

RT/RG/RCT/RCG

Pressure Reducing Valves / Pressure Reducing and Check Valves
Sizes: 03, 06, 10
Max pressure: 210 bar
Max. flow: 50, 125, 250 l/min

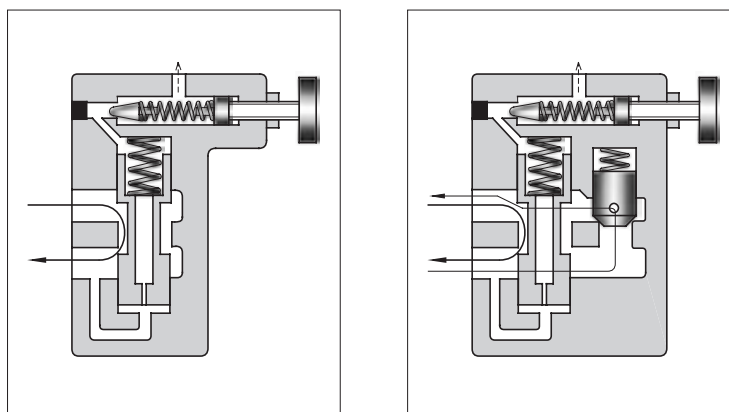


Index	Page No
• Introduction	02
• Specificataion	02
• Graphic symbol	02
• Ordering code	03
• Unit dimensions	04
• Pressure drop for reversed free flow	07
• Flow rate vs Secondary pressure	08
• Spare part list	09



Introduction

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.



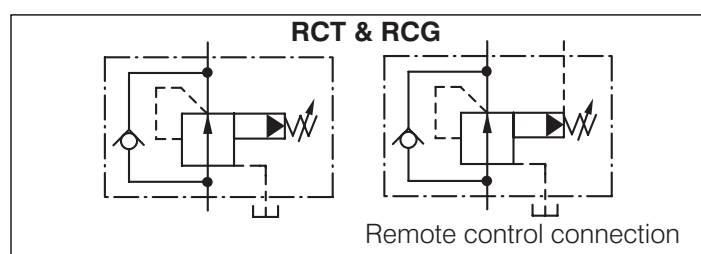
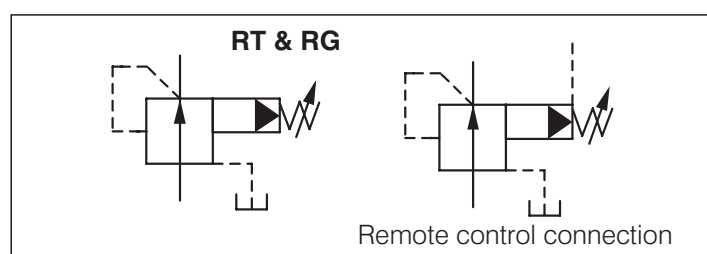
Specifications

Valve Name	Model code		Max. operating pressure (bar)	Max. flow ¹⁾		Drain ²⁾ flow (l/min)	Approx mass (kg)	
	Threaded Connection	Sub-plate mounting		Setting pressure (bar)	Max. flow (L/min)		Threaded Connection	Sub-plate mounting
Pressure Reducing Valve	RT-03-*-22*	RG-03-*-22*	210	7-10	40	0.8-1.0	4.3	4.5
				10-205	50			
	RT-06-*-22*	RG-06-*-22*	210	7-10	50	0.8-1.1	6.9	6.8
				10-150	100			
				15-205	125			
	RT-10-*-22*	RG-10-*-22*	210	7-10	130	1.2-1.5	12.0	11.0
				10-15	180			
				15-105	220			
				105-205	250			
Pressure Reducing and Check Valve	RCT-03-*-22*	RCG-03-*-22*	210	7-10	40	0.8-1.0	4.8	5.4
				10-205	50			
	RCT-06-*-22*	RCG-06-*-22*	210	7-10	50	0.8-1.1	7.8	8.1
				10-150	100			
				15-205	125			
	RCT-10-*-22*	RCG-10-*-22*	210	7-10	130	1.2-1.5	13.8	13.8
				10-15	180			
				15-105	220			
				105-205	250			

1) The max flow rates are those shown at the primary pressure at 210 bar.

2) The drain flow rates are equal to pilot flow rates when differential pressure between primary and secondary pressure is at 205 bar.

Graphic Symbol





Ordering code

		RC	G				
Special Seals for Phosphate Ester Type Fluids (Omit if not required)	= F						
Series Number							
Pressure reducing valves	= RC						
Pressure reducing and check valves	= RT						
Type of mounting							
Threaded connection		= T					
Sub-plate mounting		= G					
Valve Size							
03						= 03	
06						= 06	
10						= 10	
Pressure adjustment range							
7-70 bar						= B	
35-140 bar						= C	
70-205 bar						= H	
Design number							= 22T
Japanese Std. "JIS"							= None
European Design Std.							= 80
N.American Design Std.							= 90

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 BSPF	HGM-03-2090	3/8 NPT	1.6 (3.5)
	HGM-03X-20	Rc 1/2	HGM-03X-2080	1/2 BSPF	HGM-03X-2090	1/2 NPT	
RG RCG-06	HGM-06-20	Rc 3/4	HGM-06-2080	3/4 BSPF	HGM-06-2090	3/4 NPT	2.4 (5.3)
	HGM-06X-20	Rc 1	HGM-06X-2080	1 BSPF	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 BSPF	HGM-10-2090	1-1/4 NPT	4.8 (10.6)
	HGM-10X-20	Rc 1-1/2	HGM-10X-2080	1-1/2 BSPF	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.

