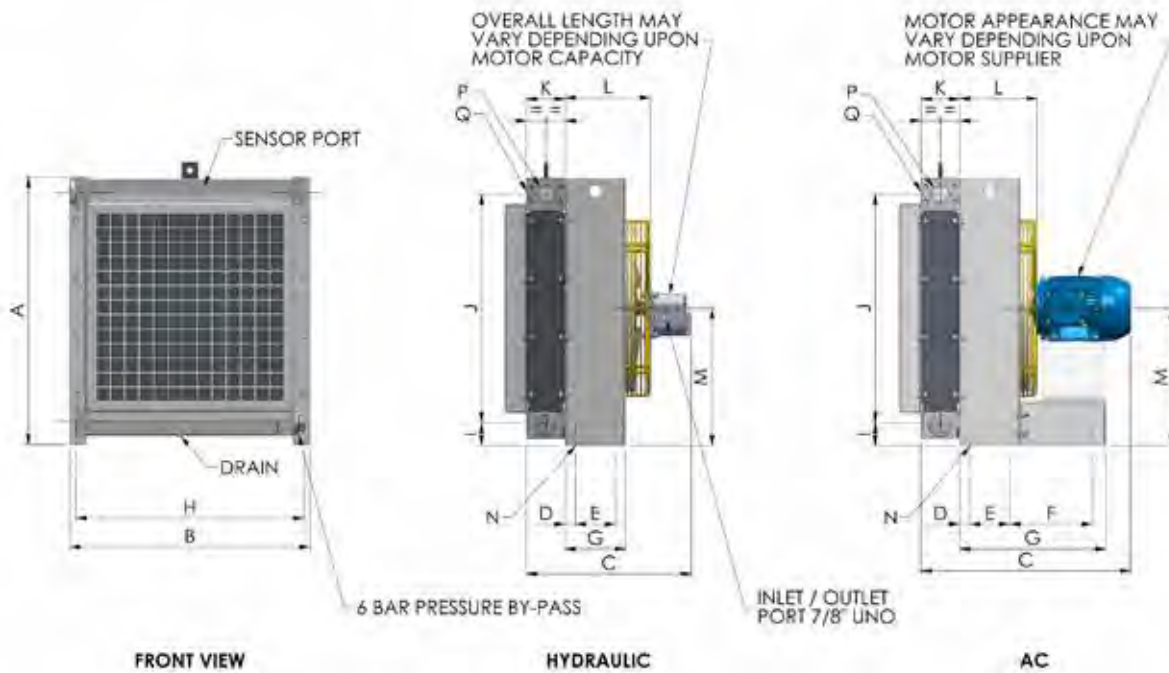
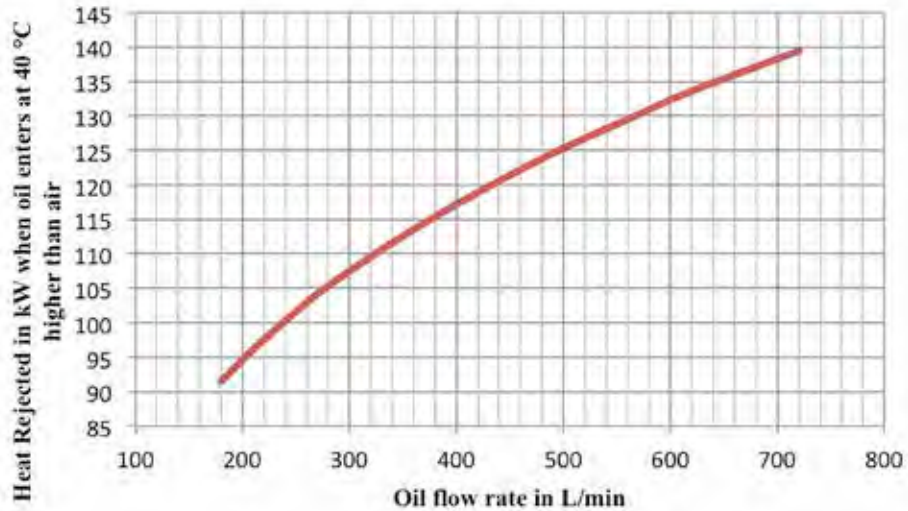
ALL DIMENSIONS IN MILLIMETERS

CONNECTIONS: ALL THREADS "P", 2" BSPP - ALL FLANGES "Q", 2" SAE CODE 61

# ACX 900

MAXIMUM WORKING PRESSURE: 30 BAR

## ACX-900



MODEL ACX900	A	B	C	D	E	F	G	H	I	J	K	L	M	N (HOLES)	WEIGHT (kg)
AC, 2.2 kW, 6P	1059	1010	715	38	175	284	534	980	60	954	102	287	537	6 x Ø15	177
HYDRAULIC	1059	1010	567	38	175	-	250	980	60	954	102	287	537	4 x Ø15	97

Estimated noise level dB(A) @ 1m: 82

Approximate oil volume (L): 17

STANDARD FAN CONFIGURATION IS SUCKER. BLOWER OPTION AND LOW NOISE AVAILABLE UPON REQUEST. ANTI-SPARKING/ANTI-STATIC ALSO AVAILABLE

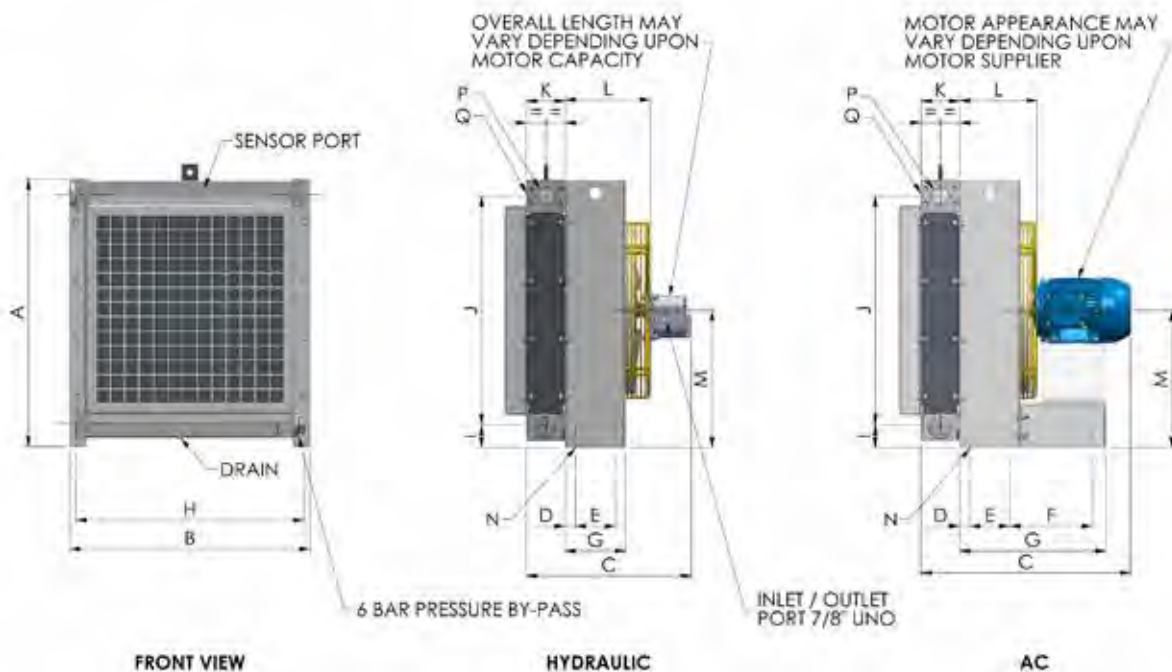
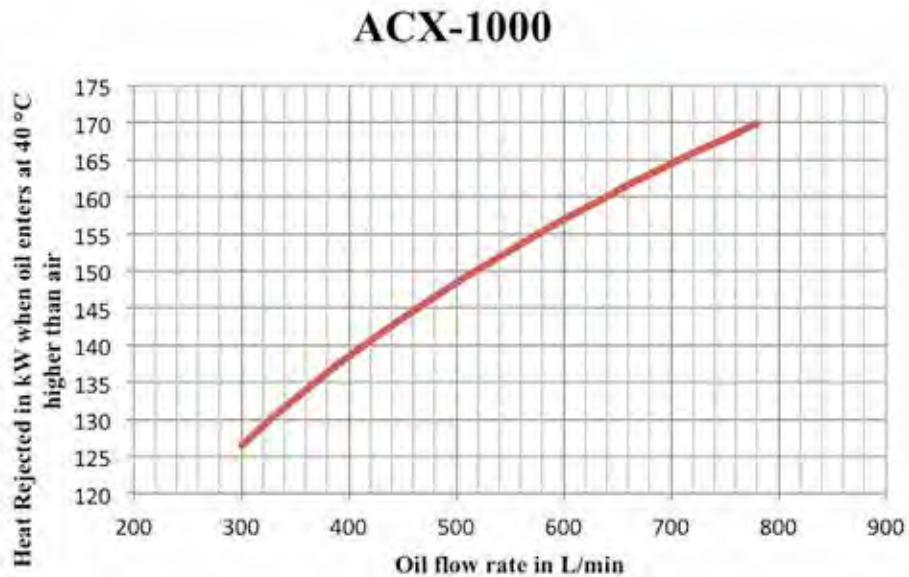
AC MOTOR SPECIFY VOLTAGE AND FREQUENCY WHEN ORDERING (ALL VOLTAGES AND SPECIFICATIONS AVAILABLE)

ALL DIMENSIONS IN MILLIMETERS

CONNECTIONS: ALL THREADS "P", 2" BSPP - ALL FLANGES "Q", 2" SAE CODE 61

# ACX 1000

MAXIMUM WORKING PRESSURE: 30 BAR



MODEL ACX1000	A	B	C	D	E	F	G	H	I	J	K	L	M	N (HOLES)	WEIGHT (kg)
AC, 2.2 kW, 6P	1159	1110	716	38	175	285	535	1080	60	1054	102	268	587	6 x Ø15	196
HYDRAULIC	1159	1110	557	38	175	-	250	1080	60	1054	102	277	587	4 x Ø15	137

Estimated noise level dB(A) @ 1m: 85

Approximate oil volume (L): 20

STANDARD FAN CONFIGURATION IS SUCKER. BLOWER OPTION AND LOW NOISE AVAILABLE UPON REQUEST. ANTI-SPARKING/ANTI-STATIC ALSO AVAILABLE

AC MOTOR SPECIFY VOLTAGE AND FREQUENCY WHEN ORDERING (ALL VOLTAGES AND SPECIFICATIONS AVAILABLE)

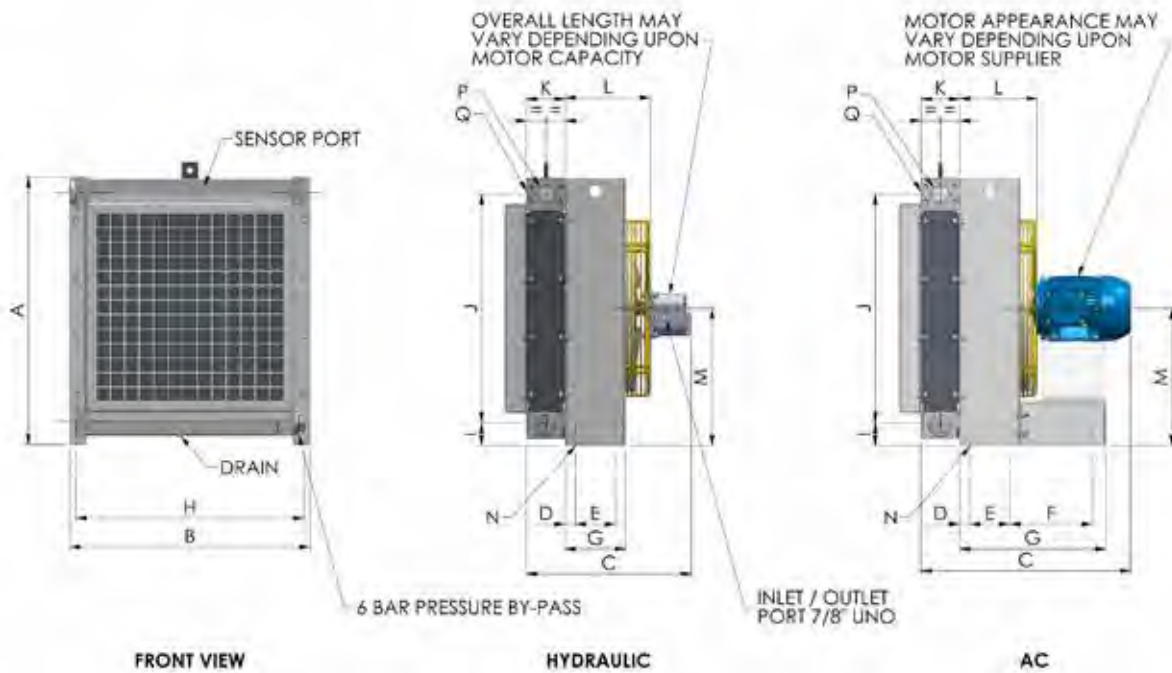
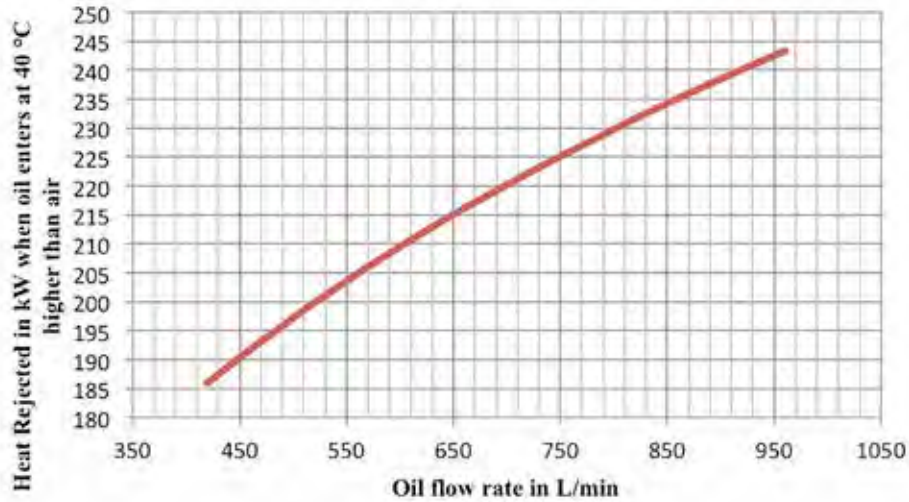
ALL DIMENSIONS IN MILLIMETERS

CONNECTIONS: ALL THREADS "P", 2" BSPP - ALL FLANGES "Q", 2" SAE CODE 61

# ACX 1200

MAXIMUM WORKING PRESSURE: 30 BAR

## ACX-1200



MODEL ACX1200	A	B	C	D	E	F	G	H	I	J	K	L	M	N (HOLES)	WEIGHT (kg)
AC, 5.5 kW, 8P	1359	1310	948	38	240	413	726	1280	60	1254	102	326	587	6 x Ø15	349
HYDRAULIC	1359	1310	606	38	240	-	316	1280	60	1254	102	326	587	4 x Ø15	137

Estimated noise level dB(A) @ 1m: 85

Approximate oil volume (L): 27

STANDARD FAN CONFIGURATION IS SUCKER. BLOWER OPTION AND LOW NOISE AVAILABLE UPON REQUEST. ANTI-SPARKING/ANTI-STATIC ALSO AVAILABLE  
AC MOTOR SPECIFY VOLTAGE AND FREQUENCY WHEN ORDERING (ALL VOLTAGES AND SPECIFICATIONS AVAILABLE)

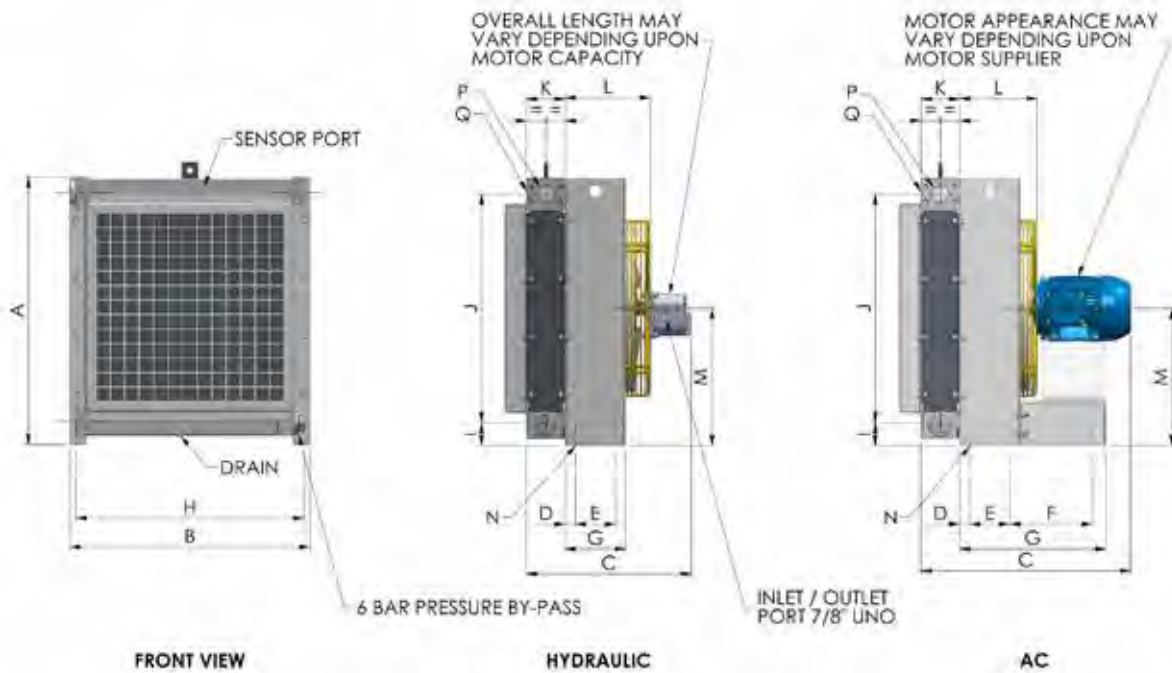
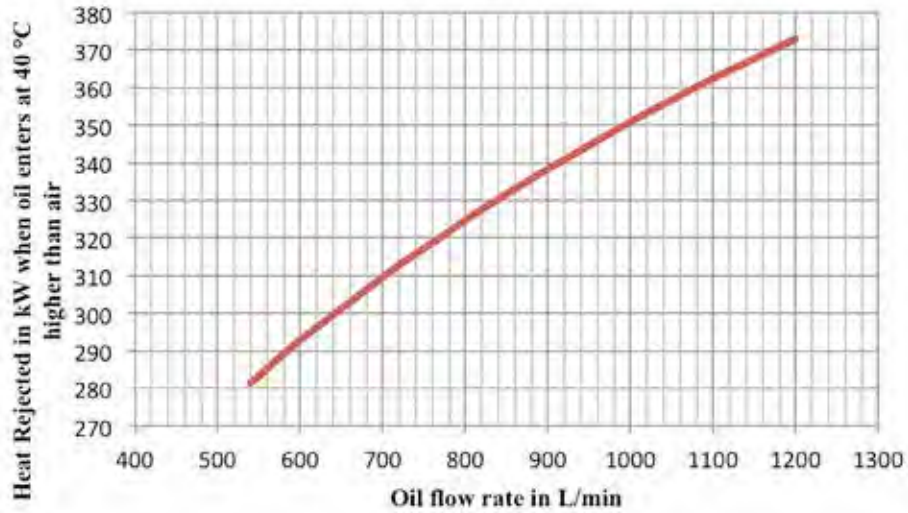
ALL DIMENSIONS IN MILLIMETERS

CONNECTIONS: ALL THREADS "P", 2" BSPP - ALL FLANGES "Q", 2" SAE CODE 61

# ACX 1500

MAXIMUM WORKING PRESSURE: 30 BAR

## ACX-1500



MODEL ACX1500	A	B	C	D	E	F	G	H	I	J	K	L	M	N (HOLES)	WEIGHT (kg)
AC, 5.5 kW, 8P	1654	1580	1104	35	340	460	890	1550	55	1554	102	492	832	6 x Ø15	445
HYDRAULIC	1654	1580	756	35	340	-	410	1550	55	1554	102	476	832	4 x Ø15	283

Estimated noise level dB(A) @ 1m: 90

Approximate oil volume (L): 40

STANDARD FAN CONFIGURATION IS SUCKER. BLOWER OPTION AND LOW NOISE AVAILABLE UPON REQUEST. ANTI-SPARKING/ANTI-STATIC ALSO AVAILABLE

AC MOTOR SPECIFY VOLTAGE AND FREQUENCY WHEN ORDERING (ALL VOLTAGES AND SPECIFICATIONS AVAILABLE)

ALL DIMENSIONS IN MILLIMETERS

CONNECTIONS: ALL THREADS "P", 2" BSPP - ALL FLANGES "Q", 2" SAE CODE 61

## SECTION C - Oil Cooler Panels

Oil cooler panels only, without the plenum, fan, motor, etc. Included in the following pages are 10 bar rated aluminium coolers, 26 bar rated aluminium coolers, steel coolers, copper tube finned coolers, and a range of popular replacement coolers.

### TF (tube fin) Coolers

These contain copper tubes and headers with aluminium plate fins. These coolers are a very cost effective option and come with rubber mounting blocks.

### HE Cooler

This is a highly efficient aluminium cooler panel with a maximum working pressure of 10 bar. These panels can be used in applications where there is an existing cooling air system such as in front of a radiator on a truck, 'sandwiched' in front of an existing cooling system, or to replace only the cooler panel from a common cooling system.

### All Steel ST Coolers

These are high pressure and a very 'strong' cooler. Often used in applications where there is a risk of airside fin clogging. The fins are flat, widely spaced and easy to clean.

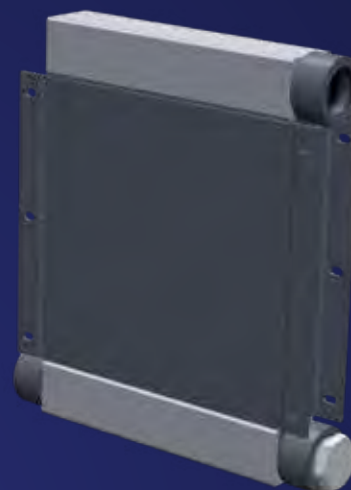
### Replacement Coolers

These are a range that we have identified as common in the field.

They are designed to bolt straight on with exact dimensions. More detail on our 'off the shelf' range is listed in the following

pages. Where possible we have nominated the performance of each cooler. Remember that performance is very much dependant on what cooling air flow is available.

