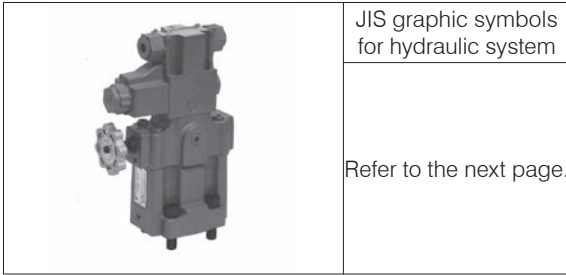


# Solenoid Operated Relief Valve



JIS graphic symbols for hydraulic system

Refer to the next page.

## Features

- Low-noise models with further improvement on noise characteristics
- Enables circuit unloading and dual/triple pressure control by switching the solenoid.
- Achieves stable pressure control over a wide range of flow rates.
- High-vent type units are available as options.

## Nomenclature

× - **JRSS** - **G** × × - × × - × × × × - **50** - × × - ×

- |   |   |
|---|---|
| <p><b>1 Applicable fluid code</b><br/>                 No designation: Petroleum-based hydraulic fluid<br/>                 H: Water-glycol hydraulic fluid<br/>                 F: Phosphate ester hydraulic fluid</p> <p><b>2 Model No.</b><br/>                 JRSS: J series solenoid operated relief valve (low-noise type)</p> <p><b>3 Connections</b><br/>                 G: Gasket mount type</p> <p><b>4 Nominal diameter</b><br/>                 03: 3/8<br/>                 06: 3/4</p> <p><b>5 Pressure adjustment range</b><br/>                 1: Up to 7 MPa {Up to 70 kgf/cm<sup>2</sup>}<br/>                 2: Up to 16 MPa {Up to 160 kgf/cm<sup>2</sup>}<br/>                 3: Up to 25 MPa {Up to 250 kgf/cm<sup>2</sup>}</p> <p><b>6 Vent type code</b><br/>                 No designation: Low-vent type<br/>                 V: High-vent type</p> <p><b>7 Circuit code</b><br/>                 A: Single pressure control (On-load state when demagnetized, Normally closed type)<br/>                 B: Single pressure control (Unload state when demagnetized, Normally open type)<br/>                 C: Dual pressure control (High pressure when demagnetized)<br/>                 D: Dual pressure control (Low pressure when demagnetized)<br/>                 E: Dual pressure control (Unload state when demagnetized)<br/>                 F: Triple pressure control</p> | <p><b>8 Maximum adjustment pressure I (MRV valve adjustment at the right side)</b><br/>                 &lt;Applicable with circuit code C, D, E or F&gt;<br/>                 1: 7 MPa { 70 kgf/cm<sup>2</sup>}<br/>                 2: 16 MPa {160 kgf/cm<sup>2</sup>}<br/>                 3: 25 MPa {250 kgf/cm<sup>2</sup>}</p> <p><b>9 Maximum adjustment pressure II (MRV valve adjustment at the left side)</b><br/>                 &lt;Applicable with circuit code F only&gt;<br/>                 1: 7 MPa { 70 kgf/cm<sup>2</sup>}<br/>                 2: 16 MPa {160 kgf/cm<sup>2</sup>}<br/>                 3: 25 MPa {250 kgf/cm<sup>2</sup>}</p> <p><b>10 Voltage code for the solenoid valve</b><br/>                 A: AC 100 V (50/60 Hz), AC 110 V (60 Hz)<br/>                 B: AC 200 V (50/60 Hz), AC 220 V (60 Hz)<br/>                 P: DC 24 V</p> <p><b>11 Design No.</b><br/>                 (The design No. is subject to change)</p> <p><b>12 Option code</b><br/>                 No designation: Pressure adjusting handle type<br/>                 F: Screw adjusting type with a cap<br/>                 T: Pressure adjusting bolt type</p> <p><b>13 Drainage code</b><br/>                 No designation: Internal drain type<br/>                 X: Internal drain type*<sup>1</sup><br/>                 E: External drain type</p> <p><b>14 Solenoid pilot option code*<sup>1</sup></b><br/>                 Refer to the option code table for KSO-G02 on Page G-16.</p> |
|---|---|

Note: \*<sup>1</sup> When the solenoid pilot option with grounding terminal (code E, EN, ENR, etc.) is selected for an internal drain type model, the drainage code is "X".

