

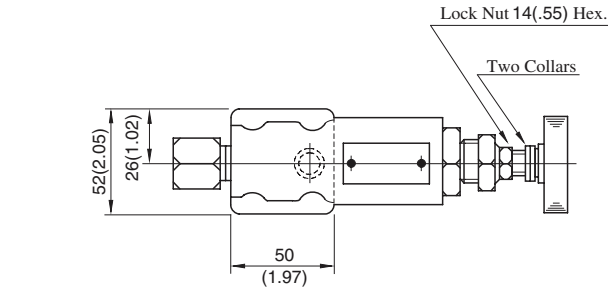
C

PRESSURE CONTROLS

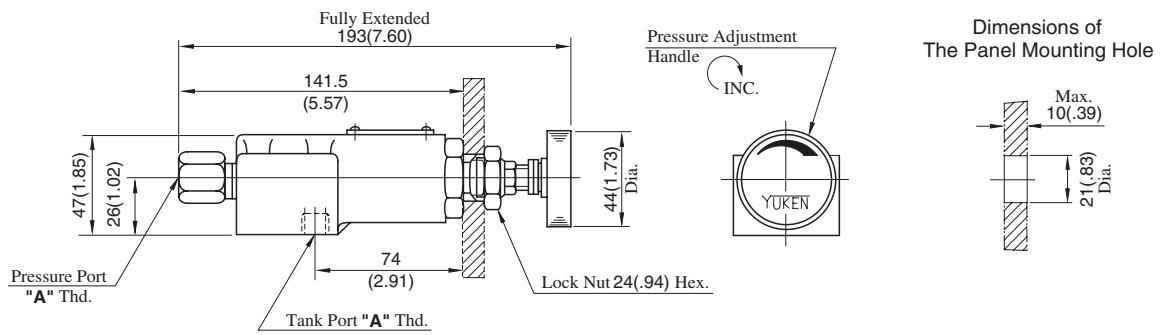
Valve Type	Graphic Symbols	Maximum Operating Pressure MPa (PSI)	Maximum Flow												Page		
			U.S.GPM L/min														
			1	2	3	5	10	20	30	50	100	200	300	500	1000	2000	
Remote Cont. Relief Valves		25 (3630)	DT DG 01												203		
Direct Type Relief Valves		21 (3050)	DT/DG 02												206		
Pilot Operated Relief Valves		25 (3630)	BT/BG 03 06												209		
Low Noise Type Pilot Operated Relief Valves		25 (3630)	S-BG 03 06 10												216		
Sol. Cont. Relief Valves		25 (3630)	BST/BSG 03 06 10												220		
Low Noise Type Sol. Cont. Relief Valves		25 (3630)	S-BSG 03 06 10												230		
H Type Press. Cont. Valves / HC Type Press. Cont. Valves		21 (3050)	HT/HG HCT/HCG 03 06 10 HF HCF 16												237		
Press. Reducing Valves / Press. Reducing & Check Valves		21 (3050)	RT/RG RCT/RCG 03 06 10 RF RCF 16												251		
Pres. Reducing & Relieving Valves		03 : 14(2030) 06 : 25(3630)	RBG 03 06												260		
Unloading Relief Valves		21 (3050)	BUCG 06 10												265		
Brake Valves		25 (3630)	UBGR 03 06 10												271		
Semiconductor Type Pressure Switches		35 (5080)	JT-02												272		
Pressure Monitoring System		20(2900) 35(5080)													274		

DT-01-22/2280/2290

**DIMENSIONS IN
MILLIMETRES (INCHES)**

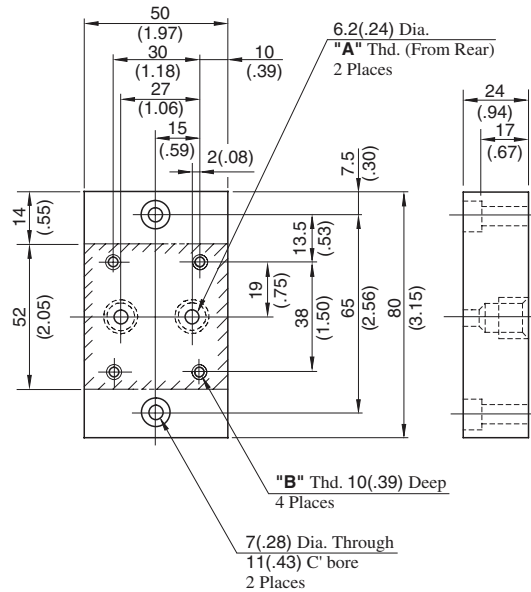
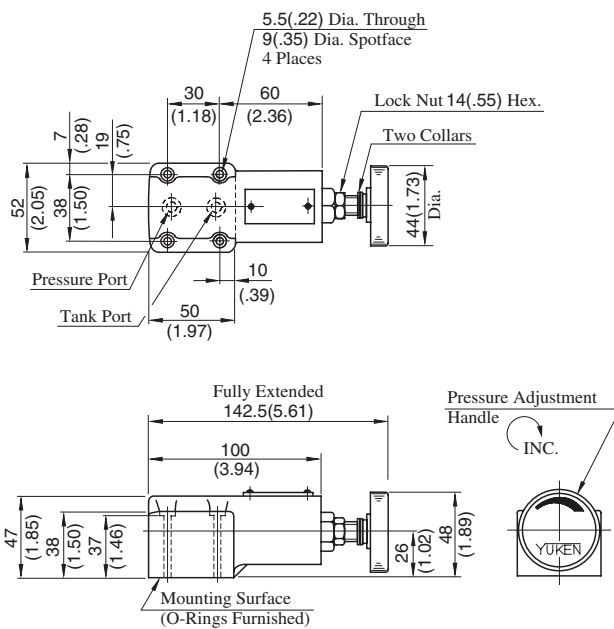


Model Numbers	"A" Thd.
DT-01-22	Rc 1/4
DT-01-2280	1/4 BSP.F
DT-01-2290	1/4 NPT



DG-01-22/2290

Sub-plate: DGM-02-20/2080/2090



Model Numbers	"A" Thd.	"B" Thd.
DGM-02-20	Rc 1/4	M5
DGM-02-2080	1/4 BSP.F	
DGM-02-2090	1/4 NPT	No. 10-24 UNC

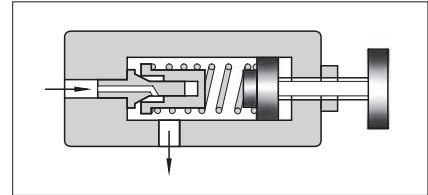
Direct Type Relief Valves

This valve is used in a hydraulic circuit to prevent damage due to over pressure and to adjust the maximum circuit pressure of small capacity.

Specifications

Model Numbers		Max. Operating Pressure MPa (PSI)	Pres. Adj. Range MPa (PSI)	Max. Flow L/min (U.S.GPM)	Approx. Mass kg (lbs.)	
Threaded Connection	Sub-plate Mounting				DT type	DG type
DT-02-*-22*	DG-02-*-22*	21 (3050)	Note)	16 (4.23)	1.5 (3.3)	1.5 (3.3)

Note: Refer to the Model Number Designation.



Model Number Designation

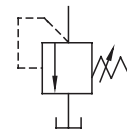
F-	D	T	-02	-B	-22	*
Special Seals	Series Number	Type of Mounting	Valve Size	Pres. Adj. Range MPa (PSI)	Design Number	Design Standards
F: Special Seals for Phosphate Ester Type Fluids (Omit if not required)	D: Direct Type Relief Valves	T: Threaded Connection	02	B: ★-7 (★-1020) C: 3.5-14 (510-2030) H: 7-21 (1020-3050)	22	None: Japanese Std. "JIS" 80: European Design Std. 90: N. American Design Std.
		G: Sub-plate Mounting			22	None: Japanese Std. "JIS" and European Design Std. 90: N. American Design Std.

★ Refer to the Minimum Adjustment Pressure Characteristics.

Instructions

- 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 reservoir.

Graphic Symbol



Attachment

Mounting bolts

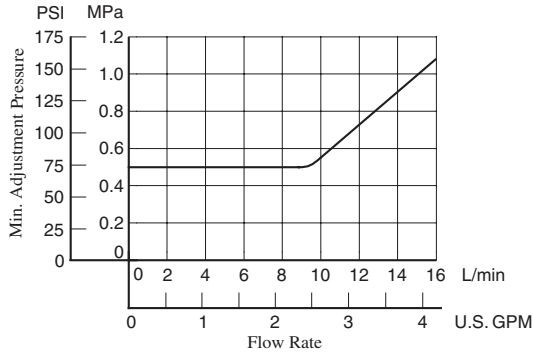
Valve Model Numbers	Socket Head Cap Screw		Qty.
	Japanese Std. "JIS" and European Design Std.	N. American Design Std.	
DG-02	M5 × 45 Lg.	No.10-24 UNC × 1-3/4 Lg.	4

Sub-plate

Valve Model Numbers	Japanese Standard "JIS"		European Design Standard		N. American Design Standard		Approx. Mass kg (lbs.)
	Sub-plate Model Numbers	Thread Size	Sub-plate Model Numbers	Thread Size	Sub-plate Model Numbers	Thread Size	
DG-02	DGM-02-20	Rc 1/4	DGM-02-2080	1/4 BSP.F	DGM-02-2090	1/4 NPT	0.7 (1.5)

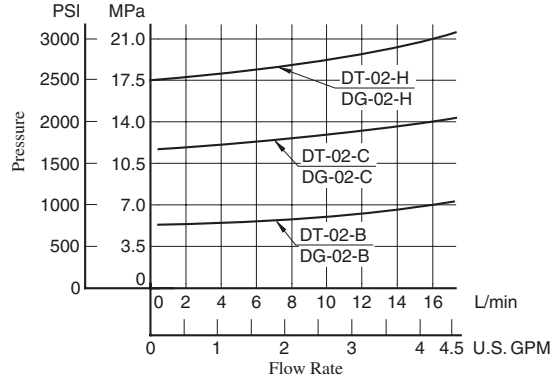
- Sub-plates are available. Specify the sub-plate model number from the table above. When sub-plates are not used, the mounting surface should have a good machined finish.
- The sub-plates are those for remote control relief valves. For dimensions, see page 204.

Min. Adjustment Pressure

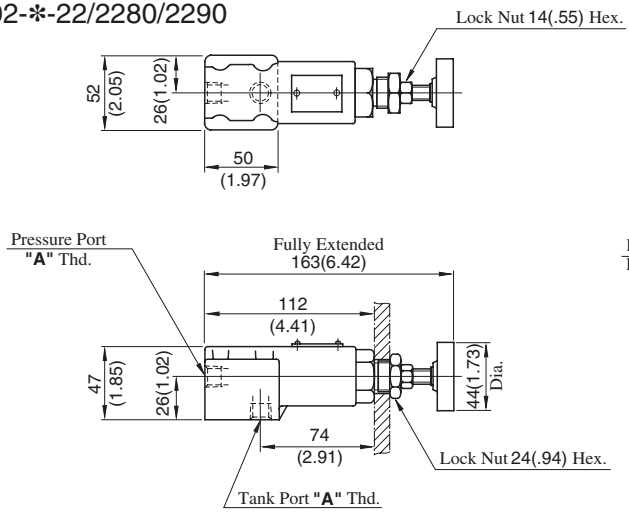


Nominal Override Characteristics

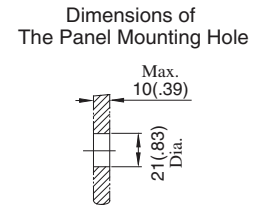
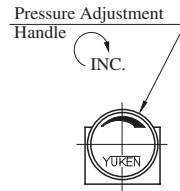
Hydraulic fluid
Viscosity : 35 mm²/s (164 SSU)
Specific Gravity : 0.850



DT-02-*-22/2280/2290

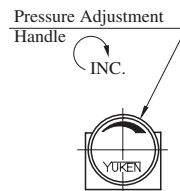
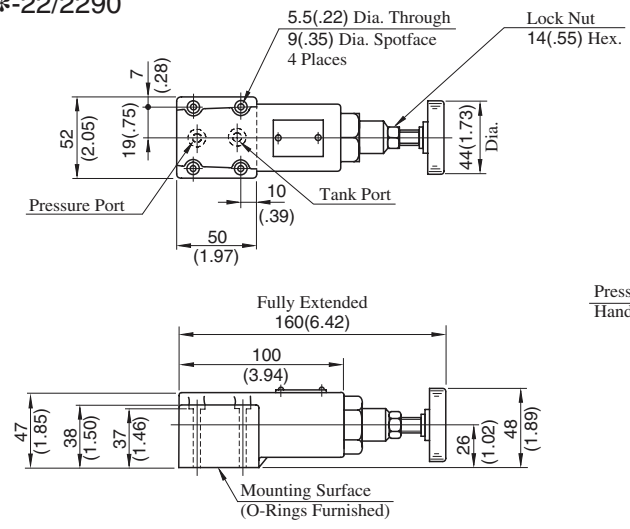


Model Numbers	"A" Thd.
DT-02-*-22	Rc 1/4
DT-02-*-2280	1/4 BSP.F
DT-02-*-2290	1/4 NPT



DIMENSIONS IN MILLIMETRES (INCHES)

DG-02-*-22/2290

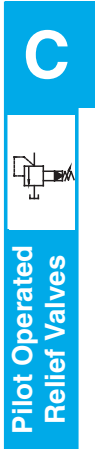
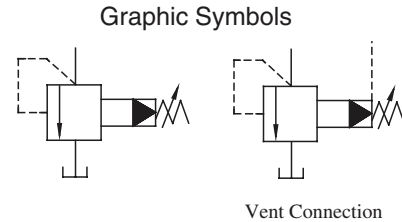
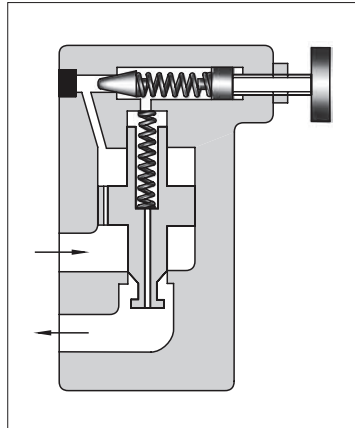


Note: For dimensions of the valve mounting surface, see the dimensional drawing (page 204) of the sub-plate used together.



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 using vent circuits.



Specifications

Model Numbers		Max. Operating Pressure MPa (PSI)	Pres. Adj. Range MPa (PSI)	Max. Flow L/min (U.S.GPM)	Approx. Mass kg (lbs.)	
Threaded Connection	Sub-plate Mounting				BT type	BG type
BT-03-*-32*	BG-03-*-32*	25 (3630)	Note) ★-25 (★-3630)	100 (26.4)	5.0 (11.0)	4.7 (10.4)
BT-06-*-32*	BG-06-*-32*			200 (52.8)	5.0 (11.0)	5.6 (12.3)
BT-10-*-32*	BG-10-*-32*			400 (106)	8.5 (18.7)	8.7 (19.2)

Note: Refer to the Minimum adjustment Pressure characteristics on page 214.

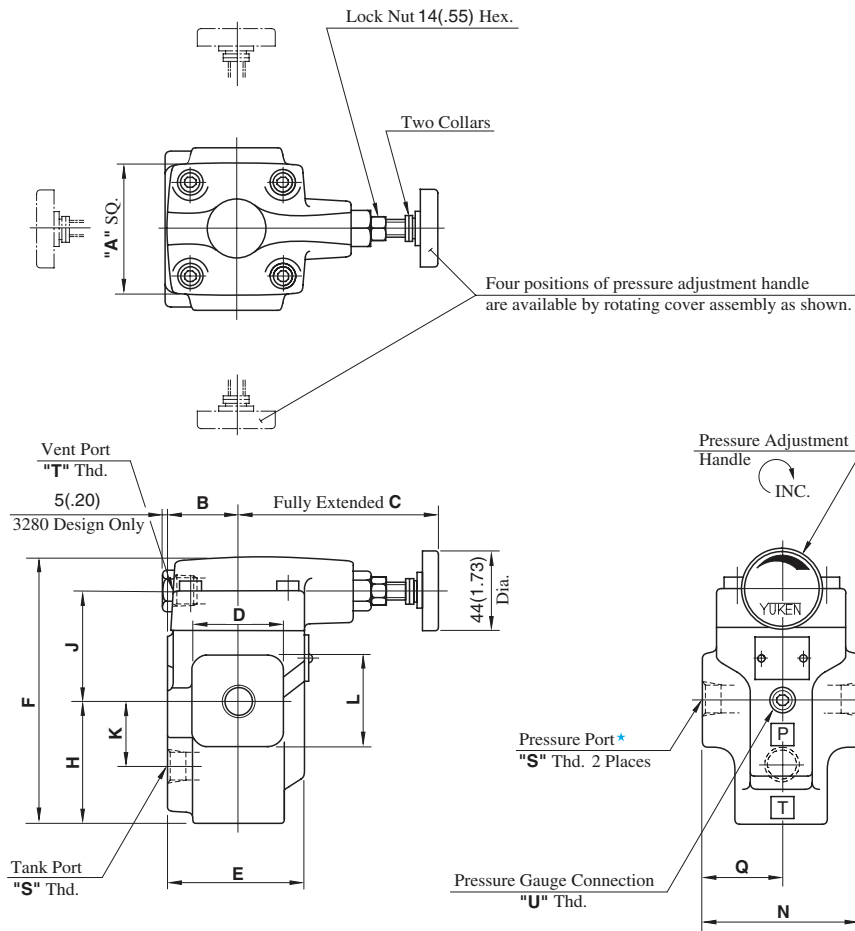
Model Number Designation

F-	B	T	-03	-V	-32	*
Special Seals	Series Number	Type of Mounting	Valve Size	High Venting* Pres. Feature	Design Number	Design Standards
F: Special Seals for Phosphate Ester Type Fluids (Omit if not required)	B: Pilot Operated Relief Valves	T: Threaded Connection	03	V: For High Venting Pressure Feature (Omit if not required)	32	None: Japanese Std. "JIS" 80: European Design Std. 90: N. American Design Std.
			06		32	
			10		32	
		G: Sub-plate Mounting	03		32	None: Japanese Std. "JIS" and European Design Std. 90: N. American Design Std.
			06		32	
			10		32	

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

BT-03-*-32/3280/3290
 BT-06-*-32/3280/3290
 BT-10-*-32/3280/3290

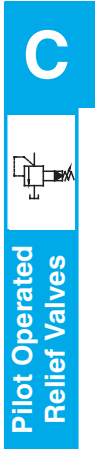
**DIMENSIONS IN
 MILLIMETRES (INCHES)**



★ 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.

