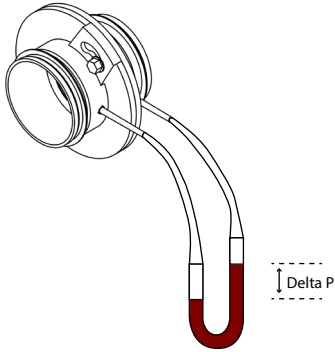




Iris damper Airflow Measurements



The Iris damper features two measuring ports. One is on each side of the aperture. A manometer connected across the ports will measure differential pressure (pressure drop). If you know the orifice configuration and the pressure drop, airflow (CFM) can be calculated.

The formula is:

$$\text{Flow(L/sec)} = K \times \sqrt{\text{pressure drop (pascals)}}$$

K is a constant derived experimentally from the orifice configuration and cataloged in the K table below.

Follow these steps:

- Find the damper settings along the outside edge of the damper to the right of the measurement ports.
The Damper Setting is _____
- Measure the pressure drop - connect a manometer to both measurement ports. **Pressure Drop = _____**
If your instrument is calibrated in pascals then you may proceed with the calculations, if not then convert InWC into pascals. **1 pascal = .004 InWC. _____ InWC / .004 = _____ pa**
- Look up K in the table below. Enter the table with the damper diameter and go right to the damper setting.
K = _____
- Substitute known values into the equation: **(K) _____ x (sqrt of Press. drop (pa)) _____ = Flow (liters/sec)**
- Flow (l/s) _____ x 2.119 CFM/(l/s) = _____ CFM**

Alternatively: www.youngregulator.com/Iris as a link to a spreadsheet that automates these calculations.

		Orifice Setting	K Values														
mm	Inches		1	1.5	2	2.5	3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8
100	4		10.4	7.9	7.5	6.6	6.0	5.2	4.5	3.8	3.4	2.9	2.5	2.1	1.7	1.2	0.9
125	5		13.8	10.4	8.8	7.3	6.5	5.5	4.7	4.0	3.5	3.1	3.1	2.2	1.5	-	-
150	6		24.1	20.0	16.5	14.9	13.4	12.0	11.0	10.0	8.9	7.9	7.9	6.9	6.0	4.4	3.7
200	8		44.2	36.6	30.9	26.9	23.2	20.6	18.2	15.9	14.0	12.3	11.0	11.0	9.6	6.5	5.0
250	10		64.4	53.5	45.6	41.8	38.7	34.5	30.7	27.3	24.1	21.4	18.4	15.8	12.8	10.9	8.9