

# Installation Instructions


## **Sensor without process connection**

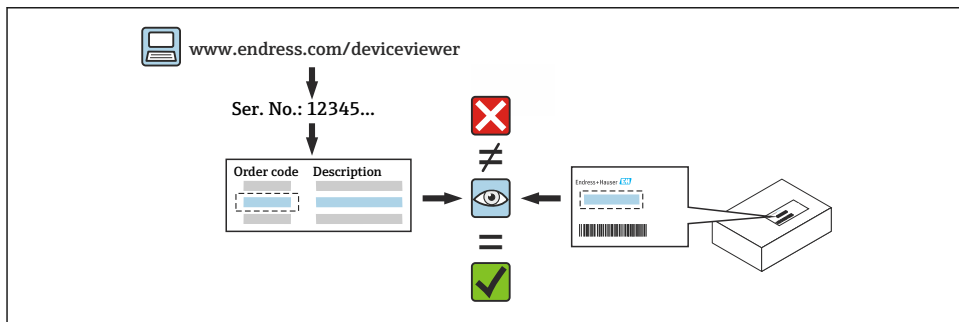
Deltabar PMD75B



# 1 Intended use

- A defective unit can only be replaced with a functioning unit of the same type.
- Only use original parts from Endress+Hauser.
- Check in the W@M Device Viewer if the spare part is suitable for the existing measuring device.


 A spare parts overview is located in the interior of some measuring devices. If the spare parts kit is specified on this list, no inspection is required.



# 2 Personnel authorized to carry out repairs

Technical staff must comply with the following requirements for repair, mounting, electrical installation and commissioning of the measuring devices:

- Specialized technical staff must be trained in instrument safety.
- They must be familiar with the individual operating conditions of the devices.
- In the case of Ex-certified measuring devices, they must also be trained in explosion protection.

 Technical staff carrying out work are responsible for ensuring that the work is carried out safely and to the required quality standard. They must also guarantee the safety of the device following repair.

# 3 Safety instructions

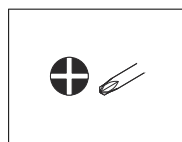
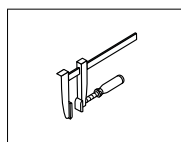
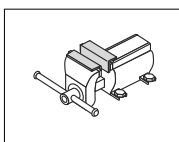
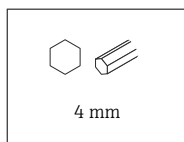
- Comply with national regulations governing mounting, electrical installation, commissioning, maintenance and repair procedures.
- The device is energized! Risk of fatal injury from electric shock. Open the device only when the device is de-energized.
- For devices intended for use in hazardous locations, please observe the guidelines in the Ex documentation (XA).

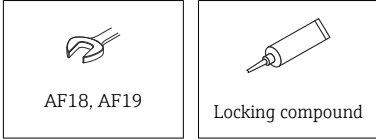
- In the case of devices in safety-related applications in accordance with IEC 61508 or IEC 61511: Commission in accordance with Operating Instructions after repair. Document the repair procedure.
- Before removing the device: set the process to a safe state and purge the pipe of dangerous process substances.
- Hot surfaces! Risk of injury! Before commencing work: allow the system and device to cool down to a touchable temperature.
- In the case of devices in custody transfer, the custody transfer status no longer applies once the seal has been removed.
- Follow the Operating Instructions for the device.
- Risk of damaging the electronic components! Ensure you have a working environment protected from electrostatic discharge.
- After removing the electronics compartment cover: risk of electrical shock due to missing touch protection!  
Turn the device off before removing internal covers.
- Modifications to the device are not permitted.
- Only open the housing for a brief period. Avoid the penetration of foreign bodies, moisture or contaminants.
- Replace defective seals only with original seals from Endress+Hauser.
- If threads are damaged or defective, the device must be repaired.
- Do not lubricate threads (e.g. of electronics compartment cover or connection compartment cover).
- If spacing is reduced or the dielectric strength of the device is not guaranteed during repair work, perform a test on completion of the work (e.g. high-voltage test in accordance with the manufacturer's instructions).
- Service plug:
  - Do not connect in explosive atmospheres.
  - Only connect to Endress+Hauser service devices.
- Observe the instructions for transporting and returning the device outlined in the Operating Instructions.



