



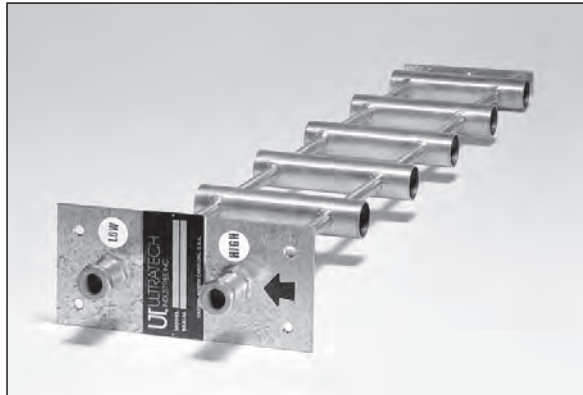
ULTRAC STK

Stack Flow Sensor

APPLICATIONS

The ULTRAC Stack Flow Sensor (STK) or Static Pressure Sensor provides a highly accurate, dependable flow or static pressure measurement of gas flow in smokestacks, gas flues, ducts, and similar conduits.

Designed for complete installation from outside the duct, this insertion-type sensor is more economical than measuring stations which feature a flanged section of duct.



ULTRAC STK 9

The sensor is particularly effective at gas measurement of dirt-filled, sooty or similar solid-bearing flows when installed with ULTRATECH'S purge-type flow or pressure transmitter systems.

This simple, trouble-free flow measuring device offers a superior means of gas flow measurement, unaffected by static pressure, ordinary solids accumulation, shock, or vibration.

Gas velocities often vary significantly across a stack or duct. Because single-point flow measuring devices read the velocity at one point only, errors in flow measurement are common. The STK Pitot and static pressure measuring points are distributed for equal-area averaging of flows, resulting in improved accuracy and reliability.

DESCRIPTION

The ULTRAC STK Sensor is a highly specialized derivation of the single-axis, Pitot-averaging, static pressure sensor. Kiel shrouds enclosing the Pitot-static sensors compensate for non-axial flow components. Extraneous tubing around the sensing points is eliminated resulting in an excellent resistance to the build-up of dust and solids on the sensors.

DESCRIPTION (CONTINUED)

The sensors may be track-mounted for easy removal during cleaning. When dual sensors are installed on opposing sides of a stack, one sensor may be removed for cleaning while maintaining a continuous flow reading.

The STK is available in rigid copper (standard), 304, 316, or almost any type of exotic stainless steels available as required by process conditions.

The fan inlet sensor, model STK-LI features two interconnected STK traverse probes with adjustable mounting feet. This provides accurate measurement of airflow at the inlet of fans.

The static pressure sensor, model STK-LP includes only the static pressure tube with multiple, Fecheimer-type sensors. It's an excellent selection for static pressure measurement for control in VAV systems.

FOR RECTANGULAR DUCTS select model STK-9-length equal to the longer dimension of the duct. The following quantities of sensors are recommended based upon the smaller dimension of the duct:

DUCT DIAMETER	<12	12 - 23	24 - 35	36 - 59	60 - 89	>89
NUMBER OF STKs	1	2	3	4	5	6

FOR CIRCULAR DUCTS select model STK-8-diameter. The following quantities of sensors are recommended based upon the duct diameter:

DUCT DIAMETER	<12	12 - 23	24 - 35	36 - 59	60 - 89	>89
NUMBER OF STKs	1	2	3	4	5	6

FOR FLAT OVAL DUCTS please consult ULTRATECH.

