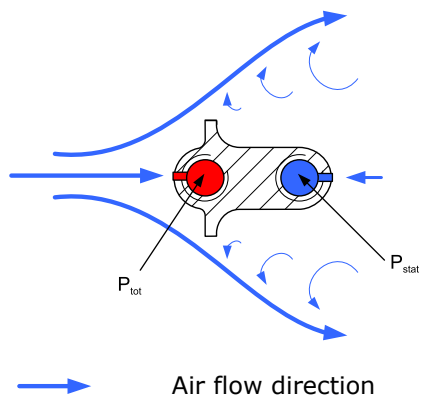


PP-PK and PP-SK - Air volume probes



PP air flow volume probes are designed for air flow volume measurement together with an air volume transmitter, for example. Probe is also easy to install to the existing ducts. The probe operates on the pitot tube principle and measures the total (P_{tot}) and static (P_{stat}) pressure components of airflow according to the following figure.



The air volume can be calculated with the formula:

$$q = k\sqrt{\Delta P}, \text{ where}$$

q air flow (l/s)

k probe's Kv value (l/s/Pa).

ΔP measured differential pressure

The formula is applicable for air with 1.20 kg/m^3 density (20 °C, 50 %rH and 1013 hPa).

The air flow is measured over several measuring points in the probe. The number of measurement points depends on the duct size and shape. The air volume transmitter can calculate the average air flow volume based on the differential pressure. The measuring profile shape makes it possible to make accurate measurements in air speeds of 1.0 m/s and above.

The probe can be connected with differential pressure transmitters. However, improved accuracy is obtained when the output is linear to airflow rather than pressure. Produal DPT-Flow air flow products are very easily connected with these probes. It is recommended to use DPT-Flow-1000-AZ-D model with the probes because dynamic duct pressure is rarely over 500 Pa. Typical pressure range in a ventilation duct is 0...250 Pa. The DPT-Flow-1000-AZ-D measurement range is 0...1000 Pa.

The following table illustrates the needed number (1...5) of the probes in rectangular ducts. In round ducts, one probe is always enough.

Duct height	Number of probes
150...300 mm	1

Duct height	Number of probes
350...600 mm	2
700...900 mm	3
1000...1200 mm	4
1300...1500 mm	5

Technical specifications

Property	Value
Accuracy (air speed > 1 m/s)	±2 %
Hose connectors	Ø7.5 mm
Medium	dry air or non-aggressive gas
Mounting	With screws on the duct The 350 mm and longer probes are equipped with Ø6 mm stud, washer and nut to secure opposite end of the probe.
Materials	
Probe	T3015 aluminium
Mounting plate	Mild steel
Hose connectors	Barbed brass
Gasket	expanded foam
Operating conditions	
Temperature	5...95 °C
Humidity	0..95 %rH, non condensing
Storage temperature	-20...95 °C

Ordering information

Round ducts

Duct diameter	Type	Product number	Description
100 mm	PP-PK R100	1250010	Air volume probe for a 100 mm circular duct
125 mm	PP-PK R125	1250020	Air volume probe for a 125 mm circular duct
160 mm	PP-PK R160	1250030	Air volume probe for a 160 mm circular duct
200 mm	PP-PK R200	1250040	Air volume probe for a 200 mm circular duct
250 mm	PP-PK R250	1250050	Air volume probe for a 250 mm circular duct
300 mm	PP-PK R300	1250059	Air volume probe for a 300 mm circular duct
315 mm	PP-PK R315	1250060	Air volume probe for a 315 mm circular duct
355 mm	PP-PK R355	1250065	Air volume probe for a 355 mm circular duct
400 mm	PP-PK R400	1250070	Air volume probe for a 400 mm circular duct
450 mm	PP-PK R450	1250073	Air volume probe for a 450 mm circular duct
500 mm	PP-PK R500	1250075	Air volume probe for a 500 mm circular duct
550 mm	PP-PK R550	1250076	Air volume probe for a 550 mm circular duct
600 mm	PP-PK R600	1250008	Air volume probe for a 600 mm circular duct

Duct diameter	Type	Product number	Description
630 mm	PP-PK R630	1250078	Air volume probe for a 630 mm circular duct
700 mm	PP-PK R700	1250077	Air volume probe for a 700 mm circular duct
800 mm	PP-PK R800	1250079	Air volume probe for a 800 mm circular duct
1000 mm	PP-PK R1000	1250009	Air volume probe for a 1000 mm circular duct
1100 mm	PP-PK R1100	1250003	Air volume probe for a 1100 mm circular duct
1200 mm	PP-PK R1200	1250007	Air volume probe for a 1200 mm circular duct
1250 mm	PP-PK R1250	1250310	Air volume probe for a 1250 mm circular duct
1300 mm	PP-PK R1300	1250002	Air volume probe for a 1300 mm circular duct
1500 mm	PP-PK R1500	1250311	Air volume probe for a 1500 mm circular duct

Rectangular ducts

Duct width	Type	Product number	Description
200 mm	PP-SK L200	1250080	Air volume probe for a 200 mm rectangular duct
250 mm	PP-SK L250	1250090	Air volume probe for a 250 mm rectangular duct
300 mm	PP-SK L300	1250100	Air volume probe for a 300 mm rectangular duct
350 mm	PP-SK L350	1250110	Air volume probe for a 350 mm rectangular duct
400 mm	PP-SK L400	1250120	Air volume probe for a 400 mm rectangular duct
450 mm	PP-SK L450	1250130	Air volume probe for a 450 mm rectangular duct
500 mm	PP-SK L500	1250140	Air volume probe for a 500 mm rectangular duct
550 mm	PP-SK L550	1250150	Air volume probe for a 550 mm rectangular duct
600 mm	PP-SK L600	1250160	Air volume probe for a 600 mm rectangular duct
650 mm	PP-SK L650	1250170	Air volume probe for a 650 mm rectangular duct
700 mm	PP-SK L700	1250180	Air volume probe for a 700 mm rectangular duct
750 mm	PP-SK L750	1250190	Air volume probe for a 750 mm rectangular duct
800 mm	PP-SK L800	1250200	Air volume probe for a 800 mm rectangular duct
850 mm	PP-SK L850	1250210	Air volume probe for a 850 mm rectangular duct
900 mm	PP-SK L900	1250220	Air volume probe for a 900 mm rectangular duct
950 mm	PP-SK L950	1250230	Air volume probe for a 950 mm rectangular duct
1000 mm	PP-SK L1000	1250240	Air volume probe for a 1000 mm rectangular duct
1050 mm	PP-SK L1050	1250250	Air volume probe for a 1050 mm rectangular duct
1100 mm	PP-SK L1100	1250260	Air volume probe for a 1100 mm rectangular duct
1150 mm	PP-SK L1150	1250270	Air volume probe for a 1150 mm rectangular duct
1200 mm	PP-SK L1200	1250280	Air volume probe for a 1200 mm rectangular duct
1250 mm	PP-SK L1250	1250283	Air volume probe for a 1250 mm rectangular duct
1300 mm	PP-SK L1300	1250288	Air volume probe for a 1300 mm rectangular duct
1350 mm	PP-SK L1350	1250290	Air volume probe for a 1350 mm rectangular duct
1400 mm	PP-SK L1400	1250295	Air volume probe for a 1400 mm rectangular duct
1450 mm	PP-SK L1450	1250298	Air volume probe for a 1450 mm rectangular duct
1500 mm	PP-SK L1500	1250300	Air volume probe for a 1500 mm rectangular duct

Dimensions

