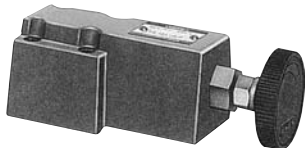


B

Relief Valves

Max. Pressure 25 MPa



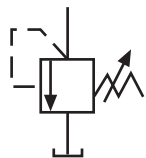
Remote Control Relief Valve



Direct Type Relief Valve

Graphic Symbol

Remote Control / Direct Type

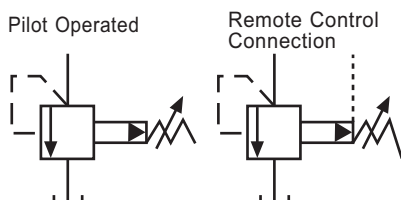


General Type Pilot Operated Relief Valve



Low Noise Type Pilot Operated Relief Valve

Graphic Symbol



- Remote Control Relief Valves are used for hydraulic pressure control valve (Relief Valve, Pressure Reducing Valve) by remote control.
- Relief Valve is used to protect hydraulic system from excessive pressure and can also be used to maintain a constant pressure in the hydraulic system.

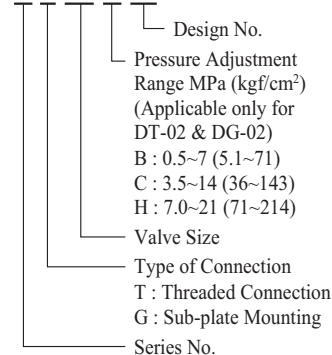
Specifications

Valve Type	Valve Size	Model No.	Pressure Adjustment Range MPa (kgf/cm ²)	Max. Flow L/min	Mass kg	
Remote Control Relief Valve	1/8	DT-01-22 DG-01-22	Max. 25 (255)	2	1.6 1.4	
Direct Type Relief Valve	1/4	DT-02-※-22 DG-02-※-22	Please refer to Model Number Designation	16	1.5	
Pilot Operated Relief Valve	General Type	3/8	BT-03-※-32 BG-03-※-32	0.5~25 (5~255)	100	5.0 4.7
		3/4	BT-06-※-32 BG-06-※-32		200	5.0 5.6
		1-1/4	BT-10-※-32 BG-10-※-32		400	8.5 8.7
	Low Noise Type	3/8	S-BG-03-※- ^L / _R -40	0.4~25 (4~255)	100	4.1
		3/4	S-BG-06-※- ^L / _R -40		200	5.0

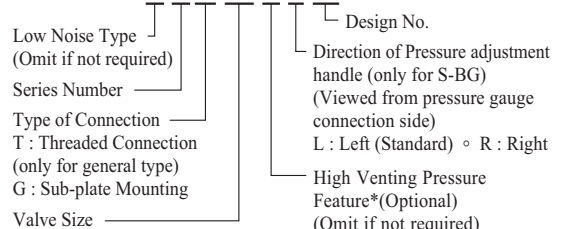
*Low-pressure control type, please contact sales people for details.

Model Number Designation

D T-02-B-22



S-B G-06-V-L-※



*Use high venting pressure type to reduce the response time from unload to load.

- **The Min. Flow** : The setting pressure will be unstable when using small flow; therefore, the flow should be bigger than the min. flow as the below table.

Model No.	BG/BT Series	S-BG Series
03	8 L/min	5 L/min
06		
10	15 L/min	-

Mounting Bolts (Attachment)

Model No.	Socket Head Cap Screw	Qty	Tightening Torque N·m (kgf·m)
DG-01	M5 x 45 Lg.	4	8~9
DG-02	M5 x 45 Lg.	4	(0.8~0.9)
BG-03	M12 x 70 Lg.	2	104~127
	M12 x 95 Lg.	2	(10.6~13.0)
BG-06	M16 x 60 Lg.	2	253~310
	M16 x 80 Lg.	2	(25.8~31.6)
BG-10	M20 x 70 Lg.	2	493~603
	M20 x 90 Lg.	2	(50.3~61.5)
S-BG-03	M12 x 40 Lg.	4	104~127 (10.6~13.0)
S-BG-06	M16 x 50 Lg.	4	253~310
			(25.8~31.6)

Sub-plate

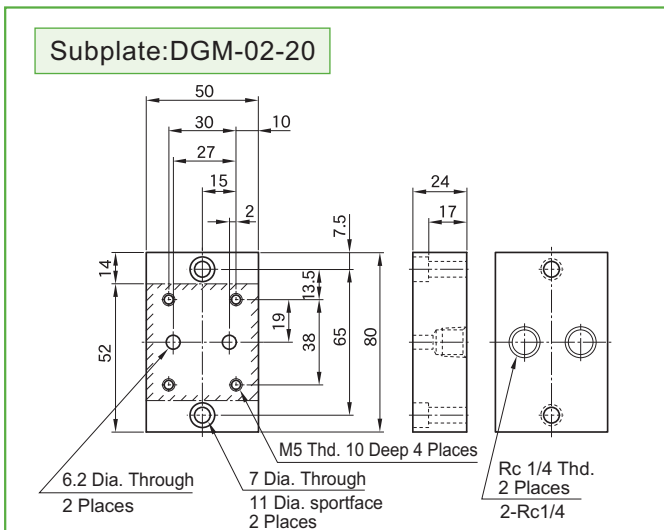
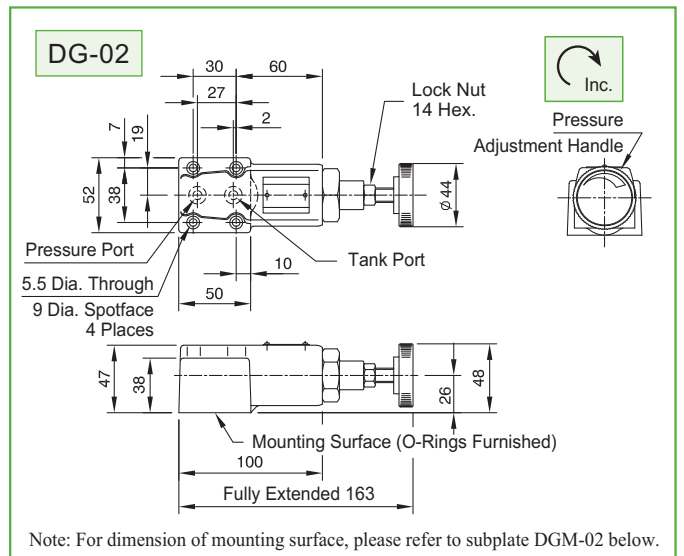
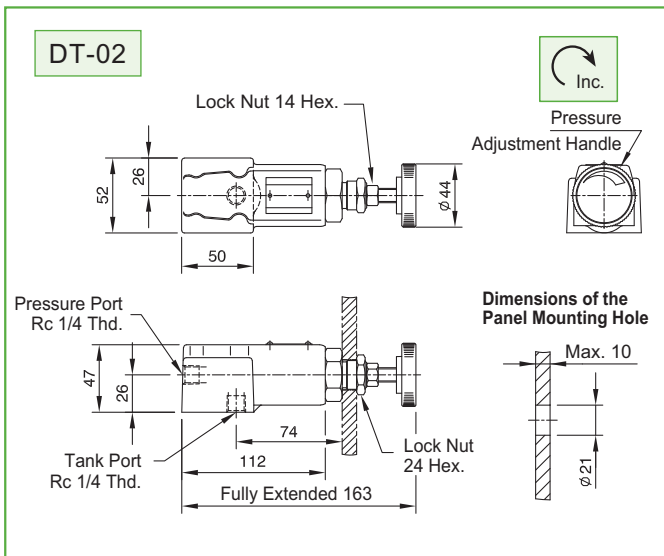
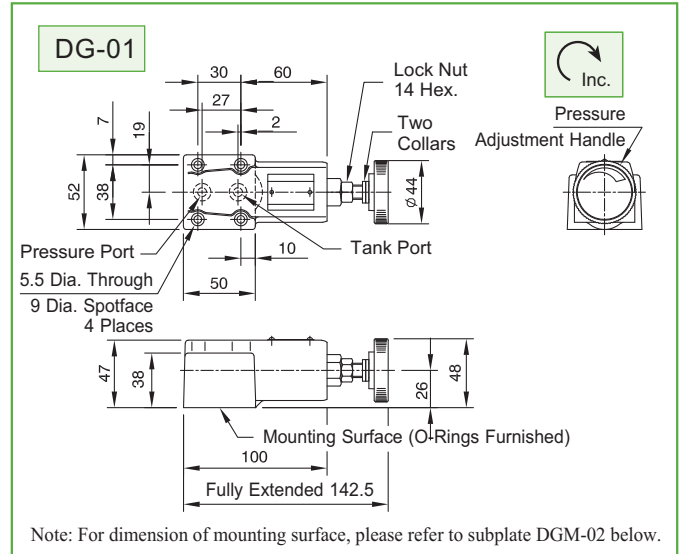
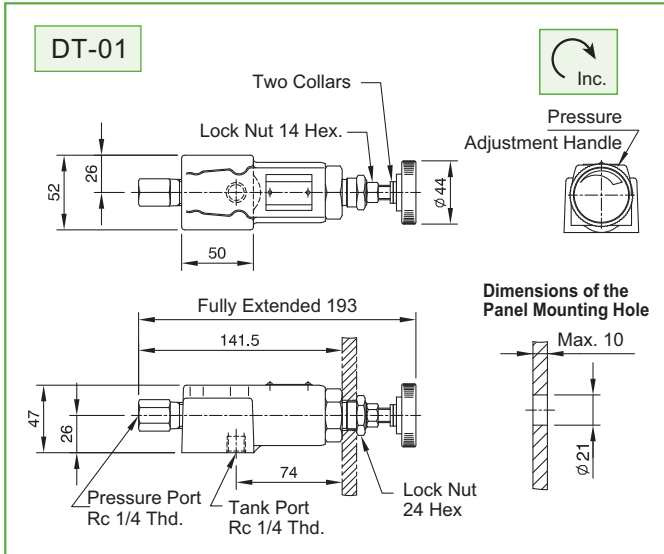
Valve Model No.	Sub-plate Model No.	Piping Size Rc	Mass kg
DG-01,DG-02	DGM-02-20	1/4	0.7
(S)-BG-03	BGM-03-20	3/8	2.4
	BGM-03X-20	1/2	3.1
(S)-BG-06	BGM-06-20	3/4	4.7
	BGM-06X-20	1	5.7
BG-10	BGM-10-20	1-1/4	8.4
	BGM-10X-20	1-1/2	10.3

- Sub-plates are available. When ordering,
- Please refer to page 45, 47 for the dimensions.

Relief Valves

Max. Pressure 25 MPa

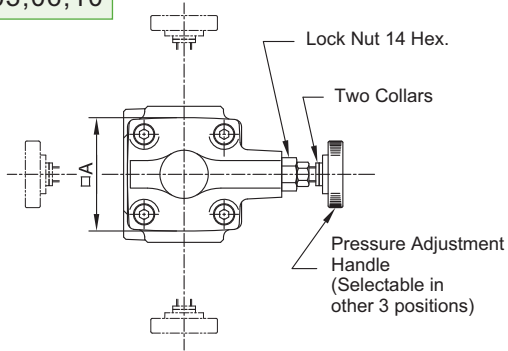
B



Relief Valves

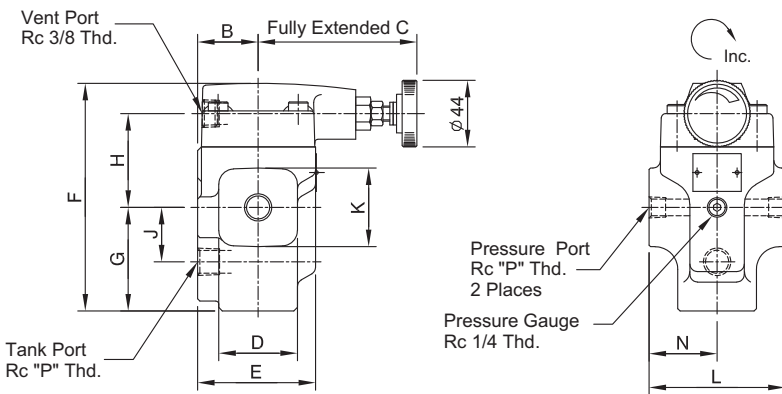
Max. Pressure 25 MPa

BT-03,06,10

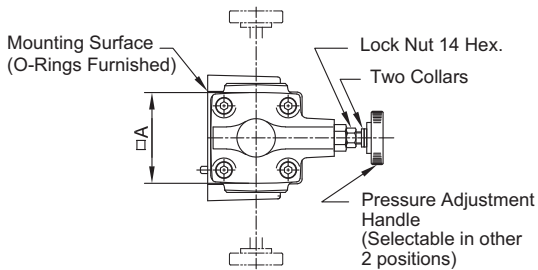


Model No.	A	B	C	D	E	F
BT-03	75	40	105	52	78	150.5
BT-06						
BT-10	85	50	101	80	96	183

Model No.	G	H	J	K	L	N	P
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



BG-03,06,10

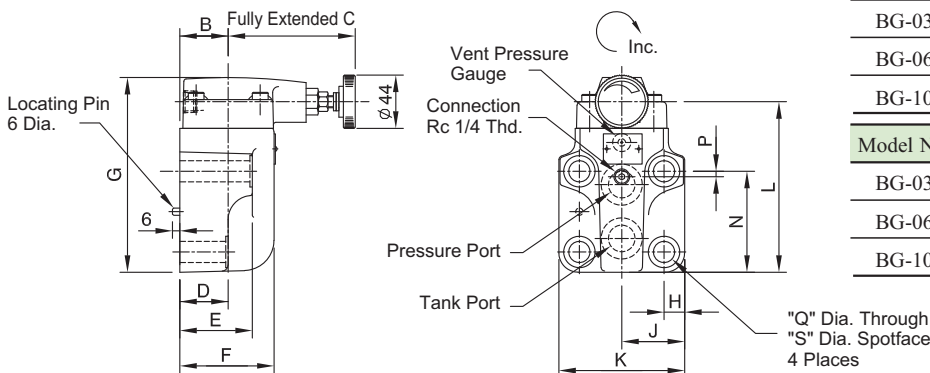


Mounting Surface
BG-03:ISO 6264-06-09-1-97
BG-06:ISO 6264-08-13-1-97
BG-10:ISO 6264-10-17-1-97