Instructions:

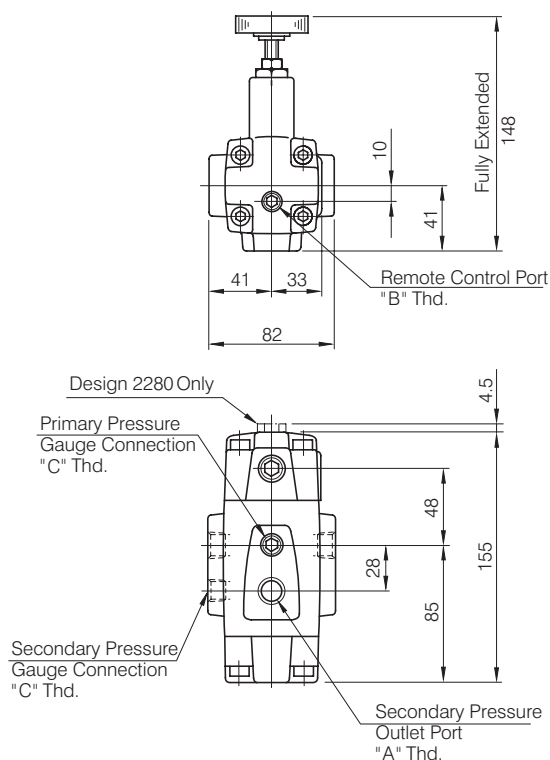
- To adjust the pressure, loosen the lock nut and turn the pressure adjustment handle slowly clockwise for higher pressures and anti-clockwise for lower pressures. After adjustments, do not forget to tighten the lock nut.
- Connect the drain port directly to the reservoir in which case the pressure at 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.



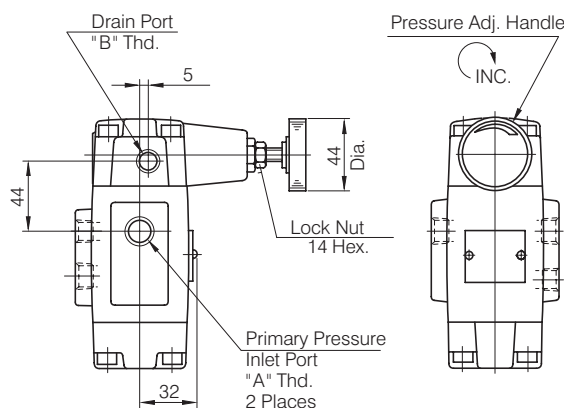
Unit Dimensions

(Dimensions in mm)

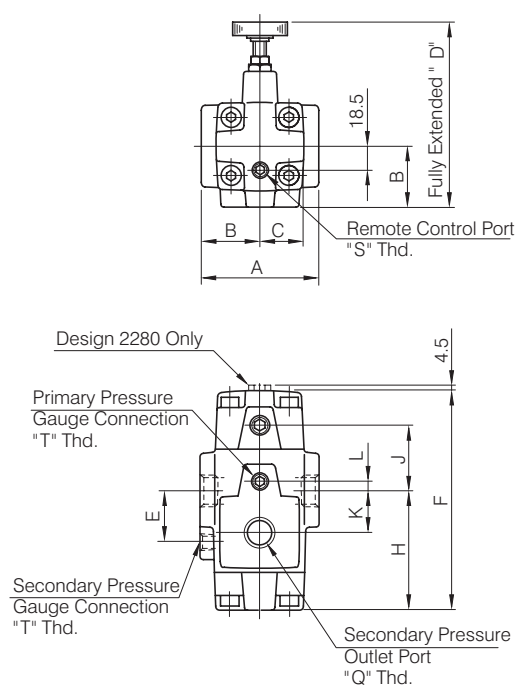
• RT-03- *-22



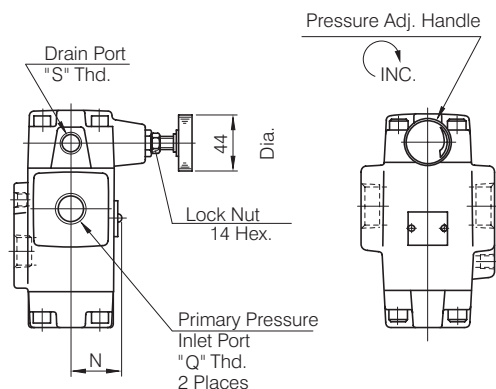
Model Numbers	Thread Size		
	" A" Thd.	" B" Thd.	" C" Thd.
RT-03- *-22	Rc 3/8	Rc 1/4	Rc 1/4
RT-03- *-2280	3/8 BSPF	1/4 BSPF	1/4 BSP.Tr
RT-03- *-2290	3/8 NPT	1/4 NPT	1/4 NPT



