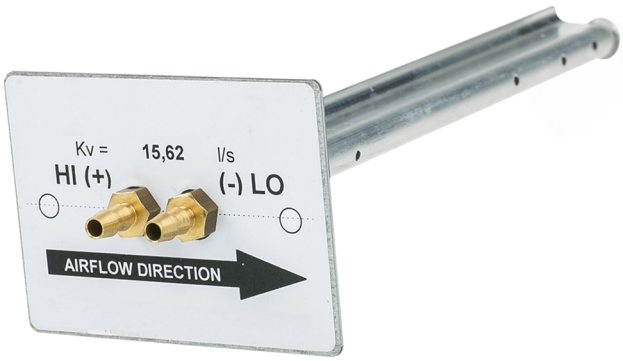
AX-AV-ALU

Multi Point Pitot Tubes (Rectangular/Round Ducts)



Product overview

The AX-AV-ALU range of multi point air velocity probes are mounted across the air flow in smaller ducts, and in conjunction with the AX-ADPT250 air differential pressure transmitter give an analogue output of the airflow. The shape of the probe profile creates a linear amplification of at least 2.5 times the velocity pressure, allowing for accurate measurement of velocities as low as 1.0m/s.

Products Features

- Supplied as individual aluminium probe.
- Multiple sizes for duct widths 80mm to 600mm.
- Available separately for Rectangular and Round ducts.
- Complete with flanges and connectors.
- Use with AX-ADPT range of air differential pressure transmitters.
- 2 % accuracy & 2.5 X signal amplification.

Product Specifications

Measurement units: :	Pa, l/s
Media compatibility:	Dry air or non-aggressive gases
Accuracy:	±2%
Operating Temperature:	5 to 95°C
Materials:	T3015 aluminium probe, mild steel mounting plate, expanded foam sealing gasket
Round Ducts:	80mm to 600mm
Rectangular Ducts:	200mm to 600mm
Pressure fittings:	4.5 mm barbed brass.
Country of Origin:	Finland

Product Order Codes

AX-AV-ALU-Lx	Multi Point Pitot Tube, Rectangular Duct, ACC +/-2%
AX-AV-ALU-Rx	Multi Point Pitot Tube, Round Duct, ACC +/-2%

* For Rectangular Duct, replace x with required length, e.g. AX-AV-ALU-L200. Max Length 600mm, multiple of 50mm

* For Round Duct, replace x with required diameter, e.g. AX-AV-ALU-R080. Max Diameter 600mm, multiple of 50mm

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Determining Probe Length

To achieve the most accurate measurements, if the height of a rectangular duct is greater than 350mm then two probes should be installed. If the duct height is greater than 700mm, three probes should be installed.
First find the width and height of the duct the probes will be installed in, then use these to determine the Kv value in the below table.

Rectangular Duct

Duct "H"	No Of Probes	Duct or unit width "W"													
		200	250	300	350	400	450	500	600	700	800	900	1000	1100	1200
		K_v value in l/s/Pa													
150	1	23,0	28,8	34,5	40,3	46,0	51,8	57,5	69,1	80,6	92,1	104	115	127	138
200		33,1	41,4	49,7	58,0	66,3	74,6	82,9	99,4	116	133	149	166	182	199
250		41,4	51,8	62,1	72,5	82,9	93,2	104	124	145	166	186	207	228	249
300		47,0	58,7	70,4	82,2	94	106	117	141	164	188	211	235	258	282
350	2	55,2	69,1	82,9	96,7	110	124	138	166	193	221	249	276	304	331
400		65,4	81,7	98,1	114	131	147	163	196	229	261	294	327	360	392
450		73,7	92,1	110	129	147	166	184	221	258	295	331	368	405	442
500		83,8	105	126	147	168	189	209	251	293	335	377	419	461	503
600		101	127	152	177	203	228	253	304	354	405	456	506	557	608
700	3	115	144	173	201	230	259	288	345	403	460	518	575	633	691
800		133	167	200	234	267	300	334	400	467	534	601	667	734	801
900		152	190	228	266	304	342	380	456	532	608	684	760	836	911
1000	4	166	207	249	290	331	373	414	497	580	663	746	829	911	994
1100		184	230	276	322	368	414	460	552	644	737	829	921	1013	1105
1200		203	253	304	354	405	456	506	608	709	810	911	1013	1114	1215

