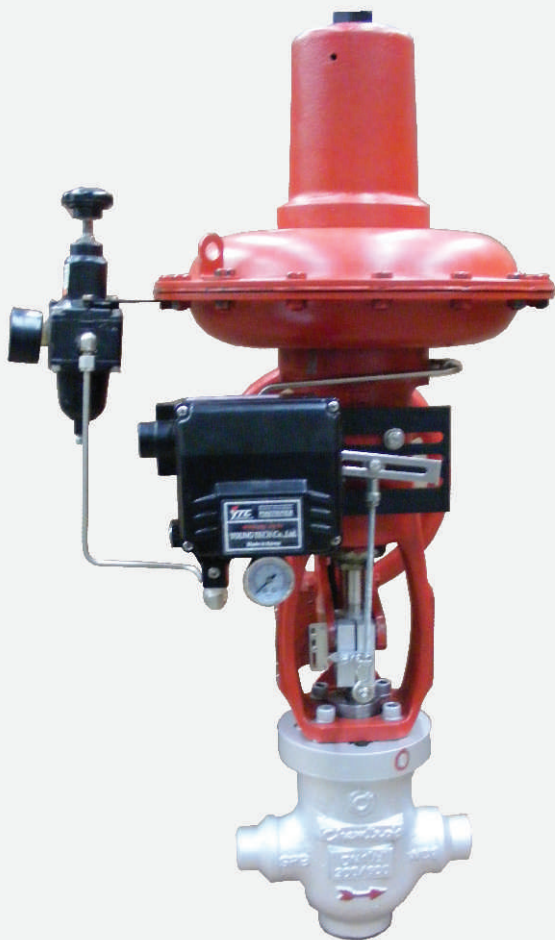


High Pressure Control Valves

Single Stage & Multistage

Series MCV, CKG1000, CKG2000, CKG3000



- Globe Valves with compact & light weight design.
- Single-Stage or Multi stage
- Cage type or contour type plugs to meet application need.
- Pressure class upto 2500#
- Leakage class upto class V.
- Forged Body Material. IBR certification as standard.
- Optional certification from PED, CE, U PP, ASME etc. on request.

Application & Design

Chemtrols manufactures high pressure Steam and water control valves, generally used in Power plants. With proven design and technical know-how from [KE] Kauer Engineering, Germany, the Control Valves can be delivered with either Single-stage (CKG1000) or Multi-stage (CKG2000/3000) high pressure design, with absolute pressure sealing throttling devices for liquids, steam and gases.

With an ultra modern, quality conscious manufacturing facility, state of the art technology-expertise and high-end CNC machines, we can deliver valves with high precision and reliability, promising to meet the global standards

Design features

- Globe Valves
- End connections flanged according to ANSI or DIN or with butt weld ends.
- Single-Stage or Multi-stage [upto 4 stages] Single stage up to 50 bar differential pressure, multi stage above 50 bar differential pressure, up to 300 bar
- Cage type plug or contour type plugs to meet application needs.
- Leakage class upto class V.
- Special plug for flashing water.
- Balance design for large seat diameters and high pressure with removable inlet filter
- Outlet can be delivered with enlarged size for steam applications

Benefits

- Compact & Light weight design
- Easy press fit seat and plug assembly
- No seizing
- Highly reliable functioning.
- Designed to meet specific application parameters
- Optional certification from PED, CE, U PP, ASME etc. on request.

Technical Data

Sizes	From 1" - 12" (DN 25 - DN 300)
Pressure Class	ASME 150, 300 Class to 2500 Class
Control Range	Depends on valve size, up to 200:1
Control Characteristics	Valves can be supplied in various characteristics as per the requirement of the customer namely linear, modified linear, equal percentage, modified equal percentage and quick opening.
Actuating system	Depending upon the operating requirement and customer specification, Chemtrols Control Valves can be equipped with pneumatic, electric or electro hydraulic actuating system.
Typical material	See table 1
Connection	See table 3
Dimension	See table 3

Industries

These high pressure valves find applications in practically all industries which have either a Captive Power Plants or are using Steam for their processes.

