

INTERNAL GEAR DOUBLE PUMP (TCP**)

A

PUMPS AND MOTORS



Features

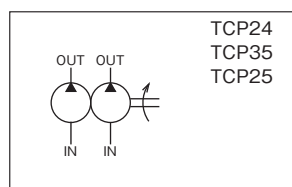
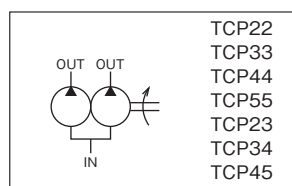
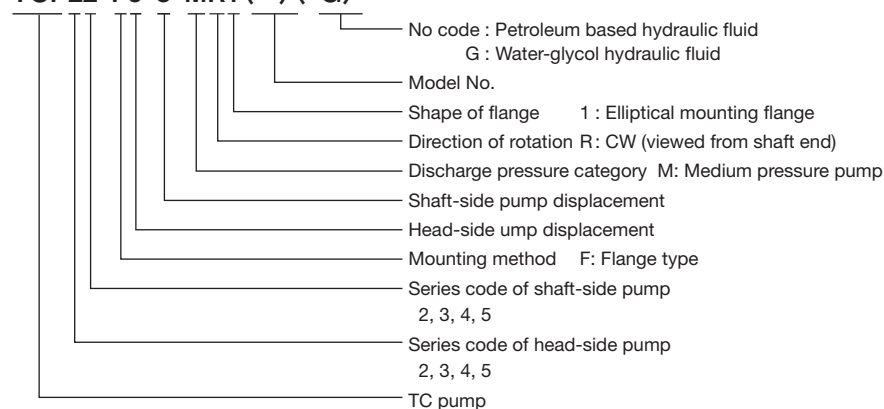
Two single pump units are assembled into one unit and driven by the common shaft. The discharged fluid from the two pumps can be delivered to separate circuits to drive individual actuators or can be merged to serve as a large capacity pump.

⚠ Cautions on use Please read the Operating Manual carefully to ensure correct usage.

- Standard direction of rotation is to right (CW) viewed from the shaft end.
- The direction of rotation cannot be changed at the same pump.
- When changing from the flange type to the foot type, use an optional foot kit which is sold as single parts. Refer to "About foot", A-64 page.
- When using water-glycol hydraulic fluid, specify "G" at the end of model designation. The maximum revolving speed, however, becomes 1,200 min⁻¹. For brand names of water-glycol hydraulic fluid, please consult us."
- The pump can be used for R&O type and abrasion-resistant type hydraulic fluid applications.
- Please read the "Cautions on Using Pumps and Motors", A-2 and A-3 pages.

Description of the model designation

TCP22-F5-8-MR1 (-*) (-G)



Specifications

37mm³/s

Model	Pump input (kW) (Note 5)		Capacity (Nominal)		Pressure (MPa)		Rotating speed (min ⁻¹)		
	1,200 min ⁻¹	1,800 min ⁻¹	Min.	Max.	Rated	Max.	Rated	Max.	Lowest
TCP22-F*-*-MR1-B	6	9	$\frac{5}{5}$	$\frac{10}{10}$	17.5	21	1,800	3,000	800
TCP33-F*-*-MR1-B	15	23	$\frac{12.5}{12.5}$	$\frac{25}{25}$					
TCP44-F*-*-MR1	38	57	$\frac{31.5}{31.5}$	$\frac{50}{50}$					
TCP55-F*-*-MR1-A	75	113	$\frac{63}{63}$	$\frac{125}{125}$				2,200	600
TCP23-F*-*-MR1-B	15	23	$\frac{5}{12.5}$	$\frac{10}{25}$					
TCP34-F*-*-MR1	38	57	$\frac{12.5}{31.5}$	$\frac{25}{50}$					
TCP45-F*-*-MR1-A	75	113	$\frac{31.5}{63}$	$\frac{50}{125}$					
TCP24-F*-*-MR1-B	38	57	$\frac{5}{31.5}$	$\frac{10}{50}$				3,000	800
TCP35-F*-*-MR1-B	75	113	$\frac{12.5}{63}$	$\frac{25}{125}$					
TCP25-F*-*-MR1-B	75	113	$\frac{5}{63}$	$\frac{10}{125}$					