***If you don't find it in the catalogue, please remember that we make, repair, rebuild and clean oil coolers, so ring us with any questions or queries.***



# TF OIL COOLER DATA SHEET

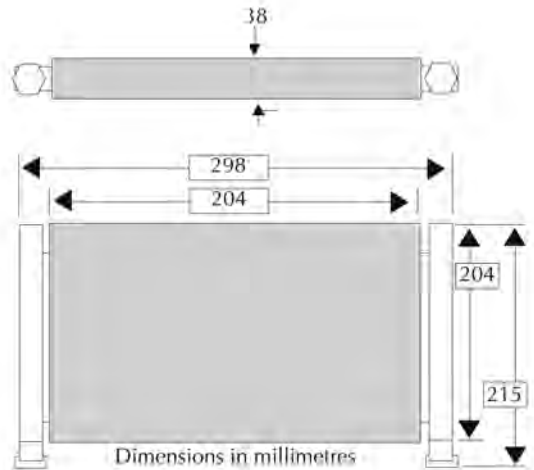
## PART NO: TF 1430

HEAVY DUTY COPPER TUBES  
HIGH EFFICIENCY ALUMINIUM FINNS  
IN-TUBE OIL TURBULATORS

Test Pressure 300psi  
12/24V fan available

Connection Size **1/2" npt**

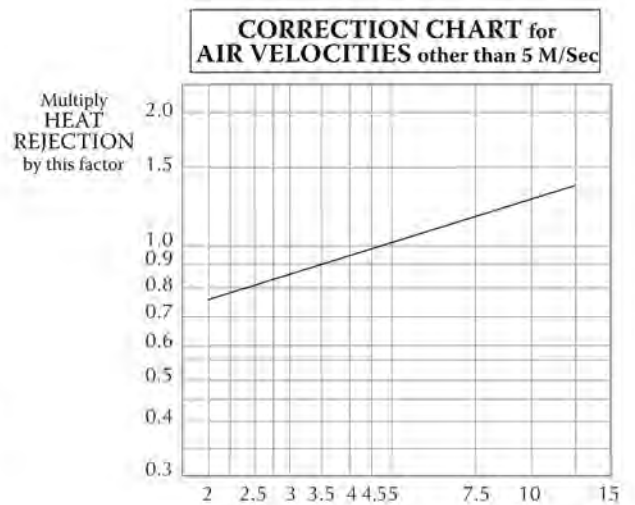
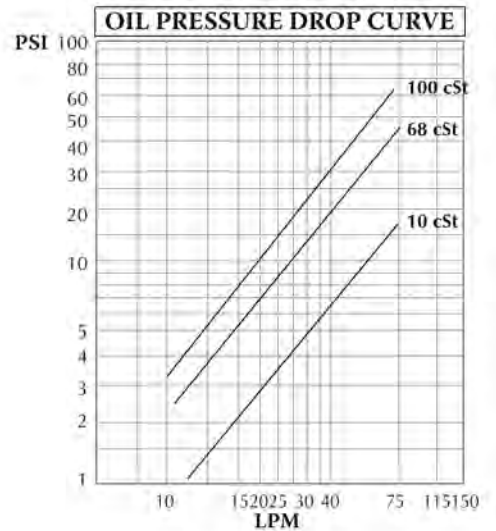
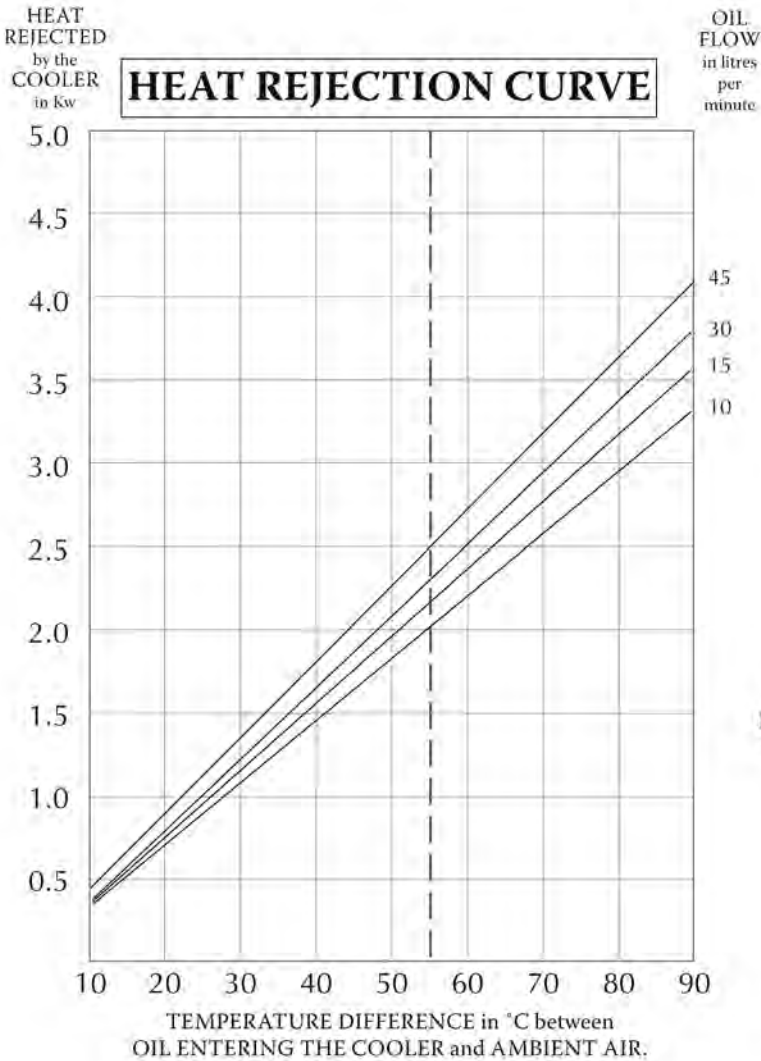
Weight **1.36 Kg**



### TYPICAL PERFORMANCE

BASED ON  $\Delta T$  (E.OIL-E.AIR) 55°C AND AIR V. 5 M/S

Oil Flow Rate Range <b>10 - 45 L/Min</b>	Heat Rejection Range <b>2 - 2.5 Kw</b>
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# TF OIL COOLER DATA SHEET

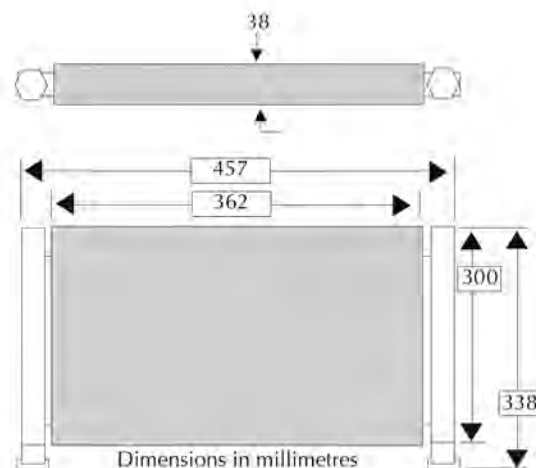
## PART NO: TF 1446

HEAVY DUTY COPPER TUBES  
HIGH EFFICIENCY ALUMINIUM FINNS  
IN-TUBE OIL TURBULATORS

Test Pressure 300psi  
12/24V fan available

Connection Size 1/2" npt

Weight 1.8 Kg

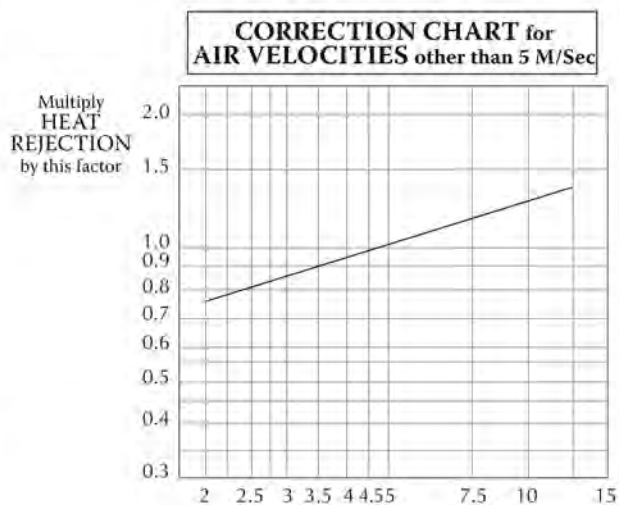
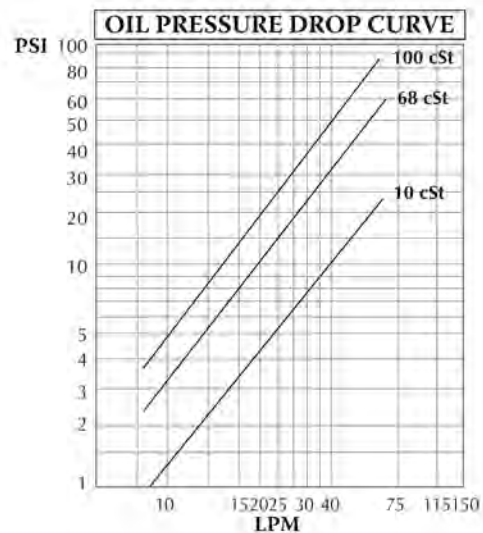
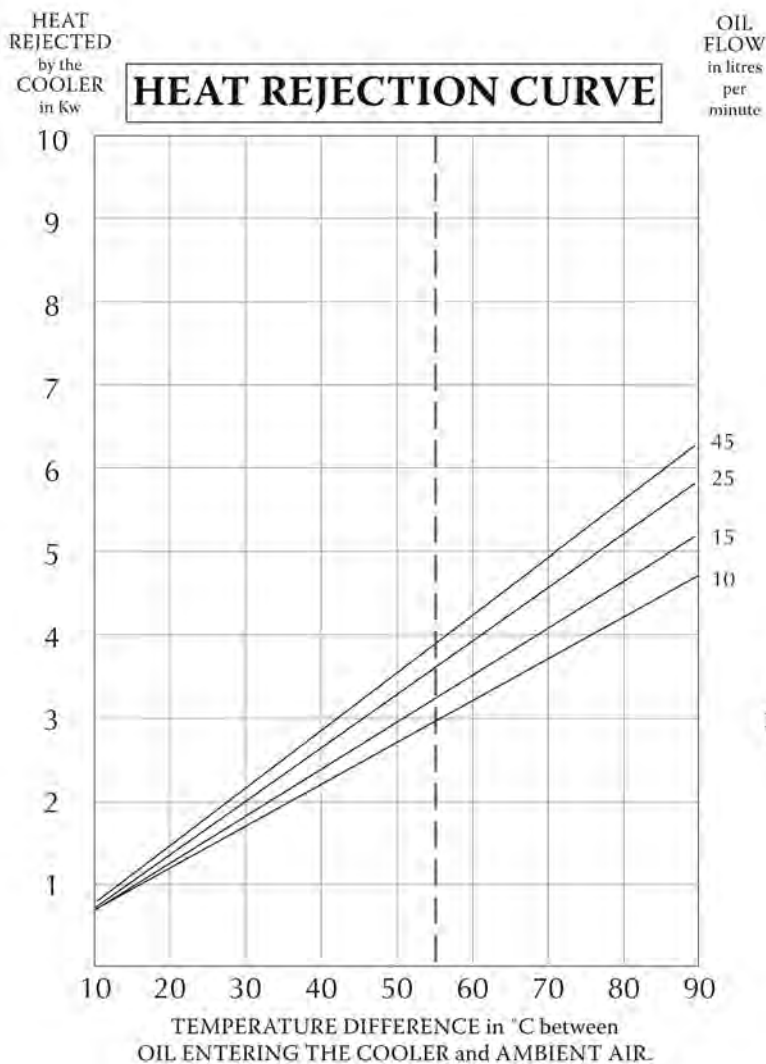


### TYPICAL PERFORMANCE

BASED ON  $\Delta T$  (E.OIL-E.AIR) 55°C AND AIR V. 5 M/S

Oil Flow Rate Range 10-45 L/Min

Heat Rejection Range 3 - 3.85 Kw



# TF OIL COOLER DATA SHEET

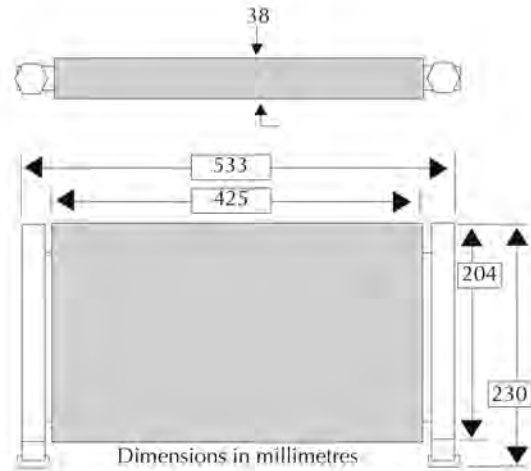
## PART NO: TF 1454

HEAVY DUTY COPPER TUBES  
HIGH EFFICIENCY ALUMINIUM FINNS  
IN-TUBE OIL TURBULATORS

Test Pressure 300psi  
12/24V fan available

Connection Size **3/4" npt**

Weight **2.0 Kg**

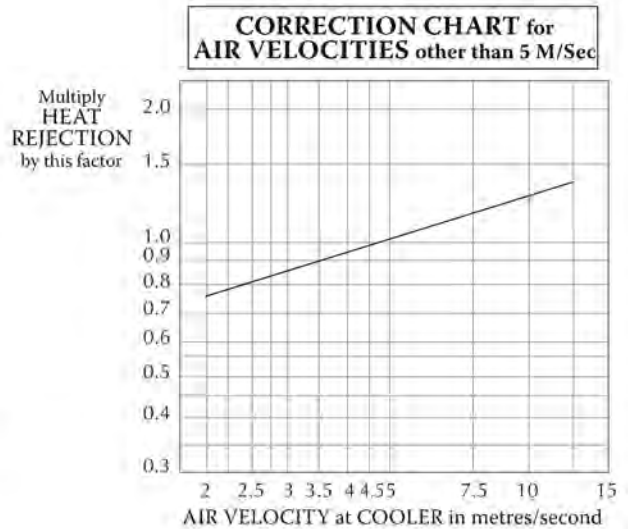
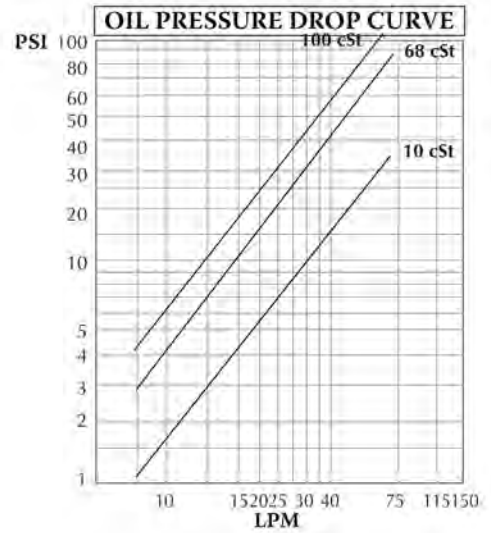
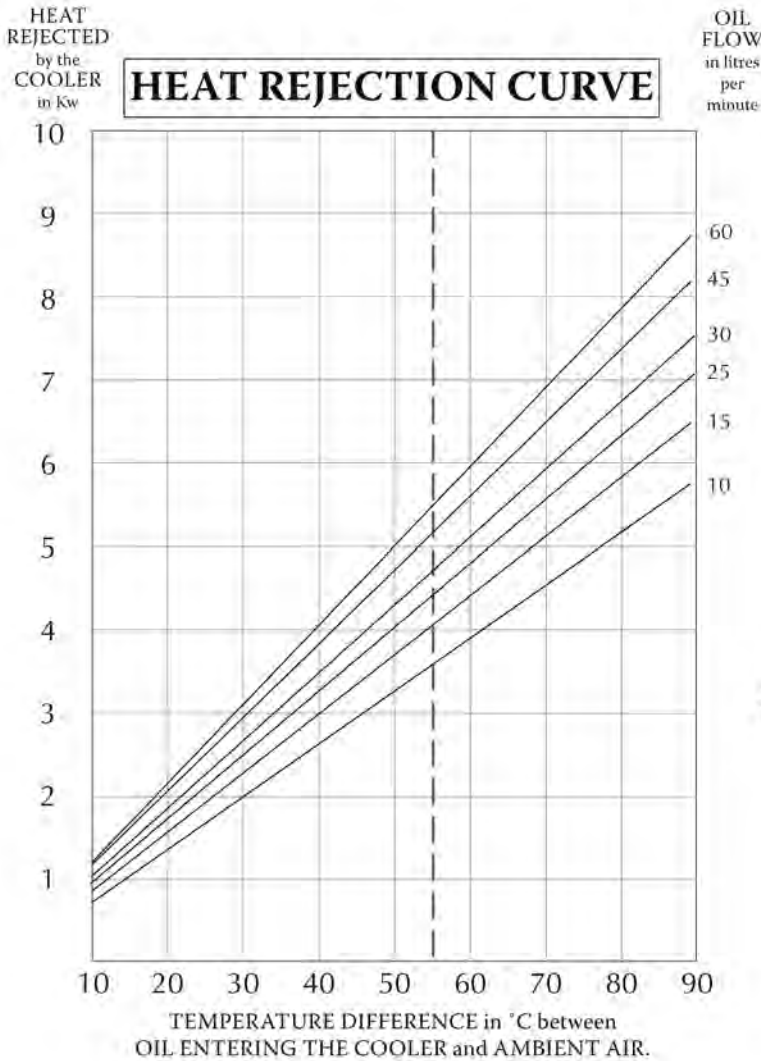


### TYPICAL PERFORMANCE

BASED ON  $\Delta T$  (E.OIL-E.AIR) 55°C AND AIR V. 5 M/S

Oil Flow Rate Range **10 - 60 L/Min**

Heat Rejection Range **3.5 - 5.3 Kw**



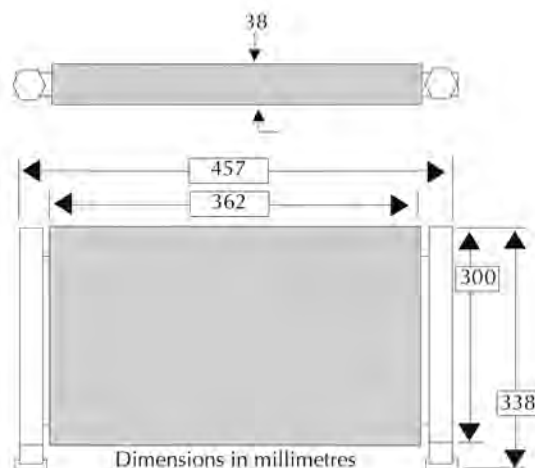
# TF OIL COOLER DATA SHEET

## PART NO: TF 1645

HEAVY DUTY COPPER TUBES  
HIGH EFFICIENCY ALUMINIUM FINNS  
IN-TUBE OIL TURBULATORS

Test Pressure 300psi  
12/24V fan available

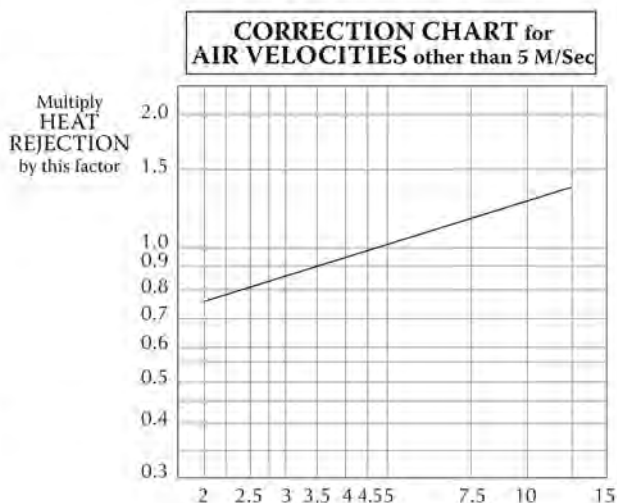
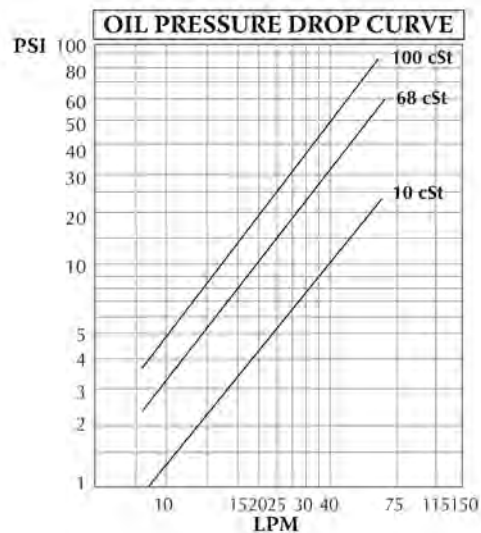
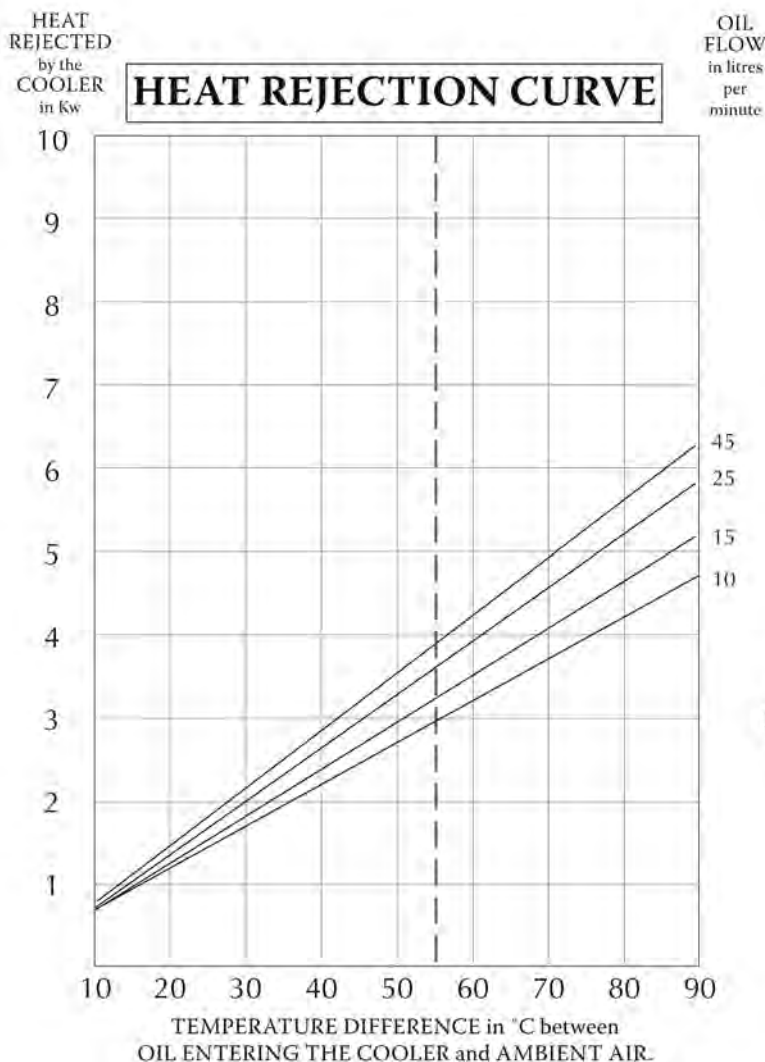
Connection Size	3/4" npt
Weight	3.0 Kg



### TYPICAL PERFORMANCE

BASED ON  $\Delta T$  (E.OIL-E.AIR) 55°C AND AIR V. 5 M/S

Oil Flow Rate Range	15-90 L/Min	Heat Rejection Range	4.7 - 6.2 Kw
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# TF OIL COOLER DATA SHEET