## Specifications

Model code	Nominal diameter	Pressure adjustment range* <sup>2</sup> MPa {kgf/cm <sup>2</sup> }	Maximum flow rate L/min	Maximum switching frequency Times per minute	Model code	Pressure change MPa {kgf/cm <sup>2</sup> } per handle revolution
JRSS-G03-1-XXXX-50	3/8	Up to 7 {Up to 70}	200	120	JRSS-GXX-1	2.5 {25}/revolution
JRSS-G03-2-XXXX-50		Up to 16 {Up to 160}			JRSS-GXX-2	4.6 {46}/revolution
JRSS-G03-3-XXXX-50		Up to 25 {Up to 250}			JRSS-GXX-3	7.9 {79}/revolution
JRSS-G06-1-XXXX-50	3/4	Up to 7 {Up to 70}	300			
JRSS-G06-2-XXXX-50		Up to 16 {Up to 160}				
JRSS-G06-3-XXXX-50		Up to 25 {Up to 250}				

Note: \*<sup>2</sup> The minimum adjustment pressure varies depending on the flow rate. See the flow rate - unload pressure characteristics for details.

For the specifications of the solenoid, see the one for KSO-G02 on Page G-16.

## Contact Details

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## 7: JIS graphic symbols for hydraulic system

Circuit code	A		B		C		D		E			F			
JIS graphic symbols for hydraulic system															
Applicable solenoid model code ※: Voltage code	KSO-G02-3A× -30-66H		KSO-G02-3A× -30-T66		KSO-G02-2A× -30-H2		KSO-G02-2A× -30-M		KSO-G02-66C× -30			KSO-G02-2C× -30			
Applicable MRV valve model code	-		-		MRV-S2-×-10		MRV-S2-×-10		MRV-S2-×-10			MRV-W1-××-10			
Solenoid valve excitation state	SOL.a	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	
	SOL.b	-	-	-	-	-	-	-	-	OFF	OFF	ON	OFF	ON	
Operation state	Set pressure (Bottom)	Unload	Unload	Set pressure (Bottom)	Set pressure (Bottom)	Set pressure (Right)	Set pressure (Right)	Set pressure (Right)	Set pressure (Bottom)	Unload	Set pressure (Bottom)	Set pressure (Right)	Set pressure (Bottom)	Set pressure (Left)	Set pressure (Right)

Note: The table indicates the position of the pressure adjusting handle shown in the external dimension diagram.

(Bottom): Pressure adjusting handle of the main valve

(Right): Pressure adjusting handle of the MRV valve (applicable with dual or triple pressure control)

(Left): Pressure adjusting handle of the MRV valve (applicable with triple pressure control only)

## Mass (kg)

Model code	Nominal diameter	Mass (kg)		Model code	Nominal diameter	Mass (kg)	
		AC	DC			AC	DC
JRSS-G03-××-A	3/8	6.4	6.6	JRSS-G06-××-A	3/4	7.5	7.7
JRSS-G03-××-B				JRSS-G06-××-B			
JRSS-G03-××-C		7.9	8.1	JRSS-G06-××-C		9	9.2
JRSS-G03-××-D				JRSS-G06-××-D			
JRSS-G03-××-E		8.2	8.6	JRSS-G06-××-E		9.3	9.7
JRSS-G03-××-F		8.8	9.2	JRSS-G06-××-F		9.9	10.3

## 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
HDRI-03M	3/8	Rc 3/8	1.5
JRB-06M	3/4	Rc 3/4	3.5
JRB-06M08		Rc1	

Refer to Page S-5 for the dimensions of the sub-plate.