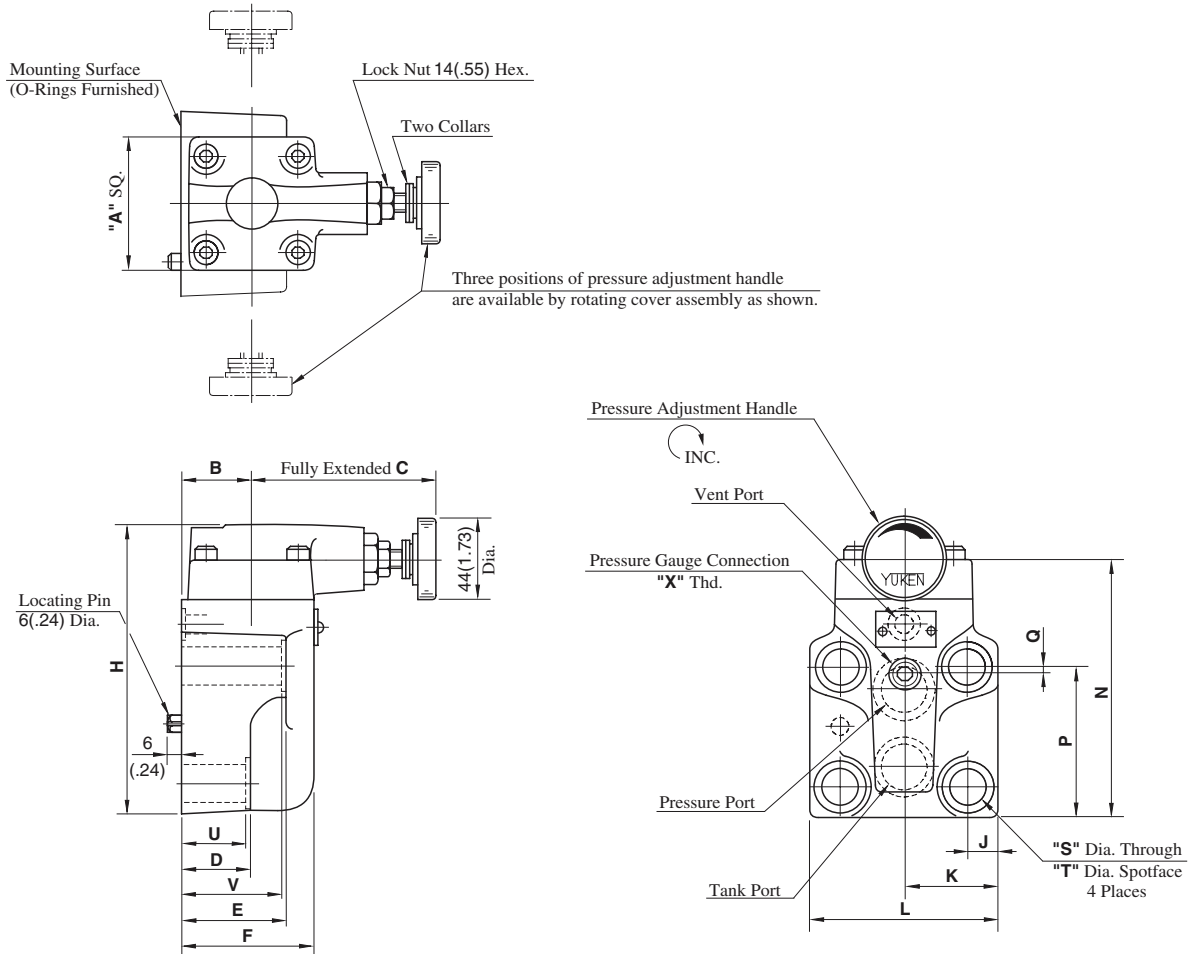
Model Numbers	Dimensions mm (Inches)											
	A	B	C	D	E	F	H	J	K	L	N	Q
BT-03-*-32/3280/3290	75 (2.95)	40 (1.57)	105 (4.13)	52 (2.05)	78 (3.07)	150.5 (5.93)	68.5 (2.70)	62 (2.44)	36 (1.42)	52 (2.05)	90 (3.54)	45 (1.77)
BT-06-*-32/3280/3290	85 (3.35)	50 (1.97)	101 (3.98)	80 (3.15)	96 (3.78)	183 (7.20)	89 (3.50)	74 (2.91)	49 (1.93)	80 (3.15)	120 (4.72)	60 (2.36)

Model Numbers	Thread Size		
	"S" Thd.	"T" Thd.	"U" Thd.
BT-03-*-32	Rc 3/8	Rc 3/8	Rc 1/4
BT-03-*-3280	3/8 BSP.F	3/8 BSP.F	1/4 BSP.Tr
BT-03-*-3290	3/8 NPT	3/8 NPT	1/4 NPT
BT-06-*-32	Rc 3/4	Rc 3/8	Rc 1/4
BT-06-*-3280	3/4 BSP.F	3/8 BSP.F	1/4 BSP.Tr
BT-06-*-3290	3/4 NPT	3/8 NPT	1/4 NPT
BT-10-*-32	Rc 1-1/4	Rc 3/8	Rc 1/4
BT-10-*-3280	1-1/4 BSP.F	3/8 BSP.F	1/4 BSP.Tr
BT-10-*-3290	1-1/4 NPT	3/8 NPT	1/4 NPT



BG-03-*-32/3290
 BG-06-*-32/3290
 BG-10-*-32/3290

**DIMENSIONS IN
 MILLIMETRES (INCHES)**

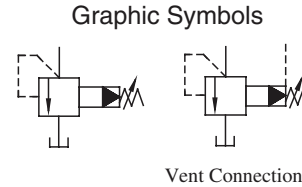
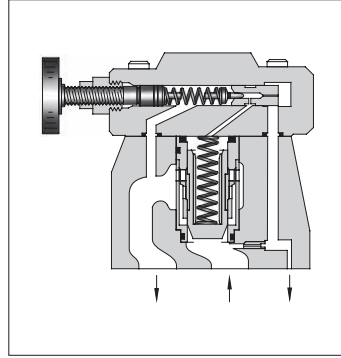


Model Numbers	Dimensions mm (Inches)																
	A	B	C	D	E	F	H	J	K	L	N	P	Q	S	T	U	V
BG-03-*-32/3290	75 (2.95)	40 (1.57)	105 (4.13)	57 (2.24)	78 (3.07)	78 (3.07)	137 (5.39)	14.1 (.56)	41 (1.61)	82 (3.23)	117 (4.61)	77 (3.03)	22 (.87)	13.5 (.53)	21 (.83)	55 (2.17)	77 (3.03)
BG-06-*-32/3290	75 (2.95)	40 (1.57)	105 (4.13)	40 (1.57)	60 (2.36)	78 (3.07)	161 (6.34)	17 (.67)	52 (2.05)	104 (4.09)	141 (5.55)	83.5 (3.29)	4.5 (.18)	17.5 (.69)	26 (1.02)	38 (1.50)	58 (2.28)
BG-10-*-32/3290	85 (3.35)	45 (1.77)	101 (3.98)	47 (1.85)	67 (2.64)	87.5 (3.44)	195 (7.68)	20.7 (.81)	62 (2.44)	124 (4.88)	175 (6.89)	110 (4.33)	6 (.24)	21.5 (.85)	32 (1.26)	45 (1.77)	65 (2.56)

Model Numbers	Thread Size	Mounting Surface
	"X" Thd	
BG-03-*-32	Rc 1/4 = 1/4 BSP.Tr	ISO 6264-AR-06-2-A
BG-03-*-3290	1/4 NPT	
BG-06-*-32	Rc 1/4 = 1/4 BSP.Tr	ISO 6264-AS-08-2-A
BG-06-*-3290	1/4 NPT	
BG-10-*-32	Rc 1/4 = 1/4 BSP.Tr	ISO 6264-AT-10-2-A
BG-10-*-3290	1/4 NPT	

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.



Specifications

Model Numbers	Max. Operating Pressure MPa (PSI)	Pres. Adj. Range MPa (PSI)	Max. Flow L/min (U.S.GPM)	Approx. Mass kg (lbs.)
S-BG-03-*-40*	25 (3630)	Note	100 (26.4)	4.1 (9.0)
S-BG-06-*-40*		★-25	200 (52.8)	5.0 (11.0)
S-BG-10-*-40*		(★-3630)	400 (106)	10.5 (23.2)

Note: See minimum adjustment pressure characteristics on [page 218](#).

Model Number Designation

F-	S-	B	G	-03	-V	-L	-40	*
Special Seals	Low Noise Type	Series Number	Type of Mounting	Valve Size	High Venting*1 Pres. Feature	Direction of Handle (Viewed from pressure gauge connection) L: Left (Normal) R: Right	Design Number	Design Std.
F: Special Seals for Phosphate Ester Type Fluids (Omit if not required)	S: Low Noise Type	B: Pilot Operated Relief Valves	G: Sub-plate Mounting	03	V: For High Venting Pressure Feature (Omit if not required)	L: Left (Normal) R: Right	40	Refer to ★2
				06			40	
				10			40	

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

★2. Design Standards: None Japanese Standard "JIS" and European Design Standard 90 N. American Design Standard

Sub-plate

Valve Model Numbers	Japanese Standard "JIS"		European Design Standard		N. American Design Standard		Approx. Mass kg (lbs.)
	Sub-plate Model Numbers	Thread Size	Sub-plate Model Numbers	Thread Size	Sub-plate Model Numbers	Thread Size	
S-BG-03	BGM-03-20	Rc 3/8	BGM-03-3080	3/8 BSP.F	BGM-03-2090	3/8 NPT	2.4 (5.3)
	BGM-03X-20	Rc 1/2	BGM-03X-3080	1/2 BSP.F	BGM-03X-2090	1/2 NPT	3.1 (6.8)
S-BG-06	BGM-06-20	Rc 3/4	BGM-06-3080	3/4 BSP.F	BGM-06-2090	3/4 NPT	4.7 (10.4)
	BGM-06X-20	Rc 1	BGM-06X-3080	1 BSP.F	BGM-06X-2090	1 NPT	5.7 (12.6)
S-BG-10	BGM-10-20	Rc 1-1/4	BGM-10-3080	1-1/4 BSP.F	BGM-10-2090	1-1/4 NPT	8.4 (18.5)
	BGM-10X-20	Rc 1-1/2	BGM-10X-3080	1-1/2 BSP.F	BGM-10X-2090	1-1/2 NPT	10.3 (22.7)

• Sub-plates are available. Specify the sub-plate model number 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 213](#).

Attachment
Mounting Bolts

Valve Model Numbers	Socket Head Cap Screw		Qty.
	Japanese Std. "JIS" and European Design Std.	N. American Design Std.	
S-BG-03	M12 × 40 Lg.	1/2-13 UNC × 1-1/2 Lg.	4
S-BG-06	M16 × 50 Lg.	5/8-11 UNC × 2 Lg.	4
S-BG-10	M20 × 60 Lg.	3/4-10 UNC × 2-1/4 Lg.	4

Instructions

- If a remote control relief valve is used in the vent circuit, see [page 203](#). 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 reservoir.
- Pressure is limited by collars fitted. If a working pressure cannot be attained, remove some collars. One collar is equivalent to 10 MPa (1450 PSI).
- With a small flow, the setting pressure may be unstable. Use models numbered 03 and 06 with a flow rate above 5 L/min (1.3 U.S. GPM) and model 10 with 8 L/min (2.1 U.S. GPM).

S-BG-03-**-L-40/4090
 S-BG-06-**-L-40/4090
 S-BG-10-**-40/4090

**DIMENSIONS IN
MILLIMETRES (INCHES)**

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

Opposite Handle Position
 S-BG-03-**-R
 S-BG-06-**-R

Note: For other dimensions, see the figures shown left.

Note: For dimensions of the valve mounting surface, see the dimensional drawing (P. 213) of the sub-plate used together.

Model Numbers	"Y" Thd.
S-BG-03-**-40	Rc 1/4 = 1/4 BSP.Tr
S-BG-03-**-4090	1/4 NPT
S-BG-06-**-40	Rc 1/4 = 1/4 BSP.Tr
S-BG-06-**-4090	1/4 NPT
S-BG-10-40	Rc 1/4 = 1/4 BSP.Tr
S-BG-10-4090	1/4 NPT

Model Numbers	Dimensions mm (Inches)																	
	A	B	C	D	E	F	H	J	K	N	P	Q	S	T	U	V	X	Z
S-BG-03	76 (2.99)	53.8 (2.12)	11.1 (.44)	26.9 (1.06)	53.8 (2.12)	73.6 (2.90)	26.9 (1.06)	163.5 (6.44)	13.5 (.53)	21 (.83)	50 (1.97)	130 (5.12)	103 (4.06)	21.5 (.85)	106 (4.17)	26.1 (1.03)	13 (.51)	36.1 (1.42)
S-BG-06	98 (3.86)	70 (2.76)	14 (.55)	35 (1.38)	66.7 (2.63)	58.8 (2.31)	33.7 (1.33)	163.5 (6.44)	17.5 (.69)	26 (1.02)	50 (1.97)	130 (5.12)	103 (4.06)	26 (1.02)	122 (4.80)	19.3 (.76)	13 (.51)	21.3 (.84)
S-BG-10	120 (4.72)	82.6 (3.25)	18.7 (.74)	41.3 (1.63)	88.9 (3.50)	46.1 (1.81)	44.9 (1.77)	180 (7.09)	21.5 (.85)	32 (1.26)	65 (2.56)	167 (6.57)	135 (5.31)	33.5 (1.32)	155 (6.10)	21.1 (.83)	18 (.71)	—

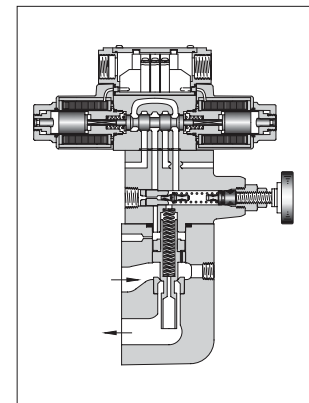
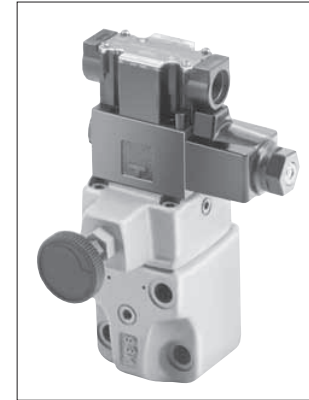
Solenoid Controlled Relief Valves

These valves are a combination of a pilot operated relief valve and a solenoid operated directional valve. Piping between the two 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 pilot relief valves to the solenoid valve ports.

Specifications

Model Numbers		Max. Operating Pressure MPa (PSI)	Pressure Adj. Range MPa (PSI)	Max. Flow L/min (U.S.GPM)	Approx. Mass kg (lbs.)		
					Double Sol.	Single Sol.	With Vent Restrictor
Threaded Connection	BST-03-*-**-48*	25 (3630)	Note) ★-25 (★-3630)	100 (26.4)	7.1 (15.7)	6.6 (14.6)	7.6 (16.8)
	BST-06-*-**-48*			200 (52.8)	7.1 (15.7)	6.6 (14.6)	7.6 (16.8)
	BST-10-*-**-48*			400 (106)	10.8 (23.8)	10.3 (22.7)	11.3 (24.9)
Sub-plate Mounting	BSG-03-*-**-48*	25 (3630)	Note) ★-25 (★-3630)	100 (26.4)	6.8 (15.0)	6.3 (13.9)	7.3 (16.1)
	BSG-06-*-**-48*			200 (52.8)	7.7 (17.0)	7.2 (15.9)	8.2 (18.1)
	BSG-10-*-**-48*			400 (106)	11.0 (24.3)	10.5 (23.2)	11.5 (25.4)

Note: For relief valves, standard pilot operated relief valves are used.
For minimum adjustment pressures and other characteristics, see [page 214](#).



Model Number Designation

F-	A-	BS	T	-03	-V	-2B3A	-A100	-N	-48	*
Special Seals	With Vent Restrictor	Series Number	Type of Mounting	Valve Size	High Venting Pres. Feature	Vent Type	Coil Type ^{*4}	Type of Electrical Con.	Design Number	Design Standards
F: Special Seals for Phosphate Ester Type Fluids (Omit if not required)	A: With Vent Restrictor (Option-Omit if not required) ^{*1}	BS: Solenoid Controlled Relief Valves	T: Threaded Connection G: Sub-plate Mounting	03 06 10	V: For High Venting Pressure Feature (Omit if not required) ^{*2}	2B3A ^{*3} 2B3B 2B2B 2B2 3C2 3C3	AC: A100, A120, A200, A240 DC: D12, D24, D48 AC→DC: R100, R200	None: Terminal Box Type N: With Plug-in Connector (DIN) N: With Plug-in Connector (DIN)	48	None: Japanese Std. "JIS" 90: N. American Design Std. 80: European Design Std.

- ★1. Models with vent restrictor are applicable only for the vent type 2B3A and 2B3B. For details, see [page 222](#).
- ★2. Use high venting pressure types to reduce response time from unloading to onloading.
- ★3. For the details of the vent types, see the [following page](#).
- ★4. The coil codes are the same as for solenoid operated directional valve DSG-01. See the Solenoid Ratings on [page 345](#).

The coil type numbers in the shaded column are handled as optional extras. In case these coils are required to be chosen, please confirm the time of delivery with us before ordering.

Vent Types

Vent Type	Graphic Symbols	Solenoid Operated Directional Valve Model Number	Operation		
			SOL "a"	SOL "b"	Vent Connecting
2B3A		DSG-01-2B3A	—	OFF	Connected to port "A".
			—	ON	Connected to tank (no-load)
2B3B		DSG-01-2B3B	—	OFF	Connected to tank (no-load)
			—	ON	Connected to port "B".
2B2B		DSG-01-2B2B	—	OFF	Closed state (relief valve setting pressure)
			—	ON	Connected to port "B".
2B2		DSG-01-2B2	—	OFF	Connected to port "A".
			—	ON	Connected to port "B".
3C2		DSG-01-3C2	OFF	OFF	Closed state (relief valve setting pressure)
			ON	OFF	Connected to port "A".
			OFF	ON	Connected to port "B".
3C3		DSG-01-3C3	OFF	OFF	Connected to tank (no-load)
			ON	OFF	Connected to port "A".
			OFF	ON	Connected to port "B".

