

## Mixed bed cartridge desaliQ:MB5

### Intended use

The mixed bed cartridges desaliQ:MB5 are designed to produce ultra-pure water and to filter heating water and can be used in the following sectors:

In combination with  
**desaliQ resin bags:**

- Full demineralisation of raw water of drinking water quality
- Full demineralisation during ongoing heating operation at max. 4 bar and 65 °C

In combination with  
**desaliQ inline filter module:**

- Filtration of undissolved impurities such as rust or dirt particles from the heating water.

The mixed bed cartridges desaliQ:MB5 **must not** be used in the following sectors:

- Treatment of raw water to be used as drinking water
- Operation with gas cushions

### Function

#### Filtration

In combination with  
**desaliQ inline filter module:**

The unfiltered heating water flows from the bottom through the inlet side of the cartridge and via the flow distributor. Then, the water containing the particles passes the magnetic rod. Magnetic particles such as iron particles/magnetite, etc. are attracted and removed from the heating water.

The pre-cleaned water then flows through 6 filter elements with a pore size of 5 µm.

By using the strap, the filter module can be easily removed from the mixed bed cartridge desaliQ:MB5.

### Demineralisation

In combination with  
**desaliQ resin bags:**

#### Physical

Via an interior distribution system, 1 resin bag filled with mixed bed resin is steadily flown through from bottom to top.

The fully demineralised water (demi water) is directed to the tank outlet via a collection element located at the tank lid.

#### Chemical

The cation exchanger resin removes all positively charged ions, the so-called cations, from the raw water. All cations contained in the water, such as calcium, magnesium, sodium, are exchanged for H<sup>+</sup> ions.

In the demineralisation process, the anion exchanger resin is used to filter off the negatively charged ions, the so-called anions. All anions such as nitrate, phosphate, sulphate, chloride and hydrogen carbonate contained in the raw water are exchanged for OH<sup>-</sup> ions.

Full demineralisation removes almost all undesired components from the raw water. Thanks to the highly alkaline anion exchanger resin, silicic acids and carbon dioxide are also filtered off. The H<sup>+</sup> and OH<sup>-</sup> ions generated during the exchange process combine to H<sub>2</sub>O. This results in ultra-pure water.

### Demineralisation of raw water

The main application of the desaliQ mixed bed cartridge is the full demineralisation of raw water for easy and quick filling and make-up water feed of heating systems as well as full demineralisation in the ongoing heating operation (max. 4 bar, 65 °C).

The raw water is directed to the inlet of the mixed bed cartridge via an optional system separator and a fine filter.

