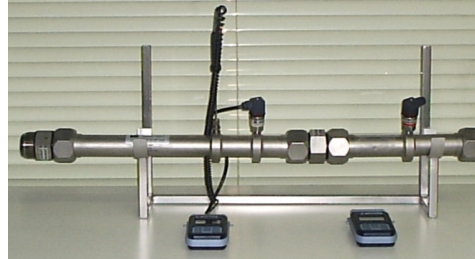


SONOZ SONIC NOZZLE FLOW METER

The SONIC NOZZLE, also known as a "Critical Flow Venturi" or "Critical Flow Nozzle" is accepted internationally as a flow measurement standard and flowmeter. Originally used by the aerospace industry, Sonic Nozzles are now utilized for many diverse applications in the automotive, energy and metrology industries. Sonic Nozzles can be used as a calibration standard for gas flowmeters or any flow measurement device. By design, Sonic Nozzles are a constant volumetric flowmeter. However, with the use of a regulated pressure supply, the Sonic Nozzle becomes a "state-of-the-art" mass flowmeter.



Sonic Nozzles are in accordance with both ASME and ISO standards. The geometry is such that the gas is accelerated along the circular arc converging section and then is expanded in a conical diverging section, which is designed for pressure recovery. In the throat, or minimum area point of the Sonic Nozzle, the gas velocity becomes equal to the speed of sound. At this point, gas velocity and density are maximized, and the mass flow rate is a function of the inlet pressure, inlet temperature, and the type of gas.

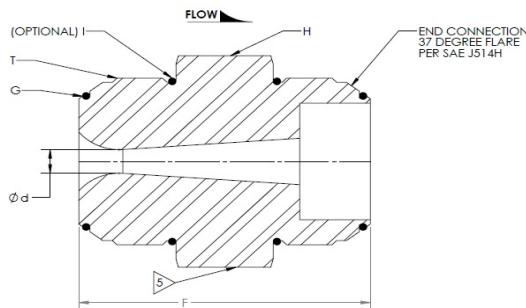


ADVANTAGES

- Internationally Recognized
- Minimal Upstream Piping Required
- Excellent Repeatability
- Differential Pressure Measurement Not Required
- Mass Flow is Constant with Varying Downstream Pressure
- Mass Flow Varies Linearly with Inlet Pressure
- Long Term Accuracy
- No Moving Parts
- Flow Rate Is Not Affected by Downstream Flow Disturbances

APPLICATIONS

- Calibration of Gas Flow Meters, Gas Flow Metering
- Calibration of Automotive Component Air Passages
- Automotive Emissions Testing
- Calibration of Turbine Engine Component Gas Passages
- Measurement of Automotive Induction Air
- Compressor Discharge Capacity Tests, Valve CV Tests



MOD.	d Throat diam. +/- 0,001	F AN fitting length	G ring size	O-I ring size	Nom. tube fitting size	T threads MIL-S- 8879	H HEZ SIZE FLATS	TUBE SIZE
SONOZ00	0.016	2.500	2-021	2-123	1"	1.313-12UN-2A	1.63	1"ODX0.065" WALL TBG
SONOZ01	0.022	2.500	2-021	2-123	1"	1.313-12UN-2A	1.63	1"ODX0.065" WALL TBG
SONOZ02	0.031	2.500	2-021	2-123	1"	1.313-12UN-2A	1.63	1"ODX0.065" WALL TBG
SONOZ03	0.044	2.500	2-021	2-123	1"	1.313-12UN-2A	1.63	1"ODX0.065" WALL TBG
SONOZ04	0.063	2.500	2-021	2-123	1"	1.313-12UN-2A	1.63	1"ODX0.065" WALL TBG
SONOZ05	0.088	2.500	2-021	2-123	1"	1.313-12UN-2A	1.63	1"ODX0.065" WALL TBG
SONOZ06	0.125	2.500	2-021	2-123	1"	1.313-12UN-2A	1.63	1"ODX0.065" WALL TBG
SONOZ08	0.177	2.500	2-021	2-123	1"	1.313-12UN-2A	1.63	1"ODX0.065" WALL TBG
SONOZ07	0.250	2.500	2-021	2-123	1"	1.313-12UN-2A	1.63	1"ODX0.065" WALL TBG
SONOZ09	0.354	2.500	2-021	2-123	1"	1.313-12UN-2A	1.63	1"ODX0.065" WALL TBG
SONOZ0712	0.250	3.000	2-126	2-224	1 1/2"	1.875-12UN-2A	2.00	1,5"ODX0.065" WALL TBG
SONOZ0920	0.354	4.000	2-134	2-141	2"	2.500-12UN-2A	2.75	2"ODX0.065" WALL TBG
SONOZ1020	0.500	4.281	2-134	2-141	2"	2.500-12UN-2A	2.75	3" SCH.10S PIPE SECTION
SONOZ1120	0.707	6.053	2-134	2-141	2"	2.500-12UN-2A	2.75	3" SCH.10S PIPE SECTION

