PRESSURE CONTROL VALVES

Model [Model No.]	Maximum Operating pressure MPa {kgf/cm ² }	1	5		M 10	laximi I	um flov L/min 50	v ra	te 10	10		500	1	000	Page
Direct operated relief valve [JR]	21 {210}	02													E-3
Direct operated relief valve [MRV]	25 {250}	02													E-5
Direct operated relief valve [CR]	31.5 {315}	02													E-8
Direct operated relief valve [SR]	7 {70}	03													E-11
Direct operated relief valve [HDRIR]	21 {210}	02													E-13
Pilot operated relief valve [HDRI]	21 {210}		03												E-15
Pilot operated relief valve [JRB]	21 {210}			()6	10	16								E-17
Pilot operated relief valve [JRBS]	25 {250}			3 6											E-21
Solenoid operated relief valve [JRS]	21 {210}			(06										E-24
Solenoid operated relief valve [JRSS]	25 {250}			13 16											E-27

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Model [Model No.]	Maximum Operating pressure MPa						1	Maxim	num L/n	i flo [.] nin	w r	ate						Page
	{kgt/cm ⁻ }	ſ			5	 1	0			5	0	1	00	 	500	100	00	
Type C2 low-pressure relief valve [C2RL]	21 {210} 16 {160}						03	06										E-33
Type C2 low-pressure relief valve with solenoid valve [C2RLS]	21 {210} 16 {160}						03	06										E-36
Pressure control valves [JQ (C)]	21 {210}		03 06 10 16															E-40
Low-pressure reducing valve [SGB]	14 {140}		03															E-47
Reducing valve Reducing valve with check valve [JGB (C)]	21 {210}		03 06 10 16															E-49
Type C2 low-pressure reducing valve [C2GL]	25 {250}		03 06															E-55
Relief reducing valve [SGR]	10.5 {105} 17.5 {175}		02 03 06															E-58
Pressure switch [JPS]	25 {250}																	E-62
Handling				 		 												

Hydraulic oil

O Use a petroleum-based hydraulic fluid equivalent to ISO VG32 to 68.

- \odot Operate the unit in an environment where both the following conditions are satisfied: viscosity range from 15 to 400 mm²/s {cSt} and oil temperature from -15 to 70°C.
- Contamination of the hydraulic fluid causes valve trouble and reduces the service life, so pay due attention to controlling contamination and ensure that it goes no higher than NAS contamination class 12.

• Installation and maintenance

- \bigcirc No restriction applies to the installation direction.
- \odot Finish the face on which the valve is mounted to a surface roughness of 1.6a or better and a flatness tolerance within 0.01 mm.
- Use an O-ring with a hardness of Hs90 for the valve's gasket unless otherwise specified.
- \bigcirc Dip the end of the pipe connected to the valves into oil in the tank.

Filters

 \odot Use a line filter with a filtration accuracy of 25 μ m or better.

Contact Details

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Direct Operated Relief Valve (for Remote Control)



- Features
- These valves are used for remotely controlling the pressure by connecting to the vent port of pilot operated pressure control valves such as relief valves and reducing valves.

Nomenclature

<u>*</u> -	JR	- <u>* 02</u>	×	_	_22	*							
1	2	3 4	5		6 7								
1 Applicabl	e fluid c	ode		5 Pressure adjustment range									
No designati	ion: Petrol	eum-based hydraulic fl	uid, water-g	glycol	1: 0.8 to	7 MPa {	8 to 70	0 kgf/cm^2					
Γ.	3: 3.5 to	21 MPa {	35 to 21	0 kgf/cm^2									
P: 2 Model No	b Design	NO. Noign No	ie eu	biact to cl	ango)								
IR: I series of	• direct oper	rated relief valve				signito	. 15 50		lange)				
3 Connectio	ons				7 Option	code							
G: Gasket m	ount type				No desig	nation: Pro	essure a	djusting han	dle type $*^1$				
T: Screw co	nnection t	ype				Pre	essure a	djusting bol	type	.1.			
	llameter				Note: ^ The	pressure a	ajusting	bolt type is	only applicat	DIE			
02: 74													
Specific	ations	6			Sub-pl	ate mo	odel	code					
Model code	Model code Nominal Alignmeter Pressure adjustment Maximum Mass flow rate				• The sub-plate is not provided with the valve. Order it separately as required by specifying the model code given in the table below.								
		MPa {kgf/cm ² }	L/min		Model code	Nominal	Conne	ection port	Mass ko				
JR-G02-1-22		0.8 to 7 { 8 to 70}				diameter	dia	ameter		4			
JR-G02-3-22	17.	3.5 to 21 {35 to 210}	1.2	15	JR-02M	1/4		Rc¼	1.5]			
JR-T02-1-22	/4	0.8 to 7 { 8 to 70}	1.2	1.5	Refer to Pag	e S-5 for t	he dim	ensions of t	he sub-plate				
JR-T02-3-22		3.5 to 21 {35 to 210}			Access	sories	(gas	sket mo	ount typ)e)			
Model code	Model code Pressure change MPa {kgf/cm ² } per handle revolution				Hexagon socket head cap bolt N·m {kgf·cm}					ar			
JR-*02-1		2.1 {21}/revolutio	n		M8 × 2	5	4	25 to	30 {250 to 3	300}			
JR-*02-3		5.2 {52}/revolutio	on										
Handlin	a												

• Directly connect the tank piping of the valve to the tank without merging it with other tank piping.

• Since excessive internal volume of the pilot piping may lead to vibration, use steel pipes with an inner diameter of 4 mm maximum and with thick walls for this piping.

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

Flow rate - Pressure characteristics







Direct Operated Relief Valve (for Remote Control)

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	JIS graphic symbols for hydraulic system	Features
A Contraction	See appendix table 1.	 These valves are stacked together with solenoids to remotely control the pressure by connecting to the vent port of pilot operated pressure control valves such as relief valves and reducing valves. They allow free selection of multiple pressure control (up to triple pressure control) by switching the solenoid. The stack installation system conforming to ISO 4401 substantially reduces the installation space and eliminates complicated piping and
		manifold blocks.

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Nomenclature

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Itemenetatare	
* - MRV - * * - * * 1 2 3 4 5 6	× - 10 7 8
1 Applicable fluid code	4 Number of built-in relief valve control ports
No designation: Petroleum-based hydraulic fluid, water-glycol hydraulic fluid	(See appendix table 1)
F: Phosphate ester hydraulic fluid	5 6 7 Pressure control system and pressure
2 Model No.	adjustment range (See appendix table 3)
MRV: Direct operated relief valve (stack type)	Specify the number from among 1 to 6 given in
3 Number of built-in relief valves (See appendix table 1)	appendix table 3.
S: 1	8 Design No.
W: 2	(The design No. is subject to change)
T: 3	(3)
3 4: Appendix 1	

• JIS graphic symbols for hydraulic system

Code	3	4	3	4	3	4	3	4	3	4
	S	1	S	2	W	1	W	2	Т	-
JIS graphic symbols for hydraulic system	P T		P T		P T (F	A B Right) (Left)		A B Right) (Left)	P T (Center) (I	A B Right) (Left)

5 6 7 : Appendix 2

• Numbers of relief valves and relief valve positions

	Relief valve position					
Number of relief valves	5	6	7			
S: 1	(Right)	-	-			
W: 2	(Left)	(Right)	-			
T: 3	(Left)	(Center)	(Right)			

Note: The table indicates the positions of built-in relief valves. See the JIS graphic symbols for hydraulic system and external dimensions for details.

Appendix 3

Combinations of pressure adjustment ranges and pressure adjusting mechanisms

Pressure adjustment range	Pressure adjusting mechanism					
MPa {kgf/cm ² }	Handle adjusting type	Screw adjusting type				
1.5 to 7 {15 to 70}	1	4				
1.5 to 16 {15 to 160}	2	5				
1.5 to 25 {15 to 250}	3	6				

Note: Enter one of the numbers 1 to 6 given in the table in fields 5, 6, and 7.

Specifications

Model code	Nominal diameter	Pressure adjustment range MPa {kgf/cm²}	Maximum flow rate L/min	Mass kg
MRV-S1 -* -10				1 5
MRV-S2 -* -10				1.5
MRV-W1 -*** -10	1⁄4	See appendix	1.5	2.1
MRV-W2-*** -10				2.1
MRV-T -***-10				2.8

_							
	Model code	Pressure change MPa {kgf/cm ² } per handle revolution					
	MRV-***-1 (4)	2.5 {25}/revolution					
	MRV-**-2 (5)	4.6 {46}/revolution					
	MRV-**-3 (6)	7.9 {79}/ revolution					

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Direct Operated Relief Valve (for Remote Control)



Nomenclature ≫ ≫ CR 02 × × 10 × 1 3 5 6 8 2 4 7 1 Applicable fluid code 6 Pressure adjustment range No designation: Petroleum-based hydraulic fluid, water-1: 1.5 to 7 MPa {15 to 70 kgf/cm²} glycol hydraulic fluid 2: 1.5 to 16 MPa {15 to 160 kgf/cm²} 3: 1.5 to 25 MPa {15 to 250 kgf/cm²} F: Phosphate ester hydraulic fluid 4: 1.5 to 31.5 MPa {15 to 315 kgf/cm²} 2 Model No. 7 Design No. CR: Direct operated relief valve (The design No. is subject to change) 3 Connections G: Gasket mount type 8 Option code S: Stacking type No designation: Pressure adjusting handle type <With gasket mount type (G)> 4 Nominal diameter Pressure adjusting screw type 02: 1/4 <With stack type (S)> H: Pressure adjusting small handle type **5** Control port F: Screw adjusting type with a cap P: P port control A: A port control $*^1$ Note: *1 A/T port control applies only to the stack type (S).

