

Low Flow Valve 7042

Valve for low and ultra-low flow rates optionally with integrated positioner for shutting off and controlling liquid and gaseous fluids for industrial applications.

- Very small Cvs-values
- High differential pressures up to 4600 psi
- Trim made of stainless steel or carbide
- Metallic body seal

Technical data

Size	1/4", 1/2"	
Connection	NPT thread acc. ANSI B1.20.1 Pipe thread acc. ISO 228-1	
Nominal pressure	PN 320	
Fluid temperature	Standard	-76°F up to +410°F
	HT530 version	-76°F up to +986°F
Ambient temperature	with digital positioner type 8049 without positioner	+14°F up to +167°F -4°F up to +176°F
Leakage	ANSI Class IV	

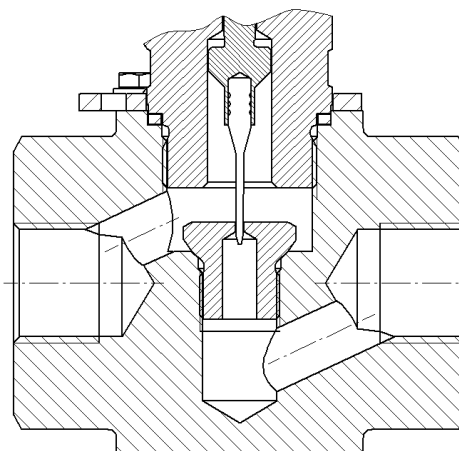
Materials

Body	1.4404 (316L)	
Head section	1.4404 (316L)	
Head section seal	1.4404 (316L)	
Actuating stem	1.4571 316Ti	
Packing	PTFE and PEEK Compound	
Needle	1.4404 (316L)	Hardmetal
Seat	1.4404 (316L)	Hardmetal
Diaphragm housing	Aluminium cathodic dip coated	
Actuator spring	Spring 1: 1.40310 (302)	
	Spring 2: Spring steel cathodic dip coated	



Cvs-values

Characteristic: linear			
1/4"		1/2"	
CVS	rangeability	CVS	rangeability
0.2	30:1	1.5	40:1
0.13	30:1	1.2	40:1
0.079	30:1	0.79	40:1
0.05	30:1	0.5	40:1
0.031	30:1	0.31	30:1
0.02	30:1	0.2	30:1
0.013	25:1	0.13	30:1
0.0079	25:1	0.079	30:1
0.005	25:1	0.05	30:1
0.0031	25:1	0.031	30:1
		0.02	30:1
		0.013	25:1
		0.008	25:1
		0.005	25:1
		0.0031	25:1



Operating limits

Material trim		Temperature	max. differential pressure [psi]	
Needle	Seat		Liquid	Gas
316L	316L	T ≤ 210°F	1450	4600
		T > 210°F	580	2300
Hardmetal	Hardmetal	-	2900	4600

Admissible differential pressures (spring closes)

Size	CVS-value	Differential pressure [psi] for spring pressure range of the actuator							
		Spring 1						Spring 2	
		3 - 15 psi	5 - 16 psi	6 - 18 psi	9 - 21 psi	12 - 24 psi	15 - 27 psi	21 - 35 psi	27 - 41 psi
1/4"	0.05 - 0.1	910	2330	3770	4640	4640	-	-	-
	0.0031 - 0.031	4230	4640	4640	-	-	-	-	-
1/2"	1.2 - 1.5	30	275	475	910	1330	1750	2595	3450
	0.31 - 0.79	250	765	1275	2320	3345	4375	4640	4640
	0.05 - 0.2	910	2330	3770	4640	4640	-	-	-
	0.0031 - 0.031	4230	4640	4640	-	-	-	-	-
required supply pressure		16 - 87 psi	18 - 87 psi	19 - 87 psi	22 - 87 psi	25 - 87 psi	28 - 87 psi	40 - 87 psi	45 - 87 psi

*For HT version pressure values of 1/2"

For values of P2 > 0 the admissible differential pressures may differ considerably. Therefore the sizing should generally be verified by the manufacturer.

Admissible differential pressures (spring opens)

