# Bently Nevada 330173&330171 Series Service Manual

330171-00-20-90-02-05

## 1. Description

Manufacturer : Bently Nevada

## 3. Product Information

Manufacturer : Bently Nevada

Product No. :330171-00-20-90-02-05

Product type : 330171 3300 5mm Probe, 1/4-28 UNF thread, without armor

Made in U.S.A

Unthreaded Length Option : 00 = 0 in

Overall Case Length Option : 20 =2.0 in

Total Length Option : 9 0 = 9.0 metres (29.5 feet)

Connector Option : 0 2= Miniature coaxial ClickLoc connector, standard cable

Agency Approval Option :0 5= Multiple Approvals

Probe Tip Material: Polyphenylene sulfide (PPS).

Probe Case Material: AISI 304 stainless steel (SST).

Probe Case Thread 1/4-28

Maximum Length of Thread Engagement 0.375 in

When drilling and tapping a mounting hole for a 1/4-28 probe, a #3 or larger tap drill is recommended.

Weight : 0.323 Kg

Specifications

Unless otherwise noted, the following specifications are for a proximity transducer system between +18°C and +27°C (+64°F to +80°F) with a -24 Vdc power supply, a 10 kW load, an AISI 4140 steel target, and a probe gapped at 1.27 mm (50 mils).

Electrical

Power

Requires -17.5 Vdc to -26 Vdc at 12 mA maximum consumption. Operation at a more positive voltage than -23.5 Vdc can result in reduced linear range.

Supply

Sensitivity

Less than 2 mV change in output voltage per volt change in input voltage.

Output

Resistance 50 W

Probe DC Resistance

Probe Length (m) 9.0

Resistance from the Center Conductor to the Outer Conductor (Ω ) 9.87 ± 0.90

Probe Tip

Material Polyphenylene sulfide (PPS)

Probe Case

Material

AISI 303 or 304 stainless steel (SST)

Probe Cable

75 Ω triaxial, fluoroethylene propylene (FEP) insulated probe cable in the following lengths: 0.5, 1, 2, 5, or 9 meters (1.6, 3.3, 16.4, or 29.5 feet)

5mm Probe

Tensile

Strength

222 N (50 lbf) probe case to probe lead. 222 N (50 lbf) probe lead to extension cable connectors

Connector

material

Gold-plated brass or goldplated beryllium copper

Probe case

torque

5.1 N·m (45in·lb) recommended

7.3 N·m (65 in·lb) maximum

Connectortoconnector

torque

Refer to the table below:

Recommended Torque

Maximum

torque 0.565 N·m (0.42 ft•lbf)

Minimum

Cable Bend

Radius

25.4 mm (1.0in)

Probe Temperature

Range

-35°C to +177°C (-

31°F to +351°F)

Exposing the probe to temperatures

below –34°C (-30°F) may cause

premature failure of the pressure

seal.

Effects of 60 Hz Magnetic Fields Up to 300 Gauss (5 meter system)

Output voltage in mil pp/gauss

Gap  10 mil

XL Proximitor Sensor  0.0119

Probe  0.0004

XL Ext. Cable 0.0004

Gap  50 mil

XL Proximitor Sensor  0.0131

Probe  0.0014

XL Ext. Cable 0.0014

Gap  90 mil

XL Proximitor Sensor  0.0133

Probe  0.0045

XL Ext. Cable 0.0045

Thread Engagement Limits

Probe Case Thread 1/4-28

Maximum Length of Thread Engagement

0.375 in

Temperature Schedule

(Probe Only)

For EPL Ga and Gc

Temperature Classification T1 Ambient Temperature -55°C to +232°C

Temperature Classification T2 Ambient Temperature -55°C to +177°C

Temperature Classification T3 Ambient Temperature -55°C to +120°C

Temperature Classification T4 Ambient Temperature -55°C to +80°C

Temperature Classification T5 Ambient Temperature -55°C to +40°C

For EPL Dc

Temperature Classification T280°C @ Ta Ambient Temperature -55°C to +232°C

Temperature Classification T225°C @ Ta Ambient Temperature -55°C to +177°C

Temperature Classification T170°C @ Ta Ambient Temperature -55C to +120°C

Temperature Classification T130°C @ Ta Ambient Temperature -55°C to +80°C

Temperature Classification T105°C @ Ta Ambient Temperature -55°C to +100°C

Temperature Classification T90°C @ Ta Ambient Temperature -55°C to +40°C