

# Multi-Point Air Velocity Probe



The Velocity Probes with multiple holes along the length are designed to measure the average velocity pressure across air ducts. The multi-point measurements offer an improved accuracy of measurement over the single point method.

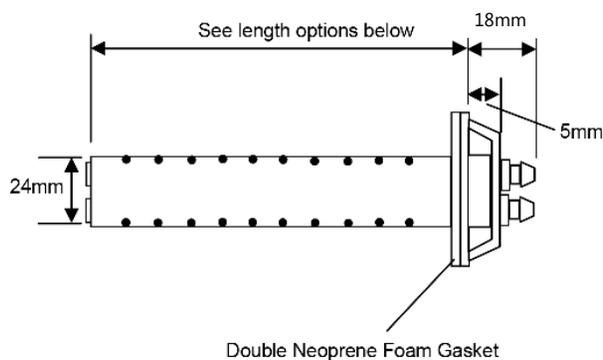
The Velocity Probes are suitable for use with Titan TPAVT8 series of Velocity Transmitters.

The TPMPVP Velocity Probes are available in six standard lengths and can be cut down to match the duct size.

## Specification

- Extruded flame retardant PVC probe (UL94-VO)
- Multipoint measurement
- BZP steel plated mounting flange
- 4mm tube connectors
- 6 standard lengths
- UK country of origin

## Dimensions



## Product Codes

Types	Lengths
TPVPMP/100	100mm
TPVPMP/200	200mm
TPVPMP/300	300mm
TPVPMP/400	400mm
TPVPMP/500	500mm
TPVPMP/600	600mm

## Installation

The velocity probe should be mounted in the duct where it can measure the unrestricted airflow and at least 2 metres downstream from dampers, duct bends, fans, filters, humidifiers, heating or cooling coils.

- Avoid installation into systems with turbulent airflow.
- Ensure that the two end probe caps are fitted and not loose.
- Ensure that the probe is mounted with all the holes inside the ductwork and the mounting flange is providing a good airtight seal.
- Ensure that the probe is mounted with the arrow pointing in the direction of the airflow.
- Ensure that the tube connections for the Hi and Lo ports are matched on the measuring transmitter.

## Calculations

To calculate the air velocity use the table or the equation.

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

## Air Velocity VS 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	1.74	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	<b>66.15</b>	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

The left hand column (velocity, in 1m/s increments) and the top row (velocity, in 0.1m/s increments), read across and down to find the corresponding differential pressure.

Example: For max air velocity at 10.5m/s - read across from the left to 0.5m/s and down from the top to 10m/s. Where the column and row meet gives a differential pressure of 66.15 Pa.

Therefore a differential pressure sensor, with a range of 0-100Pa would be ideal.