

INTRODUCTION

To measure air flow accurately in a ventilation duct, use a special FloXact™ measurement probe together with a DPT-Flow transmitter.

⚠ WARNING

- READ THESE INSTRUCTIONS CAREFULLY BEFORE ATTEMPTING TO INSTALL, OPERATE OR SERVICE THIS DEVICE.
- Failure to observe safety information and comply with instructions can result in PERSONAL INJURY, DEATH AND/OR PROPERTY DAMAGE.
- To avoid electrical shock or damage to equipment, disconnect power before installing or servicing and use only wiring with insulation rated for full device operating voltage.
- To avoid potential fire and/or explosion do not use in potentially flammable or explosive atmospheres.
- Retain these instructions for future reference.
- This product, when installed, will be part of an engineered system whose specifications and performance characteristics are not designed or controlled by HK Instruments. Review applications and national and local codes to assure that the installation will be functional and safe. Use only experienced and knowledgeable technicians to install this device.

STEP 1: SELECTING THE CORRECT FLOXACT™ PROBE

There are two FloXact™ models available: R model for round ducts and L for rectangular ducts. In order to achieve the best accuracy, it is recommended to use two FloXact™-L probes if the height of a rectangular duct is more than 350 mm, three probes if the duct size is 700 mm or more, and four probes if the duct size is 1000 mm or more.

FloXact™-R models available: 100, 125, 160, 200, 250, 315, 400 and 450 and all other standard round duct sizes up to 1200 mm.

FloXact™-L models available: 250, 300... 1200 (50 mm steps)

Length of the probe (L) is defined by the width (W) of the duct. (See step 5).

Other sizes are available on request.

Example:

for a 160 mm round duct, choose FloXact-R160 probe, and for a 500x400 mm rectangular duct, choose two FloXact-L500 probes.

STEP 2: SELECTING THE CORRECT DPT-FLOW MODEL

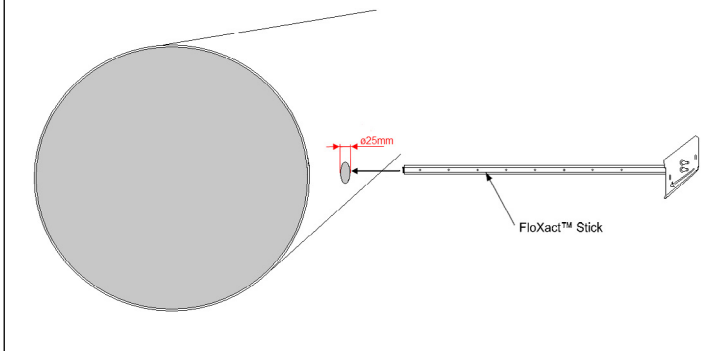
It is recommended to use DPT-Flow-1000-AZ-D model with FloXact™ probes because dynamic duct pressure is rarely over 500 Pa. Typical pressure range in a ventilation duct is 0...250 Pa.

The measurement range of DPT-Flow-1000-AZ-D is 0...1000 Pa.

STEP 3: INSTALLATION - MOUNTING THE PROBE

- 1) Check that the size of the FloXact™ probe corresponds with the duct or terminal to which it is going to be installed.
- 2) Drill a $\varnothing 25$ mm hole into the duct
- 3) Place the FloXact™ probe(s) into the duct through the hole.

Figure 1 - Mounting



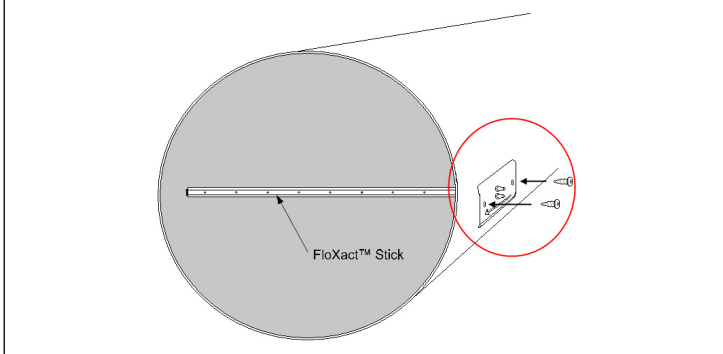
- 4) Check that air flow direction in the duct corresponds with the indication on the FloXact™ probe.

Figure 2 - Air flow direction



- 5) Attach the probe(s) into the duct with two screws.

Figure 3 - Attaching with screws

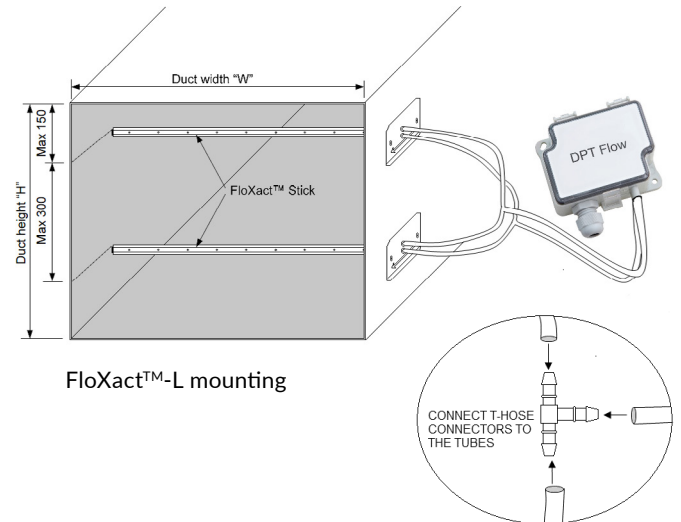


- For round ducts, we recommend installing the FloXact™ probe horizontally in the duct.

