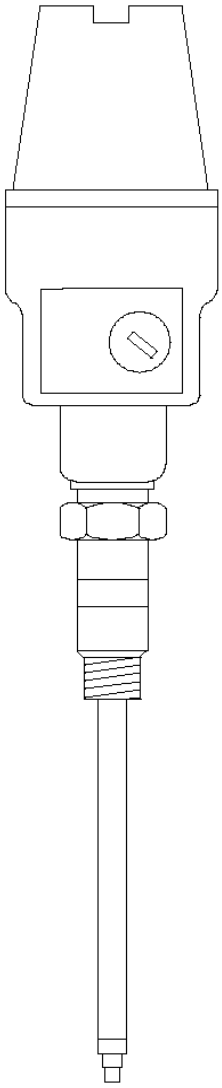
21000, 24701, and 164818 Proximity Probe Housing Assemblies

Datasheet

Cordant™

141600 Rev. AC



Description

To externally mount proximity probes, use one of these all-metal Proximity Probe Housing Assemblies:

- 21000 aluminum probe housing assembly
- 24701 stainless steel probe housing assembly

The 21000, 24701, and 164818 Proximity Probe Housing Assemblies consist of the following parts:

- A dome cover that screws into the body of the housing
- Threaded ports for conduit connections
- A probe sleeve of optional length
- O-rings
- A reverse mount proximity probe
- A thread seal
- Optional conduit fittings
- An optional standoff adapter

A newer 31000/32000 proximity probe housing assembly is available with more flexible mounting options, better environmental resistance, and other improved features. We recommend this proximity probe housing assembly for installations where an explosion proof housing is not required. See 31000 and 32000 Proximity Probe Housings product datasheet (document 141610).

The 21000, 24701, and 164818 Proximity Probe Housing Assemblies are available with Canadian Standards Association (CSA) approvals. They are rated explosion proof for hazardous areas.

C US

Baker Hughes

You can order hazardous area approved proximity probes with 21000 aluminum and 24701 stainless steel housings for intrinsically safe applications. Both housings are certified as CSA Type 4 enclosures and are fully compliant with the American Petroleum Institute's (API) 670 Standard for externally mounted proximity probe housings.

The 164818 Compact Proximity Probe Housing is also available for applications with space restrictions. Ceramic capped probes are available with the 164818 housing.

Sleeve length is determined by the location in which the probe and housing are installed. The probe lead must be longer than the sleeve. Sleeve lengths longer than 304 mm (12 inches) require additional sleeve support to reduce the vibration associated with unsupported long sleeve lengths.

Bently Nevada offers a probe support and oil seal (part number 37948-01) for long sleeves that must go through an inner bearing housing. We also make custom sleeve supports.

Related Documents

For probe information, refer to the following manuals:

- *3300 XL 8mm & 3300 5mm Proximity Transducer System User Guide* (document 141078)
- *3300 XL NSv Proximity Transducer System User Guide* (document 147357)
- *3300 XL 11mm Proximity Transducer System Installation* User Guide (document 146255)
- *Radiation Resistant Probe and Proximitor System* (document TW8029407)

	Examples 3.7 in (94 mm) = **037** 22.4 in (569 mm) = **224**

Probe P/N and S/N may be displayed on a flag label for some combinations of the C plus D options where only a small section of the probe cable is visible.

For probe penetration lengths between 1.0 and 2.0 inches, it may be necessary to counter bore the machine case to reduce probe side view or rear view effects.

If you select a probe penetration length (C plus D) greater than 300 mm (12 in), you must add sleeve support near the probe to prevent resonance from occurring. Adjustment range of probe penetration option D is 13 mm (± 0.5 in). For the maximum value of C plus D, see Figure 1: 21000/CA21000 Proximity Probe Housing Assembly on page 16.

E: Fittings	
00	Without fittings
01	One 3/4-14 NPT explosion-proof fitting One 3/4-14 NPT plug
02	Two 3/4-14 NPT explosion-proof fittings
03	One 3/4-14 NPT plug One 3/4-14 to 1/2-14 NPT reducer One cable seal grip with grommets for the following cable sizes: • 1/8 to 3/16 inches • 1/4 to 5/16 inches • 5/16 to 3/8 inches
04	One 3/4-14 NPT plug only

Although explosion-proof fittings are available for all housings, only CA versions of the housing are rated as explosion-proof by CSA when ordered with the **E:00**, **E:01**, **E:02**, or **E:04** options.

