

From Monitoring to Management of Processes, Utilities and Environment

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 paramteres
- Optional certification from PED, CE, U PP, ASME etc. on request.

Technical Data

Sizes From 1" - 12" (DN 25 - DN 300)

Pressure ClassASME 150, 300 Class to 2500 ClassControl RangeDepends 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 materialSee table 1ConnectionSee table 3DimensionSee table 3

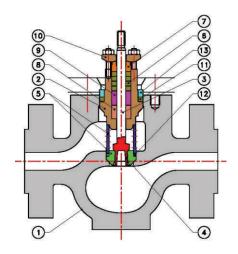
Industries

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



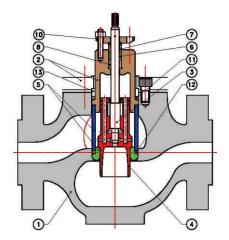
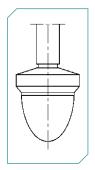


Table 1 - Typical material specification of main components (Customer's requirements and operating conditions may determine the use of different materials)

Sr. No.	Part Nam	е	Grade	Description
		≤ 425° C	SA 216 Gr. WCB	Carbon Steel
1 & 2	Body & Bonnet	≤ 540° C	SA 217 Gr. WC6	Low alloy steel
	Borniot	≤ 560° 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	e / Seat	DIN 1.4122 Plasma Nitrided / A182 F11 / F22 Stellited	Martensitic stainless steel / Low alloy steel
6	Gland Pac	king	Grafoil	
7	Gland bus	sh	DIN 1.4122 Plasma Nitrided	Martensitic stainless steel
8	Bottom gu	iide	DIN 1.4122 Plasma Nitrided	Martensitic stainless steel
9	Top guide		DIN 1.4122 Plasma Nitrided	Martensitic stainless steel
10	Gland follo	ower	DIN 1.4122 Plasma Nitrided	Martensitic stainless steel
11	Bonnet Se	al	Grafoil	
12	Seat rings		Grafoil	
13	Bonnet Ri	ng	SA182 F11 / SA182 F22	Low alloy steel

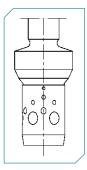
^{*} Materials are for standard delivery, other material on request

Possible Plug Configurations



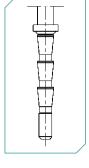
Plug for any characteristic CKG-1000 Series Parabolic plug

- 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 MC	V - Micro	o Cv va	alves														
Kv m³/h		0.05	0.07	0.08	0.10	0.1	2 0.1	4 (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			-	0.19			0.26	0.70	0.13	+	17	1.40
Seat Dia		9	9	9	9	9	9	,	12	1	2	12	16	16	-	6	18
Size Inc	hes, mm						1:	2								8	
1"	25	•	•	•	•	•	•		•	-	•	•	•	•		•	•
1.5"	40	•	•	•	•	•	•		•		•	•	•	•		•	•
B Se	ries CK(G 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	6.0	0 7	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	7.0	3 0	3.40	10.50
Seat Dia	a. mm	18	18	18	18	18	18	18	1	8	18	18	18	18		18	18
Size Inc	hes, mm							25	2	:5	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	28.0	0 30.0	0 35.0	00 3	6.00	45.00
Cv USG	i/min	13.10	14.00	14.60	16.30	17.55	21.00	23.4	26	.30	28.00	33.0	0 35.0	0 41.0	0 4	2.00	52.00
Seat Dia	a. mm	36	36	36	36	36	36	36	3	6	36	50	50	50		50	50
Size Inc	hes, mm	36	50	50	50	50	50	50	5	0	50						
1"	25																
1.5"	40	•	•	•	•	•	•	•	•	•	•						
2"	50	•	•	•	•	•	•	•	•	•	•	•	•	•		•	•
Kv m³/h		22.50) 24	1.00	28.00	30.0	00	35.00	3	36.00) 4	3.00	45.0	00	60.00		75.00
Cv USG	*	26.30	_	3.00	33.00	35.0	_	41.00	4	12.00) 5	0.00	52.0		70.00		88.00
Seat Dia		36		50	50	50)	50		50		50	50)	72	_	72
	hes, mm	50														_	
3"	80	•		•	•	•		•		•		•	•		•	_	•
4"	100							•		•		•	•		•	_	•
6"	150														•		•
8"	200																
10"	250																
12"	300																
K., pa3#-		06.0	10	4.00	172.00	045	00 0	75.00		240.0	2 4	30.00	FOE	0	300 C		860.0
Kv m³/h	Imin	96.0			172.00	215		275.00	_	340.0	_	30.00	535		690.0	_	860.0
Cv USG		112.0 72		5.00	201.00	251 10		321.00 112	_	125		03.00	626 16		307.0 180		1006.0 200
Seat Dia	a. mm hes, mm	12		50	90	10	U	112		125		140	10	J	100		200
3"	80	•		•													
4"	100	•		•	•	•											
6"	150	•		•	•			•		•		•					
8"	200			•	•			•		•		•	•				
10"	250				•	•		•		•		•	•		•		
10	200							_		-							
12"	300									•		•					

