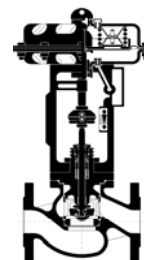


Technical Data Sheet ECOTROL® Control Valve



TD_8C

General Data

Series	8C
Nominal size DN /NPS	15-100 / ½" – 4"
Nominal pressure PN / ANSI	16-40 / Class 150-300
Characteristic	equal percentage or linear
Rangeability	50:1
Plug guide	stem guided option: integrated double guiding (retrofitable) for DN40 - DN100 (1½" - 4")
Seat leakage	metal sealing: IEC 50534-4 leakage rate IV (0.01% Kvs value); option: leakage rate V as well as soft sealing: IEC 50534-4 leakage rate VI
Bellows seal (optional)	seamless, double walled, made of 1.4571; option: Hastelloy and other materials
Heating jacket (optional)	connections DN 15 PN 40 (1/2" ANSI 300) flanges
Low-temperature version (optional)	down to -196°C, with cover flange if required

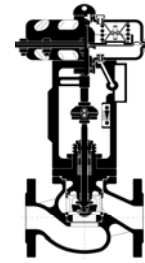
Materials

	EN	for temperatures	ASTM	for temperatures
Body material	1.0619 GP240GH	-10 to 400°C	A 216 WCB	-29°C to 425°C
	1.4408 G-X 5 CrNiMo 19 11 2	-29 to 400°C	A 351 CF8M	-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
	1.6220 G20Mn5	-50 to 345°C	A 352 LCC	-50°C to 345°C
	1.7357 G17CrMo5-5	-10 to 530°C	A 217 WC6	-10°C to 530°C
Bonnet material	≤ DN 65: 1.4408 (A 351 CF8M)			
	≥ DN 80: same material as body, but for body materials 1.0619/ A216WCB, 1.6220/ A352LCC and 1.7357/ A217WC6 c/w stuffing box sleeve made of 1.4571 (AISI 316TI)			

Valve trim materials						
Material no.	Parabolic plug	Double-guided parabolic plug P1 ¹⁾	Perforated plug L1	Seat	Seat seal	Max. medium temperature
1	1.4571	1.4571	-	1.4571	Metal	same as stem seal
2	-	-	1.4571	1.4571 nitrided	Metal	same as stem seal
3	1.4112 hardened	1.4112 hardened	1.4112 hardened	1.4112 hardened	Metal	same as stem seal
4	1.4571	-	-	1.4571	PTFE/FKM	-20 ~ 180°C
5	1.4571	-	-	1.4571	PTFE/EPDM	-29 ~ 140°C
6	1.4571	-	-	1.4571	PTFE	-196 ~ 180°C

1) only as of DN ≥ DN40 (1 ½") with KVs ≥ 25 (Cvs ≥ 29)

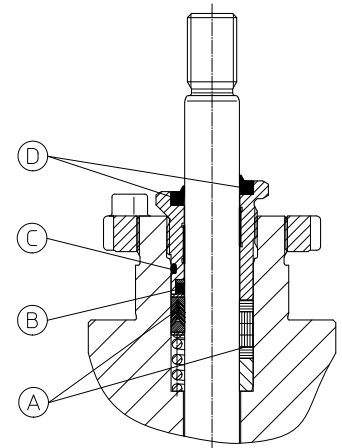
Technical Data Sheet ECOTROL® Control Valve



TD_8C

Temperature range for stem sealing

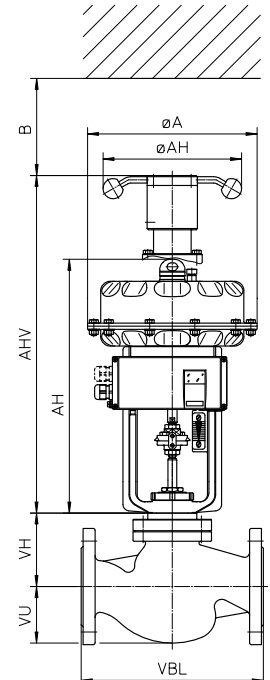
Seal type	Seal (pos. A)	Profile ring (pos. B)	O-ring (pos. C)	Wiper ring (pos. D)	Medium temperature	Bonnet flange	Comments
maintenance-free double seal	PTFE V-ring	EPDM	EPDM	NBR	-29°C~180°C	standard	preloaded with stainless steel spring
maintenance-free double seal	PTFE V-ring	FKM	FKM	NBR	-20°C~200°C	standard	preloaded with stainless steel spring
adjustable	reinforced graphite / Inconel	-	-	NBR	-29°C~400°C	standard/ cooling fins	adjustable
adjustable	pure graphite	-	-	NBR	-29°C~530°C	standard/ cooling fins	adjustable
adjustable	braided graphite / PTFE	-	-	NBR	-196°C~200°C	insulating column	low temperature
Bellow sealing made of 1.4571 or Hastelloy C	PTFE V-ring	EPDM (FKM)	EPDM (FKM)	NBR	-100°C~200°C	bellows	preloaded with stainless steel spring



