






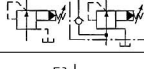




C

PRESSURE CONTROLS

Valve Type	KS Graphic Symbols	Max.oper ating Pressure MPa {kgf/cm ² }	Max. Flow L/min																Page
			1	2	3	5	10	20	30	50	100	200	300	500	1000	2000			
Remote Cont. Relief Valves		25 {255}	01																C-3
Direct Type Relief Valves		21 {214}	02																C-5
Pilot Operated Relief Valves		25 {255}	030610																C-7
Low Noise Type Pilot Relief Valves		25 {255}	0306																C-11
Sol. Cont. Relief Valves		25 {255}	030610																C-14
H Type Press. Cont. Valves		21 {214}	030610																C-23
HC Type Press. Cont. Valves		21 {214}	030610																C-29
Press. Reducing & Check Valves		21 {214}	0306																C-34
Press. Reducing & Relieving Valves		03:14 {143}	03																C-40
Unloading Relief Valves		21 {214}	06																C-43

Hydraulic Fluids

1. Fluid Types

Any type of hydraulic fluid, listed in the table below can be used.

Petroleum based oil	Use fluids equivalent to ISO VG32 or VG46.
Synthetic fluids	Use phosphate ester or polyol ester fluid. When phosphate ester fluid is to be used, prefix "F-" to the model number because a special seal (fluororubber) will be used.
Water containig fluids	Use water - glycol fluid.

Note: For use with hydraulic fluids other than those listed above, please consult your SEWON represestatives in acvance.

2. Recommended Fluid Viscosity and Temperature

Use under conditions where the viscosity and temperature of the hydraulic fluid remain in the ranges indicated in the following table.

Name		Viscosity	Temperature
Remote Control Relief Valves	H Type Presure Control Valves	15~400mm ² /s{cSt}	-15~+70℃
Direct Type Relief Valves	HC Type Pressure Control Valves		
Pilot Operated Relief Valves	Pressure Reducing Valves		
Low Noise Type Pilot Operated Relief	Valves Pressure Reducing and Check Valves		
Solenoid Controlled Relief Valves	Pressure Reducing and Relieving Valves		

* If the valve is provided with a vent ristrictor (ex.: A-BSG-03), the viscosity range should be 15-200cSt (80-900 SSU).

3. Control of Contamination

Due caution must be paid to maintaining control over contamination of the hydraulic fluids which may otherwise lead to breakdowns and shorten the life of the valve. Please maintain the degree of contamination within NAS 1638-Grade 11. Use 25μm or finer line filter.

4. Drain Piping

Drain port must be connected directly to the tank in condition back pressure is lower than the atmospheric pressure. That line pressure can be increased infinitely can be caused a serious accident.

Pilot Operated Relief Valves

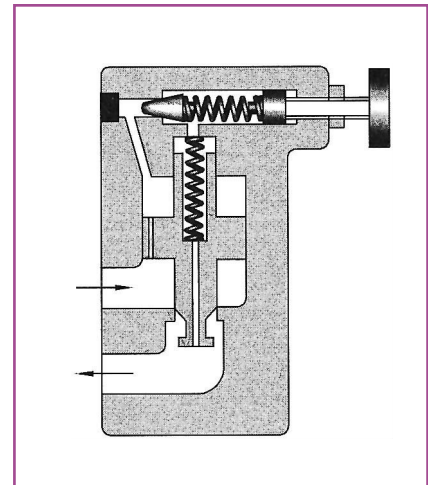
These valves protect the hydraulic system from excessive pressure, and can be used to maintain constant pressure in a hydraulic system.

Remote control and unloading are permitted by vent circuit.

Ratings

Model Numbers		Max. Operating Pressure MPa {kgf/cm ² }	Pres. Adj. Range MPa {kgf/cm ² }	Max. Flow l/min	Mass kg	
Threaded Connections	Sub-Plate Mounting				BT type	BG type
BT-03-※-32	BG-03-※-32	25 {255}	★~25 {★~255}	100	5.0	4.7
BT-06-※-32	BG-06-※-32			200	5.0	5.6
BT-10-※-32	BG-10-※-32			400	8.5	8.7

★ Refer to the Minimum adjustment Pressure characteristics on page C-10.



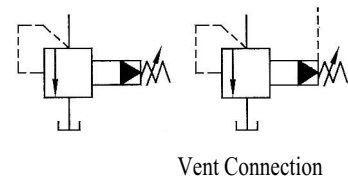
C
Pilot Operated Relief Valves

Model Number Designation

B	T	-03	-V	-32
Series Number	Type of Mounting	Valve Size	High Venting Pres.* Feature	Design Number
B: Pilot Operated Relief Valves	T: Threaded Connections	03	V: For High Venting Pressure Feature (Omit if not required)	32(Standard)
		06		
		10		
	G: Sub-Plate Mounting	03		3231
		06		(Low Press.Control)
		10		

★ Use high venting pressure type to reduce the response time from unload to onload.

