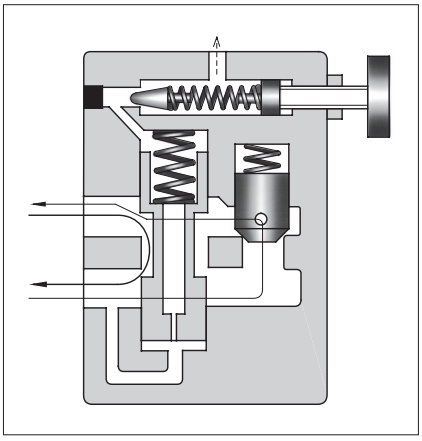
Pressure Reducing Valves
Pressure Reducing and Check Valves

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

Model Numbers		Max. Operating Pres. MPa	Max. Flow★1		Drain★2 Flow L/min	Approx. Mass kg	
Threaded Connection	Sub-plate Mounting		Setting Pressure MPa	Max. Flow L/min		R∗T Type	R∗G Type
RT RCT-03-∗-22	RG RCG-03-∗-22	21	0.7 - 1.0	40	0.8 - 1.0	RT : 4.3 RCT : 4.8	RG : 4.5 RCG : 5.4
			1.0 - 20.5	50			
RT RCT-06-∗-22	RG RCG-06-∗-22	21	0.7 - 1.0	50	0.8 - 1.1	RT : 6.9 RCT : 7.8	RG : 6.8 RCG : 8.1
			1.0 - 1.5	100			
			1.5 - 20.5	125			
RT RCT-10-∗-22	RG RCG-10-∗-22	21	0.7 - 1.0	130	1.2 - 1.5	RT : 12.0 RCT : 13.8	RG : 11.0 RCG : 13.8
			1.0 - 1.5	180			
			1.5 - 10.5	220			
			10.5 - 20.5	250			

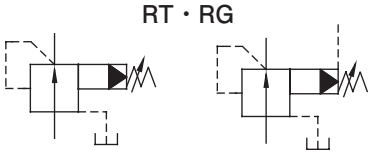
★1. The max. flow rates are those shown at the primary pressure at 21 MPa.
★2. The drain flow rates are equal to pilot flow rates when differential pressure between primary and secondary pressure is at 20.5 MPa.

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

Model Numbers	Max. Operating Pres. MPa	Max. Flow L/min
RF RCF-10-∗-22	21	250
RF RCF-16-∗-20		500

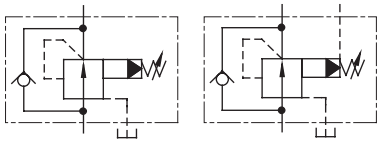
Graphic Symbols

RT・RG



Remote control connection

RCT・RCG



Remote control connection

Model Number Designation

RC	T	−03	−B	−22
Series Number	Type of Mounting	Valve Size	Pres. Adj. Range MPa	Design Number
R : Pressure Reducing Valves	T : Threaded Connection	03	B : 0.7 - 7 C : 3.5 - 14 H : 7 - 20.5	22
		06		22
		10		22
RC : Pressure Reducing and Check Valves	G : Sub-plate Mounting	03		22
		06		22
		10		22

Sub-plates

Valve Model Numbers	Sub-plate Model Numbers	Thread Size Rc	Approx. Mass kg
RG RCG-03	HGM-03-20	3/8	1.6
	HGM-03X-20	1/2	
RG RCG-06	HGM-06-20	3/4	2.4
	HGM-06X-20	1	3.0
RG RCG-10	HGM-10-20	1 1/4	4.8
	HGM-10X-20	1 1/2	5.7

- Sub-plates are available. Specify the sub-plate model number from the table left. When sub-plates are not used, the mounting surface should have a good machined finish. ($\frac{1.6}{\nabla}$)
- 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 C-32. For instruction details, see page C-33.

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.