## Accessories (gasket mount type)

Model code	Hexagon socket head cap bolt	Quantity	Tightening torque N·m {kgf·cm}
JRSS-G03	M12 × 40	4	92 to 122 { 920 to 1220 }
JRSS-G06	M16 × 50	4	250 to 300 {2500 to 3000 }

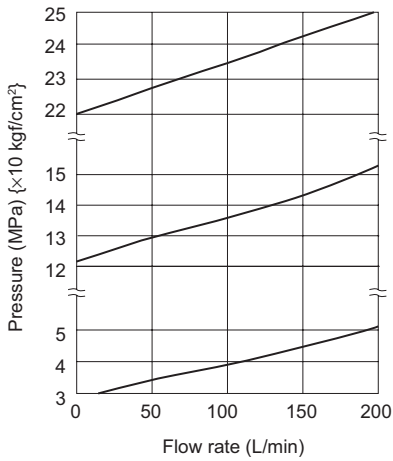
## Handling

- 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/cm<sup>2</sup>}.
- When using the valve in combination with a direct operated relief valve for remote control, connect the remote control valve to the vent port.  
Since excessive internal volume of the vent piping may lead to vibration, use steel pipes with an inner diameter of 4 mm maximum and thick walls for piping.
- When using the valve as a safety valve, set the pressure 1 to 1.5 MPa {10 to 15 kgf/cm<sup>2</sup>} higher than the pressure set for the hydraulic circuit.
- Use the valve with a flow rate of 5 L/min minimum since the pressure setting may be unstable if the flow rate is too low.
- The time required to switch from the unload to on-load state can be reduced by using the high-vent type.

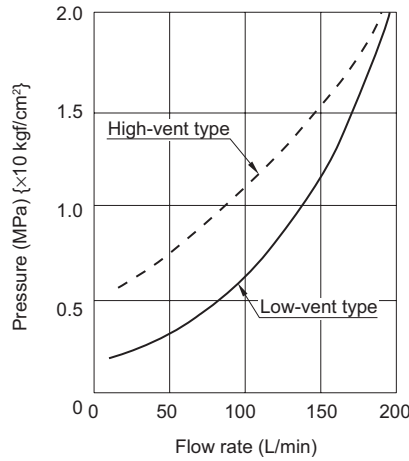
**Performance curves (viscosity: 32 mm<sup>2</sup>/s {cSt})**

● JRSS-G03

**Flow rate - Pressure characteristics**

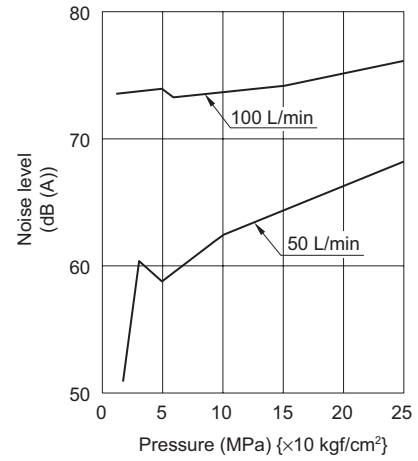


**Flow rate - Unload pressure characteristics**



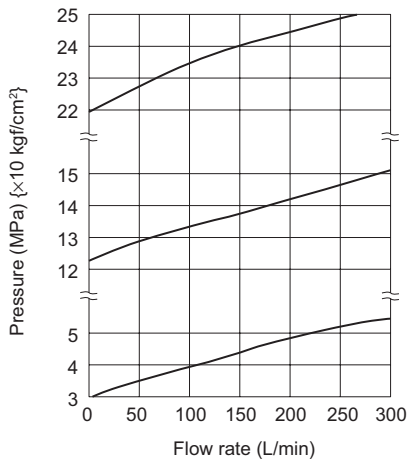
**Noise characteristics**

Noise measuring conditions  
 Tank line back pressure: 0.1 MPa {1 kgf/cm<sup>2</sup>}  
 Measuring position: 15 cm to the rear of the valve

