

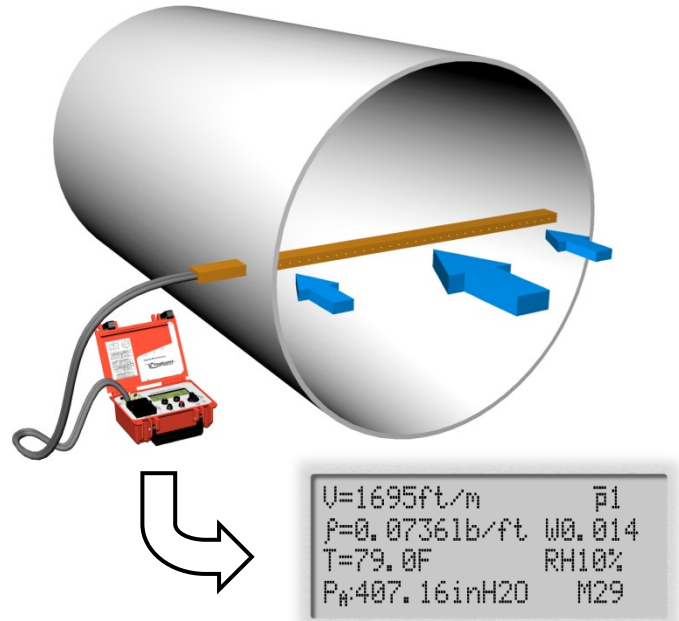
## Want to Accurately Measure Airflows in 1/8<sup>th</sup> the Time Normally Required?

The RAP flow probe is a revolutionary instrument designed to save you considerable time and effort. RAP is an innovative hand-held lightweight averaging Pitot probe. The probe works by measuring and averaging the speed pressure across a duct so that you no longer have to survey the duct point by point to determine the average speed. The probe can be connected to any manometer for measurement of the average speed (calculated using the differential pressure) and thus airflow. RAP can be used in ducts 9" to 36" in width or diameter. Accuracy is potentially enhanced compared to a conventional Pitot or anemometer survey of a duct, through reduced errors in positioning the probe. Time to measure airflows is reduced significantly, often from hours to minutes!

Using the RAP involves insertion into the duct, and depending on your manometer, simply reading the average speed or differential pressure. It's that easy! For standard conditions, average speed in ft/min may be calculated from differential pressure using

$$V_{\text{average(ft/min)}} = K \times 4004.4 \sqrt{P_{\text{differential(inH}_2\text{O)}}}$$

where  $P_{\text{differential(inH}_2\text{O)}}$  is measured using your manometer in inH<sub>2</sub>O and K is the RAP coefficient. All of our meters can automatically display the corrected speed using the RAP.



Speed display using FKT1DP1A-SV

## Benefits

- ◆ Excellent accuracy
- ◆ Phenomenal time saving (up to eight times over conventional surveys!)
- ◆ Supremely rugged
- ◆ Easy to use, just insert and take your readings, multi-point traverses are not required
- ◆ Cost effective
- ◆ Will work with any manometer