Model No.	A	B	C	D	E	F	G
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	84	195

Model No.	H	J	K	L
BG-03	14.1	41	82	117
BG-06	17	52	104	141
BG-10	20.7	62	124	175

Model No.	N	P	Q	S
BG-03	77	22	13.5	21
BG-06	83.5	4.5	17.5	26
BG-10	110	6	21.5	32

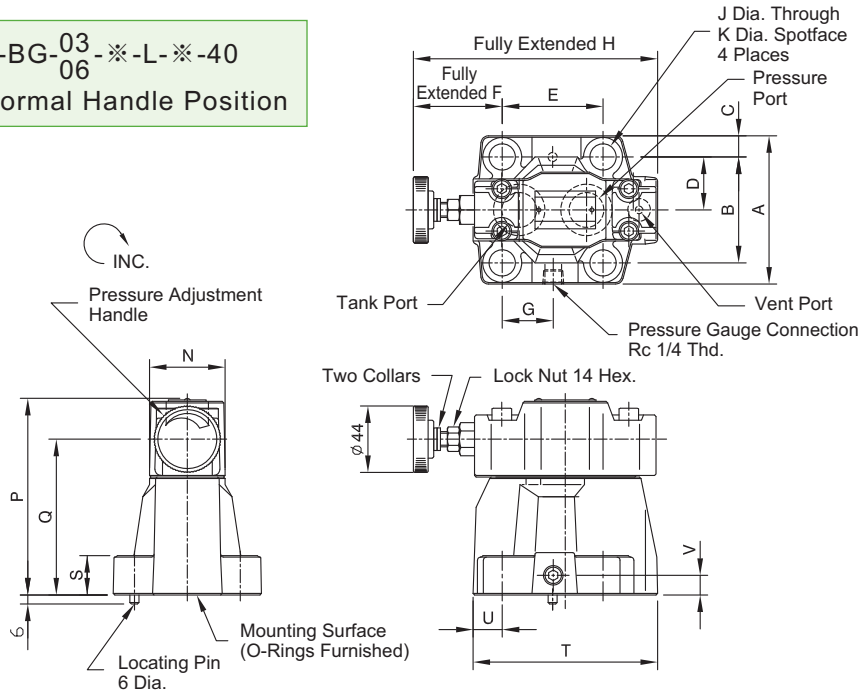


Note: For dimensions of mounting surface, please refer to BGM type sub-plate (on next page)

Relief Valves

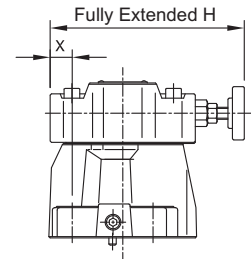
Max. Pressure 25 MPa

S-BG-03-06-※-L-※-40
Normal Handle Position



Mounting Surface:
S-BG-03:ISO 6264-06-09-1-97
S-BG-06:ISO 6264-08-13-1-97

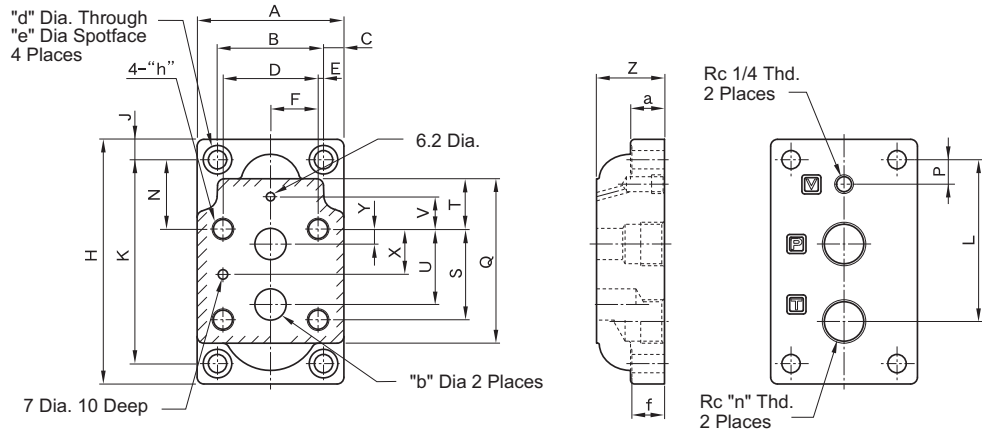
Opposite Handle Position
S-BG-06-※-R



For other dimensions, please see the figures shown left.

Model No.	A	B	C	D	E	F	G	H	J	K	N	P	Q	S	T	U	V	X
S-BG-03	76	53.8	11.1	26.9	53.8	73.6	26.9	161.5	13.5	21	50	130	103	21.5	106	26.1	13	33.1
S-BG-06	98	70	14	35	66.7	58.8	33.7	161.5	17.5	26	50	130	103	26	122	19.3	13	18.3

Sub-plate
BGM-03, 03X-20
06, 06X
10, 10X



Model No.	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 No.	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. 20 Deep	3/8	
BGM-03X						40							1/2	
BGM-06	37	55.5	23.8	33.4	11	40	25	23	13.5	21	24	M16 Thd. 25 Deep	3/4	
BGM-06X						50							1	
BGM-10	42	76.2	31.8	44.5	12.7	50	32	28	17.5	26	31	M20 Thd. 28 Deep	1-1/4	
BGM-10X						63							1-1/2	

Relief Valves (High Pressure Type) Max. Pressure 35 MPa



Relief Valves
(High Pressure)

The high-pressure relief valve is designed to adjust at 35MPa. This valve can protect pump, valves and components under high pressure conditions. In the meantime, it can control the max. working pressure in the hydraulic system. In the remote control circuit, it can do both remote-control and unloading.

Specifications

Model Numbers	Max. Operating Pressure MPa (kgf/cm ²)	Pres. Adj. Range MPa (kgf/cm ²)	Max. Flow L/min	Mass kg
B3G-03-※-10	35 (357)	★ ~ 35 (357)	250	4.1
B3G-06-※-10			500	6.6

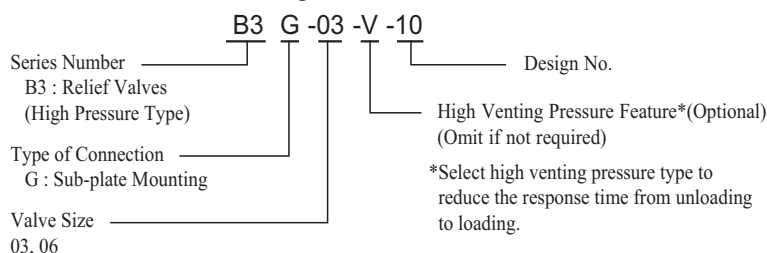
* Please refer to page 49 for Min. Adj. Pressure Characteristics
* There is B3SG High Pressure Solenoid Controlled Relief Valve



Solenoid Controlled Relief Valve
(High Pressure)

* There is B3SG High Pressure Solenoid Controlled Relief Valve

Model Number Designation

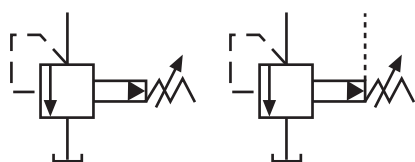


Attentions

- Remote control: the volume in the piping is larger to make the valve vibrated, please make the piping smaller and shorter as much as possible.
- To adjust the pressure, loosen the lock nut and turn the handle slowly clockwise for higher pressure or anti-clockwise for lower pressure. After adjustment, do not forget to tighten the lock nut.
- The return piping should directly connect to the reservoir, not to the other piping.
- It might be unstable setting pressure while low flow, please set the flow higher than the min flow, refer to the below table.

Model No.	Min. Flow
03	5 L/min
06	

JIS Graphic Symbol (Relief Valves)



Remote Control Connection

Mounting Bolts (Attachment)

Model No.	Socket Head Cap Screw	Q'ty	Tightening Torque N·m (kgf·m)
B3G-03	M12 x 40 Lg.	4	104~127 (10.6~13.0)
B3G-06	M16 x 50 Lg.	4	253~310 (25.8~31.6)

Sub-plate

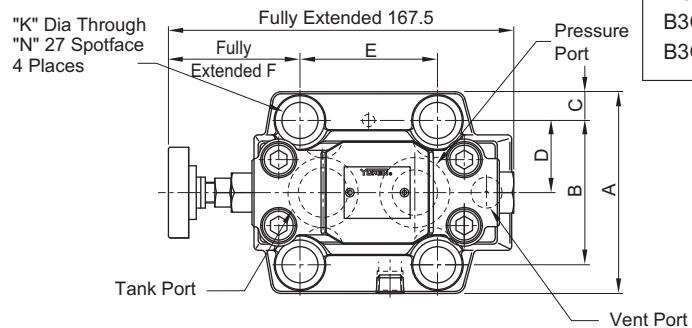
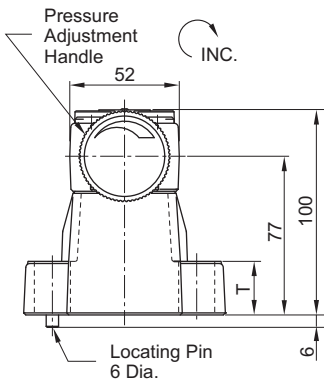
Valve Model No.	Sub-plate Model No.	Piping Size Rc	Mass kg
B3G-03	BGM-03-20	3/8	2.4
B3G-06	BGM-06-20	3/4	4.7

* Sub-plate are available. Specify the sub-plate model number from the table above, when sub-plates are not used, the mounting surface must be process under 6~S (Ra1.6).
* Sub-Plate is same as Pilot Operated Relief Valve, Please refer to P.47 for the dimensions.

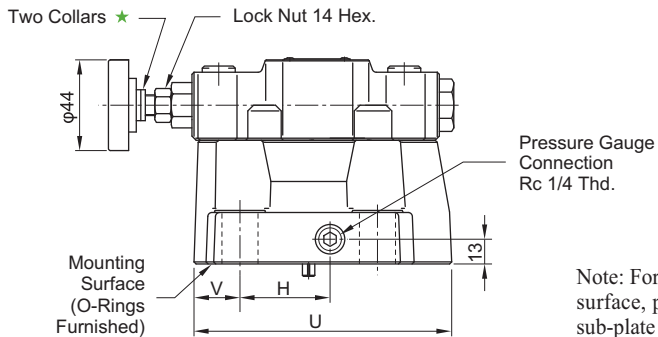
Relief Valves (High Pressure Type) Max. Pressure 35 MPa

B3G-03 -10
06

★ Pressure is limited by collars fitted. If a working pressure cannot be attained, remove some collars. One collar is equivalent to 14MPa.



Mounting Surface:
B3G-03 : ISO 6264-06-09-1-97
B3G-06 : ISO 6264-08-13-1-97

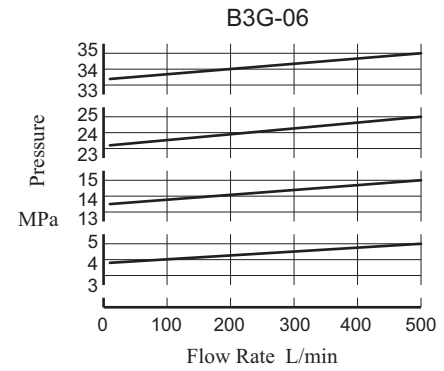
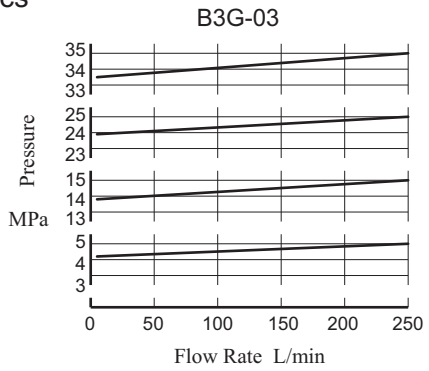


Note: For Dimensions of mounting surface, please refer to BGM type sub-plate (page 47)

Model No.	A	B	C	D	E	F	H	K	N	T	U	V
B3G-03	76	53.8	11.1	26.9	53.8	74.6	29.3	13.5	21	21.5	111	31.2
B3G-06	100	70	15	35	66.7	63.8	43.7	17.5	27	26	125	22.3

Flow-Pressure Characteristics

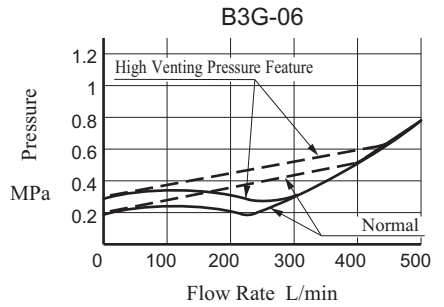
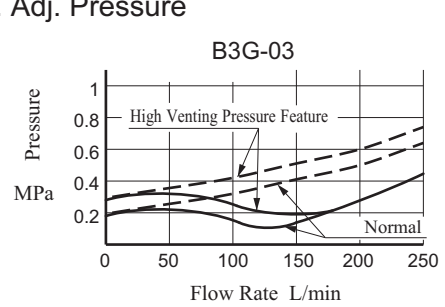
Fluid: Viscosity 35 mm²/s
Specific gravity 0.850



Flow-Vent Pressure & Min. Adj. Pressure

Fluid: Viscosity 35 mm²/s
Specific gravity 0.850

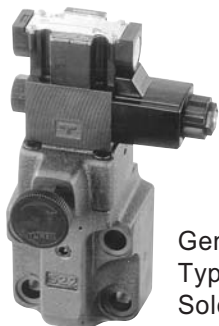
— Vent Pressure
- - - Min. Adj. Pressure



Note: Vent Pressure is the relief pressure while remote control open to the reservoir.

