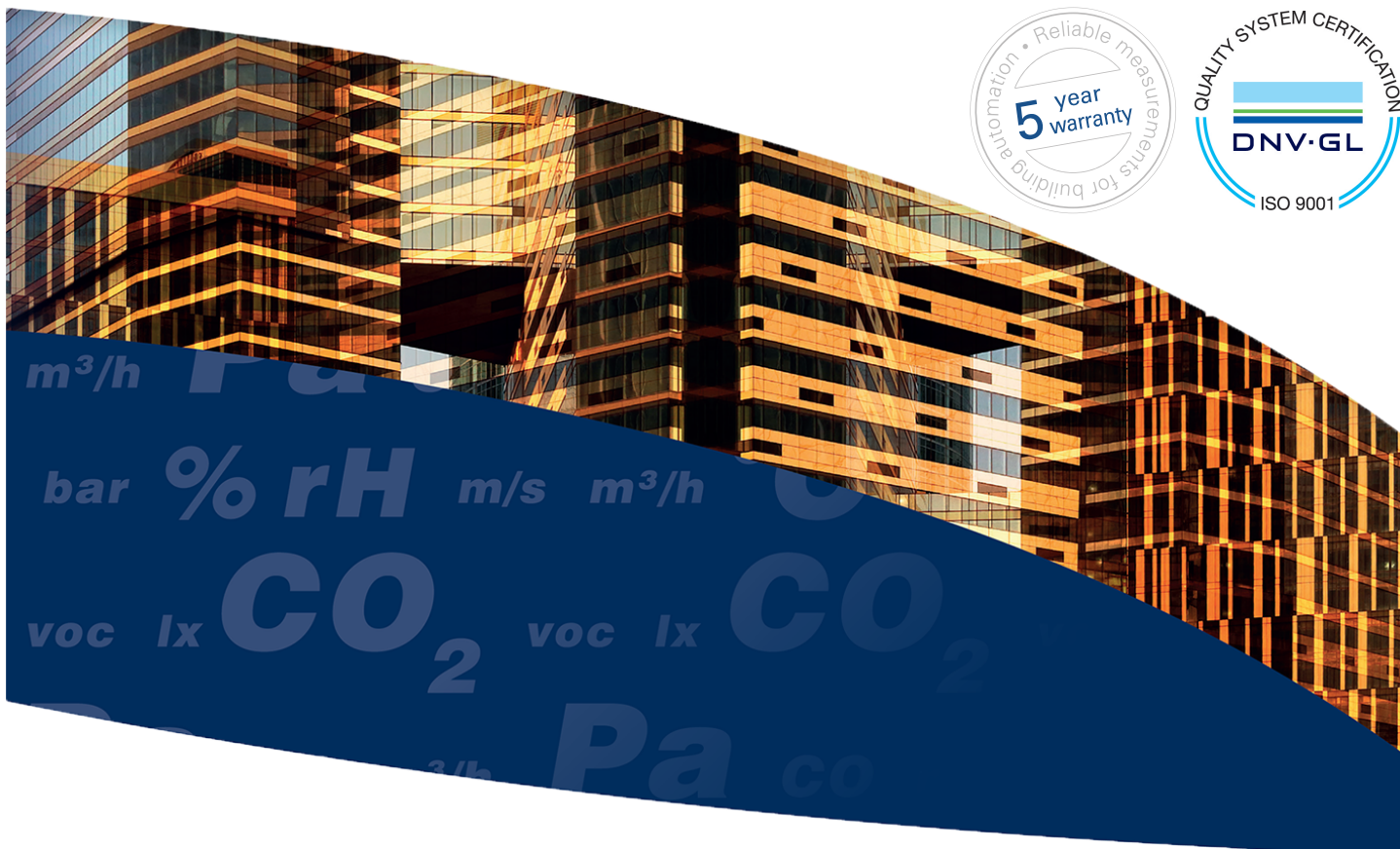




PP - Air volume probes

User Guide

Contents

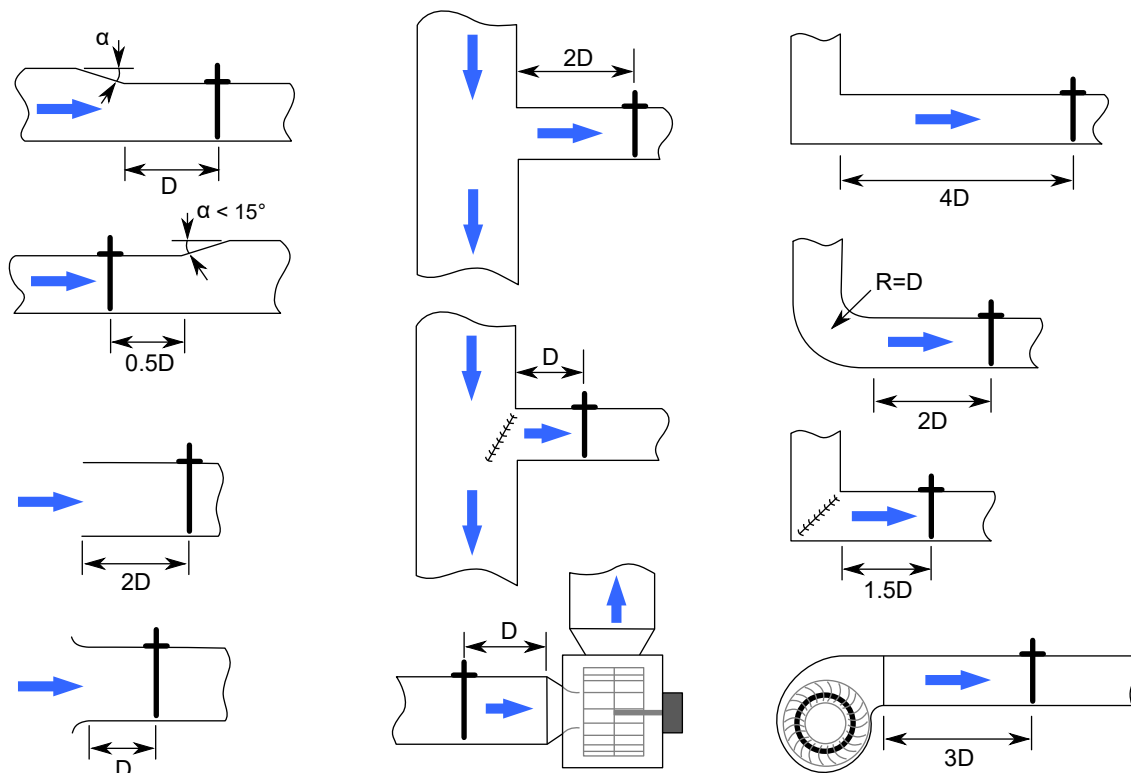
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1 Mounting

1.1 Mounting PP-PK probes