(Note)

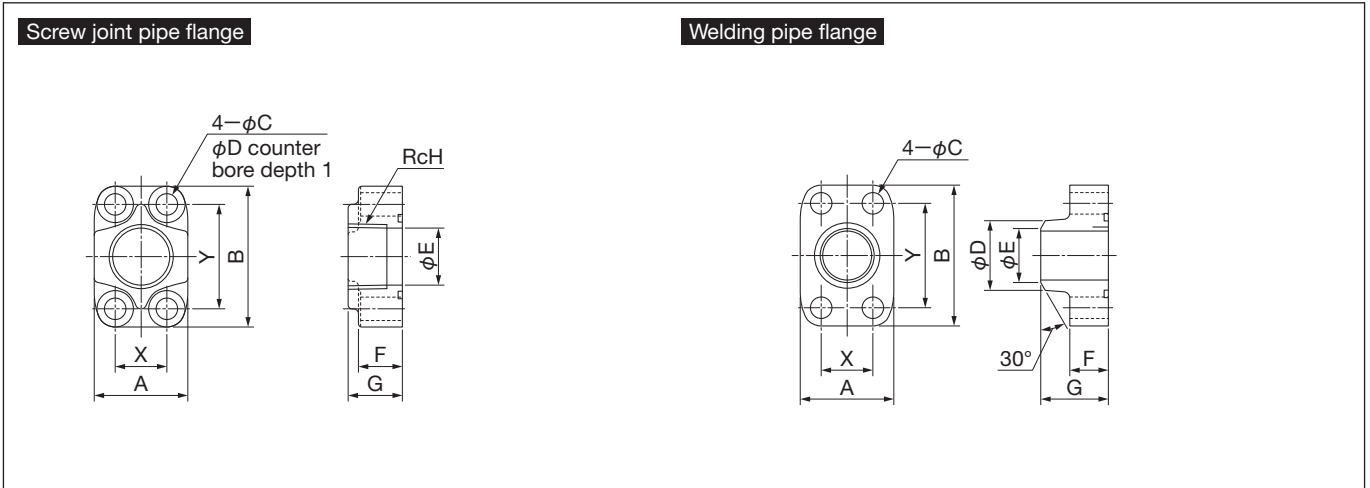
1. Symbol "*" in the model designation indicates the nominal displacement, and the pump with larger capacity is installed at the shaft side.
2. In the nominal displacement, the upper row indicates the head-side pump and the lower row indicates the shaft-side pump, for both minimum and maximum.
3. The maximum speed varies depending on combinations of nominal displacement. For details, refer to the maximum speed column in the dimensions list.
4. The specifications and characteristics of each pump are same as the single pumps, refer to A-28 page.
5. Use pump inputs within the above limitations.

Pipe flange Specify by selecting from this table.

Name		For TCP22	For TCP33	For TCP44	For TCP55	For TCP23	For TCP34	For TCP45	For TCP24	For TCP35	For TCP25	
Model	For screw	OUT side	FTCP-04PT	FTCP-06PT	FTCP-08PT	FTCP-12PT	FTCP-04PT FTCP-06PT	FTCP-08PT FTCP-12PT	FTCP-04PT FTCP-08PT	FTCP-06PT FTCP-12PT	FTCP-04PT FTCP-12PT	
		IN side	FTCP-08PT	FTCP-12PT	FTCP-16PT	FTCP-24PT	FTCP-12PT	FTCP-16PT	FTCP-24PT	FHPP-06PT FTCP-12PT	FTCP-08PT FTCP-16PT	FHPP-06PT FTCP-16PT
	For welding	OUT side	FTCP-04WE	FTCP-06WE	FTCP-08WE	FTCP-12WE	FTCP-04WE FTCP-06WE	FTCP-06WE FTCP-08WE	FTCP-08WE FTCP-12WE	FTCP-04WE FTCP-08WE	FTCP-06WE FTCP-12WE	FTCP-04WE FTCP-12WE
		IN side	FTCP-08WE	FTCP-12WE	FTCP-16WE	FTCP-24WE	FTCP-12WE	FTCP-16WE	FTCP-24WE	FHPP-06WE FTCP-12WE	FTCP-08WE FTCP-16WE	FHPP-06WE FTCP-16WE