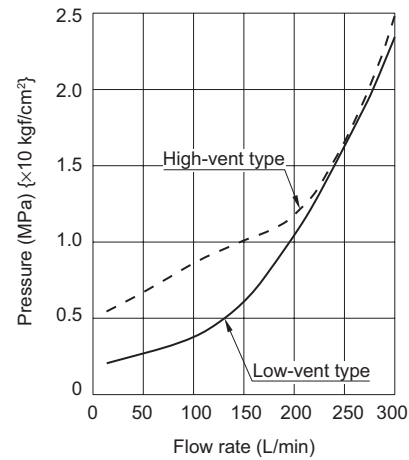


● JRSS-G06

**Flow rate - Pressure characteristics**

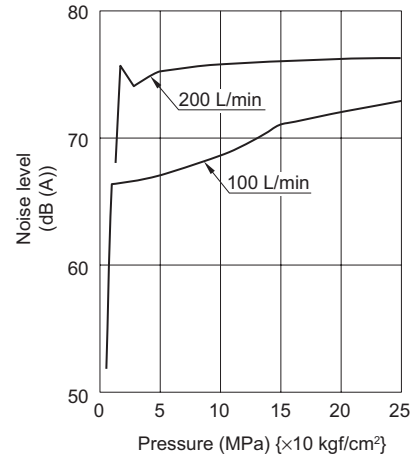


**Flow rate - Unload pressure characteristics**



**Noise characteristics**

Noise measuring conditions  
 Tank line back pressure: 0.1 MPa {1 kgf/cm<sup>2</sup>}  
 Measuring position: 15 cm to the rear of the valve



