# Pressure Reducing Modular Valve

**40 to 300 ℓ /min**
**25,35MPa**



## Features

①This modular valve makes the pressure in part of the circuit lower than that of the main circuit.

②Even when pressure changes in the primary main circuit, the reduced secondary pressure is maintained at a constant level.

③Maximum Operating Pressure: 25, 35MPa {255, 357kgf/cm²}

## Specifications

| Model No. | Nominal Diameter (Size) | Maximum Working Pressure MPa{kgf/cm²} | Maximum Flow Rate ℓ /min | Pressure Adjustment Range MPa{kgf/cm²} | Weight kg | Gasket Surface Dimensions |
|---|---|---|---|---|---|---|
| OG-G01-PC-21<br>P1<br>P2 | 1/8 | 25<br>{255} | 50 | 0.15 to 3.5{ 1.5 to 35.7}<br>0.8 to 7{ 8.2 to 71.4}<br>3.5 to 16{35.7 to 163} | 1.3 | ISO 4401-03-02-0-94 |
| OG-G03-PC-(V)-J51<br>P1<br>P3 | 3/8 | 25<br>{255} | 80<br>but C : 50 | 0.25 to 3.5{ 2.5 to 35.7}<br>0.8 to 7{ 8.2 to 71.4}<br>3.5 to 21{35.7 to 214} | 3.8 | ISO 4401-05-04-0-94 |
| OGH-G04-P1-10<br>P3 | 1/2 | 35<br>{357} | 300 | 0.8 to 7{ 8.2 to 71.4}<br>3.5 to 25{35.7 to 255} | 8.0 | ISO 4401-07-06-0-94 |

● Handling

1 When using a remote control valve in a vent circuit, certain vent circuit pipe capacities can cause vibration. Because of this, thick steel pipe with an inside diameter of $\phi$ 4mm that is no longer than three meters is recommended. Vent piping cannot be used with the 01 size. If a vent port is required for the 03 size, add the auxiliary code "V".

2 For the 03 size, the drainage can be allowed to escape through the T port. In the case of a valve with the auxiliary symbol B, however, run a return pipe from the drain discharge port directly to the tank.

3 With the 04 sizes, piping is not required because drainage can be allowed to escape from the gasket side drain port. In the case of a valve with the auxiliary symbol B, however, run a return pipe from the drain discharge port directly to the tank.

4 Note that a change in drain back pressure causes a change in setting pressure.

5 With the 01, 03 sizes, the flow rate is limited at low pressures. See the Pressure-Flow Rate Characteristics on pages D-30 for more information.

6 Note that a sub plate and installation bolts are not included. See pages D-90 through D-95 if these items are required.

7 04 series modular valves do not have an L ($DR_2$) drain port, so they cannot be used in combination with pressure center type solenoid valves (D).

8 With the 03, 04 sizes, the control port can be changed by altering the attachment orientation of the back cover. See the installation diagram for more information. After making this change, be sure also to make the other changes in accordance with the model number indicated on the nameplate.

## Understanding Model Numbers

01, 03, size

**OG – G 03 – P 1 – (B) – J51**

- Design number — Note: For 03 size, relationship between mounting bolts and design number is indicated as J51: M6, 51; M8.
- Auxiliary symbol — B: See notes 2 and 3 under "Handling." K: With handle (01, 03 size) V: With vent port (03 size)
- Pressure adjustment range C, 1, 2, 3
- Control port P: P port
- Nominal diameter (size) 01, 03
- Mounting method G: Gasket type
- Pressure reducing modular valve

# Understanding Model Numbers

04 size

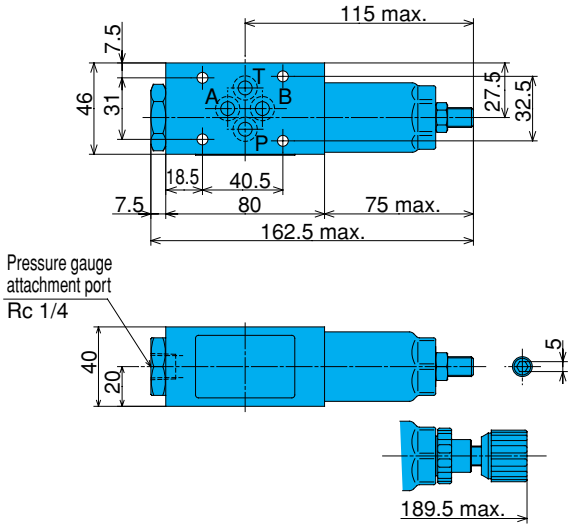
**OGH – G 04 – P 1 – (B) – 10**

- Design number
- Auxiliary symbol B: See note 3 under "Handling."
- Pressure adjustment range 1, 3
- Control port P: P port
- Nominal diameter (size) 04
- Mounting method G: Gasket type
- M35 Series reducing modular valve

