Bently Nevada 31000-28-10-00-165-02-02

01 Proximity Probe Housing Assembly

Bently Nevada 31000-28-10-00-165-02-02 keeps a radially mounted probe accessible through the machine casing. Its extended sleeve arrangement needs a stable mechanical reference and near-probe support before vibration measurements can be accepted.

1. **Bearing and shaft reference**
2. **Supported probe sleeve**
3. **Protected cable junction**
4. **Conditioner and monitor**

Selected probe and extended penetration

This execution selects a 1.0 m probe lead, no standoff adapter and 16.5 in penetration. The combined standoff and penetration length exceeds 12 in, so additional sleeve support near the probe is required to control resonance. The sleeve allows a ±0.5 in adjustment range.

Conduit and service access

The entry arrangement contains two conduit fittings and one plug, with 3/4-14 NPT mounting. Route the cable and conduit so that opening the cover or servicing the junction does not change the probe gap. The housing permits access without machine disassembly, but process and protection hazards still require controlled isolation.

Environmental and process boundaries

The conductive-fiber reinforced PPS body and stainless-steel components provide corrosion-resistant mechanical protection. NEMA 4X/IP66 environmental protection does not establish a pressure-retaining or explosion-proof enclosure. Relative vibration measurement also requires the casing reference to be affixed to the bearing.

Housing data apply to the 31000 assembly. Transducer performance and hazardous-area suitability depend on the installed probe, electrical chain and approved installation.

Bently Nevada 31000-28-10-00-165-02-02

02 Ratings, interfaces and applicable limits

Housing material	Conductive-fiber reinforced PPS
Sleeve material	AISI 304 stainless steel
Outer sleeve material	AISI 303 stainless steel
Housing protection	NEMA 4X / IP66
Mounting interface	3/4-14 NPT
Selected probe	3300 XL 8 mm, multiple-approval selection
Probe lead length	1.0 m
Standoff adapter	None
Conduit arrangement	two conduit fittings and one plug
Retaining-nut torque	29.4 N·m recommended

Configuration-specific engineering data

Sleeve adjustment	±0.5 in
Support threshold	C + D greater than 12 in
Sealing material	Neoprene sleeve O-ring
Housing function	Mechanical and environmental protection

Applying these values to the complete installation

Housing data apply to the 31000 assembly. Transducer performance and hazardous-area suitability depend on the installed probe, electrical chain and approved installation. Evaluate casing attachment and sleeve stiffness before interpreting shaft motion. Housing movement can appear in the measured signal.

Bently Nevada 31000-28-10-00-165-02-02

03 Application decisions and system boundaries

01 Radial vibration access

Position the probe from an externally serviceable housing with a bearing-referenced casing.

02 Keyphasor mounting

Provide access to a configured radial phase-reference probe.

03 Long-penetration installations

Support the sleeve near the probe to control mechanical resonance.

04 Corrosive industrial environments

Use the PPS and stainless construction within its environmental and process boundaries.

Mechanical reference

Evaluate casing attachment and sleeve stiffness before interpreting shaft motion. Housing movement can appear in the measured signal.

Leakage boundary

The housing is not a pressure vessel. Provide safe process containment independently of its water-ingress protection.

System acceptance

After securing the sleeve, verify gap, complete transducer response and receiving monitor functions before restoring the channel.

Replacement boundary: Match the selected probe, 16.5 in penetration, mounting thread and two conduit fittings and one plug.

Bently Nevada 31000-28-10-00-165-02-02

04 Eight questions beyond the specification table

1. **Why does 31000-28-10-00-165-02-02 need support near the probe rather than only at the housing?**

   Its 16.5 in penetration exceeds the 12 in unsupported-length boundary. A near-probe support reduces sleeve resonance; verify it without changing the sensing gap.

2. **Can both conduit entries on 31000-28-10-00-165-02-02 be loaded by rigid pipework?**

   Route and support the conduits independently so their loads do not twist the housing or alter probe position.

3. **How can a casing vibration contaminate the signal from 31000-28-10-00-165-02-02?**

   Relative shaft measurement requires the casing to be fixed to the bearing reference. A moving casing adds motion to the measured gap.

4. **Does an IP66 housing make 31000-28-10-00-165-02-02 a pressure vessel?**

   No. Hose-water protection does not establish resistance to process pressure. Provide a separate leakage-containment arrangement.

5. **What should be checked after the retaining nut of 31000-28-10-00-165-02-02 is tightened?**

   Recheck the probe gap and sleeve position. Locking forces must not shift the accepted sensing point.

6. **Can the electrical cable of 31000-28-10-00-165-02-02 be shortened to clear its cover?**

   No. Route the cable without altering its calibrated length and confirm the mating extension and conditioner.

7. **How does a hazardous-area installation change the assessment of 31000-28-10-00-165-02-02?**

   Use the approved transducer system and appropriate intrinsic-safety barriers. The PPS housing itself is not explosion-proof.

8. **What distinguishes a valid gap adjustment from a complete acceptance test of 31000-28-10-00-165-02-02?**

   A gap adjustment establishes the local operating point; acceptance must also demonstrate monitor response and the required protection functions.

Bently Nevada 31000-28-10-00-165-02-02

05 Selection boundary and service reference

Identify the offered assembly

Compare the assembly label, probe marking, sleeve and two conduit fittings and one plug. Request available label and connector photos. Have your maintenance team compare the offered 31000-28-10-00-165-02-02 with the installed equipment and applicable Bently Nevada documents.

Lifecycle and replacement assessment

The current production and manufacturer-support stage for this exact execution is unconfirmed. Match the selected probe, 16.5 in penetration, mounting thread and two conduit fittings and one plug.

Companion equipment and scope

Confirm the specified housing and probe assembly; cable extension and conditioner only when itemized. A related product is not an automatic substitute; assess the installed interface and application requirements independently.

Engineering handover

After securing the sleeve, verify gap, complete transducer response and receiving monitor functions before restoring the channel. Retain the complete hardware identities, approved configuration and accepted test outcome with the installation record.

Related product references

Bently Nevada 330180-50-05

Bently Nevada 330180-91-00

Bently Nevada 330103-00-18-05-02-05

Technical basis: Bently Nevada 31000 and 32000 Proximity Probe Housing Assemblies, 141610 Rev. R. Apter Power technical synthesis for this product configuration.