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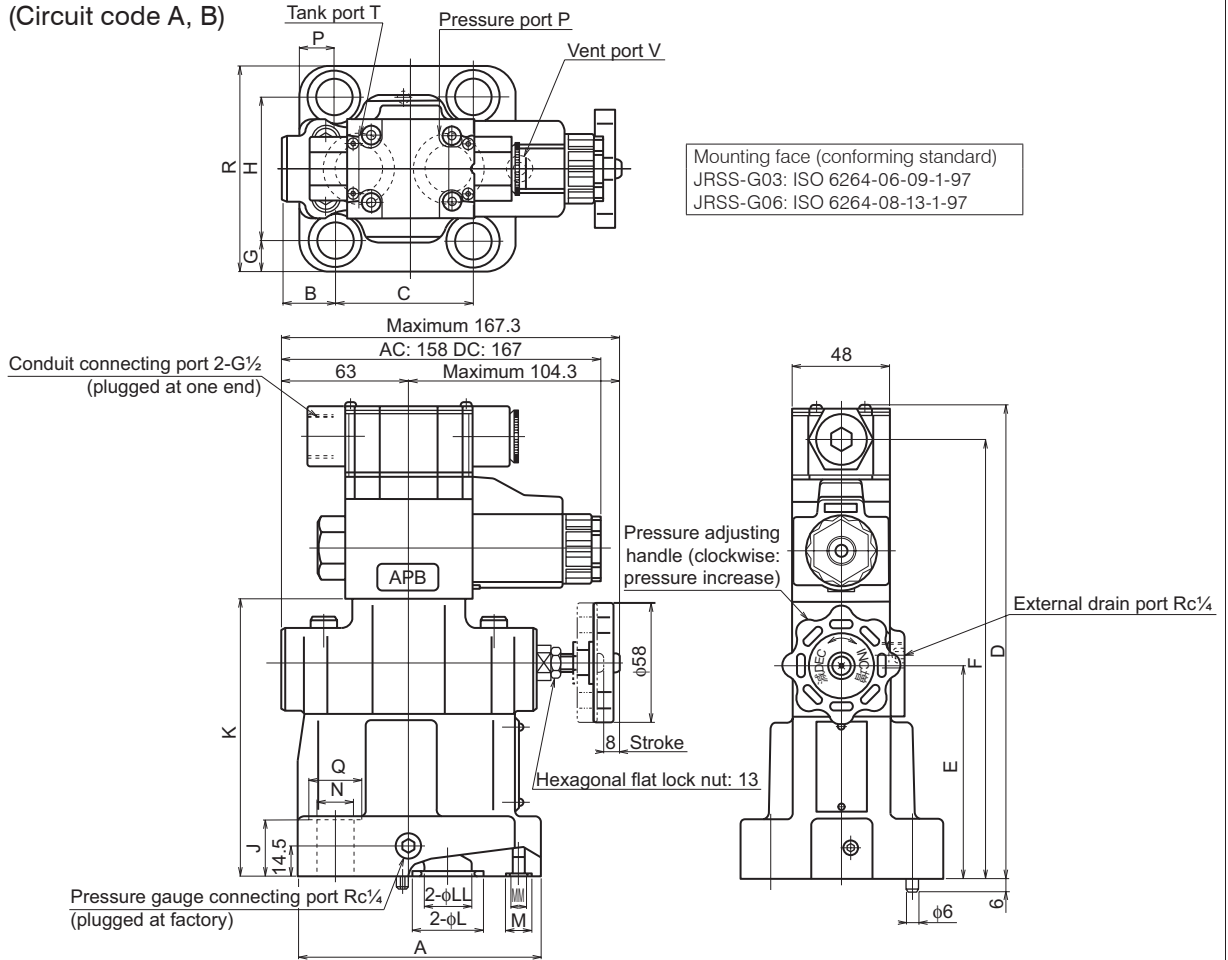
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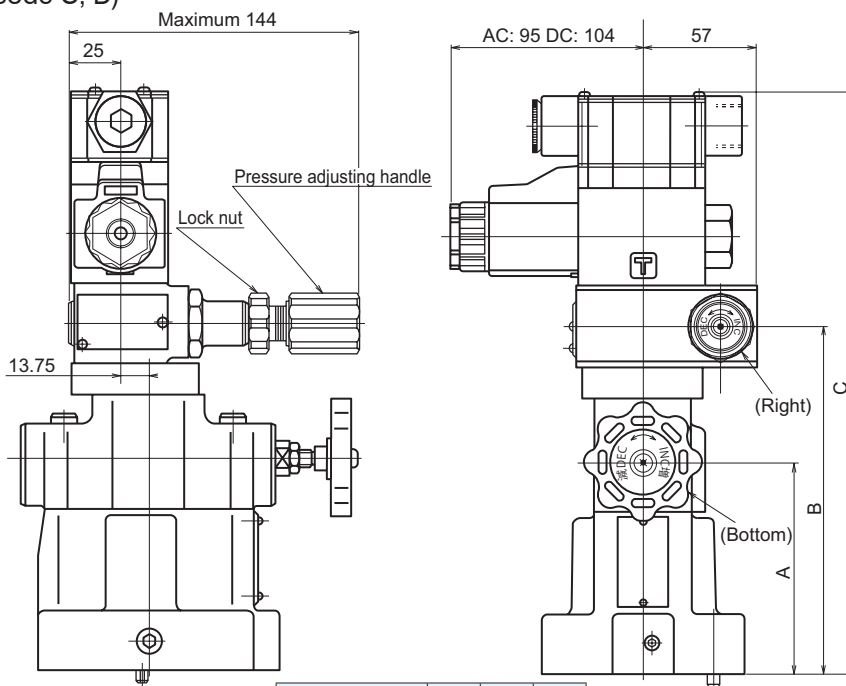
## External dimension diagram

JRSS-G※※ (Circuit code A, B)



Model No.	A	B	C	D	E	F	G	H	J	K	φL	φM	φN	φQ	R	φLL	φMM
JRSS-G03	104	36.1	53.8	230	103	213.5	13.1	53.8	21.5	134	22	13	14	20	80	14.7	3.7
JRSS-G06	120	26.3	66.7	232	105	215.5	15	70	28	136	35	13	18	26	100	23.4	NPTF1/16

