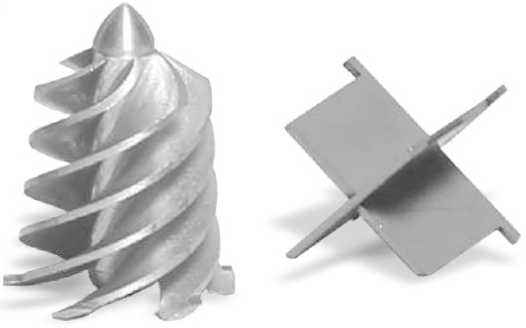
SWIRL

(VELOCITY FLOW METER)



SWIRL FLOWMETERS, OFTEN REFERRED TO AS SWIRL METERS OR PRECISION VORTEX FLOWMETERS. THE SWIRL FLOW METER OPERATES ON THE PRINCIPLE OF IMPARTING ANGULAR MOMENTUM TO THE FLOWING FLUID THROUGH A SET OF STATIONARY BLADES OR SWIRL VANES. AS THE FLUID PASSES THROUGH THESE VANES, IT ACQUIRES A SWIRLING MOTION. THESE SWIRLS ARE DETECTED BY A SENSOR, AND THE FREQUENCY OF THEIR FORMATION IS DIRECTLY PROPORTIONAL TO THE FLUID VELOCITY. BY MEASURING THIS FREQUENCY, THE SWIRL FLOW METER ACCURATELY CALCULATES THE FLOW RATE OF THE FLUID.



PERFORMANCE DATA

The flowmeter is designed for pipe sizes ranging from DN 15 to DN 200. The flowmeter is specified to measure flow rates within a certain range 0.3 ~ 3600 m^3/h. As mentioned, swirl flowmeter in general are known for their high accuracy. The precision in their measurements is emphasized, making them suitable for applications where precise flow data is essential.

ADVANTAGES

Swirl flowmeters are designed to operate effectively over a broad range of temperatures and pressures. Swirl meters can directly measure mass flow rates, providing valuable information in processes where mass flow is a critical parameter. Similar to other vortex-based flowmeters, swirl flowmeters have no moving parts in direct contact with the fluid being measured. Swirl flowmeters provide accurate measurements, which can lead to cost savings by minimizing waste and optimizing resource usage. This feature contributes to their reliability and reduces maintenance requirements. These flowmeters can be integrated into process control systems, allowing for real-time monitoring and control of fluid flow in industrial processes.

MARKETS & AREAS OF APPLICATION

The swirl flow meter stands as a reliable and adaptable flow measurement solution, especially in applications with complex flow patterns. Its ability to accurately measure low flow rate, coupled with its non-intrusive design and versatility, makes it a valuable asset in industries dealing with diverse and dynamic flow conditions. Swirl flowmeter are particularly useful in application of various gases measurement, Petroleum, Chemical Industries, Compressed Air measurement etc.

GENERAL SPECIFICATION

Enclosure	: Aluminium / SS 316
Repeatability	: 0.02%
Accuracy (standard position)	: 1% for Gas
Fluid & Ambient Temperature	: -20 ˚C to 80 ˚C
Connection	: Flange End

DISPLAY WITH VARIOUS OUTPUT

Power Voltage : 24 V DC

Output Signal

Retransmit : (4 ~ 20) mA / Pulse

Communication : RS - 485 / HART Protocol / Alarm

Relay : High & Low Flow

Battery Operated Meter

Power Voltage : 3.6 V DC Lithium Batteries

Display Mode : Double row LCD as below

Q X.XXXXX Six Digit Instantaneous Flow (Nm^3/h, Nm^3/m, m^3/h, m^3/m, L/h, L/m, Kg/h, Kg/m, T/h, T/m)

XXXXX.XXXX Nine Digit Cumulative Flow

Cumulative flow : Automatically expand the display precision.

The cumulative flow values can be reset.

Power - fail protection : The instrument coefficient ensures that total flow values for the past ten years are retained even in the event of a power supply drop.

MODEL RANGE

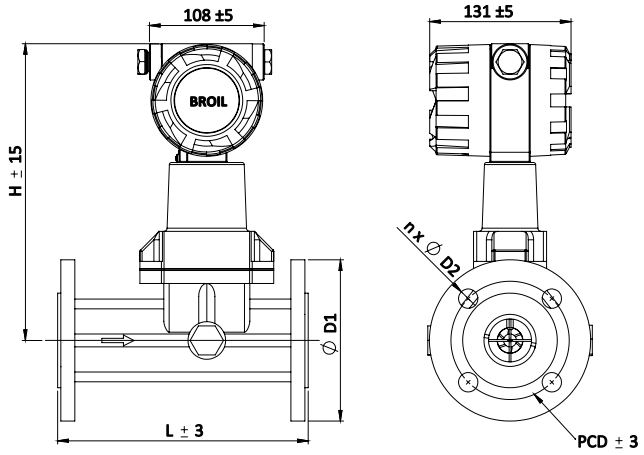
Model Number	Line Size (Flange)	Range (m3/H)
BT - SFM - 015	½"	0.33 ~ 12
BT - SFM - 020	¾"	1.1 ~ 16
BT - SFM - 025	1"	2.7 ~ 32
BT - SFM - 032	1¼"	4.6 ~ 61
BT - SFM - 040	1½"	6.5 ~ 73
BT - SFM - 050	2"	11.3 ~ 134
BT - SFM - 065	2½"	19.1 ~ 299
BT - SFM - 080	3"	29.4 ~ 408
BT - SFM - 100	4"	50.9 ~ 792
BT - SFM - 125	5"	70.7 ~ 1016
BT - SFM - 150	6"	159 ~ 2227
BT - SFM - 200	8"	226.2 ~ 3619

at standard conditions STP (20 Deg. °C, 1- ATM)

DISPLAY OUTPUT

✶ Please Check Display Manual

calculate pulse/liter at : 25%, 50%, 75% and 100% flow rate with air at Atm or room pressure and temperature



FLANGE END DIMENSION

Model Number	L	H	D 1	n X D 2	PCD
BT-SFM-015	160	265	95	4 X 14	65
BT-SFM-020	160	305	105	4 X 14	75
BT-SFM-025	180	315	115	4 X 14	85
BT-SFM-040	232	355	150	4 X 18	110
BT-SFM-050	232	355	165	4 X 18	125
BT-SFM-080	330	390	200	8 X 18	160
BT-SFM-100	410	410	220	8 X 18	180
BT-SFM-150	580	470	285	8 X 23	240

ALL THE DIMENSION IN MILLIMETER