In case of questions, please contact the local [Endress+Hauser service organization](#).

## 4 Tools list





## 5 Replacing the sensor without a process connection

### NOTICE

Controlled fabrication properties, such as a constant temperature, a set air pressure and consistent humidity, can only be achieved in the manufacturing process. After replacing a sensor without a process connection, the technical properties of the device are no longer within the specifications.

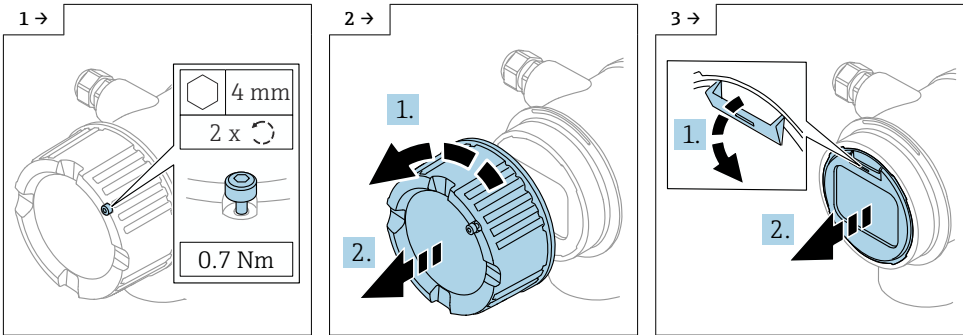
The device measures with reduced accuracy. The error is independent of the measuring range and is 3 mbar at the very maximum.

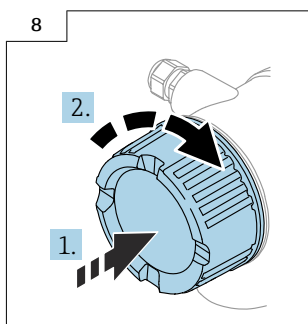
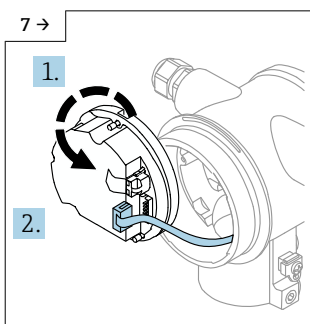
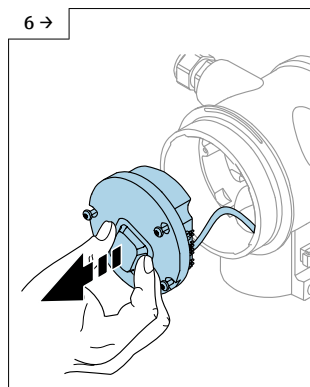
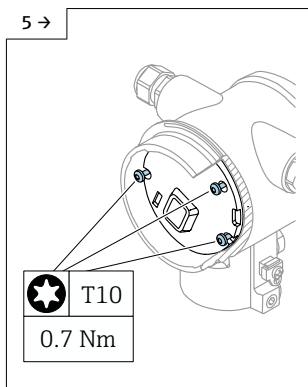
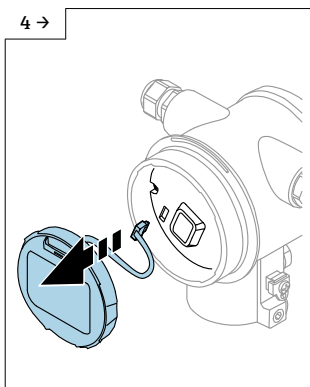
► Observe the mounting instructions!