- Captive Power Plants (CPP)
- Thermal Power Plants
- Cement
- Steel Plants
- Sugar, Distilleries, Food, Beverages
- Fertilizer
- Paper & Pulp
- Chemical & Petrochemical

Material of Construction

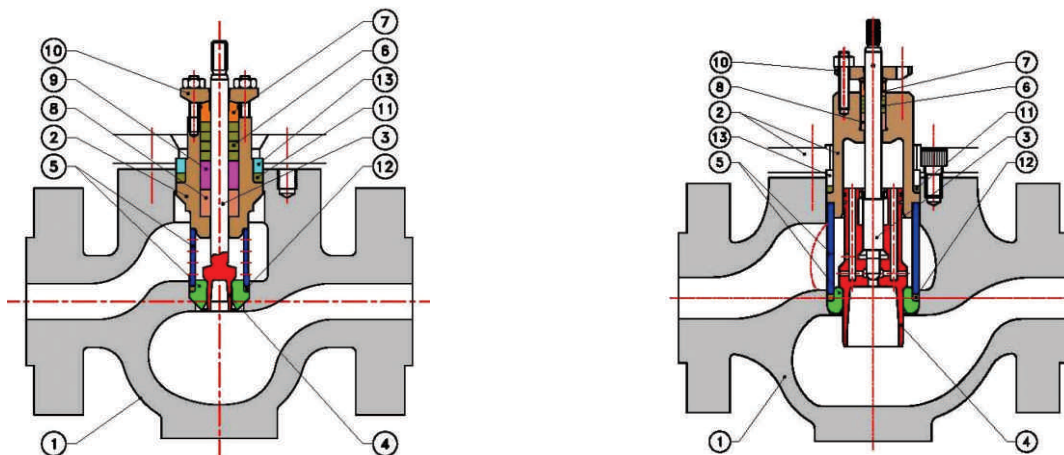
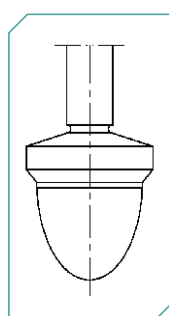


Table 1 - Typical material specification of main components (Customer's requirements and operating conditions may determine the use of different materials)

Sr. No.	Part Name		Grade	Description
1 & 2	Body & Bonnet	≤ 425 ^o C	SA 216 Gr. WCB	Carbon Steel
		≤ 540 ^o C	SA 217 Gr. WC6	Low alloy steel
		≤ 560 ^o C	SA 217 Gr. WC9	Low alloy steel
3	Stem		DIN 1.4122 Plasma Nitrided	Martensitic stainless steel
4	Plug		DIN 1.4122 Plasma Nitrided	Martensitic stainless steel
5	Seat Cage / Seat		DIN 1.4122 Plasma Nitrided / A182 F11 / F22 Stellited	Martensitic stainless steel / Low alloy steel
6	Gland Packing		Grafoil	
7	Gland bush		DIN 1.4122 Plasma Nitrided	Martensitic stainless steel
8	Bottom guide		DIN 1.4122 Plasma Nitrided	Martensitic stainless steel
9	Top guide		DIN 1.4122 Plasma Nitrided	Martensitic stainless steel
10	Gland follower		DIN 1.4122 Plasma Nitrided	Martensitic stainless steel
11	Bonnet Seal		Grafoil	
12	Seat rings		Grafoil	
13	Bonnet Ring		SA182 F11 / SA182 F22	Low alloy steel

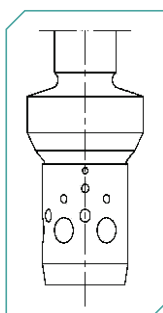
* Materials are for standard delivery, other material on request

Possible Plug Configurations



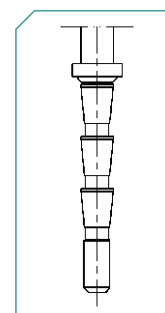
Plug for any characteristic CKG-1000 Series Parabolic plug

- Higher flow
- Higher pressure difference over plug



Perforated cage for any characteristic CKG 2000 Series cage plug

- Less vibration
- Less noise
- Uniform flow over cage outlet



Plug for multistage valve for any characteristic CKG 3000 series, MCV multi stage plug

