



SM-16

Turbine Flowmeter for Fluid Media without Auxiliary Power Supply



Features

- / Counter and/or flowmeter versions
- / Local 6-digit LCD display
- / Battery-operated, replaceable
- / Aluminium, nylon or st. steel versions
- / Operating ranges up to 1135 l/min
- / Convenient dimensions for assembly
- / ATEX II 1G Ex ia IIC T6

Description:

The SM-16 series of turbine flowmeters consists of an interchangeable turbine which is built into a flow housing made of nylon, aluminium or stainless steel and a local evaluator and display electronic unit. This functions as a total and a partial volume counter and as a flowmeter. The turbine wheel is set into rotation by the streaming medium. The ferrites embedded into the turbine blades are scanned through an inductive pick-up system. The sequence of impulses generated thus is proportional to the flow and is displayed by means of a microprocessor controlled electronic unit.

Application:

Due to the interchangeable battery the devices do not depend on external power supply and, therefore, they can be deployed without extensive cabling wherever flow volumes need to be accurately measured or counted locally. The integrated microprocessor allows on-the-spot calibration with the result that accuracy is increased or the device can be adjusted, apart from water, for even highly viscous media.



Technical Specifications:

Medium /	low-viscosity (higher viscosities with on-the-spot calibration)
Process connection /	1/2" ISO female thread (only operating range 14) 3/4" ISO female thread (only operating range 11, 12, 16) 1" ISO female thread (only operating range 15) 1 1/2" ISO female thread (only operating range 17) 2" ISO female thread (only operating range 13, 18)
max. Temperature /	-18...+60 °C
max. Pressure /	
Al-housing:	20 bar
Nylon-housing:	10 bar
St. steel-housing:	100 bar - A high pressure version up to 200 bar for the st. steel housing is available on request.
Supply /	2x lithium battery, approx. lbattery life: 5 years
Display /	LCD, 6-digit automatic On and Off switching
Accuracy /	only applies to low-viscosity liquids:
Range 11:	bis ± 5% ***
Range 12,13,14:	± 1.5%
Range 15,16:	± 1.0%
Range 17,18:	± 0.75% (± 1.0% possible with on-site calibration)
*** Accuracy can vary up to ± 5% depending on installation and fluid type. Field calibration is recommended for best accuracy.	
Protection class /	IP 44

Special Versions /

For the operating range 10...100 l/min, a low-cost version of the SM-16 for petrol, diesel and kerosene in aluminium or another version for water in nylon that operates with accuracy of 5 % and up to 20 bar for aluminium housing, 10 bar for nylon housing pressure is available (without ATEX approval). The max. operation temperature is from -10...+54°C. These versions function purely as flow counters.

Ordering Codes for this Version:

- SM-16.Q9.A.99V (diesel)
- SM-16.Q9.N.99V (water)

Dimensions in mm:

Nylon- and Aluminium housing		Operating ranges
102 x 63 x 51 mm	1"	11, 12
152 x 114 x 76 mm	2"	13

St. Steel housing		
107 x 46 x 51 mm	1/2"	14
109 x 51 x 51 mm	3/4"	15
114 x 56 x 51 mm	1"	16
135 x 71 x 68 mm	1 1/2"	17
160 x 81 x 84 mm	2"	18

Ordering Codes:

Order number	SM-16.	Q9.	A.	11.	0
SM-16 Turbine Flowmeter					
Version /					
Q9 = counter for total and partial volume and flowmeter					
Material /					
A = aluminium housing					
N = nylon housing					
E = stainless steel housing					
Operating range (nylon and aluminium housing) /					
11 = 1...11 l/min					
12 = 11...190 l/min					
13 = 104...1135 l/min (only aluminium housing)					
Operating range (stainless steel housing) /					
14 = 3.8...37.9 l/min					
15 = 7.6...75.7 l/min					
16 = 18.9...190 l/min					
17 = 38.0...380 l/min					
18 = 76.0...760 l/min					
Special issues /					
0 = none					
1 = please specify in detailed text					
2 = ATEX approval, ATEX II 1G Ex ia IIC T6 Ta = -40...+60°C; IP65					

Electronic /

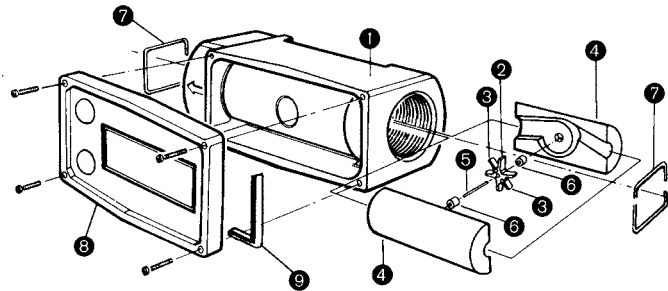
Counter for total volume (not resettable) and partial volume counter (resettable) and current value meter. Field calibration on EEPROM possible.

Materials:

	Nr.	Al-Version	Nylon version	St. steel version
Housing	1	aluminium	nylon	st. steel
Turbine	2	nylon	nylon	PVDF
Rotor mounting	3	ferrit	ferrit	ferrit
Retainer	4	nylon	nylon	PVDF
Axis	5	tungsten-carbide	tungsten-carbide	tungsten-carbide
Bearing	6	ceramic	ceramic	ceramic
Lantern ring	7	st. steel	st. steel	st. steel
Ellectronics housing	8	nylon	nylon	nylon
Sealing	9	rubber	rubber	rubber

Layout:

1. . .11 l/min.



11. . .190 l/min. and 114. . .1135 l/min.

