

Magnetic Vessel Mount for Rosemount Wireless ET210, ET310 & ET310C Corrosion and Erosion Transmitters



Safety messages

The vessel mount for Magnetic Vessel Mount for Rosemount Wireless ET210, ET310 & ET310C Corrosion and Erosion Transmitters is the mounting option available for installing on surfaces which are larger than NPS 30 (typically vessels or tanks). The vessel mount for Magnetic Vessel Mount for Rosemount Wireless ET210, ET310 & ET310C Corrosion and Erosion Transmitters has been designed to optimize the ultrasonic performance of the transmitters that are attached with it, while maintaining a minimal footprint on the asset it is mounted on.

⚠ WARNING

Heart failure hazard

The vessel mount and transmitters which will be used with the mount all contain strong magnets. These can be harmful to anyone who wears a pacemaker.

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 to protecting your system. Restrict physical access by unauthorized personnel to protect end users' assets. This is true for all systems used within the facility.

⚠ WARNING

Magnetic Vessel Mount for Rosemount Wireless ET210, ET310 & ET310C Corrosion and Erosion Transmitters should only be mounted on approved mounting solutions by persons who are trained in the safe and correct installation procedures.

Notice

This guide provides basic guidelines for the installation of the Vessel mount for Magnetic Vessel Mount for Rosemount Wireless ET210, ET310 & ET310C Corrosion and Erosion Transmitters. It does not provide instructions for installing Magnetic Vessel Mount for Rosemount Wireless ET210, ET310 & ET310C Corrosion and Erosion Transmitters, for the installation of Magnetic Vessel Mount for Rosemount Wireless ET210, ET310 & ET310C Corrosion and Erosion Transmitters please refer to the Quick Start Guide for the Transmitter that you are installing: Rosemount ET210, Rosemount ET310 or Rosemount ET310C. It does not provide instructions for configuration, diagnostics, maintenance, service, troubleshooting or Intrinsically Safe (IS) installations these guides are also available electronically on Emerson.com/Global.

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1 Product overview

- Allowing for mounting on vessels or tanks (Diameters > NPS30)
- Compatible with Rosemount Wireless ET210, ET310 & ET310C Corrosion and Erosion Transmitters

Figure 1-1: Magnetic Vessel Mount Overview

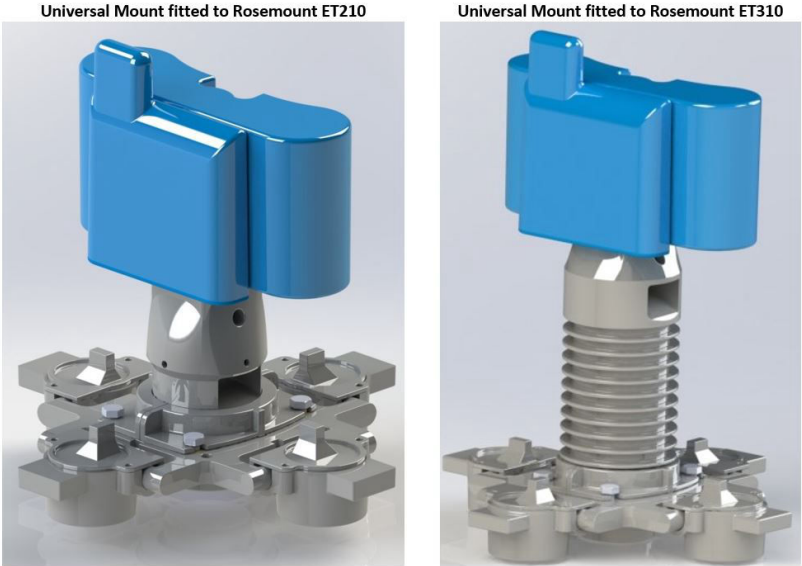
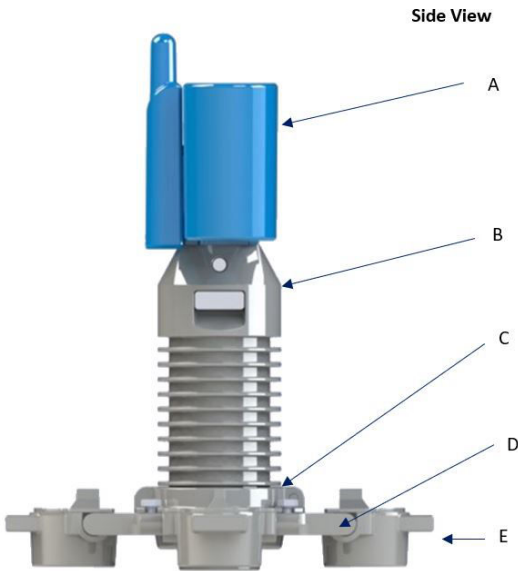
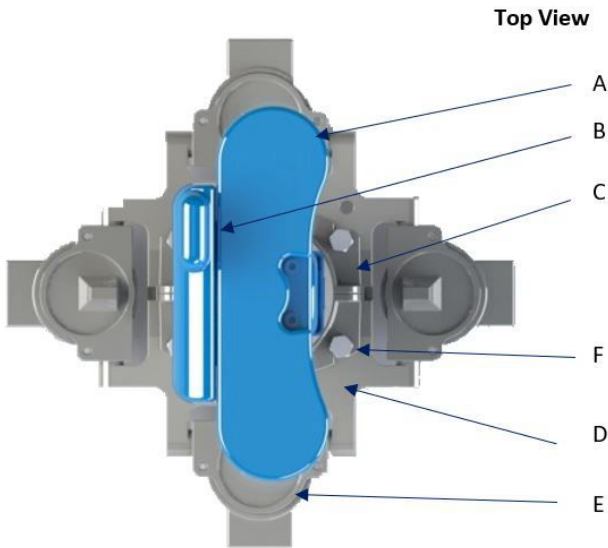


