

ZEUS HYDRATECH LTD
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Pilot Operated Check Valves



Features

- The check valve opens when the pressure reaches the cracking pressure, allowing fluid to flow only in one direction. The fluid can also be allowed to flow in the reverse direction by applying external pilot pressure to push up the check valve.
- A decompression type incorporating a small check valve that opens before the main valve is opened is also available.

Nomenclature

※ - JCP ※ - ※ ※ ※ - ※ ※ - 20 - ※
 1 2 3 4 5 6 7 8

1 Applicable fluid code

No designation: Petroleum-based hydraulic fluid, water-glycol hydraulic fluid
 F: Phosphate ester hydraulic fluid

2 Model No.

JCP: J series pilot operated check valve

3 Decompression code

No designation: Direct operated type
 D: Decompression type

4 Connections

G: Gasket mount type
 T: Screw connection type
 F: Flange connection type

5 Nominal diameter

03: $\frac{3}{8}$
 06: $\frac{3}{4}$
 10: $1\frac{1}{4}$
 16: 2

6 Cracking pressure code

04: 0.04 MPa {0.4 kgf/cm²}
 20: 0.2 MPa {2 kgf/cm²}
 35: 0.35 MPa {3.5 kgf/cm²}
 50: 0.5 MPa {5 kgf/cm²}

7 Design No.

(The design No. is subject to change)

8 Drainage code

No designation: External drain type
 Z: Internal drain type

※ The external/internal drain type setting cannot be changed.

Specifications

Model code	Nominal diameter	Maximum operating pressure MPa {kgf/cm ² }	Maximum flow rate L/min	Area ratio*1	Mass kg
JCP(D)-G03-※※-20	$\frac{3}{8}$	25 {250}	60	(1) 2.47:1	3.3
JCP(D)-T03-※※-20				(2) 30.25:1	3
JCP(D)-G06-※※-20	$\frac{3}{4}$		200	(1) 2.46:1	5.4
JCP(D)-T06-※※-20				(2) 31.36:1	5.5
JCP(D)-F06-※※-20			6.6		
JCP(D)-G10-※※-20	$1\frac{1}{4}$		400	(1) 2.50:1 (2) 29.47:1	8.5
JCP(D)-T10-※※-20					9.6
JCP(D)-F10-※※-20			11.6		
JCP(D)-F16-※※-20			2	800	(1) 2.48:1 (2) 27.56:1

Note: *1 Area ratio (1) Pilot piston: Large check valve
 (2) Pilot piston: Small check valve (Decompression type)

Sub-plate model code

- The sub-plate is not provided with the valve. Order it separately as required by specifying the model code given in the table below.

Model code	Nominal diameter	Connection port diameter	Mass kg
JCP-03M	$\frac{3}{8}$	Rc $\frac{3}{8}$	1.6
JCP-03M04		Rc $\frac{1}{2}$	
JCP-06M	$\frac{3}{4}$	Rc $\frac{3}{4}$	2.4
JCP-06M08		Rc1	3
JCP-10M	$1\frac{1}{4}$	Rc1 $\frac{1}{4}$	4.8
JCP-10M12		Rc1 $\frac{1}{2}$	5.7

Refer to Page S-10 for the dimensions of the sub-plate.

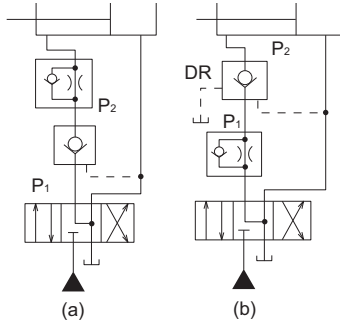
Accessories

Connections	Model No.	Hexagon socket head cap bolt	Quantity	Tightening torque N·m {kgf·cm}
Gasket mount type	JCP(D)-G03	M10 × 45	4	48 to 63 {480 to 630}
	JCP(D)-G06	M10 × 50	4	48 to 63 {480 to 630}
	JCP(D)-G10	M10 × 55	6	48 to 63 {480 to 630}
Flange connection type	Flange (JIS B 2291 SSA), O-ring, mounting bolts			

Handling

● Application of internal and external drain types

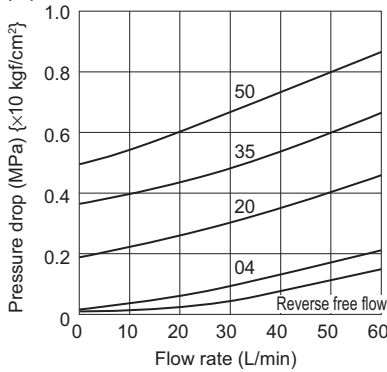
- When port P1 at the outlet side is directly connected to the tank with reverse free flow as shown in figure (a), use the internal drain type. When back pressure is applied to port P1 at the outlet side as shown in figure (b), use the external drain type.



