



Energy Environment Solutions for Sustainable Growth



Steam Flow Metering System

STEAM ENGINEERING

INTRODUCTION

Steam Flow Meter is designed to measure flow rate of steam flowing in a pipeline. It is designed to measure mass flow of saturated and superheated steam. The sensing element of flow is the well designed and calibrated orifice plate assembly which gives differential pressure drop across the orifice plate.

The computation unit is capable of accepting signal from differential pressure transmitter, pressure transducer and temperature transmitter. The computed volumetric flow rate is converted to mass flow rate by multiplying it with the density from a steam look up table built in the instrument. Both instantaneous and totalized flow is indicated on a LED type display unit.

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.

FEATURES

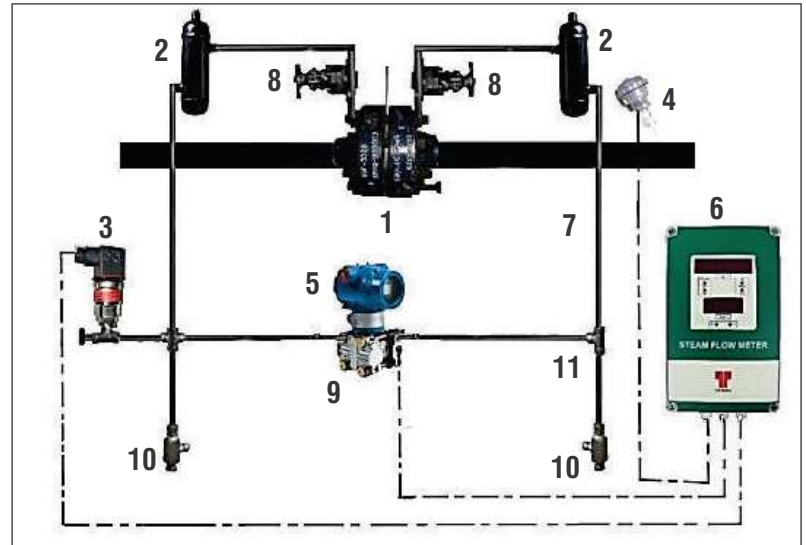
- Economical solution for accurate measurement of mass steam flow
- Rugged construction
- Multiple modes of density compensation ensures accurate measurement
- Instrument displays instantaneous and cumulative steam flow, steam pressure and steam temperature
- User friendly programmable display unit, hence easy to install and re-calibrate at site
- Compatible with data logging

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 display unit.

DESIGN SPECIFICATIONS

Available Models	A2Zflo
Sizes	DN25, DN40, DN50, DN65, DN80, DN100, DN125, DN150, DN200, Dn250, DN300, DN350
Connections	WNRF Flanged as per ASME B 16.5, 150# and 300# rating
Installations	Orifice plate assembly in horizontal pipeline Computation unit (Wall mounted) at suitable location <i>Please note – this instrument is not recommended for wet steam</i>



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
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
Power supply	85 - 265 V AC, 50 Hz, 1 phase
Programming	By Keypad with 3 level password protection

SCOPE OF SUPPLY

No	Descriptioni	Qty
1	Ss316 orifice plate assembly with a pair of weld neck raised face (WNRF) flanges and a set of Nuts, bolts, washers & gasket	1
2	Condensate Pots	2
3	Pressure Transducer	1
4	RTD temperature sensor	1 set
5	Differential pressure transmitter	1
6	Wall mounted computation unit	1
7	SS impulse tubing with compression ferrule fittings	1 set
8	Globe valves	2
9	3 way manifold	1
10	Needle valves with plugs	2
11	Set of fittings for interconnecting impulse tubing with field instruments	1 set



THERMAX

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Thermax Business Portfolio

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