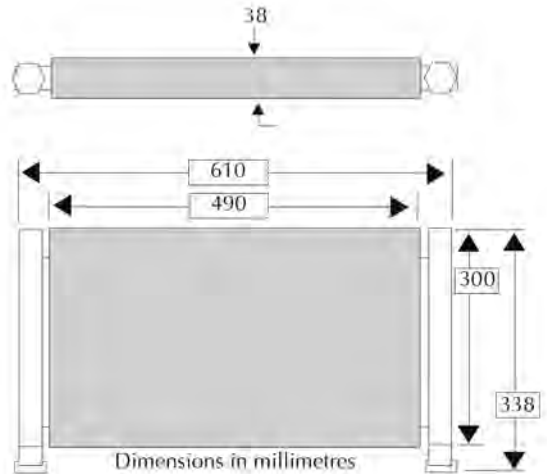
## PART NO: TF 1662

HEAVY DUTY COPPER TUBES  
HIGH EFFICIENCY ALUMINIUM FINNS  
IN-TUBE OIL TURBULATORS

Test Pressure 300psi  
12/24V fan available

Connection Size **1" npt**

Weight **3.6 Kg**

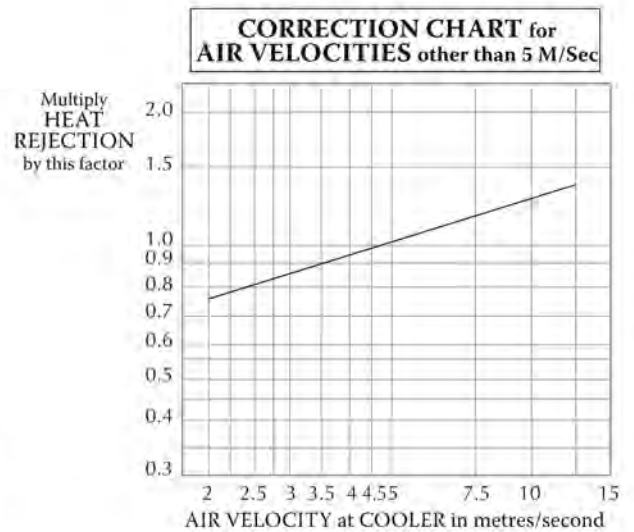
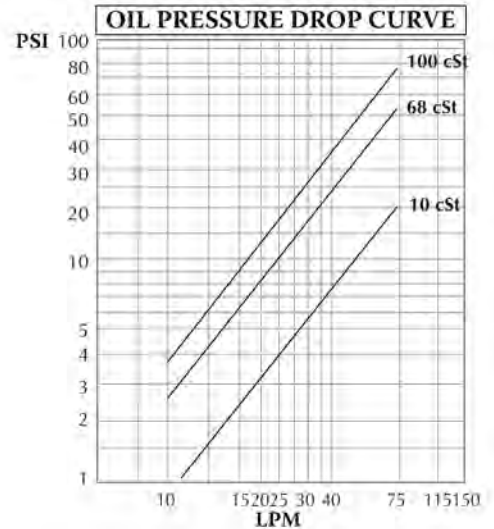
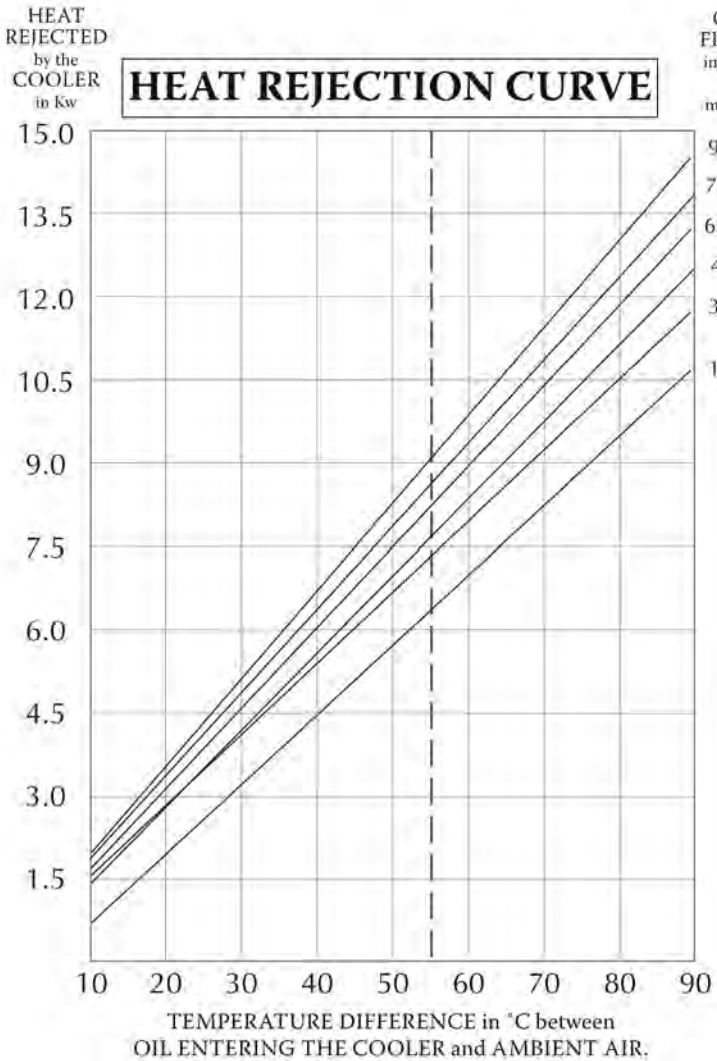


### TYPICAL PERFORMANCE

BASED ON ΔT (E.OIL-E.AIR) 55°C AND AIR V. 5 M/S

Oil Flow Rate Range **15 - 90 L/Min**

Heat Rejection Range **6.3 - 9.0 Kw**



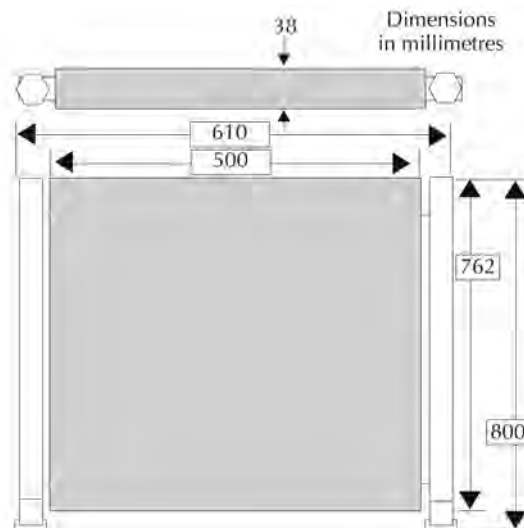
# TF OIL COOLER DATA SHEET

## PART NO: TF 1960

HEAVY DUTY COPPER TUBES  
HIGH EFFICIENCY ALUMINIUM FINS  
IN-TUBE OIL TURBULATORS

Test Pressure 300psi  
12/24V fan available

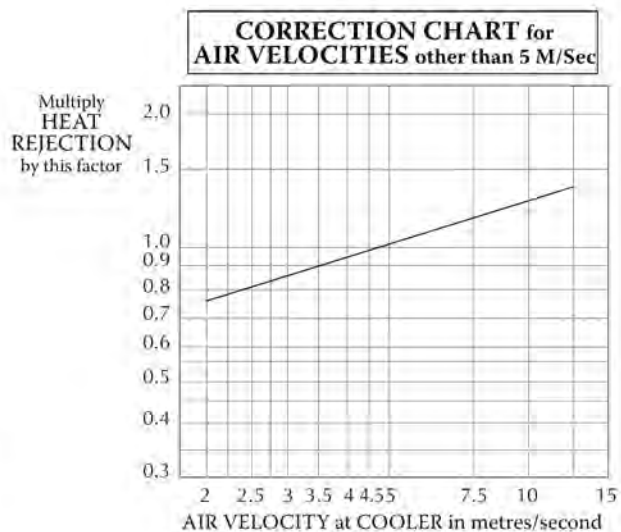
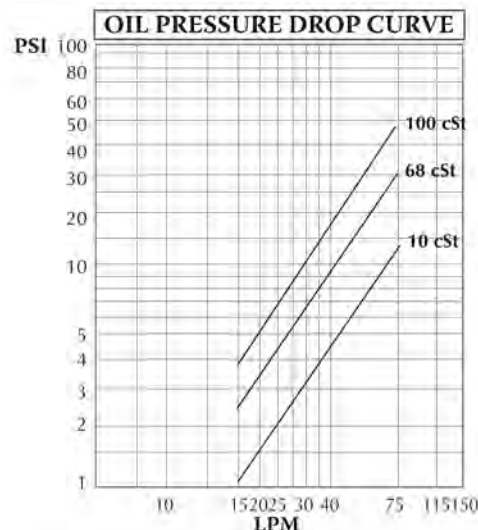
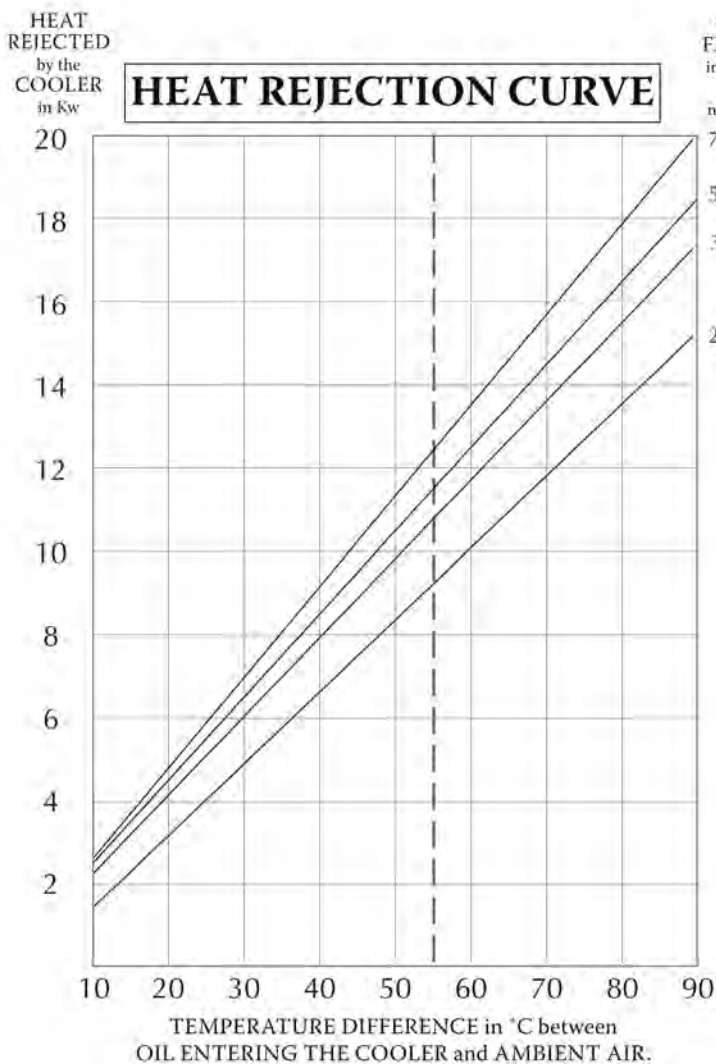
Connection Size	3/4" npt
Weight	5.21 Kg



### TYPICAL PERFORMANCE

BASED ON  $\Delta T$  (E.OIL-E.AIR) 55°C AND AIR V. 5 M/S

Oil Flow Rate Range	20-75 L/Min	Heat Rejection Range	9.25 - 12.5 Kw
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# TF OIL COOLER DATA SHEET

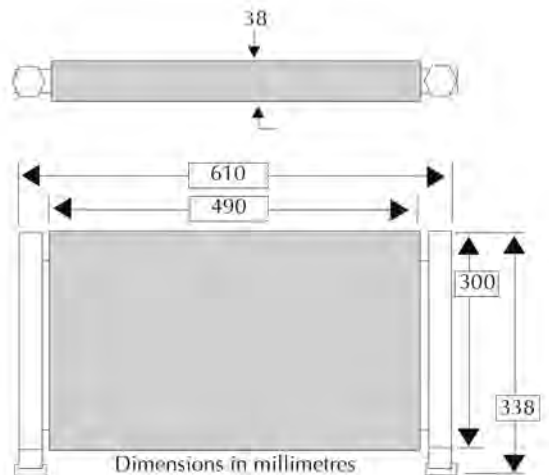
**PART NO: TF 11260**

HEAVY DUTY COPPER TUBES  
HIGH EFFICIENCY ALUMINIUM FINNS  
IN-TUBE OIL TURBULATORS

Test Pressure 300psi  
12/24V fan available

Connection Size **1" npt**

Weight **7.0 Kg**

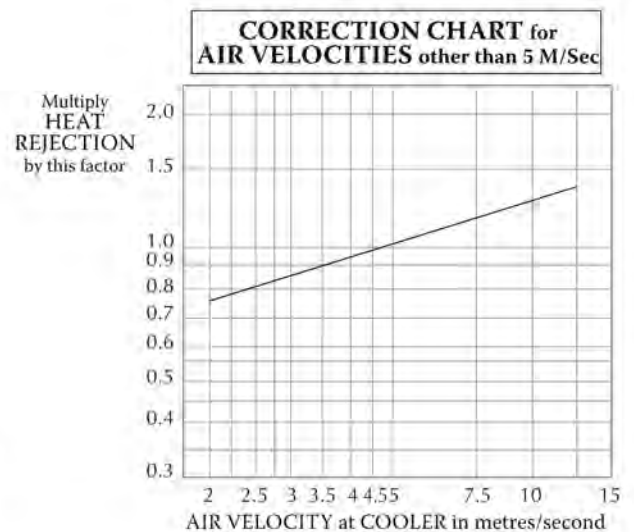
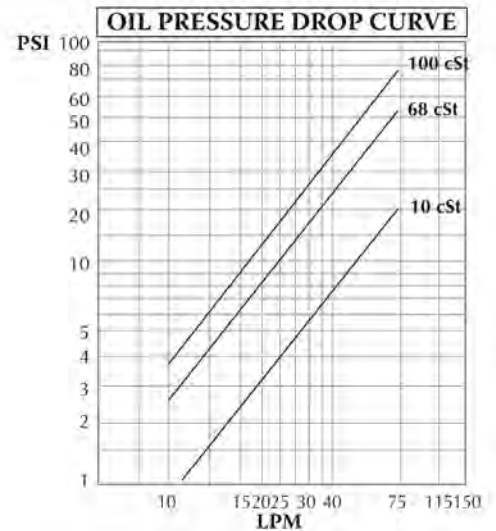
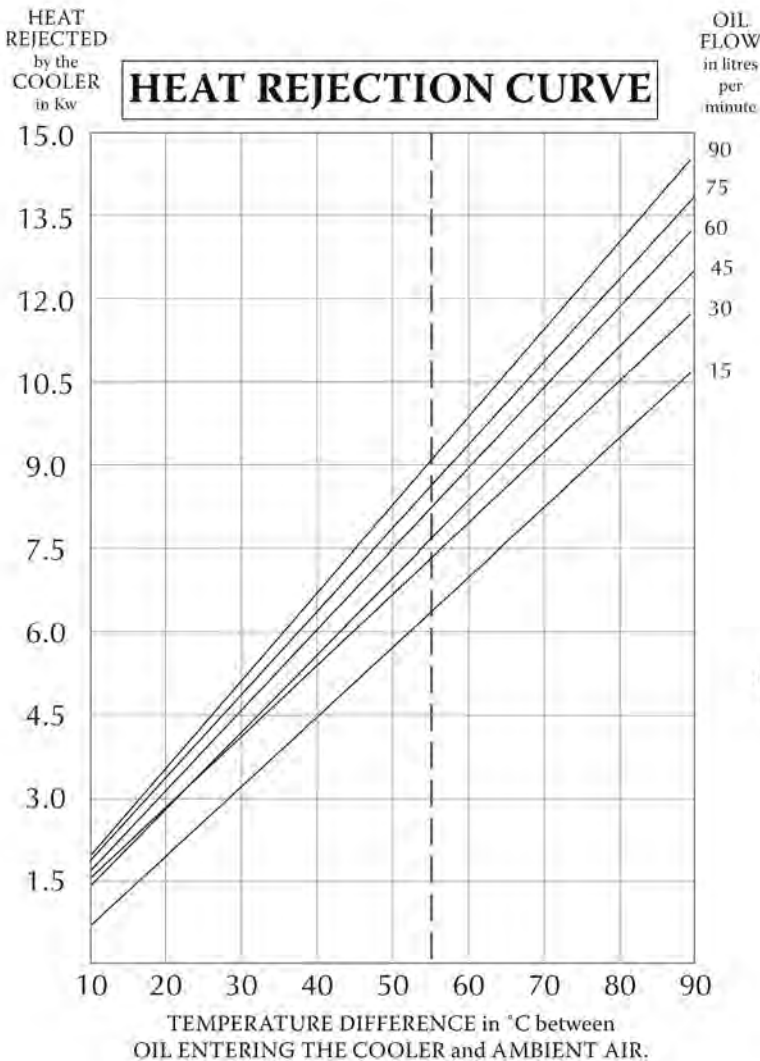


## TYPICAL PERFORMANCE

BASED ON  $\Delta T$  (E.OIL-E.AIR) 55°C AND AIR V. 5 M/S

Oil Flow Rate Range **20 - 120 L/Min**

Heat Rejection Range **11.5 - 16.5 Kw**



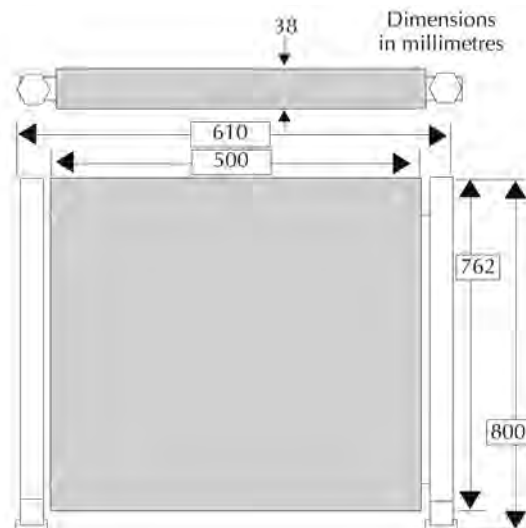
# TF OIL COOLER DATA SHEET

**PART NO: TF 11561**

HEAVY DUTY COPPER TUBES  
HIGH EFFICIENCY ALUMINIUM FINS  
IN-TUBE OIL TURBULATORS

Test Pressure 300psi  
12/24V fan available

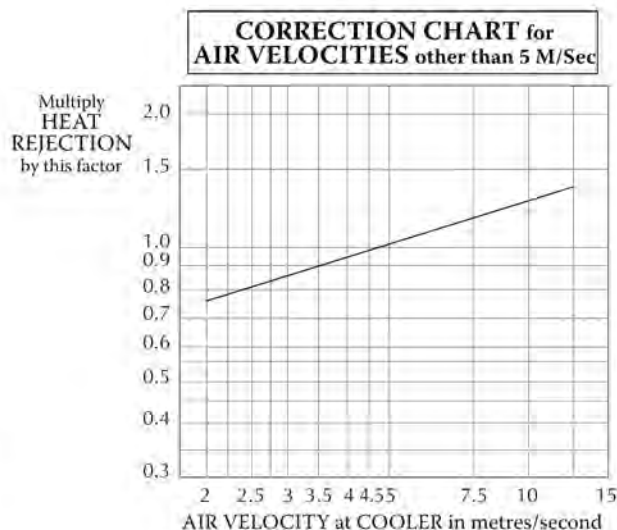
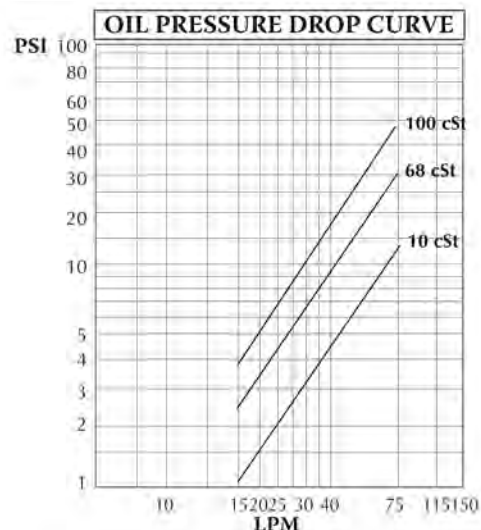
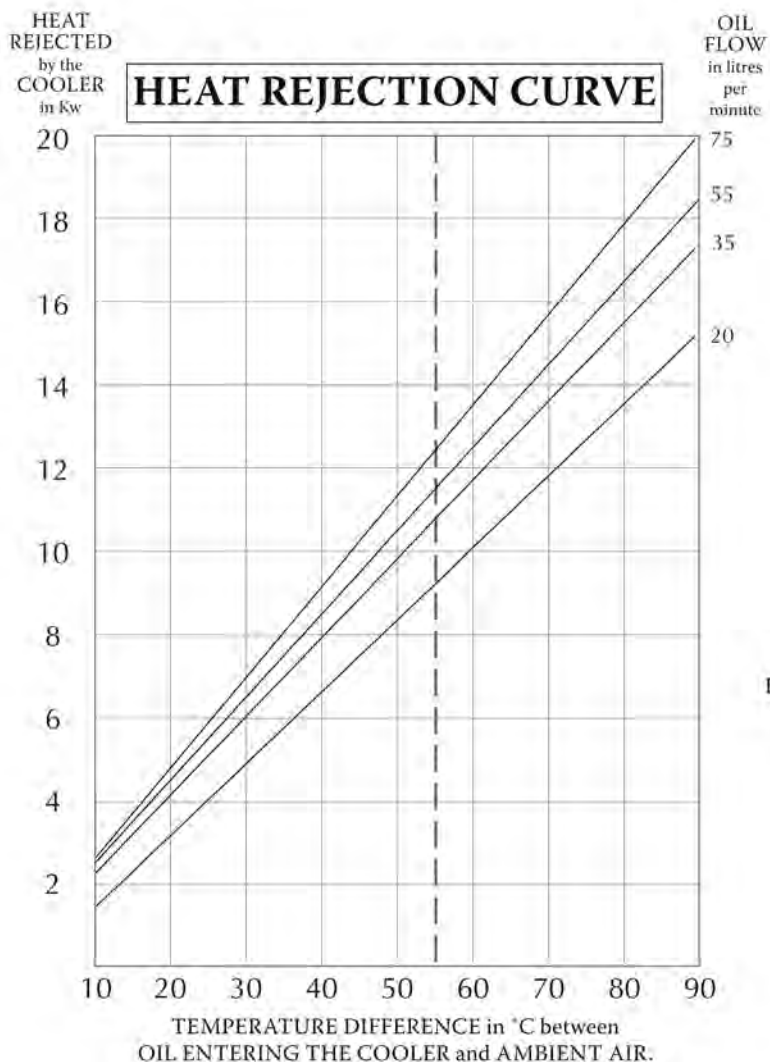
Connection Size	1 1/4" npt
Weight	9.5 Kg



## TYPICAL PERFORMANCE

BASED ON  $\Delta T$  (E.OIL-E.AIR) 55°C AND AIR V. 5 M/S

Oil Flow Rate Range	25 - 200 L/Min	Heat Rejection Range	15.0 - 22.0 Kw
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# TF OIL COOLER DATA SHEET