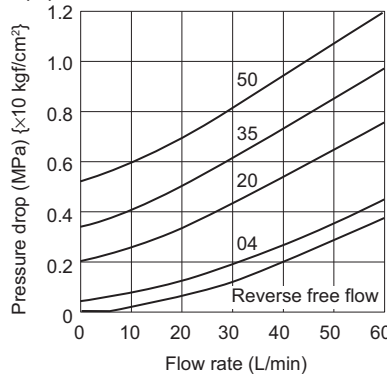
Performance curves (viscosity: 32 mm²/s {cSt})

● Free flow pressure drop characteristics/reverse free flow pressure drop characteristics

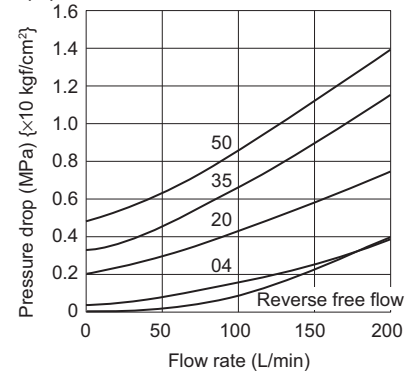
JCP(D)-G03



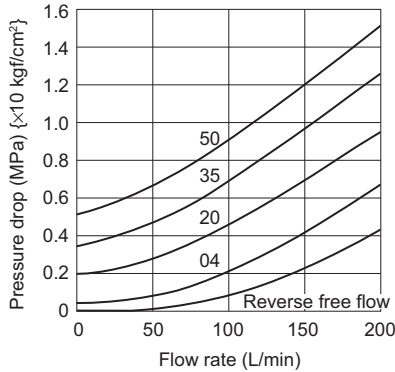
JCP(D)-T03



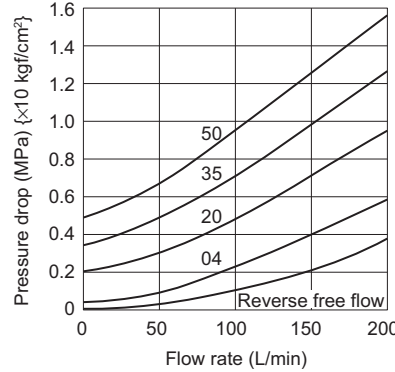
JCP(D)-G06



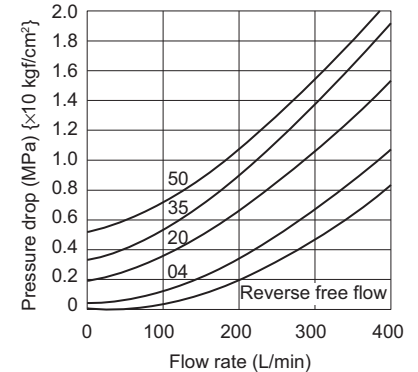
JCP(D)-T06



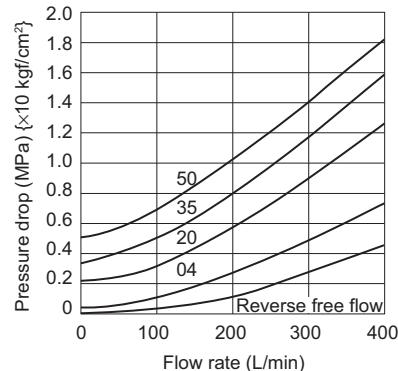
JCP(D)-F06



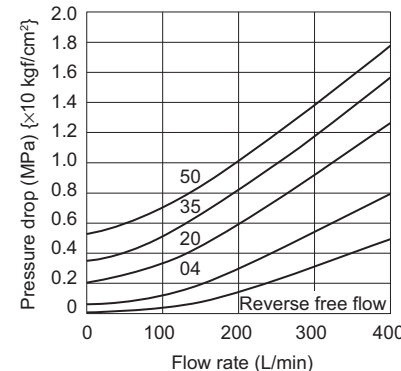
JCP(D)-G10



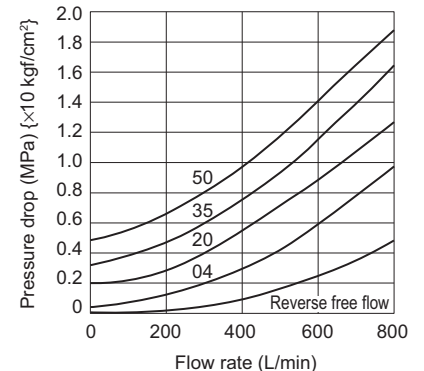
JCP(D)-T10



JCP(D)-F10



JCP(D)-F16



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Internet

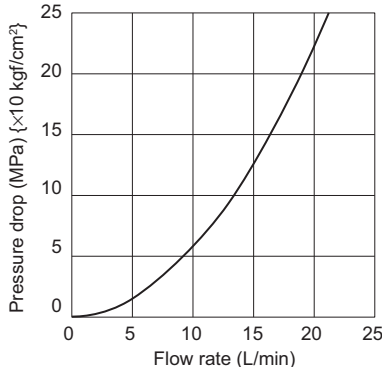
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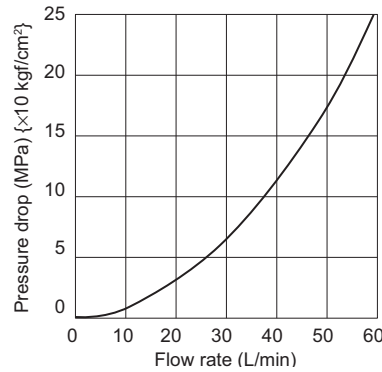
Performance curves (viscosity: 32 mm²/s {cSt})

- Pressure drop characteristics (with the small check valve fully open)