B

Solenoid Controlled Relief Valves Max. Pressure 25 MPa



General Type Solenoid Controlled Relief Valve



Low Noise Type Solenoid Controlled Relief Valve

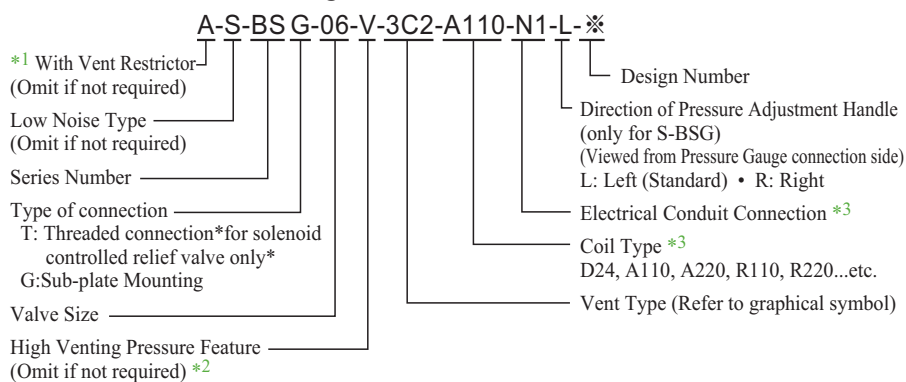
These valves are a combination of relief valve and solenoid valve. Piping between the two valves is eliminated as the solenoid valve is directly mounted on the relief valve and connected with the relief valve vent. Pump pressure may be unloaded remotely by an electrical signal to the solenoid, or by connecting the pilot relief valve to the solenoid valve ports.

Specifications

Valve Type	Valve Size	Model No.	Pressure Adjustment Range MPa (kgf/cm ²)	Max. Flow L/min	Mass kg*	
					Single Sol.	Double Sol.
General Type Solenoid Controlled Relief Valve	3/8	BST-03-**-**-47T	0.5~25 (5.1~255)	100	6.8	7.4
		BSG-03-**-**-47T			6.5	7.1
	3/4	BST-06-**-**-47T		200	6.8	7.4
		BSG-06-**-**-47T			7.4	8.0
	1-1/4	BST-10-**-**-47T		400	10.5	11.1
		BSG-10-**-**-47T			10.7	11.3
Low Noise Type Solenoid Controlled Relief Valve	3/8	S-BSG-03-**-**-R _L -52T	0.4~25 (4.1~255)	100	5.7	6.3
	3/4	S-BSG-06-**-**-R _L -52T		200	6.6	7.2

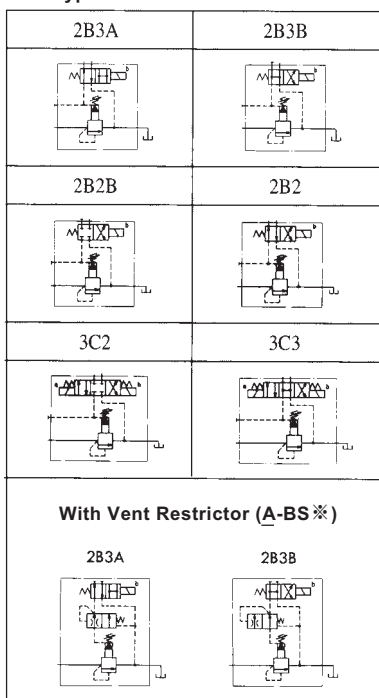
*For models with vent restrictors, add 1kg.

Model Number Designation



Graphic Symbol

Vent type



*1. Models with vent restrictor (ST-797-40) are applicable only for the vent type 2B3A and 2B3B. It prevents shocks to the main circuit by gradually lowering the venting pressure in the shift from the set pressure to unloading. The hydraulic fluid viscosity remains the range of 15~200cSt. The bolt kits should be 30 mm longer when mounting solenoid controlled relief valves.

*2. Use high-venting pressure type to reduce response time from unloading to onloading.

*3. The coil type is the same as that of the solenoid operated directional valve DSG-01. (Page 82)

*4. The minimum using flow is restricted. Please refer to page 44. BG/BT/S-BG series.

Sub-Plate

Valve Model No.	Sub-plate Model No.	Piping Size Rc	Mass kg
(S)-BSG-03	BGM-03-20	3/8	2.4
	BGM-03X-20	1/2	3.1
(S)-BSG-06	BGM-06-20	3/4	4.7
	BGM-06X-20	1	5.7
BSG-10	BGM-10-20	1-1/4	8.4
	BGM-10X-20	1-1/2	10.3

Please refer to page 47 for dimension details.

Mounting Bolts (Attachment)

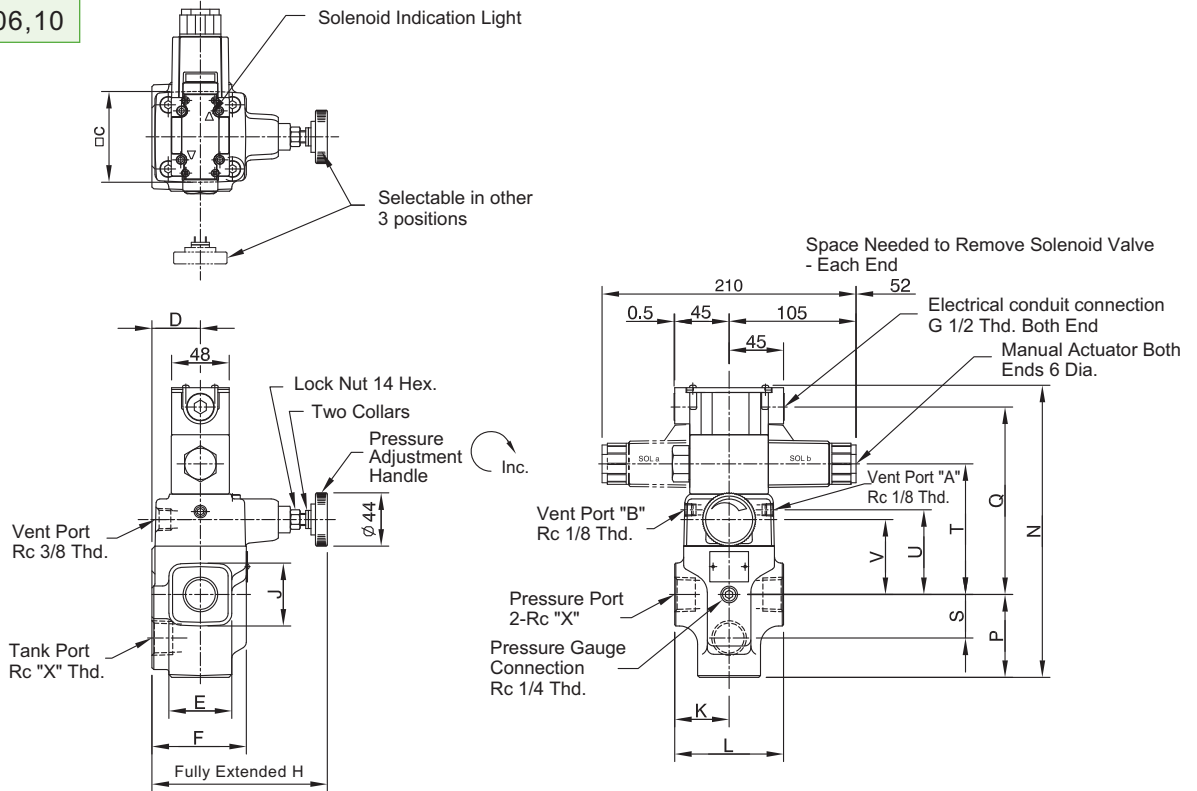
Model No.	Socket Head Cap	Screw Q'ty	Tightening Torque N•m (kgf•m)
BSG-03	M12 x 70 Lg.	2	104~127 (10.6~13.0)
	M12 x 95 Lg.	2	
BSG-06	M16 x 60 Lg.	2	253~310 (25.8~31.6)
	M16 x 80 Lg.	2	
BSG-10	M20 x 70 Lg.	2	493~603 (50.3~61.5)
	M20 x 90 Lg.	2	
S-BSG-03	M12 x 40 Lg.	4	104~127 (10.6~13.0)
S-BSG-06	M16 x 50 Lg.	4	253~310 (25.8~31.6)

Solenoid Controlled Relief Valves

Max. Pressure 25 MPa

B

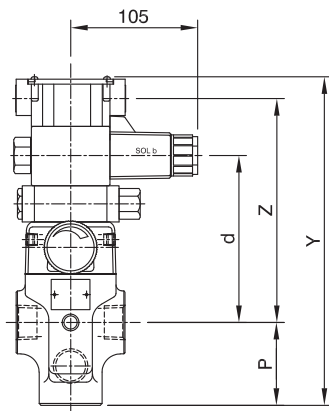
BST-03,06,10



Model No.	C	D	E	F	H	J	K	L	N	P	Q	S	T	U	V	X
BST-03	75	40	52	78	145	52	45	90	241.5	68.5	155	36	108	70	62	3/8
BST-06																3/4
BST-10	85	50	80	96	151	80	60	120	273	89	166	49	119	81	74	1-1/4

Note: For detailed dimensions of Solenoid Operated Directional Valves (page 83,84).

Options-Model with Vent Restrictor: A-BST-03, 06, 10



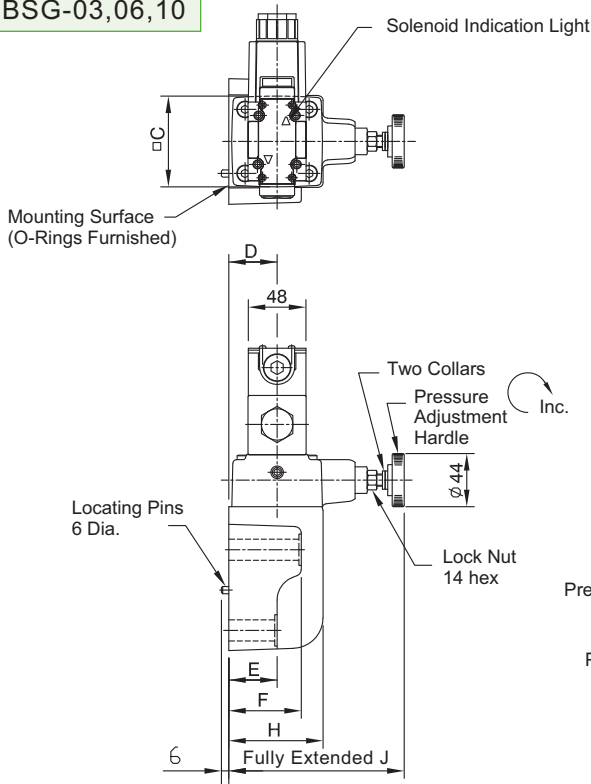
Model No.	P	Y	Z	d
A-BST-03	68.5	271.5	185	138
A-BST-06				138
A-BST-10	89	303	196	149

For other dimensions, please refer to the dimensions of each model as listed in the table in the upper drawing.

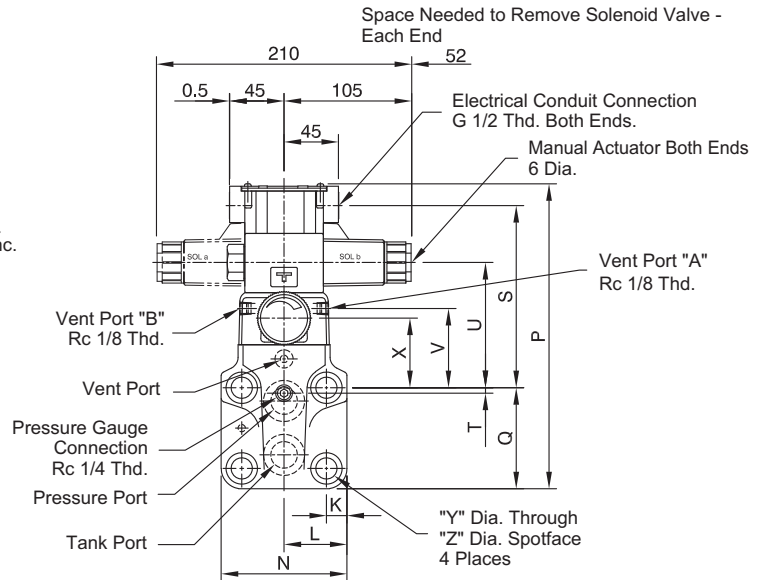
Solenoid Controlled Relief Valves

Max. Pressure 25 MPa

BSG-03,06,10



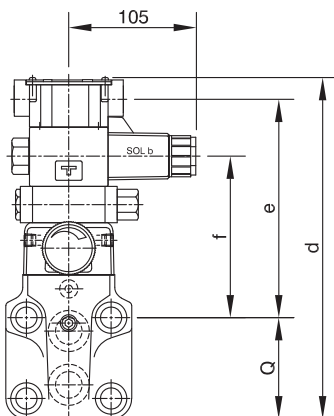
Mounting Surface
BSG-03:ISO 6264-06-09-1-97
BSG-06:ISO 6264-08-13-1-97
BSG-10:ISO 6264-10-17-1-97



Model No.	C	D	E	F	H	J	K	L	N	P	Q	S	T	U	V	X	Y	Z
BSG-03	75	40	57	78	78	145	14.1	41	82	228	77	133	22	86	48	40	13.5	21
BSG-06	75	40	40	60	78	145	17	52	104	252	83.5	150.5	4.5	103.5	65.5	57.5	17.5	26
BSG-10	85	45	47	67	84	146	20.7	62	124	285	110	157	6	110	72	65	21.5	32

Note: For dimensions of mounting surface, please refer to BGM type sub-plate (page 47).
For detailed dimensions of Solenoid Operated Directional Valve (page 83,84).

Options-Model with Vent Restrictor: A-BSG-03, 06, 10



Model No.	Q	d	e	f
A-BSG-03	77	258	163	116
A-BSG-06	83.5	282	180.5	133.5
A-BSG-10	110	315	187	140

For other dimensions, please refer to the dimensions of each model as listed in the table in the upper drawing.

