

Installation Manual

Wind Sensor Installation



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Installation Instructions

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P/N: 116839



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Revision: N.1.1 of 05.2022

Product Software: N/A

This manual for use and maintenance is an integral part of the apparatus together with the attached technical documentation.

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Munters reserves the right to effect modifications to the apparatus in accordance with technical and legal developments.

Index

<i>Chapter</i>		<i>page</i>
1	INTRODUCTION	4
	1.1 Disclaimer	4
	1.2 Introduction	4
	1.3 Notes	4
2	INSTALLATION	5
3	WARRANTY	16

1 Introduction

1.1 Disclaimer

Munters reserves the right to make alterations to specifications, quantities, dimensions etc. for production or other reasons, subsequent to publication. The information contained herein has been prepared by qualified experts within Munters. While we believe the information is accurate and complete, we make no warranty or representation for any particular purposes. The information is offered in good faith and with the understanding that any use of the units or accessories in breach of the directions and warnings in this document is at the sole discretion and risk of the user.

1.2 Introduction

Congratulations on your excellent choice of purchasing a Wind Sensor!

In order to realize the full benefit from this product it is important that it is installed, commissioned and operated correctly. Before installation or using the equipment, this manual should be studied carefully. It is also recommended that it is kept safely for future reference. The manual is intended as a reference for installation, commissioning and day-to-day operation of the equipment.

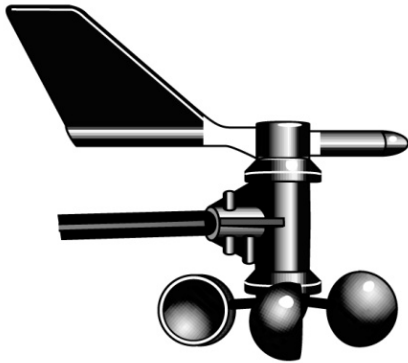
1.3 Notes

Date of release: July 2010

Munters cannot guarantee to inform users about the changes or to distribute new manuals to them.

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2 Installation



STANDARD AND INDUSTRIAL ANEMOMETER

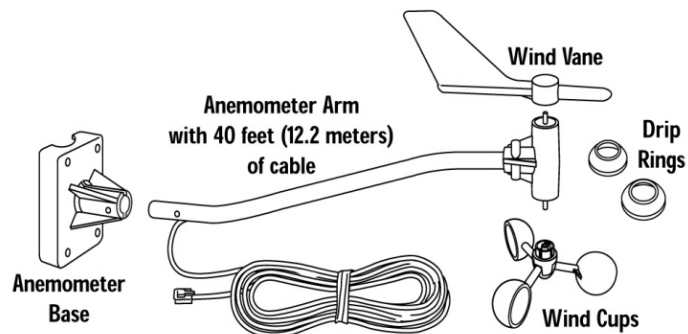
INSTALLATION MANUAL

The anemometer enables you to measure and display wind-related conditions such as wind speed, wind direction, wind run, wind chill, and the temperature-humidity-sun-wind index.

Components

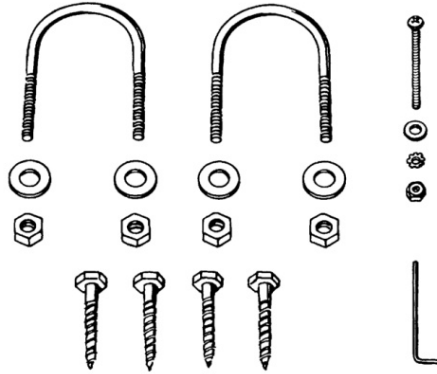
The anemometer includes the components listed below. Please be sure you have all listed components before continuing. The installation hardware kit contains the items most commonly needed for the installation of the anemometer. Which items you use from the kit depend on where you install your unit. You may need to adapt or purchase additional hardware to fit your individual requirements. Assess your installation and make sure you have all necessary parts, tools, and materials before you begin.

