

## 8. Header Tank Heat Exchangers

### Introduction

These heat exchangers were designed originally for marine engines, but they are also widely used 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 with a special deaeration feature and a pressurised filler cap. The removable tube stack is held in position by 'O' rings and is free to expand and contract within the cast housing, thus minimising thermal stresses. It can be easily removed should cleaning be necessary. There is an extensive range, which can be selected by computer from the following information:

Heat to be dissipated	kW	Engine water flow	l/min
Max engine water temperature	°C	Raw water temperature	°C

If the raw water flow is fixed please inform us, if not we can advise on the flow required.

### Installation

The heat exchanger should be mounted with the header above cylinder head 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 that they always receive the full flow of the engine water pump.

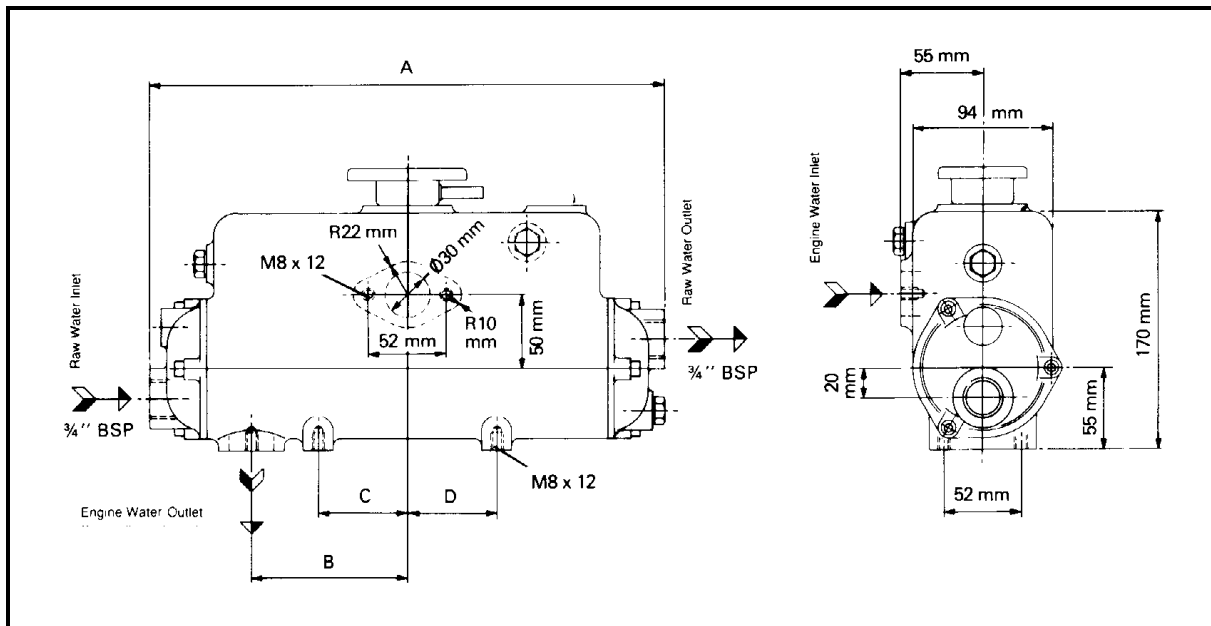
Thermostats of the type used on some automotive engines, which simply interrupt the cooling water flow when the engine is cold, are not recommended. For unattended operation, automatic engine shut down equipment should be provided.