KS Graphic Symbols



Attachment

● Mounting Bolts

Valve Model Numbers	Socket Head Cap Screw
BG-03	M12 × 70L 2Pcs., M12 × 95L 2Pcs.
BG-06	M16 × 60L 2Pcs., M16 × 80L 2Pcs.
BG-10	M20 × 70L 2Pcs., M20 × 90L 2Pcs.

Sub-Plate

Valve Model Numbers	Sub-Plate Model Numbers	Piping Size	Mass kg
BG-03	BGM-03-20	Rc 3/8	2.4
	BGM-03X-20	Rc 1/2	3.1
BG-06	BGM-06-20	Rc 3/4	4.7
	BGM-06X-20	Rc 1	5.7
BG-10	BGM-10-20	Rc 1 1/4	8.4
	BGM-10X-20	Rc 1 1/2	10.3

● Sub-plates are available. Specify sub-plate model from the table above. When sub-plates are used, the mounting surface should have a good machined finish.

SEWON Hydraulics

Instructions

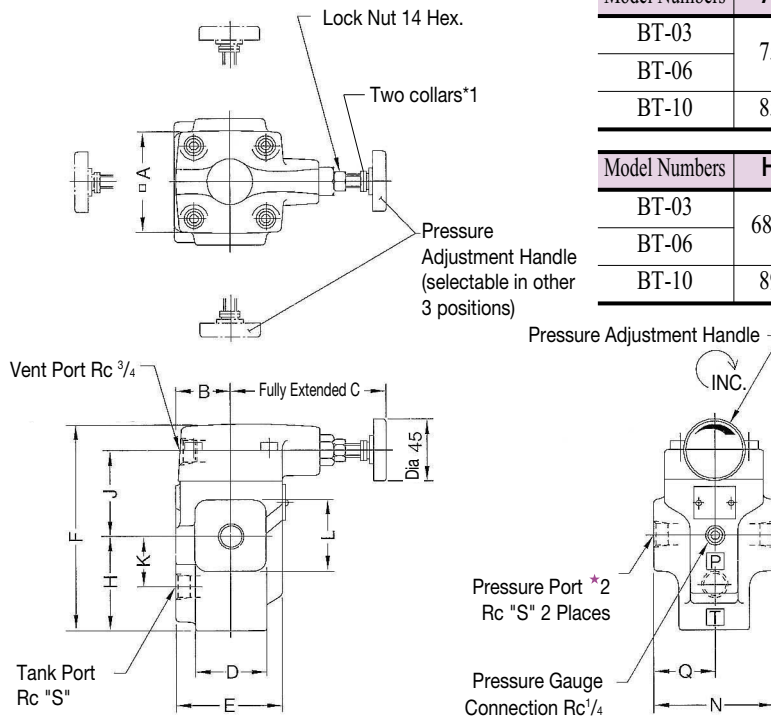
- If a remote control relief valve is used in the vent circuit, see page C-3. In addition, if the internal volume of the vent line is too large, chattering is likely to occur. Thus, as far as possible reduce the inside Dia. And the length of the pipe.
- To adjust the pressure, loosen the lock nut and turn the handle slowly clockwise for higher pressures or anti-clockwise for lower pressures. After adjustments, do not forget to tighten the lock nut.

- Piping of the tank line should not be connected to any tank line of the other valves, but connected directly to the tank.

- With a small flow, the setting pressure may be unstable. Use models numbered 03 and 06 with a flow rate above 8 L/min and model 10 with 15 L/min.

