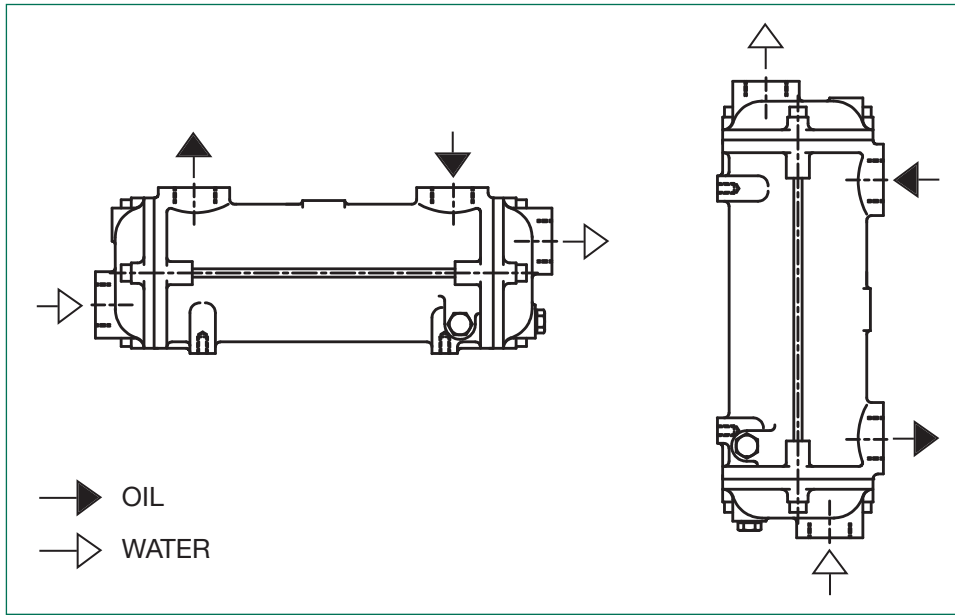


Shipboard Installation of Hydraulic Oil Coolers

The oil cooler should be mounted as shown below and piped for counter flow:



If the sea water supply is taken from the ship's main, ensure that the recommended flow rate cannot be exceeded. This will normally mean that an orifice plate must be fitted in the pipe work at least 1m before the cooler with the orifice size calculated to ensure that the maximum sea water flow rate cannot be exceeded. If these precautions are not taken, it is possible that the sea water flow rate through the cooler may be several times the recommended maximum which will lead to rapid failure.

For our oil coolers, the maximum permitted sea water flow rates are as follows:

EC range	50 l/min.	GK range	300 l/min.
FC range	80 l/min.	JK range	400 l/min.
FG range	110 l/min.	PK range	650 l/min.
GL range	200 l/min.		

No oil cooler manufacturer can guarantee that his products will have an indefinite life and for this reason, we suggest that the cooling system is designed to minimise any damage caused by a leaking oil cooler. This can be achieved as follows:

1. The oil pressure should be higher than the sea water pressure, so that in the event of a leak occurring, the oil will not be contaminated.
2. When the hydraulic system is not being used, the coolers should be isolated from sea water pressure.
3. The sea water outlet pipe from the cooler should have a free run to waste.
4. Stainless steel sea water pipes and fittings should not be used adjacent to the oil cooler.

Recommended orifice plate sizes

Oil cooler series	Max. sea water flow l/min	Orifice diameter in mm for max. sea water flow								
		2 bar	3 bar	4 bar	5 bar	6 bar	7 bar	8 bar	9 bar	10 bar
EC	50	9.5	8.5	8.0	7.5	7.2	6.8	6.7	6.5	6.3
FC	80	12	11	10	9.5	9.0	8.7	8.4	8.2	8.0
FG	110	14	13	12	11	10	10	9.8	9.6	9.3
GL	200	19	17	16	15	14	14	13	13	13
GK	300	23	21	19	18	17	17	16	16	15
JK	400	27	24	22	21	20	20	19	18	18
PK	650	34	31	28	27	26	25	24	23	23



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