

Universal Mount for Rosemount[™] Wireless WT210 Corrosion Transmitters



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1 Universal Mount for Rosemount™ Wireless WT210 Corrosion Transmitters

Universal Mount for Rosemount Wireless WT210 Corrosion Transmitters are devices that mounts one sensor on pipe diameters of NPS 4 to NPS 20 (DN 100 to DN 500). Universal Mount for Rosemount Wireless WT210 Corrosion Transmitters are designed to optimize the ultrasonic performance of the sensors that are attached with it. The key to achieving high performance is to deliver constant coupling pressure for the ultrasonic sensors and the pipe. The strap and spring assembly of these mounts are engineered to deliver consistent performance at a wide range of temperatures.

NOTICE

This guide provides basic guidelines for the installation of the Universal Mount for Rosemount Wireless WT210 Corrosion Transmitters. It does not provide instructions for installing Rosemount Wireless WT210 Corrosion Transmitters. For the installation of Rosemount Wireless WT210 Corrosion Transmitters please refer to Rosemount WT210 Wireless Corrosion Transmitter [Quick Start Guide](#). This guide is also available electronically on Emerson.com/Rosemount.

⚠ 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.

⚠ WARNING

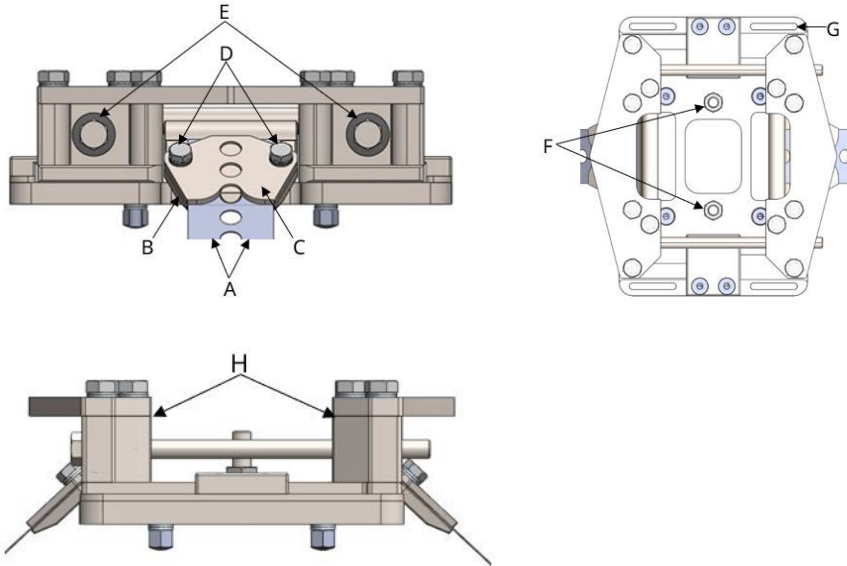
Physical access

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: Universal Mount Overview



Sensor Bed Assembly

- A. Strap
- B. Strap holder
- C. Strap hold plate
- D. M6 strap hold plate bolts
- E. M8 strap tensioner bolts and disc springs
- F. M8 studs with M8 nuts & M8 Nord lock washers
- G. Lanyard slot (one on each corner of sensor bed assembly)
- H. Sliders

2.1 What's in the box

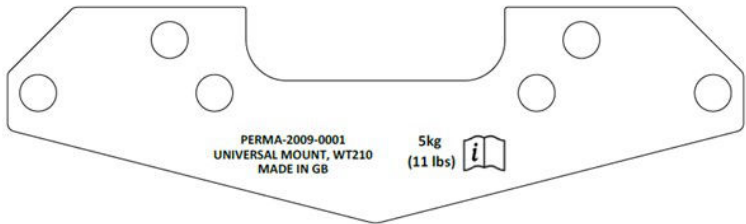
- Sensor Bed assembly
- Strap (1580 mm [5 ft.])
- M8 Nord lock washer (fitted on the studs)
- M8 Nut (fitted on the studs)

- Two stainless steel safety lanyards
- 4 x M6 dome nuts, 4 x M6 washer and 4 x M6 x 18mm countersunk screws (for use with NPS 4–6" pipe, see [Pre-installation](#))
- 2 x Spare M6 strap hold plate bolts (M6 x 14 hex head bolts and 2 x M6 nord locks)

2.2 Clamp identification

Part number, weight, country of origin, and read instructions symbol are displayed on the product label.