T: T port control *1

Specifications

Model code	Nominal diameter	Pressure adjustment range MPa {kgf/cm²}	Maximum flow rate L/min	Mass kg
CR-G02P-1-10		1.5 to 7 {15 to 70}		
CR-G02P-2-10		1.5 to 16 {15 to 160}		
CR-G02P-3-10		1.5 to 25 {15 to 250}	} } } } }	
CR-G02P-4-10	1/	1.5 to 31.5 {15 to 315}		1
CR-S02*-1-10	74	1.5 to 7 {15 to 70}		
CR-S02*-2-10		1.5 to 16 {15 to 160}		
CR-S02*-3-10		1.5 to 25 {15 to 250}		
CR-S02*-4-10		1.5 to 31.5 {15 to 315}		

Model code	Pressure change MPa {kgf/cm ² } per handle revolution
CR-*02*-1	2.5 {25}/revolution
CR-*02*-2	4.6 {46}/revolution
CR-*02*-3	7.9 {79}/revolution
CR-*02*-4	9.1 {91}/revolution

JIS graphic symbols for hydraulic system





CR-S02A





Accessories (gasket mount type)

Hexagon socket head cap bolt	Quantity	Tightening torque N⋅m {kgf⋅cm}
M5 imes 40	4	5.5 to 7.5 {55 to 75}

Handling

• Directly connect the tank piping of the valve to the tank without merging it with other tank piping.

• Since excessive internal volume of the pilot piping may lead to vibration, use steel pipes with an inner diameter of 4 mm maximum and with thick walls for this piping.

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Direct Operated Relief Valve



Features

- As the override pressure is small, this valve has almost equivalent performance to a pilot operated type.
- The vibration proof structure prevents chattering even in the high pressure range.
- Broad range of adjusting is possible and pressure adjusting in low pressure area is easy to do.

Nomenclature



2 Connections

- G: Gasket mount type
- T: Screw connection type

3 Nominal diameter

03: 3/8

Specifications

Model code	Nominal diameter	Pressure adjustment range MPa {kgf/cm²}	Maximum flow rate L/min	Mass kg
SR-G03-1-13	3/	0 2 to 7 (2 to 70)	20	2.5
SR-T03-1-12	78	0.3 10 7 {3 10 70}	30	2

4 Pressure adjustment range

1: 0.3 to 7 MPa {3 to 70 kgf/cm²}

5 Design No.

(The design No. is subject to change)

12: Screw connection type (T)13: Gasket mount type (G)

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
SR-03M	3⁄8	Rc¾	1.5

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

Accessories (gasket mount type)

Model code	Pressure change MPa {kgf/cm ² } per handle revolution	Hexagon socket head cap bolt	Quantity	Tightening torque N·m {kgf·cm}
SR-*03-1	0.9 {9}/revolution	M6 imes 65	4	10 to 12.5 {100 to 125}

Handling

- Directly connect the tank piping of the valve to the tank without merging it with other tank piping.
- To achieve stable pressure adjustment, completely remove air by loosening the air bleeding screw and fill the inside of the valve with fluid.

Remove air with the pressure adjusting handle fully open.

- 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 the valve with a flow rate of 1 L/min minimum since the pressure setting may be unstable if the flow rate is too low.

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

Flow rate - Pressure characteristics



Pressure drop characteristics (with the handle fully open)



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Direct Operated Relief Valve



Nomenclature



Model code	Nominal diameter	Pressure adjustment range MPa {kqf/cm ² }	Maximum flow rate	Mass kg	Model code	Pressure change MPa {kgf/cm ² } per handle revolution			
			_/		HDRIR-*02-1	1.9 {19}/revolution			
HDRIR-G02-1		0.9 to 7 { 9 to 70}	-				2.6	HDRIR-*02-3	5.3 {53}/revolution
HDRIR-G02-3	1/	3.5 to 21 {35 to 210}	10						
HDRIR-T02-1	- 1/4 -	0.9 to 7 { 9 to 70}	12	1.0					
HDRIR-T02-3		3.5 to 21 {35 to 210}		1.0					

Handling

- Directly connect the tank piping of the valve to the tank without merging it with other tank piping.
- These valves can be used for remotely controlling pilot operated pressure control valves with a nominal diameter of 2 or larger. Since excessive internal volume of the pilot piping may lead to vibration, use steel pipes with an inner diameter of 4 mm maximum and with thick walls for this piping.
- Mounting bolts and O-rings are not provided with the valve (gasket mount type). Use an O-ring conforming to JIS B 2401 1B P18 and $M10 \times 30$ bolts when mounting the valve directly on a manifold.

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

Flow rate - Pressure characteristics





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Pilot Operated Relief Valve





Features

- Achieves stable pressure control over a wide range of flow rates and also works as a safety valve.
- The main circuit pressure can be controlled remotely by connecting a relief valve for remote control to the vent port.
- The vent port can be used to provide the function of an unload valve.

Nomenclature



1 Applicable fluid code

No designation: Petroleum-based hydraulic fluid, water-glycol hydraulic fluid

Phosphate ester hydraulic fluid

2 Model No.

F٠

HDRI: H series pilot operated relief valve

3 Connections

- G: Gasket mount type
- T: Screw connection type

Specifications

Model code	Nominal diameter	Pressure adjustment range MPa {kgf/cm²}	Maximum flow rate L/min	Mass kg
HDRI-G03-1		0.5 to 7 { 5 to 70}		2 5
HDRI-G03-3	3/	3.5 to 21 {35 to 210}	20	3.5
HDRI-T03-1	78	0.5 to 7 { 5 to 70}	30	2.0
HDRI-T03-3		3.5 to 21 {35 to 210}		2.9

Pressure change MPa {kgf/cm²} per handle revolution

3.2 {32}/revolution

9.9 {99}/revolution

4 Nominal diameter

03: ³/₈

5 Pressure adjustment range

- 1: 0.5 to 7 MPa { 5 to 70 kgf/cm²}
- 3: 3.5 to 21 MPa {35 to 210 kgf/cm²}

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	Rc¾	1.5

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

Accessories (gasket mount type)

Hexagon socket head cap bolt	Quantity	Tightening torque N⋅m {kgf⋅cm}
M12 × 60	4	92 to 122 {920 to 1220}

HDRI-×03-3

Model code

HDRI-%03-1

- 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}.
- 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/cm²} higher than the pressure set for the hydraulic circuit.
- Use the valve with a flow rate of 3 L/min minimum since the pressure setting may be unstable if the flow rate is too low.

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

Flow rate - Pressure characteristics





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Pilot Operated Relief Valve





Features

- Achieves stable pressure control over a wide range of flow rates and also works as a safety valve.
- The main circuit pressure can be controlled remotely by connecting a relief valve for remote control to the vent port.
- The vent port can be used to provide the function of an unload valve.
- High-vent type units are available as options.

