

Shafts

Shafts transmit the rotational movement of the device to be monitored into the encoder either directly (hollow-shaft style encoders) or through a flexible coupling (shafted style of encoders)

Inside Tip: Look for corrosion resistant shafts and a low TIR (Total Indicated Runout), generally 0.001" or less.



Shaft Seals

Without a shaft seal, the bearings and optical path would be subject to contamination due to dust, dirt and moisture in the environment.

Inside Tip: A lubricated rotating lip seal provides the best overall environmental protection over the life of the encoder.



Optics & Electronics

The optics assembly, in conjunction with the electronics, generates a variable amplitude analog signal from the rotation of the code disc and translates it into a digital pulse stream for use by a controller or counter.

Inside Tip: Electronically centered discs are accurate to better than $\pm 1/40$ th of a cycle.



Covers & Connectors



Covers provide mechanical protection for the internal components of the encoder and seal it against dust and moisture intrusion. Connectors carry the signal through the cover of the encoder body while maintaining environmental protection.

Inside Tip: All points of entry, including cover screw holes, should be O-ring sealed for the best environmental protection.



Bearings



Bearings, along with the shaft (or shaft tube in the case of a hollow-shaft style of encoder) combine to provide a stable rotational platform which carries the code disc.

Inside Tip: The most accurate encoders use dual preloaded bearing assemblies.



Environmental & Operational Specifications



The environmental and operational specifications establish the environment under which the manufacturer feels it is prudent to operate the encoder.

Inside Tip: Check bearing and temperature ratings carefully. There is no specification standard in the encoder community for these items. If they are critical to your application, you will want to be sure of what you are getting.