### 5.1 Removing the modules

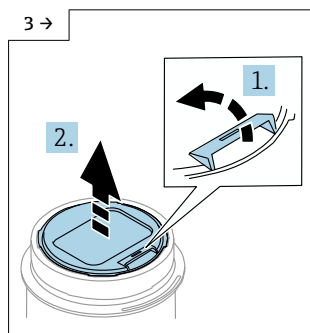
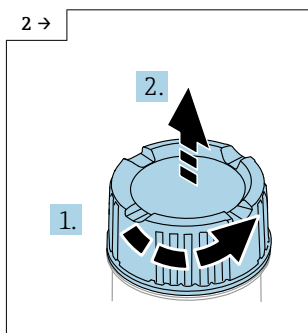
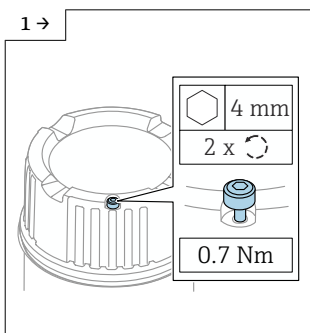
#### 5.1.1 Dual-compartment housing

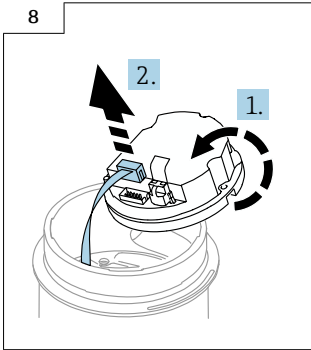
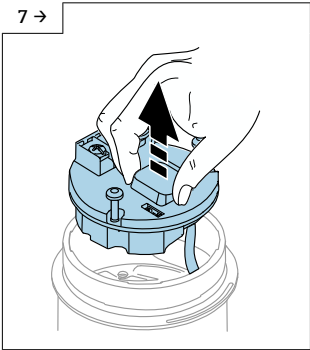
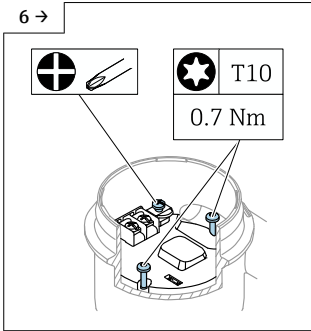
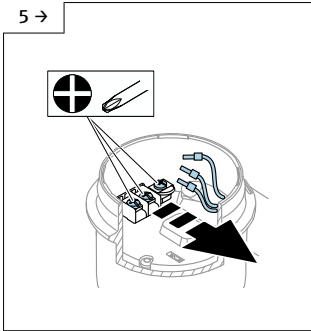
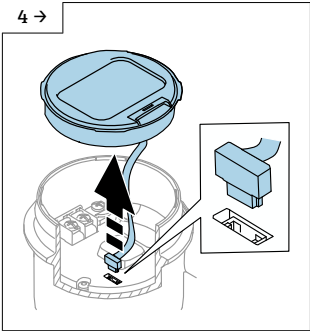
Optional: cover lock, display






