User Manual

Pressure increase pump

for MELAdem 47

EN

Dear customer,

We thank you for your confidence demonstrated by the purchase of this MELAG product. As an owner-run and operated family concern founded in 1951, we have a long history of successful specialization in hygiene products for practice-based use. Our focus on innovation, quality and the highest standards of operational reliability has established MELAG as the world's leading manufacturer in the instrument reprocessing and hygiene field.

You, our customer are justified in your demand for the best products, quality and reliability. Providing **"competence in hygiene"** and **"Quality – made in Germany"**, we guarantee that these demands will be met. Our certified quality management system is subject to close monitoring: one instrument to this end is our annual multi-day audit conducted in accordance with EN ISO 13485. This guarantees that all MELAG products are manufactured and tested in accordance with strict quality criteria.

The MELAG management and team.

This device is to be maintained exclusively by a qualified service technician trained by MELAG and working in accordance with the valid directives.

CE

Contents

1 General guidelines

Please read this user manual carefully before using MELAG accessories. It contains important safety instructions.

Please store this user manual carefully and in close proximity to your device. It represents a component of the product.

Should the manual no longer be legible, is damaged or has been lost, you can download a new copy from MELAG download centre at www.melag.com.

Symbols used

Symbol	Explanation
	Indicates a dangerous situation, which if not avoided, could entail slight to life-threatening injuries.
	Draws your attention to a situation, which if not avoided, could result in damage to the instruments, the practice fittings or the device.
	Draws your attention to important information.

Disposal

MELAG devices are synonymous with high quality and a long life-span. When you eventually need to decommission your MELAG device, we offer a special disposal service. Simply contact your stockist.

Dispose of accessories and consumption media which you no longer require in the appropriate manner. Comply with all relevant disposal specification in terms of possibly contaminated waste.

The packaging protects the device against transport damage. The packaging materials have been selected for their environmentally-friendly disposability and can be recycled. Returning the packaging to the material flow reduces the amount of waste and saves raw materials. Dispose of all non-required packaging materials at the collection points of the dual system.

2 Safety

When operating the device, comply with the following safety instructions as well as those contained in subsequent chapters. Use the device only for the purpose specified in these instructions. Failure to comply with the safety instructions can result in injury and/or damage to the device.

Setup, installation and commissioning

- Check the device after unpacking for any damage suffered during transport.
- We recommend that the device only be set-up, installed and commissioned by MELAG authorized persons.
- Using the optional electronic leak detector (water stop) minimizes the risk of water damage.
- Install and operate the device in a frost-free environment.
- The device is not suitable for operation in explosive atmospheres.
- The device is conceived for use outside the patient area. The device should be located a minimum of 1.5 m radius away from the treatment area.

Power cable and power plug

- Only the power cable included in the scope of delivery may be connected to the device.
- The power cable may not be replaced by a cable determined to be insufficient.
- In the case of obvious or suspected damage/defects, the device may not be operated further. In such cases, the device has to be repaired.

Storage and transport

- Store and transport the device frost-free.
- Avoid strong shocks/vibrations.
- Store the device in a fashion protected against moisture.
- Damage to the housing and the device interior as a result of using unsuitable transport packaging. Only transport the device in its original packaging or other suitable packaging.

Maintenance

- Maintenance should only be performed by authorized technicians.
- Maintain the specified servicing intervals.
- Only original MELAG spare parts may be used.

Daily operation

- Use only original MELAG accessories or those from other stockists authorized for use by MELAG.
- Never operate the device unattended. Unsupervised operation of the device can result in damage to the device or your facility. In such a case, MELAG does not accept any liability.

Leaks

- Close the water intake upon detecting a leak. Check all hoses and hose connections for leaks.
- Only original MELAG spare parts may be used.

3 Description of the device

Intended use

The pressure increase pump for MELAdem 47 enables the increase of the inlet pressure of the water treatment unit MELAdem 47.

The MELAdem 47 can thus produce higher quantities of demineralized water (DI water) at low line pressure on the building side. The pressure increase pump is installed by trained service technicians. After the installation, the operation of the pressure increase pump is automatic. The pressure increase pump must be operated together with the MELAdem 47. User groups and usage environment correspond to those of MELAdem 47. The pressure increase pump is intended for use in the medical field, e.g. in clinics, medical and dental practices outside the patient environment.