The air volume is calculated using the following formula;

Q = Kv x Pfs

Where;
Q = air volume in l/s

Kv = Kv value in l/s/Pa

Pfs = pressure difference measured by the probe in Pa

The table above is for air with density of 1.20kg/m3 (20°C, 50% rH and 1013mbar). The K-value for other densities can be determined with the following;

Corrected K-value = Kv x (ρ/1.20)

K-factor = 921 x B x (H-0.025n) l/s

Where;

B = duct width in meters

H = duct height in meters

n = number of probes used

Round Duct

Model	Kv (l/s/Pa) 1 probe /	Kv (l/s/Pa) 2 probes X
R100	5,60	
R125	9,17	
R160	15,62	
R200	25,06	
R250	38,43	
R315	62,85	
R355	80,83	
R400	103,8	94,8
R450	132,6	122,5
R500	164,9	153,7
R560	208,4	195,8
R630	265,5	251,4
R710	339,3	323,3
R800	433,0	415,1
R900	550,5	530,3
R1000	682,2	659,7
R1100	827,9	803,2
R1200	987,7	960,8

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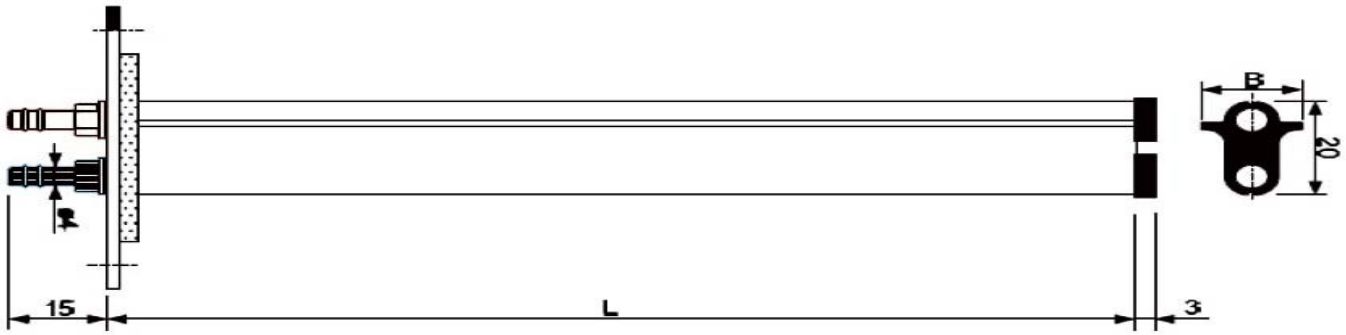
AX-AV-ALU

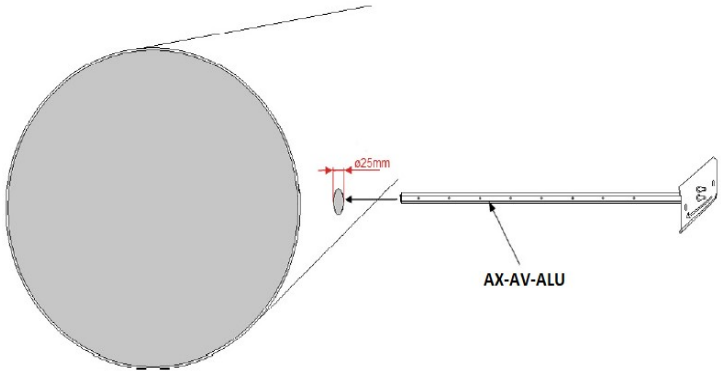
Multi Point Pitot Tubes (Rectangular/Round Ducts)