### Marine

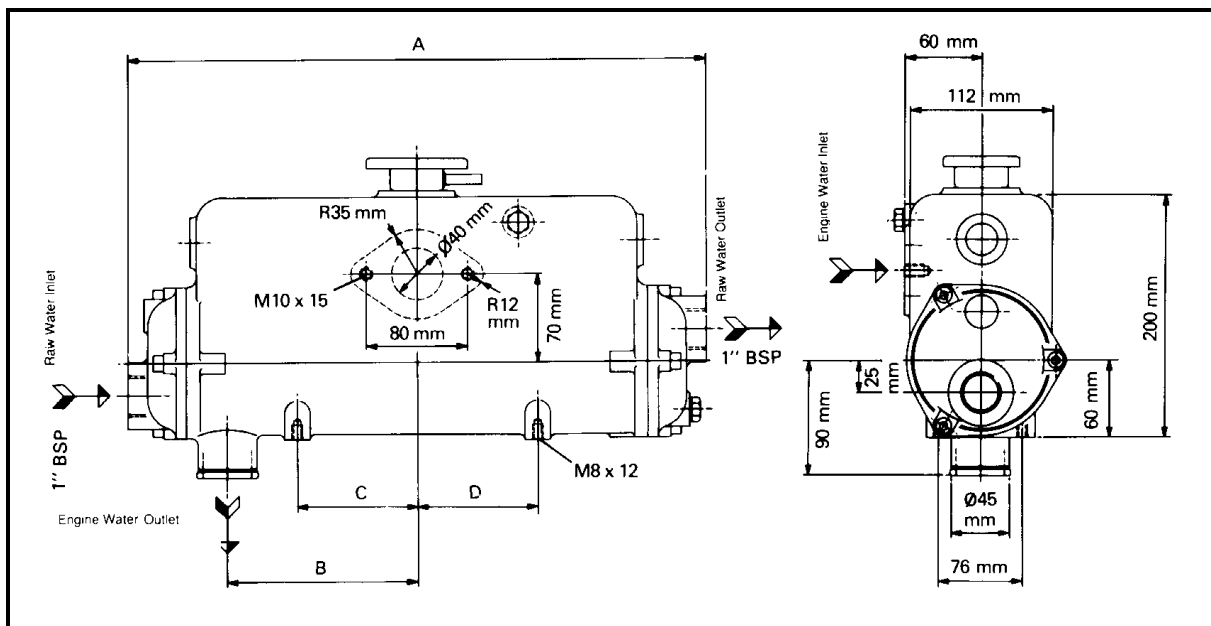
The standard cast iron end covers are satisfactory for fresh water. For contaminated or sea water we can at extra cost supply bronze end covers. To specify this material change the four figure part of the designation as follows: 4065 to 3401, 4066 to 3182, 4067 to 3282, 4068 to 3482, 4069 to 3071, 4070 to 3335 and 4071 to 3073.

### General

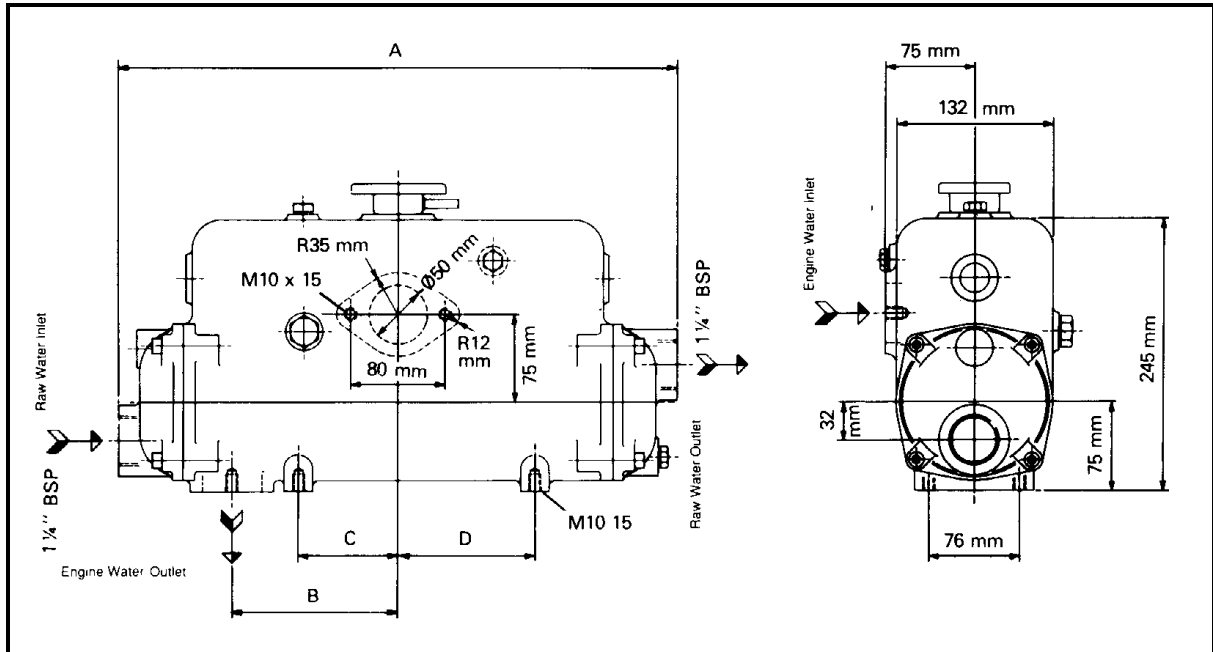
Please contact us for applications not covered by this publication. We have some heat exchangers which have been designed for particular engines, these are described in our leaflet 'Marine Engine Cooling'.