SPECIFICATIONS FOR ULTRAC STK

ACCURACY: +/-2% with recommended quantity of sensors. +/-2% for static pressure only units, model STK-LP

MAXIMUM TEMPERATURE: 1650°F (304 or 316 stainless steel) 400°F (rigid copper)

UNRECOVERED HEAD LOSS: 0.09 in. w.c. at 6000 fpm; 0.01 in. w.c. at 2000 fpm

STRAIGHT-RUN REQUIREMENTS:

5 diameters or longest side dimensions

STANDARD MATERIAL:

Sensor tubing rigid copper, hard-drawn to ANSI H23.1 and ASTM B88

Mounting plate: 12-gauge galvanized steel

ORDERING INFORMATION

ULTRAC STK- _____ - _____ - _____

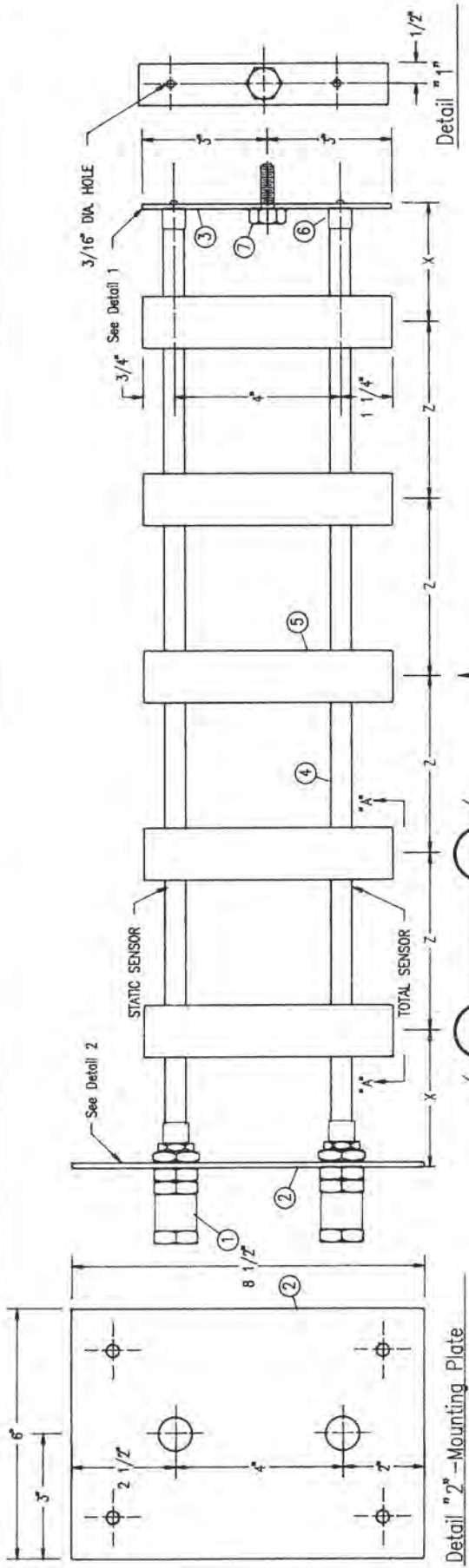
SERIES _____

7 - FLAT OVAL
8 - ROUND
9 - RECTANGULAR

LENGTH _____

CONSTRUCTION SPECIFIERS _____

- A - 304 stainless steel (316 stainless steel if available)
- C - Compression fitting for process connections
- I - Designed for fan inlet mounting
- K - No Kiel shrouds
- P - Static pressure only unit
- T - Track mounted
- Z - Special (specify)



NOTES:

1. FITTINGS BY ULTRATECH
2. ALL DIMENSIONS IN INCHES
3. PLATE ITEM NO. 2 IS ROLLED TO DUCT RADIUS WHEN MOUNTED INTO ROUND DUCT
4. SENSOR SPACING BASED UPON DUCT AREA AND TYPE, EXAMPLE: RECT. OR ROUND
5. BOLT ITEM NO. 7 NOT PROVIDED FOR UNITS UNDER 30 INCHES