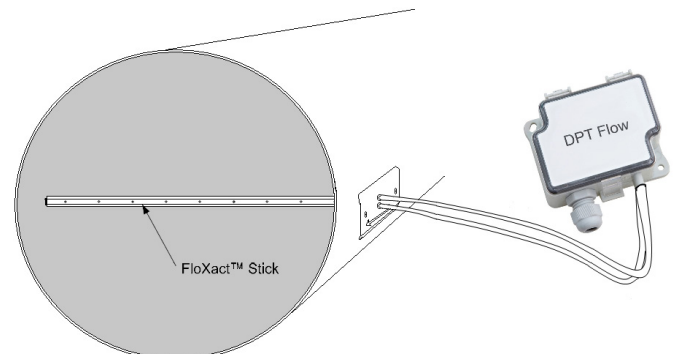
MOUNTING THE PROBE CONTINUED

- 6) Connect the tubes from the FloXact™ pressure inlets to the inlet in the pressure transmitter. Connect the plus tube to the plus inlet and the minus tube to the minus inlet.
- If more than one FloXact™ probes used, use t-hose connector to connect tubes from separate probes.

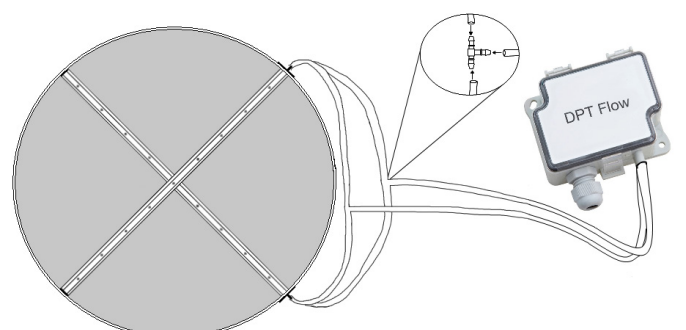
Figure 4



FloXact™-L mounting



FloXact™-R mounting



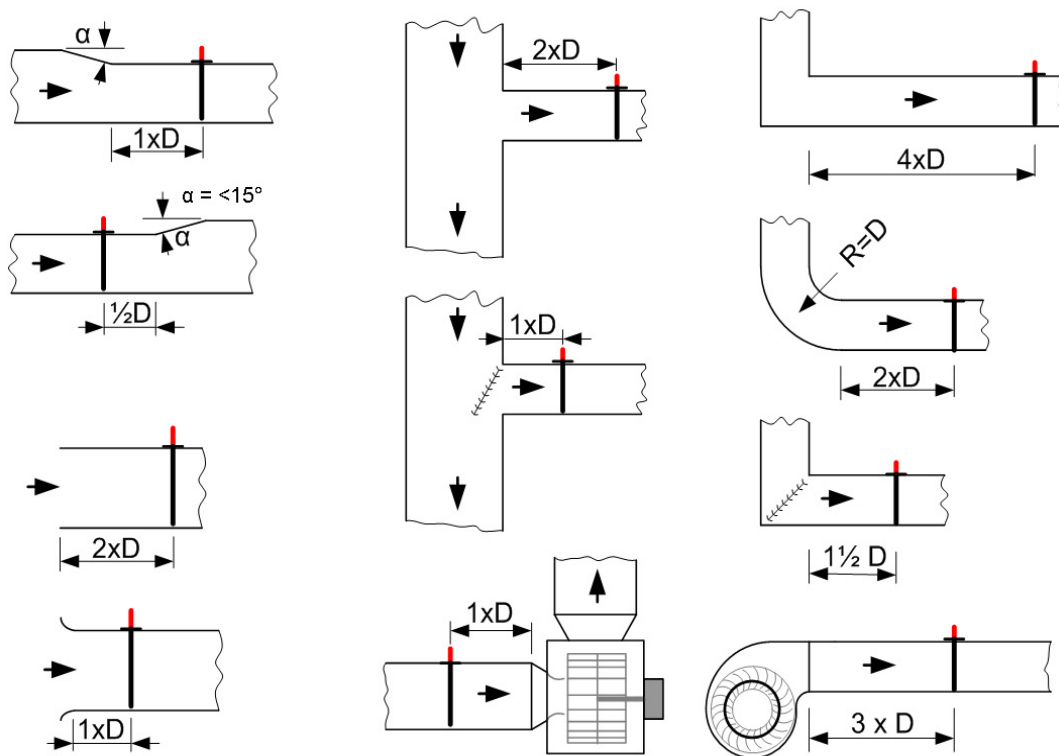
FloXact™-R mounting with two probes.