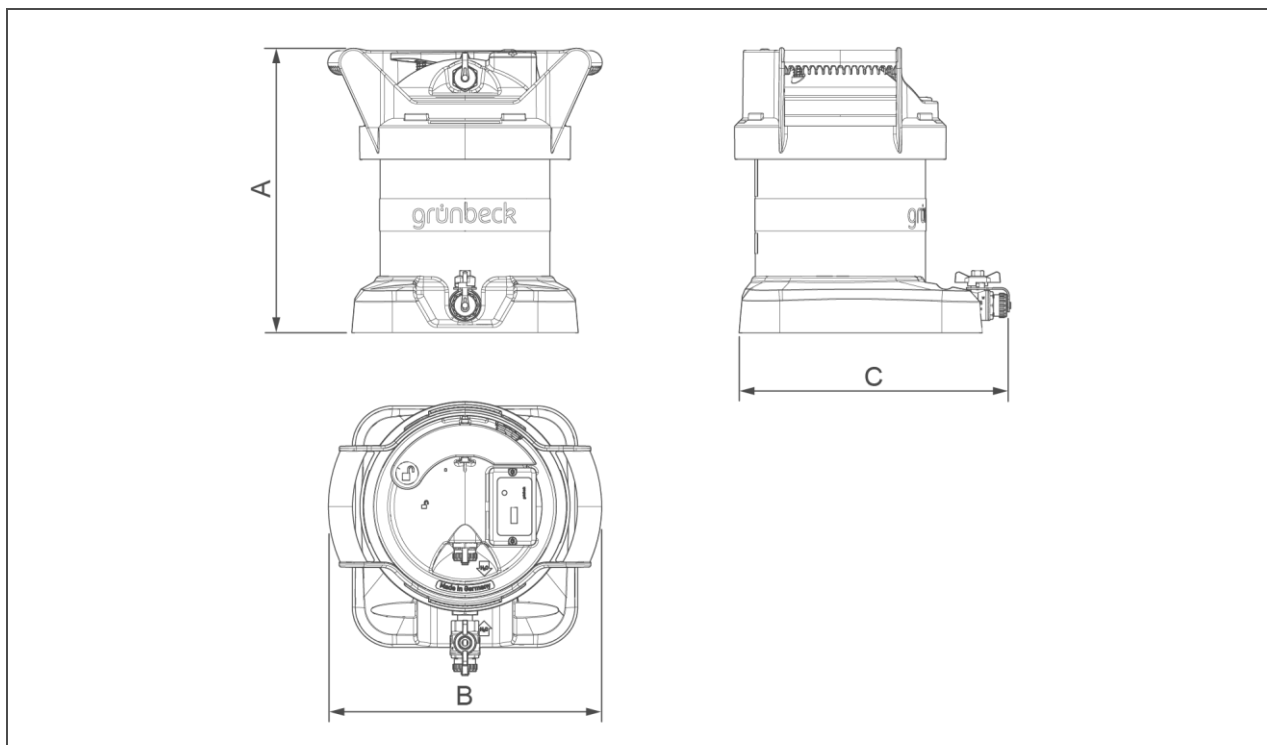
### Design

- Tank made of glass fibre reinforced, temperature-resistant plastic
- Easy to replace resin bag filled with mixed bed resin or inline filter module
- Raw water connection at the tank bottom, with internal distribution system and flow restrictor
- Tank lid with quick-acting locking system, conductivity measuring cell, pure water connection and carrying handles

### Scope of supply

- Mixed bed cartridge with conductivity meter
- Operation manual
- 1 resin bag filled with mixed bed resin

## Technical specifications I



### Dimensions and weights

|                                   |     |     |
|-----------------------------------|-----|-----|
| A Height                          | mm  | 350 |
| B Width                           | mm  | 340 |
| C Depth                           | mm  | 330 |
| Number of resin bags              | pcs | 1   |
| Filling volume of mixed bed resin | l   | 6   |
| Shipping weight, approx.          | kg  | 10  |

### Connection data

|                             |            |
|-----------------------------|------------|
| Nominal connection diameter | DN 20 (¾") |
|-----------------------------|------------|

### Performance data

|                                   |                                    |     |
|-----------------------------------|------------------------------------|-----|
| Max. operating pressure           | bar                                | 4   |
| Flow at $\Delta p$ 1 bar          | l/h                                | 400 |
| Capacity at < 10 $\mu\text{S/cm}$ | $\mu\text{S/cm} \times \text{m}^3$ | 135 |
| Capacity at < 50 $\mu\text{S/cm}$ | $\mu\text{S/cm} \times \text{m}^3$ | 242 |
| Nominal flow                      | $\text{m}^3/\text{h}$              | 0.5 |

### General

|                     |    |        |
|---------------------|----|--------|
| Water temperature   | °C | 5 – 65 |
| Ambient temperature | °C | 5 – 40 |

### Order no.

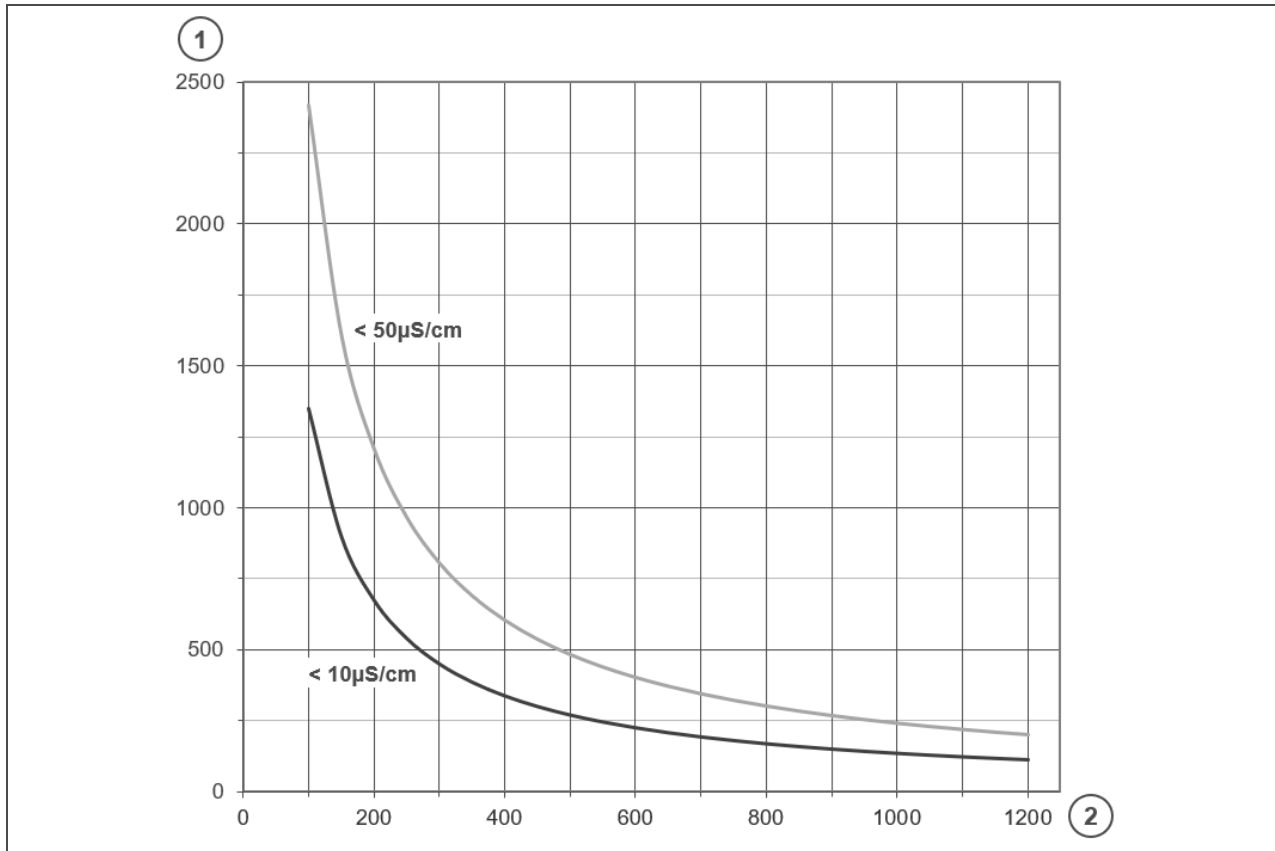
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Sample calculation:

- Conductivity of the raw water: 500  $\mu\text{S/cm}$
- Cartridge used: desaliQ:MB5
- $135/500 = 0.27 \text{ m}^3$  (corresponds to 270 litres at 10  $\mu\text{S/cm}$ )
- $242/500 = 0.484 \text{ m}^3$  (corresponds to 484 litres at 50  $\mu\text{S/cm}$ )

