

Angle Seat Motor Valve 7210



1/4" up to 3"

Motor valve for on/off- and modulating operation for neutral and aggressive media

- Compact design
- Self calibration
- Unaffected by lightly contaminated media
- For temperatures from -58 °F up to +428 °F
- Working pressure up to 580 psi
- Versatile actuator options
- Actuators with control function also available with safety position

Technical Information Valve

Body material	Stainless steel CF8M	Bronze CC491K
Nominal size	1/4" up to 2"	1/2" up to 2"
Connections:		
Pipe threads acc. ISO 228-1	1/4" - 3"	1/2" - 2"
NPT thread	1/4" - 3"	1/2" - 2"
Welding ends	1/2" - 3"	-
Clamp connections	1/2" - 3"	-
Nominal pressure	580 psi	230 psi
Max. fluid temperature	-22 °F up to 392 °F, opt. -58 °F up to +428 °F	
Viscosity	max. 600 mm ² /s (600 cSt)	
Vacuum	max. 0.0295 mercury (Hg)	
Operating pressure packing underneath	max. 175 psi	
Working pressure for Tri-Clamp connection	maximum 235 psi	



Position electronics
(self adapting)

Actuator 180 lbf

Coupling

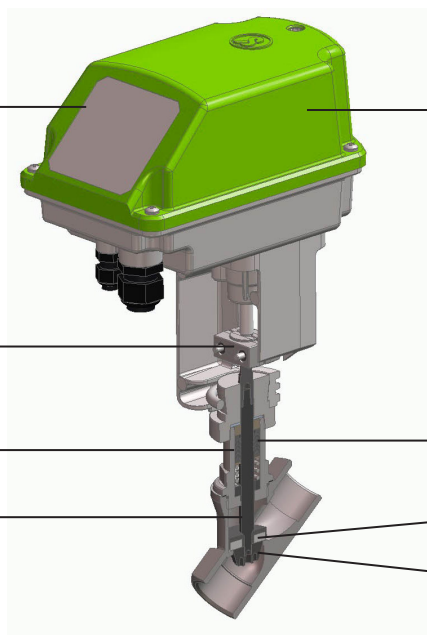
Head section

Valve stem
1.4571, roller
burnished

Packing from
filled PTFE, self
adjusting

Seating seal PTFE
or alternative
materials

Control plug



Angle Seat Motor Valve 7210



1/4" up to 3"

Technical Information CA-Actuator

Function	Control				On/Off	
Motor type	CA24C	CA260C	CA24C-R	CA260C-R	CA24	CA260
Mains connection	24 V AC/DC	100-240 V AC	24 V AC/DC	100-240 V AC	24 V AC/DC	100-240 V AC
Set point range	(0)2-10 V / (0)4-20 mA				3-point**	
Mains frequency	50/60 Hz				50/60 Hz	
Feedback	(0)2-10 V / (0)4-20 mA				optional	
Dead band	±0.6 % of the entire stroke				-	
Repeatability	±0.3 % of the entire stroke				-	
Limit switch	2				optional	
Potentiometer feedback	-				optional	
Max. switching capacity	24 V AC/DC 200 mA				250 V AC/DC 1 A	
Actuating speed	38.1 / 50.8 / 76.2 s/inch (Standard: 50.8 s/inch)				50.8 or 76.2 s/inch (Standard: 76.2 s/inch)	
Safety functions	Monitoring of tensile force, set point, temperature of the electronics, etc.				Tensile force monitoring	
Diagnostic functions	Storage of motor and total operating time, temperature and directional classes, etc.				-	
Fail Safe position	-	-	freely adjustable		-	
Load	500 Ω for current set point / 95 kΩ for voltage set point				-	
Max. power consumption	13 W	12 W	13 W	12 W	13 W	12 W
Input heating resistor	10 W					
Starting current	6 A	2.5 A	6 A	2.5 A	6 A	2.5 A
Actuating power	180 lbf					
Protection class (EN 60529)	IP 65***					
Adm. Ambient temperature	14 °F to +140 °F					
Duty cycle	100 %					

* for control with volt-signal split range adjustments are possible

** Minimum on-time 200 ms

*** Dustproof, protected against water jets from any angle

Wiring diagrams of the actuators can be found in the manual.

Cv-Values (stroke)

Characteristic	linear									equal percentage								
	1/4"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	1/4"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"
100 %	0,7 (0,35)	4,4 (0,36)	10,2 (0,60)	16,2 (0,72)	23,2 (0,83)	31,3 (0,83)	45,2 (0,83)	48,7 (0,79)	62,6 (0,79)	0,70 (0,35)	3,5 (0,36)	7 (0,44)	11,6 (0,72)	18,6 (0,83)	29 (0,83)	36 (0,83)	38,3 (0,79)	49,9 (0,81)
63 %	-	-	-	-	-	-	27,8 (0,83)	30,2 (0,83)	-	-	-	-	-	-	-	19,7 (0,83)	22 (0,79)	-
40 %	0,28 (0,35)	1,74 (0,36)	4,1 (0,28)	6,7 (0,40)	9,3 (0,44)	12,8 (0,44)	-	-	-	-	1,4 (0,36)	2,8 (0,28)	4,6 (0,44)	7 (0,52)	12 (0,56)	-	-	-
25 %	0,17 (0,35)	1,08* (0,36)	2,6 (0,28)	4,2 (0,40)	-	-	-	-	-	-	0,93* (0,36)	1,7 (0,28)	3 (0,44)	-	-	-	-	-
15%	-	-	-	-	-	-	-	-	-	-	0,53* (0,36)	-	-	-	-	-	-	-
10%	-	0,46* (0,36)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7,5%	-	-	-	-	-	-	-	-	-	-	0,27* (0,36)	-	-	-	-	-	-	-

On-Off	-	4,4 (0,36)	10,4 (0,60)	19,7 (0,72)	32,5 (0,83)	40,6 (0,83)	59 (0,83)	72 (0,79)	86 (0,79)
--------	---	---------------	----------------	----------------	----------------	----------------	--------------	--------------	--------------

* Cvs-values not possible with bronze housing.

Angle Seat Motor Valve 7210



1/4" up to 3"

Admissible Differential Pressures

For seating seal made of PTFE or other soft gaskets

Nominal size	Inlet pressure psi									
	1/4"		1/2"		3/4"		1"		1 1/4"	
	On/off	Control	On/off	Control	On/off	Control	On/off	Control	On/off	Control
Stainless steel body	-	250	580	250	290	250	175	175	100	100
Bronze body	-	-	230	230	230	230	175	175	100	100
Body stainless steel pressure balanced	-	-	-	-	-	-	-	-	580	247

Nominal size	Inlet pressure psi							
	1 1/2"		2"		2 1/2"		3"	
	On/off	Control	On/off	Control	On/off	Control	On/off	Control
Stainless steel body	70	70	40	40	-	-	-	-
Bronze body	70	70	40	40	-	-	-	-
Body stainless steel pressure balanced	365	250	365	250	250	250	205	205

For seating seal made of PEEK (T>320°F)

Nominal size	Inlet pressure psi									
	1/4"		1/2"		3/4"		1"		1 1/4"	
	On/off	Control	On/off	Control	On/off	Control	On/off	Control	On/off	Control
Stainless steel body	-	247	580	247	268	247	144	144	77	77
Bronze body	-	-	232	232	232	232	144	144	77	77
Body stainless steel pressure balanced	-	-	-	-	-	-	-	-	580	247

Nominal size	Inlet pressure psi							
	1 1/2"		2"		2 1/2"		3"	
	On/off	Control	On/off	Control	On/off	Control	On/off	Control
Stainless steel body	45	45	22	22	4	4	-	-
Bronze body	45	45	22	22	3	3	-	-
Body stainless steel pressure balanced	580	247	580	247	363	247	-	-

Angle Seat Motor Valve 7210



Ordering Number System

Article number											
7210/											S
Nominal size:											
1/4" (DN 8) only with seating seal PEEK	008										
1/2" (DN 15)	015										
3/4" (DN 20)	020										
1" (DN 25)	025										
1 1/4" (DN 32)	032										
1 1/2" (DN 40)	040										
2" (DN 50)	050										
2 1/2" (DN 65)	065										
3" (DN 80)	080										
Item:											
Valve	V										
Valve without actuator	U										
Actuator	A										
Body design:											
Angle bodied	1										
Connection:											
Whitworth-thread	0										
NPT thread	5										
without thread	6										
Welding ends acc. ISO	H										
Welded ends acc. DIN 11850-series 2 - drawing R0112	D										
Welding ends acc. ISO, drawing R0094	E										
Tri-clamp	Z										
Body material:											
Bronze	1										
Stainless steel	2										
Seating seal:											
PTFE	0										
Viton	1										
EPDM	2										
BUNA-N	3										
PEEK	7										
PEEK for applications above 320°F	8										
Actuator:											
Control actuator CA24C, 24 V AC/DC, with pos. electronic, stanard adjustm.: control sig. 4-20 mA, feedback 4-20 mA, 2 limit switch	C										
Control Actuator CA260C, 100-240 V 50/60 Hz, with pos. electronic, Standard adjustm. 4-20 mA, feedb. 4-20 mA, 2 limit switch	D										
On-Of (3-point) actuator CA24, 24 V AC/DC	E										
On-Off (3-point) actuator CA260, 100-240 V, 50/60 Hz	F										
Control plug:											
none	-										
linear 100 %	1										
equal percentage 100 %	2										
linear 40 %	3										
equal percentage 40 %	4										
linear 25 %	5										
equal percentage 25 %	6										
Special versions:											
See following positions	S										
Pressure balanced version	P										
Lower part and console of the actuator KTL-coated	K										
Safety position:											
without safety position	-										
Fail-Safe: normally closed at power failure	2										
Fail-Safe: normally open at power failure	3										
Stroking times											
Standard (51 s/inch for control actuators - 76 s/inch for on-off-actuators)	-										
76 s/inch	4										
38 s/inch	5										
51 s/inch (On/Off Actuator Type 2032)	9										

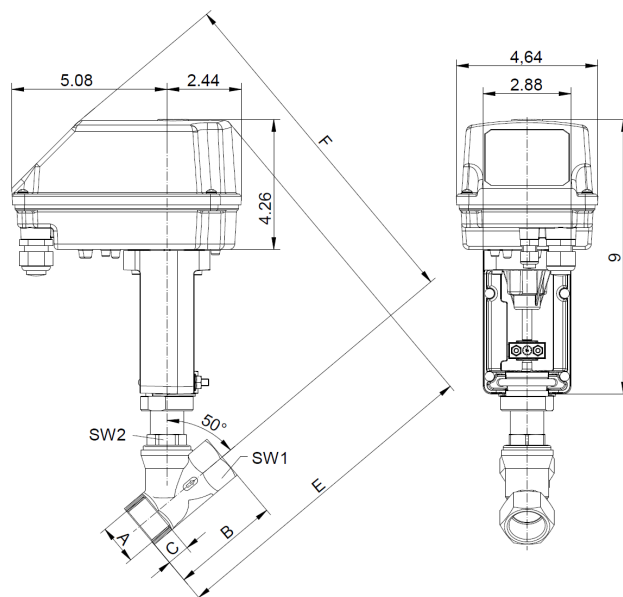
Ordering example: 7210/025VK1520C1

Angle seat motor valve type 7210, 1", pipe thread NPT, stainless steel body, seating seal PTFE, control actuator CA24C, 24 V AC/DC, 180 lbf, control electronics 4-20 mA, position feedback 2-10 V, linear characteristic, Cv-value 16.2 (100 %).

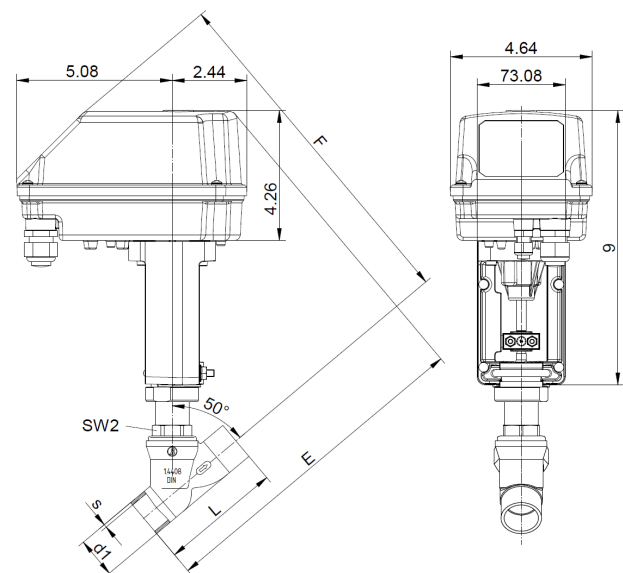
Angle Seat Motor Valve 7210

Dimenstions and Weights CA-actuators

Body with threaded ends Rp/NPT



Body with welding ends DIN/ISO



Size	A	C		ISO		Size		B	L	E	F	E	F	SW1	SW2	Stroke	Weight
	G / NPT	G	NPT	d1	s	d1	s	G / NPT	DIN/ISO				pressure balanced				lbs
1/4"	1/4"	0.47	0.42	-	-	-	-	2.36	-	10.16	12.05	-	-	0.79	1.18	0.33	5
1/2"	1/2"	0.59	0.57	0.84	0.08	0.71	0.06	2.56	3.15	10.35	12.2	-	-	0.98	1.18	0.35	5.5
3/4"	3/4"	0.64	0.59	1.06	0.09	0.87	0.06	2.95	3.54	10.63	12.2	-	-	1.22	1.18	0.55	5.5
1"	1"	0.75	0.71	1.33	0.1	1.1	0.06	3.54	3.94	10.83	12.36	11.57	13.27	1.54	1.18	0.71	6
1 1/4"	1 1/4"	0.84	0.73	1.67	0.1	1.34	0.06	4.33	4.33	11.46	12.99	12.01	13.62	1.89	1.18	0.83	7
1 1/2"	1 1/2"	0.84	0.73	1.9	0.1	1.57	0.06	4.72	4.72	11.61	13.15	12.28	13.94	2.17	1.18	0.87	7.5
2"	2"	1.01	0.75	2.37	0.11	2.05	0.06	5.91	5.91	12.24	13.43	12.99	14.33	2.68	1.26	0.87	9
2 1/2"	2 1/2"	1.19	1	3	0.11	2.76	0.08	8.43	7.09	-	-	13.9	14.09	3.94	1.61	0.87	13.5
3"	3"	1.31	1.08	-	-	-	-	8.43	-	-	-	16.81	15.24	3.94	1.61	0.87	18

Other body designs on request

Dimensions in inch