- High pressure drop up to 300 bar
- Low Kv

Capacity

Table 2

A MCV - Micro Cv valves															
Kv m³/h		0.05	0.07	0.08	0.10	0.12	0.14	0.16	0.18	0.23	0.60	0.80	1.00	1.20	
Cv USG/min		0.058	0.08	0.09	0.12	0.14	0.16	0.19	0.21	0.26	0.70	0.13	1.17	1.40	
Seat Dia. mm		9	9	9	9	9	9	12	12	12	16	16	16	18	
Size Inches, mm							12						18		
1"	25	●	●	●	●	●	●	●	●	●	●	●	●	●	
1.5"	40	●	●	●	●	●	●	●	●	●	●	●	●	●	
B Series CKG 1000/2000/3000															
Kv m³/h		1.25	1.40	1.60	2.00	2.50	3.20	3.60	4.00	4.50	5	5.60	6.00	7.20	9.00
Cv USG/min		1.46	1.63	1.87	2.34	2.90	3.70	4.20	4.60	5.20	5.85	6.50	7.00	8.40	10.50
Seat Dia. mm		18	18	18	18	18	18	18	18	18	18	18	18	18	18
Size Inches, mm								25	25	25	25	25	25	25	25,36
1"	25	●	●	●	●	●	●	●	●	●	●	●	●	●	●
1.5"	40				●	●	●	●	●	●	●	●	●	●	●
2"	50													●	●
Kv m³/h		11.20	12.00	12.50	14.00	15	18.00	20	22.50	24.00	28.00	30.00	35.00	36.00	45.00
Cv USG/min		13.10	14.00	14.60	16.30	17.55	21.00	23.4	26.30	28.00	33.00	35.00	41.00	42.00	52.00
Seat Dia. mm		36	36	36	36	36	36	36	36	36	50	50	50	50	50
Size Inches, mm		36	50	50	50	50	50	50	50	50					
1"	25														
1.5"	40	●	●	●	●	●	●	●	●	●					
2"	50	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Kv m³/h		22.50	24.00	28.00	30.00	35.00	36.00	43.00	45.00	60.00	75.00				
Cv USG/min		26.30	28.00	33.00	35.00	41.00	42.00	50.00	52.00	70.00	88.00				
Seat Dia. mm		36	50	50	50	50	50	50	50	50	72	72			
Size Inches, mm		50													
3"	80	●	●	●	●	●	●	●	●	●	●				
4"	100						●	●	●	●	●	●			
6"	150											●	●		
8"	200														
10"	250														
12"	300														
Kv m³/h		96.0	124.00	172.00	215.00	275.00	340.0	430.00	535.0	690.0	860.0				
Cv USG/min		112.0	145.00	201.00	251.0	321.00	397.0	503.00	626.0	807.0	1006.0				
Seat Dia. mm		72	80	90	100	112	125	140	160	180	200				
Size Inches, mm															
3"	80	●	●												
4"	100	●	●	●	●										
6"	150	●	●	●	●	●	●	●							
8"	200		●	●	●	●	●	●	●						
10"	250			●	●	●	●	●	●	●	●				
12"	300						●	●	●	●	●				

