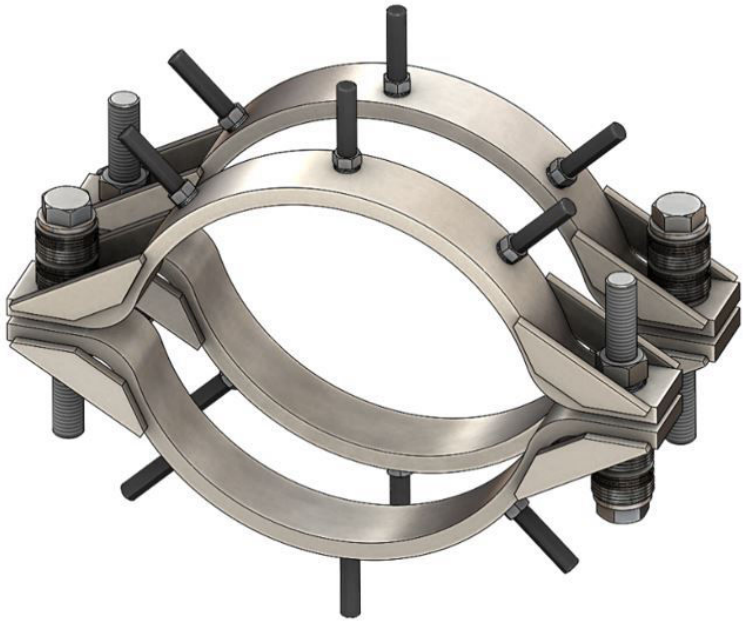
Quick Start Guide
00825-0200-4210, Rev AB
March 2024

Rosemount™ Sensor Clamps 200 Series

for Rosemount Wireless WT210 Transmitters



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1 Sensor Clamps 200 Series

Sensor clamps 200 is a series of commonly used clamp sizes accommodating up to 2 sensors spaced evenly on pipe diameters of 2 NPS – 4 NPS, 6 sensors spaced evenly on pipe diameters of 6 NPS – 42 NPS.

Sensor clamps 200 series are designed to optimize the ultrasonic performance of the sensors that are attached with it. The key to achieve high performance is to deliver constant coupling pressure for the ultrasonic sensors. The bands and spring assemblies of these clamps are engineered to deliver consistent performance at a wide range of temperatures, on a range of pipe materials, despite substantial differential thermal expansion between pipe and clamp. The painted option is available for all locations where the temperature doesn't exceed 390 °F (200 °C).

⚠ WARNING

Rosemount™ Wireless WT210 Wireless corrosion transmitters should only be mounted on approved mounting solutions by persons who are trained in the safe and correct installation procedures.

Rosemount Sensor Clamps 200 for diameters exceeding 20 NPS can be bulky and heavy. It is recommended that then installing equipment on diameters greater than 20 NPS two people carry out the installation.

⚠ WARNING

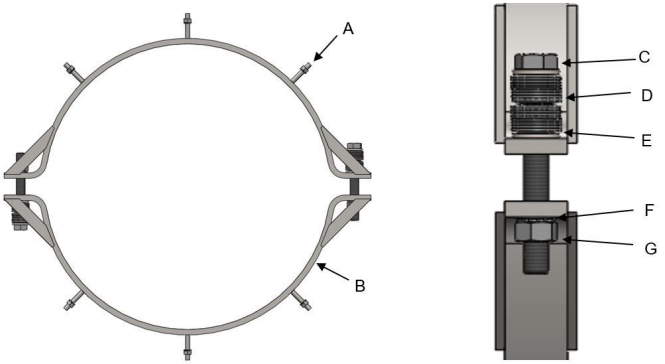
Physical access

Unauthorized personnel may potentially cause significant damage to and/or misconfiguration of end users' equipment. This could be intentional or unintentional and needs to be protected against.

Physical security is an important part of any security program and fundamental in protecting your system. Restrict physical access by unauthorized personnel to protect end users' assets. This is true for all systems used within the facility.

2 Overview

Figure 2-1: Sensor Clamps 200 Series overview



A. Mounting stud (including nut and nord lock washer)
B. Clamp quarter
C. M16 bolt
D. Spring washers (refer to Rosemount™ Sensor Clamps 200 for Rosemount Wireless WT210 Transmitters Product Data Sheet)
E. Flat washer
F. Nord Lock washer
G. M16 nut

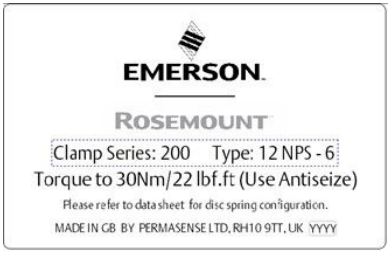
2.1 What's in the box

- Rosemount Sensor Clamp 200 for Rosemount Wireless WT210 transmitter (made up to 2 complete bands per clamp)
- M8 nord lock washers (located on each stud)
- M8 nut (located on each stud)

2.2 Clamp identification

The build series, clamp size, and required torque are displayed on the product label.

Figure 2-2: Product label



2.3 Required equipment

The equipment for clamp installation is supplied in Rosemount™ IK220 installation kit:

- Torque wrench, ⅜-in. drive (10-80 Nm range)
- ⅜-in. to ½-in. adaptor
- Deep 24 mm socket, ½-in. drive
- Combination spanner 24 mm
- Loctite® 8009 anti-seize compound

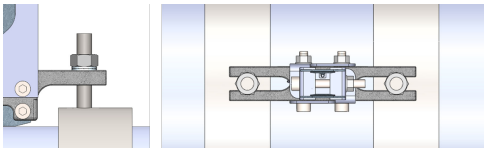
3 Physical installation

3.1 Surface preparation

Procedure

1. Clean the pipe surface where the sensor is to be attached with a brush, file, grinder, or rotary tool so that the surface is back to bare metal and clear of dirt and rust.
2. Sensor mounting studs are fixed closer to one side on each clamp, see Figure 3-1, and should be aligned so they are facing inwards to the sensor mounting location, as shown below:

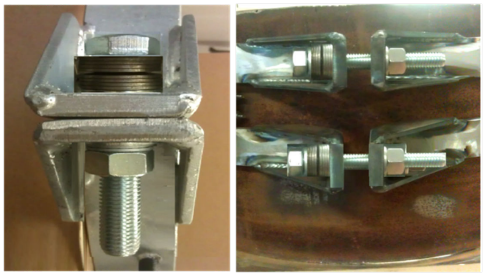
Figure 3-1: Sensor mounting studs alignment



3.2 Clamp installation

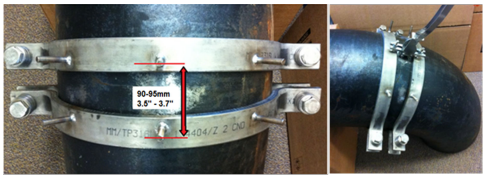
Procedure

1. Remove one bolt from the mounting clamp set and loosen the other bolt. It is possible to hinge the clamp sets around the pipe in this way. If the clamp is large then two persons are needed, where one person holds the clamp in place and the other places the bolt back in and tightens it. Ensure that the arrangement of the disc springs is kept in order for each bolt. If washer arrangement is lost, refer to the Rosemount™ Sensor Clamps 200 for Rosemount Wireless WT210 Transmitters Product Data Sheet.
2. Apply Loctite® 8009 anti-seize compound to the threads of the M16 bolts. This is used to prevent the stainless-steel nuts from sticking onto the stainless-steel studs.
3. The clamp assembly around the pipe in the desired location. Insert the second bolt, being sure to keep the washer arrangement intact.



4. Arrange the clamps such that each M8 stud from each clamp ring is aligned and at a spacing of between 3.5-in. to 3.7-in. (90 mm to 95 mm) axially at each pair of studs. This also means that the clamp rings are parallel to one another when installed on a straight section of pipe.
5. If the clamp is located on a bend, as shown in Figure 3-2, it will not be possible to maintain the same stud spacing for all stud pairs. The studs should be spaced correctly where the sensors are to be installed.
6. If desired, a sensor may be used as a go/no-go gauge for mounting clamp spacing.

Figure 3-2: Clamp spacing

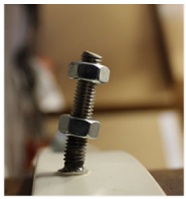
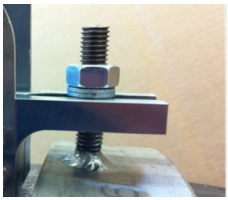


7. Clamps are designed to be installed on pipes when they are on-line, at their process temperature. Clamps must be attached to the pipe with a low torque value and left for at least 12 hours for the clamp and pipe temperatures to equalise.
8. Once a satisfactory alignment and spacing has been achieved, and the temperature has equalised, tighten the M16 fixings incrementally on each side of the clamp to the torque specified on the clamp label. Ensure the alignment of all studs has been maintained after tightening.

3.3 Preparation for sensor mounting

Procedure

1. Remove stud protection sleeves from any studs that will be used to mount sensors.
2. Studs must be perpendicular to the pipe surface in order to ensure secure mechanical mounting of sensors. Correct any misalignments prior to sensor installation.
3. Install sensors in accordance with the Rosemount™ Wireless WT210 Corrosion Transmitter Quick Start Guide.

Stud alignment	
	Incorrect stud alignment
	Fit two nuts on the stud a such that one is on top of the thread and the other is 15 to 20 mm apart.
	Use M13 deep hex socket with the extension bar to bring stud perpendicular to pipe surface.
	Correct stud alignment

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