Dimensions



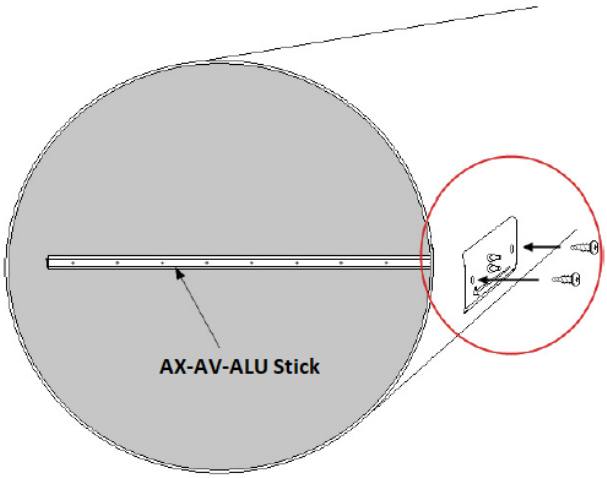
Installation

1. Drill a 25mm into the duct and place the probe into the duct

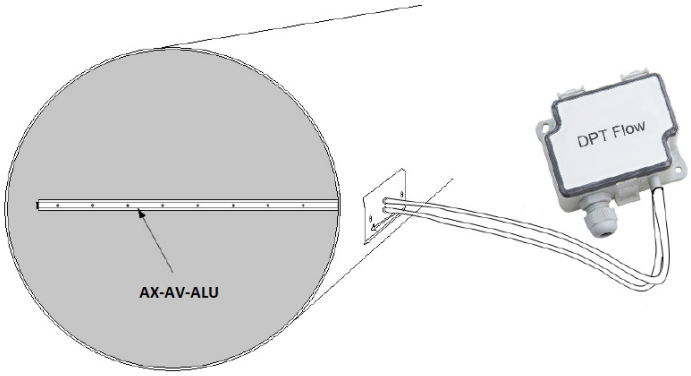


2. Check that the air flow direction corresponds with the indicator on the probe plate.

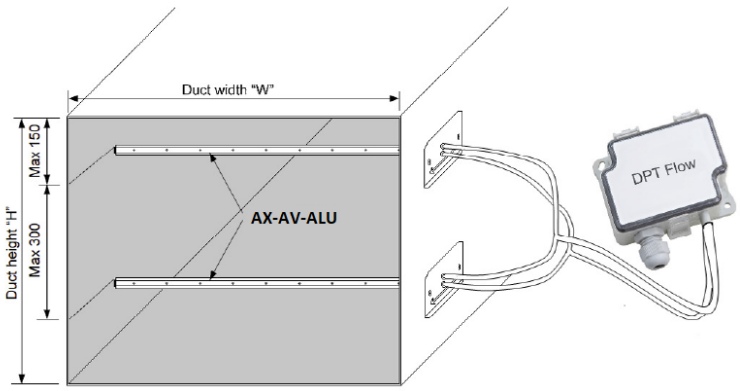
3. Screw the plate to the duct using the two screws provided.