Valve Size	Min. Flow
03	8 L/min
06	
10	15 L/min

BT-03, 06, 10

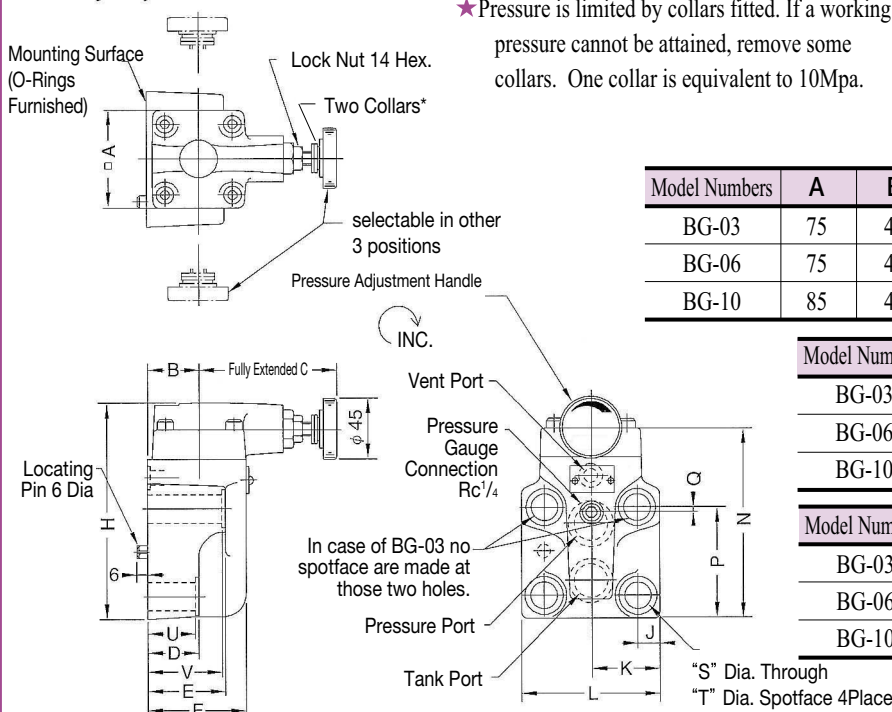


Model Numbers	A	B	C	D	E	F
BT-03	75	40	105	52	78	150.5
BT-06						
BT-10	85	50	101	80	96	183

Model Numbers	H	J	K	L	N	Q	S
BT-03	68.5	62	36	52	90	45	3/8
BT-06							3/4
BT-10	89	74	49	80	120	60	1 1/4

- ★1. Pressure is limited by collars fitted. If a working pressure cannot be attained, remove some collars. One collar is equivalent to 10Mpa. {102kgf/cm²}
- ★2. There are two threaded connection pressure ports. They can be connected each other in-line; one as inlet and the other as an outlet or the valve can be used by plugging one of the pressure ports.

BG-03, 06, 10



- ★ Pressure is limited by collars fitted. If a working pressure cannot be attained, remove some collars. One collar is equivalent to 10Mpa.

Mounting Surface

BG-03:ISO 6264-AR-06-2-A
BG-06:ISO 6264-AS-08-2-A
BG-10:ISO 6264-AT-10-2-A

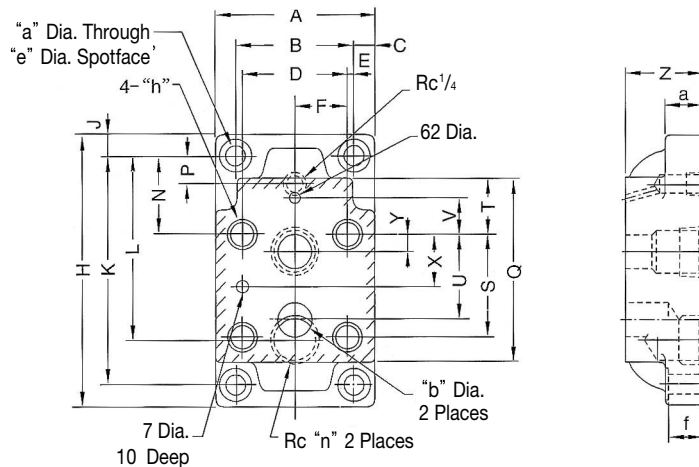
Model Numbers	A	B	C	D	E	F	H
BG-03	75	40	105	57	78	78	137
BG-06	75	40	105	40	60	78	161
BG-10	85	45	101	47	67	87.5	195

Model Numbers	J	K	L	N	P
BG-03	14.1	41	82	117	77
BG-06	17	52	104	141	83.5
BG-10	20.7	62	124	175	110

Model Numbers	Q	S	T	U	V
BG-03	22	13.5	21	55	-
BG-06	4.5	17.5	26	38	58
BG-10	6	21.5	32	45	65