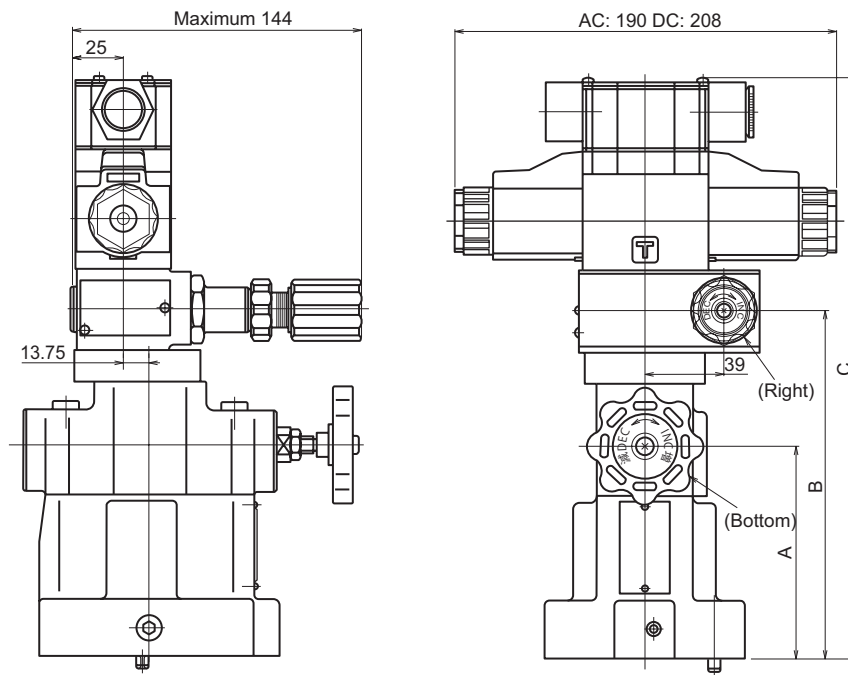
JRSS-G※※ (Circuit code C, D)