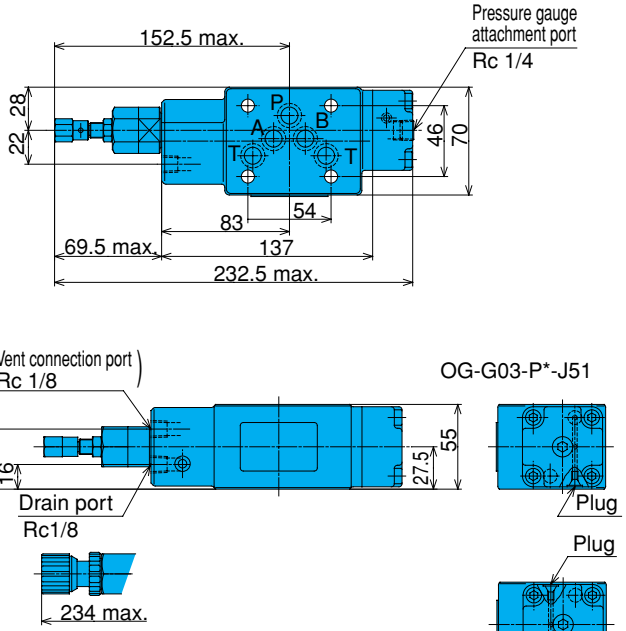
# Installation Dimension Drawings

Note)
Pressure is increased by clockwise (rightward) rotation of the adjusting screw (bolt), and decreased by counterclockwise (leftward) rotation.

OG-G01-P*-21



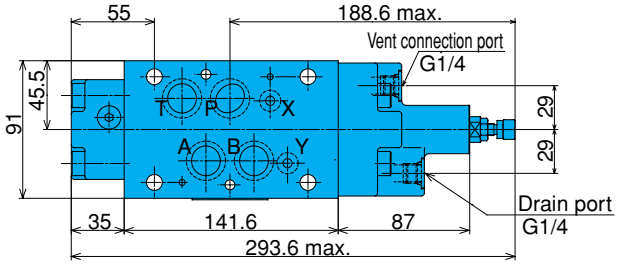

OG-G03-P*-(V)-J51

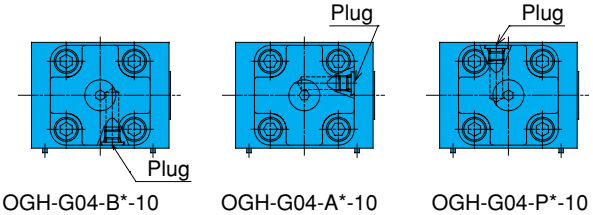



Note) 1.Conversion to B port control is possible by changing the back cover. Port control is determined by plug orientation.
2.When replacing the back cover, be sure also to change the nameplate to the applicable model type.
3.The tightening torque of the back cover bolts is: (M6) 10 to 13Nm (102 to 133 kgf-cm).

OGH-G04-P*-10

Note) 1.Conversion to A, B port control is possible by changing the back cover. Port control is determined by plug orientation.
2.When replacing the back cover, be sure also to change the nameplate to the applicable model type.
3.The tightening torque of the back cover bolts is: (M10) 45 to 55Nm (460 to 560 kgf-cm).