Figure 2-2: Product markings



2.3 Required equipment

The equipment for clamp installation is supplied in [Rosemount™ IK220 Installation Kit for Rosemount Wireless Corrosion Transmitters](#).

- Torque wrench, 3/8-in. drive (2–24 Nm range)
- 13 mm socket, 3/8-in. drive
- 10 mm socket, 3/8-in. drive
- 4 mm hex key
- Loctite 8009 anti-seize compound
- Tin snips
- Strap mount holder (recommended)

3 Strap mount installation

3.1 Pre-installation

The following steps can be completed prior to installing at the asset, this is to limit the installation team exposure to the high temperature the asset could be running at.

⚠ WARNING

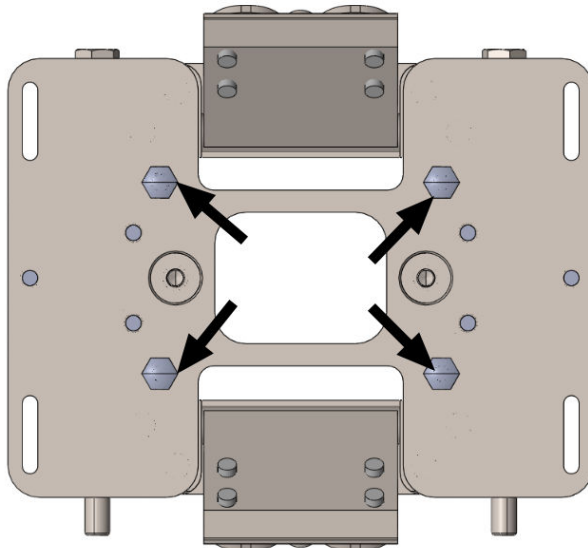
Personal protective equipment (PPE) of gloves and safety glasses or full-face visor are recommended.

Cut strap may have sharp edges.

Note

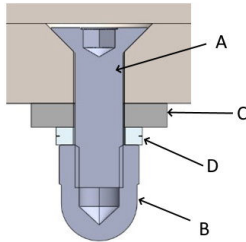
Step 1 is for 4-in. pipe only, for all other pipe diameters skip to step 2.

1. If installation is on a 4-in. pipe elbow, the 4 x M6 cap nuts, 4 x M6 Nord locks & M6 x 16 mm countersunk screws need to be replaced.



For 4-in. pipe elbows (long radius NPS/DN), replace 4 x M6 cap nuts, 4 x M6 Nord locks and M6 x 16 mm countersunk screws with 4 x M6 dome nuts, 4 x M6 washers, 4 x M6 Nord locks and 4 x M6 x 20 mm countersunk screws provided in the Universal Mount box.

4-6-in. elbow



- a. M6 x 20 mm countersunk screw (already fitted to sensor bed assembly)
- b. M6 dome nut
- c. M6 washer
- d. M6 Nord lock washer

Use 10 A/F socket with 2-24 Nm torque wrench and 4 mm hex key provided. Torque dome nuts to 10 Nm.

2. If pipe is to be installed on an NPS/DN straight pipe or NPS/DN long radius elbow, it is recommended to cut strap prior to installation. If the pipe is a non-standard size then size and cut strap to length as per section [Strap mount installation](#), step 4. Total strap length provided is 1580 mm. Cut to the following lengths based on pipe diameter.

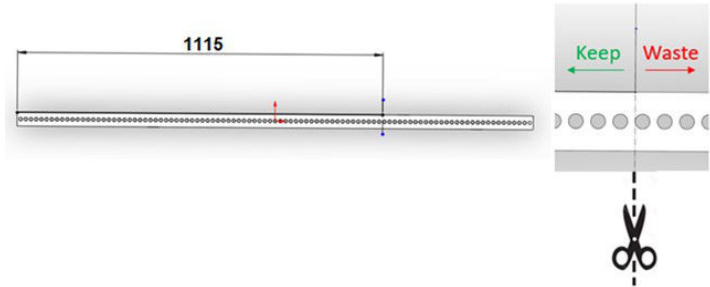
Note

Even though the strap can be pre-cut before mounting to match the asset diameter, there may be a need to adjust strapping once mounted on the asset.

