

User Manual

MELAdem[®] 40

Ion exchanger

as of serial number 0640MD1961



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.

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1 General guidelines




Please read this user manual carefully before commissioning the product. The manual includes important safety instructions. Failure to comply with the safety instructions can result in injury and/or damage to the product. Use the product only for the purpose specified in these instructions. Make sure that you always have access to digital or printed version of the user manual.

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	Description
	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.

Formatting rules

Symbol	Description
	Prerequisites for the following handling instruction.
	Refer to the glossary or another text section.
	Information for safe handling.

Disposal

Dispose of this product and spare parts, e.g. seals, that are no longer used properly. Comply with all relevant disposal specification in terms of possibly contaminated waste.

The packaging protects the product against transport damage. The packaging materials have been selected for their environmentally-friendly and recycling properties and can be recycled. Returning the packaging to the material flow reduces the amount of waste and saves raw materials.

2 Product description

Intended use

The water treatment unit permits the production of ▶demineralised (deionised) water. This requires tap water of drinking water quality.



PLEASE NOTE

The water treatment unit does not provide low-germ water.

The water treatment unit is suitable for the supply of small steam sterilizers with feed water. Furthermore ▶demineralised water can be extracted, e.g. with the MELAjet spray pistol. The water treatment unit is intended for use in the medical field, e.g. in clinics, medical and dental practices and other medical care facilities outside the patient environment.

The water treatment unit MELAdem 40 is not a medical device within the meaning of European Regulation 2017/745 on medical devices.

Mode of functioning

The water treatment unit works according to the ion exchange process. The cartridges used in the tanks are disposable filters filled with mixed-bed resin. They are completely replaced every time the cartridge is changed. The salt content in the tap water is reduced by approx. 95-99 %, depending on the degree of used mixed-bed resin. All operating processes in the water treatment unit are controlled by the water line pressure.

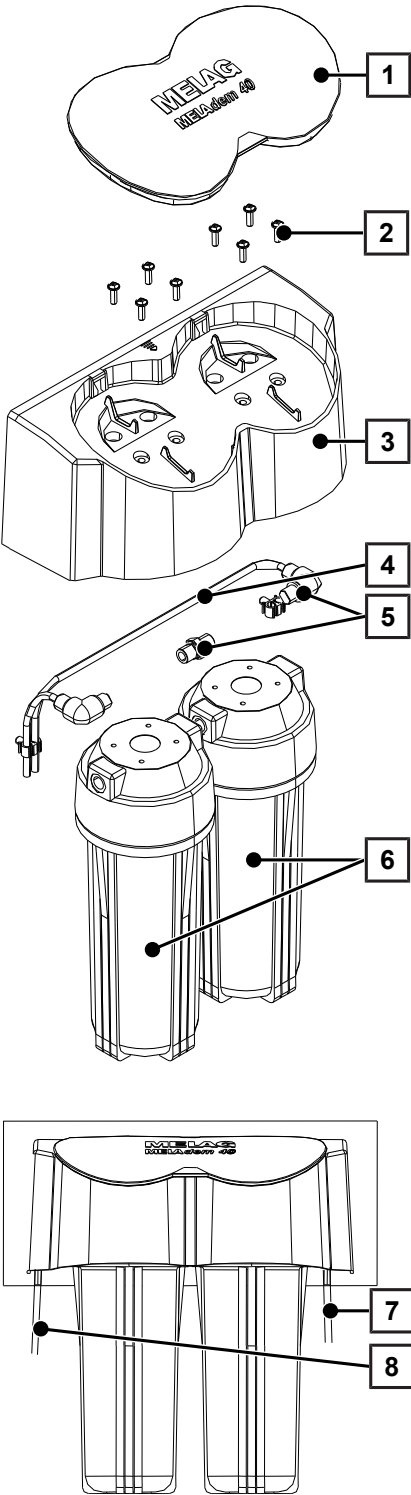
The MELAdem 40 can be connected directly to a MELAG steam sterilizer for automatic water replenishment or used separately as a water treatment unit. The maximum flow rate of 2 l/min rate must not be exceeded.

Scope of delivery

Please check the scope of delivery before using the product.

- MELAdem 40 ion exchanger
- User manual
- Record of installation and setup
- Certificate of warranty
- Filter housing wrench for MELAdem
- 2x Mixed-bed resin cartridge
- Filter for MELAdem
- Fixing set MELAdem 40

Views



- 1 Lid
- 2 Retaining screws
- 3 Housing (with two hose holders on the inside)
- 4 Hose connection
- 5 Angled and double fitting
- 6 Cartridge housing mixed-bed resin cartridges

- 7 Inlet hose
- 8 Outlet hose

3 Setup and installation

Comply with the following for safe handling:

- After unpacking the product, check it for transport damage.
- MELAG recommends that the device should only be set up, installed and commissioned by persons authorised by MELAG.
- Install and operate the product in a frost-free environment.

Installation location

- Install the water treatment unit in a clean, frost-free place that can be ventilated.
- The installation location permits a careful installation, operation and maintenance.
- To ensure safe operation of the water treatment unit, the water pressure on the building side is between 1.5-10 bar.
- Make sure that the temperature along the inlet hose does not rise above 40 °C.
- If the room in which the water treatment unit is installed does not have a floor drain, MELAG recommends a leakage water detector (e.g. water stop from MELAG), which shuts off the water supply in the event of damage via a moisture sensor on the floor and with the help of a solenoid valve.

Assembly

The unit can be mounted on the wall, in the floor unit or directly on the steam sterilizer.

Wall mounting



NOTICE

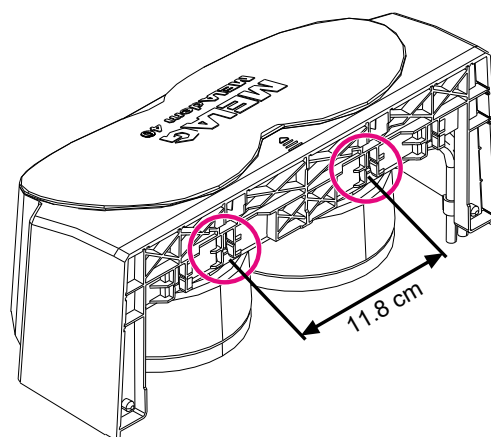
Damage due to falling down

- Use suitable fastening systems for mounting on the wall.

The following must be fulfilled or present:

- ✓ The size of the retaining screws is M4 or M5. MELAG recommends the use of M5 size screws.
- ✓ The maximum head diameter of the flat-head screws is 12 mm.
- ✓ The wall can bear the weight of the filled unit (approx. 3.7 kg).
- ✓ The fastening material (e.g. dowels, diameter 6 mm) has been selected according to the wall.

1. For wall mounting, use only the inner, closely positioned fastening rails (see marking).



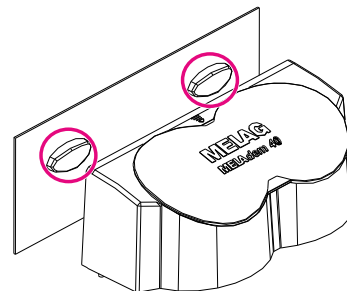
2. Drill the mounting drillholes (spacing: 11.8 cm) on the wall considering the height of the unit.
3. Insert the dowels and fasten the mountings with the screws.
4. Hang the unit on the mountings.

Mounting on a steam sterilizer

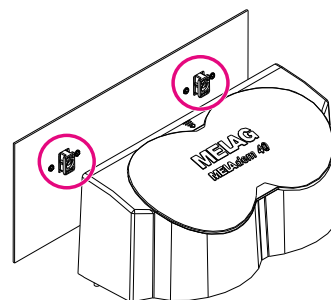
The device cover of the MELAG steam sterilizer does not have to be removed for mounting the unit.

Method 1: The mounts are present on the device cover at the factory and are concealed under cover caps

1. Remove the cover caps using the notches on the undersides.



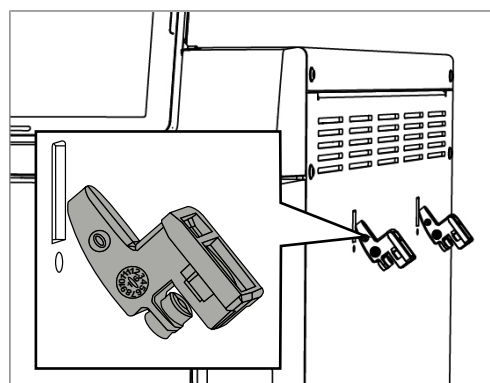
2. Hang the unit vertically from the top into the mounts. Push the unit downwards until the housing locks into the mounts.



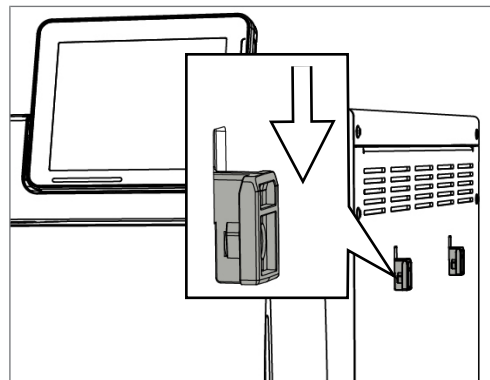
Method 2: The mounts must be attached to the device cover

There are rectangular recesses on both side walls of the steam sterilizer for attaching the mounts for the water treatment unit.

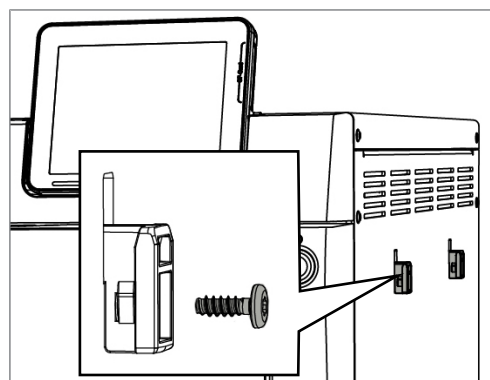
1. Insert the mounts into the recesses at an angle with the hook pointing upwards.



2. Pull the mounts vertically downwards until they snap into place.



3. Fasten both mounts with the delivered screws.



4. Hang the unit vertically from the top into the mounts. Push the unit downwards until the housing locks into the mounts.

Cold water connection



PLEASE NOTE

MELAG recommends connecting the water treatment unit directly to the drinking water. Connecting water purification systems or filters that work with oxidants (e.g. chlorine) upstream can affect the mixed-bed resin and thus impair the performance of the water treatment unit.

Increased requirements can be placed on the quality of the [DI water](#) (e.g. a low endotoxin content) for the [reprocessing](#) of certain medical devices such as ophthalmic instruments.

Comply with the following:

- In such cases, an additional filter system is required for the reprocessing of DI water.
- It is possible that the drinking water has been contaminated by the water installation. This includes both the domestic installation and the entire upstream peripherals.
- Arrange for the actual drinking water quality to be tested at the point of use or request an appropriate report (e.g. from the building management) before setting up and installing the water treatment unit.
- Further information is available from the corresponding trade associations and their publications. If in doubt, contact your stockist or the pertinent professional association.

The inlet of the water treatment unit is connected to a water tap with a $\frac{3}{4}$ " pipe thread. The water inflow tap must be fitted with a backflow preventer and a pipe aerator, to prevent the water from returning to the municipal water system. Close the water tap at night, when it is out of use for several weeks and during repair or maintenance work.



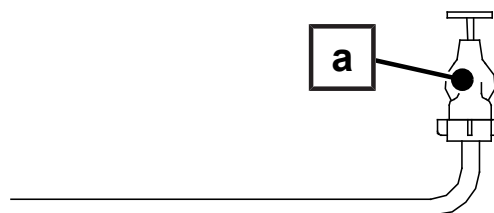
PLEASE NOTE

To prevent water damage, MELAG recommends the use of a leakage water detector e.g. the MELAG water stop.

To ensure a standard-compliant connection of the water treatment unit with backflow preventer and a pipe aerator independently of the building-side installation, MELAG recommends:

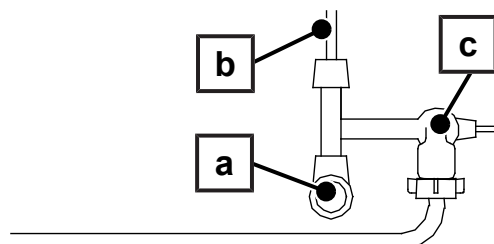
Method 1

- ▶ Installation of a separate water pipe (nominal width DN15 with 1/2" socket) and installation of a water tap with integrated safety combination (pos. a, art. no. ME37310).



Method 2

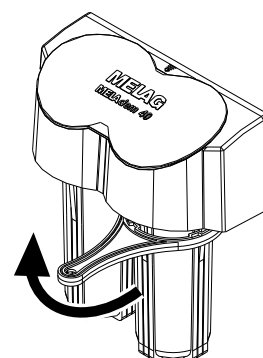
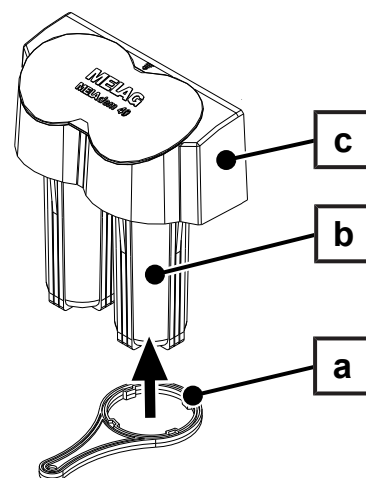
- ▶ Installation of a cold water connection (e.g. a sink) with an angle valve (pos. a) and pipe (pos. b, 10 mm) and the installation of an additional water inflow tap with an integrated safety combination (pos. c, art. no. ME58130) through direct assembly on the angle valve already present.



Inserting the mixed-bed resin cartridges

The cartridge housings of the mixed-bed resin cartridges are pre-assembled on the unit. Before connecting the unit to the steam sterilizer insert the mixed-bed resin cartridges as follows:

1. Guide the container key (pos. a) from bottom to top over the cartridge housing (pos. b) of the mixed-bed resin cartridge.
2. Turn the container key to the left to open the cartridge container.
3. Remove the container key as soon as the cartridge container can be turned easily.
4. Turn the cartridge housing by hand from the housing (pos. c) of the water treatment unit.



5. Remove the mixed-bed resin cartridge from the foil packaging.
6. Insert the mixed-bed resin cartridge upright into the cartridge housing.
7. Screw the cartridge housing into the housing of the water treatment unit by hand.
8. Guide the container key from bottom to top over the cartridge housing.
9. Turn the container key to the right to tighten the cartridge housing.
10. Repeat the process for the other mixed-bed resin cartridge.
11. Remove the container key and store it safely.

Connecting the ion exchanger

The connection of the MELAdem 40 depends on the device type of the steam sterilizer. Observe the installation examples applicable to your steam sterilizer. The connection between the components of the water treatment unit is made with the PUR hose that is already connected. The additionally connected MELAjet spray pistol can be used to rinse instruments after disinfection and cleaning with demineralised water before loading the steam sterilizer.



NOTICE

Ensure that the hoses do not suffer kinking or crushing.

Connecting PUR hoses



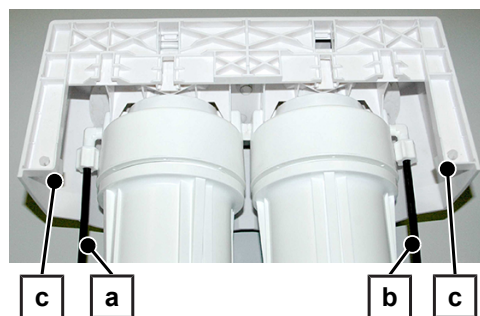
NOTICE

Observe the flow direction of the water through the unit (see sticker on the unit).

Hose connections at the unit

The unit is supplied from the factory with a 1.5 m PUR hose on both the water inlet side (inlet hose, pos. a) and the water outlet side (outlet hose, pos. b). The hoses can be routed via the hose holders (pos. c) on the inside of the housing.

Cut PUR hoses that are too long to the desired length or replace PUR hoses that are too short with longer hoses (PUR hose (6/4 mm, 2.5 m), art. no. ME28820, not included in delivery).

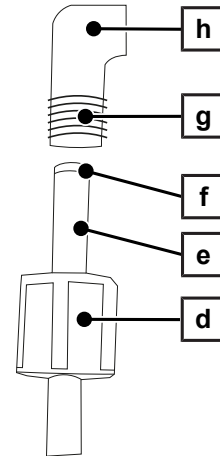


Shortening the PUR hose

- ▶ Cut the PUR hose to the required length with a hose cutter or sharp knife.

Replacing the PUR hose

1. Loosen the union nut (pos. d).
2. Pull the PUR hose (pos. e) off the quick coupling (pos. h).
3. Cut the PUR hose to the required length with a hose cutter or sharp knife.
4. Remove the clamping sleeve (pos. f) and the union nut (pos. d) from the PUR hose.
5. Push the union nut (pos. d) onto the hose end of the longer PUR hose (pos. e).
6. Insert the clamping sleeve (pos. f) into the end of the hose to be mounted on that the unit up to the collar stop.
7. Push the PUR hose (pos. e) onto the quick coupling (pos. h) as far as it will go.
8. Push the union nut (pos. d) up to the thread (pos. g) and tighten the union nut by hand.
9. Repeat the steps with the other PUR hose.

**Connecting to the water inlet or steam sterilizer**

Connect the free hose ends to quick couplings made of metal either at the water inlet or at the steam sterilizer as follows:

1. Push the union nut onto the free hose end of the PUR hose.
2. Push the PUR hose onto the metal quick coupling as far as it will go.
3. Tighten the union nut by hand.
4. Tighten the union nut approx. a quarter turn with an open-end wrench.

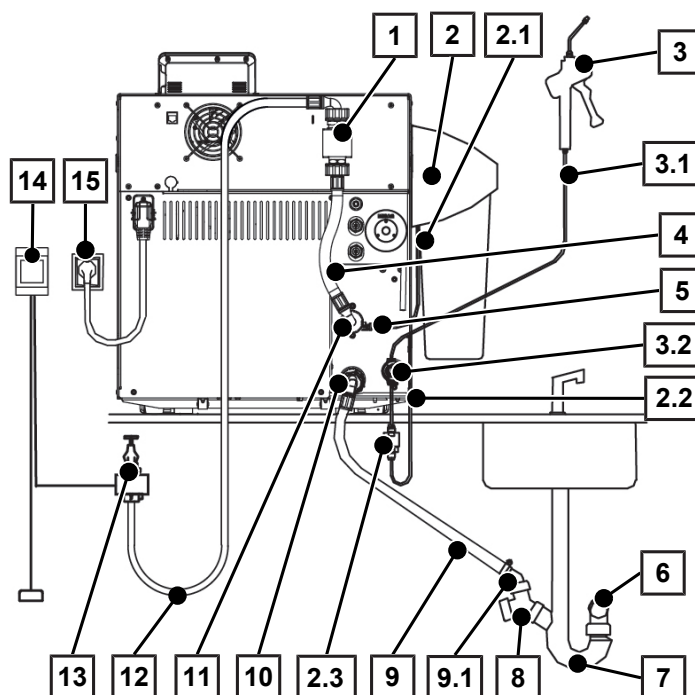
Connecting to a steam sterilizer with a fixed water connection

The following must be fulfilled or present:

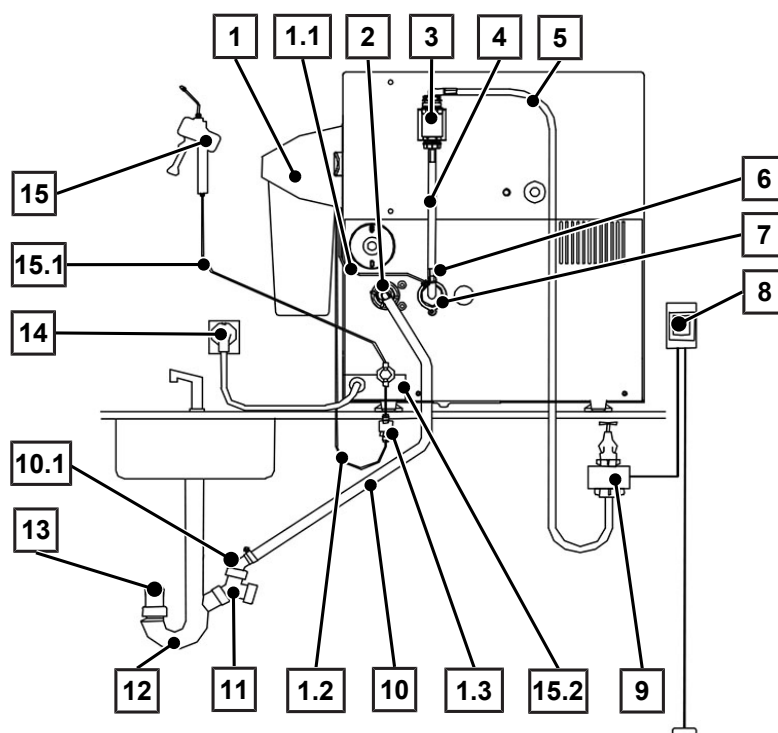
- ✓ The MELAdem 40 is correctly mounted.
 - ✓ The mixed-bed resin cartridges are inserted.
 - ✓ The water inlet tap is closed.
1. Connect the hose from the safety combination to the cooling water inlet of the steam sterilizer.
 2. Screw the MELAdem 40 water branch to the cooling water inlet of the steam sterilizer.
 3. Connect the hose from the safety combination to the MELAdem 40 water branch.
 4. Connect the MELAdem 40 inlet hose to the MELAdem 40 water branch.
 5. Insert the MELAdem 40 filter into the feed water inlet hose.
 6. Connect the feed water inlet hose to the feed water connection of the steam sterilizer or, if available, to the swivel screw connection of the MELAjet.
 7. Open the water inlet tap.
 8. Check all hoses and hose connections for leak tightness.
There must be no leaks.

Installation examples

Example 1 – Connection to Vacuklav 40 B+/44 B+



Pos.	Description	Art. no.	Note
1	Safety combination EN 1717 incl. holder	ME82375	present on device-side (steam sterilizer)
2	MELAdem 40 ion exchanger	ME01049	included in delivery
2.1	PUR hose (6/4 mm, inlet hose MELAdem 40)	ME28820	included in ME01049
2.2	PUR hose (6/4 mm, feed water inlet hose)	ME28820	included in ME01049
2.3	Filter for MELAdem	ME48240	included in ME01049
3	MELAjet spray pistol	ME27300	optionally available to order
3.1	PUR hose (6/4 mm, MELAjet hose)	ME28820	included in ME27300
3.2	Feed water inlet connection (swivel screw connection) MELAjet	ME53465	included in ME27300
4	Hose safety combination to water supply	ME25975	present on device-side (steam sterilizer)
5	Water branch	ME37241	optionally available to order
6	Wall outlet NW 40	--	on-site
7	Double-chamber siphon	ME26635	included in delivery (steam sterilizer)
8	Double support sleeve for an existing trap	ME37400	optionally available to order
9	Hose for water drain of steam sterilizers, 2 m	ME36585	included in delivery (steam sterilizer)
9.1	Wastewater nozzle for siphon with seal and clamp	ME52615	included in ME36585
10	Connection branch for wastewater hose	ME21334	present on device-side (steam sterilizer)
11	Solenoid valve "cooling water" (cooling water inlet)	ME46995	present on device-side (steam sterilizer)
12	Water inlet hose (2.5 m, complies with EN 1717)	ME24930	included in delivery (steam sterilizer)
13	Water tap with safety combination	--	on-site
14	Water stop (leakage water detector with shut-off valve and probe)	ME01056	optionally available to order
15	Mains connection	--	on-site

Example 2 – Connection to Vacuklav 24 B+/24 BL+/30 B+

Pos.	Description	Art. no.	Note
1	MELAdem 40 ion exchanger	ME01049	included in delivery
1.1	PUR hose (6/4 mm, 2.5 m) (inlet hose MELAdem 40)	--	included in ME01049
1.2	PUR hose (6/4 mm, 2.5 m) (inlet hose feed water)	--	included in ME01049
1.3	Filter for MELAdem	ME48240	included in ME01049
2	Connecting branch waste water (Pro-Class)	ME57705	optionally available to order
3	Safety combination EN 1717 incl. holder	ME82375	present on device-side (steam sterilizer)
4	Hose safety combination to water supply Vacuklav 30 B+ Vacuklav 24 B+, Vacuklav 24 BL+	ME25975 ME48475	present on device-side (steam sterilizer)
5	Water inlet hose (2.5 m, complies with EN 1717)	ME24930	included in delivery (steam sterilizer)
6	Water branch	ME37241	optionally available to order
7	Solenoid valve cooling water Vacuklav (cooling water inlet)	ME57715	present on device-side (steam sterilizer)
8	Water stop (leakage water detector with shut-off valve and probe)	ME01056	optionally available to order
9	Water tap with safety combination	--	on-site
10	Hose for water drain of steam sterilizers, 2 m	ME36585	included in delivery (steam sterilizer)
10.1	Wastewater nozzle for siphon with seal and clamp	ME52615	included in ME36585
11	Double support sleeve for an existing trap	ME37400	optionally available to order
12	Double-chamber siphon	ME26635	included in delivery (steam sterilizer)
13	Wall outlet NW 40	--	on-site
14	Mains connection	--	on-site
15	MELAJet spray pistol	ME27300	optionally available to order
15.1	PUR hose (6/4 mm, 2.5 m) (hose MELAJet)	--	included in ME27300
15.2	Feed water inlet connection (swivel screw connection) MELAJet	ME53465	included in ME27300

Connecting to a stand-alone steam sterilizer

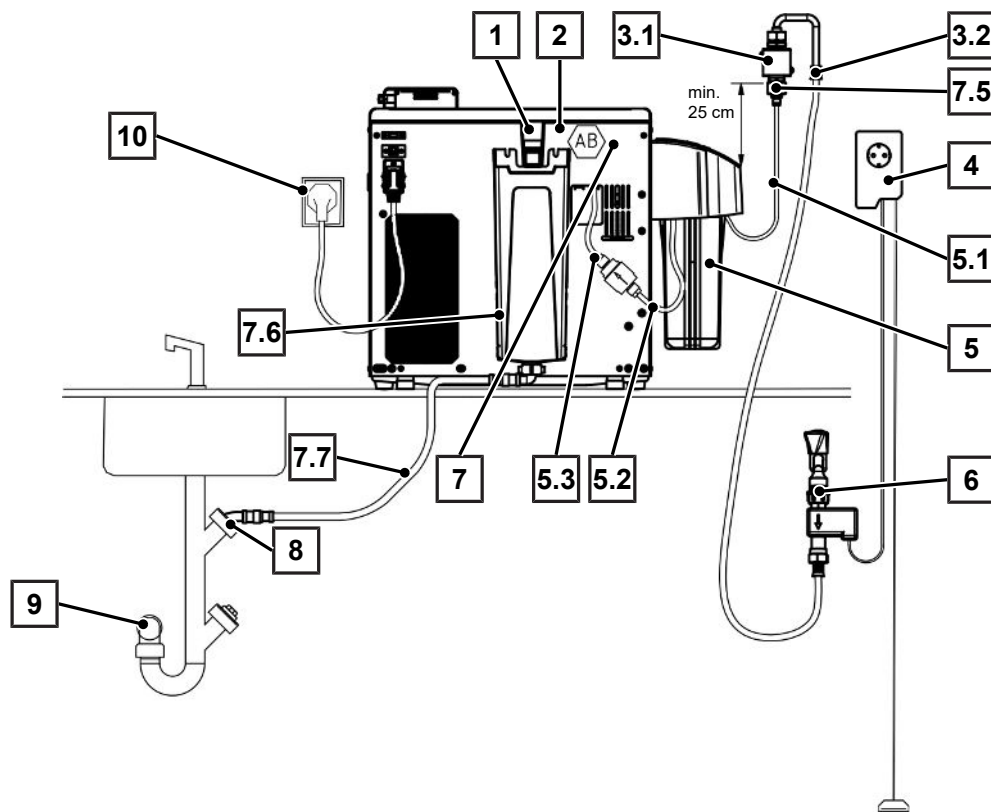
To connect the MELAdem 40 to a Vacuklav 41 B+ *Evolution*, 43 B+ *Evolution*, 23 B+ or 31 B+, install the feed water inlet connection for a hose diameter of 6x1 mm (see technical manual of the steam sterilizer). MELAG recommends mounting the safety combination according to the following installation examples for compliant operation according to EN 1717.

The following must be fulfilled or present:

- ✓ The MELAdem 40 is correctly mounted.
 - ✓ The mixed-bed resin cartridges are inserted.
 - ✓ Both chambers of the internal storage tank are emptied.
 - ✓ The water inlet tap is closed.
1. Mount the cold water adapter on the outlet of the safety combination.
 2. Connect the inlet hose MELAdem 40 to the cold water adapter.
 3. Insert the MELAdem 40 filter into the feed water inlet hose.
 4. Connect the feed water inlet hose to the feed water connection of the steam sterilizer or, if available, to the swivel screw connection of the MELAjet.
 5. Open the water inlet tap.
 6. Check all hoses and hose connections for leak tightness.
There must be no leaks.

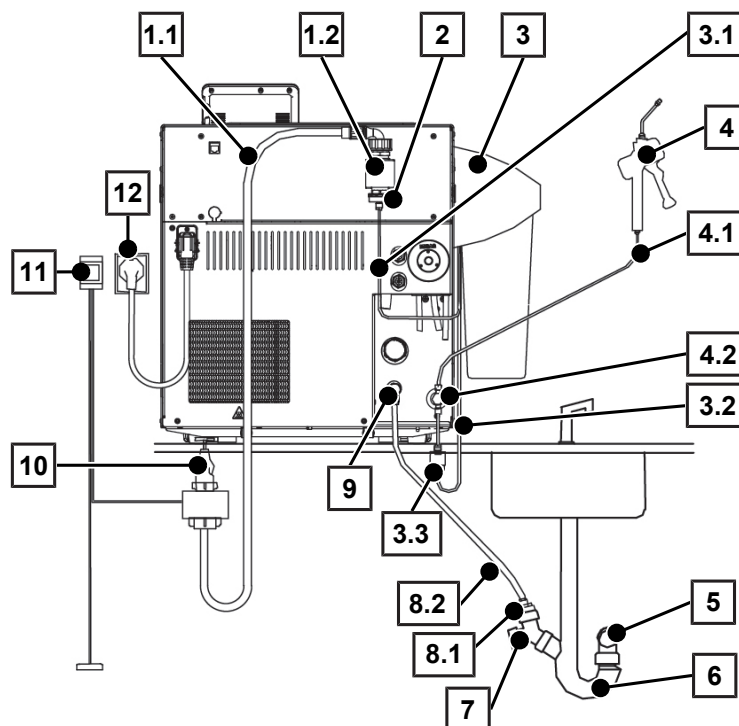
PLEASE NOTE: Stand-alone steam sterilizers collect the used ►feed water (wastewater) in the wastewater tank. Hot wastewater can run off the emergency overflow of a Vacuklav 41 B+/43 B+. The steam sterilizer must be connected to the existing U-trap of the domestic water inlet or the double-chamber wastewater trap from MELAG. MELAG also makes this recommendation for a Vacuklav 23 B+/31 B+.

When connecting to a stand-alone steam sterilizer, additional connection sets are required for supply and wastewater (see [Accessories and spare parts](#) ► Page 24)).

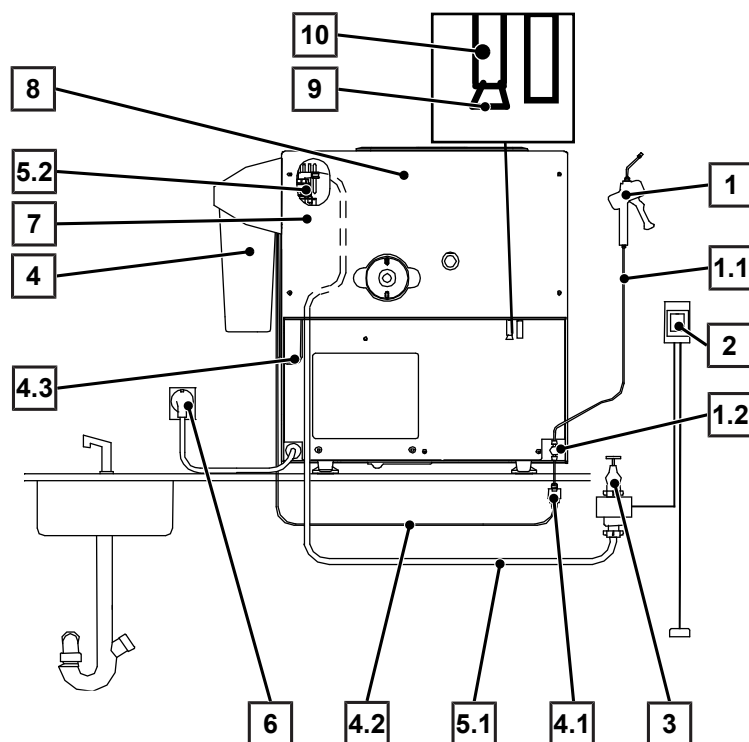
Installation examples**Example 1 – Connection to Vacuclave 118/123**

Pos.	Description	Art. no.	Note
1	Emergency overflow	--	present on device-side (steam sterilizer)
2	Free outlet AB (integrated in the tank/behind the rear panel)	--	present on device-side (steam sterilizer)
3.1	Safety combination HD with wall mount incl. hose, 2.5 m	ME70686	optionally available to order
3.2	Water inlet hose (2.5 m, complies with EN 1717)	ME24930	included in ME70686
4	Water stop (leakage water detector with shut-off valve and probe)	ME01056	optionally available to order
5	MELAdem 40 ion exchanger	ME01049	included in delivery
5.1	PUR hose (6/4 mm, 1.5 m)	ME28820	included in ME01049
5.2	PUR hose (6/4 mm, 1.5 m)	ME28820	included in ME01049
5.3	Filter for MELAdem	ME48240	included in ME01049
6	Water tap 3/4" with safety combination	ME37310	on-site
7	Water connection set for Vacuclave 100/300/SteriHero	ME09040	optionally available to order
7.1*)	Solenoid valve, external water inflow	ME80057	included in ME09040
7.2*)	Inflow fitting, feed water	ME80068	included in ME09040
7.3*)	Seal pressure release nozzle tank	ME21247	included in ME09040
7.4*)	KL backup	ME21248	included in ME09040
7.5	Cold water adapter 3/4" to 1/4" (direct connection water hose)	ME09037	included in ME09040
7.6	Wastewater funnel	ME22913	included in ME09040
7.7	Hose for water drain of steam sterilizers, 2 m	ME36585	included in ME09040
8	Wastewater connection vented to the top (washing machine connection)	--	on-site
9	Wall outlet (at least DN40)	--	on-site
10	Mains connection	--	on-site

*) concealed behind rear wall of device

Example 2 – Connection to Vacuklav 41 B+/43 B+


Pos.	Description	Art. no.	Note
1	Mounting set EN 1717 for MELAdem	ME49600	optionally available to order
1.1	Water inlet hose (2.5 m, complies with EN 1717)	ME24930	included in ME49600
1.2	Safety combination EN 1717 incl. holder	ME82375	included in ME49600
2	Cold water adapter 3/4" to 1/4" (direct connection water hose)	ME09037	optionally available to order
3	MELAdem 40 ion exchanger	ME01049	included in delivery
3.1	PUR hose (6/4 mm, inlet hose MELAdem 40)	ME28820	included in ME01049
3.2	PUR hose (6/4 mm, feed water inlet hose)	ME28820	included in ME01049
3.3	Filter for MELAdem	ME48240	included in ME01049
4	MELAJet spray pistol	ME27300	optionally available to order
4.1	PUR hose (6/4 mm, MELAJet hose)	ME28820	included in ME27300
4.2	Feed water inlet connection (swivel screw connection) MELAJet	ME53465	included in ME27300
5	Wall outlet NW 40	--	on-site
6	Double-chamber siphon	ME26635	optionally available to order
7	Double support sleeve for an existing trap (optional)	ME37400	optionally available to order
8	Wastewater hose for pressure release 41 B+ (Evo)/43 B+ (Evo)	ME39181	optionally available to order
8.1	Hose PTFE (8/6 mm, 5 m, wastewater hose)	ME39180	included in ME39181
8.2	Wastewater adapter (G1/4" internal thread)	ME56930	included in ME39181
9	Threaded connection 1/4", angle, for hose 8/6 mm (pressure release connection)	ME53471	present on device-side (steam sterilizer)
10	Water tap with safety combination	--	on-site
11	Water stop (leakage water detector with shut-off valve and probe)	ME01056	optionally available to order
12	Mains connection	--	on-site

Example 3 – Connection to Vacuklav 23 B+/31 B+

Pos.	Description	Art. no.	Note
1	MELAjet spray pistol	ME27300	optionally available to order
1.1	PUR hose (6/4 mm, 2.5 m) (hose MELAjet)	--	included in ME27300
1.2	Feed water inlet connection (swivel screw connection) MELAjet	ME53465	included in ME27300
2	Water stop (leakage water detector with shut-off valve and probe)	ME01056	optionally available to order
3	Water tap with safety combination	--	on-site
4	MELAdem 40 ion exchanger	ME01049	included in delivery
4.1	Filter for MELAdem	ME48240	included in ME01049
4.2	PUR hose (6/4 mm, 2.5 m) (inlet hose feed water)	--	included in ME01049
4.3	PUR hose (6/4 mm, 2.5 m) (inlet hose MELAdem 40)	--	included in ME01049
5	Mounting set (EN 1717) for MELAdem	ME25410	optionally available to order
5.1	Water inlet hose (2.5 m, complies with EN 1717)	ME24930	included in ME25410
5.2	Safety combination EN 1717 incl. holder	ME82375	included in ME25410
6	Mains connection	--	on-site
7	Cold water adapter 3/4" to 1/4" (direct connection water hose)	ME09037	optionally available to order
8	Back part cover for Vacuklav 23 B+ / 31 B+	ME66790	present on device-side (steam sterilizer)
9	Plug for water drain	ME31140	present on device-side (steam sterilizer)
10	Silicon hose (9/6 mm, 5 m)	ME34410	present on device-side (steam sterilizer)

4 Commissioning



NOTICE

Unsupervised operation of water consuming devices, including this water treatment unit follows at the operator's risk. Do not operate the water treatment unit for a long period unsupervised, e.g. over night. This could void the insurance cover for the building. MELAG accepts no liability for any damage that may occur due to unsupervised operation.

- In your absence, switch off the water shut-off valve or the central water shut-off.

After assembly and installation, put the unit into operation as follows:

- ✓ The mixed-bed resin cartridges are inserted, see [Inserting the mixed-bed resin cartridges](#) [► Page 10].
- 1. Open the water inlet tap.
- 2. Check all hoses and hose connections for leak tightness.
There must be no leaks.
 - ↳ The unit is ready for operation after approx. 5 min. Sufficient [demineralised water](#) can be taken for the connected steam sterilizer or another consumer (e.g. MELAjet).
- 3. Perform an empty sterilization with the steam sterilizer.

5 Maintenance

Maintenance intervals

Interval	Measure
Daily	Check the ►conductivity with a conductivity meter or using a steam sterilizer with inbuilt conductivity measurement.
Every 6 months	Check the hoses and screw connections for leaks, swelling, crushing, kinks or age-related brittleness.
Every 6 years	Replace all the hoses on the water treatment unit and the MELAjet spray pistol (if present).
As required	With poor ►conductivity: Replace the mixed-bed resin cartridge in the ion exchanger. The mixed-bed resin cartridges have an expiry date: Replace the mixed-bed resin cartridges at the latest when the date expires.