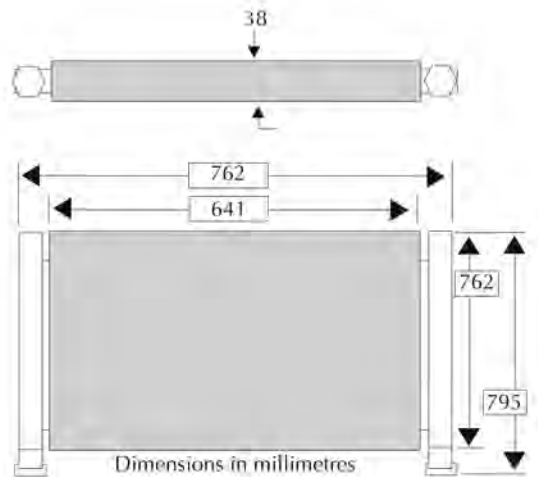
**PART NO: TF 11577**

HEAVY DUTY COPPER TUBES  
HIGH EFFICIENCY ALUMINIUM FINNS  
IN-TUBE OIL TURBULATORS

Test Pressure 300psi  
12/24V fan available

Connection Size **1" npt**

Weight **10.9 Kg**

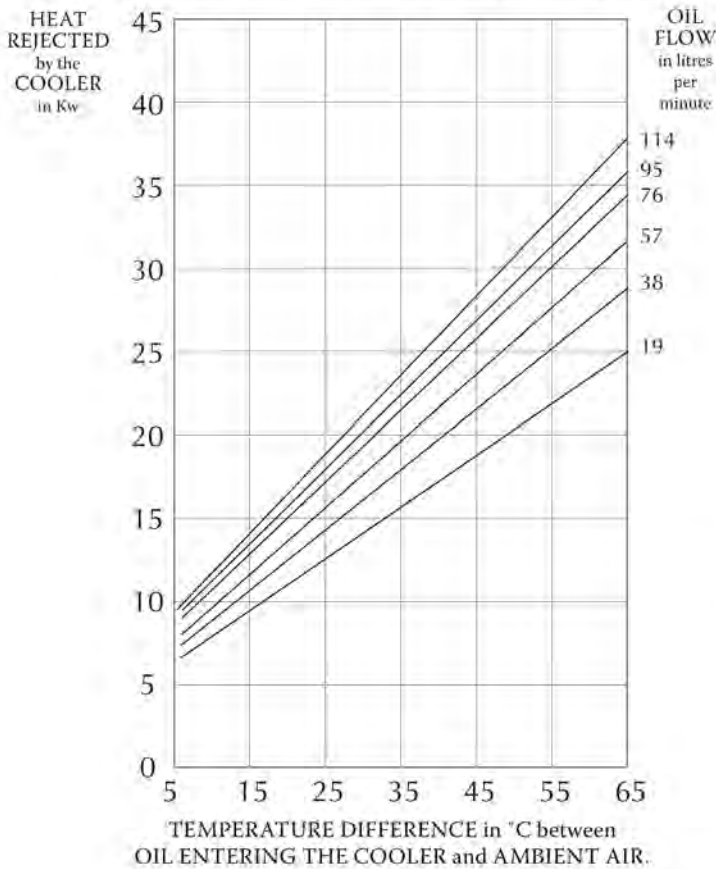


## TYPICAL PERFORMANCE

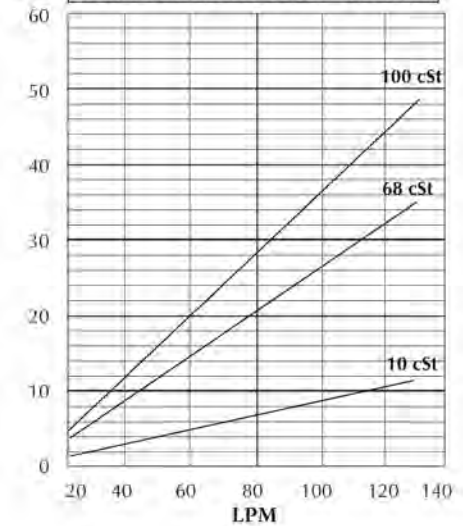
BASED ON  $\Delta T$  (E.OIL-E.AIR) 55°C AND AIR V. 5 M/S

Oil Flow Rate Range **19 - 114 L/Min**      Heat Rejection Range **6.0 - 33.0 Kw**

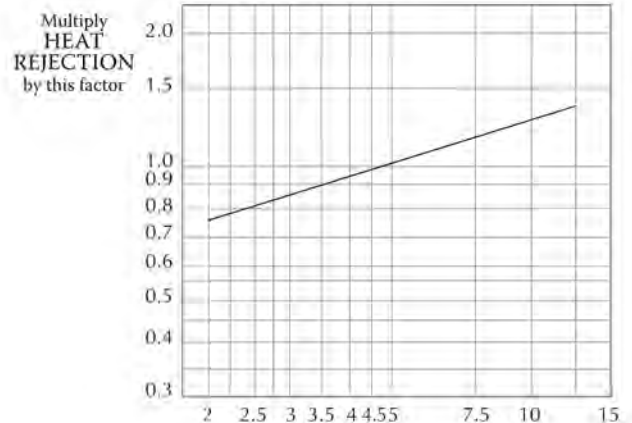
**HEAT REJECTION CURVE**



**OIL PRESSURE DROP CURVE**



**CORRECTION CHART for AIR VELOCITIES other than 5 M/Sec**



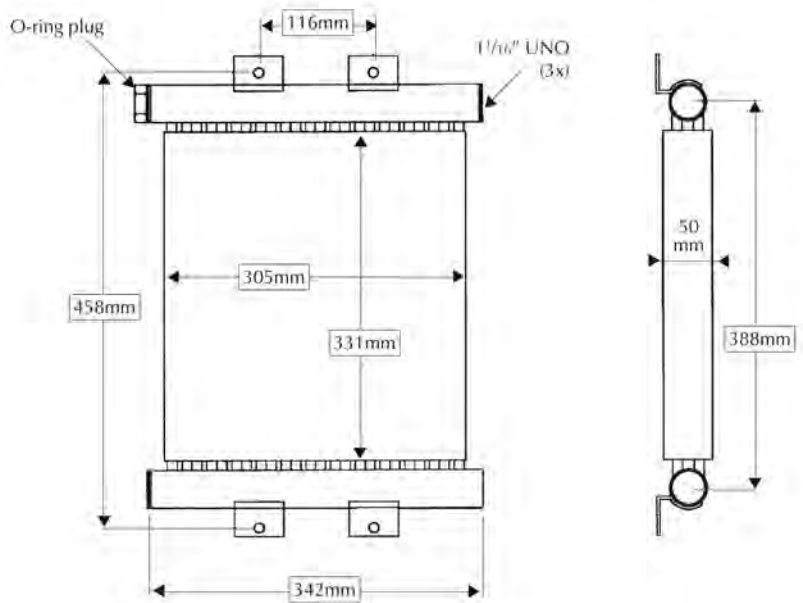


# STEEL OIL COOLERS

## PART NO ST 10A

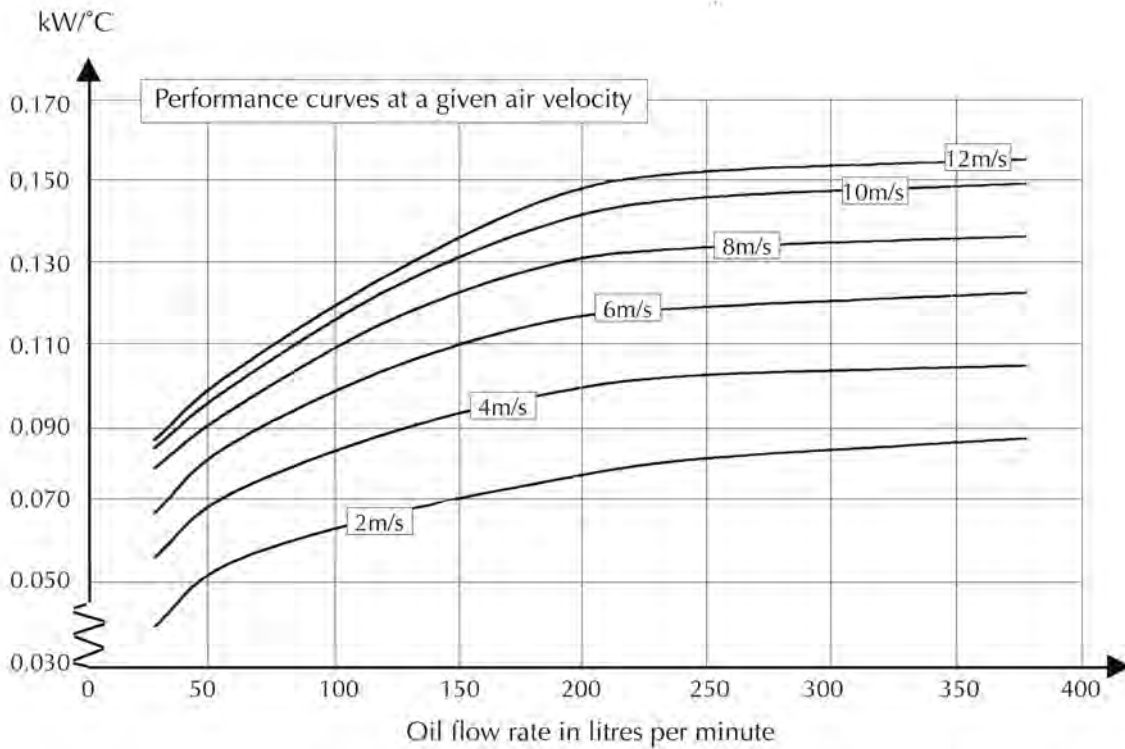
- Heavy Duty • All Steel • Maximum Strength
- High Heat Transfer • Easy to Clean
- Tested to 1500 psi
- Can be packaged with fan and motor

Oil Flow Rate Range	10 - 140 L/Min
Weight	8.5 Kg
Heat Rejection Range	2 - 7 Kw
Connection Size	1 1/16" UNO
Max. working pressure	500 psi



This cooler is also available in a complete package with fan and motor assembly using either a DC, AC or Hydraulic motor, please contact us for more information.

Heat rejection in kW per °C temperature difference between oil entering the cooler and ambient air



Example: With an oil flow at 200 l/min, oil temperature in at 80°C and ambient air at 40°C, with 6m/s of cooling air, from the graph the cooler will dissipate approximately 0.117kW/°C which gives a heat dissipation of:

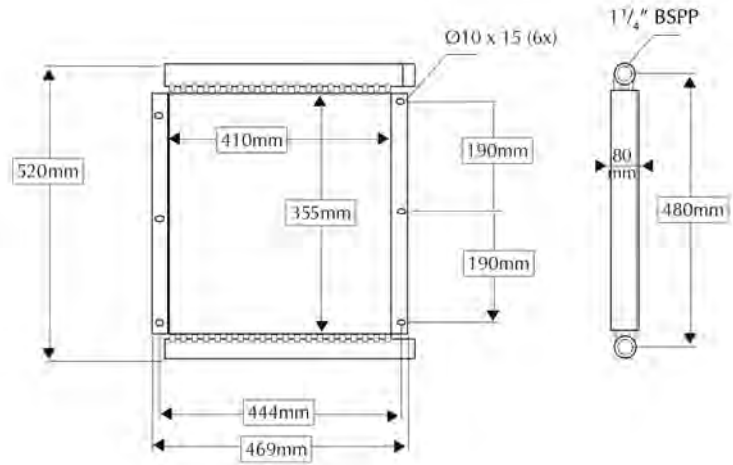
$$0.117 \text{ kW/}^\circ\text{C} \times (80 - 40) = 4.68 \text{ kW}$$

# STEEL OIL COOLERS

## PART NO ST 30AL

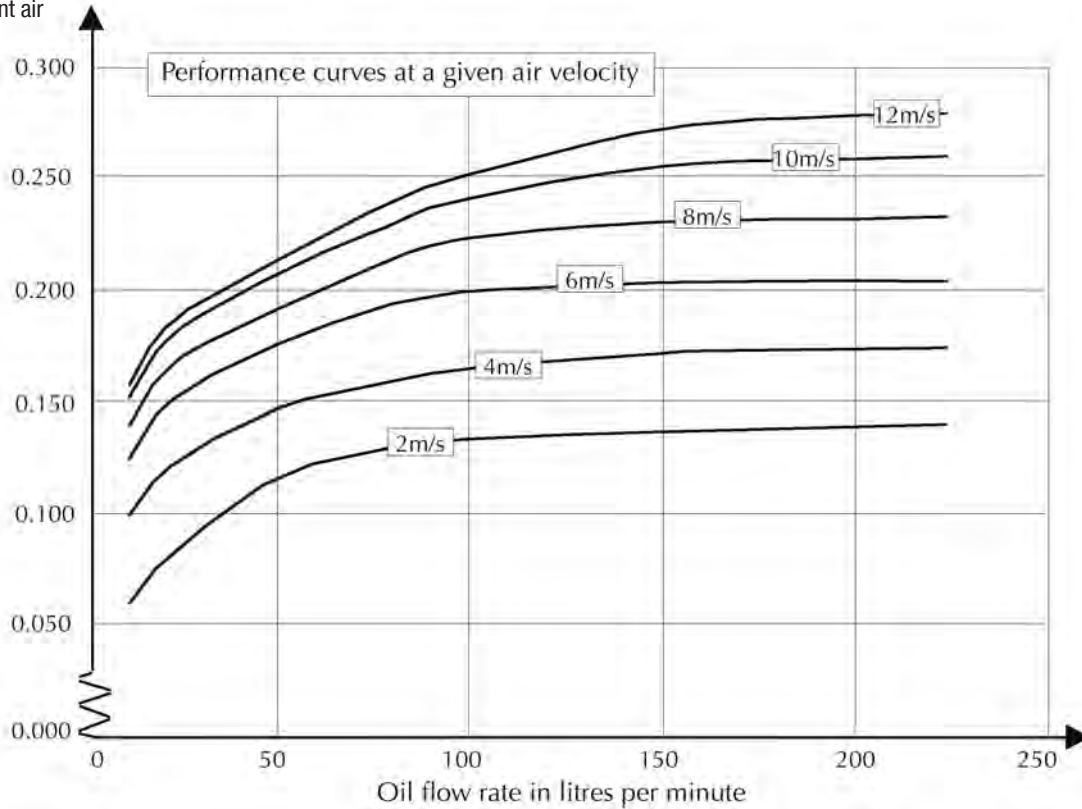
- Heavy Duty • Steel Tubes and Tanks
- Aluminium Fins • Maximum Strength
- High Heat Transfer • Easy to Clean
- Tested to 1500 psi
- Can be packaged with fan and motor

Oil Flow Rate Range	50 - 200 L/Min
Weight	14.5 Kg
Heat Rejection Range	5 - 12 Kw
Connection Size	1 <sup>5</sup> / <sub>16</sub> " UNO
Max. working pressure	500 psi



This cooler is also available in a complete package with fan and motor assembly using either a DC, AC or Hydraulic motor, please contact us for more information.

Heat rejection in kW per °C temperature difference between oil entering the cooler and ambient air



Example: With an oil flow at 100 l/min, oil temperature in at 80°C and ambient air at 40°C, with 6m/s of cooling air, from the graph the cooler will dissipate approximately 0.2kW/°C which gives a heat dissipation of:

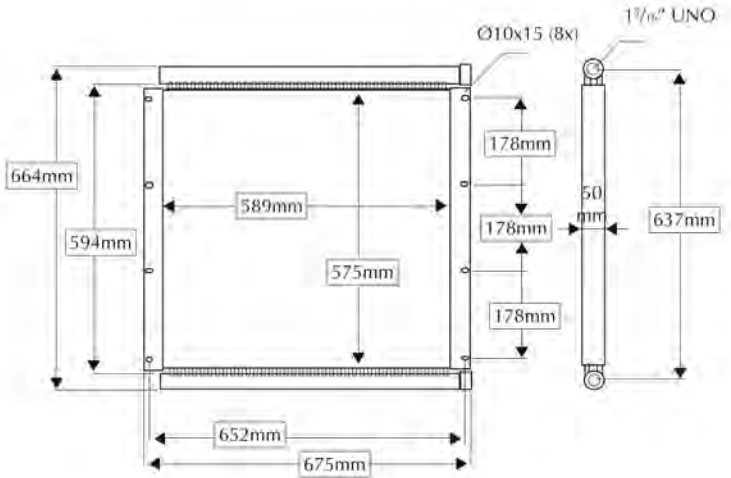
$$0.2\text{kW/}^\circ\text{C} \times (80-40) = 8\text{kW}$$

# STEEL OIL COOLERS

## PART NO ST 50

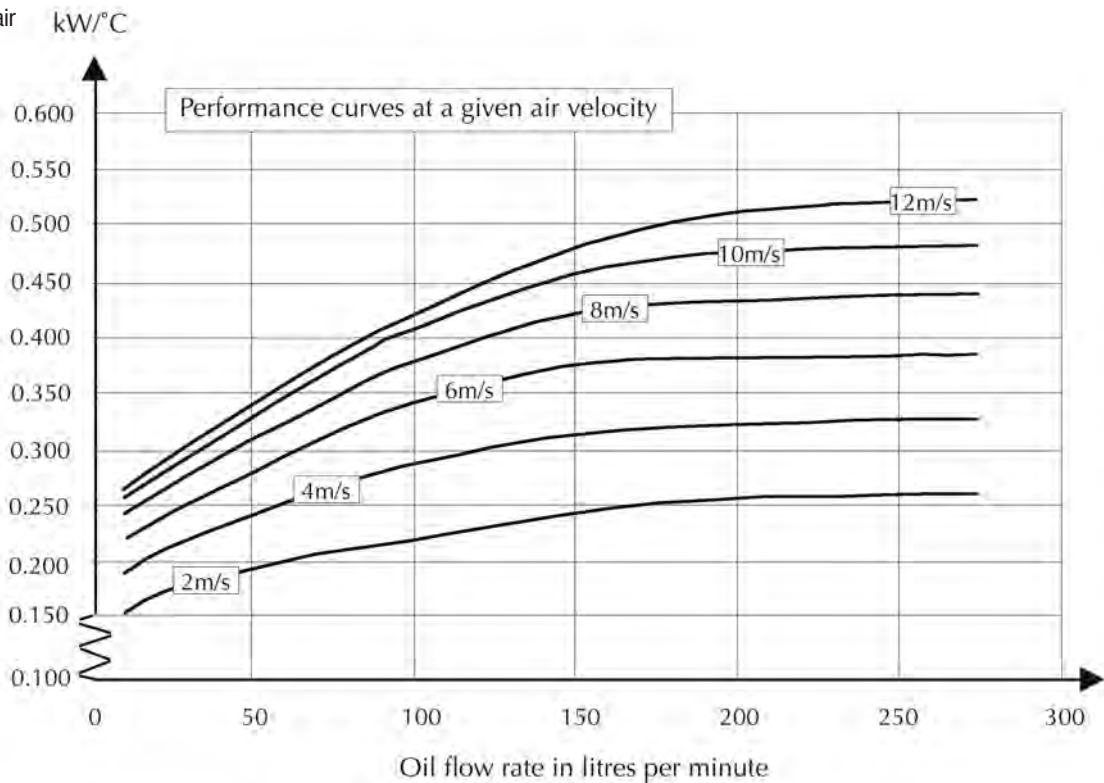
- Heavy Duty • All Steel • Maximum Strength
- High Heat Transfer • Easy to Clean
- Tested to 1500 psi
- Can be packaged with fan and motor

Oil Flow Rate Range	50 - 250 L/Min
Weight	24 Kg
Heat Rejection Range	10 - 25 Kw
Connection Size	1 <sup>5</sup> / <sub>16</sub> " UNO
Max. working pressure	500 psi



This cooler is also available in a complete package with fan and motor assembly using either a DC, AC or Hydraulic motor, please contact us for more information.

Heat rejection in kW per °C temperature difference between oil entering the cooler and ambient air



Example: With an oil flow at 150 l/min, oil temperature in at 80°C and ambient air at 40°C, with 6m/s of cooling air, from the graph the cooler will dissipate approximately 0.38kW/°C which gives a heat dissipation of:

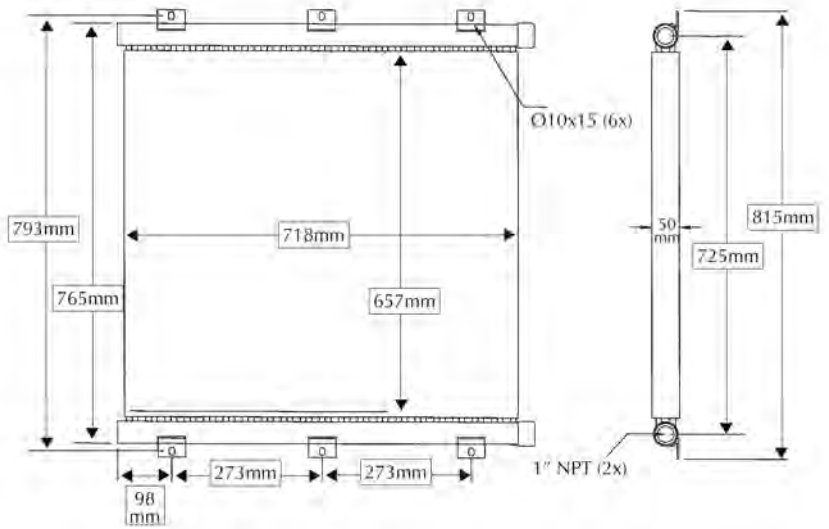
$$0.38\text{kW/}^{\circ}\text{C} \times (80-40) = 15.2\text{kW}$$

# STEEL OIL COOLERS

## PART NO ST 80

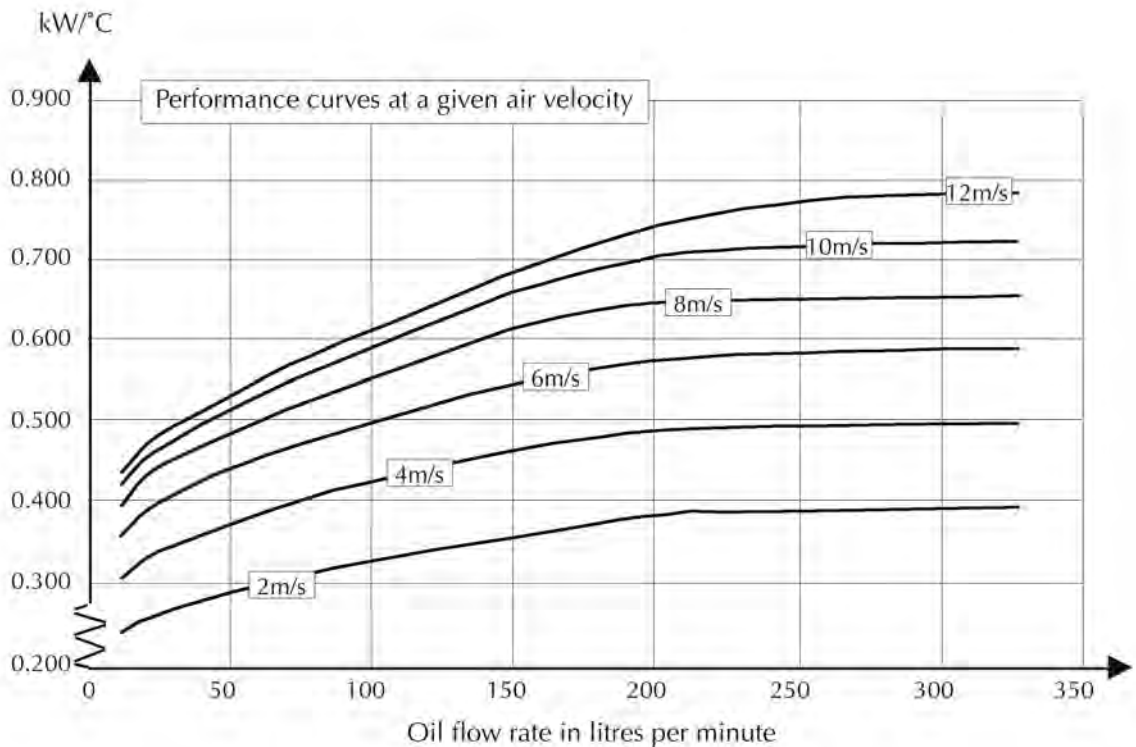
- Heavy Duty • All Steel • Maximum Strength
- High Heat Transfer • Easy to Clean
- Tested to 1500 psi
- Can be packaged with fan and motor

Oil Flow Rate Range	115 - 300 L/Min
Weight	32 Kg
Heat Rejection Range	20 - 35 kw
Connection Size	1" NPT
Max. working pressure	500 psi



This cooler is also available in a complete package with fan and motor assembly using either a DC, AC or Hydraulic motor, please contact us for more information.