C
Solenoid Controlled Relief Valves

Attachment

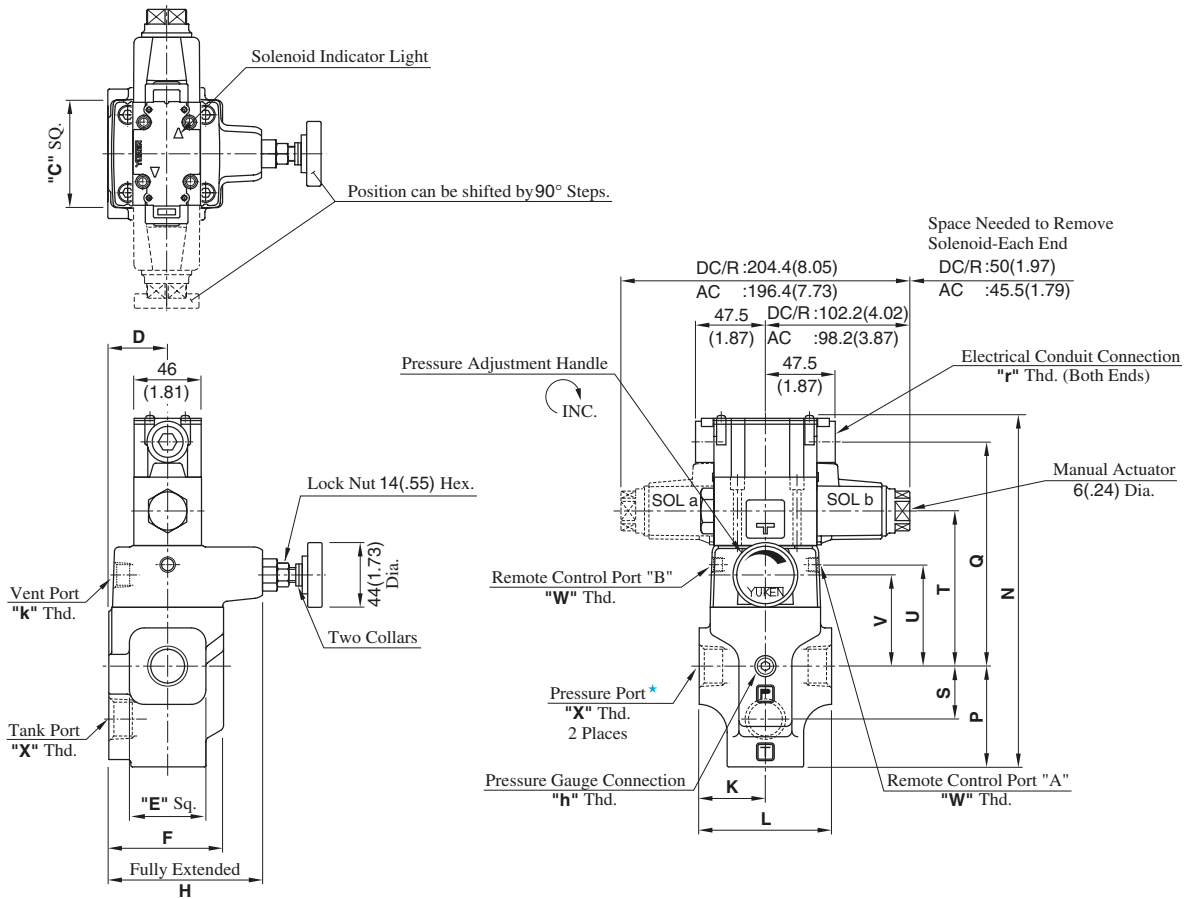
Mounting Bolts

Valve Model Numbers	Socket Head Cap Screw	
	Japanese Std. "JIS" and European Design Std.	N. American Design Std.
BSG-03	M12 × 70 Lg. (2 pcs.), M12 × 95 Lg. (2 pcs.)	1/2-13UNC × 2-3/4 Lg. (2 pcs.), 1/2-13UNC × 3-3/4 Lg. (2 pcs.)
BSG-06	M16 × 60 Lg. (2 pcs.), M16 × 80 Lg. (2 pcs.)	5/8-11UNC × 2-1/4 Lg. (2 pcs.), 5/8-11UNC × 3-1/4 Lg. (2 pcs.)
BSG-10	M20 × 70 Lg. (2 pcs.), M20 × 90 Lg. (2 pcs.)	3/4-10UNC × 2-3/4 Lg. (2 pcs.), 3/4-10UNC × 3-1/2 Lg. (2 pcs.)

BST-03-**-**-48/4890
 BST-06-**-**-48/4890
 BST-10-**-**-48/4890

**DIMENSIONS IN
 MILLIMETRES (INCHES)**

● **Terminal Box Type**



★ 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.

Model Numbers	Dimensions mm (Inches)													
	C	D	E	F	H	K	L	N	P	Q	S	T	U	V
BST-03-**-48/4890	75 (2.95)	40 (1.57)	52 (2.05)	78 (3.07)	145 (5.71)	45 (1.77)	90 (3.54)	239.3 (9.42)	68.5 (2.70)	152.5 (6.00)	36 (1.42)	105.5 (4.15)	69 (2.72)	62 (2.44)
BST-06-**-48/4890														
BST-10-**-48/4890	85 (3.35)	50 (1.97)	80 (3.15)	96 (3.78)	151 (5.94)	60 (2.36)	120 (4.72)	271.8 (10.70)	89 (3.50)	164.5 (6.48)	49 (1.93)	117.5 (4.63)	81 (3.19)	74 (2.91)

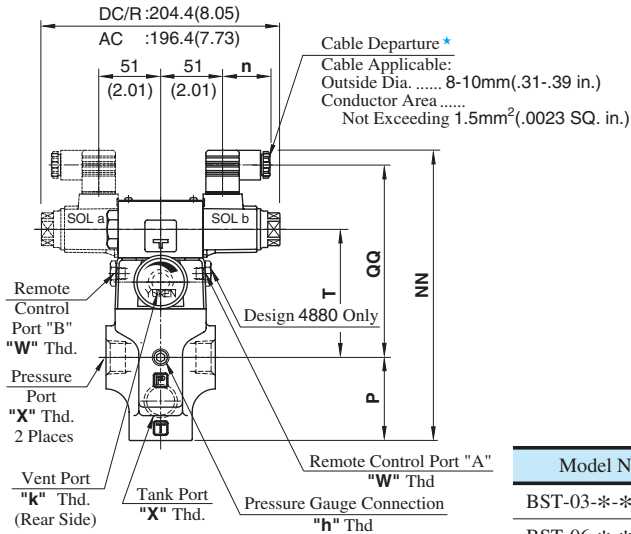
Model Numbers	Japanese Standard "JIS" Design 48					N. American Design Standard Design 4890				
	"W" Thd.	"X" Thd.	"h" Thd.	"k" Thd.	"r" Thd.	"W" Thd.	"X" Thd.	"h" Thd.	"k" Thd.	"r" Thd.
BST-03		Rc 3/8					3/8 NPT			
BST-06	Rc 1/8	Rc 3/4	Rc 1/4	Rc 3/8	G 1/2	1/8 NPT	3/4 NPT	1/4 NPT	3/8 NPT	1/2 NPT
BST-10		Rc 1-1/4					1-1/4 NPT			

C
**Solenoid Controlled
 Relief Valves**

● **Models with Plug-in Connector**

03
BST-06-*-N-48/4880/4890**
 10

**DIMENSIONS IN
 MILLIMETRES (INCHES)**



Model Numbers	Dimensions mm(Inches)				
	P	T	NN	QQ	n
BST-03-**-A*-N	68.5	105.5	239	158.5	39 (1.54)
BST-06-**-A*-N	(2.70)	(4.15)	(9.41)	(6.24)	
BST-10-**-A*-N	89	117.5	271.5	170.5	39 (1.54)
	(3.50)	(4.63)	(10.69)	(6.71)	
BST-03-**-D*-N	68.5	105.5	250	169.5	39 (1.54)
BST-06-**-D*-N	(2.70)	(4.15)	(9.84)	(6.67)	
BST-10-**-D*-N	89	117.5	282.5	181.5	53 (2.09)
	(3.50)	(4.63)	(11.12)	(7.15)	
BST-03-**-R*-N	68.5	105.5	253	162.7	53 (2.09)
BST-06-**-R*-N	(2.70)	(4.15)	(9.96)	(6.41)	
BST-10-**-R*-N	89	117.5	285.5	174.7	53 (2.09)
	(3.50)	(4.63)	(11.24)	(6.88)	

Model Numbers	"W" Thd.	"X" Thd.	"h" Thd.	"k" Thd.
BST-03-**-N-4880		3/8 BSP.F		
BST-06-**-N-4880	1/8 BSP.F	3/4 BSP.F	1/4 BSP.Tr	3/8 BSP.Tr
BST-10-**-N-4880		1-1/4 BSP.F		

★ Position of cable departure can be changed. For details, refer to DSG-01 valve on page 357.

See the installation drawing of terminal box type on page 223 for design 48 and 4890 port thread and other dimensions.

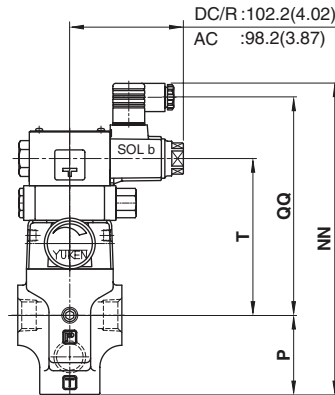
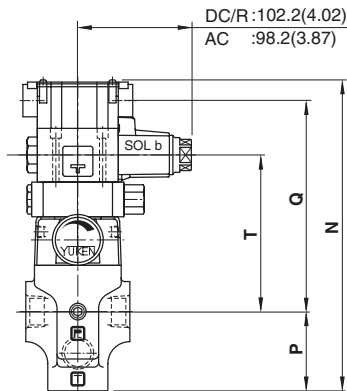
■ **Options - Models with Vent Restrictor**

● **Terminal Box Type**

03
A-BST-06--2B3A**
10 2B3B *-48/4880

● **Plug-in Connector Type**

03
A-BST-06--2B3A**
10 2B3B *-N-48/4880/4890



Model Numbers	Dimensions mm (Inches)		Terminal Box Type		Plug-in Connector Type					
	P	T	N	Q	AC Solenoid		DC Solenoid		R (AC →DC) Solenoid	
					NN	QQ	NN	QQ	NN	QQ
A-BST-03	68.5	135.5	269.3	182.5	269	188.5	280	199.5	283	192.7
A-BST-06	(2.70)	(5.33)	(10.60)	(7.19)	(10.59)	(7.42)	(11.02)	(7.85)	(11.14)	(7.59)
A-BST-10	89	147.5	301.8	194.5	301.5	200.5	312.5	211.5	315.5	204.7
	(3.50)	(5.81)	(11.88)	(7.66)	(11.87)	(7.89)	(12.30)	(8.33)	(12.42)	(8.06)

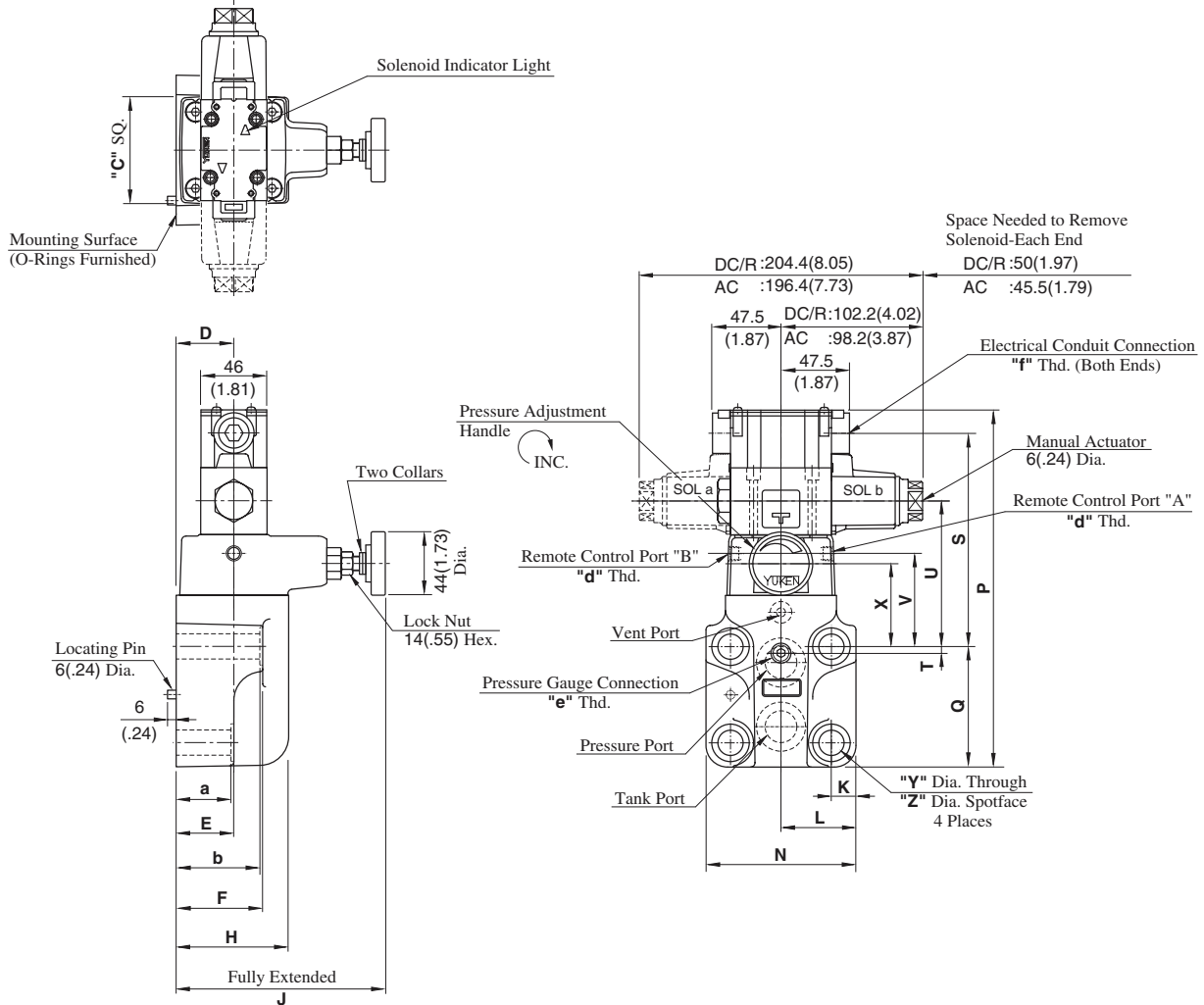
For other dimensions, see the models without vent restrictor type on page 223 and 224.

BSG-03-***-48/4890
 BSG-06-***-48/4890
 BSG-10-***-48/4890

Mounting surface
 BSG-03: ISO 6264-AR-06-2-A
 BSG-06: ISO 6264-AS-08-2-A
 BSG-10: ISO 6264-AT-10-2-A

● Terminal Box Type

DIMENSIONS IN
MILLIMETRES (INCHES)



Model Numbers	Dimensions mm (Inches)																			
	C	D	E	F	H	J	K	L	N	P	Q	S	T	U	V	X	Y	Z	a	b
BSG-03	75 (2.95)	40 (1.57)	57 (2.24)	78 (3.07)	78 (3.07)	145 (5.71)	14.1 (.56)	41 (1.61)	82 (3.23)	225.8 (8.89)	77 (3.03)	130.5 (5.14)	22 (.87)	83.5 (3.29)	47 (1.85)	40 (1.57)	13.5 (.53)	21 (.83)	55 (2.17)	77 (3.03)
BSG-06	75 (2.95)	40 (1.57)	40 (1.57)	60 (2.36)	78 (3.07)	145 (5.71)	17 (.67)	52 (2.05)	104 (4.09)	249.8 (9.83)	83.5 (3.29)	148 (5.83)	4.5 (.18)	101 (3.98)	64.5 (2.54)	57.5 (2.26)	17.5 (.69)	26 (1.02)	38 (1.50)	58 (2.28)
BSG-10	85 (3.35)	45 (1.77)	47 (1.85)	67 (2.64)	84 (3.31)	146 (5.75)	20.7 (.81)	62 (2.44)	124 (4.88)	283.8 (11.17)	110 (4.33)	155.5 (6.12)	6 (.24)	108.5 (4.27)	72 (2.83)	65 (2.56)	21.5 (.85)	32 (1.26)	45 (1.77)	65 (2.56)

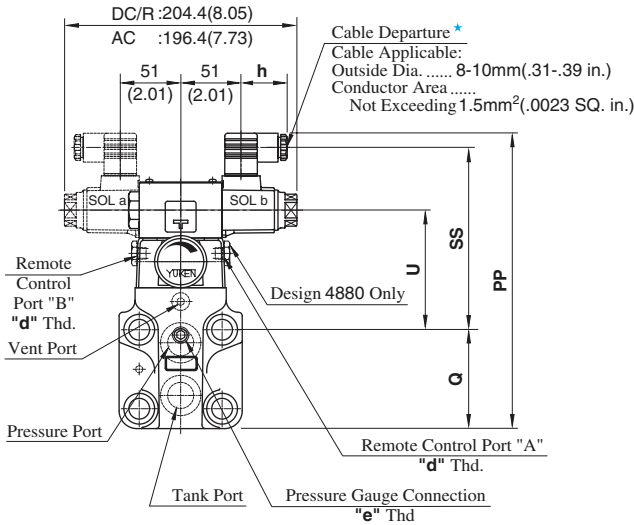
Model Numbers	Japanese Standard "JIS" Design 48			N. American Design Standard Design 4890		
	"d" Thd.	"e" Thd.	"f" Thd.	"d" Thd.	"e" Thd.	"f" Thd.
BSG-03						
BSG-06	Rc 1/8	Rc 1/4	G 1/2	1/8 NPT	1/4 NPT	1/2 NPT
BSG-10						

Note: For dimensions of the valve mounting surface, see the installation drawing (P. 213) of the sub-plate used together.

C
Solenoid Controlled Relief Valves

● **Models with Plug-in Connector**

03
BSG-06-*-**-N-48/4880/4890
10



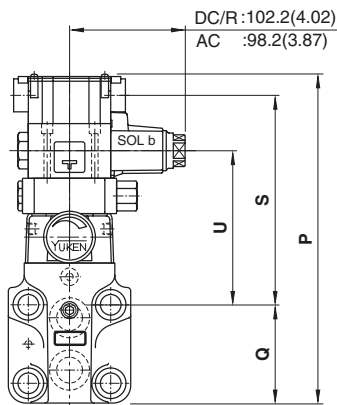
★ Position of cable departure can be changed. For details, refer to DSG-01 valve on page 357.