Sub-Plate

BGM- 03, 03X
06, 06X
10, 10X

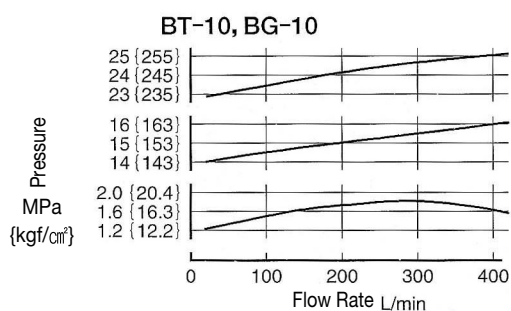
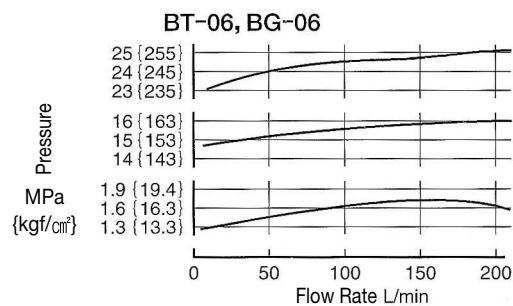
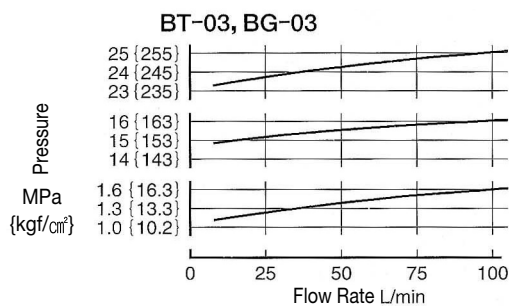


Model Numbers	A	B	C	D	E	F	H	J	K	L	N	P	Q	S
BGM-03	86	60	13	53.8	3.1	26.9	149	13	123	86	32	26	97	53.8
BGM-03X										95		21		
BGM-06	108	78	15	70	4	35	180	15	150	106.5	51	27.2	121	66.7
BGM-06X										119		18		
BGM-10	126	94	16	82.6	5.7	41.3	227	16	195	138.2	62	30.2	154	88.9
BGM-10X										158		17		

Model Numbers	T	U	V	X	Y	Z	a	b	d	e	f	h	n
BGM-03	19	47.4	0	22	22	32	20	14.5	11	17.5	19	M12 Thd.	3/8
BGM-03X						40						20(.79) Deep	1/2
BGM-06	37	55.5	23.8	33.4	11	40	25	23	13.5	21	24	M12 Thd.	3/4
BGM-06X						50						20(.79) Deep	1
BGM-10	42	76.2	31.8	44.5	12.7	50	32	28	17.5	26	31	M12 Thd.	1 1/4
BGM-10X						63						20(.79) Deep	1 1/2

■ Nominal Override Characteristics

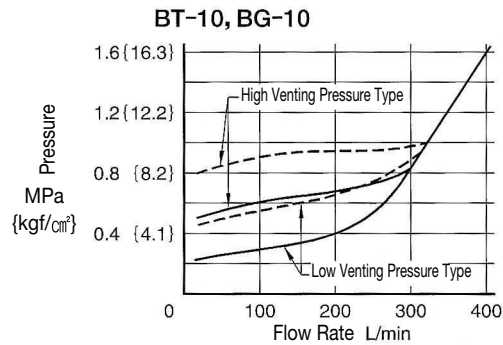
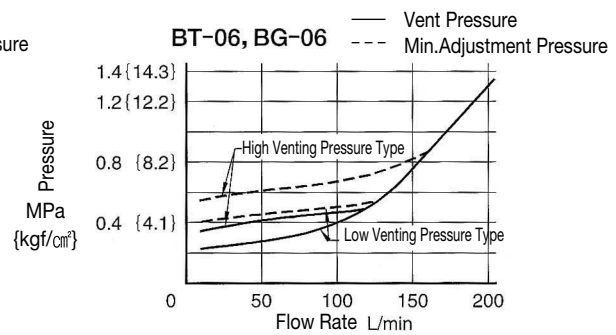
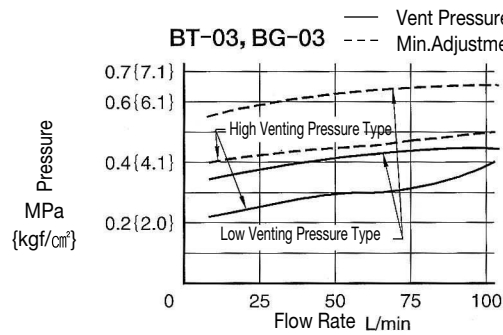
Hydraulic Fluid: Viscosity 35cSt
Specific Gravity 0.850



