Small Vane Type Flow Switches — Series V6

Model Number Chart — See Example Below

V6	Base Model Number

Code	Construction
EP	Explosion Proof

Code	Upper Body (Switch Compartment)
B	Brass
S	Stainless Steel

Code	Lower Body
B	Brass (includes tee body on LF model)
S	Stainless Steel (includes tee body on LF model)

Code	Circuit (Switch)
S	SPDT
D	DPDT

Code	Tee Connection Size
1	½" NPTF
2	¾" NPTF
3	1" NPTF
4	1¼" NPTF
5	1½" NPTF
6	2" NPTF
LF	Low Flow Model (½" NPTF process connections)

Code	Tee Material
MI	Iron Tee
FS	Forged Steel Tee
B	Brass Tee
S	Stainless Steel Tee
O	No Tee Fitting (Field Trimmable Vane)
	Leave blank for (LF) model

Code	Options
GL	CSA approved with ground lead without junction box
CSA	CSA approved construction with junction box
AT	ATEX approved construction with junction box
MV	Gold contacts on snap switch for dry circuits (see specifications for ratings)
MT	High temperature option rated 400°F (205°C) (see specifications for ratings)
VIT	Viton O-rings in place of Buna-N on low flow models

V6 EP B — B S 2 B — GL ◄ Typical Model Number

1" Series V6 Flow Switch with Stainless Steel Flow Through Tee Fitting

Surprisingly compact, the V6 Flow Switch is engineered to specifically monitor liquid, gas or air flows. Operation is simple and dependable with no mechanical linkage as the flow switch is magnetically actuated. The lower body holds the flow vane and one magnet, which controls the switch actuating magnet in the separate upper housing. In most applications the switch is used to signal a low flow or loss of flow condition. Pipeline flow forces the vane against the vane spring and as flow decreases the vane spring pushes the vane back, actuating the switch to signal an alarm or trip a shutdown. Tee fittings are provided for installation in pipelines from ½" to 2". With bushings added the ½" unit is easily adapted to ¼" and ⅜" piping.

Features

- Leak proof lower body machined from bar stock
- Choice of models in a Tee with calibrated vane or field adjustable trimmable vane
- Weatherproof and Explosion-proof (listing included in specifications)
- Electrical switch assembly can be easily replaced without removing the unit from the pipe so that the process does not have to be shut down
- High pressure rating of 1000 psig (69 bar) with brass body and 2000 psig (138 bar) with 316 SS body (see specifications)
- Low flow model offers field adjustable set point

Applications

- Protects pumps, motors and other equipment against low or no flow
- Controls sequential operation of pumps
- Automatically starts auxiliary pumps and engines
- Stops liquid cooled engines, machines and processing when coolant flow is interrupted
- Signals alarm when emergency shower is in use

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Specifications

Service: Gases or liquids compatible with wetted materials.

Wetted Materials Standard V6 Models: Standard V6 Models: Vane: 301 SS; Lower Body: brass or 303 SS; Magnet: ceramic; Other: 301, 302 SS; Tee: brass, iron, forged steel, or 304 SS. V6 (**LF**) Low Flow Models: Lower Body: brass or 303 SS; Tee: brass or 304 SS; Magnet: ceramic; O-ring: Buna-N standard, Viton optional; Other: 301, 302 SS.

Temperature Limits: -4 to 220°F (-20 to 105°C) Standard, MT high temperature option 400°F (205°C) (MT not UL, CSA or ATEX). Atex compliant AT option ambient temperature –4 to 167°F (-20 to 75°C), process temperature: -4 to 220°F (-20 to 105°C).

Pressure Limit: Brass lower body with no tee models 1000 psig (69 bar), 303 SS lower body with no tee models 2000 psig (138 bar). Brass tee models 250 psig (17.2 bar), iron tee models 1000 psig (69 bar), forged and stainless steel tee models 2000 psig (138 bar), (**LF**) low flow models 1450 psig (100 bar).

Upper Body: Brass or 303 stainless steel

Switch Enclosure Rating: Weather-proof and Explosion-proof, listed with UL and CSA for Class I, Groups A*, B, C and D; Class II, Groups E, F and G. *(Group A on stainless steel body models only) ATEX CE 0344 II 2 G EEx d IIC T6 Process Temp≤75°C. EC-type Certificate No.: KEMA 04ATEX2128.

