

Series 3520 Pneumatic Control Valve Type 3525-1 Globe Valve Type 3525



Application

The Type 3525 dump valve is meant for use in high pressure on/off applications in upstream oil and gas production.

Valve size	NPS 1
Pressure rating	Class 900
Temperatures	-50 to 300 °F (-46 to 149 °C)

Type 3525 Globe Valve with

- Custom variation of Type 3271 Pneumatic Actuator, size 37 in²

Valve body manufactured of

- A 352 LCC

Valve plug manufactured of

- Stellite or Tungsten carbide with
- Metal sealing

Features

- Compact design - the size of the valve was optimized for installation where the space requirements are tight
- Easy maintenance - a threaded bonnet/body connection offers easier access to the trim without using a large assortment of tools while at the same time allowing the valve body to remain intact with the piping
- Travel limit adjustment by a threaded coupling
- Durable trim - to reduce the effects of erosion on the plug trim, standard trim material is Stellite 6B
- NACE MR0175 / ISO 15156 compatibility - further expanding the applicability of the SAMSON Type 3525, the standard trim is also compatible with the NACE standards enabling it to be used with sour gases and other corrosive media
- The "green" packing - this environment friendly packing retains a consistent seal due to the V-form PTFE rings and the supporting spring. As the PTFE rings wear, the supporting Hastelloy spring adjusts to spread the V-form wider, maintaining the seal longer, and in turn reducing the need for maintenance
- Interchangeable safety action - without removing the valve from its position the actuator can be changed from air-to-open to air-to-close and vice versa
- Versatile actuator - with a supply pressure of 50 psi the entire range of differential pressures permitted in this pressure class can be safely controlled with this actuator, no matter the case, FTO, FTC, Air-to-open, Air-to-close
- Two piece stem - allows for actuator removal prior to bonnet removal for easy maintenance



Fig. 1 · Type 3525-1 Pneumatic Control Valve

Versions

Standard version for temperatures ranging from -50 to 300 °F and pressure rating ASME B16.34 Class 900

- **Type 3525-1** (Fig. 1) · NPS 1 with custom variation of Type 3271 Actuator

Principle of operation

The process medium flows through the valve in the direction indicated by the arrow. The position of the valve plug determines the cross-sectional area between the seat and plug.

Fail-safe positions

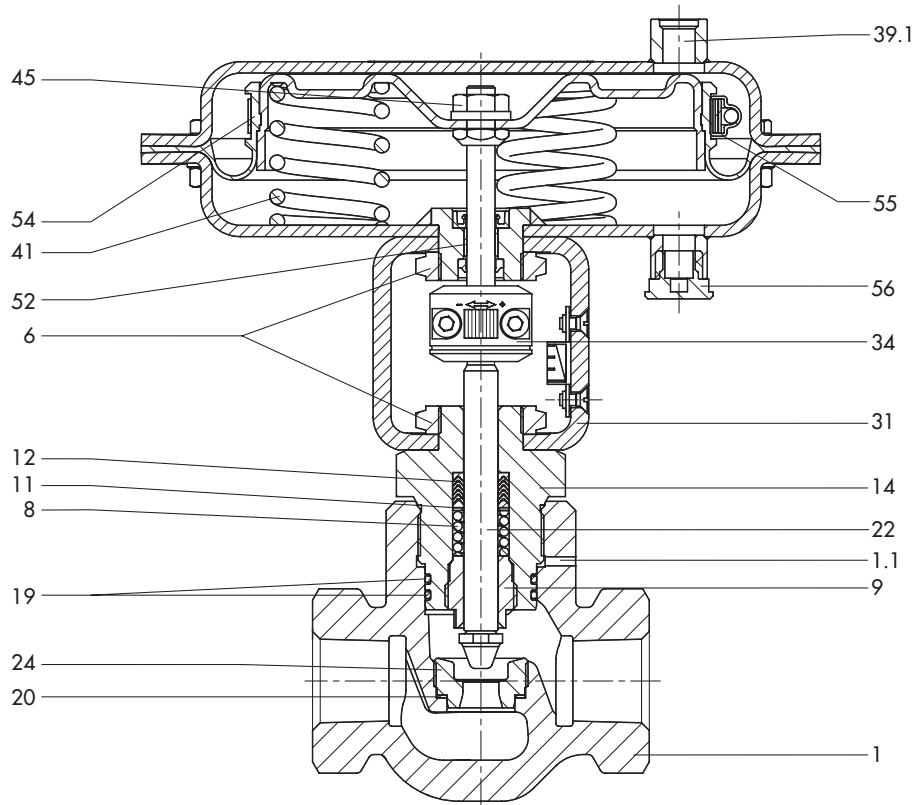
Depending on how the compression springs are arranged in the actuator the control valve has two different fail-safe positions which become effective upon supply air failure:

Actuator stem extends (FA)

The actuator springs close the valve when the supply air fails.

