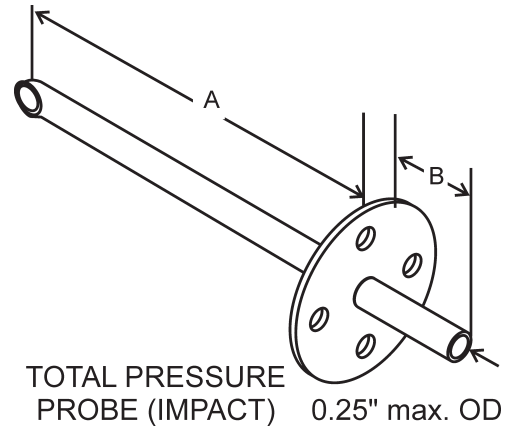
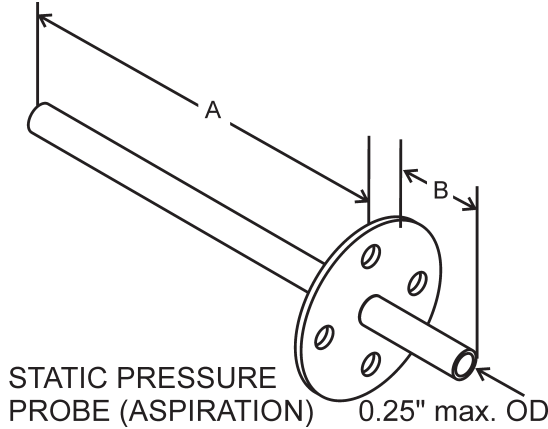




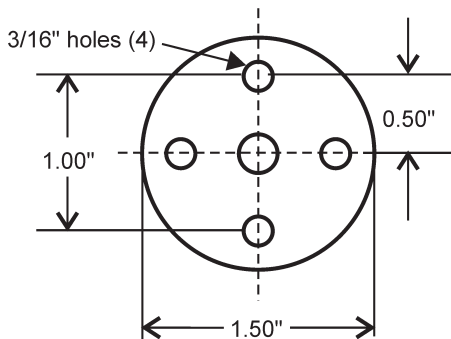
FOR AIR PRESSURE SENSING SWITCHES



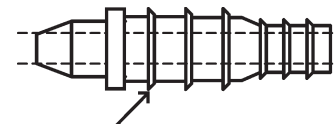
Static Pressure (Aspiration) Probes				
Dimension A	Smooth OD Dimension B	Smooth OD Part Number	Barbed End Dimension B	Barbed End Part Number
1.5	1.0	21397	1.75	21397-112
2.0	.5	21116	1.25	21116-112
3.5	1.0	21398	1.75	21398-112
4.0	.5	21117	1.25	21117-112
5.5	1.0	21399	1.75	21399-112
6.0	.5	21118	1.25	21118-112
7.5	1.0	21400	1.75	21400-112
8.0	.5	21119	1.25	21119-112

Total Pressure (Impact) Probes				
Dimension A	Smooth OD Dimension B	Smooth OD Part Number	Barbed End Dimension B	Barbed End Part Number
1.5	1.0	21401	1.75	21401-112
2.0	.5	21120	1.25	21120-112
3.5	1.0	21402	1.75	21402-112
4.0	.5	21121	1.25	21121-112
4.75	.5	60891	1.25	60891-112
5.5	1.0	21403	1.75	21403-112
6.0	.5	21122	1.25	21122-112
7.5	1.0	21404	1.75	21404-112
8.0	.5	21123	1.25	21123-112
10.0	.5	28527	1.25	28527-112
12.0	.5	28528	1.25	28528-112

MOUNTING FLANGE



FACTORY-INSTALLED BARBED ADAPTER FOR HOSE CONNECTION (-112 MODELS ONLY)



45° BARB TYP. 6 PLACES ACCEPTS 1/8" THRU 1/4" ID FLEXIBLE PLASTIC TUBING.