Solenoid Controlled Relief Valves

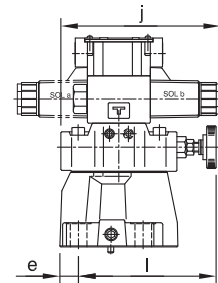
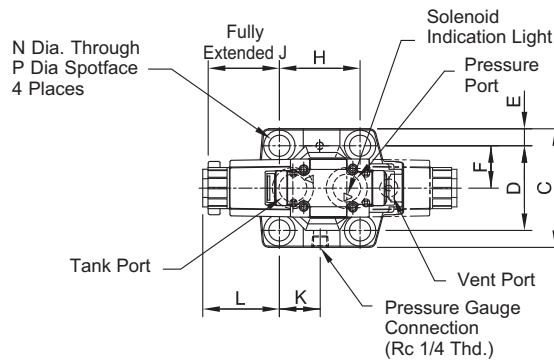
Max. Pressure 25 MPa

B

S-BSG-03-**-**-**-L-52T
06
Normal Handle Position

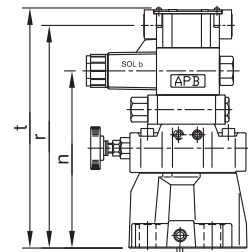
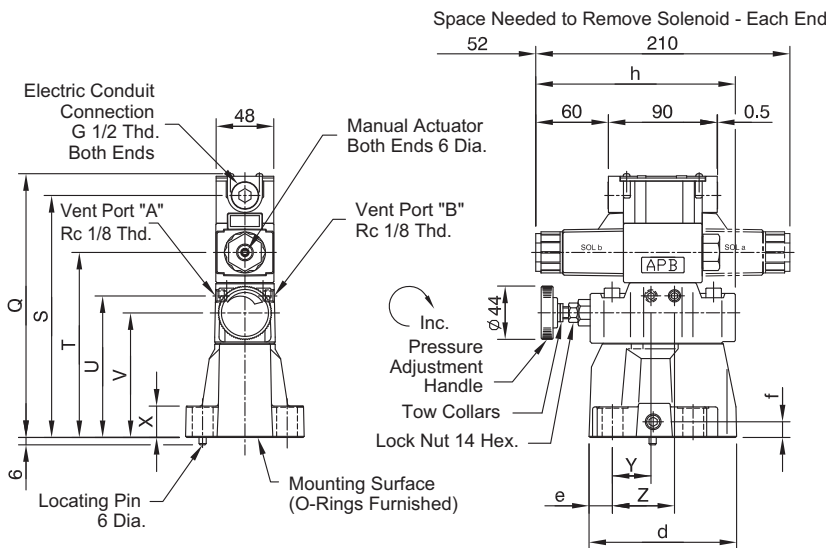
Mounting Surface:
S-BSG-03:ISO 6264-06-09-1-97
S-BSG-06:ISO 6264-08-13-1-97

Opposite Handle Position
S-BSG-03.06-**-**-**-R



For other dimensions, please see the figures shown left.

Options-Model with Vent Restrictors
A-S-BSG-03
06



For other dimensions, please see the figures shown left.

Model No.	C	D	E	F	H	J	K	L	N	P	Q	S	T	U
S-BSG-03	76	53.8	11.1	26.9	53.8	73.6	26.9	78.1	13.5	21	218	200	153	117
S-BSG-06	98	70	14	35	66.7	58.8	33.7	63.3	17.5	26	218	200	153	117

Model No.	V	X	Y	Z	d	e	f	h	i	j	n	r	t
S-BSG-03	103	21.5	17.1	36.6	106	26.1	13	165	127.4	165	183	230	248
S-BSG-06	103	26	31.9	51.4	122	19.3	13	165	142.2	165	183	230	248

Note: For dimensions of mounting surface, please refer to BGM-03/06 type sub-plate (page 47).
For detailed dimensions of Solenoid Operated Directional Valve (page 83, 84).

B H Type Pressure Control Valves HC Type Pressure Control Valves

Max. Pressure 21 MPa



HG Type



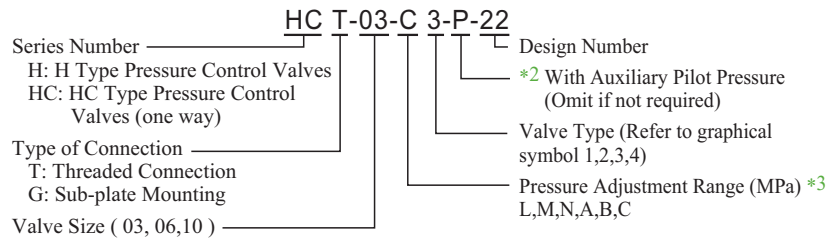
HCG Type

These valves are pressure control valves directly operated with hydraulic buffer, which can be actuated by internal or external pilot pressure. The valves with an integral check valve are also available. These valves can be used in such a case where free reverse flow from the secondary port to primary port is required. There are various type of valves available including sequence, counterbalance, unloading and low pressure relief valves, all of which are operated by a pressure rise in the circuit being sensed either internally or remotely. (Please refer to Graphic Symbol)

Specifications

Valve Size	Model No.	Pressure Adjustment MPa (kgf/cm ²)	Max. Flow L/min	Mass kg
3/8	HT-03-※※※-22	L : 0.25 ~ 0.45 (2.5 ~ 4.6)	50	3.7
	HG-03-※※※-22			4.0
	HCT-03-※※※-22	M : 0.45 ~ 0.9 (4.6 ~ 9.2)		4.1
	HCG-03-※※※-22			4.8
3/4	HT-06-※※※-22	N : 0.9 ~ 1.8 (9.2 ~ 18)	125	6.2
	HG-06-※※※-22			6.1
	HCT-06-※※※-22	A : 1.8 ~ 3.5 (18 ~ 36)		7.1
	HCG-06-※※※-22			7.4
1-1/4	HT-10-※※※-22	B : 3.7 ~ 7.0 (36 ~ 71)	250	12.0
	HG-10-※※※-22			11.0
	HCT-10-※※※-22 *1	C : 7.0 ~ 14 (71 ~ 143)		13.8
HCG-10-※※※-22	13.8			

Model Number Designation



- *1. Products are made by Yuken Kogyo. If you have any inquiry, please contact our sales engineers.
- *2. Models with auxiliary pilots are used where valves must be operated under a lower external pilot pressure than the adjusted pressure. This does not apply to pressure adjustment ranges L, M and H of valve type 1.
- *3. In addition, type 1 is only possible for pressure adjustment ranges L and M. (applicable only for H type)

Graphic Symbol

Series No.	Valve Type	Auxiliary Port	
		Without	With (P)
H※	Type 1 Low Pressure Relief Valve		—
	Type 2 Sequence Valve		
	Type 3 Sequence Valve		
	Type 4 Unloading valve		
HC※	Type 1 Counterbalance Valve		
	Type 2 Sequence and Check Valve		
	Type 3 Sequence and Check Valve		
	Type 4 Counterbalance Valve		

Mounting Bolts (Attachment)

Model No.	Socket Head Cap	Screw Qty	Tightening Torque N•m (kgf•m)
HG-03	M10 x 50 Lg.	4	60~74 (6.1~7.5)
HCG-03	M10 x 70 Lg.	4	
HG-06	M10 x 50 Lg.	4	
HCG-06	M10 x 80 Lg.	4	
HG-10	M10 x 50 Lg.	6	
HCG-10	M10 x 90 Lg.	6	

Sub-plate

Valve Model No.	Sub-plate Model No.	Piping Size Rc	Mass kg
HG -03-※※※-22	HGM-03-20	3/8	1.6
	HGM-03X-20	1/2	
HG -03-※※※-P-22	HGM-03-P-20	3/8	2.0
	HGM-03X-P-20	1/2	
HG -06-※※※-22	HGM-06-20	3/4	2.4
	HGM-06X-20	1	3.0
HG -06-※※※-P-22	HGM-06-P-20	3/4	2.4
	HGM-06X-P-20	1	3.0
HG -10-※※※-22	HGM-10-20	1-1/4	4.8
	HGM-10X-20	1-1/2	5.7
HG -10-※※※-P-22	HGM-10-P-20	1-1/4	4.8
	HGM-10X-P-20	1-1/2	5.7

Sub-plates are available. When ordering, please specify sub-plate model from the table above (page 59).

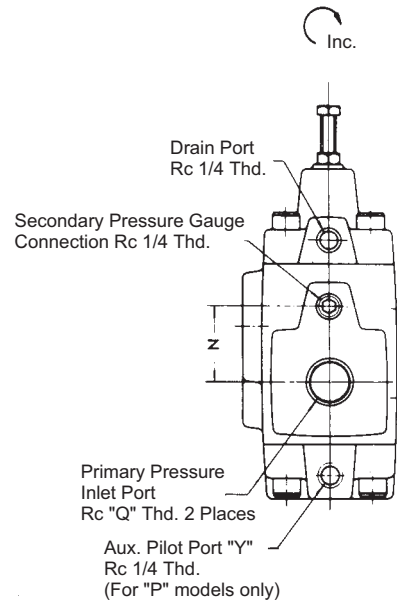
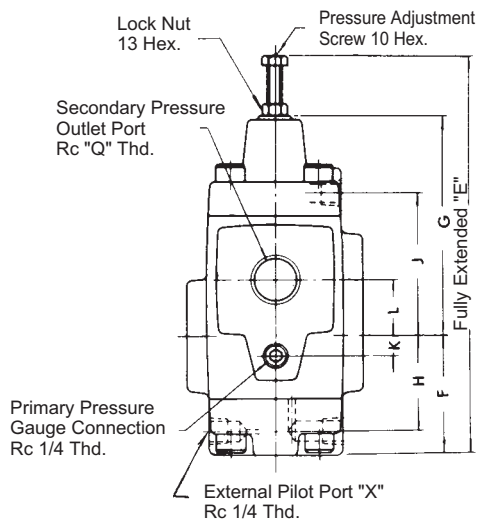
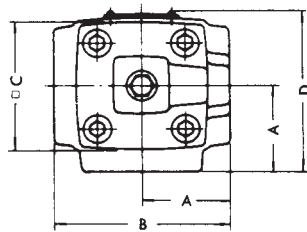
H Type Pressure Control Valves

Max. Pressure 21 MPa

B

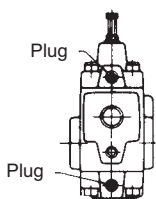
HT-03, 06, 10

Type 3: Sequence Valve
(External Pilot, External Drain)

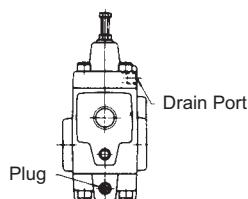


Model No.	A	B	C	D	E	F	G	H	J	K	L	N	Q
HT-03	41	82	60	74	191	57	106	43	70	0	28	28	3/8
HT-06	48	96	73	87	221	64.5	123.5	50.5	80.5	9	33	42	3/4
HT-10	66	132	86	112	272	84	149	66	98	12	40	52	1-1/4

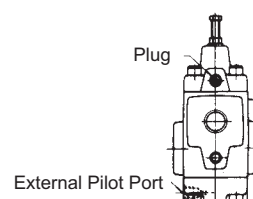
Type 1: Low Pressure Relief Valve
(Internal Pilot, Internal Drain)



Type 2: Sequence Valve
(Internal Pilot, External Drain)



Type 4: Unloading Valve
(External Pilot, Internal Drain)

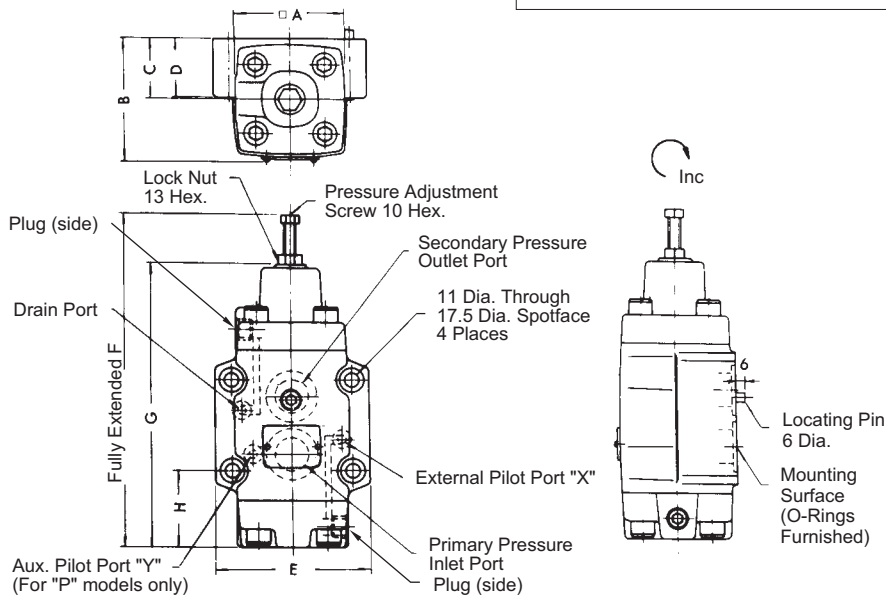


B H Type Pressure Control Valves

Max. Pressure 21 MPa

HG-03, 06
Type 3: Sequence Valve
(External Pilot, External Drain)

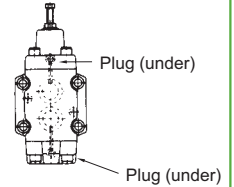
Mounting Surface:
HG-03: ISO 5781-AG-06-2-A-87
HG-06: ISO 5781-AH-08-2-A-87



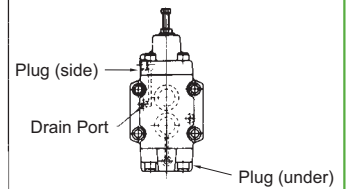
Model No.	A	B	C	D	E	F	G	H
HG-03	60	67	35	39	89	191	163	49.6
HG-06	73	79	40	39	102	221	188	51

Note: For dimensions of mounting surface, please refer to HGM-03 & 06 type sub-plate.(page 59)

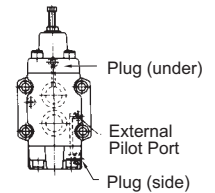
Type 1: Low Pressure Relief Valve
(Internal Pilot, Internal Drain)



Type 2: Sequence Valve
(Internal Pilot, External Drain)



