



# AV-EP Series

Multi-Point Velocity Probe (ABS)



## 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.

## Applications

- Monitoring of air flow rate for public and industrial buildings
- Measurement of velocity for dust extraction

## Features & Benefits

- Push on connectors to suit AV-TUBE-8MM
- Double gasket seals the probe to the duct
- Mounting plate to suit flat, round or oval ducts
- Ideal for small attenuators

## Model Selection

AV-EP-100	Multi-point Air Velocity Sensor (ABS) 100 mm
AV-EP-200	Multi-point Air Velocity Sensor (ABS) 200 mm
AV-EP-300	Multi-point Air Velocity Sensor (ABS) 300 mm
AV-EP-400	Multi-point Air Velocity Sensor (ABS) 400 mm
AV-EP-500	Multi-point Air Velocity Sensor (ABS) 500 mm
AV-EP-600	Multi-point Air Velocity Sensor (ABS) 600 mm
<b>Accessory</b>	
AV-TUBE-8MM	Duct probe adjustment flange

Notes:

1. The AV-EP must be mounted a minimum of 2m away from any bends, fans, heating batteries etc. in the duct-work. Always point the flow direction arrow on the probe flange into the air flow.

## Installation

Ensure that the two end plastic sealing caps are fitted.

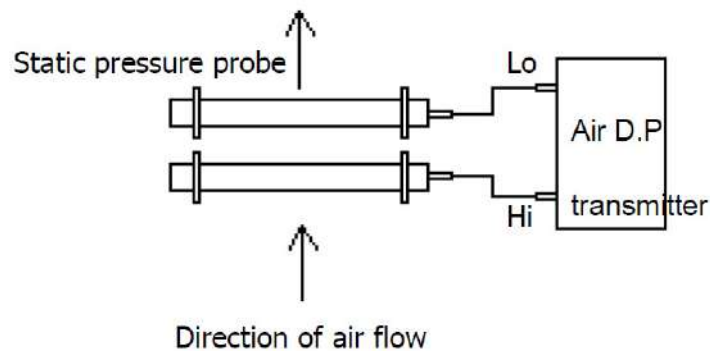
The AV-EP should be installed not less than 2 meters downstream from any heating or cooling device, source of moisture such as humidifier, fan or bend in the ductwork.

Do not install near dampers or where condensation is likely as this can block the probe holes.

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

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. The output of the sensor represents the air velocity, and is defined by the following equation:

$$\text{Velocity} = \sqrt{(2 \times \text{Velocity Pressure}) / 1.2}$$

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

# 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
Velocity (m/s)	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:*

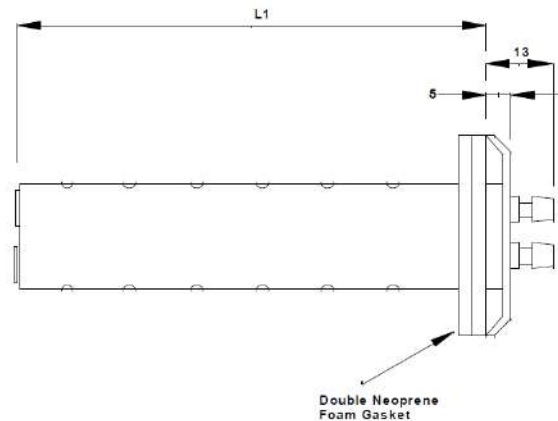
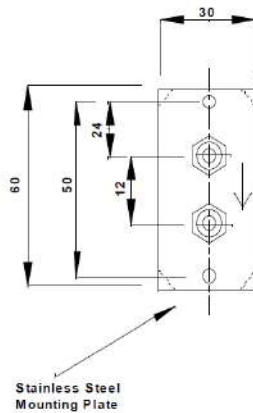
Air velocity is 6.2m/s - Read across from the left to 0.2m/s and down from the top to 6m/s. The column and row intersect at a differential pressure reading of 23.06Pa.

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

## Product Specifications

Probe Material	PVC Flame retardant (V0)
Probe Dimensions	10 x 24 mm
Connectors Material	Plated brass
Connections	suit AV-TUBE-8MM flange
Duct Flange Material	Stainless steel
Duct Flange Dimensions	30 x 60mm
Country of origin	UK

## Dimensions



Dimensions in mm