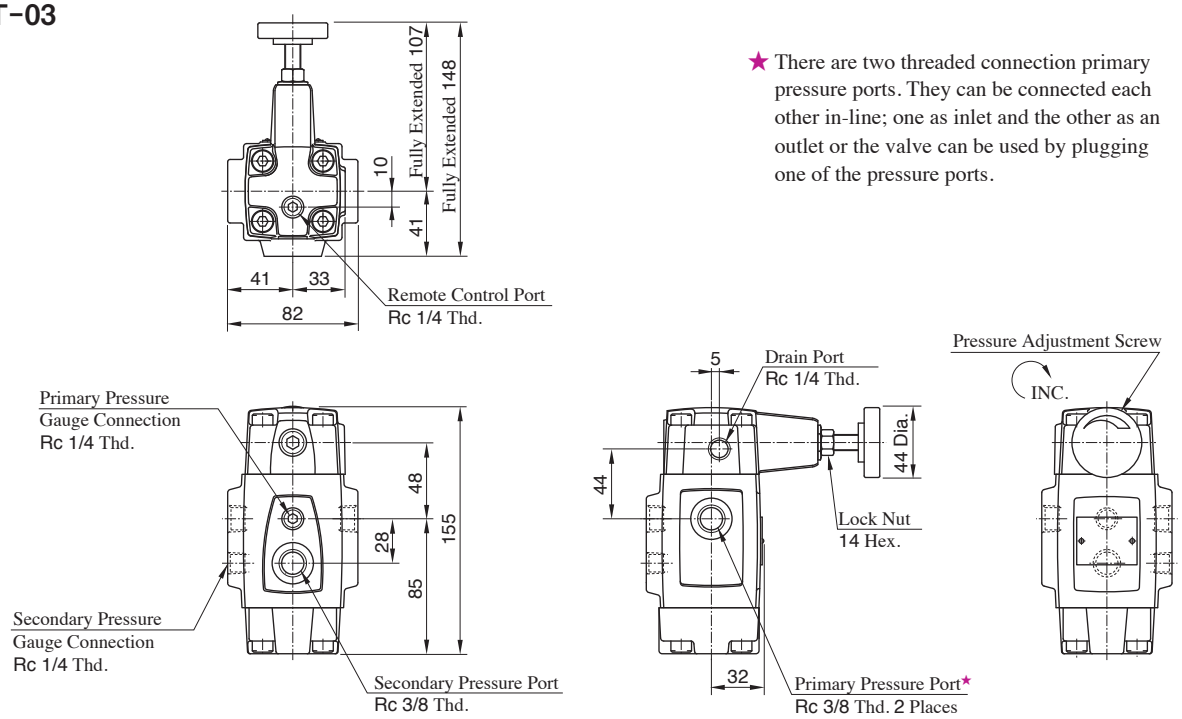
Accessories

Mounting Bolts

Valve Model Numbers	Socket Head Cap Screw
RG–03	M10×50L…4 Pcs.
RG–06	M10×50L…4 Pcs.
RG–10	M10×50L…6 Pcs.

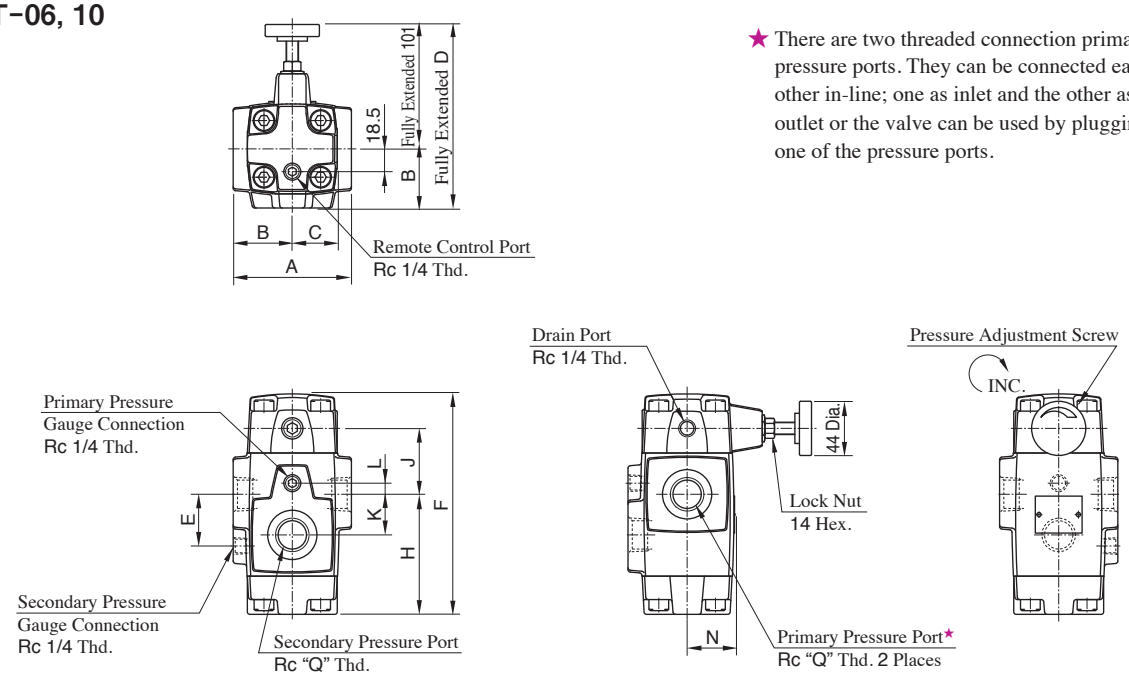
Valve Model Numbers	Socket Head Cap Screw
RCG–03	M10×70L…4 Pcs.
RCG–06	M10×80L…4 Pcs.
RCG–10	M10×90L…6 Pcs.

