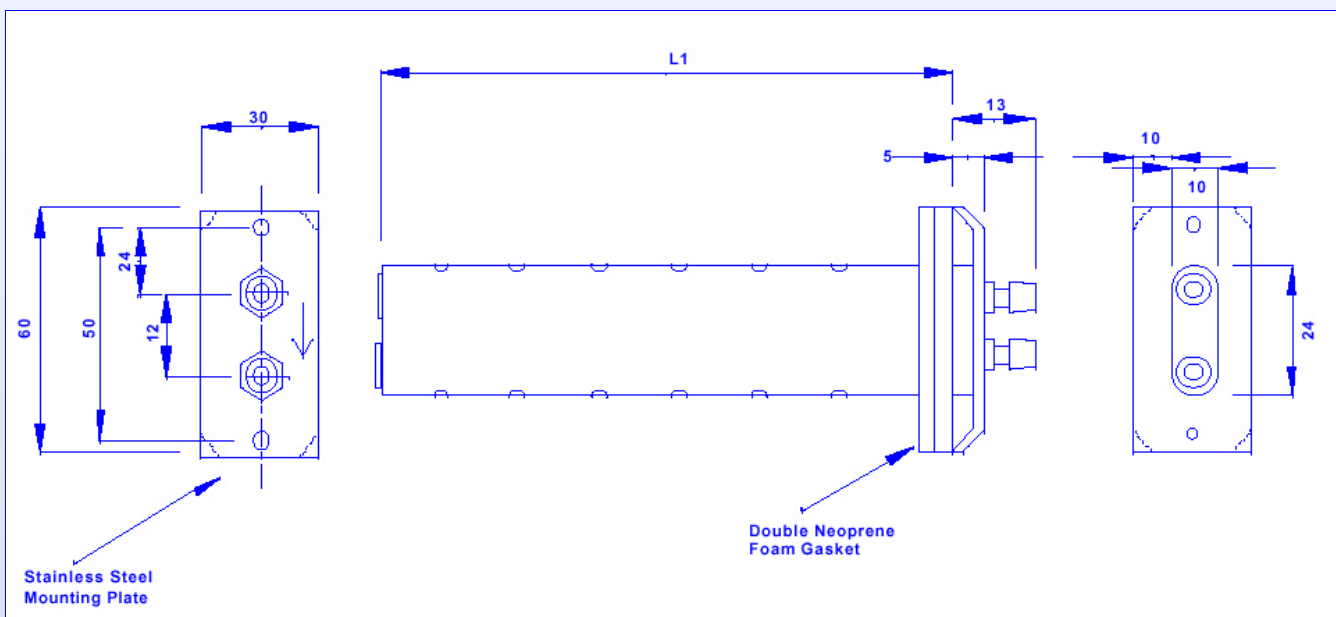


AV-EP Multi-Point Air Velocity Probe

Features

- Mounting plate to suit fiat, round and oval ducts.
- Double gasket seals the probe to the duct.
- Sensing tube can be custom made
- Any length can be made from 50mm to 600mm.
- Standard material is anodized aluminum.
- Push on connectors to suit 6mm ID PVC tube.
- Ideal for small attenuators
- Perfect for fresh air inlet louvres.
- A versatile probe for air proving applications



The **AV-EP** can be connected to a **PA-267** differential pressure sensor of an appropriate range. (See table on page 2). The output of the sensor represents the air velocity, and is defined by the following equation: -

$$\text{Velocity}^2 = \frac{2 * \text{Velocity Pressure}}{1.2}$$

This calculation can either be performed in a controller's strategy or by the **IO-VP/AV** calculation module, to give air velocity in **m/s**.

Part Code

AV-EP50
AV-EP100
AV-EP150
AV-EP200
AV-EP250
AV-EP300
AV-EP350
AV-EP400
AV-EP450
AV-EP500
AV-EP550
AV-EP600

Description

Multi-point probe 50mm
Multi-point probe 100mm
Multi-point probe 150mm
Multi-point probe 200mm
Multi-point probe 250mm
Multi-point probe 300mm
Multi-point probe 350mm
Multi-point probe 400mm
Multi-point probe 450mm
Multi-point probe 500mm
Multi-point probe 550mm
Multi-point probe 600mm

Whilst every effort has been made to ensure the accuracy of this document, Omni Instruments cannot accept responsibility damage, injury, loss or expense resulting from errors or omissions. This specification may be altered without notice.