NPS	DN	Strap length (mm)	Strap length (in.)
4	100	410	16.14
6	150	560	22.05
8	200	710	27.95
10	250	875	32.09
12	300	1025	40.35
14	350	1115	43.90
16	400	1280	50.39

NPS	DN	Strap length (mm)	Strap length (in.)
18	150	1430	56.30
20	500	No cutting required	

Example shown below is for a NPS 14" (DN 350) pipe.
Measure & Cut (with tinsnips):

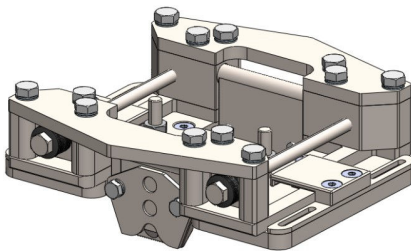


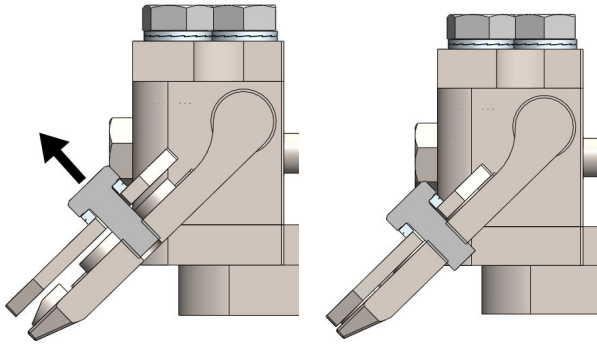
Cut across bottom of hole closest to measurement.

Note

It is recommended that one side of the Strap is secured to the mount prior to placing the mount on the asset. This will make the full installation easier once the mount has been placed on the asset.

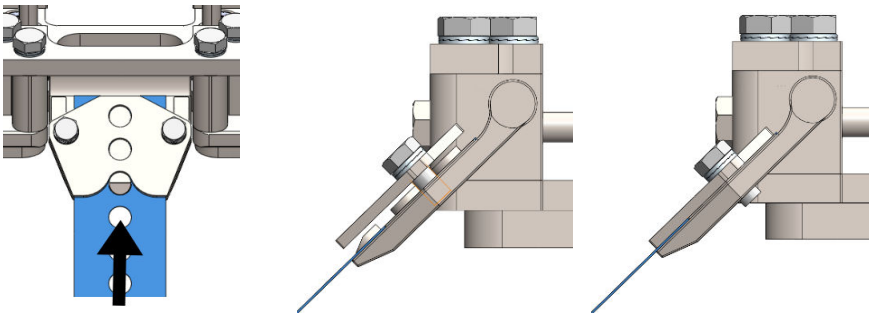
3. Loosen the 2 x m6 bolts in the Strap Holder using the 10 mm socket such that they cannot be seen or felt behind the Strap Holder. These bolts do not have to be removed fully to slide the Strap into the Strap Holder.





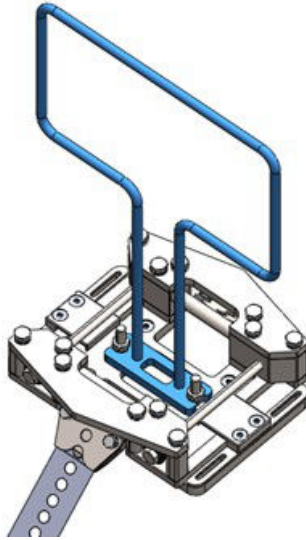
Section view of Universal Mount showing bolt position in strap holder.

