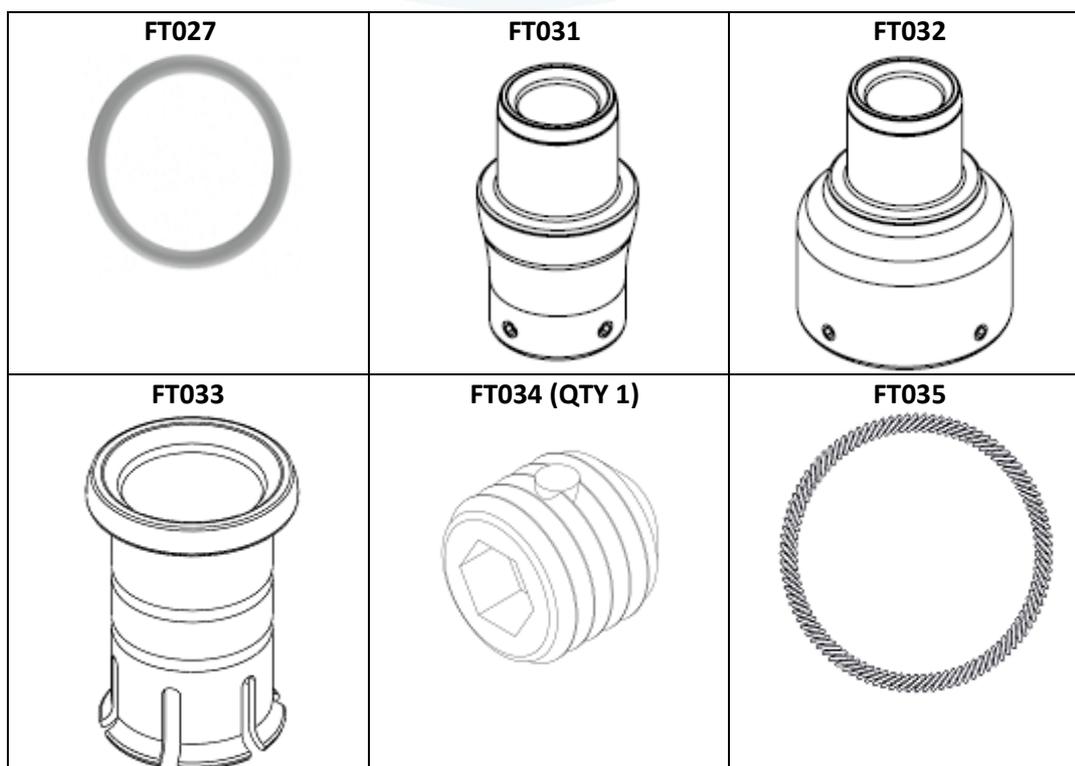


# Application Note: FT742-DM Accessories

## 1. Introduction

The FT742-DM has a range of accessories designed to improve and adapt the sensor to various environments and installations. This guide will detail the available accessories along with best-practice installation and application guidance.



Part	Description
<b>FT027</b>	O-ring for FT742-DM (3.53 CS x 32.92 ID)
<b>FT031</b>	Size Adaptor 25mm (1") for FT742-DM (includes an FT033 tapered pipe insert & 4x FT034 self-locking fasteners)
<b>FT032</b>	Size Adaptor 50mm (2") for FT742-DM (includes an FT033 tapered pipe insert & 4x FT034 self-locking fasteners)
<b>FT033</b>	Tapered Pipe Insert for FT742-DM (33.7mm OD)
<b>FT034</b>	1x Self-locking Fastener for FT742-DM
<b>FT035</b>	Grounding Spring for FT742-DM

