

The **Smith Meter™ Model 200-30A Valve** is hydraulically-operated, electrically-actuated, globe-pattern, solenoid block valve.

Features

- **Simple construction** - reduces maintenance costs, downtime.
- **Versatile horizontal or vertical applications** - may be combined with other Smith pilots to provide multiple control functions.
- **Explosion-proof solenoid** - U.L. listed and CSA approved.
- **Flow to close design** - reduces danger of run away product in the event of a power failure.

Principle of Operation

The Smith Model 200-30A is normally closed valve that opens, only when the upstream line pressure in the main valve cover chamber is allowed to vent through the normally closed, electrically-actuated solenoid valve located in the downstream of the valve. With the cover chamber pressure reduced, the force created by differential pressure across the diaphragm less the pressure over the seat area and the valve spring tension opens the valve (Figure 1, page 3).

When electrical power to the solenoid is interrupted, the solenoid valve will close and block the vent path through the downstream pilot loop. This allows the upstream line pressure to pressurize the valve cover chamber through the upstream side of the pilot loop, thereby closing the valve and stopping product flow. An adjustable sensitivity valve located in the upstream side of the pilot loop serves as a closing speed control (Figure 2, page 3).

Applications

The Smith Model 200-30A is designed for use as a fail-closed, system permissive that prohibits liquid product flow unless the solenoid valve has been actuated. Power failure or diaphragm rupture will cause these valves to close. The 200-30A is ideally suited for use with the Smith



Model 200-30A

Model DE-1, Dual Electric Air Release Head for low viscosity (less than 200 SSU) air elimination applications where it is desirable to stop product flow when the presence of air is detected in a metering system.

Any number of control pilots can be combined to provide multiple control functions. Typical combinations include rate of flow control (Models 40A or 42A), back pressure control (Model 60A), and pressure reducing control (Model 50B).

The Model 200-30A incorporates a bare 202 diaphragm actuated valve, a Model 09SC strainer, a Model 13 needle valve, and a two-way normally closed Model 30A solenoid valve. The valve is available in sizes 2" through 6".

Specifications

Nominal Flow Ratings

Size	Flow		Cv
	gpm (U.S.)	lpm	
2"	130	492	50
3"	420	1,600	133
4"	600	2,250	204
6"	1,000	3,750	436

Maximum Product Viscosity

200 SSU (40 mPa·s)¹.
Above 200 SSU, consult factory.

Pressure Rating/Connections^{2,3}

Class 150 ASME, 285 psi (19.6 bar).
Class 300 ASME, 300 psi (20.7 bar).

Temperature Range

Valve Elastomer	Temperature Range ^{2,4}
Buna-N	-20°F to 200°F (-28°C to 93°C)
LS (Low Swell) Buna ⁵	-20°F to 200°F (-28°C to 93°C)
Viton	-20°F to 350°F (-28°C to 177°C)

Power Requirements

Voltage:

Standard: 110/120 Vac, 50/60 Hz.
Optional: 220/240 Vac, 50/60 Hz; 12 Vdc 10%; 24 Vdc 10%.

For other voltages, consult factory.

Watts

AC: 20.0
DC: 20.0

Approvals

U.L. listed, Class I, Group D, CSA approved.

Dimensions

Inches (mm)

Size	150	A Class 300 ASME Flange	A Class B ASME Flange	C	D	E
2"	8 (203)	8.5 (216)	8.5 (216)	4 (102)	7.5 (191)	—
3"	11 (279)	11.75 (298)	6.75 (172)	4 (102)	7 (178)	3.75 (95.3)
4"	13.5 (343)	14.25 (362)	12 (305)	7 (178)	9 (229)	—
6"	17 (432)	17.88 (454)	11 (279)	6 (152)	12 (305)	5.5 (140)

Note: Dimensions—Inches to the nearest tenth (millimetres to the nearest whole mm), each independently dimensioned from respective engineering drawings.

¹ 1 mPa·s = 1 cP.

² Pressure ratings are based on temperatures of -20°F to 100°F (-28°C to 38°C). For operation at higher temperatures, the maximum working pressure may be derated.

³ PED requirements limit applications to liquids with maximum vapor pressures of .5 bar above atmospheric pressure, at maximum allowable temperature.

⁴ For temperature outside these ranges, consult factory.

