



The Madi-X sensor is a device for determining the slide valve position of a variety of screw compressors. The slide valve position is then used to calculate the loaded percentage of the compressor.

Madi is an acronym for Magnetic Angular Displacement Indicator and has been developed by Contact Automation as a viable option for replacement of the current potentiometer type position sensors.

The Madi-X has been implemented on Howden, Frick, Ariel, Sullair and Kobelco screw compressors over the past 3 years and has endured the intense vibration environment without failure. CSA Certification for Class I Div. II locations.

### **Benefits**

- Precise measurement of slide valve position
- Sensor not affected by dirty environments, vibration or heat
- Compressor does not have to shut down for sensor exchange
- Trouble-free calibration by operational staff
- No additional hardware is needed for calibration
- Certified for Class1, Div2 areas

### **How it Works**

The Madi-X sensor is powered by 24 volts DC and sends a 4-20 mA signal back to an Analog Input card in the PLC. The sensor measures the distance between itself and the outer edge of the rotating cam. The cam is cut from  $\frac{3}{4}$  inch steel plating using a water jet cutting device and has a very linear radius drop of 3mm. The sensors measuring range is 3mm and measures changes in distance of 0.01mm. As the cam turns the distance between the cams outer edge and the sensor increases or decreases according to the rotation of the cam. The sensor then produces the corresponding 4-20 mA output signal.

The Madi-X will measure between 0° and 260°.

### **For more information:**

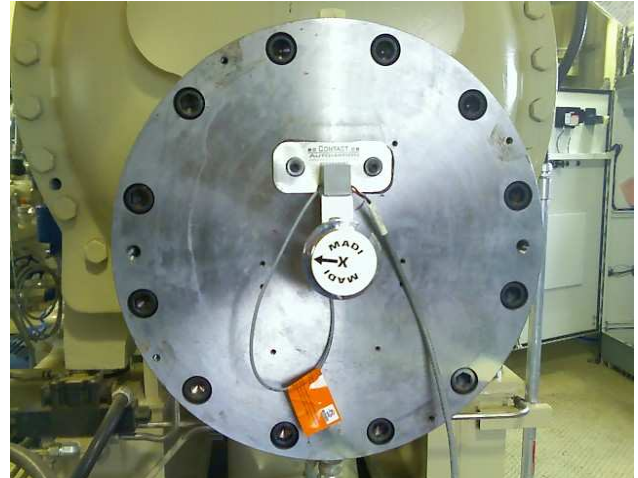
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**Fig 1: Potentiometer Type Sensor**



**Fig 2: Madi-X**



**Fig 3: Howden Type Slide Valve**

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