DIMENSIONS IN MILLIMETRES (INCHES)

■ **Options - Models with Vent Restrictor**

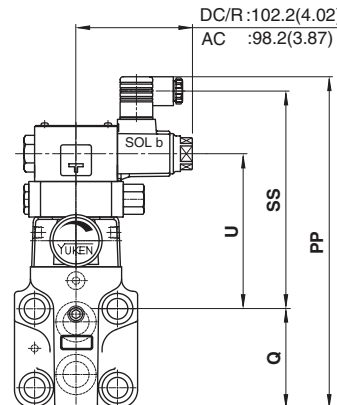
● **Terminal Box Type**

03
A-BSG-06-*-2B3A
10 2B3B *-48/4890



● **Plug-in Connector Type**

03
A-BSG-06-*-2B3A
10 2B3B *-N-48/4880/4890



Model Numbers	Dimensions mm(Inches)				
	Q	U	PP	SS	h
BSG-03-*-A*-N	77 (3.03)	83.5 (3.29)	225.5 (8.88)	136.5 (5.37)	39 (1.54)
BSG-06-*-A*-N	83.5 (3.29)	101 (3.98)	249.5 (9.82)	154 (6.06)	
BSG-10-*-A*-N	110 (4.33)	108.5 (4.27)	283.5 (11.16)	161.5 (6.36)	
BSG-03-*-D*-N	77 (3.03)	83.5 (3.29)	236.5 (9.31)	147.5 (5.81)	39 (1.54)
BSG-06-*-D*-N	83.5 (3.29)	101 (3.98)	260.5 (10.26)	165 (6.50)	
BSG-10-*-D*-N	110 (4.33)	108.5 (4.27)	294.5 (11.59)	172.5 (6.79)	
BSG-03-*-R*-N	77 (3.03)	83.5 (3.29)	239.5 (9.43)	140.7 (5.54)	53 (2.09)
BSG-06-*-R*-N	83.5 (3.29)	101 (3.98)	263.5 (10.37)	158.2 (6.23)	
BSG-10-*-R*-N	110 (4.33)	108.5 (4.27)	297.5 (11.71)	165.7 (6.52)	

Model Numbers	"d" Thd.	"e" Thd.
BSG-03-*-**-N-4880	1/8 BSP.F	1/4 BSP.Tr
BSG-06-*-**-N-4880		
BSG-10-*-**-N-4880		

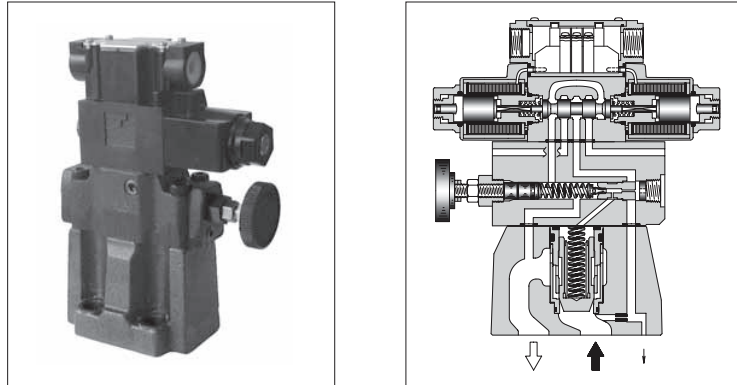
See the installation drawing of terminal box type on page 225 for design 48 and 4890 port threads and other dimensions.

Model Numbers	Dimensions mm (Inches)		Terminal Box Type		Plug-in Connector Type					
	Q	U	P	S	AC Solenoid		DC Solenoid		R (AC→DC) Solenoid	
					PP	SS	PP	SS	PP	SS
A-BSG-03	77 (3.03)	113.5 (4.47)	255.8 (10.07)	160.5 (6.32)	255.5 (10.06)	166.5 (6.56)	266.5 (10.49)	177.5 (6.99)	269.5 (10.61)	170.7 (6.72)
A-BSG-06	83.5 (3.29)	131 (5.16)	279.8 (11.02)	178 (7.01)	279.5 (11.00)	184 (7.24)	290.5 (11.44)	195 (7.68)	293.5 (11.56)	188.2 (7.41)
A-BSG-10	110 (4.33)	138.5 (5.45)	313.8 (12.35)	185.5 (7.30)	313.5 (12.34)	191.5 (7.54)	324.5 (12.78)	202.5 (7.97)	327.5 (12.89)	195.7 (7.70)

For other dimensions, see the models without vent restrictor type on page 225 and 226.

Low Noise Type Solenoid Controlled Relief Valves

The low-noise solenoid controlled relief valve is a combination of a low-noise type pilot operated relief valve and a solenoid operated directional valve. It is used for no-load pump operation by using electric signals or, together with a remote control relief valve, for two or three pressure control of the hydraulic system.



Specifications

Model Numbers	Max. Operating Pressure MPa (PSI)	Pressure Adj. Range MPa (PSI)	Max. Flow L/min (U.S.GPM)	Approx. Mass kg (lbs.)		
				Double Sol.	Single Sol.	With Vent Restrictor
S-BSG-03-*-**-53*	25 (3630)	★ - 25 (★ - 3630)	100 (26.4)	6.0 (13.2)	5.5 (12.1)	6.5 (14.3)
S-BSG-06-*-**-53*			200 (52.8)	6.9 (15.2)	6.4 (14.1)	7.4 (16.3)
S-BSG-10-*-**-53*			400 (106)	12.6 (27.8)	12.1 (26.7)	12.9 (28.4)

★ For relief valves, low-noise type pilot operated relief valves are used.
For minimum adjustment pressures and other characteristics, see [page 218](#).

Model Number Designation

F-	A-	S-	BS	G	-03	-V	-2B3A	-A100	-N	-L	53	*
Special Seals	With Vent Restrictor	Low Noise Type	Series Number	Type of Mtg.	Valve size	High Venting Pres. Feature	Vent Type	Coil Type	Type of Electrical Connections	Direction of Handle	Design Number	Design Standards
F: Special Seals for Phosphate Ester Type Fluids (Omit if not required)	A: ★ ¹ With Vent Restrictor (Option-Omit if not required)	S: Low Noise Type	BS: Solenoid Controlled Relief Valves	G: Sub-plate Mtg.	03 06 10	V: ★ ² For High Venting Pressure Feature (Omit if not required)	2B3A ★ ³ 2B3B 2B2B 2B2 3C2 3C3	AC: ★ ⁴ A100 A120 A200 A240 DC: D12 D24 D48 AC →DC: R100 R200	None: Terminal Box Type N: With Plug-in Connector (DIN) N: With Plug-in Connector (DIN)	Vented from pressure gauge connection L: Left (Normal) R: Right	53	None: Japanese Std. "JIS" 90: N. American Design Std. 80: European Design Std.

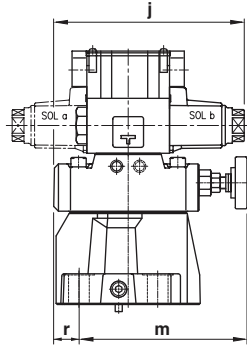
- ★ 1. Models with vent restrictor are applicable only for the vent type 2B3A and 2B3B. For details, see [page 231](#).
- ★ 2. Use high venting pressure types to reduce response time from unloading to onloading.
- ★ 3. The vent types are the same as for the conventional type solenoid controlled relief valves. For the details of the vent types, see [page 221](#).
- ★ 4. The coil codes are the same as for solenoid operated directional valve DSG-01 valve. See the solenoid ratings on [page 345](#).

The coil type numbers in the shaded column are handled as optional extras. In case these coils are required to be chosen, please confirm the time of delivery with us before ordering.

■ Terminal Box Type

Opposite Handle Position

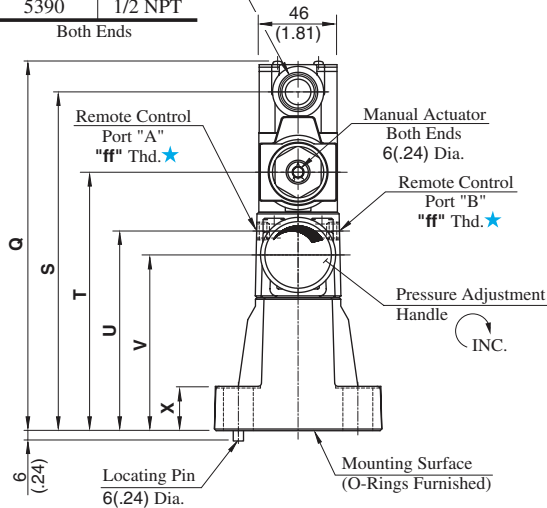
S-BSG-⁰³/₀₆ -*-R-53/5390



Note: For other dimensions, see the figures shown below.

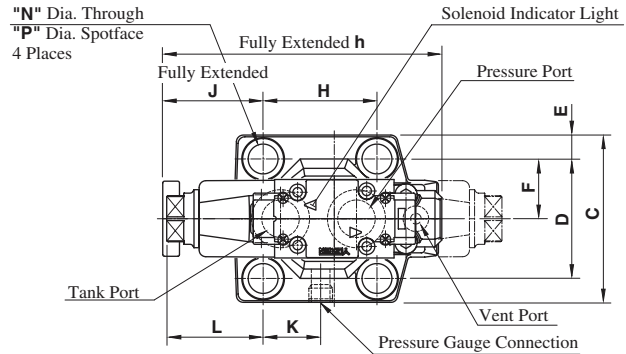
Electrical Conduit Connection

Design Std.	Thd. Size
53	G 1/2
5390	1/2 NPT

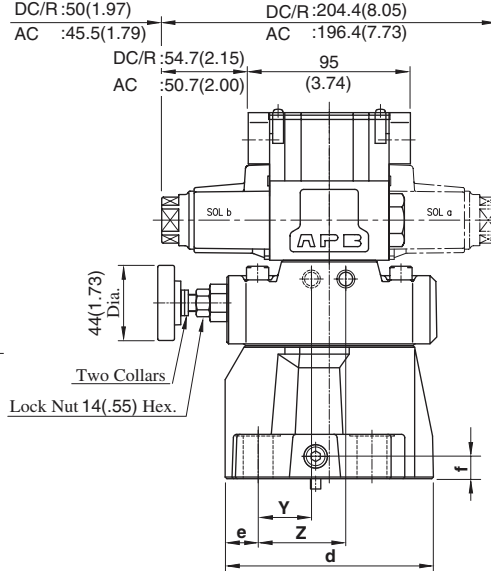


Mounting surface
 S-BSG-03: ISO 6264-AR-06-2-A
 S-BSG-06: ISO 6264-AS-08-2-A
 S-BSG-10: ISO 6264-AT-10-2-A

S-BSG-⁰³/₀₆ -*-L-53/5390
 S-BSG-10-**-53/5390



Space Needed to Remove Solenoid-Each End



Model Numbers	Dimensions mm (Inches)																						
	C	D	E	F	H	J	K	N	P	Q	S	T	U	V	X	Y	Z	d	e	f	h	m	r
S-BSG-03	76 (2.99)	53.8 (2.12)	11.1 (.44)	26.9 (1.06)	53.8 (2.12)	73.6 (2.90)	26.9 (1.06)	13.5 (.53)	21 (.83)	216.8 (8.54)	198.5 (7.81)	151.5 (5.96)	117 (4.61)	103 (4.06)	21.5 (.85)	17.1 (.67)	36.6 (1.44)	106 (4.17)	26.1 (1.03)	13 (.51)	163.5 (6.44)	127.4 (5.02)	36.1 (1.42)
S-BSG-06	98 (3.86)	70 (2.76)	14 (.55)	35 (1.38)	66.7 (2.63)	58.8 (2.31)	33.7 (1.33)	17.5 (.69)	26 (1.02)	216.8 (8.54)	198.5 (7.81)	151.5 (5.96)	117 (4.61)	103 (4.06)	26 (1.02)	31.9 (1.26)	51.4 (2.02)	122 (4.80)	19.3 (.76)	13 (.51)	163.5 (6.44)	142.2 (5.60)	21.3 (.84)
S-BSG-10	120 (4.72)	82.6 (3.25)	18.7 (.74)	41.3 (1.63)	88.9 (3.50)	46.1 (1.81)	44.9 (1.77)	21.5 (.85)	32 (1.26)	251.8 (9.91)	233.5 (9.19)	186.5 (7.34)	149 (5.87)	135 (5.31)	33.5 (1.32)	43.2 (1.70)	62.7 (2.47)	155 (6.10)	21.1 (.83)	18 (.71)	180 (7.09)	—	—

Model Numbers	AC Solenoid		DC/R Solenoid	
	L	j	L	j
S-BSG-03	71.3 (2.81)	161.2 (6.35)	75.3 (2.96)	165.2 (6.50)
S-BSG-06	56.5 (2.22)	161.2 (6.35)	60.5 (2.38)	165.2 (6.50)
S-BSG-10	44.3 (1.74)	—	48.3 (1.90)	—

DIMENSIONS IN MILLIMETRES (INCHES)

★ For the port screws, see the Plug-in Connector type on page 233.

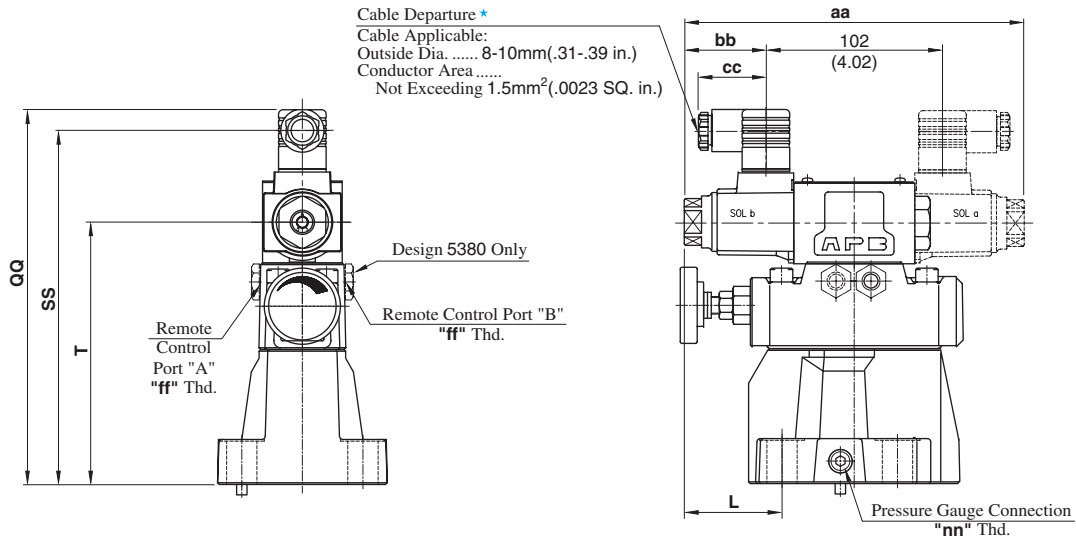
Note: For dimensions of the valve mounting surface, see the installation drawing (P. 213) of the sub-plate used together.

■ Plug-in Connector Type

S-BSG-03-06-***-N-L-53/5380/5390

S-BSG-10-***-N-L-53/5380/5390

DIMENSIONS IN
MILLIMETRES (INCHES)



★ Position of cable departure can be changed. For details, refer to DSG-01 valve on page 357.

Model Numbers	Dimensions mm (Inches)							Remarks
	L	QQ	SS	T	aa	bb	cc	
S-BSG-03-***-A*-N	71.3 (2.81)	216.5 (8.52)	204.5 (8.05)	151.5 (5.96)				
S-BSG-06-***-A*-N	56.5 (2.22)	216.5 (8.52)	204.5 (8.05)	151.5 (5.96)	196.4 (7.73)	47.2 (1.86)	39 (1.54)	With AC Solenoid
S-BSG-10-***-A*-N	44.3 (1.74)	251.5 (9.90)	239.5 (9.43)	186.5 (7.34)				
S-BSG-03-***-D*-N	75.3 (2.96)	227.5 (8.96)	215.5 (8.48)	151.5 (5.96)				
S-BSG-06-***-D*-N	60.5 (2.38)	227.5 (8.96)	215.5 (8.48)	151.5 (5.96)	204.4 (8.05)	51.2 (2.02)	39 (1.54)	With DC Solenoid
S-BSG-10-***-D*-N	48.3 (1.90)	262.5 (10.33)	250.5 (9.86)	186.5 (7.34)				
S-BSG-03-***-R*-N	75.3 (2.96)	230.5 (9.07)	208.7 (8.22)	151.5 (5.96)				
S-BSG-06-***-R*-N	60.5 (2.38)	230.5 (9.07)	208.7 (8.22)	151.5 (5.96)	204.4 (8.05)	51.2 (2.02)	53 (2.09)	With AC → DC Solenoid
S-BSG-10-***-R*-N	48.3 (1.90)	265.5 (10.45)	243.7 (9.59)	186.5 (7.34)				

Model Numbers	Thread Size					
	Japanese Standard "JIS" Design 53		European Design Standard Design 5380		N. American Design Standard Design 5390	
	"ff" Thd.	"nn" Thd.	"ff" Thd.	"nn" Thd.	"ff" Thd.	"nn" Thd.
S-BSG-03-***-N						
S-BSG-06-***-N	Rc 1/8	Rc 1/4	1/8 BSP.F	1/4 BSP.F	1/8 NPT	1/4 NPT
S-BSG-10-***-N						

C
Low Noise Type Solenoid Controlled Relief Valves

■ Options-Models with Vent Restrictor

DIMENSIONS IN
MILLIMETRES (INCHES)

● Terminal Box Type

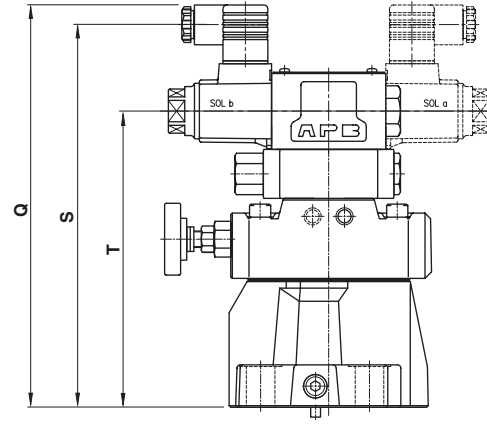
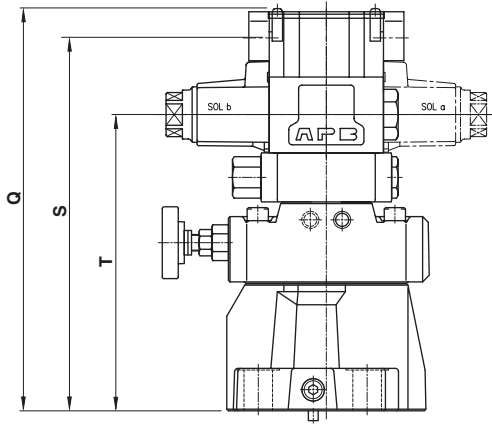
A-S-BSG-⁰³/₀₆ -*-L-53/5390

A-S-BSG-10-*-L-53/5390

● Plug-in Connector Type

A-S-BSG-⁰³/₀₆ -*-N-L-53/5380/5390

A-S-BSG-10-*-N-L-53/5380/5390



Model Numbers	Dimensions mm (Inches)			Remarks
	Q	S	T	
A-S-BSG-03-*-A*/D*/R*-L	246.8(9.72)	228.5(9.00)	181.5(7.15)	Terminal Box Type
A-S-BSG-06-*-A*/D*/R*-L				
A-S-BSG-10-*-A*/D*/R*	281.8(11.09)	263.5(10.37)	216.5(8.52)	
A-S-BSG-03-*-A*-N-L	246.5(9.70)	234.5(9.23)	181.5(7.15)	Plug-in Connector with AC Solenoid
A-S-BSG-06-*-A*-N-L				
A-S-BSG-10-*-A*-N	281.5(11.08)	269.5(10.61)	216.5(8.52)	
A-S-BSG-03-*-D*-N-L	257.5(10.14)	245.5(9.67)	181.5(7.15)	Plug-in Connector with DC Solenoid
A-S-BSG-06-*-D*-N-L				
A-S-BSG-10-*-D*-N	292.5(11.52)	280.5(11.04)	216.5(8.52)	
A-S-BSG-03-*-R*-N-L	260.5(10.26)	238.7(9.40)	181.5(7.15)	Plug-in Connector with R Type Solenoid
A-S-BSG-06-*-R*-N-L				
A-S-BSG-10-*-R*-N	295.5(11.63)	273.7(10.78)	216.5(8.52)	

H/HC Type Pressure Control Valves

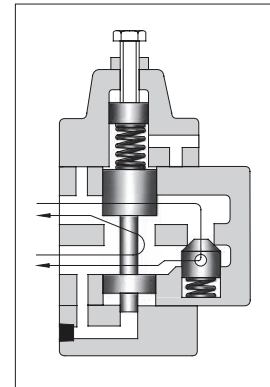
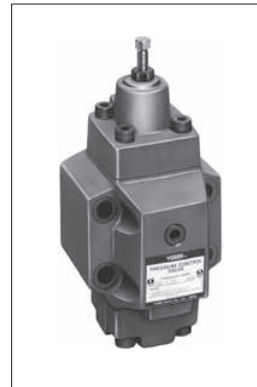
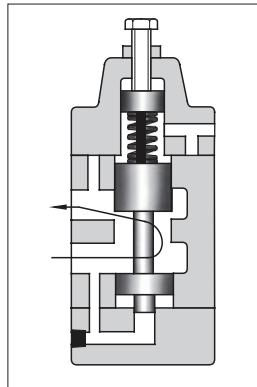
These valves are hydraulically damped, direct operated, pressure control valves which can be actuated by internal or external pilot pressure.