4. Take one end of the strap and load it into a strap holder on the sensor bed assembly ensuring that the 3 pins of the strap holder fully engage with 3 holes of the strap. Push down the hold socket and torque each bolt to 10 Nm using the 10 mm socket and torque wrench. Once the last bolt has been torqued to 10Nm, check the first other bolts to ensure they are still torqued to at least 10Nm.



Hold plate is transparent in image on left.

5. Fit Universal Mount holder and torque M8 stud nuts of the sensor bed assembly to 10 Nm.



Note

Use of Universal Mount Holder and pre-cutting Strap to length are recommended for 'hot pipe' installations in particular.

3.2 Surface preparation

On painted pipework, remove a singular patch of the coating about 1-in. (25 mm) diameter in the location you wish to monitor to allow waveguides to contact pipe directly.

3.3 Strap mount installation

▲ WARNING

Two people are required for this operation

Personal protective equipment (PPE) of gloves and safety glasses or full-face visor are recommended.

Cut strap may have sharp edges.

DO NOT cut the strap while it is under tension because this action can result in injury or damage.

Before placing the device onto the mounting surface (asset), ensure that the safety lanyards which are provided are attached and secured to prevent the device falling from heights potentially causing injury.

1. Secure sensor bed assembly to the pipe using the two lanyards provided before continuing with the installation.
 - a. Wrap the lanyards around the circumference of the pipe.

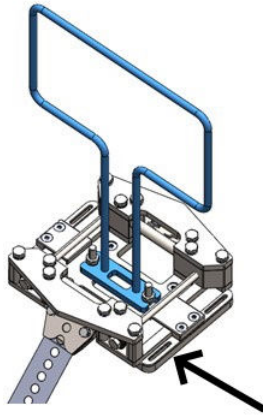
Note

The 3 m (10 ft.) lanyard is sufficient for a pipe diameter of up to 20 inches. When it is not possible to wrap the lanyard around the pipe, find an alternative attachment point for the lanyard.

- b. Thread the end of the lanyard wire around the fixing point and through the loop in the lanyard to secure the lanyard.
- c. Feed the end of the lanyard wire into the cable lock and pull a length through.



- d. Feed the end of the lanyard wire through the lanyard slot on the sensor bed assembly (one lanyard to be used per lanyard slot).



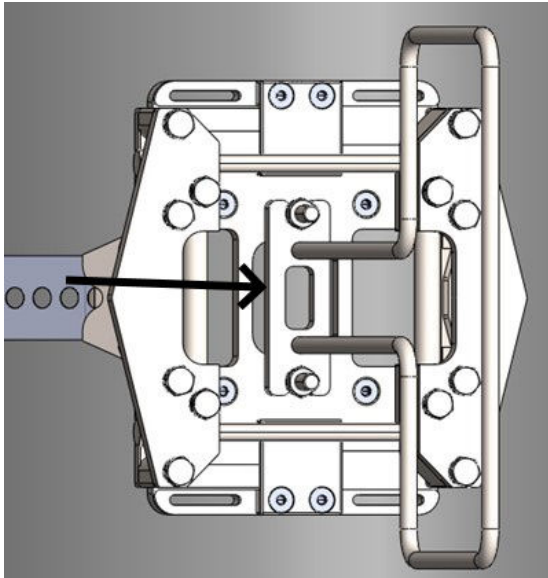
- e. Then feed the end into the return hole of the cable lock.
- f. Adjust the position of the cable lock to minimize the slack in the lanyard cable.
- g. Fit the second lanyard at the other end of the mount by repeating steps 1a to 1g.

Need help?

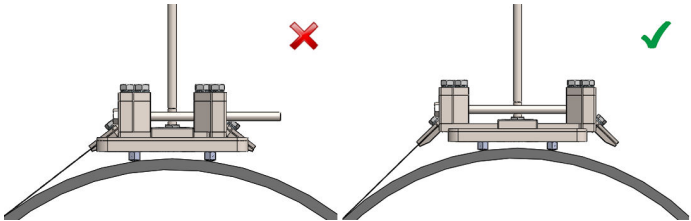
The lanyard wire can be released from the cable lock by pushing the switch in the directions of the embossed arrows.