• RT-06 *-22



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 BSPF	1/4 BSPF	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 BSPF	1/4 BSPF	1/4 BSP.Tr
RT-10- *-2290	1-1/4 NPT	1/4 NPT	1/4 NPT



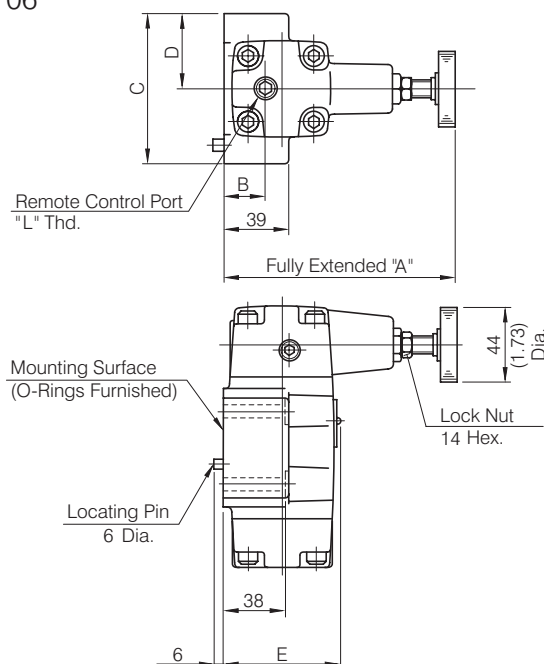
Model Numbers	Dimensions in mm										
	A	B	C	D	E	F	H	J	K	L	N
RT-06	96	48	36.5	149	42	179	97.5	53.5	33	9	39
RT-10	132	66	43	167	52	216	124	64	40	12	46



Unit Dimensions

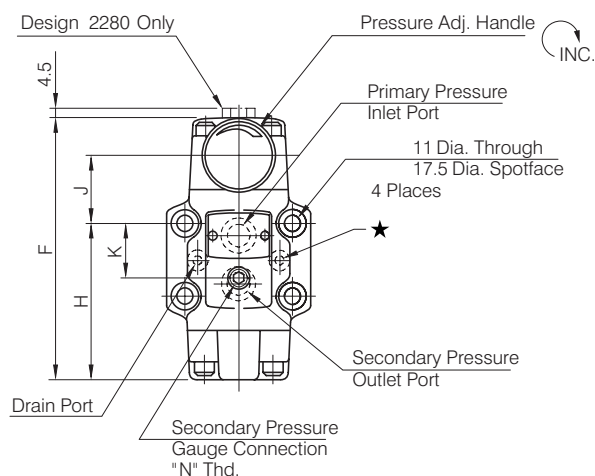
(Dimensions in mm)

RG-03/06-★-22/2280/2290



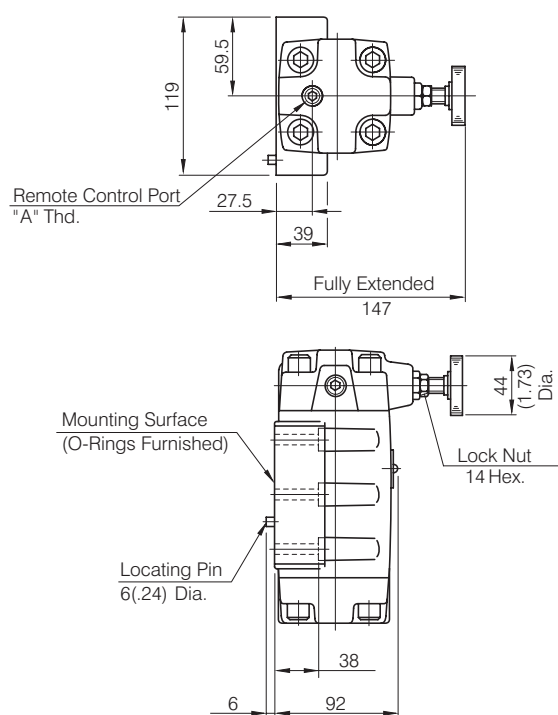
Model Numbers	Thread Size	
	"L" Thd.	"N" Thd.
RG-03/06-★-22	Rc 1/4	Rc 1/4
RG-03/06-★-2280	1/4 BSPF	1/4 BSP.Tr
RG-03/06-★-2290	1/4 NPT	1/4 NPT

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



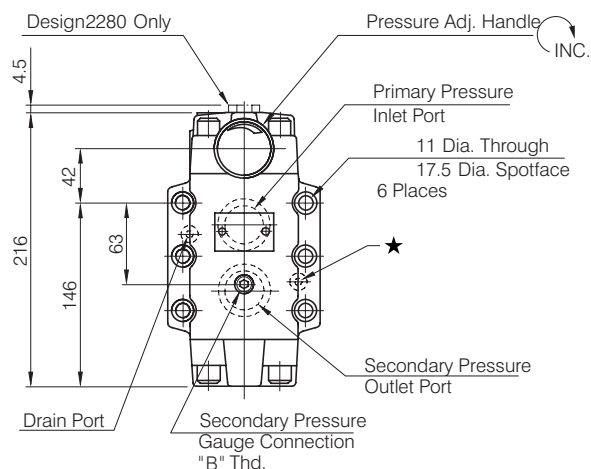
Model Numbers	Dimensions in mm								
	A	B	C	D	E	F	H	J	K
RG-03	142	25	89	44.5	67	155.5	92.4	40.6	34.9
RG-06	141	21.5	102	51	79	179	111	40	48

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 BSPF	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.