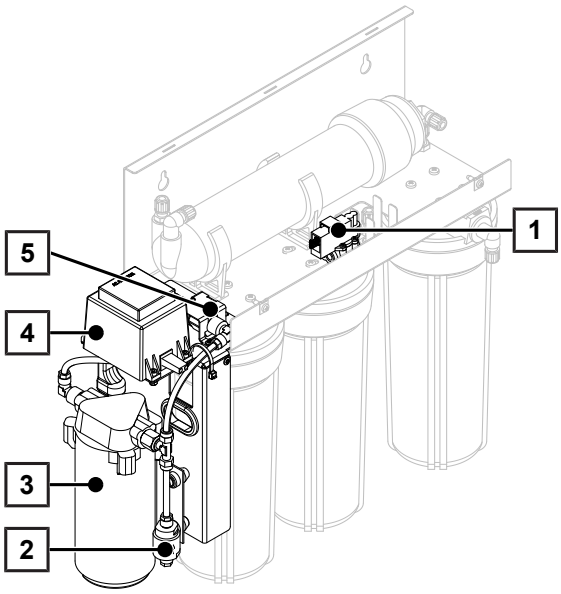
Scope of delivery

Please check the scope of delivery before using the product.

Standard scope of delivery

- Pressure increase pump
- User manual
- High-pressure switch
- MELAdem cold water adapter, direct connection - water pipe
- PUR hose, short (6/4 x 70)
- PUR hose, medium (6/4 x 130)
- PUR hose, long (6/4 x 3000)
- Straight screw-in fitting
- Dirt filter (filter MELAdem 37/40/47)

Pressure increase pump



1 High-pressure switch
2 Dirt filter
3 Pressure increase pump
4 Power supply
5 Low pressure switch

Symbols on the device

Manufacturer of the product

Date of manufacture of the product

Product serial number from the manufacturer

Article number of the product

Electrical connection of the device: AC current

The user manual includes important safety information. Failure to comply with these instructions can result in injury and material damage.

Read this user manual carefully before commissioning the device.

In affixing the CE mark, the manufacturer declares that this product fulfils the corresponding EU requirements.

The device may not be disposed as domestic waste. The vendor is responsible for appropriate disposal of the device - it must be delivered to the vendor to be disposed of.

4 Installation

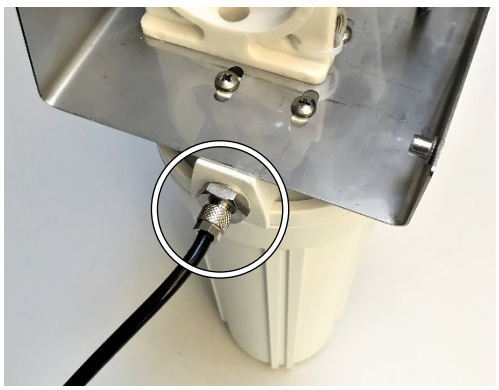
Tools required: Allen key (4 mm), open-end wrench (SW10, SW12, SW19, SW27), Phillips screwdriver (PH2), water-pump pliers, hose cutter

The following must be fulfilled or present:

- ✓ *The line pressure is at 1-6 bar.*
- ✓ *The cold water inflow and the shut-off valve of the pressure tank of the water treatment unit are closed.*
- ✓ *The water treatment unit is pressure-free.*

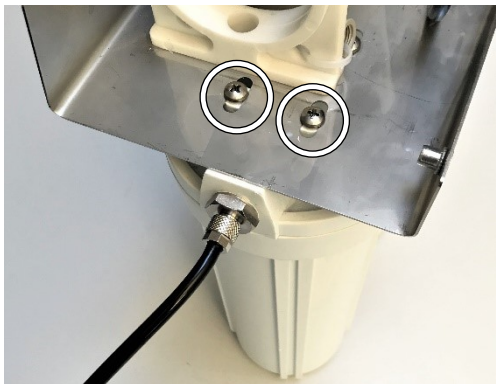
1. Loosen the two screws on the front of the water treatment unit.

2. Pull out the cover hood upwards.
3. Remove the cold water inflow hose from the water tap or water stop.
4. Remove the cold water inflow hose from the water treatment unit.
5. Remove the brass double nipple (¾") from the inflow of the water treatment unit.
6. Install the straight screw-in fitting into the inflow of the water treatment unit. Slightly tighten the straight screw-in fitting.
7. Mount the PUR hose of medium length on the straight screw-in fitting.

