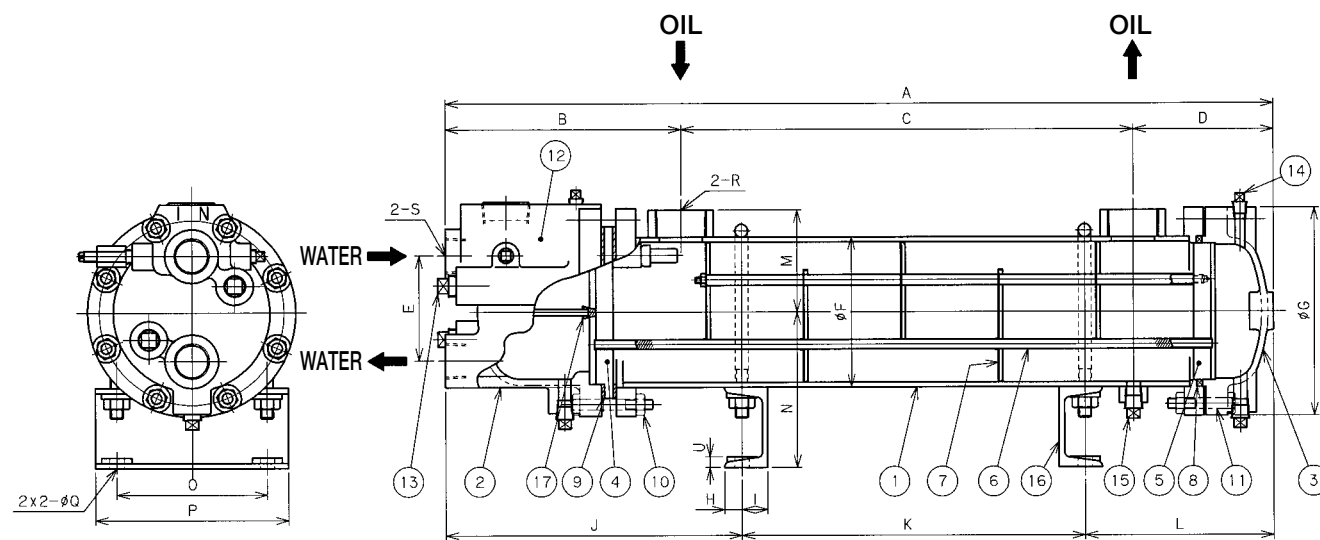
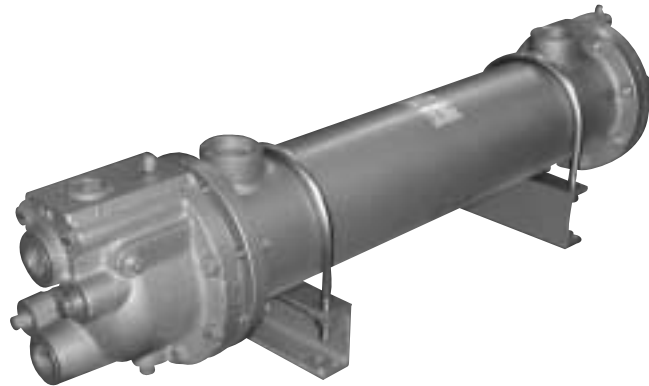
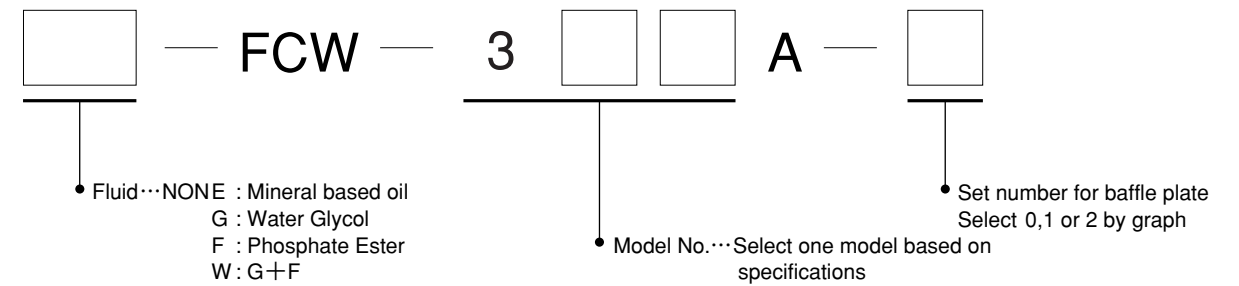