RT-03



★ 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.

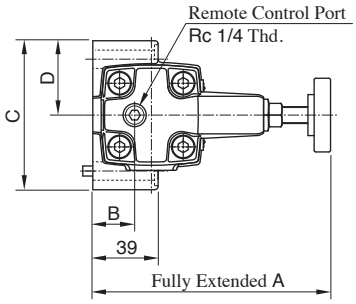
RT-06, 10



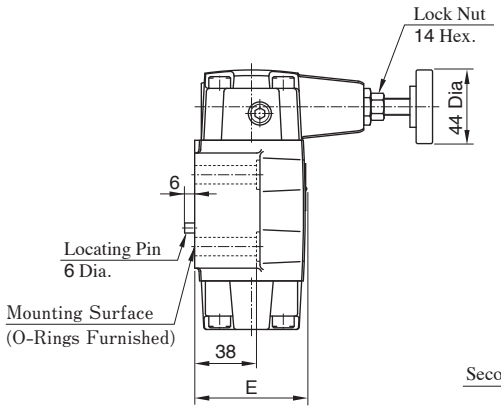
★ There are two threaded connection primary pressure ports. They can be connected each other in-line; one as inlet and the other as an outlet or the valve can be used by plugging one of the pressure ports.

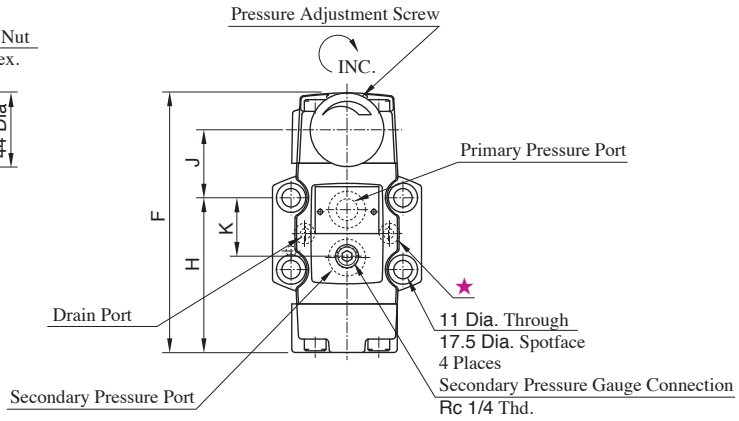
Model Numbers	A	B	C	D	E	F	H	J	K	L	N	Q
RT-06	96	48	36.5	149	42	179	97.5	53.5	33	9	39	3/4
RT-10	132	66	43	167	52	216	124	64	40	12	46	1 1/4

RG-03, 06



★ This port is well machined, but not required. Because the body is used together with H type pressure control valves.

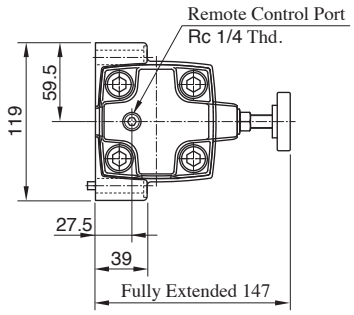




Model Numbers	A	B	C	D	E	F	H	J	K
RG-03	142	25	89	44.5	67	155.5	92.4	40.6	34.9
RG-06	141	21.5	102	51	79	179	111	40	48

Note: For dimensions of the valve mounting surface, see the dimensional drawing (page C-32) of the sub-plate used together.