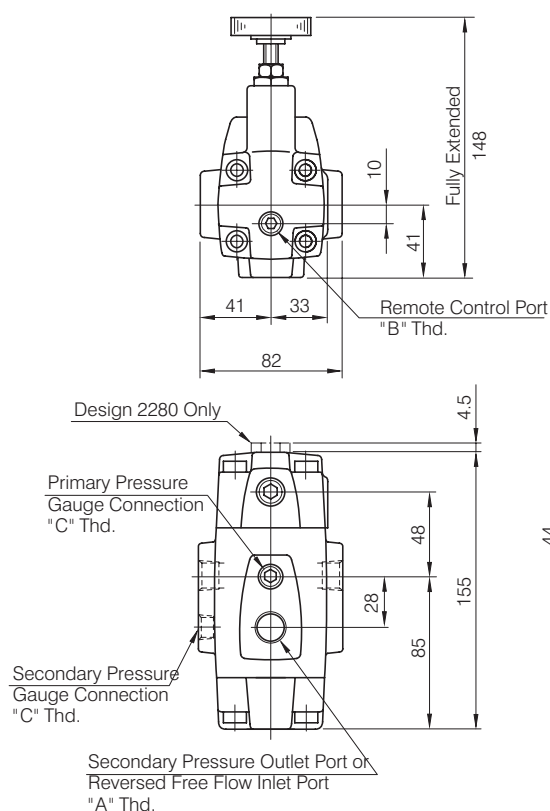




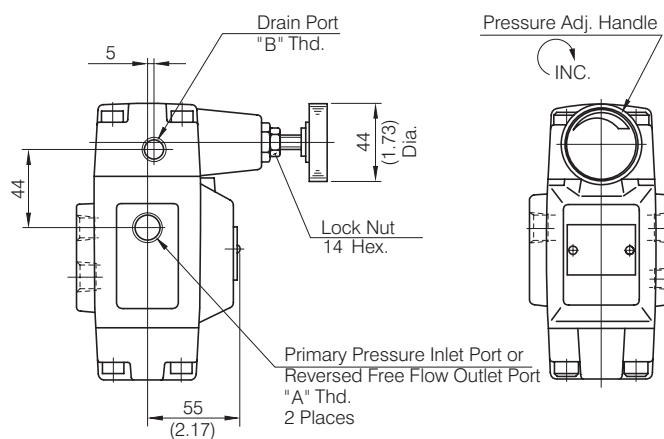
Unit Dimensions

(Dimensions in mm)

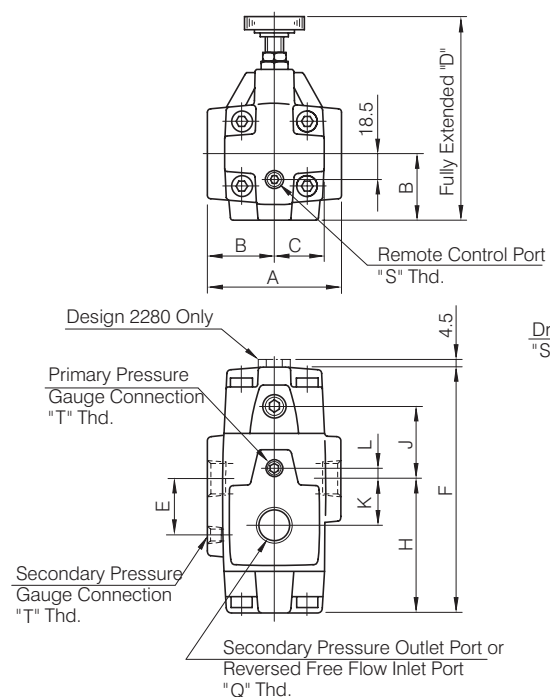
• RCT-03- *-22/2280/2290



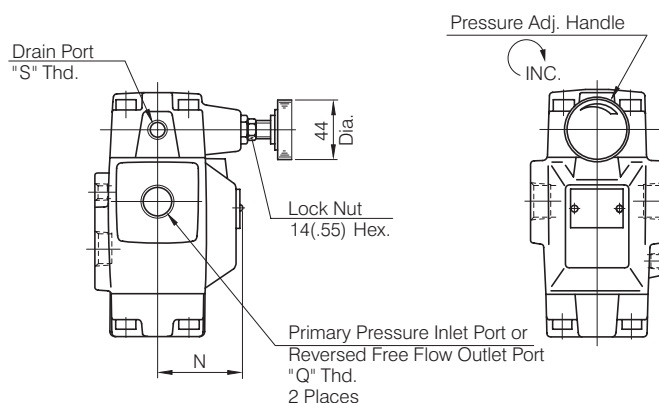
Model Numbers	Thread Size		
	"A" Thd.	"B" Thd.	"C" Thd.
RCT-03- *-22	Rc 3/8	Rc 1/4	Rc 1/4
RCT-03- *-2280	3/8 BSP.F	1/4 BSP.F	1/4 BSP.Tr
RCT-03- *-2290	3/8 NPT	1/4 NPT	1/4 NPT



