



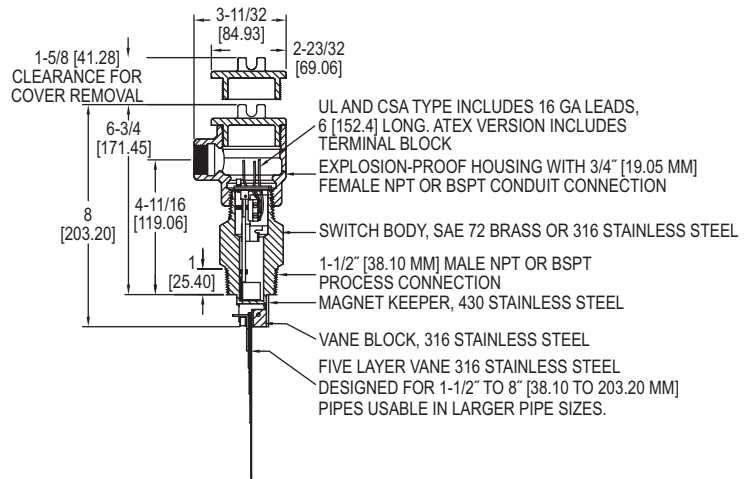
SERIES V4 | W. E. ANDERSON™ BY DWYER



FLOTECT® VANE OPERATED FLOW SWITCH

Field Adjustable — Dependable Protection Against Flow Variation or Stopping in Pipelines for Fluids, Gases and Flowing Solids

E' possibile richiedere paletta su misura al di fuori dei valori standard



The **SERIES V4** Flotect® Flow Switches is rugged and reliable, ideal for automatically protecting equipment and pipeline systems against damage from reduction or loss of flow. Time tested in thousands of pipeline installations and processing plants around the world this Series is Weatherproof, designed to meet NEMA 4 and Explosion-proof (listing included in specifications). This series can be used in pipes 1-1/2" (38.10 mm) and up.

FEATURES/BENEFITS

- Unique magnetically actuated switching design gives superior performance
- Features a free-swinging vane which attracts a magnet within the solid metal switch body, actuating a snap switch by means of a simple lever arm with no bellows, springs, or seals to fail
- Leak proof body machined from bar stock
- Electrical assembly can be easily replaced without removing the unit from installation so that the process does not have to be shut down
- Installs directly and easily into pipeline with a thredolet, tee, or flange (see application drawings)
- High pressure rating of 1000 psig (69 bar) with the brass body and 2000 psig (138 bar) with the 316 SS body
- Choice of custom vane calibrated for your application, Model V4, or field adjustable multilayer vane, Model V4-2-U (see set point chart)

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
- Shuts down burner when air flow through heating coil fails
- Controls dampers according to flow

SPECIFICATIONS

Service: Gases or liquids compatible with wetted materials.

Wetted Materials: Vane: 316 SS; Body: Brass or 316 SS standard; Magnet Keeper: 430 SS standard, 316 SS optional; Options: Other materials also available, consult factory (e.g. PVC, Hastelloy, Nickel, Monel, Titanium).

Temperature Limit: -4 to 275°F (-20 to 135°C) standard, MT high temperature option 400°F (205°C) [MT option not UL, CSA, ATEX or IECEx] ATEX and IECEx options, ambient temperature -4 to 163°F (-20 to 73°C); Process temperature -4 to 163°F (-20 to 73°C).

Pressure Limit: Brass body 1000 psig (69 bar), 316 SS body 2000 psig (138 bar), optional 5000 psig (345 bar) available with 316 SS body and SPDT switch only.

Enclosure Rating: Weatherproof and Explosion-proof. **Listed with UL and CSA for Class I, Groups C and D; Class II, Groups E, F, and G. ATEX **CE** 0344 **Ex** II 2 G Ex d IIB T6 Gb -20°C ≤ Tamb ≤ 73°C. -20°C ≤ Process Temp ≤ 73°C. EC-Type Certificate No.: KEMA 03 ATEX 2383. ATEX Standards: EN60079-0: 2009; EN60079-1: 2007. IECEx Certified: For Ex d IIB T6 Gb -20°C ≤ Tamb ≤ 73°C. -20°C ≤ Process Temp ≤ 73°C.

