

CDI 25

LOCAL FLOW MONITOR FOR COMPRESSED AIR

- Low cost permits monitoring of loads throughout an industrial plant
- Alarm functions indicate when leakage has developed or usage has become excessive
- Totalizing function allocates usage and cost
- Complete flowmeter in one package



The CDI 25 represents a price-performance break-through in compressed-air metering. It fills a need for low-cost measurement of air usage by individual pieces of industrial equipment. It indicates leak-age and excessive usage locally with blinking lights, thereby eliminating the need for central monitoring and enabling equipment operators and maintenance mechanics to observe and respond to developing problems.

The CDI 25 is based on CDI's proven technology, but it has been streamlined to reduce cost, reduce material usage and facilitate installation. The meter measures flow by maintaining one of its two probes warmer than the other; it calculates flow from the amount of heat required. Current flow, as well as minimum, average and totalized flows can be seen on a four-digit display.

AVAILABLE SIZES

Pipe Size	Range (scfm)	Model No.
1/2 in. IPS	9 - 90	CDI 25-05S
3/4 in. IPS	12 - 120	CDI 25-07S
1 in. IPS	16 - 160	CDI 25-10S
3/4 in. Cu	12 - 120	CDI 25-07C
1 in. Cu	16 - 160	CDI 25-10C

SPECIFICATIONS

Accuracy

5 percent of reading plus 1 percent of range for flows from 10 percent to 100 percent of indicated range at air temperatures between 20 and 120 degrees Fahrenheit

Fluids

Compressed Air, Nitrogen

Operating Pressure

200 psig maximum on Sch. 40 steel and on Type L Copper; consult CDI for other materials and higher pressures.

Input Power

250 mA at 24 Vdc

Output resistance

600 Ohms max.

Exposed Materials

Stainless steel, aluminum, gold, thermal epoxy and Viton (seal)

Display

Four-digit LED display

Response time:

One second to 63 percent of change in value at flows above 30 percent of range.

APPLICATION

The meter is designed for use with compressed air and nitrogen. The air must be free of oil, dirt that could foul the probes, and suspended water droplets. In a compressed-air application, the meter should be installed downstream of a dryer.

The meter is not to be used in safety or life-support applications. It should not be used as a sole means of determining required capacity of air compressors and related equipment. The meter must not be used in wet or hazardous locations.

INSTALLATION

The CDI 25 is designed for use in vertical air lines with air flowing downward. For best accuracy, there should be straight pipe upstream of the meter with a length at least five times the diameter of the pipe. The meter should be positioned for good visibility and it should be readily accessible. With air shut down and pressure released, drill the two holes using the drill guide (purchased separately). Remove any burrs or roughness from the pipe with a file. Insert the probes into the pipe noting the direction of the flow arrow, and secure it with the two band clamps provided, tightening them to a torque of approximately 20 inch pounds.

WIRING

The meter must be powered by a 24 Volt +/- 10 per-cent dc supply with a capacity of at least 250 mA. Connect the supply to the dc+ and dc- terminals. If the supply cable is shielded, connect the shield to the gnd terminal.

LIMITATIONS

- The air must be clean and free of water and oil droplets
- Flow that occurs in short bursts will not be accurately averaged or totaled.
- No outputs are provided for remote monitoring.
- The meter is not for use in wet or hazardous environments.
- The meter does not distinguish between forward and reverse flow. If a piece of equipment includes a storage tank or extensive piping and the system pressure varies, the meter may sense flow when there is no air use.

MONITORING AND ALARM FUNCTIONS

In addition to its rate display, the meter can display minimum, average and total usage. A small button on the underside of the meter is used to index through the display modes, to select a default mode for display, and to program the display functions and the alarms. The displayed minimum value is the minimum of 360 samples taken over a period specified by the user. The displayed average is the average of 360 values recorded over a second specified period. The total is a non-resettable cumulative value expressed in thousands of cubic feet or thousands of cubic meters, depending on the units of measure of the meter.

The user specifies alarm thresholds for the minimum and average values, and a corresponding LED blinks when either of these thresholds is exceeded.

The meter also has a built-in adjustable digital filter to smooth variations in the indicated flow caused by turbulence or rapidly-varying flow. If the filter factor is set to zero, there is no filtering.

Please refer to the installation and operating instructions for information on programming the alarm and display functions.

LIMITED WARRANTY

CDI warrants solely to the buyer that the Model 25 Flowmeter shall be free from defects in materials and workmanship, when given normal, proper and intended usage, for three years from the date of purchase. During the warranty period, CDI will repair or replace (at its option) any defective product at no cost to the buyer. The foregoing warranty is in lieu of any other warranty, express or implied, written or oral (including any warranty of merchantability or fitness for a particular purpose). CDI's liability arising out of the manufacture, sale or supplying of the flowmeter, whether based on warranty, contract, tort or otherwise, shall not exceed the actual purchase price paid by the buyer, and in no event shall CDI be liable to anyone for special, incidental or consequential damages.