Actuator stem retracts (FE)

The actuator springs open the valve when the supply air fails.



Legend

- | | | | | | |
|-----|-------------------|------|-------------------|----|---------------------|
| 1 | Body | 19 | Bonnet seals * | 45 | Diaphragm locknut * |
| 1.1 | Safety bleed | 20 | Seat gasket * | 52 | Plain bearing * |
| 6 | Locknut | 22 | Plug assy. * | 54 | Diaphragm assy. * |
| 8 | Spring | 24 | Seat (standard) * | 55 | Diaphragm clamp |
| 9 | Guiding bushing * | 31 | Yoke | 56 | Vent plug |
| 11 | Washer | 34 | Stem connector | | |
| 12 | V-ring packing * | 39.1 | Air connection | | |
| 14 | Bonnet | 41 | Spring (standard) | | |
- * Parts subject to wear

Fig. 2 · Type 3525-1 Pneumatic Control Valve (fail-open)

Table 1 · Technical data

Valve size	NPS 1
Flow rate	C _v 7
Characteristic	linear
ASTM material	A 352 LCC
End connections	Female thread
Type of connection	1"-11.5 NPT
Pressure rating	Class 900
Seat-plug sealing	Metal sealing
Temperature range	-50 to 300 °F · -46 to 149 °C
Leakage class	IV

Table 2 · Materials

Standard version	
Valve body	A 352 LCC
Valve bonnet	A 352 LCC
Seat and plug	Stellite 6B or Tungsten Carbide
Plug stem	A 479 XM-19-S · S20910
Guide bushing	A 479 XM-19-S · S20910
Packing	PTFE · NACE compatible · Spring: Hastelloy C4
O-ring	HNBR

Table 3 · Actuator

Diaphragm area	37 in ²
Bench range	Stem extends: 20 to 50 psi Stem retracts: 3 to 15 psi
Required supply pressure	18 psi for stem retracts · 53 psi for stem extends
Max. supply pressure	60 psi
Fail-safe action	Fail-close or Fail-open
Materials	
Diaphragm cases	Sheet steel
Rolling diaphragm	NBR with fabric insert
Actuator stem	A 479 316 L

Table 4 · Allowable Differential Pressures · pressure in psi

	Stem Extends	Stem Retracts
Supply pressure	50 psi	32 psi
Allowable Δp	2220 psi	2220 psi

Dimensions in mm and weights for Type 3525-1 Pneumatic Control Valve

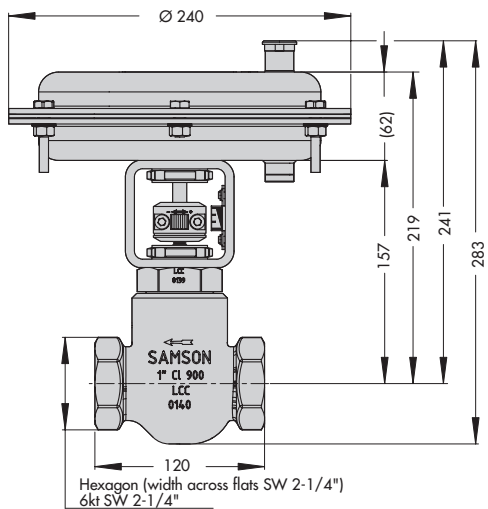


Fig. 3 · Type 3525, actuator 37 in², stem extends
Weight: 9.7 kg

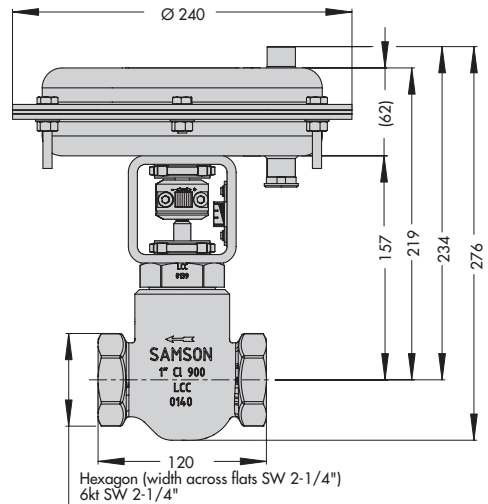


Fig. 4 · Type 3525, actuator 37 in², stem retracts
Weight: 9.5 kg

