

Balancing Valve (Pressure Reducing and Relief Valve)

7.9 to 13.2 gpm
2030 psi

Features

2-in-1 operation allows a simpler circuit configuration. Combination valve that provides both pressure reducing and counter balance functions.

Pressure adjustment using a single screw (bolt). Compact and lightweight valve that can be mounted using the same methods as a 01, 03 size solenoid valve.

Specifications

Model No.	Nominal Diameter (Size)	Maximum Working Pressure psi	Maximum Flow Rate gpm	Pressure adjustment range psi	Weight lbs	Gasket Surface Dimensions
GR-G01-A1-20 A2	1/8	3045 P port	30	116 to 1015 507 to 2030	3.3	ISO 4401-03-02-0-94
GR-G03-A1-(B)-20 A2	3/8		50	145 to 1015 507 to 2030	7.7	ISO 4401-05-04-0-94

Understanding Model Numbers

GR - G 03 - A 1 - BK - 20

Design number
Note: For 03 size, relationship between mounting bolts and design number is indicated as J20: M6, 20: M8.

Auxiliary symbol
B: External drain (03 size only)
K: With handle

Pressure adjustment range 1, 2

Control port: A port

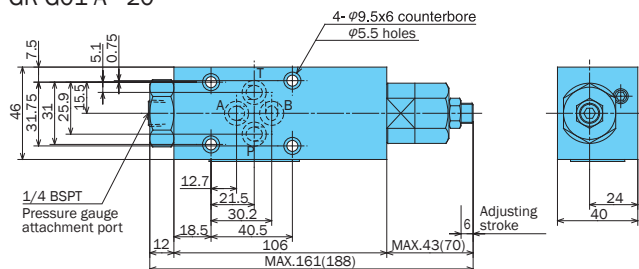
Nominal diameter (size)

Mounting method G: Gasket type

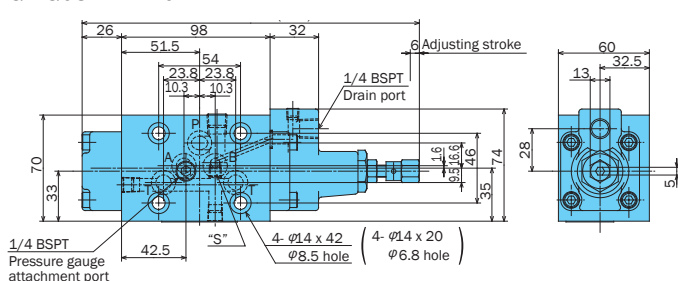
Balancing valve

Installation Dimension Drawings

GR-G01-A*-20



GR-G03-A*-B-20



Note: 1. For size 03, an escape valve with piping from the drain discharge port is standard for the drain (GR-G03-A*-B-20). To change from internal drain to external drain, install a plug (NPTF 1/16) in part S, and remove the drain discharge port plug (1/4 BSPT). To change from external drain to internal drain, install a plug (1/4 BSPT) into the drain discharge port, and remove the S part plug (NPTF 1/16). In this case, however, the B port cannot be used as the tank port.
2. Dimensions in parentheses show dimensions with handle (K type).

Handling

- To adjust pressure, loosen the lock nut and then rotate the adjusting screw (bolt) clockwise (rightward) to increase pressure or counterclockwise (leftward) to decrease it.
- For the 01 size, draining is from the gasket side B port.
- For the drain of a 03 size valve when auxiliary symbol B is specified, run a pipe from the drain discharge port directly to the tank. The drain discharge port can also be plugged for direct draining from the gasket side B port. In the case of modification, be sure to change the valve type marking on the nameplate. When using drain piping, use a tightening torque of 16-18.4 ft lbs for pipe joints.
- The drain of 03 size valve that does not have a B auxiliary symbol can be directly from the T port.
- Make sure that drain back pressure is no greater than 29 psi.
- When an adjustment handle is required for pressure adjustment block, insert K for the type specification.
- Set the difference between the pressure at the primary circuit (port P) and the secondary circuit (port A) at least 72 psi.
- Use the following table for specification when a sub plate is required.

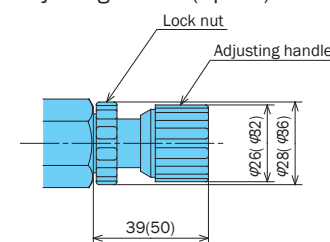
Model No.	Pipe Outlet Size	Weight lbs
MSA-01Y-E10	3/8	2.6
MSA-03-E10	3/8	8.3
MSA-03X-E10	1/2	

The following are the bundled mounting bolts.

Model No.	Bolt Dimensions	Q'ty	Tightening Torque ft lbs
GR-G01-A*-20	1024 x 13/4"	4	3.6 to 5
GR-G03-A*-20	1/4-20 x 1 1/8"	4	14.7 to 18.4

Note: For mounting bolts, use grade 8 or equivalent.

