Bently Nevada 21000-34-05-15-029-04-02

01 Mechanical architecture and reach

Bently Nevada 21000-34-05-15-029-04-02 is an externally mounted proximity-probe housing with a aluminum body and 304 stainless steel sleeve. Its selected 3300 XL 8 mm reverse-mount probe reaches the machine target through a nominal 2.9-inch penetration arrangement.

External cover — **Cable connection** — **Sleeve through case** — **Probe at target**

Accessible enclosure

The aluminum housing body uses a threaded dome cover, conduit ports and O-rings around a reverse-mount proximity probe. The selected connector protector must fit within the internal cable route without trapping the lead. The plug-only fitting selection does not include a reducer or cable seal grip, so the remaining cable-entry arrangement must be completed by the installation design.

Reach and support

This configuration combines a 1.5-inch standoff selection with 2.9-inch nominal penetration. Their sum is 4.4 inches, a mechanical envelope used when checking the housing drawing and selected probe-cable length. The actual sleeve length must be checked separately and must remain shorter than the probe lead. Final sensing clearance is established at the target using the matched transducer output, not by the nominal penetration value alone.

Electrical and approval boundary

The housing is one part of the complete measurement installation. Probe, extension cable and Proximitor selection must preserve the required electrical-length system, while mounting and nearby conductive surfaces must suit the probe geometry. Connector protection, enclosure sealing and hazardous-area approval are separate requirements; adding a fitting does not change the approval identity of the housing.

Bently Nevada 21000-34-05-15-029-04-02

02 Selected assembly configuration

Housing body	Aluminum
Probe sleeve	304 stainless steel
Probe selection	3300 XL 8 mm, reverse mount
Probe lead length	0.5 m
Standoff selection	1.5 in / 38.1 mm
Nominal penetration	2.9 in / 73.66 mm
Combined C+D	4.4 in / 111.76 mm
Mounting thread	3/4-14 NPT

Geometry calculation

The nominal C+D envelope is 1.5 + 2.9 = 4.4 in (111.76 mm). This is not the actual sleeve part length; compare the drawing and replacement-sleeve table before selecting hardware.

Cable and sleeve relationship

The selected 0.5 m probe lead must be longer than the actual sleeve. Internal connector routing and the cover require usable lead clearance; a nominal length difference alone is not an assembly fit test.

Replacement-sleeve calculation

XL 8 mm sleeve rule	C + D + 4.5 in
Calculated sleeve length	8.9 in / 226.06 mm
Calculated sleeve order code	44382-089

Derived from the XL 8 mm sleeve-selection rule. Sleeve length excludes the end-to-tip distance and sensing gap; confirm the installed assembly before replacement.

Bently Nevada 21000-34-05-15-029-04-02

03 Sealing and measurement boundaries

Fitting selection	One 3/4-14 NPT plug only
Connector protector	Included in probe selection
Cover construction	Threaded dome cover
Sealing components	O-rings and thread seal
Probe operating/storage range	−51 to +177 °C; pressure-seal caution below −34 °C
Nominal penetration adjustment	±0.5 in; verify actual assembly clearance
Calculated sleeve length	8.9 in / 226.06 mm; XL 8 mm replacement-sleeve rule

Support decision

A sleeve can move relative to the intended shaft target and affect the measurement. Long-reach guidance requires support near the probe above the stated threshold; inspect the mechanical arrangement before attributing a vibration-related signal to the shaft.

Seal and approval separation

A connector protector shields the connection, a cable-entry arrangement closes the enclosure path, and the complete housing marking determines its approval identity. These functions must not be combined into a single assumed protection rating.

What should be compared before replacing the sleeve in 21000-34-05-15-029-04-02?

Use the selected housing, standoff and penetration combination to identify the correct sleeve. Check actual sleeve length and probe-lead clearance; the sum of order-code dimensions is an envelope check, not an interchangeable sleeve part number.

Bently Nevada 21000-34-05-15-029-04-02

04 Installation fit and service scope

External shaft measurement access

Keep the probe connection accessible outside the machine while the sleeve locates the tip at the measurement target.

Matched proximity channels

Integrate the selected XL 8 mm probe with its compatible electrical-length chain and configured monitoring input.

Case-specific mechanical reach

Use the 1.5-inch standoff and 2.9-inch penetration combination only where the machine drawing and target clearance support it.

Serviceable enclosure arrangement

Inspect the cover, seals, plug and internal connection during controlled maintenance without treating those parts as electrical calibration components.

Mechanical versus electrical length

Standoff and penetration dimensions define mechanical geometry. They must not be substituted for the calibrated electrical length of the probe/extension/Proximitor system.

Approval boundary

The plain housing designation is not a CA housing designation. Probe approval selection, enclosure approval and fitting selection must each agree with the intended installation.

Seal limitation

The probe temperature range does not remove the pressure-seal caution below −34 °C. Inspect seal suitability independently of the body and sleeve materials.

How should the final setting of 21000-34-05-15-029-04-02 be accepted after a standoff replacement?

Verify thread engagement, target reach, electrical gap and lead freedom in the assembled condition. Retain the before/after mechanical settings and prove the measurement chain before restoring monitoring.

Bently Nevada 21000-34-05-15-029-04-02

05 Engineering decisions and replacement

Lifecycle and replacement scope

The current manufacturing and support phase of 21000-34-05-15-029-04-02 is unconfirmed. It belongs to the established 21000 all-metal probe-housing family. Review any newer housing as a mechanical and environmental design change. Match the selected probe, sleeve, standoff, fittings and case interface rather than assuming that a common probe family establishes housing interchangeability.

Does the standoff on 21000-34-05-15-029-04-02 add to the probe penetration when checking the assembly envelope?

Yes. The nominal 1.5-inch standoff plus 2.9-inch penetration gives 4.4 inches for the combined C+D check. Compare that combined value with the housing limit for the selected probe cable, while keeping it distinct from actual sleeve length.

Can 21000-34-05-15-029-04-02 be transferred to a threadless housing mounting arrangement while retaining its standoff?

The selected standoff requires the threaded mounting option. Verify the 3/4-14 NPT connection and the approved mechanical drawing before changing the mounting arrangement.

Technical basis

Bently Nevada 21000, 24701 and 164818 Proximity Probe Housing Assemblies Datasheet, 141600 Rev. AC. Housing configuration follows the complete order code. Probe operating and seal limits apply to the selected 3300 XL 8 mm probe; housing approval and measurement-chain calibration remain separate.

Other Bently Nevada product references

Bently Nevada 330101-00-30-10-01-00

Bently Nevada 330101-00-30-90-02-05

Bently Nevada 330101-00-55-05-11-00

Separate product references; no substitution or compatibility is implied.