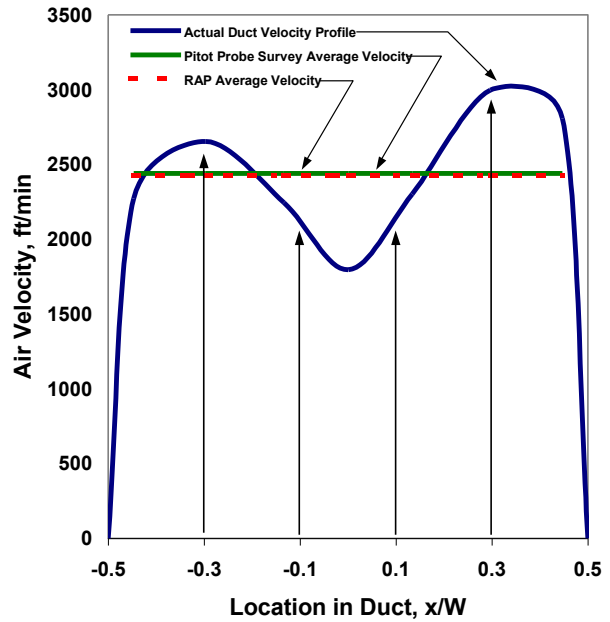
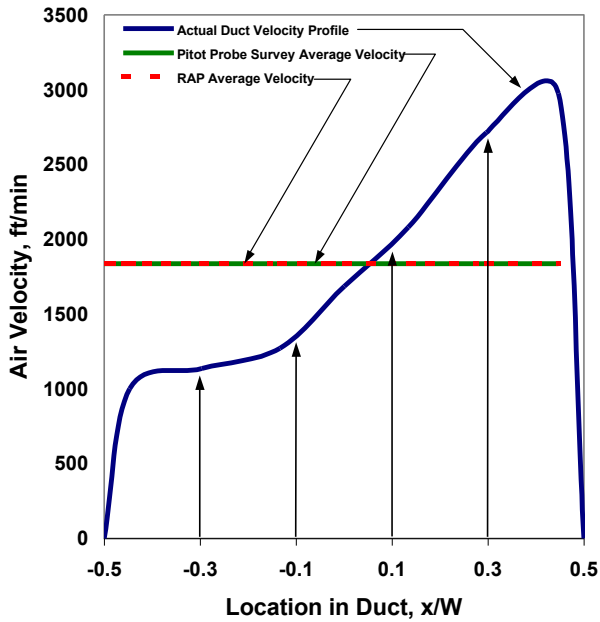
## Specifications

- ◆ Accuracy: ±3% of actual flow rate, even in moderately unsteady flows (when positioned in compliance with suggested recommendations)
- ◆ Construction: Brass
- ◆ Can be used in ducts as small as 9 inches wide. Insertion length is made to order.
- ◆ Speed Range: 300 fpm – 15,000 fpm (1.5 m/sec – 76 m/sec)
- ◆ Maximum temperature: 572°F (300°C)
- ◆ Flow Measurement Kit Includes: RAP flow probe, flexible tubing and detailed instructions



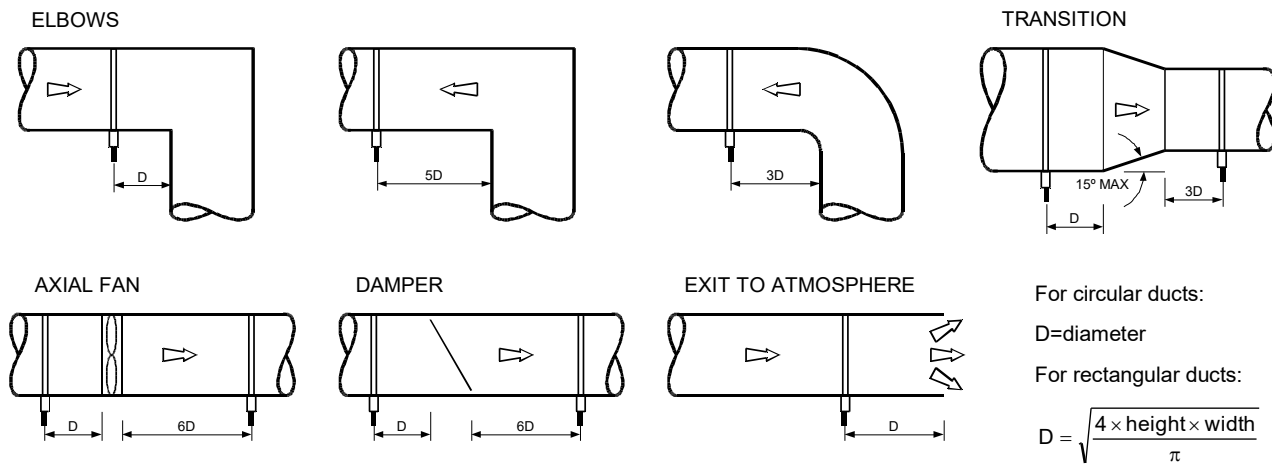
## Performance

The plots below show a comparison of average speed measured using a Pitot probe survey and RAP. As you can see, even for poor speed profiles, RAP's performance is excellent.

