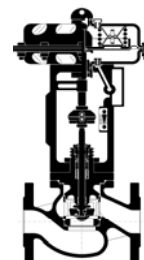


Technical Data Sheet ECOTROL® Control Valve



TD_6H

General Data

Series	6H
Nominal Size DN / NPS	(15) 25-200 / (1/2") 1"-8"
Nominal Pressure PN / ANSI	63-250 / Class 600-1500
Characteristic	equal perc. or linear
Rangeability	40:1
Plug guide	stem guided, option: double guided (retrofit able)
Seat leakage	metal sealing: IEC 50534-4 leakage class IV (0,01% kVs-value); option leakage class V soft sealing (IEC 50534-4 leakage class VI soft sealing on request)
Bellow sealing (option)	seamless, multiple layers, made of 1.4571, option: Hastelloy and other materials
Heating jacket (option)	Connections DN 15 PN 40 (1/2" ANSI 300) flanges
Low temperature design (option)	Down to -196°C

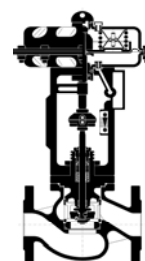
Materials

Body materials		EN	Temperature range	ASTM	Temperature range	
		1.0619 GP240GH*	-10 to 400°C	A 216 WCB*	-29°C to 400°C	
		1.4408 G-X 5 CrNiMo 19 11 2	-196 to 400°C	A 351 CF8M*	-196°C to 400°C	
		1.4581 GX5CrNiMoNb 19-11-2*	-10 to 450°C	-	-	
		1.6220 G20Mn5	-40 to 400°C	A 352 LCB	-50°C to 400°C	
		1.6982 GX3CrNi13-4	-120 to 400°C	-	-	
		1.7357 G17CrMo5-5	-10 to 530°C	A 217 WC6	-29°C to 530°C	
Bonnet materials		Same material as body, stuffing box sleeve made of 1.4571 (AISI 316TI)				
Trim material						
Material No.	Parabolic Plug	Perforated plug L1	Seat	Seat sealing	Max. fluid temperature	
1	1.4122*	1.4122 nitrided	1.4021*	metallic	same as stem sealing	
2	1.4571*	1.4571 nitrided	1.4571*	metallic	same as stem sealing	
3	1.4112 hardened	1.4112 hardened	1.4112 hardened	metallic	same as stem sealing	

* Standard



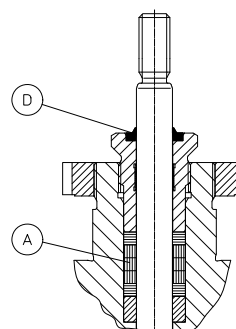
Technical Data Sheet ECOTROL® Control Valve



TD_6H

Temperature range for stem sealings

Sealing type	Packing ring (Item A)	Wiper ring (Item D)	Temp. range	Top flange design	Remarks
adjustable	reinforced Graphite/ Inconel	NBR (FKM)	-29 ~ 400°C	Standard/ cooling fins	Standard operation
adjustable	Pure Graphite	VITON	-29 ~ 530°C	Standard/ cooling fins	High temperature
adjustable	Braided Graphite/PTFE	NBR	-196 ~ 200°C	Extended bonnet	Low temperature
Bellow sealing c/w double safety sealing	PTFE V-Ring bellow (1.4571 or Hastelloy C)	NBR (FKM)	-100 ~ 200°C	Bellow sealing	preloaded c/w stainless steel spring

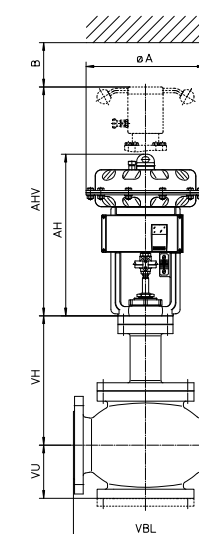
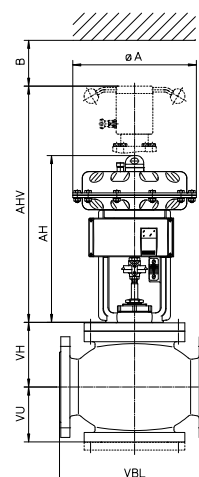


