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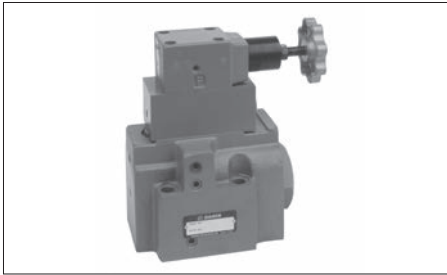
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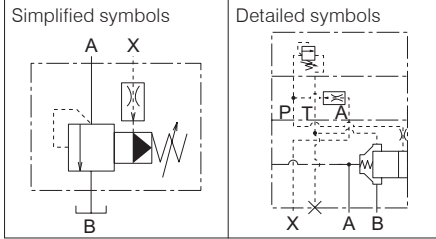
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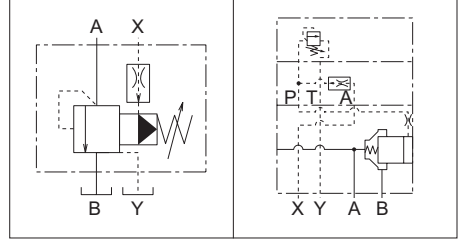
Type C2 Low-pressure Relief Valve



JIS graphic symbols for hydraulic system (internal drain type)



JIS graphic symbols for hydraulic system (external drain type)



Features

- These normally open type valves are capable of pressure control from the low pressure range because of a structure that supplies the external pilot flow rate to the built-in flow rate adjusting valve.

Nomenclature

※ - **C2RL** - **G** ※ ※ - ※ - **10** - ※ ※

1 Applicable fluid code

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

2 Model No.

C2RL: Type C2 external pilot operated low-pressure relief valve

3 Connections

G: Gasket mount type

4 Nominal diameter

03: $\frac{3}{8}$
 06: $\frac{3}{4}$

5 Pressure adjustment range

1: Up to 7 MPa {Up to 70 kgf/cm²}
 2: Up to 16 MPa {Up to 160 kgf/cm²}

6 Design No.

(The design No. is subject to change)

7 Drainage code

No designation: Internal drain type
 E: External drain type

8 Option code

No designation: Pressure adjusting handle type
 H: Pressure adjusting small handle type
 F: Screw adjusting type with a cap

Specifications

Model code	Nominal diameter	Maximum operating pressure MPa {kgf/cm ² }	Pressure adjustment range*1 MPa {kgf/cm ² }	Maximum flow rate L/min	External pilot flow rate L/min	Mass kg
C2RL-G03-1-10	$\frac{3}{8}$	21 {210} (External pilot pressure)	Up to 7 {Up to 70}	100	0.5 to 0.6	5.6
C2RL-G03-2-10			Up to 16 {Up to 160}			
C2RL-G06-1-10	$\frac{3}{4}$		Up to 7 {Up to 70}	250	0.8 to 1.2	8.4
C2RL-G06-2-10			Up to 16 {Up to 160}			

Note: *1 The minimum adjustment pressure varies depending on the flow rate. See the minimum adjustment pressure characteristics for details.

Model code	Pressure change MPa {kgf/cm ² } per handle revolution
C2RL-G※※-1	2.5 {25}/revolution
C2RL-G※※-2	4.6 {46}/revolution

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
JGB-03M	$\frac{3}{8}$	Rc $\frac{3}{8}$	1.6
JGB-03M04		Rc $\frac{1}{2}$	
JGB-06M	$\frac{3}{4}$	Rc $\frac{3}{4}$	3.9
JGB-06M08		Rc1	

Refer to Page S-6 for the dimensions of the sub-plate.

Accessories

Model No.	Hexagon socket head cap bolt	Quantity	Tightening torque N·m {kgf·cm}
C2RL-G03	M10 × 60	4	51 to 68 {510 to 680}
C2RL-G06	M10 × 75	4	51 to 68 {510 to 680}

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Handling

- Directly connect the tank piping of the valve to the tank without merging it with other tank piping and arrange it such that the back pressure of the tank port can be maintained at no greater than 0.5 MPa {5 kgf/cm²}.
- External pilot pressure is required to operate the valve. Set the external pilot pressure 1 MPa {10 kgf/cm²} higher than the maximum adjustment pressure.
- When using the valve as a safety valve, set the pressure 1 to 1.5 MPa {10 to 15 kgf/cm²} higher than the pressure set for the hydraulic circuit.
- Use a valve with the flow rate given in the table below or higher since the pressure setting may be unstable if the flow rate is too low.

Model No.	Minimum flow rate L/min
C2RL-G03	12
C2RL-G06	15

Drain type setting guide

- Either the internal or external drain type can be set by fitting/removing plugs.
When the valve is set as the external drain type, connect the piping directly from the external drain port (port Y) to the tank.