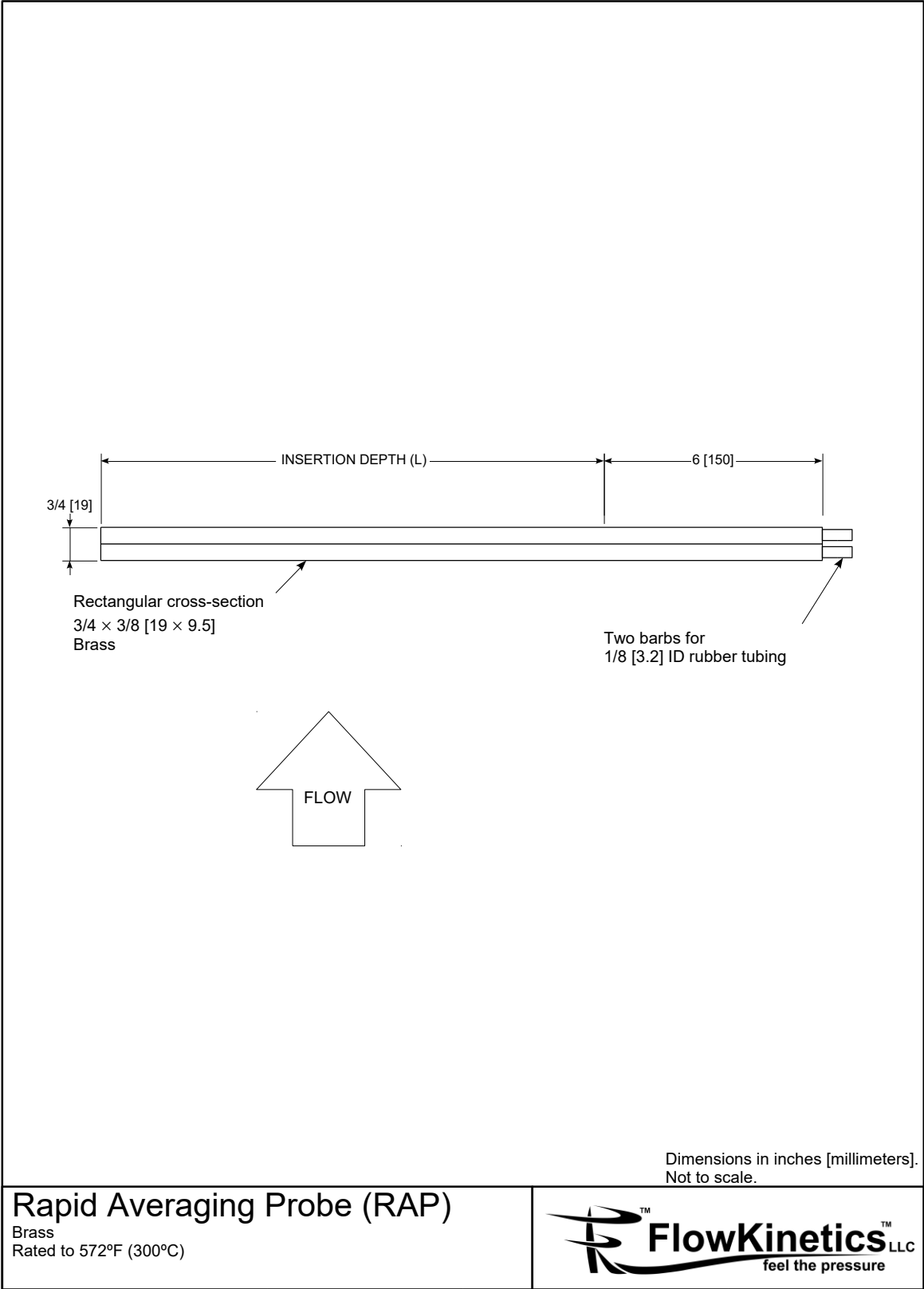


## Installation Requirements

The minimum installation requirements for the RAP probe for speeds of 2000 ft/min or less are shown below. Increase requirements by one diameter (D) for each additional 1000 ft/min. Always place the probe as far away as possible from duct disturbances.



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**Rapid Averaging Probe (RAP)**

Brass  
 Rated to 572°F (300°C)

