

# Monitor and Transducer Verification Kits

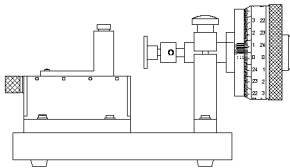
3300 XL Precision Micrometer and 3300 XL Shaft Micrometer

Bently Nevada\* Asset Condition Monitoring

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## Description

### The 3300 XL Precision Micrometer



The 3300 XL Precision Micrometer is ideal for performing acceptance testing on transducer systems to the transducer's performance specifications or to the American Petroleum Institute's Standard API 670.

Bently Nevada transducer systems are all manufactured to meet published performance specifications. They have a specified linear range, average scale factor (ASF) and incremental scale factor (ISF). Transducer systems have maximum deviation from straight line (DSL) and ISF tolerances, both at ambient temperatures and for extended temperatures. The 3300 XL Precision Micrometer can help verify whether the transducer system is working properly and within published specifications.

A precision micrometer checks the transducer system. A probe mounting adapter holds the probe while a high precision 4140 target button is moved toward or away from the probe tip in specific increments. This target button simulates the position of the shaft. The output from the Proximitor\* Sensor is recorded using a voltmeter. You can then verify the operating condition of the transducer system by comparing a newly generated probe curve using the 3300 XL Precision Micrometer with published specifications for that transducer system. You can also check and verify the proper operation of shaft position monitors using this micrometer.

### 3300 XL Shaft Micrometer

The 3300 XL Shaft Micrometer is primarily used to check the output signal of a Proximitor Sensor when viewing the rotor shaft or a reciprocating compressor piston rod. A strap attaches to a mounting base, is wrapped around the target, and is tightened to hold the mounting base firmly in position.

A spindle micrometer verifies the Proximitor Sensor output signal. A probe mounting adapter holds the probe in the mounting base, and the micrometer moves the probe toward and away from the target in calibrated increments. The output from the Proximitor Sensor is recorded using a voltmeter.

When using the 3300 XL Shaft Micrometer to generate an output curve for programming a Rod Drop Monitor on a reciprocating compressor, use the buffered output signal on the front of the rod drop monitor rather than the output signal on the Proximitor Sensor. This is because the Rod Drop Monitor is programmed by the user based on the signal at the monitor. This signal will vary from the output signal on the Proximitor Sensor if you are using intrinsic safety barriers.

The 3300 XL Shaft Micrometer also comes with a target holding base and a calibrated 4140 target button to verify that your Proximitor Transducer System is working properly.

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Specifications and Ordering Information  
Part Number 141196-01  
Rev. E (06/14)

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## Specifications

### Mechanical

#### Target Buttons

AISI 4140 Alloy Steel, 30.5 mm (1.20 in) diameter flat target

Note: Contact your nearest Sales Professional for details on special target materials.

#### Casing Material:

*3300 XL Precision Micrometer*

Fiberglass and Plastic.

*3300 XL Shaft Micrometer*

ABS Plastic.

### Measurement

*3300 XL Precision Micrometer*

Note: The following specifications apply to measurements performed using a 3300 XL 8mm 5M system at a temperature of 22±3°C (72±5°F) and are relative to the system's actual performance.

*ISF<sub>Actual</sub>:*

±5mV/mil

*DSL<sub>Actual</sub>:*

±0.5 mil

*3300 XL Shaft Micrometer*

**Table 1**

Part number	Resolution	Accuracy
330186-01	0.001 in	+0.0001 in
300186-02	0.01 mm	±0.003 mm

### Size

*3300 XL Precision Micrometer (case dimensions)*

*Height:*

226 mm (8.9 in)

*Width:*

274 mm (10.8 in)

*Length:*

356 mm (14.0 in)

*3300 XL Shaft Micrometer (case dimensions)*

*Height:*

152 mm (6.0 in)

*Width:*

246 mm (9.7 in)

*Length:*

356 mm (14.0 in)

### Total System Weight

*3300 XL Precision Micrometer*

6.8 kg (14.5 lb)

*3300 XL Shaft Micrometer*

2.8 kg (6.2 lb)

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## Ordering Information

**3300 XL Precision Micrometer**

**330185-AXX**

**A:** Scale Units:

- 01** Micrometer in English units (0-1 in)
- 02** Micrometer in metric units (0-25 mm)

