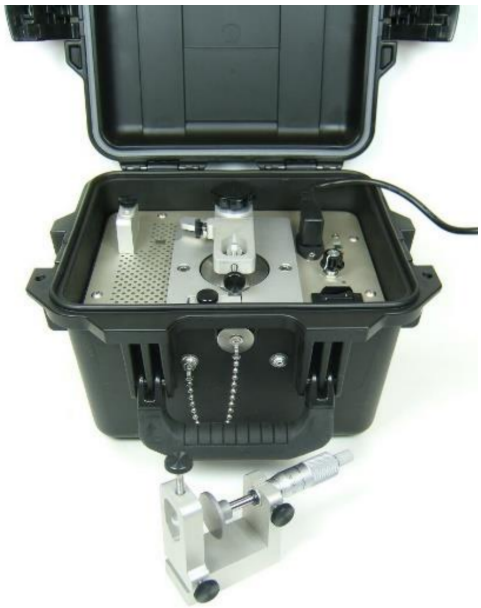
TK3 Proximity System Test Kit

Datasheet

Bently Nevada Machinery Condition Monitoring

178087 Rev. D



Description

The TK-3 Proximity System Test Kit simulates shaft vibration and position for calibrating Bently Nevada monitors. It verifies the operating condition of the monitor readouts as well as the condition of the proximity transducer system. A properly calibrated system ensures that the transducer inputs and the resulting monitor readings are accurate.

The TK-3 uses a removable spindle micrometer assembly to check the transducer system and position monitor calibration. This assembly features a universal probe mount that will accommodate probe diameters from 5 mm to 19 mm (0.197 in to 0.75 in). The mount holds the probe while the user moves the target toward or away from the probe tip in calibrated increments and records the output from the Proximitor Sensor using a voltmeter. The spindle micrometer assembly also features a convenient magnetic base for ease of use in the field.

Vibration monitors are calibrated using the motor-driven wobble plate. A swing-arm assembly located over the wobble plate holds the proximity probe in place. This assembly uses a universal probe mount, identical to that used with the spindle micrometer assembly. By using the absolute scale factor of the proximity probe in conjunction with a multimeter, the user adjusts the probe to find a position where the desired amount of mechanical vibration (as determined by peak-to-peak DC voltage output) is present. No oscilloscope is needed.

The user can then compare a vibration monitor's reading to the known mechanical vibration signal input viewed by the proximity probe. The mechanical vibration signal from the TK-3 can range from 50 to 254 µm (2 to 10 mils) peak-to-peak.

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WARNING

ROTATING MACHINERY

Risk of personal injury or equipment damage.

Keep clear of rotating components.
Avoid wearing loose clothing or objects.
Always use safety glasses and safety guards.
Check that mounting screws are secure.

Injury can result from flying debris or contact with moving parts. Keep clear of the wobble plate when operating either the TK-3e or TK-3g.

Specifications

Power Requirements	
Electric	95-125 Vac, 50/60 Hz, 1A minimum 190-250 Vac, 50/60 Hz, 1A minimum Power can be disconnected by disconnecting the power cable from the TK-3 unit.
Air	90 psi (6.2 bar) maximum
Wobulator Range	
Vibration Amplitude Range:	50 µm to 254 µm (2 to 10 mils) peak-to-peak.
Maximum Speed	
Electric	0 to 5000 cpm ± 1000 cpm
Air	0 to 5000 cpm ± 1000 cpm
Spindle Micrometer Range	0 – 25.4 mm (0 – 1000 mils).
Target Button and Wobble Plate	AISI 4140 Alloy Steel. Contact your nearest Sales Professional for details on special target and wobble plate materials.
Physical Size	
Height	195 mm (7.68 inches)
Width	299 mm (11.8 inches)
Depth	248 mm (9.76 inches)
Weight	5.22 kg (11.5 lb)
Environmental	
Equipment is for indoor use only.Maximum altitude is 2000m.	
Operational Temperature Range	0 °C to 50 °C (32 °F to 122 °F) Temporary operation below minimum temperature is acceptable. For extended continuous use, maximum operating temperature is 40°C.
Storage Temperature Range	-18 °C to 65 °C (0 °F to 150 °F)
Humidity	95% Non-Condensing Humidity
Exposure	Designed to meet IP54 for dust and water exposure (closed)

Compliance and Certifications

FCC

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

- This device may not cause harmful interference.
- This device must accept any interference received, including interference that may cause undesired operation.

EMC

EN 61000-6-2

EN 61000-6-4

EMC Directive 2014/30/EU

RoHS

RoHS Directive 2011/65/EU

LVD

EN 61010-1

LV Directive 2014/35/EU