- (Note) 1. This flange comes with mounting bolts and O-ring. 2. Bolts of strength capacity according to JIS B 1176 are used.
3. The applicable O-ring is JIS B 2401 standard.

■ Outside dimensions



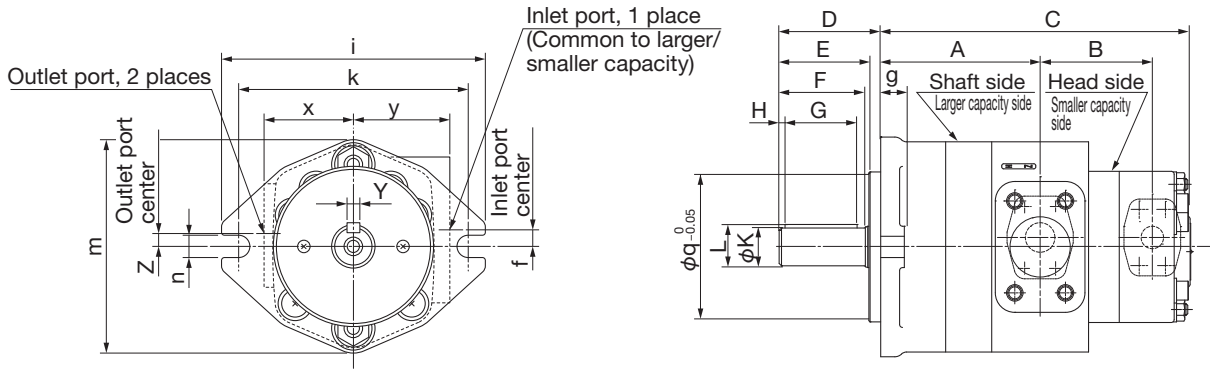
■ List of pipe flange dimensions

Model Dimensions	FTCP-04**	FHPP-06**	FTCP-06**	FTCP-08**	FTCP-12**	FTCP-16**	FTCP-24**
A	38	46	46	46	64	76	106
B	54	65	65	70	95	110.8	135
C	9	11	11	11	13	13	18
D	14 (21.7)	17.5 (27.2)	17.5 (27.2)	17.5 (34)	20 (48.6)	20 (60.5)	26 (89.1)
E	18 (12.7)	23.5 (19)	23.5 (19)	29.5 (25)	43.5 (38)	55.5 (51)	83.5 (76)
F	21 (20)	22 (21)	22 (21)	22 (21)	24 (23)	27 (25)	32 (25)
G	25 (33)	27 (36)	27 (36)	27 (36)	30 (40)	33 (42)	39 (47)
H	$\frac{1}{2}$	$\frac{3}{4}$	$\frac{3}{4}$	1	$1\frac{1}{2}$	2	3
X	17.5	22.2	22.2	26.2	35.7	42.9	61.9
Y	38.1	47.6	47.6	52.4	69.8	77.8	106.4
Bolt	M8×35	M10×35	M10×40	M10×40	M12×45	M12×50	M16×60
O-ring	1AG25(1BG25)	1BG30	1AG30(1BG25)	1AG35(1BG35)	1AG50(1BG45)	1AG63(1BG58)	1AG90(1BG85)

- (Note)
1. In parentheses indicate the dimension of welding pipe flange FTCP-**WE.
 2. This flange comes with mounting bolts and O-ring.
 3. Bolts of strength capacity according to JIS B 1176 are used.
 4. The applicable O-ring is JIS B 2401 standard.