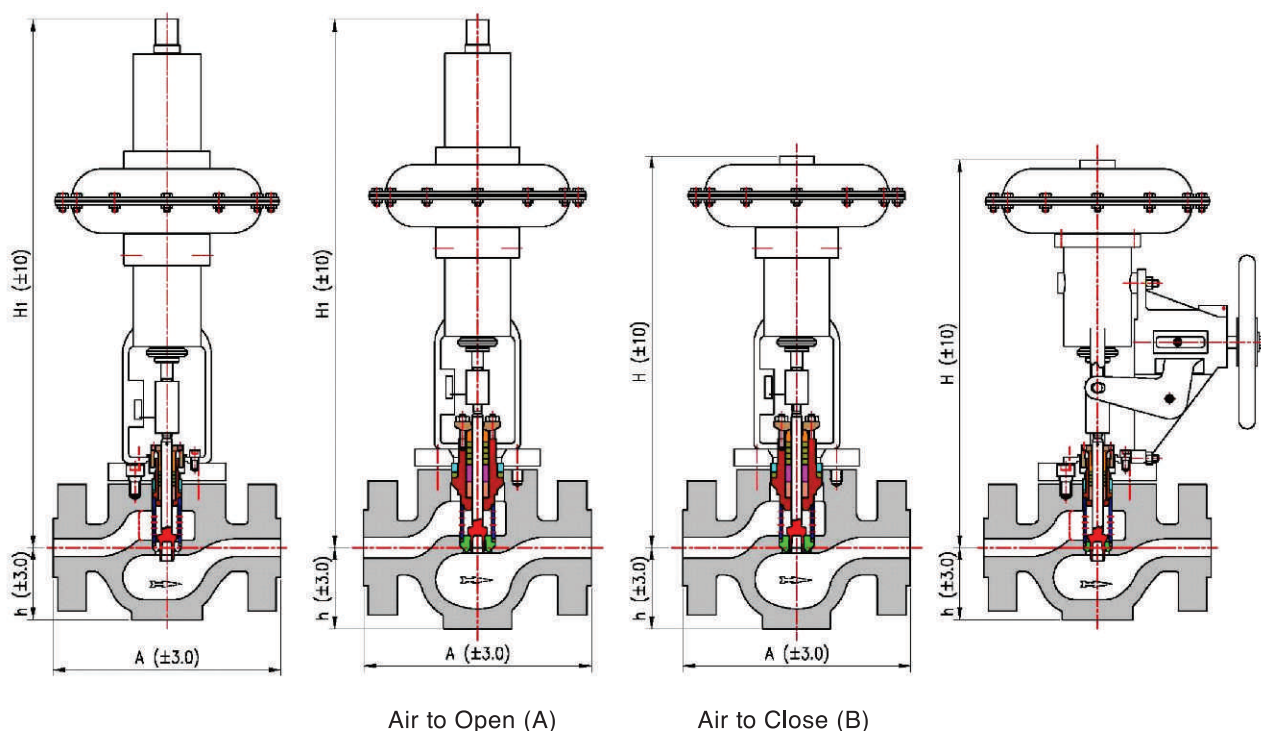
* For standard delivery, other Kv on request.
Remark: Other Sizes Up On Request

Certificates And Approvals

- IBR Stamping form IIIC
- Material Test Certificates
- Hydro Test Certificate for pressure parts
- RT (Radiography Test) reports for welded joints
- PED Certification on request
- CE Marking on request
- Double PP marking on request
- NB stamping on request
- R stamping on request
- ASME Stamping on request

Dimensions

Table 3 (Dimensions are in mm.)



Flanged ends *

Size		150#			300#			600#			900#			1500#			2500#		
mm	Inches	A	H1	h	A	H1	h	A	H1	h	A	H1	h	A	H1	h	A	H1	h
25	1	184	736	65	197	736	65	210	736	65	292	736	97	292	736	97	318	736	97
40	1.5	222	896	73	235	896	93	251	896	93	333	896	122	333	896	122	381	896	122
50	2	254	925	96	267	925	110	286	925	110	375	925	135	375	925	135	400	925	142
80	3	298	908	113	318	908	120	337	908	120	441	933	185	460	933	172	660	936	190

