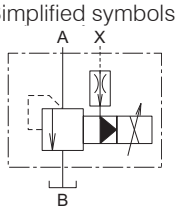
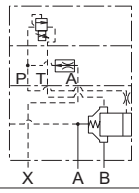
Type C2 Solenoid Operated Proportional Low-Pressure Relief Valve

JIS graphic symbols for hydraulic system (internal drain type)

Simplified symbols

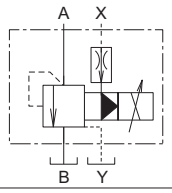


Detailed symbols

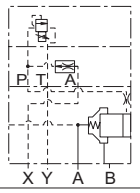


JIS graphic symbols for hydraulic system (external drain type)

Simplified symbols



Detailed symbols



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

※	-	C2RLP	-	G	03	-	※※	-	10	-	※	※	※
1		2		3	4		5		6		7	8	9

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

2 Model No.
C2RLP: Type C2 solenoid operated proportional low-pressure relief valve

3 Connections
G: Gasket mount type

4 Nominal diameter
03: 3/8

5 Pressure adjustment range
03: Up to 3.5 MPa {Up to 35 kgf/cm^2}
1: Up to 7 MPa {Up to 70 kgf/cm^2}
2: UP to 16 MPa {UP to 160 kgf/cm^2}

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: DIN connector mounting position: Top
L: DIN connector mounting position, left side
R: DIN connector mounting position, right side

9 Solenoid codes
No designation: DC 24 V solenoid
N: DC 12 V solenoid

9: Solenoid code and applicable driver model code

Solenoid codes	Solenoid	Rated current (20°C) mA	Coil resistance (20°C) Ω	Applicable driver	
				Model code	Power supply voltage
No designation	DC 24 V solenoid	850	26	KC-6-10	AC 100, 200, 220 V (Common for 50 and 60 Hz)
N	DC 12 V solenoid	1700	6.5	ZH-6-10	DC 24 V

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	Hysteresis	Repeatability	Mass kg
C2RLP-G03-03-10	3/8	21 {210} (External pilot pressure)	Up to 3.5 {Up to 35}	80	0.5 to 0.6	No greater than 3% of the maximum adjusting pressure	No greater than 1% of the maximum adjusting pressure	6.4
C2RLP-G03- 1-10			Up to 7 {Up to 70}					
C2RLP-G03- 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.

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	3/8	Rc3/8	1.6
JGB-03M04		Rc1/2	

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

Accessories

Hexagon socket head cap bolt	Quantity	Tightening torque N·m {kgf·cm}
M10 × 60	4	51 to 68 {510 to 680}

Handling

- Directly connect the tank piping of the valve to the tank without merging it with other tank piping.
- To achieve stable pressure control, completely remove air by loosening the air bleeding screw and fill the inside of the valve with fluid.
- External pilot pressure is required to operate the valve. Set the external pilot pressure 1 MPa {10 kgf/cm^2} higher than the maximum adjustment pressure.
- The minimum pressure adjusting screw (manual adjusting screw) is factory adjusted before shipment but it can be used to adjust the pressure when electric current cannot be applied to the solenoid during initial adjustment or due to electrical failure. Before adjusting the pressure with the pressure adjusting screw, check and note the initial position of the screw. The pressure is increased by turning the screw clockwise. After recovering the normal operation status, return the screw to the initial position and tighten the lock nut.
- Use the valve with a flow rate of 12 L/min minimum since the pressure setting may be unstable if the flow rate is too low.

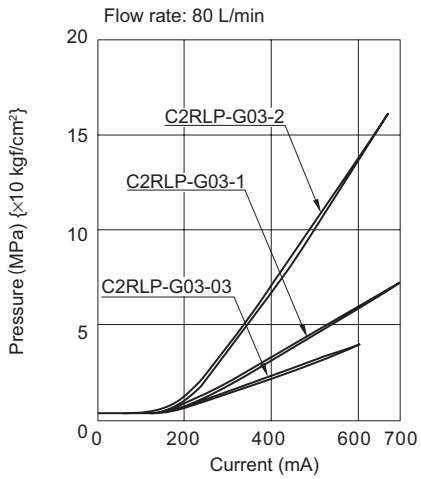
Drain type setting guide

- 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.