■ Outside dimensions

22
TCP33-F*-*-MR1 (-*)
44
55



■ Dimension table

Model	A	B	C	Max. speed (min ⁻¹)	Mass (kg)
TCP22-F5-5-MR1-B	68	58	156	3,000	4.4
TCP22-F5-6.3-MR1-B	70.5		158.5		4.5
TCP22-F5-8-MR1-B	74		162		4.6
TCP22-F5-10-MR1-B	78		166		4.8
TCP22-F6.3-6.3-MR1-B	70.5	60.5	161		4.6
TCP22-F6.3-8-MR1-B	74		164.5		4.7
TCP22-F6.3-10-MR1-B	78		168.5		4.9
TCP22-F8-8-MR1-B	74	64	168		4.8
TCP22-F8-10-MR1-B	78		172		5
TCP22-F10-10-MR1-B	78	68	176		5.2
TCP33-F12.5-12.5-MR1-B	88	76	197.5		3,000
TCP33-F12.5-16-MR1-B	91.5		201	9	
TCP33-F12.5-20-MR1-B	96		205.5	2,800	9.3
TCP33-F12.5-25-MR1-B	101		210.5	2,500	9.7
TCP33-F16-16-MR1-B	91.5	79.5	204.5	3,000	9.3
TCP33-F16-20-MR1-B	96		209	2,800	9.6
TCP33-F16-25-MR1-B	101		214	2,500	10
TCP33-F20-20-MR1-B	96	84	213.5	2,800	9.9
TCP33-F20-25-MR1-B	101		218.5		2,500
TCP33-F25-25-MR1-B		89	223.5	10.7	
TCP44-F31.5-31.5-MR1	116	95	253	2,800	20.7
TCP44-F31.5-40-MR1	121.5		258.5	2,500	21.5
TCP44-F31.5-50-MR1	127		264	2,100	22.3
TCP44-F40-40-MR1	121.5	100.5	264	2,500	22.3
TCP44-F40-50-MR1	127		269.5	2,100	23.1
TCP44-F50-50-MR1	127	106	275	2,100	23.9
TCP55-F63-63-MR1-A	139	116	309	2,200	41.9
TCP55-F63-80-MR1-A	145		315		43.6
TCP55-F63-100-MR1-A	152		322	2,000	45.3
TCP55-F63-125-MR1-A	162		332	1,800	47.5
TCP55-F80-80-MR1-A	145	122	321	2,200	45.3
TCP55-F80-100-MR1-A	152		328	2,000	47
TCP55-F80-125-MR1-A	162		338	1,800	49.2
TCP55-F100-100-MR1-A	152	129	335	2,000	48.7
TCP55-F100-125-MR1-A	162		345		50.9
TCP55-F125-125-MR1-A		139	355	1,800	53.1

■ Common dimensions

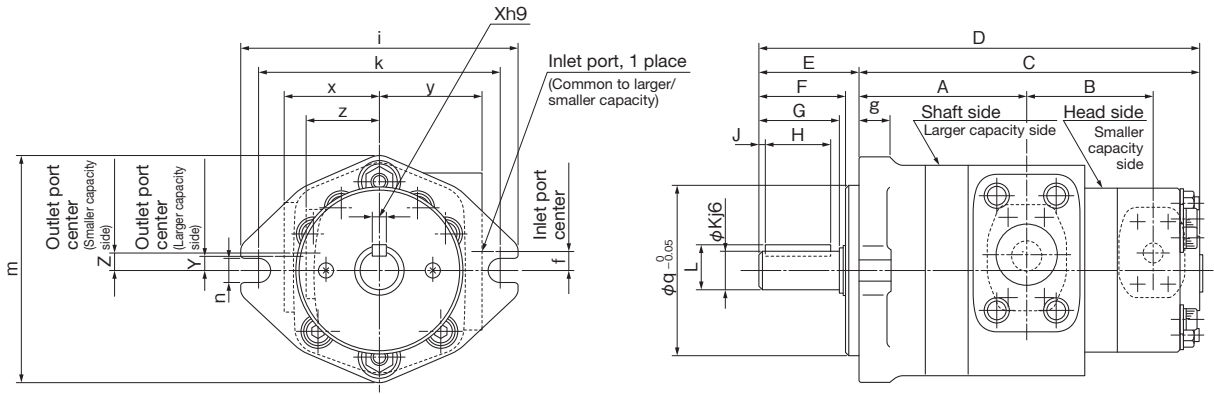
Model	TCP22	TCP33	TCP44	TCP55
D	46	61.5	86	94
E	38.5	53.5	76	82
F	(41)	51.5	73	80
G	30	40	61	61
H	0	0	5	8
K	19.05 ⁰ _{-0.021}	24 ^{+0.009} _{-0.004}	32 ^{+0.011} _{-0.005}	38 ^{+0.011} _{-0.005}
L	21.25	27	35	41
Y	4.76 ^{+0.024} _{+0.012}	8 ⁰ _{-0.036}	10 ⁰ _{-0.036}	10 ⁰ _{-0.036}
Z	10	8	8	0
f	8	10	0	下 [^] 15
g	14.5	18.5	20	34
i	125	168	205	268
k	106	146	181	229
m	106	136	186	233
n	11	14	18	22
q	82.55	101.6	126.95	152.35
x	43.5	57.5	77.5	100
y	46.5	62.5	94	117



PUMPS AND MOTORS

■ Outside dimensions

23
TCP34-F*-*-MR1 (-*)
45



■ Dimension table

Model	Dimensions	A	B	C	D	Max. speed (min ⁻¹)	Mass (kg)
TCP23-F5-12.5-MR1-B	88	67	183	244.5	3,000	7.5	
TCP23-F5-16-MR1-B	91.5		186.5	248		7.8	
TCP23-F5-20-MR1-B	96		191	252.5	2,800	8.1	
TCP23-F5-25-MR1-B	101		196	257.5	2,500	8.5	
TCP23-F6.3-12.5-MR1-B	88	69.5	185.5	247	3,000	7.6	
TCP23-F6.3-16-MR1-B	91.5		189	250.5		7.9	
TCP23-F6.3-20-MR1-B	96		193.5	255	2,800	8.2	
TCP23-F6.3-25-MR1-B	101		198.5	260	2,500	8.6	
TCP23-F8-12.5-MR1-B	88	73	189	250.5	3,000	7.7	
TCP23-F8-16-MR1-B	91.5		192.5	254		8	
TCP23-F8-20-MR1-B	96		197	258.5	2,800	8.3	
TCP23-F8-25-MR1-B	101		202	263.5	2,500	8.7	
TCP23-F10-12.5-MR1-B	88	77	193	254.5	3,000	7.9	
TCP23-F10-16-MR1-B	91.5		196.5	258		8.2	
TCP23-F10-20-MR1-B	96		201	262.5	2,800	8.5	
TCP23-F10-25-MR1-B	101		206	267.5	2,500	8.9	
TCP34-F12.5-31.5-MR1	116	82	231.5	317.5	2,800	16.3	
TCP34-F12.5-40-MR1	121.5		237	323	2,500	17.1	
TCP34-F12.5-50-MR1	127		242.5	328.5	2,100	17.9	
TCP34-F16-31.5-MR1	116	85.5	235	321	2,800	16.6	
TCP34-F16-40-MR1	121.5		240.5	326.5	2,500	17.4	
TCP34-F16-50-MR1	127		246	332	2,100	18.2	
TCP34-F20-31.5-MR1	116	90	239.5	325.5	2,800	16.9	
TCP34-F20-40-MR1	121.5		245	331	2,500	17.7	
TCP34-F20-50-MR1	127		250.5	336.5	2,100	18.5	
TCP34-F25-31.5-MR1	116	95	244.5	330.5	2,800	17.3	
TCP34-F25-40-MR1	121.5		250	336	2,500	18.1	
TCP34-F25-50-MR1	127		255.5	341.5	2,100	18.9	
TCP45-F31.5-63-MR1-A	139	109	289	383	2,200	34.6	
TCP45-F31.5-80-MR1-A	145		295	389		36.3	
TCP45-F31.5-100-MR1-A	152		302	396	2,000	38	
TCP45-F31.5-125-MR1-A	162		312	406	1,800	40.2	
TCP45-F40-63-MR1-A	139	114.5	294.5	388.5	2,200	35.4	
TCP45-F40-80-MR1-A	145		300.5	394.5		37.1	
TCP45-F40-100-MR1-A	152		307.5	401.5	2,000	38.8	
TCP45-F40-125-MR1-A	162		317.5	411.5	1,800	41	
TCP45-F50-63-MR1-A	139	120	300	394	2,200	36.2	
TCP45-F50-80-MR1-A	145		306	400		37.9	
TCP45-F50-100-MR1-A	152		313	407	2,000	39.6	
TCP45-F50-125-MR1-A	162		323	417	1,800	41.8	

●For pipe flange dimensions, refer to A-31 page.

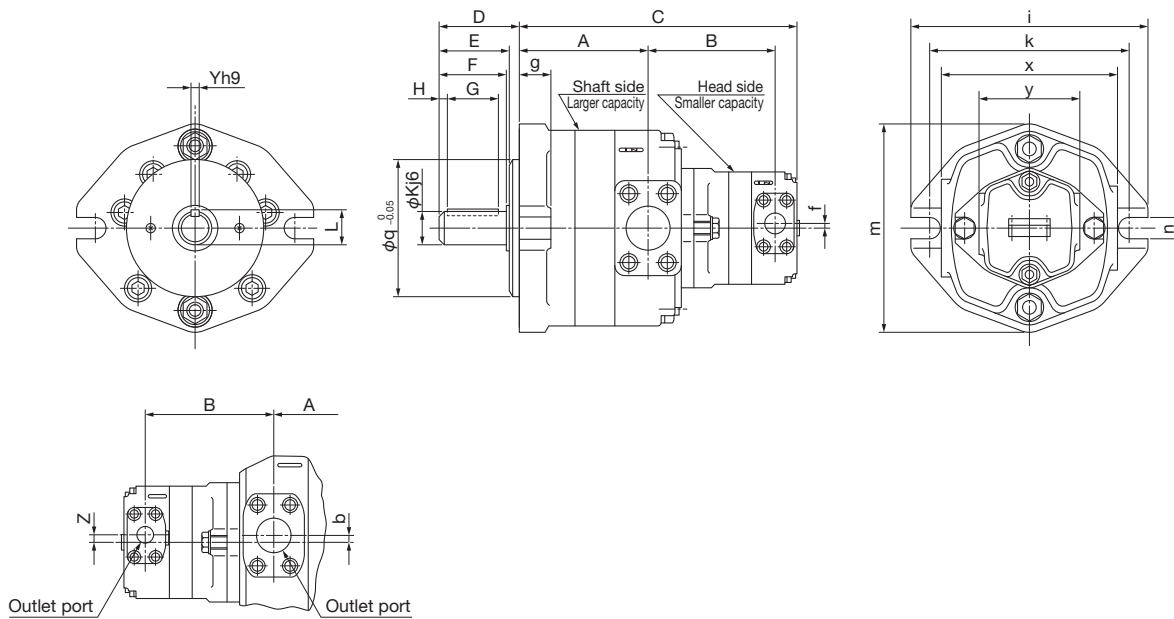
■ Common dimensions

Model	TCP23	TCP34	TCP45
E	61.5	86	94
F	53.5	76	82
G	51.5	73	80
H	40	61	61
J	0	5	8
K	24	32	38
L	27	35	41
X	8	10	10
Y	8	8	0
Z	10	8	8
f	10	0	下 ¹⁵
g	18.5	20	34
i	168	205	268
k	146	181	229
m	136	186	233
n	14	18	22
q	101.6	126.95	152.35
x	57.5	77.5	100
y	62.5	94	117
z	43.5	57.5	77.5



■ Outside dimensions

24
TCP35-F*-*-MR1-B
25



A

PUMPS AND MOTORS

■ Dimension table

Model	Dimensions	A	B	C	Max. speed (min ⁻¹)	Mass (kg)
TCP24-F5-31.5-MR1-B		109	116	246	3,000	15.7
TCP24-F5-40-MR1-B		114.5		251.5	2,800	16.5
TCP24-F5-50-MR1-B		120		257	2,500	17.3
TCP24-F6.3-31.5-MR1-B		109	118.5	248.5	3,000	15.8
TCP24-F6.3-40-MR1-B		114.5		254	2,800	16.6
TCP24-F6.3-50-MR1-B		120		259.5	2,500	17.4
TCP24-F8-31.5-MR1-B		109	122	252	3,000	15.9
TCP24-F8-40-MR1-B		114.5		257.5	2,800	16.7
TCP24-F8-50-MR1-B		120		263	2,500	17.5
TCP24-F10-31.5-MR1-B		109	126	256	3,000	16.1
TCP24-F10-40-MR1-B		114.5		261.5	2,800	16.9
TCP24-F10-50-MR1-B		120		267	2,500	17.7
TCP35-F12.5-63-MR1-B		123	138	286	2,400	29.1
TCP35-F12.5-80-MR1-B		129		292		30.8
TCP35-F12.5-100-MR1-B		136		299	2,100	32.5
TCP35-F12.5-125-MR1-B		146		309	1,800	34.7
TCP35-F16-63-MR1-B		123	141.5	289.5	2,400	29.4
TCP35-F16-80-MR1-B		129		295.5		31.1
TCP35-F16-100-MR1-B		136		302.5	2,100	32.8
TCP35-F16-125-MR1-B		146		312.5	1,800	35.0
TCP35-F20-63-MR1-B		123	146	294	2,400	29.7
TCP35-F20-80-MR1-B		129		300		31.4
TCP35-F20-100-MR1-B		136		307	2,100	33.1
TCP35-F20-125-MR1-B		146		317	1,800	35.3
TCP35-F25-63-MR1-B		123	151	299	2,400	30.1
TCP35-F25-80-MR1-B		129		305		31.8
TCP35-F25-100-MR1-B		136		312	2,100	33.5
TCP35-F25-125-MR1-B		146		322	1,800	35.7
TCP25-F5-63-MR1-B		123	118	262	2,400	25.6
TCP25-F5-80-MR1-B		129		268		27.3
TCP25-F5-100-MR1-B		136		275	2,100	29.0
TCP25-F5-125-MR1-B		146		285	1,800	31.2
TCP25-F6.3-63-MR1-B		123	120.5	264.5	2,400	25.7
TCP25-F6.3-80-MR1-B		129		270.5		27.4
TCP25-F6.3-100-MR1-B		136		277.5	2,100	29.1
TCP25-F6.3-125-MR1-B		146		287.5	1,800	31.3
TCP25-F8-63-MR1-B		123	124	268	2,400	25.8
TCP25-F8-80-MR1-B		129		274		27.5
TCP25-F8-100-MR1-B		136		281	2,100	29.2
TCP25-F8-125-MR1-B		146		291	1,800	31.4
TCP25-F10-63-MR1-B		123	128	272	2,400	26.0
TCP25-F10-80-MR1-B		129		278		27.7
TCP25-F10-100-MR1-B		136		285	2,100	29.4
TCP25-F10-125-MR1-B		146		295	1,800	31.6

● For pipe flange dimensions, refer to A-31 page.

■ Common dimensions

Model Dimensions	TCP24	TCP35	TCP25
D	86	94	94
E	76	82	82
F	73	80	80
G	61	61	61
H	5	8	8
K	32	38	38
L	35	41	41
Y	10	10	10
Z	10	8	10
e	276	338	338
f	6	6	6
g	20	34	34
i	205	268	268
k	181	229	229
m	186	233	233
n	18	22	22
q	126.95	152.35	152.35
x	155	200	200
y	87	115	87
b	8	0	0