

Cooling & Heating



STEAM FLOW METERING SYSTEM (SFM)

A fit & forget steam measurement system

INTRODUCTION

The SFM (Steam Flow Meter) is suitable for measurement of mass flow of superheated & saturated steam. The unit displays compensated instantaneous mass flow rate and totalized mass of steam. The instrument accepts signals from Differential Transmitter, Pressure Transducer & Temperature Transmitter. It computes instantaneous density from pressure & temperature signals and computes the mass flow of steam as per guide lines from BS1042. It is covered under IBR.

MONITORING IS THE FIRST STEP TO SAVING MONEY

STEAM MEASUREMENT OBJECTIVES

Steam is generated by combustion of expensive fuel in an industrial boiler & its cost is an essential attribute to the manufacturing cost of product & hence is monitored on a continuous basis. Steam is measured to fulfill the objective of knowing specific steam consumption & reduce it to lower the manufacturing cost

WORKING PRINCIPLE

Square root of differential pressure created across a calibrated orifice plate is directly proportional to steam flow through the pipe. This flow is converted to mass flow by multiplying it with the density of steam and both instantaneous and totalized flow are indicated on a LED type display unit.

TECHNICAL SPECIFICATIONS

Service	Saturated Steam
Size	40 to 350 NB
Type of Flow Meter	Differential Pressure (DP) type
Flow Element	Orifice Plate
Flow Element MOC	SS 316
Density Compensation	Provided Online
Type of Flanges	WNRF, 300#, ANSI / ASME
MOC of flanges	CS
Accuracy of system	+/- 3% of actual reading taneous
Accuracy of meter	+/- 0.25%
Display	Separate display windows for Instantaneous & Totalized flow indication, LED Type
Output	4-20 mA DC, isolated, (with max 600 Ohm load), proportional to instantaneous mass flow rate
Design Standard	BS 1042
Computation & Display Unit	
Power supply	85 - 265 V AC, 50 Hz, 1 phase
Mounting	Wall mounting
Enclosure	Aluminium Die-cast
Protection Class	Equivalent to IP 65
Operating Amb temperature	50 Deg.C.
Humidity	90% RH max
Maximum Temperature	600 Deg.C
maximum Pressure	100 Bar
Programming	By Keypad with 3 level password protection
Display	4 digit (Instantaneous) / 6 digit (Totalized), 0.5 inch height x 7 segment LED with programmable decimal point position

FEATURES & BENEFITS

- Low cost solution to customer with accurate flow measurement.
- Fit & forget type design due to its rugged construction
- Accuracy can be maintained at +/- 0.25 % of full scale
- Equipped with on-line density compensation
- User has the following 4 alternatives for density compensation mode during steam measurement, thus ensuring flow measurement every time even if there is failure of one of more components
 - Pressure & Temperature compensation
 - Pressure compensation
 - Temperature Compensation
 - Uncompensated
- Three level password protection for maximum security
- Featured with easy error diagnostics with alarm output as option
- Displaying Instantaneous, Totalized flow, steam pressure & steam temperature
- Special computer designed orifice plate ensure accurate measurement
- Retransmission to PLC/PC on Modbus RTU protocol, RS232 or RS485
- Featured with the indication of superheated steam or wet steam when temperature crosses +/- 7 deg C from saturation level.
- User friendly programmable display unit, hence easy to install & recalibrate at site
- Large 7 segment LED display, easy to read
- Supplied with SMPS, can accept wide voltage variation from 85 to 265V

ORDERING INFORMATION

- Specify line size
- Steam mass flow – Minimum, Normal & Maximum flow
- Steam pressure – Minimum, Operating & Boiler design pressure

For more information, please get in touch with your nearest Thermax Representative. You can also mail us at info.c&hservices@thermaxindia.com visit us at: www.thermaxindia.com

In view of our constant endeavour to improve the quality of our products, we reserve the right to alter or change specifications without prior notice. All photographs shown in this publication are representative in purpose, and to be used for reference only. For actual details and specifications, please refer to Thermax offer document.



Sustainable Solutions in
Energy & Environment

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