

Right Angle Check Valve In-line Check Valve

320 ℓ /min
21MPa

Features

- ① The right angle type check valve changes the flow direction of fluid 90 degrees, while the in-line check valve allows only axial direction flow.
- ② The cracking pressures of these valves are fixed, so fluid passes freely in one direction, but is restricted from flowing in the opposite direction.

Specifications

	Model No.		Nominal Diameter (Size)	Maximum Working Pressure MPa{kgf/cm ² }	Maximum Flow Rate ℓ /min	Cracking Pressure MPa{kgf/cm ² }	Weight kg	
	Screw Mounting	Gasket Mounting					T Type	G Type
Right Angle Check Valve	CA-T03-1-20 2 3	CA-G03-1-20 2 3	3/8	21{214}	40	0.04{0.4} 0.35{3.6} 0.50{5.1}	1.0	1.8
	CA-T06-1-20 2 3	CA-G06-1-20 2 3	3/4		110	0.04{0.4} 0.35{3.6} 0.50{5.1}	2.2	3.9
	CA-T10-1-20 2 3	CA-G10-1-20 2 3	1 1/4		320	0.04{0.4} 0.35{3.6} 0.50{5.1}	4.0	6.1
In-line Check Valve	CN-T03-1-11 2 3	-	3/8		30	0.04{0.4} 0.35{3.6} 0.50{5.1}	0.4	-
	CN-T06-1-11 2 3		3/4		75	0.04{0.4} 0.35{3.6} 0.50{5.1}	0.7	
	CN-T10-1-11 2 3		1 1/4		190	0.04{0.4} 0.35{3.6} 0.50{5.1}	2.2	

● Handling

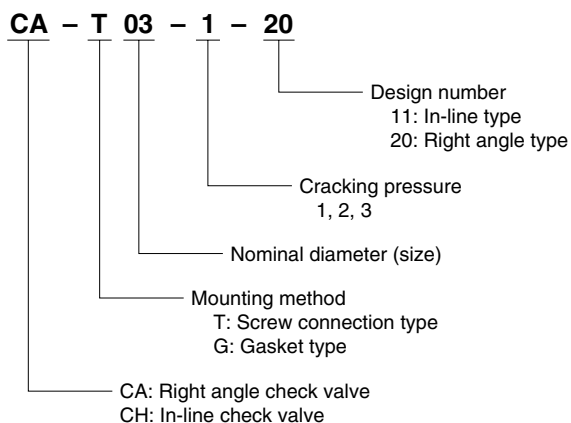
- ① Use the following table for specification when a sub plate is required.
- ② The following are the bundled mounting bolts.

Model No.	Pipe Diameter	Recommended Flow Rate ℓ /min	Weight kg	Applicable Valve Type
MCA-03-20	3/8	40	1.4	CA-G03-* ⁻ 20
MCA-06-20	3/4	110	3.5	CA-G06-* ⁻ 20
MCA-10-20	1 1/4	320	6.1	CA-G10-* ⁻ 20

Model No.	Bolt Dimensions	Q'ty	Tightening Torque N·m{kgf·cm}
CA-G03-* ⁻ 20	M8 × 45 ℓ	4	20 to 25{ 205 to 255}
CA-G06-* ⁻ 20	M16 × 65 ℓ	4	190 to 235{1940 to 2400}
CA-G10-* ⁻ 20	M20 × 75 ℓ	4	370 to 460{3770 to 4690}

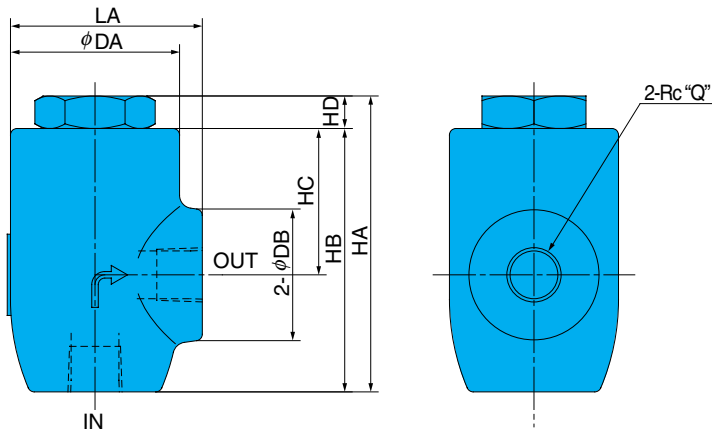
Note) For mounting bolts, use 12T or equivalent.