SEWON Hydraulics

Hydraulic Fluid: Viscosity 35 cSt
Specific Gravity 0.850

Min. Adj. Pressure & Vent Pressure vs. Flow

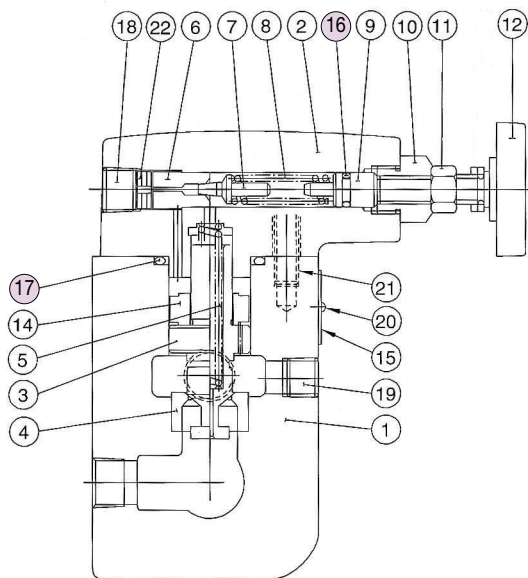


CAUTION

When making replacement of seals, please do it carefully after reading through the relevant instructions in the Operator's Manual.

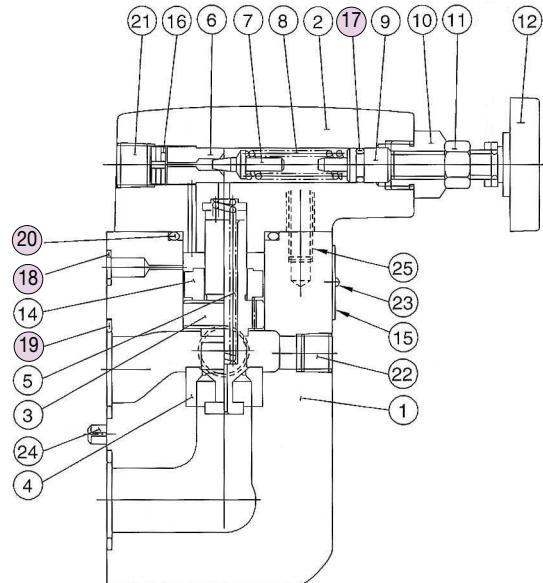
List of Seals

BT-03, 06, 10



Item	Name of Parts	Part Numbers			Qty
		BT-03	BT-06	BT-10	
16	O-Ring	JIS B 2401 -1A-P9	JIS B 2401 -1A-P9	JIS B 2401 -1A-P9	1
17	O-Ring	JIS B 2401 -1B-P32	JIS B 2401 -1B-P32	JIS B 2401 -1B-P42	1

BG-03, 06, 10



Item	Name of Parts	Part Numbers			Qty
		BG-03	BG-06	BG-10	
17	O-Ring	JIS B 2401 -1A-P9	JIS B 2401 -1A-P9	JIS B 2401 -1A-P9	1
18	O-Ring	JIS B 2401 -1B-P9	JIS B 2401 -1B-P11	JIS B 2401 -1B-P9	1
19	O-Ring	JIS B 2401 -1B-P18	JIS B 2401 -1B-P28	JIS B 2401 -1B-P32	2
20	O-Ring	JIS B 2401 -1B-P32	JIS B 2401 -1B-P32	JIS B 2401 -1B-P42	1

Low Noise Type Pilot Operated Relief Valves

Pilot operated relief valves here have been particularly developed as low-noise types. Able to protect pumps and control valves against excessive pressures, they are used to control the pressure in the hydraulic system to a constant level. Remote control and unloading are permitted by using vent circuits.

Ratings

Model Numbers	Max. Operating Pressure MPa {kgf/cm ² }	Pres. Adj. Range MPa {kgf/cm ² }	Max. Flow l/min	Mass kg
S-BG-03-※-※-40	25 {255}	★~25	100	4.1
S-BG-06-※-※-40		{★~255}	200	5.0

★ See minimum adjustment pressure characteristics on page 86.

Model Number Designation

S-	B	G	-03	-V	-L	-40
Low Noise Type	Series Number	Type of Mounting	Valve Size	High Venting ★ Pres. Feature	Direction of Handle	Design Number
S: Low Noise Type	B: Pilot Operated Relief Valves	G: Sub-Plate Mounting	03	V: For High Venting Pressure Feature (Omit if not required)	(Viewed from pressure gauge connection) L: Left (Normal) R: Right	40
			06			40

★ Use the high venting pressure type where it is necessary to reduce the response time from unloading to onloading.

