Ensured cost-effective solution to all process control applications.

RC1000

Regport GROUP OF COMPANIES
INDIA UAE

REGPORT CONTROLS PVT. LTD.

Control with Precision & Innovation

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Control with Precision & Innovation

Regport Control Pvt. Ltd. (RCPL) provides solutions that optimize fluid control for industries ranging from Oil & Gas to chemical processing, water treatment, power generation and more. We specialize in designing and manufacturing high-quality control valves that are engineered to meet the most demanding industrial applications. This subsidiary of the Regport Group of Companies operates to provide the cutting-edge solutions to our clients with world class range of Control Valves and On/Off Valves. With a focus on precision, reliability and innovation, our team of engineers works closely with clients to understand unique challenges and deliver valves that maximize efficiency, reduce downtime and ensure compliance with international standards.

regport
GROUP OF COMPANIES
INDIA UAE

An Indian group –
spread across 6 continents and having installations in 40 countries worldwide.

REGPORT TECHNOLOGIES PVT. LTD. (RTPL)

RTPL , the Regport Group flagship company is an ISO 9001:2015 certified and is one of the fewest manufacturers who design, manufacture and supply complete range of Pressure Control Valves, Safety Relief Valves, Tank Protection Devices, Centrifuges Blanketing Systems and Fuel Gas conditioning & Metering Skids under one roof.

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Provide the cutting-edge solutions to our clients with world class range of Control Valves and On/Off Valves.

REGPORT PROCESS MANAGEMENT PVT. LTD. (RPMPL)

RPMPL dedicatedly supports customers for the complete packages needed for operations of the new plants as well as upgradations of the existing running plants.

Their 3 sub-verticals

- Manufacturing Manual Valves viz. Gate, Globe, Check, Ball & Butterfly Valves
- Complete packages of gas generation plants for Nitrogen, Oxygen, Bio Gas etc.
- Manufacturing of Rupture Disc of Stainless Steel, PTFE Coated Stainless Steel grades as well as Graphite.

REGPORT INTERNATIONAL FZCO - Dubai-UAE

RIFZCO is a UAE based Company – globally addressing leading-edge engineering solution.

Their 4 sub-verticals :

- International Sales Office for all Regport Group of Companies
- Design and supply customised packages and skids.
- RIFZCO has officially partnered with Afility Engineering Pvt. Ltd. for the Middle East and Africa region.
- Global Sourcing Division, for international brands for engineering solutions.

REGPORT CONTROLS PVT. LTD.

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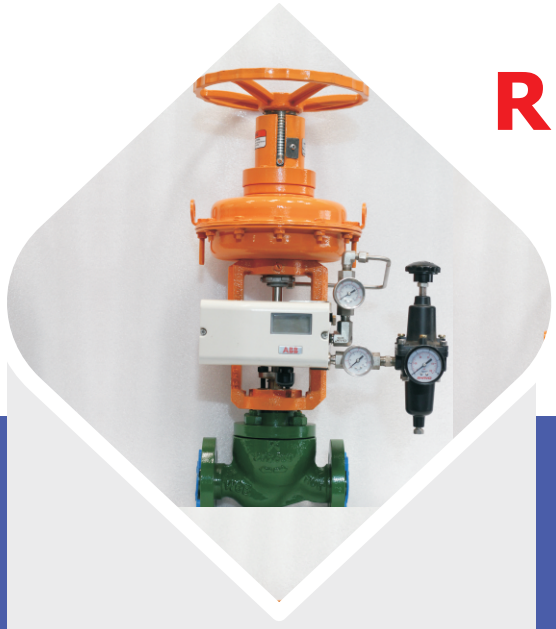

RC1000

Specially designed to ensure a cost effective solution to a variety of process control applications. RC 1000 model Series is a limited to a core of options, which allows faster deliveries, high interchangeability of trims and low costs.

Design flexibility :

- Inherent Modified Equal Percentage trim with options for equal percentage and linear from characterized positioner.
- Clamped guide and seat allow quick change for modification /service.
- High interchangeability of trim components and soft parts.

