

Contact Details

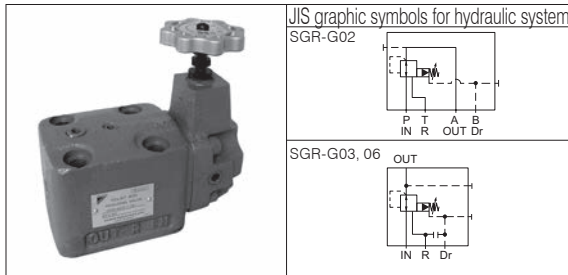
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Relief Reducing Valve (Balancing Valve)



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.

Nomenclature

SGR - G × × - × - 10
1 2 3 4 5

SGR - G 02 - 2 - 10 - 46
1 2 3 4 5 6

- Model No.**
(Applicable fluids: petroleum-based hydraulic oil)
SGR: S series relief reducing valve
- Connections**
G: Gasket mount type
- Nominal diameter**
02: 1/4
03: 3/8
06: 3/4
- Pressure adjustment range**
1: 0.7 to 7 MPa { 7 to 70 kgf/cm² }
2: 1.2 to 16 MPa { 12 to 160 kgf/cm² }
- Design No.**
(The design No. is subject to change)
- Management code**

Specifications

Model code	Nominal diameter	Maximum operating pressure MPa {kgf/cm ² }	Pressure adjustment range MPa {kgf/cm ² }	Maximum flow rate L/min	Drainage rate L/min	Mass kg	Pressure change MPa {kgf/cm ² } per handle revolution
SGR-G02-1-10	1/4	10.5 {105}	0.7 to 7 { 7 to 70 }	20	0.6 to 0.7	2.2	2 {20}/revolution
SGR-G02-2-10-46		17.5 {175}	1.2 to 16 {12 to 160}				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			1.2 to 16 {12 to 160}		1.1 to 1.6		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	1/4	Rc1/4	0.6
BT-×02			-
SGR-03M	3/8	Rc3/8	1.6
SGR-06M	3/4	Rc3/4	6

Refer to Page I-54, S-7 and S-9 for the di-mensions of the sub-plate.

Accessories

Model No.	Hexagon socket head cap bolt	Quantity	Tightening torque N·m {kgf·cm}
SGR-G02	M 5 × 70	4	5.5 to 7.5 { 55 to 75 }
SGR-G03	M10 × 80	4	48 to 63 {480 to 630}
SGR-G06	M10 × 85	4	48 to 63 {480 to 630}

Handling

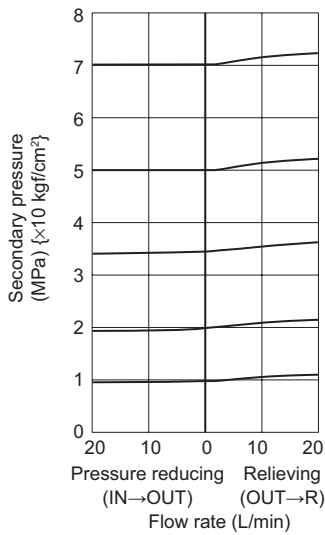
- Directly connect the drain piping to the tank without merging it with other tank piping.
- To ensure good pressure reducing performance, set the primary side main circuit pressure and the secondary pressure reducing circuit pressure such that there is a minimum difference of 0.5 MPa {5 kgf/cm²} for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