Construction & Dimensions



Code Model	Dimensions																	Cooling surface m ²	Weight kg			
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q			R	S	U
FCW-350A	650	219	301	130	98	φ139.8	φ194	16	24	275	200	175	95	145	140	180	φ13.5	Rc11/2	Rc1	10	2.5	43
FCW-370A	880		430								3.5										58	
FCW-390A	1050		701								600										4.5	71
FCW-311A	1170		821								720										5.5	88

Model Number



Specifications

Type	Floating tube plate Shell & tube	
Max.operating pressure	Shell side : 1.0 MPa / Tube side : 0.7 MPa	
Fluid	Shell side : Mineral based oil, Water Glycol, Phosphate Ester etc. Tube side : Fresh water, Industrial water (except sea water)	
Tube material	9mm dia. Low fin tube (C1220T)	
Cooling area	2.5~5.5m ²	
Oil control temp	51 °C at ex-works. Adjustable to 40 °C and 45 °C	
Features	Size	Unique low fin tube allows 20% size and weight reduction
	Leg	U bolt type legs allow free installation
	Corrosion Proof	Inside of water chamber cover is coated with a tar-epoxy paint to prevent corrosion.

Component Parts

No.	Parts name	No.	Parts name
1	Shell	10	Bolt/Nut
2	Chamber cover A	11	Bolt/Nut
3	Chamber cover B	12	Temp. sensor
4	Tube plate A	13	Zinc plug
5	Tube plate B	14	Vent plug
6	Fin tube	15	Drain plug
7	Baffle plate	16	Leg
8	Packing	17	Packing
9	Packing		

Spare Parts

Remarks : Please note part numbers and quantity, when placing orders. Material of part depends upon the type of fluid.

Model	No.	Parts name	Q'ty	Size	Material
FCW-3□□	8	Packing	2	t4.5×φ 140.2/φ 128	NBR,(FKM※)
	9	Packing	1	t3×φ 160/φ 134	None asbestos
	13	Zinc plug	2	R3/8	Zn, FcMB
	17	Packing	1	12×12×134	NBR

※ FKM Packings are used for fluid "F" and "W" type.

