



## Product overview

The AX-AV-EP are a series of Air Differential Pressure Probes for small ducts.

The units are supplied with an attached gasket to ensure a good seal to the duct. The units may be used with an AXIO Air Differential Pressure Transmitter such as the AX-ADPT-DA range. This facilitates the possibility for measuring other values, such as the Air Volume.

For larger ducts please refer to the AX-AV-MPP range.

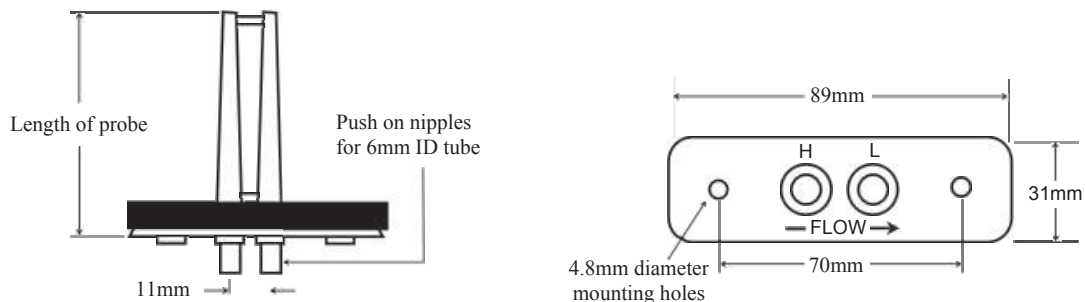
## Features

- ABS/polycarbonate
- 8 sizes from 80 to 500mm sizes as standard
- Complete with flange and gasket
- Use with the AXIO AX-ADPT-D range

## Product specifications

Materials:	ABS/polycarbonate (flammability UL94-5V)
Mounting:	Integral flange with gasket
Connections:	6.4mm diameter nipples
Ambient Range:	4 to 50°C
Country of Origin:	USA

## Product Dimensions



## Installation

Drill the duct to the dimensions shown, and fix in place with suitable screws used in the 4.8mm diameter holes, noting the direction of air flow. The H port senses the total pressure, and the L port senses the static pressure. The difference in pressure between these two signals is the differential (or velocity) pressure. The table on page 2 can be used to calculate the air velocity. Always verify readings with an anemometer for accurate scaling.

It is best to position the probes along a straight duct section. A guide for the minimum length of straight duct can be calculated by working out the duct area in m<sup>2</sup> and multiply by 1.2. This should be an interrupted distance before and after the probes. e.g. a 300mm x 700mm duct would require 0.25m uninterrupted either side of the probes.

The probes must be kept further away from moving dampers or where the air is blown straight on to the probes.

## Order codes

AX-AV-EP-100	Air Velocity Probe 80mm	AX-AV-EP-300	Air Velocity Probe 318mm
AX-AV-EP-150	Air Velocity Probe 137mm	AX-AV-EP-350	Air Velocity Probe 375mm
AX-AV-EP-200	Air Velocity Probe 196mm	AX-AV-EP-450	Air Velocity Probe 435mm
AX-AV-EP-250	Air Velocity Probe 253mm	AX-AV-EP-500	Air Velocity Probe 493mm

© Copyright Annicom 2018. All Rights Reserved

### Annicom Ltd

Unit 21, Highview, Bordon, Hampshire. GU35 0AX  
Tel: +44 (0)1420 487788 Fax: +44 (0)1420 487799

Email: sales@annicom.com Website: www.annicom.com

## Calculation

The output of the Air differential pressure represents the air velocity and is defined by the following equation:-

$$\text{Velocity} = \sqrt{\frac{2 \times \text{Differential Pressure}}{1.2}}$$

This calculation should be performed in a controllers strategy to calculate the air velocity in m/sec from Pressure readings in Pa. The chart below provides these calculations.