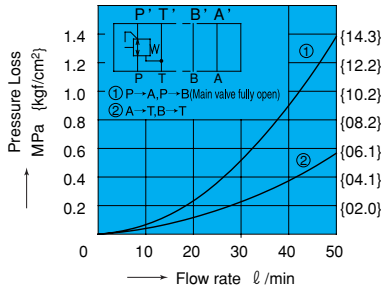

OGH-G04-B*-10 OGH-G04-A*-10 OGH-G04-P*-10

# Performance Curves

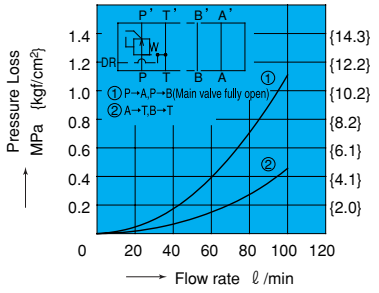
Differential Hydraulic Fluid Viscosity 32mm²/s

## Pressure Loss Characteristics

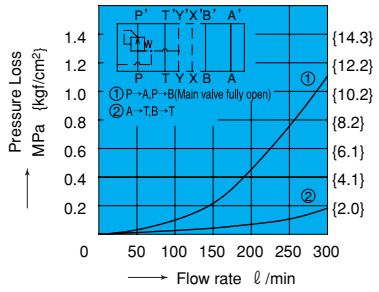
### OG-G01-P*-21




### OG-G03-P*-J51

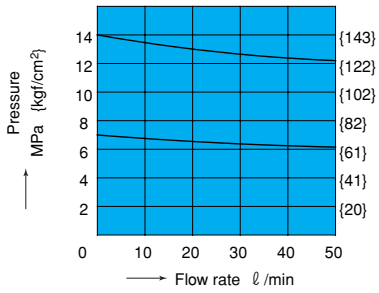



### OGH-G04-**-10

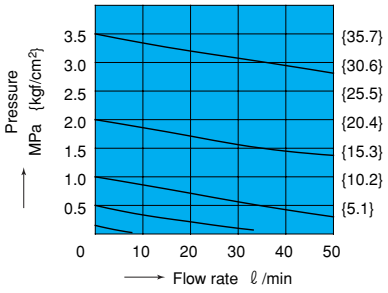



## Pressure − Flow Rate Characteristics

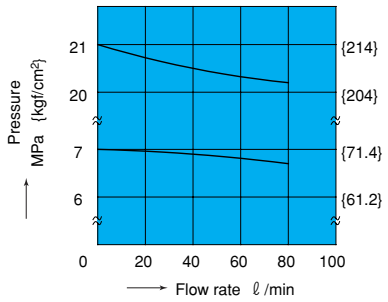
### OG-G01-$P_2^1$-21



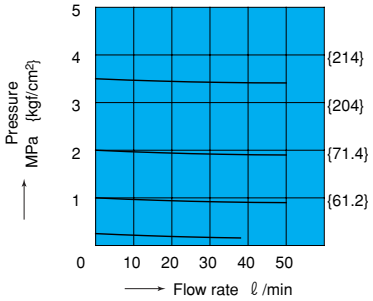

### OG-G01-PC-21



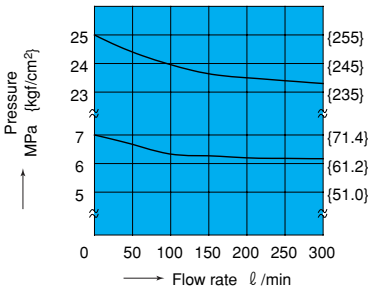

### OG-G03-$P_3^1$-J51




### OG-G03-PC-J51

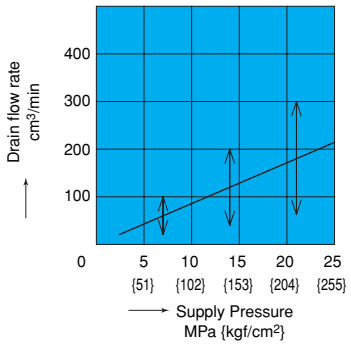



### OGH-G04-**-10

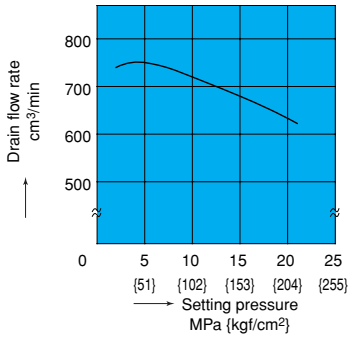


## Pressure – Drain Rate Characteristics

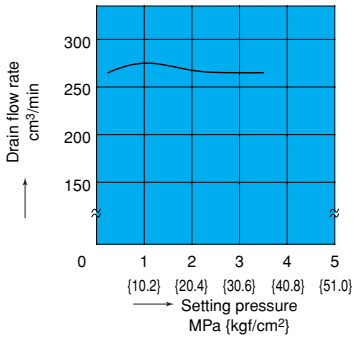