RG-10



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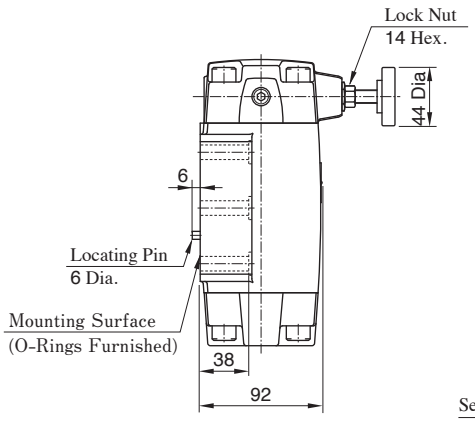
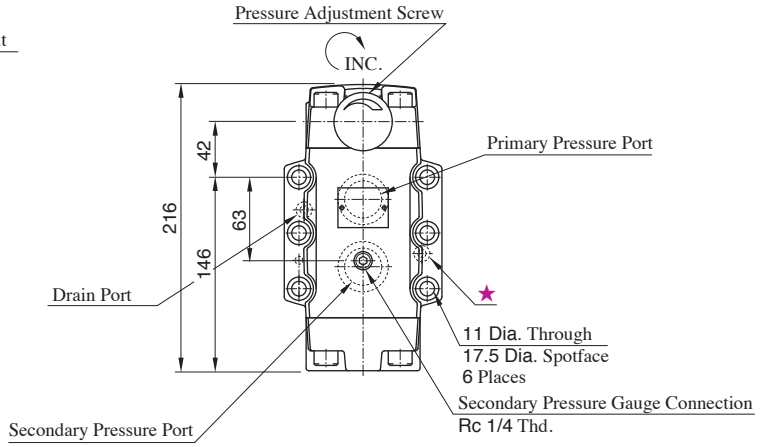
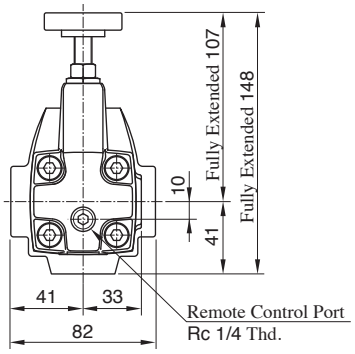




Note: For dimensions of the valve mounting surface, see the dimensional drawing (page C-32) of the sub-plate used together.

RCT-03



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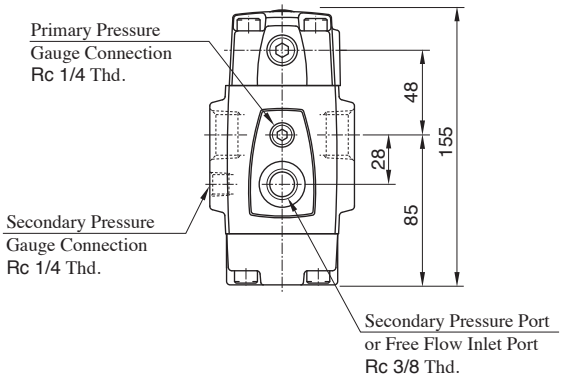
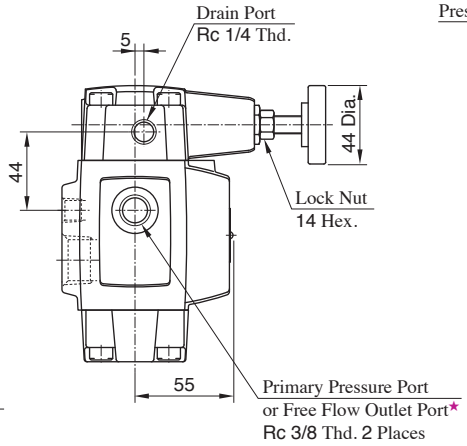
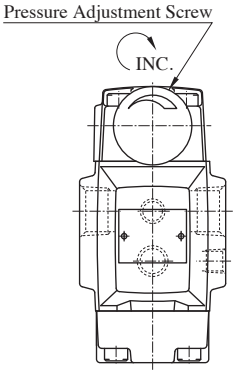
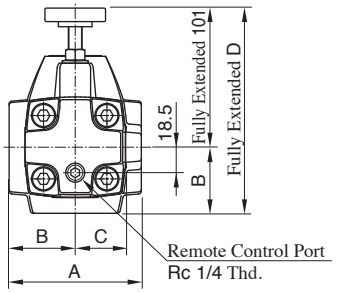