Understanding Model Numbers



Installation Dimension Drawings

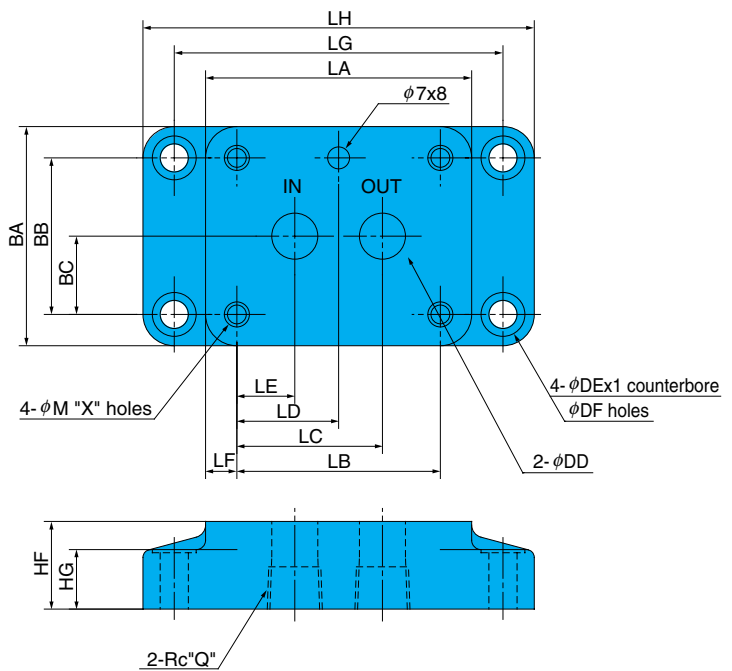
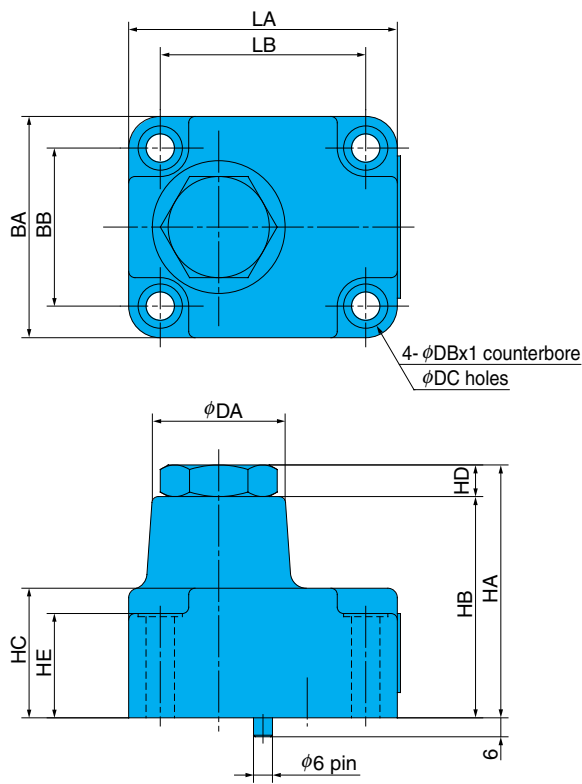
CA-T**-20(Screw Mounting)



Model No.	LA	HA	HB	HC	HD	DA	DB	Q
CA-T03-*-20	59	91	81	45	10	52	40	3/8
CA-T06-*-20	72	106	96	55	10	60	45	3/4
CA-T10-*-20	96	139	127	70	12	80	62	1 1/4

CA-G**-20(Gasket Mounting)

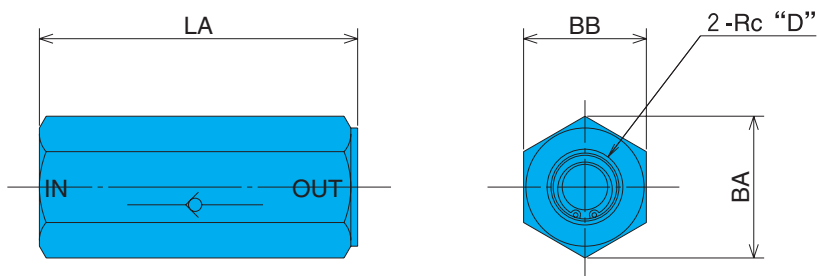
Sub Plate MCA**-20



DC	DD	DE	DF	Q	X
9	14.7	14	9	3/8	8
17	23	20	14	3/4	16
22	30	20	14	1 1/4	20

Model No.	LA	LB	LC	LD	LE	LF	LG	LH	BA	BB	BC	HA	HB	HC	HD	HE	HF	HG	DA	DB
CA-G03-*-20	86	65	46.5	32.5	18.5	10.5	105	125	71	50	25	80	70	41	10	33	28	19	42	14
CA-G06-*-20	117	81	68.2	40.5	22.2	18	140	172	101	65	32.5	98	88	58	10	43	31	19	52	26
CA-G10-*-20	133	92	71.4	46	20.6	20.5	152	187	133	92	46	119	107	65	12	46	40	28	68	32

CN-T**-11(Screw Mounting)



Model No.	LA	BA	BB	D
CN-T03-*-11	70	31.2	27	3/8
CN-T06-*-11	95	43.9	38	3/4
CN-T10-*-11	130	69.3	60	1 1/4



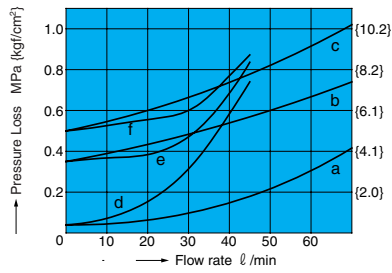
Direction Control Valves

Performance Curves

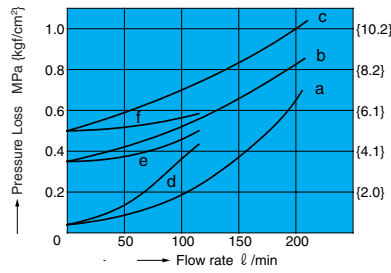
Hydraulic Operating Fluid Viscosity 32mm²/s

Pressure Loss Characteristics

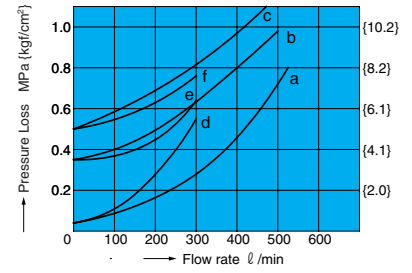
CA-*03 CN-T03



CA-*06 CN-T06



CA-*10 CN-T10



Applicable Valve Type

- a. CA-*03-1-20
- b. CA-*03-2-20
- c. CA-*03-3-20
- d. CN-T03-1-11
- e. CN-T03-2-11
- f. CN-T03-3-11