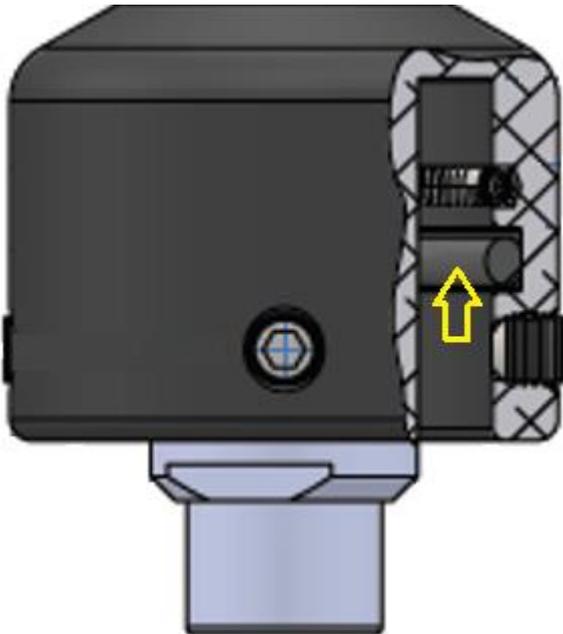
## 2. Accessories

### 2.1. FT027 – O-ring for FT742-DM (3.53 CS x 32.92 ID)



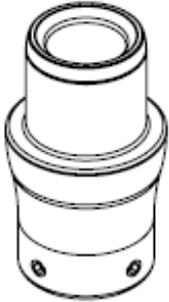
The EPDM O-ring is located within the sensor support and provides additional water ingress protection. The O-ring is typically fitted by FT at the manufacturing stage, but in the event of damage (or general replacement), it can be replaced with care by a technician using tweezers.

The sensor is intended for installation on a 33.7mm mounting pipe (EN 10255) with some resistance offered by the internal O ring (provided for ingress protection). It is important to ensure the FT033 'Tapered Pipe Insert' is bonded into the mounting pipe to avoid damage to the O-ring on sensor installation and provide a smooth transition onto the pipe. The O-ring sits within an internal groove, marked below with a yellow arrow:



## 2.2. FT031 Size Adaptor 25mm (1") for FT742-DM

This aluminium size adaptor converts a 25mm (1") OD pipe to suit the DM support:



This adaptor is supplied with 4x self-locking fasteners (FT034) to clamp it onto a 25mm (1") OD pipe, and a fitted 'Tapered Pipe Insert' (FT033).

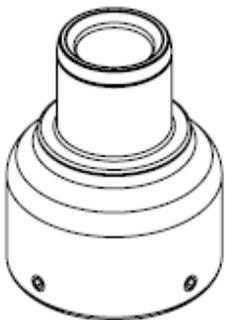
For long term reliability in corrosive atmospheres, the use of marine-grade self-adhesive tape (such as USCGFP by 3M) may be applied to cover the fasteners.

The FT031 is mounted to a pipe with a maximum outer diameter of 26.4mm and a minimum internal diameter of 22mm (depending on the connector).

Since a low resistance connection cannot be guaranteed (due to minimal contact with the fasteners) the size-adaptors are not recommended for use within a grounded lightning protection scheme.

## 2.3. FT032 Size Adaptor 50mm (2") for FT742-DM

This aluminium size adaptor converts a 50mm (2") OD pipe to suit the DM support:



This adaptor is supplied with 4x self-locking fasteners (FT034) to clamp it onto a 50mm (2") OD pipe, and a fitted 'Tapered Pipe Insert' (FT033).

For long term reliability in corrosive atmospheres, the use of marine-grade self-adhesive tape (such as USCGFP by 3M) may be applied to cover the fasteners.

The maximum outer diameter for the mounting pipe is 51.8mm.

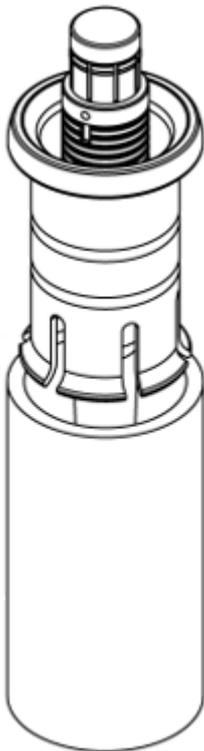
Since a low resistance connection cannot be guaranteed (due to minimal contact with the fasteners) the size-adaptors are not recommended for use within a grounded lightning protection scheme.