- ◆ Anemometer Arm with cable
- ◆ Anemometer Base
- ◆ Wind Cups
- ◆ Wind Vane
- ◆ Drip Rings



◆ **Installation Hardware Kit**

- ◆ Two U-Bolts
- ◆ Four 1/4" Flat Washers
- ◆ Four 1/4" Hex Nuts
- ◆ Four 1/4" x 1 1/2" Lag Screws
- ◆ One #4-40 x 1 1/4" Pan Head Screw
- ◆ One #4 Flat Washer
- ◆ One #9 Lock Washer
- ◆ One #4-40 Hex Nut
- ◆ Allen Wrench



Tools and Materials Needed

You will need the following tools and materials to install your anemometer:

- ◆ **Cable Clips or Weather-Resistant Cable Ties**

Note: Make sure the clips or ties you use to secure the anemometer cable have screw holes or other means for mounting the cable. Do not use metal staples to secure the cables.

- ◆ **Stainless Steel Hose Clamps**
- ◆ **Small Screwdrivers**
- ◆ **Adjustable Wrench**
- ◆ **Hand-Held Compass or Local Area Map**

Testing the Anemometer

Before beginning your installation, follow the instructions below to test the anemometer wind speed and wind direction functions.

1. Connect the anemometer cable to the appropriate connector on your sensor interface module (SIM) or junction box.
2. Push the wind cups onto the smaller of the two stainless steel shafts at the end of the arm.
3. Spin the wind cups *gently*. You haven't secured them yet, and if you spin them too hard you may knock them off.
4. Check the display on your weather station to make sure you are getting a wind speed reading.
5. Grab the larger of the two stainless steel shafts at the end of the arm with your fingers and twist the shaft about 1/2 turn.

6. Check the display to make sure the wind direction reading on your display changes.

Note: *The wind direction readings will not change as rapidly as you turn the shaft. The station uses a low pass filter to smooth out the constant small shifts in wind direction and keep the direction display from jumping about in gusty winds.*

7. Disconnect the cables when you are finished testing the anemometer.

Assembling the Anemometer

Attach the drip rings and the wind cups to the anemometer and check the mounting base orientation before you install it. The wind vane is attached after the anemometer has been installed.

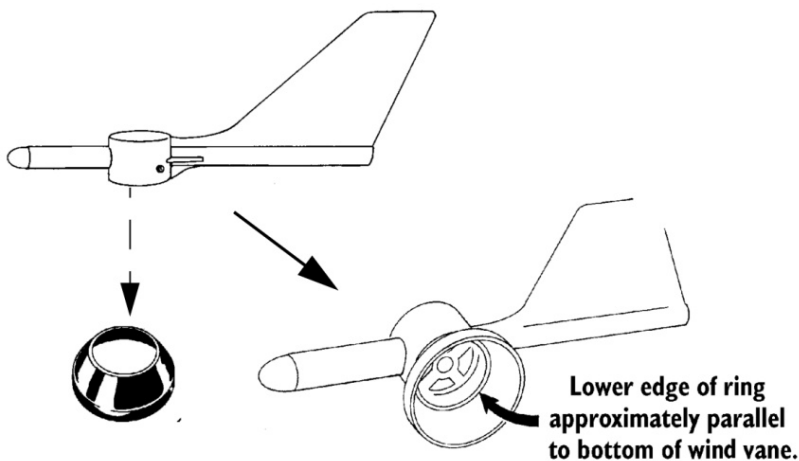
Attaching the Drip Rings

The anemometer drip rings provide protection against icing of the wind vane and wind cups. Follow the instructions below to attach the two drip rings.

1. Place one of the drip rings on a flat surface with the small hole facing up.
2. Securely press the wind vane on top of the drip ring.

Note: *You may want to start with the vane tilted slightly.*

3. Make sure the ring fits securely between the two ridges on the vane with the lower edge parallel to the bottom of the wind vane.