OG-G01-P*-21




OG-G03-P*-J51

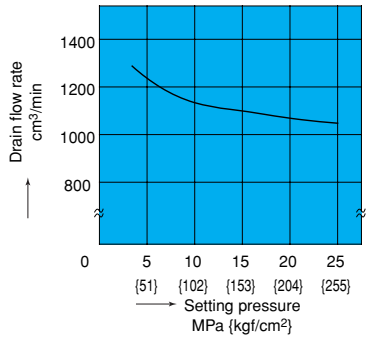



OG-G03-PC-J51



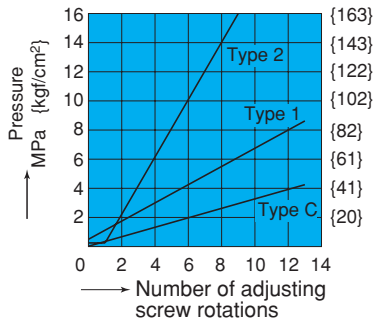

Determine it through the maximum value when designing the circuit.

OGH-G04-P3-10

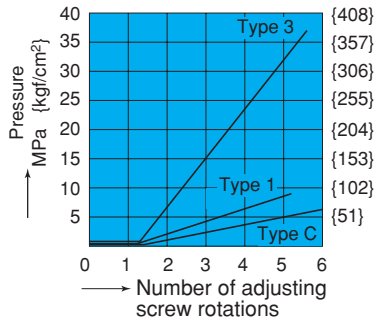



## Number of Adjusting Screw Rotations – Pressure Characteristics

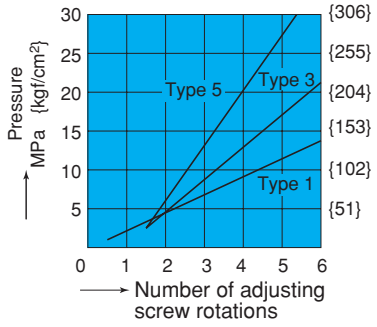
OG-G01-P*-21




OG-G03-P*-51

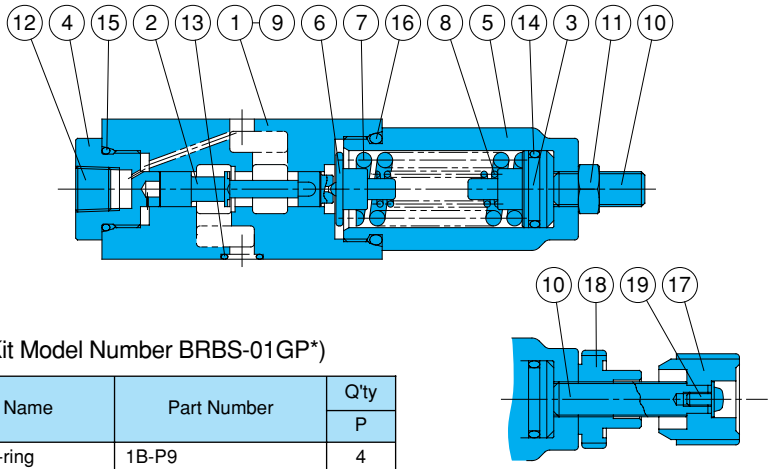



OGH-G04-P*-10



# Cross-sectional Drawing

OG-G01-P2-21




| Part No. | Part Name |
|---|---|
| 1 | Body |
| 2 | Spool |
| 3 | Push rod |
| 4 | Bushing |
| 5 | Retainer |
| 6 | Guide |
| 7 | Spring |
| 8 | Spring |
| 9 | Plate |
| 10 | Screw |
| 11 | Nut |
| 12 | Plug |
| 13 | O-ring |
| 14 | O-ring |
| 15 | O-ring |
| 16 | O-ring |
| 17 | Knob |
| 18 | Nut |
| 19 | Screw |