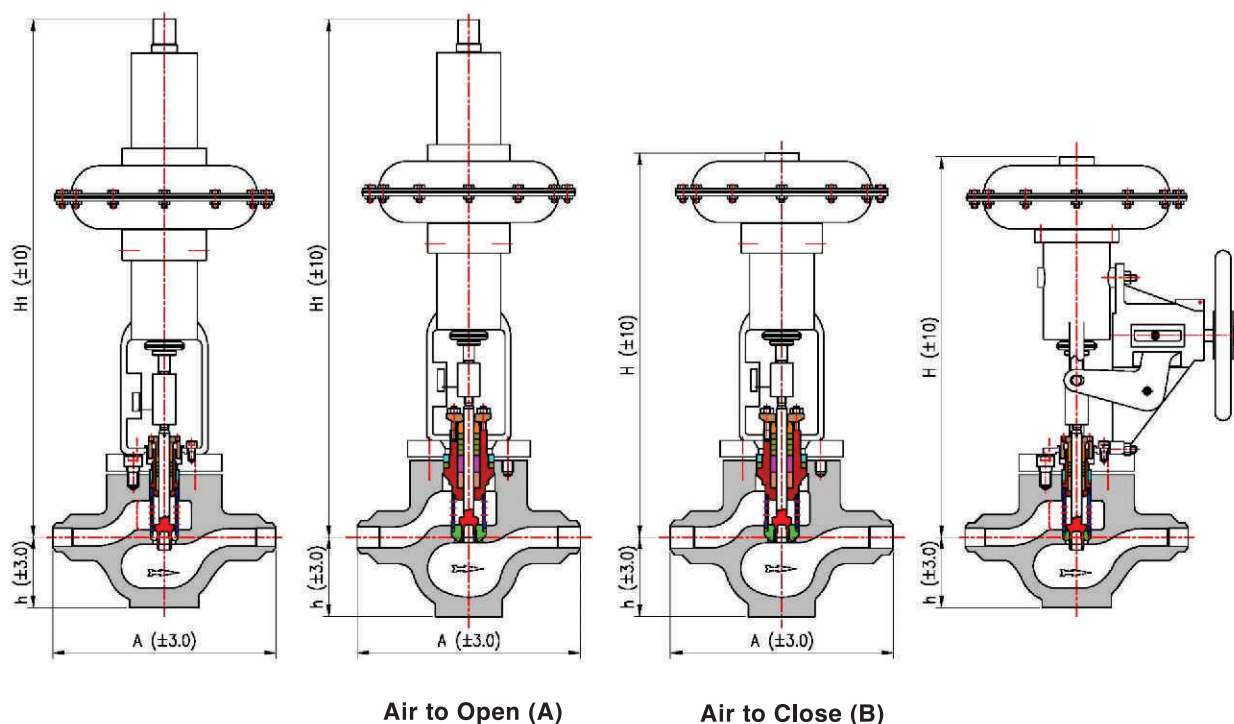
Size		150#			300#			600#			900#			1500#			2500#		
mm	Inches	A	H1	h	A	H1	h	A	H1	h	A	H1	h	A	H1	h	A	H1	h
25	1	184	709	65	197	709	65	210	709	65	292	709	97	292	709	97	318	709	97
40	1.5	222	729	73	235	729	93	251	729	93	333	729	122	333	729	122	381	729	122
50	2	254	758	96	267	758	110	286	758	110	375	758	135	375	758	135	400	758	142
80	3	298	741	113	318	741	120	337	741	120	441	766	185	460	766	172	660	769	190

*Remark: other sizes up on request

Note: H1 and H are based on standard Actuators.

Dimensions

Table 3 (Dimensions are in mm.)



Buttweld ends *

A

Size		150#			300#			600#			900#			1500#			2500#		
mm	Inches	L	H1	h	L	H1	h	L	H1	h	L	H1	h	L	H1	h	L	H1	h
25	1	184	736	65	197	736	65	210	736	65	292	736	97	292	736	97	318	736	97
40	1.5	222	896	73	235	896	93	251	896	93	333	896	122	333	896	122	381	896	122
50	2	254	925	96	267	925	110	286	925	110	375	925	135	375	925	135	400	925	142
80	3	298	908	113	318	908	120	337	908	120	441	933	185	460	933	172	660	936	190