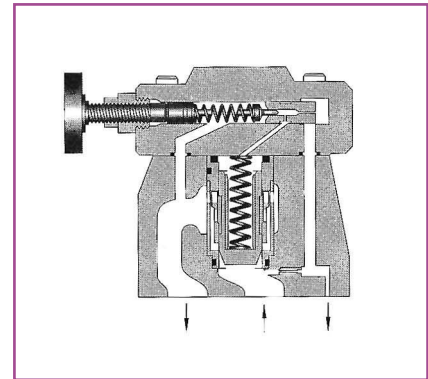
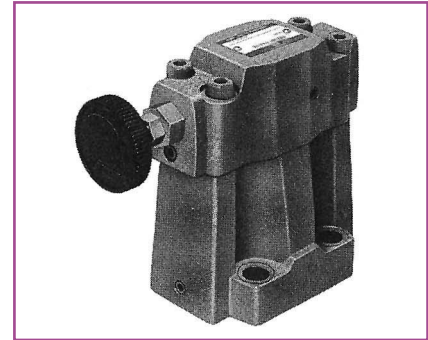
We have low noise solenoid Relief valves below.

Model Numbers	Max. Operating Pressure (PSI)	Max. Flow L/min
S-BSG-03-※-※-※-※-51	25 {255}	100
S-BSG-06-※-※-※-※-51		200

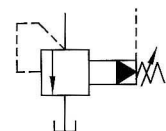
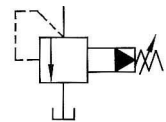
Instructions

- If a remote control relief valve is used in the vent circuit, see page 59. In addition, if the internal volume of the vent line is too large, chattering is likely to occur. Thus, as far as possible reduce the inside Dia. And the length of the pipe.
- To adjust the pressure, loosen the lock nut and turn the handle slowly clockwise for higher pressures or anti-clockwise for lower pressures. After adjustments, do not forget to tighten the lock nut.
- Piping of the tank line should not be connected to any tank line of the other valves, but connected directly to the tank.
- With a small flow, the setting pressure may be unstable. Use models numbered 03 and 06 with a flow rate above 5 L/min

Valve Size	Min. Flow
03	5 L/min
06	



KS Graphic Symbols



Vent Connection

Attachment

- Mounting Bolts

Valve Model Numbers	Socket Head Cap Screw
S-BG-03	M12 × 40L4pcs.
S-BG-06	M16 × 50L4pcs.

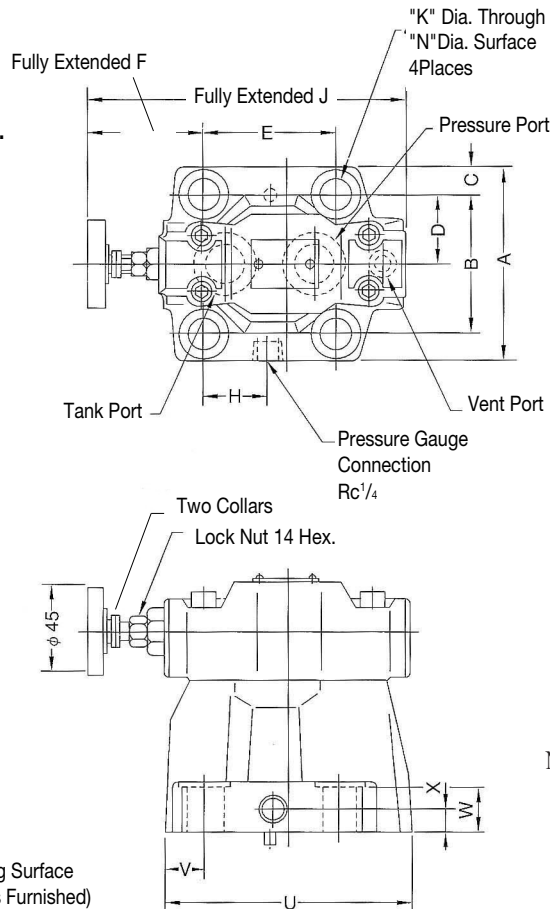
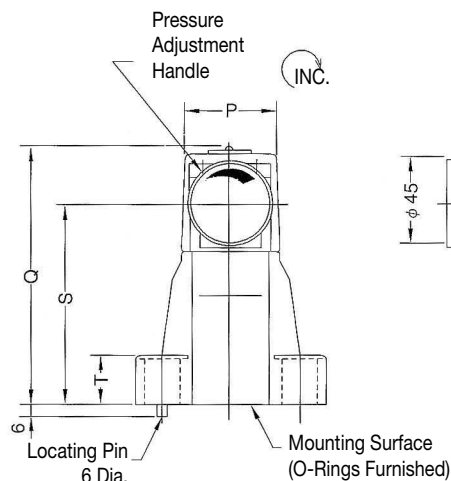
Sub-Plate

Valve Model Numbers	Sub-Plate Model Numbers	Piping Size	Mass kg
S-BG-03	BGM-03-20	Rc 3/8	2.4
	BGM-03X-20	Rc 1/2	3.1
S-BG-06	BGM-06-20	Rc 3/4	4.7
	BGM-06X-20	Rc 1	5.7

- Sub-plates are available. Specify sub-plate model from the table above. When sub-plates are not used, the mounting surface should have a good machined finish.
- The sub-plates are those for pilot operated relief valves. For dimensions, see page C-9.