- Flow rate - Pressure characteristics

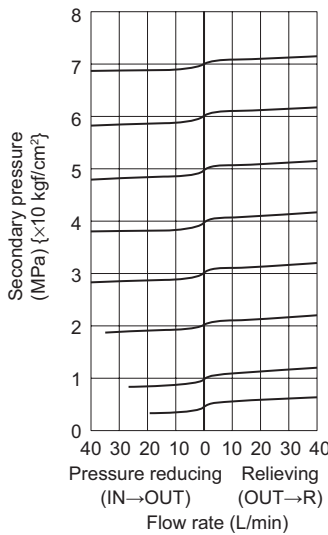
SGR-02

Primary pressure
10.5 MPa {105 kgf/cm²}



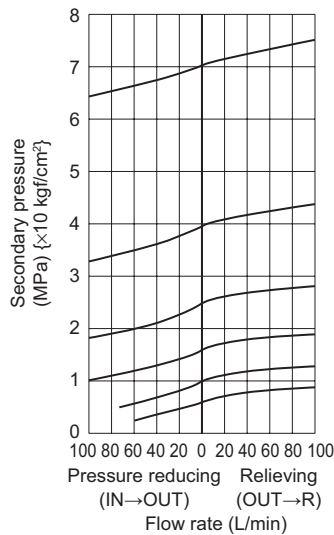
SGR-03

Primary pressure
10.5 MPa {105 kgf/cm²}



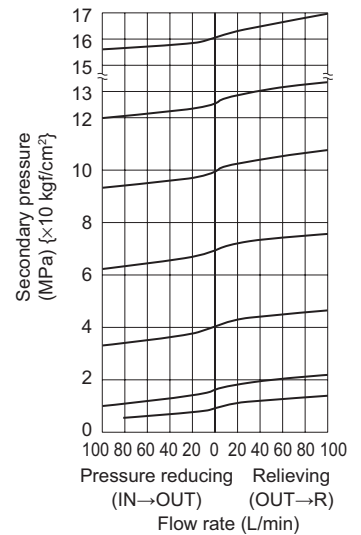
SGR-G06-1

Primary pressure
17.5 MPa {175 kgf/cm²}



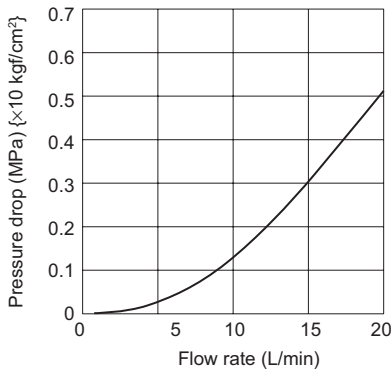
SGR-G06-2

Primary pressure
17.5 MPa {175 kgf/cm²}

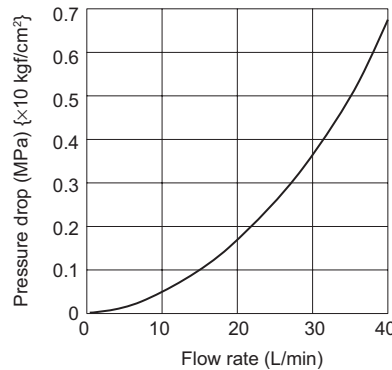


- Pressure drop characteristics

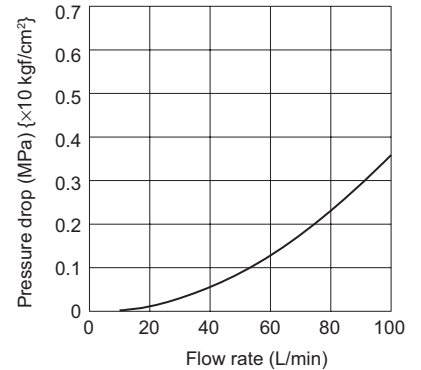
SGR-G02



SGR-G03



SGR-G06



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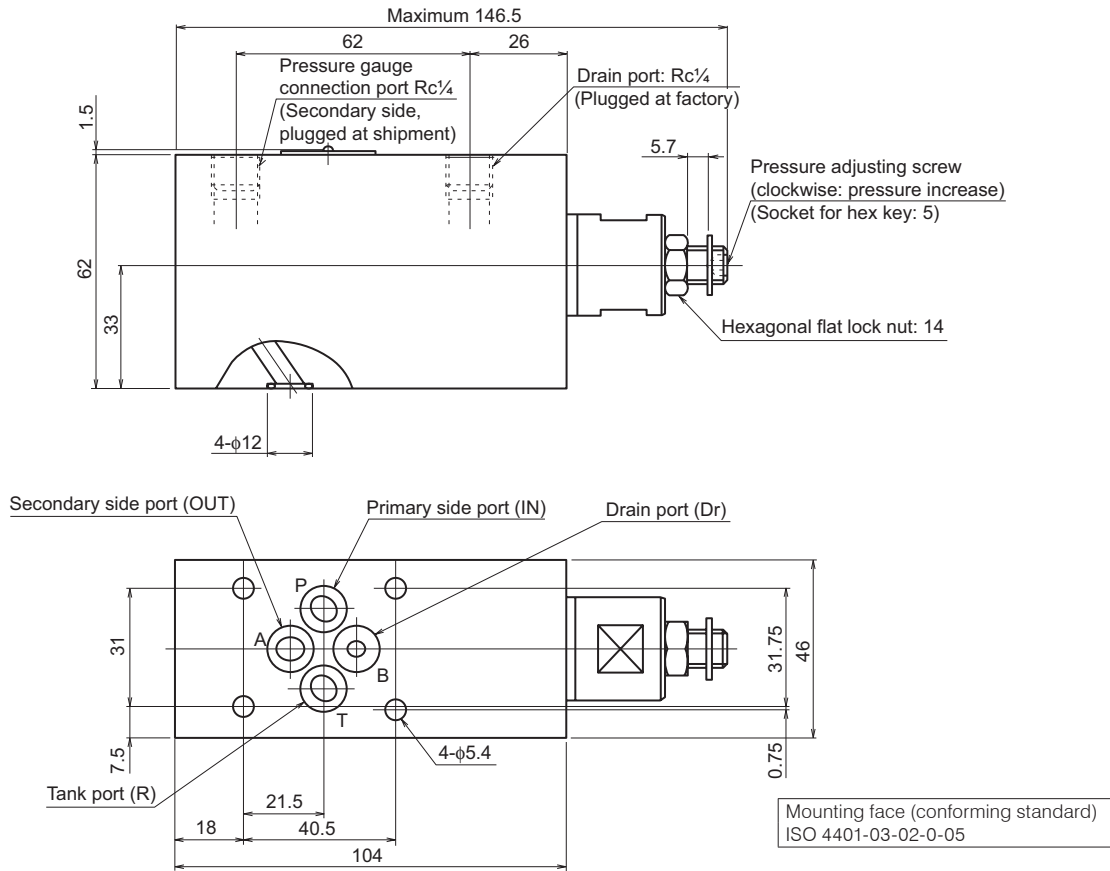
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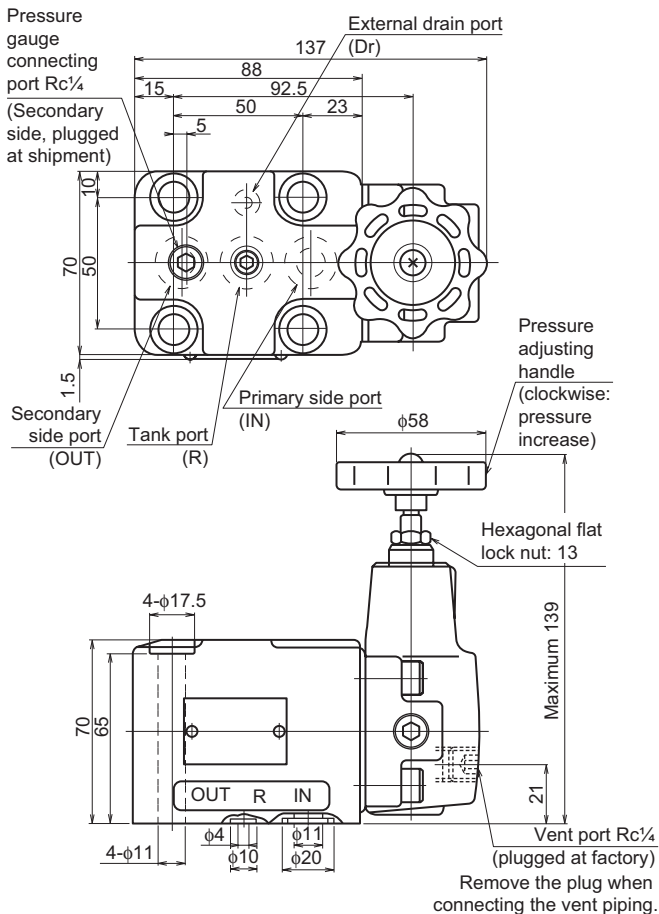
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External dimension diagram

