

Low flow valve 7342

1/4", 1/2", PN320

Valve for small and very small flow rates with electric actuator for shutting off and controlling liquids and gases for industrial applications

- High control precision, small dead band
- Short response times
- Small and very small Cvs values
- High differential pressures up to 4641 psi
- Metal sealing seat assembly made out of stainless steel or hard metal
- Metal body seal
- Actuators for open/close or control operation
- Optional with safety position



Technical data valve

| | | |
|-------------------|---|---------------------|
| Size | 1/4", 1/2" | |
| Connection | Pipe thread acc. ISO 228-1 NPT thread acc. ANSI B1.20.1 Socket Weld | |
| Nominal pressure | PN 320 | |
| Fluid temperature | Standard version | -4°F up to +410°F |
| | HT530-version | -4°F up to +986°F |
| | Low-temperature version 1 | -40°F up to +320°F |
| | Low-temperature version 2 | -148°F up to +410°F |
| Leakage | ANSI Class IV | |

Technical data actuator

| | | | | |
|--|--|---|----------|---------|
| Driving force | 450 lbf | | | |
| Power connections | 24 V AC/DC 100 - 240 V 50/60Hz | | | |
| Ambient temperature | Standard: | +14°F up to +140°F | | |
| | Low temperature version: | -40°F up to +140°F | | |
| Storage Temperature | Standard: | -22°F up to +176°F (+140°F with Fail-Safe protection) | | |
| | Low temperature version: | -40°F up to +176°F (+140°F with Fail-Safe protection) | | |
| Mounting position | choice horizontal or vertical actuator only | | | |
| Protection class (EN 60529) | IP 67 | | | |
| Max. power consumption at 24V AC/DC-operation: | 40 Watt | | | |
| Nominal power consumption during mains operation | Mains voltage 230V: | P=40W | S=67,8VA | I=295mA |
| | Mains voltage 115V: | P=40W | S=58,8VA | I=511mA |
| Dead band | ±0.2% at min. 0.24" stroke | | | |
| Repeat accuracy | ±0.1% at min. 0.24" stroke | | | |
| Stroking speed | 19 s/inch up to 6350 s/inch (standard 38 s/inch) | | | |
| Stroking speed of the Fail-Safe protection | 19 s/inch up to 102 s/inch (standard 38 s/inch) | | | |
| Set point range | adjustable 0(4) - 20 mA, 0(2) - 10 V optional binary input signal (24V DC) | | | |
| Feed back | adjustable 0(4) - 20 mA, 0(2) - 10 V | | | |
| cycles (Fail-Safe) | 500000 | | | |
| life-time (Fail-Safe) | 10 years | | | |
| duty cycle | 100% | | | |
| Self Monitoring | monitoring of the driving power, set point, actuator temperature, temperature of the electronic etc. | | | |
| Diagnostic function | storage of motor and total service life, temperature- and way classes | | | |
| Valve adaptation | automatic stroke adjustment to suit valve limits | | | |
| additional inputs | binary input | | | |
| additional outputs | 2 alarm outputs | | | |
| Electrical connection | Power supply M20x1.5 (optional NPT 1/2") Signal/position feedback 2x M16x1.5 | | | |

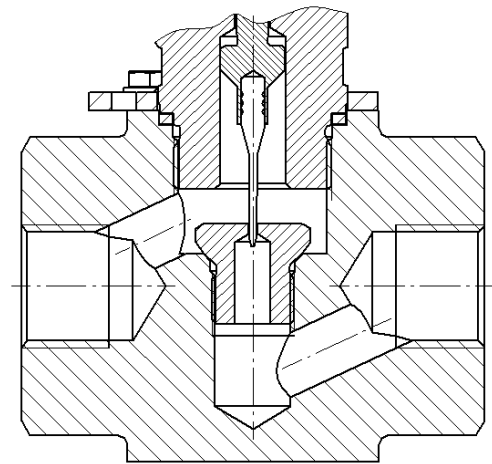
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Materials

| | | |
|-------------------|------------------------------|-----------|
| 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 |
| Body actuator | Aluminium painted/KTL coated | |