Figure 1-2: Side view



- A. *Rosemount BP20E power module*
- B. *Rosemount Wireless Corrosion and Erosion Transmitter*
- C. *Vessel mount transmitter clip*
- D. *Vessel mount frame*
- E. *Vessel mount magnetic housings*

Figure 1-3: Top view



- A. Rosemount BP20E power module*
- B. Rosemount Corrosion and Erosion Transmitter*
- C. Vessel mount transmitter clip*
- D. Vessel mount frame*
- E. Vessel mount magnetic housings*
- F. Vessel mount securing bolt*

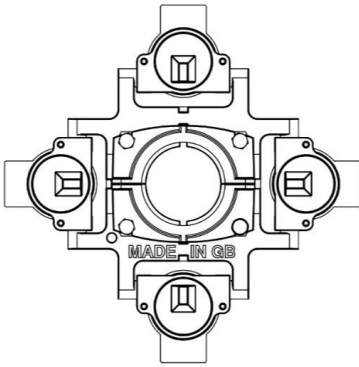
1.1 What's in the box

When the Magnetic vessel mount is received, the box will contain:

- The magnetic mount
- The transmitter adapter fittings
- Securing bolts and washers

1.2 Magnetic vessel mount identification

Figure 1-4: Product markings



1.3 Required equipment

All the equipment which is required to install the magnetic vessel mount is listed below:

- 8mm socket
- Extension bar
- Torque Wrench

2 Magnetic vessel mount installation

2.1 Installation of transmitter adaptor fittings

There are a series of steps which need to be completed before the transmitter can be mounted on the measurement surface. These activities can be done prior to going to the measurement location or at the measurement location.

Procedure

1. Remove the transmitter adaptor. This will be found in the box with the magnetic vessel mount.

Figure 2-1: Attachment of transmitter adaptor fittings to transmitter



Note

The adaptor is made up of two parts and requires no fastenings.

2. Before attaching the transmitter adapter, remove the rubber shoe which will come fitted to the transmitter. Do this by gently pulling the shoe off the transmitter.

Note

Emerson recommends retaining the shoes from the transmitters, in the future case of redeployment with a strap.