AV-EP Multi-Point Air Velocity Probe



		Velocity (m/s)									
		0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
Velocity (m/s)	0	0.00	0.01	0.02	0.05	0.10	0.15	0.22	0.29	0.38	0.49
	1	0.60	0.73	0.86	1.01	1.18	1.35	1.54	1.73	1.94	2.17
	2	2.40	2.65	2.90	3.17	3.46	3.75	4.06	4.37	4.70	5.05
	3	5.40	5.77	6.14	6.53	6.94	7.35	7.78	8.21	8.66	9.13
	4	9.60	10.09	10.58	11.09	11.62	12.15	12.70	13.25	13.82	14.41
	5	15.00	15.61	16.22	16.85	17.50	18.15	18.82	19.49	20.18	20.89
	6	21.60	22.33	23.06	23.81	24.58	25.35	26.14	26.93	27.74	28.57
	7	29.40	30.25	31.10	31.97	32.86	33.75	34.66	35.57	36.50	37.45
	8	38.40	39.37	40.34	41.33	42.34	43.35	44.38	45.41	46.46	47.53
	9	48.60	49.69	50.78	51.89	53.02	54.15	55.30	56.45	57.62	58.81
	10	60.00	61.21	62.42	63.65	64.90	66.15	67.42	68.69	69.98	71.29
	11	72.60	73.93	75.26	76.61	77.98	79.35	80.74	82.13	83.54	84.97
	12	86.40	87.85	89.30	90.77	92.26	93.75	95.26	96.77	98.30	99.85
	13	101.40	102.97	104.54	106.13	107.74	109.35	110.98	112.61	114.26	115.93
	14	117.60	119.29	120.98	122.69	124.42	126.15	127.90	129.65	131.42	133.21
	15	135.00	136.81	138.62	140.45	142.30	144.15	146.02	147.89	149.78	151.69
	16	153.60	155.53	157.46	159.41	161.38	163.35	165.34	167.33	169.34	171.37
	17	173.40	175.45	177.50	179.57	181.66	183.75	185.86	187.97	190.10	192.25
	18	194.40	196.57	198.74	200.93	203.14	205.35	207.58	209.81	212.06	214.33
	19	216.60	218.89	221.18	223.49	225.82	228.15	230.50	232.85	235.22	237.61
	20	240.00	242.41	244.82	247.25	249.70	252.15	254.62	257.09	259.58	262.09
	21	264.60	267.13	269.66	272.21	274.78	277.35	279.94	282.53	285.14	287.77
	22	290.40	293.05	295.70	298.37	301.06	303.75	306.46	309.17	311.90	314.65
	23	317.40	320.17	322.94	325.73	328.54	331.35	334.18	337.01	339.86	342.73
	24	345.60	348.49	351.38	354.29	357.22	360.15	363.10	366.05	369.02	372.01
	25	375.00	378.01	381.02	384.05	387.10	390.15	393.22	396.29	399.38	402.49
	26	405.60	408.73	411.86	415.01	418.18	421.35	424.54	427.73	430.94	434.17
	27	437.40	440.65	443.90	447.17	450.46	453.75	457.06	460.37	463.70	467.05
	28	470.40	473.77	477.14	480.53	483.94	487.35	490.78	494.21	497.66	501.13
	29	504.60	508.09	511.58	515.09	518.62	522.15	525.70	529.25	532.82	536.41
	30	540.00	543.61	547.22	550.85	554.50	558.15	561.82	565.49	569.18	572.89
	31	576.60	580.33	584.06	587.81	591.58	595.35	599.14	602.93	606.74	610.57
	32	614.40	618.25	622.10	625.97	629.86	633.75	637.66	641.57	645.50	649.45
	33	653.40	657.37	661.34	665.33	669.34	673.35	677.38	681.41	685.46	689.53
	34	693.60	697.69	701.78	705.89	710.02	714.15	718.30	722.45	726.62	730.81
	35	735.00	739.21	743.42	747.65	751.90	756.15	760.42	764.69	768.98	773.29
	36	777.60	781.93	786.26	790.61	794.98	799.35	803.74	808.13	812.54	816.97
	37	821.40	825.85	830.30	834.77	839.26	843.75	848.26	852.77	857.30	861.85
	38	866.40	870.97	875.54	880.13	884.74	889.35	893.98	898.61	903.26	907.93
	39	912.60	917.29	921.98	926.69	931.42	936.15	940.90	945.65	950.42	955.21
	40	960.00	964.81	969.62	974.45	979.30	984.15	989.02	993.89	998.78	1003.69