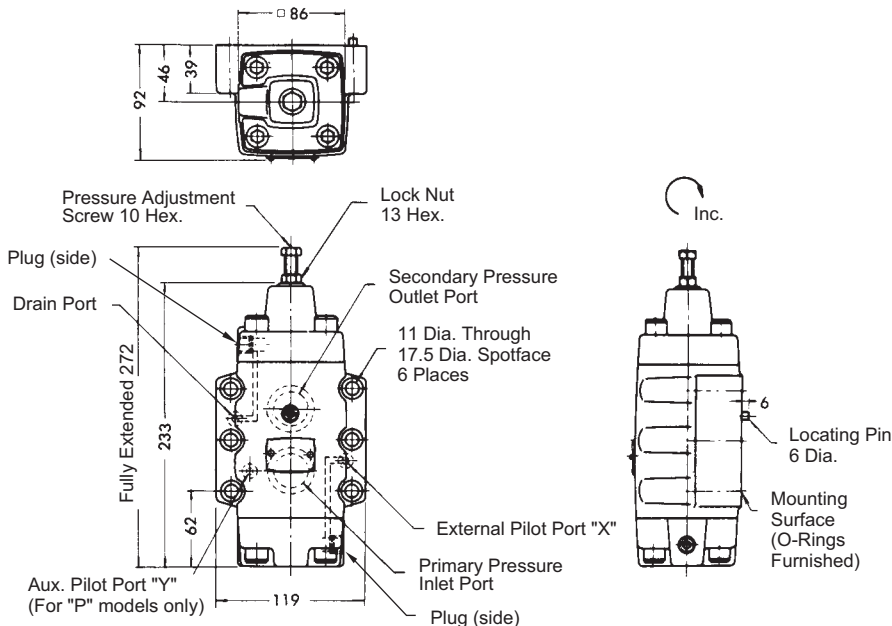
Type 4: Unloading Valve
(External Pilot, Internal Drain)



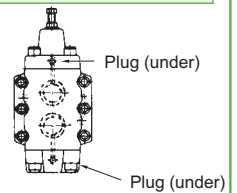
HG-10
Type 3: Sequence Valve
(External Pilot, External Drain)

Mounting Surface: ISO 5781-AJ-10-2-A-87

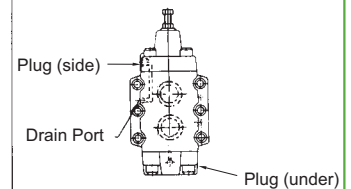
Note: For dimensions of mounting surface, please refer to HGM-10 type sub-plate. (page 66)



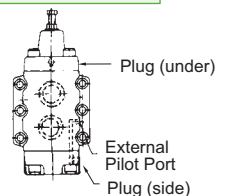
Type 1: Low Pressure Relief Valve
(Internal Pilot, Internal Drain)



Type 2: Sequence Valve
(Internal Pilot, External Drain)

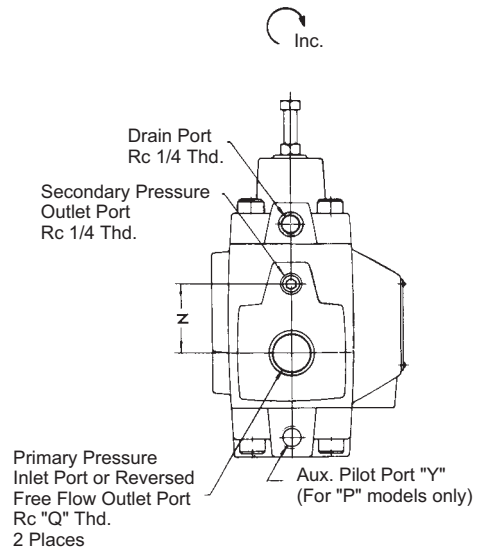
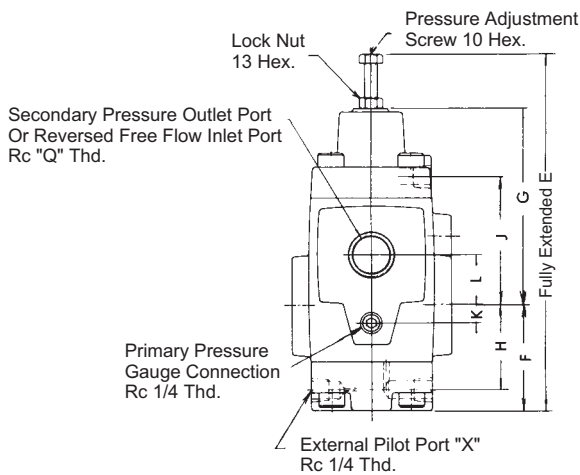
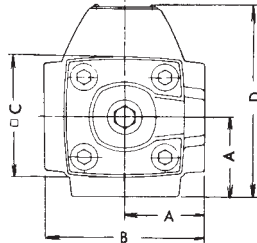


Type 4: Unloading Valve
(External Pilot, Internal Drain)



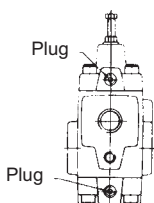
HC Type Pressure Control Valves Max. Pressure 21 MPa

HCT-03, 06, 10
Type 3: Sequence and Check Valve
(External Pilot, External Drain)

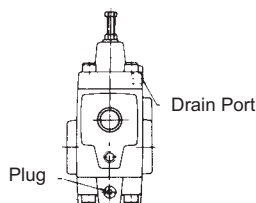


Model No.	A	B	C	D	E	F	G	H	J	K	L	N	Q
HCT-03	41	82	60	96	191	57	106	43	70	0	28	28	3/8
HCT-06	48	96	73	116	221	64.5	123.5	50.5	80.5	9	33	42	3/4
HCT-10	66	132	86	152	272	84	149	66	98	12	40	52	1-1/4

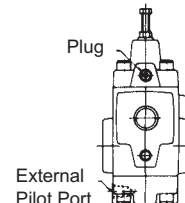
Type 1: Counterbalance Valve
(Internal Pilot, Internal Drain)



Type 2: Sequence and Check Valve
(Internal Pilot, External Drain)



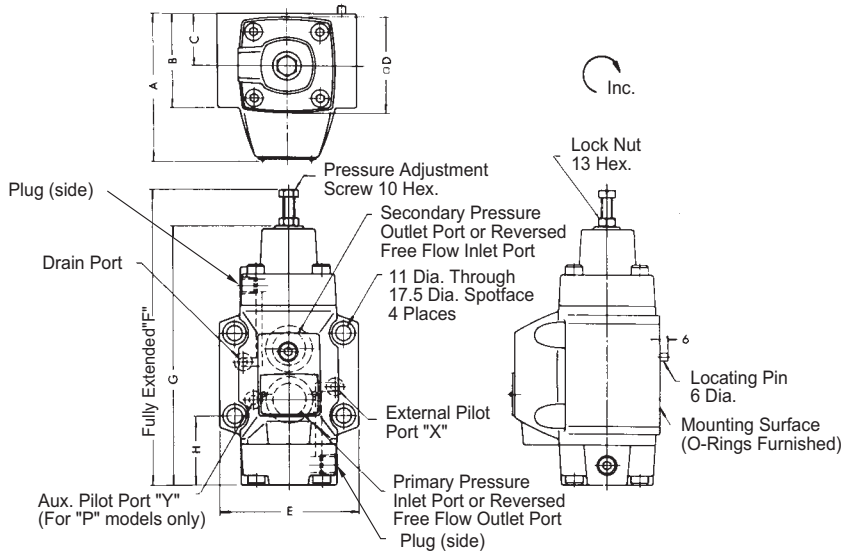
Type 4: Counterbalance Valve
(External Pilot, Internal Drain)



HC Type Pressure Control Valves Max. Pressure 21 MPa

HCG-03, 06
Type 3: Sequence and Check Valve
(External Pilot, External Drain)

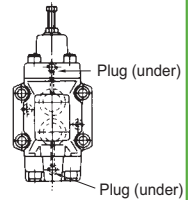
Mounting Surface:
HCG-03: ISO 5781-AG-06-2-A-87
HCG-06: ISO 5781-AH-08-2-A-87



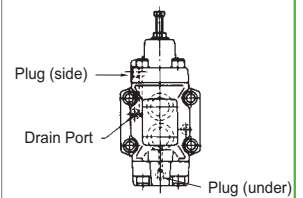
Model No	A	B	C	D	E	F	G	H
HCG-03	90	59	35	60	89	191	163	49.6
HCG-06	108	69	40	73	102	221	188	51

Note: For dimensions of mounting surface, please refer to HGM-03 & 06 type sub-plate (page 59).

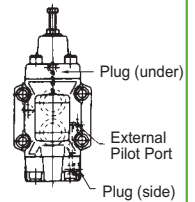
Type 1: Counterbalance Valve
(Internal Pilot, Internal Drain)



Type 2: Sequence and Check Valve
(Internal Pilot, External Drain)



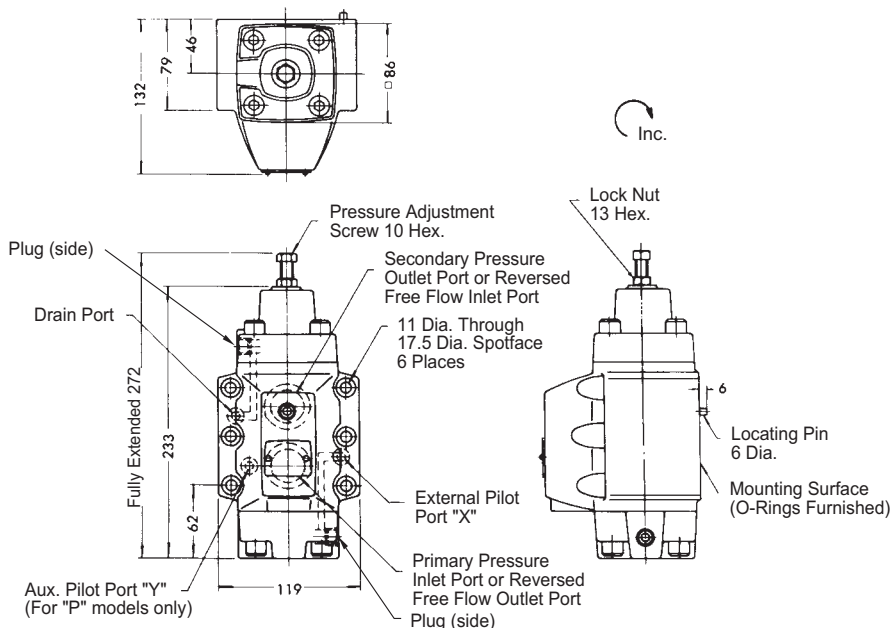
Type 4: Counterbalance Valve
(External Pilot, Internal Drain)



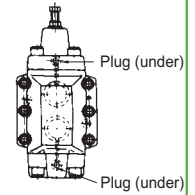
HCG-10
Type 3: Sequence and Check Valve
(External Pilot, External Drain)

Mounting Surface: ISO 5781-AJ-10-2-A-87

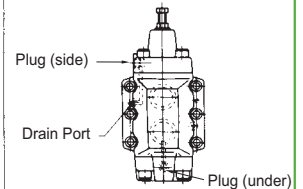
Note: For dimensions of mounting surface, please refer to HGM-10 type sub-plate (page 66).



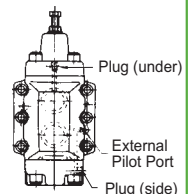
Type 1: Counterbalance Valve
(Internal Pilot, Internal Drain)



Type 2: Sequence and Check Valve
(Internal Pilot, External Drain)



Type 4: Counterbalance Valve
(External Pilot, Internal Drain)

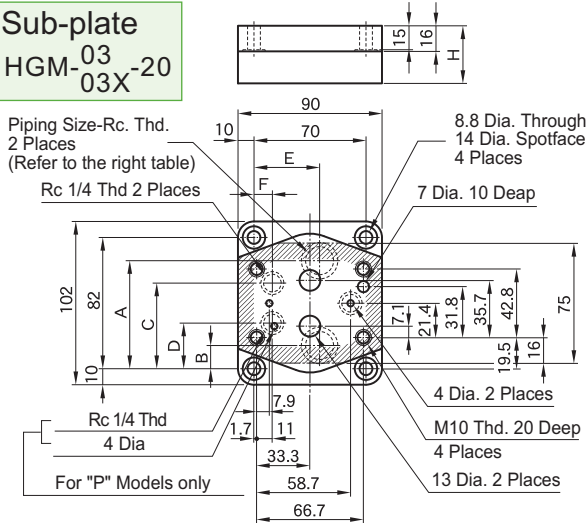


H Type Pressure Control Valves HC Type Pressure Control Valves

Max. Pressure 21 MPa

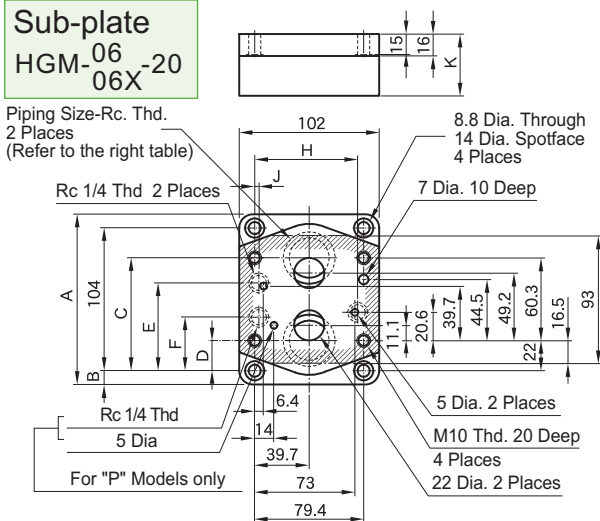
B

Sub-plate HGM-03 03X-20



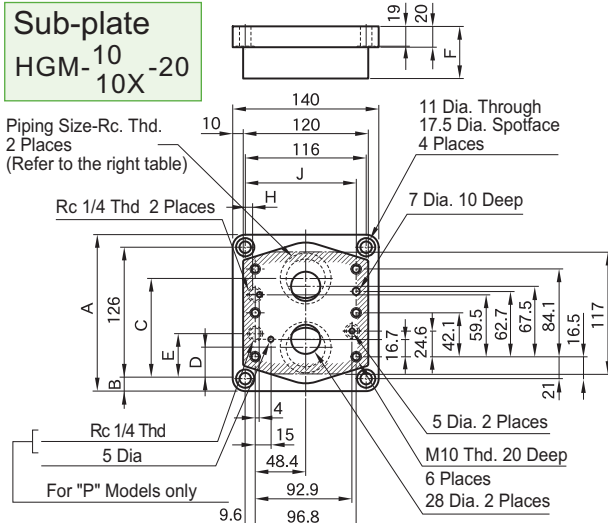
Sub-plate Model No.	Piping Size Rc	A	B	C	D	E	F	G
HGM-03-20	3/8	61	21	40.9	-	35	9.6	32
HGM-03X-20	1/2	61	21	40.9	-	35	9.6	32
HGM-03-P-20	3/8	69.5	12.5	53.5	28.5	35	11.5	36
HGM-03X-P-20	1/2	67.5	14.5	53.5	28.5	41	11.5	36