RCT-06, 10



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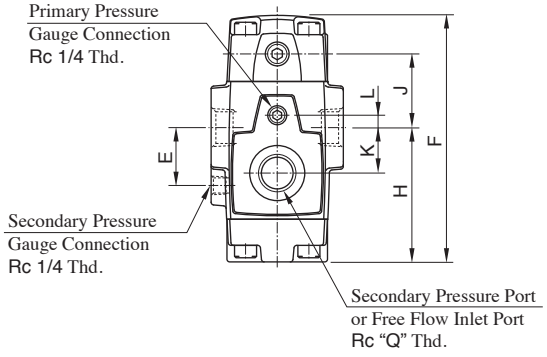
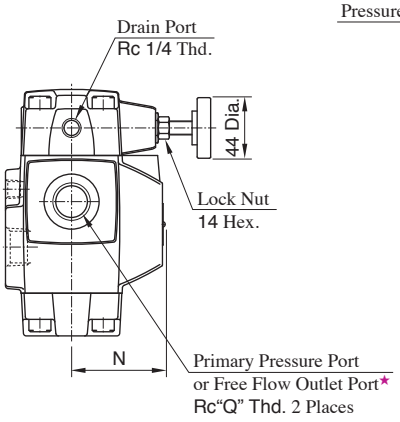
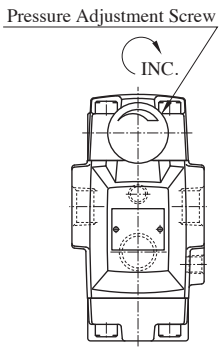
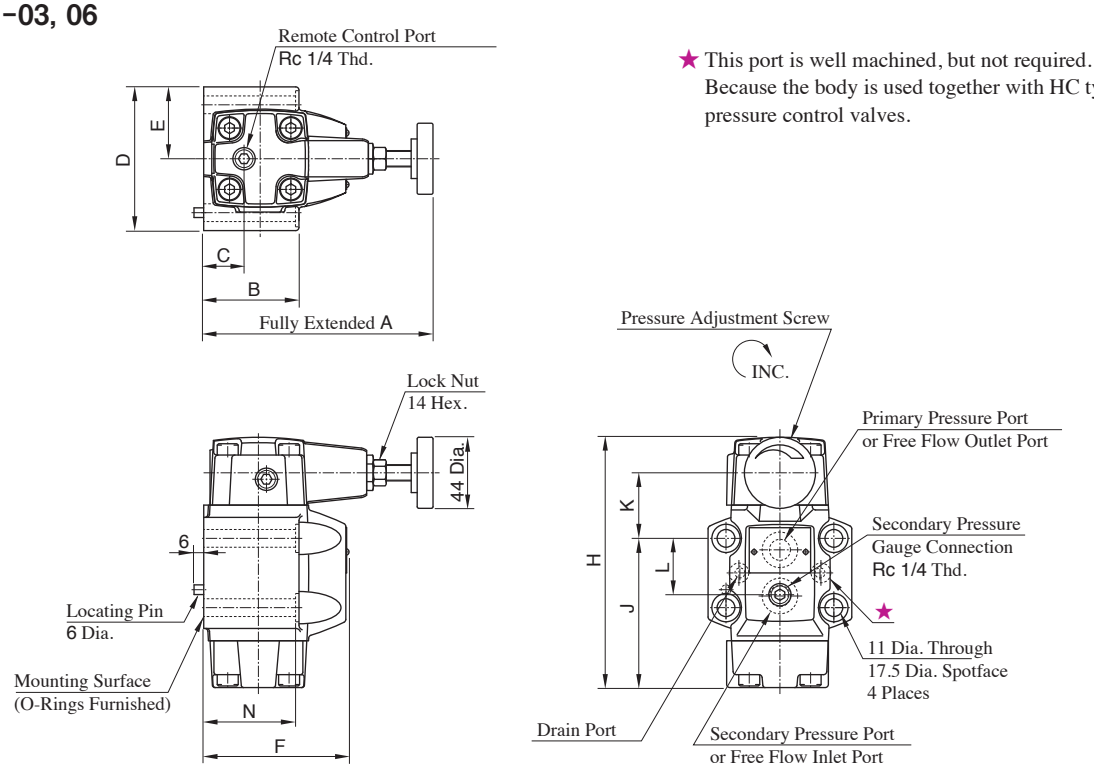






Model Numbers	A	B	C	D	E	F	H	J	K	L	N	Q
RCT-06	96	48	36.5	149	42	179	97.5	53.5	33	9	68	3/4
RCT-10	132	66	43	167	52	216	124	64	40	12	86	1 1/4