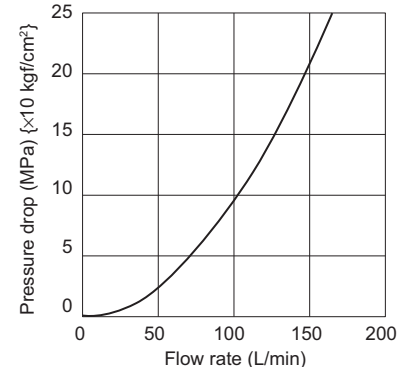
JCPD-×03



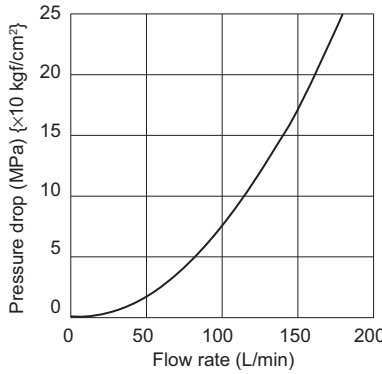
JCPD-×06



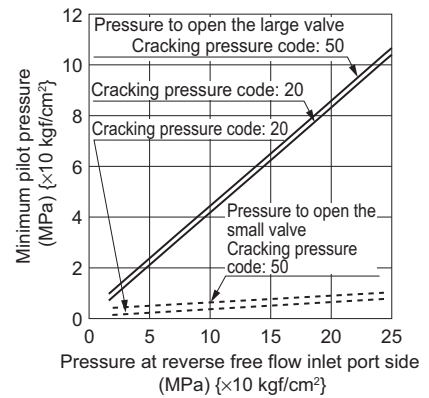
JCPD-×10



JCPD-F16

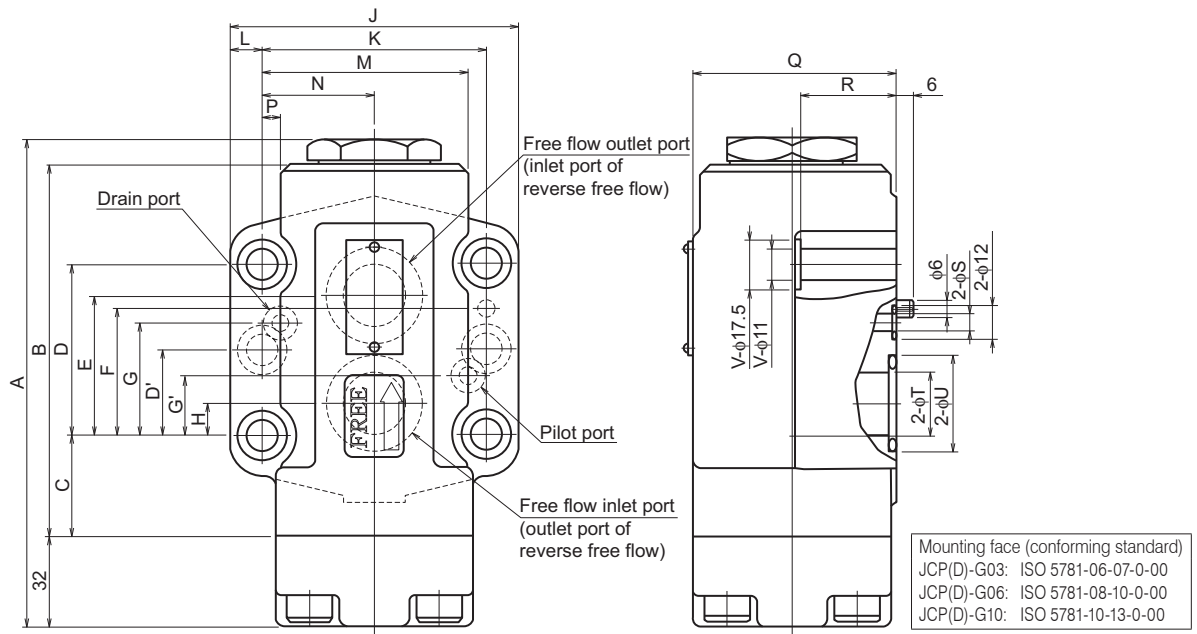


- Minimum pilot pressure characteristics



External dimension diagram

JCP(D)-G××

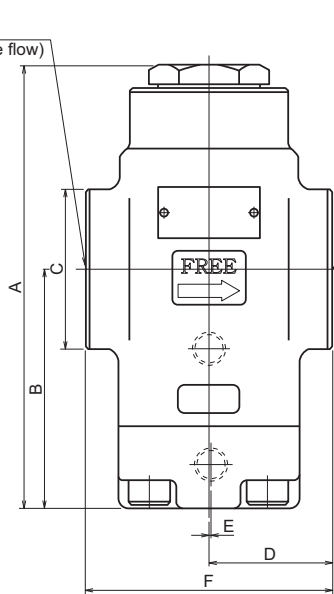


Model No.	Dimensions																					
	A	B	C	D	D'	E	F	G	G'	H	J	K	L	M	N	P	Q	R	S	T	U	V
JCP(D)-G03	150.5	110	34	42.9	—	35.7	31.8	21.4	21.4	7.1	90	66.7	11.65	58.7	33.3	7.9	60	30	5	14	22	4
JCP(D)-G06	171.5	131	35.5	60.3	—	49.2	44.5	39.7	20.8	11.1	102	79.4	11.3	73	39.7	6.4	72	35	6	22	34	4
JCP(D)-G10	203.5	163	38	84.1	42.1	67.5	62.7	59.6	24.6	16.7	119	96.8	11.1	92.9	48.4	4	87	40	6	28	38	6

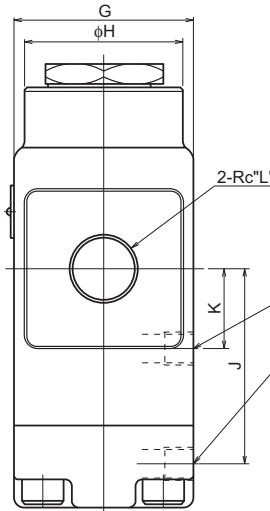
External dimension diagram

JCP(D)-T※※

Free flow inlet port
(outlet port of reverse free flow)



Free flow outlet port
(inlet port of reverse free flow)

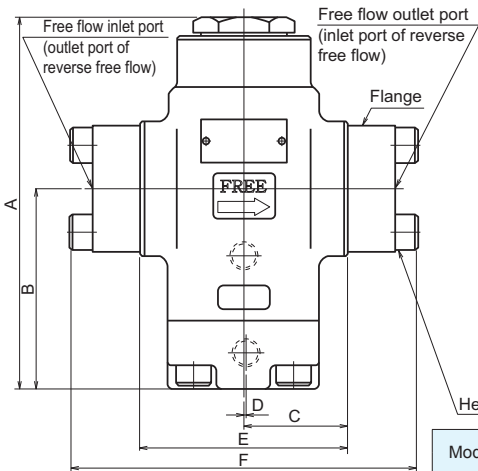


Drain port (Rc $\frac{1}{4}$)
(No drain port provided for the internal drain type)
Pilot port (Rc $\frac{1}{4}$)
(Direction can be changed by rearranging the covers.)

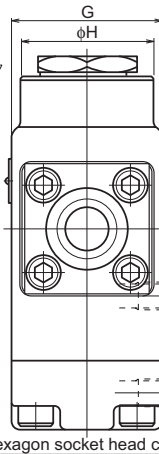
Model code	Dimensions										
	A	B	C	D	E	F	G	H	J	K	L
JCP(D)-T03	150.5	84.5	φ38	40	1	80	□58	48	67.5	26.5	$\frac{3}{8}$
JCP(D)-T06	171.5	92.5	□62	48	1	96	□70	62	75.5	31	$\frac{3}{4}$
JCP(D)-T10	203.5	113	□80	70	7	140	φ80	-	96	43	1 $\frac{1}{4}$

JCP(D)-F06, F10

Free flow inlet port
(outlet port of reverse free flow)



Free flow outlet port
(inlet port of reverse free flow)

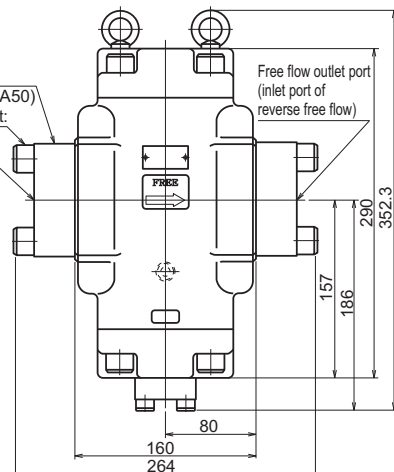


Drain port (Rc $\frac{1}{4}$)
(No drain port provided for the internal drain type)
Pilot port (Rc $\frac{1}{4}$)
(Direction can be changed by rearranging the covers.)

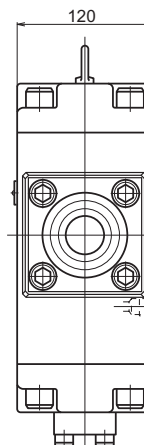
Model code	Dimensions										Flange	Hexagon socket head cap bolt
	A	B	C	D	E	F	G	H	J	K		
JCP(D)-F06	171.5	92.5	48	1	96	160	□70	62	75.5	31	JIS B 2291 SSA20	M10 × 40
JCP(D)-F10	203.5	113	70	7	140	220	φ80	-	96	43	JIS B 2291 SSA32	M12 × 45

JCP(D)-F16

Flange
(JIS B 2291 SSA50)
Hexagon socket head cap bolt:
M16 × 60
Free flow inlet port
(outlet port of reverse free flow)



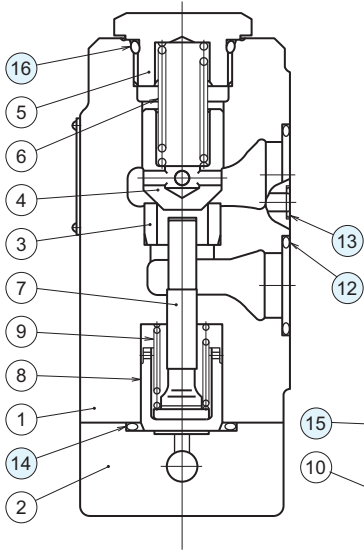
Free flow outlet port
(inlet port of reverse free flow)



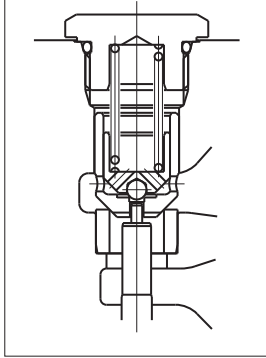
Drain port (Rc $\frac{1}{4}$)
(Plugged in the case of the internal drain type)