F: Mounting Thread	
01	As cast without threads
02	3/4-14 NPT Must be ordered if Standoff Adapter Length option is **not** 00.
04	1/2-14 BSP

24701-AA-BB-CC-DDD-EE-FF

A: Probe with Connector	
00	Probe not required
14	420 nuclear
16	3300 XL 8mm probe
26	3300 XL NSv probe
27	3300 XL NSv probe, with approval option
28	3300 XL 8mm, with approval option
29	3300 XL 11mm
30	3300 XL 11mm, with approval option
31	3300 XL NSv with connector protector
32	3300 XL NSv with connector protector and approval option
33	3300 XL 8mm with connector protector
34	3300 XL 8mm with connector protector and approval option

The individual probe sleeve length does **not** include the distance from the end of the sleeve to the probe tip or the gap from the probe tip to the target material. If only the part number of the original housing is known, and the sleeve cannot be measured, use the following table to determine the sleeve length:

AAA	Description
Standoff adapter option from original housing (21000, CA21000, 24701, or CA24701 option C) **plus** Probe penetration option from original housing (21000, CA21000, 24701, or CA24701 option D) **and** 045	All housing AAA options except NSv and 11mm probes (options other than A:06, A:12, A:26, A:27, A:29, A:30, A:31, A:32, A:35, or A:36)
	Example Original part number 21000-16-10-15-035-03-02 **AAA** option for replacement sleeve (015 + 035 + 045) = **095**
Standoff Adapter Option from original housing (21000, CA21000, 24701, or CA24701 option C) **plus** Probe penetration option from original housing (21000, CA21000, 24701, or CA24701 option D) **and** 046	Housing AAA options for 3300 NSv probe options (A:26, A:27, A:31, or A:32
	Example Original part number 24701-31-10-15-090-03-02 **AAA** option for replacement sleeve (015 + 090+ 046) = **151**
Standoff Adapter Option from original housing (21000, CA21000, 24701, or CA24701 option C) **plus** Probe penetration option from original housing (21000, CA21000, 24701, or CA24701 option D) **and** 037	Housing AAA options for 3300 XL 11mm probe options (A:29, A:30, A:35, or A:36)
	Example Original part number CA24701 -36-10-40-053-02-02 **AAA** option for replacement sleeve (040 + 053+ 037) = **130**
Standoff Adapter Option from original housing (21000, CA21000, 24701, or CA24701 option C) **plus** Probe penetration option from original housing (21000, CA21000, 24701, or CA24701 option D) **and** 039	Housing AAA options for 7200 Series 11mm probe options (A:06 or A:12)
	Example Original part number CA24701 -12-10-30-113-01 -02 **AAA** option for replacement sleeve (030 + 113+ 039) = **182**
Minimum Probe Sleeve Length	
For all probes except NSv and 11mm probes	5.5 in (140 mm) = 055
3300 XL NSv probe	5.5 in (142 mm) = 056
3300 XL 11mm probe	4.7 in (119 mm) = 047
Maximum Probe Sleeve Length	
All 0.5 meter probes except NSv and 11mm probes	18.0 in (457 mm) = 180
3300 XL NSv 0.5 meter probe	18.1 in (460 mm) = 181
7200-series 0.5 meter 11mm probe	15.4 in (391 mm) = 154
All 1.0 meter probes except NSv and 11mm probes	33.7 in (856 mm) = 337
3300 XL NSv 1.0 meter probe	33.8 in (859 mm) = 338
3300 XL 1.0 meter 11mm probe	32.9 in (836 mm) = 329
7200 Series 1.0 meter 11mm probe	33.1 in (841 mm) = 331

Individual Standoff Adapter 21003-AAA

A: Individual Standoff Adapter	
015	Minimum length 1.5 in (38 mm)
075	Maximum length 7.5 in (191 mm)
Recommendation	Order in increments of 0.5 in (13 mm) 4.5 in (114 mm) = **045**