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



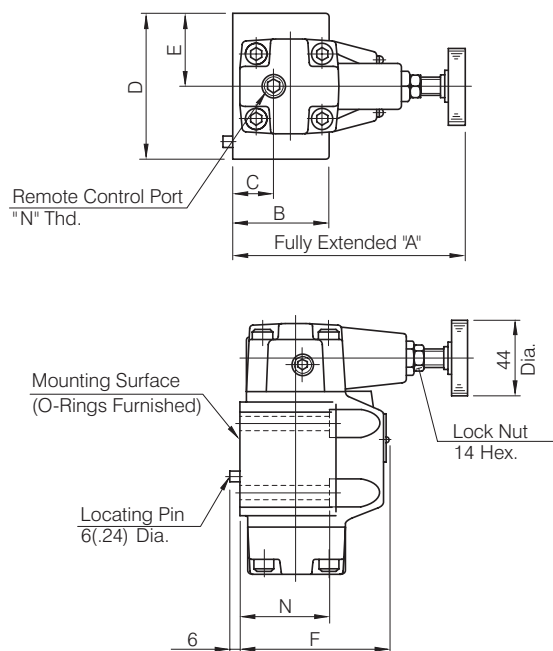
Model Numbers	Dimensions mm (Inches)										
	A	B	C	D	E	F	H	J	K	L	N
RCT-06	96	48	36.5	149	42	179	97.5	53.5	33	9	68
RCT-10	132	66	43	167	52	216	124	64	40	12	86



Unit Dimensions

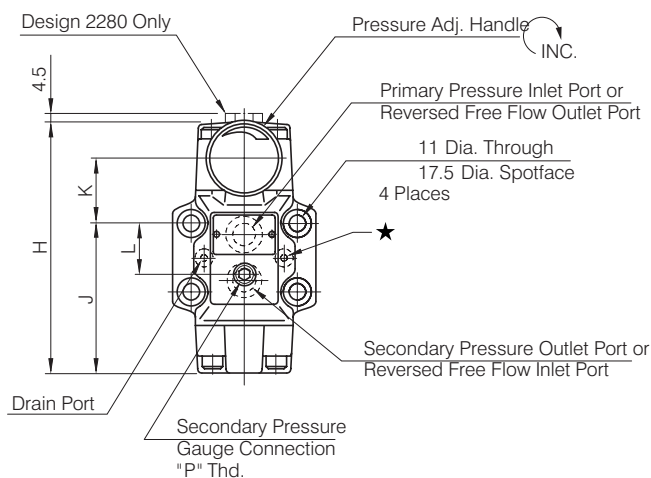
(Dimensions in mm)

• RCG-03/06-★-22/2280/2290



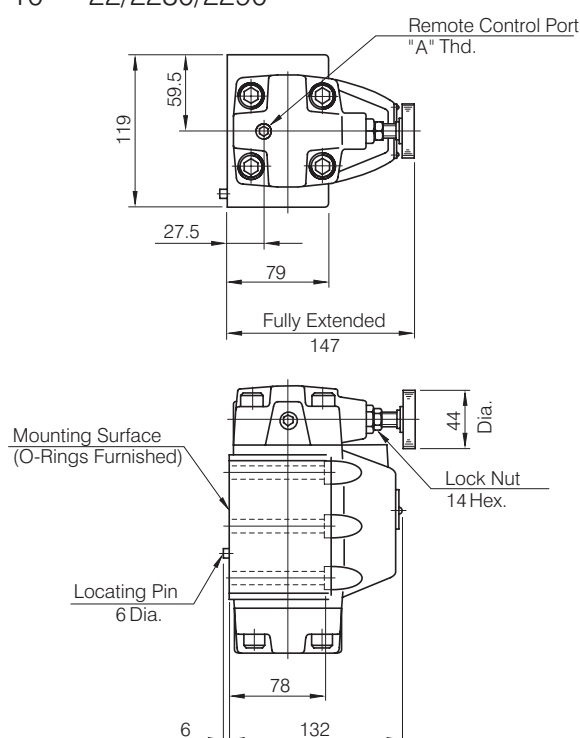
Model Numbers	Thread Size	
	"N" Thd.	"P" Thd.
RCG-03/06-★-22	Rc 1/4	Rc 1/4
RCG-03/06-★-2280	1/4 BSPF	1/4 BSP.Tr
RCG-03/06-★-2290	1/4 NPT	1/4 NPT