Applicable Valve Type

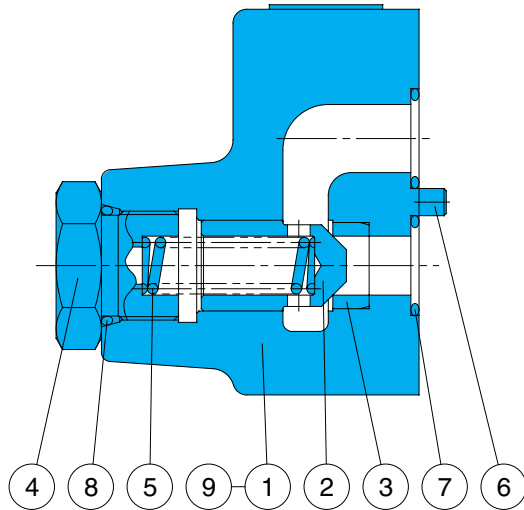
- a. CA-*06-1-20
- b. CA-*06-2-20
- c. CA-*06-3-20
- d. CN-T06-1-11
- e. CN-T06-2-11
- f. CN-T06-3-11

Applicable Valve Type

- a. CA-*10-1-20
- b. CA-*10-2-20
- c. CA-*10-3-20
- d. CN-T10-1-11
- e. CN-T10-2-11
- f. CN-T10-3-11

Cross-sectional Drawing

CA-G**-*-20



Part No.	Part Name
1	Body
2	Poppet
3	Seat
4	Plug
5	Spring
6	Pin
7	O-ring
8	O-ring
9	Nameplate

Seal Part List (Kit Model Number DAS-***)

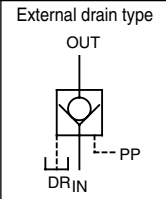
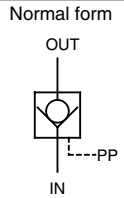
Part No.	Part Name	Type/Part Number			Q'ty
		CA-*03	CA-*06	CA-*10	
7	O-ring	1B-P18	1B-G30	1B-G40	2
8	O-ring	1B-P22	1B-P30	1B-P42	1

Note) O-ring 1B-** refers to JIS B2401-1B-**.

*** in the kit number is used for specification of the valve size (G03, T06, etc.)

Pilot Check Valves

320 ℓ /min
21MPa



Features

- ① Normally, fluid is allowed to flow in a single direction, just as with a standard check valve. Reverse flow can be enabled, however, when the check valve is pushed upwards by external pilot pressure.
- ② Very compact configuration.

Specifications

Model No		Nominal Diameter (Size)	Maximum Working Pressure MPa{kgf/cm ² }	Maximum Flow Rate ℓ /min	Cracking Pressure MPa{kgf/cm ² }	Weight kg		Area Ratio		
Screw Mounting	Gasket Mounting					T Type	G Type	Pilot Piston	Valve	Small Valve
CP-T03-1-* 2	CP-G03-1-* 2	3/8	21{214}	40	0.2{2.0} 0.5{5.1}	3.8 (4.7)	4.3 (5.2)	1	0.35	0.05
CP-T06-1-* 2	CP-G06-1-* 2	3/4		110	0.2{2.0} 0.5{5.1}	7.0 (8.2)	6.6 (7.8)	1	0.37	0.03
CP-T10-1-* 2	CP-G10-1-* 2	1 1/4		320	0.2{2.0} 0.5{5.1}	12.0 (14.3)	12.5 (14.8)	1	0.36	0.03

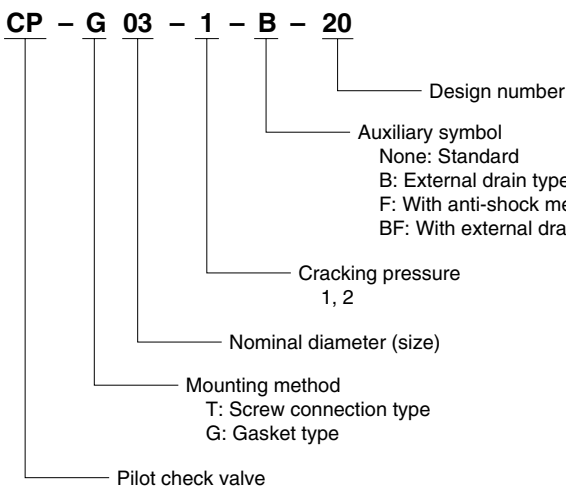
Note) Weight values in parentheses are for the external drain type.

• Handling

- ① The following explains how to use the external drain. Be sure to always use the external drain type when back pressure is applied to fluid outlet port side A during reverse flow as in the circuit illustrated below.
- ② Minimum pilot pressure is altered by input side B pressure during reverse flow. Because of this, operate the valve so pressure is at least twice as high as the required pilot pressure obtained using the minimum pilot pressure characteristics.
- ③ Use the following table for specification when a sub plate is required.