H Type Pressure Control Valves

There are various types of valve including sequence, unloading and low pressure relief valves, all of which are operated by a pressure rise in the circuit, sensed either internally or remotely.

HC Type Pressure Control Valves

They are available with integral check valves for use when free reverse flow from secondary port to the primary port is desired. There are various types of valve including sequence and counterbalance valves, all of which are operated by a pressure rise in the circuit, sensed either internally or remotely.



Specifications

Series	Model Numbers		Max. Operating Pres. MPa (PSI)	Max. Flow L/min (U.S. GPM)	Approx. Mass kg (lbs.)	
	Threaded Connection	Sub-plate Mounting			Threaded Connection	Sub-plate Mounting
H Type Pressure Control Valves	HT-03-***-22/2280/2290	HG-03-***-22/2290	21(3050)	50 (13.2)	3.7 (8.2)	4.0 (8.8)
	HT-06-***-22/2280/2290	HG-06-***-22/2290		125 (33)	6.2 (13.7)	6.1 (13.5)
	HT-10-***-22/2280/2290	HG-10-***-22/2290		250 (66)	12.0 (26.5)	11.0 (24.3)
HC Type Pressure Control Valves	HCT-03-***-22/2280/2290	HCG-03-***-22/2290	21(3050)	50 (13.2)	4.1 (9.0)	4.8 (10.6)
	HCT-06-***-22/2280/2290	HCG-06-***-22/2290		125 (33)	7.1 (15.7)	7.4 (16.3)
	HCT-10-***-22/2280/2290	HCG-10-***-22/2290		250 (66)	13.8 (30.4)	13.8 (30.4)

● For check valve pressure drops of HC type, see free flow pressure drop characteristics described on page 247.

Yuken can offer flanged connection valves described below.
For details, contact us.

Model Numbers	Max. Operating Pressure MPa (PSI)	Max. flow L/min (U.S.GPM)
HF/HCF-10-***-22/2290	21 (3050)	250(66)
HF/HCF-16-***-20/2090		500(132)

Model Number Designation

F-	H	T	-03	-C	3	-P	-22	*
Special Seals	Series Number	Type of Mounting	Valve Size	Pres. Adj. Range MPa (PSI)	Valve Type ^{★1}	With Auxiliary Pilot Pressure	Design Number	Design Standards
F: Special Seals for Phosphate Ester Type Fluids (Omit if not required)	H: H Type Pressure Control Valves	T: Threaded Connection	03	L: 0.25 - 0.45 (36 - 65) M: 0.45 - 0.9 (65 - 130) N: 0.9 - 1.8 (130 - 260)	^{★1} 1 2 3 4	P: With Auxiliary Pilot Pressure ^{★3}	22	None: Japanese Std. "JIS" 80: European Design Std. 90: N. American Design Std.
			06				22	
			10				22	
		G: Sub-plate Mounting	03				22	
			06				22	
			10				22	
	HC: HC Type Pressure Control Valves	T: Threaded Connection	03	A: 1.8 - 3.5 (260 - 510) B: 3.5 - 7.0 (510 - 1020) C: 7.0 - 14 (1020 - 2030)	^{★1} 1 2 3 4	P: With Auxiliary Pilot Pressure ^{★3}	22	None: Japanese Std. "JIS" 80: European Design Std. 90: N. American Design Std.
			06				22	
			10				22	
		G: Sub-plate Mounting	03				22	
			06				22	
			10				22	

★1. For the details of valve types, see the following page.

★2. Type 1 is only possible for pressure adjustment ranges L and M.

★3. Models with auxiliary pilots are used where valves must be operated under a lower external pilot pressure than the adjusted pressure (types N, A, and B: about 1/8 of adjusted pressure; type C: about 1/16). This does not apply to pressure adjustment ranges L and M and valve type 1.

Instructions

- To adjust the pressure, loosen the lock nut and turn the pressure adjustment screw slowly clockwise to increase pressures or anti-clockwise to decrease pressures. After adjustments, do not forget to tighten the lock nut.
- Connect the secondary side pressure ports of types 1 and 4 (internal drain) and the drain ports of types 2 and 3 (external drain) directly to the reservoir with a back pressure close to the atmospheric pressure.
- There are two threaded connection primary 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.

Sub-plate

Valve Model Numbers	Japanese Standard "JIS"		European Design Standard		N.American Design Standard		Approx. Mass kg (lbs.)
	Sub-plate Model Numbers	Thread Size	Sub-plate Model Numbers	Thread Size	Sub-plate Model Numbers	Thread Size	
HG HCG -03-***	HGM-03-20	Rc 3/8	HGM-03-2080	3/8 BSP.F	HGM-03-2090	3/8 NPT	1.6 (3.5)
	HGM-03X-20	Rc 1/2	HGM-03X-2080	1/2 BSP.F	HGM-03X-2090	1/2 NPT	1.6 (3.5)
HG HCG -03-***-P	HGM-03-P-20	Rc 3/8	HGM-03-P-2080	3/8 BSP.F	HGM-03-P-2090	3/8 NPT	2.0 (4.4)
	HGM-03X-P-20	Rc 1/2	HGM-03X-P-2080	1/2 BSP.F	HGM-03X-P-2090	1/2 NPT	2.0 (4.4)
HG HCG -06-***	HGM-06-20	Rc 3/4	HGM-06-2080	3/4 BSP.F	HGM-06-2090	3/4 NPT	2.4 (5.3)
	HGM-06X-20	Rc 1	HGM-06X-2080	1 BSP.F	HGM-06X-2090	1 NPT	3.0 (6.6)
HG HCG -06-***-P	HGM-06-P-20	Rc 3/4	HGM-06-P-2080	3/4 BSP.F	HGM-06-P-2090	3/4 NPT	2.4 (5.3)
	HGM-06X-P-20	Rc 1	HGM-06X-P-2080	1 BSP.F	HGM-06X-P-2090	1 NPT	3.0 (6.6)
HG HCG -10-***	HGM-10-20	Rc 1-1/4	HGM-10-2080	1-1/4 BSP.F	HGM-10-2090	1-1/4 NPT	4.8 (10.6)
	HGM-10X-20	Rc 1-1/2	HGM-10X-2080	1-1/2 BSP.F	HGM-10X-2090	1-1/2 NPT	5.7 (12.6)
HG HCG -10-***-P	HGM-10-P-20	Rc 1-1/4	HGM-10-P-2080	1-1/4 BSP.F	HGM-10-P-2090	1-1/4 NPT	4.8 (10.6)
	HGM-10X-P-20	Rc 1-1/2	HGM-10X-P-2080	1-1/2 BSP.F	HGM-10X-P-2090	1-1/2 NPT	5.7 (12.6)

- Sub-plates are available. Specify the sub-plate model number from the table above. When sub-plates are not used, the mounting surface should have a good machined finish.

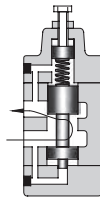
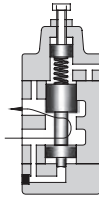
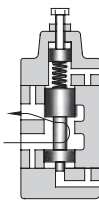
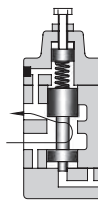

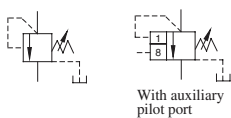
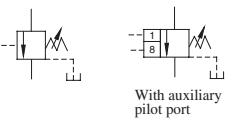
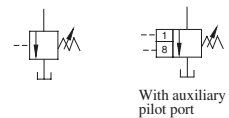
Attachment

Mounting Bolts

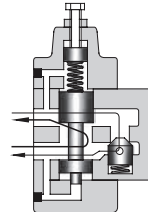
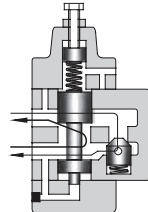
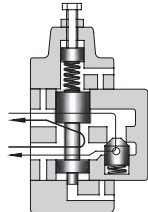
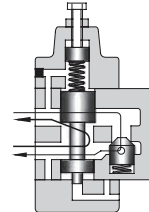
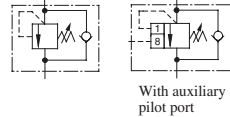
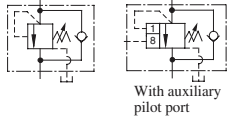
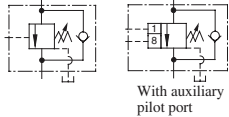
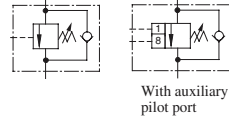
Valve Model Numbers	Socket Head Cap Screw		Qty.
	Japanese Std. "JIS" and European Design Std.	N. American Design Std.	
HG-03	M10 × 50 Lg.	3/8 -16 UNC × 2 Lg.	4
HG-06	M10 × 50 Lg.	3/8 -16 UNC × 2 Lg.	4
HG-10	M10 × 50 Lg.	3/8 -16 UNC × 2 Lg.	6
HCG-03	M10 × 70 Lg.	3/8 -16 UNC × 2-3/4 Lg.	4
HCG-06	M10 × 80 Lg.	3/8 -16 UNC × 3-1/4 Lg.	4
HCG-10	M10 × 90 Lg.	3/8 -16 UNC × 3-1/2 Lg.	6

Valve Types

H Type

Valve Type	Type 1: Low Pres. Relief Valve	Type 2: Sequence Valve	Type 3: Sequence Valve	Type 4: Unloading Valve
Pilot-Drain Type	Internal Pilot-Internal Drain	Internal Pilot-External Drain	External Pilot-External Drain	External Pilot-Internal Drain
Operations				
Graphic Symbols				
Description	Can be used as low-pressure relief valve, but be careful to occurrence of surge pressure.	Used to control the operational sequence of two or more actuators. If primary pressure exceeds the pressure setting, effective fluid is delivered to the secondary side.	Used for the same purpose as for the type 2. Operated by external pilot pressure irrespective of primary pressure.	Used as unloading valve. If external pilot pressure exceeds the pressure setting, the pump is turned no-load by releasing all fluid to the tank.

HC Type

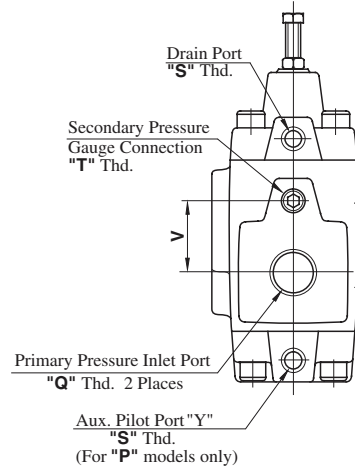
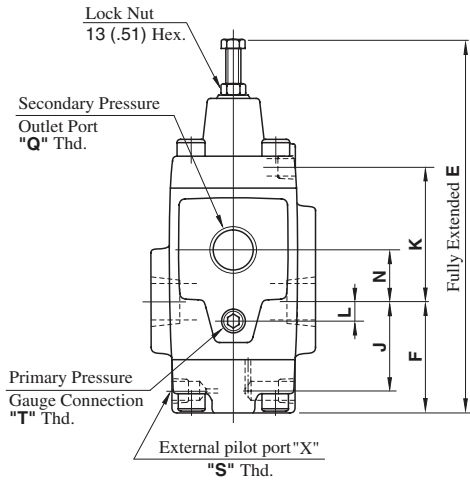
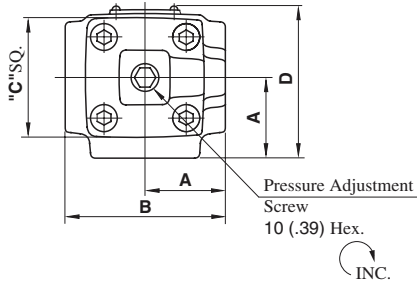
Valve Type	Type 1: Counterbalance Valve	Type 2: Sequence and Check Valve	Type 3: Sequence and Check Valve	Type 4: Counterbalance Valve
Pilot-Drain Type	Internal Pilot-Internal Drain	Internal Pilot-External Drain	External Pilot-External Drain	External Pilot-Internal Drain
Operations				
Graphic Symbols				
Descriptions	Used to prevent gravitational falls by generating a pressure on the actuator return side. If primary pressure exceeds the pressure setting, fluid is released to keep the pressure constant.	Used to control the operating sequence of two or more actuators. If primary pressure exceeds the pressure setting, effective fluid is delivered to the secondary side. Reversed flow is free by a check valve.	Used for the same purpose as for type 2. Operated by external pilot pressure irrespective of primary pressure. Reversed flow is free by a check valve.	Used for the same purpose as for type 1. Operated by external pilot pressure irrespective of primary pressure. Reversed flow is free by a check valve.

HT-03, 06, 10-**-**-22/2280/2290

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

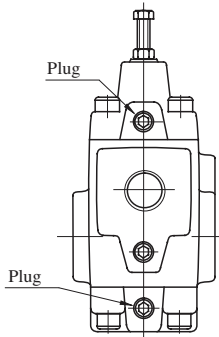
**DIMENSIONS IN
MILLIMETRES (INCHES)**

Model Numbers	Thread Size		
	"Q" Thd.	"S" Thd.	"T" Thd.
HT-03, 22	Rc 3/8	Rc 1/4	Rc 1/4
HT-06, 22	Rc 3/4		
HT-10, 22	Rc 1-1/4		
HT-03, 2280	3/8 BSP.F	1/4 BSP.F	1/4 BSP.Tr
HT-06, 2280	3/4 BSP.F		
HT-10, 2280	1-1/4 BSP.F		
HT-03, 2290	3/8 NPT	1/4 NPT	1/4 NPT
HT-06, 2290	3/4 NPT		
HT-10, 2290	1-1/4 NPT		

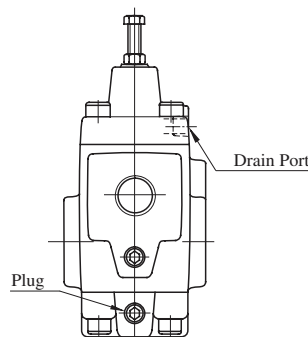


Model Numbers	Dimensions mm (Inches)										
	A	B	C	D	E	F	J	K	L	N	V
HT-03	41 (1.61)	82 (3.23)	60 (2.36)	74 (2.91)	191 (7.52)	57 (2.24)	43 (1.69)	70 (2.76)	0 (0)	28 (1.10)	28 (1.10)
HT-06	48 (1.89)	96 (3.78)	73 (2.87)	87 (3.43)	221 (8.70)	64.5 (2.54)	50.5 (1.99)	80.5 (3.17)	9 (.35)	33 (1.30)	42 (1.65)
HT-10	66 (2.60)	132 (5.20)	86 (3.39)	112 (4.41)	272 (10.71)	84 (3.31)	66 (2.60)	98 (3.86)	12 (.47)	40 (1.57)	52 (2.05)

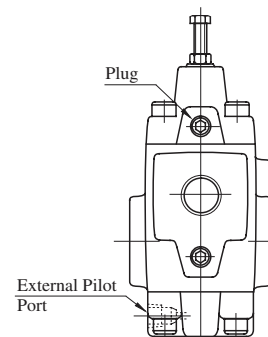
Type 1: Low Pressure Relief Valve
(Internal Pilot, Internal Drain)



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



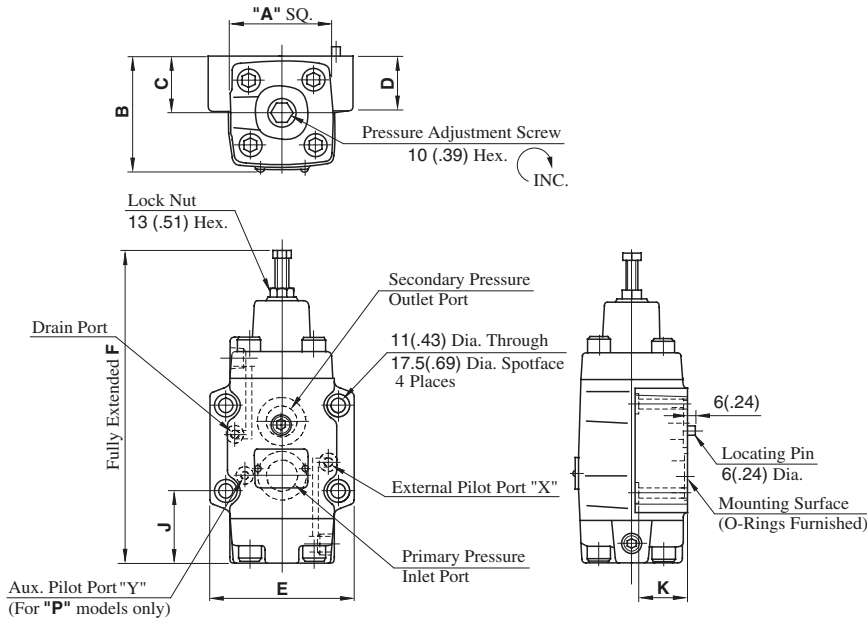
Type 4: Unloading Valve
(External Pilot, Internal Drain)



HG-03, 06-***-22/2290

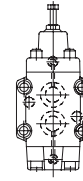
Type 3: Sequence Valve
(External Pilot, External Drain)

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

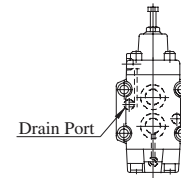


Model Numbers	Dimensions mm (Inches)							
	A	B	C	D	E	F	J	K
HG-03	60 (2.36)	67 (2.64)	35 (1.38)	39 (1.54)	89 (3.50)	191 (7.52)	49.6 (1.95)	38 (1.50)
HG-06	73 (2.87)	79 (3.11)	40 (1.57)	39 (1.54)	102 (4.02)	221 (8.70)	51 (2.01)	38 (1.50)