Model No.	A	B	C
JRSS-G03	103	169	285
JRSS-G06	105	171	287

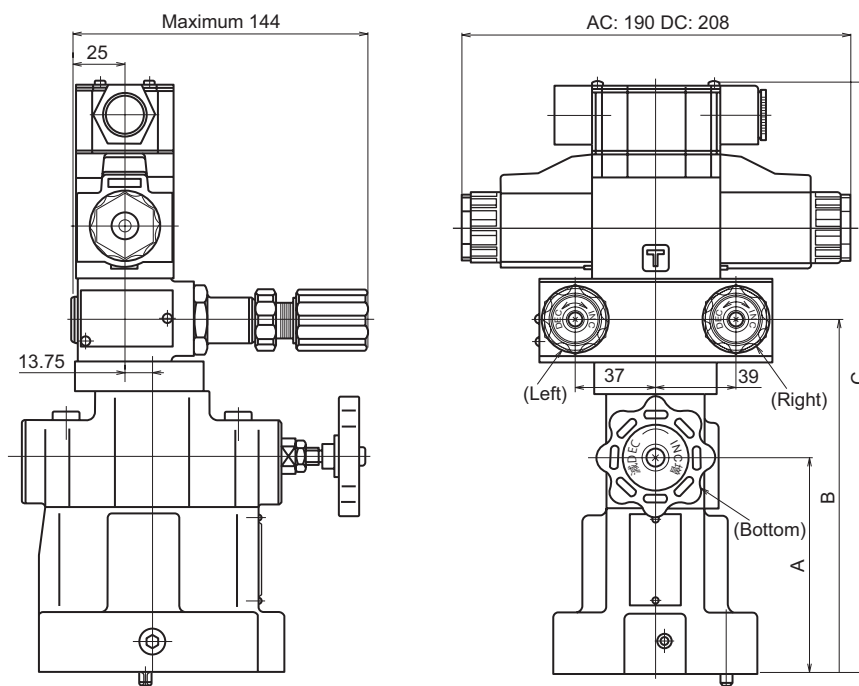
## External dimension diagram

### JRSS-G\*\* (Circuit code E)



Model No.	A	B	C
JRSS-G03	103	169	285
JRSS-G06	105	171	287

### JRSS-G\*\* (Circuit code F)



Model No.	A	B	C
JRSS-G03	103	169	285
JRSS-G06	105	171	287

## Contact Details

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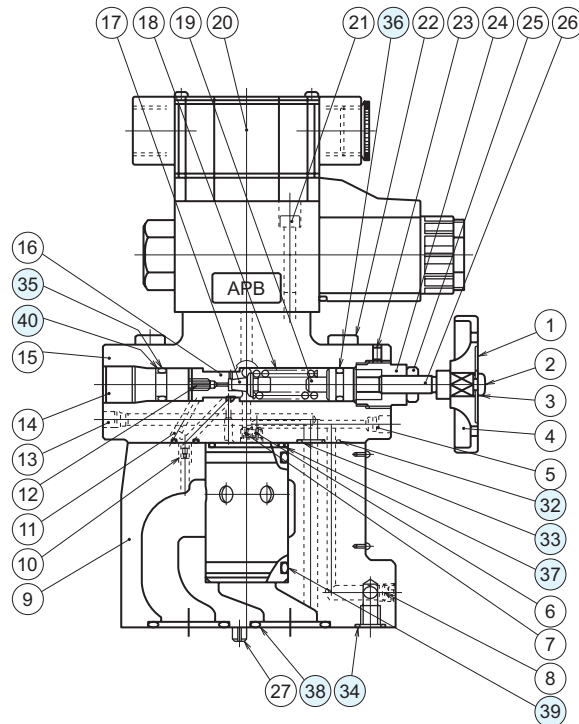
Internet

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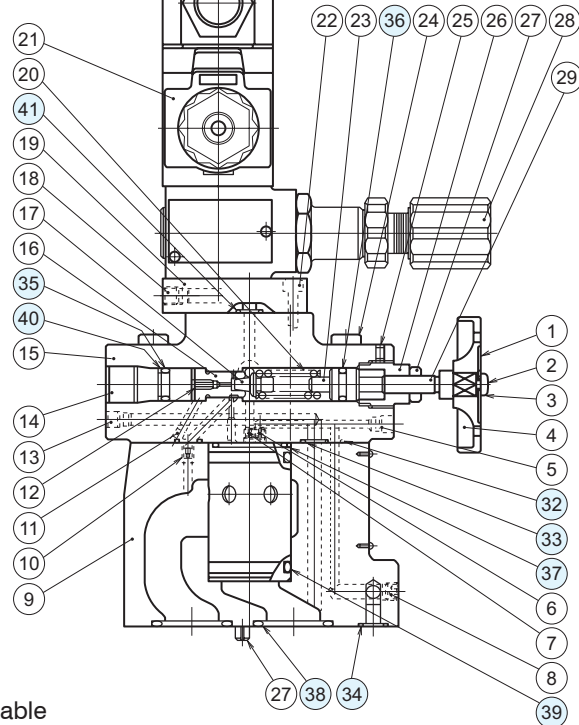
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## Sectional structural diagram

JRSS-G××-×× (Type A, B)



JRSS-G××-×× (Type C, D, E, F)



Sealing part table

Part No.	Name	Quantity	Part specifications	
			JRSS-G03	JRSS-G06
32	O-ring	1	JIS B 2401 1BP5	JIS B 2401 1BP5
33	O-ring	2	JIS B 2401 1BP9	JIS B 2401 1BP9
34	O-ring	1	JIS B 2401 1BP10	JIS B 2401 1BP10
35	O-ring	1	JIS B 2401 1BP10A	JIS B 2401 1BP10A
36	O-ring	1	JIS B 2401 1AP10A	JIS B 2401 1AP10A
37	O-ring	1	AS568-122 (NBR, Hs90)	AS568-122 (NBR, Hs90)
38	O-ring	2	JIS B 2401 1BP18	JIS B 2401 1BG30
39	O-ring	2	JIS B 2401 1BP30	JIS B 2401 1BP30
40	Backup ring	1	JIS B 2407 bias cut P10A	JIS B 2407 bias cut P10A
41	O-ring	2	JIS B 2401 1BP9	JIS B 2401 1BP9