Heat rejection in kW per °C temperature difference between oil entering the cooler and ambient air

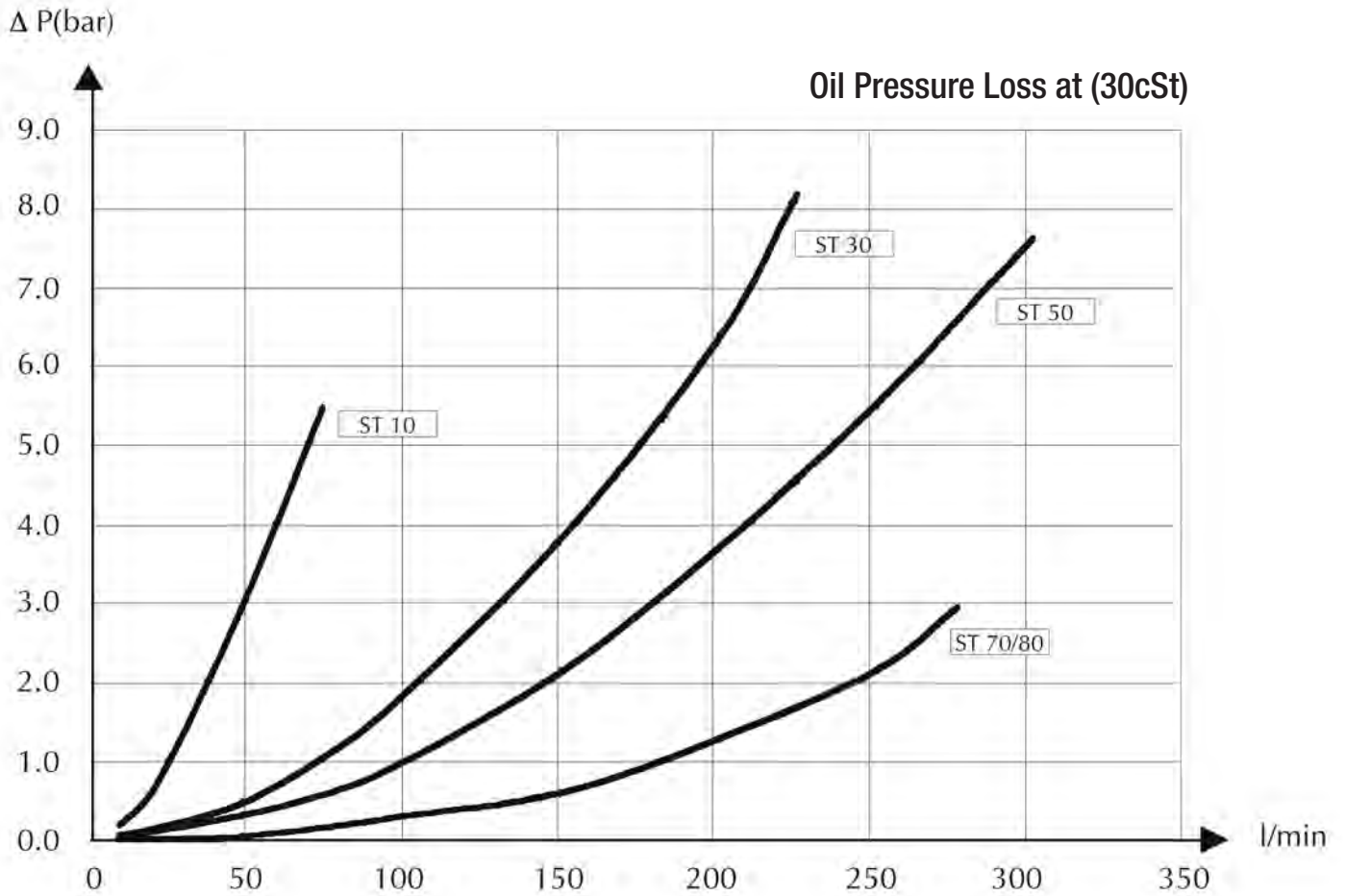


Example: With an oil flow at 200 l/min, oil temperature in at 80°C and ambient air at 40°C, with 6m/s of cooling air, from the graph the cooler will dissipate approximately 0.57kW/°C which gives a heat dissipation of:

$$0.57\text{kW/}^\circ\text{C} \times (80-40) = 22.8\text{kW}$$

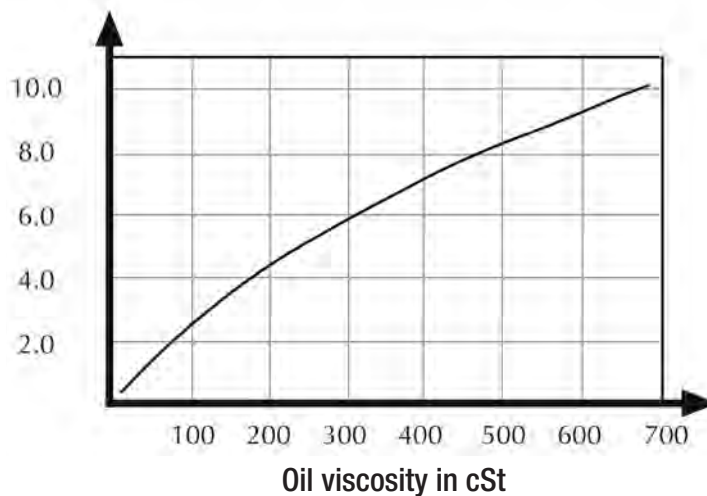
# STEEL COOLERS PRESSURE LOSS CHARTS

## MODELS ST 10 - 80

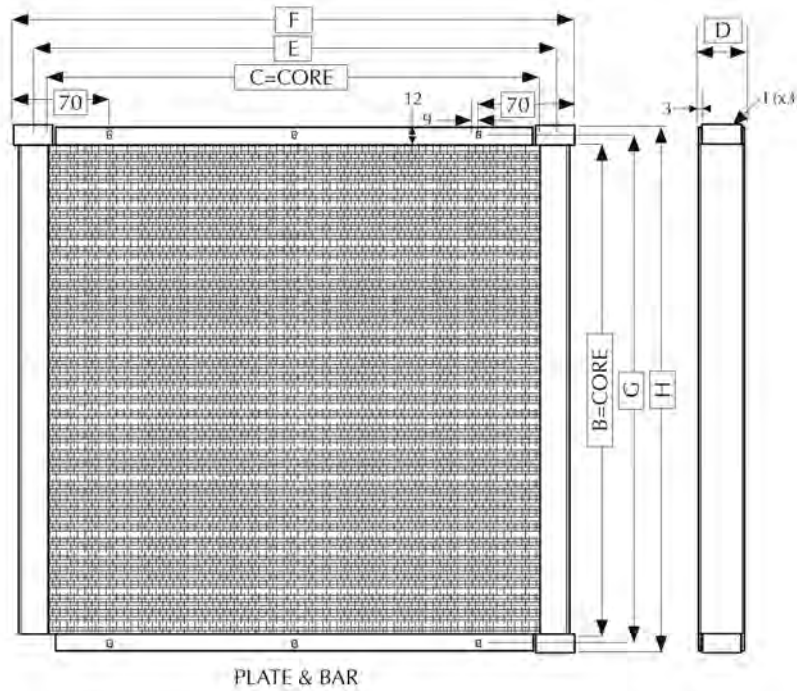


### Viscosity Correction Chart

Multiply result from Pressure Loss Chart by this factor



# HIGH EFFICIENCY ALUMINIUM COOLERS



MODEL No	No1	No2	No3	No4	No5	No6	No7	No8	No9	No10	No11
MAX OIL FLOW (lit/min)	120	150	150	150	250	250	230	300	330	400	470

**TYPICAL PERFORMANCE**

Heat removed	kW	5.5	7.1	9.9	13.7	16.0	20.4	24.5	34.0	42.1	49.8	60.2
Oil flow	l/min	18	23	30	33	38	45	54	64	78	90	108
Oil temperature (inlet)	°C	90	90	90	90	90	90	90	90	90	90	90
Cooling air flow	kg/h	1100	1550	2600	3800	3300	4180	4870	5600	6750	7900	9650
Max. static pressure drop	Pa	100	100	170	170	170	170	170	220	220	220	220
Ambient temperature	°C	40	40	40	40	40	40	40	40	40	40	40
Test/max. working pressure	bar	18/13	18/13	18/13	18/13	18/13	18/13	18/13	15/10	15/10	15/10	15/10

**DIMENSIONS**

B	mm	264	336	293	379	393	450	436	382	454	539	639
C	mm	248	248	348	398	398	448	548	612	612	612	612
D	mm	50	50	50	50	63	63	63	94	94	94	94
E	mm	289	289	389	439	439	489	589	659	659	659	659
F	mm	334	334	434	484	492	542	642	737	737	737	737
G	mm	289	361	318	404	418	475	461	407	479	564	664
H	mm	314	386	343	429	443	500	486	432	504	589	689
I	G <sup>l</sup>	1/2	1/2	1/2	1/2	3/4	3/4	3/4	1	1	1	1

Oil pressure loss through the coolers at maximum flow rates @ oil viscosity of 30 cSt = 3 bar

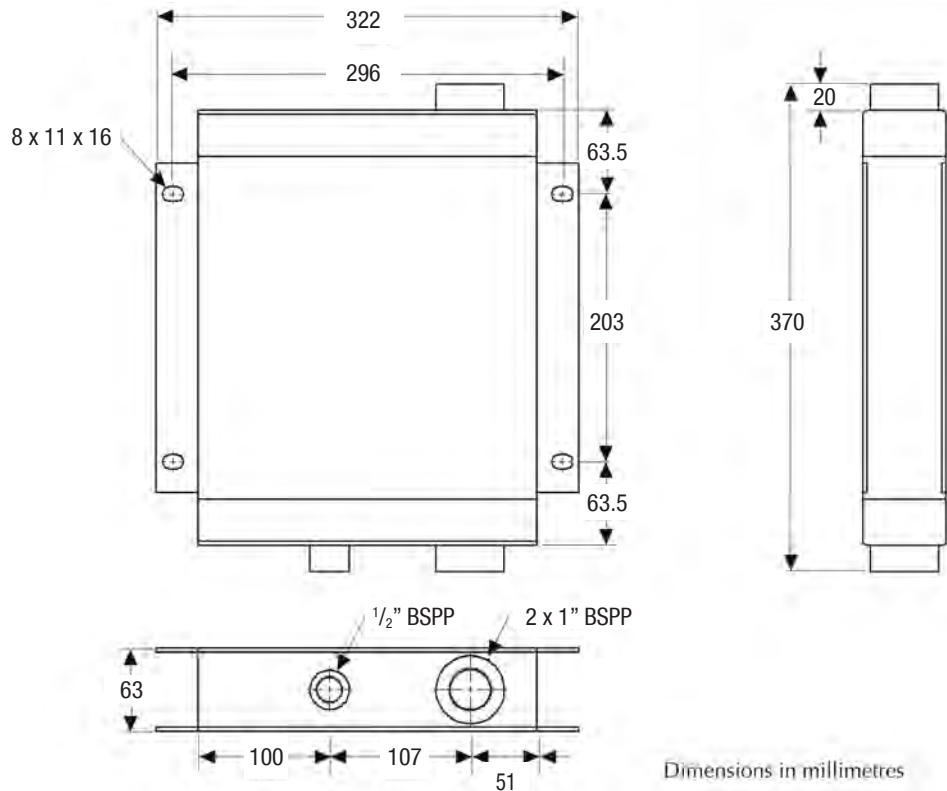
# REPLACEMENT OIL COOLERS

**PART NO: AHTI 19**

**THE HEAVY DUTY VERSION**

**TESTED OVER 300psi**

- A one piece brazed aluminium cooler
- Very high efficiency
- Superior corrosion resistance
- Improved working pressure rating to 250 psi
- Rugged and durable



Dimensions in millimetres

PORTS BSPP	AREA m <sup>2</sup>	Volume litres
1"	.065	1.17

The cooler brazing process takes place in a temperature controlled nitrogen atmosphere furnace. Coolers brazed using this new fluxless system do not require any flushing or post-brazing treatment and do not suffer from internal flux corrosion.

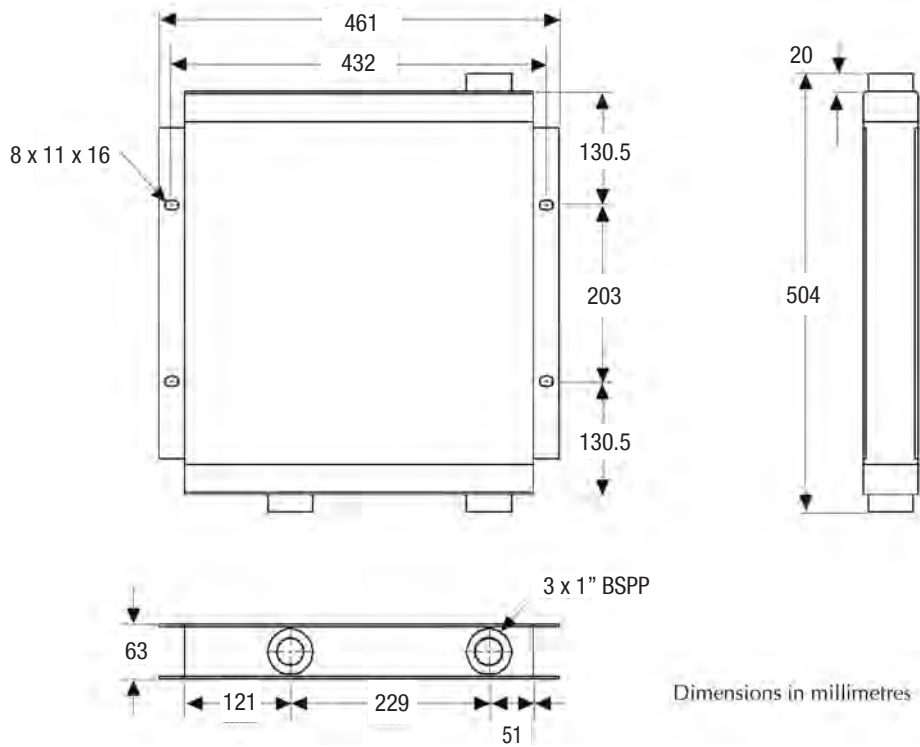
# REPLACEMENT OIL COOLERS

**PART NO: AHTI 20**

**THE HEAVY DUTY VERSION**

**TESTED OVER 300psi**

- A one piece brazed aluminium cooler
- Very high efficiency
- Superior corrosion resistance
- Improved working pressure rating to 250 psi
- Rugged and durable



PORTS BSPP	AREA m <sup>2</sup>	Volume litres
1"	.155	2.16

The cooler brazing process takes place in a temperature controlled nitrogen atmosphere furnace. Coolers brazed using this new fluxless system do not require any flushing or post-brazing treatment and do not suffer from internal flux corrosion.

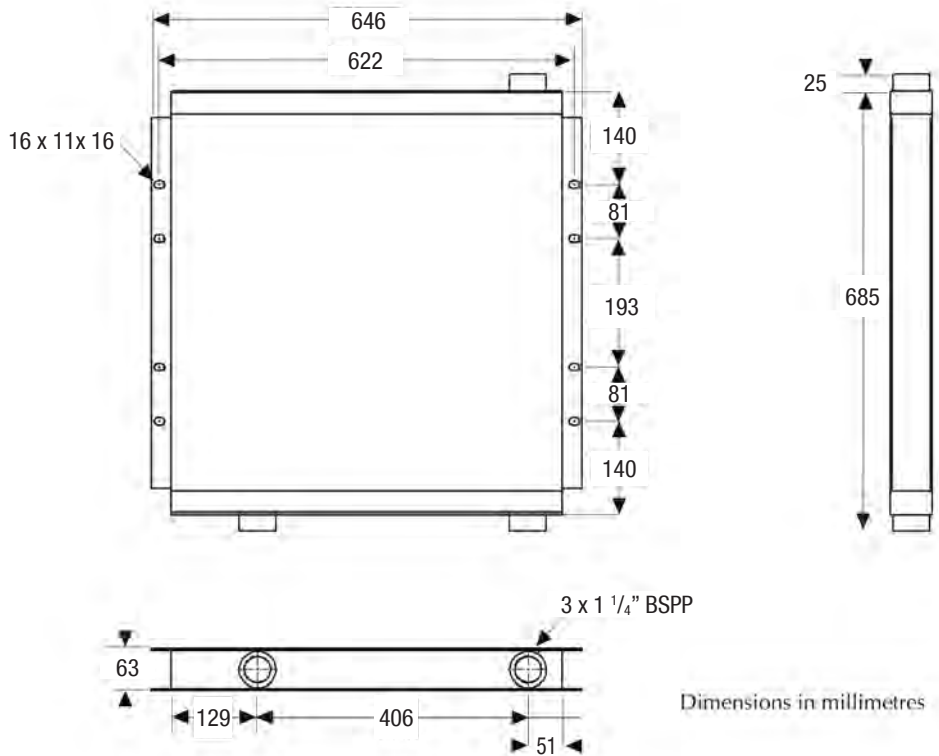


# REPLACEMENT OIL COOLERS

**PART NO: AHTI 21**

**THE HEAVY DUTY VERSION  
TESTED OVER 300psi**

- A one piece brazed aluminium cooler
- Very high efficiency
- Superior corrosion resistance
- Improved working pressure rating to 250 psi
- Rugged and durable



PORTS BSPP	AREA m <sup>2</sup>	Volume litres
1 1/4"	.329	3.82

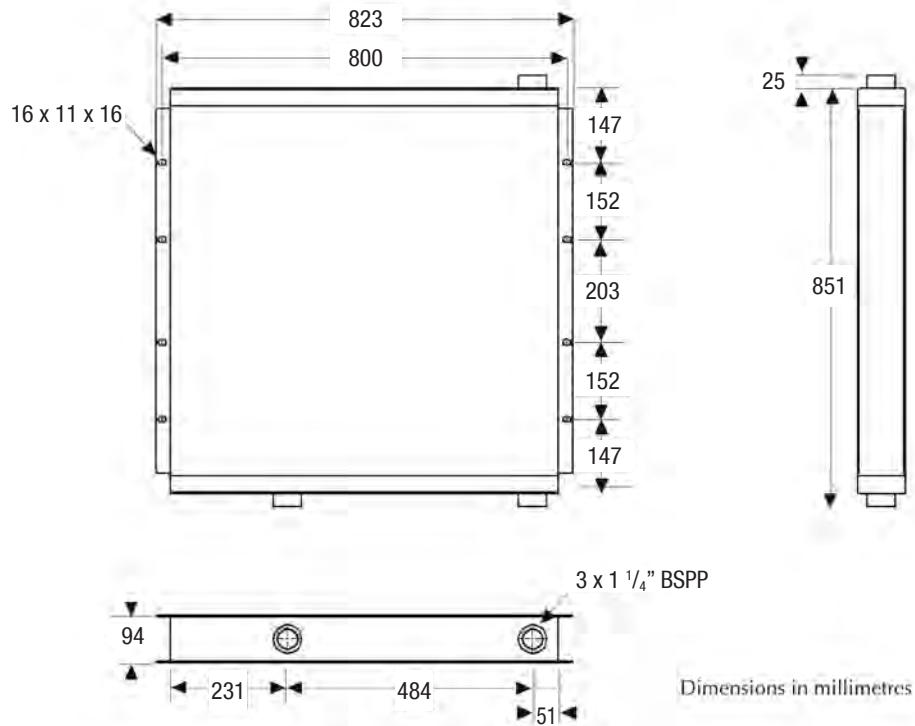
The cooler brazing process takes place in a temperature controlled nitrogen atmosphere furnace. Coolers brazed using this new fluxless system do not require any flushing or post-brazing treatment and do not suffer from internal flux corrosion.

# REPLACEMENT OIL COOLERS

**PART NO: AHTI 22**

**THE HEAVY DUTY VERSION  
TESTED OVER 300psi**

- A one piece brazed aluminium cooler
- Very high efficiency
- Superior corrosion resistance
- Improved working pressure rating to 250 psi
- Rugged and durable



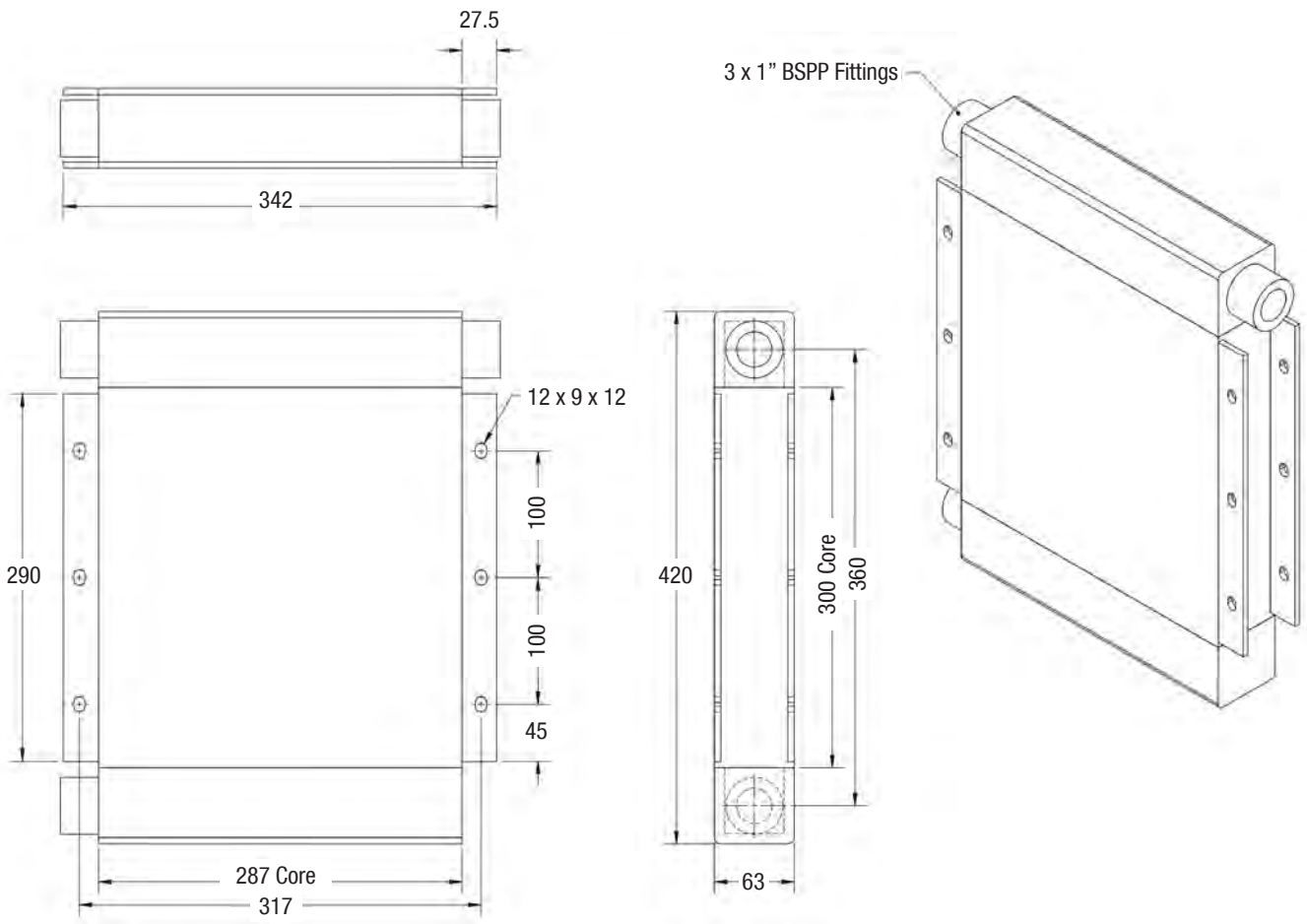
PORTS BSPP	AREA m <sup>2</sup>	Volume litres
1 1/4"	.560	5.80

The cooler brazing process takes place in a temperature controlled nitrogen atmosphere furnace. Coolers brazed using this new fluxless system do not require any flushing or post-brazing treatment and do not suffer from internal flux corrosion.