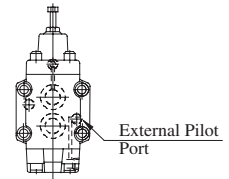
Type 1: Low Pressure Relief Valve
(Internal Pilot, Internal Drain)



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



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



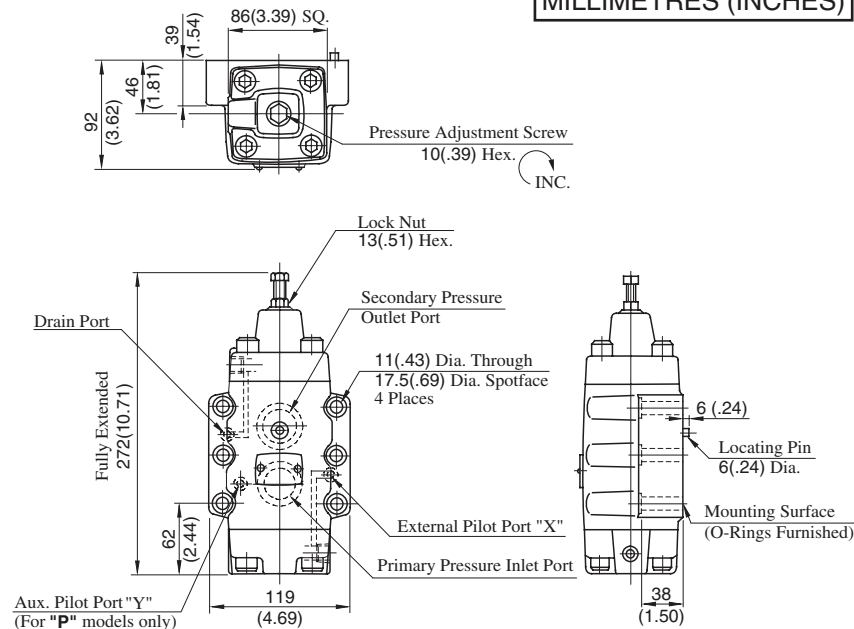
C
H / HC Type
Pressure Control Valves

HG-10-***-22/2290

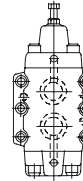
Type 3: Sequence Valve
(External Pilot, External Drain)

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

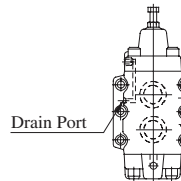
**DIMENSIONS IN
MILLIMETRES (INCHES)**



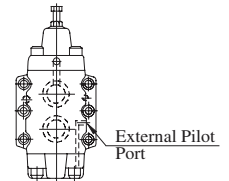
Type 1: Low Pressure Relief Valve
(Internal Pilot, Internal Drain)



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



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

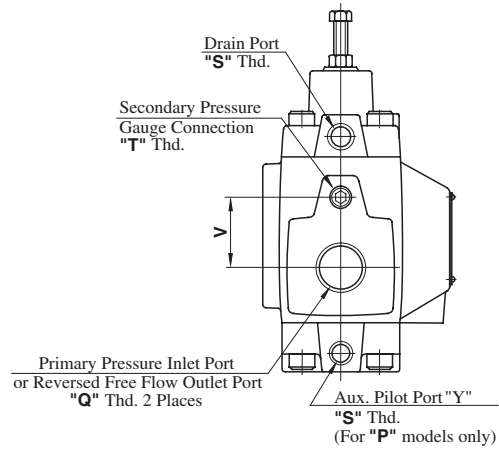
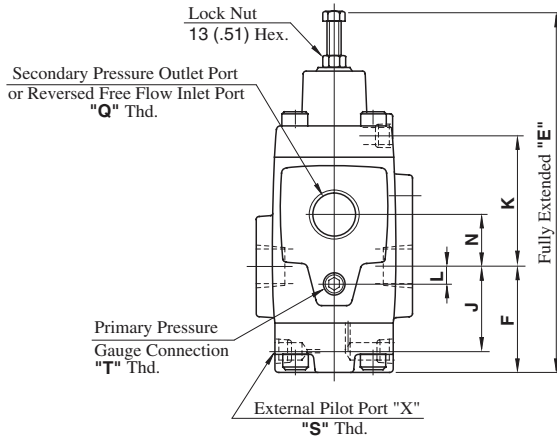
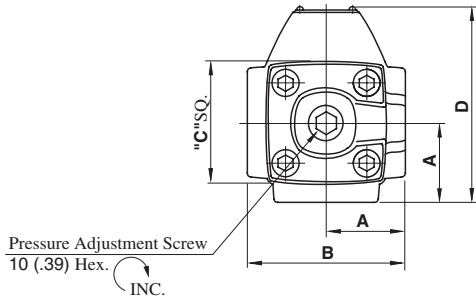


HCT-03, 06, 10-**-**-22/2280/2209

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

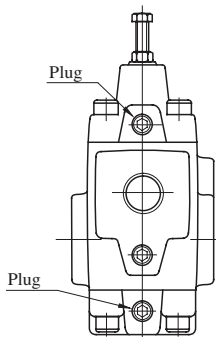
**DIMENSIONS IN
MILLIMETRES (INCHES)**

Model Numbers	Thread Size		
	"Q" Thd.	"S" Thd.	"T" Thd.
HCT-03, 22	Rc 3/8	Rc 1/4	Rc 1/4
HCT-06, 22	Rc 3/4		
HCT-10, 22	Rc 1-1/4		
HCT-03, 2280	3/8 BSP.F	1/4 BSP.F	1/4 BSP.Tr
HCT-06, 2280	3/4 BSP.F		
HCT-10, 2280	1-1/4 BSP.F		
HCT-03, 2290	3/8 NPT	1/4 NPT	1/4 NPT
HCT-06, 2290	3/4 NPT		
HCT-10, 2290	1-1/4 NPT		

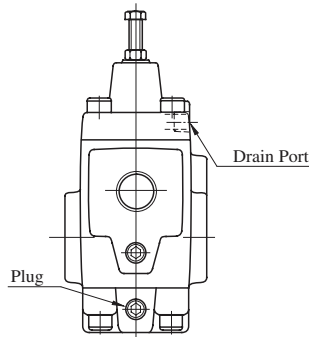


Model Numbers	Dimensions mm (Inches)										
	A	B	C	D	E	F	J	K	L	N	V
HCT-03	41 (1.61)	82 (3.23)	60 (2.36)	96 (3.78)	191 (7.52)	57 (2.24)	43 (1.69)	70 (2.76)	0 (0)	28 (1.10)	28 (1.10)
HCT-06	48 (1.89)	96 (3.78)	73 (2.87)	116 (4.57)	221 (8.70)	64.5 (2.54)	50.5 (1.99)	80.5 (3.17)	9 (.35)	33 (1.30)	42 (1.65)
HCT-10	66 (2.60)	132 (5.20)	86 (3.39)	152 (5.98)	272 (10.71)	84 (3.31)	66 (2.60)	98 (3.86)	12 (.47)	40 (1.57)	52 (2.05)

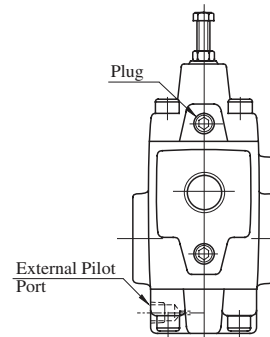
Type 1: Counterbalance Valve
(Internal Pilot, Internal Drain)



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



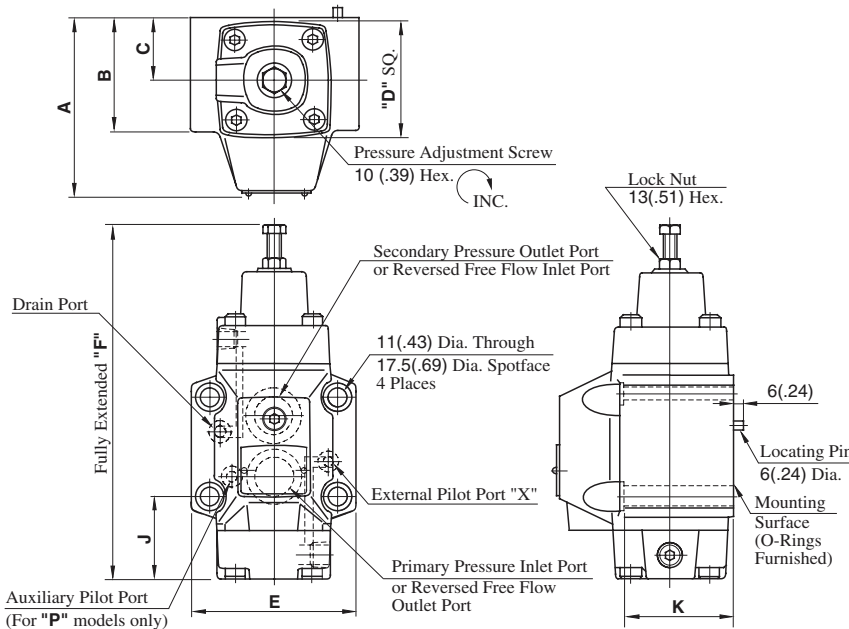
Type 4: Counterbalance Valve
(External Pilot, Internal Drain)



HCG-03, 06-**-**-22/2290

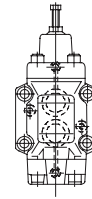
Mounting Surface
HCG-03: ISO 5781-AG-06-2-A
HCG-06: ISO 5781-AH-08-2-A

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

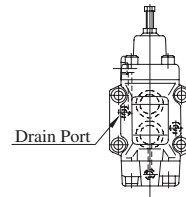


Model Numbers	Dimensions mm (Inches)							
	A	B	C	D	E	F	J	K
HCG-03	90 (3.54)	59 (2.32)	35 (1.38)	60 (2.36)	89 (3.50)	191 (7.52)	49.6 (1.95)	58 (2.28)
HCG-06	108 (4.25)	69 (2.72)	40 (1.57)	73 (2.87)	102 (4.02)	221 (8.70)	51 (2.01)	68 (2.68)

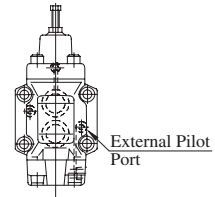
Type 1: Counterbalance Valve
(Internal Pilot, Internal Drain)



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



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

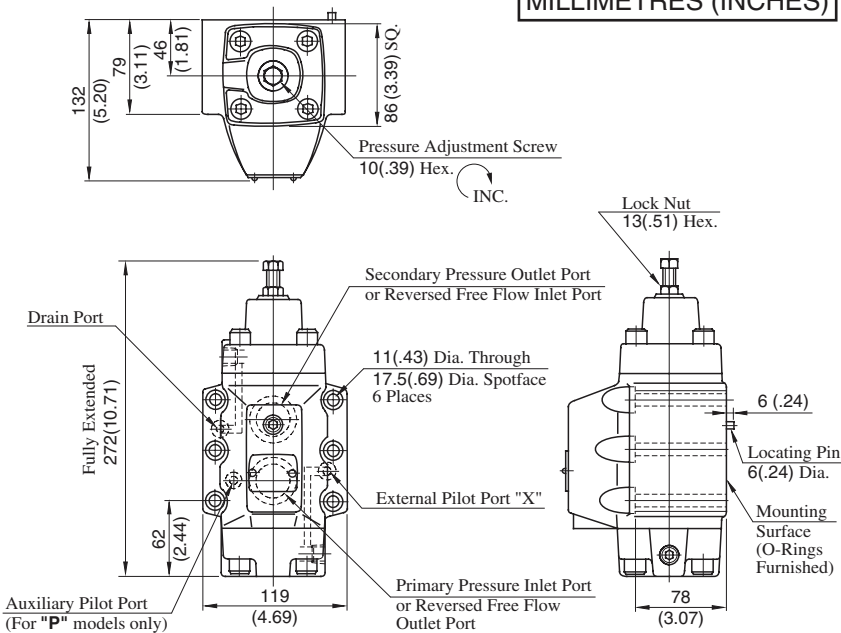


HCG-10-**-**-22/2290

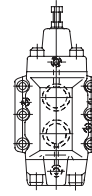
Mounting Surface
ISO 5781-AJ-10-2-A

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

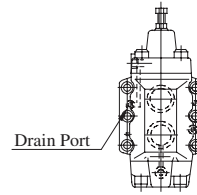
**DIMENSIONS IN
MILLIMETRES (INCHES)**



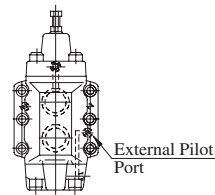
Type 1: Counterbalance Valve
(Internal Pilot, Internal Drain)



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



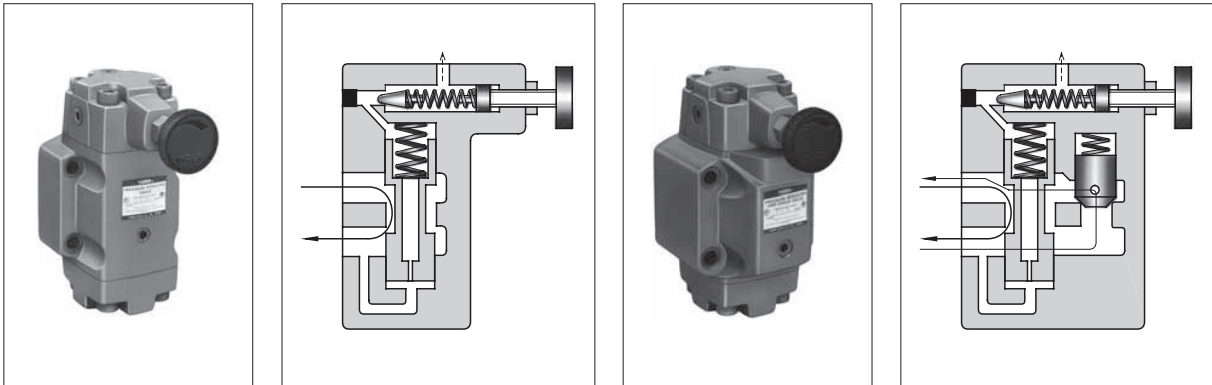
Type 4: Counterbalance Valve
(External Pilot, Internal Drain)



C
**H / HC Type
Pressure Control Valves**

Pressure Reducing Valves / Pressure Reducing and Check Valves

Pressure reducing valves are used to set the pressure of a hydraulic circuit below that of the main circuit. In addition, operation under remote control is possible by using the remote control port. Pressure reducing and check valves have check valves, which allow a free flow from the secondary side to the primary.



Specifications

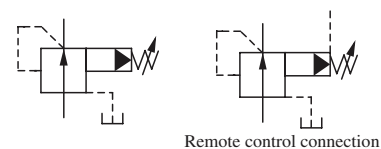
Valve Name	Model Numbers		Max. Operating Pressure MPa (PSI)	Max. Flow ^{★1}		Drain Flow ^{★2} L/min (U.S.GPM)	Approx. Mass kg (lbs.)	
	Threaded Connection	Sub-plate Mounting		Setting Pressure MPa (PSI)	Max. Flow L/min (U.S.GPM)		Threaded Connection	Sub-plate Mounting
Pressure Reducing Valve	RT-03-*-22*	RG-03-*-22*	21 (3050)	0.7 - 1.0 (102 - 145)	40 (10.6)	0.8 - 1.0 (.21 - .26)	4.3 (9.5)	4.5 (9.9)
				1.0 - 20.5 (145 - 2970)	50 (13.2)			
	RT-06-*-22*	RG-06-*-22*	21 (3050)	0.7 - 1.0 (102 - 145)	50 (13.2)	0.8 - 1.1 (.21 - .29)	6.9 (15.2)	6.8 (15.0)
				1.0 - 1.5 (145 - 220)	100 (26.4)			
				1.5 - 20.5 (220 - 2970)	125 (33.0)			
	RT-10-*-22*	RG-10-*-22*	21 (3050)	0.7 - 1.0 (102 - 145)	130 (34.3)	1.2 - 1.5 (.32 - .40)	12.0 (26.5)	11.0 (24.3)
1.0 - 1.5 (145 - 220)				180 (47.6)				
1.5 - 10.5 (220 - 1520)				220 (58.1)				
10.5 - 20.5 (1520 - 2970)				250 (66.0)				
Pressure Reducing and Check Valve	RCT-03-*-22*	RCG-03-*-22*	21 (3050)	0.7 - 1.0 (102 - 145)	40 (10.6)	0.8 - 1.0 (.21 - .26)	4.8 (10.6)	5.4 (11.9)
				1.0 - 20.5 (145 - 2970)	50 (13.2)			
	RCT-06-*-22*	RCG-06-*-22*	21 (3050)	0.7 - 1.0 (102 - 145)	50 (13.2)	0.8 - 1.1 (.21 - .29)	7.8 (17.2)	8.1 (17.9)
				1.0 - 1.5 (145 - 220)	100 (26.4)			
				1.5 - 20.5 (220 - 2970)	125 (33.0)			
	RCT-10-*-22*	RCG-10-*-22*	21 (3050)	0.7 - 1.0 (102 - 145)	130 (34.3)	1.2 - 1.5 (.32 - .40)	13.8 (30.4)	13.8 (30.4)
1.0 - 1.5 (145 - 220)				180 (47.6)				
1.5 - 10.5 (220 - 1520)				220 (58.1)				
10.5 - 20.5 (1520 - 2970)				250 (66.0)				

★1. The max. flow rates are those shown at the primary pressure at 21 MPa (3050 PSI).

★2. The drain flow rates are equal to pilot flow rates when differential pressure between primary and secondary pressure is at 20.5 MPa (2970 PSI).

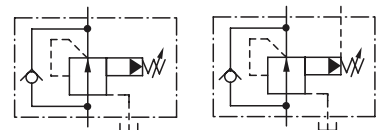
Graphic Symbols

● RT / RG



Remote control connection

● RCT / RCG



Remote control connection

Yuken can offer flanged connection valves described below.

For details, contact us.