Nomenclature



- F: Flange connection type
- 4 Nominal diameter

06: 3/4, 10: 11/4, 16: 2

Specifications

Model code	Nominal diameter	Pressure adjustment range*1 MPa {kgf/cm ² }	Maximum flow rate L/min	Mass kg
JRB-G06-1-13		Up to 7 {Up to 70}		6
JRB-G06-3-13		Up to 21 {Up to 210}		0
JRB-T06-1-13	3/	Up to 7 {Up to 70}	170	
JRB-T06-3-13		Up to 21 {Up to 210}	170	16
JRB-F06-1-13		Up to 7 {Up to 70}		4.0
JRB-F06-3-13		Up to 21 {Up to 210}		
JRB-G10-1-13		Up to 7 {Up to 70}		0
JRB-G10-3-13		Up to 21 {Up to 210}		9
JRB-T10-1-13	41/	Up to 7 {Up to 70}	200	
JRB-T10-3-13	174	Up to 21 {Up to 210}	380	0.5
JRB-F10-1-13]	Up to 7 {Up to 70}		0.0
JRB-F10-3-13		Up to 21 {Up to 210}		
JRB-F16-1-12	2	Up to 7 {Up to 70}	700	20
JRB-F16-3-12		Up to 21 {Up to 210}	700	20

Model code	Pressure change MPa {kgf/cm ² } per handle revolution
JRB-***-1	2.1 {21}/revolution
JRB-***-3	5.2 {52}/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
JRB-06M	3/	Rc¾	25
JRB-06M08	74	Rc1	3.5
JRB-10M	41/	Rc1¼	<u> </u>
JRB-10M12	174	Rc1½	0.5

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

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

Accessories

Connections	Model No.	Hexagon socket head cap bolt	Quantity	Tightening torque N·m {kgf·cm}			
	JRB-G06	M16 × 85	4	250 to 300 {2500 to 3000}			
Gasket mount type	JRB-G10	M18 × 90	2	322 to 402 {3220 to 4020}			
		M18 × 110	2				
Flange connection type	nnection type Flange (JIS B 2291 SSA), O-ring, mounting bolts						

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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}.
- 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/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		
JRB-*06	7		
JRB-*10	15		
JRB-F16	28		

- The time required to switch from the unload to on-load state can be reduced by using the high-vent type.
- Since JRB-F16 has a structure that suppresses increase in the sound of flow as the flow rate increases, arrange a 2B pipe in a straight line for at least the first 30 cm of the tank piping from the valve.
- The direction of the pressure adjusting handle can be changed by rearranging the covers. (See external dimension diagrams [I], [II], [III] and [IV].)

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



• Flow rate - Vent pressure characteristics (vent port: unload state)

• Minimum adjustment pressure characteristics (with the handle fully open)







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Pilot Operated Relief Valve



Nomenclature



5 Pressure adjustment range

- 1: Up to 7 MPa {Up to 70 kgf/cm²}
- 2: Up to 16 MPa {Up to 160 kgf/cm²}
- 3: Up to 25 MPa {Up to 250 kgf/cm²}

Specifications

Model code	Nominal diameter	Pressure adjustment range*1 MPa {kgf/cm ² }	Maximum flow rate L/min	Mass kg
JRBS-G03-1-30		Up to 7 {Up to 70}		
JRBS-G03-2-30	3⁄8	Up to 16 {Up to 160}	200	4.7
JRBS-G03-3-30		Up to 25 {Up to 250}		
JRBS-G06-1-30		Up to 7 {Up to 70}		
JRBS-G06-2-30	3⁄4	Up to 16 {Up to 160}	300	5.8
JRBS-G06-3-30		Up to 25 {Up to 250}		

Model code	Pressure change MPa {kgf/cm ² } per handle revolution
JRBS-G**-1	2.5 {25}/revolution
JRBS-G**-2	4.6 {46}/revolution
JRBS-G**-3	7.9 {79}/revolution

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
HDRI-03M	3⁄8	Rc¾	1.5
JRB-06M	3/	Rc¾	2 5
JRB-06M08	74	Rc1	3.5

Model No.	Hexagon socket head cap bolt	Quantity	Tightening torque N⋅m {kgf⋅cm}						
JRBS-G03	M12 imes 40	4	92 to 122 { 920 to 1220}						
JRBS-G06	M16 imes 50	4	250 to 300 {2500 to 3000}						

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

Accessories

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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}.
- 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/cm²} 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 mm²/s {cSt})

JRBS-G03

Flow rate - Pressure characteristics Flow rate - Vent pressure characteristics

(vent port: unload state) Minimum adjustment pressure characteristics (with the handle fully open)



Noise measuring conditions Tank line back pressure: 0.1 MPa {1 kgf/cm²} Measuring position: 15 cm to the rear of the valve





80 100 L/min Noise level (dB (A)) 70 50 L/min 60 50 0 5 10 15 20 25 Pressure (MPa) {×10 kgf/cm²}

JRBS-G06

Flow rate - Pressure characteristics Flow rate - Vent pressure characteristics Noise characteristics

(vent port: unload state) Minimum adjustment pressure characteristics (with the handle fully open)

Noise measuring conditions Tank line back pressure: 0.1 MPa {1 kgf/cm²} Measuring position: 15 cm to the rear of the valve







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Solenoid Operated Relief Valve



6 Vent type code

7 Circuit code

P: DC 24 V

9 Design No.

V

No designation: Low-vent type

High-vent type

8 Voltage code for the solenoid valve A: AC 100 V (50/60 Hz), AC 110 V (60 Hz)

B: AC 200 V (50/60 Hz), AC 220 V (60 Hz)

(The design No. is subject to change)

A: Normally closed type (on-load state when demagnetized)

B: Normally open type (unload state when demagnetized)

1 Applicable fluid code

- No designation: Petroleum-based hydraulic fluid
- H: Water-glycol hydraulic fluid
- F: Phosphate ester hydraulic fluid

2 Model No.

JRS: J series solenoid operated relief valve

3 Connections

- G: Gasket mount type
- T: Screw connection type

4 Nominal diameter

06: 3/4

5 Pressure adjustment range

- 1: Up to 7 MPa {Up to 70 kgf/cm²}
- 3: Up to 21 MPa {Up to 210 kgf/cm²}

Specifications

specifications									
Model code N	Nominal	Pressure adjustment range*1	Maximum flow rate	Mass		Model code	Pressure change MPa {kgf/cm ² } per handle revolution		
		MPa {kgf/cm ² }	L/min	Ng		JRS-*06-1	2.1 {21}/revolution		
JRS-G06-1-**-40		Up to 7 {Up to 70}		8.1		JRS-*06-3	5.2 {52}/revolution		
		Up to 21 (Up to 210)							
31.3-000-3-**-40	3/	001021 {0010210}	170			Model code	Applicable solenoid model code		
JRS-T06-1-**-40	/4	Up to 7 (Up to 70)	170			model code			
			67 JRS-*06-* KSO-G02	67	KSO-G02-2A*-30 (*: Voltage code)				
JRS-T06-3-**-40		Up to 21 {Up to 210}							

Note: *1 The minimum adjustment pressure varies depending on the flow rate. See the minimum adjustment pressure characteristics of JRB-×06 on Page E-18 for details.

For information on performance curves, see the one for JRB-*06 on Page E-18. For the specifications of the solenoid, see the one for KSO-G02 on Page G-12.

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
JRB-06M	3/	Rc¾	2.5
JRB-06M08	74	Rc	3.5

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

Accessories (gasket mount type)

Hexagon socket head cap bolt	Quantity	Tightening torque N·m {kgf·cm}
M16 × 85	4	250 to 300 {2500 to 3000}

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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}.
- 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/cm²} higher than the pressure set for the hydraulic circuit.
- Use the valve with a flow rate of 7 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.

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Sectional structural diagram

JRS-G06



Sealing part table

Dort No.	Nama	Quantity	Part specifications			
Part No. Name		Quantity	JRS-G06	JRS-T06		
9	O-ring	1	JIS B 2401 1BP31	JIS B 2401 1BP31		
10	O-ring	1	JIS B 2401 1BP10	-		
11	O-ring	2	JIS B 2401 1BG30	-		
19	O-ring	1	JIS B 2401 1AP11	JIS B 2401 1AP11		
28	O-ring	2	JIS B 2401 1BP8	JIS B 2401 1BP8		

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Solenoid Operated Relief Valv	/e
JIS graphic symbols for hydraulic system	ures
Enable the sol Achier High-	Noise models with further improvement on noise characteristics es circuit unloading and dual/triple pressure control by switching lenoid. ves stable pressure control over a wide range of flow rates. vent type units are available as options.
Nomenclature	
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	- * * * * - 50 - * * - * 0 7 8 9 10 11 12 13 14
 Applicable fluid code No designation: Petroleum-based hydraulic fluid H: Water-glycol hydraulic fluid F: Phosphate ester hydraulic fluid Model No. JRSS: J series solenoid operated relief valve (low-noise type) Connections G: Gasket mount type Nominal diameter 03: ³/₈ 06: ³/₄ Pressure adjustment range I: Up to 7 MPa {Up to 70 kgf/cm²} I: Up to 7 MPa {Up to 160 kgf/cm²} I: Up to 25 MPa {Up to 250 kgf/cm²} Went type code No designation: Low-vent type V: High-vent type Circuit code A: Single pressure control (On-load state when demagnetized, Normally closed type) B: Single pressure control (Unload state when demagnetized, Normally open type) C: Dual pressure control (High pressure when demagnetized) D: Dual pressure control (Unload state when demagnetized) E: Dual pressure control (Unload state when demagnetized) 	 8 Maximum adjustment pressure I (MRV valve adjustment at the right side) <applicable c,="" circuit="" code="" d,="" e="" f="" or="" with=""></applicable> 1: 7 MPa { 70 kgf/cm²} 2: 16 MPa {160 kgf/cm²} 3: 25 MPa {250 kgf/cm²} 9 Maximum adjustment pressure II (MRV valve adjustment at the left side) <applicable circuit="" code="" f="" only="" with=""></applicable> 1: 7 MPa { 70 kgf/cm²} 2: 16 MPa {160 kgf/cm²} 3: 25 MPa {250 kgf/cm²} 10 Voltage code for the solenoid valve A: AC 100 V (50/60 Hz), AC 110 V (60 Hz) B: AC 200 V (50/60 Hz), AC 220 V (60 Hz) P: DC 24 V 11 Design No. (The design No. is subject to change) 12 Option code No designation: Pressure adjusting handle type F: Screw adjusting type with a cap T: Pressure adjusting bolt type 13 Drainage code No designation: Internal drain type X: Internal drain type^{*1}
F: Triple pressure control	E: External drain type 14 Solenoid pilot option code*1 Refer to the option code table for KSO-G02 on Page G-12.

