Bently Nevada 330851-04-000-020-10-01-00

01 Function and selected configuration

Product function

Bently Nevada 330851-04-000-020-10-01-00 positions the sensing face in a smooth-case mounting while the lead leaves sideways. The longer body extends mechanical reach while keeping the side-exit connection accessible beside the mounting.

Selected configuration

The smooth case is 1.06 in in diameter and 2.0 in long, with a side-exit lead and zero unthreaded-length selection. It uses a clamp or adapter suitable for the smooth body instead of a threaded mounting hole. The PEEK sensing tip and AISI 304 stainless-steel case are combined with a 75 Ω triaxial FluidLoc lead and stainless-steel armour.

Functional path

Rotor collar / ramp	1.0 m 25 mm probe	Matched cable / Proximitor	DE monitor channel

Case geometry	1.06 in diameter, 2.0 in overall length
Cable arrangement	Side exit, 1.0 m lead with SST armour
Matched response	0.787 V/mm nominal scale factor

The 1.0 m probe lead combines with a matching 4.0 m or 8.0 m extension cable and the corresponding 5 m or 9 m 3300 XL 25 mm Proximitor Sensor. Its isolated centre-to-outer-conductor resistance is 6.2 ± 0.5 Ω. Armour protects the cable mechanically but does not remove the need for proper support, connector protection or the 25.4 mm minimum bend radius.

330851-04-000-020-10-01-00 / Technical operating envelope

02 Technical operating envelope

Transducer family	3300 XL 25 mm
Case construction	Smooth, side exit
Case diameter	1.06 in
Overall case length	2.0 in
Total probe lead	1.0 m
Lead armour	Stainless steel

Probe resistance, centre to outer	6.2 ± 0.5 Ω
Probe tip / case material	PEEK / AISI 304 stainless steel
Cable impedance	75 Ω, triaxial
Nominal scale factor	0.787 V/mm
Nominal linear range	12.7 mm
Continuous probe temperature	-35 to +200 °C

Range and sensitivity describe the matched transducer system. The probe itself is passive; DC supply and conditioned output belong to the Proximitor Sensor. Use the 1 m probe resistance before adding extension-cable resistance.

Output loading

Reference performance uses a 10 kΩ load. Sensor output resistance is 50 Ω; assess the receiving channel and field wiring together.

Temperature conditions

Continuous probe operation is -35 to +200 °C. Short-term exposure up to +250 °C is limited to less than 24 hours.

330851-04-000-020-10-01-00 / System integration and applications

03 System integration and applications

Extended smooth-case reach

Fit the 2.0 in smooth case in an appropriate supported mounting, allowing side clearance for the armoured lead without loading the exit point.

Turbine collar observation

Measure differential rotor-to-casing growth with a correctly aligned and gapped matched transducer chain.

Complementary DE channels

Use opposing collar faces only with the intended two-channel arrangement and corresponding monitor configuration.

Controlled displacement verification

Move the probe mounting relative to the target and compare the electrical indication with a mechanical movement reference.

System and supply context

This 1.0 m probe is one component of the 3300 XL 25 mm transducer chain. The Proximitor Sensor, any required extension cable, brackets and monitor are separate unless itemized.

Application boundary

Differential-expansion performance depends on the collar or ramp geometry, target material and configured channel arrangement. Mechanical fit alone does not establish electrical or calibration compatibility.

How should the mounting of 330851-04-000-020-10-01-00 accommodate its smooth body?

Use the appropriate smooth-case support or probe adapter and verify that the case cannot slip during operation. Do not apply tightening values intended for threaded probe cases to a clamp of unknown design.

330851-04-000-020-10-01-00 / Engineering selection decisions

04 Engineering selection decisions

What changes mechanically with the 020 case selection on 330851-04-000-020-10-01-00?

It specifies a 2.0 in overall smooth case, 1.06 in in diameter, with side cable exit. It changes the mounting reach while retaining a 1.0 m total probe lead.

Is the armour on 330851-04-000-020-10-01-00 also an electrical shield specification?

The selected armour is stainless steel with a protective outer covering. The electrical lead remains 75 Ω triaxial FluidLoc cable; armour protection does not replace the required connector and circuit arrangement.

How can two probes like 330851-04-000-020-10-01-00 increase the differential-expansion interval?

An opposing-collar complementary arrangement can approximately double the measurement interval. It requires the intended two-channel geometry and monitor configuration; installing a second probe alone does not establish that function.

What limits the dynamic response of the measurement circuit using 330851-04-000-020-10-01-00?

Typical matched-system response is 0–2.7 kHz at +0/-3 dB with up to 305 m of field wiring. Sensor-to-monitor wiring, load and the configured monitor must be considered together; this is not an isolated probe frequency rating.

Secure the smooth case	Use the correct clamp or adapter; do not transfer threaded-case torque values to this smooth body. Connector maximum is 0.565 N·m.
Observe thermal boundaries	Apply probe, cable and Proximitor Sensor temperature limits separately; avoid treating short-term exposure as continuous service.

330851-04-000-020-10-01-00 / Configuration boundary and references

05 Configuration boundary and references

Lifecycle and support

The current manufacturing and manufacturer-support phase of 330851-04-000-020-10-01-00 is unconfirmed. Establish the available service route for the exact configuration when planning replacement.

Replacement assessment

Match the complete probe configuration and electrical length. Upgrades from 7200 or 25 mm DE Integral equipment require replacement of the probe, extension cable and Proximitor Sensor as a matched 3300 XL 25 mm system.

Document roles

Use the original manufacturer excerpt for its preserved technical tables and drawings. This product brief explains configuration and selection boundaries. The independent installation guide organizes preparation, connection, testing and handover. It does not replace the applicable manufacturer installation instructions.

Technical basis

Bently Nevada 3300 XL 25 mm Proximity Transducer System, 163236 Rev. M.

Related product navigation

- Bently Nevada 330851-02-000-080-10-00-00
- Bently Nevada 330850-90-00
- Bently Nevada 330850-90-05

These are related references, not confirmed substitutes or an automatically approved assembly.

Product enquiries