B

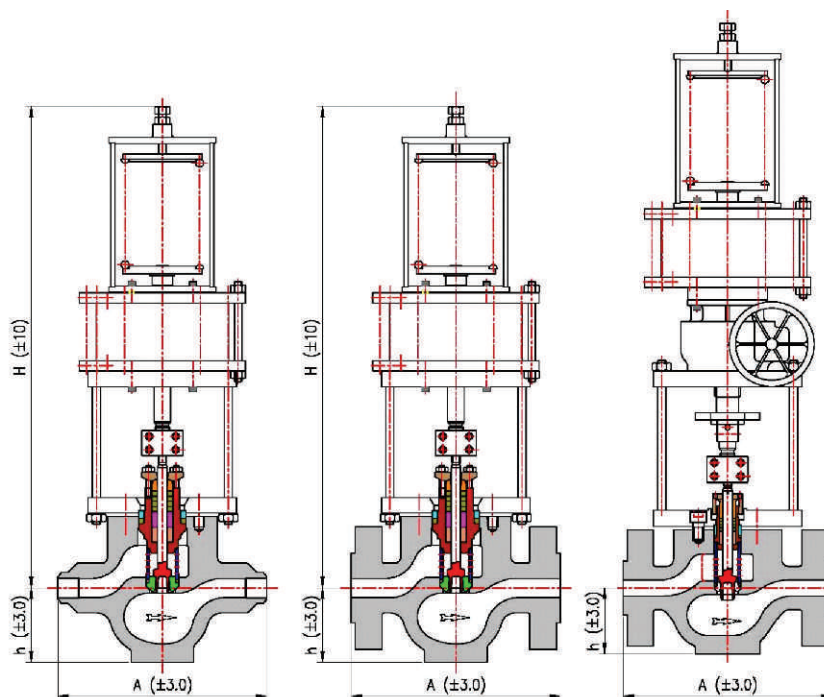
Size		150#			300#			600#			900#			1500#			2500#		
mm	Inches	L	H1	h	L	H1	h	L	H1	h	L	H1	h	L	H1	h	L	H1	h
25	1	184	709	65	197	709	65	210	709	65	292	709	97	292	709	97	318	709	97
40	1.5	222	729	73	235	729	93	251	729	93	333	729	122	333	729	122	381	729	122
50	2	254	758	96	267	758	110	286	758	110	375	758	135	375	758	135	400	758	142
80	3	298	741	113	318	741	120	337	741	120	441	766	185	460	766	172	660	769	190

*Remark: other sizes up on request

Note: H1 and H are based on standard Actuators.

Dimensions

Table 3 (Dimensions are in mm.)



Flanged ends *

Size		150#			300#			600#			900#			1500#			2500#		
mm	Inches	A	H	h	A	H	h	A	H	h	A	H	h	A	H	h	A	H	h
25	1	184	667	65	197	667	65	210	667	65	292	667	97	292	667	97	318	667	97
40	1.5	222	731	73	235	731	93	251	731	93	333	731	122	333	731	122	381	731	122
50	2	254	759	96	267	759	110	286	759	110	375	759	135	375	759	135	400	759	142
80	3	298	764	113	318	764	120	337	764	120	441	764	185	460	764	172	660	764	190
100	4	352	1238	172	368	1238	207	394	1238	207	511	1238	170	530	1238	217	575	1238	231
150	6	451	1380	212	473	1380	275	508	1380	275	714	1380	296	768	1380	295			
200	8	543	1450	311	568	1450	311	610	1450	311	914	1450	400	972	1450	400			
250	10	673	1550	363	708	1550	278	752	1550	340	991	1550	400	1067	1550	400			

Buttweld ends *

Size		150#			300#			600#			900#			1500#			2500#		
mm	Inches	A	H	h	A	H	h	A	H	h	A	H	h	A	H	h	A	H	h
25	1	184	667	65	197	667	65	210	667	65	292	667	97	292	667	97	318	667	97
40	1.5	222	731	73	235	731	93	251	731	93	333	731	122	333	731	122	381	731	122
50	2	254	759	96	267	759	110	286	759	110	375	759	135	375	759	135	400	759	142
80	3	298	764	113	318	764	120	337	764	120	441	764	185	460	764	172	660	764	190
100	4	352	1238	172	368	1238	207	394	1238	207	511	1238	170	530	1238	217	575	1238	231
150	6	451	1380	212	473	1380	275	508	1380	275	714	1380	296	768	1380	295			
200	8	543	1450	311	568	1450	311	610	1450	311	914	1450	400	972	1450	400			
250	10	673	1550	363	708	1550	278	752	1550	340	991	1550	400	1067	1550	400			