# HP HEAVY DUTY ALUMINIUM OIL COOLERS

## PART NO HP 10

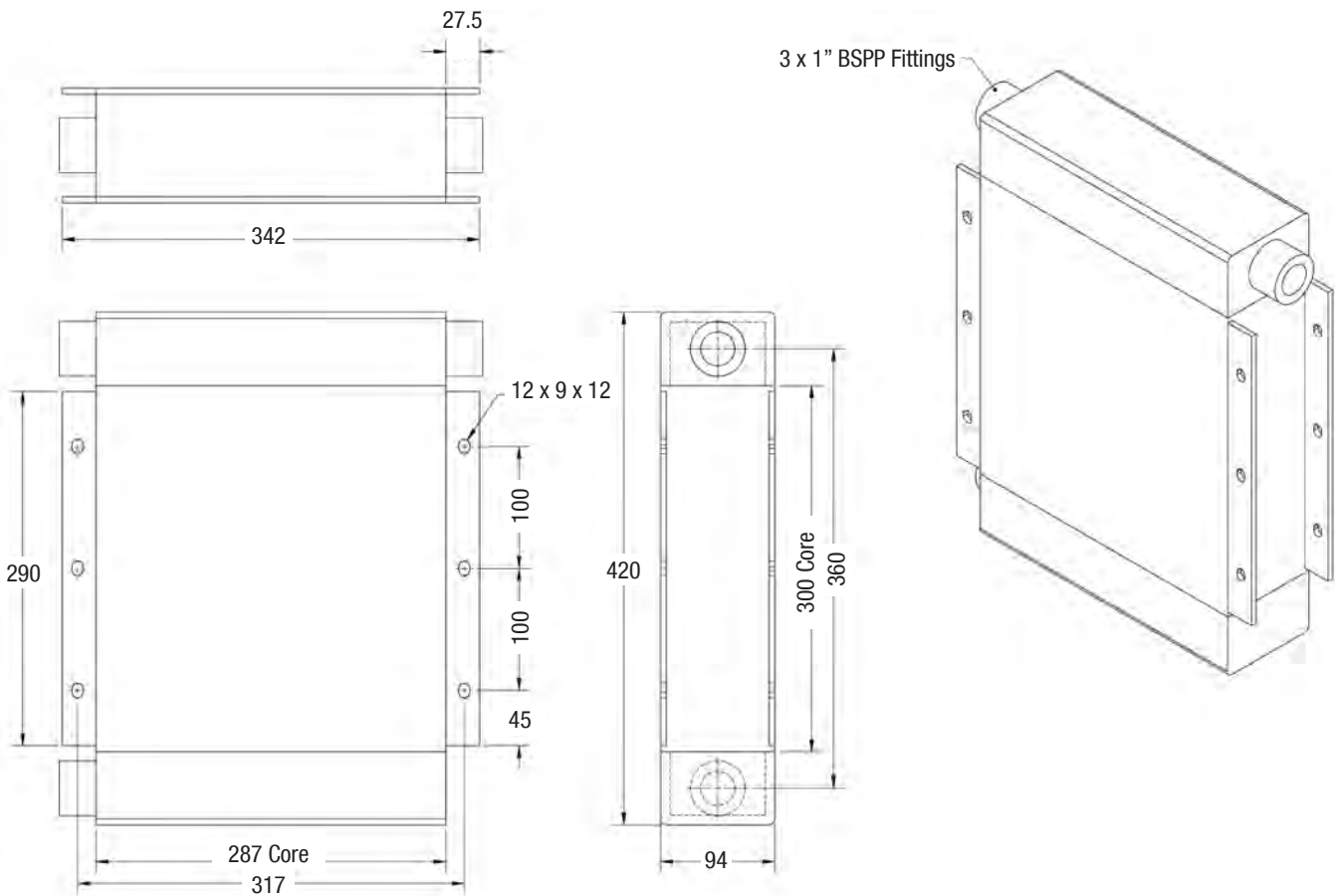
- All aluminium construction



# HP HEAVY DUTY ALUMINIUM OIL COOLERS

## PART NO HP 20

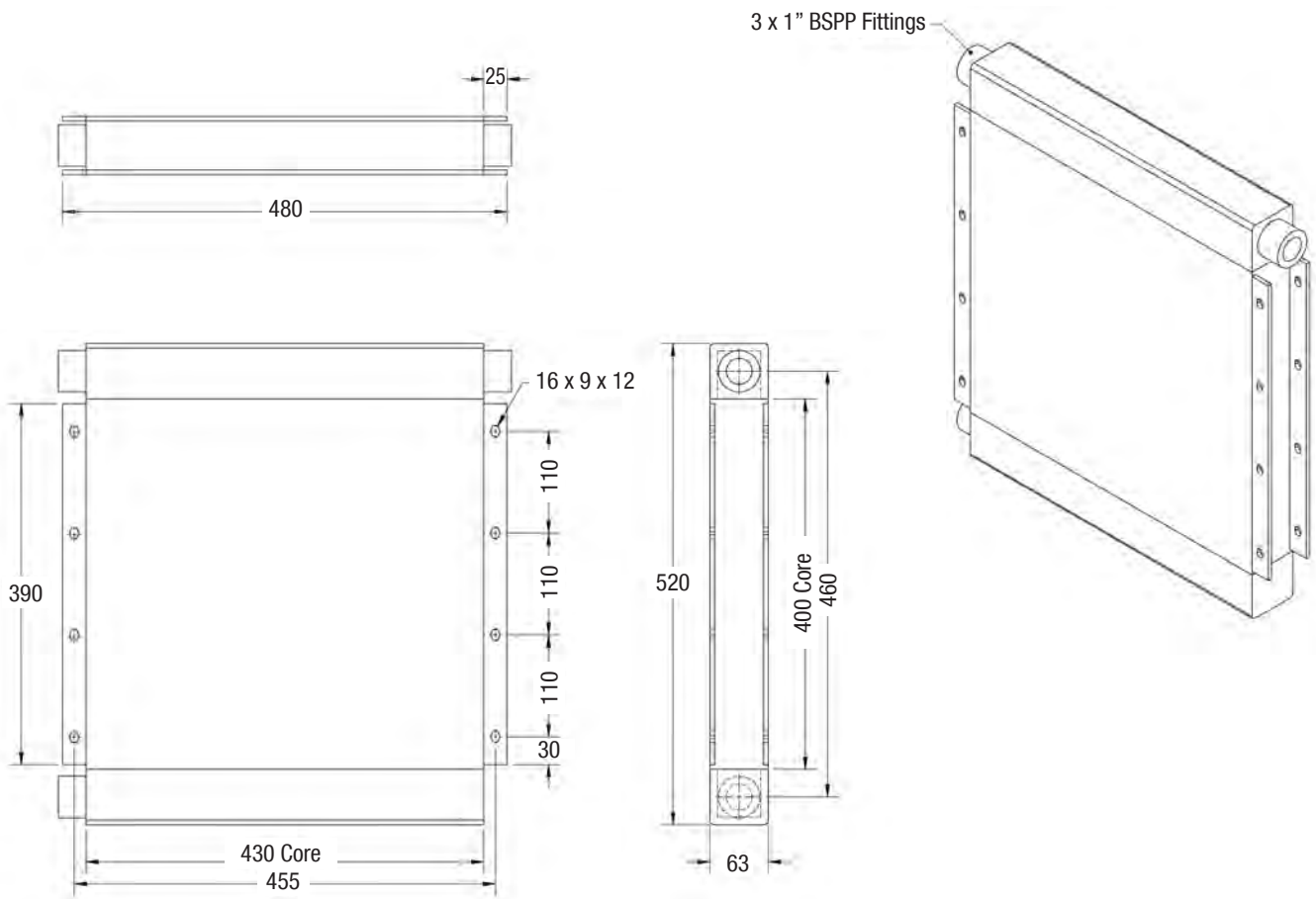
- All aluminium construction



# HP HEAVY DUTY ALUMINIUM OIL COOLERS

## PART NO HP 30

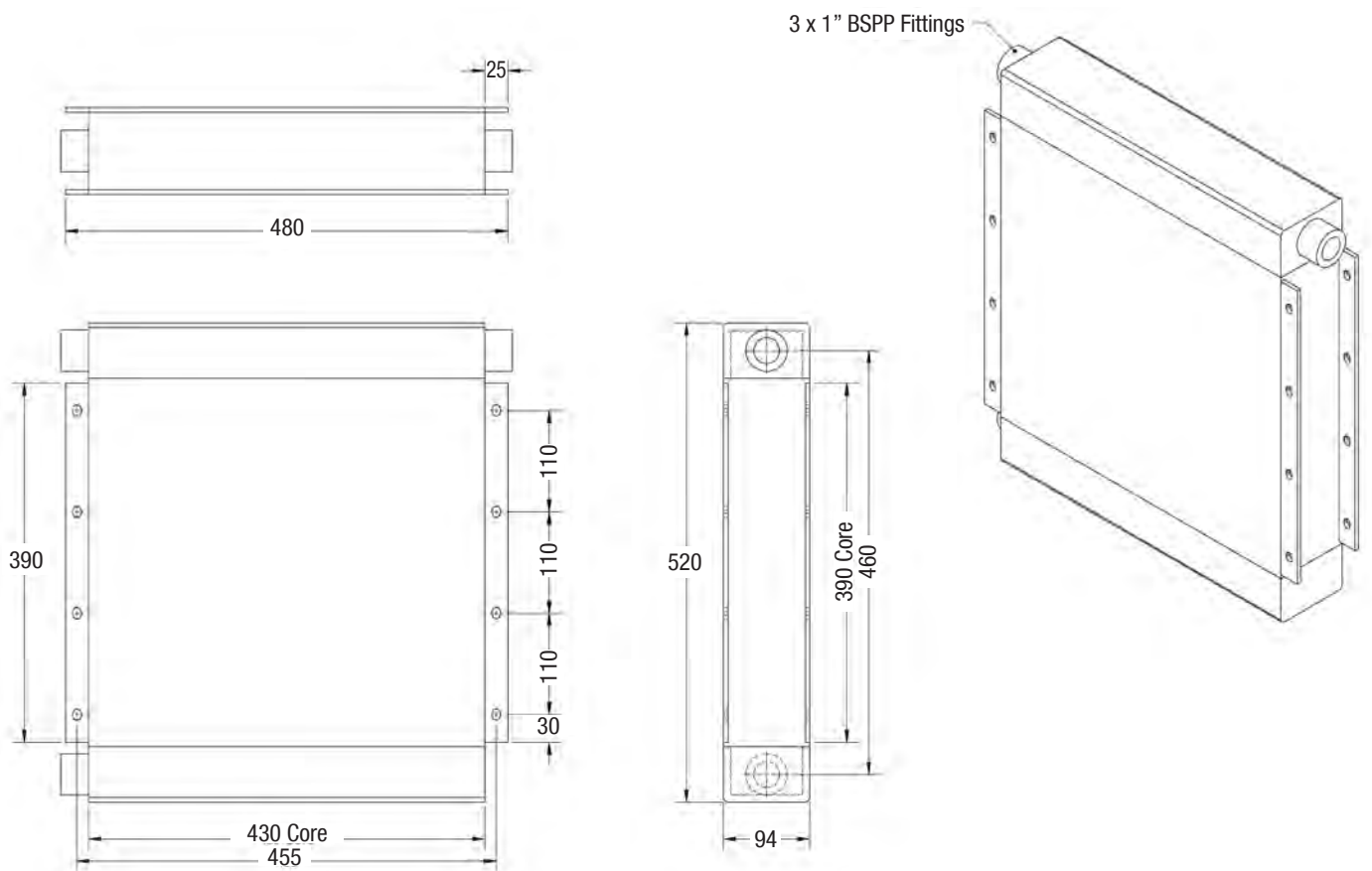
- All aluminium construction



# HP HEAVY DUTY ALUMINIUM OIL COOLERS

## PART NO HP 40

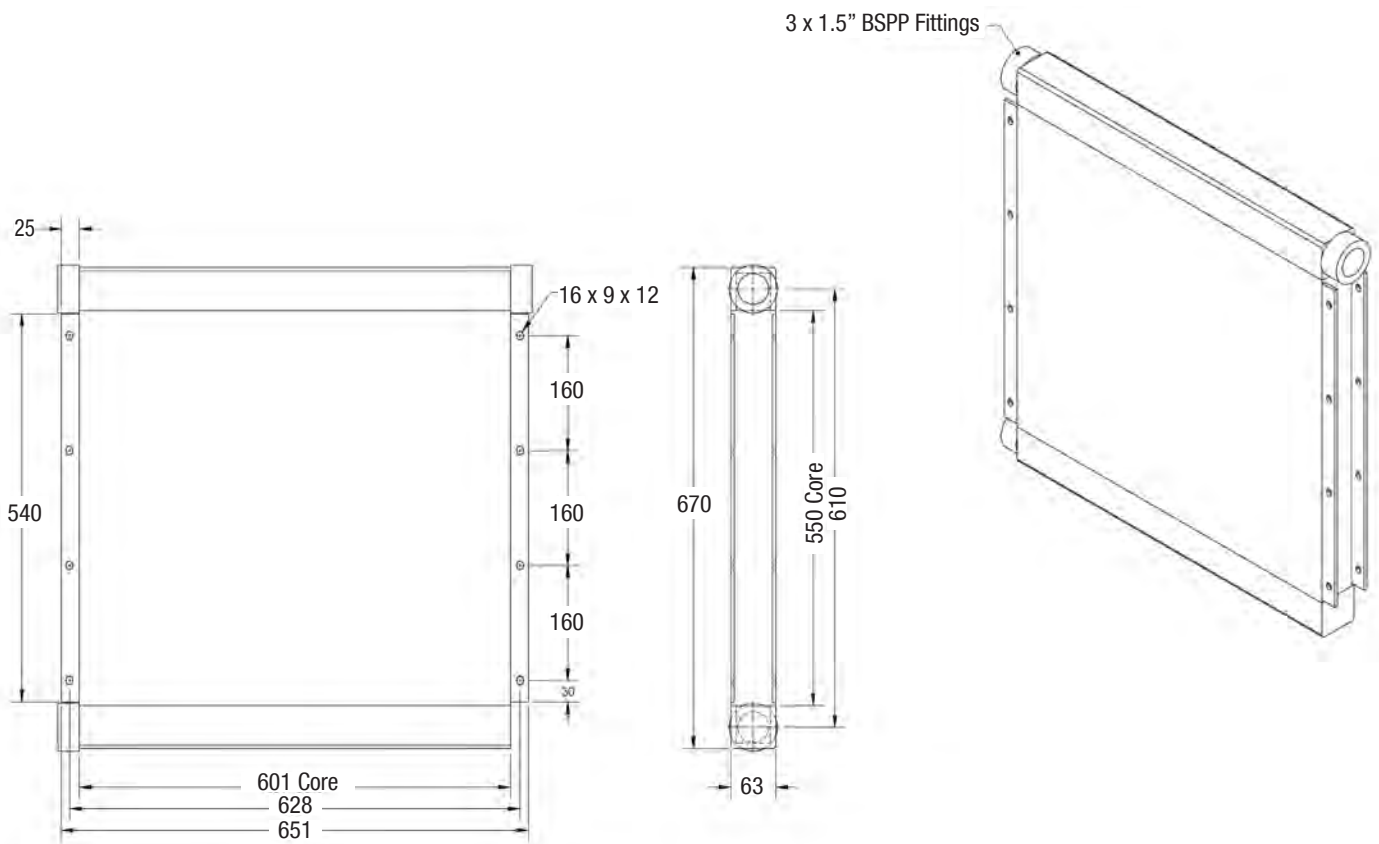
- All aluminium construction



# HP HEAVY DUTY ALUMINIUM OIL COOLERS

## PART NO HP 50

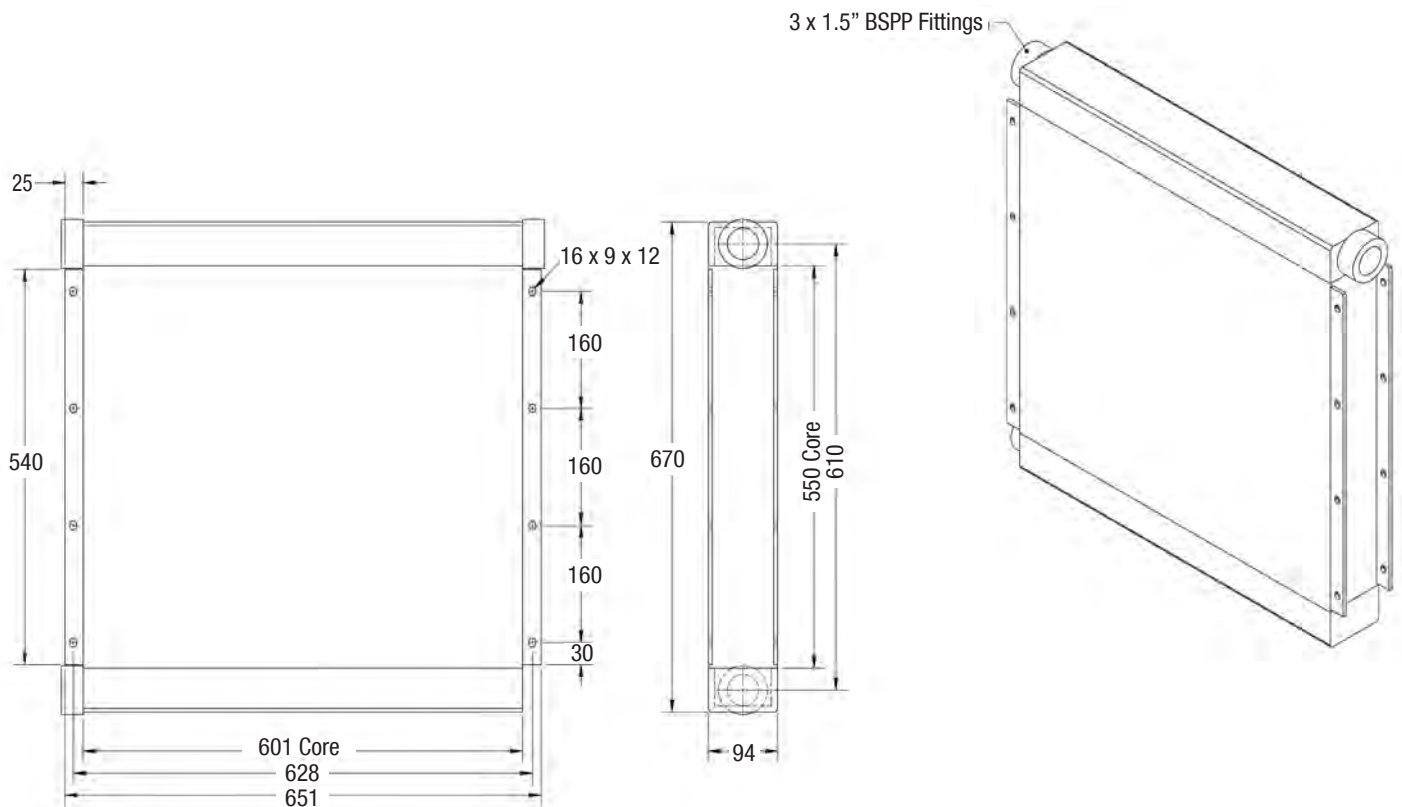
- All aluminium construction



# HP HEAVY DUTY ALUMINIUM OIL COOLERS

## PART NO HP 60

- All aluminium construction

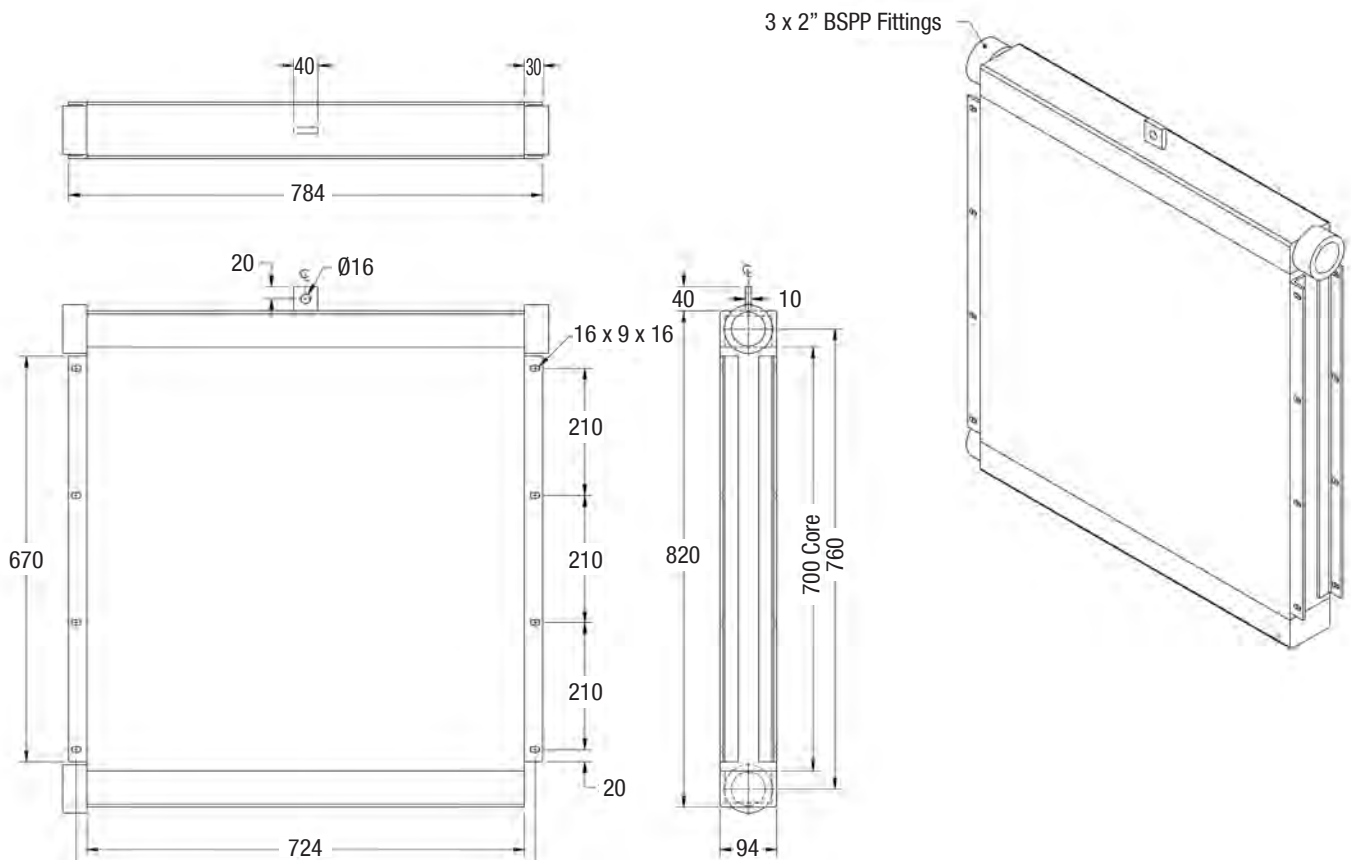




# HP HEAVY DUTY ALUMINIUM OIL COOLERS

## PART NO HP 70

- All aluminium construction

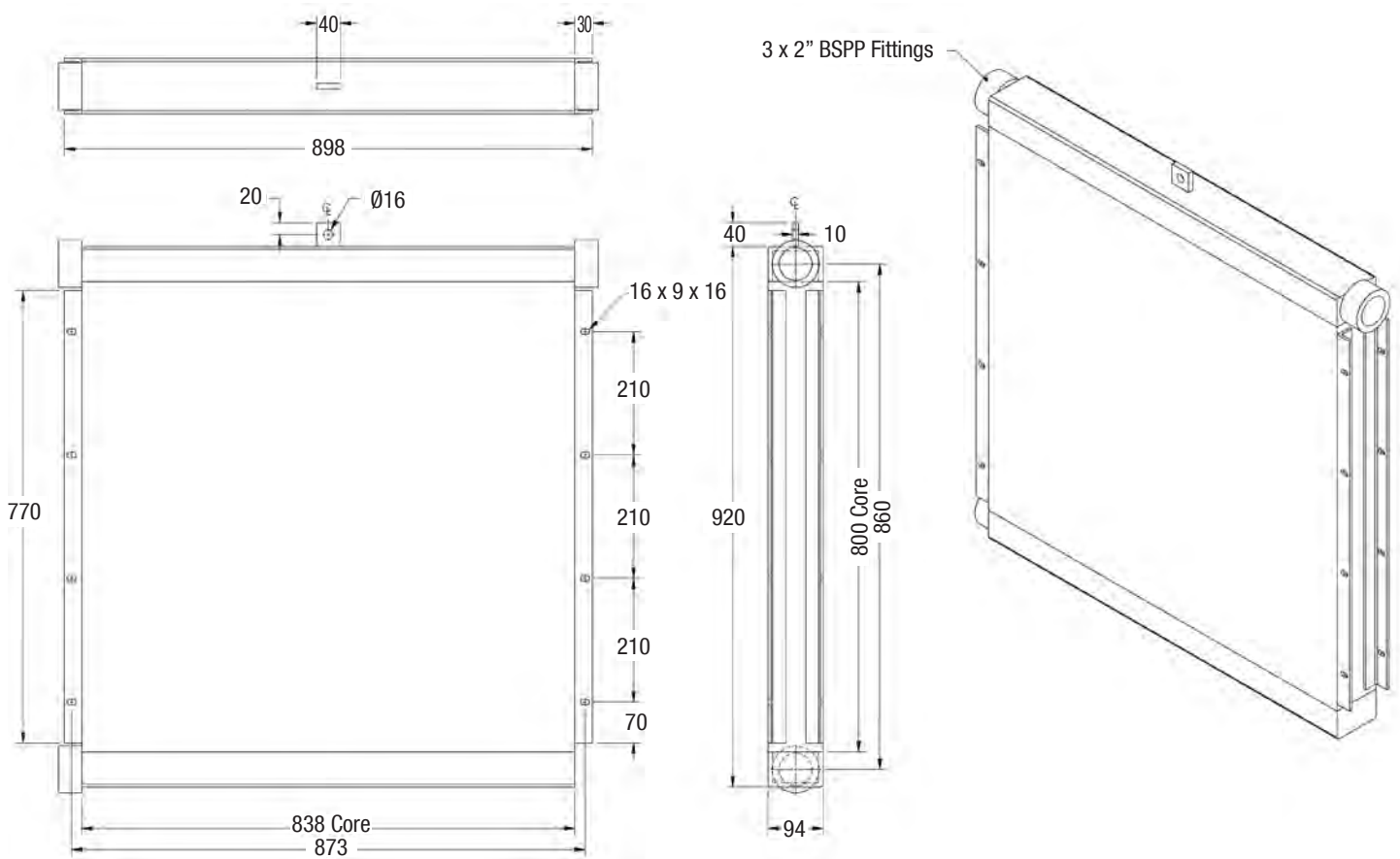


Oil Cooler Panels

# HP HEAVY DUTY ALUMINIUM OIL COOLERS

## PART NO HP 80

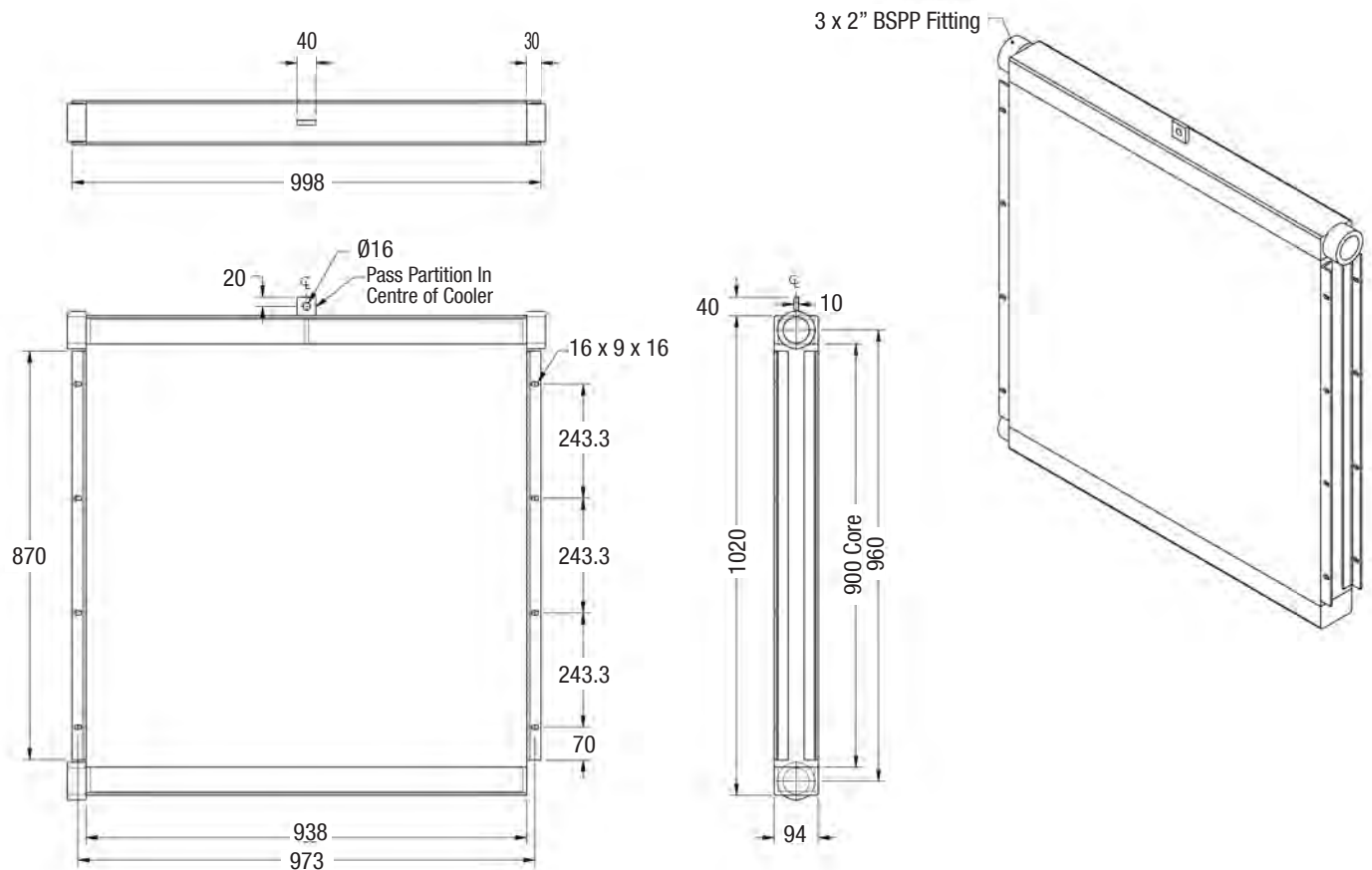
- All aluminium construction



# HP HEAVY DUTY ALUMINIUM OIL COOLERS

## PART NO HP 90

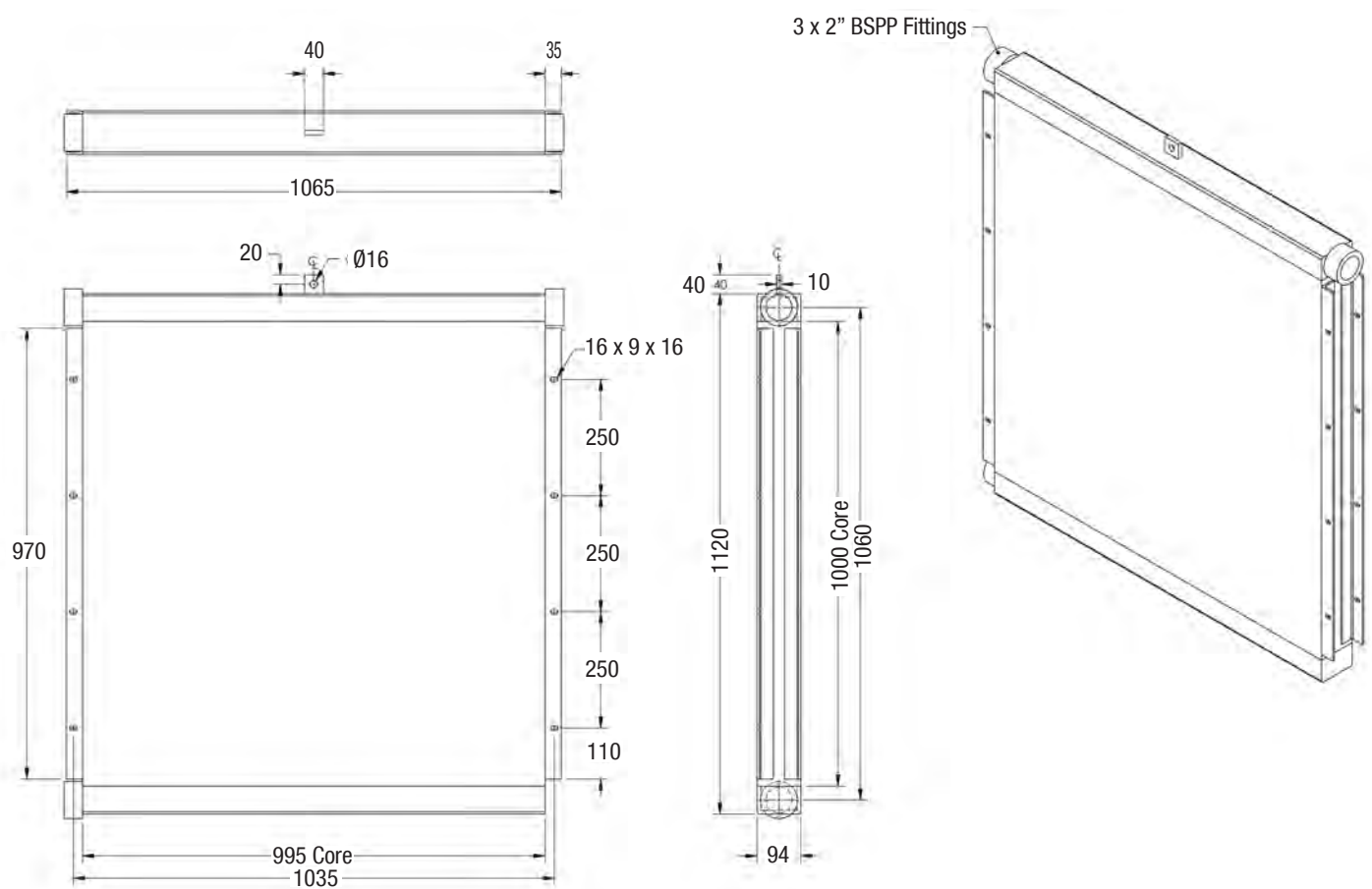
- All aluminium construction



# HP HEAVY DUTY ALUMINIUM OIL COOLERS

## PART NO HP 100

- All aluminium construction



## SECTION D - Custom Coolers

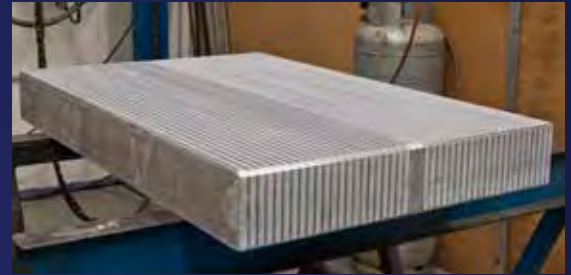
In this catalogue we have included most of the popular coolers which we keep in stock ready to ship however there are more available so if you can't find it in these pages then contact us and we will search our entire range until we come up with a solution for you.

Important to remember that Allied Heat Transfer are not just a supplier of Oil Coolers, we are the designers and manufacturers, we provide coolers and cooling systems from small to very large, for individuals to companies of all sizes.

When you contact us you are **dealing direct with the manufacturer.**

If we do not have your oil cooler already made for you then we will make it for you.

The following is a guide on how to size your custom cooler so that we can offer you a prompt quotation.



# HOW TO SIZE YOUR CUSTOM COOLER

## A Information needed to size oil coolers based on cooling requirements

The oil type & viscosity ?

Max pressure loss through the oil cooler that you can accept ?

The oil flow ?

What will the max oil pressure in the cooler be ?

Amount of heat to be removed from the oil ?

The cooling air temp entering the cooler ?

Max oil temp your system can accommodate ?

Fan motor type: Hydraulic, 1 or 3 phase, 12 or 24v

## B Dimensions required for Like for Like replacement

### Overall dimensions

- H Height
- W Width
- D Depth

### Core Dimensions

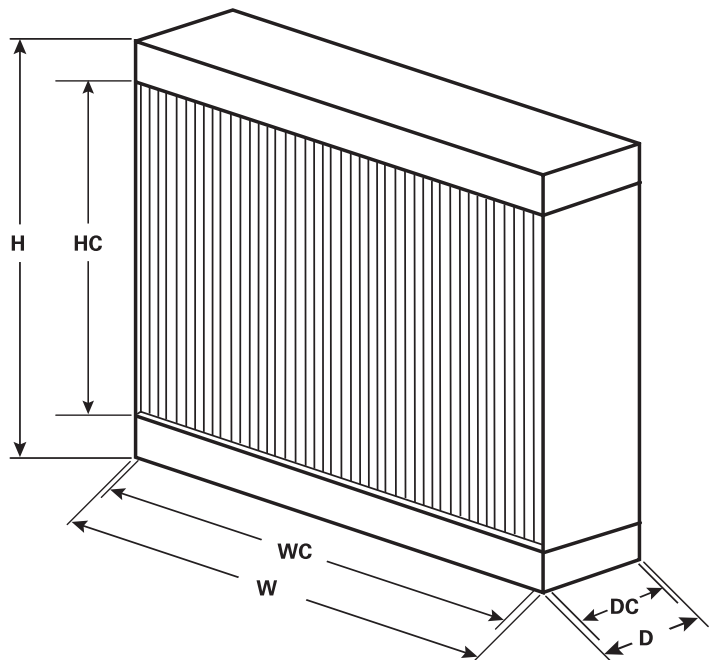
- HC Height (length of tubes)
- WC Width (over tubes)
- DC Depth (thickness of core)

How many connections on the cooler

Are the connections flanged or threaded

What is the operating pressure

OEM part number

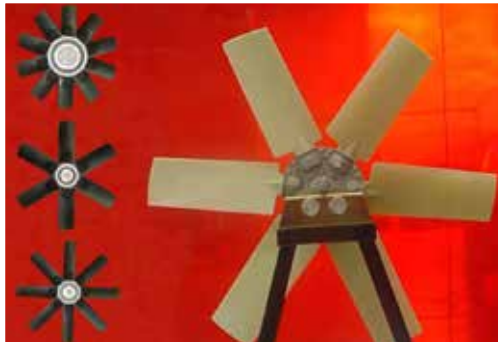


This information will enable us to provide you with a quotation to replace your existing cooler.

Prior to manufacture we will produce fabrication drawings to ensure the replacement fits exactly in place.

# COOLING FANS

DESIGN - MANUFACTURE - REPLACEMENT



**Fan diameters from 200mm to 12 metres**

**Adjustable pitch axial fans**

**Fixed pitch axial fans**

**Various materials**

**Range of blades in stock ready for assembly**

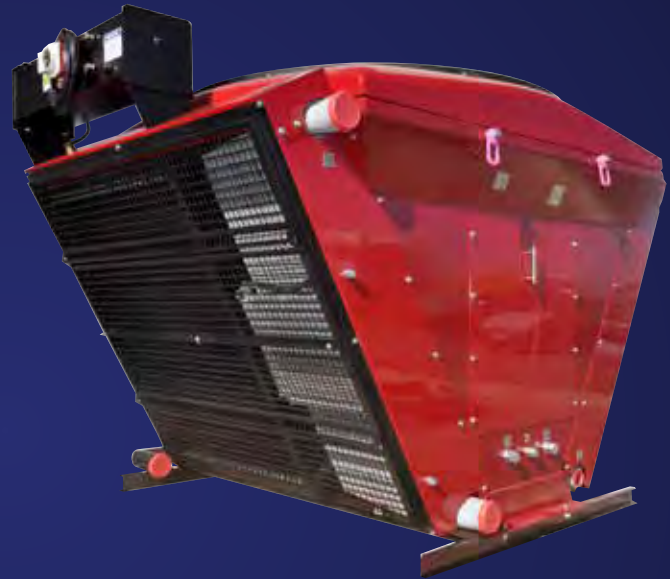
**In-house design & selection**

**Precise balancing in-house**

**Optimised for**

**High air volume - Low power consumption - Low noise**

# Compressor Coolers



## IS YOUR COMPRESSOR COOLER A PRESSURE VESSEL?

Our Accredited PV inspectors will advise you.

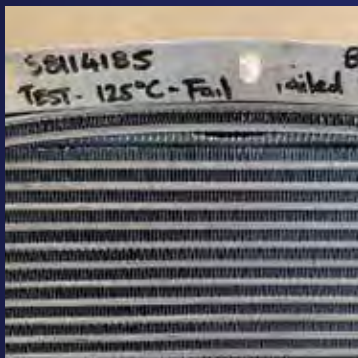
If it is then it must comply with pressure vessel legislation.

But this is not a problem for you because **Allied Heat Transfer** make every PV rated cooler fully comply with the law.

Each cooler is specially tested to the pressure vessel code in accordance with our NATA accreditation.

Supplied with a fully traceable test certificate provided with a design registration number.

Internally protected to minimise corrosion.



## EACH ALUMINIUM PV COOLER IS FULLY CODE COMPLIANT AND TESTED IN-HOUSE.

In addition we conduct a variety of mechanical tests on our coolers In-House, including destructive burst tests to verify the failure pressure and method with pressure cycle tests to determine the maximum cycle life

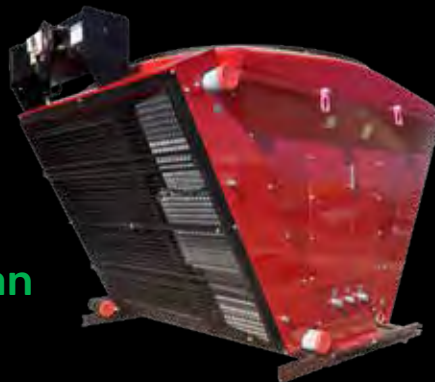
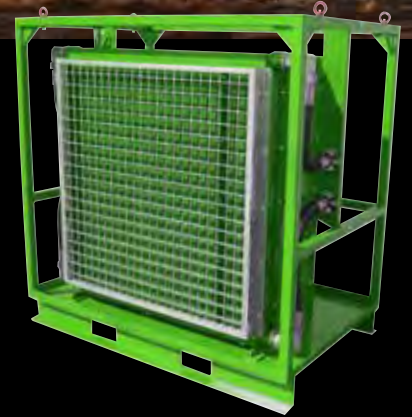


# Cooling Systems for Drill Rigs

Heat transfer engineers who will custom design and build your rig cooling system