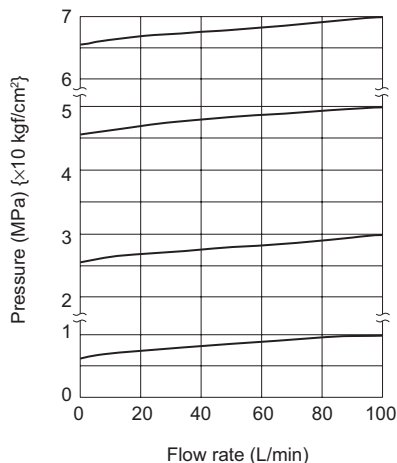
	Internal drain type	External drain type	Hexagon socket taper thread plug	Tightening torque N·m {kgf·cm}
Plug A	Provided	Not provided	NPTF ¹ / ₆	6 to 7.5 {60 to 75}
Plug B	Not provided	Provided		

See the external dimension diagram on Page E-35 for the positions of plugs A and B.

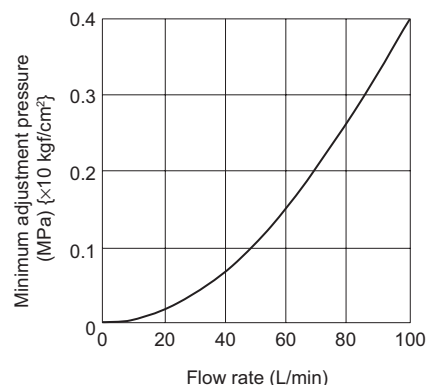
Performance curves (viscosity: 32 mm²/s {cSt})

● C2RL-G03

Flow rate - Pressure characteristics

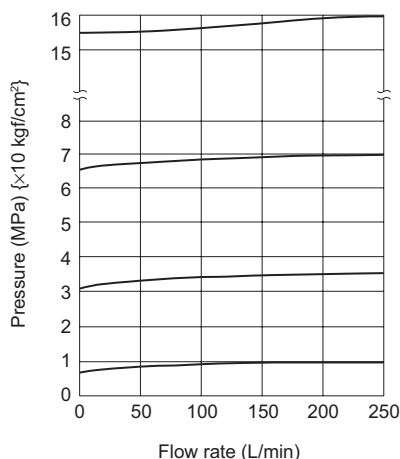


Minimum adjustment pressure characteristics (with the handle fully open)

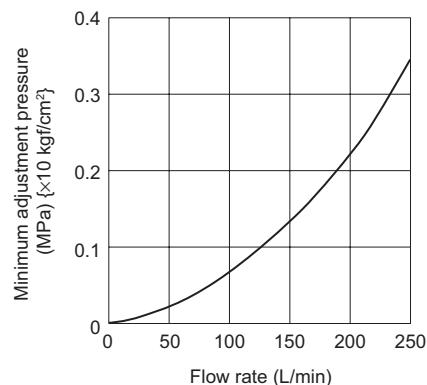


● C2RL-G06

Flow rate - Pressure characteristics

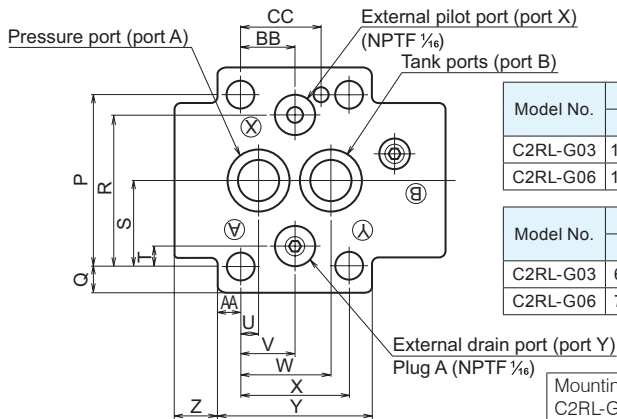
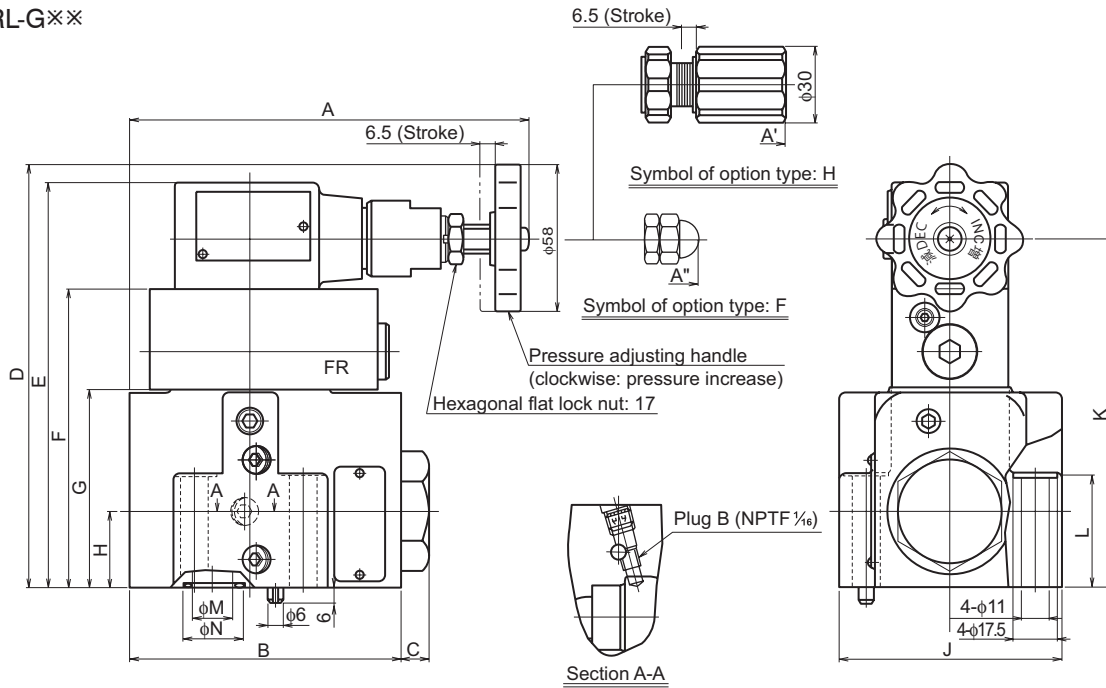