IECEx Certificate of Conformity: IECEx DEK 11.0071. IECEx Standards: IEC 60079-0: 2007; IEC 60079-1: 2007. Zone I. Also FM approved.

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

Electrical Rating: UL, FM, ATEX and IECEx models 10 A @ 125/250 VAC (V~). CSA models: 5 A @ 125/250 VAC (V~); 5 A res., 3 A ind. @ 30 VDC (V---). MV option: 1 A @ 125 VAC (V~); 1 A res., .5 A ind. @ 30 VDC (V---). MT option: 5 A @ 125/250 VAC (V~). [MT and MV option not UL, CSA, FM, ATEX or IECEx].

Electrical Connections: UL and CSA models: 16 AWG, 6" (152 mm) long. ATEX and IECEx unit: Terminal block.

Conduit Connection: 3/4" female NPT or 19.05 mm standard or M25 with -BSPT option.

Process Connection: 1-1/2" male NPT or 1-1/2" male BSPT or 38.10 mm.

Mounting Orientation: Within 5° of vertical for proper operation. Units for horizontal installation (vertical pipe with up flow) available.

Set Point Adjustment: For universal vane: five vane combinations.

Weight: 4 lb 8 oz (1.9 kg).

Agency Approvals: ATEX, CE, CSA, FM, IECEx, UL**.

**No housing option (-NH) has no approvals

MODEL CHART		
Model	Description	Connection Type
V4-2-U	Brass body, universal vane	NPT
V4-SS-2-U	316SS* body, universal vane	NPT
V4-2-U-NH**	Brass body, universal vane, no housing	NPT
V4	Brass body, custom vane	NPT
V4-SS	316SS* body, custom vane	NPT
V4-NH**	Brass body, custom vane, no housing	NPT
V4-2-U-BSPT	Brass body, universal vane, no housing	BSPT
V4-SS-2-U-BSPT	316SS* body, universal vane	BSPT
V4-BSPT	Brass body, custom vane	BSPT
V4-SS-BSPT	316SS* body, custom vane	BSPT

Note: Consult factory for price and availability of fittings for V4 installation. Thredolets, bushings, and tees are available in a variety of sizes and materials.

Note: For custom vane models, please supply factory with following information: pipe size, flow direction (horizontal, up), mounting, pressure, temperature, specific gravity, flow rates (maximum normal, actuation/deactuation†), etc.

*316SS body with 430SS magnet keeper

**No housing option (-NH) has no approvals

†When both values are supplied, note which is critical

OPTIONS	
To order add suffix:	Description
-D	DPDT contacts
-MV	Gold plated contacts, options for dry circuits*
-MT	High temperature, option rated 400°F (204°C)*
-TRI	Increasing flow time delay relay option with 2 SPDT contacts, adjustable from 0-1 to 0-31 minutes*
-TRD	Decreasing flow time delay relay option with 2 SPDT contacts, adjustable from 0-1 to 0-31 minutes*
-316	316 SS magnet keeper, option to replace standard 430 SS
-V	Vertical up flow, option for upward flow in vertical pipe
-AT	ATEX compliant construction
-IEC	IECEx certified construction
-BSPT	BSPT process connection and M25 conduit connection

*See electrical rating in specification, no listings or approvals

USA: California Proposition 65
 ⚠WARNING: Cancer and Reproductive Harm - www.P65Warnings.ca.gov

FLOTECT® VANE OPERATED FLOW SWITCH

Field Adjustable — Dependable Protection Against Flow Variation or Stopping in Pipelines for Fluids, Gases and Flowing Solids

V4 UNIVERSAL VANE FLOW CHARTS

Values shown in both charts are nominal. If normal flows exceed actuation rates by less than 10%, custom vanes are recommended. Figures are based on standard vertical installation in a 1-1/2" threaded branch connection in a horizontal run of pipe.

