Air Intake Flow System

The desirability of improving the fuel economy and lowering the emission output of the automobile engine has necessitated a search for improved sensors to measure and control engine parameters. One of the key requirements is to measure the engine intake air. If this can be accurately measured, together with other parameters, then the job of the control system designer can be easier.

J-TEC's SMART Mass flow meter installed into a piping system will achieve accuracies of 1% over a 70:1 dynamic range. The built-in RTD and the pressure inputs into the microprocessor, create the option for a self-contained mass flow meter. Unique vortex shedding technology, with no moving parts, reduces pressure drop and maintenance costs. Each meter is individually calibrated against NIST standards, giving you an accurate, reliable and economical meter for your money.

SPECIFICATIONS

Measured:	Gas/Air
Flow rate measured:	2 to 140 FPS (0.6 to 43 M/S)
Operating temperature:	-20° to 300°F (-28° to 150°C)
Ambient temperature limits:	-20° to 155°F (-28° to 68°C)
Operating pressure:	-5 to 250 PSIG
Accuracy:	1% of reading over dynamic range of meter
Repeatability:	0.5% of reading
Input power:	15-24 VDC
Signal output:	2-wire, 4-20 mA loop
Construction:	Stainless steel wetted parts with teflon transducers. NEMA 7 enclosures standard. 2" 150 lb. flange standard (optional 2" NPT)
Communications:	HART Protocol
Certifications:	CE Optional ATEX (EEx ib IIB T4) Zone 1, Group IIB, T4 (Equiv. To N.A. Class I, Div. 1, Groups C & D, T4)
Options:	2 line, 8 digit rate/totalizer display Internal RTD and mass flow compensation

FLOW RANGES

Pipe Size	FPS / MPS	FLOW RANGE IN SCFM, 60°F IN AIR / FLOW RANGE IN Nm3/HR, 16°C IN AIR / PRESSURE IN PSIG (BARg)												Pressure Drop (Ins. H20) at 50% Max. Flow*
		0 (0)		25 (1.7)		50 (3.4)		75 (5.2)		100 (6.9)		150 (10.3)		
		MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	
4"		2	140	28	1980	46	3227	64	4474	82	5721	117	8215	
102 mm		0.6	43	45	3183	74	5187	103	7192	131	9196	189	13205	0.7
6"		2	140	64	4455	104	7261	144	10067	184	12872	264	18484	
152 mm		0.6	43	102	7161	167	11672	231	16182	296	20692	424	29712	0.6

*Pressure drop data for air at 14.7 psi and 60°F (0 BARg and 16°C)

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