MODEL S

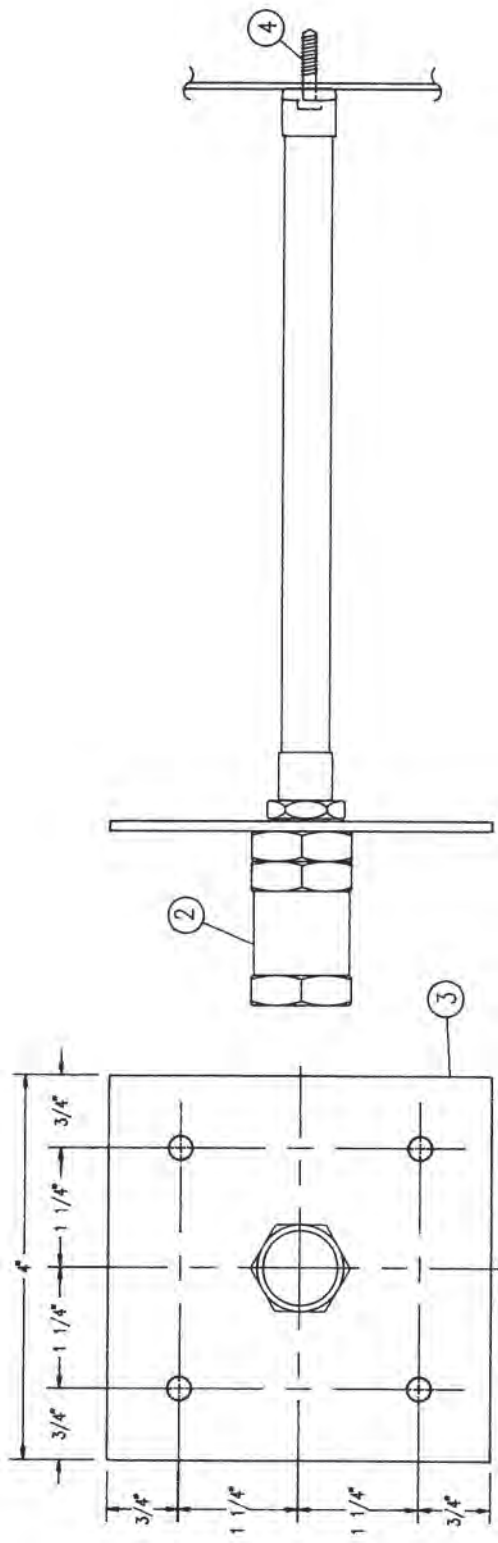
1. TOTAL & STATIC PRESSURE CONNECTION: 1/2" NPT FEMALE
2. GALVANIZED SHEET STEEL 8 1/2" x 6"
3. GALVANIZED SHEET STEEL 6" x 1"
4. TUBING: RIGID COPPER
5. TUBING: RIGID COPPER
6. CAPS: RIGID COPPER
7. 5/16" x 1" HEX HEAD BOLT (CAD PLATED)

MODEL-LA

1. COUPLING: 1/2" NPT FEMALE
2. STAINLESS STEEL SHEET 8 1/2" x 6"
3. STAINLESS STEEL SHEET 6" x 1"
4. TUBING: STAINLESS STEEL
5. TUBING: STAINLESS STEEL
6. N/A FOR STAINLESS STEEL SENSORS
7. 5/16" x 1" HEX HEAD BOLT 8-18 STAINLESS STEEL

SHOP USE ONLY	
Dimension "X"	_____
Dimension "Z"	_____
Dimension "Y"	_____

ULTRATECH
 GARNER, NORTH CAROLINA U.S.A.
 DRAWN BY: MAH DATE: 10-29-93 APPROVALS :
 TITLE: STANDARD STK DIMENSIONS
 MODEL: STK 8-X-SJA
 STK 8-X-SJA
 SPEC. EP-1200-1 REV:



NOTES:

1. - SENSING POINTS WILL BE LOCATED:
 MAXIMUM 3" FROM DUCT WALL
 MAXIMUM 6" INTERVALS BETWEEN
 END SENSING POINTS
2. - PROCESS CONNECTION 1/2" NPT BRASS
3. - MOUNTING PLATE IS 12-GAUGE
 GALVANIZED STEEL
4. - MOUNTING BOLT IS 1/4" NPT x 2"
 CAD PLATED

UT ULTRATECH

GARNER, NORTH CAROLINA U.S.A.

DRAWN BY: MAH DATE: 12-20-93 APPROVALS :

TITLE: ULTRAC STK-LP

STATIC PRESSURE ONLY

SPEC EP-1200-4 REV: