

Mixed-bed cartridge desaliQ:MA

Intended use

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

- Full demineralisation of raw water of drinking water quality

The mixed-bed cartridges desaliQ:MA **cannot** be used in the following sectors:

- Treatment of raw water to be used as drinking water
- Operation with gas cushions
- In combination with automatic fittings for make-up water feed

Function

Physical

Via an interior distribution system, 2 (desaliQ:MA9) or 4 (desaliQ:MA13) resin bags filled with mixed-bed resin are steadily flown through from bottom to top.

The fully demineralised water, the so-called demi water, is directed to the tank outlet via the collection element located at the tank lid.

Chemical

The mixed-bed resins consist to one part of a highly acid cation exchanger resin and to the other part of a highly alkaline anion exchanger resin. In the mixed-bed

cartridges, the two components are completely mixed.

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 or sodium are exchanged for H⁺ ions.

The anion exchanger resin is used in full demineralisation to filter off negatively charged ions, the so-called anions. All anions such as nitrate, phosphate, sulphate, chloride and hydrogen carbonate contained in the water are exchanged for OH⁻ ions.

Full demineralisation removes almost all undesired components from the inlet water. Thanks to the highly alkaline anion exchanger resin, silicic acid and carbon dioxide are also filtered off. The H⁺ and OH⁻ ions generated during the exchange process combine to H₂O. The result of the full demineralisation principle is 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. The raw water is directed to the inlet of the mixed-bed cartridge via an optional system separator and a fine filter.

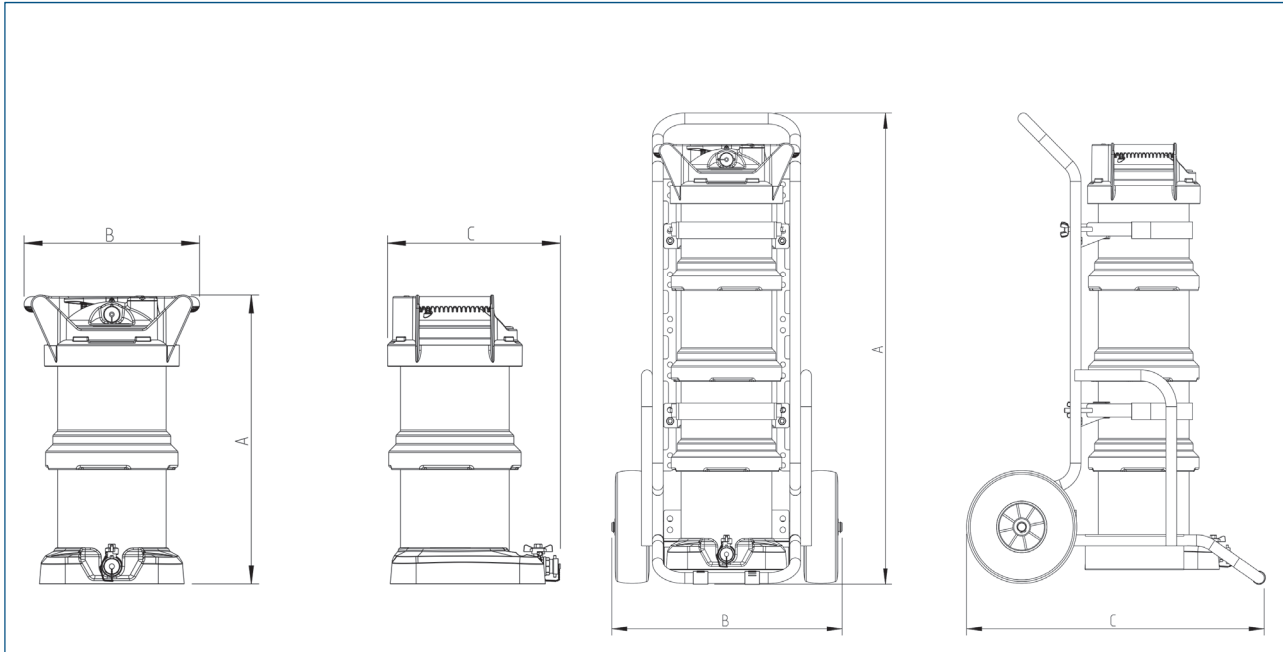
Design

- Tank made of glass fibre reinforced plastic
- Two (desaliQ:MA9) or four (desaliQ:MA13) easy-to-replace resin bags filled with mixed-bed resin
- Raw water connection at the tank bottom, with inner distribution system and flow restrictor
- Tank lid with quick-acting locking system, conductivity measuring cell, pure water connection and carrying handles
- For desaliQ:MA13 only: transport trolley for easy transportation of the mixed-bed cartridge