Sub-plate HGM-06 06X-20



Sub-plate Model No.	Piping Size Rc	A	B	C	D	E	F	G	H	J
HGM-06-20	3/4	124	10	77	27	61.7	-	73	6.4	36
HGM-06X-20	1	136	16	82.3	22	61.7	-	75	6.4	45
HGM-06-P-20	3/4	124	10	77	27	64	39	73	3	36
HGM-06X-P-20	1	136	16	82.3	22	64	39	75	3	45

Sub-plate HGM-10 10X-20



Sub-plate Model No.	Piping Size Rc	A	B	C	D	E	F	H	J
HGM-10-20	1-1/4	150	12	96	30	-	45	13.6	102.5
HGM-10X-20	1-1/2	177	25.5	104	22	-	50	13.6	102.5
HGM-10-P-20	1-1/4	150	12	96	30	43	45	9.6	102.5
HGM-10X-P-20	1-1/2	177	25.5	104	22	43	50	9.6	106

B Pressure Reducing Valves Pressure Reducing & Check Valves

Max. Pressure 21 MPa



RG Type

Graphic Symbol

RT, RG



Remote Control Connection

- These valves are used to limit the pressure in a part of the circuit to something lower than that required in the main circuit. The valves may be controlled by pilot pressure from a remote control port.
- They are available with integral check valves for use when free reverse flow from the secondary port to the primary port is required.

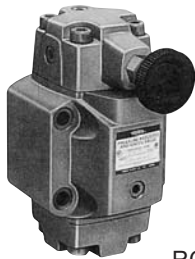
Specifications

Valve Size	Model No.	Setting Pressure MPa (kgf/cm ²)	Max. Flow L/min *1	Mass kg
3/8	RT-03-※-22	0.7 ~ 1.0 (7.1 ~ 10.2)	40	4.3
	RG-03-※-22			4.5
	RCT-03-※-22	1.0 ~ 20.5 (10.2 ~ 20.9)	50	4.8
	RCG-03-※-22			5.4
3/4	RT-06-※-22	0.7 ~ 1.0 (7.1 ~ 10.2)	50	6.9
	RG-06-※-22			6.8
	RCT-06-※-22	1.0 ~ 1.5 (10.2 ~ 15.3)	100	7.8
	RCG-06-※-22			8.1
1 1/4	RT-10-※-22 *2	0.7 ~ 1.0 (7.1 ~ 10.2)	130	12.0
	RG-10-※-22 *2			11.0
	RCT-10-※-22 *2	1.5 ~ 10.5 (15.3 ~ 107)	220	13.8
	RCG-10-※-22 *2			13.8

*1. The Max. flow rates are those shown at the primary pressure of 21MPa (210kgf/cm²)

*2. Products are made by Yuken Kogyo. If you have any inquiry, please contact our sales engineers.

Model Number Designation



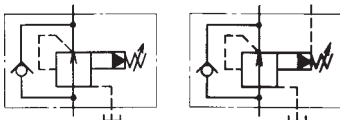
RCG Type

RC T-03-B-22

Series Number ——— RC T-03-B-22 ——— Design Number
 R: Pressure Reducing Valve
 RC: Pressure Reducing & Check Valve
 Type of Connection ——— T: Threaded Connection
 G: Sub-plate Mounting
 Pressure Adjustment Range MPa (kgf/cm²)
 B: 0.7~7.0 (7~70)
 C: 3.5~14.0 (35~140)
 H: 7.0~20.5 (70~205)
 Valve Size (03, 06, 10)

Graphic Symbol

RCT, RCG



Remote Control Connection

Mounting Bolts (Attachment)

Model No.	Socket Head Cap Screw	Q'ty	Tightening Torque N·m (kgf·m)
RG-03	M10 x 50 Lg.	4	60~74 (6.1~7.5)
RCG-03	M10 x 70 Lg.	4	
RG-06	M10 x 50 Lg.	4	
RCG-06	M10 x 80 Lg.	4	
RG-10	M10 x 50 Lg.	6	
RCG-10	M10 x 90 Lg.	6	

Sub-Plate

Valve Model No.	Sub-plate Model No.	Piping Size Rc	Mass kg
RG -03	HGM-03-20	3/8	1.6
	HGM-03X-20	1/2	
RG -06	HGM-06-20	3/4	2.4
	HGM-06X-20	1	
RG -10	HGM-10-20	1-1/4	4.8
	HGM-10X-20	1-1/2	

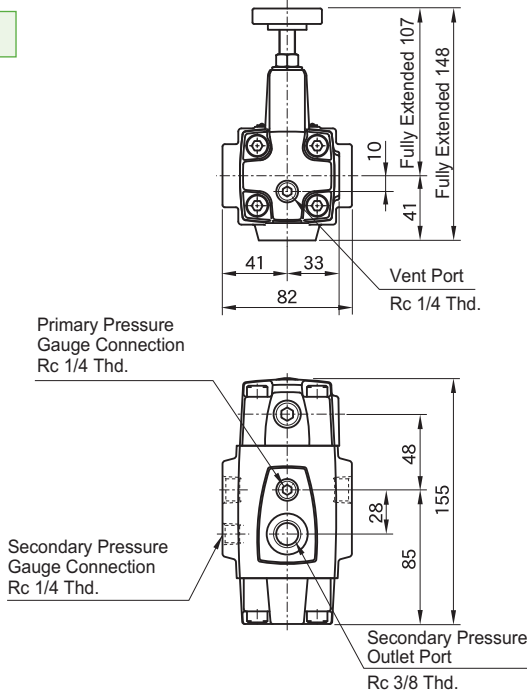
*1. The sub-plates are available. Please specify sub-plate model from the table above. Please refer to page 59 for dimension details.

*2. Note: The sub-plates are the same as those for H and HC type pressure controlled valve. With the pressure reducing valve, the sub-plate is used in a position 180° turned (upside down) from the normal position.

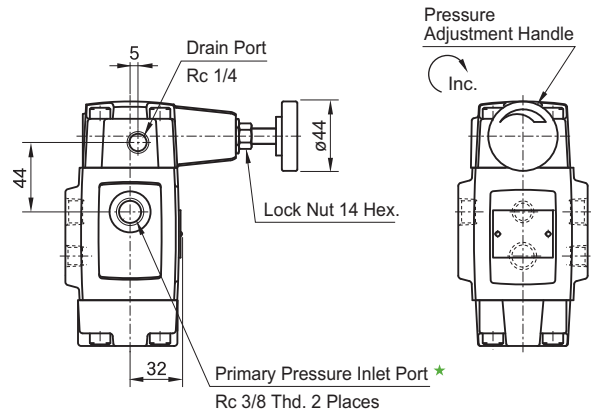
Pressure Reducing Valves

Max. Pressure 21 MPa

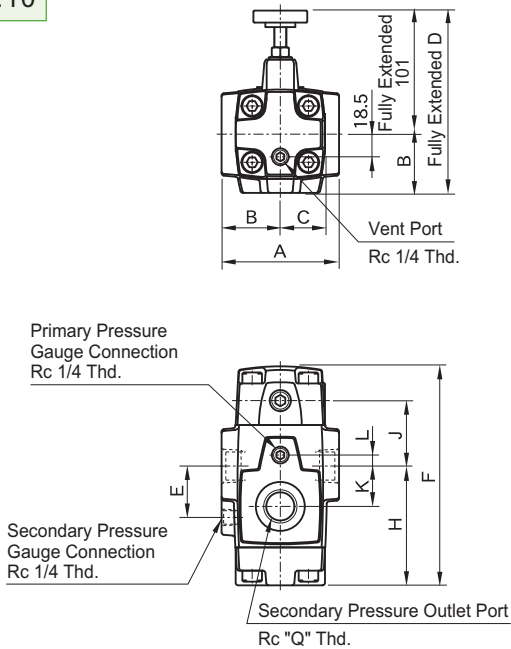
RT-03



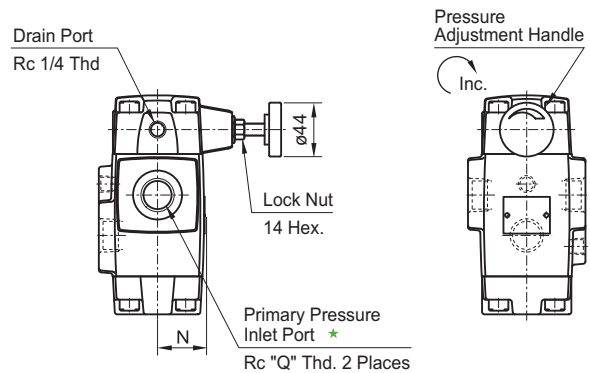
★ There are two Primary Pressure Ports. One can be used as an inlet port and the other as an outlet port with threaded connection. You can also block one port as your requirement.



RT-06.10



★ There are two Primary Pressure Ports. One can be used as an inlet port and the other as an outlet port with threaded connection. You can also block one port as your requirement.

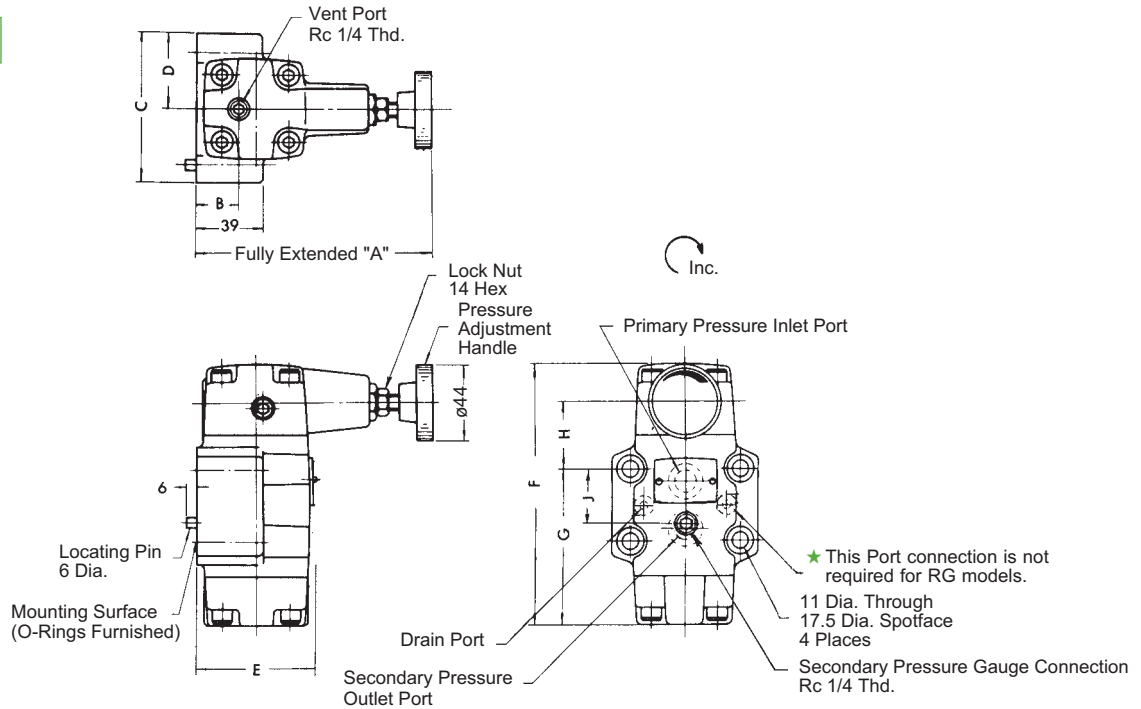


Model No.	A	B	C	D	E	F	H	J	K	L	N	Q
RT-06	96	48	36.5	149	42	179	97.5	53.5	33	9	39	3/4
RT-10	132	66	43	167	52	216	124	64	40	12	46	1-1/4

Pressure Reducing Valves

Max. Pressure 21 MPa

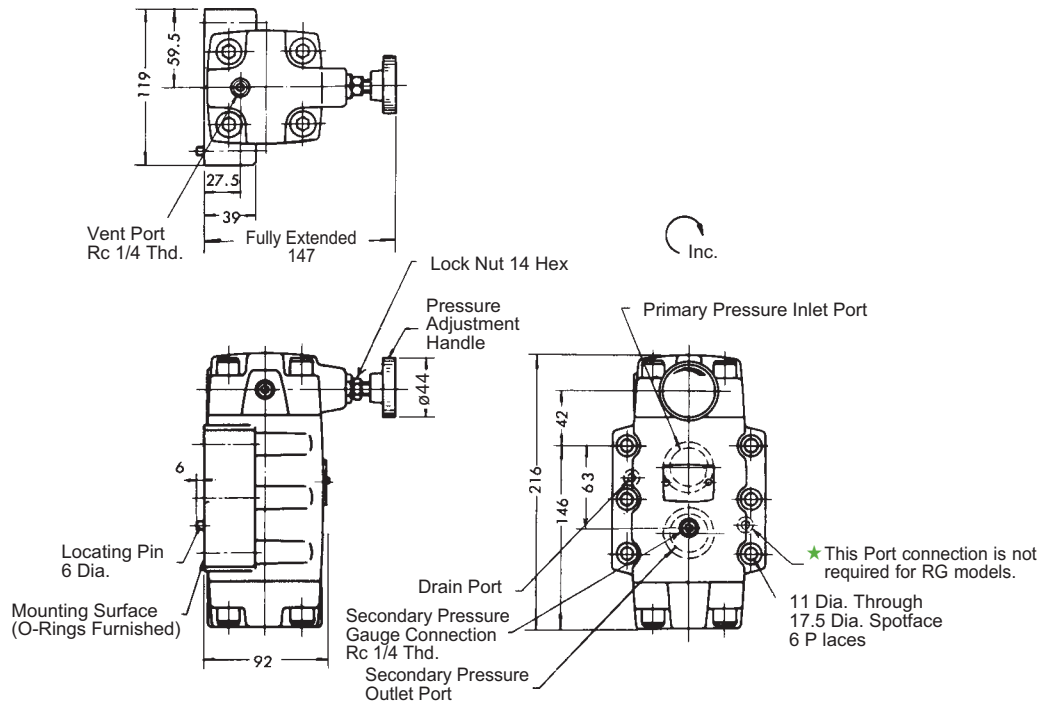
RG-03,06



Model No.	A	B	C	D	E	F	G	H	J
RG-03	142	25	89	44.5	67	155.5	92.4	40.6	34.9
RG-06	141	21.5	102	51	79	179	111	40	48

Note: For dimensions of mounting surface, please refer to HGM-03 & 06 type sub-plate (page 59).