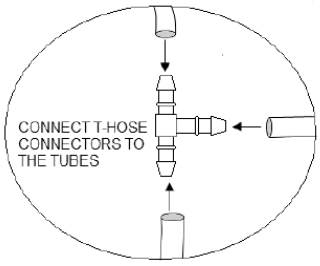


4. Connect the tubes from the probe to the pressure



If multiple pro used, use a T connector





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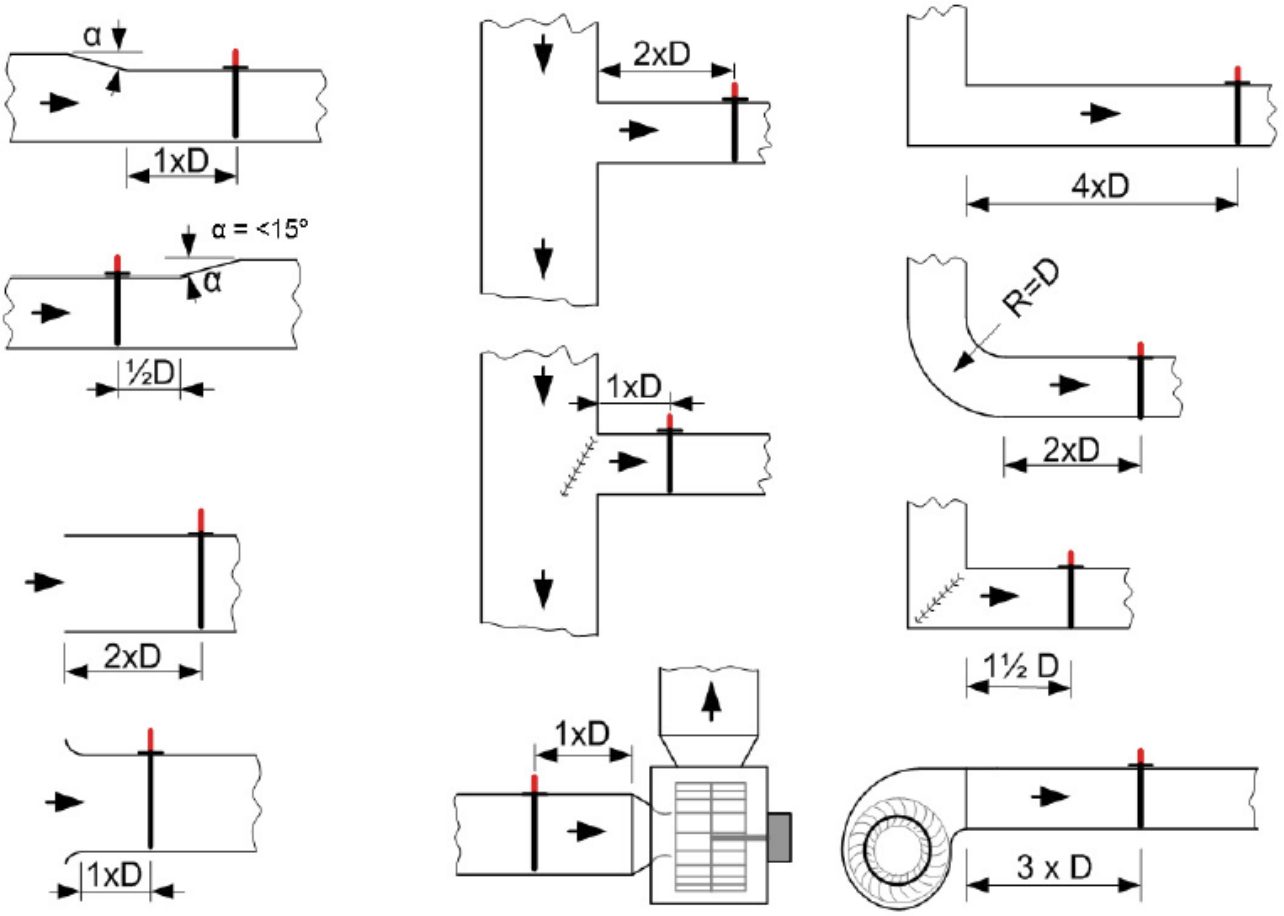
Installation



Round Ducts:

D = duct diameter

Rectangular Ducts:

If there is a horizontal curve or change in the duct size, D = width of the duct

If there is a vertical curve or change in the duct size, D = height of the duct

Datasheet Contents

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.

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