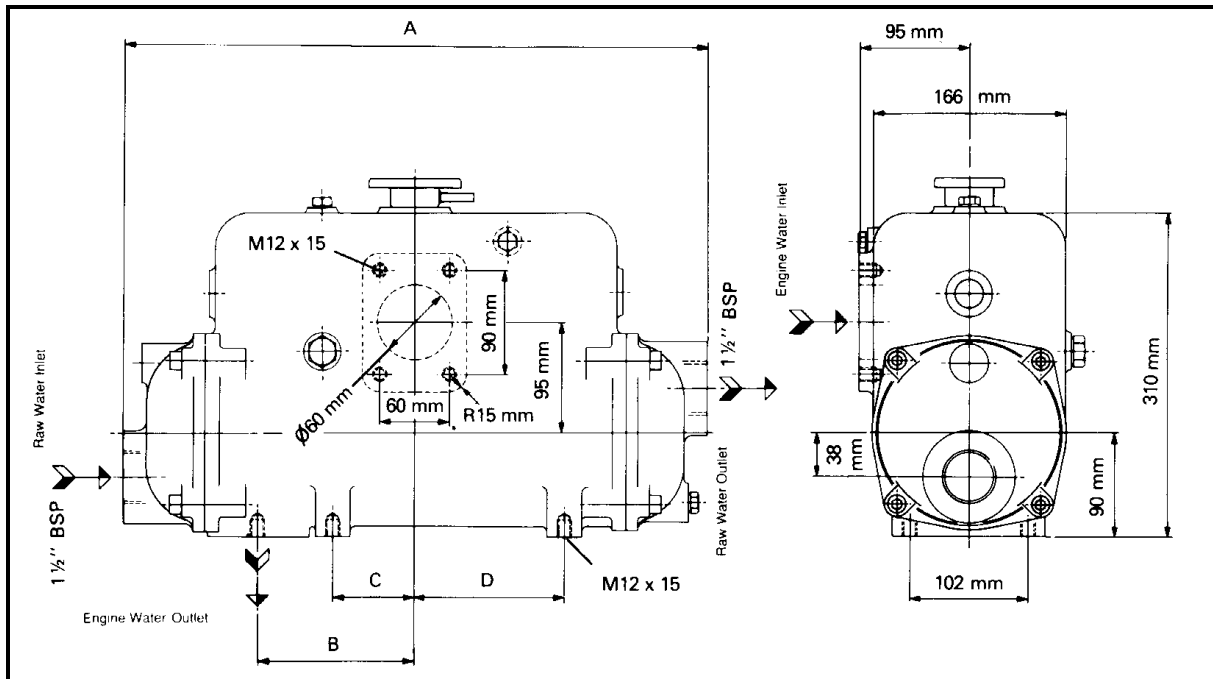
		A	B	C	D
	kg	mm	mm	mm	mm
<b>EH100-4065-2</b>	5	260	62	20	60
<b>EH200-4065-3</b>	6	346	105	60	60



		A	B	C	D
	kg	mm	mm	mm	mm
<b>FH100-4066-2</b>	8	358	100	45	95
<b>FH200-4066-3</b>	11	454	150	95	95