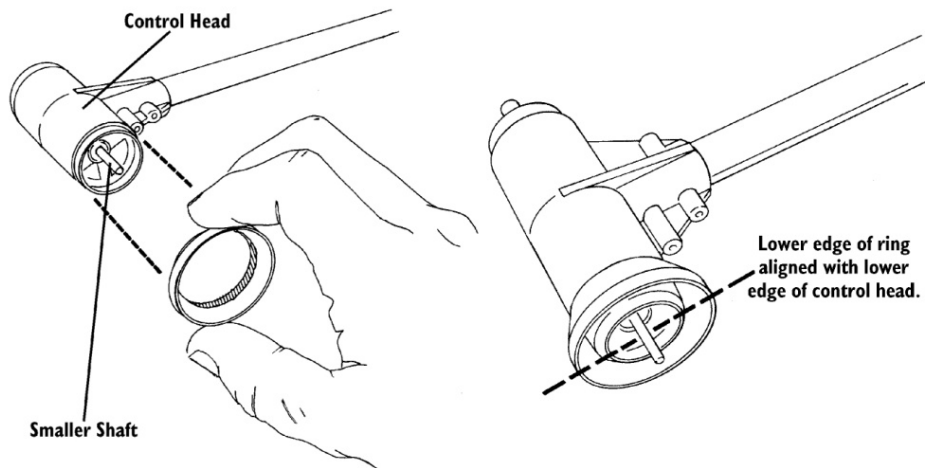


Installing the drip ring onto the wind vane

4. Install the small end of the other drip ring on the wind cup end of the anemometer control head as shown below.

Note: The wind cup end of the control head has the smaller of the two stainless steel shafts.

5. Gently push up the drip ring until it reaches the groove on the control head.
6. Make sure the lower edge of the drip ring is aligned with the lower edge of the control head.

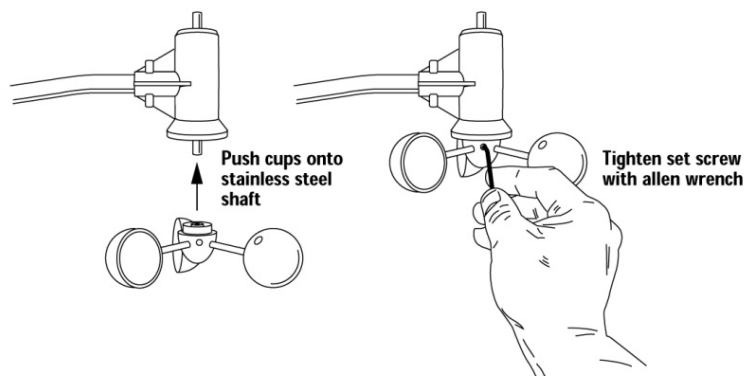


Installing the drip ring onto the anemometer control head

Attaching the Wind Cups

Before installing the anemometer, attach the wind cups. Wait until you have installed the anemometer before you attach the wind vane.

1. Push the wind cups onto the smaller of the two stainless steel shafts at the end of the arm.



Attaching wind cups to the anemometer

2. Slide the wind cups as far up the shaft as possible.

3. Use the allen wrench provided to tighten the set screw on the side of the wind cups.

Note: *When you let go of the wind cups, they should drop slightly.*

4. Spin the wind cups. If they do not spin freely, loosen the set screw, lower the cups slightly, then retighten the set screw.
5. Repeat Step 4 until the wind cups spin freely.

Checking the Anemometer Base Orientation

You will need to know which way to orient the base before installing it.

1. Insert the anemometer arm into the base
2. Attempt to push the #4-40 x 1 1/4" pan head screw through the holes in the arm and the base as described in "Attaching the Wind Vane" on page 8.
3. If the screw does not slide easily through the holes, rotate the base 180° to line up the opposite holes, then try again.
4. Note the correct base orientation for use when you install the base later in the installation process.

Choosing the Best Anemometer Location

Use the following guidelines to determine the best location for your anemometer.

- ◆ Make sure you install the anemometer in a location where wind flow is unobstructed by trees and nearby buildings.
- ◆ For the most accurate readings, the anemometer should be mounted at least 4 feet (1.2 m) above the roof line.

You may do this by mounting the anemometer on a television antenna mast, a wooden post, or a metal pipe.
- ◆ Make sure the antenna mast or metal pipe is properly grounded. You may want to use Netafim Grounding Kit.
- ◆ If you are not certain about how to ground your installation, consult a qualified professional for national and local codes.

Note: *If you live in an area subject to frequent thunderstorms, installing a lightning rod nearby can reduce the risk of damage.*

Installing the Anemometer

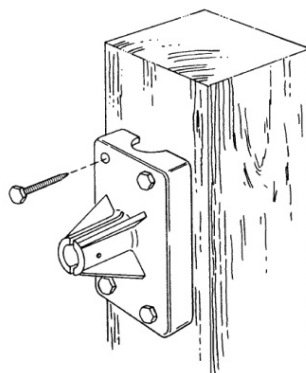
Use the following procedures to mount the anemometer.

Installing on a Sensor Mounting Arm

Consult the Sensor Mounting Arm manual for instructions. You will need to return to this instruction manual after installing onto the Sensor Mounting Arm for instructions on attaching the wind vane (see “Attaching the Wind Vane” on page 8).

