



FVP SS

### Features

- Neoprene rubber gasket duct seals included
- Any length can be made from 600mm to 3250mm
- Standard material is S/S 316
- Push on connectors to suit 4-6mm ID PVC tube

### Design Features

Designed to operate with the **PAT** or **PATX** range of D.P. sensors, the **FVP SS** probes allow multipoint measurement of air velocity, even close to bends and branches.

### Application

The **FVP SS** can be connected to a **PVC/PATX** differential pressure sensor of an appropriate range.  
(See table on page 2).

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 can either be performed in a controller's strategy or by the **MAV** calculation module, to give air velocity in m/s.

### Ordering Codes

<b>FVP 700 SS</b>	Multi-point probe	700mm
<b>FVP 800 SS</b>	Multi-point probe	800mm
<b>FVP 1000 SS</b>	Multi-point probe	1000mm
<b>FVP 1250 SS</b>	Multi-point probe	1250mm
<b>FVP 1500 SS</b>	Multi-point probe	1500mm
<b>FVP 1750 SS</b>	Multi-point probe	1750mm
<b>FVP 2000 SS</b>	Multi-point probe	2000mm

## 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
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	848.24	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 1m/s increments) and the top row (velocity, in 0.1m/s increments), read across and down to find the corresponding differential pressure.

**Example 1:** 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.

In this example, a **PVC/PATX** sensor, with a range of 0-25 Pa would be selected.

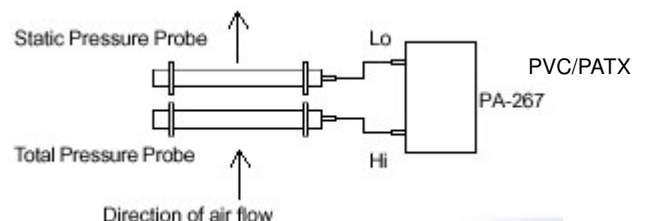
**Example 2:** Air velocity is 25.6m/s -

Read across from the left 0.6m/s and down from the top to 25m/s.

In this example, a **PVC/PATX** sensor, with a range of 0-500Pa would be selected.

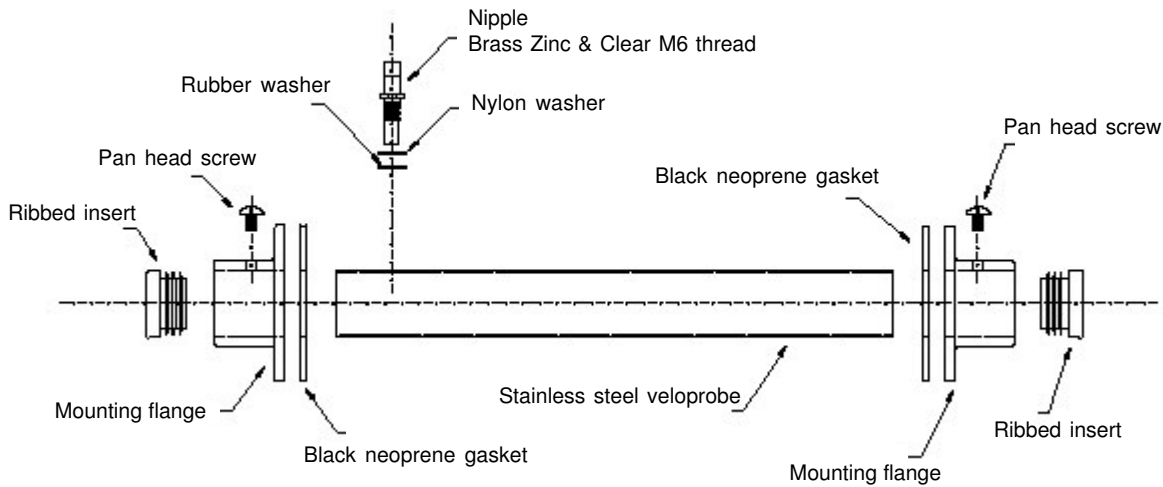
Where the column and row meet gives a differential pressure of 393.22 Pa

### Connections to PVC/PATX:



## Assembly Drawing

Fig.1



## Installation

If the probes are to be installed in a round duct mount them side-by-side approx. 100mm apart.

If the probes are to be mounted near a bend or branch in the duct mount them above each other approx. 100mm apart.

Using a flange (see **Fig. 2**) as a template, mark the duct work and drill the mounting holes.

1/ Turn the total pressure probe so that the holes face directly into the air flow.

Lock in position using the panhead screws on the flanges (see **Fig. 1**).

2a/ If possible, 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 2 probes.

Lock in position using the pan-head screws on the flanges (see **Fig. 1**).

2b/ Where fan speed adjustment is not possible measure the air velocity with a vane anemometer (or similar).

Turn the static pressure probe so that a differential pressure corresponding to the measured air velocity is measured across the 2 probes.

Lock in position using the pan-head grub screw.

## Flange details

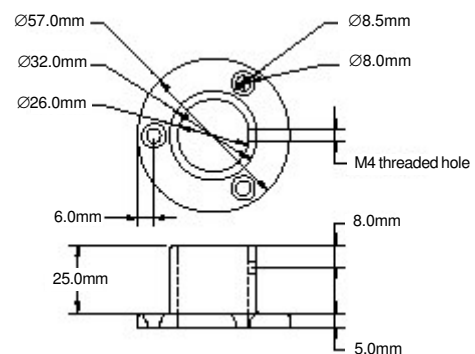


Fig.2