Minimum adjustment pressure characteristics (with the handle fully open)



External dimension diagram

C2RL-G**



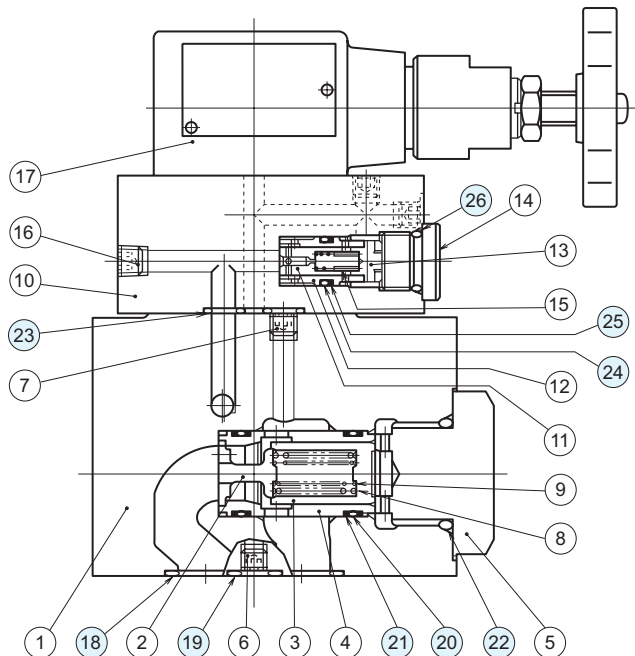
Model No.	Dimensions														
	A	A'	A''	B	C	D	E	F	G	H	J	K	L	N	
C2RL-G03	157.8	182	147.5	107	11	166	159	117	77	30	88	137	44	16	24
C2RL-G06	167.3	191.5	157	127	14	184	177	135	95	40	102	155	59	24	34

Model No.	Dimensions													
	P	Q	R	S	T	U	V	W	X	Y	Z	AA	BB	CC
C2RL-G03	66.7	10.65	58.7	33.3	7.9	7.1	21.4	35.7	42.9	61	17	9.05	21.4	31.8
C2RL-G06	79.4	11.3	73	39.7	6.4	11.1	39.7	49.2	60.3	82	16	10.85	20.8	44.5

Mounting face (conforming standard)
 C2RL-G03: ISO 5781-06-07-0-00
 C2RL-G06: ISO 5781-08-10-0-00

Sectional structural diagram

C2RL-G**



Sealing part table

Part No.	Name	Quantity	Part specifications	
			C2RL-G03	C2RL-G06
18	O-ring	2	JIS B 2401 1B P20	JIS B 2401 1B P28
19	O-ring	2	JIS B 2401 1B P12	JIS B 2401 1B P12
20	O-ring	2	AS568-020 (NBR, Hs90)	AS568-122 (NBR, Hs90)
21	Backup ring	4	Bias cut for AS568-020	Bias cut for AS568-122
22	O-ring	1	AS568-215 (NBR, Hs90)	AS568-222 (NBR, Hs90)
23	O-ring	4	JIS B 2401 1B P9	JIS B 2401 1B P9
24	O-ring	1	AS568-013 (NBR, Hs90)	AS568-013 (NBR, Hs90)
25	Backup ring	1	Bias cut for AS568-013	Bias cut for AS568-013
26	O-ring	1	JIS B 2401 1B P14	JIS B 2401 1B P14