## 2.4. FT033 Tapered Pipe Insert for FT742-DM (33.7mm OD)

The FT033 Tapered Pipe Insert is used to provide a tapered smooth fit onto a 33.7mm pipe, preventing O-ring wear and damage while mounting the sensor. Without the tapered pipe insert there may be moderate resistance to mounting the sensor.

The pipe insert is constructed from an insulating polymer, isolating the sensor from the mounting pipe. If grounding is required the FT035 'Grounding Spring' must be used. Refer to FT document A4223 "Lightning Protection Checklist" and A4167-1 "FT742-DM Lightning Guidance" for further information.

After fitting the slotted end of the tapered pipe insert into the mast, apply two thin continuous seams of adhesive sealant around the two shallow channels. The insert can then be fully inserted, ensuring the end of the pipe mates with the insert shoulder and any excess adhesive is wiped off. For more information, a tutorial video is available on our website.

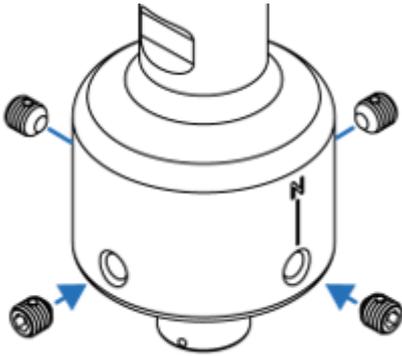


The Tapered Pipe Insert is also supplied fitted into the 25mm (1") and 50mm (2") size adaptors. The size adaptors have integrated slots built into the inner column to support and lock the tapered pipe inserts into position. This may remove the requirement for sealant/adhesive that is advised when using the tapered pipe insert with generic pipes/tubes. Review the design to ensure suitability for the application. The FT033 cannot provide full insulation due its size and will require additional insulative barriers.

## 2.5. FT034 Self-locking Fastener for FT742-DM (Quantity 1x)

Self-locking fasteners are used to secure the FT742-DM sensor onto the mounting pipe (or size adaptor). Part FT034 provides 1x fastener so ensure the correct quantity are required.

Due to the locking insert the fastener will provide some resistance, this is normal and provides reliable clamping with vibration resistance.



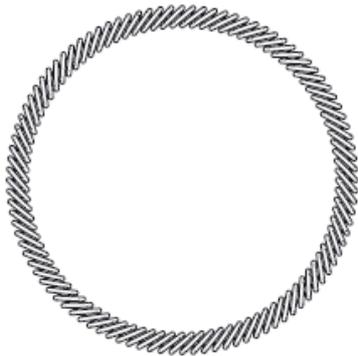
The self-locking fasteners are also utilised with the 25mm (1") and 50mm (2") size adaptors.

For ease of removal after long term installations in corrosive atmospheres (such as marine environments), we recommend application of a marine-grade self-adhesive tape (such as USCGFP by 3M) over the exposed fasteners.

The use of these fasteners alone will not provide a sufficient grounding path. Refer to FT document A4223 "Lightning Protection Checklist" and A4167-1 "FT742-DM Lightning Guidance" for further information.

## 2.6. FT035 Grounding Spring for FT742-DM

The FT035 'Grounding Spring' is used to provide a reliable ground connection for surges and lightning-induced transients from indirect lightning strikes. Without this accessory, the FT742-DM sensor is effectively isolated from the installation mast thanks to the hard-anodising surface treatment. Refer to FT document A4223 "Lightning Protection Checklist" and A4167-1 "FT742-DM Lightning Guidance" for further information.



The FT035 Grounding Spring is situated above the FT027 O-ring, highlighted by the yellow arrow below. It contacts the outer edge of the mounting pipe (or size adaptor) directly after the Tapered Pipe Insert (assuming the mounting pipe is conductive and not coated):



To facilitate a good connection please ensure any surface contamination or oxidation is removed from the mounting pipe prior to installation (this is easily achieved using Scotch Brite pads).

The FT035 is typically fitted at the factory when ordered by customers, but can be carefully removed or added using non-marring tweezers by customers wishing to modify the grounding scheme of the sensor.