

# 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 Proximity 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  $\mu\text{m}$  (2 to 10 mils) peak-to-peak.



**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.

Exposure	Designed to meet IP54 for dust and water exposure (closed)
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## 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

## 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

## Ordering Information



For the detailed listing of country and product specific approvals, refer to the *Approvals Quick Reference Guide* (108M1756) available from [Bently.com](http://Bently.com).

### Electric Driven TK-3e

#### 177313-AA-BB-CC

<b>A: Scale Units</b>	
01	English
02	Metric
<b>B: Power Cord Type</b>	
01	American
02	European
03	Brazilian
<b>C: Agency Approvals</b>	
00	None

### Air Driven TK-3g

#### 177314-AA

<b>A: Scale Units</b>	
0 1	English
0 2	Metric

### Accessories

168836	MDS 100 – Data Acquisition CBT (Computer Based Training) Module
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1631 Bently Parkway South, Minden, Nevada USA 89423  
Phone: 1.775.782.3611 or 1.800.227.5514 (US only)  
[Bently.com](https://www.bently.com)