

330876-01-90-00-05

3300 XL 50 mm Extended-Range Proximity Probe

Long-range, high-temperature measurement path for large steam-turbine differential expansion.

PRODUCT SNAPSHOT

BRAND

Bently Nevada

FAMILY

Bently Nevada 3300 XL 50 mm

PART

330876-01-90-00-05

ORIGIN / HS

USA / 8537101190

APTER POWER

WHATSAPP / PHONE

+86 180 3023 5313



PRODUCT OVERVIEW

Bently Nevada 330876-01-90-00-05 provides the documented 3300 XL 50 mm sensing element for a matched long-range proximity transducer system.



Identifies the 3300 XL 50 mm straight-exit probe configuration



Provides the 9.0 m high-temperature FluidLoc signal path



Supports long-range differential-expansion measurement



Pairs with the matched 3300 XL 50 mm cable and Proximito Sensor

SYSTEM COMPONENTS

DOCUMENTED COMPONENT	ROLE IN SYSTEM
3300 XL 50 mm probe	9.0 m FluidLoc cable
330878 Proximito Sensor	AISI 4140 target

ENGINEERING CONTEXT

Bently Nevada 330876-01-90-00-05 uses a 50 mm probe, matched extension cable and 330878 Proximito Sensor to measure large rotor-to-casing movement without mechanical contact. Commissioning covers ordering-code identity, system length, target geometry, gap, polarity and controlled response.

TECHNICAL DATA

PARAMETER	VALUE	PARAMETER	VALUE
Complete order number	330876-01-90-00-05	Recommended minimum target	102 mm (4.0 in) diameter flat target
Product family	3300 XL 50 mm Proximity Transducer System	Probe tip material	Polyphenylene sulfide (PPS)
Probe case option	01: 1/2-20 English thread, straight exit	Probe case material	AISI 304 stainless steel
Total probe length	90: 9.0 m (29.5 ft)	Probe cable	75 ohm triaxial PFA-insulated FluidLoc; 1, 5 or 9 m
Cable / armor option	00: High Temperature FluidLoc cable, no armor	System length	5 or 9 m including extension cable
Agency approval option	05: Multiple Approvals	Maximum threaded-case torque	45 N m (400 in-lbf)
Proximitior Sensor input	One 3300 XL 50 mm probe and extension cable	Connector maximum torque	0.565 N m (5 in-lbf)
Power	-17.5 to -26 Vdc without barriers; 12 mA maximum	Minimum bend radius	25.4 mm (1.0 in)
Output resistance	50 ohm	Thread engagement limit	1/2-20: 0.750 in
Extension cable capacitance	69.9 pF/m (21.3 pF/ft), typical	Probe operating temperature	-35 to +200 deg C; +250 deg C short-term under 24 h
Field wiring	0.2 to 1.5 mm2 (16 to 24 AWG); 3-conductor shielded	Probe cable temperature	-51 to +200 deg C
Linear range	27.9 mm (1100 mils), from 1.3 to 29.2 mm	Proximitior Sensor temperature	-51 to +100 deg C operating
Average Scale Factor	394 mV/mm (10 mV/mil) nominal	Measurement role	Differential expansion and rotor expansion on large

TECHNICAL NOTE

Install Bently Nevada 330876-01-90-00-05 only with the documented 3300 XL 50 mm probe, 9.0 m cable and matched Proximitior Sensor arrangement. Verify the 1/2-20 thread engagement, 102 mm target, 1.3-29.2 mm linear range, cable bend radius and temperature/approval requirements before turbine service.

APPLICATIONS & PRECAUTIONS

COMMON APPLICATIONS

Large steam-turbine differential expansion

Measures rotor-to-casing growth differences where long linear travel is required.

Rotor expansion and axial displacement

Provides a noncontact displacement channel for large turbine supervisory instrumentation.

High-temperature turbine monitoring

Uses the 50 mm probe and FluidLoc cable construction in demanding steam-turbine

Extended-range transducer verification

Supports controlled gapping and verification with the documented target and system components.

PRODUCT PRECAUTIONS

1

Confirm the complete 330876-01-90-00-05 marking and the 3300 XL 50 mm probe configuration before work.

2

Place the turbine and protection channel in the approved maintenance state.

3

Match the 9.0 m probe length with the 330878-90-00 or 330878-91-00 sensor arrangement.

4

Inspect the 1/2-20 mounting thread, locknut, cable route and FluidLoc jacket before fitting.

5

Keep the connector finger-tight to the recommended limit and protect the coaxial interface.

6

Maintain the 25.4 mm minimum bend radius and avoid tensile loading at the probe lead.

7

Use the documented 102 mm AISI 4140 target and set the gap within the 1.3-29.2 mm range.

8

Record polarity, scale, diagnostics and controlled differential-expansion response before release.

ENGINEER FAQ

Q1 **What do the suffixes in Bently Nevada 330876-01-90-00-05 specify?**

The official ordering code identifies a 1/2-20 threaded straight-exit case, 9.0 m total probe length, High Temperature FluidLoc cable without armor and Multiple Approvals.

Q2 **Which 3300 XL 50 mm sensor matches Bently Nevada 330876-01-90-00-05?**

For a 9.0 m system, use the matched 330878-90-00 panel-mount or 330878-91-00 DIN-mount Proximitor Sensor option with the approved cable arrangement.

Q3 **What measurement range is documented for Bently Nevada 330876-01-90-00-05?**

The 3300 XL 50 mm system provides a 27.9 mm linear range, beginning at approximately 1.3 mm and extending to 29.2 mm from the target.

Q4 **What target and installation limits apply to Bently Nevada 330876-01-90-00-05?**

Use a Bently Nevada AISI 4140 flat target at least 102 mm in diameter, keep threaded engagement within 0.750 in for 1/2-20, and do not exceed 45 N m case torque.

Q5 **How should the 9.0 m cable on Bently Nevada 330876-01-90-00-05 be routed?**

Maintain the 25.4 mm minimum bend radius, protect the FluidLoc jacket and connectors, and keep the probe, extension cable and Proximitor Sensor total system length matched.

Q6 **What temperature limits should be checked for Bently Nevada 330876-01-90-00-05?**

The probe is specified for -35 to +200 deg C, with +250 deg C short-term operation under 24 hours; confirm the extension cable and sensor limits separately.

Q7 **How is Bently Nevada 330876-01-90-00-05 accepted before turbine restart?**

Verify identity, target geometry, gap, polarity, scale, diagnostics and controlled differential-expansion response, then retain the commissioning record before service release.

Q8 **Which official document governs Bently Nevada 330876-01-90-00-05?**

Use the Bently Nevada 3300 XL 50 mm Proximity Transducer System Datasheet, 174014 Rev. L, together with the approved installation drawings and system configuration.

RELATED APTER POWER PAGES

330876-01-50-01-05	330106-05-30-10-02-IN	330180-90-CN	330106-05-30-10-02-00
330104-01-05-50-02-00	330910-00-24-10-01-CN	330909-00-25-10-02-00	330908-21-35-10-02-00

SOURCE 3300 XL 50 mm Proximity Transducer System Datasheet | 174014 Rev. L

+86 180 3023 5313 | sales13@apterpower.com | www.apterpower.com