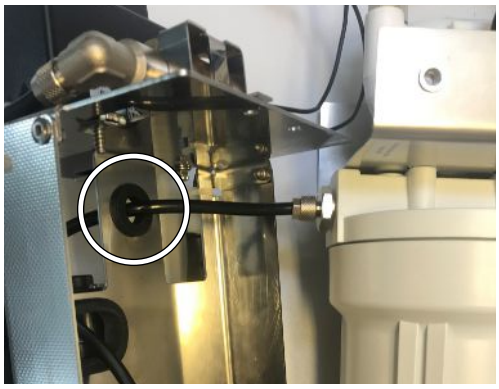


8. Slide the osmosis module slightly to the right.

9. Remove the two screws on the filter housing of the fine filter.

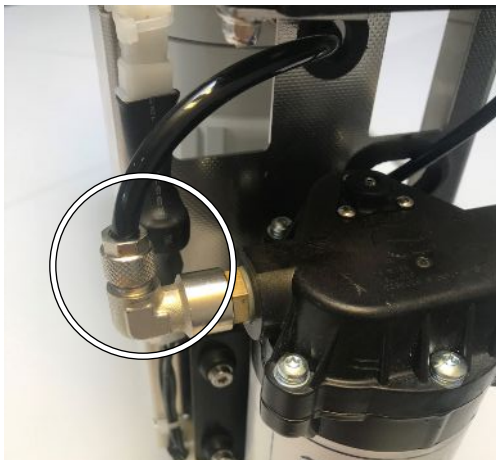


10. Lead the PUR hose of medium length through the recess to the pump.

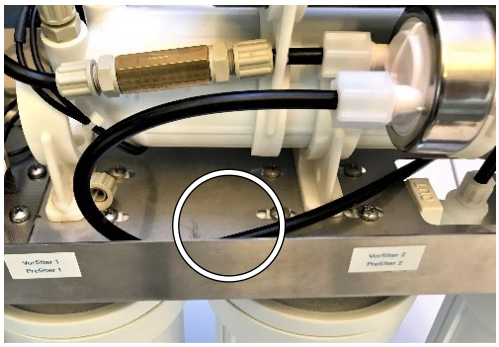


11. Attach the pressure increase pump to the water treatment unit using the two screws that were previously loosened.

12. Connect the PUR hose of medium length to the output side of the pressure increase pump.



13. Cut the PUR hose approximately in the middle between the mixed-bed resin cartridges and the switchover valve.



14. Insert the pressure switch at the point where it was cut.

15. Lead the pressure increase pump cables under the osmosis module. Connect the cables to the pressure switch.

16. Push the osmosis module back to the left into the initial state.

PLEASE NOTE

When inserting the dirt filter, pay attention to the flow direction on the dirt filter.

The arrow on the dirt filter must point in the direction of the pressure increase pump.

17. Attach the short PUR hose directly behind the dirt filter.
18. Attach the other end of the short PUR hose to the T-piece of the pressure increase pump on the input side.
19. Attach the long PUR hose to the other end of the dirt filter.

PLEASE NOTE

The installation of a leakage water detector with cut-off valve (e.g. the water stop from MELAG) is recommended.

20. Connect the other end of the long PUR hose to the MELAdem direct connection on the water tap or water stop.
21. Check all hose screw connections on the water treatment unit for tightness.
22. Open the cold water inflow and the shut-off valve on the pressure tank and restart the water treatment unit.
23. Insert the power plug of the pressure increase pump into a socket.
24. Check the water treatment unit for correct function and leakages.
25. Replace the cover hood when the water treatment unit is functioning correctly and fasten the cover hood with both screws.

5 Operation

Initial commissioning

The following must be fulfilled or present:

✓ *No leakages were detected.*

1. Check the delivery volume to the pressure tank: Disconnect the hose to the pressure tank. Lead the hose into a suitable measuring cup. The delivery volume must be 280-350 ml/min.
2. Perform empty sterilisation with the connected (combination) steam sterilizer. MELAG recommends using a reprocessing program with the highest possible water consumption.
3. Check the conductivity with the use of the connected (combination) steam sterilizer or a measuring device. The conductivity must not exceed 5 µS/cm. If conductivity is poor, replace the mixed-bed resin cartridge in the ion exchanger.
4. Close the pressure tank shut-off valve. The pressure increase pump and the water flow into the drain must stop at the latest after 30 s.
5. Check the function of the optional electronic leakage water detector (water stop).