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



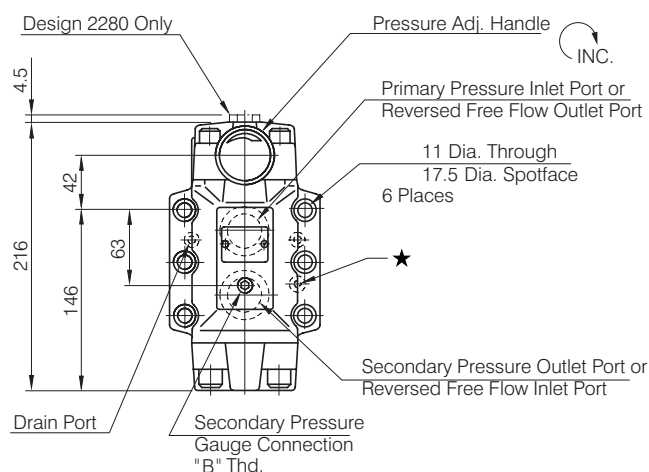
Model Numbers	Dimensions mm (Inches)										
	A	B	C	D	E	F	H	J	K	L	N
RCG-03	142	59	25	89	44.5	90	155	92.4	40.6	34.9	58
RCG-06	141	69	21.5	102	51	108	179	111	40	48	68

RCG-10-★-22/2280/2290



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

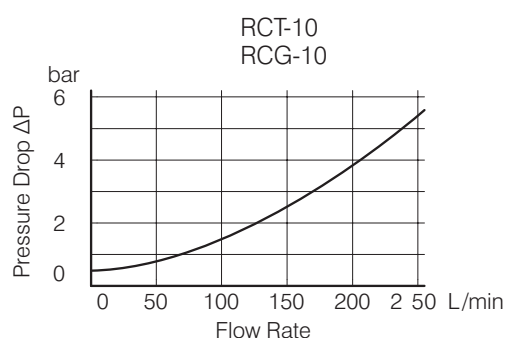
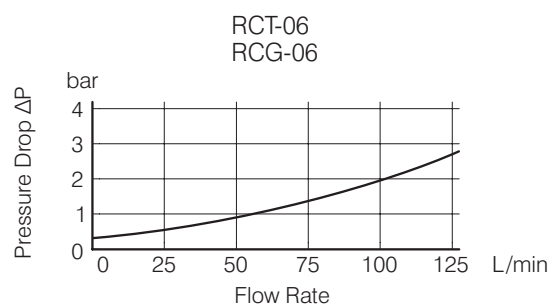
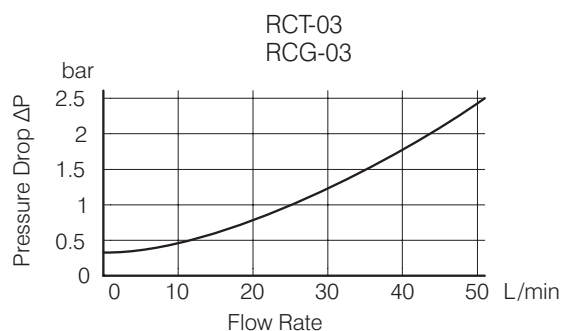
★ Port connection is not required for RCG models but an O-ring should be furnished.





Pressure Drop for Reversed Free Flow

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



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

Viscosity	mm ² /s	15	20	30	40	50	60	70	80	90	100
	SSU	77	98	141	186	232	278	324	371	417	464
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 (ΔP') may be obtained from the formula below.

$$\Delta P' = \Delta P (G'/0.850)$$

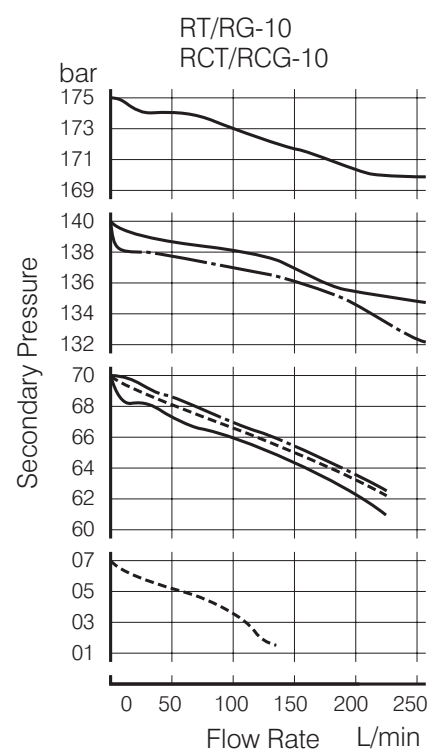
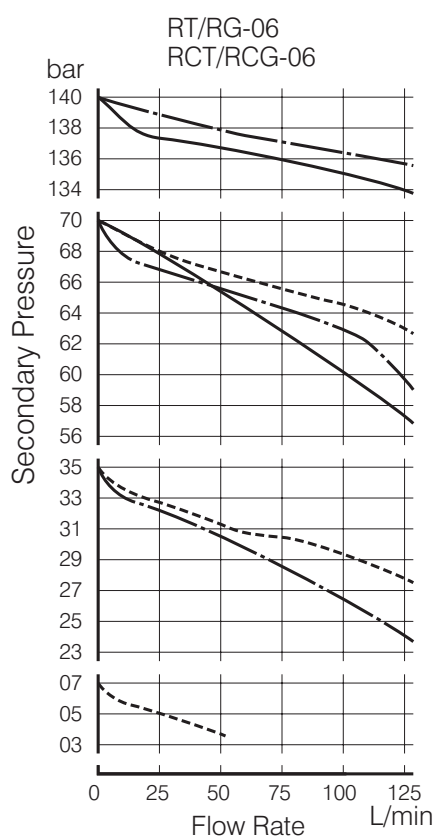
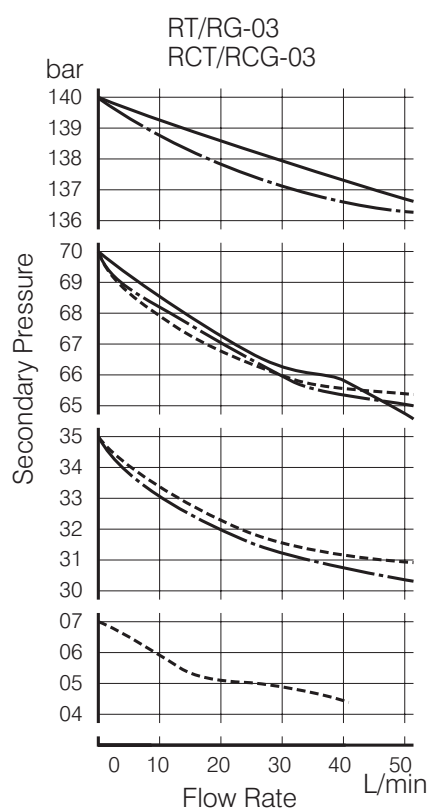
Flow Rate vs. Secondary Pressure

