

AV-EP PVC Multi-Point Air Velocity Probe



Features:

- Push-on connectors to suit 6mm i/d PVC tubing
- Double gaskets duct seals included
- Mounting plate to suit flat or round ducts

Benefits:

- Averages across the duct
- Easy installation
- Fully compatible with the PA-500, PA-267 & PA-699 range of pressure transmitters

Technical Overview

The AV-EP series of air velocity probes are available in lengths from 100 to 600mm (3.94 to 23.62").

When connected to a differential pressure sensor of an appropriate range. (See table on page 4). 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.

Specification:

Probe:		
Material	PVC Flame retardant (V0)	
Dimensions	10 x 24mm (0.39" x 0.94")	
Connectors:		
Material	Plated brass	
Connections	To suit 6mm (0.24") i/d PVC tubing	
Duct flange:		
Material	Stainless steel	
Dimensions	30 x 60mm (1.18 to 2.36")	
Country of origin	UK	

Part Codes:

AV-EP100
100mm (3.94")

AV-EP200
200mm (7.87")

AV-EP300
300mm (11.81")

AV-EP400
400mm (15.75")

AV-EP500
500mm (19.69")

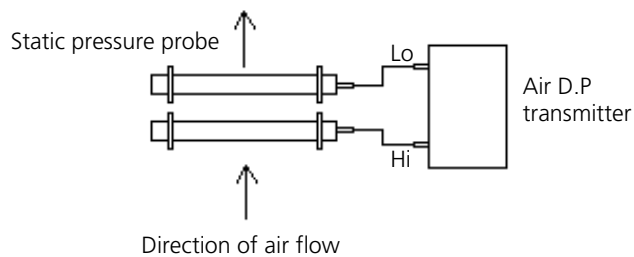
AV-EP600
600mm (23.62")

Accessory

PA-TUBE-8MM
PVC Tube 8mm (0.31") o/d x 1.5mm (0.06") wall, 30m (98.5 ft) reel

Installation:

- Ensure that the two end plastic sealing caps are fitted.
- The AV-EP should be installed not less than 2 meters (6.56') 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.



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	0.00	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:

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.

Whilst every effort has been made to ensure the accuracy of this specification, Sontay cannot accept responsibility for damage, injury, loss or expense from errors or omissions. In the interest of technical improvement, this specification may be altered without notice.

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