

Instruction Manual

1-SK1, 2-SK1 & 3-SK1 Compressed Air Survey Kit

1.

Introduction

Read the Installation, Operation and Maintenance Manual prior to installation. Be sure to check connections before pressurizing the system to prevent damage and/or injury.

2.

2.1 Compressed Air Survey Kit

The kit includes:

1. Flow meter w/Quick Coupling (100% Scale)
2. 5 Orifice Inserts
3. Straight Run Quick Coupling Pipe
4. Pressure Gauge 0-160psig (optional)
5. Orifice Insert Installation and Removal Tool
6. Carrying Case & Instruction Manual



3.

3.1 Orifice Insert Selection & Installation

Select the orifice insert that best suits the equipment being tested (the flow rate is marked on the back of the orifice insert) side the orifice insert in the inlet side of the body until it is fully seated (flush). The orifice is held in place using the “T” handled screw in the body. With the insert in place turn the “T” handle screw clockwise just until the screw touches the orifice insert.

Important: do not over tighten the screw as it may damage the orifice insert. To remove the orifice insert simple turn the “T” handle screw counterclockwise just until the orifice sides out from the inlet side of the body.

3.

3.2 Inlet Pipe w/ Pressure Gauge Installation

Connect the female quick coupling to the male body coupling (Inlet) and pull back levers to secure and seal. Refer to drawing #6566.

Connect the inlet side of the straight run pipe to the test site. Be sure that the test site has the proper piping and sufficient flow for accurate readings.

Caution: Check all connections prior to start up damage and/or injury may result.

If inlet conditions vary from conditions marked on the dial use the correction factor below, for flow meters calibrated at 100psig and 80°F.

Compressed Air Correction Factor Table

Actual flow rate = indicated flow rate x Kp X Kt

Kp= correction factor, pressure

Kt= correction factor, temperature

Pa=actual gas pressure at meter inlet, psig.

Pc=calibrated gas pressure marked on meter dial, psig.

Ta=actual inlet temperature, deg. F

Tc=calibrated inlet temperature market on meter dial, deg. F

Pressure		
Pa	Pc	Kp
10	100	0.46
20	100	0.55
30	100	0.62
40	100	0.69
50	100	0.75
60	100	0.81
70	100	0.86
80	100	0.91
90	100	0.96
100	100	1.00
110	100	1.04
120	100	1.08
130	100	1.12
140	100	1.16
150	100	1.20
160	100	1.23

Temperature		
Ta	Tc	Kt
50	80	1.03
60	80	1.02
70	80	1.01
80	80	1.00
90	80	0.99
100	80	0.98
110	80	0.97
120	80	0.96
130	80	0.96
140	80	0.95

General Formula:

$$K = \sqrt{\left(\frac{(Pa + 14.7)}{(Pc + 14.7)}\right)\left(\frac{(Tc + 460)}{(Ta + 460)}\right)}$$

Example:

Inlet temperature = 70; Inlet pressure 110 psig, indicated flow rate 150 SCFM.

Actual flow rate = 150 x 1.04 x 1.01 = 158.