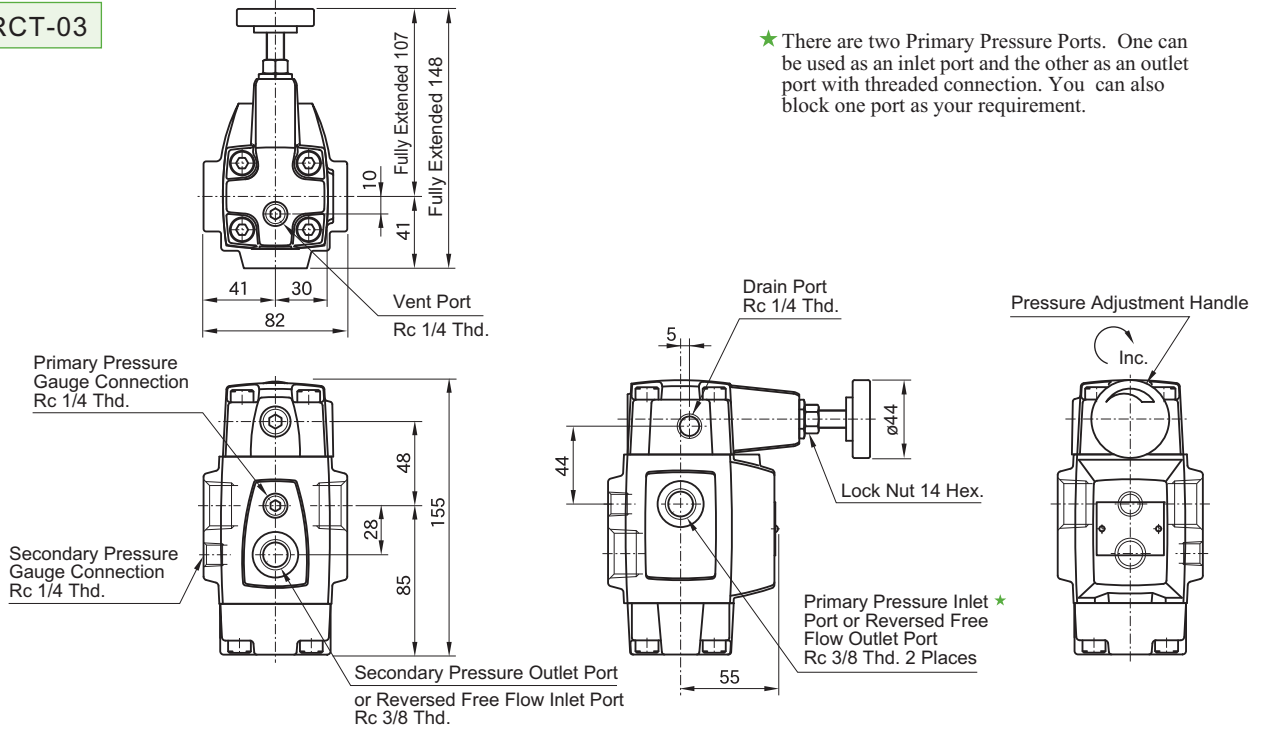
RG-10



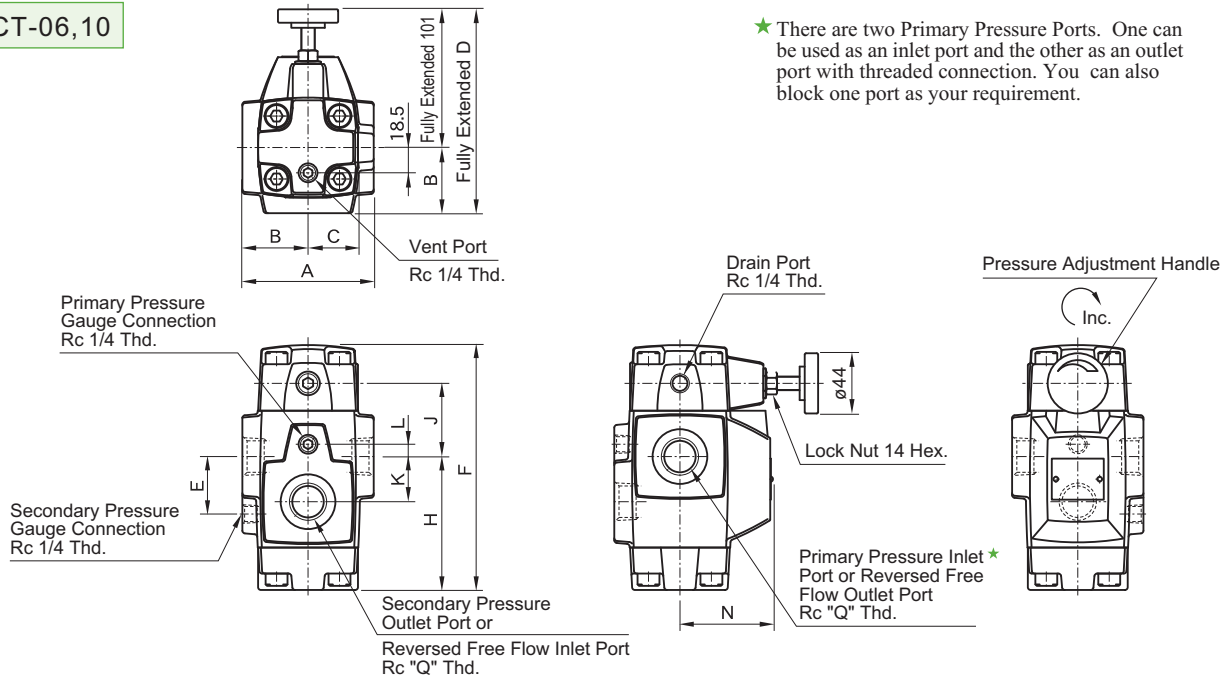
Note: For dimensions of mounting surface, please refer to HGM-10 type sub-plate (page 59).

Pressure Reducing & Check Valves Max. Pressure 21 MPa

RCT-03



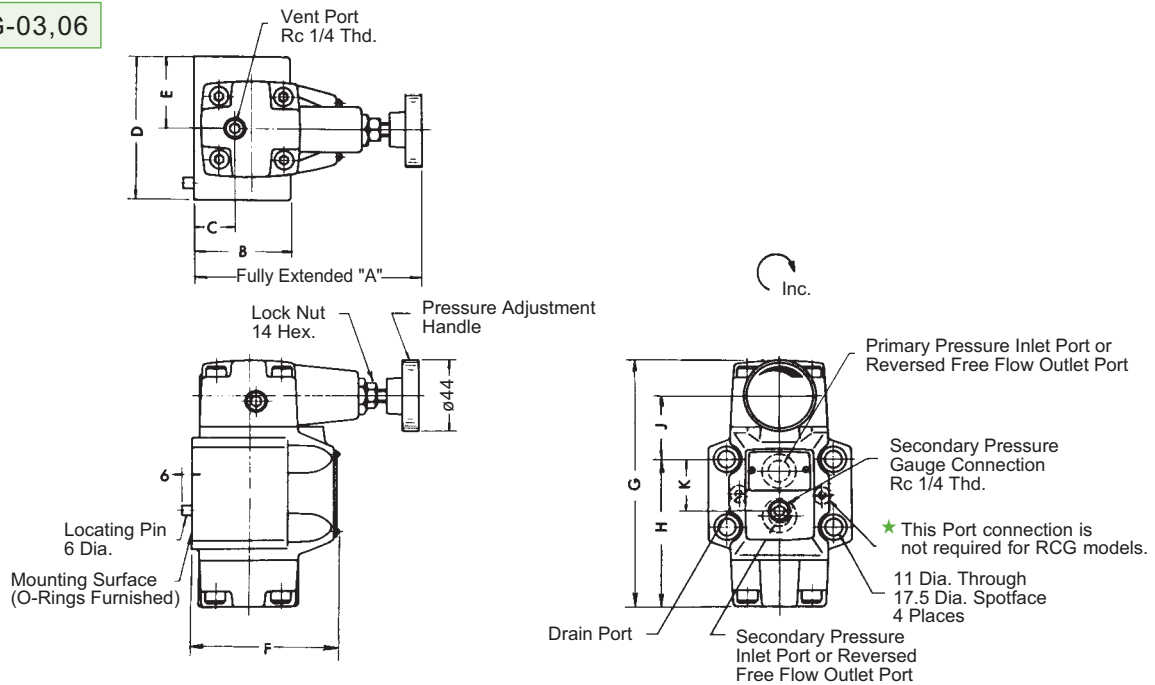
RCT-06,10



Model No.	A	B	C	D	E	F	H	J	K	L	N	Q
RCT-06	96	48	36.5	149	42	179	97.5	53.5	33	9	68	3/4
RCT-10	132	66	43	167	52	216	124	64	40	12	86	1-1/4

Pressure Reducing & Check Valves Max. Pressure 21 MPa

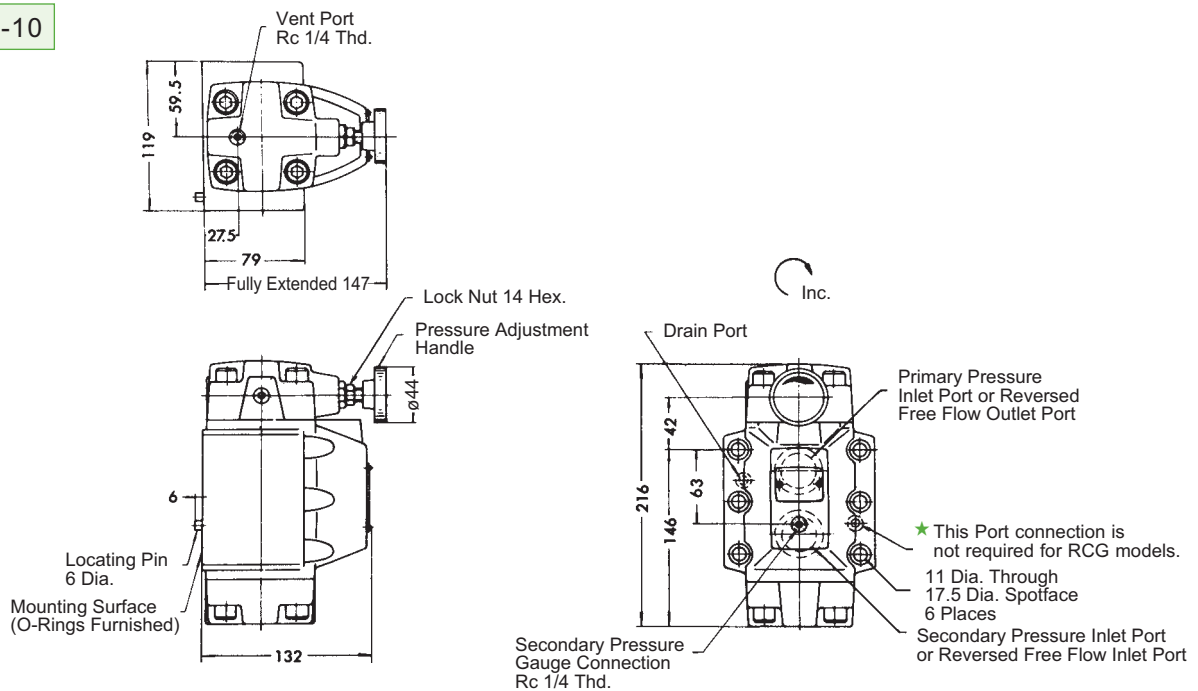
RCG-03,06



Model No.	A	B	C	D	E	F	G	H	J	K
RCG-03	142	59	25	89	44.5	90	155	92.4	40.6	34.9
RCG-06	141	69	21.5	102	51	108	179	111	40	48

Note: For dimensions of mounting surface, please refer to HGM-03 & 06 type sub-plate (page 59).

RCG-10



Note: For dimensions of mounting surface, please refer to HGM-10 type sub-plate (page 59).

B

Pressure Reducing and Relieving Valves

Max. Pressure 25 MPa



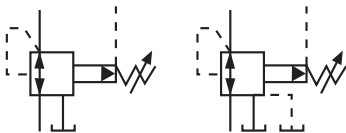
This valve is designed for hydraulic balance circuit. It is a combined pressure control valve with reducing and relieving function. It is available for the weight division of the main headstock on CNC machine; also cut down the space and weight of the machine.

Specifications

Model Numbers	Max. Operating Pressure MPa (kgf/cm ²)	Pres. Adj. Range MPa (kgf/cm ²)	Max. Flow L/min	Relieving Flow L/min	Drain Flow L/min	Mass kg
RBG-03-※-10	14	0.6~13.5 (6.1~138)	50	50	0.6~1	4.2
RBG-06-※-10	25	0.8~24.5 (8.2~250)	125	125	1.5~2	11

JIS Graphic Symbol

Internal drain External drain



Remote Control Connection

Model Number Designation

RB	G	-03	-R	-10
Series Number	Type of Mounting	Valve Size	Drain Type	Design Number
RB : Balancing Valves	G: Sub-plate Mounting	03 06	None: Internal Drain R: External Drain	10

Attentions

- If the internal volume of the remote control piping is too big, it will result in vibration easily. Please make the internal diameter and length of the piping as small as possible.
- While adjusting the pressure: unlocking the screws first, turning the manual clockwise to increase the pressure, turning the manual anticlockwise to decrease the pressure. Please turn the manual slowly and tighten the screw after adjusting.
- The drain piping should not be connected to other piping and should be connected to the tank directly.