Performance :

- High flow capacity
- Tight shut-off
- Excellent flow control rangeability
- Low weight
- Streamline flow passages to improve capacity

Features

Scope of Design :

End Connection Sizes :
1" to 16" (25NB to 400NB)

End connection Styles :
ANSI & DIN Flanged RF,
Butt weld & socket weld

Valve Body Ratings :
ANSI 150 to ANSI 1500
PN10 to PN250

Bonnet Packings :
Tef/ Chev for
standard duty.
Grafoil for
high temperatures.

Body Material Options :
ASTM A216 Gr. WCB/ WCC
ASTM A351 CF8/ CF8M/ CF3M
ASTM A217 WC6/ WC9

Design Standards :
ASME B16.34
ISA- 75.03

Temperature Range :
-29°C to 427 °C
-20 °F to 800 °F

Design Integrity :

- Optimized using computer aided analysis
- Design to ASME B16.34 / B 16.10
- High integrity precision cast components

Actuation:
'M' Series Multispring Opposed Pneumatic Diaphragm Actuator, available models- M-230, M-385, M- 700 & M-1400.

'S'Series Single Spring Opposed Pneumatic Diaphragm Actuator, Available models- S-225, S-320, S-550, S-700, S-960, S-1400 &S-1920.

Piston type Linear actuator, available models -PA150, PA250, PA330, PA400, PA500

Instrumentation options :
Pneumatic Positioner,
Electro/Pneumatic(I/P) and Smart Positioner are available.

Sizing/Noise Calculations :
Our team of experts is well equipped to perform valve sizing, velocity and or Sound Pressure Level calculations.

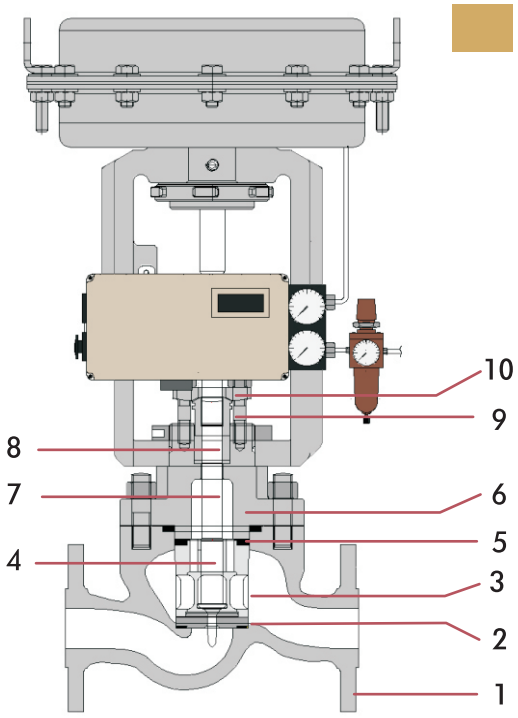

Fig. 1 : Material of Construction

SR. NO.	ITEM	MATERIAL
1	BODY	Group A- WCB/WCC,LCB/LCC,WC6/WC9 Group B- CF8M,CF3M,CF3,CF8,CF8C Group C- ASTM A890 GR 4A/5A/6A Hastealloy C/B, Inconel 625/825
2	SEAT	AISI 316/316L,UNS S31803, Hastealloy C/B, Inconel 625/825
3	CAGE/ GUIDE	AISI 316/316L,UNS S31803, Hastealloy C/B, Inconel 625/825
4	PLUG	AISI 316/316L,UNS S31803, Hastealloy C/B, Inconel 625/825
5	GASKET	AISI 316/316L + Graphite
6	BONNET	Group A- WCB/WCC,LCB/LCC,WC6/WC9 Group B- CF8M,CF3M,CF3,CF8,CF8C Group C- ASTM A890 GR 4A/5A/6A Hastealloy C/B, Inconel 625/825
7	STEM	AISI 316/316L,UNS S31803, Hastealloy C/B, Inconel 625/825
8	GLAND PACKING	PTFE / Chev
9	GLAND BUSH	AISI 316/316L,UNS S31803, Hastealloy C/B, Inconel 625/825
10	GLAND FLANGE	AISI 316/316L, / Suitable to body MOC

DESIGN CV VALUES :

The design CV values detailed below are defined as the flow of water (SG=1) through the valve at full lift in US gallons per minute with a pressure drop of 1psi.

