

Installation Instructions


PTFE paste

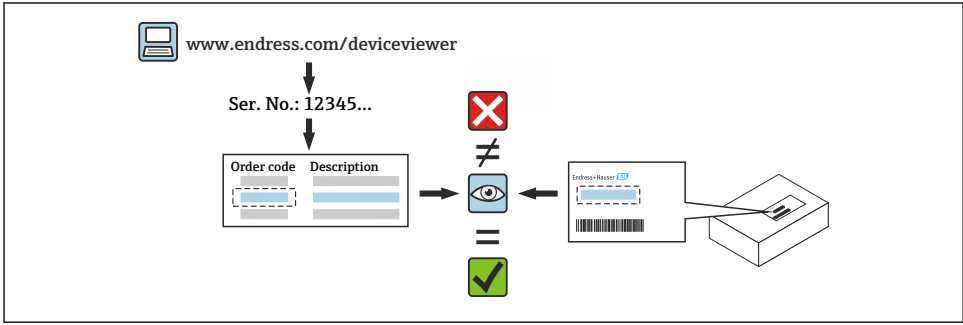
Proservo NMS80, NMS81, Float level gauge LT5,
Level switch MPC2



1 Intended use

- A defective unit can only be replaced with a functioning unit of the same type.
- Use only original parts from Endress+Hauser.
- In the W@M Device Viewer, check if the spare part is suitable for the existing device.

 In some devices, an overview of spare parts is provided inside the device. If the spare part set is listed in the overview, it is not necessary to check the Device Viewer.




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2 Personnel authorized to carry out repairs

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

- Be trained in instrument safety.
- Be familiar with the individual operating conditions of the devices.
- In the case of Ex-certified 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.

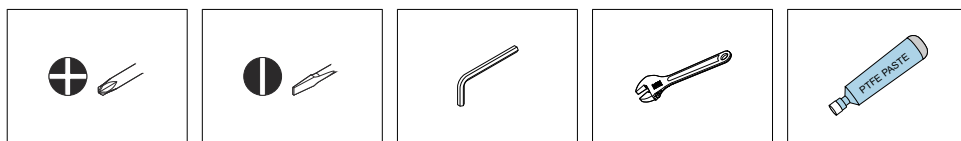
3 Safety instructions

- Observe the Operating Instructions for the device.
- Comply with national regulations regarding mounting, electrical installation, commissioning, maintenance and repair.
- Device is live! Risk of fatal injury from electric shock. Open the device only when the device is deenergized.
- For devices intended for use in hazardous locations, please observe the instructions 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.
- Before removing the device: set the process to a safe state and purge the pipe of dangerous process substances.
- Risk of burns from hot surfaces! 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.
- Risk of damaging electronic components! Ensure that the working environment is protected against electrostatic discharge.
- After removing the electronics compartment cover: risk of electric shock due to removal of contact protection! Switch the device off before removing internal covers.
- Modifications to the device are not permitted.
- Only open the housing for a short period. Avoid ingress 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 and connection compartment cover).
- If spacing is reduced or the dielectric strength of the device cannot be guaranteed during repair work: Perform a test on completion of the work (e.g. high-voltage test in accordance with the manufacturer's specifications).
- Service connector:
 - Do not connect in potentially explosive atmospheres.
 - Only connect to Endress+Hauser service devices.
- Observe the instructions for transporting and returning the device outlined in the Operating Instructions.




For information on service and spare parts, contact your Endress+Hauser sales center.

4 Tools list



5 Spare parts list

This installation instruction is valid for the following spare part sets.

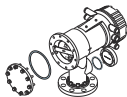
 To maintain sealing performance, it is recommended to replace the O-rings and gaskets with new ones every time their covers are removed.

