

# AFMS

## Duct Mounted Air Flow Measuring Station



### DESCRIPTION

The Airflow Measuring Station provides accurate, repeatable measurement of air movement in HVAC ducts. The Station can incorporate a honeycomb air flow straightening section use in duct systems having a highly turbulent condition at the point of measurement.

The station utilizes single or multiple averaging sensors for total pressure and static pressure measurements. The sensors are distributed across the flow stream to conform to the industry standard rules for equal area averaging.

The enclosure is provided to install the differential pressure gauge or transmitter for local indication or/and remote monitoring.

### FEATURES/BENEFITS

#### *Casing*

- 0.8mm thick galvanized steel, flanged connection, stainless steel as option

#### *Enclosure*

- 0.8mm thick galvanized steel, 220Vac/24Vac transformer provided or 24Vdc loop power

#### *Honeycomb Air Flow Straightener (Optional)*

- 0.08mm thick aluminium alloy, 20mm opening by 80mm depth, 97% Free Area, stainless steel as option

#### *Averging Sensor*

- lightweight aluminium, blade design limits disruption, stainless steel as option  
of air stream, factory mounted and pre-piped in the casing

#### *Flow rate*

- Min desging flow: 400 fpm (2m/s)
- Max desging flow: 12,000 fpm (60.91m/s)

#### *Temperature Limits*

- Galvanized Casing and Aluminum Elements 177°C
- Stainless Steel 316 Casing and Elements 400°C

Product improvement is a continuous effort at York Choi Industrial Limited. As such the specification are subject to change without prior notice.

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**BASIC OPERATION**

The AFMS is constructed so that strategically located sensing ports (based on duct size) continually sample the total and static pressures, when inserted normal to flow. The total pressures sensed by the upstream ports are continually average within the element in an isolated chamber. The static sensing ports (located where the influence of the velocity head is zero) are averaged in second isolation chamber. Multiple elements are manifolded together for connection to a differential measurement device (gauge, transmitter, etc.) for flow measurement and indication purposes.

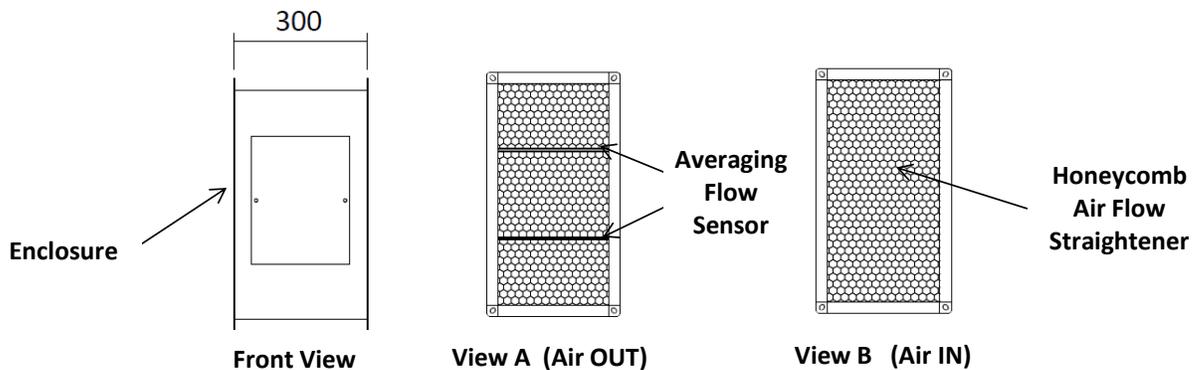
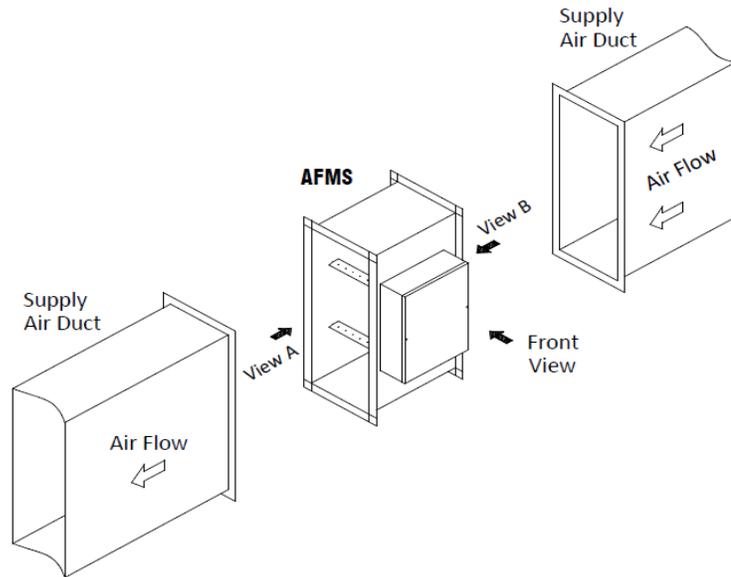
**DUCTWORK CONNECTION and Installation**

The AFMS can be mounted directly to ductwork by connecting both end with J2 flange. Minimum one duct diameter(D) shall be reserved with Honeycomb and four diameter without Honeycomb. It's highly recommend to include Honeycomb to reduce air turbulence and installation requirement.

Where D =

$$D = \sqrt{\frac{4HW}{\pi}}$$

H = Duct Height  
W = Duct Width



**APPLICATION**

- Building air intake and exhaust flow rate measurement
- HVAC air flow measurement

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Standard size		Width (mm)								
Size(mm)		200	300	400	500	600	800	1000	1500	2000
Height	200	x	x	x	x	x				
	300		x	x	x	x	x			
	400			x	x	x	x	x	x	
	500				x	x	x	x	x	x
	600					x	x	x	x	x
	800						x	x	x	x
	1000							x	x	x
	1500								x	x
	2000									x

Dimensions				
Standard duct Size (mm)	Flange	Casing length without Honeycomb (mm)	Honeycomb Section (mm)	Volume Control Damper Section (mm)
200-2000	J2	200	100	250

Ordering Information	
<b>Model</b>	<b>Description</b>
AFMS	Duct Mount Airflow Measuring Station
-xxx	Width (mm)
-xxx	Height (mm)
	<b>Airflow Straightener</b>
-H	With Honeycomb
-N	Without Honeycomb
	<b>Volume Control Damper</b>
-D	With VCD
-N	Without VCD
	<b>Actuator</b>
-M	24Vac Modulating Actuator
-O	24Vac On/Off Actuator
-N	Without Actuator
<b>Model Example:</b>	<b>Description</b>
AFMS-200-200-H-D-M	AFMS 200 x 200mm c/w Honeycomb and Modulating Damper control

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