APPROXIMATE ACTUATION/DEACTUATION FLOW RATES FOR COLD WATER; GPM (LPM)												
Vane Layers	1.5" Pipe	2" Pipe	3" Pipe	4" Pipe	6" Pipe	8" Pipe	10" Pipe	12" Pipe	14" Pipe	16" Pipe	18" Pipe	20" Pipe
1	7-3 (26.67-11.67)	15-8 (56.7-30)	45-22 (167-83.3)	95-40 (367-150)	210-120 (800-450)	375-175 (1417-667)	600-300 (2267-1133)	900-450 (3400-1700)	1200-600 (4550-2267)	1400-800 (5300-3033)	2000-1000 (7567-3783)	2400-1200 (9083-4550)
1&2		7-4 (26.7-15)	23-14 (86.7-53.3)	50-35 (190-132)	130-90 (500-333)	230-150 (867-567)	450-250 (1700-950)	650-350 (2467-1317)	900-500 (3400-1900)	1200-650 (4550-2467)	1450-800 (5483-3033)	1800-1000 (6817-3783)
1,2,&3			11-7 (41.7-26.7)	27-19 (102-71.7)	80-60 (300-233)	160-115 (600-433)	300-180 (1133-683)	450-275 (1700-1033)	600-350 (2267-1317)	750-450 (2750-2083)	1000-600 (3783-2267)	1200-700 (4550-2650)
1,2,3,&4				17-12 (65-45)	60-45 (233-167)	120-90 (450-333)	230-150 (867-567)	310-200 (1167-750)	430-280 (1633-1067)	550-360 (2083-1367)	700-450 (2650-1700)	850-550 (3217-2083)
1,2,3,4,&5					40-30 (152-113)	80-65 (300-250)	135-100 (517-383)	200-140 (750-533)	290-200 (1100-750)	360-250 (1367-950)	460-325 (1733-1233)	575-400 (2183-1517)

Actuation rates are based on cold water at a specific gravity of 1.0.

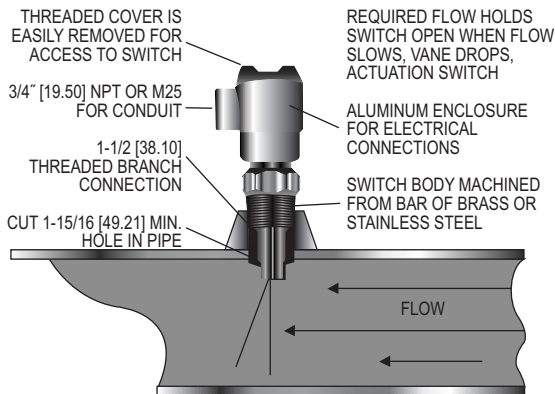
For fluids of different specific gravity, actuation rates may be approximated by dividing the rate shown by the square root of the specific gravity.

APPROXIMATE ACTUATION/DEACTUATION FLOW RATES FOR COLD AIR; SCFM (LPS)												
Vane Layers	1.5" Pipe	2" Pipe	3" Pipe	4" Pipe	6" Pipe	8" Pipe	10" Pipe	12" Pipe	14" Pipe	16" Pipe	18" Pipe	20" Pipe
1	32-17 (15-8)	65-32 (30-20)	210-105 (100-50)	400-200 (190-90)	950-475 (450-220)	1550-850 (730-400)	2400-1300 (1100-600)	3450-1900 (1600-900)	4700-2600 (2200-1200)	6400-3500 (3000-1700)	8000-4400 (3800-2100)	10000-5500 (4700-2600)
1&2		23-13 (10-6)	120-70 (60-30)	195-140 (90-70)	550-375 (260-180)	1100-700 (520-330)	1850-1200 (870-570)	2700-1750 (1300-800)	3400-2200 (1600-1000)	4800-3100 (2300-1500)	6000-3900 (2800-1800)	7400-4800 (3500-2300)
1,2,&3			60-48 (30-20)	135-100 (60-50)	375-265 (180-130)	725-500 (340-240)	1200-850 (570-400)	1850-1300 (870-610)	2600-1800 (1200-800)	3350-2350 (1600-1100)	4300-3000 (2000-1400)	5300-3700 (2500-1700)
1,2,3,&4				65-50 (30-20)	260-200 (120-90)	500-400 (240-190)	875-700 (410-330)	1250-1000 (590-470)	1900-1500 (900-710)	2500-2000 (1200-900)	3100-2500 (1500-1200)	3900-3100 (1800-1500)
1,2,3,4,&5					130-100 (60-50)	310-250 (150-120)	650-525 (310-250)	1000-800 (470-380)	1600-1250 (760-590)	2200-1750 (1040-830)	2800-2250 (1300-1100)	3550-2850 (1700-1300)