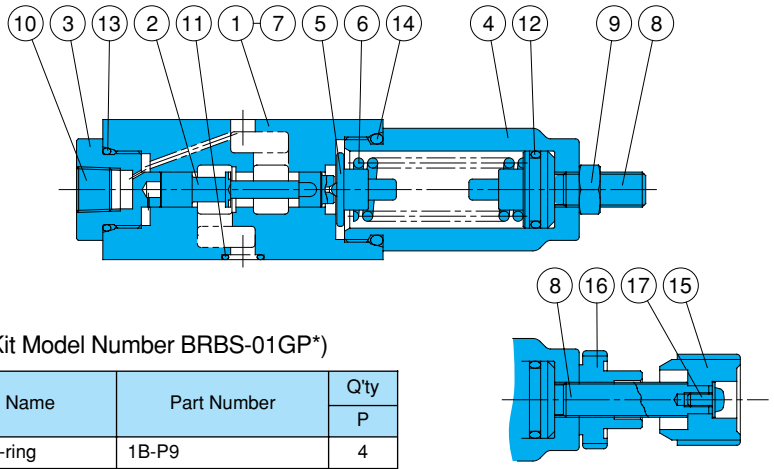
Seal Part List (Kit Model Number BRBS-01GP*)

| Part No. | Part Name | Part Number | Q'ty P |
|---|---|---|---|
| 13 | O-ring | 1B-P9 | 4 |
| 14 | O-ring | 1A-P18 | 1 |
| 15 | O-ring | 1B-P20 | 1 |
| 16 | O-ring | 1B-P26 | 1 |

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

Note)
Part number 8 is used in the case of pressure adjustment range type 2 only.

OG-G01-PC-21



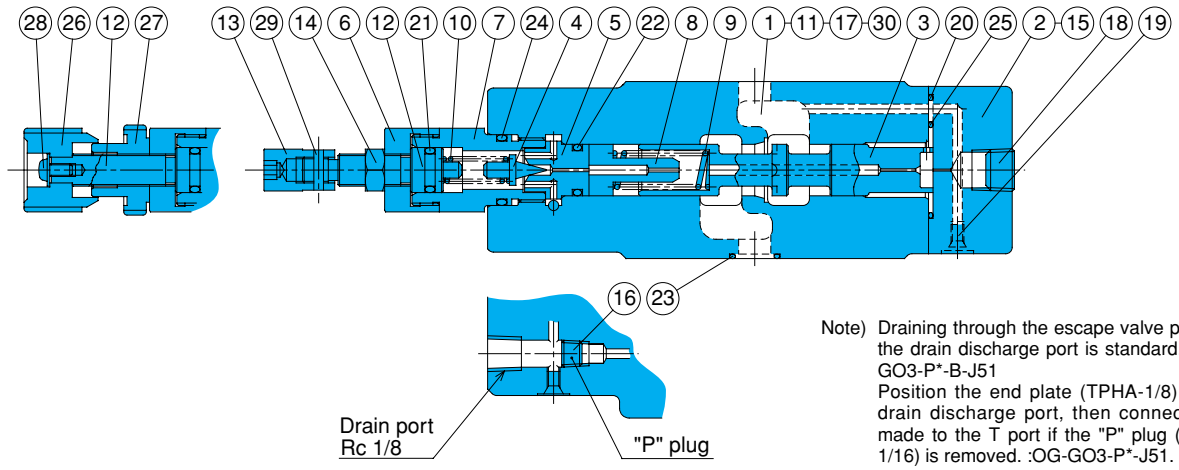

| Part No. | Part Name |
|---|---|
| 1 | Body |
| 2 | Spool |
| 3 | Bushing |
| 4 | Retainer |
| 5 | Guide |
| 6 | Spring |
| 7 | Plate |
| 8 | Screw |
| 9 | Nut |
| 10 | Plug |
| 11 | O-ring |
| 12 | O-ring |
| 13 | O-ring |
| 14 | O-ring |
| 15 | Knob |
| 16 | Nut |
| 17 | Screw |

Seal Part List (Kit Model Number BRBS-01GP*)

| Part No. | Part Name | Part Number | Q'ty P |
|---|---|---|---|
| 11 | O-ring | 1B-P9 | 4 |
| 12 | O-ring | 1A-P18 | 1 |
| 13 | O-ring | 1B-P20 | 1 |
| 14 | O-ring | 1B-P26 | 1 |

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

OG-G03-P*-J51




Note) Draining through the escape valve piped to the drain discharge port is standard. : OG-GO3-P*-B-J51
Position the end plate (TPHA-1/8) to the drain discharge port, then connection is made to the T port if the "P" plug (TPUA-1/16) is removed. :OG-GO3-P*-J51.