NMS80, NMS81, LT5, MPC2 spare parts

No.	Spare parts number	Descriptions	Usage
1	71319979	Seal, PTFE, FVQM, EPDM, NMS80	NMS80
	71319980	Seal, PTFE, FVQM, EPDM, NMS81/NMS83	NMS81
2	71413918	Seal, rear cover, middle pressure PTFE	LT5
	71413919	Seal, rear cover, high pressure PTFE	LT5
3	017860-0319	O-ring, PTFE, small Size: G4-10005, PTFE	LT5
4	71413928	Seal, top anchor, JIS 10K, PTFE JIS 10K/20K 40A RF, ASME NPS1-1/2" Cl.150 RF, JPI 40A 150lbs RF	LT5
	71413930	Seal, top anchor, ASME Cl.300, PTFE A SME NPS1-1/2" Cl.300 RF, JPI 40A 300lbs RF	LT5
5	71413922	Seal, elbow middle pressure PTFE	LT5
	71413924	Seal, elbow HP/balancer MP, PTFE	LT5
6	017860-0707	O-ring, bearing, PTFE, P10, HP Size: D10mm, d1.9mm, PTFE	LT5
7	017860-5117	Handle assembly	LT5
8	017860-0663	Teflon part assembly Seal for shaft, PTFE. Seal, compression nut, PTFE. Tape tighten metal. Spring pin,x2.	LT5
9	71437612	Flange packing, D120xD70x2T, PTFE	MPC2
	71437613	Flange packing, D130xD90x2T, PTFE	MPC2
	71437614	Flange packing, D159xD115x2T, PTFE	MPC2
10	71696262	Teflon paste, for PTFE only	NMS80, NMS81, LT5, MPC2

6 NMS80, NMS81: Applying PTFE paste to O-rings

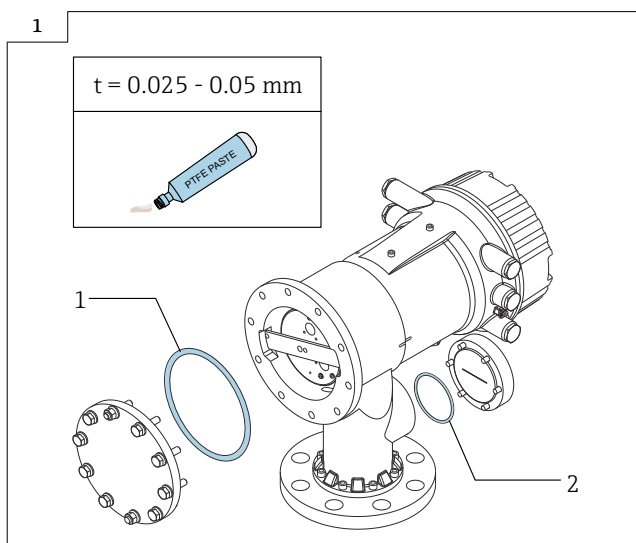
NMS80, NMS81 spare parts

No.	Spare parts No.	Descriptions	Usage
	71319979	Seal, PTFE, FVQM, EPDM, NMS80	NMS80
	71319980	Seal, PTFE, FVQM, EPDM, NMS81/NMS83	NMS81

Apply the PTFE paste to the parts in blue.



- Apply the PTFE paste thinly and evenly with the tip of your finger.
- Do not apply a large amount of PTFE paste as the seal may not be effective in sealing.
- The following shows a guide for the amount of PTFE paste to be used.
 - 1 cm³: 0.004 to 0.005 gr
 - Thickness: 0.025 to 0.05 mm



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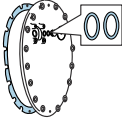
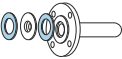
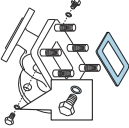
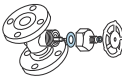
- Apply the PTFE paste to the supplied O-rings. (e.g.) NMS81




For a new product purchase, the spare O-rings are supplied separately at the time of shipping.

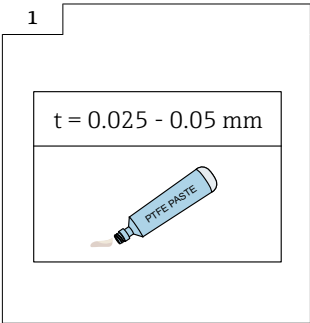
7 LT5: Applying PTFE paste to O-rings and packings

LT5 spare parts

No.	Spare parts No.	Descriptions	Usage
	71413918	Seal, rear cover, middle pressure PTFE	LT5
	71413919	Seal, rear cover, high pressure PTFE	LT5
	017860-0319	O-ring, PTFE, small Size: G4-10005, PTFE	LT5
	71413928	Seal, top anchor, JIS 10K, PTFE JIS 10K/20K 40A RF, ASME NPS1-1/2" Cl.150 RF, JPI 40A 150lbs RF	LT5
	71413930	Seal, top anchor, ASME Cl.300, PTFE A SME NPS1-1/2" Cl.300 RF, JPI 40A 300lbs RF	LT5
	71413922	Seal, elbow middle pressure PTFE	LT5
	71413924	Seal, elbow HP/balancer MP, PTFE	LT5
	017860-0707	O-ring, bearing, PTFE, P10, HP Size: D10mm, d1.9mm, PTFE	LT5
	017860-5117	Handle assembly	LT5
	017860-0663	Teflon part assembly Seal for shaft, PTFE. Seal, compression nut, PTFE. Tape tighten metal. Spring pin,x2.	LT5

