

## Multi-point velocity probe



### Features

- Push on connectors to suit 6mm ID PVC tube
- Double gasket seals the probe to the duct
- Mounting plate to suit flat, round or oval ducts

### Specification

#### Probe:

Material PVC Flame retardant (V0)

Dimensions 10 x 24mm

#### Connectors:

Material Plated brass

Connections To suit 6mm ID PVC tubing

#### Duct flange:

Material Stainless steel

Dimensions 30 x 60mm

#### Country of origin

UK

### Product Codes

#### AV-EP100

100mm Multipoint probe

#### AV-EP200

200mm Multipoint probe

#### AV-EP300

300mm Multipoint probe

#### AV-EP400

400mm Multipoint probe

#### AV-EP500

500mm Multipoint probe

#### AV-EP600

600mm Multipoint probe

### Technical Overview

The AV-EP series of air velocity probes are available in lengths from 100 to 600mm. They are used to ensure that recommended flow rates for public buildings and industrial plant are achieved. It is also useful to measure the carrying velocities for dust extraction, where the recommended flow rate will depend on the material being exhausted in the extract system. The AV-EP is designed to operate with Sontay's range of D.P. sensors.

### Installation

Ensure that the two end plastic sealing caps are fitted.

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

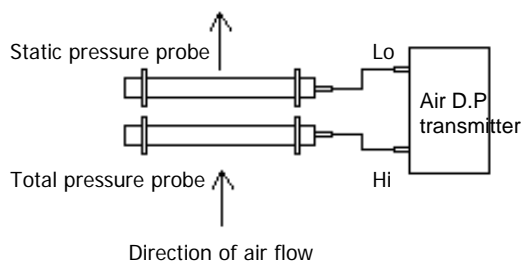
Do not install near dampers.

Do not install where condensation is likely (it can block the probe holes).

Ensure that when the probes are mounted that ALL the holes are either inside the duct or blocked up.

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

### Connections To D.P Transmitter



### Calculation

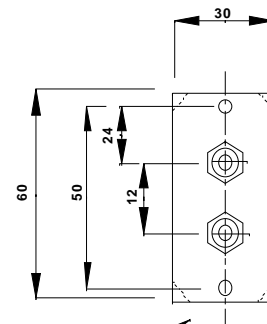
The AV-EP can be connected to a differential pressure sensor of an appropriate range. (See table on page 3). The output of the sensor represents the air velocity, and is defined by the following equation:-

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

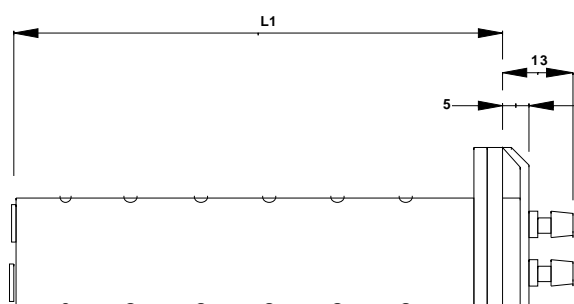
This calculation should be performed in a controller's strategy, to give air velocity in m/s.

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

### Dimensions



Stainless Steel Mounting Plate



Double Neoprene Foam Gasket

## Air Velocity v Differential Pressure Chart

		Velocity (m/s)									
		0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
0	0	0.01	0.02	0.05	0.1	0.15	0.22	0.29	0.38	0.49	
1	0.6	0.73	0.86	1.01	1.18	1.35	1.54	1.73	1.94	2.17	
2	2.4	2.65	2.9	3.17	3.46	3.75	4.06	4.37	4.7	5.05	
3	5.4	5.77	6.14	6.53	6.94	7.35	7.78	8.21	8.66	9.13	
4	9.6	10.09	10.58	11.09	11.62	12.15	12.7	13.25	13.82	14.41	
5	15	15.61	16.22	16.85	17.5	18.15	18.82	19.49	20.18	20.89	
6	21.6	22.33	23.06	23.81	24.58	25.35	26.14	26.93	27.74	28.57	
7	29.4	30.25	31.1	31.97	32.86	33.75	34.66	35.57	36.5	37.45	
8	38.4	39.37	40.34	41.33	42.34	43.35	44.38	45.41	46.46	47.53	
9	48.6	49.69	50.78	51.89	53.02	54.15	55.3	56.45	57.62	58.81	
10	60	61.21	62.42	63.65	64.9	66.15	67.42	68.69	69.98	71.29	
11	72.6	73.93	75.26	76.61	77.98	79.35	80.74	82.13	83.54	84.97	
12	86.4	87.85	89.3	90.77	92.26	93.75	95.26	96.77	98.3	99.85	
13	101.4	102.97	104.54	106.13	107.74	109.35	110.98	112.61	114.26	115.93	
14	117.6	119.29	120.98	122.69	124.42	126.15	127.9	129.65	131.42	133.21	
15	135	136.81	138.62	140.45	142.3	144.15	146.02	147.89	149.78	151.69	
16	153.6	155.53	157.46	159.41	161.38	163.35	165.34	167.33	169.34	171.37	
17	173.4	175.45	177.5	179.57	181.66	183.75	185.86	187.97	190.1	192.25	
18	194.4	196.57	198.74	200.93	203.14	205.35	207.58	209.81	212.06	214.33	
19	216.6	218.89	221.18	223.49	225.82	228.15	230.5	232.85	235.22	237.61	
20	240	242.41	244.82	247.25	249.7	252.15	254.62	257.09	259.58	262.09	
21	264.6	267.13	269.66	272.21	274.78	277.35	279.94	282.53	285.14	287.77	
22	290.4	293.05	295.7	298.37	301.06	303.75	306.46	309.17	311.9	314.65	
23	317.4	320.17	322.94	325.73	328.54	331.35	334.18	337.01	339.86	342.73	
24	345.6	348.49	351.38	354.29	357.22	360.15	363.1	366.05	369.02	372.01	
25	375	378.01	381.02	384.05	387.1	390.15	393.22	396.29	399.38	402.49	
26	405.6	408.73	411.86	415.01	418.18	421.35	424.54	427.73	430.94	434.17	
27	437.4	440.65	443.9	447.17	450.46	453.75	457.06	460.37	463.7	467.05	
28	470.4	473.77	477.14	480.53	483.94	487.35	490.78	494.21	497.66	501.13	
29	504.6	508.09	511.58	515.09	518.62	522.15	525.7	529.25	532.82	536.41	
30	540	543.61	547.22	550.85	554.5	558.15	561.82	565.49	569.18	572.89	
31	576.6	580.33	584.06	587.81	591.58	595.35	599.14	602.93	606.74	610.57	
32	614.4	618.25	622.1	625.97	629.86	633.75	637.66	641.57	645.5	649.45	
33	653.4	657.37	661.34	665.33	669.34	673.35	677.38	681.41	685.46	689.53	
34	693.6	697.69	701.78	705.89	710.02	714.15	718.3	722.45	726.62	730.81	
35	735	739.21	743.42	747.65	751.9	756.15	760.42	764.69	768.98	773.29	
36	777.6	781.93	786.26	790.61	794.98	799.35	803.74	808.13	812.54	816.97	
37	821.4	825.85	830.3	834.77	839.26	843.75	848.26	852.77	857.3	861.85	
38	866.4	870.97	875.54	880.13	884.74	889.35	893.98	898.61	903.26	907.93	
39	912.6	917.29	921.98	926.69	931.42	936.15	940.9	945.65	950.42	955.21	
40	960	964.81	969.62	974.45	979.3	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:**

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.

Therefore a differential pressure sensor, with a range of 0-25Pa would be selected.