Actuation rates are based on air at standard conditions.

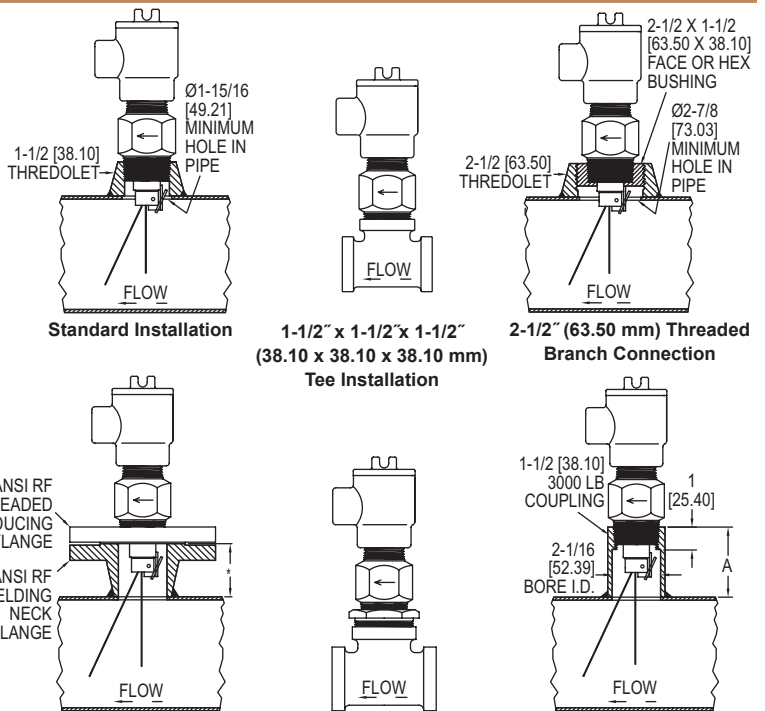
For gases at other pressures, temperatures, or specific gravities, consult factory for equivalent flow approximations.

APPLICATION DRAWINGS FOR FLOTECT® AUTOMATIC FLOW SWITCHES



Threaded Branch Connection Installation.

May also be installed using tee, flange or coupling.



Standard Installation

1-1/2" x 1-1/2" x 1-1/2" Tee Installation

Flange Installation

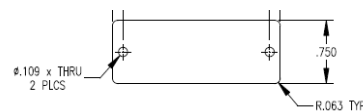
*Flange face to pipe O.D. specified by customer. Normally should not exceed 5" (127)

2" x 2" x 2" Tee Installation

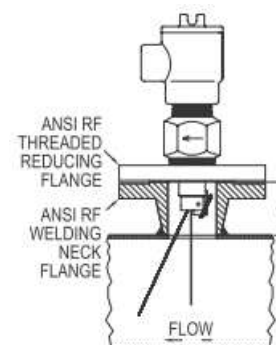
Not recommended, unless coupling is bored out to 2-1/16" (52.4) as shown

Pipe Size	Dim. A
2" (50.80 mm)	2-5/8 (66.7)
3" (76.20 mm)	2-1/2 (63.5)
4" (101.60 mm)	2-7/16 (61.9)