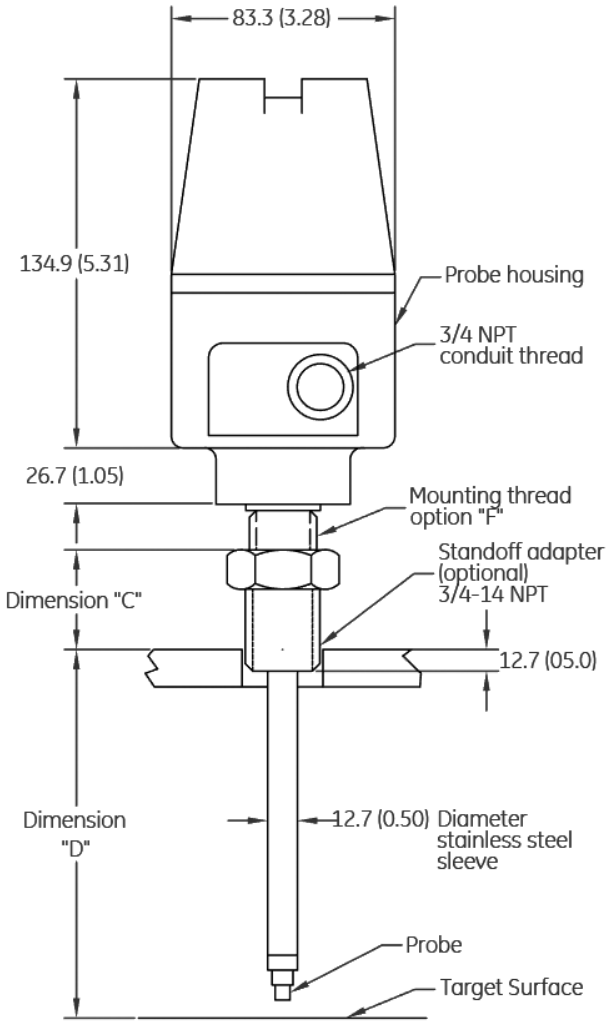
Example 1	For desired probe penetration lengths of less than 25 mm (1.0 in), order a separate Individual Standoff Adapter. The effective probe penetration length will then be reduced by the length of the Individual Standoff Adapter, **plus** an additional 13 mm (0.5 in) due to the NPT thread engagement.
Example 2	To create a probe penetration length 13 mm (0.5 in), order a 21000 housing with DDD (probe penetration) option of 030 [76 mm (3 in)] and a separate individual standoff adapter that is 51 mm (2.0 in) in length (part number 21003-020). The standoff adapter covers 38 mm (2.0 in) of the probe sleeve **plus** an additional 13 mm (0.5 in). Therefore, the effective probe penetration length drops to 13 mm (0.5 in). If you use effective penetration lengths of less than 1.0 inches, signal effects are likely due to probe side view or rear view of metal components.

Spare 3300 XL 8mm Reverse Mount Probe, 3/8-24 UNF threads

330105-02-12-CC-DD-EE

A: Total Length	
05	0.5 meter (1.6 feet)
10	1.0 meter (3.3 feet)
15	1.5 meter (4.9 feet)
20	2.0 meter (6.6 feet)
50	5.0 meter (16.4 feet)
90	9.0 meter (29.5 feet)
B: Connector	
00	Connector not installed
02	Miniature ClickLoc coaxial connector

Graphs and Figures



Probe Cable Length	Maximum (C) + (D) with visible probe (P/N and S/N)	Maximum (C) + (D) Dimension
12 in	Not visible	5.0 in (12.7 cm)
18 in	4.0 in (10.1 cm)	10.5 in (26.6 cm)
24 in	9.7 in (24.6 cm)	16.1 in (40.9 cm)
30 in	15.4 in (39.1 cm)	21.7 in (51.1 cmm)
36 in	21.1 in (53.6 cm)	27.3 in (69.3 cm)
0.5 m	Not visible	13.5 in (34.3 cm)
1.0 m	17.0 in (43.18 cm)	32.9 in (83.5 cm)

Figure 1: 21000/CA21000 Proximity Probe Housing Assembly

Dimensions are in millimeters (inches).