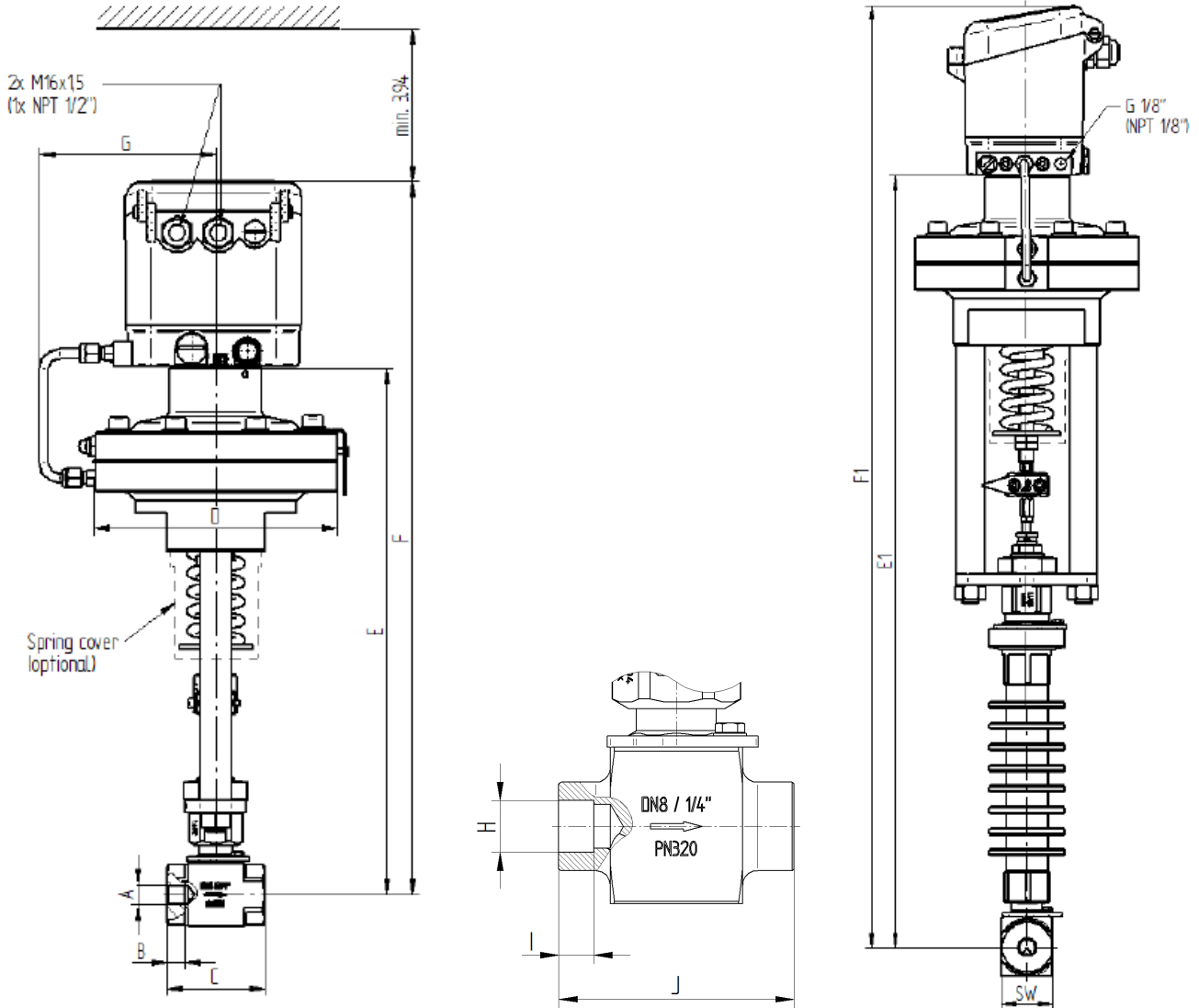
Size	CVS-Value	max. operating pressure [psi]	Supply pressure [psi] at actual differential pressure [psi]								supply pressure max [psi]
			Δp: 0	Δp: 360	Δp: 725	Δp: 1085	Δp: 1450	Δp: 2175	Δp: 2900	Δp: 4640	
1/4"	0.05 - 0.2	4640	15	17	17	17	18	18	20	21	21
	0.0031 - 0.031	4640	15	17	17	17	17	17	17	17	18
1/2"	1.2 - 1.5	1680	17	20	23	26	27	-	-	-	30
	0.31 - 0.79	2855	17	18	20	20	21	23	-	-	26
	0.05 - 0.2	4640	15	17	17	17	18	18	20	21	23
	0.0031 - 0.031	4640	15	17	17	17	17	17	17	17	20

For values of P2 > 0 the admissible differential pressures may differ considerably. Therefore the sizing should generally be verified by the manufacturer. The specified supply pressures may only be exceeded by 1.5 psi to prevent damages to the trim.

Pressure-temperature-rating

T [°F]	PS [psi]
-75 up to +250	4640
302	4360
392	3970
410	3915
482	3680
572	3450
752	3275
842	3130
932	2985
986	2900

Dimensions and weights



Size	Function	Connection NPT-thread		Connection G-thread		C	D	E	E1	F	F1	G	weight [lbs]	
		A	B	A	B								standard	HT530
1/4"	NC	NPT 1/4"	0.47	G 1/4"	0.39	2.52	6.26	13.58	21.65	18.43	26.38	4.72	15.5	19
1/4"	NO	NPT 1/4"	0.47	G 1/4"	0.39	2.52	6.26	14.84	22.91	19.69	27.76	4.72	16.4	19.9
1/2"	NC	NPT 1/2"	0.59	G 1/2"	0.55	3.11	6.26	13.86	21.93	18.66	26.73	4.72	16.8	20.3
1/2"	NO	NPT 1/2"	0.59	G 1/2"	0.55	3.11	6.26	15.12	23.19	19.92	27.99	4.72	17.7	21.2

Dimensions in mm

Size	Socket weld connection		
	H	I	J
1/4 "	0,55	0,38	2,52
1/2 "	0,85	0,5	3,11

Dimensions in mm