900 Series Flow Switch

Vane actuated switches are designed for direct sensing of liquid flow in pipelines. These switches are magnetically actuated and feature rugged internal construction and all stainless trim. Minimum line pressure loss is provided by vane position at actuation.

These switches are designed for vertical mounting only.

They may be adapted to a large range of pipe sizes from 2-1/2" upward. The standard model is furnished with a vane for an 8-inch line which may be field trimmed for installation in smaller lines. Special models are available for pipe over 8-inch size. Internal trim is 300 and 400 series stainless steel. Spring material is Inconel; o-ring material is Viton.

Adjustable Flow Rate

For pipe sizes over 8", consult factory.

Pipeline* Size (inches)	Flow Increase GPM		Flow Decrease GPM	
	Minimum	Maximum	Minimum	Maximum
2.50	25	75	20	55
3.00	30	90	25	65
4.00	45	115	30	85
6.00	80	180	55	125
8.00	120	230	80	160

*Schedule 40

Note: These switches may be adjusted in service to actuate per the values charted here. They are intended for flow indication only, not flow measurement.

Specific Gravity Correction Factors

To determine the actuating flow rates for liquids with a specific gravity other than 1.00, a correction factor must be applied to the flow rates given in the above table. These factors are listed below.

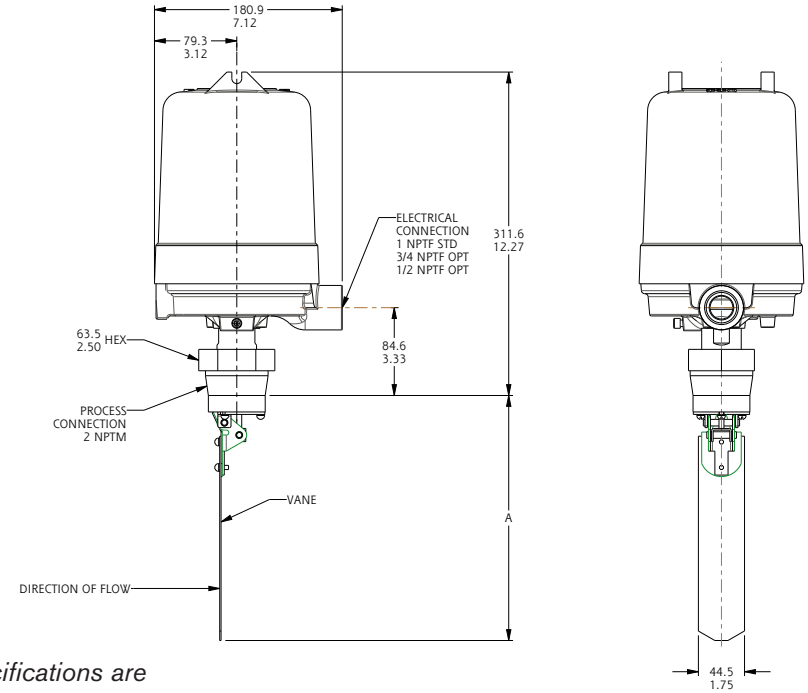
Specific Gravity	Multiplication Factor
.40 (minimum)	1.65
.45	1.55
.50	1.46
.55	1.39
.60	1.33
.65	1.27
.70	1.22
.75	1.17
.80	1.13
.85	1.10
.90	1.06

Specific Gravity	Multiplication Factor
.95	1.03
1.00	1.00
1.05	.97
1.10	.95
1.15	.92
1.20	.90
1.25	.88
1.30	.86
1.35	.84
1.40	.82
1.45	.80