### 5.1.2 Single-compartment housing

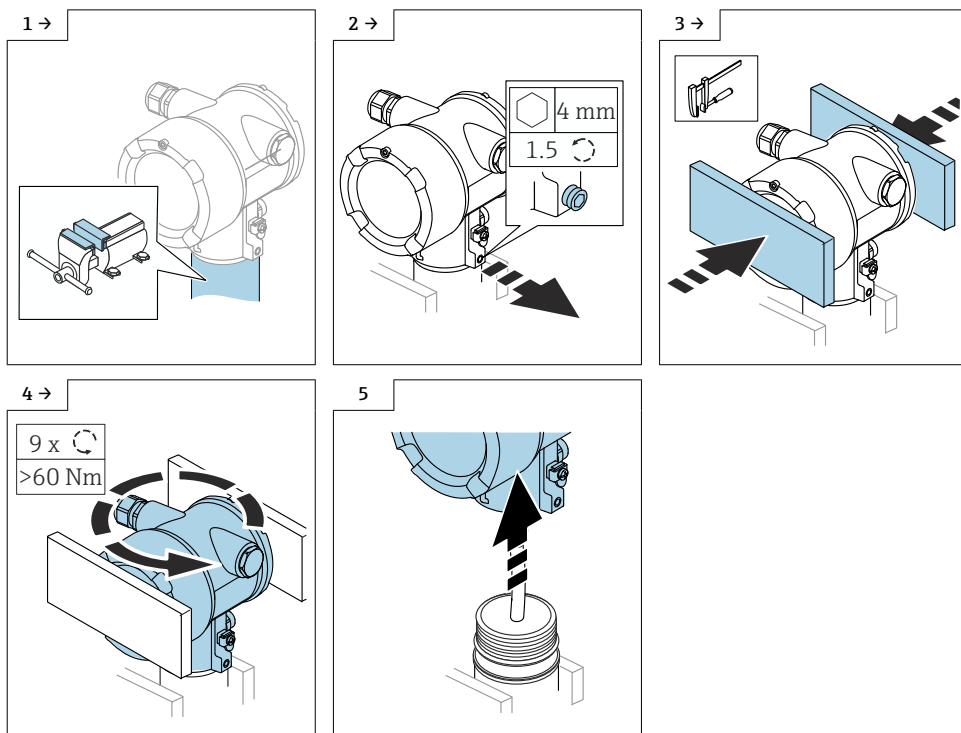




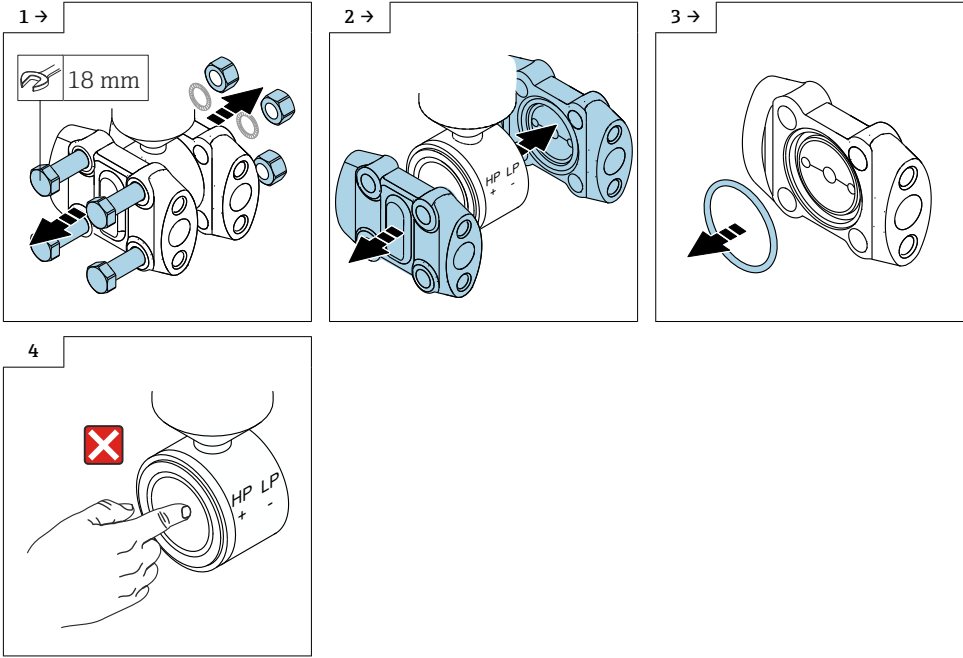
## 5.2 Separating the housing from the sensor assembly

The procedure is identical for all housing and sensor types. The dual compartment housing is shown in the example.

-  ■ Protect the sensor assembly and housing from damage.
- Use a bench vise with braces.
- By applying significant force ( $> 60 \text{ Nm}$ ), unscrew the housing from the sensor assembly. This involves applying force several times in and against the screw direction; the snap ring is intentionally destroyed in the process.
- Carefully remove the housing from the sensor assembly to prevent any damage to the sensor cable.



