AX-AV-MPP

Multi Point Air Velocity Probes

Product overview

The AX-AV-MPP range of multi point air velocity probes are mounted across the air flow in larger ducts, and in conjunction with the AX-ADPT air velocity transmitter give an analogue output of the airflow. By rotating the static probe, the effects of turbulent air on air flow measurements can be mitigated.

Please call for larger sizes.

Features

- Supplied as pairs of stainless steel probes
- 11 sizes for duct widths 300mm to 2300mm as standard
- Complete with flanges and connectors
- Use with AX-ADPT range of air velocity transmitters

Product specifications

Materials:	316 Stainless steel, 25.4mm external diameter
Connectors:	316 Stainless steel to suit 6mm ID PVC tube
Duct Flange:	52mm external diameter with neoprene gasket duct seal
Country of Origin:	United Kingdom

Order codes

		To suit duct width
AX-AV-MPP-40	2 x Multipoint probes 40cm	300 ~ 400mm
AX-AV-MPP-50	2 x Multipoint probes 50cm	401 ~ 500mm
AX-AV-MPP-60	2 x Multipoint probes 60cm	501 ~ 600mm
AX-AV-MPP-70	2 x Multipoint probes 70cm	601 ~ 700mm
AX-AV-MPP-80	2 x Multipoint probes 80cm	701 ~ 800mm
AX-AV-MPP-100	2 x Multipoint probes 100cm	801 ~ 1000mm
AX-AV-MPP-125	2 x Multipoint probes 125cm	1001 ~ 1250mm
AX-AV-MPP-150	2 x Multipoint probes 150cm	1251 ~ 1500mm
AX-AV-MPP-175	2 x Multipoint probes 175cm	1501 ~ 1750mm
AX-AV-MPP-200	2 x Multipoint probes 200cm	1751 ~ 2000mm
AX-AV-MPP-230	2 x Multipoint probes 230cm	2001 ~ 2300mm

Installation

Mount the probes across the duct, approximately 100mm apart. If the probes are to be mounted near a branch or a bend in a rectangular duct then mount above each other approximately 100mm apart. Use a flange as a template to mark the ductwork and drill the mounting holes. Insert the probe through the flanges, and ensure they are both positioned centrally within the duct. Turn the total pressure probe so that the holes face directly into the airflow. Lock into position using the allen-head screws on the flanges. Adjust the speed of the fan to give a known air velocity. Turn the static pressure probe so that a differential pressure corresponding to the known air velocity is measured across the two probes. Lock in position using the allen-head screws on the flanges. If the fan speed adjustment is not possible measure the air velocity with an anemometer or similar device to carry out procedure as above.

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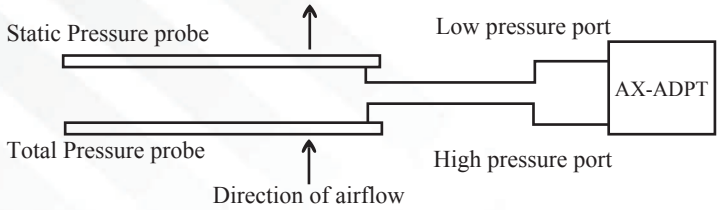
Connecting the probes to the AX-ADPT Air Differential Pressure Transmitters



Calculation

The air velocity probes can be connected to an Air differential pressure transmitter as per the above drawing to select the correct range of AX-ADPT (see the table on page 2).

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 air velocity in m/sec

M/sec	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	0.60	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	5.4	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	12.70	13.25	13.82	14.41
5	15.00	15.61	16.22	16.85	17.50	18.16	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	35.66	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	48.6	49.69	50.78	51.89	53.01	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	163.34	165.34	167.33	169.34	171.39
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	433.90	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	585.49	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	964.81	969.62	974.45	979.3	984.15	989.02	993.89	998.78	1003.69

How to use the Air velocity v differential pressure chart.

Take the Left hand column take the relevant velocity in m/sec then move along the top column to the relevant velocity in 0.1m/sec. Read the differential pressure required in Pascals, size the AX-ADPT to the next size above the Pascal range.