RCG-03, 06

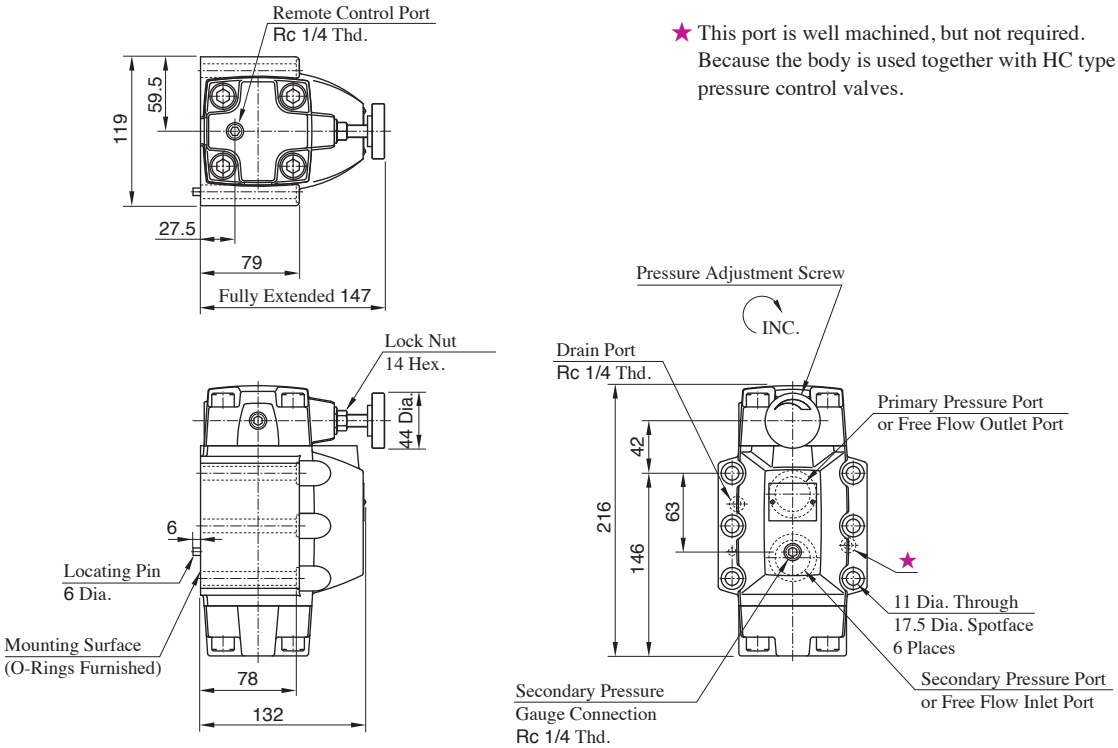


★ This port is well machined, but not required. Because the body is used together with HC type pressure control valves.

Model Numbers	A	B	C	D	E	F	H	J	K	L	N
RCG–03	142	59	25	89	44.5	90	155.5	92.4	40.6	34.9	58
RCG–06	141	69	21.5	102	51	108	179	111	40	48	68

Note: For dimensions of the valve mounting surface, see the dimensional drawing (page C-32) of the sub-plate used together.

RCG-10



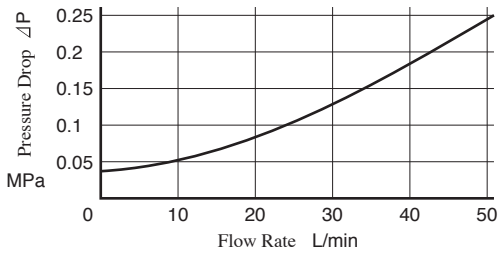
★ This port is well machined, but not required. Because the body is used together with HC type pressure control valves.

Note: For dimensions of the valve mounting surface, see the dimensional drawing (page C-32) of the sub-plate used together.

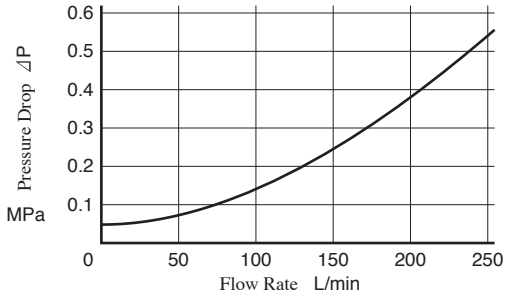
Pressure Drop for Reversed Free Flow

Hydraulic Fluid:
Viscosity 35 mm²/s, Specific Gravity 0.850

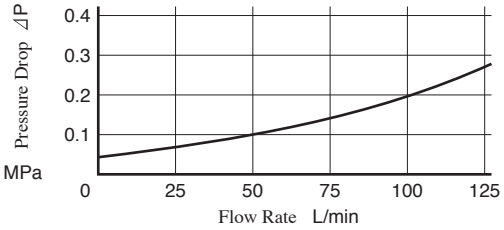
RCT-03
RCG-03



RCT-10
RCG-10



RCT-06
RCG-06



● For any other viscosity, multiply the factors in the table below.