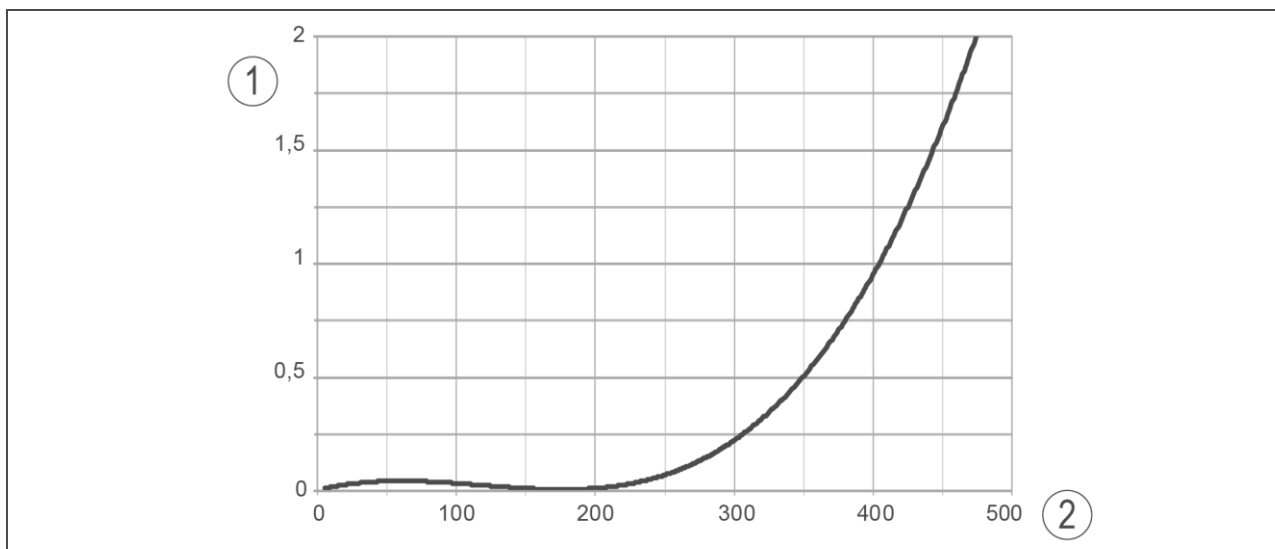
## Technical specifications II

### Capacity curves of mixed-bed cartridge desaliQ:MB5



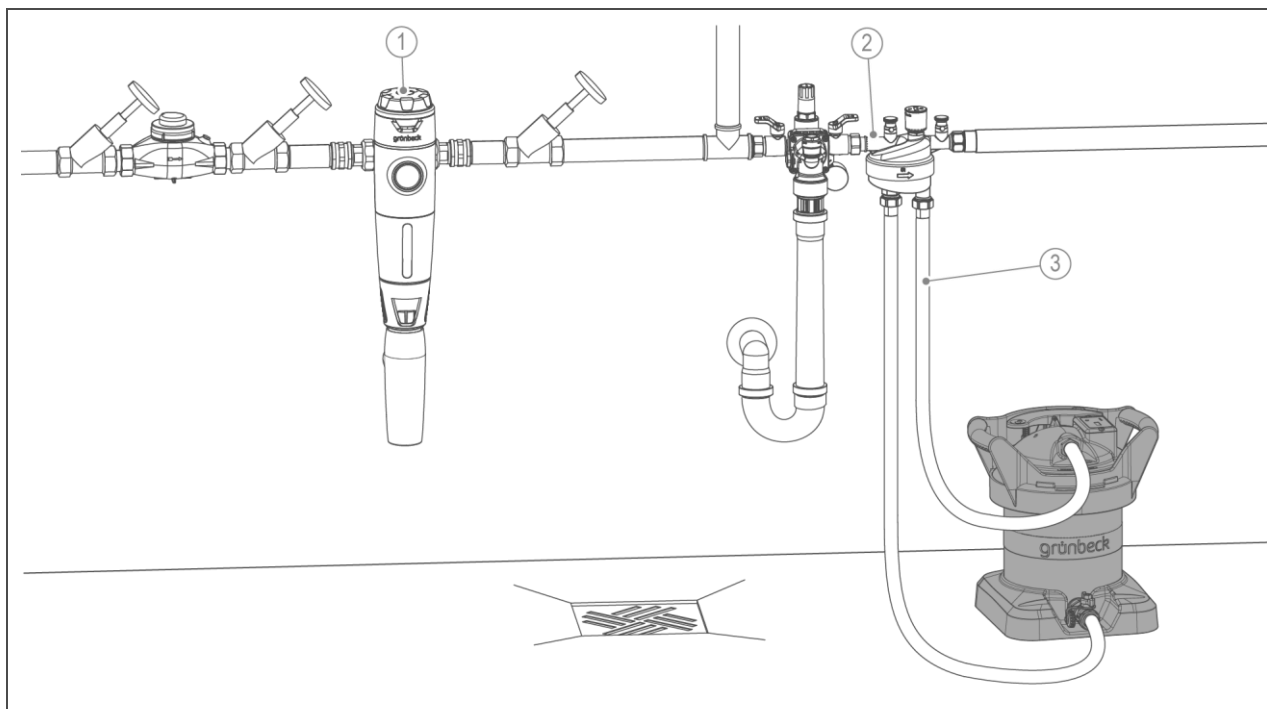
| Item | Designation                        | Item | Designation                            |
|------|------------------------------------|------|--|
| 1    | Volume of demineralised water in l | 2    | Conductivity of the raw water in µS/cm |

