



SW-07

Variable Area Flowmeter and Switch

- **For viscous media from 30 cSt up to 600 cSt**
- **Any mounting position, no need of recalibration**
- **Compact design**
- **Brass and stainless steel versions**
- **Highly accurate switching**
- **Very low switching hysteresis**
- **Non-abrasive burnt-in scale on sight glass**

Description:

The SW-07 series of flowmeters and switches operates according to a modified variable area principle. Using a spring, the float is introduced into a cylindrical slit nozzle. The flowing medium moves the float in the direction of flow and the upper edge of the float indicates the flowing volume on the scale mounted on the sight glass. A reed contact is situated outside the device. This reed contact is infused in a stepless adjustable housing and thus protected from external influences. When the float reaches along with its integrated magnet the position of the reed contact, the contact blades get closed. If the volume of flow is higher the float continues to move maximum up to the stopper that prevents overriding of the connecting range. This ensures a bistable switching action at any time.

Viscosity compensation, mounting position and functional safety:

The spring action and magnetic float ensure absolute functional safety. Due to the spring mounted inside that presses the float in the opposite direction of flow into its initial position, the device can be deployed in any mounting position. No readjustment is required as the artificially matured spring is under pretension. The strong pretension of the spring in combination with an aperture in the float limit the effect of the medium's viscosity fluctuations to a minimum in comparison with other normal float flowmeters.

Range of application:

The SW-07 series of variable area flowmeters and switches is intended for measuring and monitoring viscous fluids, for example, in centrally controlled lubrication systems, oil circulation lubrication systems, transformer oils and so on.

Versions:

Operating ranges:

0.1-0.8 l/min to 30-90 l/min fluids with viscosities from 30 cSt up to max. 600 cSt

Materials:

brass and stainless steel versions

Contacts:

NO-contact operating ranges 03 - 05	max. 230 V, 3 A, 60 VA
NO-contact operating ranges 06a - 16	max. 250 V, 3 A, 100 VA
Change-over contact (2)	max. 250 V, 1.5 A, 50 VA
Ex-change-over contact operating ranges 06a - 16 (1)	max. 250 V, 1 A, 30 VA
Ex-NO-contact operating ranges 06a - 16 (1)	max. 250 V, 2 A, 60 VA
Change-over contact PLC	max. 250 V, 1 A, 60 VA

(1) ATEX II 2 G Ex mb II T6 & ATEX II 2 D Ex tD A21 IP67 T80°C

(1) ATEX II 2 G Ex mb II T5 & ATEX II 2 D Ex tD A21 IP67 T100°C

(2) Minimum load 3 VA

Protection class: IP65 with plug

IP67 with cable connection

Ordering codes:

Ordering number: SW-07. 3. 1. 1. 06. 1. 1. 0

Variable Area Flowmeter and Switch

Process connection:

- 1 = female thread G 1/4"
- 2 = female thread G 1/2"
- 3 = female thread G 3/4"
- 4 = female thread G 1"

Material:

- 1 = brass, spring made of stainless steel 1.4571
- 2 = fully stainless steel 1.4571

Scale:

- 1 = for viscous media from 30 cSt up to 600 cSt

Operating ranges (small design):

SW-07.2 only:

- 03 = 0.5 - 1.7 l/min
- 03a = 0.8 - 2.5 l/min
- 04 = 1.3 - 4 l/min
- 05 = 2.5 - 8 l/min

SW-07.1 to SW-07.4:

- 06a = 0.1 - 0.8 l/min
- 07 = 0.5 - 1.5 l/min (up to 400 cSt)
- 08 = 1 - 4 l/min
- 09 = 2 - 8 l/min (not 1/4")
- 10 = 3 - 10 l/min (not 1/4")
- 11 = 5 - 15 l/min (not 1/4")
- 12 = 8 - 24 l/min (not 1/4")
- 13 = 10 - 30 l/min (not 1/4" or 1/2")
- 14 = 15 - 45 l/min (not 1/4" or 1/2")
- 15 = 20 - 60 l/min (not 1/4" or 1/2")
- 16 = 30 - 90 l/min (not 1/4" or 1/2")

Number of contacts:

- 0 = no contacts
- 1 = 1 contact
- 2 = 2 contacts

Contact function:

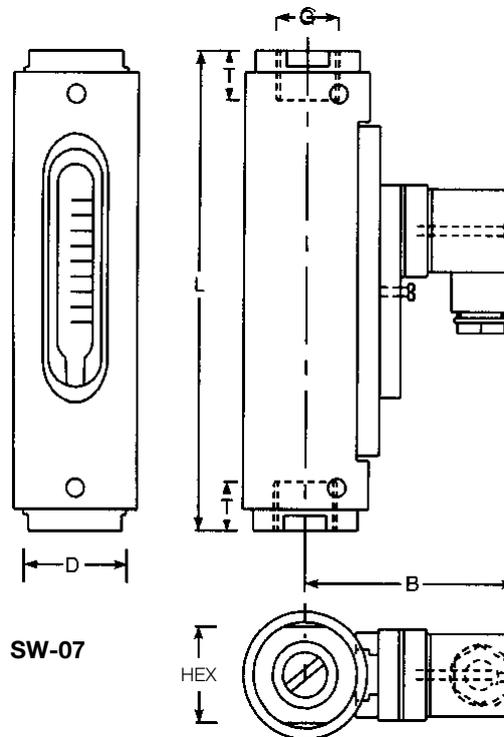
- 0 = no contacts
- 1 = NO-contact
- 2 = change-over contact
- 3 = Ex-change-over contact, operating ranges 06a - 16 (always with 2m infused cable)
- 4 = Ex-NO-contact, operating ranges 06a - 16 (always with 2m infused cable)
- 5 = change-over contact for PLC

Special issues:

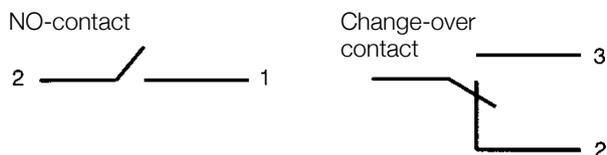
- 0 = none
- 1 = please specify in detailed text

Dimensions:

Type	Assembly dimensions in mm						Weight approx. (g)
	HEX	D	B	G	T	L	
SW-07.1.x.x.x	41	45	ca.74	G 1/4"	10	144.5	850
SW-07.2.x.x.03-05	27	30	ca.54	G 1/2"	14	114.0	300
SW-07.2.x.x.06a-12	41	45	ca.74	G 1/2"	14	144.5	850
SW-07.3.x.x.x	41	45	ca.74	G 3/4"	15	138.5	850
SW-07.4.x.x.x	41	45	ca.74	G 1"	17	158.5	850



Electrical connection



Technical specifications:

max. pressure: 16 bar operating ranges 03 - 05
10 bar operating ranges 06a - 16

Pressure drop: 0.02 - 0.2 bar operating ranges 03 - 05
0.02 - 0.4 bar operating ranges 06a - 16

max. temperature: 120°C (160°C on request)

Materials - Wetted parts:

Materials:	Brass	Stainless Steel
Wetted parts:	brass nickel-plated	stainless steel 1.4571
Sight glass:	Duran 50	
Spring:	stainless steel 1.4571	
Sealings:	FKM (optional NBR, EPDM)	
Magnets:	hard ferrite	
Housing (not wetted part):	aluminium anodized	

Electrical connection:

device plug as per DIN 43650
optional:
- 1 m infused cable,
- device plug M12x1 including counter plug (-20°C to +85°C)

Accuracy: +/- 10% of full scale value