Weight and dimensions

ECOTROL® globe valve with multi-spring actuator type 812 ARCAPAQ

		Dimensions (in mm) of valves with flanges to DIN EN 1092-1 or ANSI class 150/300 RF/RTJ										
		DN	15	20	25	32	40	50	65	80	100	
		ANSI NPS	1/2"	-	1"	-	1 1/2"	2"	-	3"	4"	
Valve Type 8C		VBL PN16-PN40	130	150	160	180	200	230	290	310	350	
		VBL Class 150 RF	178	-	184	-	222	254	-	298	352	
		VBL Class 150 RTJ	-	-	197	-	235	267	-	311	365	
		VBL Class 300 RF	190	-	197	-	235	267	-	317	368	
		VBL Class 300 RTJ	202	-	210	-	248	282	-	333	384	
		VH	DEK1	114				105			156	181
			DEK3	170				167			248	267
DEK4	228				233			365	389			
DEK5	on request											
DEK7									196	221		
DEK8									261	286		
VU		48	59	62	70	78	83	93	106	136		
Actuator Type 812		ØA	MFI	270						270		
			MFIII							400		
		AH	MFI	346						404		
			MFIII							489		
		AHV	MFI	493						551		
			MFIII							651		
		Weight * approx. kg	MFI	20.5	22.5	23	24	31	33	41,5	70	93
			MFIII								96	119
B		150										

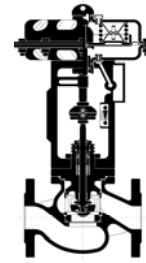


* Weight: valve (DEK1) + actuator without manual operation



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Technical Data Sheet ECOTROL® Control Valve



TD_8C

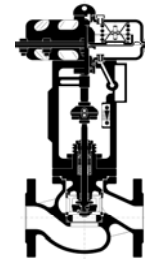
Max. shut off differential pressure in bar (closed position)

ECOTROL® 8C PN16 - PN40 / ANSI Class 150 / ANSI Class 300																			
Valves w/o balancing c/w PTFE-packing / V-Rings, leakage class IV																			
Flow to open (FTO)																			
Actuator series 812										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	Stroke (mm)	Actuator size	P1		L1 lin		L1 =%		Seat-Ø (mm)	bar	bar	bar	bar	P Instrument Air, min (bar)					
			Kv	Cv	Kv	Cv	Kv	Cv						3.0	4.5	6.0	4.5	6.0	
15 1/2"	20	MFI-20 320 cm ² 50 in ²	4.0	4.6	4.0	4.6	4.0	4.6	16	50,0	50,0			50,0	50,0	50,0	50,0	50,0	
			1.6	1.9	-	-	-	-	-	10	50,0	50,0			50,0	50,0	50,0	50,0	50,0
			0.63	0.73	-	-	-	-	-	5	50,0	50,0			50,0	50,0	50,0	50,0	50,0
20	20	MFI-20 320 cm ² 50 in ²	4.0	4.6	4.0	4.6	4.0	4.6	16	50,0	50,0			50,0	50,0	50,0	50,0	50,0	
			1.6	1.9	-	-	-	-	-	10	50,0	50,0			50,0	50,0	50,0	50,0	50,0
			0.63	0.73	-	-	-	-	-	5	50,0	50,0			50,0	50,0	50,0	50,0	50,0
25 1"	20	MFI-20 320 cm ² 50 in ²	10	11.6	10	11.6	8,5	9,9	25	30,3	50,0			50,0	50,0	50,0	50,0	50,0	
			4.0	4.6	4.0	4.6	4.0	4.6	-	16	50,0	50,0			50,0	50,0	50,0	50,0	50,0
			1.6	1.9	-	-	-	-	-	10	50,0	50,0			50,0	50,0	50,0	50,0	50,0
32	20	MFI-20 320 cm ² 50 in ²	10	11.6	10	11.6	8,5	9,9	25	30,3	50,0			50,0	50,0	50,0	50,0	50,0	
			4.0	4.6	4.0	4.6	4.0	4.6	-	16	50,0	50,0			50,0	50,0	50,0	50,0	50,0
			1.6	1.9	-	-	-	-	-	10	50,0	50,0			50,0	50,0	50,0	50,0	50,0
40 1 1/2"	20	MFI-20 320 cm ² 50 in ²	25	29	25	29	18	21	37	12,1	33,3			35,5	50,0	50,0	35,5	50,0	
			16	19	15	17,4	10	11,6	-	30	19,9	50,0			50,0	50,0	50,0	50,0	50,0
			10	11,6	10	11,6	8,5	9,9	-	25	30,3	50,0			50,0	46,7	50,0	50,0	50,0
50 2"	20	MFI-20 320 cm ² 50 in ²	40	46	40	46	20	23	48	6,2	18,8			20,2	50,0	50,0	20,2	46,7	
			25	29	25	29	18	21	-	37	12,1	33,3			35,5	50,0	50,0	35,5	50,0
			16	19	15	17,4	10	11,6	-	30	19,9	50,0			50,0	50,0	50,0	50,0	50,0
65	20	MFI-20 320 cm ² 50 in ²	40	46	40	46	20	23	48	6,2	18,8			20,2	50,0	50,0	20,2	46,7	
			25	29	25	29	18	21	-	37	12,1	33,3			35,5	50,0	50,0	35,5	50,0
			16	19	15	17,4	10	11,6	-	30	19,9	50,0			50,0	50,0	50,0	50,0	50,0
80 3"	30	MFI-30 320 cm ² 50 in ²	100	116	100	116	75	87	80	1,0	5,6			6,1	28,9	25,2	6,1	15,6	
			63	73	63	73	55	64	-	62	2,7	10,2			11,0	46,1	45,9	11,9	28,9
			40	46	40	46	20	23	-	48	5,7	18,3			19,6	39,5	50	19,6	46,1
80 3"	30	MFIII-30 720 cm ² 111 in ²	100	116	100	116	75	87	80	6,0	15,4	21,1	26,8	18,0	50,0	50,0	18,0	39,5	
			63	73	63	73	55	64	-	62	10,9	26,6	36,0	45,5	30,9	50,0	50,0	30,9	50,0
			40	46	40	46	20	23	-	48	19,3	45,6	50,0	50,0	50,0	9,6	50,0	50,0	50,0
100 4"	30	MFI-30 320 cm ² 50 in ²	160	186	140	162	80	93	100	0,3	3,2			3,5	15,6	15,7	3,5	9,6	
			100	116	100	116	75	87	-	80	1,0	5,6			6,1	28,9	25,2	6,1	15,6
			63	73	63	73	55	64	-	62	2,7	10,2			11,0	46,1	45,9	11,9	28,9
		40	46	40	46	20	23	-	48	5,7	18,3			19,6	2,9	50	19,6	46,1	
		160	186	140	162	80	93	-	100	3,4	9,5	13,1	16,7	11,1	39,5	38,6	11,1	24,9	
		100	116	100	116	75	87	-	80	6,0	15,4	21,1	26,8	18,0	50,0	50,0	18,0	39,5	
100 4"	30	MFIII-30 720 cm ² 111 in ²	63	73	63	73	55	64	62	10,9	26,6	36,0	45,5	30,9	50,0	50,0	30,9	50,0	
			40	46	40	46	20	23	-	48	19,3	45,6	50,0	50,0	50,0	9,6	50,0	50,0	50,0
			40	46	40	46	20	23	-	48	19,3	45,6	50,0	50,0	50,0	50,0	50,0	50,0	50,0

Please pay attention to the Pressure/ Temperature rating of the valve body!

For a list of other valve/packing versions, see sizing data sheet AD_8C_gb.