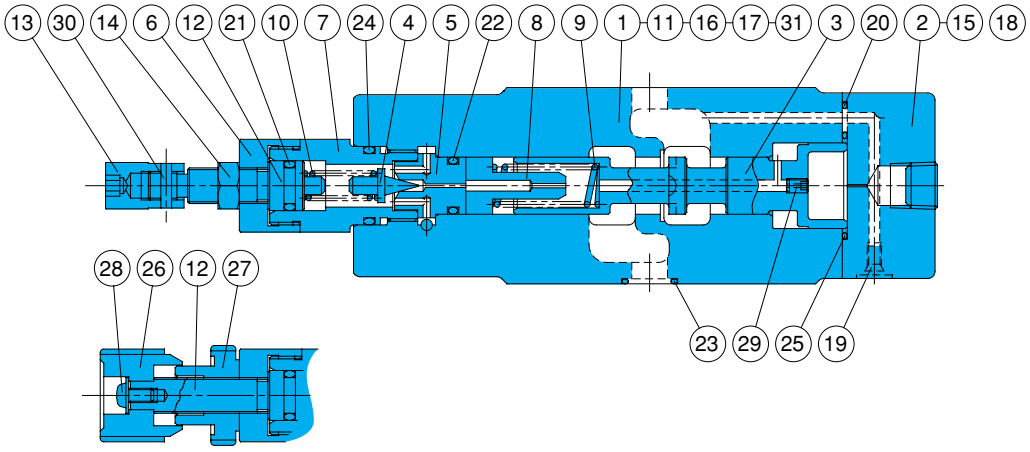
| Part No. | Part Name | Part No. | Part Name |
|---|---|---|---|
| 1 | Body | 14 | Nut |
| 2 | Cover | 15 | Screw |
| 3 | Spool | 16 | Plug |
| 4 | Poppet | 17 | Plug |
| 5 | Seat | 18 | Plug |
| 6 | Bushing | 19 | Plug |
| 7 | Retainer | 20 | O-ring |
| 8 | Choke | 21 | O-ring |
| 9 | Spring | 22 | O-ring |
| 10 | Spring | 23 | O-ring |
| 11 | Plate | 24 | O-ring |
| 12 | Screw | 25 | O-ring |
| 13 | Nut | 26 | Knob |
| | | 27 | Nut |
| | | 28 | Screw |
| | | 29 | Pin |
| | | 30 | Pin |

Seal Part List (Kit Model Number BRES-03GP-1A)

| Part No. | Part Name | Part Number | Q'ty P |
|---|---|---|---|
| 20 | O-ring | 1B-P6 | 2 |
| 21 | O-ring | 1A-P10A | 1 |
| 22 | O-ring | 1B-P12 | 1 |
| 23 | O-ring | AS568-014(Hs90) | 5 |
| 24 | O-ring | 1B-P18 | 1 |
| 25 | O-ring | AS568-023(Hs90) | 1 |