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	0.10	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	10.1	10.6	11.1	11.6	12.2	12.7	13.3	13.8	14.4
5	15.0	15.6	16.2	16.9	17.5	18.2	18.8	19.5	20.2	20.9
6	21.6	22.3	23.1	23.8	24.6	25.4	26.1	26.9	27.7	28.6
7	29.4	30.2	31.1	32.0	32.9	33.8	34.7	35.6	36.5	37.4
8	38.4	39.4	40.3	41.3	42.3	43.4	44.4	45.4	46.5	47.5
9	48.6	49.7	50.8	51.9	53.0	54.2	55.3	56.5	57.6	58.8
10	60.0	61.2	62.4	63.7	64.9	66.2	67.4	68.7	70.0	71.3
11	72.6	73.9	75.3	76.6	78.0	79.4	80.7	82.1	83.5	85.0
12	86.4	87.8	89.3	90.8	92.3	93.8	95.3	96.8	98.3	99.8
13	101.4	103.0	104.5	106.1	107.7	109.4	111.0	112.6	114.3	115.9
14	117.6	119.3	121.0	122.7	124.4	126.2	127.9	129.7	131.4	133.2
15	135.0	136.8	138.6	140.5	142.3	144.2	146.0	147.9	149.8	151.7
16	153.6	155.5	157.5	159.4	161.4	163.4	165.3	167.3	169.3	171.4
17	173.4	175.4	177.5	179.6	181.7	183.8	185.9	188.0	190.1	192.2
18	194.4	196.6	198.7	200.9	203.1	205.4	207.6	209.8	212.1	214.3
19	216.6	218.9	221.2	223.5	225.8	228.2	230.5	232.9	235.2	237.6
20	240.0	242.4	244.8	247.3	249.7	252.2	254.6	257.1	259.6	262.1
21	264.6	267.1	269.7	272.2	274.8	277.4	279.9	282.5	285.1	287.8
22	290.4	293.0	295.7	298.4	301.1	303.8	306.5	309.2	311.9	314.6
23	317.4	320.2	322.9	325.7	328.5	331.4	334.2	337.0	339.9	342.7
24	345.6	348.5	351.4	354.3	357.2	360.2	363.1	366.1	369.0	372.0
25	375.0	378.0	381.0	384.1	387.1	390.2	393.2	396.3	399.4	402.5
26	405.6	408.7	411.9	415.0	418.2	421.4	424.5	427.7	430.9	434.2
27	437.4	440.6	443.9	447.2	450.5	453.8	457.1	460.4	463.7	467.0
28	470.4	473.8	477.1	480.5	483.9	487.4	490.8	494.2	497.7	501.1
29	504.6	508.1	511.6	515.1	518.6	522.2	525.7	529.3	532.8	536.4
30	540.0	543.6	547.2	550.9	554.5	558.2	561.8	565.5	569.2	572.9
31	576.6	580.3	584.1	587.8	591.6	595.4	599.1	602.9	606.7	610.6
32	614.4	618.2	622.1	626.0	629.9	633.8	637.7	641.6	645.5	649.4
33	653.4	657.4	661.3	665.3	669.3	673.4	677.4	681.4	685.5	689.5
34	693.6	697.7	701.8	705.9	710.0	714.2	718.3	722.5	726.6	730.8
35	735.0	739.2	743.4	747.7	751.9	756.2	760.4	764.7	769.0	773.3
36	777.6	781.9	786.3	790.6	795.0	799.4	803.7	808.1	812.5	817.0
37	821.4	825.8	830.3	834.8	839.3	843.8	848.3	852.8	857.3	861.8
38	866.4	871.0	875.5	880.1	884.7	889.4	894.0	898.6	903.3	907.9
39	912.6	917.3	922.0	926.7	931.4	936.2	940.9	945.7	950.4	955.2
40	960.0	964.8	969.6	974.5	979.3	984.2	989.0	993.9	998.8	1003.7

How to use the Air velocity v Differential pressure chart:

Look for the cell with the nearest pressure reading in the chart. Read the column at the left for the most significant digit of velocity, and read the row at the top for the additional decimal of the velocity. For example, a differential pressure reading of 188.0Pa would refer to an air velocity of 17+0.7 = 17.7m/s

Every effort has been taken in the production of this data sheet to ensure accuracy. Axio do not accept responsibility for any damage, expense, injury, loss or consequential loss resulting from any errors or omissions. Axio has a policy of continuous improvement and reserves the right to change this specification without notice.