TRIM SIZE	CT SERIES	PC SERIES	PF SERIES	STROKE
1"	12.50	12.50	11.50	19mm
3/4"	7.60	7.60	5.50	19mm
1/2"	4.80	4.80	NA	19mm
3/8"	3.10	3.10	NA	19mm
1/4"	1.90	1.90	NA	19mm
1/8"	1.20	1.20	NA	19mm
1.25"	20.0	20.0	17.5	28mm
1.5"	27.0	27.0	25.0	28mm
2"	50.0	45.0	45.0	28mm
2.5"	77.0	77.0	70.0	38mm
3"	112.0	112.0	100.0	38mm
4"	175.0	175.0	145.0	38mm
6"	390.0	390.0	350.0	57mm
8"	600.0	600.0	535.0	57mm

Table 1 : Design CV values for Equal % & Linear Trim characteristics

TRIM SIZE	NF SERIES
1/2"	5.5
1"	13.70
1.5"	30
2"	55
3"	123
4"	192.5
6"	429

Table 2 : Design CV values for ON & OFF Characteristics

Notes :

1. General Selection Information - The information detailed is intended to act as a general guide, to assist in the selection of an RC1000 valve.

2. Trim CV Calculation - A full set of procedures for calculating the CV with various fluids is available with our expert team.

3. The above are general guidelines. Higher or lower can be provided. Please consult our expert team.

Liquid service :

The velocities detailed in Table 3 below reflect the normal inlet and outlet maximum velocities recommended to eliminate body erosion and prevent trim instability. Other factors may reduce the following figures further.

Maximum Recommended Velocity				
Valve Size	Valve Body Material			
	Carbon Steel (WCB)		Alloy Steel (CF8M)	
mm	ft/s	m/s	ft/s	m/s
25-200	43	13.1	52	15.8

Table 3 : Recommended maximum inlet and outlet velocities liquid service

Gas / Vapor service :

These velocities avoid problems of vibration and body erosion. Where noise levels are a consideration, velocities should be restricted to the relevant Mach numbers

Maximum Recommended Velocity				Allowable Noise Level dBA	Mach Number
Inlet		Outlet			
ft/s	m/s	ft/s	m/s		
475	144	830	253	> 95	0.65
				< 95	0.5
				< 85	0.3

Table 4 : Recommended maximum inlet and outlet velocities Gas/ Vapor service

Trim Inherent Rangeability

The inherent rangeability of a valve trim is dependent on a number of factors including size and style. The values detailed in Table 5 provide a general guideline to the maximum achievable values.

Trim Style	Valve Size	Trim Size	Max Rangeability
CT SERIES	25NB - 80 NB	Full	50 : 1
		Reduced	40 : 1
	100NB - 200NB	Full	70 : 1
		Reduced	60 : 1
PC SERIES	25NB - 50NB	Full	50 : 1
		Reduced	30 : 1
	80NB - 100NB	Full	70 : 1
		Reduced	40 : 1
PF SERIES	150NB - 200NB	Full	80 : 1
		Reduced	50 : 1

Table 5. Maximum Inherent Rangeability

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Guide to trim options available:

Standard Duty :
For standard duty applications there is the option of Contoured trim (Figure 2) or Ported Cage (Figure 3).
Trim Design Options : Contoured & Ported Cage - Full and reduced capacity.
Characteristics Available : Inherent Modified Equal Percentage (Equal Percentage & Linear available with characterized positioner).
Plug Options : Unbalanced Metal/Metal (Contoured). Unbalanced or balanced Metal/Metal with Graphite or Resilient piston rings (Ported Cage).
Direction of Flow : Recommended flow under for both liquids and gas on Contoured trim ie. CT Series

Severe Duty :
The PreciFlow (PF) trims are suitable for high pressure drop applications, to prevent the onset of cavitation and reduce the noise levels generated.
Trim Design Options : PreciFlow trim-Full and reduced capacity. (Figure 4)
Characteristics Available : Inherent Modified Equal Percentage (Equal Percentage & Linear available with characterized positioner).
Plug Options : Unbalanced or Balanced with Resilient or Graphite piston rings.
Direction of Flow : Recommended flow over the plug for liquids and under for gas/ vapor

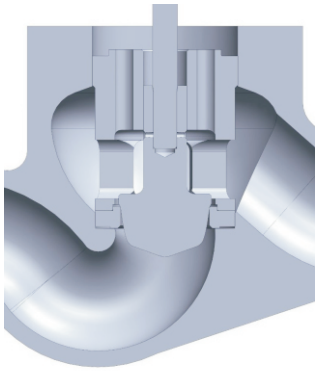


Fig. 2 : Contoured Trim (CT Series)

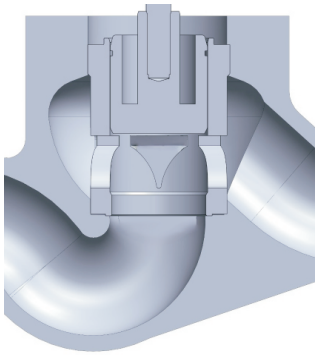


Fig. 3 : Ported Cage Trim (PC Series) illustrated with Balanced plug

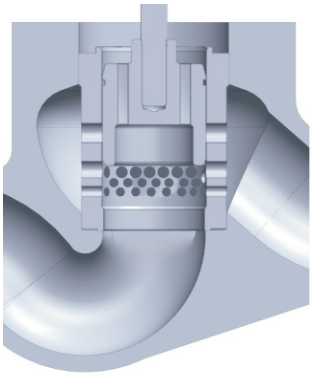


Fig. 4 : PreciFlow Trim (PF Series) illustrated with Solid plug

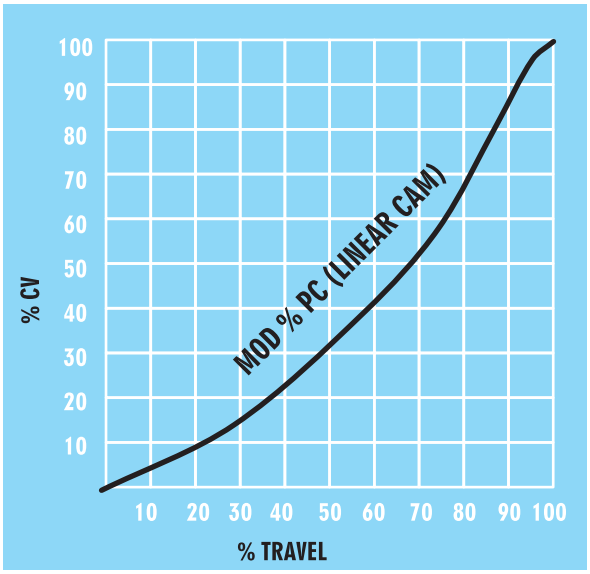


Figure 5 : Inherent Flow Characteristic

Inherent Flow Characteristics
The inherent flow characteristic of a control valve is the relationship between the flow and the valve travel at constant pressure drop.

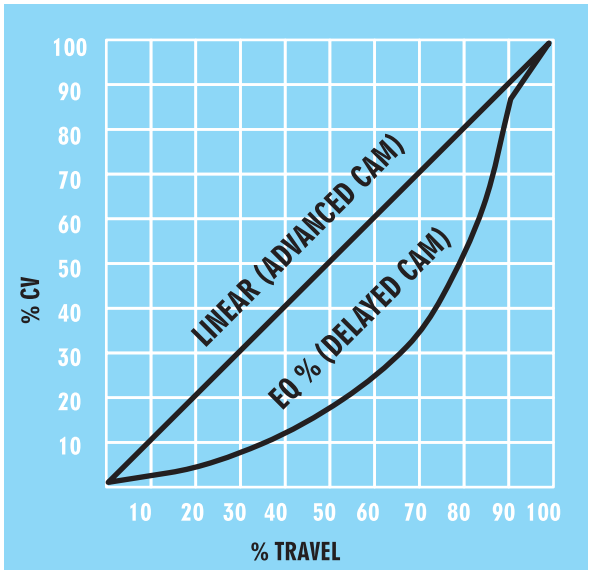


Figure 6 : Optional Flow Characteristic

Optional Flow Characteristics*
The optional flow characteristic is the relationship between the flow and the control signal at constant pressure drop.
*Available only with positioner

Maximum Leakage Rates :
Leakage rates are normally measured in accordance with the ANSI/FCI 70-2-1976 specification using the class designation. The following Table 6. defines the achievable leakage class for each available plug design.

Plug Design	Seating Style	Piston Ring	Achievable Leakage Class
Contoured	Metal/Metal (STD)	None	IV
Contoured	Metal/Metal (SPL)	None	V
Balanced	Metal/Metal	Resilient	IV
Balanced	Metal/Metal (SPL)	Resilient	V
Balanced	Metal/Metal (STD)	Graphite	III
Balanced	Metal/Metal (SPL)	Graphite	IV

Note: (STD) or (SPL) refer to the amount of seat/plug lapping carried out at final assembly

Table 6 : Achievable Leakage Class

Components	Temperature Range	
Piston Ring	Resilient	Graphite
	-29°C to 250°C -20°F to 483°F	251°C to 427°C 484°F to 800°F
Stem Packing	Tef/ Chev	Grafoil
	-29°C to 250°C -20°F to 483°F	251°C to 427°C 484°F to 800°F

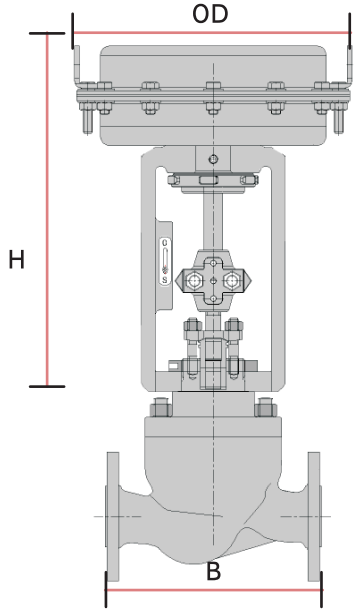
Gives a general guide to the limitations of various design features when associates with temperatures.

Table 7 : Temperature Related Features :

Valve Size Size (mm)	Face-to-Face Dimensions for Flanged Globe Style Control Valves (B)					
	CL 150 RF (STL)	CL 150 RTJ (STL)	CL 300 RF (STL)	CL 300 RTJ (STL)	CL 600 RF (STL)	CL 600 RTJ (STL)
NB	mm	mm	mm	mm	mm	mm
15	184	197	190	202	203	203
20	184	197	194	206	206	206
25	184	197	197	210	210	210
40	222	235	235	248	251	251
50	254	267	267	282	286	284
65	276	289	292	308	311	314
80	298	311	318	333	337	340
100	352	365	368	384	394	397
150	451	464	473	489	508	511
200	543	556	568	584	610	613
250	673	686	708	724	752	755
300	737	749	775	790	819	822
350	889	902	927	943	972	975
400	1016	1029	1057	1073	1108	1111

Abbreviations used in the Table 8 alongside:
RF : Raised Face
RTJ : Ring Type Joint /
STL : Steel

Table 8 : Valve Dimensions



Note:
1. Face to face dimensions comply with ISA - 75.03
2. Regport Control Pvt Ltd reserves the right to confirm dimensions on certified drawings
* For other Valve/Actuator combinations, please consult factory

Figure 7 : RC1000 Dimensions

OD(mm)	H(mm)	Valve Size(mm)
300	380	25
392	400	
300	380	40
392	400	
300	380	50
392	400	
392	417	80
545	485	
392	417	100
545	485	
545	520	150
545	520	200

Table 9 : Actuator Dimensions

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