## 5.3 Removing the sensor assembly



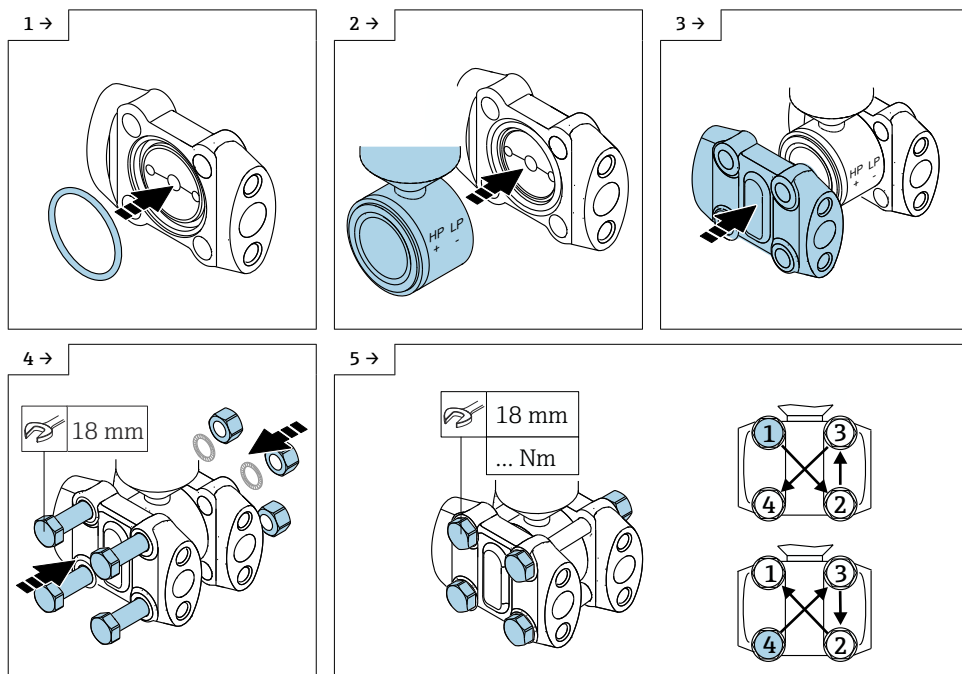
## 5.4 Mounting the new sensor

### 5.4.1 Mounting instructions

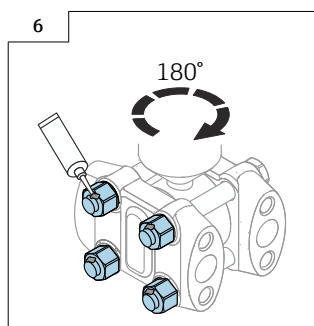
- Carefully clean both seals and flange interiors so they are free from dust and grease. The parts must not be damaged (scratches, dents).
- Any sensor orientation is possible. The markings for the LP and HP pressure sides are located on both sides of the sensor.
- Depending on the seal and pressure version, the screws are secured with toothed lock washers, or screws with an adhesive coating are used. Screws with a coating may not be used a second time.  
Order the screw sets separately:
  - Part number: 52020758 - screws with adhesive coating (PN160)
  - Part number: 52020693 - screws and toothed lock washers (PN420)
- Tighten the couplings alternately in a diagonally opposite sequence; comply with the torques and waiting times.