S-BG-⁰³₀₆-※-L-40

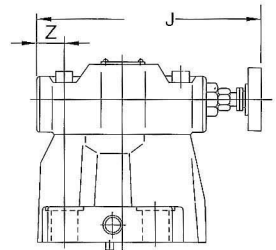
★ Pressure is limited by collars fitted.
If a working pressure cannot be attained, remove some collars.
One collar is equivalent to 10Mpa {102kgf/cm²}.



Mounting Surface
S-BG-03:ISO 6264-AR-06-2-A
S-BG-06:ISO 6264-AS-08-2-A

Opposite Handle Position

S-BG-⁰³₀₆-※-R



For other dimension, see the figures shown left.

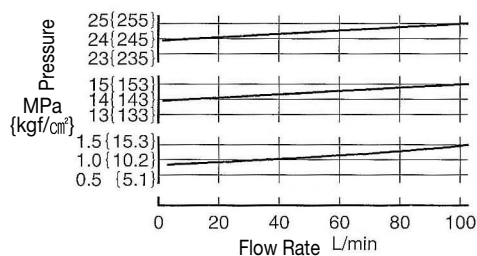
Note: For dimensions of the valve mounting surface, see the dimensional drawing (C-9) of the sub-plate used together.

Model Numbers	A	B	C	D	E	F	H	J	K	N	P	Q	S	T	U	V	W	X	Z
S-BG-03	76	53.8	11.1	26.9	53.8	73.6	26.9	163.5	13.5	21	50	130	103	21.5	106	26.1	20.5	13	36.1
S-BG-06	98	70	14	35	66.7	58.8	33.7	163.5	17.5	26	50	130	103	26	122	19.3	25	13	21.3

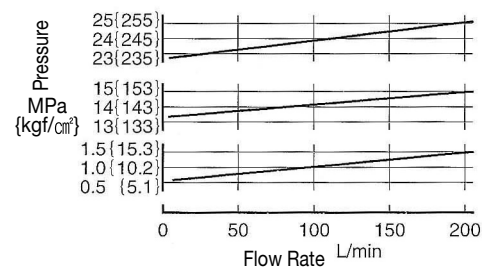
Nominal Override Characterist

Hydraulic fluid: Viscosity 35cSt(160SSU)
Specific Gravity 0.850

S-BG-03



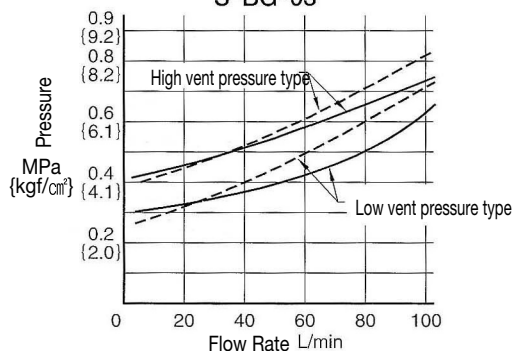
S-BG-06



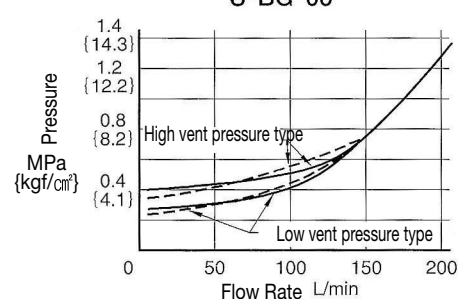
Min. Adj. Pressure and Vent Pressure vs. Flow

Hydraulic fluid: Viscosity 35cSt
Specific Gravity 0.850

S-BG-03



S-BG-06



PRESSURE CONTROLS

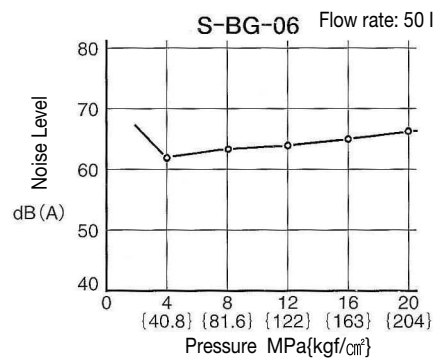
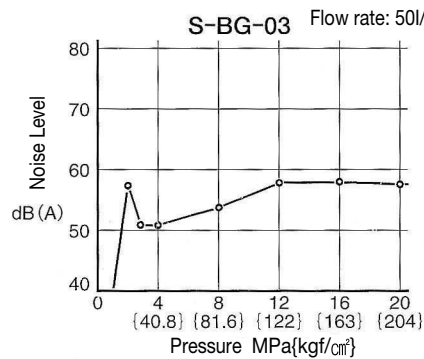
Noise Level

Measuring condition

Measuring position: At 1m back from the valve front.