Primary Pressure : 210 bar

Hydraulic Fluid : Viscosity 35mm²/s

Pressure Adj. Range

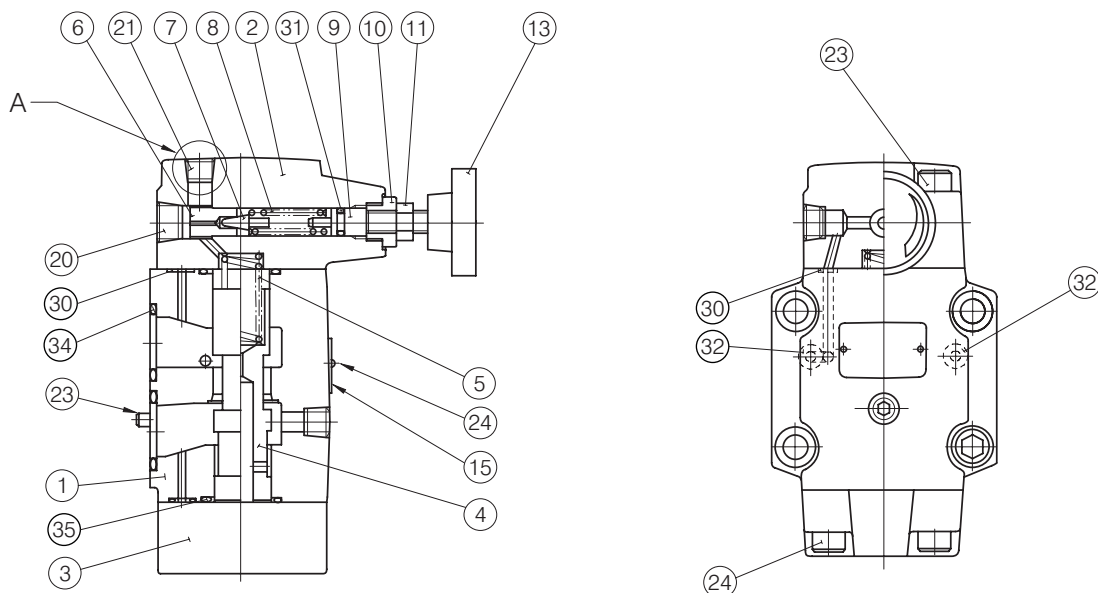
----- : "B"
 -.-.-.- : "C"
 _____ : "H"





Spare part list

- RT/RG-03- *-22/2280/2290
- RT/RG-06- *-22/2280/2290
- RT/RG-10- *-22/2280/2290



List of Seals

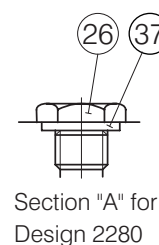
Item	Name of Parts	Part Numbers			Quantity	
		RT RG -03	RT RG -06	RT RG -10	RT- * RG-*	RG-*
30	O-Ring	SO-NB-P6	SO-NB-P6	SO-NB-P6	4	4
31	O-Ring	SO-NA-P9	SO-NA-P9	SO-NA-P9	1	1
32	O-Ring	SO-NB-P9	SO-NB-P9	SO-NB-P9	—	2
34	O-Ring	SO-NB-P18	SO-NB-P28	SO-NB-P32	—	2
35	O-Ring	SO-NB-P22	SO-NB-P28	SO-NB-P36	2	2
37	Bonded Seal	SG-FB-1/4	SG-FB-1/4	SG-FB-1/4	1	1

Note: When ordering the seals, please specify the seal kit number from the table below.