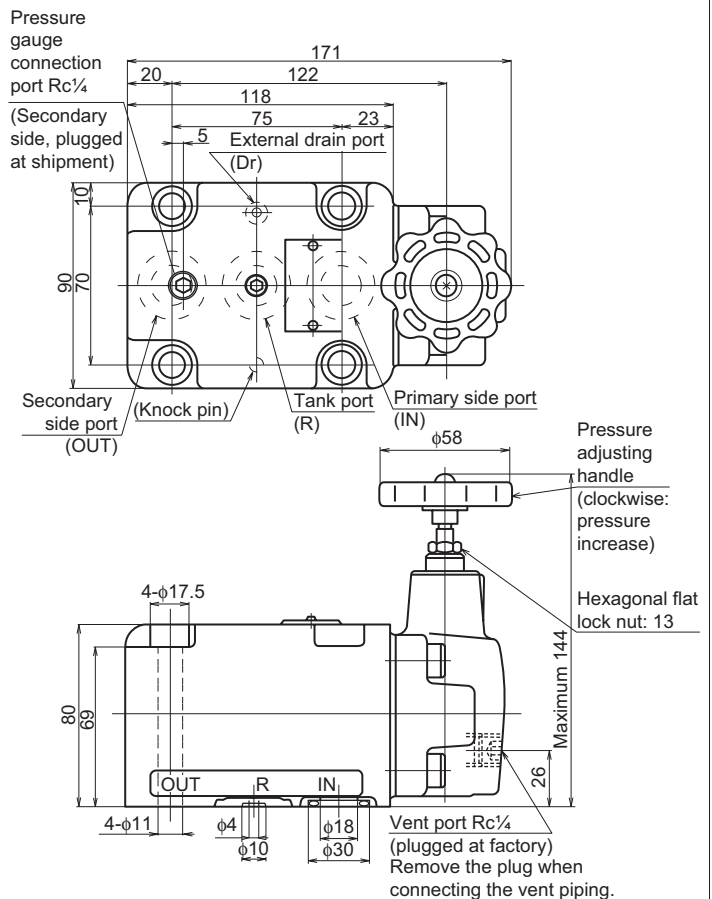
SGR-G02-1



SGR-G03-1



SGR-G06-*



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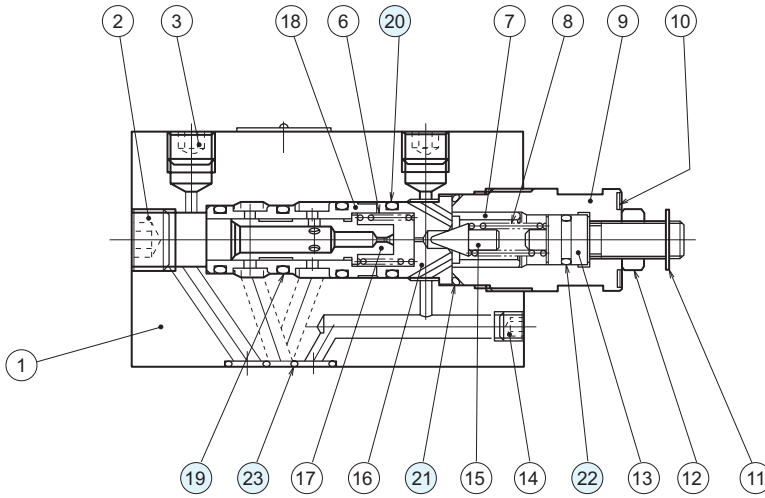
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Sectional structural diagram

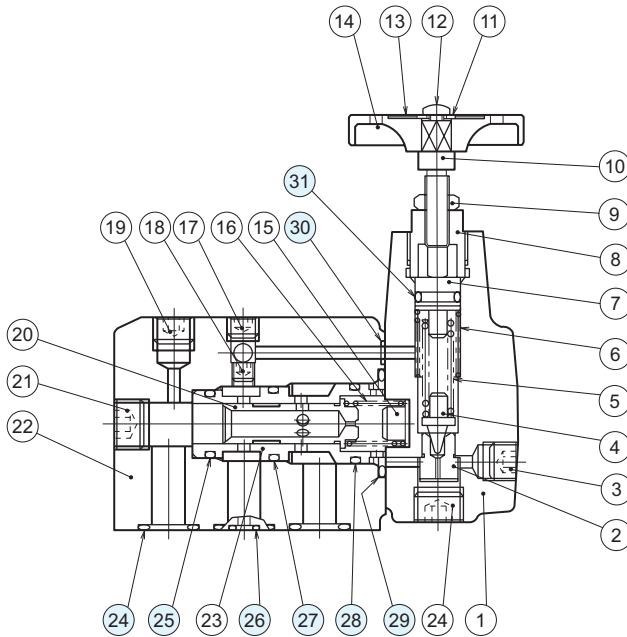
SGR-G02-※



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

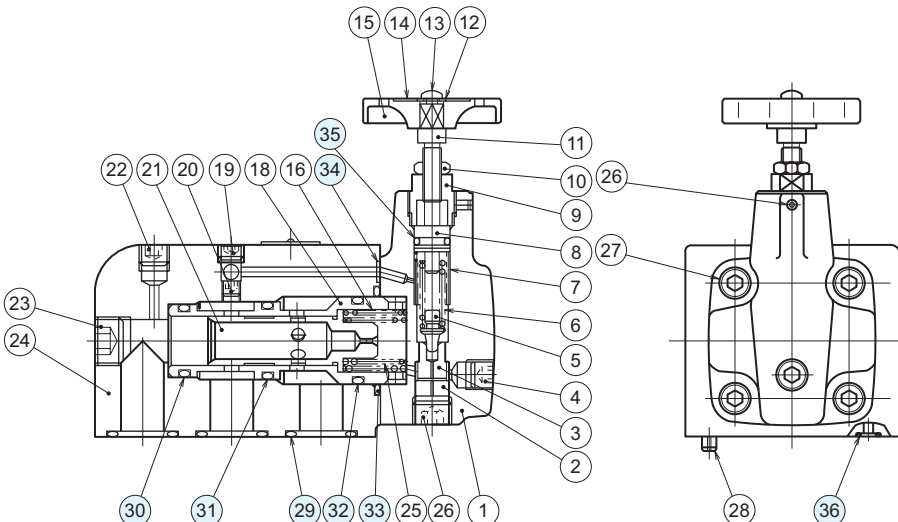
SGR-G03-1



Sealing part table

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