Cleveland Controls
DIVISION OF UNICONTROL INC.
1111 Brookpark Rd
Cleveland OH 44109

Tel: 216-398-0330

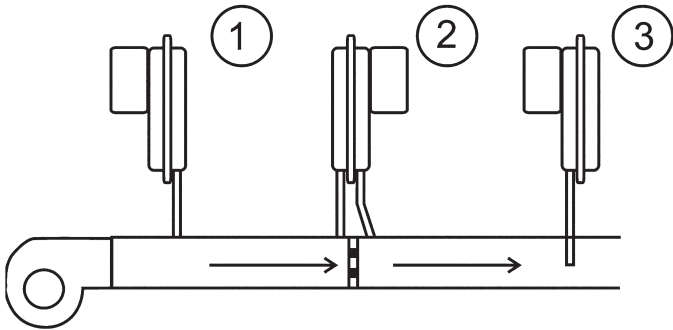
Fax: 216-398-8558

Email: salesvac@unicontrolinc.com

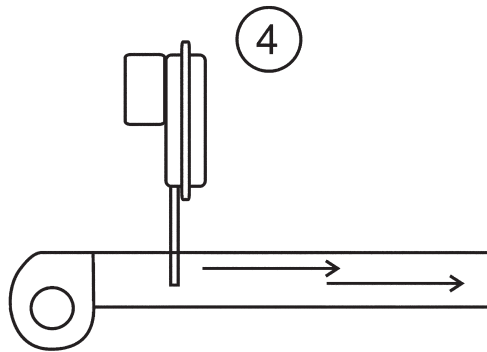
Web page: <http://www.clevelandcontrols.com>

Are you reading a FAX or a COPY of this bulletin? DOWNLOAD the full-color PDF version of this and other literature at our website!

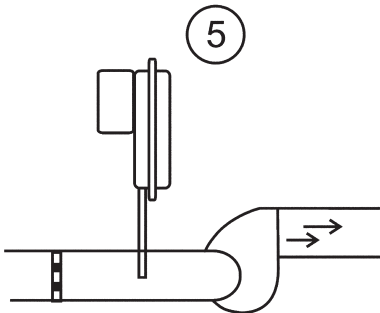
Typical Applications



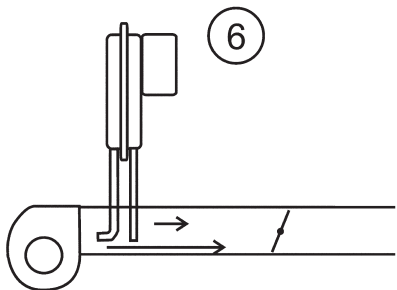
1. Positive static pressure increases as the filter gets dirty.
2. Differential across filter changes as filter gets dirty.
3. Flow is reduced as filter gets dirty.



4. Fan operation **or** true air flow with little or no static pressure.



5. Negative pressure increases as the filter gets dirty.



6. Fan operation **and** true air flow with varying amounts of static pressure. Probes must be perpendicular to air flow.

Recommended Probe Locations

1. Position the probe 5 to 8 diameters from any elbows, obstructions, or significant changes in the duct area.
2. Insert the probe into the duct perpendicular to the air stream so that:
 - Aspiration (**static**) probe tip opens parallel with the air stream.
 - Impact (**total pressure**) probe tip opens directly into the air stream.

Engineering Standards for Sample Probe Tubes

1.1 Finish:

- 1.1.1 The probe appearance is to be clean and free from major imperfections. The specified tubing is "mill run" quality and may have scratches, cosmetic blemishes, and "run marks" created by the fabrication and assembly process.

1.2 Requirements:

- 1.2.1 The finished probe shall meet the dimensions and configuration established on the specification sheet.
- 1.2.2 Barbed adapter provided as required is a press fit adapter.

1.3 Inspection and Tests:

- 1.3.1 Probe tube OD shall be round to within .015 inch except for the impact probe tip which may be formed or cut. See 1.3.6.
- 1.3.2 Probe flange and tube shall be perpendicular to ± 3 degrees.
- 1.3.3 Crimped probe flange and tube shall have a grip push out strength to 145 pounds of force.
- 1.3.4 Crimped probe flange and tube shall have a grip twist off strength to 10 inch-pounds of torque.
- 1.3.5 Probe flange air flow arrow and the impact tube opening shall be parallel to within ± 7 degrees.
- 1.3.6 Impact probe opening may be either formed or cut off to achieve the specification. It must fit the suggested mounting hole size of "9/32 drill".
- 1.3.7 Burrs ID and OD allowable up to 1/32 inch.
- 1.3.8 Tubing fabrication angles are a nominal dimension with a tolerance of ± 4 degrees unless otherwise specified.

1.4 Notes

- 1.4.1 The primary purpose of the sample probes is to establish accurate air flow measurements for use with Cleveland Controls sensing switches. There are two configurations: 1) impact, 2) static. Probes are not intended as laboratory grade equipment.