

# 190501 Velomitor CT Transducer

## Datasheet

Bently Nevada Machinery Condition Monitoring

141636 Rev. AE



### Description

The Velomitor CT Velocity Transducer is a low-frequency version of our standard Velomitor Piezo-velocity Sensor. Its design specifically measures casing vibration velocity on cooling tower and air-cooled heat-exchanger fan assemblies that operate at or above 90 rpm (100 to 300 rpm typical).

The Velomitor CT Transducer can measure vibration amplitudes at these frequencies as well as the vibration frequencies generated by the fan motor and speed reducer.



Most common machine malfunctions (unbalance, misalignment, etc.) occur on the rotor and originate as an increase (or at least a change) in rotor vibration. For any individual casing measurement to be effective for overall machine protection, the system must continually transmit a significant amount of rotor vibration to the machine casing, or mounting location of the transducer.

In addition, be careful to install the accelerometer transducer on the bearing housing or machine casing. Improper installation may decrease the transducer amplitude and frequency response and/or generate false signals that do not represent actual vibration. Refer to the appropriate instruction manuals and Application Notes.

Upon request, Bently Nevada provides engineering services that can identify the appropriate machine housing measurements and installation assistance if needed.



## Ordering Information

### Velomitor CT Velocity Transducer

190501-AA-BB-CC

#### A: Mounting Hardware Option

|    |  |
|----|--|
| 00 | No stud  |
| 01 | Stud 3/8-in 24 to 3/8-in 24                    |
| 02 | Stud 3/8-in 24 to 1/2-in 20                    |
| 03 | Adhesive Stud 3/8-in 24                        |
| 04 | Stud M6x1 with 3/8-in 24 adapter               |
| 05 | Adhesive Stud M6x1 with 3/8-24 adapter         |
| 06 | Stud 3/8-in 24 to 1/4-in 28                    |
| 07 | Plate Stud 3/8-in 24 to 3/8-in 24              |
| 08 | Plate Stud 3/8-in 24 to 1/2-in 20              |
| 09 | Plate Stud 3/8-in 24 to 1/4-in NPT             |
| 10 | Plate Stud M6x1 to M6x1 with 3/8-in 24 adapter |
| 11 | Plate Stud 3/8-in 24 to 1/4-in 28              |
| 12 | Plate Stud 3/8-in 24 to M8x1                   |
| 13 | Quick disconnect stud                          |
| 14 | Adapter, 3/8-in 24 to 1/4-in 20                |
| 15 | Adapter, 3/8-in 24 to 5/16-in 18               |
| 16 | Adapter, 3/8-in 24 to 3/8-in 24                |
| 17 | Adapter, 3/8-in 24 to 3/8-in 16                |
| 18 | Adapter, 3/8-in 24 to 1/2-in 13                |
| 19 | Adapter, 3/8-in 24 to 1/4-in 18 NPT            |

20 Adapter, 3/8-in 24 to 3/8-in 18 NPT

21 Adapter, 3/8-in 24 to 1/2-in 14 NPT

22 Adapter, 3/8-in 24 to 3/4-in 14 NPT

23 Adapter, 3/8-in 24 to 1.0-in 11.5 NPT

24 Adapter, 3/8-in 24 to 1.25-in 11.5 NPT

#### B: Connection Option

00 MIL-C-5015 connection interface

99 Unit with included 32-foot cable

#### C: Agency Approval Option

00 No Approvals

01 through 04 CSA/NRTL/C (Class I, Division 1), ATEX/IECEx/CSA (Class I, Zone 0/1)

## Interconnect Cable

CB2W100-AAA

Description: Connectors: MIL-C 5015, 2 Socket, Splash Proof, Premium, isolated to blunt cut, Cable: 20 AWG, twisted pair, shielded, yellow Teflon jacket. LOCKING RING, ADAPTER SEAL, AND O-RING ARE INCLUDED.