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

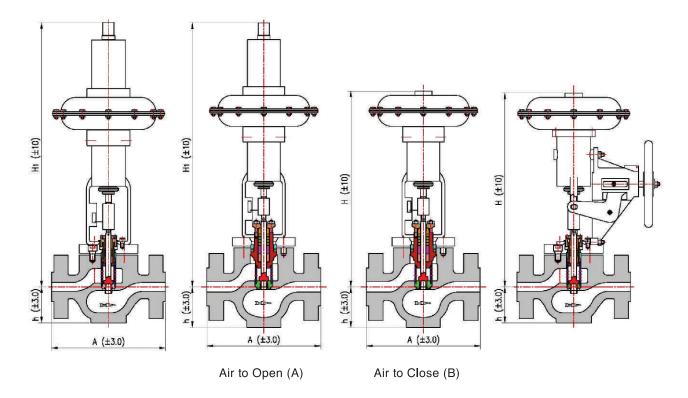


Certificates And Approvals

- 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.)



Fla	inged ei	nds *																	
5	Size		150#			300#			600#		900#			-	1500#	!	2500#		
mm	Inches	Α	H1	h	Α	H1	h	Α	H1	h	Α	H1	h	Α	H1	h	Α	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
	_		000	110	010	000	120	007	300	120	771	300	100	100	000	172	000	000	100
9	Size		150#	110	010	300#	120	007	600#	120		900#	100		1500#			2500#	
mm	Size	A		h	A		h	A		h			h						
_			150#			300#			600#			900#			1500#	<u>!</u>	2	2500#	
mm		Α	150# H1	h	A	300# H1	h	Α	600# H1	h	Α	900# H1	h	A	1500# H1	h	A	2500# H1	h
mm 25	Inches	A 184	150# H1 709	h 65	A 197	300# H1 709	h 65	A 210	600# H1 709	h 65	A 292	900# H1 709	h 97	A 292	1 500# H1 709	h 97	A 318	2 500# H1 709	h 97

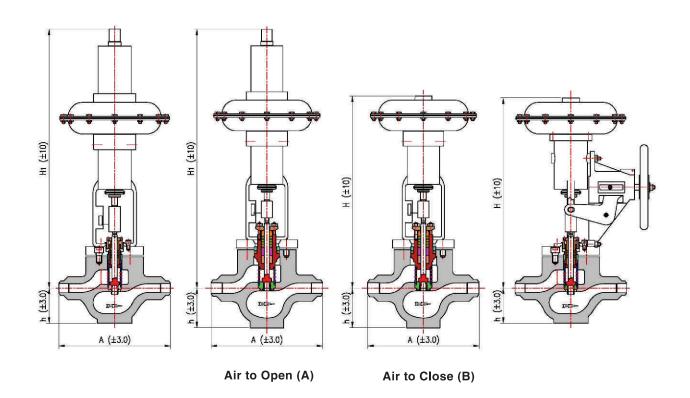
*Remark: other sizes up on request

Note: H1 and H are based on standard Actuators.



Dimensions

Table 3 (Dimensions are in mm.)



Bu	ttweld e	nds '	k						A										
9	Size		150#			300#		600#			900#			1500#			:	:	
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
									В										
9	Size		150#			300#			B 600#			900#			1500#	<u>.</u>		2500#	:
mm	Size Inches	L	150# H1	h	L	300# H1	h	L		h	L	900# H1	h	L	1500# H1	h	L	2500# H1	h
		L 184		h 65			h 65	L 210	600#	h 65	L 292		h 97				L 318		
mm	Inches	L 184 222	H1		L	H1		L	600# H1		L 292 333	H1		L	H1	h	L	H1	h
mm 25	Inches		H1 709	65	L 197	H1 709	65	L 210	600# H1 709	65		H1 709	97	L 292	H1 709	h 97	L 318	H1 709	h 97
mm 25 40	Inches 1 1.5	222	H1 709 729	65 73	L 197 235	H1 709 729	65 93	L 210 251	600# H1 709 729	65 93	333	H1 709 729	97 122	L 292 333	H1 709 729	h 97 122	L 318 381	H1 709 729	h 97 122

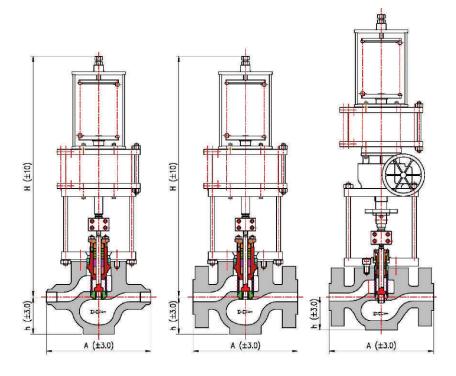
*Remark: other sizes up on request

Note: H1 and H are based on standard Actuators.



Dimensions

Table 3 (Dimensions are in mm.)



Fla	anged ei	nds *																	
	Size		150#			300#			600#			900#			1500#		:	2500#	
mm	Inches	Α	Н	h	Α	Н	h	Α	Н	h	Α	Н	h	Α	Н	h	Α	Н	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			
Вι	ıttweld e	ends	*																
	ittweld e Size	ends	150#			300#			600#			900#			1500#	-		2500#	
		ends '		h	Α	300# H	h	A	600# H	h	A	900# H	h	A	1500# H	h	A	2500# H	h
	Size		150#	h 65			h 65			h 65	A 292		h 97						
mm	Size	Α	150# H		Α	Н		Α	Н			Н		Α	Н	h	Α	Н	h
mm 25	Size Inches	A 184	150# H 667	65	A 197	H 667	65	A 210	H 667	65	292	H 667	97	A 292	H 667	h 97	A 318	H 667	h 97
mm 25 40	Size Inches 1	A 184 222	150# H 667 731	65 73	A 197 235	H 667 731	65 93	A 210 251	H 667 731	65 93	292 333	H 667 731	97 122	A 292 333	H 667 731	h 97 122	A 318 381	H 667 731	h 97 122
mm 25 40 50	Size Inches 1 1.5 2	A 184 222 254	150# H 667 731 759	65 73 96	A 197 235 267	H 667 731 759	65 93 110	A 210 251 286	H 667 731 759	65 93 110	292 333 375	H 667 731 759	97 122 135	A 292 333 375	H 667 731 759	h 97 122 135	A 318 381 400	H 667 731 759	h 97 122 142
mm 25 40 50 80	Inches 1 1.5 2 3	A 184 222 254 298	150# H 667 731 759	65 73 96 113	A 197 235 267 318	H 667 731 759 764	65 93 110 120	A 210 251 286 337	H 667 731 759 764	65 93 110 120	292 333 375 441	H 667 731 759 764	97 122 135 185	A 292 333 375 460	H 667 731 759 764	h 97 122 135 172	A 318 381 400 660	H 667 731 759 764	h 97 122 142 190
mm 25 40 50 80 100	Inches 1 1.5 2 3 4	A 184 222 254 298 352	150# H 667 731 759 764 1238	65 73 96 113 172	A 197 235 267 318 368	H 667 731 759 764 1238	65 93 110 120 207	A 210 251 286 337 394	H 667 731 759 764 1238	65 93 110 120 207	292 333 375 441 511	H 667 731 759 764 1238	97 122 135 185 170	A 292 333 375 460 530	H 667 731 759 764 1238	h 97 122 135 172 217	A 318 381 400 660	H 667 731 759 764	h 97 122 142 190

