

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	-76°F up to +410°F	
Ambient temperature	with digital positioner type 8049	+14°F up to +167°F
	without positioner	-4°F up to +176°F
Leakage	ANSI Class IV	

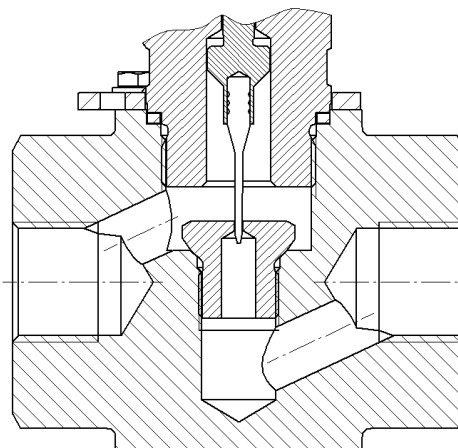


Materials

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

Cvs-values

Characteristic: linear			
1/4"		1/2"	
CVS	rangeability	CVS	rangeability
0.2	30:1	2	40:1
0.13	30:1	1.3	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
		0.003	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
Carbide	Carbide	-	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 - 1.35	910	2330	3770	4640	4640	-	-	-
	0.0031 - 0.031	4230	4640	4640	-	-	-	-	-
1/2"	1.3 - 2	30	275	475	910	1330	1750	2595	238
	0.31 - 0.79	250	765	1275	2320	3345	4375	4640	320
	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 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)

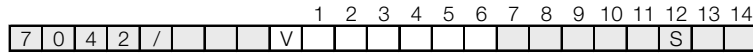
Size	CVS-Value	max. operating pressure [psi]	Supply pressure [psi] at actual differential pressure [psi]								supply pressure max [psi]
			Δp: 0	Δp: 360	Δp: 725	Δp: 1085	Δp: 1450	Δp: 2175	Δp: 2900	Δp: 4640	
1/4"	0.05 - 0.2	4640	15	17	17	17	18	18	20	21	21
	0.0031 - 0.031	4640	15	17	17	17	17	17	17	17	18
1/2"	1.3 - 2	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	4405
392	3970
482	3680
572	3420

Ordering number system



---Symbol: "V": Valve
 --- "A": Actuator (valve without body)
 --- "R": Repair kit (sealings)

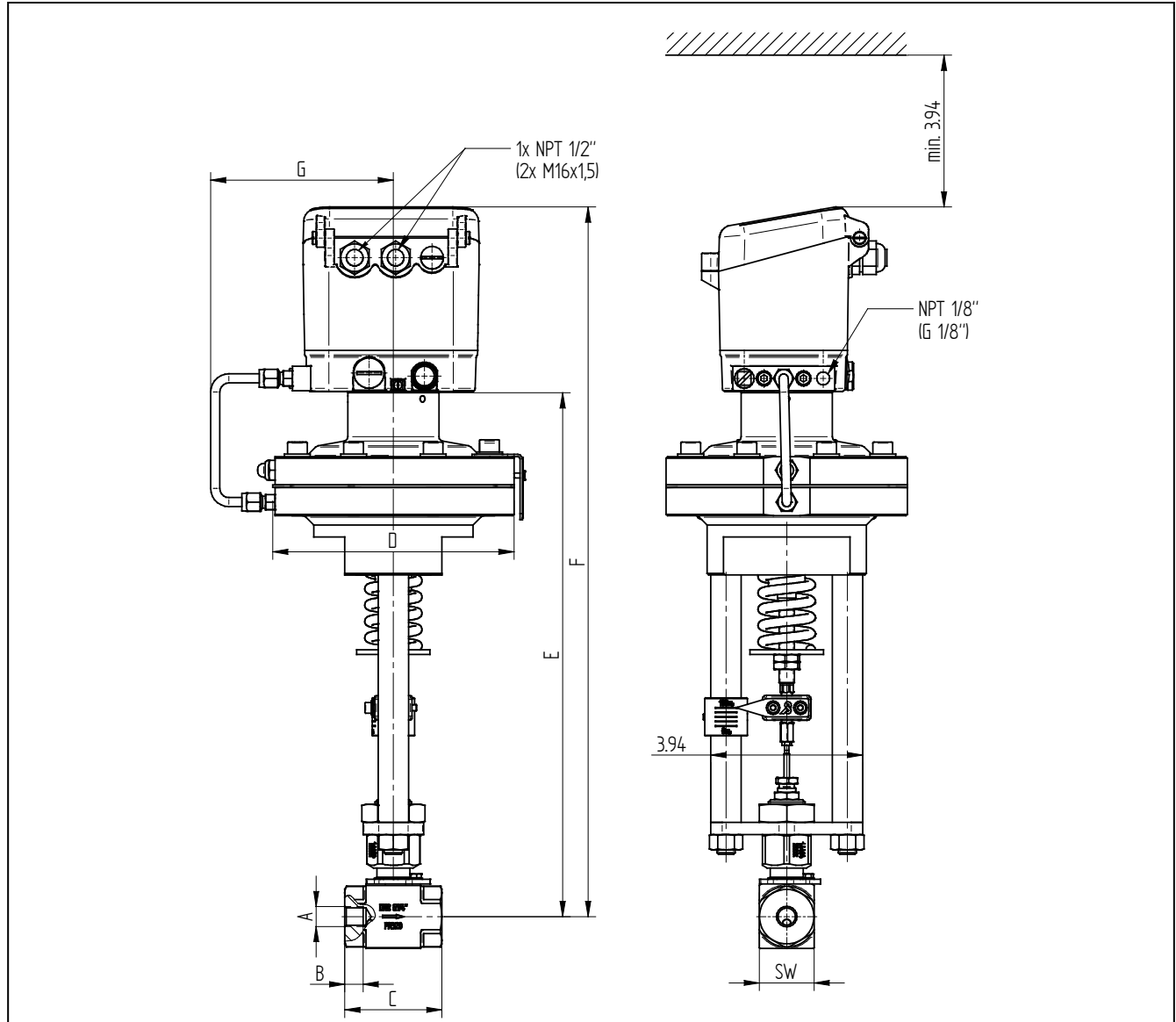
1 - 6 : Please quote all 6 sections.
7 - 14: Quote only if required.

