




# HK INSTRUMENTS FloXact™-R100 Multi Point Pitot Tube Smartone Instruction Manual

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# HK INSTRUMENTS

HK INSTRUMENTS FloXact™-R100 Multi Point Pitot Tube Smartone



## Product Information: FloXact™ Measurement Probe

The FloXact™ measurement probe is a special probe designed to accurately measure air flow in ventilation ducts. It is used together with a DPT-Flow transmitter to provide readings. The FloXact™ probe comes in two models, R for round ducts and L for rectangular ducts. The length of the probe is defined by the width of the duct. The FloXact™-R models are available in different sizes ranging from 100 to 1200mm while FloXact™-L models are available in sizes ranging from 250 to 1200mm.

## Installation Instructions

Before installing the FloXact™ measurement probe, ensure that it is done by experienced and knowledgeable technicians. Follow these steps to install the probe:

### Step 1: Selecting the Correct FloXact™ Probe

- Choose the FloXact™-R probe for round ducts and FloXact™-L for rectangular ducts.
- Use two FloXact™-L probes for rectangular ducts with height greater than 350mm.
- Use three probes if the duct size is 700 mm or more, and four probes if the duct size is 1000 mm or more.

### Step 2: Selecting the Correct DPT-FLOW Model

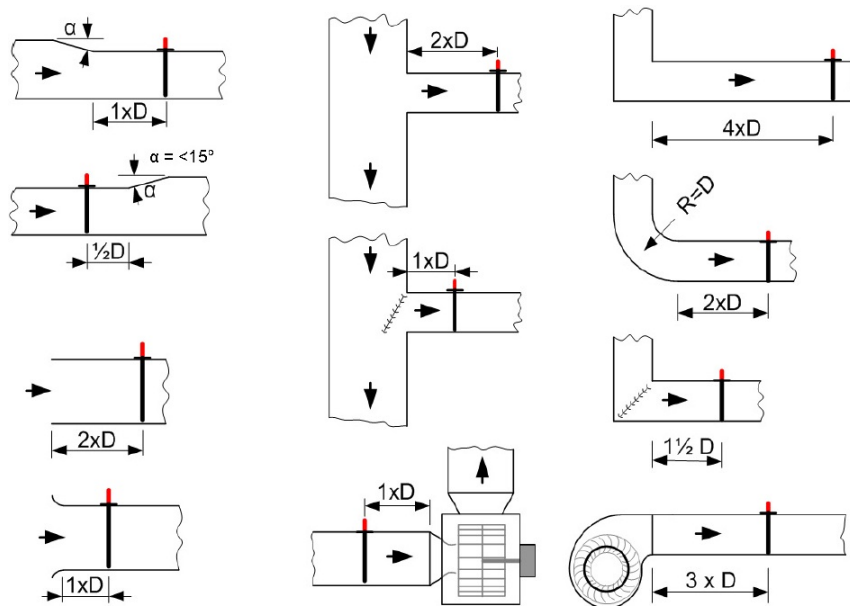
It is recommended to use the DPT-Flow-1000-AZ-D model with FloXact™ probes as the typical pressure range in a ventilation duct is 0...250 Pa. The measurement range of DPT-Flow-1000-AZ-D is 0...1000 Pa.

### Step 3: Installation – Mounting the Probe

- Check that the size of the FloXact™ probe corresponds with the duct to which it will be installed.
- Attach the probe(s) into the duct with two screws.
- 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.
- Check that air flow direction in the duct corresponds with the indication on the FloXact™ probe.

### Step 4: Correct Positioning of the Probe

Ensure the probe is positioned at a minimum straight duct approach as shown



For rectangular ducts, D = width of the duct if there is a horizontal curve or change in the duct size, and D = height of the duct if there is a vertical curve or change in the duct size.

### Step 5: Selecting the k-value (v)

KV value can be determined by dimensions (width and height) of the duct for FloXact™-L models. For FloXact™-R models, KV values are indicated on the label of the probe.

Following these steps will ensure accurate measurements when using FloXact™ measurement probes.