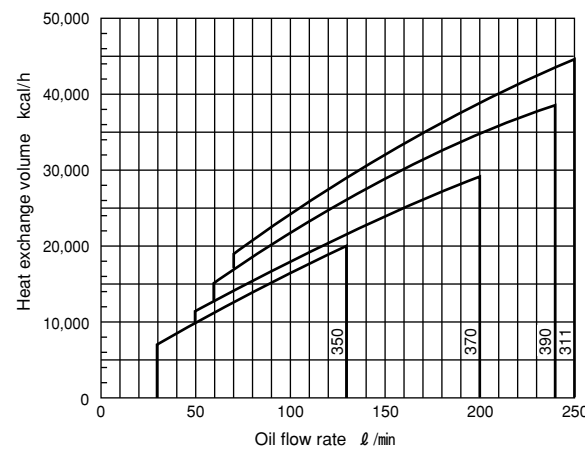
► Cooler selection graph

Condition

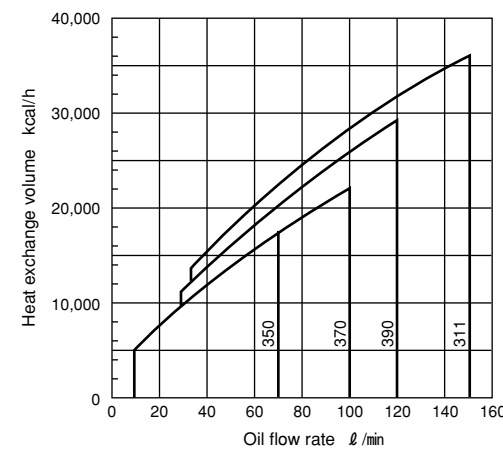
Fluid : ISO-VG46 or equivalent
 Oil inlet temp. : 55°C
 Water inlet temp. : 30°C
 Water flow rate : Half of oil flow (reference table to right)
 Oil side pressure drop : 0.03~0.1MPa
 Water side pressure drop : 0.01~0.06MPa

Model	Water flow	Minimum	Maximum
FCW-350A~311A		30 ℓ/min	90 ℓ/min

FCW-350A~311A-1 type



FCW-350A~311A-2 type



● On the graph, oil side pressure drops at **a** and **b** are, a : 0.03 MPa
 b : 0.1 MPa

● Water flow must be within the limit table above. In cases where 1/2 of oil flow is lower than the minimum limit, use the water flow rate in the table.

● If your specifications differ from graph above, contact Taisei Kogyo.

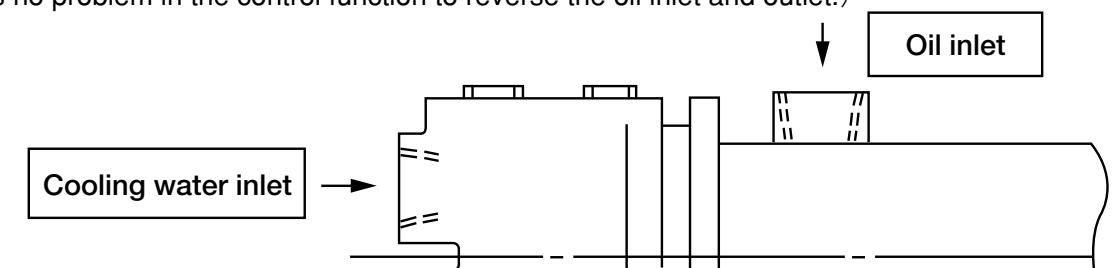
► Supplementary Items

【Cooler selection】

- FCW Model is a floating tube plate cooler, which allows the tube bundle to be removed.
- Select the cooler using the oil flow rate and the heat exchange volume shown in the graph.
 If your specification is not within the range of graph, consult Taisei for further assistance.
- Consult Taisei if your specification is among these listed conditions:
 - (1) Very high viscosity - for low fin tube, use viscosity below 150 cSt.
 - (2) Cutting fluid, has the tendency to cause rusting.
 - (3) Low quality of water.
 - (4) Fluid is not oil.

【Maintenance】

- In winter conditions, drain the cooling water during shutdown periods to avoid freeze fractures.
- Prevent foreign material from entering the cooling water.
- Clean the cooler every 6 months or at least once a year.
- Cannot adjust oil temperature.
- Maximum operation temperature is 80°C.
- Pressure drop of cooling water is higher than normal.
- There is a flow control valve at inlet port of cooling water, so avoid introducing foreign materials into the valve.
 If foreign material is on the surface of control valve, it will be unable to shut completely.
 To avoid this situation, check the valve seat regularly. Clean the valve seat by removing the blind plug located at the top.
- Cannot change inlet and outlet for both oil and cooling lines.
 - Wrong flow of cooling line—Auto temperature, control function does not work.
 - Wrong oil flow—Thermostat control oil outlet temperature. Consequently oil temperature increases.
 (It is no problem in the control function to reverse the oil inlet and outlet.)



- Cannot use sea water because of corrosion.
- Besides using the auto control function, screw in the manual valve to open, and screw out to close.