<b>3300 XL Shaft Micrometer</b>		<b>02200218</b>	
<b>330186-AXX</b>			
<b>A:</b> Scale Units:			<b>Shaft Micrometer Strap:</b> A replacement strap for the 3300 XL Shaft Micrometer.
	<b>0 1</b> Micrometer in English units (0-1 in)	<b>49478-01</b>	
	<b>0 2</b> Micrometer in metric units (0-25 mm) Note: The 3300 shaft micrometer and precision micrometer come with probe mounting adapters for 1/4 inch, 3/8 inch, 1/2 inch, 5/8 inch, M8, M10, M14 and M16 probe thread sizes.	<b>49478-02</b>	<b>Probe mounting adapter,</b> M5 threads.
		<b>49478-03</b>	<b>Probe mounting adapter,</b> 1/4 inch threads.
		<b>49478-04</b>	<b>Probe mounting adapter,</b> M8 threads.
<b>Accessories</b>			
<b>138751-01</b>	<b>3300 XL Precision Micrometer Instruction Sheet</b>	<b>49478-05</b>	<b>Probe mounting adapter,</b> M10 threads.
<b>140273-01</b>	<b>3300 XL Shaft Micrometer Instruction Sheet</b>	<b>49478-06</b>	<b>Probe mounting adapter,</b> 3/8 inch threads.
<b>27505-01</b>	<b>Target button:</b> A replacement 4140 target button that comes standard with the 3300 XL shaft micrometer. There can be a variation of up to 5% in the average scale factor (ASF) between each target button.	<b>49478-07</b>	<b>Probe mounting adapter,</b> M11 threads.
		<b>49478-08</b>	<b>Probe mounting adapter,</b> 1/2 inch threads.
<b>136534-01</b>	<b>High Precision target button:</b> A replacement 4140 target button that comes standard with the 3300 XL precision micrometer. There can be a variation of up to 0.6% in the average scale factor (ASF) between each target button.	<b>49478-09</b>	<b>Probe mounting adapter,</b> M14 threads.
		<b>49478-10</b>	<b>Probe mounting adapter,</b> 5/8 inch threads.
			<b>Probe mounting adapter,</b> M16 threads.

# Dimensional Drawings

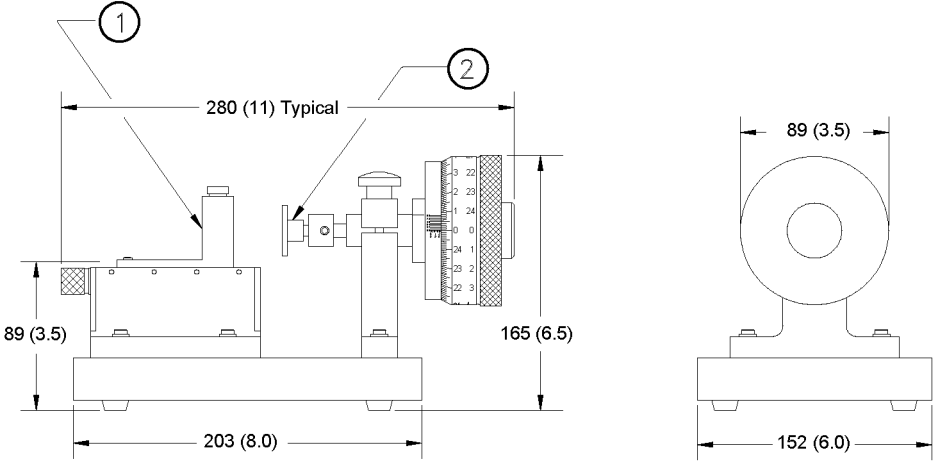


Figure 1. 3300 XL Precision Micrometer

- 1. Collets to fit both metric and English 5mm, 8mm, 11mm, and 14mm probes.
- 2. Removable AISI 4140 target

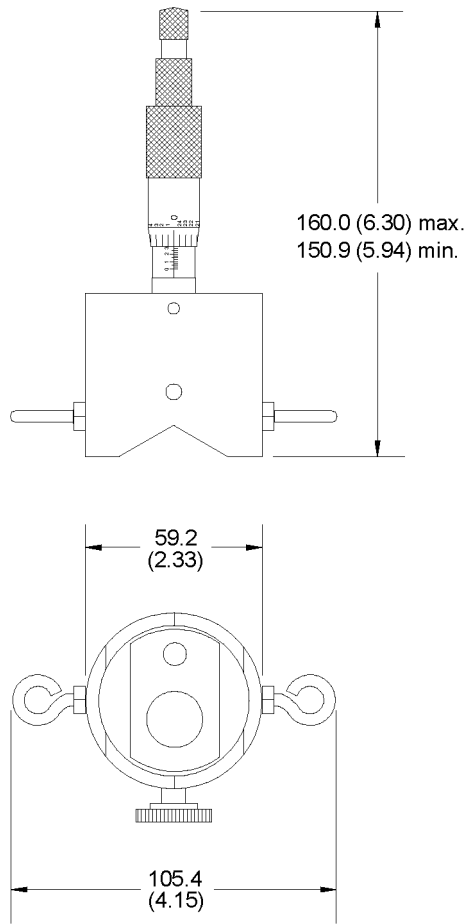


Figure 2. 3300 XL Shaft Micrometer

Note: Dimensions for figures are in millimeters (inches)

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