Mounting bolt(Attachment)

Model NO.	Socket Head Cap Screw	Q'ty	Tightening torque: N•m (kgf•m)
RBG-03	M10 x 65 Lg.	4	60~74 (6.1~7.5)
RBG-06	M10 x 70 Lg.	4	60~74 (6.1~7.5)

Sub-plate

Valve Model No.	Sub-plate Model No.	Piping Size Rc	Mass kg
RBG-03	RBGM-03-10	3/8	1.6
	RBGM-03X-10	1/2	
RBG-06	RBGM-06-10	3/4	4.8
	RBGM-06X-10	1	

* When ordering the sub-plate, please select sub-plate model no. from the above table. Please refer to page 68 for the dimension details.

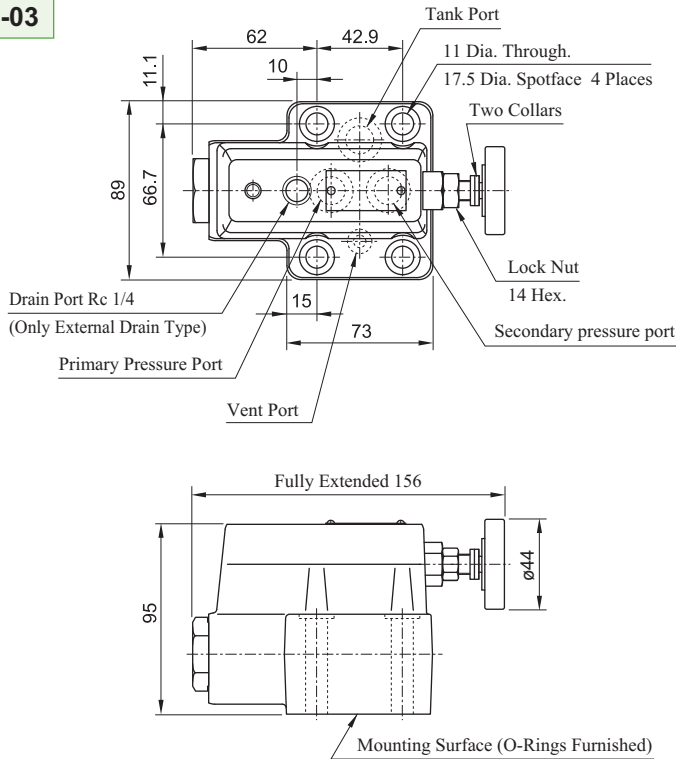
* When sub-plate is not used, the mounting space must be processed under 6~S precision.

Pressure Reducing and Relieving Valves

Max. Pressure 25 MPa

B

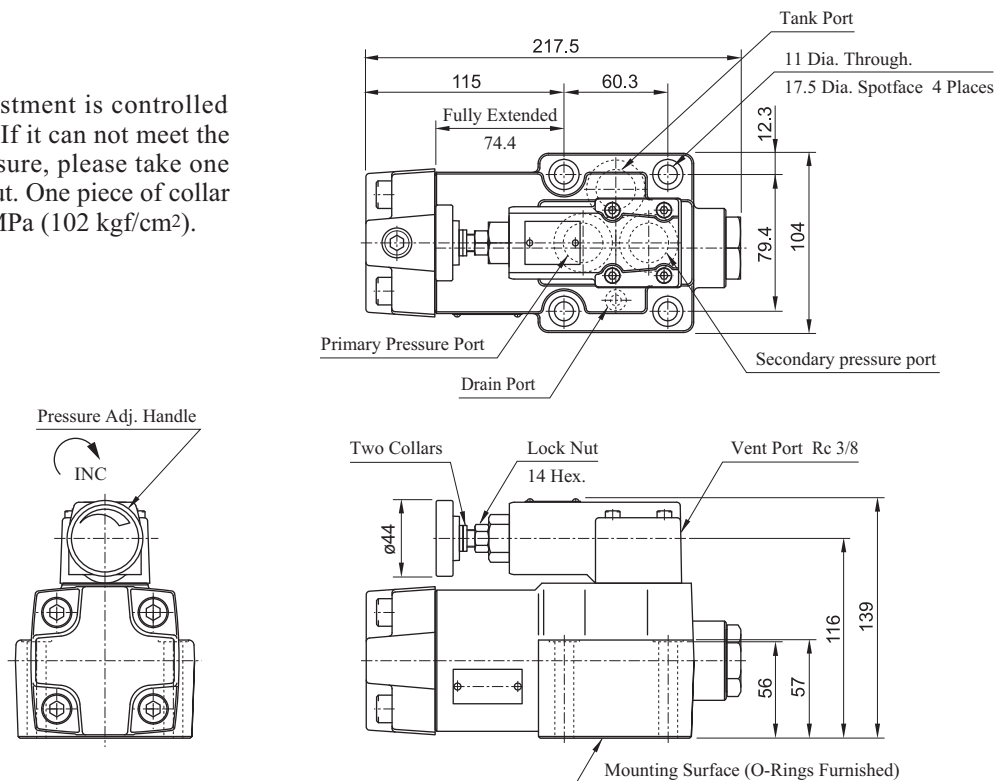
RBG-03



★ Pressure adjustment is controlled by the collar. If it can not meet the working pressure, please take one piece collar out. One piece of collar equals to 10 MPa (102 kgf/cm²).

RBG-06

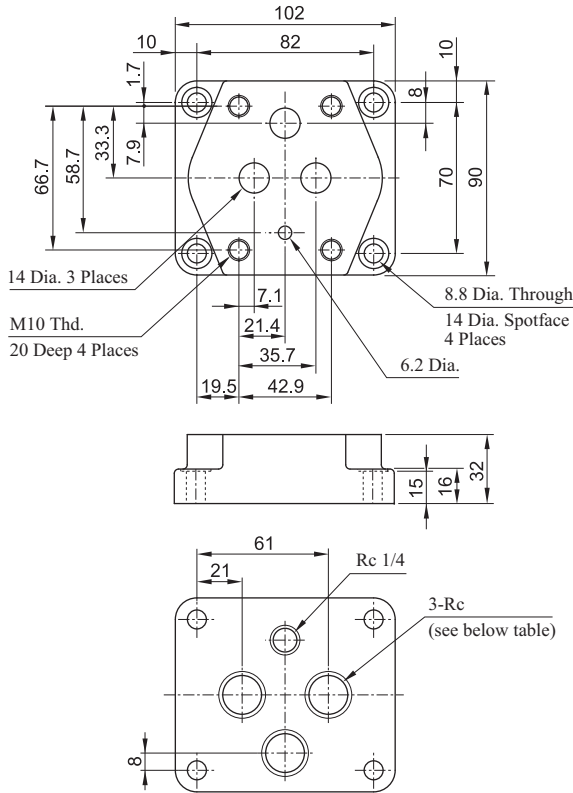
★ Pressure adjustment is controlled by the collar. If it can not meet the working pressure, please take one piece collar out. One piece of collar equals to 10 MPa (102 kgf/cm²).



B Pressure Reducing and Relieving Valves

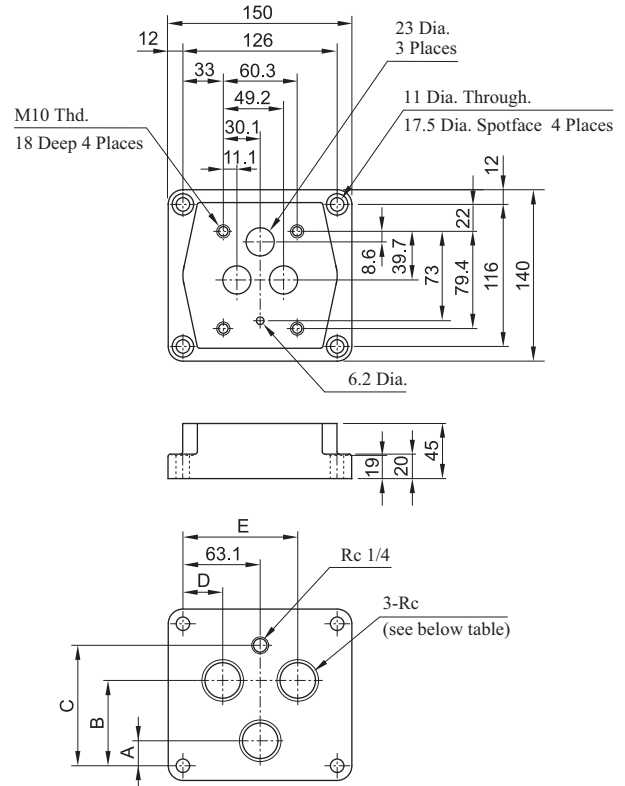
Max. Pressure 25 MPa

■ Sub-plate : RBGM - 03 - ※



Model NO.	Piping Size Rc
RBGM-03-10	3/8
RBGM-03X-10	1/2

■ Sub-plate : RBGM - 06 - ※

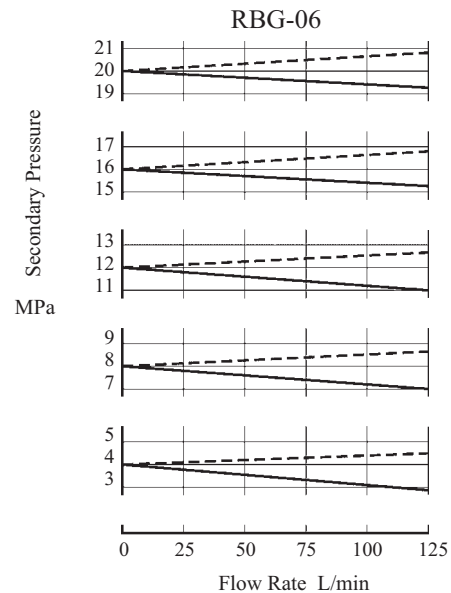
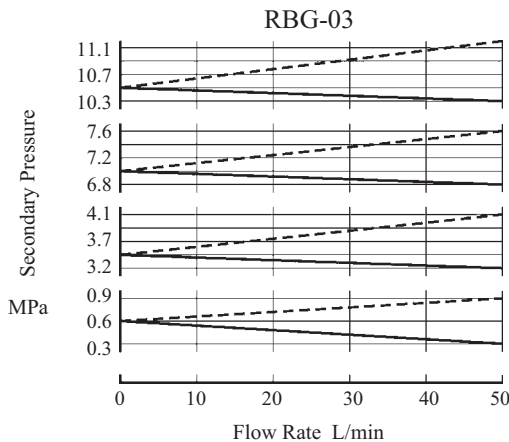


Model NO.	Piping Size Rc	A	B	C	D	E
RBGM-06-10	3/4	20.7	65.7	95	37.1	89.1
RBGM-06X-10	1	20.4	69.7	98.4	32.5	93.8

■ Nominal Override Characteristics

Hydraulic Fluid. Viscosity 35mm²/s (cSt)
(164 SSU), Specific Gravity 0.850

..... Relieving
— Reducing



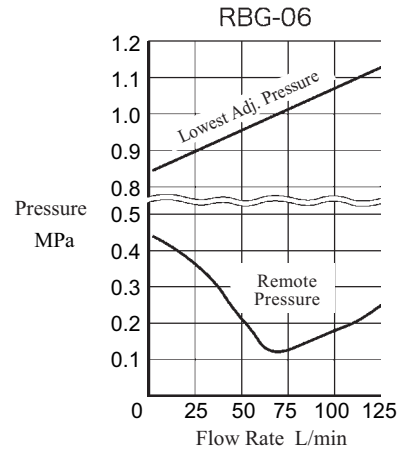
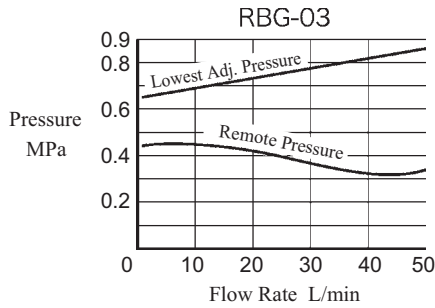
Pressure Reducing and Relieving Valves

Max. Pressure 25 MPa

B

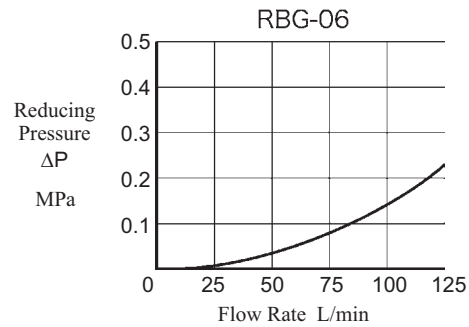
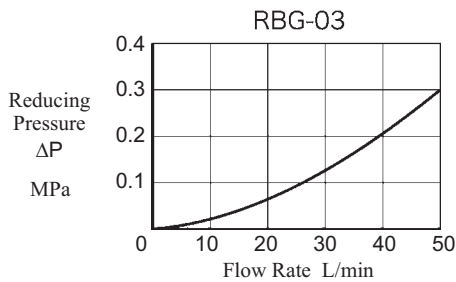
Lowest Adj. Pressure & Remote Pressure Characteristics

Hydraulic Fluid. Viscosity 35mm²/s (cSt)
(164 SSU), Specific Gravity 0.850



Reducing Pressure Characteristics

Hydraulic Fluid. Viscosity 35mm²/s (cSt)
(164 SSU), Specific Gravity 0.850



- Ref: The other viscosity, times the parameter according to the right table.
- Ref: the other Specific Gravity, Reducing Pressure ΔP can be gotten from the formula: $\Delta P' = \Delta P G / G$. But ΔP in the pressure reducing curve, G value is 0.850.

Viscosity (cSt) mm ² /s	15	20	30	40	50	60	70	80	90	100
Parameter	0.81	0.87	0.96	1.03	1.09	1.14	1.19	1.23	1.27	1.30