inches units



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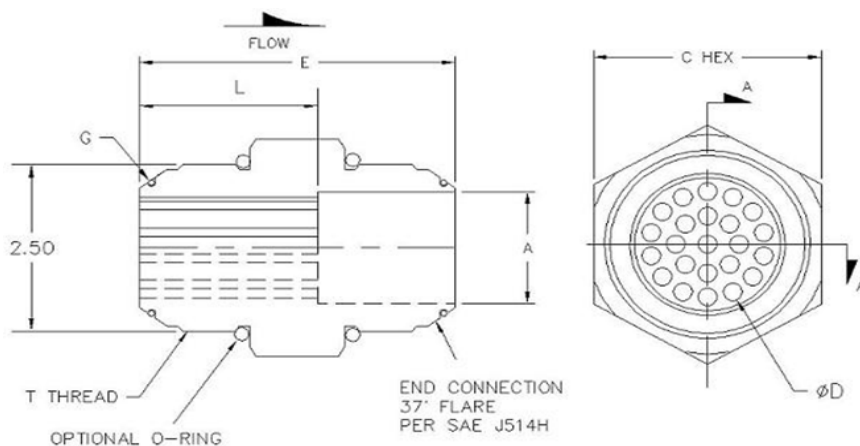
Mail: info@satema.it

<http://www.satema.it>

SONOZ SONIC NOZZLE FLOW METER

FLOW CONDITIONER STANDARD

MOD.	Line size	A	L	C HEX	E Overall length	D diameter	T an threads MIL-S-8879	O-RING
FC16	16	0.84	1.099	1.625	2.50	0.109	1-5/16 - 12	2-020
FC24	24	1.312,000	1.718	2.000	3.00	0.172	1 - 7/8 - 12	2-126
FC32	32	1.78	2.343	2.750	4.00	0.234	2 - 1/2 - 12	2-134



INLET - OUTLET TUBE

TUBE SIZE X 0.65 WALL	LINE SIZE	SONIC NOZZLE A	INLET TUBE LENGTH	INLET TUBE DIA. NOM.	TEMP. TAP LOC.	EXIT TUBE LENGTH	EXIT PRESSURE TAP LOCATION	AN LEGTH	INLET PRESSURE TAP LOCATION	INLET PRESSURE TAP LOCATION	STRAIGHTENING LENGTH
		A - H	B	C	E	F	G	H	K	L	J
0,75	12	2.25	9	0.62	4	6.75	3.38	2.25	1.25	2.00	0.780
1"	16	2.50	10	0.87	5	5.50	2.80	2.50	1.63	2.50	1.099
1,5"	24	3.00	15	1.37	6	8.00	4.00	3.00	2.00	3.00	1.718
2"	32	4.00	20	1.87	7	12.00	6.00	4.00	2.75	3.50	2.343



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