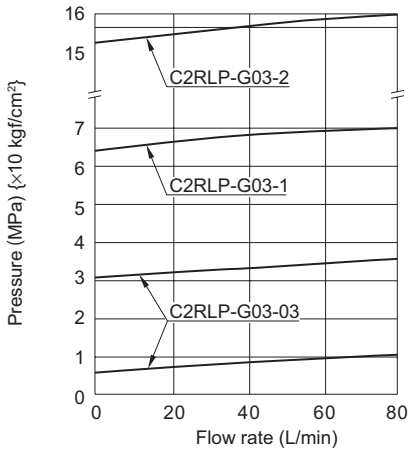
	Internal drain type	External drain type	Hexagon socket taper thread plug	Tightening torque N·m {kgf·cm}
Plug A	Plugged	Not plugged	NPTF1/16	6 to 7.5 {60 to 75}
Plug B	Not plugged	Plugged		

Performance curves (viscosity: 32 mm^2/s {cSt})

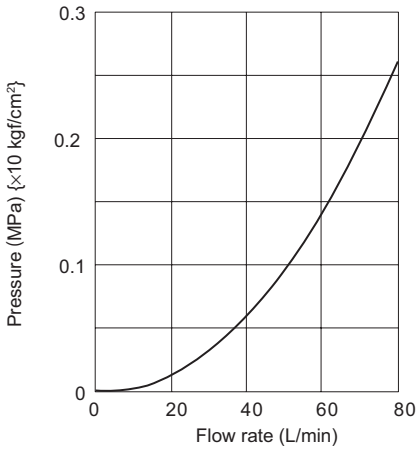
Input current - Pressure characteristics