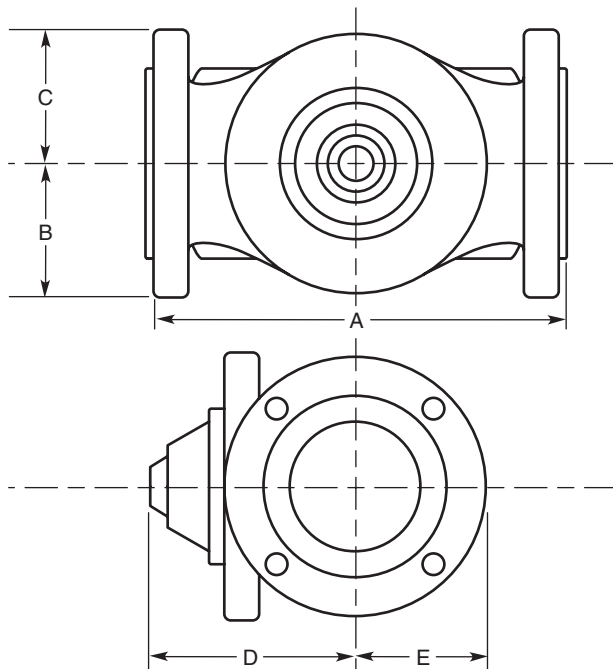
Weight – Net

Size	lb (kg)
2"	45 (20)
3"	82 (37)
4"	135 (61)
6"	257 (116)

Materials of Construction

Bare Valves/ Pilots	Body	Internals	Seals/Packing
202/203	Cast Steel	Bronze, Stainless Steel, Carbon Steel, Ductile Iron. Options: No Bronze Epoxy Coating.	Low Swell Buna*, Viton, or Buna-N
09SC	Carbon steel	304 Stainless Steel	—
13/03A	Carbon steel	Stainless, Carbon Steel	Teflon
30A	400 Stainless Steel		Viton
Tubing/Fittings			
Standard	Carbon Steel		
Optional	300 Series Stainless Steel		

+Standard.



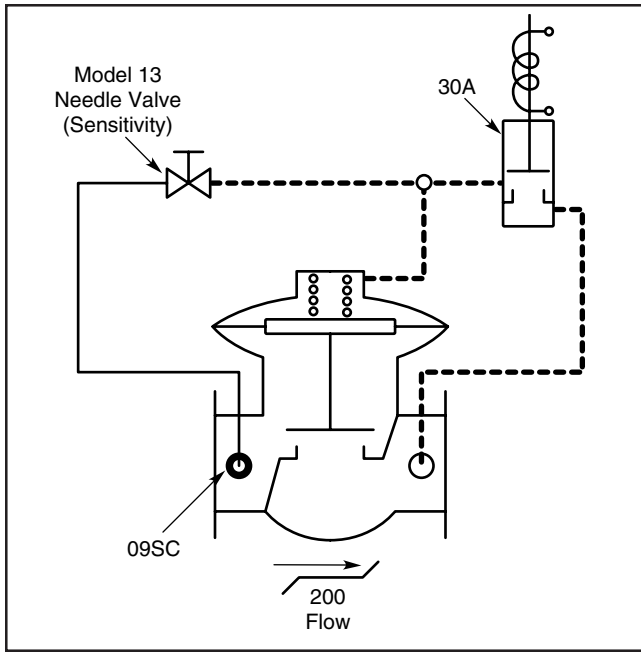


Figure 1

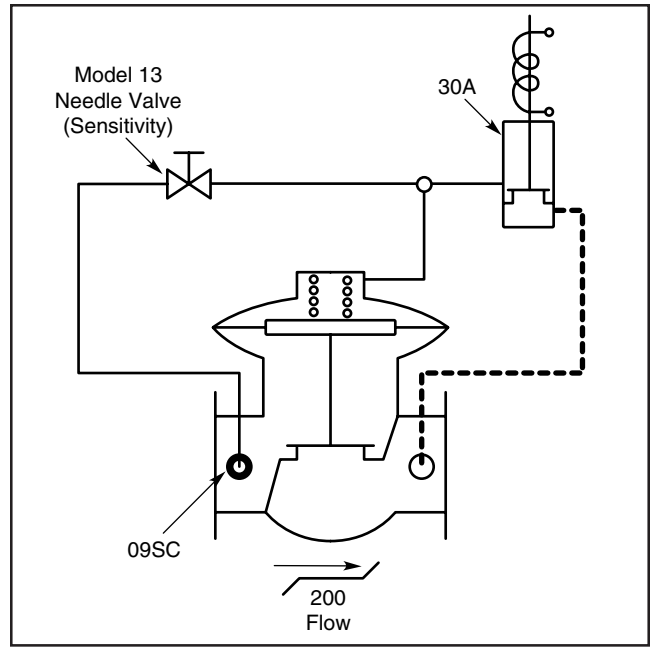


Figure 2

Revisions included in SS03034 Issue/Rev. 0.1 (2/03):

Page 1: Removed reference to Piston valves and flow ratings for 8", 10" and 12" valves.

Page 2: Removed reference to 200P42A-29/13 and 8", 10" and 12" valves. Revised Temperature Range and Materials of Construction.
Added footnote for PED. Removed reference to 8", 10" and 12" valves.

Page 3: Removed figure 3 reference to 200P-42A-29/13 valves.

The specifications contained herein are subject to change without notice and any user of said specifications should verify from the manufacturer that the specifications are currently in effect. Otherwise, the manufacturer assumes no responsibility for the use of specifications which may have been changed and are no longer in effect.

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