1. Design	2. Connections	3. Body material	4. Seating seal	5. Positioner
Y low flow valve	0 BSP thread 1 NPT thread	2 stainless steel 1.4404 (316L)	1 stainless steel / stainless steel 2 Carbide / Carbide	C 8049-4 R 8049-2 W 8049 ExPro K 8049 ExPro-FM
6. Actuator, function	7. Spring pressure range	8. Flow characteristic	9. Kvs/Cvs-Values	10. Options
1 diaphragm actuator D70 Spring closes (closing against the flow) A diaphragm actuator D70 Spring opens (closing against the flow)	1 0,2 - 1 bar (3-15 psi) 2 0,4 - 1,2 bar (6-17 psi) 3 0,6 - 1,4 bar (9-20 psi) 4 0,8 - 1,6 bar (12-23 psi) 5 1,0 - 1,8 bar (15-26 psi) 6 1,4 - 2,4 bar (20-32 psi) 7 1,8 - 2,8 bar (26-38 psi)	- linear	A Kvs=1,7 [Cvs=2,0] B Kvs=1,1 [Cvs=1,3] C Kvs=0,68 [Cvs=0,79] D Kvs=0,43 [Cvs=0,5] E Kvs=0,27 [Cvs=0,31] F Kvs=0,17 [Cvs=0,2] G Kvs=0,11 [Cvs=0,13] H Kvs=0,068 [Cvs=0,079] K Kvs=0,043 [Cvs=0,05] L Kvs=0,027 [Cvs=0,031] M Kvs=0,017 [Cvs=0,02] N Kvs=0,011 [Cvs=0,013] P Kvs=0,0068 [Cvs=0,0079] R Kvs=0,0043 [Cvs=0,005] T Kvs=0,0027 [Cvs=0,0031]	- Standard 1 filter pressure regulator
11. Accessories	12. Special versions	13. Sealings	14. Packing	15. Positioner version
- ohne 1 1 limit switch (micro switch) 2 2 limit switches (micro switch) 6 pilot valve 230V~ at supply air connection 7 pilot valve 24V= at supply air connection M gauge block for positioner	D AS-I control head F AS-I control head Ex (II 3D Ex tc IIIC T135 °C Dc, II 3G Ex nA IIC T4 G M el. position indicator with cable bushing; ingress protection of the body IP65 N el. position indicator with plug connection; ingress protection of the body IP65 S See following positions	- Standard	- Standard	- without C 8049 positioner with base plate in stainless steel E 8049 positioner in stainless steel
16. Positioner settings	17. Special treatment	18. Special versions	19. Signal equipment	20. Body, head section
- Standard (4 - 20 mA) 1 Split range 4 - 12 mA 2 Split Range 12 - 20 mA C 2 - 10 V	- ohne 1 free of silicone B for low temperature applications -40°C	- ohne 3 fittings and pilot tube stainless steel 1.4571	- ohne P feedback module RM5 for positioner type 8049 with 2 limit switches Y Feedback module RM4 for positioner type 8049 with 2 integrated limit switches acc. NAMUR (EN60947-5-6)	- Standard

Ordering example: 7042/008VY121C11-F

Low flow valve, 1/4" (DN08), NPT thread, stainless steel-body, stainless steel/stainless steel, digitale positioner 8049 4-wire, diaphragm actuator 70 cm², spring closes (closing against the flow), spring pressure range 0,2-1 bar, characteristics linear, Cvs-value 0,2 (Kvs=0,17)

Dimensions and weights



Size	Function	Connection NPT-thread		Connection G-thread		C	D	E	F	G	weight [lbs]
		A	B	A	B						
1/4"	NC	NPT 1/4"	0.394	G 1/4"	0.472	2.52	6.26	13.583	18.425	4.724	15
1/4"	NO	NPT 1/4"	0.394	G 1/4"	0.472	2.52	6.26	14.843	19.685	4.724	16
1/2"	NC	NPT 1/2"	0.551	G 1/2"	0.591	3.11	6.26	13.858	18.661	4.724	17
1/2"	NO	NPT 1/2"	0.551	G 1/2"	0.591	3.11	6.26	15.118	19.921	4.724	18