## Options

Compact Size  
Lightweight  
Low Noise  
High Pressure  
Low Fouling  
Temp Controlled Fan  
High Ambient  
Easy Clean  
Easy Maintenance  
With Booster Coolers





A highly experienced manufacturer whose high quality Shell & Tube Heat Exchangers are used throughout industry for cooling, or heating, liquid to liquid or gas to liquid and gas to gas. Their range is truly impressive starting with very economical small exchangers you can hold in one hand up to very large custom builds weighing many tons made from exotic materials. This company meets the needs of industry in three main ways



### Custom Build Heat Exchangers

Design division assists clients selecting the correct exchanger. Capabilities include AS 1210, AS 1228, ASME V111, PD 5500. HTRI Thermal design software PV Elite. Welding of common & exotic materials duplex stainless steel, 904L and titanium.



*"We can build whatever is needed"*

### Pre built heat exchangers

Ready for immediate despatch.  
We select the cooler for you.  
Large stock means we can provide straight away.  
Replace existing coolers straight away.  
Removable tube bundles for ease of clean.  
Easy maintenance.  
Marine grade materials.



*"When time is most important"*

### Re-build Heat Exchangers

Clean & De-scaling with chemical & ultrasonics.  
Finding leaks and repairing.  
Retubing and complete rebuild.  
Comprehensive reports.  
Certified pressure testing.  
Problem analysis.  
Pressure vessel inspectors and welding inspectors.



*"We save our customers money by fixing their existing heat exchanger"*

**For anything heat exchanger just contact us.**

# **SECTION E - Service and Replacement**

# DEDICATED SERVICE WORKSHOPS



## For CLEAN-REPAIR-REBUILD of RADIATORS-OIL COOLERS-HEAT EXCHANGERS

### **FAST TURNAROUND**

very experienced fitters have the skills to turn your job around quickly which means that your job gets back to you sooner & cheaper.

### **REPAIR NOT REPLACE**

our emphasis is to repair not to take the easy way of replacing and the aim is to save you money.

### **NEW TECHNOLOGY**

cleaner – quicker means less cost to you.

**SERVICE** We do whatever hours necessary to get breakdown jobs back to you by the agreed time.

### **COLLECTION AND DELIVERY**

we will work with you to arrange the most convenient and safest way to collect and deliver your gear.

### **NATA TEST CERTIFICATES**

We don't just test we NATA test.

### **QUALITY**

ISO 9001- Health & Safety- Environmental certificates.

### **HIGH QUALITY**

Australian radiator cores made in Perth with quick lead-times means less waiting.

### **IN-HOUSE DESIGN AND FABRICATION**

No need for outside contractors saves you money.

### **PERFORMANCE CHANGE REPORTS**

Our design and engineering department will advise on the effect any design changes will make on performance.

# NEW PHE DESIGN

## Your Partner for Energy-Efficient Plate Heat Exchanger Designs

**Collaborating with SonFlow, a leader in gasketed plate heat exchangers, Allied Heat Transfer brings you a comprehensive range of innovative plate heat exchangers designed to enhance sustainability and energy efficiency.**

**Compact and Innovative Design:** Our plate heat exchangers feature a compact frame and incorporate state-of-the-art plate patterns. These designs optimise heat transfer, providing a large but space-efficient total surface area for efficient exchange of heat between liquids or gases.

**Versatile Applications:** With their exceptional performance, our plate heat exchangers are suitable for diverse industries and multiple applications. Whether you need heating, cooling, heat recovery, condensation, or evaporation solutions, our products deliver outstanding results. From HVAC systems to marine and offshore operations, and from the dairy and food industry to chemical applications, our plate heat exchangers meet a wide range of requirements.

**Optimised Performance and Durability:** Our heat exchangers feature meticulously designed corrugated plates that maximize heat transfer efficiency. The herringbone patterns and carefully selected pressing depths and angles create ideal turbulent flows, utilising available pressure drops effectively. This optimised flow distribution minimizes fouling, prevents uneven temperature zones, and ensures long-lasting performance without unnecessary energy losses, maintenance costs, or unplanned shutdowns.

**Technical Excellence:** Allied Heat Transfer boast impressive technical specifications to meet your specific needs. With connection options ranging from DN25 to DN400, frames designed to industry standards, and plate materials including AISI 304/316, titanium, and SMO, we provide flexibility and reliability.