### 5.4.2 Assembling the sensor assembly

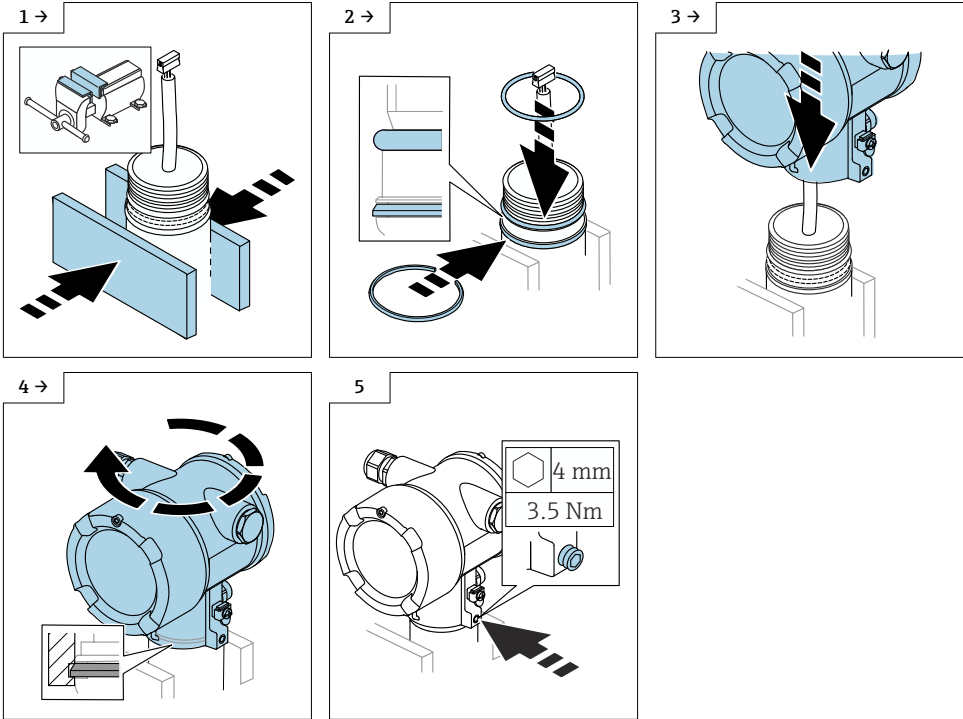


Before the next step, tighten the couplings alternately in a diagonally opposite sequence. Comply with the torques and waiting times indicated in the table (section 6).



## 5.5 Assembling the sensor assembly and housing

The procedure is identical for all housing and sensor types. The dual-compartment housing is shown in the example.

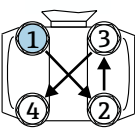
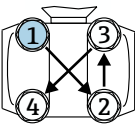
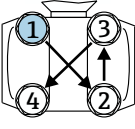
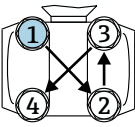
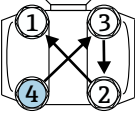
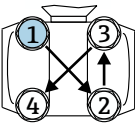


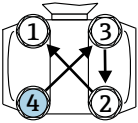
## 5.6 Installing the modules in the housing

Installation is performed by following the removal procedure in reverse order.

After assembly, the device is ready for operation again.

## 6 Tightening torques of the flange screws

Step	Screw number		Seal		
			Elastomer <sup>1)</sup> (PN160)	Elastomer <sup>1)</sup> (PN420)	Copper
1	1		10 Nm	6 Nm	6 Nm
	2			10 Nm	10 Nm
	3			6 Nm	6 Nm
	4			10 Nm	10 Nm
2	1		42 Nm <sup>2)</sup>	30 Nm	30 Nm
	2				
	3				
	4				
3	1		-	42 Nm <sup>2)</sup>	42 Nm <sup>2)</sup>
	2				
	3				
	4				
Waiting time			-	>15 min	>60 min
4	1		-	30 Nm	30 Nm
	2				
	3				
	4				
5	4		-	42 Nm <sup>2)</sup>	42 Nm <sup>2)</sup>
	3				
	2				
	1				
Waiting time			-	-	>15 min
6	1		-	-	30 Nm
	2				
	3				
	4				

Step	Screw number		Seal		
			Elastomer <sup>1)</sup> (PN160)	Elastomer <sup>1)</sup> (PN420)	Copper
7	4		-	-	42 Nm <sup>2)</sup>
	3				
	2				
	1				

- 1)
- Elastomer seal: NBR, FKM, EPDM
- 2)
- Tolerance +13% (hand-tighten with torque wrench)


## 7 Commissioning

1.
- Install the measuring device again at the measuring point.
2.
- Connect the measuring device.

### 7.1 Adjustment/calibration

Once the device has been fully assembled, it is ready to operate again.  
Make the following settings as specified in the Operating Instructions:

1.
- Reset to factory setting, this deletes customer-specific calibration data.
2.
- Check the measuring range.
3.
- Perform position adjustment.



Zero point and span errors can be corrected by an adjustment; however, they change over time and depending on the temperature and require readjustment.

## 8 Disposal



If required by the Directive 2012/19/EU on waste electrical and electronic equipment (WEEE), the product is marked with the depicted symbol in order to minimize the disposal of WEEE as unsorted municipal waste. Do not dispose of products bearing this marking as unsorted municipal waste. Instead, return them to Endress+Hauser for disposal under the applicable conditions.

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