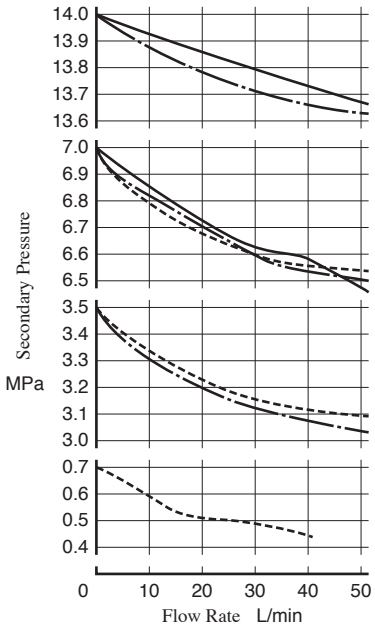
Viscosity mm²/s	15	20	30	40	50	60	70	80	90	100
Factor	0.81	0.87	0.96	1.03	1.09	1.14	1.19	1.23	1.27	1.30

● For any other specific gravity (G'), the pressure drop (P') may be obtained from the formula below.
⊿P'= ⊿P (G'/0.850)

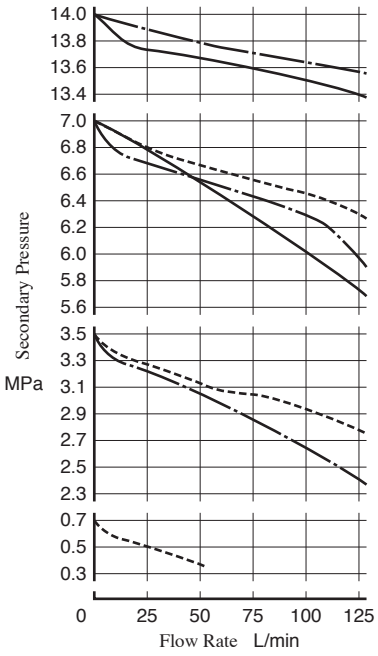
Flow Rate vs. Secondary Pressure

Primary Pressure : 21 MPa
Hydrauric Fluid : Viscosity 35 mm²/s

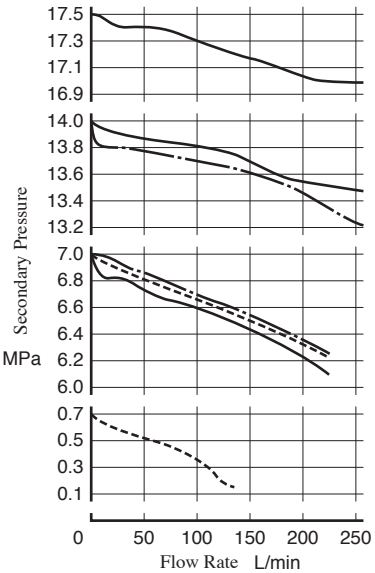
RT/RG-03
RCT/RCG-03



RT/RG-06
RCT/RCG-06



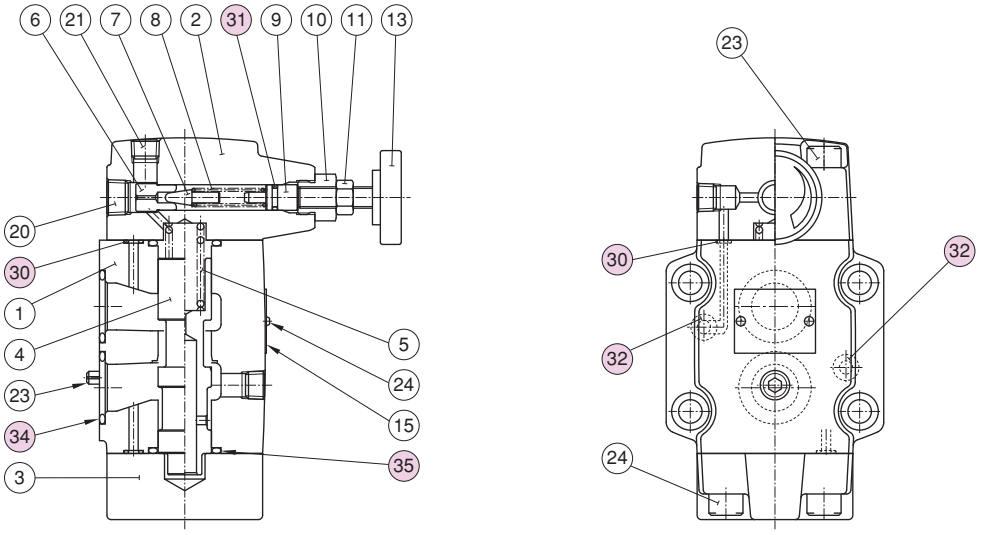
RT/RG-10
RCT/RCG-10



Pressure Adj. Range
---------- : "B"
—·—·— : "C"
———— : "H"

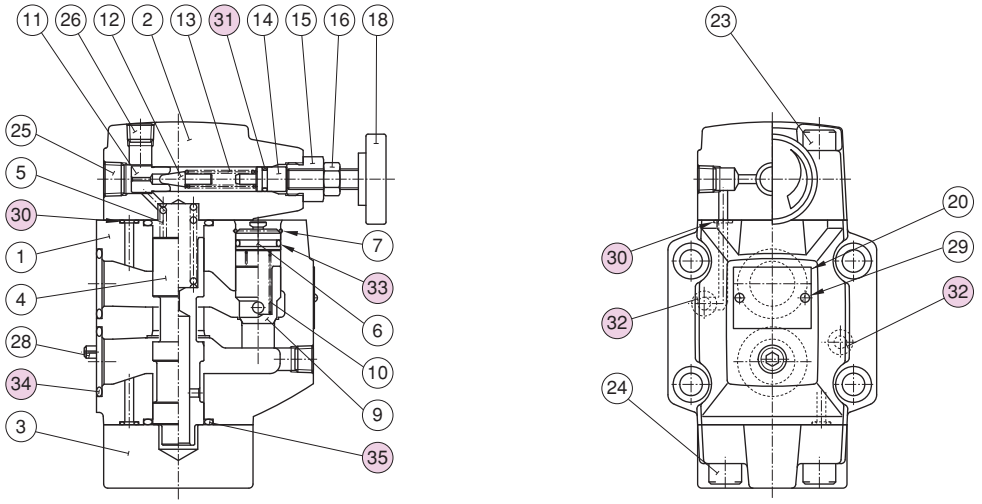
List of Seals

RT-03, 06, 10
RG-03, 06, 10



Item	Name of Parts	Part Numbers			Qty.	
		RT RG -03	RT RG -06	RT RG -10	RT-*	RG-*