Model Numbers	Max. Operating Pressure MPa (PSI)	Max. Flow L/min (U.S.GPM)
RF/RCF-10-*-22*	21 (3050)	250 (66)
RF/RCF-16-*-20*		500 (132)

Model Number Designation

F-	R	T	-03	-B	-22	*	
Special Seals	Series Number	Type of Mounting	Valve Size	Pres. Adj. Range MPa (PSI)	Design Number	Design Standards	
F: Special Seals for Phosphate Ester Type Fluids (Omit if not required)	R: Pressure Reducing Valves	T: Threaded Connection	03	B: 0.7-7 (102-1020) C: 3.5-14 (510-2030) H: 7-20.5 (1020-2970)	22	None: Japanese Std. "JIS" 80: European Design Std. 90: N.American Design Std.	
			06		22		
			10		22		
		G: Sub-plate Mounting	03		22		
			06		22		
			10		22		
	RC: Pressure Reducing and Check Valves	T: Threaded Connection	03		B: 0.7-7 (102-1020) C: 3.5-14 (510-2030) H: 7-20.5 (1020-2970)	22	None: Japanese Std. "JIS" 80: European Design Std. 90: N.American Design Std.
			06			22	
			10			22	
		G: Sub-plate Mounting	03			22	
			06			22	
			10			22	

Attachment

Mounting bolts

Valve Model Numbers	Socket Head Cap Screw		Qty.
	Japanese Std. "JIS" and European Design Std.	N. American Design Std.	
RG-03	M10 × 50 Lg.	3/8-16 UNC × 2 Lg.	4
RG-06	M10 × 50 Lg.	3/8-16 UNC × 2 Lg.	4
RG-10	M10 × 50 Lg.	3/8-16 UNC × 2 Lg.	6
RCG-03	M10 × 70 Lg.	3/8-16 UNC × 2-3/4 Lg.	4
RCG-06	M10 × 80 Lg.	3/8-16 UNC × 3-1/4 Lg.	4
RCG-10	M10 × 90 Lg.	3/8-16 UNC × 3-1/2 Lg.	6

Sub-plate

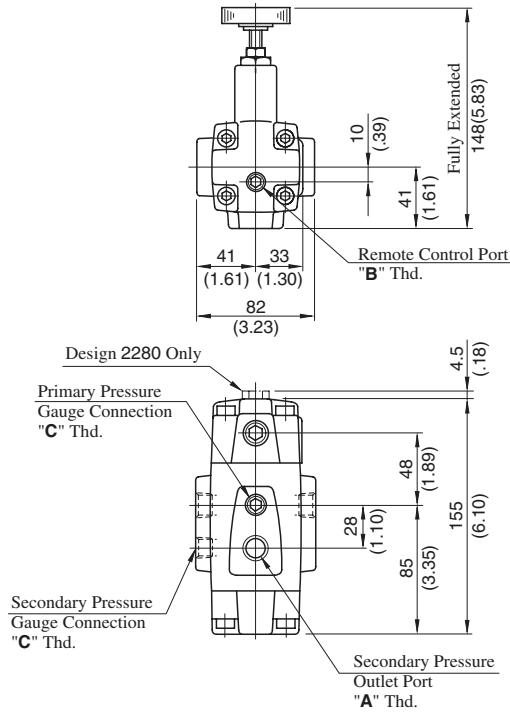
Valve Model Numbers	Japanese Standard "JIS"		European Design Standard		N. American Design Standard		Approx. Mass kg (lbs.)
	Sub-plate Model Numbers	Thread Size	Sub-plate Model Numbers	Thread Size	Sub-plate Model Numbers	Thread Size	
RG RCG-03	HGM-03-20	Rc 3/8	HGM-03-2080	3/8 BSP.F	HGM-03-2090	3/8 NPT	1.6 (3.5)
	HGM-03X-20	Rc 1/2	HGM-03X-2080	1/2 BSP.F	HGM-03X-2090	1/2 NPT	
RG RCG-06	HGM-06-20	Rc 3/4	HGM-06-2080	3/4 BSP.F	HGM-06-2090	3/4 NPT	2.4 (5.3)
	HGM-06X-20	Rc 1	HGM-06X-2080	1 BSP.F	HGM-06X-2090	1 NPT	3.0 (6.6)
RG RCG-10	HGM-10-20	Rc 1-1/4	HGM-10-2080	1-1/4 BSP.F	HGM-10-2090	1-1/4 NPT	4.8 (10.6)
	HGM-10X-20	Rc 1-1/2	HGM-10X-2080	1-1/2 BSP.F	HGM-10X-2090	1-1/2 NPT	5.7 (12.6)

- Sub-plates are available. Specify the sub-plate model number from the table above. When sub-plates are not used, the mounting surface should have a good machined finish.
- The sub-plates are the same as those for H type pressure control valves. With the reducing and check valve, the sub-plate is used in a position 180° turned (upside down) from the normal position. When mounting the sub-plate, be sure to bring the valve locating pin to the sub-plate pin hole. For dimensions, see page 244 to 246.

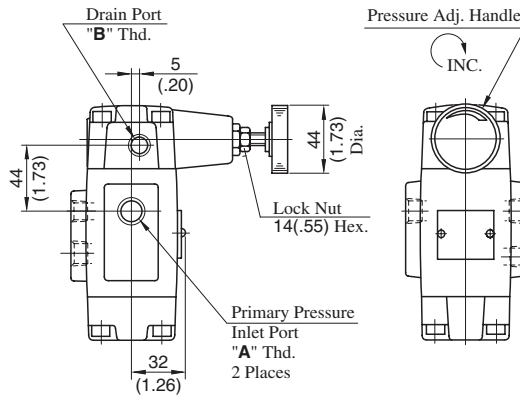
Instructions

- To adjust the pressure, loosen the lock nut and turn the pressure adjustment handle slowly clockwise for higher pressures and anti-clockwise for lower pressures. After adjustments, do not forget to tighten the lock nut.
- Connect the drain port directly to the reservoir in which case the pressure at the drain port should be kept at a low back pressure close to the atmospheric pressure.
- In case of "Threaded Connections", there are two threaded connection type primary pressure ports. They can be connected each other in-line; one as an inlet and the other as an outlet or the valve can be used by plugging one of the pressure ports.

RT-03-*-22/2280/2290

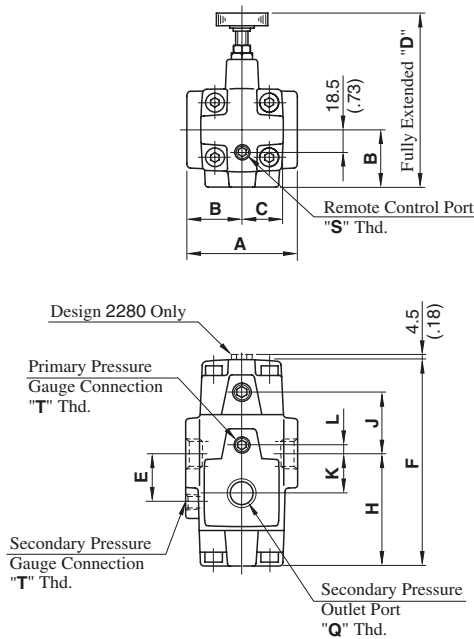


Model Numbers	Thread Size		
	"A" Thd.	"B" Thd.	"C" Thd.
RT-03-*-22	Rc 3/8	Rc 1/4	Rc 1/4
RT-03-*-2280	3/8 BSP.F	1/4 BSP.F	1/4 BSP.Tr
RT-03-*-2290	3/8 NPT	1/4 NPT	1/4 NPT

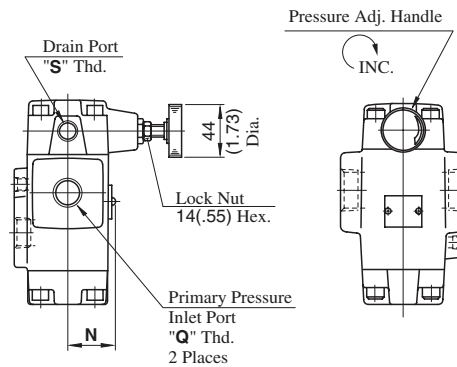


DIMENSIONS IN MILLIMETRES (INCHES)

RT-10⁰⁶-*-22/2280/2290



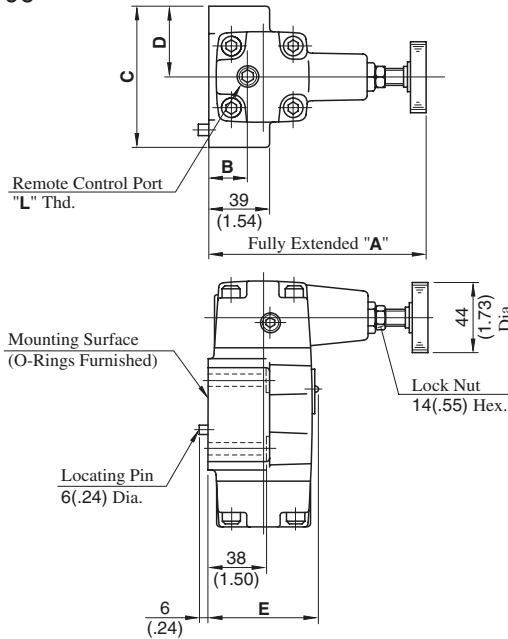
Model Numbers	Thread Size		
	"Q" Thd.	"S" Thd.	"T" Thd.
RT-06-*-22	Rc 3/4	Rc 1/4	Rc 1/4
RT-06-*-2280	3/4 BSP.F	1/4 BSP.F	1/4 BSP.Tr
RT-06-*-2290	3/4 NPT	1/4 NPT	1/4 NPT
RT-10-*-22	Rc 1-1/4	Rc 1/4	Rc 1/4
RT-10-*-2280	1-1/4 BSP.F	1/4 BSP.F	1/4 BSP.Tr
RT-10-*-2290	1-1/4 NPT	1/4 NPT	1/4 NPT



Model Numbers	Dimensions mm (Inches)										
	A	B	C	D	E	F	H	J	K	L	N
RT-06	96 (3.78)	48 (1.89)	36.5 (1.44)	149 (5.87)	42 (1.65)	179 (7.05)	97.5 (3.84)	53.5 (2.11)	33 (1.30)	9 (.35)	39 (1.54)
RT-10	132 (5.20)	66 (2.60)	43 (1.69)	167 (6.57)	52 (2.05)	216 (8.50)	124 (4.88)	64 (2.52)	40 (1.57)	12 (.47)	46 (1.81)

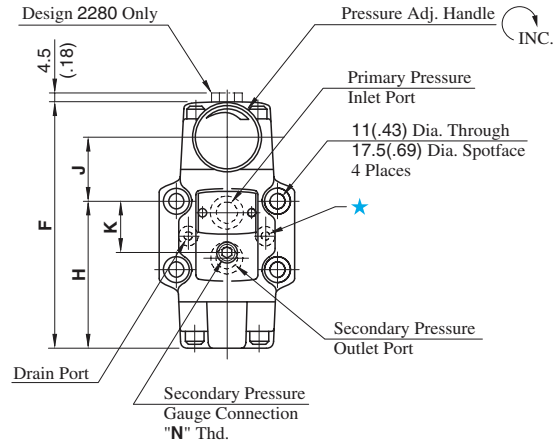
C
Pressure Reducing Valves / Pressure Reducing and Check Valves

RG-03/06-*-22/2280/2290



Model Numbers	Thread Size	
	"L" Thd.	"N" Thd.
RG-03/06-*-22	Rc 1/4	Rc 1/4
RG-03/06-*-2280	1/4 BSP.F	1/4 BSP.Tr
RG-03/06-*-2290	1/4 NPT	1/4 NPT

★ Port connection is not required for RG models but an O-ring should be furnished.

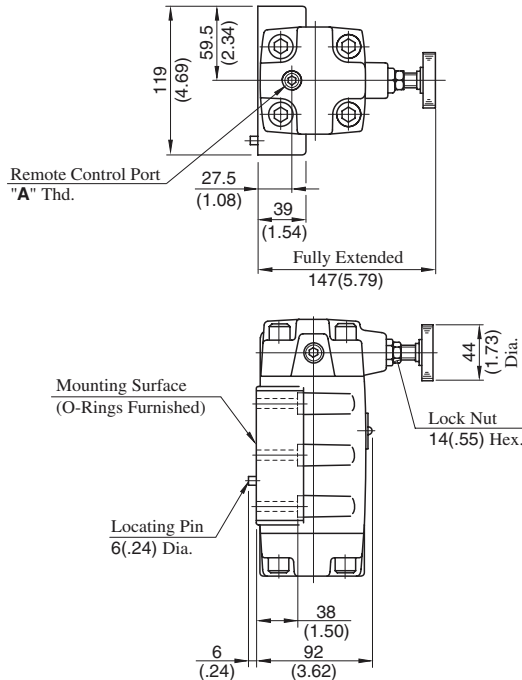


Model Numbers	Dimensions mm (Inches)								
	A	B	C	D	E	F	H	J	K
RG-03	142 (5.59)	25 (.98)	89 (3.50)	44.5 (1.75)	67 (2.64)	155.5 (6.12)	92.4 (3.64)	40.6 (1.60)	34.9 (1.37)
RG-06	141 (5.55)	21.5 (.85)	102 (4.02)	51 (2.01)	79 (3.11)	179 (7.05)	111 (4.37)	40 (1.57)	48 (1.89)

Note: For dimensions of the valve mounting surface see the dimensional drawing (page 244 & 245) of the sub-plate used together.

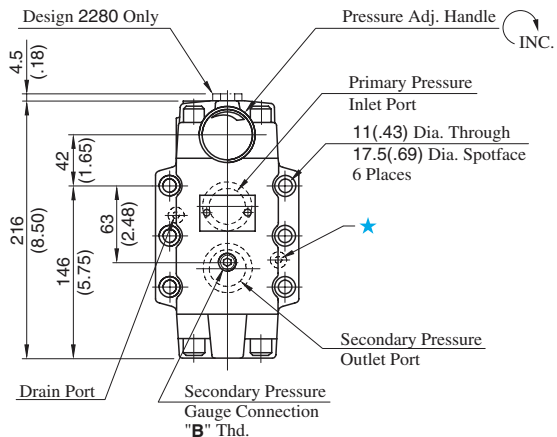
DIMENSIONS IN MILLIMETRES (INCHES)

RG-10-*-22/2280/2290



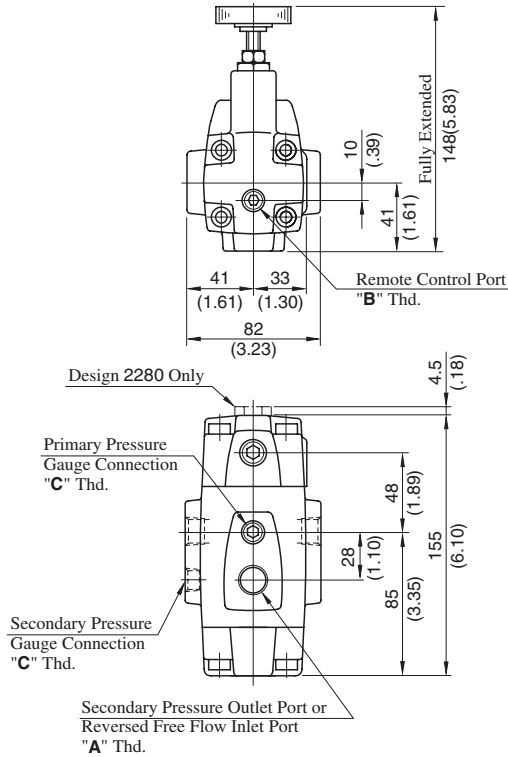
Model Numbers	Thread Size	
	"A" Thd.	"B" Thd.
RG-10-*-22	Rc 1/4	Rc 1/4
RG-10-*-2280	1/4 BSP.F	1/4 BSP.Tr
RG-10-*-2290	1/4 NPT	1/4 NPT

★ Port connection is not required for RG models but an O-ring should be furnished.

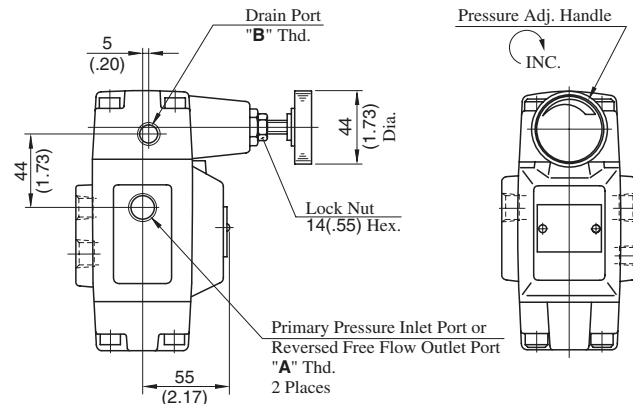


Note: For dimensions of the valve mounting surface see the dimensional drawing (page 246) of the sub-plate used together.

RCT-03-*-22/2280/2290

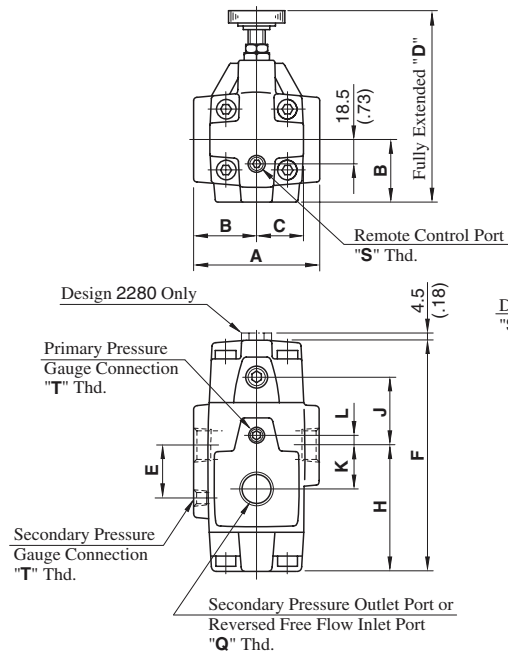


Model Numbers	Thread Size		
	"A" Thd.	"B" Thd.	"C" Thd.
RCT-03-*-22	Rc 3/8	Rc 1/4	Rc 1/4
RCT-03-*-2280	3/8 BSP.F	1/4 BSP.F	1/4 BSP.Tr
RCT-03-*-2290	3/8 NPT	1/4 NPT	1/4 NPT

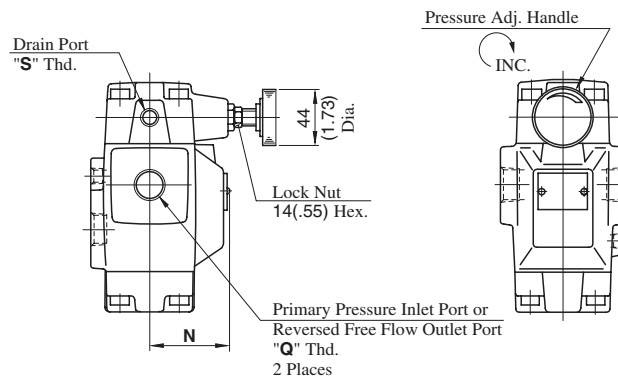


DIMENSIONS IN MILLIMETRES (INCHES)