^{*}Remark: other sizes up on request

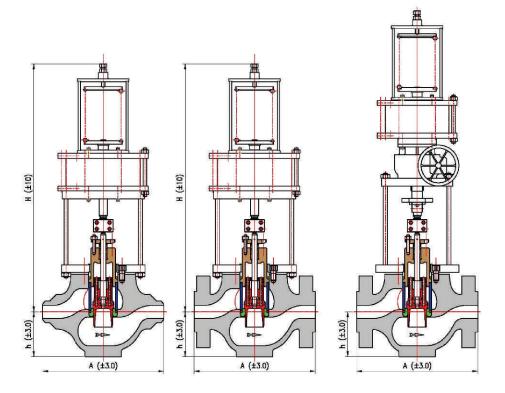
Note • H is based on standard Actuators.

[•] H and wheels on actuator up on request.



Dimensions

Table 3 (Dimensions are in mm.)



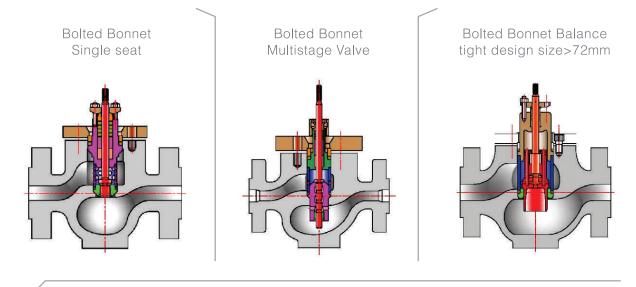
Fla	anged e	ends	*																
9	Size		150#			300#			600#			900#		-	1500#		:	2500#	
mm	Inches	Α	Н	h	Α	Н	h	Α	Н	h	Α	Н	h	Α	Н	h	Α	Н	h
80	3	298	764	113	318	764	120	337	764	120	337	764	120	441	764	185	660	764	190
100	4	352	1238	172	368	1238	207	394	1238	207	394	1238	207	511	1238	170	575	1238	231
150	6	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			
B.	ittweld	onde	*																
יים	ittweia	enus	•																
	Size	enus	150#			300#			600#			900#			1500#			2500#	
		A		h	Α	300# H	h	A	600# H	h	Α	900# H	h	A	1500# H	h	A	2500# H	h
	Size		150#	h	Α		h	Α		h	Α		h						
	Size		150#	h 96	A 267		h 110	A 286		h 110	A 375		h 135						
mm	Size	Α	150# H			Н			Н			Н		Α	Н	h	Α	Н	h
mm 50	Size Inches	A 254	150# H 759	96	267	759	110	286	759	110	375	759	135	A 375	759	h 135	A 400	H 759	h 142
50 80	Inches 2 3	A 254 298	150# H 759 764	96 113 172	267 318	759 764	110	286 337	759 764	110 120	375 441	759 764	135 185	A 375 460	759 764	h 135 172	A 400 660	759 764	h 142 190
50 80	Inches 2 3 4	A 254 298 352	150# H 759 764 1238	96 113 172 212	267 318 368	759 764 1238	110 120 207	286 337 394	759 764 1238	110 120 207	375 441 511	759 764 1238	135 185 170	375 460 530	759 764 1238	h 135 172 217	A 400 660	759 764	h 142 190

*Remark: other sizes up on request

Note: H is based on standard Actuators.



Construction



Pressure seal bonnets sizes > 80 mm

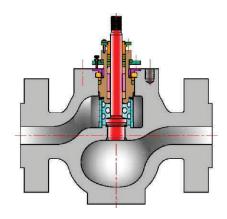


Fig. 3 Control valve schematic cross section view

Model Decodification

Model codification for MCV, CKG 1000, CKG 2000, CKG3000 Valves CKG1000 40 MCV Series CKG 1000 CKG 2000 CKG 3000 Valve Size (80)Rating (300)Pressure Seal h Bonnet Bolted 1 (40)Seat Diameter



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

Chemtrols Industries Ltd.

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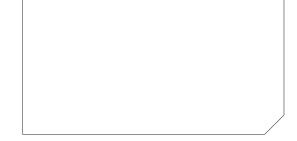
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