1. Check that the probe size and type corresponds with the duct or terminal to which it is going to be mounted.
2. Select the mounting location.

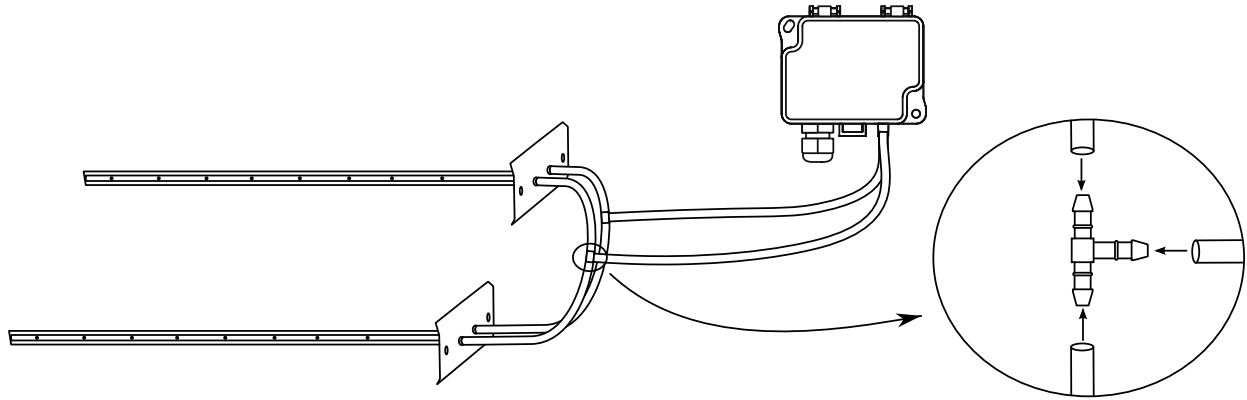
The following figure illustrates minimum duct discontinuity point distances.