Model No.	Pipe Diameter	Recommended Flow Rate ℓ /min	Weight kg	Applicable Valve Type
MCP-03-20	3/8	40	1.1	CP-G03-* 20
MCP-06-20	3/4	110	1.7	CP-G06-* 20
MCP-10-20	1 1/4	320	3.6	CP-G10-* 20

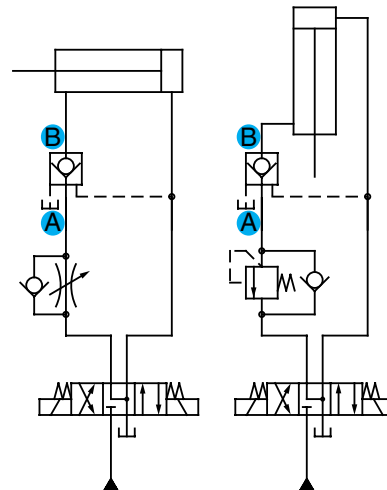
Understanding Model Numbers



Model No.	Bolt Dimensions	Q'ty	Tightening Torque N·m{kgf·cm}
CP -G03-* 20	M8 × 45 ℓ	4	20 to 25{205 to 255}
-G06-	M10 × 55 ℓ	4	45 to 55{460 to 560}
-G10-	M10 × 65 ℓ	6	45 to 55{460 to 560}

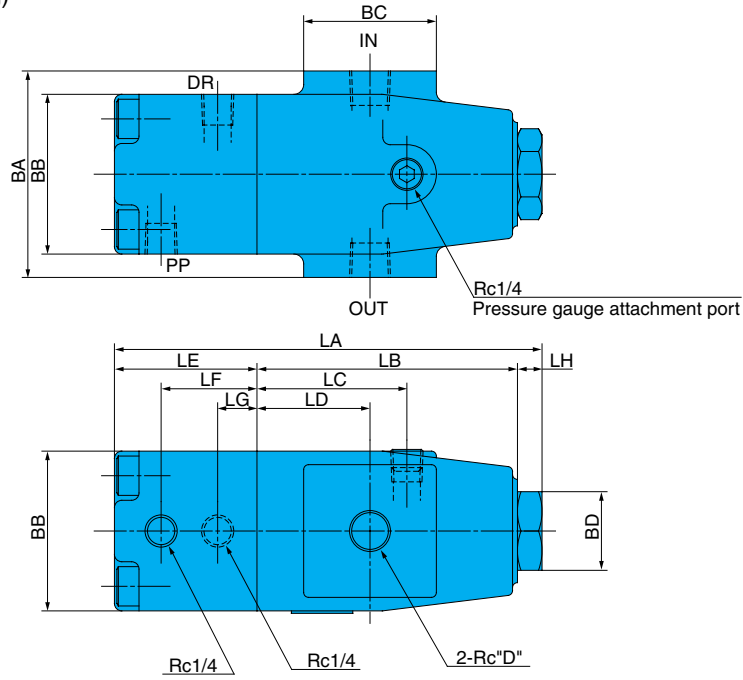
Note) For mounting bolts, use 12T or equivalent.

- ④ The following are the bundled mounting bolts.



Installation Dimension Drawings

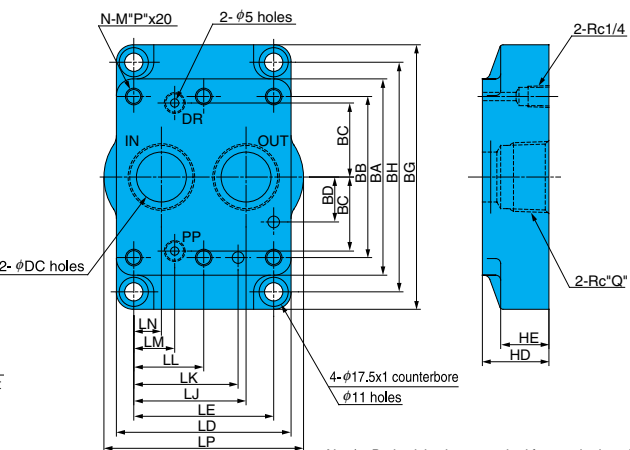
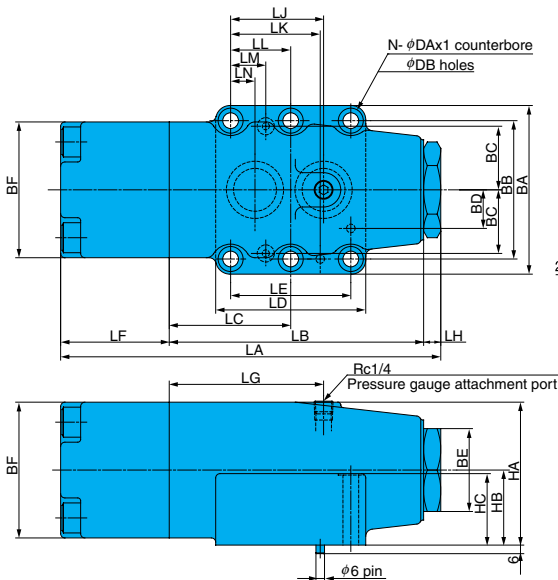
CP-T**-**-20(Screw Mounting)



Model No.	LA	LB	LC	LD	LE	LF	LG	LH	BA	BB	BC	BD	D
CP-T03-*(F)-20	146	106	61	46	30	15	-	10	84	65	54	32	3/8
CP-T03-*(B)(F)-20	174				58	39	16						
CP-T06-*(F)-20	180	140	85	66	30	15	-	10	122	76	64	41	3/4
CP-T06-*(B)(F)-20	212				62	43	16						
CP-T10-*(F)-20	225	178	108	85	35	15	-	12	150	95	85	58	1 1/4
CP-T10-*(B)(F)-20	266				76	57	16						

CP-G**-**-20(Gasket Mounting)

Sub Plate MCP**-**-20



Note) Drain piping is not required for standard products.
Drain piping is required in the case of external drain type (B).