Weights and dimensions

Weights and dimensions											
Dimensions (in mm) for valve c/w flanges acc. to DIN EN 1092-1 or ANSI Class 600/900/1500 RF/RTJ											
Valve Series 6H	DN ANSI NPS		15** ½"	25 1"	40 1 ½"	50 2"	80 3"	100 4"	150 6"	200 8"	
	VBL PN63/100/160			230	260	300	380	430	550	700	
	VBL PN250			260	300	350	450	520	700	800	
	VBL Class 600 RF			216	241	292	356	432	559	660	
	VBL Class 600 RTJ			216	241	295	359	435	562	664	
	VBL Class 900 RF			254	305	368	381	457	610	737	
	VBL Class 900 RTJ			254	305	372	384	460	613	740	
	VBL Class 1500 RF			254	305	368	470	546	705	832	
	VBL Class 1500 RTJ			254	305	372	473	549	711	842	
	VH	DEK1		135	160	190	250	275	335	410	
		DEK2		170	240	270	315	355	490	480	
		DEK3		170	240	270	315	355	490	480	
		DEK4		on request							
		DEK5									
DEK7						250	285	335	410		
VU	DEK8						315	355	490	480	
	3-Flansch			70	105	115	155	180	230	275	
	4-Flansch					175	235	265	315	410	
Actuator Type 812/811/MA	ØA	MFI		270							
		MFIII				400					
		UV							530		
		MA.60							596		
	AH	MFI		361							
		MFIII				489			625		
		UV							1006		
		MA.60							840		
	AHV	MFI		508							
		MFIII				657			888		
		UV							1323		
		B		130		150			200		
	Weight* ca. kg	MFI			34	42	72	101	136		
		MFIII			60	68	98	127	210	430	607
		UV							475	645	
		MA.60							550	750	

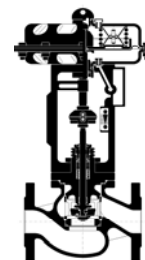
*) Weight: Valve c/w actuator w/o hand wheel

**) on request



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Technical Data Sheet ECOTROL® Control Valve

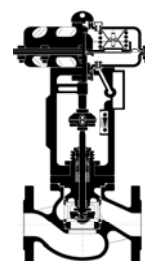


TD_6H

Standard kVs/ Cvs and seat diameters of series 6H (not balanced)

DN/NPS	Seat-Ø (mm)	Characteristics	kVs [m³/h]		Cvs [gal/min]	
			Parabolic plug	Perforated plug	Parabolic plug	Perforated plug
25 1"	16	= %	4	-	4,7	-
		linear		-		-
	19	= %	7	4	8,2	4,7
		linear		4		4,7
40 1 ½"	24	= %	11	7	12,9	8,2
		linear		10		11,7
	32	= %	18	13	21,1	15,2
		linear		18		21,1
50 2"	37	= %	26	16	30,4	18,7
		linear		26		30,4
	48	= %	43	35	50,3	41
		linear		43		50,3
80 3"	48	= %	43	38	50,3	44,5
		linear		55		64,4
	62	= %	68	43	79,6	50,3
		linear		60		70,2
100 4"	73	= %	100	55	117	64,4
		linear		80		93,6
	90	= %	150	68	175,5	79,6
		linear		110		128,7
150 6"	90	= %	150	125	175,5	146,3
		linear		170		198,9
	113	= %	260	150	304,2	175,5
		linear		260		304,2
200 8"	143	= %	380	210	444,6	245,7
		linear		380		444,6
	172	= %	650	260	760,5	304,2
		linear		450		526,5

Technical Data Sheet ECOTROL® Control Valve



TD_6H

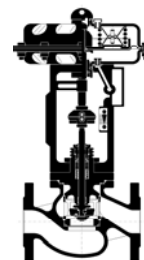
Max. shut off differential pressure (valve closed)
(Standard packing, leakage class IV, w/o balancing¹⁾, flow-to open)