Installing the Base on a Wooden Post or Surface

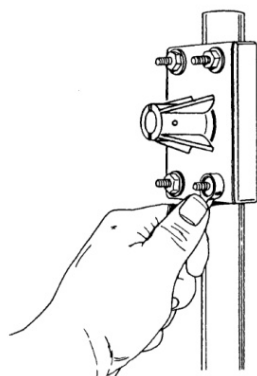
1. Hold the anemometer base against the wood surface and use a pencil to mark the location of the four holes on the base.
2. Use a drill with a 3/16" (5-mm) drill bit to make pilot holes in these locations.
3. Drive the lag screws through the holes in the anemometer base and into the wood.



Attaching base to wooden post

Installing the Base on an Antenna Mast or Metal Pipe: Outside Diameter 7/8" to 1 1/4" (22 to 32 mm)

1. Hold the anemometer base against the pipe and insert the two U-bolts through the back of the base so that the U-bolts wrap around the pipe.
2. Place a 1/4" washer and a 1/4-20 hex nut over each end of the U-bolts and use a wrench to tighten the hex nuts.



Attaching base to a pipe using U-bolts

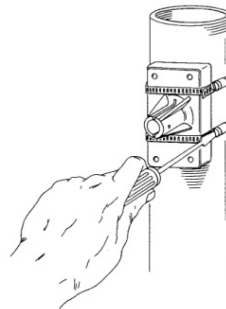
Installing the Base on a Metal Mast or Pipe: Outside Diameter Greater than 1 1/4 inch (32 mm)

Use stainless steel hose clamps to attach the mounting base to masts or pipes larger than 1 1/4" diameter.

1. Use two stainless steel hose clamps large enough to fit around the mast or pipe and the anemometer base.

You may purchase hose clamps at your local hardware store.

2. Hold the anemometer base against the pipe and fasten the hose clamps over the anemometer base and around the metal mast or pipe.



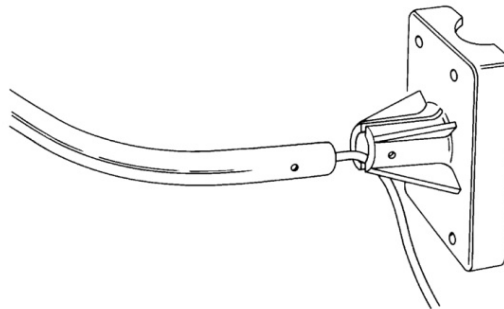
Attaching base to a pipe using hose clamps

Attaching the Anemometer Arm to the Base

1. Insert the anemometer arm into the anemometer base.

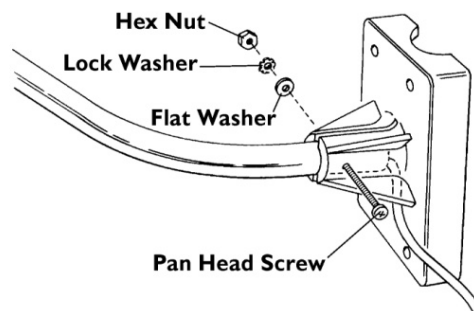
Guide the anemometer cable through the slot as you insert the arm.

2. Insert the pan head screw into one of the holes in the base and slide it through the arm.



Inserting arm into base

3. Secure the pan head screw using the flat washer, lock washer, and hex nut as shown.

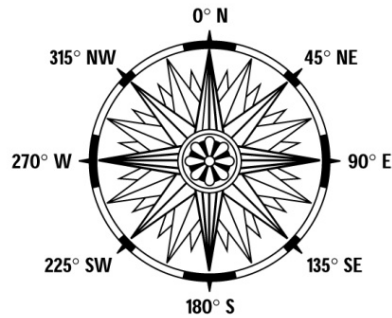


Attaching the anemometer arm to the base

Attaching the Wind Vane

To mount the wind vane, you will need to look at the console display in order to orient the vane accurately. You may wish to have a friend or family member on the ground do this for you. Or, you may wish to bring the console and SIM/junction box onto the roof with you.