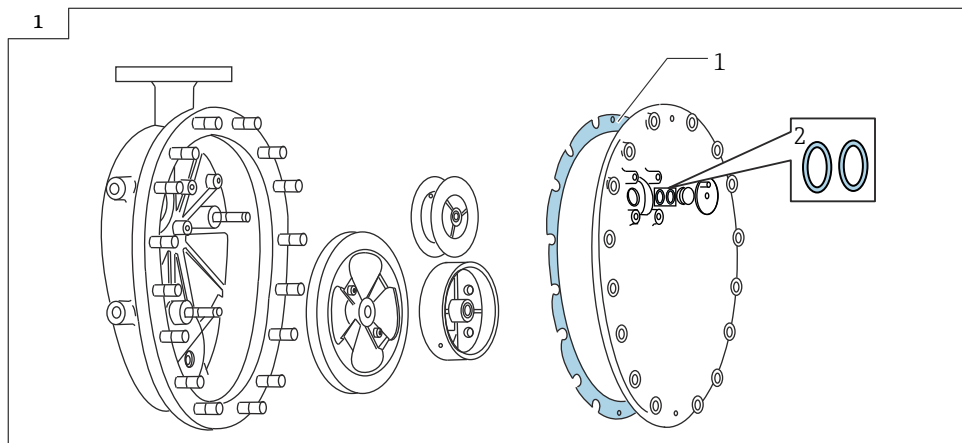
Apply the PTFE paste to the parts in blue.

- 
- Apply the PTFE paste thinly and evenly with the tip of your finger.
 - Do not apply a large amount of PTFE paste as the seal may not be effective in sealing.
 - The following shows a guide for the amount of PTFE paste to be used.
 - 1 cm³: 0.004 to 0.005 gr
 - Thickness: 0.025 to 0.05 mm



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7.1 Gauge head

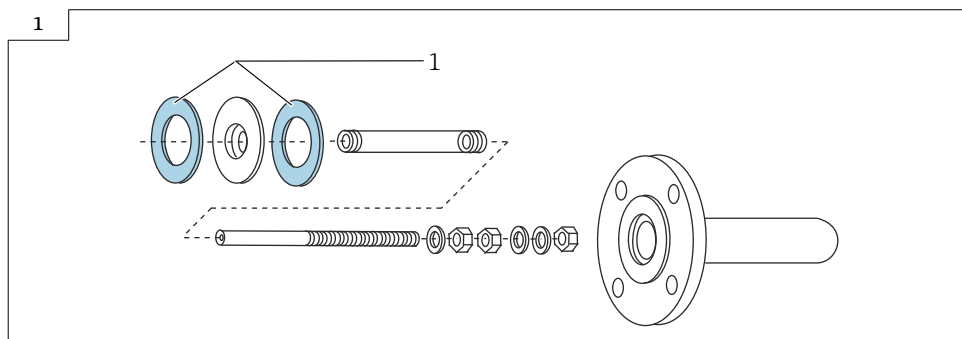


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- Apply the PTFE paste to the supplied rear cover and O-rings.

i The rear cover and O-rings are supplied separately at the time of shipping.

7.2 Top anchor

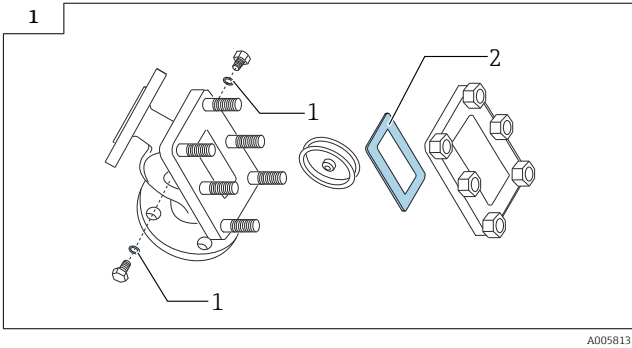


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- Apply the PTFE paste to the seals [1].