RCT-⁰⁶/₁₀-*-22/2280/2290



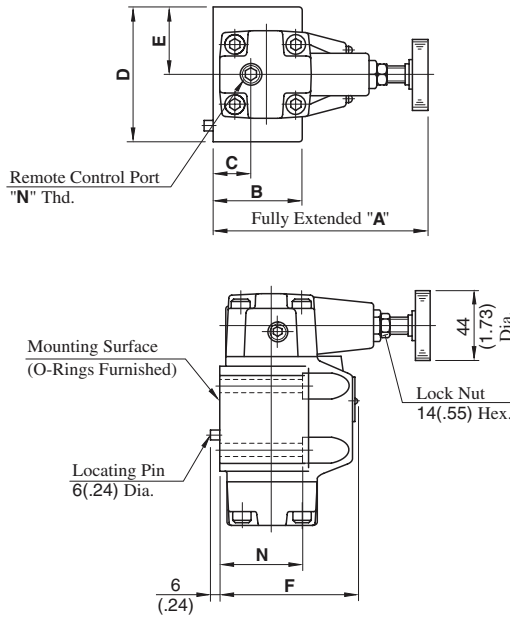
Model Numbers	Thread Size		
	"Q" Thd.	"S" Thd.	"T" Thd.
RCT-06-*-22	Rc 3/4	Rc 1/4	Rc 1/4
RCT-06-*-2280	3/4 BSP.F	1/4 BSP.F	1/4 BSP.Tr
RCT-06-*-2290	3/4 NPT	1/4 NPT	1/4 NPT
RCT-10-*-22	Rc 1-1/4	Rc 1/4	Rc 1/4
RCT-10-*-2280	1-1/4 BSP.F	1/4 BSP.F	1/4 BSP.Tr
RCT-10-*-2290	1-1/4 NPT	1/4 NPT	1/4 NPT



Model Numbers	Dimensions mm (Inches)										
	A	B	C	D	E	F	H	J	K	L	N
RCT-06	96 (3.78)	48 (1.89)	36.5 (1.44)	149 (5.87)	42 (1.65)	179 (7.05)	97.5 (3.84)	53.5 (2.11)	33 (1.30)	9 (.35)	68 (2.68)
RCT-10	132 (5.20)	66 (2.60)	43 (1.69)	167 (6.57)	52 (2.05)	216 (8.50)	124 (4.88)	64 (2.52)	40 (1.57)	12 (.47)	86 (3.39)

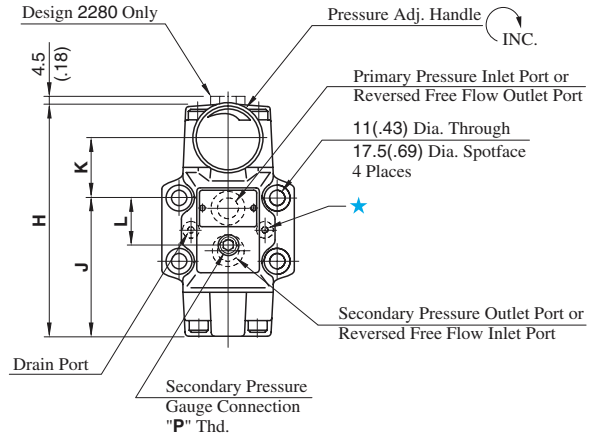
C
Pressure Reducing Valves /
Pressure Reducing and Check Valves

RCG-03-06-⁰³*-22/2280/2290



Model Numbers	Thread Size	
	"N" Thd.	"P" Thd.
RCG-03/06-* ⁰³ -22	Rc 1/4	Rc 1/4
RCG-03/06-* ⁰³ -2280	1/4 BSP.F	1/4 BSP.Tr
RCG-03/06-* ⁰³ -2290	1/4 NPT	1/4 NPT

★ Port connection is not required for RCG models but an O-ring should be furnished.

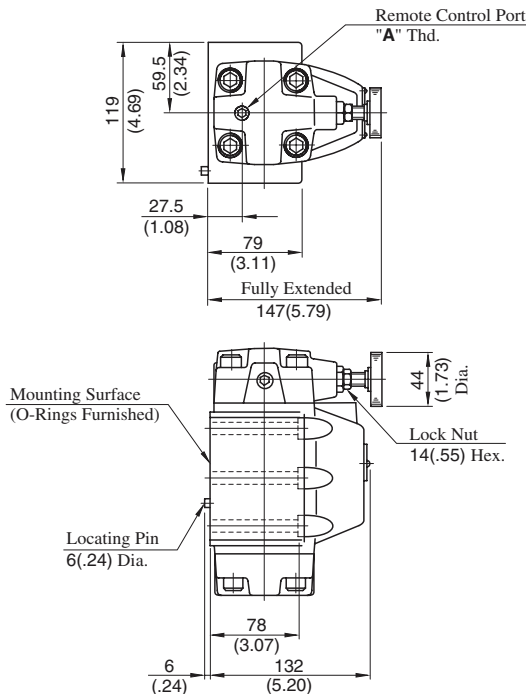


Model Numbers	Dimensions mm (Inches)										
	A	B	C	D	E	F	H	J	K	L	N
RCG-03	142 (5.59)	59 (2.32)	25 (.98)	89 (3.50)	44.5 (1.75)	90 (3.54)	155 (6.10)	92.4 (3.64)	40.6 (1.60)	34.9 (1.37)	58 (2.28)
RCG-06	141 (5.55)	69 (2.72)	21.5 (.85)	102 (4.02)	51 (2.01)	108 (4.25)	179 (7.05)	111 (4.37)	40 (1.57)	48 (1.89)	68 (2.68)

Note: For dimensions of the valve mounting surface see the dimensional drawing (page 244 & 245) of the sub-plate used together.

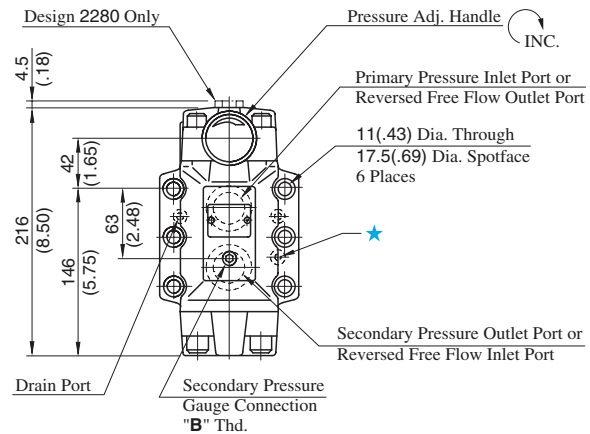
DIMENSIONS IN MILLIMETRES (INCHES)

RCG-10-*⁰³-22/2280/2290



Model Numbers	Thread Size	
	"A" Thd.	"B" Thd.
RCG-10-* ⁰³ -22	Rc 1/4	Rc 1/4
RCG-10-* ⁰³ -2280	1/4 BSP.F	1/4 BSP.Tr
RCG-10-* ⁰³ -2290	1/4 NPT	1/4 NPT

★ Port connection is not required for RCG models but an O-ring should be furnished.



Note: For dimensions of the valve mounting surface see the dimensional drawing (page 246) of the sub-plate used together.

Unloading Relief Valves

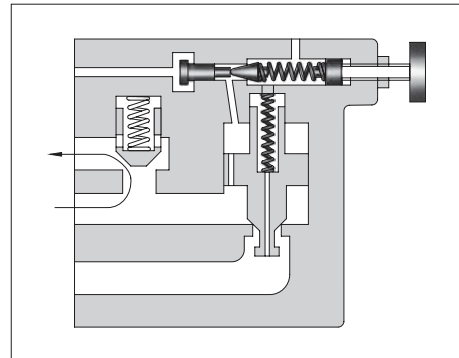
These valves are used to operate the pumps with minimum load in accumulator circuits or in high-low pump circuits.

In accumulator circuits, when the system pressure reaches to a cut out pressure (adjusted maximum), the valve acts to divert the pump delivery to the reservoir at low pressure, thus the pump is unloaded automatically.

When the accumulator pressure drops to the cut in pressure (refer to characteristic chart on page 269), the valve directs the pump delivery to the accumulator and hydraulic system.

An integral check valve prevents reverse flow through the valve from the accumulator.

In high-low pump circuits, the valve acts to unload the large volume pump with the same manner as described above during load operation of the small volume pump.



C

Unloading Relief Valves

Specifications

Model Numbers	Max. Operating Pres. MPa (PSI)	Max. Flow L/min (U.S.GPM)	Approx. Mass kg (lbs.)
BUCG-06-**-30/3080/3090	21 (3050)	125 (33)	12 (26.5)
BUCG-10-**-25/2580/2590		250 (66)	21.5 (47.4)

Model Number Designation

F-	BUC	G	-06	-B	V	-30	*
Special Seals	Series Number	Type of Mounting	Valve Size	Cut-out Pres. Adj. Range MPa (PSI)	High Venting* Pres. Feature	Design Number	Design Standards
F: Special Seals for Phosphate Ester Type Fluids (Omit if not required)	BUC: Unloading Relief Valve	G: Sub-plate Mounting	06 10	B: 2.5-7.0 (360-1020) C: 3.5-14 (510-2030) H: 7.0-21 (1020-3050)	V: For High Venting Pressure Feature (Omit if not required)	30 25	None: Japanese Std. "JIS" 80: European Design Std. 90: N. American Design Std.

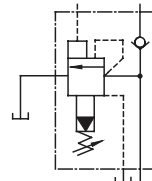
★ Use the high-venting-pressure type to reduce the shift time from unloading to onloading.

Pilot-drain system

A pilot-drain system is typically configured with an external pilot and an external drain, as indicated by the right graphic symbol. However, customized pilot-drain systems with an internal pilot are also available.

For the internal pilot type, the design standard number at the end of the model number is uniquely assigned. Refer to the table below for the internal pilot type. Please contact us for details.

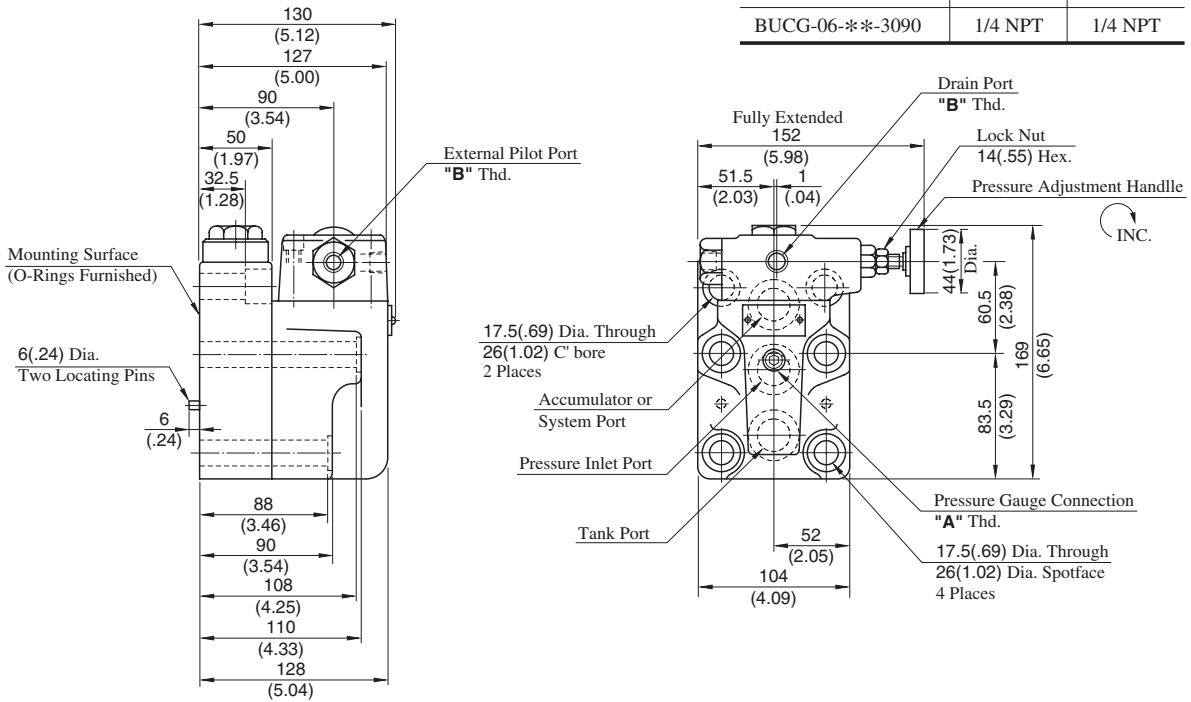
Graphic Symbol



Pilot & Drain Conn.	Graphic Symbols	European Design Standard	N. American Design Standard	Japanese Std. "JIS"
Int. Pilot-Int. Drain		BUCG-06-**-30801 BUCG-10-**-25801	BUCG-06-**-30901 BUCG-10-**-25901	BUCG-06-**-3001 BUCG-10-**-2501
Int. Pilot-Ext. Drain		BUCG-06-**-30802	BUCG-06-**-30902	BUCG-06-**-2502

BUCG-06--30/3080/3090**

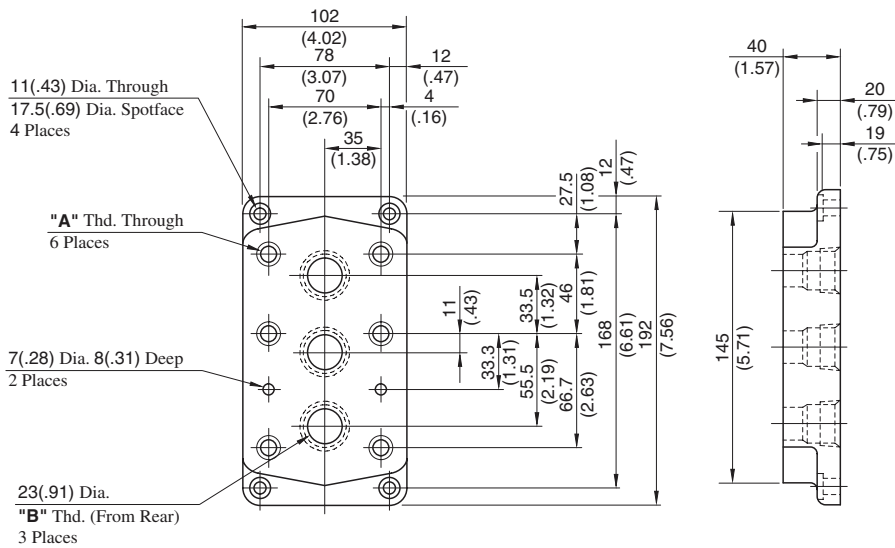
Model Numbers	"A" Thd.	"B" Thd.
BUCG-06-**-30	Rc 1/4	Rc 1/4
BUCG-06-**-3080	1/4 BSP.Tr	1/4 BSP.F
BUCG-06-**-3090	1/4 NPT	1/4 NPT



DIMENSIONS IN MILLIMETRES (INCHES)

■ Sub-plate

BUCGM-06-20/2080/2090

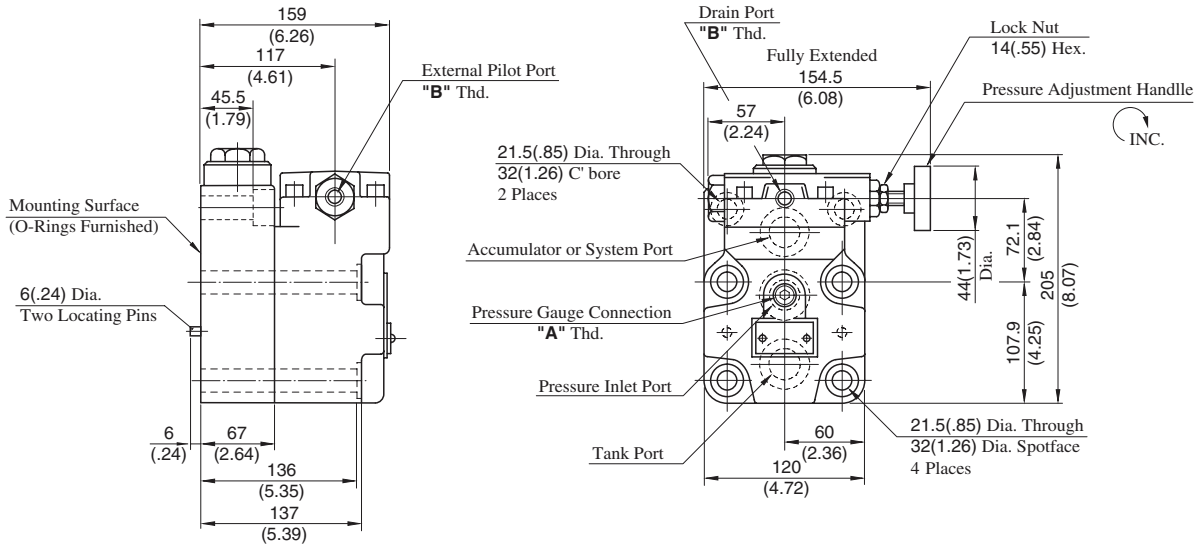


Sub-plate Model No.	"A" Thd.	"B" Thd.
BUCGM-06-20	M16	Rc 3/4
BUCGM-06-2080	M16	3/4 BSP.F
BUCGM-06-2090	5/8-11 UNC	3/4 NPT



BUCG-10--25/2580/2590**

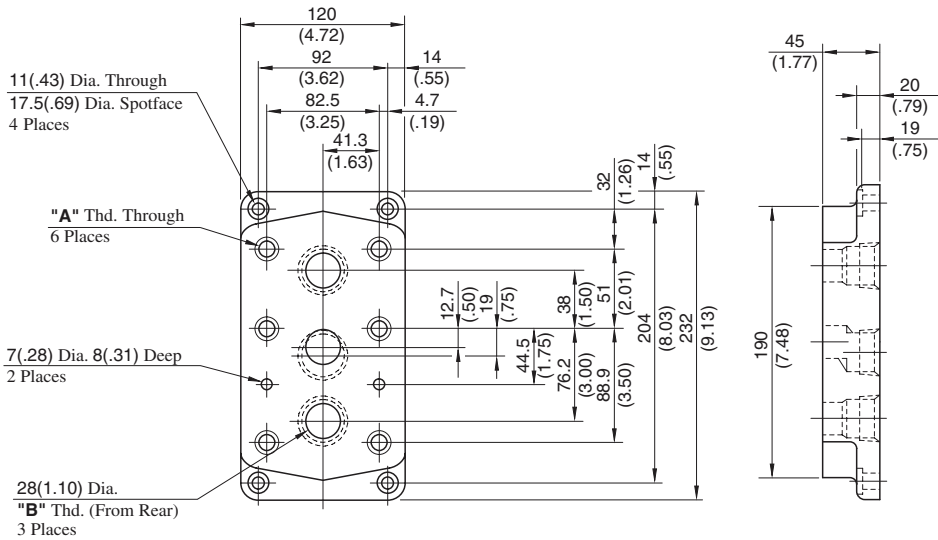
Model Numbers	"A" Thd.	"B" Thd.
BUCG-10-**-25	Rc 1/4	Rc 1/4
BUCG-10-**-2580	1/4 BSP.Tr	1/4 BSP.F
BUCG-10-**-2590	1/4 NPT	1/4 NPT



DIMENSIONS IN MILLIMETRES (INCHES)

■ Sub-plate

BUCGM-10-20/2080/2090



Sub-plate Model No.	"A" Thd.	"B" Thd.
BUCGM-10-20	M20	Rc 1-1/4
BUCGM-10-2080	M20	1-1/4 BSP.F
BUCGM-10-2090	3/4-10 UNC	1-1/4 NPT