List of Seal Kits

Valve Model Numbers	Seal Kit Numbers
RT-03- *-22/2280/2290	KS-RT-03-22
RT-06- *-22/2280/2290	KS-RT-06-22
RT-10- *-22/2280/2290	KS-RT-10-22
RG-03- *-22/2280/2290	KS-RG-03-22
RG-06- *-22/2280/2290	KS-RG-06-22
RG-10- *-22/2280/2290	KS-RG-10-22

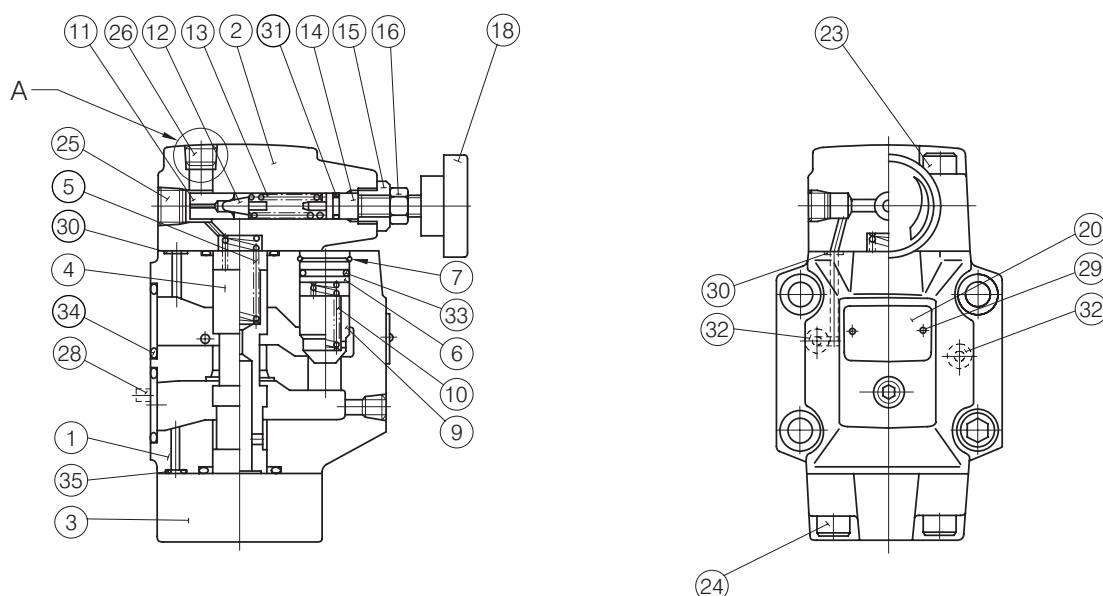
Note: No bonded seals are included in the seal kits.





Spare part list

- RCT/RCG-03- *-22/2280/2290
- RCT/RCG-06- *-22/2280/2290
- RCT/RCG-10- *-22/2280/2290



List of Seals

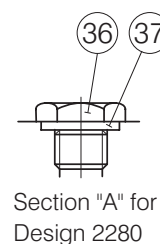
Item	Name of Parts	Part Numbers			Quantity	
		RCT RCG-03	RCT RCG-06	RCT RCG-10	RCT- * RCG-*	RCG-*
30	O-Ring	SO-NB-P6	SO-NB-P6	SO-NB-P6	4	4
31	O-Ring	SO-NA-P9	SO-NA-P9	SO-NA-P9	1	1
32	O-Ring	SO-NB-P9	SO-NB-P9	SO-NB-P9	—	2
33	O-Ring	SO-NB-P12	SO-NB-P18	SO-NB-P22A	1	1
34	O-Ring	SO-NB-P18	SO-NB-P28	SO-NB-P32	—	2
35	O-Ring	SO-NB-P22	SO-NB-P28	SO-NB-P36	2	2
37	Bonded Seal	SG-FB-1/4	SG-FB-1/4	SG-FB-1/4	1	1

Note: When ordering the seals, please specify the seal kit number from the table below.

List of Seal Kits

Valve Model Numbers	Seal Kit Numbers
RCT-03- *-22/2280/2290	KS-RCT-03-22
RCT-06- *-22/2280/2290	KS-RCT-06-22
RCT-10- *-22/2280/2290	KS-RCT-10-22
RCG-03- *-22/2280/2290	KS-RCG-03-22
RCG-06- *-22/2280/2290	KS-RCG-06-22
RCG-10- *-22/2280/2290	KS-RCG-10-22

Note: No bonded seals are included in the seal kits.

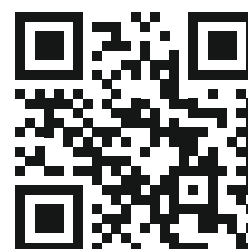


The specified data is for product description purposes only and may not be deemed to be guaranteed unless expressly confirmed in the contract.



THM Huade Hydraulics Pvt Ltd

F-127, Phase-VIII, Focal Point,
Ludhiana-141010, Punjab (INDIA)
PH: 0161-2672777, 0161-2672778
E-mail: sales@thmhuade.com
Website: www.thmhuade.com



Follow us:

