Series 130 Control Valves

Specification

Design Code	ASME B16-34
Valve Size	15 to 300 mm (1/2" to 12")
Rating	ANSI 150 to 600 or equivalents to BS10, DIN, JIS etc
End Connection	Flanged, Butt Weld
Body Material	Carbon steel, Chrome moly steel, Stainless steel, Monel, Alloy 20, Hastelloy B/C, Duplex stainless steel, Aluminium bronze
Bonnet	Standard up to 400°C, Normalising between 250°C to 500°C, Extended cold service -20°C to -100°C, Cryogenic -100°C to -250°C Bellowseal
Gland Packing	PTFE Chevrons, Graphite, Low emission
Trim Forms	Skirt Guided, Linear, Pressure balanced
Trim Material	Stainless steel, Duplex stainless steel, 13% Chrome steel, Monel, Hastelloy B/C, Stellite

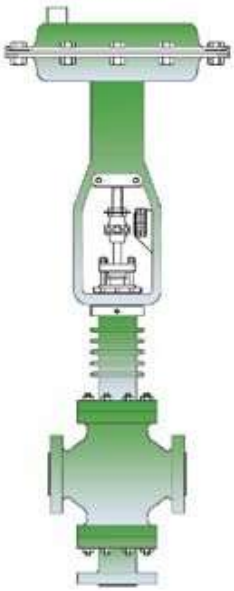
Flow Characteristic	Linear
Seat Leakage	As per FCI 70 2 Class III, IV, V and VI
Actuator Form	Diaphragm, Piston, Electric
Actuator Type	Direct / Reverse Acting Direct acting air failure "Close" top port. Reverse acting air failure "Opens" top port
Diaphragm	Nitrile / Neoprene (nylon reinforced)
Spring Range	3-15 PSIG (0.2 - 1.0 Bar) 6-30 PSIG (0.4 - 2.0 Bar)
Air Supply	20-60 PSIG (1.4 - 4.0 Bar)
Air Connection	1/4" or 1/2" NPT
Accessories	Valve Positioners - Pneumatic, Electro-Pneumatic, Smart Instruments - Airset, Solenoid Valve, Volume Booster, Airlock, Limit Switches Features - Top or Side Mounted handwheel, Limit Stops Steam Jacketing etc

Design Features

- High flow capacity and rangeability.
- Heavy duty stems.
- Wide range of interchangeable trim sizes.
- Wide selection of actuators to meet most system requirements.
- Comprehensively designed and tested to ensure optimum performance.

Quality and Performance Guarantee

- Produced with Quality Systems accredited to ISO 9001:2008.
- CE marked in accordance with European Pressure Equipment Directive 97/23/EC and ATEX compliant with European directive 94/9/EC.
- Full material certification available for all major component parts.
- Rigorous proven on-site performance.
- Full guarantee on design and performance.
- All testing performed to the requirements of ASME B16.34.

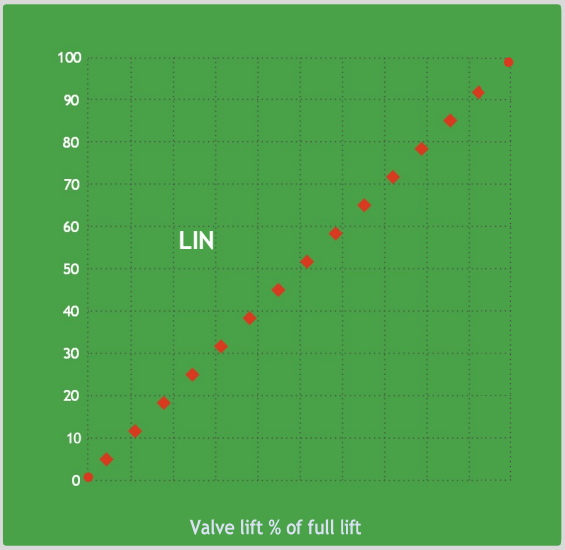


Series 130: Control valve with finned bonnet and direct actuator

Series 130: Control valve with standard bonnet and reverse actuator

Series 130 Control Valves

Characteristic Curve



The Inherent flow characteristic of a control valve is the relationship between the flow and the lift of the plug at a constant pressure drop.

The characteristic available is shown.

Linear - Flow is directly proportional to valve lift.

Rangeability

Trim size		
inch	mm	Rangeability
1/4 to 3/4	6 to 20	35 : 1
1 to 3	25 to 80	50 : 1
4 to 12	100 to 300	60 : 1

Maximum Recommended Valve Body Velocity for Liquid Flows

Trim style	Valve size		Valve body material		
			Carbon steel	Alloy steel	Aluminium bronze
	ins	mm	m/s	m/s	m/s
Linear	1 to 2	25 to 50	10.5	12.0	7.0
	3 to 8	80 to 200	9.0	10.0	6.5
	10 to 12	250 to 300	6.0	8.0	5.5

Maximum Recommended Valve Body Velocity for Gas/Vapour Flows

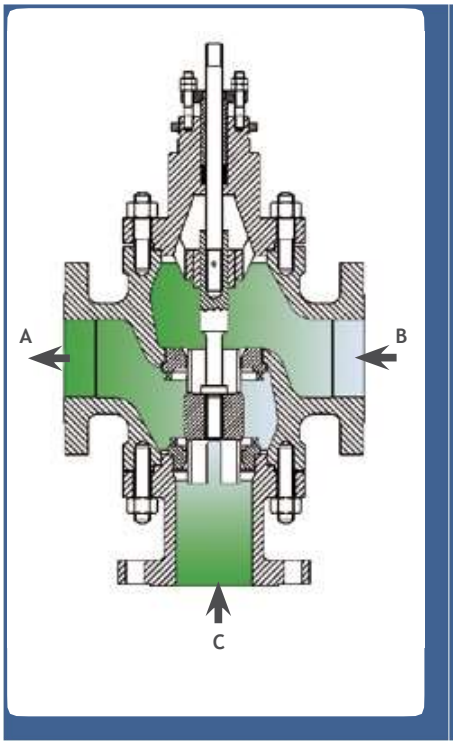
Valve size		Maximum Inlet velocity	Maximum Outlet velocity	Maximum outlet mach No. for predicted noise level		
ins	mm	m/s	m/s	95dBA	95dBA	85dBA
1/2 to 2	15 to 50	80	200	0.65	0.5	0.3
3 and 4	80 and 100	75	200	0.65	0.5	0.3
6 and 8	150 and 200	65	200	0.65	0.5	0.3
10 and 12	250 and 350	55	200	0.65	0.5	0.3

Series 130 Control Valves

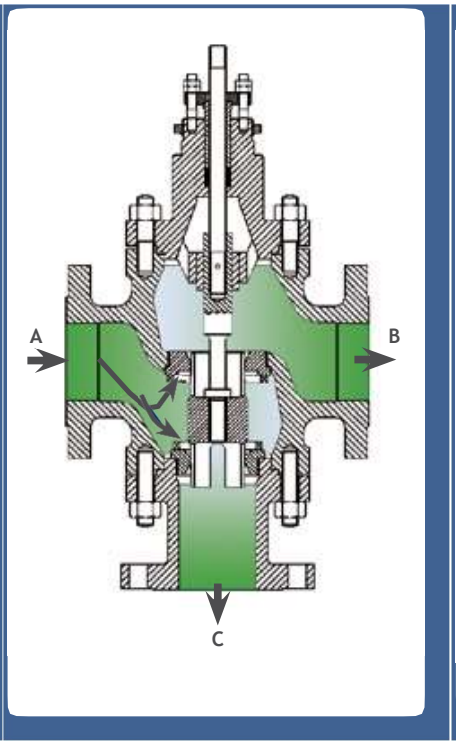
Guide to Bonnet and Gland Packing Selection

	-200	-100	0	100	200	300	400	500
Graphite	All services except strong oxidisers - lubrication is not required							
PTFE Chevron		Resistance to most known chemicals Lubrication not required						
Standard			Common service condition					
Normalising						Provides gland-packing Protection in high temperature conditions		
Extended	Cryogenic							
Temperature °C								

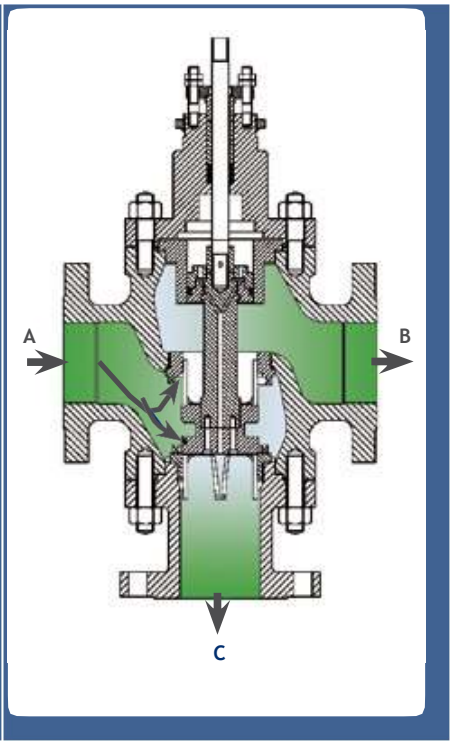
Configuration - Standard Range



Valve for Mixing Service



Valve for Diverting Service



Valve with Pressure Balance Trim

- Trims available for modulating or On/Off service.
- Valve suitable for mixing or diverting applications.
- Uses standard control valve components
- Trim design available with metal to metal and soft seat to metal options.

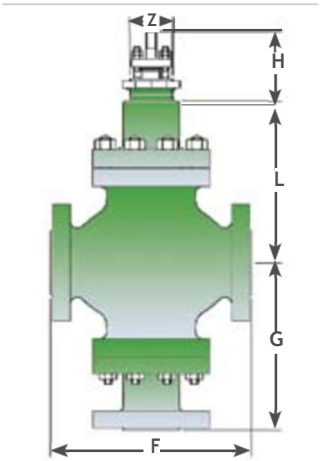
Series 130 Control Valves

Valve Sizing Coefficient / Cv Rating

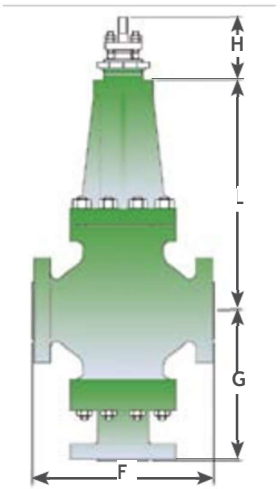
Valve size		Trim size	CV Value
ins	mm	in	
1/2	15	1/2	5
		3/8	3.2
		1/4	2.0
3/4	20	3/4	8
		1/2	5
		3/8	3.2
1	25	1	11
		3/4	8
1.1/2	40	1.1/2	28
		1.1/4	17
2	50	2	42
		1.1/2	28
3	80	3	105
		2.1/2	70
4	100	4	185
		3	105
6	150	6	405
		5	275
8	200	8	605
		6	405
10	250	10	881
		8	605
12	300	12	1,264
		10	881

Series 130 Control Valves

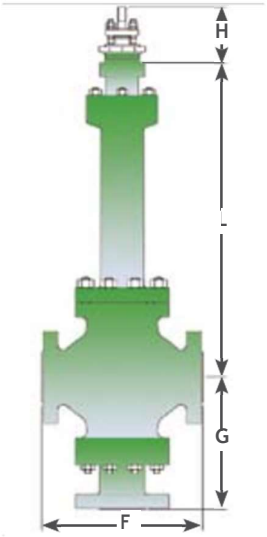
Series 130 - 3 Way Valve Standard Dimensions



Valve with Standard Bonnet



Valve with Normalising Bonnet



Valve with Bellow Seal Bonnet

		ANSI 150 NP 10, 16	ANSI 300 NP 25, 40	ANSI 600 NP 64, 100	Stem in up	Bonnet mount	Height from centre line			Centre line to	Stem
Valve	size	BS-10-D,E	BS-10-F, H, J	BS-10-K, R	position	Dia	standard	normalising	bellow	base	travel
inch	mm		face to face (F)		H	Z		L		G	
1/2	15	184	190	203	117	53.97	140	222	324	156	28
3/4	20	184	194	206	117	53.97	140	222	324	156	28
1	25	184	197	210	117	53.97	140	222	324	156	28
1 1/2	40	222	235	251	117	53.97	159	292	353	160	28
2	50	254	267	286	117	53.97	168	284	362	178	28
2 1/2	65	276	292	311	143	71.44	203	327	467	198	38
3	80	298	318	337	143	71.44	203	327	467	232	38
4	100	352	368	394	143	71.44	206	357	467	270	38
6	150	451	473	508	197	90.42	276	391	676	352	57
8	200	543	568	610	197	90.42	292	435	686	418	57
10	250	673	708	752	229	90.42	390	632	-	440	90