Comply with the following for safe handling:

- Close the water intake upon detecting a leak. Check all hoses and hose connections for leaks.
- Only use original MELAG consumables and spare parts. The use of foreign parts may result in damage and loss of warranty.

Replacing the mixed-bed resin cartridges



PLEASE NOTE

Only use original MELAG consumables and spare parts. The use of foreign parts may result in damage and loss of warranty.

Video tutorial

See also "Replacing the MELAdem 40 cartridges".



Replace the mixed-bed resin cartridges when the ►conductivity of the ►feed water increases and the mixed-bed resin in the mixed-bed resin cartridges is exhausted. When connecting the unit to a MELAG steam sterilizer, a corresponding message appears on the display of the steam sterilizer.

Replace the mixed-bed resin cartridge as follows:

1. Close the water inlet tap.
2. **With MELAjet spray pistol:** Remove some water with the help of the MELAjet spray pistol.
3. **Without MELAjet spray pistol:** Perform a pressure release by starting the Universal-Program and stopping it after approx. 20 s.
4. Open the cartridge housing of the mixed-bed resin cartridge, see [Inserting the mixed-bed resin cartridges](#) ► Page 10].
5. Pour off the water. **PLEASE NOTE:** The cartridge housing is full to the brim with water.
6. Remove the mixed-bed resin cartridge from the cartridge housing.
7. Remove the sealing ring from the cartridge housing.
8. Clean the sealing ring and then grease it a little (e.g. with Grease for seals/O-rings, art. no. ME24371, not included in the scope of delivery).
9. Rinse out the cartridge housing with tap water.
10. Place the sealing ring in the cartridge housing.
11. Insert a new mixed-bed resin cartridge and screw the cartridge housing back on, see [Inserting the mixed-bed resin cartridges](#) ► Page 10].
12. Repeat the process for the other mixed-bed resin cartridge.
13. Check that all parts are firmly seated.

14. Open the water inlet tap.
15. Check all hoses and hose connections for leak tightness.
There must be no leaks.

6 Pause times

Comply with the following for safe handling:

- Close the water tap or the central water shut-off during longer breaks in operation (e.g. overnight, at the weekend or on holiday).
- Replace the mixed-bed resin cartridges after operating pauses of four weeks and longer before restarting.

Storage and transport

Comply with the following for safe handling:

- Store and transport the product frost-free.
- Avoid strong shocks/vibrations.
- Store the product protected from moisture.

7 Technical data

Product type	MELAdem 40
Product dimensions (H x W x D)	35 x 32 x 16 cm
Weight (incl. mixed-bed resin)	approx. 3.7 kg
Amount of resin	approx. 2 x 0.7 l (total approx. 1.4 l)
Capacity	at 10 °dH: 210 l (depending on the water hardness and the conductivity of the local tap water)
Nominal flow rate	at max. 2 l/min no exceeding of 40 µS/cm
Cold water	
Water temperature min./max.	5-40 °C
Water pressure min./max.	1.5-10 bar
pH value min./max.	5.0-9.0



PLEASE NOTE

The indicated yield (capacity) is an approximate guide value that depends on other factors in addition to the water hardness. An upstream softening system with regeneration based on common salt can lead to a reduction in the capacity of the MELAdem 40, regardless of the set initial water hardness.

8 Accessories and spare parts

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

Category	Article	Art. no.
Accessories and consumables	Mixed-bed resin cartridge (2 pcs, filled)	ME61026
	Conductivity meter	ME01060
	MELAJet spray pistol	ME27300
	Grease for seals/O-rings	ME24371
	PUR hose (6/4 mm, 10 m)	ME28820
Spare parts	Seal inside the MELAdem cartridge housing	ME51990
	Holder for wall mounting (2 pcs.)	ME15856 (included in ME37106)
	Filter housing wrench for MELAdem	ME61050
Connecting parts	Mounting set MELAdem 40 (on device housing/wall, universal)*	ME37106
	Water tap 3/4" with safety combination	ME37310
	Additional water tap with unit combination	ME58130
Connecting sets for connecting to a steam sterilizer	Water connection set for Vacuclave 100/300/SteriHero	ME09040
	Water branch for: Vacuklav 40 B+ (<i>Evolution</i>)/44 B+ (<i>Evolution</i>), Vacuklav 24 B+/24 BL+/30 B+	ME37241
	Water connection set for Premium-Class for: Vacuklav 41 B+ (<i>Evolution</i>)/43 B+ (<i>Evolution</i>)	ME09034
	Water connection set for Pro-Class for: Vacuklav 23 B+/31 B+	ME09033
	Water connection set for Euroklav for: Euroklav 23 S+/23 VS+/29 VS+	ME09031
	Cold water adapter 3/4" to 1/4" (direct connection water hose)	ME09037
*) Required when mounting on steam sterilizers that do not have any mountings for MELAdem on the device cover or do not have them at the required location.		

Glossary

Conductivity

is the ability of a conductive chemical substance or mixture of substances to conduct or transfer energy or other substances or particles in space.

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.

DI water

Demineralised water (DI water) is water (H₂O) without the salts found in normal spring and tap water, which are dissolved as anions and cations.

Feed water

Feed water is required to produce steam for sterilization. Guide values for water quality in accordance with EN 285 / EN 13060 – Appendix C

Reprocessing

Reprocessing is a measure to prepare a new or used healthcare device for its intended purpose. Reprocessing includes cleaning, disinfection, sterilization and similar procedures.



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Original instructions

Responsible for content: MELAG Medizintechnik GmbH & Co. KG
We reserve the right to technical alterations

Your stockist