Note: *1 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*2	Maximum flow rate	Maximum switching frequency	Model code	Pressure change MPa {kgf/cm²} per handle revolution		
		MPa {kgi/cm ⁻ }	n ² } L/min Times per minute	JRSS-G**-1	2.5 {25}/revolution			
JRSS-G03-1-****-50		Up to 7 {Up to 70}			JRSS-G**-2	4.6 {46}/revolution		
JRSS-G03-2-****-50	3⁄8	Up to 16 {Up to 160}	200	100	JRSS-G**-3	7.9 {79}/revolution		
JRSS-G03-3-***-50		Up to 25 {Up to 250}				·•		
JRSS-G06-1-****-50		Up to 7 {Up to 70}		120				
JRSS-G06-2-****-50	3⁄4	Up to 16 {Up to 160}	300					
JRSS-G06-3-****-50		Up to 25 {Up to 250}						
Note: * ² The minimum adju	ote: * ² The minimum adjustment pressure varies depending on the flow rate. See the flow rate - unload pressure characteristics for details.							

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7: JIS graphic symbols for hydraulic system

Circuit	code		4	E	3	(0	Γ)		E			F	
JIS graphic symbols for hydraulic system		V	(Bottom)		(Bottom)		(Right)	V	(Right)	V P		(Right) (Bottom) LT			(Right) (Left) (Bottom)
Applicable model %: Voltag	solenoid code je code	KSO-G -30-	02-3A* 66H	KSO-G -30-	02-3A* •T66	KSO-G -30	02-2A* -H2	KSO-G -30	02-2A*)-M	KSO-	-G02-6 -30	66C*	KSO	-G02- -30	2C*
Applicable M model	MRV valve code	-	-	-	-	MRV-S	2-*-10	MRV-S	2-*-10	MR	V-S2->	≪-10	MRV	-W1-×	×-10
Solenoid valve	SOL.a	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	OFF	ON	OFF
excitation state	SOL.b	-	-	-	-	-	-	-	-	OFF	OFF	ON	OFF	OFF	ON
Operatio	n state	Set pressure (Bottom)	Unload	Unload	Set pressure (Bottom)	Set pressure (Bottom)	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	Model code	Nominal diameter	Mass	
JRSS-G03-**-A		6.4	JRSS-G06-**-A		7 6	
JRSS-G03-**-B		0.4	JRSS-G06-**-B		1.5	
JRSS-G03-**-C	3/	7.0	JRSS-G06-**-C	3/	0	
JRSS-G03-**-D	78	7.9	JRSS-G06-**-D	74	9	
JRSS-G03-**-E		8.2	JRSS-G06-**-E		9.3	
JRSS-G03-**-F		8.8	JRSS-G06-**-F		9.9	

Sub-plate model code

Accessories (gasket mount type)

• 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 ⅔	1.5
JRB-06M	3/	Rc ¾	2 5
JRB-06M08	74	Rc1	3.5

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

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

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}.
- 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/cm²} 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.

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Performance curves (viscosity: 32 mm²/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/cm²} 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/cm²} Measuring position: 15 cm to the rear of the valve



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39

40

41

O-ring

Backup ting

O-ring

2

1

2



JIS B 2401 1BP30

JIS B 2407 bias cut P10A

JIS B 2401 1BP9

JIS B 2401 1BP30

JIS B 2407 bias cut P10A JIS B 2401 1BP9

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Type C2 Low-pressure Relief Valve



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Features

Contact Details

Before using the product, please check the guide pages at the front of this catalog.

• 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	
$\begin{array}{c} * & - & C2RL \\ 1 & 2 & 3 & 4 & 5 \end{array}$	$- 10 - \times \times \\ 6 7 8$
1 Applicable fluid code	5 Pressure adjustment range
No designation: Petroleum-based hydraulic fluid, water-glycol	1: Up to 7 MPa {Up to 70 kgf/cm ² }
hydraulic fluid	2: Up to 16 MPa {Up to 160 kgf/cm ⁻ }
F: Phosphale ester hydraulic huid	Design No.
2 Model No.	(The design No. is subject to change)
C2RL: Type C2 external pilot operated low-pressure relief	7 Drainage code
valve	No designation: Internal drain type
3 Connections	E: External drain type
G: Gasket mount type	8 Option code
4 Nominal diameter	No designation: Pressure adjusting handle type
03: 3/8	H: Pressure adjusting small handle type
06: ¾	F: Screw adjusting type with a cap

Specifications

Model code	Nominal diameter	Maximum operating pressure MPa {kgf/cm²}	Pressure adjustment range*1 MPa {kgf/cm²}	Maximum flow rate L/min	External pilot flow rate L/min	Mass kg
C2RL-G03-1-10	3⁄8		Up to 7 {Up to 70}	100	0.5 to 0.6	5.6
C2RL-G03-2-10		21 {210}	Up to 16 {Up to 160}	100		
C2RL-G06-1-10	3/	(External pilot pressure)	Up to 7 {Up to 70}	250	0.9 to 1.2	0.4
C2RL-G06-2-10	74		Up to 16 {Up to 160}	200	U.8 to 1.2	0.4

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	Rc¾		16	
JGB-03M04	78	Rc½	1.0	
JGB-06M	3/	Rc¾	2.0	
JGB-06M08	74	Rc1	3.9	

Ac	ces	SSO	ries	S

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

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

E-33

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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		6 to 7 5 (60 to 75)	
Plug B	Not provided	Provided	INPTF916	6 10 7.5 {60 10 75}	

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



• C2RL-G06

Flow rate - Pressure characteristics



Minimum adjustment pressure characteristics (with the handle fully open)







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Type C2 Solenoid Operated Low-pressure Relief Valve



Nomenclature

** - C2RLS - G *** - 1 2 3 4 -	** ** - 30 - ** * - * 5 6 7 8 9 10 11		
1 Applicable fluid code	7 Voltage code for the solenoid valve		
H: Water-glycol hydraulic fluid	A: AC 100 V (50/60 Hz), AC 110 V (60 Hz) B: AC 200 V (50/60 Hz), AC 220 V (60 Hz)		
F: Phosphate ester hydraulic fluid	P: DC 24 V		
2 Model No.	8 Design No.		
C2RLS: Type C2 external solenoid pilot operated low-pressure relief valve	(The design No. is subject to change)		
	9 Drainage code		
3 Connections	No designation: Internal drain type		
G: Gasket mount type	X: Internal drain type*		
	E: External drain type		
4 Nominal diameter			
03: 3/8	10 Option code		
06: ³ ⁄ ₄	No designation: Pressure adjusting handle type		
	H: Pressure adjusting small handle type		
5 Circuit code	F: Screw adjusting type with a cap		
A: Normally closed type (on-load state when demagnetized)			
B: Normally open type (unload state when demagnetized)	11 Solenoid pilot valve option code		
Dressure adjustment renge	Refer to the option code table for KSO-G02 on Page G-12.		
6 Pressure adjustment range			
1: Up to 7 MPa {Up to 70 kgf/cm ⁻ }	Note: * When the solenoid pilot option with grounding terminal		
2: Up to 16 MPa {Up to 160 kgt/cm ⁻ }	(CODE E, EN, ENK, etc.) is selected for an internal drain type model, the drainage code is "X".		

Specifications

Model code	Nominal diameter	Maximum operating pressure MPa {kgf/cm²}	Pressure adjustment range*2 MPa {kgf/cm²}	Maximum flow rate L/min	External pilot flow rate L/min	Mass kg
C2RLS-G03-*1*-30	3/		Up to 7 {Up to 70}	100	0 5 to 0 6	71
C2RLS-G03-*2*-30	78	21 {210}	Up to 16 {Up to 160}	100	0.5 10 0.6	1.1
C2RLS-G06-*1*-30	3/	(External pilot pressure)	Up to 7 {Up to 70}	250	0.9 to 1.2	10.1
C2RLS-G06-*2*-30	74		Up to 16 {Up to 160}	250	0.8 to 1.2	10.1

Note: *² The minimum adjustment pressure varies depending on the flow rate. See the minimum adjustment pressure characteristics of C2RL-G** on Page E-34 for details.