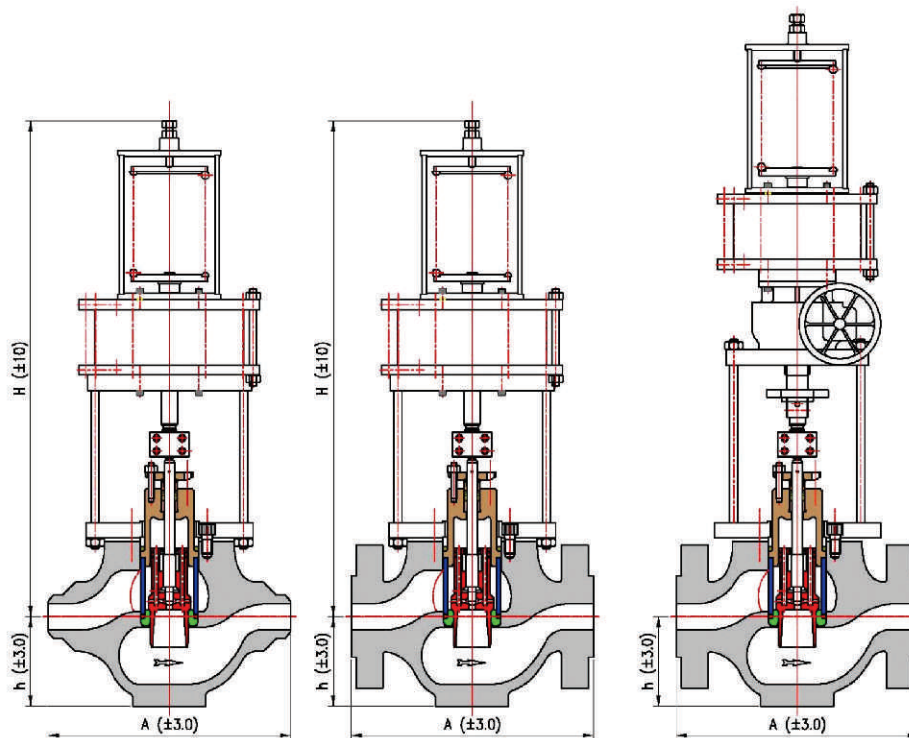
*Remark: other sizes up on request

Note

- H is based on standard Actuators.
- H and wheels on actuator up on request.

Dimensions

Table 3 (Dimensions are in mm.)



Flanged ends *

Size		150#			300#			600#			900#			1500#			2500#		
mm	Inches	A	H	h	A	H	h	A	H	h	A	H	h	A	H	h	A	H	h
80	3	298	764	113	318	764	120	337	764	120	337	764	120	441	764	185	660	764	190
100	4	352	1238	172	368	1238	207	394	1238	207	394	1238	207	511	1238	170	575	1238	231
150	6	451	1380	212	473	1380	275	508	1380	275	508	1380	275	714	1380	296			
200	8	543	1450	311	568	1450	311	610	1450	311	610	1450	311	914	1450	400			
250	10	673	1550	363	708	1550	278	752	1550	340	752	1550	340	991	1550	400			

Buttweld ends *

Size		150#			300#			600#			900#			1500#			2500#		
mm	Inches	A	H	h	A	H	h	A	H	h	A	H	h	A	H	h	A	H	h
50	2	254	759	96	267	759	110	286	759	110	375	759	135	375	759	135	400	759	142
80	3	298	764	113	318	764	120	337	764	120	441	764	185	460	764	172	660	764	190
100	4	352	1238	172	368	1238	207	394	1238	207	511	1238	170	530	1238	217	575	1238	231
150	6	451	1380	212	473	1380	275	508	1380	275	714	1380	296	768	1380	295			
200	8	543	1450	311	568	1450	311	610	1450	311	914	1450	400	972	1450	400			
250	10	673	1550	363	708	1550	278	752	1550	340	991	1550	400	1067	1550	400			

*Remark: other sizes up on request

Note : H is based on standard Actuators.