Viscosity: 35cSt

Back pressure : 1 bar 0.1MPa {1.0kgf/cm²}

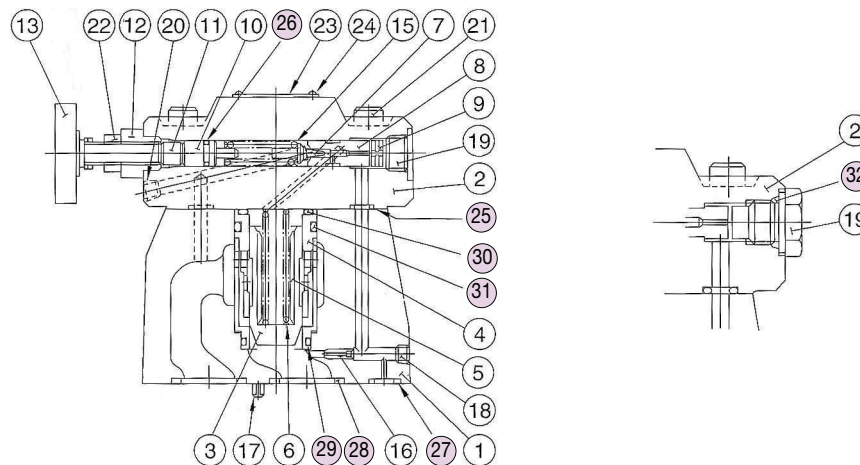


CAUTION

When making replacement of seals, please do it carefully after reading through the relevant instructions in the Operator's Manual.

List of Seals

S-BG-03, 06



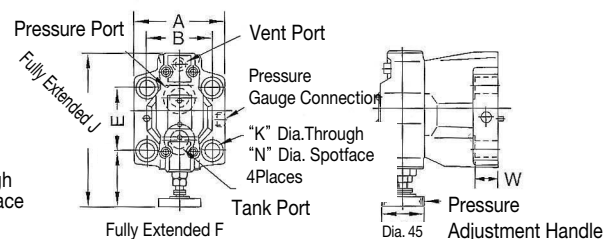
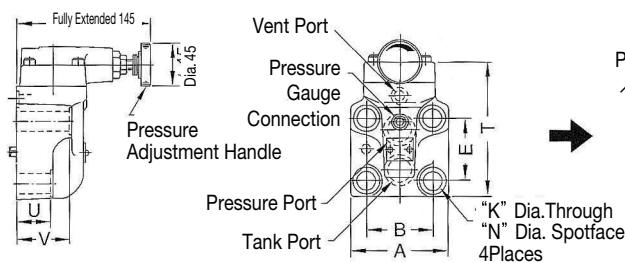
Item	Name of Parts	Part Numbers		Qty.
		S-BG-03	S-BG-06	
25	O-Ring	SO-NB-P9	SO-NB-P9	2
26	O-Ring	SO-NA-P9	SO-NB-P9	1
27	O-Ring	SO-NB-P9	SO-NB-P11	1
28	O-Ring	SO-NB-P18	SO-NB-P28	2
29	O-Ring	SO-NB-A024	SO-NB-A024	1
30	O-Ring	SO-NB-P28	SO-NB-P28	1
31	O-Ring	SO-NB-P32	SO-NB-P32	1
32	O-Ring	—	—	1

Interchangeability in Installation between Conventional Type and Low-noise Type

The design 40 of low-noise S-BG-03,06 is interchangeable for installation with design 32 of conventional BG-03,06. Their exterior sharps such as the position of the pressure adjustment handles are different.

Conventional type : BG - ⁰³/₀₆ - 32 Design

Low Noise Type : S- BG ⁰³/₀₆ - 40



Model Numbers	A	B	E	K	N	T	U	V
BG-03	82	53.8	53.8	13.5	21	117	55	78
BG-06	104	70	66.7	17.5	26	141	38	58

Model Numbers	A	B	E	F	K	N	J	W
S-BG-03	76	53.8	53.8	73.6	13.5	21	163.5	20.5
S-BG-06	98	70	66.7	58.8	17.5	26	163.5	25