For information on performance curves, see the one for C2RL-G** on Page E-34. For the specifications of the solenoid, see the one for KSO-G02 on Page G-12.			
Model code Pressure change MPa {kgf/cm ² } per handle revolution			
C2RLS-G**-*1*	2.5 {25}/revolution		
C2RLS-G**-*2* 4.6 {46}/revolution			

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5: JIS graphic symbols for hydraulic system

Circuit code		A		В	
		Simplified symbols	Detailed symbols	Simplified symbols	Detailed symbols
JIS graphic symbols for hydraulic system	Internal drain type				
	External drain type				
Applicable solenoid model code KSO-G02-3A*-30-66H (*: Voltage code) KSO-G		KSO-G02-3A*-30-T	66 (*: Voltage code)		
Applicable pilot rel model code	ief valve e	CR-S02P-*-10 (*: Pressure adjustment range)			
Solenoid valve excitation state OFF		ON	OFF	ON	
Operation state		Set pressure	Unload	Unload	Set pressure

Accessories

Sub-plate model code

e is not provided with the valve. Order it separately

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 No.	Hexagon socket head cap bolt	Quantity	Tightening torque N·m {kgf·cm}
C2RLS-G03	M10 imes 60	4	51 to 68 {510 to 680}
C2RLS-G06	M10 imes 75	4	51 to 68 {510 to 680}

Model code	Nominal diameter	Connection port diameter	Mass kg	
JGB-03M	3/	Rc¾	16	
JGB-03M04	78	Rc½	1.0	
JGB-06M	3/	Rc¾	2.0	
JGB-06M08	74	Rc1	3.9	

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

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
C2RLS-G03	12
C2RLS-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		6 to 7 5 (60 to 75)
Plug B	Not provided	Provided		0 10 7.5 {00 10 75}

See the external dimension diagram on Page E-38 for the positions of plugs A and B.

PRESSURE CONTROL VALVES

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Sectional structural diagram

C2RLS-G**



Sealing part table

Part	Nomo	Quantity	Part specifications		
No.	Inallie	Quantity	C2RLS-G03	C2RLS-G06	
19	O-ring	2	JIS B 2401 1B P20	JIS B 2401 1B P28	
20	O-ring	2	JIS B 2401 1B P12	JIS B 2401 1B P12	
21	O-ring	2	AS568-020 (NBR, Hs90)	AS568-122 (NBR, Hs90)	
22	Backup ring	4	Bias cut for AS568-020	Bias cut for AS568-122	
23	O-ring	1	AS568-215 (NBR, Hs90)	AS568-222 (NBR, Hs90)	
24	O-ring	4	JIS B 2401 1B P9	JIS B 2401 1B P9	
25	O-ring	1	AS568-013 (NBR, Hs90)	AS568-013 (NBR, Hs90)	
26	Backup ring	1	Bias cut for AS568-013	Bias cut for AS568-013	
27	O-ring	1	JIS B 2401 1B P14	JIS B 2401 1B P14	

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Pressure Cont	trol Va	lves
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Ĩ	JIS graphic symbols	Features
	Refer to the next page.	• These direct of valves, unloa changing the settings.

• These direct operated pressure control valves can be used as sequence valves, unload valves, counter balance valves, or relief valves by changing the combination of internal and external pilot and drain sattings

Nomenclature

$\begin{array}{c} & & - & \mathbf{JQ} & \approx & - & \approx & \approx \\ \hline 1 & & 2 & 3 & & 4 & 5 \\ \hline 1 \text{ Applicable fluid code} \end{array}$	$- 2 \times - \times \times - \times $ $6 7 8 9$ $6 Function code (See IIS graphic symbols for hydraulic system)*1$
Applicable Ilulu code	B Function code (See 313 graphic symbols for hydraulic system)
No designation: Petroleum-based hydraulic fluid,	2: Sequence valve (internal pilot type, external drain type)
water-glycol hydraulic fluid	<with code="" designation="" no="" option=""></with>
F: Phosphate ester hydraulic fluid	Counter balance valve (internal/external pilot type, external drain type)
2 Model No	<with "w"="" code="" designation="" ontion=""></with>
	7 Proseuro adjustment range
JQ: JQ type pressure control valve	
3 Check valve code	A: 0.25 to 0.85 MPa {2.5 to 8.5 kgf/cm ² }
No designation: Without check valve	C: 0.85 to 3.5 MPa $\{8.5 \text{ to } 35 \text{ kgf/cm}^2\}$
C: With check valve	E: 3.5 to 14 MPa $\{35 \text{ to } 140 \text{ kgf/cm}^2\}$
4 Connections	D: 1.75 to 7 MPa $\{17.5 \text{ to } 70 \text{ kgf/cm}^2\}^{*2}$
G: Gasket mount type	8 Design No. (The design No. is subject to change)
T. Serow connection type	12: Gasket mount type (G) screw connection type (T)
F. Flance connection type	20: Elange mount type (C), serve connection type (1) 20: Elange mount type (C), with nominal diameter of $06 (3/2) + 10 (11/2)$
F: Flange connection type	20. Fininge mount type (F) \leq with nominal diameter of 00 (74), 10 (174) 21. Figure mount type (F) \leq With nominal diameter of 1((2))
5 Nominal diameter	21: Flange mount type (F) < with nominal diameter of 16 (2)>
03: 3/8	9 Option code
06: 3/4	No designation: Single pilot type(Internal or external pilot type)
$10. 1\frac{1}{4}$	W: Double pilot type(Internal and external pilot type)
16: 2	
10. 2	

- Note: *¹ The products are supplied with a function code of 2 as standard. If a product with a function code of 1, 3 or 4 is required, change the setting by referring to the setting guide on Page E-46. After changing the setting, correct the model code marked on the nameplate.
 - *² Pressure adjustment range code D is only applicable to nominal diameter code 16 (2). Contact Daikin separately for the delivery term of the products that accept phosphate ester hydraulic fluids.

-							
Gasket mount type (G)	Model code Nominal Maximum operating press		Maximum operating pressure	Pressure adjustment range MPa {kgf/cm²}	Maximum flow rate		
		i lange mean type (i)		IVIPa {kgi/cm-}		L/min	
JQ(C)-G03-*A-12	JQ(C)-T03-*A-12	-			0.25 to 0.85 { 2.5 to 8.5}		
JQ(C)-G03-*C-12-(W)	JQ(C)-T03-*C-12-(W)	-	3⁄8		0.85 to 3.5 { 8.5 to 35 }	50	
JQ(C)-G03-*E-12-(W)	JQ(C)-T03-*E-12-(W)	-			3.5 to 14 {35 to 140 }		
JQ(C)-G06-*A-12	JQ(C)-T06-*A-12	JQC-F06-*A-20			0.25 to 0.85 { 2.5 to 8.5}		
JQ(C)-G06-*C-12-(W)	JQ(C)-T06-*C-12-(W)	JQC-F06-*C-20-(W)	3⁄4		0.85 to 3.5 { 8.5 to 35 }	120	
JQ(C)-G06-*E-12-(W)	JQ(C)-T06-*E-12-(W)	JQC-F06-*E-20-(W)		21 {210}	3.5 to 14 {35 to 140 }		
JQ(C)-G10-*A-12	JQ(C)-T10-*A-12	JQC-F10-*A-20			0.25 to 0.85 { 2.5 to 8.5}		
JQ(C)-G10-*C-12-(W)	JQ(C)-T10-*C-12-(W)	JQC-F10-*C-20-(W)	11⁄4		0.85 to 3.5 { 8.5 to 35 }	280	
JQ(C)-G10-*E-12-(W)	JQ(C)-T10-*E-12-(W)	JQC-F10-*E-20-(W)			3.5 to 14 {35 to 140 }		
-	-	JQC-F16-*D-21	2		1.75 to 7 {17.5 to 70 }	500	
-	-	JQC-F16-*E-21	- 2		3.5 to 14 {35 to 140 }	500	
Model code	Pressure change MPa {kgf/g	cm ² } per handle revolution	Mode	el code	Pressure change MPa {kgf/cm ² } per ha	ndle revolution	
JQ(C)-*03-*A	0.07 { 0.7}/r	revolution	.JQ(C)->	«10-»A	$0.07 \{ 0.7 \}$ /revolution		
					0.27 { 2.7}/revolution		
JQ(C)-*03-*E	2.1 {21 }/revolution		JQ(C)-*10-*E		1.1 {11 }/revolution		
JQ(C)-*06-*A	0.07 { 0.7}/revolution		JQC-F	16-*D	0.34 { 3.4}/revolution		
JQ(C)-*06-*C	0.3 { 3 }/r	revolution	JQC-F	16-*E	0.77 { 7.7}/revolution		
JQ(C)-*06-*E	2.1 {21 }/r	revolution					

Specifications

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Mass (kg)

Model No.	(1)	(2)	(3)	Model No.	(1)	(2)	(3)	Model No.	(2)	(3)
JQ(C)-G03	3.5	3.8	4.3	JQ(C)-T03	2.9	3.1	3.6	JQC-F06	6.2	7.1
JQ(C)-G06	6	6.5	7.4	JQ(C)-T06	5	5.4	6.3	JQC-F10	3.5	15.2
JQ(C)-G10	11.5	12.8	14.5	JQ(C)-T10	9.8	11.1	12.8	JQC-F16	38.8	-

Note: Mass (1) Single pilot type without check valve (2) Single pilot type with check valve (3) Double pilot type with check valve

6: JIS graphic symbols for hydraulic system

Model code	JQ-***-1*	JQ-***-2*	JQ-***-3*	JQ-***-4*
Name	Relief valve	Sequence valve	Sequence valve	Unload valve
Pilot method	Internal pilot type	Internal pilot type	External pilot type	External pilot type
Drain method	Internal drain type	External drain type	External drain type	Internal drain type
JIS graphic symbols for hydraulic system				+===+=== -{↓_↓ +_↓↓
Model code	JQC-***-1*	JQC-***-2*	JQC-***-3*	JQC-***-4*
Name	Counterbalance valve	Sequence valve with check valve	Sequence valve with check valve	Counterbalance valve
Pilot method	Internal pilot type	Internal pilot type	External pilot type	External pilot type
Drain method	Internal drain type	External drain type	External drain type	Internal drain type
JIS graphic symbols for hydraulic system				
Model code	JQC-***-1*-W	JQC-***-2*-W		
Name	Counterbalance valve	Sequence valve with check valve		
Pilot method	Internal/external pilot type	Internal/external pilot type		
Drain method	Internal drain type	External drain type		
JIS graphic symbols for hydraulic system				

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/	Rc ⅔	16
JGB-03M04	78	Rc 1/2	1.0
JGB-06M	3/	Rc ¾	2.0
JGB-06M08	74	Rc1	3.9
JGB-10M	11/	Rc1¼	67
JGB-10M12	174	Rc1½	0.7

Refer to Page S-6 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	JQ(C)-G03	M10 imes 75	4		
	JQ(C)-G06	M10 × 85	4	48 to 63 {480 to 630}	
	JQ(C)-G10	M10 imes 105	6		
Flange connection type	Flange (JIS B 2291 SSA), O-ring, mounting bolts				

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Handling

- The pressure adjustment ranges are indicated using cracking pressures.
- For products with a function code of 1 or 4 (internal drain type), connect the secondary side pressure port directly to the tank.
- For products with a function code of 2 or 3 (external drain type), connect the secondary side pressure port directly to the tank.
- For products with the pressure adjustment range code E, do not change the drain/pilot setting to function code 1 (internal pilot type, internal drain type). Otherwise, chattering may occur.
- When connecting two or more of these valves for sequential operation, set the valve pressures such that there is a minimum difference of 1 MPa {10 kgf/cm²} between two valves.

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









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JQC-T **

Sectional structural diagram

JQC-G**





PRESSURE CONTROL VALVES

JQC-F**



Note: The sectional structural diagram is for the pressure adjustment range codes C, D, and E. For products with the pressure adjustment range code A, the plunger (10) is not provided.

Sealing part table

Dort No.	Nama	Quantitu				Part specifications				
Part NO.	Name	Quantity	JQ-G03	JQC-G03	JQ-T03	JQC-T03	JQ-G06	JQC-G06	JQ-T06	JQC-T06
16	O-ring	2	JIS B 2401 1BP22	JIS B 2401 1BG30						
17	O-ring	4	JIS B 2401 1BP6	JIS B 2401 1BP6	JIS B 2401 1BP6	JIS B 2401 1BP6	JIS B 2401 1BP6			
18	O-ring	1	JIS B 2401 1BP11	JIS B 2401 1BP16						
19	O-ring	2	JIS B 2401 1BP12	JIS B 2401 1BP12	-	-	JIS B 2401 1BP12	JIS B 2401 1BP12	-	-
20	O-ring	2	JIS B 2401 1BP20	JIS B 2401 1BP20	-	-	JIS B 2401 1BP26	JIS B 2401 1BP26	-	-
21	O-ring	1	-	JIS B 2401 1BP11	_	JIS B 2401 1BP11	-	JIS B 2401 1BP14	-	JIS B 2401 1BP14

Dert No	Nama	Quantitu		Part specifications						
Part NO.	iname	Quantity	JQC-F06	JQ-G10	JQC-G10	JQ-T10	JQC-T10	JQC-F10	JQC-F16	
16	O-ring	2	JIS B 2401 1BG30	JIS B 2401 1BG40	JIS B 2401 1BG40	JIS B 2401 1BG40	JIS B 2401 1BG40	JIS B 2401 1BG40	JIS B 2401 1BG60	
17	O-ring	4	JIS B 2401 1BP6	JIS B 2401 1BP6	JIS B 2401 1BP6	JIS B 2401 1BP6	JIS B 2401 1BP6	JIS B 2401 1BP6	JIS B 2401 1BP8	
18	O-ring	1	JIS B 2401 1BP16	JIS B 2401 1BP22A	JIS B 2401 1BP22A	JIS B 2401 1BP22A	JIS B 2401 1BP22A	JIS B 2401 1BP22A	JIS B 2401 1BP36	
19	O-ring	2	-	JIS B 2401 1BP12	JIS B 2401 1BP12	-	-	-	-	
20	O-ring	2	-	JIS B 2401 1BG35	JIS B 2401 1BG35	-	-	-	-	
21	O-ring	1	JIS B 2401 1BP16	-	JIS B 2401 1BP22	-	JIS B 2401 1BP22	JIS B 2401 1BG25	JIS B 2401 1BP38	
22	O-ring	1	JIS B 2401 1BG30	-	-	-	-	JIS B 2401 1BG40	JIS B 2401 1BG60	

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Setting guide

The products are supplied with a function code of 2 as standard. If a product with a function code of 1, 3 or 4 is required, change the setting by referring to the guide given below.

■ Gasket mount type (JQ(C)-G^{××})





- (2) Move the O-ring at D to C.(3) Fit the top lid while aligning holes A and B, and C and E.
- Screw connecting type (JQ(C)-T^{**}), flange mount type (JQ(C)-F^{**})
 - internal drain type

• Changing the internal pilot type to the external pilot type



- (1) Remove the bottom lid.
- (2) Move the O-ring at D to C. (3) Fit the bottom lid while aligning
- holes A and B, and C and E.
- Changing the external drain type to the









and B.

Low-pressure Reducing Valve



Features

- Used to set the pressure of a certain range of a hydraulic circuit lower than the main circuit.
- Maintains the secondary side pressure regardless of changes in the primary side main circuit pressure.
- The branch circuit pressure can be controlled remotely by connecting a relief valve for remote control to the vent port.
- A structure to prevent surge pressure is available as an option.



Specifications

Model code	Nominal diameter	Maximum operating pressure MPa {kgf/cm²}	Pressure adjustment range MPa {kgf/cm ² }	Maximum flow rate L/min	Mass kg
SGB-G03-1-20	3⁄8	14 {140}	0.15 to 7 {1.5 to 70}	30	3.5

Model code	Pressure change MPa {kgf/cm ² } per handle revolution
SGB-G03-1	2.3 {23}/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
SGB-03M	3⁄8	Rc¾	1.5

Accessories (gasket mount type)

Hexagon socket head cap bolt	Quantity	Tightening torque N·m {kgf·cm}
M10 × 45	4	48 to 63 {480 to 630}

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

Handling

- Directly connect the drain piping to the tank without merging it with other tank piping.
- To ensure good pressure reducing performance, set the primary side main circuit pressure and the secondary pressure reducing circuit pressure such that there is a minimum difference of 0.4 MPa {4 kgf/cm²}.
- If a reducing valve with check valve is required, order SMC-03-05-10 on Page E-65 separately and stack it on the valve.

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





Reducing Valve/Reducing Valve with Check Valve



Features

- Used to set the pressure of a certain range of a hydraulic circuit lower than the main circuit.
- Maintains the secondary side pressure regardless of changes in the primary side main circuit pressure.
- The branch circuit pressure can be controlled remotely by connecting a relief valve for remote control to the vent port.

Nomenclature



Note: Contact Daikin separately for the delivery term of the products that accept phosphate ester hydraulic fluids.

Specifications

	Model code			Maximum operating	Pressure adjustment	Maximum	Drainage	
Gasket mount type (G)	Screw connection type (T)	Flange mount type (F)	diameter	MPa {kgf/cm ² }	MPa {kgf/cm ² }	L/min	L/min	
JGB(C)-G03-1-10	JGB(C)-T03-1-10	-	3/		0.8 to 7 { 8 to 70}	50	0.9 to 1	
JGB(C)-G03-3-10	JGB(C)-T03-3-10	-	78	78		3.5 to 21 {35 to 210}	50	0.0 10 1
JGB(C)-G06-1-11	JGB(C)-T06-1-11	JGBC-F06-1-20	- ³ ⁄4 - 11⁄4	3/		0.8 to 7 { 8 to 70}	100	0.01.44
JGB(C)-G06-3-11	JGB(C)-T06-3-11	JGBC-F06-3-20		21 (210)	3.5 to 21 {35 to 210}	120	0.9 to 1.1	
JGB(C)-G10-1-11	JGB(C)-T10-1-11	JGBC-F10-1-20		21 {210}	0.8 to 7 { 8 to 70}	200	1.0 to 1.5	
JGB(C)-G10-3-11	JGB(C)-T10-3-11	JGBC-F10-3-20			3.5 to 21 {35 to 210}	200	1.2 10 1.5	
-	-	JGBC-F16-1-21			0.8 to 7 { 8 to 70}	500	0 40 0 4	
-	-	JGBC-F16-3-21	2		3.5 to 21 {35 to 210}	500	2 to 2.4	
			M	dalaada	Dressure shange MDs (kgf)	am ²) nor bond	le revelution	
	Pressure change MPa {kgt/cm ² } per handle revolution				Pressure change MPa {kgt/cm ² } per handle revolution			
JGB(C)-***-1	2.3 {23}/revolution		JG	BC-F16-1	2.1 {21}/revolution			
JGB(C)-***-3	5.9 {59}/r	evolution	JG	BC-F16-3	5.2 {52}/re	evolution		

Mass (kg)

Model No.	JGB	JGBC	Model No.	JGB	JGBC	Model No.	JGBC
JGB(C)-G03	3.9	4.2	JGB(C)-T03	3.3	3.6	JGBC-F06	6.8
JGB(C)-G06	6.2	6.6	JGB(C)-T06	5.7	6.1	JGBC-F10	13.8
JGB(C)-G10	11.8	13.1	JGB(C)-T10	10	11.3	JGBC-F16	37.7

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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/	Rc¾	1.6
JGB-03M04	78	Rc½	1.0
JGB-06M	3/	Rc¾	2.0
JGB-06M08	/4	Rc1	3.9
JGB-10M	11/	Rc1¼	6.7
JGB-10M12	174	Rc1½	0.7

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

Accessories

Connections	Model No.	Hexagon socket head cap bolt	Number	Tightening torque N·m {kgf·cm}
Gasket mount type	JGB(C)-G03	M10 imes 75	4	
	JGB(C)-G06	M10 imes 85	4	48 to 63 {480 to 630}
	JGB(C)-G10	M10 × 105	6	
Flange connection type	Flange (JIS B 2291 SSA), O-ring, mounting bolts			

Handling

• Directly connect the drain piping to the tank without merging it with other tank piping.

- To ensure good pressure reducing performance, set the primary side main circuit pressure and the secondary pressure reducing circuit pressure such that there is a minimum difference of 1 MPa {10 kgf/cm²}.
- 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.

• The orientation of the pressure adjusting handle can be changed by rearranging the covers. (See external dimension diagrams [I], [II] and [III].)

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

• Flow rate - Pressure characteristics







JGB(C)-*10



PRESSURE CONTROL VALVES



Before using the product, please check the guide pages at the front of this catalog.

JGB(C)-G03

Contact Details

JGB(C)-T03

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JGB(C)-G06







JGBC-F06



JGB(C)-G10





JGBC-F10



JGBC-F16



Note:

 $\mbox{OUT} \rightarrow \mbox{IN}$ (I): Passing resistance of the check valve only

OUT → IN (II): Passing resistance of both the check valve and reducing valve spool (fully open)

 $IN \rightarrow OUT$:

OUT: Passing resistance of the reducing valve spool (fully open) only

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Sectional structural diagram

JIS B 2401 1BG30

32

O-ring

3



JIS B 2401 1BG40 JIS B 2401 1BG60

Type C2 Low-pressure Reducing Valve

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Features

Contact Details

Before using the product, please check the guide pages at the front of this catalog.

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



Specifications

Model code	Nominal diameter	Maximum operating pressure MPa {kgf/cm²}	Pressure adjustment range*1 MPa {kgf/cm²}	Maximum flow rate L/min	Drainage rate L/min	Mass kg
C2GL-G03-1-10	3/		Up to 7 {Up to 70}	80		5.6
C2GL-G03-2-10	78	05 (050)	Up to 16 {Up to 160}	00		
C2GL-G06-1-10	3/	25 {250}	Up to 7 {Up to 70}	100	0.5 to 0.6	0.4
C2GL-G06-2-10 [%] 4			Up to 16 {Up to 160}	160		0.4

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

Accessories

Model code	Pressure change MPa {kgf/cm ² } per handle revolution
C2GL-G**-1	2.5 {25}/revolution
C2GL-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	3/	Rc¾	16
JGB-03M04	78	Rc½	1.0
JGB-06M	3/	Rc¾	2.0
JGB-06M08	74	Rc1	3.9

Model No.	Hexagon socket head cap bolt	Quantity	Tightening torque N·m {kgf·cm}
C2GL-G03	M10 imes 60	4	51 to 68 {510 to 680}
C2GL-G06	M10 × 75	4	51 to 68 {510 to 680}

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

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Handling

- Directly connect the drain piping to the tank without merging it with other tank piping.
- To ensure good pressure reducing performance, set the primary side main circuit pressure and the secondary pressure reducing circuit pressure such that there is a minimum difference of 1 MPa {10 kgf/cm²}.
- 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.

Flow rate - Pressure characteristics

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

• C2GL-G03

Flow rate - Pressure characteristics Solid line: With a primary pressure of 25 MPa {250 kgf/cm²}









C2GL-G06

Flow rate - Pressure characteristics Solid line: With a primary pressure of 25 MPa {250 kgf/cm²}



Flow rate - Pressure characteristics

Pressure drop characteristics





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Relief Reducing Valve (Balancing Valve)





Features

- These balancing valves integrate a reducing valve, relief valve, and check valve into one unit.
- The limited pressure change in response to the change in the load flow rate improves the control accuracy.
- The pressure can be regulated with just one handle.
- The external drain configuration eliminates the influence of the back pressure in the return line.



Specifications

Model code	Nominal diameter	Maximum operating pressure MPa {kgf/cm²}	Pressure adjustment range MPa {kgf/cm²}	Maximum flow rate L/min	Drainage rate L/min	Mass kg	Pressure change MPa {kgf/cm²} per handle revolution		
SGR-G02-1-10	1/	10.5 {105}	0.7 to 7 { 7 to 70}	20	20			2.2	2 {20}/revolution
SGR-G02-2-10-46	74	17.5 {175}	1.2 to 16 {12 to 160}	20	0.6 to 0.7	2.2	5.2 {52}/revolution		
SGR-G03-1-10	3⁄8	10.5 {105}	0.7 to 7 { 7 to 70}	40		3.3	2.3 {23}/revolution		
SGR-G06-1-10	3/4	17.5 (175)	0.7 to 7 { 7 to 70}	100	0.9 to 1.3	6.5	2.9 {29}/revolution		
SGR-G06-2-10		17.5 {175}	1.2 to 16 {12 to 160}	100	1.1 to 1.6	0.5	5.2 {52}/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
JS-01M02	1/	Rc¼	0.6
BT-*02	/4		-
SGR-03M	3/8	RC78	1.6
SGR-06M	3⁄4	Rc¾	6

Refer to Page S-6 and S-8 for the dimensions of the sub-plate.

Accessories

Model No.	Hexagon socket head cap bolt	Quantity	Tightening torque N·m {kgf·cm}		
SGR-G02	$M~5\times70$	4	5.5 to 7.5 { 55 to 75}		
SGR-G03	M10 imes 80	4	48 to 63 {480 to 630}		
SGR-G06	M10 imes 85	4	48 to 63 {480 to 630}		

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Handling

- Directly connect the drain piping to the tank without merging it with other tank piping.
- To ensure good pressure reducing performance, set the primary side main circuit pressure and the secondary pressure reducing circuit pressure such that there is a minimum difference of 0.5 MPa {5 kgf/cm²} for the nominal diameter codes 02 and 03, or 1 MPa {10 kgf/cm²} for the nominal diameter code 06.
- 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.

• The products are supplied as the external drain type as standard but it is possible to use products with the nominal diameter code 03 or 06 as the internal drain type if the back pressure at the tank port is no greater than 0.5 MPa {5 kgf/cm²}. Change the drain type setting as necessary by referring to the setting guide provided with the product.