Flow rate - Pressure characteristics

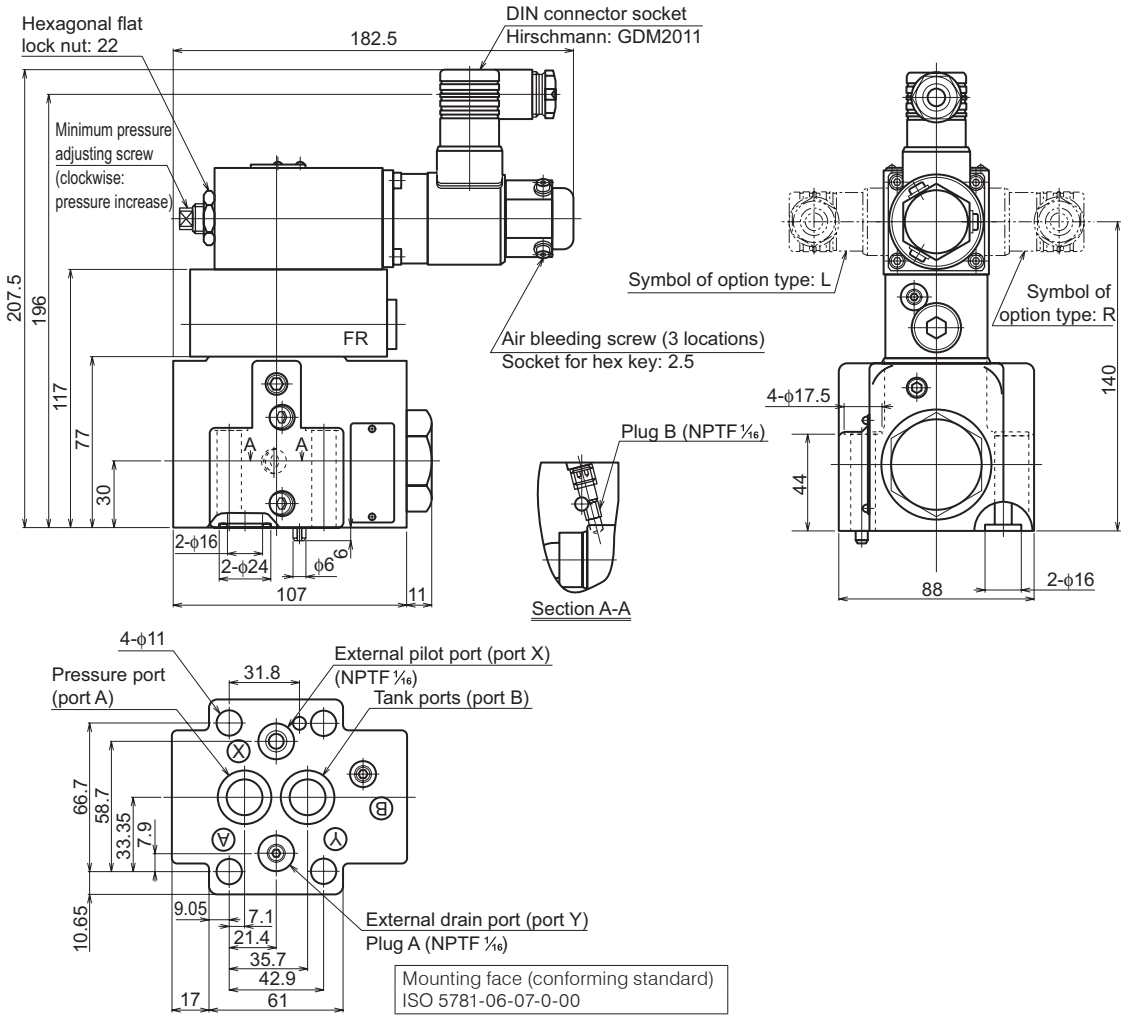


Minimum adjustment pressure characteristics



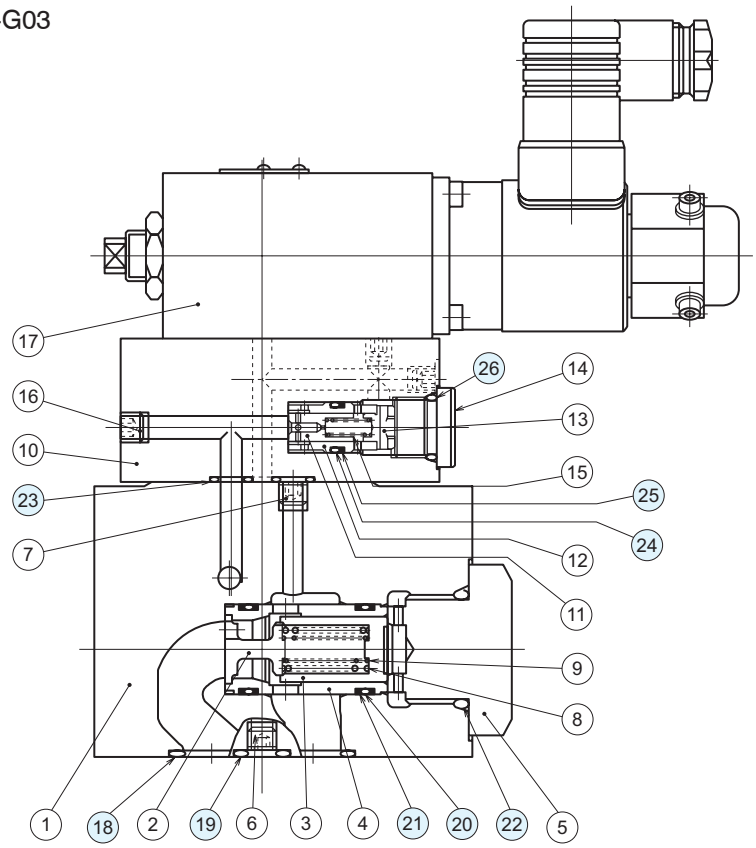
External dimension diagram

C2RLP-G03



Sectional structural diagram

C2RLP-G03



Sealing part table

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