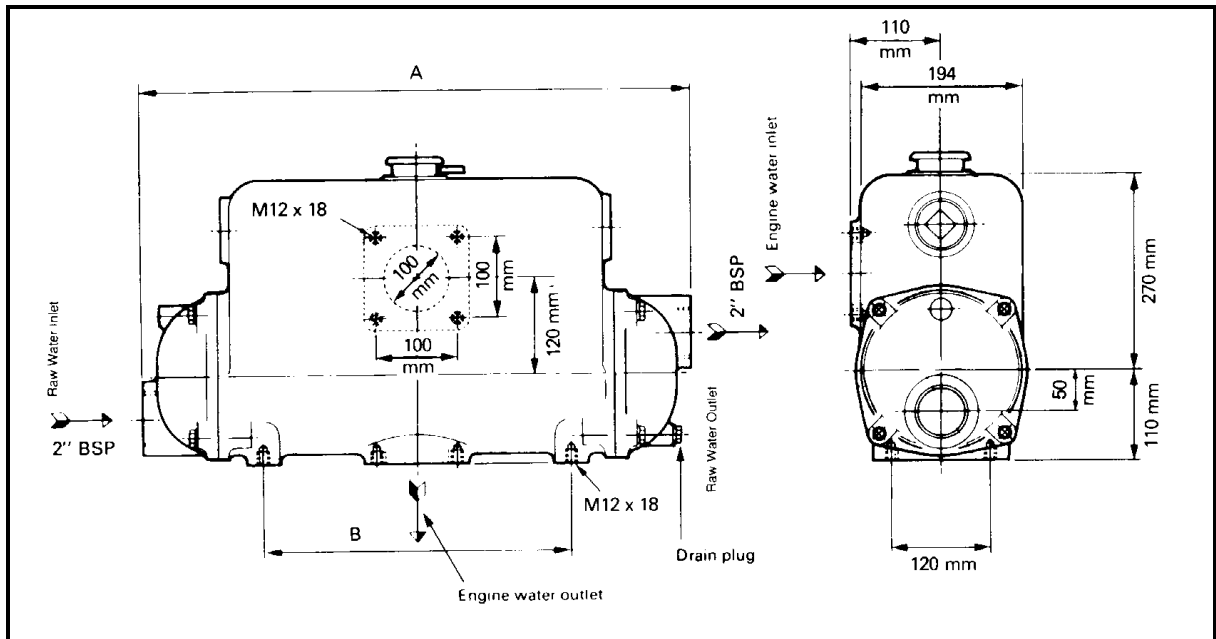


		A	B	C	D
	kg	mm	mm	mm	mm
<b>FH300-4067-2</b>	14	472	140	84	116
<b>FH400-4067-3</b>	17	600	200	144	144
<b>FH500-4067-4</b>	20	746	270	217	217

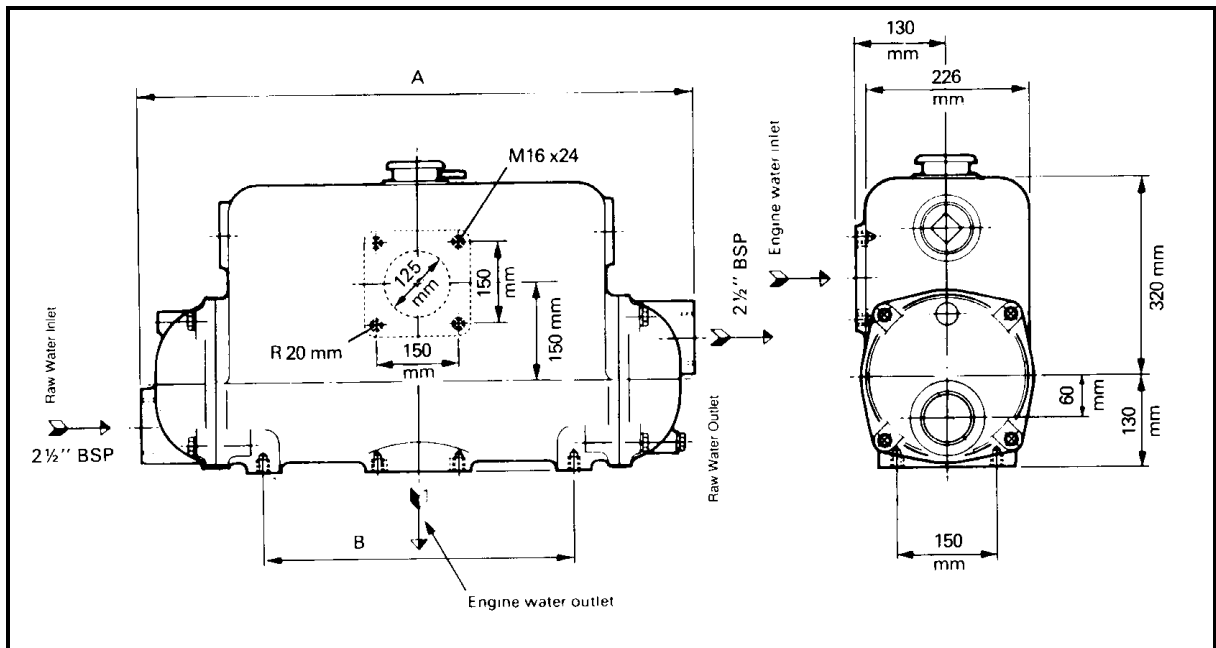


		A	B	C	D
	kg	mm	mm	mm	mm

<b>GH200-4068-2</b>	24	502	135	70	130
<b>GH300-4068-3</b>	29	630	195	70	130
<b>GH400-4068-4</b>	34	776	270	146	200