CVS-values

| Characteristic: linear | | | | |
|------------------------|------|--------------|-------|--------------|
| CVS | 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 |
| | | | 0.003 | 25:1 |



Admissible pressures

1/4" - p1 as a function of p2

| | CVS values | Seat relief | p2 [psi] | | | | | | | | |
|----------|------------|-------------|----------|------|------|------|------|------|------|------|------|
| | | | 0 | 290 | 725 | 1450 | 2176 | 2901 | 3626 | 4351 | 4641 |
| p1 [psi] | 0.05-0.20 | 61.82 lbf | 2567 | 2451 | 2306 | 2031 | | | | | |
| | | 116.90 lbf | 4641 | 4641 | 4641 | 4641 | 4641 | 4641 | 4641 | 4641 | 4641 |
| | 0.0-0.03 | 61.82 lbf | 4641 | 4641 | 4641 | 4395 | | | | | |
| | | 39.34 lbf | 4279 | 2988 | 1059 | | | | | | |

1/2" - p1 as a function of p2

| | CVS values | Seat relief | p2 [psi] | | | | | | | | |
|----------|-------------|-------------|----------|------|------|------|------|------|------|------|------|
| | | | 0 | 290 | 725 | 1450 | 2176 | 2901 | 3626 | 4351 | 4641 |
| p1 [psi] | 1.6 - 1.51 | 346.21 lbf | 3379 | 3379 | 3379 | 3379 | 3379 | 3379 | | | |
| | | 207.95 lbf | 1885 | 1885 | 1885 | 1885 | | | | | |
| | 0.31 - 0.79 | 207.95 lbf | 4641 | 4627 | 4540 | 4380 | 4235 | 4076 | 3931 | | |
| | | 116.90 lbf | 2292 | 2234 | 2147 | 1987 | | | | | |
| | 0.05 - 0.20 | 116.90 lbf | 4641 | 4641 | 4641 | 3162 | | | | | |
| | | 61.82 lbf | 2567 | 1871 | 856 | | | | | | |
| | 0.0-0.03 | 61.82 lbf | 4641 | 4641 | 1827 | | | | | | |
| | | 39.34 lbf | 4279 | 667 | | | | | | | |