Technical Data Sheet ECOTROL® Control Valve



TD_8C

ECOTROL® 8C model code

0. Operating Conditions		7. Body materials (cont.)		15. Seat wear/ tear protection (cont.)	
Medium:		4	1.7357	5	Colsterised
Temp.:	°C	5	1.6620	9	Acc. to spec.
Press. P ₁ :	bar abs.	6	A216WCB	16. Seat/ Plug seal ¹⁾	
Press. P ₂ :	bar abs.	7	A351CF8M	0	Leakage Class IV metal to metal
P Design	bar g	8	A217WC6	1	Leakage Class V (metal to metal)
T Design	°C	9	Acc. to spec.	2	Leakage Class VI soft sealing PTFE/EPDM
1. Series		8. Guide ¹⁾		3	
8C	Single Seat Globe Control Valve ECOTROL® 8C	0	Stem guided (Standard)	3	
2. Top Flange		1		4	
1	Standard	9		9	
3	Cooling fins	9		Acc. to spec.	
4	Bellow Sealing	9		17. Cage retainer ¹⁾	
5	Extended Bonnet (Insulating Column)	9		0	
7	Standard c/w Balancing	9		Standard	
8	Cooling fins c/w Balancing	9		1	
9	Special design acc. to spec.	9		LN (Low Noise) not controlled	
3. Plug Design		9. KVs Value		2	
P1, P3	Parabolic Plug (1-step resp. 3-steps)	xxx		LN (Low Noise) controlled	
L1-L2-L3	Perorated Plug (1-2-3 steps)	KVs values acc. to table		9	
4. Nominal Diameter (DN) - DIN/ ANSI		10. Performance Curve Characteristics		9	
15	DN 15 / ANSI ½"	g		Acc. to spec	
20	DN 20 (only acc. to DIN)	= %		18. Seat retainer ¹⁾	
25	DN 25 / ANSI 1"	l		0	
32	DN 32 (only acc. to DIN)	Linear		Without	
40	DN 40 / ANSI 1½"	m		1	
50	DN 50 / ANSI 2"	Modified		LK1	
65	DN 65 (only acc. to DIN)	11. Plug Materials ¹⁾		2	
80	DN 80 / ANSI 3"	1		LK2	
100	DN 100 / ANSI 4"	3		5	
5. Pressure Ratings (PN)		9		SLK1	
16	PN 16	9		SLK2	
40	PN 40	12. Plug wear/ tear protection ¹⁾		19. Stem seal ¹⁾	
150	Class 150 acc. to ANSI B16.10	0		1	
300	Class 300 acc. to ANSI B16.10	Standard (w/o)		PTFE/V-Ring/EPDM quad ring	
6. Connections		1		2	
0	RF flanges (Standard)	Nitrided		3	
1	Flanges c/w groove	2		Latty 6118/ETF Inconel	
2	Flanges c/w tongue	3		4	
3	Flanges c/w projection/ recess	3		Graphite 0901	
4	Butt weld ends	4		Graphite/PTFE 6226/6232	
5	Butt weld ends c/w spool pieces	5		9	
7	RTJ	5		Special design acc. to spec.	
9	Acc. to spec.	9		20. Special Designs	
7. Body materials ¹⁾		13. Balancing ¹⁾		0	
2	1.0619	0		Standard	
3	1.4408	Standard (w/o)		1	
		1		AD2000	
		2		2	
		3		NACE	
		4		3	
		5		Oxygen version	
		9		9	
		9		Others acc. to spec.	
		9		21. Material Inspections (pressure retaining parts)	
		9		0	
		9		w/o	
		9		1	
		9		EN 10204-2.1	
		9		2	
		9		EN 10204-3.1	
		9		3	
		9		EN 10204-3.2	
		9		9	
		9		Others on request	
		9		22. Final Inspections	
		9		0	
		9		None	
		9		1	
		9		EN 10204-2.1	
		9		2	
		9		EN 10204-2.2	
		9		3	
		9		EN 10204-3.1	
		9		4	
		9		EN 10204-3.2	
		9		9	
		9		Others on request	

1) In accordance with customer specifications, or selected by the manufacturer in accordance with customer specifications (medium, pressure, temperature, etc.).

Blue letters: Standard design, at most 3 pieces, available within one week.

Example:

8C - 1 - P1 - 15 - 40 - 0 - 2	Position 1-7 / basic data
Series 8C - with standard bonnet – one-step parabolic plug - DN15 – PN40 – flange EN1092 B1 – body 1.0619	
0 - 4,0 - g - 1 - 0 - 0 - 1 - 0 - 0 - 0 - 0 - 1	Position 8-19 / valve trims
Single stem guide – KVs 4.0 – equal percentage – plug made of 1.4571 – no wear/tear protection – not balanced – seat made of 1.4571 – no wear/tear protection – leakage class IV – standard cage retainer – no low-noise cage – stem seal PTFE V-ring / EPDM quad ring	
0 - 1 - 1	Position 20-22 / version/inspections

Standard version – material inspection EN 10204 3.1 – final specification EN 10204 3.1



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