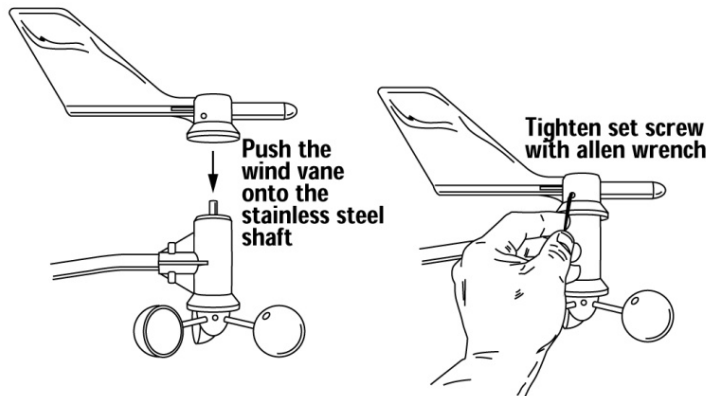
1. Connect the anemometer cable to the SIM/junction box.
2. Press WIND key on console if necessary to display wind direction in degrees.
3. Use the compass or map to determine in which direction (N, S, E, W,) the anemometer arm is pointing.
4. Use the wind direction chart to find the degree reading which corresponds to that direction.
5. Slowly turn the wind direction shaft with your fingers. Stop turning when the weather station display reaches the degree reading obtained in step 4.



Wind direction chart

Because of the low pass filter used by the station (see “Testing the Anemometer” on page 2), the wind direction reading requires approximately 5 seconds to stabilize each time you turn the shaft. You will need to turn the shaft, wait, and turn it again until you eventually “zero in” on the desired wind direction reading.

6. Being careful to keep the stainless steel shaft from turning, place the wind vane on the shaft with the bullet-shaped nose of the vane pointing in the same direction as the arm.



Installing the wind vane

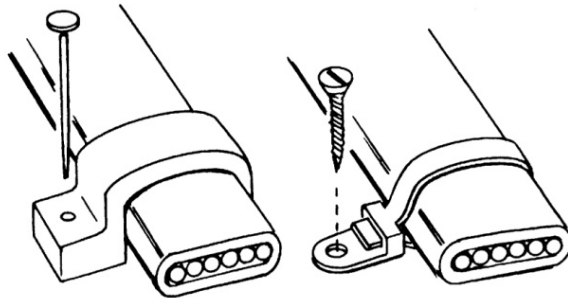
7. Slide the wind vane down onto the shaft as far as it will go.
8. Use the allen wrench provided to tighten the set screw on the side of the wind vane.
9. Test your assembly by pointing the wind vane in any direction and (using the compass or map as a guide) making sure the console displays the correct wind direction. Readjust the vane if necessary.

Because of the low pass filter used by the station (see “Testing the Anemometer” on page 2), you need to allow the wind direction reading approximately 5 seconds to stabilize after you turn the vane.

10. Spin the wind cups to make sure you get a wind speed reading. Readjust the cups if necessary.
11. Secure the cable to the metal mast or pipe with electrical tape. Secure the rest of the cable according to the directions below.

Securing the Cable

To prevent fraying or cutting of the anemometer cable where it is exposed to weather, it is very important that you secure it so it doesn't whip about in the wind. Use cable clips or weather resistant cable ties to secure the cable. Place clips or ties approximately every 3 to 5 feet (1 to 1.6 m).



Securing cable (standard cable shown)

Note: Do not use metal staples or a staple gun to secure cables. Metal staples—especially when installed with a staple gun—have a tendency to cut the cables.

Maintenance

Your anemometer does not require any regular maintenance.

CAUTION: DO NOT attempt to lubricate the wind cup shaft and bearings or the wind vane shaft. Natural or synthetic lubricants will inhibit the normal operation of the anemometer.

Troubleshooting

While your anemometer is designed to provide years of trouble-free operation, occasionally problems may arise. If you are having a problem with your unit, please check the following troubleshooting procedures before sending the unit in for repair. You will be able to solve many of the problems yourself. If, after checking these procedures you are unable to solve the problem, please call Netafim Technical Support for further instructions (see “Contacting Netafim Instruments Technical Support” on page 11.) Please do *not* return your unit for repair without receiving prior authorization from Netafim Technical Support.