- 2 corpo più corto
- ... (senza -U) tarato secondo vostri valori, anche al di fuori standard
- SS corpo in 316SS
- EPOXY verniciato
- FSV Oscillazione piena della paletta, circa 50°
- HP alta pressione, max 345 bar
- HV paletta incernierata
- NACE certificato NACE
- NH senza custodia
- PT targhetta in carta, nessun limite sulla grandezza scritta
- ST targhetta in acciaio inox, 1 linea 12 caratteri
- SLW connessioni ad incollare, per PVC e simili
- SW connessioni a saldare, per metalli
- TBC connettore elettrico a blocchi
- TRD ritardo a scendere
- TRI ritardo a salire
- W accoppiamento saldato tra flussostato e adattatore/flangia



- B1FC attacco 2" con adattatore acciaio al carbonio, tondo
- B1HC attacco 2" con adattatore acciaio al carbonio, esagonale
- B1HB attacco 2" con adattatore ottone, esagonale
- B1H4 attacco 2" con adattatore 304SS, esagonale
- B1HS attacco 2" con adattatore 316SS, esagonale
- B2FC attacco 2-1/2" con adattatore acciaio al carbonio, tondo
- B2HC attacco 2-1/2" con adattatore acciaio al carbonio, esagonale
- B2HB attacco 2-1/2" con adattatore ottone, esagonale
- B2F4 attacco 2-1/2" con adattatore 304SS, tondo
- B2HS attacco 2-1/2" con adattatore 316SS, esagonale
- B4HS attacco 4" con adattatore 316SS, esagonale
- F2B1 attacco flangiato 2" ANSI 150, Hastelloy B
- F2H1 attacco flangiato 2" ANSI 150, Hastelloy C
- F2M1 attacco flangiato 2" ANSI 150, Monel
- F2C1 attacco flangiato 2" ANSI 150, acciaio al carbonio
- F2C3 attacco flangiato 2" ANSI 300, acciaio al carbonio
- F2C6 attacco flangiato 2" ANSI 600, acciaio al carbonio
- F2C9 attacco flangiato 2" ANSI 900, acciaio al carbonio
- F2S1 attacco flangiato 2" ANSI 150, 316 SS
- F2S3 attacco flangiato 2" ANSI 300, 316 SS
- F2S6 attacco flangiato 2" ANSI 600, 316 SS
- F2.5C1 attacco flangiato 2-1/2" ANSI 150, acciaio al carbonio
- F2.5C3 attacco flangiato 2-1/2" ANSI 300, acciaio al carbonio
- F2.5S1 attacco flangiato 2-1/2" ANSI 150, 316 SS
- F3C1 attacco flangiato 3" ANSI 150, acciaio al carbonio
- F3C3 attacco flangiato 3" ANSI 300, acciaio al carbonio
- F3C9 attacco flangiato 3" ANSI 900, acciaio al carbonio
- F3S1 attacco flangiato 3" ANSI 150, 316 SS
- F3S3 attacco flangiato 3" ANSI 300, 316 SS
- F4C1 attacco flangiato 4" ANSI 150, acciaio al carbonio
- F1C3 attacco flangiato 4" ANSI 300, acciaio al carbonio
- F4S1 attacco flangiato 4" ANSI 150, 316 SS
- T1B0 con T 1-1/2", ANSI 125, ottone
- T1B2 con T 1-1/2", ANSI 250, ottone
- T1S1 con T 1-1/2", ANSI 150, 316 SS
- T1P con T 1-1/2", sch. 80, PVC
- T1CP con T 1-1/2", sch. 80, C-PVC
- TB2B0 con T 2", ANSI 125, ottone
- TB2B1 con T 2", ANSI 250, ottone
- TB2C con T 2", ANSI 2000, acciaio al carbonio
- TB2S con T 2", 316 SS
- T2P con T 2", sch. 80, PVC
- T2CP con T 2", sch. 80, C-PVC
- T3B0 con T 3", ANSI 125, ottone
- T3P con T 3", sch. 80, PVC
- T3CP con T 3", sch. 80, C-PVC



Flange Installation
 *Flange face to pipe O.D. specified by customer. Normally should not exceed 5" (127)