900 Series Flow Switch with 2” NPT Process Connection

Linear = mm/inches

Drawing 0390467

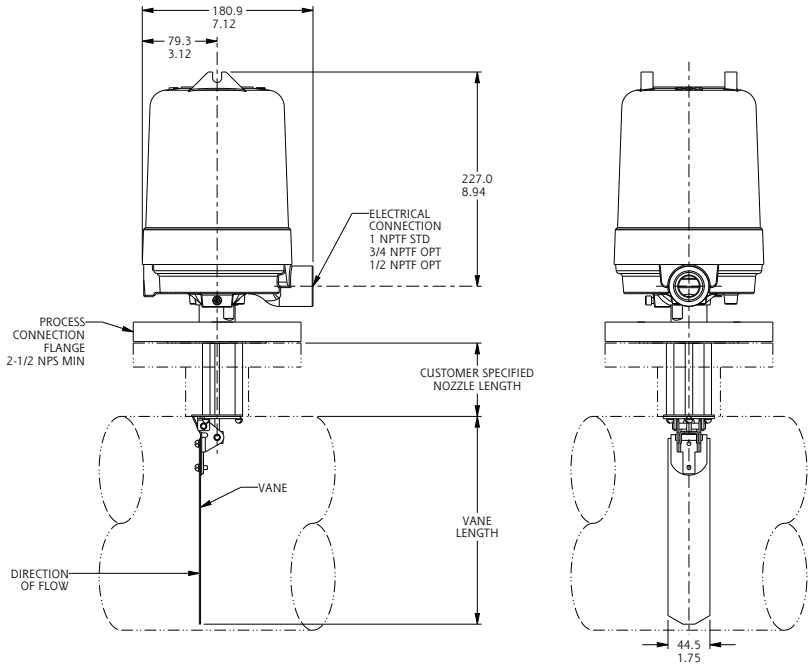


Design and specifications are subject to change without notice. For latest revision, see sorinc.com.

900 Series Flow Switch with Flange Process Connection

Linear = mm/inches

Drawing 0390749



900 Series Flow Switch

How to Order

Construct a model number using the information below.

Process Connections

All ratings are based upon operating temperature of 100°F (38°C).

		Size		Pressure Rating for Carbon Steel Construction	
1	2 A	2" NPT(M)		1480 psi	102 bar
2	7 C	2-1/2"	150# RF Flange	285 psi	20 bar
2	3 C	3"	150# RF Flange	285 psi	20 bar
3	7 D	2-1/2"	300# RF Flange	740 psi	51 bar
3	3 D	3"	300# RF Flange	740 psi	51 bar
4	7 E	2-1/2"	600# RF Flange	1480 psi	102 bar
4	3 E	3"	600# RF Flange	1480 psi	102 bar

90 ❑❑ - F ❑❑ - ❑ -❑❑ -❑❑-❑❑ **Model Number**

Wetted Materials

Carbon Steel Process Connection 316SS Vane 446SS Attraction Sleeve	A B
Carbon Steel Process Connection 316SS Vane 316SS Attraction Sleeve	A C
316SS Process Connection 316SS Vane 316SS Attraction Sleeve	C C

Switch Configurations

Amperages based on resistive loads

General Purpose	SPDT	120, 240VAC 120VDC 24VDC	15 Amps 0.5 Amps 5 Amps	A 1
General Purpose	DPDT	120, 240VAC 120VDC 24VDC	15 Amps 0.5 Amps 5 Amps	A 4
Mini-Hermetically Sealed	SPDT	120, 240VAC 120VDC 24VDC	11 Amps 0.5 Amps 5 Amps	L 1
Mini-Hermetically Sealed	DPDT	120, 240VAC 120VDC 24VDC	5 Amps 0.25 Amps 5 Amps	L 4

Contact Factory Representative for alternate switches.
Maximum process temperature is 250°F (121°C).

Optional Accessories

Add designator(s) to the end of the model number.
Consult factory for accessories not listed.

C R	3/4" NPT(F) conduit reducer
C S	CSA Certified
K K	Breather Drain (not available with CSA Certified units)
N C	NACE Certified construction
P Y	Powder coat epoxy coating. No coating on stainless steel parts or plated screws. (500 hours-salt spray)
R R	Stainless steel tag attached with stainless steel wire to housing. Stamped with customer specified tagging information.
T T	Stainless steel nameplate permanently attached to housing. Stamped with customer specified tagging information.
W V	UL listed.

Electrical Enclosure

N 4	NEMA 4; IP65
N 7	NEMA 4 & 7; IP65 Class I Group C, D; Class II Group F, G; Division 1 & 2

Rostehcnadzor (RTN) Certification standard (certificate available upon request).

Series 900 Vane Actuated Flow Switch

Test Certificates

	C1	C3	C4	C5	C6	C7	B5	B6	B7
Calibration	◆						◆	◆	◆
Inspection Report		◆					◆	◆	◆
Compliance / Conformance			◆						◆
Dielectric Test				◆			◆		
Insulation Resistance					◆		◆	◆	
QA Test Report						◆			

Limited Warranty: SOR agrees to repair or replace any switch found to be defective in material or workmanship within five years from date of shipment. The limited warranty is valid only if the switch was installed in accordance with published factory installation instructions, operated within the design limitations stated on the nameplate, and returned to the factory for inspection, freight prepaid, within the warranty period. Contact the factory for return authorization. No claim for labor or consequential damages will be allowed.

Safety Certified to IEC 61508 (SIL)

SOR products are certified to IEC 61508 for non-redundant use in SIL1 and SIL2 Safety Instrumented Systems for most models. For more details or values applicable to a specific product, see the Safety Integrity Level Quick Guide (Form 1528).

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