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



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Sealing	part	table

Part No.	Name	Quantity	Part specifications
19	O-ring	2	JIS B 2401 1A P14
20	O-ring	2	JIS B 2401 1A P16
21	O-ring	1	JIS B 2401 1A P20
22	O-ring	1	JIS B 2401 1A P10
23	O-ring	4	JIS B 2401 1B P9





Part No.	Name	Quantity	Part specifications		
24	O-ring	3	JIS B 2401 1B P16		
25	O-ring	1	JIS B 2401 1A P18		
26	O-ring	1	JIS B 2401 1A P7		
27	O-ring	1	JIS B 2401 1A P20		
28	O-ring	1	JIS B 2401 1A P22		
29	O-ring	1	JIS B 2401 1A G30		
30	O-ring	1	JIS B 2401 1A P5		
31	O-ring	1	JIS B 2401 1A P11		

SGR-G06-*



Sealing part table

Part No.	Name	Quantity	Part specifications
29	O-ring	3	JIS B 2401 1B G25
30	O-ring	1	JIS B 2401 1B P24
31	O-ring	1	JIS B 2401 1B P26
32	O-ring	1	JIS B 2401 1B P30
33	O-ring	1	JIS B 2401 1B G40
34	O-ring	1	JIS B 2401 1B P6
35	O-ring	1	JIS B 2401 1B P11
36	O-ring	1	JIS B 2401 1B P7

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Pressure Switch



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2

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3

10

4

Features

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5

• Detects the pressure in the hydraulic circuit and turns the electric circuit on and off.

Nomenclature

1 1 Model No.

JPS

JPS: J series pressure switch

2 Pressure adjustment range

- 1: 0.5 to 7 MPa {5 to 70 kgf/cm²}
- 2: 0.5 to 16 MPa {5 to 160 kgf/cm²}
- 3: 0.8 to 25 MPa {8 to 250 kgf/cm²}

3 Voltage code

(Applicable only to the option code CL (with lamp)) A: AC 100 V (50/60 Hz), AC 110 V (50/60 Hz) B: AC 200 V (50/60 Hz), AC 220 V (50/60 Hz) P: DC 24 V

Specifications

4 Design No.

(The design No. is subject to change)

5 Option code

No designation: Lead wire type

C:	DIN connector type (without lamp) - Wiring port PG11
CL:	DIN connector type (with lamp) - Wiring port PG11
CG04:	DIN connector type (without lamp) - Wiring port G ¹ / ₂

Sheruir	opeonications										
Model code	Maximum operating pressure MPa {kgf/cm ² }	Permissible back pressure MPa {kgf/cm ² }	Pressure adjustment range MPa {kgf/cm ² }	Maximum switching frequency Times per minute	Hysteresis MPa {kgf/cm²}	Repeatability MPa {kgf/cm²}	Mass kg				
JPS-1*-10			0.5 to 7 {5 to 70}		0.3 {3} maximum						
JPS-2*-10	25 {250}	2 {20}	0.5 to 16 {5 to 160}	60	0.4 {4} maximum	0.1 {1} maximum	0.72				
JPS-3*-10			0.8 to 25 {8 to 250}		0.5 {5} maximum						

Operating ambient temperature	Operating ambient humidity	Dust-/water-proof property* ²
−15 to 50°C (no freezing)	0 to 85% RH (no condensation)	IEC 529 IP65

Note: *2 Only DIN connector types

Model code	Pressure change MPa {kgf/cm ² } per handle revolution
JPS-1*	1.2 {12 }/revolution
JPS-2*	2.1 {21}/revolution
JPS-3*	3.1 {31}/revolution

Microswitch specifications

Manufacturer: OMRON Corporation Model: SS-5-L (DA)

Insulation	Withstand voltage *	Contact resistance	Vibration	Vibration Impact		Permissible operation frequency Times per minute		Service life	
Tesistance		(Initial value)	resistance	resistance	Mechanical	Electrical	Mechanical	Electrical	
100 MΩ minimum	(1) AC 1000 V, 1 minute (2) AC 1500 V, 1 minute	(3) 30 m Ω maximum	(4) Contact opening gap 1 ms maximum	(5) Contact opening gap 1 ms maximum	400 (maximum)	30 (maximum)	10 million times	100 thousand times	

Note: * Withstand voltage: (1) Between terminals of the same pole

(2) Between each terminal and ground, between each terminal and non-charged metal section

(3) DC 6 to 8V, 1 A applied

(4) Double amplitude: 1.5 mm, vibration frequency: 10 to 55 Hz

(5) Maximum of 100 m/s² applied in a drop impact test conforming to JIS C 0912.

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NO

• Contact type (single pole double throw type)

NC

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Microswitch specifications

Rated voltage	Steady current
AC 125 V	5 A
AC 250 V	3 A
DC 30 V	4 A
DC 125 V	0.4 A

Note: O The current values indicated are the values with the resistance load applied. O Minimum applicable load: DC 5 V, 160 mA

Handling

• When directly switching the DC solenoid valve, use a solenoid valve with surge killer.

	Wiring guide and operation description								
		Lead wire type	DIN connector type (without lamp)	DIN connector type (with lamp)					
	Wiring diagram	(Black) (White) (Red) (Red) (White) (Red) (Red) (White) (Red) NC: NOMALLY OPEN NC: NOMALLY CLOSED (NC: NOMALLY CLOSED (NC) (NC) (NC) (When assembled in the pressure switch, the COM (black) and NO (white) terminals are conducting.	1 2 3 Image: Constraint of the second	1 2 3 Microswitch with DIN type connector O NO When the pressure is set, the COM and NO terminals are conducting.					
		 ▼ When the circuit pressure is lower than the set pressure COM (black)NO (white) ●NC (Red) 	 ♥ When the circuit pressure is lower than the set pressure ○-NO (2) ○OM (1) -○ ●-NC (3) 	 ♥ When the circuit pressure is lower than the set pressure Lamp off OM (1) OM (3) 					
	▲ When the circuit pressure is higher than the set pressure O—NO (white) COM (black)—O—NC (Red)	▲ When the circuit pressure is higher than the set pressure ○-NO (2) COM (1) -○ -NC (3)	▲ When the circuit pressure is higher than the set pressure Lamp lit -NO (2) COM (1) -NC (3)						
	Operation description	 With connection between black and red ✓ When the circuit pressure is lower than the set pressure, the electric circuit is turned off (open) ▲ When the circuit pressure is higher than the set pressure, the electric circuit is turned on (closed) 	 With connection between 1 and 3 When the circuit pressure is lower than the set pressure, the electric circuit is turned off (open) When the circuit pressure is higher than the set pressure, the electric circuit is turned on (closed) 	 Between 2 and 3: Connect the power supply Between 1 and 2: Connect the load ✓ When the circuit pressure is lower than the set pressure, the electric circuit is turned off 					
		 With connection between black and white ▼ When the circuit pressure is lower than the set pressure, the electric circuit is turned on (closed) ▲ When the circuit pressure is higher than the set pressure, the electric circuit is turned off (open) 	 With connection between 1 and 2 When the circuit pressure is lower than the set pressure, the electric circuit is turned on (closed) When the circuit pressure is higher than the set pressure, the electric circuit is turned off (open) 	 (open) [Lamp off] When the circuit pressure is higher than the set pressure, the electric circuit is turned on (closed) [Lamp lit] Note: Do not connect the load between 1 and 3. 					

PRESSURE CONTROL VALVES

Contact Details Before using the product, please check the guide pages at the front of this catalog.	and support in India w.tca.co.in t information, PDF catalogs and operation manuals
Check Valve (for SGB-GC	for Features • These check valves are for SGB-G03, to be stacked below SGB-G03.
Nomenclature ** - SMC - O3 - O3 1 2 3 - O3 - O3 1 Applicable fluid code - 3 - O3 - O3 1 Applicable fluid code - 3 - O3 - O4 No designation: Petroleum-based hydraulic fluid - - Ander Setting - O4 F: Phosphate ester hydraulic fluid -	05 - 10 5 4 5 3 Nominal diameter 03: 3% 4 Cracking pressure code 05 : 0.05 MPa {0.5 kgf/cm²} 5 5 Design No. (The design No. is subject to change)

Specifications

Model code	Nominal	Maximum operating pressure	Maximum flow rate	Cracking pressure	Mass
	diameter	MPa {kgf/cm²}	L/min	MPa {kgf/cm²}	kg
SMC-03-05-10	3⁄8	14 {140}	40	0.05 {0.5}	1.8

Accessories

Hexagon socket head cap bolt	Quantity	Tightening torque N·m {kgf·cm}
M10 × 85	4	48 to 63 {480 to 630}

Handling

• Order SGB-03M separately as the sub-plate.

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



Sectional structural diagram



Sealing part table

Part No.	Name	Quantity	Part specifications
5	O-ring	2	JIS B 2401 1B P16
6	O-ring	1	JIS B 2401 1B P7

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Digital Pressure Control Valve with Handle



Features

- Digitally displays the rotational position of the pressure adjusting handle.
- Extremely convenient in applications where frequent pressure adjustment is required

Specifications

Scale change per revolution	Handle turning torque N⋅m {kgf⋅cm}	Mass kg
100	0.4 {4} maximum	0.4

Guide to model codes	
67810 Option code D: With digital handle	Image: Direction of the digital handle U: Digital scale oriented upward D: Digital scale oriented downward <applicable (t)="" connection="" only="" screw="" the="" to="" type=""> R: Digital scale oriented rightward L: Digital scale oriented leftward</applicable>



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