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

OG-G03-PC-J51



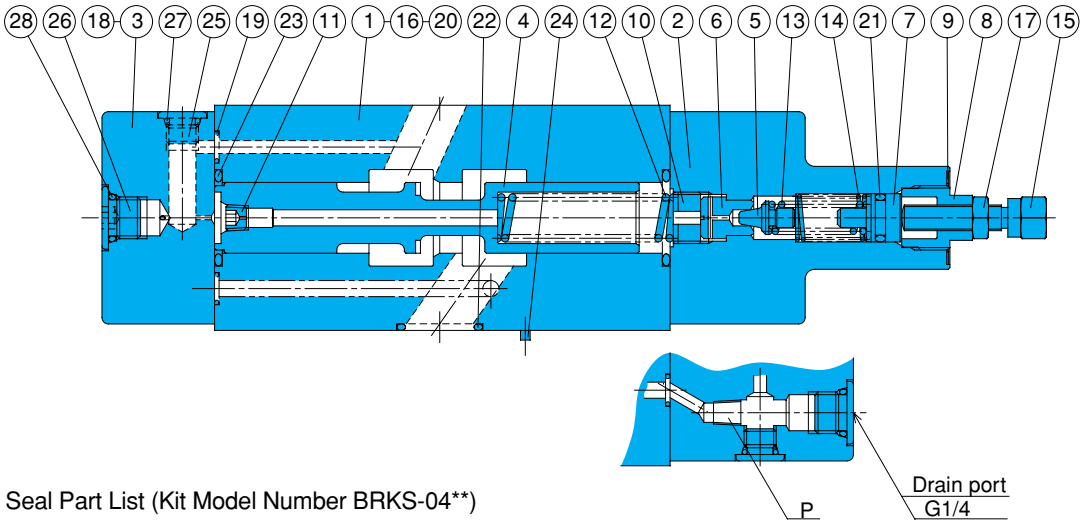

| Part No. | Part Name | Part No. | Part Name |
|---|---|---|---|
| 1 | Body | 16 | Plug |
| 2 | Cover | 17 | Plug |
| 3 | Spool | 18 | Plug |
| 4 | Poppet | 19 | Plug |
| 5 | Seat | 20 | O-ring |
| 6 | Bushing | 21 | O-ring |
| 7 | Retainer | 22 | O-ring |
| 8 | Choke | 23 | O-ring |
| 9 | Spring | 24 | O-ring |
| 10 | Spring | 25 | O-ring |
| 11 | Plate | 26 | Knob |
| 12 | Screw | 27 | Nut |
| 13 | Nut | 28 | Screw |
| 14 | Nut | 29 | Choke |
| 15 | Screw | 30 | Pin |
| | | 31 | Pin |

Seal Part List (Kit Model Number BRES-03GP*-1A)

| Part No. | Part Name | Part Number | Q'ty P |
|---|---|---|---|
| 20 | O-ring | 1B-P6 | 2 |
| 21 | O-ring | 1A-P10A | 1 |
| 22 | O-ring | 1B-P12 | 1 |
| 23 | O-ring | AS568-014(Hs90) | 5 |
| 24 | O-ring | 1B-P18 | 1 |
| 25 | O-ring | AS568-023(Hs90) | 1 |

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

OGH-G04-P*-10




| Part No. | Part Name |
|---|---|
| 1 | Body |
| 2 | Cover |
| 3 | Cover |
| 4 | Spool |
| 5 | Poppet |
| 6 | Seat |
| 7 | Plunger |
| 8 | Retainer |
| 9 | Plate |
| 10 | Collar |
| 11 | Choke |
| 12 | Spring |
| 13 | Spring |
| 14 | Spring |
| 15 | Screw |
| 16 | Plate |
| 17 | Nut |
| 18 | Screw |
| 19 | O-ring |
| 20 | O-ring |
| 21 | O-ring |
| 22 | O-ring |
| 23 | O-ring |
| 24 | Pin |
| 25 | Plug |
| 26 | Plug |
| 27 | O-ring |
| 28 | O-ring |

Seal Part List (Kit Model Number BRKS-04**)

| Part No. | Part Name | Part Number | Q'ty | |
|---|---|---|---|---|
| | | | G | GB |
| 19 | O-ring | 1B-P7 | 4 | 4 |
| 20 | O-ring | AS568-012(Hs90) | 2 | 2 |
| 21 | O-ring | 1A-P11 | 1 | 1 |
| 22 | O-ring | AS568-118(Hs90) | 4 | 4 |
| 23 | O-ring | 1B-G25 | 2 | 2 |
| 27 | O-ring | 1B-P8 | 4 | 4 |
| 28 | O-ring | 1B-P11 | 3 | 2 |

Note) 1.O-ring 1A/B-** refers to JIS B2401-1A/B.
2.Specify G (internal drain) or GB (external drain) for the asterisk (*) in the kit model number.

Note)
In the standard configuration, OGH-G04-P*-10 does not require a P plug, while OGH-G04-P*-B-10 requires a P plug (TPUA-1/16) and drain pipe from the cover.