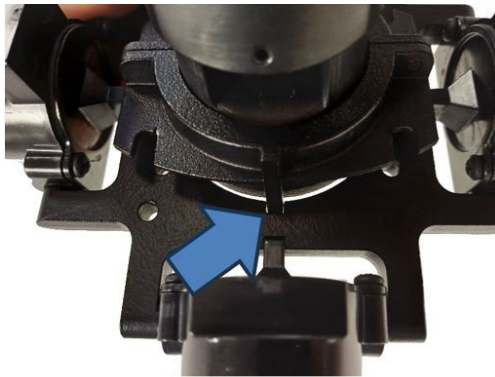


3. Place the first half of the transmitter adaptor over the foot of the transmitter, noting that the adaptor will only fit the transmitter in a single orientation. The adaptor should fit the transmitter foot, and the foot pin of the transmitter should be in the designated slot in the adaptor.
4. Place the second half of the transmitter adaptor over the transmitter foot, following the same guidance as the first half. The two adaptor halves have location features to ensure that they are connected correctly, and the assembled transmitter with adaptor is shown in the image on the left.

Figure 2-2: Rosemount transmitters with adaptor fitted



Figure 2-3: Fitting the transmitter to magnetic vessel mount

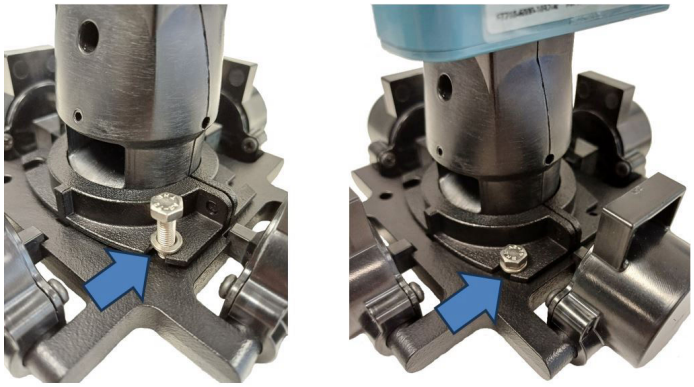


5. Insert the transmitter into the magnetic vessel mount, utilizing the guides on the adaptor which align with the frame of the vessel mount. Once these are aligned, the transmitter will slot into the frame with no resistance.

Figure 2-4: Ensuring alignment of Transmitter in vessel mount frame



6. Once the transmitter has been inserted into the frame of the vessel mount, the adaptor on the transmitter will sit flush on the frame of the vessel mount. In addition, the 4 holes where the securing bolts will be threaded should not be obstructed from view and should be easily seen through the slots in the adaptor.
7. Insert the securing bolts into the frame of the vessel mount, ensuring that there is a washer between the bolt and the frame. Threaded inserts are housed within the frame of the mount for ease of installation.
8. Using the 8 mm socket, extension bar and torque wrench, tighten the bolts in a cross pattern until they are tightened to 3Nm.

Figure 2-5: Securing the transmitter to the vessel mount

9. Once the transmitter is secured into the magnetic vessel mount, the transmitter and the magnetic vessel mount are ready for installation in the desired location. When transporting the transmitter and the magnetic vessel mount to the install location ensure that the following is observed:
 - a. The mount magnetic housings are in the up position and clipped into the magnetic vessel mount.
 - b. The protective caps are installed on the magnetic housing on the mount and the transmitter.

Figure 2-6: Mounting protective caps

2.2 Transmitter installation at measurement location

Prerequisites

Before installing the sensor and magnetic vessel mount on to the measurement surface, ensure that the surface is clear of any debris which could be attracted to the magnets of the transmitter or housing. The transmitter and mount magnets should be able to make contact with the measurement location without obstruction.

Follow the steps detailed below to install the transmitter and mount correctly:

Procedure

1. Ensure that the magnet housings on the magnetic vessel mount are in the up position as shown in [Figure 2-7](#).

Figure 2-7: Install transmitter first



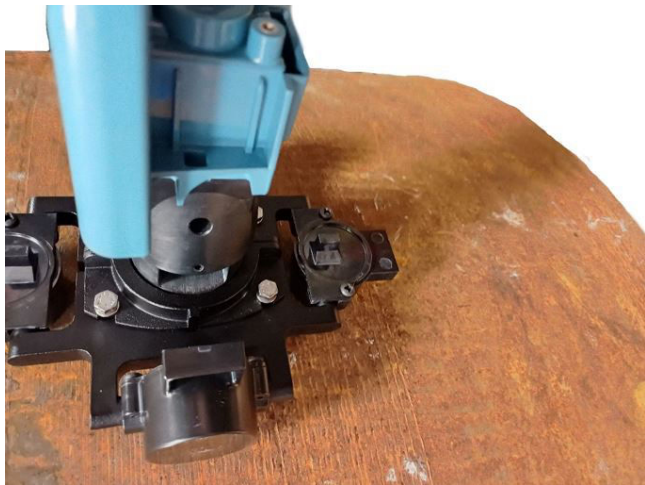
2. Remove the protective cap from the transmitter
3. Holding the transmitter at a slight angle, approach the measurement location slowly. This is because the closer the transmitter gets to the measurement location the harder magnets will pull the transmitter to the surface.
4. Once the transmitter is in contact with the measurement surface, tilt the head of the transmitter so that it is perpendicular to the measurement surface.

Figure 2-8: First magnet housing attachment



5. First, release and lower gently the magnet housing at the front of the transmitter as indicated in [Figure 2-8](#). This is because it will be perpendicular to any curvature of the piping or vessel. This will ensure that there is a full interaction between the magnets and the surface. If mounting on a flat or almost flat surface, then the magnet housings can be deployed in any order.

Figure 2-9: Second magnet housing attachment



6. Once this has been done, the opposite one magnet housing located at the rear of the transmitter should be released and gently lowered to the measurement surface. Once the two magnet housings, which are perpendicular to any curvature have been deployed, the magnetic housings from side either side of the transmitter can be deployed (on the radius of the surface).
7. Confirm that the attachment magnets are firmly attached to the surface. There should be notable resistance to separation. If the magnets lift off with little effort this indicates that there is not sufficient magnetic interaction to allow a secure installation. In this case, contact/contract your local Emerson representative to explore alternative mounting solutions.
8. Installation of the transmitter using the magnetic vessel mount has been completed at this step. The commissioning and remaining installation steps can be completed by following the guidance in the respective transmitter quick start guide which details the transmitter installation in full.

Links to product specific Quick Start Guides:

- [Rosemount Wireless ET210 Corrosion and Erosion Transmitter](#)
 - [Rosemount Wireless ET310 Corrosion and Erosion Transmitter](#)
 - [Rosemount Wireless ET310C Corrosion and Erosion Transmitter](#)
9. If it is not possible to obtain a good quality waveform it may be necessary to move the sensor slightly. Do not attempt to slide the assembly across the surface. Rather, released the attachment magnets one by one, gently peel the transmitter away from the surface and relocate it. Restart the installation process from [Step 3](#).

Figure 2-10: Final magnetic housing attachments



2.3 Fitting the lanyard

Prerequisites

⚠ WARNING

Use the supplied lanyard to prevent the transmitter and magnetic vessel mount falling from heights, potentially causing injury.

Note

The 7 ft. (2 m) lanyard will need to be secured to an attachment point close to the measurement location. It should also be noted that lanyards may be linked together.

To fit the lanyard correctly follow the process detailed below:

Procedure

1. Pass the lanyard through the base of the mount, until the eye of the lanyard is at the base.

Note

One of the supplied lanyards should be used to secure the mount to the transmitter (safety fitting).

2. Pass the end of the lanyard through the strap whole on the sensor.

3. Pass the free end through the eye of the lanyard, removing as much slack as possible.
4. Pass the free end of the lanyard through the lock, ensuring that the lock passes through the eye of the lanyard.
5. Loop the free end of the lanyard around the eye, and into the lock.
6. Pull the lanyard through the lock until the slack has been removed.
7. Coil the excess lanyard to ensure it is neat and tidy.



Note

The second lanyard supplied should be used to secure the transmitter to a fixing point.

8. Thread the bare lanyard through the lanyard hole on the foot of the transmitter.
9. Thread the bare end through the lanyard holes in the transmitter head.
10. Feed the bare end of the lanyard through the cable lock.
11. Loop the bare end of the lanyard around the fixing point, and through the eye of the lanyard.
12. Pass the bare end of the lanyard through the lock removing all of the possible slack.





Quick Start Guide
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