

TECO Severe Application Meter™ (SAM HP)

Fracking Application

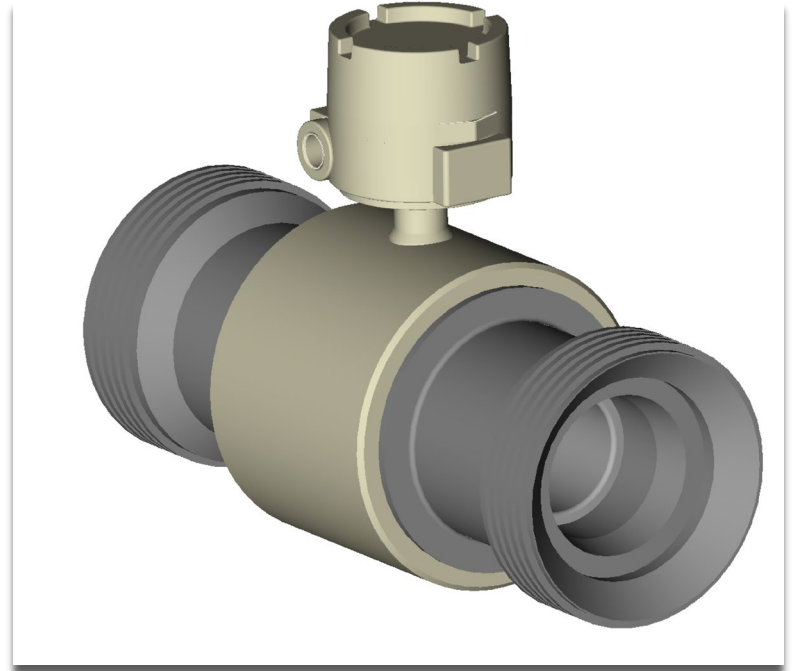
Overview

The SAM is TECO's patent pending magnetic flow meter with abrasion resistant ceramic trim that exceeds the capabilities of Alumina or Yttria Zirconia. Capable of withstanding a variety of corrosive slurries, acids, bases and solvents, the SAM is the world's first magmeter specifically designed for Severe Fracking Applications.

Application

Measurement of extremely abrasive slurries in Mining, Dredging, Fracking, and Oil and Gas Exploration (will not measure oil or gas).

Design



Size Range	2" – 4" with FIG. 1502 Female Connections.
Accuracy	1/2% of rate (1 – 15 M/sec scale) with DC signal converter 1% of rate (1 – 10 M/sec scale) with AC signal converter
Pressure Rating	15,000 psi Cold Working Pressure at temperatures up to 100° F.
Max Process Rating	400°F at a Reduced Working Pressure per FIG 1502 specification.
Max Process Temp Gradient	(estimate 100° per min.)
Wetted Materials	Electrodes: Billet Tungsten Carbide Electrodes Lining: Magnesia partially stabilized Zirconia (MgPSZ)
Environmental limits	Temperature: -40°F to 140°F Submergence: IP68 / NEMA 6P Hazardous Environments: See model code selections

Model Number:

TECO Severe Application Meter™ (SAM HP)

Category Desc	Description	Option Code
Base	SAMHP (High Pressure)	SAMHP
Sensor Design	(T) Thompson Equipment Company	T
Electronics Interface	(S) Rosemount 8782	S
Lay Length	(H) Custom for SAMHP - See product specs	H
Size	(11) 4" Fig. 1502 (SAMHP Only) LL = 19 9/16"	11
	(09) 3" Fig. 1502 (SAMHP Only) LL = (TBD)	09
	(06) 2" Fig. 1502 (SAMHP Only) LL = (TBD)	06
Flange	(F) Fig 1502 (SAMHP Only)	F
Flange Material	(T) Corrosion-Resistant Super Alloy (SAMHP Only)	T
Lining	(C) Ceramic Sleeve/Pipe	C
Electrode	(W) Billet Tungsten Carbide	W
Approvals	(A) General Purpose	A
	pending (K) Nonincendive for CL I, Div 2 - IS electrodes [Ex ia]	
	pending (X) ExplosionProof for CID1 C,D - IS electrodes [Ex ia]	

Weight: 236 lbs

Process Pressure: Full Vacuum to 15 ksi (0 Bar to 1034 Bar) **Tested** to 1.5 x MAOP = 22.5 ksi

Vibration : 1.5g at 10 Hz to 150 Hz

Accuracy \pm 0.5% of Rate at fluid velocities of 15 m/s to 1 m/s
 \pm 2 mm/sec of Rate at fluid velocities less than 1 m/sec

Accuracy statement is based on laminar flow of 5 uS/cm fluid through the flow tube.
Accuracy is also based on installation in accordance with the manufacturer's manual for both the HP SAM and the Mag Meter Electronics.

All data from flow testing was taken using the Rosemount 8782AW2A1N5M4B6Q4 Flow Transmitter. Consult TECO before using other makes and models to determine compatibility.

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