#### A: Length

015 15 ft (4.57 m)

032 32 ft (9.75 m)

064 64 ft (19.5 m)

112 112 ft (34.1 m)

125 125 ft (38.1 m)

150 150 feet (45.7 m)

200 200 feet (61.0 m)

|            |                   |   |
|------------|-------------------|---|
| <b>250</b> | 250 feet (76.2 m) | <b>Accessories</b>  |
|            |                   | 128608-02      1/2-in NPT conduit adapter   |
|            | 04284020-01       | Adhesive mount base kit. The adhesive mount base kit design is for machines with thin casings that do not permit drilling and tapping a mounting hole. Kit contains material (adhesive and bases) for 2 each 3/8-in 24 UNF adhesive-mount bases. One kit can outfit 2 Velomitor CT Transducers. |

## Spare Mounting Adapters

All mounting adapters are made from 300 series stainless steel.

### Standard Studs

|          |  |
|----------|--|
| 04365657 | 3/8-in 24 to 3/8-in 24 stud                        |
| 87910-01 | 3/8-in 24 to 1/2-in 20 stud                        |
| 87931-01 | M6x1 to M6x1 metric stud (requires metric adapter) |
| 87055-01 | 3/8-in 24 to M6x1 metric adapter                   |
| 89139-01 | 3/8-in 24 to 1/4-in 28 stud                        |

### Hex Plate Studs

|           |   |
|-----------|---|
| 107756-01 | 3/8-in 24 to 3/8-in 24 plate stud                 |
| 107755-01 | 3/8-in 24 to 1/2-in 20 plate stud                 |
| 107754-01 | 3/8-in 24 to 1/4-in NPT plate stud                |
| 107757-01 | M6x1 to M6x1 plate stud (requires metric adapter) |
| 125094-01 | 3/8-in 24 to M8x1 metric plate stud               |
| 128038-01 | 3/8-in 24 to 1/4-in 28 Plate Stud                 |

## Quick Disconnect Components

The following three components are included with the quick disconnect mounting option for the Velomitor CT Transducer. The quick disconnect option allows you to remove the transducer without rotating it, allowing you to keep the cable connected to the transducer.

|           |  |
|-----------|--|
| 128689-01 | 3/8-in 24 to 1 1/4-in 16 quick disconnect stud base. Attached to the machine.              |
| 43055-01  | 1 1/4-in 16 mounting base nut. Interface between stud base and transducer piece.           |
| 128690-01 | 3/8-in 24 quick disconnect stud transducer piece. Attached to the Velomitor CT Transducer. |

## Fittings

Conduit fittings allow connection of flexible, metal, liquid-tight conduit or armor to the conduit adapter.

|          |  |
|----------|--|
| 03839201 | 1/2-in NPT straight male conduit fitting. For connecting flexible, liquid-tight conduit to the conduit adapter or a weatherproof enclosure.  |
| 03850000 | 1/2-in NPT straight, male compression-type fitting. For connecting Teflon™-coated 3/8-in stainless steel armor to the transducer or a weatherproof enclosure. Fitting will fit Teflon™-coated armor with a maximum outer diameter of 13.8 mm (0.543 in) (including Teflon™ thickness). |

## Teflon-Coated Stainless Steel Armor

### 106924-AA



This part includes the Teflon-coated armor but not the cable. You will require 2 1/2-in NPT compression fittings (part number 03850000) to attach the armor to the conduit adapter and terminate it at an enclosure.

#### A: Armor Length Option in Feet

Order in increments of 10 ft (3.0 m)

Minimum Length: 10 ft (3.0 m)

Maximum Length: 60 ft (18.3 m)

## Flexible Metal Conduit

### 14847-AA

#### A: Flexible Conduit Length Option in Feet

Order in increments of 1 ft (0.3 m)

Minimum Length: 1 ft (0.3 m)

Maximum Length: 99 ft (30.2 m)

|           |   |
|-----------|---|
| 106769-01 | Terminal housing. Provides a convenient interface between the transducer signal cable and monitor signal cable. |
|-----------|---|