Switch Type: SPDT snap switch standard, DPDT snap switch optional.

Electrical Rating: UL models: 5A @ 125/250 VAC (V~). CSA and ATEX models: 5A @ 125/250 VAC (V~); 5A res., 3A ind. @ 30 VDC (V=). (**MV**) option: .1A @ 125 VAC (V~). (**MT**) option: 5A @ 125/250 VAC (V~). [(**MT**) option not UL, CSA or ATEX,]

Electrical Connections: UL models: 18 AWG, 18" (460 mm) long. ATEX and CSA models: terminal block.

Conduit Connections: ¾" NPTM standard, ¾" NPTF on junction box models.

Process Connection: ½" NPTM on models without a tee

Mounting Orientation: Switch can be installed in any position but the actuation / deactuation flow rates in the charts are based on horizontal pipe runs and are nominal values.

Set Point Adjustment: Standard V6 models none. Without tee models vane is trimmable. Low flow models are field adjustable in the range shown. See set point charts.

Weight: 2 to 6 lbs (.9 to 2.7 kg) depending on construction

Options not shown: (Consult Muis Controls) Custom calibration, bushings, PVC tee, reinforced vane.

Agency Approvals: UL, CSA, CE and ATEX.

V6 Set Point Charts Factory Installed Tee

Air Flow - Approximate Actuation / Deactuation flow rates
Upper figures are SCFM
Lower figures are LPM

Pipe Size	Actuate	Deactuate
½"	6.50 180	5.00 120
¾"	10.0 300	8.00 240
1"	14.0 420	12.0 360
1¼"	21.0 600	18.0 540
1½"	33.0 960	30.0 840
2"	43.0 1200	36.0 1020

Water Flow - Approximate Actuation / Deactuation flow rates
Upper figures are USGPM
Lower figures are LPM

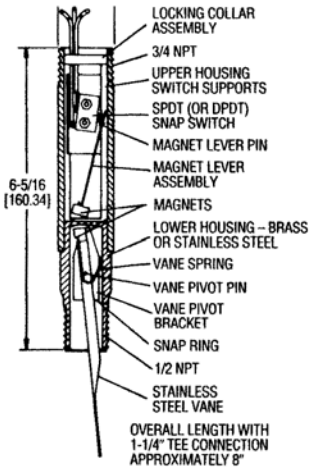
Pipe Size	Actuate	Deactuate
½"	1.50 5.667	1.00 3.83
¾"	2.00 7.5	1.25 4.67
1"	3.00 11.33	1.75 6.67
1¼"	4.00 15.17	3.00 11.3
1½"	6.00 22.67	5.00 19
2"	10.00 37.83	8.50 32.2

V6 Low Flow (LF) Set Point Chart

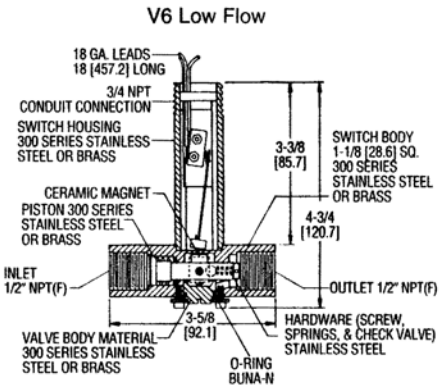
Min - Max Flow Rates in ½" Pipe

Media	Actuate	Deactuate
USGPM - Water	.04 - 0.75	.03 - 0.60
M³/HR - Water	.01 - 0.17	.007 - .136
SCFM - Air	.18 - 2.70	.15 - 2.0
NM³/S - Air	.0001 - .0013	.0001 - .001

Pressure drop (head loss) is a function of both set point and flow rate. Typically, pressure drop at actuation flow rate listed will be 5 - 10 psi (.34 - .69 bar). Pressure drops at other flow rates will vary in proportion to the (change in flow)².



Field Trimmable Vane Model Without Tee



Adjustable Set Point (LF) Low Flow Model

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