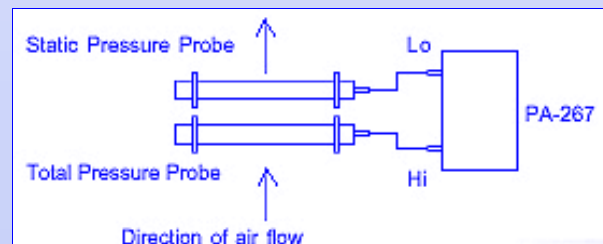
Using the chart to determine the range of the differential pressure sensor:

From the left-hand column (velocity, in 1 m/s increments) and the top row (velocity, in 0.1 m/s increments), read across and down to find the corresponding differential pressure.

Example 1: Air velocity is 6.2m/s - Read across from the left to 0.2m/s and down from the top to 6m/s. Where the column and row meet gives a differential pressure of 23.06Pa. In this example, a **PA-267-25** sensor, with a range of 0 - 25Pa would be selected.

Example 2: Air velocity is 2.6m/s - Read across from the left 0.6m/s and down from the top to 25m/s. Where the column and row meet gives a differential pressure of 393.22Pa. In this example, a **PA-267-500** sensor, with a range of 0 - 500Pa would be selected.

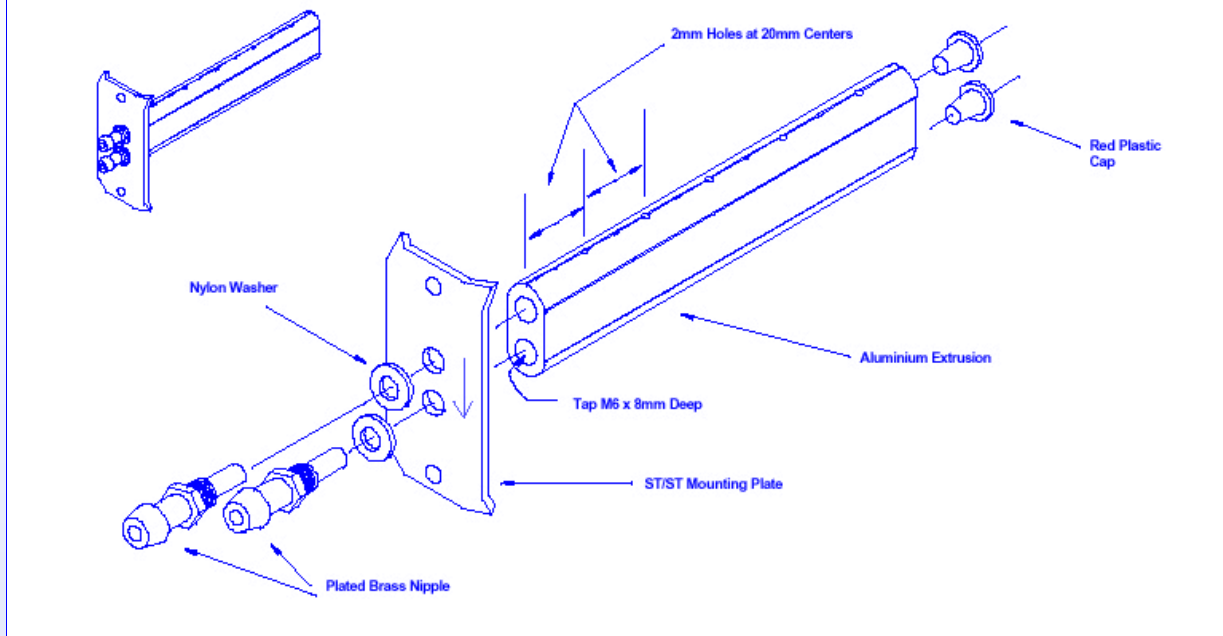
Connections to PA-267:



AV-EP Multi-Point Air Velocity Probe



Assembly Drawing:



Installation Notes:

Always install the **AV-EP** with the direction arrow on the flange pointing in the direction of the air flow.

Ensure that the 2 red plastic sealing caps are filled.

The AV-EP should be installed not less than 2 metres downstream from any heating or cooling devices, source of moisture such as humidifier, fan, or bend in the ductwork

Suggested Trend controller strategy to calculate air velocity from differential pressure:

Installation Notes:

The **AV-EP** should **NOT** be used in turbulent air flow conditions.