### Pressure loss curve of mixed bed cartridge desaliQ:MB5



| Item | Designation          | Item | Designation |
|------|----------------------|------|-------------|
| 1    | Pressure loss in bar | 2    | Flow in l/h |

## Installation example



| Item | Designation                      | Item | Designation   |
|------|----------------------------------|------|---|
| 1    | Drinking water filter pureliQ:RD | 2    | Filling section thermaliQ:FB2 with connection adapter |
| 3    | desaliQ hose kit                 |      |   |

## Requirements for the installation site

Obey the local installation directives, general guidelines and technical specifications.

- Protection from frost, severe heat exposure and direct sunlight
- Protection from chemicals, dyes, solvents and their vapours
- Access for maintenance work (take note of space required)
- Sufficiently illuminated as well as aerated and ventilated
- Horizontal installation surface with sufficient load-bearing capacity to support the operating weight of the product

## Water installation

- Drinking water filter installed upstream and pressure reducer
- Floor drain or corresponding safety device with water stop function (e.g. safety device protectliQ)

## Accessories

### **desaliQ inline control module**

**Order no. 707000030000**

For partial flow treatment of the heating circuit during heating operation

### **desaliQ basic filling module**

**Order no. 707000050000**

Tool for easy, quality-controlled filling of the heating system

### **desaliQ inline filter module**

**Order no. 707000010000**

For filtration and treatment of heating water

### **desaliQ hose kit**

**Order no. 707 850**

To connect upright full demineralisation units with the filling section thermaliQ:FBx.

- 2 Flexible connection hoses, 1.5 m in length

### **Filling section thermaliQ:FB2**

**Order no. 707 760**

**with desaliQ connection adapter**

**Order no.: 707 276**

### **Water meter**

**with connection material**

**Order no. 702 845**

### **Filling section thermaliQ:FB13i**

**Order no. 707 770**

### **Euro system separator**

**GENO-DK 2-Mini**

**Order no. 133 100**

### **Backwash filter pureliQ:RD**

**Order no. 101 370**

The backwash filter pureliQ:RD filters the drinking water and protects the domestic water system according to DIN EN 806

### **Safety device protectliQ:A20**

**Order no.: 126 400**

Product to protect against water damage in one and two-family homes

## Analysis case

**Order no.: 707 190**

Water test kits for pH value, conductivity, total hardness and molybdenum concentration

## Analysis case

**Order no.: 707 192**

Water test kits for pH value, conductivity and total hardness

## Consumables

### **desaliQ resin bags 2 x 6 l**

**Order no. 707 435**

Consisting of one bucket containing 2 resin bags

### **desaliQ inline filter elements**

**Order no. 707000020000**

Consisting of 6 filter elements with a pore size of 5 µm and spare O-rings for support mesh

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## Contact

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