BH	HA	HB	HC	HD	HE	DA	DB	DC	N	P	Q
106	68	35.5	33	30	19	14	9	14.7	4	8	3/8
124	79	41	38	30	19	17.5	11	22	4	10	3/4
138	100	52.5	50	40	29	17.5	11	30	6	10	1 1/4

Model No.	LA	LB	LC	LD	LE	LF	LG	LH	LJ	LK	LL	LM	LN	LP	BA	BB	BC	BD	BE	BF	BG
CP-G03-*(F)-20	146	106	51	64	44	30	61	10	37	-	-	16	7	-	82	64	23	18	32	65	126
CP-G03-*(B)(F)-20	174					58															
CP-G06-*(F)-20	180	140	66	83	60.3	30	85	10	49.2	44.5	-	20.6	11.1	-	102	79.4	33.3	-	41	76	146
CP-G06-*(B)(F)-20	212					62															
CP-G10-*(F)-20	225	178	85	105	84.1	35	108	12	67.5	62.7	42.05	24.6	16.6	120	118	96.8	44.5	-	58	95	159
CP-G10-*(B)(F)-20	266					76															

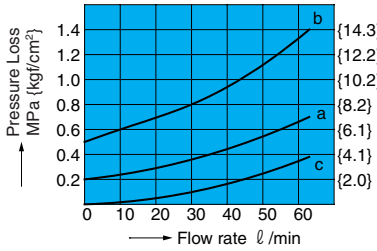


Performance Curves

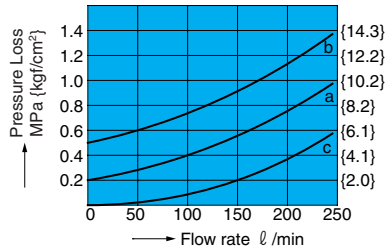
Hydraulic Operating Fluid Viscosity 32mm²/s

Pressure Loss Characteristics

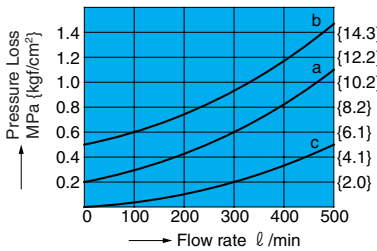
CP-*03 Applicable Valve Type
 a. CP-*03-1-*20 Free Flow
 b. CP-*03-2-*20 "
 c. CP-*03-*-*20 Reverse Flow



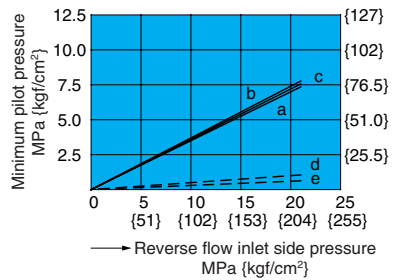
CP-*06 Applicable Valve Type
 a. CP-*06-1-*20 Free Flow
 b. CP-*06-2-*20 "
 c. CP-*06-*-*20 Reverse Flow



CP-*10 Applicable Valve Type
 a. CP-*10-1-*20 Free Flow
 b. CP-*10-2-*20 "
 c. CP-*10-*-*20 Reverse Flow



Minimum Pilot Pressure Characteristics



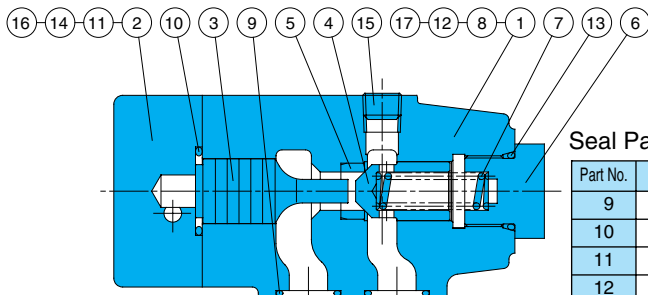
Applicable Valve

Model No.	Valve Open	Small Valve Open
CP-*03	a	d
CP-*06	b	e
CP-*10	c	e

Cross-sectional Drawing

Note) O-ring 1B-** refers to JIS B2401-1B-**.

CP-G**-*20



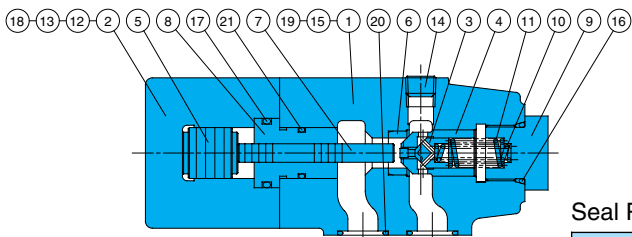
Part No.	Part Name	Part No.	Part Name
1	Body	10	O-ring
2	Cover	11	O-ring
3	Piston	12	O-ring
4	Poppet	13	O-ring
5	Seat	14	Screw
6	Plug	15	Plug
7	Spring	16	Plug
8	Pin	17	Plate
9	O-ring		

Seal Part List (Kit Model Number DPS-***)

Part No.	Part Name	CP-G03-*20	CP-G06-*20	CP-G10-*20	Q'ty
9	O-ring	1B-P18	1B-G25	1B-G35	2
10	O-ring	1B-G25	1B-G40	1B-G55	1
11	O-ring	1B-P7	1B-P9	1B-P9	2
12	O-ring	1B-P9	1B-P9	1B-P9	2
13	O-ring	1B-P22	1B-P30	1B-P42	1

***in the kit number is used for specification of the valve size.

CP-G**-*BF-20



Part No.	Part Name	Part No.	Part Name	Part No.	Part Name
1	Body	9	Plug	17	O-ring
2	Cover	10	Spring	18	O-ring
3	Poppet	11	Spring	19	O-ring
4	Poppet	12	Screw	20	O-ring
5	Piston	13	Plug	21	O-ring
6	Seat	14	Plug	22	Plate
7	Rod	15	Pin		
8	Bushing	16	O-ring		

Seal Part List (Kit Model Number DPS-***R)

Part No.	Part Name	CP-G03-*BF-20	CP-G06-*BF-20	CP-G10-*BF-20	Q'ty
16	O-ring	1B-P22	1B-P30	1B-P42	1
17	O-ring	1B-G25	1B-G40	1B-G55	1
18	O-ring	1B-P7	1B-P9	1B-P9	2
19	O-ring	1B-P9	1B-P9	1B-P9	2
20	O-ring	1B-P18	1B-G25	1B-G35	2
21	O-ring	1B-P18	1B-P30	1B-G45	1

***in the kit number is used for specification of the valve size.



Direction Control Valves

Gauge Cock

35, ~~4~~2MPa



Features

- ① Ultra-compact configuration requires minimal installation space.
- ② Intelligent design packs plenty of function into a simple configuration.
- ③ Maximum operating pressure of 35MPa{357kgf/cm²} allows operation across a wide range.

Specifications

Model No.		G "A" (Nominal Dimension)	B mm	C mm	Maximum Working Pressure MPa{kgf/cm ² }	Weight kg
Float Type	Flange Type				21{214}	0.35
K2-T02-11	K2-F02-11	G1/4	10	19	35{357}	
K2-T03-10	K2-F03-10	G3/8	16	23		
K2-T04-10	K2-F04-10	G1/2	16	26		

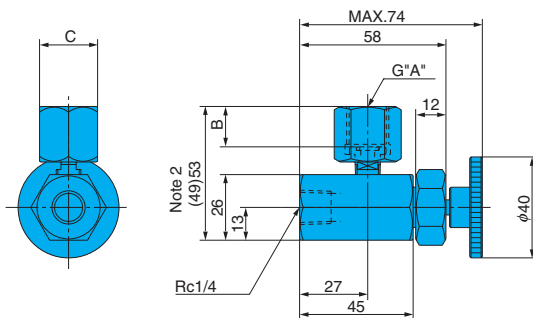
Understanding Model Numbers

K2 - T 02 - 10(11)

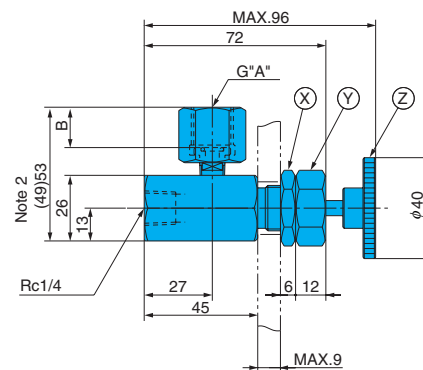
- Design number
11: For K2-T02, F02
- Nominal diameter (size)
- Mounting method
T: Float type F: Flange type
- Gauge cock K2: Rotatable pressure gauge attachment.

Installation Dimension Drawings

K2-T**-10 (11)



K2-F**-10 (11)



- Note) 1. Maximum iron plate thickness: 9t; Mounting Bolt Hole Diameter: $\phi 20$
When mounted to panel
Loosen the (X) lock nut and (Y) cap nut, and pull out the (Z) adjusting screw.
To return to its original position, reverse this process.
2. Dimensions in parentheses are for the 02 size.

3. For information about G "A" and B, see the specifications. The O-ring shown below is used as a pressure gauge seal beneath screw G.

G1/4 JIS B2401-1B-P5
G3/8 JIS B2401-1B-P6
G1/2 JIS B2401-1B-P9



DMA Type Manual Valve

40 to 100 ℓ /min
35MPa

Features

- ① The compact 01 and 03 sizes are perfect for small flow rate control.
- ② Since a balanced type valve is used, there is no need for drain piping, and use with back pressures up to 16MPa (163kgf/cm²) is possible.
- ③ Mounting methods are the same as SA-G01/03, and the 01, 03 size modular

valve can be used, so circuit configuration is quick and easy.

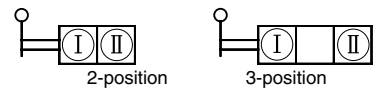
Specifications

Model No.	Nominal Diameter (Size)	Maximum Working Pressure MPa(kgf/cm ²)	Tank Port Back Pressure MPa(kgf/cm ²)	Maximum Flow Rate ℓ /min	Spool Stroke (mm)		Weight kg
					2-position	3-position	
DMA-G01-***-20	1/8	35(25){357(255)}	16{163}	40	4	4 × 2	1.3
DMA-G03-***-(J)20	3/8			100	6	6 × 2	3.3

Positions	Type	JIS Symbol	Model No.	Maximum Working Pressure MPa(kgf/cm ²)	
2-position	Closed Cross		DMA-G01-A3X-20 G03-(J)20	35{357}	
	Open Cross		DMA-G01-A3Z-20 G03-(J)20		
	Closed Cross		DMA-G01-E3X-20 G03-(J)20		
	Open Cross		DMA-G01-E3Z-20 G03-(J)20		
3-position	All Ports Open		DMA-G01-C4-20 G03-(J)20		
			DMA-G01-F4-20 G03-(J)20		
	All Parts Blocked		DMA-G01-C5-20 G03-(J)20		
			DMA-G01-F5-20 G03-(J)20		
	ABT Connection		DMA-G01-C6-20 G03-(J)20		
			DMA-G01-F6-20 G03-(J)20		
	PT Connection	Closed Cross		DMA-G01-C7X-20 G03-(J)20	25{255}
		Restricted Open Cross		DMA-G01-C7Y-20 G03-(J)20	
		Closed Cross		DMA-G01-F7X-20 G03-(J)20	
		Restricted Open Cross		DMA-G01-F7Y-20 G03-(J)20	
PAT Connection		DMA-G01-C8-20 G03-(J)20	35{357}		
		DMA-G01-F8-20 G03-(J)20			

● Handling

- ① The following are the three types of lever operations.
 - ① Spring Offset Type (Type A)
The lever is normally kept in the end position by the spring. Raising the lever performs switching, and the lever returns to its original position when released.
 - ② Spring Center Type (Type C)
The spool is normally in the center of position 3. After switching to either end, the spring returns the lever to its center position when the lever is released.
 - ③ Detent Type (Type F, Type E)
A notch at spool position 3 or position 2 acts as a stop.
- ② Pressure loss is the same as that for the SA-G01/G03, so see SA-G01/G03 for more information.
- ③ The lever mounting orientation can be positioned at 90° increments by changing the orientation of the lever side cover.
- ④ For PT connection type DMA-G01/G03-*7-(J)20, closed cross DMA-G01/G03-*7X-(J)20 is the standard type.
- ⑤ The relationship between the lever switching positions and JIS symbols is shown below. (See the installation dimension diagrams for symbols ① and ②.)



- ⑥ Mounting bolts are not included with the 01 size.

DMA-G01-***-20	M5 × 45 ℓ	4
DMA-G03-***-J20	M6 × 70 ℓ	4
DMA-G03-***-20	M8 × 70 ℓ	4

Note) For mounting bolts, use 12T or equivalent.

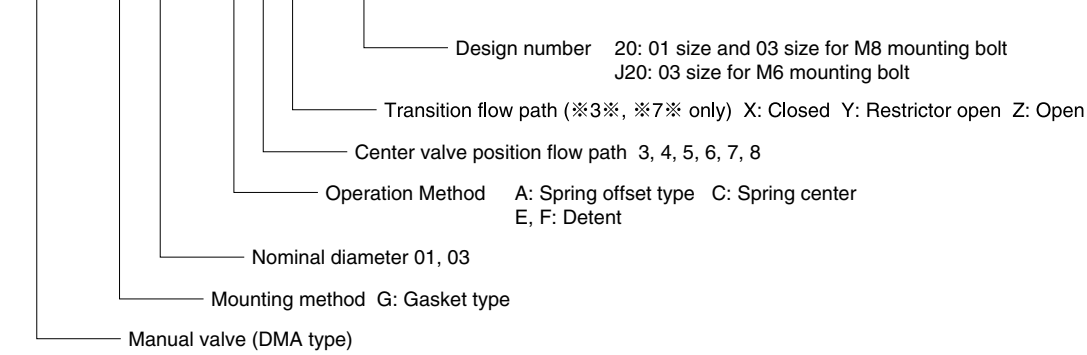
- ⑦ The following shows the sub plates.

Model No.	Pipe Diameter	Maximum Working Pressure MPa(kgf/cm ²)	Recommended Flow Rate (ℓ /min)	Weight (kg)	Applicable Valve Type	
MSA-01Y-10	1/4	25{255}	40	1.2	DMA-G01-***-20	
MSA-03-10	3/8		45	2.3	DMA-G03-***-J20	
MSA-03X-10	1/2		80			
MS-03-30	3/8		45			
MS-03X-30	1/2		80	45	2.3	DMA-G03-***-20
				80		

These sub plates can also be used with SA (SS)-G01/G03, so see SA (SS)-G01/G03 for mounting methods.