Construction

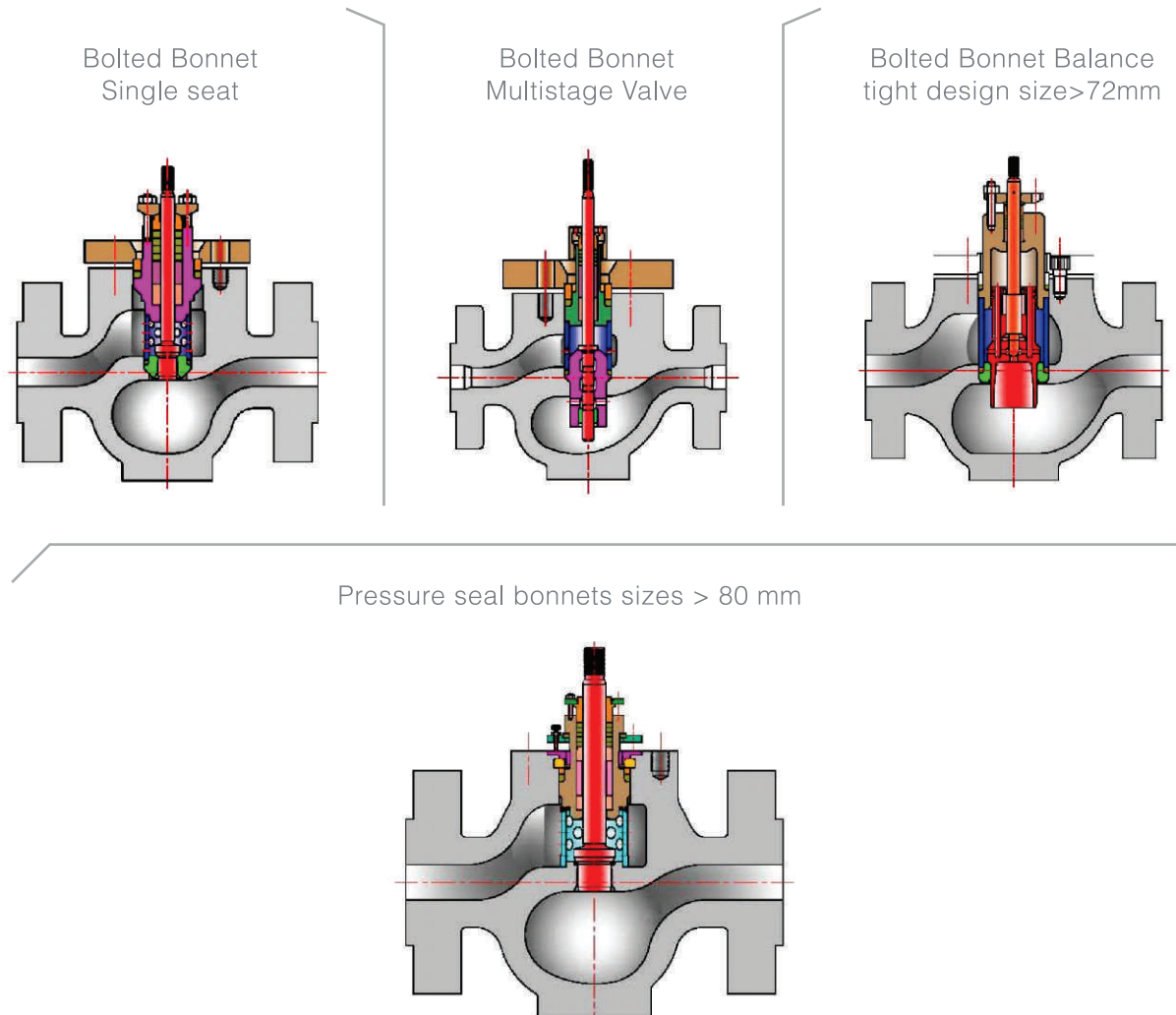


Fig. 3 Control valve schematic cross section view

Model Decodification

Model codification for MCV, CKG 1000, CKG 2000, CKG3000 Valves

	CKG1000	80	300	I	40
Series	MCV CKG 1000 CKG 2000 CKG 3000				
Valve Size		(80)			
Rating			(300)		
Bonnet	Pressure Seal			h	
	Bolted			I	
Seat Diameter					(40)

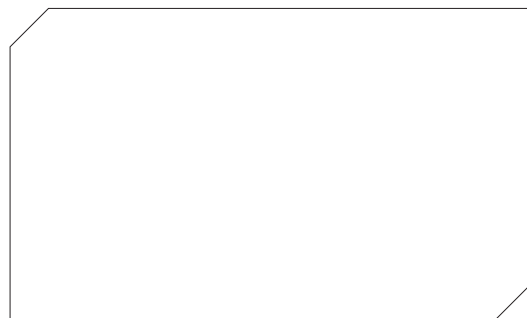
*Our systems are produced according to Indian, American or European codes and standards
Specifications and data subject to change as per our policy to upgrade and improve specifications*

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