When do I need more than one probe? - Check step 1.

- For non standard applications, please contact your nearest distributor or the factory.

STEP 4: CORRECT POSITIONING OF THE PROBE

Figure 5 - Correct positioning of the probe: minimum straight duct approach



Round ducts:

D = duct diameter

Rectangular ducts:

If there is a horizontal curve or change in the duct size, D = width of the duct

If there is a vertical curve or change in the duct size, D = height of the duct

STEP 5: SELECTING THE K_v VALUE

In FloXact™-R models there is only one K_v value and it reads on the label of the probe. For the FloXact™-L K_v value must be determined by dimensions (width and height) of the duct.

Figure 6 - Rectangular duct

		Duct or unit width "W"													
Duct	N° off	200	250	300	350	400	450	500	600	700	800	900	1000	1100	1200
"H"	FloXact™	K _v value in l/s/Pa													
150	1	23,0	28,8	34,5	40,3	46,0	51,8	57,5	69,1	80,6	92,1	104	115	127	138
200		33,1	41,4	49,7	58,0	66,3	74,6	82,9	99,4	116	133	149	166	182	199
250		41,4	51,8	62,1	72,5	82,9	93,2	104	124	145	166	186	207	228	249
300		47,0	58,7	70,4	82,2	94	106	117	141	164	188	211	235	258	282
350	2	55,2	69,1	82,9	96,7	110	124	138	166	193	221	249	276	304	331
400		65,4	81,7	98,1	114	131	147	163	196	229	261	294	327	360	392
450		73,7	92,1	110	129	147	166	184	221	258	295	331	368	405	442
500		83,8	105	126	147	168	189	209	251	293	335	377	419	461	503
600	3	101	127	152	177	203	228	253	304	354	405	456	506	557	608
700		115	144	173	201	230	259	288	345	403	460	518	575	633	691
800		133	167	200	234	267	300	334	400	467	534	601	667	734	801
900		152	190	228	266	304	342	380	456	532	608	684	760	836	911
1000	4	166	207	249	290	331	373	414	497	580	663	746	829	911	994
1100		184	230	276	322	368	414	460	552	644	737	829	921	1013	1105
1200		203	253	304	354	405	456	506	608	709	810	911	1013	1114	1215

The air volume can be determined with the following formula:

$$Q = K_v \times \sqrt{P_{fs}}$$

Q = air volume in l/s

K_v = K_v value in l/s/Pa

P_{fs} = pressure difference
measured by the FloXact stick
in Pa

The table is for air with 1.20 kg/m³ density (20 °C, 50 % rH and 1013 mbar).

The K-value for different densities is determined with the following formula:

$$\text{Corrected K-value} = K_v \times \sqrt{(p/1.20)}$$

$$K\text{-factor} = 921 \times B \times (H - 0,025n) \text{ l/s}$$

B = duct width in meter

H = duct height in meter

n = number of FloXact used

For intermediate sizes, contact our office.

Figure 7 - Round duct

Model	K_v (l/s/Pa) 1 probe I	K_v (l/s/Pa) 2 probes X
R100	5,60	
R125	9,17	
R160	15,62	
R200	25,06	
R250	38,43	
R315	62,85	
R355	80,83	
R400	103,8	94,8
R450	132,6	122,5
R500	164,9	153,7
R560	208,4	195,8
R630	265,5	251,4
R710	339,3	323,3
R800	433,0	415,1
R900	550,5	530,3
R1000	682,2	659,7
R1100	827,9	803,2
R1200	987,7	960,8

WARRANTY POLICY

The seller is obligated to provide a warranty of five years for the delivered goods regarding material and manufacturing. The warranty period is considered to start on the delivery date of the product. If a defect in raw materials or a production flaw is found, the seller is obligated, when the product is sent to the seller without delay or before expiration of the warranty, to amend the mistake at his/her discretion either by repairing the defective product or by delivering free of charge to the buyer a new flawless product and sending it to the buyer. Delivery costs for the repair under warranty will be paid by the buyer and the return costs by the seller. The warranty does not comprise damages caused by accident, lightning, flood or other natural phenomenon, normal wear and tear, improper or careless handling, abnormal use, overloading, improper storage, incorrect care or reconstruction, or changes and installation work not done by the seller. The selection of materials for devices prone to corrosion is the buyer's responsibility, unless otherwise is legally agreed upon. Should the manufacturer alter the structure of the device, the seller is not obligated to make comparable changes to devices already purchased. Appealing for warranty requires that the buyer has correctly fulfilled his/her duties arisen from the delivery and stated in the contract. The seller will give a new warranty for goods that have been replaced or repaired within the warranty, however only to the expiration of the original product's warranty time. The warranty includes the repair of a defective part or device, or if needed, a new part or device, but not installation or exchange costs. Under no circumstance is the seller liable for damages compensation for indirect damage.

RECYCLING/DISPOSAL

The parts left over from installation should be recycled according to your local instructions. Decommissioned devices should be taken to a recycling site that specializes in electronic waste.