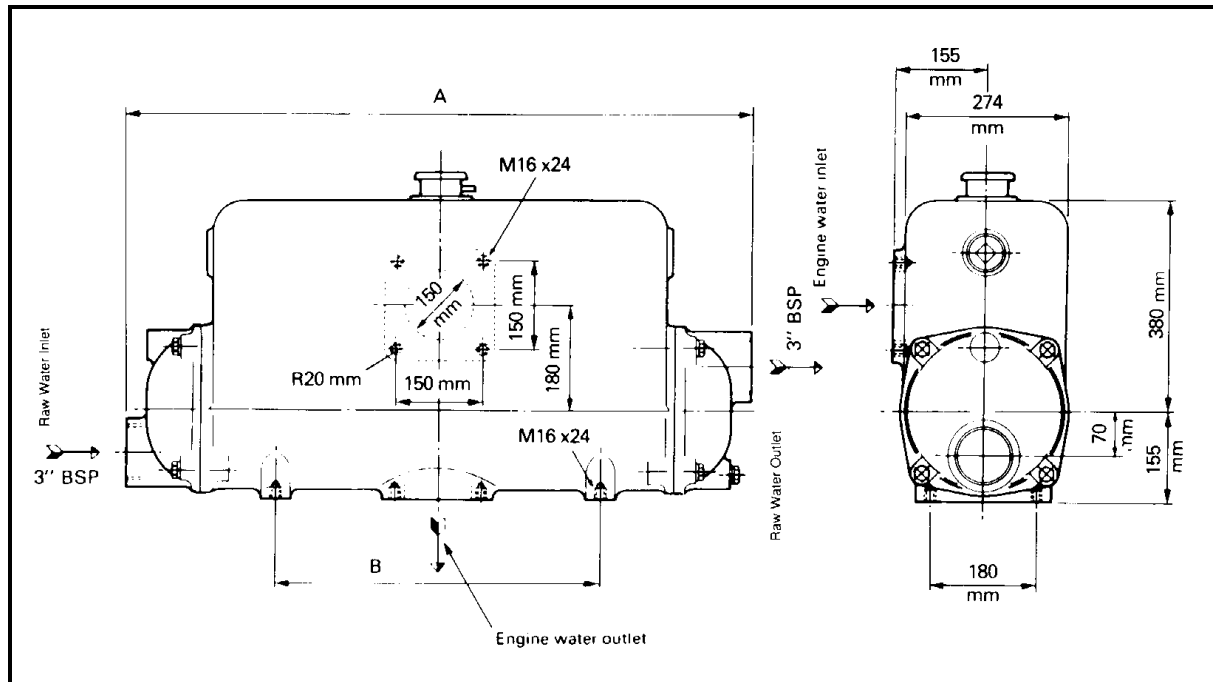


		A	B
	kg	mm	mm
<b>KH200-4069-3</b>	51	674	382
<b>KH300-4069-4</b>	59	820	382
<b>KH400-4069-5</b>	67	998	560



		A	B
	kg	mm	mm
<b>JH200-4070-3</b>	82	704	382

<b>JH300-4070-4</b>	93	850	382
<b>JH400-4070-5</b>	106	1028	560



		A	B
	kg	mm	mm
<b>PH200-4071-4</b>	136	890	382
<b>PH300-4071-5</b>	156	1078	560
<b>PH400-4071-6</b>	190	1280	762

Type	Raw water volume litre	Engine water volume litre	Typical engine suitability kW
<b>EH100-4065-2</b>	0.45	1.30	40
<b>EH200-4065-3</b>	0.60	2.20	50
<b>FH100-4066-2</b>	0.85	3.25	60
<b>FH200-4066-3</b>	1.10	4.50	90
<b>FH300-4067-2</b>	1.55	6.55	120
<b>FH400-4067-3</b>	2.00	9.15	150
<b>FH500-4067-4</b>	2.40	11.40	190
<b>GH200-4068-2</b>	3.10	10.90	180
<b>GH300-4068-3</b>	3.80	14.85	250
<b>GH400-4068-4</b>	4.60	18.10	320
<b>KH200-4069-3</b>	6.30	18.80	360
<b>KH300-4069-4</b>	7.50	25.60	450
<b>KH400-4069-5</b>	9.00	33.50	540
<b>JH200-4070-3</b>	8.80	27.20	550
<b>JH300-4070-4</b>	10.40	36.90	700
<b>JH400-4070-5</b>	12.50	46.30	950
<b>PH200-4071-4</b>	18.60	49.00	950

<b>PH300-4071-5</b>	21.80	64.00	1200
<b>PH400-4071-6</b>	25.30	81.00	1450

Maximum working raw water pressure            20 bar  
Maximum working engine water pressure        5 bar  
Maximum working temperature                    120°C