## 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.

### 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.

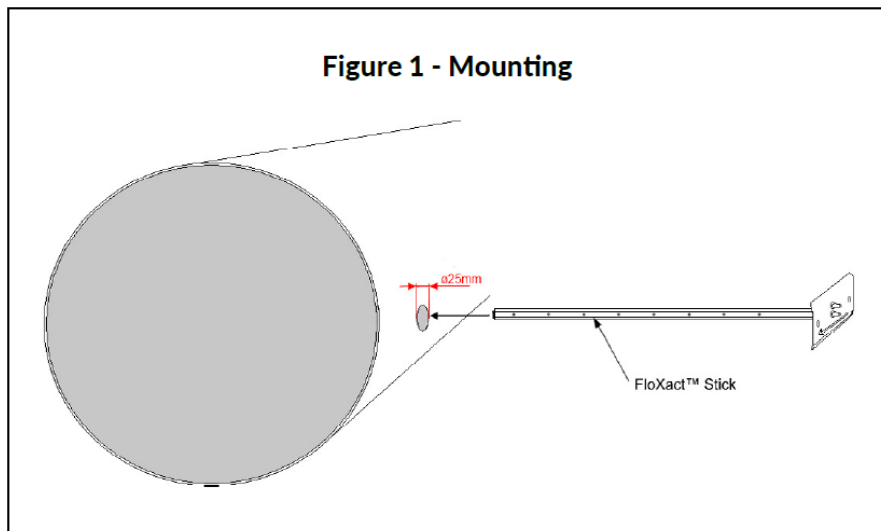
Example: for a 160 mm round duct, choose FloXact-R160 probe, and for a 500×400 mm rectangular duct, choose two FloXact-L500 probes.

## 2. SELECTING THE CORRECT DPT-FLOW MODEL

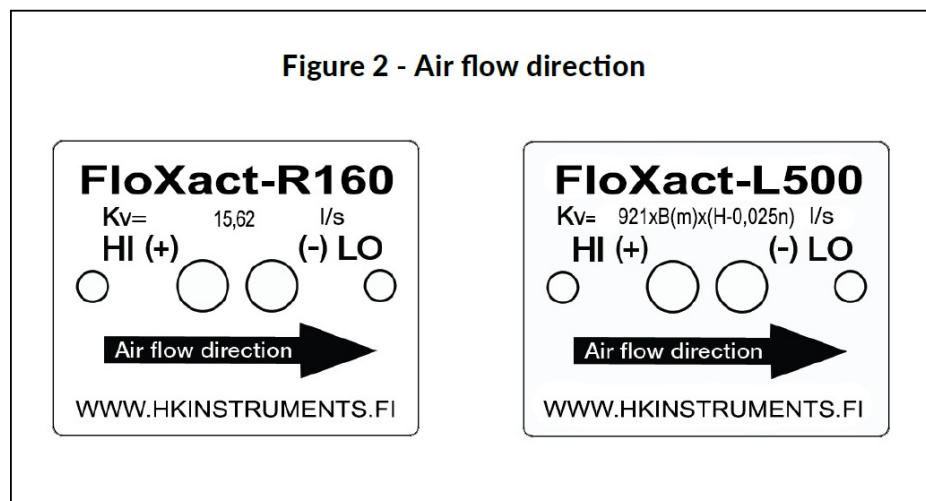
It is recommended to use DPT-Flow-1000-AZ-D model with FloXact™ probes because dynamic duct pressure is rarely over 500 Pa. Typical pressure range in a ventilation duct is 0...250 Pa. The measurement range of DPT-Flow-1000-AZ-D is 0...1000 Pa.