Actuator series 812 (multi-spring actuator)			Air to open / spring to close No. of springs				Air to close / spring to open No. of springs				
			3	6	9	12	3	3	3	6	6
DN	Actuator size	Seat-Ø (mm)	bar				p instrument air min. [bar]				
							3,0	4,5	6,0	4,5	6,0
25 1"	MFI-20 320 cm² 50 in²	24	27,0	80,1			80,1	160,0	160,0	80,1	160,0
		19	45,9	130,6			130,6	160,0	160,0	130,6	160,0
		16	67,1	160,0			160,0	160,0	160,0	160,0	160,0
40 1 ½"	MFI-20 320 cm² 50 in²	37	9,5	31,8			31,8	76,4	121,1	31,8	76,4
		32	13,6	43,5			43,5	103,2	160,0	43,5	103,2
		24	27,0	80,1			80,1	160,0	160,0	80,1	160,0
50 2"	MFI-30 320 cm² 50 in²	48	4,7	17,9			17,9	44,5	71,0	17,9	44,5
		37	9,5	31,8			31,8	76,5	121,1	31,8	76,4
		32	13,6	43,5			43,5	103,2	160,0	43,5	103,2
	MFIII-30 720 cm² 111 in²	48	19,1	46,7	63,3	79,9	51,1	110,8	160,0	51,1	110,8
		37	33,7	80,2	108,1	136,0	87,6	160,0	160,0	87,6	160,0
		32	46,0	108,2	145,5	160,0	118,2	160,0	160,0	118,2	160,0
80 3"	MFI-30 320 cm² 50 in²	73	1,1	6,8			6,8	18,3	29,8	6,8	18,3
		62	2,1	10,0			10,0	25,9	41,8	10,0	25,9
		48	4,7	17,9			17,9	44,5	71,0	17,9	44,5
	MFIII-30 720 cm² 111 in²	73	7,3	19,3	26,4	33,6	21,2	47,0	72,8	21,2	47,0
		62	10,7	27,3	37,2	47,1	29,9	65,7	101,5	29,9	65,7
		48	19,1	46,7	63,3	79,9	51,1	110,8	160,0	51,1	110,8
100 4"	MFI-30 320 cm² 50 in²	90	0,3	4,1			4,1	11,6	19,2	4,1	11,6
		73	1,1	6,8			6,8	18,3	29,8	6,8	18,3
		62	2,1	10,0			10,0	25,9	41,8	10,0	25,9
	MFIII-30 720 cm² 111 in²	90	4,4	12,2	17,0	21,7	13,5	30,5	47,5	13,5	30,5
		73	7,3	19,3	26,4	33,6	21,2	47,0	72,8	21,2	47,0
		62	10,7	27,3	37,2	47,1	29,9	65,7	101,5	29,9	65,7
150 6"	MFIII-60 720 cm² 111 in²	143	1,2	4,3	6,2	8,1	4,8	11,6	18,3	4,8	11,6
		113	2,4	7,4	10,4	13,4	8,2	19,0	29,8	8,2	19,0
		90	4,4	12,2	17,0	21,7	13,5	30,5	47,5	13,5	30,5
200 8"	MFIII-60 720 cm² 111 in²	172	0,6	2,8	4,1	5,4	3,1	7,8	12,4	3,1	7,8
		143	1,2	4,3	6,2	8,1	4,8	11,6	18,3	4,8	11,6
		113	2,4	7,4	10,4	13,4	8,2	19,0	29,8	8,2	19,0

Actuator series 811 (single-spring actuator, adjustable)			Air to open -spring to close spring				Air to close - spring to open spring				
			standard		reinforced		Min.			Max.	
DN	Actuator size	Seat-Ø (mm)	Min.	Max.	Min.	Max.	p instrument air min. [bar]				
			bar	bar	bar	bar	3,0	4,5	6,0	4,5	6,0
150 6"	UV-60 1440 cm² 223 in²	143	-	6,9	-	13,5	18,5	32,0	45,6	22,3	35,8
		113	-	11,5	-	22,1	30,2	51,7	73,5	36,2	57,8
		90	-	18,7	-	35,4	48,1	82,1	116,4	57,7	91,7
200 8"	UV-60 1440 cm² 223 in²	172	-	4,6	-	9,1	12,6	21,9	31,3	15,2	24,5
		143	-	6,9	-	13,5	18,5	32,0	45,6	22,3	35,8
		113	-	11,5	-	22,1	30,2	51,7	73,5	36,2	57,8

¹⁾ For higher differential pressures, balanced trim is required. Please contact us.

Technical Data Sheet ECOTROL® Control Valve

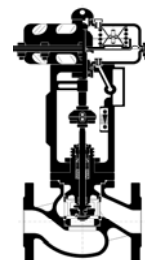


TD_6H

Actuator series MA60 (multi-spring actuator)			Air to open / spring to close No. of springs				Air to close / spring to open No. of springs				
			2	4	6	8	2	2	2	4	4
DN	Actuator size	Seat-Ø (mm)	bar				p instrument air min. [bar]				
							3,0	4,5	6,0	4,5	6,0
150 6"	MA3.60A 2185 cm ² 339 in ²	143	4,3	10,6	16,8	23,0	29,3	41,7	54,2	-	-
		113	7,4	17,4	27,4	37,3	47,3	67,3	87,2	-	-
		90	12,2	28,0	43,7	59,4	75,2	106,6	138,1		
200 8"	MA3.60A 2185 cm ² 339 in ²	172	2,8	7,1	11,4	15,7	20,0	28,6	37,2	-	-
		143	4,3	10,6	16,8	23,0	29,3	41,7	54,2	-	-
		113	7,4	17,4	27,4	37,3	47,3	67,3	87,2	-	-

For higher differential pressures, balanced trim is required. Please contact us.

Technical Data Sheet ECOTROL® Control Valve



TD_6H

ECOTROL® 6H type code

0. Operating Conditions		7. Body materials (cont.)		16. Seat/ plug seal ¹⁾	
Fluid:		6	A216WCB	0	Leakage class IV (metal to metal)
Temp.:	°C	7	A351CF8M	1	Leakage class V (metal, super finished)
Press. P ₁ :	bar abs	8	A217WC6	2*	Soft sealed (PTFE/EPDM)
Press. P ₂ :	bar abs	9	other (in acc. with order)	3*	Soft sealed (PTFE/FKM)
1. Series		8. Guiding ¹⁾		4* Soft sealed (PTFE/ trapezoidal)	
6H		0	Stem guided (standard	9	other (in acc. with order)
2. Bonnet		1	Bottom guided	17. Cage Retainer ¹⁾	
1	Standard	9	other (in acc. with order)	0	Standard
2	Double stuffing box	9. kVs		1	LN (Low Noise), not controlled
3	Cooling fins	xxx	in acc. with order	2	LN controlled
4	Bellows	10. Characteristics		9	other (in acc. with order)
5	Extension (insulating column)	l	Linear	18. Low noise cage ¹⁾	
7	Standard balanced	g	=%	1	LK1
8	Cooling fins balanced	m	modified	2	LK2
9	Special design in acc. with order	s	On/ Off	3	LK3
3. Plug design		11. Plug materials ¹⁾		4	LK4
P1-P3-P5	Parabolic plug (1-3-5 step)	1	1.4571	5	SLK1
L1-L2-L3	Perforated plug (1-2-3 step)	3	1.4112	6	SLK2
S	On/ Off plug	4	1.4122	9	other (in acc. with order)
4. Nominal diameter (DN) – DIN/ ANSI		9	other (in acc. with order)	19. Stem sealing ¹⁾	
25	DN 25 / ANSI 1"	12. Plug wear/ tear protection ¹⁾		1	-
40	DN 40 / ANSI 1 ½"	0	Standard (w/o)	2	-
50	DN 50 / ANSI 2"	1	nitrided	3	Latty 6118/ETF Inconel
80	DN 80 / ANSI 3"	2	hardened	4	Graphite 0901
100	DN 100 / ANSI 4"	3	Plug face stellited	5	Graphite/PTFE 6226/6232
150	DN 150 / ANSI 6"	4	Completely stellited	9	other (in acc. with order)
200	DN 200 / ANSI 8"	5	Colsterised	20. special design	
5. Nominal pressure (PN)		9	other (in acc. with order)	0	Standard
63	PN 63	13. Balancing ¹⁾		1	AD2000
100	PN 100	1	Piston rings	2	NACE
160	PN 160	2	EPDM- quad ring	3	Oxygen design
250	PN 250	3	FKM- quad ring	9	other (in acc. with order)
600	Class 600 acc. to ANSI B16.10	5	PTFE spring loaded	21. Material inspection (pressure retaining parts)	
900	Class 900 acc. to ANSI B16.10	9	other (in acc. with order)	0	w/o
1500	Class 1500 acc. to ANSI B16.10	14. Seat materials		1	EN 10204-2.1
6. Connections		1	1.4571	2	EN 10204-3.1
0	Flanges c/w sealing strip RF SF	3	1.4112	3	EN 10204-3.2
1	Flanges c/w groove	4	1.4122	9	other (in acc. with order))
2	Flanges c/w tongue	9	other (in acc. with order)	22. Final inspection	
3	Flanges c/w projection/ recess	15. Seat wear/ tear protection ¹⁾		0	w/o
4	Butt weld ends	0	standard (w/o)	1	EN 10204-2.1
5	Butt weld ends c/w spool pieces	1	nitrided	2	EN 10204-2.2
7	RTJ	2	hardened	3	EN 10204-3.1
9	other (in acc. with order)	3	Seat face stellited	4	EN 10204-3.2
7. Body materials ¹⁾		4	Completely stellited	9	other (in acc. with order)
2	1.0619	5	Colsterised		
3	1.4581	9	other (in acc. with order)		
4	1.7357				
5	1.6620				

¹⁾ in accordance with customer's specification, or selected by manufacturer in accordance with customer's specification (fluid, pressure, etc.)

Example:

6H1 – P1 – 150 – 40 – 0 – 2 *Position 1-7 / basic data*

Series 6H – c/w standard bonnet – c/w parabolic plug - DN150 – PN40 – flanges acc. to EN1092 B1 – body 1.0619

0 – 260 – g – 1 – 0 – 0 – 1 – 0 – 0 – 0 – 0 – 1 *Position 8-19 / trim*

Single stem guiding – kVs 260 – equal percentage – plug made of 1.4571 – w/o wear/tear protection – w/o balancing – seat made of 1.4571 – w/o wear/ tear protection – leakage class IV – cage retainer standard – w/o low noise cage – stem sealing PTFE-V-Ring/EPDM quad ring

0 – 1 – 1 *position 20-22 / Design/ inspections*

Standard design – Material inspection acc. to EN 10204 3.1 - Final inspection acc. to EN 10204 3.1