Understanding Model Numbers

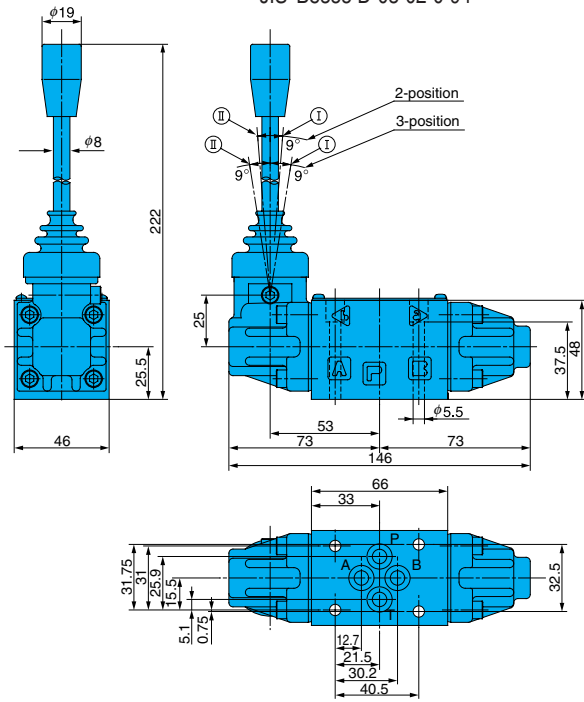
DMA - G 01 - A 3 X - 20



Installation Dimension Drawings

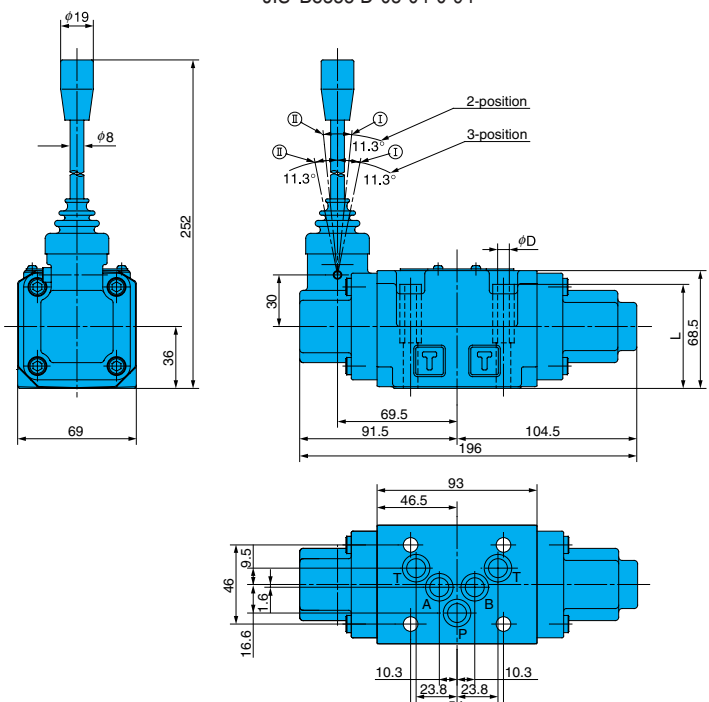
DMA-G01-***-20

Gasket Surface Dimensions (ISO 4401-03-02-0-94)
(JIS B8355 D-03-02-0-94)



DMA-G03-***-(J)20

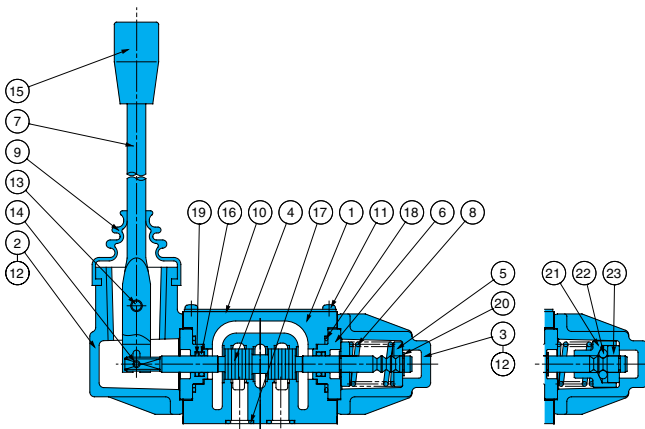
Gasket Surface Dimensions (ISO 4401-05-04-0-94)
(JIS B8355 D-05-04-0-94)



	DMA-G03-**-J20	DMA-G03-**-20
φD	φ6.8	φ8.5
L	60.5	58

Cross-sectional Drawing

DMA-G01-***-20



Part No.	Part Name	Part No.	Part Name
1	Body	13	Screw
2	Cover A	14	Pin
3	Cover B	15	Knob
4	Spool	16	O-ring
5	Ring	17	O-ring
6	Bush	18	O-ring
7	Lever	19	Backup ring
8	Spring	20	Snap ring
9	Rod cover	21	Guide
10	Nameplate	22	Ball
11	Stopper screw	23	Retainer
12	Screw		

Seal Part List

Part No.	Part Name	Model No.			
		DMA-G01	Q'ty	DMA-G03	Q'ty
16	O-ring	1A-P7	2	1A-P10	2
17	O-ring	AS568-012 (Hs90)	4	AS568-014 (Hs90)	5
18	O-ring	AS568-019 (Hs90)	2	1B-P28	2
19	Backup ring	T2-P7	2	T2-P10	2

Note) 1.O-ring 1A/B-** refers to JIS B2401-1A/B.
2.Backup ring indicates JIS B2407-T2-**.





**Flange Type
Check Valve/Throttle Valve
Pilot Operated Check Valve**

**1300 ℓ /min
25MPa**

Features

① This series provides high capacity and flange connection, as well as compliance with new standards and

Japan Oil Hydraulic Standards (JOHS).

② Measurable higher pressure and higher capacity than previous models.

Specifications

Contact your agent for more information about mounting methods, etc.

	Model No.	Nominal Diameter (Size)	Maximum Working Pressure MPa(kgf/cm ²)	Rated flow rate ℓ /min	Cracking pressure MPa(kgf/cm ²)	Weight kg	Japan Hydraulic Standard Number
	Flange Mounting						
Right Angle Check Valve	CA-F06-1-30 2 3	3/4	25(255)	125	0.04{0.4} 0.35{3.6} 0.50{5.1}	3.8	JOHS-116
	CA-F10-1-30 2 3	1 1/4		300	0.04{0.4} 0.35{3.6} 0.50{5.1}	7.5	
	CA-F16-1-30 2 3	2		600	0.04{0.4} 0.35{3.6} 0.50{5.1}	20.1	
	CA-F24-1-30 2 3	3		1300	0.04{0.4} 0.35{3.6} 0.50{5.1}	63	
Pilot Operated Check Valve	CP-F06-1-*30 2	3/4	25(255)	125	0.2{2.0} 0.5{5.1}	6.4	JOHS-117
	CP-F10-1-*30 2	1 1/4		250	0.2{2.0} 0.5{5.1}	11.5	
	CP-F16-1-*30 2	2		600	0.2{2.0} 0.5{5.1}	32	

	Model No.	Nominal Diameter (Size)	Maximum Working Pressure MPa(kgf/cm ²)	Rated flow rate ℓ /min	Cracking pressure MPa(kgf/cm ²)	Weight kg	Japan Hydraulic Standard Number
	Flange Mounting						
+ Valve	(C)FR-F06-30	3/4	25(255)	85	0.1{1.0}	4.7	JOHS-116
	(C)FR-F10-30	1 1/4		230		11.0	
	(C)FR-F16-30	2		500		21.5	

Direction Control Valves