Daily operation

- After the initial commissioning, the operation of the pressure increase pump is automatic.
- Perform a daily visual and functional check of the pressure increase pump.
- Never operate the device unattended (e.g. overnight). Unsupervised operation of the device can result in damage to the device or your facility and is performed at your own risk. In such a case, MELAG does not accept any liability.

6 Maintenance

Interval	Measure	Device component
every 6 years	replace all PUR hoses	PUR hoses
every 12 months	clean filter insert of the dirt filter	dirt filter

NOTICE

In order to replace the PUR hoses of the MELAdem 47, depressurise the water treatment unit and disconnect the power plug.

7 Technical data

Device type	Pressure increase pump
Device dimensions	
Dimensions (H x W x D)	32 x 16 x 18 cm
Empty weight	4.6 kg
Electrical connection	
Power supply	230 V, 50 Hz
Electrical power	80 W
Max. power consumption	2.2 A
Max. delivery capacity (without counter-pressure)	2.1 l/min
Ambient conditions	
Installation location	interior of a building
Noise emission [noise emission LP(a) in 1 m distance]	< 70 dB(A)
Ambient temperature	5-40 °C (ideal range 16-26 °C)
Relative humidity	max. 80 % at temperatures of up to 30 °C, max. 50 % at 40 °C (decreasing in linear fashion in-between)
Max. altitude	2000 m
Line pressure	1-6 bar

8 Accessories and spare parts

You can obtain the specified articles and an overview of further accessories from your stockist.

Category	Article	Art. no.
Spare parts	Low pressure switch for pressure increase pump	ME80045
	Power supply unit for pressure increase pump	ME22467
	Common mode choke for pressure increase pump	ME22637
	High pressure switch for pressure increase pump	ME22507
	Cold water adapter (direct connection water hose)	ME09037
	Filter for MELAdem	ME48240
	Pump for MELAdem 56/56 M/Pressure increase pump	ME73110
	PUR hose, black, 6 mm, length: 10 m	ME28820

Glossary

Authorised technician

The term “authorised technician” refers to an employee of a customer service provider or stockist who has been trained and authorised by MELAG to perform maintenance and installation work on MELAG devices. Only they may carry out this work.

Conductivity

Conductivity refers to the ability of a conductive chemical material or mixture to conduct or transfer other materials or particles.

Demineralised water

Water without the minerals usually found in normal spring or tap water; is produced through ion exchange of normal tap water. It is used here as feed water.

EU-Konformitätserklärung
EU declaration of conformity

Hersteller / *Manufacturer:*	MELAG Medizintechnik GmbH & Co. KG
Adresse / *Address:*	Geneststraße 6-10, 10829 Berlin, Deutschland / *Germany*
Produkt / *Product:*	Druckerhöhungspumpe / *Booster pump*
Produktname / *Product name:*	Druckerhöhungspumpe für MELAdem 47 / *Booster pump for MELAdem 47*
Angewandte Hauptnormen / *Applied main standards:*	EN ISO 13485 EN 61326-1 EN IEC 63000

Hiermit erklären wir in alleiniger Verantwortung, dass das oben aufgeführte Produkt den Anforderungen der nachfolgenden Richtlinien sowie deren Umsetzungen in nationale Gesetze entspricht.

Herewith, we declare under our sole responsibility that the product mentioned above meets the requirements of the following directives as well as their relevant transpositions in national laws.

2006/42/EG (Maschinenrichtlinie) / *2006/42/EC (Machinery directive)*

Konformitätsbewertungsverfahren / *Conformity assessment procedure*:	Richtlinie 2006/42/EG Anhang VIII *Directive 2006/42/EC Annex VIII*

Die Konformitätsbewertung für folgende EU-Richtlinien und -Verordnungen wurde allein durch den Hersteller durchgeführt:
2014/35/EU (Niederspannungsrichtlinie), 2014/30/EU (EMV-Richtlinie) und 2011/65/EU (RoHS-Richtlinie)
The assessment of conformity for the following EU directives and EU regulations has been done by the manufacturer only:
2014/35/EU (Low voltage directive), *2014/30/EU (EMC directive) and 2011/65/EU (RoHS directive)*

Berlin, 12.10.2021

Sebastian Gebauer
(Geschäftsführer / *Managing director*)

Quality - made in Germany

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Original instructions

Your stockist

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