Adjusting Handle (Option)

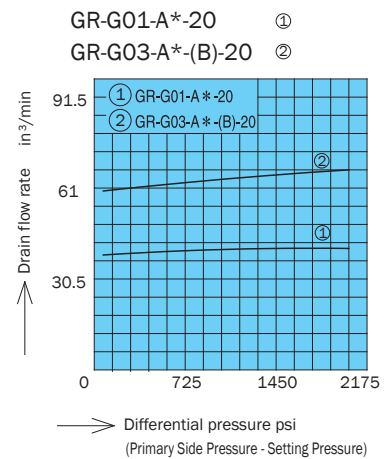
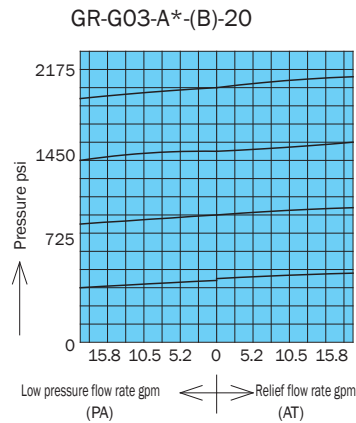
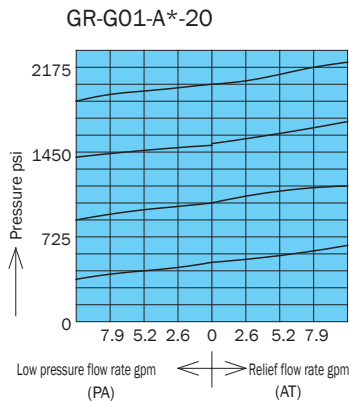


Performance Curves

Pressure – Flow Rate Characteristics

Hydraulic Operating Fluid Viscosity 32 centistokes

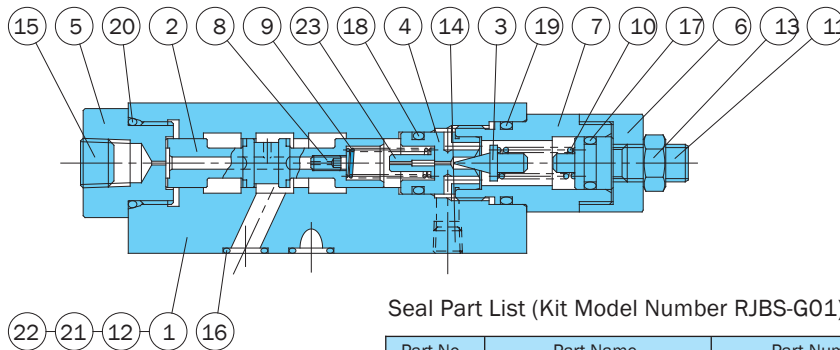
Setting Pressure – Drain Flow Rate Characteristics



Cross-sectional Drawing

Note: O-ring 1A/B-** refers to JIS B2401- 1A/B-**.

GR-G01-A*-20

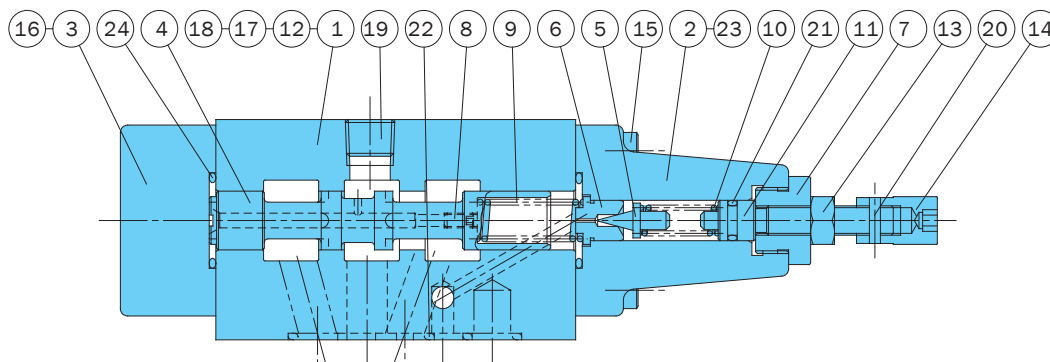


Seal Part List (Kit Model Number RJBS-G01)

Part No.	Part Name	Part Number	Q'ty
16	O-ring	1B-P9	4
17	O-ring	1A-P10A	1
18	O-ring	1B-P12.5	1
19	O-ring	1B-P18	1
20	O-ring	1B-P20	1

Part No.	Part Name	Part No.	Part Name
1	Body	7	Retainer
2	Spool	8	Choke
3	Poppet	9	Spring
4	Seat	10	Spring
5	Bushing	11	Screw
6	Bushing	12	Plate
		13	Nut
		14	Plug
		15	Plug
		16	O-ring
		17	O-ring
		18	O-ring
		19	O-ring
		20	O-ring
		21	Plug
		22	Spacer
		23	Choke

GR-G03-A*-B-20



Seal Part List (Kit Model Number RJBS-G03)

Part No.	Part Name	Part Number	Q'ty
21	O-ring	1A-P8	1
22	O-ring	1B-P12	5
23	O-ring	1B-P9	1
24	O-ring	1B-P22	2

Part No.	Part Name
1	Body
2	Cover (A)
3	Cover (B)
4	Spool
5	Poppet
6	Seat
7	Retainer
8	Choke
9	Spring
10	Spring
11	Screw
12	Plate
13	Nut
14	Nut
15	Screw
16	Screw
17	Plug
18	Plug
19	Plug
20	Pin
21	O-ring
22	O-ring
23	O-ring
24	O-ring