Sectional structural diagram

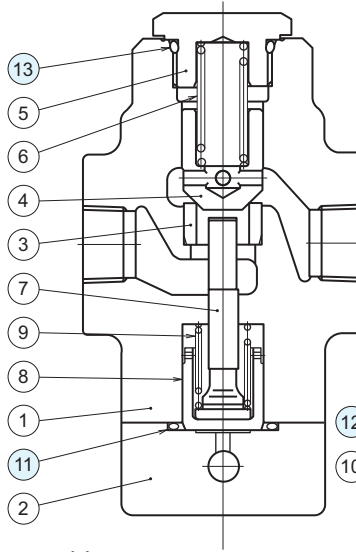
JCP-G**



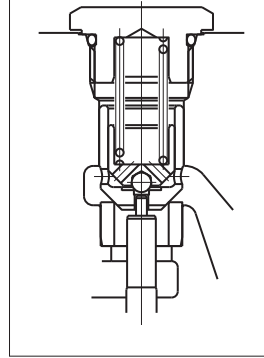
JCPD-G**



JCP-T**



JCPD-T**



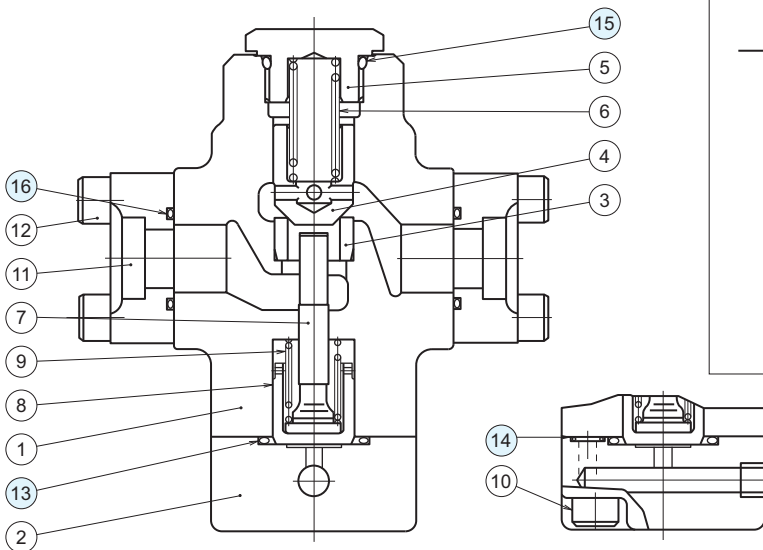
Sealing part table

Part No.	Name	Quantity	Part specifications		
			JCP(D)-G03	JCP(D)-G06	JCP(D)-G10
12	O-ring	2	JIS B 2401 1B P18	JIS B 2401 1B P28	JIS B 2401 1B P32
13	O-ring	2	JIS B 2401 1B P9	JIS B 2401 1B P9	JIS B 2401 1B P9
14	O-ring	1	JIS B 2401 1B G25	JIS B 2401 1B P32	JIS B 2401 1B P42
15	O-ring	1	JIS B 2401 1B P7	JIS B 2401 1B P9	JIS B 2401 1B P9
16	O-ring	1	JIS B 2401 1B P21	JIS B 2401 1B P29	JIS B 2401 1B P36

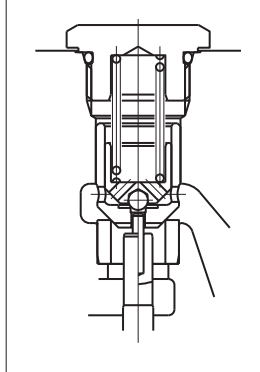
Sealing part table

Part No.	Name	Quantity	Part specifications		
			JCP(D)-T03	JCP(D)-T06	JCP(D)-T10
11	O-ring	1	JIS B 2401 1B G25	JIS B 2401 1B P32	JIS B 2401 1B P42
12	O-ring	1	JIS B 2401 1B P7	JIS B 2401 1B P9	JIS B 2401 1B P9
13	O-ring	1	JIS B 2401 1B P21	JIS B 2401 1B P29	JIS B 2401 1B P36

JCP-F**



JCPD-F**



Sealing part table

Part No.	Name	Quantity	Part specifications		
			JCP(D)-F06	JCP(D)-F10	JCP(D)-F16
13	O-ring	1	JIS B 2401 1B P32	JIS B 2401 1B P42	JIS B 2401 1B G70
14	O-ring	1	JIS B 2401 1B P9	JIS B 2401 1B P9	JIS B 2401 1B G25
15	O-ring	1	JIS B 2401 1B P29	JIS B 2401 1B P36	JIS B 2401 1B G70
16	O-ring	2	JIS B 2401 1B G30	JIS B 2401 1B G40	JIS B 2401 1B G60



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