## 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.

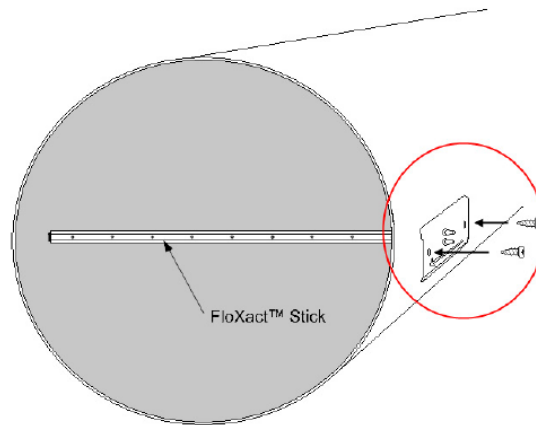


4. Check that air flow direction in the duct corresponds with the indication on the FloXact™ probe.



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

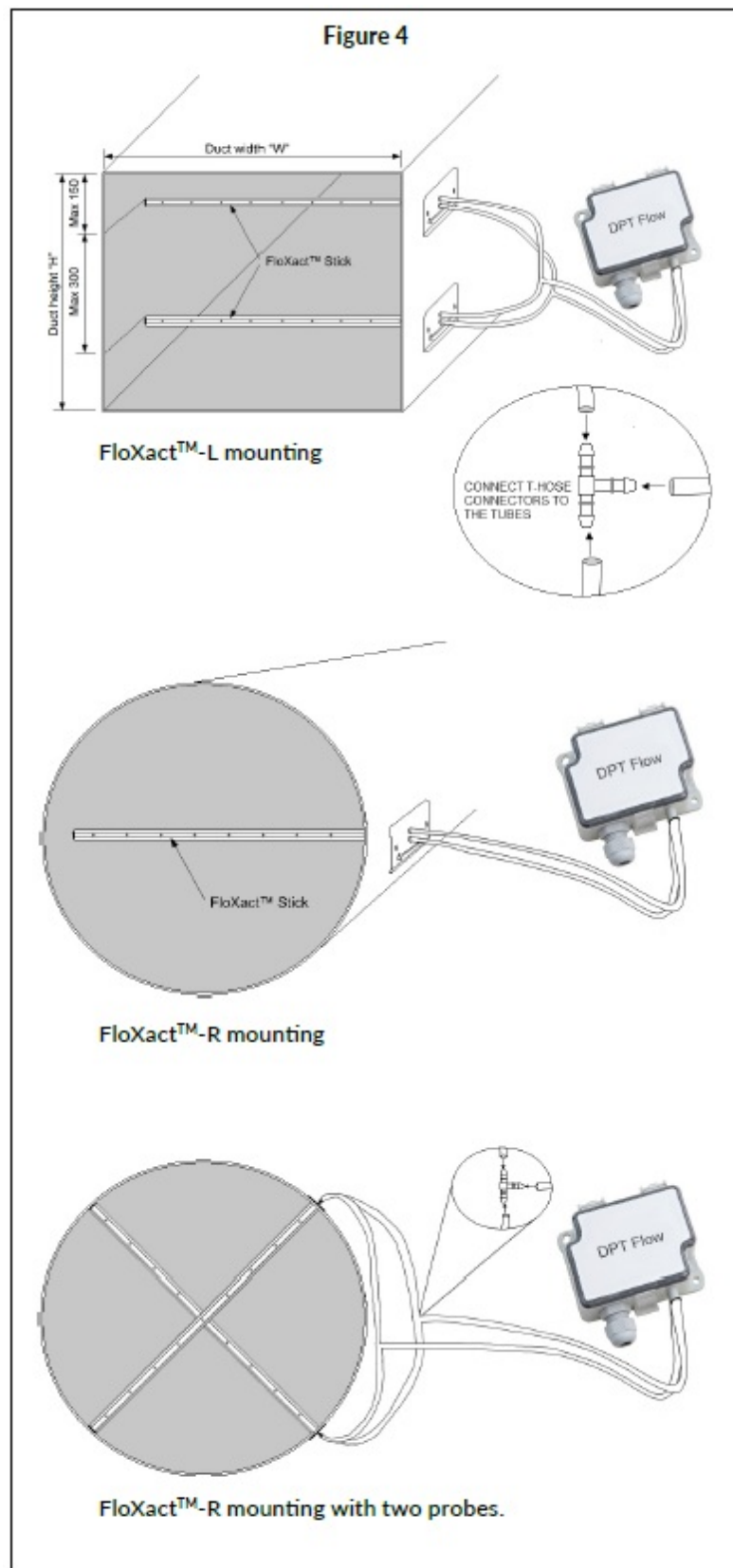
**Figure 3 - Attaching with screws**



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

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 those connector to connect tubes from separate probes.

**Figure 4**



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

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

#### **4. CORRECT POSITIONING OF THE PROBE**



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

B= duct width in meter

H = duct height in meter

n = number of FloXact used

For intermediate sizes, contact our office.

### Round duct

Model	Kv (l/s/Pa) 1 probe /	Kv (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

### 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.


### 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, over-loading, 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.

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