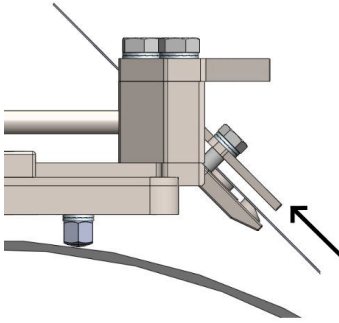
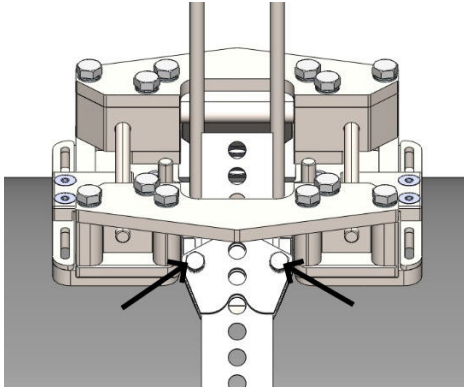
2. Place sensor bed assembly onto pipe in desired ensuring that the window in the center of the mount is over the area of the surface which has been prepared.



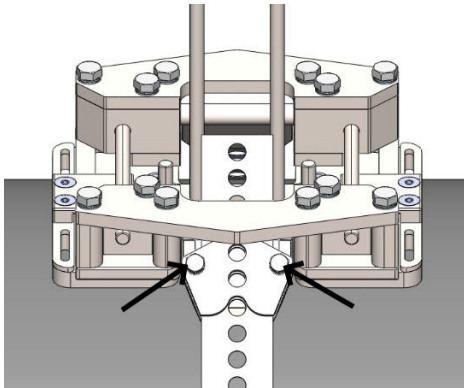
- 3. Push sliders to their maximum extension. Ensure they are at their maximum extension.



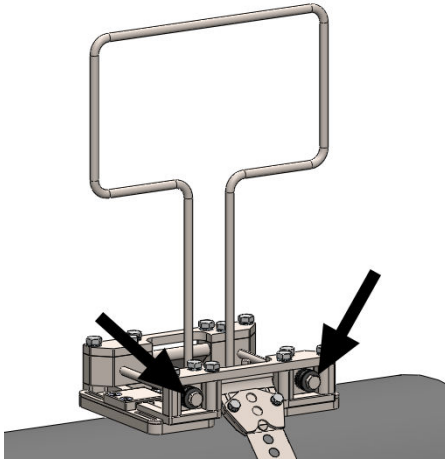
- 4. Undo the 2 x M6 strap hold plate bolts on empty side, such that the strap can be fed between the strap holder and the strap holder plate. The slides need to be held at their maximum extension. Feed the strap between the strap holder and the strap holder plate. Pulling the strap tight, align the 3 pins of the strap holder with three holes on the strap. Mark & Cut (with tinsnips):



5. Torque the 2 x M6 strap holder plates to 10 Nm using the 10 mm socket and torque wrench provided. Ensure that the pins of the strap holder stay aligned with the holes on the strap holder plate. Once the second bolt has been torqued, ensure that the first bolt is still tightened to 10 Nm.



6. Torque M8 tensioner bolts using the 8 mm socket and torque wrench to the recommended torques indicated in the table below for the diameter of pipe you are installing on.

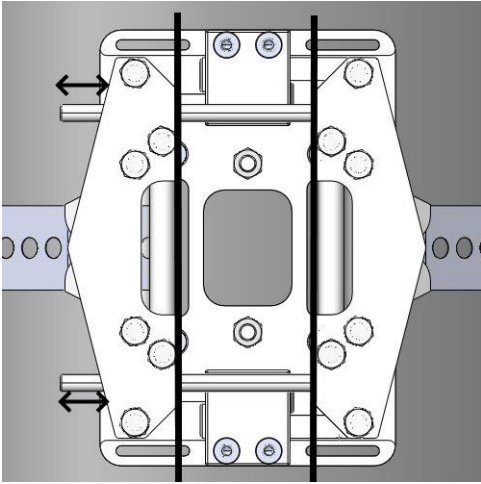


Note

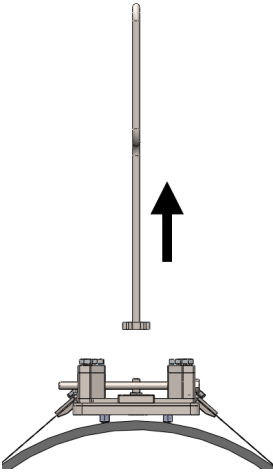
Do not apply torque to bolt in one go. Apply approximately 2 to 3 turns to each M8 Tensioner Bolt in an alternating fashion. As the torque is applied:

- Monitor bolt length to ensure lengths are approximately equal.
- Ensure Sliders are as parallel to sensor bed as possible.

NPS	Recommended install torque per bolt (Nm)	Recommended install torque per bolt (ft-lbs)
4-6	6	4.4
7-10	8	5.9
12-16	10	7.4
18-20	12	8.9



7. Remove Sensor Bed Assembly Holder.



4 Rosemount™ Wireless WT210 Corrosion Transmitter Installation

Once you have installed the Universal mount onto the pipe, you can then proceed to install the Rosemount Wireless WT210 Corrosion Transmitter Installation. This installation procedure for the transmitter can be found in Rosemount WT210 Wireless Corrosion Transmitter [Quick Start Guide](#).

Note

The lanyard of the sensor is to be secured to one of the lanyard holes on the base of the universal mount.

4.1 Removal and re-installation of Universal Mount for Rosemount Wireless WT210 Corrosion Transmitter

To remove the corrosion transmitter and mounting system from your asset, follow the instructions detailed below.

▲ WARNING

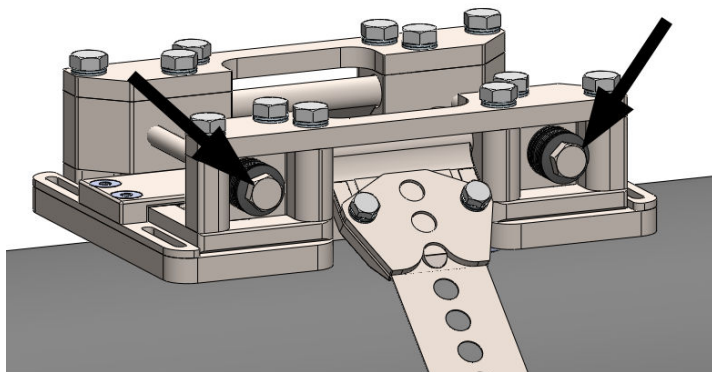
Two people are required for this operation

Personal protective equipment (PPE) of gloves and safety glasses or full-face visor are recommended.

DO NOT cut the strap while it is under tension because this action can result in injury or damage.

Cut strap may have sharp edges.

1. Remove the Rosemount Wireless WT210 Corrosion Transmitter from the clamp, by untightening the nuts on the studs which are holding the transmitter in the mount.
2. Attach the sensor installation handle to the studs in the mount.
3. Using the 13 mm deep socket and torque wrench loosen the tensioning bolts on the Universal Mount so that tension is removed from the strap.



⚠ WARNING

Before proceeding to the next step ensure that the tension has been removed from the strap by following the steps above as not removing the tension before cutting the strap can lead to injury.

4. Once the tension has been removed from the strap, the next step is to cut the strap.
5. The lanyards can now be removed by pushing the switch on the in the direction of the embossed arrows on the lanyard lock..
6. Once the lanyards have been removed, the mount can be removed from the asset and relocated as necessary.
7. Once the mount has had time to cool, the strap holder bolts can be removed so that the cut strap can be removed and discarded as per site rules.
8. Once the mount has cooled, apply anti-seize to all of the moving parts of the mount in particular the tensioner bolts.
9. For re-installation, please refer to [Strap mount installation](#) and follow the steps as detailed.

Note

When remounting the universal mount, a replacement strap will need to be purchased prior to re-installation (part number for replacement strap can be found in the Universal Mount for Rosemount™ Wireless WT210 Corrosion Transmitters [Product Data Sheet](#)).



Quick Start Guide
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