i All peripheral parts including seals are shipped without assembly. Apply the PTFE paste to the seals before assembly

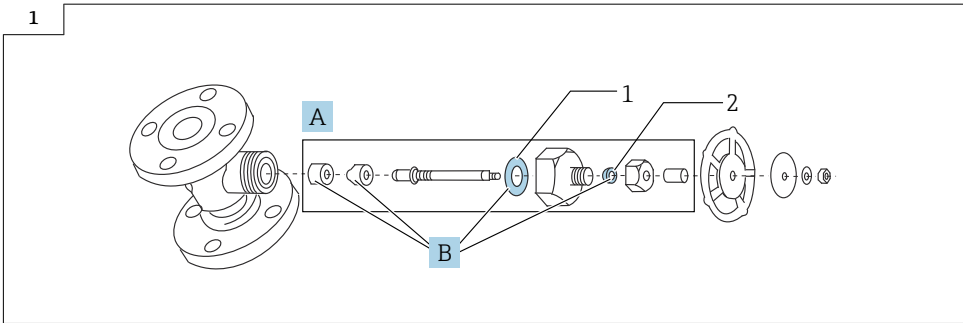
7.3 Elbow



- ▶ When replacing the o-ring [1], apply the PTFE paste to the O-rings.
- ▶ Apply the PTFE paste to the supplied seal [2].

i There is no need to apply PTFE paste to the O-rings [1] and bolts because the O-rings are assembled with paste applied prior to shipping.

7.4 Valve



- ▶ A: Handle assembly
- ▶ B: Teflon part assembly
- ▶ Apply the PTFE paste to the seal [1].

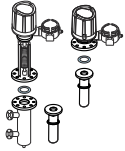
i ■ There is no need to apply PTFE paste to the seal [2] because the seal is assembled with paste applied prior to shipping.

■ When replacing the seal [1], apply the PTFE paste.

■ When ordering the handle assembly for replacement, there is no need to apply the PTFE paste to both the seal [1] and [2] because they are assembled with paste applied prior to shipping

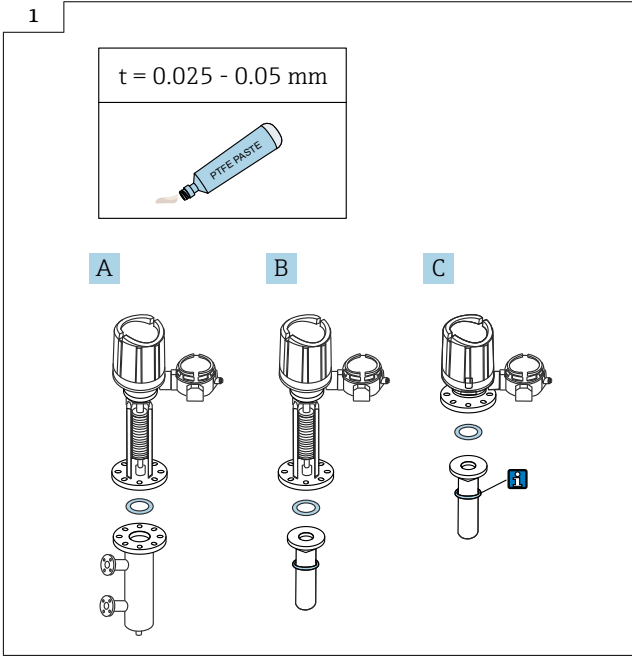
8 MPC2: Applying PTFE paste to packings

MPC2 spare parts

No.	Spare parts No.	Descriptions	Usage
	71437612	Flange packing, D120xD70x2T, MPC PTFE	MPC2
	71437613	Flange packing, D130xD90x2T, MPC PTFE	MPC2
	71437614	Flange packing, D159xD115x2T, MPC PTFE	MPC2

The parts are disassembled at the time of shipping. Apply the PTFE paste to the parts in blue.

- i** ■ Apply the PTFE paste thinly and evenly with the tip of your finger.
- Do not apply a large amount of PTFE paste as the seal may not be effective in sealing.
- The following shows a guide for the amount of PTFE paste to be used.
 - 1 cm³: 0.004 to 0.005 gr
 - Thickness: 0.025 to 0.05 mm



- ▶ A: External pipe type
- ▶ B: Internal pipe type
- ▶ C: Protection pipe with a overflow detection

i The packing for pipe C is not included with the product and must be prepared by the customer.



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