Wind speed reads 0 all the time or intermittently

- Make sure anemometer cable is plugged into the jack marked WIND on the junction box.
- Check for broken wire along length of anemometer cable. Carefully check areas where the cable has been secured.
- Try dropping the wind cups approximately 1/16” to 1/8” (1.5 to 3 mm) lower on the mounting shaft. Use the included Allen wrench to loosen and retighten the wind cup assembly.
- If you still do not get a reading, the problem is probably with the anemometer. Contact Netafim Technical Support for return authorization.

Wind speed reading seems too high or too low

- Check installation by spinning wind cups. If the wind cups spin freely and your weather station displays a wind speed then the wind cups are installed correctly. If the wind cups don't spin freely, then try dropping the wind cups approximately 1/16” to 1/8” (1.5 to 3 mm).
- Check calibration number and adjust if necessary.
- Check for any obstructions blocking the wind near the anemometer.

Wind direction reading is dashed out

- Make sure anemometer cable is plugged into the jack marked WIND on the junction box.
- Check for broken wire along length of anemometer cable. Carefully check the places where the cable has been secured.

Note: *If these steps do not solve the problem, the problem is probably with the anemometer. Call Netafim Technical Support for return authorization.*

Specifications

Wind Direction

Display Resolution: 16 points (22.5°) on compass rose, 1° in digital display
Accuracy: $\pm 7^\circ$

Wind Speed

Range: 2 to 175 mph., 4 to 280 kph, 2 to 152 knots, 0.9 to 78 m/2s
Accuracy: $\pm 5\%$

3 Warranty

Warranty and technical assistance

Munters products are designed and built to provide reliable and satisfactory performance but cannot be guaranteed free of faults; although they are reliable products they can develop unforeseeable defects and the user must take this into account and arrange adequate emergency or alarm systems if failure to operate could cause damage to the articles for which the Munters plant was required: if this is not done, the user is fully responsible for the damage which they could suffer.

Munters extends this limited warranty to the first purchaser and guarantees its products to be free from defects originating in manufacture or materials for one year from the date of delivery, provided that suitable transport, storage, installation and maintenance terms are complied with. The warranty does not apply if the products have been repaired without express authorisation from Munters, or repaired in such a way that, in Munters' judgement, their performance and reliability have been impaired, or incorrectly installed, or subjected to improper use. The user accepts total responsibility for incorrect use of the products.

The warranty on products from outside suppliers fitted to Platinum Touch/Rotem One, (for example cables, weights, etc.) is limited to the conditions stated by the supplier: all claims must be made in writing within eight days of the discovery of the defect and within 12 months of the delivery of the defective product. Munters has thirty days from the date of receipt in which to take action, and has the right to examine the product at the customer's premises or at its own plant (carriage cost to be borne by the customer).

Munters at its sole discretion has the option of replacing or repairing, free of charge, products which it considers defective, and will arrange for their despatch back to the customer carriage paid. In the case of faulty parts of small commercial value which are widely available (such as bolts, etc.) for urgent despatch, where the cost of carriage would exceed the value of the parts, Munters may authorise the customer exclusively to purchase the replacement parts locally; Munters will reimburse the value of the product at its cost price.

Munters will not be liable for costs incurred in demounting the defective part, or the time required to travel to site and the associated travel costs. No agent, employee or dealer is authorised to give any further guarantees or to accept any other liability on Munters' behalf in connection with other Munters products, except in writing with the signature of one of the Company's Managers.

WARNING: In the interests of improving the quality of its products and services, Munters reserves the right at any time and without prior notice to alter the specifications in this manual.

The liability of the manufacturer Munters ceases in the event of:

- dismantling the safety devices;
- use of unauthorised materials;
- inadequate maintenance;
- use of non-original spare parts and accessories.

Barring specific contractual terms, the following are directly at the user's expense:

- preparing installation sites;
- providing an electricity supply (including the protective equipotential bonding (PE) conductor, in accordance with CEI EN 60204-1, paragraph 8.2), for correctly connecting the equipment to the mains electricity supply;
- providing ancillary services appropriate to the requirements of the plant on the basis of the information supplied with regard to installation;
- tools and consumables required for fitting and installation;
- lubricants necessary for commissioning and maintenance.

It is mandatory to purchase and use only original spare parts or those recommended by the manufacturer.

Dismantling and assembly must be performed by qualified technicians and according to the manufacturer's instructions.

The use of non-original spare parts or incorrect assembly exonerates the manufacturer from all liability.

Requests for technical assistance and spare parts can be made directly to the nearest [Munters office](#).