Operating limits

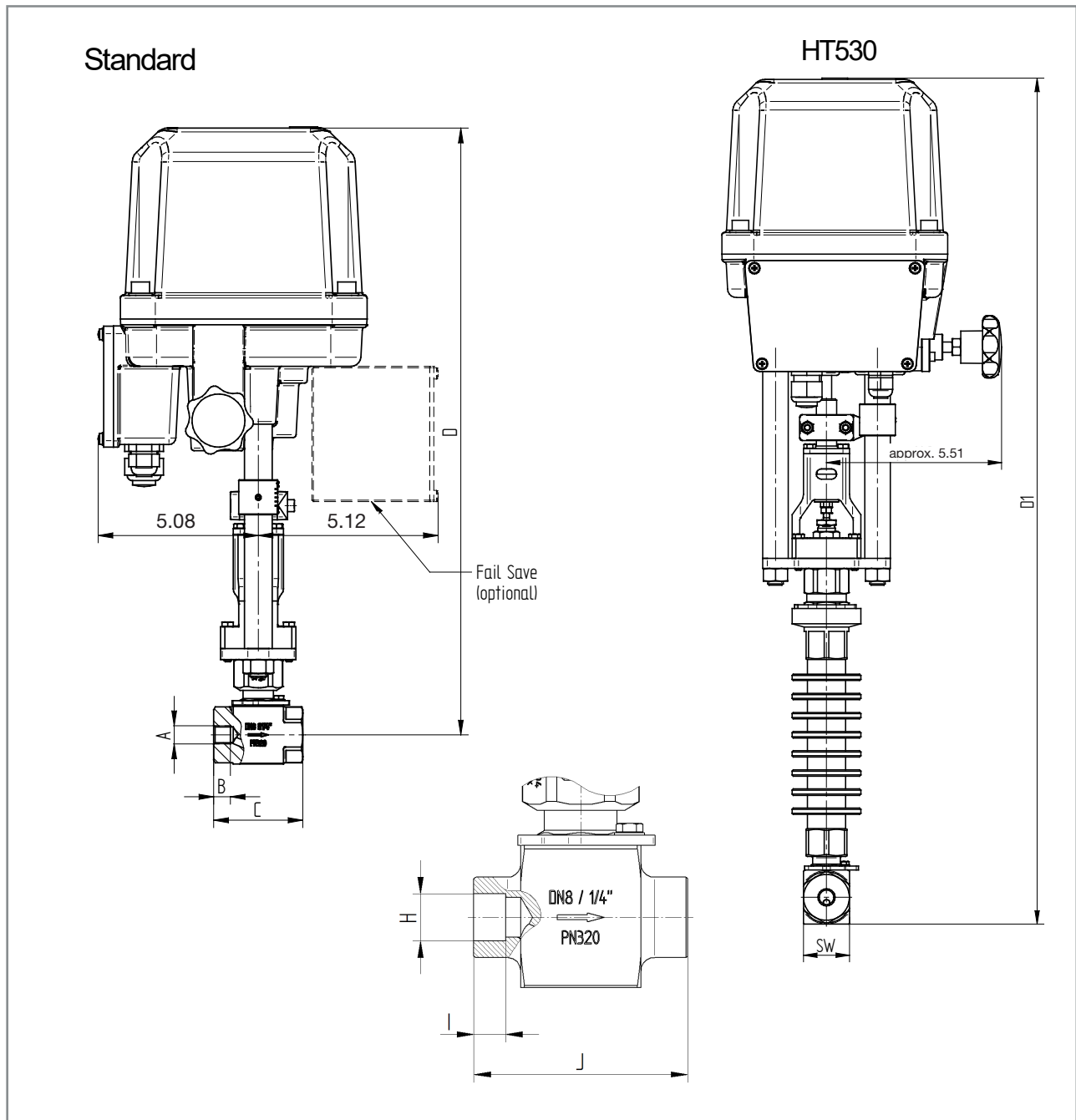
| Material trim | | Temperature | max. differential pressure [psi] | |
|---------------|-----------|-------------|----------------------------------|------|
| Needle | Seat | | Liquid | Gas |
| 316L | 316L | T ≤ 210°F | 1450 | 4600 |
| | | T > 210°F | 580 | 2300 |
| Hardmetal | Hardmetal | - | 2900 |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

Pressure-temperature rating

| Standard version | | HT530-version | |
|------------------|----------|---------------|----------|
| T [°F] | PS [psi] | T [°F] | PS [psi] |
| -75 up to +250 | 4640 | 482 | 3680 |
| 302 | 4360 | 572 | 3450 |
| 392 | 3970 | 752 | 3275 |
| 410 | 3915 | 842 | 3130 |
| | | 932 | 2985 |
| | | 986 | 2900 |

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Dimensions and weights



| Size | G-thread connection | | NPT-thread connection | | C | D | Standard version Weight [lbs] | | D1 | HT530 version Weight [lbs] | | Stroke |
|------|---------------------|------|-----------------------|------|------|-------|-------------------------------|----------------|-------|----------------------------|----------------|--------|
| | A | B | A | B | | | without Fail-Save | with Fail-Save | | without Fail-Save | with Fail-Save | |
| 1/4" | G 1/4" | 0.47 | NPT 1/4" | 0.39 | 2.52 | 17.17 | 22.27 | 26.24 | 25.98 | 25.79 | 29.76 | 0.47 |
| 1/2" | G 1/2" | 0.59 | NPT 1/2" | 0.55 | 3.11 | 17.44 | 23.59 | 27.56 | 25.51 | 27.34 | 32.19 | 0.47 |

Dimensions in inch

| 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 inch