D = duct diameter

3. Drill a $\varnothing 25$ mm hole to the duct.
4. If you are mounting the probe to 350 mm wide or wider duct, drill a $\varnothing 6$ mm hole to the opposite side.
5. Mount the probe to the duct with two suitable screws.
The mounting plate holes are $\varnothing 4$ mm.
If you are mounting the probe to 350 mm wide or wider duct, fit the probe other end with a washer and nut.

6. Connect the probe to a measuring device with suitable hoses.
Connect the probes in parallel, if there is more than one probe in the same mounting position.



7. Configure the measuring device.
The Kv value is written on the label of the probe.

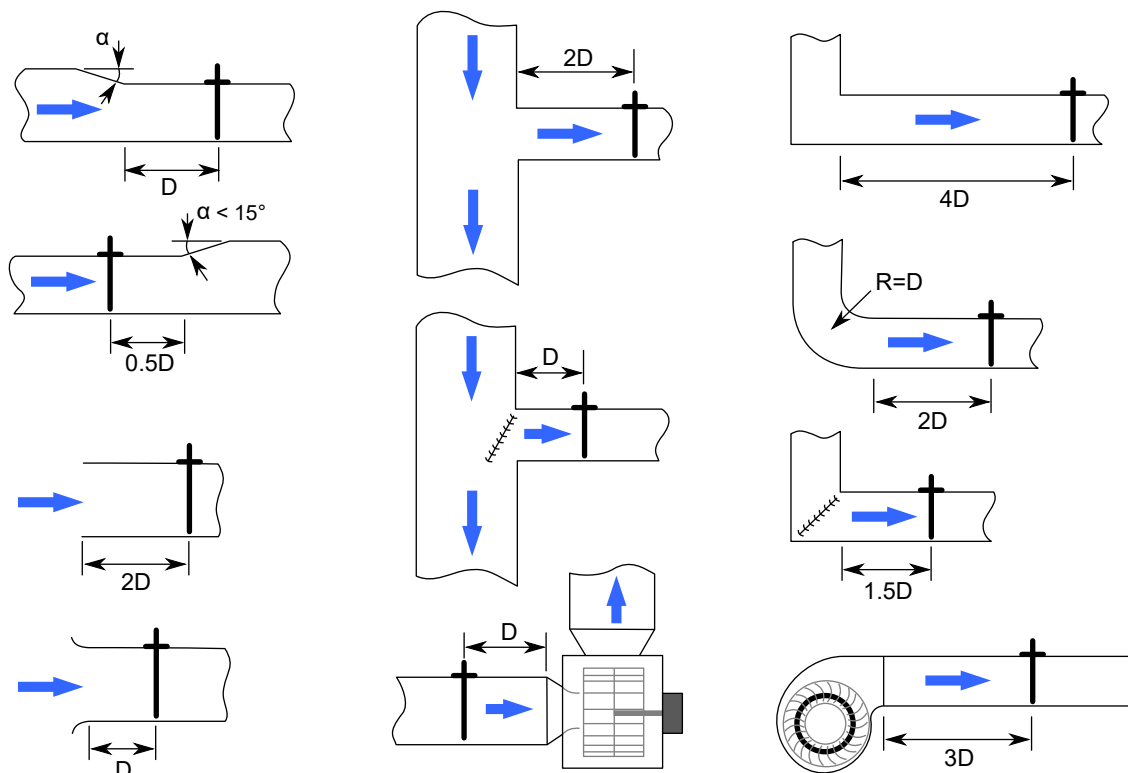
1.2 Mounting PP-SK probes

1. Check that the probe size and type corresponds with the duct or terminal to which it is going to be mounted.
2. Determine the needed number of probes.

