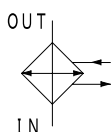
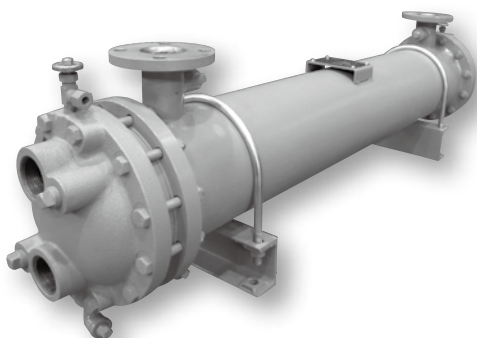


### Middle-sized Advanced Oil Cooler



Water-cooled type cooler

#### Characteristics

- $\phi$  12.7 Low Fin Tube enables high cooling performance and compact design
- FTC model: For fresh water (general industrial machine and other uses)
- FTCB model: For seawater (marine machine and component)
- Air vent valve and mounting port for thermometer are included in standard model
- High flexibility of installation by selectable flow direction and adjustable U-bolt stand

#### SPECIFICATION

	Shell side		Tube side	
Max working pressure MPa	1.0		1.0	
Max working temperature °C	90		60	
Pass structure	1 pass		2 pass	
Fluid type	Standard	Mineral oil	FTC	Fresh water
	G	Water glycol fluid Fatty ester fluid		
	F	Phosphate ester fluid	FTCB	Sea water
	W	G+F		

☆ TAISEI original high performance cooling tube has larger number of fin thread per inch than general  $\phi$  12.7 low fin tube.

Shell size code		FTC, FTCB to all sizes	
Cooling tube type		$\phi$ 12.7 Low Fin Tube ☆	
Main material	Cooling tube	FTC	Phosphorous-deoxidized copper
	Tube plate	FTCB	Aluminum brass
		FTC	SS
	FTCB	Naval brass	
Body	SGP, SS		
Channel	FC		
Coating	Outside coating	FTC	Aqua blue
	FTCB	Light bluish green (10B7/6)	
Inside of channel	Tar-free epoxy coating		
Other	Bar thermometer (Option)	0~100°C I type, L type	

#### MODEL CODE

<Model code example>

**F** - **FTCB** - **7** - **20** - **07** - **F**

Code	Fluid type (Shell side)
Blank	Mineral oil
G	Water-glycol fluid
	Fatty ester fluid
F	Phosphate ester fluid
W	G+F

Code	Cooling water type
FTC	Fresh water
FTCB	Sea water

Code	Heat transfer area	Shell size
6-15	6m <sup>2</sup>	$\phi$ 165.2 (150A)
7-15	7m <sup>2</sup>	
8-15	8m <sup>2</sup>	
9-15	9m <sup>2</sup>	
10-15	10m <sup>2</sup>	
11-15	11m <sup>2</sup>	$\phi$ 216.3 (200A)
7-20	7m <sup>2</sup>	
9-20	9m <sup>2</sup>	
10-20	10m <sup>2</sup>	
12-20	12m <sup>2</sup>	
14-20	14m <sup>2</sup>	
16-20	16m <sup>2</sup>	
18-20	18m <sup>2</sup>	
20-20	20m <sup>2</sup>	
22-20	22m <sup>2</sup>	

Code	Heat transfer area	Shell size
18-25	18m <sup>2</sup>	$\phi$ 267.4 (250A)
21-25	21m <sup>2</sup>	
24-25	24m <sup>2</sup>	
27-25	27m <sup>2</sup>	
30-25	30m <sup>2</sup>	
34-25	34m <sup>2</sup>	
37-25	37m <sup>2</sup>	
41-25	41m <sup>2</sup>	
44-25	44m <sup>2</sup>	
31-30	31m <sup>2</sup>	
35-30	35m <sup>2</sup>	
40-30	40m <sup>2</sup>	
44-30	44m <sup>2</sup>	
49-30	49m <sup>2</sup>	
54-30	54m <sup>2</sup>	
61-30	61m <sup>2</sup>	
66-30	66m <sup>2</sup>	
71-30	71m <sup>2</sup>	

Code	Baffle plate*1
03	3 sheets
05	5 sheets
07	7 sheets
09	9 sheets
11	11 sheets
**	** sheets

Code	Connection type	
P	Shell side	Rc threaded
	Tube side	Rc threaded
F	Shell side	Flange
	Tube side	Rc threaded

\* 1 "Baffle plate": We select appropriate number of baffle plate according to customer's working condition.

# PERFORMANCE GRAPH

## Condition

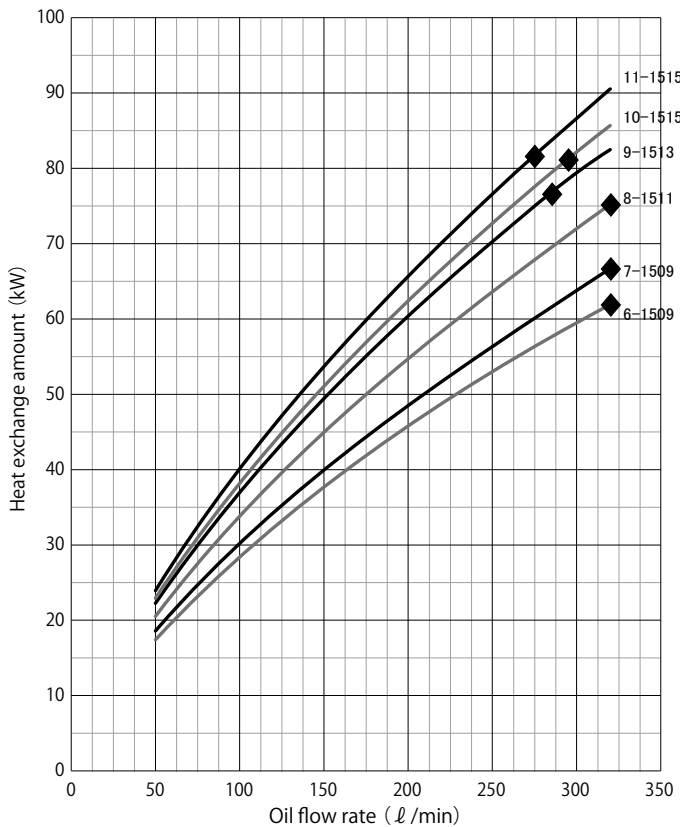
Fluid type	Corresponding to ISO VG46		Pressure drop	Shell side MPa	◆ : ≤ 0.05
Inlet temperature	Shell side °C	55		Tube side MPa	△ : 0.1
	Tube side °C	30	Scale coefficient at tube side m <sup>3</sup> C/W 0		
Flow rate at cold side	Max allowable flow rate				

## Allowable flow rate

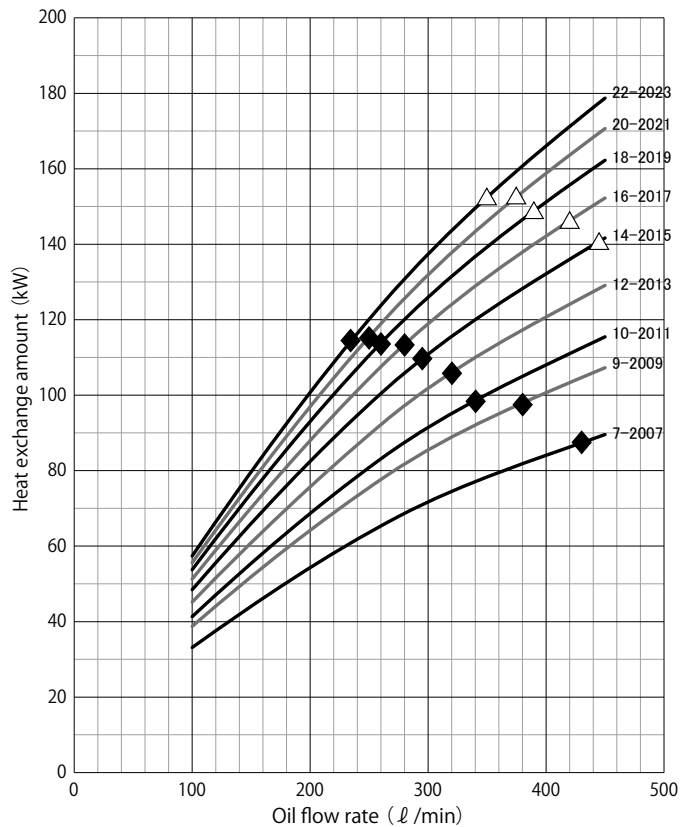
Model code	FTC(B)-15□□	FTC(B)-20□□	FTC(B)-25□□	FTC(B)-30□□
Shell side ℓ/min	50~320	100~450	150~650	200~800
Tube side ℓ/min	50~200	80~360	120~600	160~900

★ It is max value and It depends on each working condition.

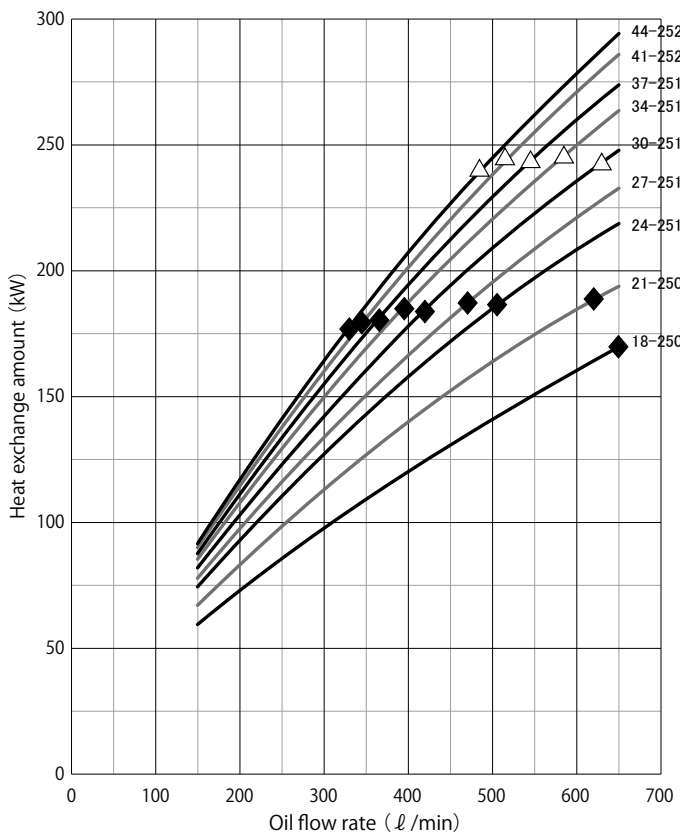
**FTC(B)-15** □□



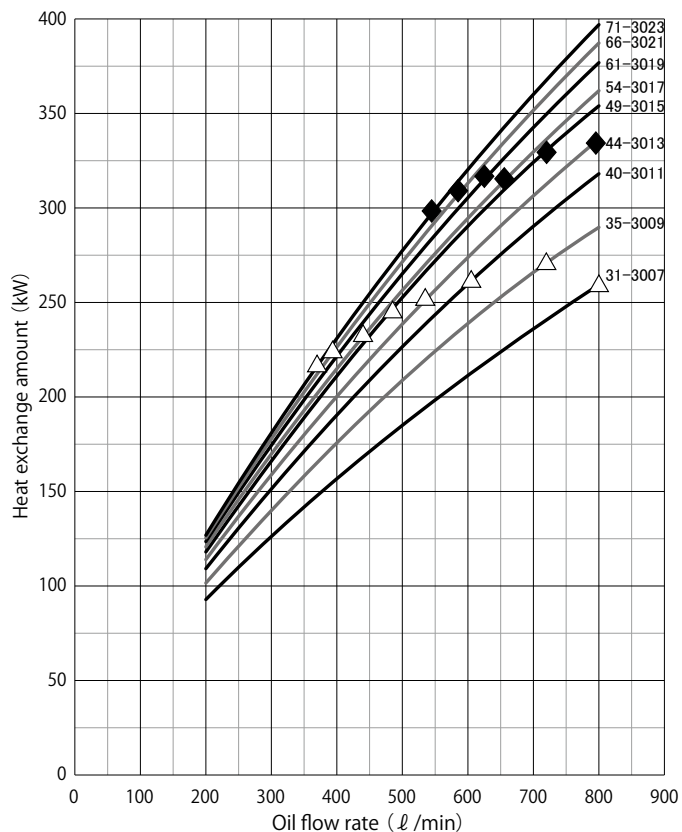
**FTC(B)-20** □□



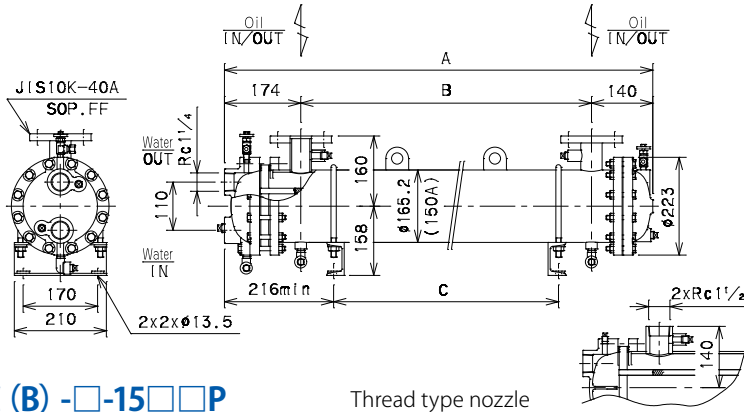
**FTC(B)-25** □□



**FTC(B)-30** □□



**FTC (B) -□-15□□F**

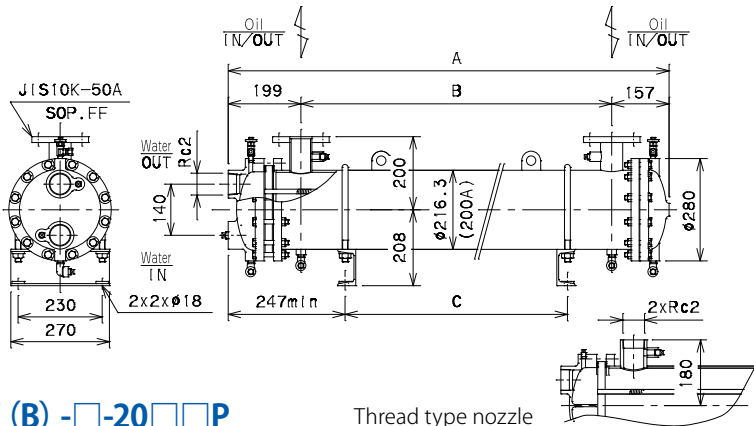


Model code	Length			Weight (kg)	
	A	B	C	FTCB	
FTC(B)-6-15□□	1229	915	50~830	85	88
FTC(B)-7-15□□	1313	999	50~915	90	93
FTC(B)-8-15□□	1473	1159	50~1075	96	99
FTC(B)-9-15□□	1633	1319	50~1235	105	108
FTC(B)-10-15□□	1803	1489	50~1405	110	113
FTC(B)-11-15□□	1983	1669	50~1585	118	121

**FTC (B) -□-15□□P**

Thread type nozzle

**FTC (B) -□-20□□F**

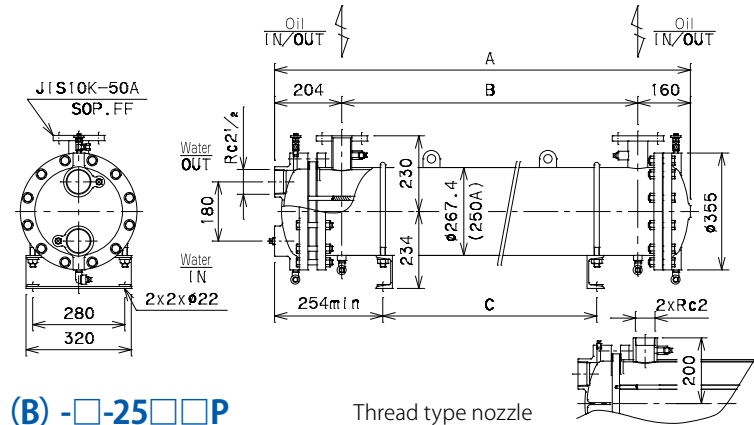


Model code	Length			Weight (kg)	
	A	B	C	FTCB	
FTC(B)-7-20□□	873	517	60~420	118	123
FTC(B)-9-20□□	1023	667	60~570	129	134
FTC(B)-10-20□□	1173	817	60~720	140	145
FTC(B)-12-20□□	1343	987	60~890	152	157
FTC(B)-14-20□□	1503	1147	60~1050	164	169
FTC(B)-16-20□□	1663	1307	60~1210	175	180
FTC(B)-18-20□□	1833	1477	60~1380	188	193
FTC(B)-20-20□□	2013	1657	60~1560	200	205
FTC(B)-22-20□□	2183	1827	60~1730	213	218

**FTC (B) -□-20□□P**

Thread type nozzle

**FTC (B) -□-25□□F**

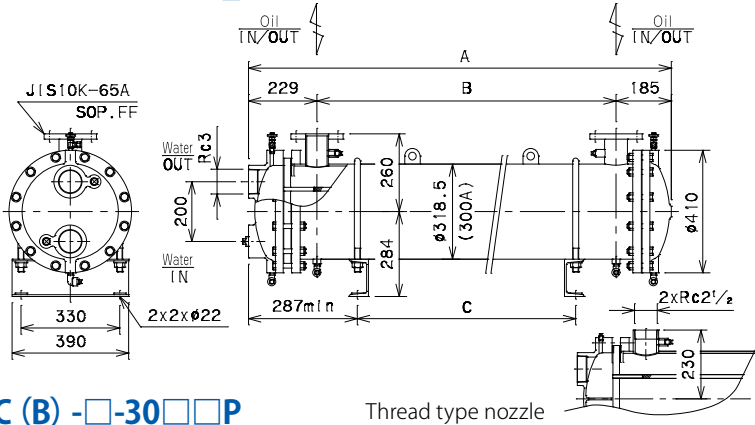


Model code	Length			Weight (kg)	
	A	B	C	FTCB	
FTC(B)-18-25□□	1264	900	60~800	223	229
FTC(B)-21-25□□	1434	1070	60~970	242	248
FTC(B)-24-25□□	1594	1230	60~1130	260	266
FTC(B)-27-25□□	1764	1400	60~1300	279	285
FTC(B)-30-25□□	1934	1570	60~1470	297	303
FTC(B)-34-25□□	2154	1790	60~1690	322	328
FTC(B)-37-25□□	2324	1960	60~1860	340	346
FTC(B)-41-25□□	2544	2180	60~2080	366	372
FTC(B)-44-25□□	2714	2350	60~2250	384	390

**FTC (B) -□-25□□P**

Thread type nozzle

**FTC (B) -□-30□□F**



Model code	Length			Weight (kg)	
	A	B	C	FTCB	
FTC(B)-31-30□□	1378	964	75~845	340	349
FTC(B)-35-30□□	1538	1124	75~1005	380	389
FTC(B)-40-30□□	1698	1284	75~1165	390	399
FTC(B)-44-30□□	1868	1454	75~1335	426	435
FTC(B)-49-30□□	2048	1634	75~1515	450	459
FTC(B)-54-30□□	2218	1804	75~1685	470	479
FTC(B)-61-30□□	2454	2040	75~1920	505	514
FTC(B)-66-30□□	2634	2220	75~2100	535	544
FTC(B)-71-30□□	2814	2400	75~2280	565	574

**FTC (B) -□-30□□P**

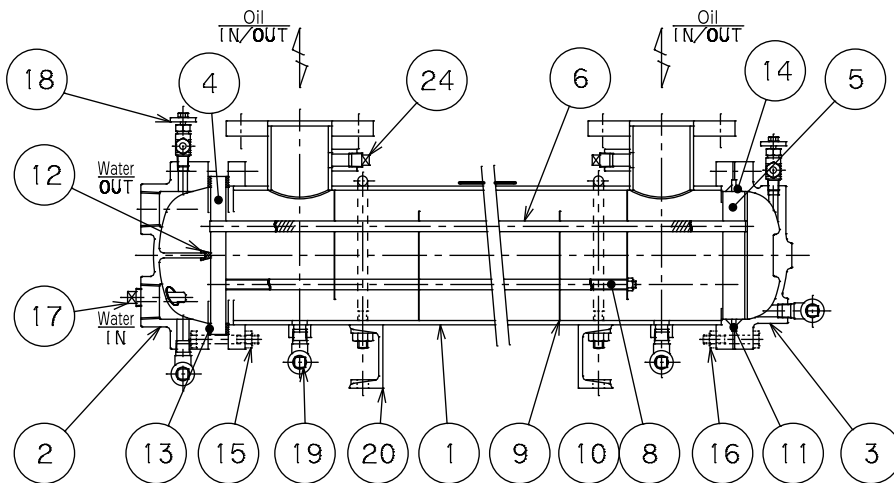
Thread type nozzle

**FTC/FTCB**

## CROSS SECTION

## PARTS LIST

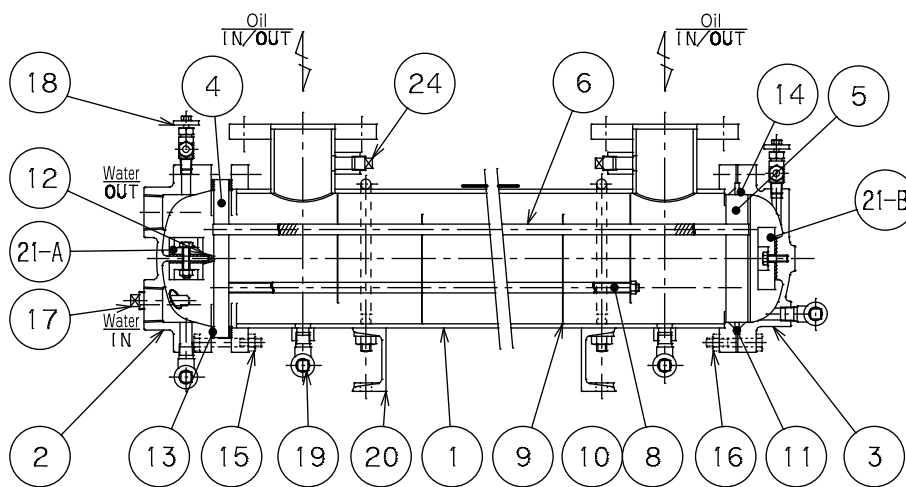
### FTC-□-15□□F~FTC-□-30□□F



No.	Item	Qty
1	Body	1
2	Channel "A"	1
3	Channel "B"	1
4	Tube plate "A"	1
5	Tube plate "B"	1
6	Fin tube	n*
---	---	---
8	Distance pipe	n*
9	Baffle plate	n*
10	Rod	4
11	Ring	1
12	Packing	1
13	Packing	2
14	O-ring	2
15	Bolt · Nut	12
16	Bolt · Nut	12
17	Zinc plug	2
18	Air vent valve	2
19	Drain plug	n*
20	Stand	2
21	Zinc plate (Only for FTCB)	n*
---	---	---
---	---	---
24	Plug	2

n\* : The number of part depends on model.

### FTCB-□-15□□F~FTCB-□-30□□F



## SEALING PARTS & ANTICORROSIVE PARTS LIST

No.	12	13	14	Sealing parts set		21-A [Only FTCB]		21-B [Only FTCB]		
				No. : 12~14	Zinc plug	Zinc plate set (with packing)		Zinc plate set (with packing)		
Model code	Item · Standard*1 U-shaped packing NBR	Special packing non asbestos	JIS B2401 1A	Material	Code of sealing parts set (Item code)	Size (Item code)	Size (Item code)	Qty	Size (Item code)	Qty
FTC(B)-□-15□□	12x12x162	t3xφ188/φ162	G150	NBR	SA-FTC-150A (SSC000028)	R 1/2 (7Z3040000)	t20x40x100 (B61000118)	1set/pc*2	t20x74x74 (B61000119)	1set/pc
				FKM	SA-F/W-FTC-150A (SSC000038)					
FTC(B)-□-20□□	12x12x208	t3xφ241/φ208	G200	NBR	SA-FTC-200A (SSC000030)		t30x50x150 (B61000120)	1set/pc*2	t30x100x100 (B61000122)	1set/pc
				FKM	SA-F/W-FTC-200A (SSC000040)					
FTC(B)-□-25□□	12x12x258	t3xφ302/φ258	G250	NBR	SA-FTC-250A (SSC000031)		t30x50x200 (B61000121)	1set/pc*2	t30x120x120 (B61000123)	1set/pc
				FKM	SA-F/W-FTC-250A (SSC000041)					
FTC(B)-□-30□□	12x12x308	t3xφ357/φ308	G300	NBR	SA-FTC-300A (SSC000032)	R1 (7Z3060000)	t30x60x200 (B61000125)	1set/pc*2	t30x150x150 (B61000124)	1set/pc
				FKM	SA-F/W-FTC-300A (SSC000042)					

\* Zinc plug and zinc plate are not included in sealing parts set.

## MAINTENANCE TOOL LIST

Item	Size (mm)	Item code	Remarks
Tube brush	D9x1820	KZZ000002	For periodic cleaning of tube to prevent scale.
Tube plug	D9.5x11.5x25	BZZ000023	For closing a tube when leakage occurs due to tube corrosion. 2 plugs are required for a tube.

\* 1 Standard material of sealing part is NBR, but other material is selectable depending on fluid type. \* 2 A set of zinc plate (2 pcs) is required for channel "A".