**Greener Solutions:** By choosing Allied Heat Transfer you gain access to a range of benefits. Our designs offer a short payback period on investment and deliver high thermal efficiency. With their compact footprint and straightforward installation, our heat exchangers provide convenience. Each unit is individually designed to optimise heat load, flow rate, and pressure drop, ensuring optimal performance for your specific application. By prioritising energy efficiency, we contribute to protecting the environment and offering greener solutions.

**Trust Allied Heat Transfer for your plate heat exchanger needs and experience the synergy of our partnership with SonFlow in delivering sustainable and energy-efficient designs. Contact us today to explore the possibilities for your industry and applications.**

#### Services

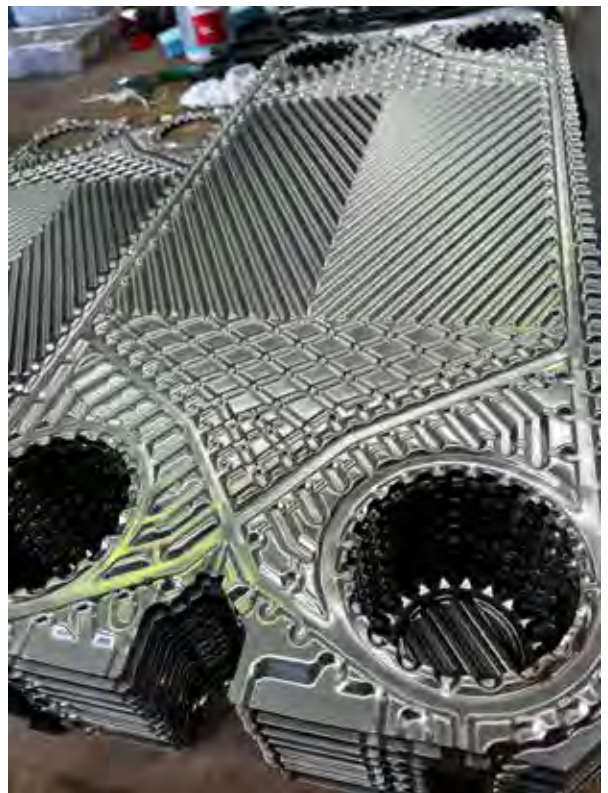
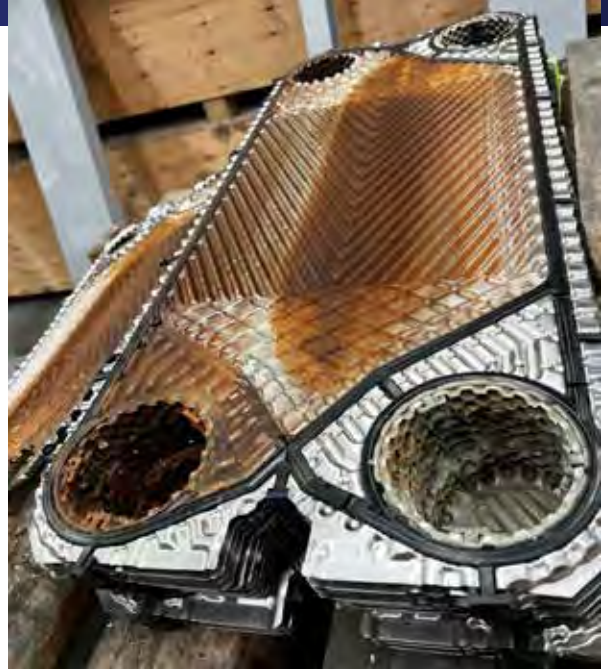
Allied Heat Transfer has expanded its heat transfer service capability with dedicated service centres for plate heat exchangers. With our purpose-built facilities in Perth and Brisbane, we cater to a wide range of industries, including mining, mineral processing, oil & gas, chemical, HVAC, marine & power, defence, food & beverage, and refrigeration.

#### Comprehensive Services and Support

Our dedicated Service Centres are staffed with experienced personnel to address your needs. We offer chemical cleaning, UV crack testing, and refurbishment services for any plate heat exchanger. Additionally, we provide a wide range of parts, upgrades, and servicing options.

#### Extensive Product Range

Discover our new product range, which includes a diverse selection of heat transfer equipment such as heat exchangers, condensers, evaporators, radiators, coolers, and heat recovery economisers. Whether you require efficient heat transfer solutions or enhancements, we have you covered.





## Mobile Plant and Machinery

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Improved performance and service life through  
in house testing and design improvements.

We have parts available off the shelf within Australia.

We are here 24/7 to help with all your After Sales enquiries.

We will partner with you throughout the life of your machine.

We can service your cooling equipment  
both off-site and on-site.



**Liebherr 994/995/996/9800**



**Hitachi EX3600/5500/5600**



**Caterpillar 6040/6060/6080**



**O&K RH340**

**Coolers and Cooling Systems for Mobile Plant and Machinery  
Hydraulic Oil Coolers • Compressor Coolers • Radiators Fans  
Shrouds/Steelwork • Fuel and Transmission Coolers**



**AHT carry a wide range of coolers and cooling system parts for all types of above and below ground Mobile Plant and Machinery**

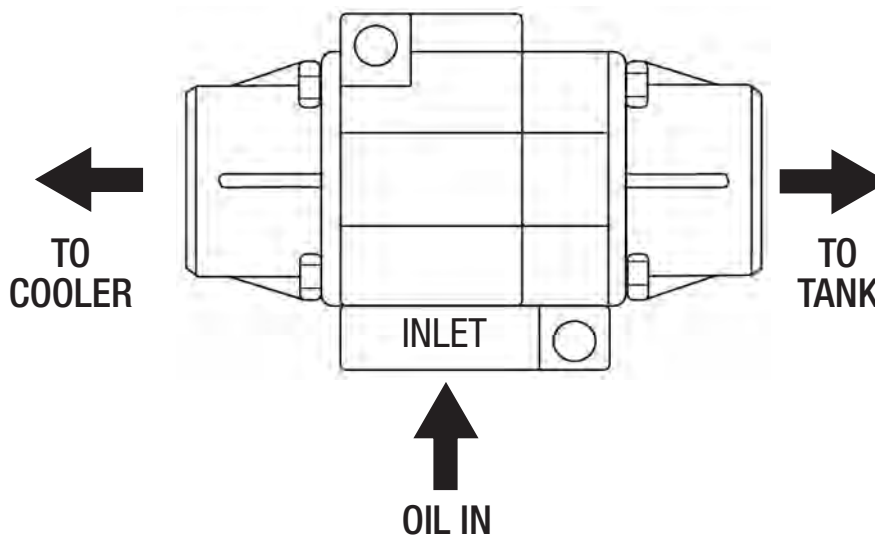
**AHT carry stock and custom build**



## **SECTION F - Accessories**

# THERMAL BY-PASS VALVE DATA SHEET

- Diverts oil flow from cooler to reservoir.
- Built-in automatic pressure relief.
- Ideal for hydrostatic drive circuits due to fast warm-up, controlled fluid temperatures and low return line back pressure.
- Maximum flow 225 L/m



Dimensions mm	138L x 90H x 67TH
Connection sizes	16 SAE O RING 1 <sup>5</sup> / <sub>16</sub> " 12 UN-2B

These thermal by-pass valves are temperature responsive to modulate return oil flow between the oil reservoir and the oil cooler. Oil is diverted to the reservoir until the shift temperature is reached, causing flow to begin to the cooler.

At the shift temperature plus 14°C full oil flow is diverted to the cooler. An automatic built-in pressure value protects against excessive oil pressure.

PART NUMBER	START SHIFT TEMPERATURE Valve opens diverting flow to cooler	FULL SHIFT TEMPERATURE Valve fully open diverting full flow to cooler	PRESSURE RELEASE SETTING Automatic diversion of oil to reservoir at
1100-25	38°C	52°C	25psi
1100-50	38°C	52°C	50psi
1600-25	71°C	85°C	25psi
1600-50	71°C	85°C	50psi

**Also available**

- Pressure check valves
- Modulating Water Flow Valves
- Thermostatic Fan Switches
- Oil Coolers
- Thermostatic pump controller

# COOLING FANS

**Existing Impeller Details**

\_\_\_\_\_

Diameter (mm)

\_\_\_\_\_

Number of blades

\_\_\_\_\_

Blade pitch angle

\_\_\_\_\_

Blade materials

\_\_\_\_\_

**Application Details**

\_\_\_\_\_

Operating temp (°C)

\_\_\_\_\_

Required airflow (L/s)

\_\_\_\_\_

Static pressure (Pa)

\_\_\_\_\_

**ElectricMotor Mounting (if applicable)**

\_\_\_\_\_

Power rating (kW)

\_\_\_\_\_

Motor speed (RPM)

\_\_\_\_\_

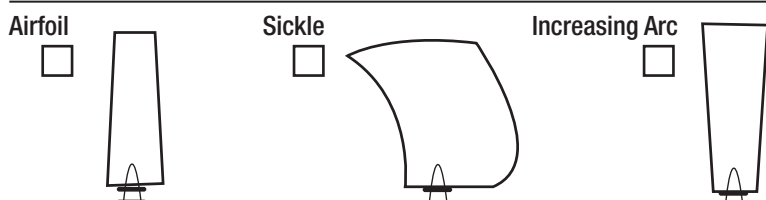
Shaft size (mm)

\_\_\_\_\_

Keyway size (mm)

\_\_\_\_\_

**Blade Profile**



**Airflow**

A (airflow away from motor)

B (airflow back cover motor)

**Blade Handedness**

Right handed blades (facing airflow, clockwise)

Left handed blades (facing airflow, anti clockwise)

**Flange Mounting (if applicable)**

\_\_\_\_\_

Locator / Spigot size (mm)

\_\_\_\_\_

Number of bolt holes

\_\_\_\_\_

Diameter of bolt holes (mm)

\_\_\_\_\_

Pitch circle diameter (mm)

\_\_\_\_\_



**Additional notes**

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

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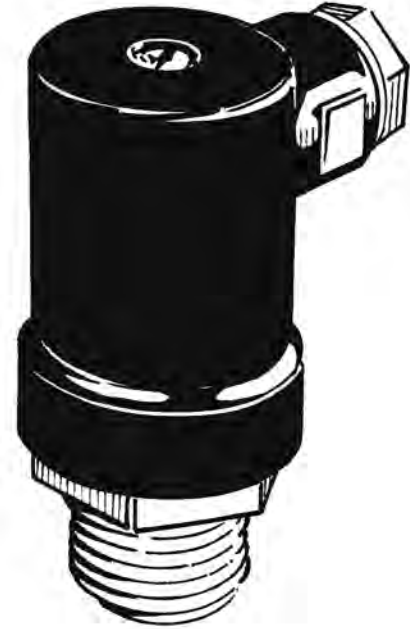
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## THERMOSTATIC FAN CONTROL SWITCHES

These thermo-switches are used for the regulation of oil temperature on installations where oil coolers with electric fans are used.

The switch should be fitted to the oil tank. However it can be fitted to the oil cooler depending on the cooler model.

When the oil temperature exceeds the set point temperature of the switch, the fan is activated. When the temperature falls to 11°C below this set temperature the fan is switched off again.



Thermo Switches available with the following set point temperatures:

<b>38°C</b>	<b>47°C</b>	<b>60°C</b>	<b>70°C</b>	<b>80°C</b>
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Max. working temperature	<b>120°C</b>
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Safety Class	<b>IP65</b>
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Thread	<b>1/2" BSPP</b>
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**NORMALLY OPEN**

Temp. +/- 5°C tolerance

A relay must be fitted if the thermo-switch is exposed to current intensities which exceed:

**12v DC MAX. 10.0 A**

**24v DC MAX. 5.0 A**

**120v AC MAX. 15.0 A**

**240v AC MAX. 10.0 A**

**277v AC MAX. 7.2 A**

### Also available

- Pressure check valves
- Thermal by-pass valves
- Modulating water flow valves
- Thermostatic pump activators
- Oil coolers

# 12/24 VOLT FANS

**PART NO FOR 12V 1090111**

**PART NO FOR 24V 1090117**

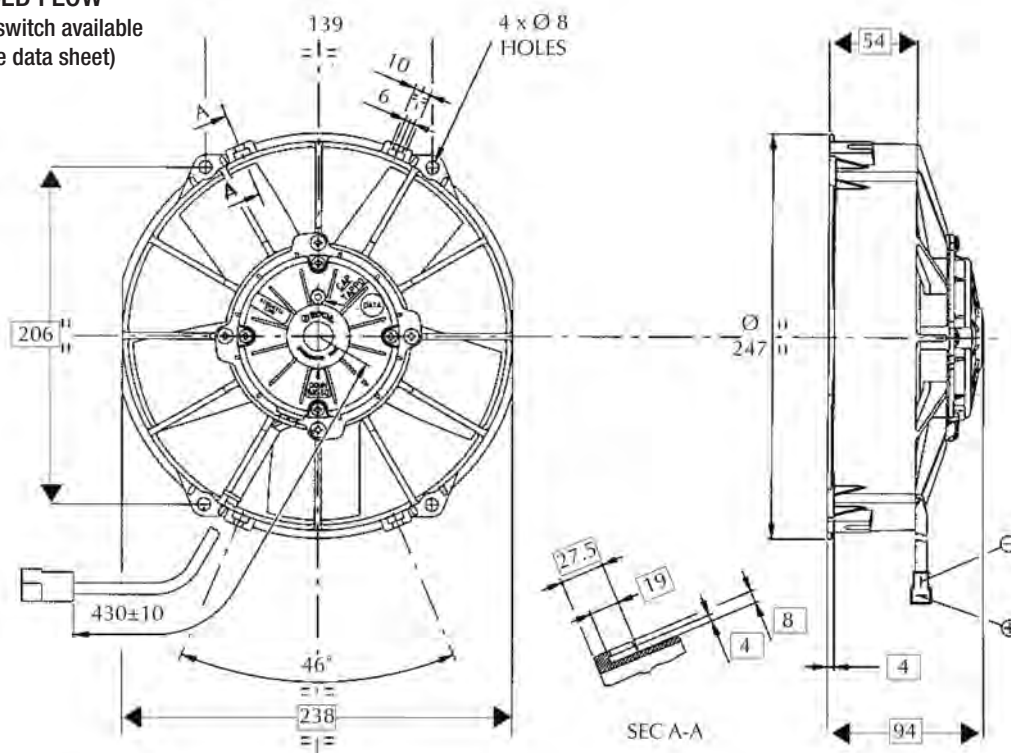
Fan Diameter	<b>225 mm</b>
Weight	<b>2.1 Kg approx.</b>

## HEAVY DUTY FAN ASSEMBLY

• ENCLOSED MOTOR • HEAVY DUTY • SAFETY FINGER GUARD

• LONG LIFE • INDUCED FLOW

Thermostatic fan control switch available as an option (see separate data sheet)



We have a large range of fans available. Contact us for different sizes.

Static Pressure (mm H <sub>2</sub> O)	Air flow (m <sup>3</sup> /h) 12V	Current input (A) 12V	Air flow (m <sup>3</sup> /h) 24V	Current Input (A) 24V
0	1280	8.6	1300	4.5
5	1150	9	1200	4.8
10	1000	9.7	1060	5
15	700	10.2	790	5.1
20	500	10.3	530	5.2
25	340	10.5	380	5.4
30	200	11	240	5.6
35	—	11.2	150	5.8

Static pressure: 1mm H<sub>2</sub>O = 0.04 in. H<sub>2</sub>O  
 Airflow: 1m<sup>3</sup>/h = 0.59 cfm

## 12/24 VOLT FANS

**PART NO FOR 12V 1090108**

**PART NO FOR 24V 1090110**

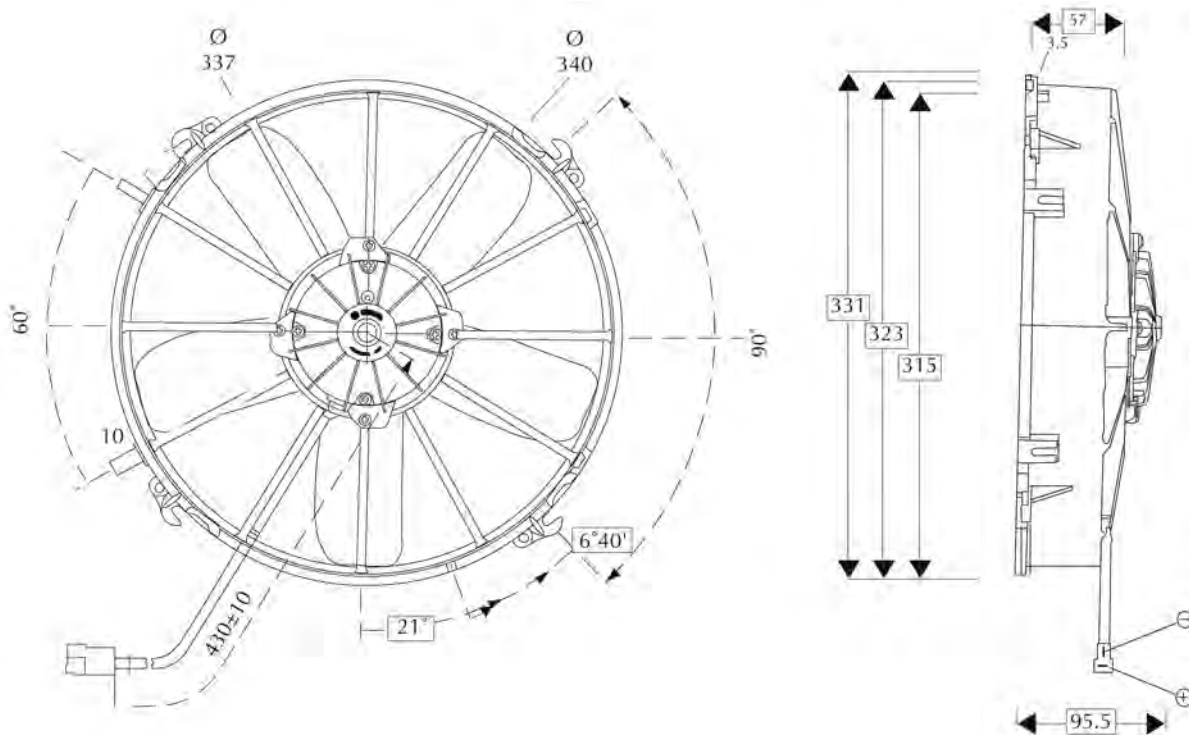
### HEAVY DUTY FAN ASSEMBLY

- ENCLOSED MOTOR • HEAVY DUTY • SAFETY FINGER GUARD
- LONG LIFE • INDUCED FLOW

Thermostatic fan control switch available as an option (see separate data sheet)

Fan Diameter	<b>305 mm</b>
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Weight	<b>2.5 Kg approx.</b>
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We have a large range of fans available. Contact us for different sizes.

Static Pressure (mm H <sub>2</sub> O)	Air flow (m <sup>3</sup> /h) 12V	Current input (A) 12V	Air flow (m <sup>3</sup> /h) 24V	Current Input (A) 24V
0	2750	16.5	2900	9.4
5	2450	15	2700	9.3
10	2100	16	2400	9
15	1600	17	2000	9.4
20	1000	17.8	1300	9.6
25	700	18.5	950	10
30	450	19	700	10.3
35	450	20	450	10.8

Static pressure: 1mm H<sub>2</sub>O = 0.04 in. H<sub>2</sub>O  
 Airflow: 1m<sup>3</sup>/h = 0.59 cfm

# 12/24 VOLT FANS

**PART NO FOR 12V 1090107**

**PART NO FOR 24V 1090106**

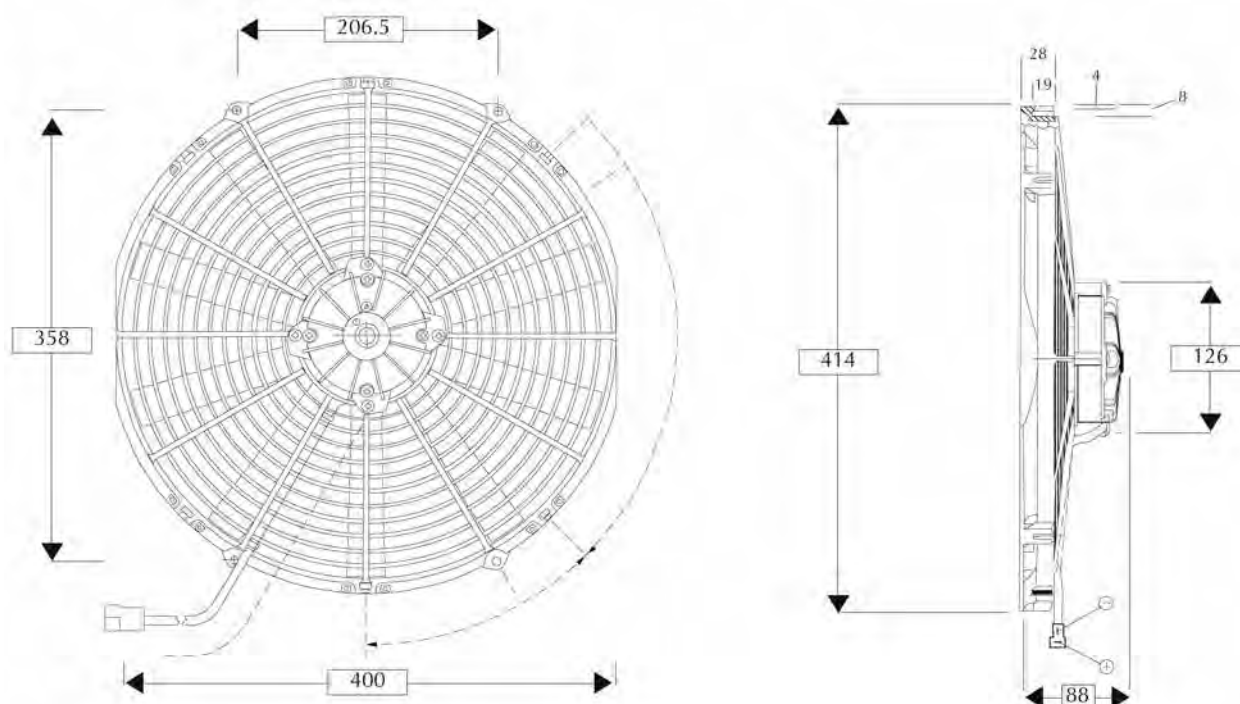
## HEAVY DUTY FAN ASSEMBLY

- ENCLOSED MOTOR • HEAVY DUTY
- LONG LIFE • INDUCED FLOW

Thermostatic fan control switch available as an option (see separate data sheet)

Fan Diameter	<b>385 mm</b>
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Weight	<b>2.3 Kg approx.</b>
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**We have a large range of fans available. Contact us for different sizes.**

Static Pressure (mm H <sub>2</sub> O)	Air flow (m <sup>3</sup> /h) 12V	Current input (A) 12V	Current Input (A) 24V
0	4000	18.5	9.3
5	3450	19.7	10.0
10	2900	20.1	10.2
12.5	2650	20.9	10.2
15	2350	20.2	10.2
17.5	2000	20.2	10.1
20	1600	19.5	9.8
25	850	19.5	9.6
30	-	19.2	9.6

Static pressure: 1mm H<sub>2</sub>O = 0.04 in. H<sub>2</sub>O  
 Airflow: 1m<sup>3</sup>/h = 0.59 cfm



### **Western Australia**

19 Tacoma Circuit, Canning Vale,  
Western Australia 6155  
Ph (08) 9455 5933  
Fax (08) 9455 5944

### **Queensland**

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Queensland 4076  
Ph (07) 3375 1544  
Fax (07) 3375 1566



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