Duct height	Number of probes
150...300 mm	1
350...600 mm	2
700...900 mm	3
1000...1200 mm	4
1300...1500 mm	5

3. Select the mounting location.

The following figure illustrates minimum duct discontinuity point distances.

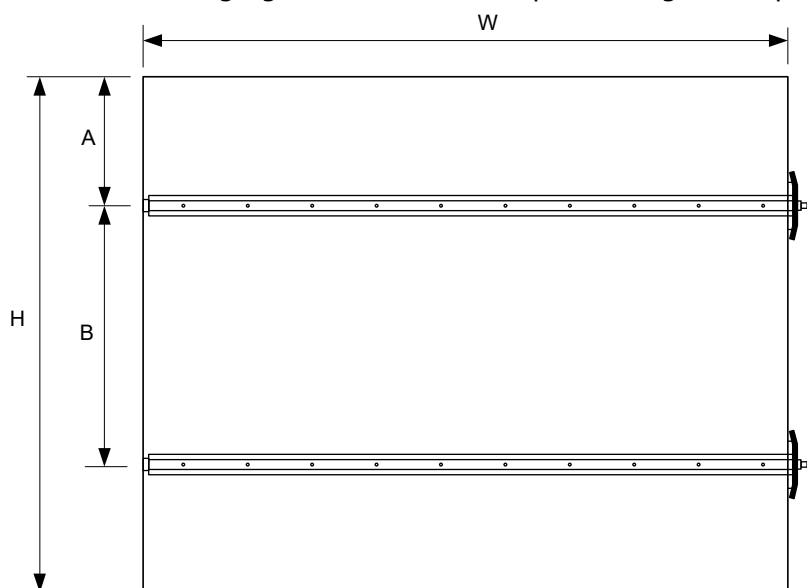


If there is a horizontal curve or change in the duct size, D = duct width

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

4. Drill suitable number of $\varnothing 25$ mm holes to the duct.

See the following figure for the correct positioning of the probes.



H Duct height

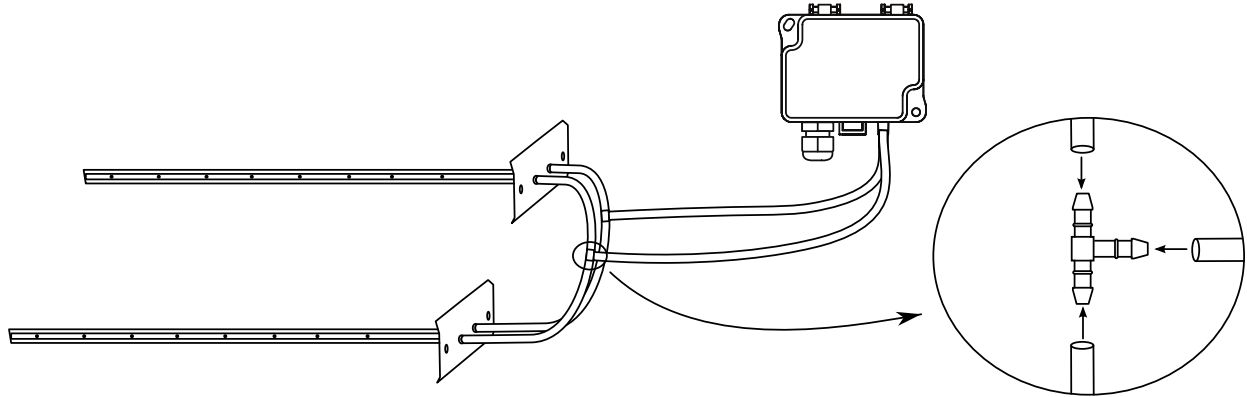
W Duct width

A Distance from the duct edge, max. 150 mm

B Distance between probes, max. 300 mm

5. If you are mounting the probe to 350 mm wide or wider duct, drill a $\varnothing 6$ mm hole to the opposite side.

6. Mount the probes to the duct with suitable screws.
The mounting plate holes are Ø4 mm.
If you are mounting the probe to 350 mm wide or wider duct, fit the probe other end with a washer and nut.
7. Connect the probe to a measuring device with suitable hoses.
Connect the probes in parallel, if there is more than one probe in the same mounting position.



8. Configure the measuring device.
If one probe is used, the Kv value is written on the label of the probe. See the paragraph [PP-SK Kv values](#) on page 6 for Kv values in applications with more than one probe.

1.2.1 PP-SK Kv values

Kv value can be calculated with the formula:

$$k = 921 \times W \times (H - 0.25 \times n), \text{ where}$$

k Kv value for the measuring device (l/s/Pa).

W duct width (m)

H duct height (m)

n number of probes

See the following tables for Kv values in applications that have more than one probe. The values are applicable for air with 1.20 kg/m³ density (20 °C, 50 %rH and 1013 hPa).

		Width											
Height	Probe Qty	200	250	300	350	400	450	500	550	600	650	700	750
350	2	55.2	69.1	82.9	96.7	110	124	138	152	166	180	193	207
400		64.4	80.6	96.7	113	129	145	161	177	193	209	226	242
450		73.7	92.1	110	129	147	166	184	203	221	239	258	276
500		82.9	104	124	145	166	186	207	228	249	269	290	311
600		101	127	152	177	203	228	253	279	304	329	354	380
700	3	115	144	173	201	230	259	288	316	345	374	403	432
800		134	167	200	234	267	300	334	367	401	434	467	501
900		152	190	228	266	304	342	380	418	456	494	532	570
1000	4	166	207	249	290	331	373	414	456	497	539	580	621
1100		184	230	276	322	368	414	460	506	552	598	644	691
1200		203	253	304	354	405	456	506	557	608	658	709	760

		Width											
Height	Probe Qty	200	250	300	350	400	450	500	550	600	650	700	750
1300	5	216	270	325	379	433	487	541	595	649	703	757	811
1400		235	293	352	411	470	528	587	646	704	763	822	880
1500		253	316	380	443	506	570	633	696	760	823	886	949

		Width											
Height	Probe Qty	800	850	900	950	1000	1050	1100	1150	1200	1300	1400	1500
350	2	221	235	249	262	276	290	304	318	331	359	387	414
400		258	274	290	306	322	338	354	371	387	419	451	483
450		295	313	331	350	368	387	405	424	442	479	516	552
500		331	352	373	394	414	435	456	476	497	539	580	621
600		405	430	456	481	506	532	557	582	608	658	709	760
700	3	460	489	518	547	575	604	633	662	691	748	806	863
800		534	567	601	634	668	701	734	768	801	868	935	1001
900		608	646	684	722	760	798	836	874	911	987	1063	1139
1000	4	663	704	746	787	829	870	911	953	994	1077	1160	1243
1100		737	783	829	875	921	967	1013	1059	1105	1197	1289	1381
1200		810	861	911	962	1013	1063	1114	1165	1215	1317	1418	1519
1300	5	865	920	974	1028	1082	1136	1190	1244	1298	1406	1515	1623
1400		939	998	1057	1115	1174	1233	1291	1350	1409	1526	1643	1761
1500		1013	1076	1139	1203	1266	1329	1393	1456	1519	1646	1772	1899

2 Calculating air volume

The air volume can be calculated with the formula:

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

q aif 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/m³ density (20 °C, 50 %rH and 1013 hPa).

Kv value for different air densities can be calculated with the formula:

$$k_{new} = \sqrt{\frac{\rho}{1.20}}, \text{ where}$$

k_{new} new Kv value

ρ air density

3 Disposal

Generally all metals can be recycled as material. Plastics and cardboard packaging material can be used in energy recovery. Contact your local Produal distributor for further information on environmental aspects and recycling instructions for professional recyclers.



Hitma Instrumentatie

www.hitma-instrumentatie.nl
info@hitma-instrumentatie.nl
+31 (0)297 - 514 833

België / Belgique

www.hitma-instrumentatie.be
info@hitma-instrumentatie.be
+32 (0)2 - 387 28 64