30	O-Ring	OR NBR-90 P6-N	OR NBR-90 P6-N	OR NBR-90 P6-N	4	4
31	O-Ring	OR NBR-70-1 P9-N	OR NBR-70-1 P9-N	OR NBR-70-1 P9-N	1	1
32	O-Ring	OR NBR-90 P9-N	OR NBR-90 P9-N	OR NBR-90 P9-N	–	2
34	O-Ring	OR NBR-90 P18-N	OR NBR-90 P28-N	OR NBR-90 P32-N	–	2
35	O-Ring	OR NBR-90 P22-N	OR NBR-90 P28-N	OR NBR-90 P36-N	2	2

RCT-03, 06, 10
RCG-03, 06, 10



Item	Name of Parts	Part Numbers			Qty.	
		RCT RCG -03	RCT RCG -06	RCT RCG -10	RCT-*	RCG-*
30	O-Ring	OR NBR-90 P6-N	OR NBR-90 P6-N	OR NBR-90 P6-N	4	4
31	O-Ring	OR NBR-70-1 P9-N	OR NBR-70-1 P9-N	OR NBR-70-1 P9-N	1	1
32	O-Ring	OR NBR-90 P9-N	OR NBR-90 P9-N	OR NBR-90 P9-N	–	2
33	O-Ring	OR NBR-90 P12-N	OR NBR-90 P18-N	OR NBR-90 P22A-N	1	1
34	O-Ring	OR NBR-90 P18-N	OR NBR-90 P28-N	OR NBR-90 P32-N	–	2
35	O-Ring	OR NBR-90 P22-N	OR NBR-90 P28-N	OR NBR-90 P36-N	2	2