Scope of supply

- Mixed-bed cartridge with conductivity meter
- Operation manual
- Transport trolley (for desaliQ:MA13)
- 2 or 4 resin bags filled with mixed-bed resin

Technical specifications I



Mixed-bed cartridge desaliQ:MA	9	13
Order no.:	707 430	707 440

Dimensions and weights		
Number of resin bags		2
Filling volume of mixed-bed resin	[l]	12
A Height	[mm]	580
B Width	[mm]	340
C Depth	[mm]	335
Weight on delivery	[kg]	21

Technical specifications II

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Connection data		
Nominal connection diameter	3/4"	3/4"

Performance data		
Nominal pressure		PN 6
Flow at Δp 1 bar	[l/h]	720
Capacity at a desired residual conductivity of < 10 $\mu\text{S/cm}$ [l]	[l]	320
Capacity at a desired residual conductivity of < 50 $\mu\text{S/cm}$ [l]	[l]	510
Nominal flow	[m ³ /h]	0.9
		1.3

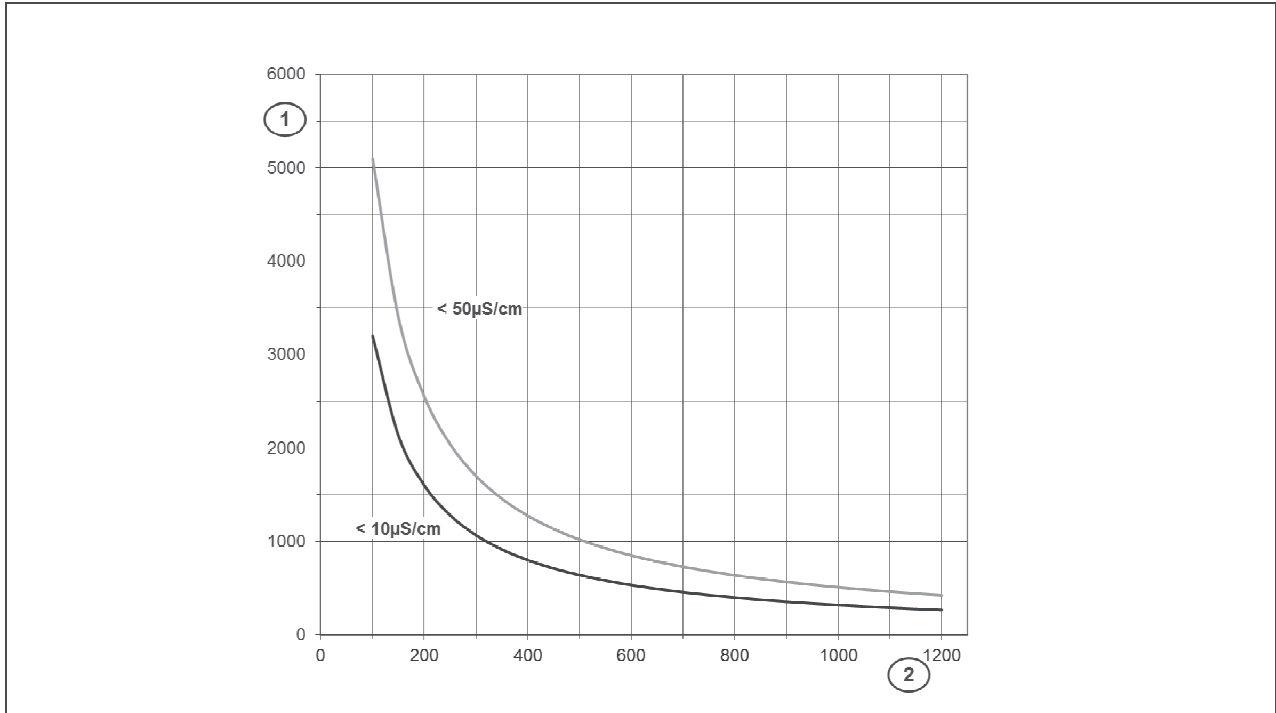
General		
Water temperature	[°C]	5 – 30
Ambient temperature	[°C]	5 – 40

Sample calculation:

- Conductivity of filling water: 500 $\mu\text{S/cm}$
- Cartridge used: desliQ:MA9
- $320/500 = 0.64 \text{ m}^3$ (corresponds to 640 litres at 10 $\mu\text{S/cm}$)
- $510/500 = 1.02 \text{ m}^3$ (corresponds to 1020 litres at 50 $\mu\text{S/cm}$)

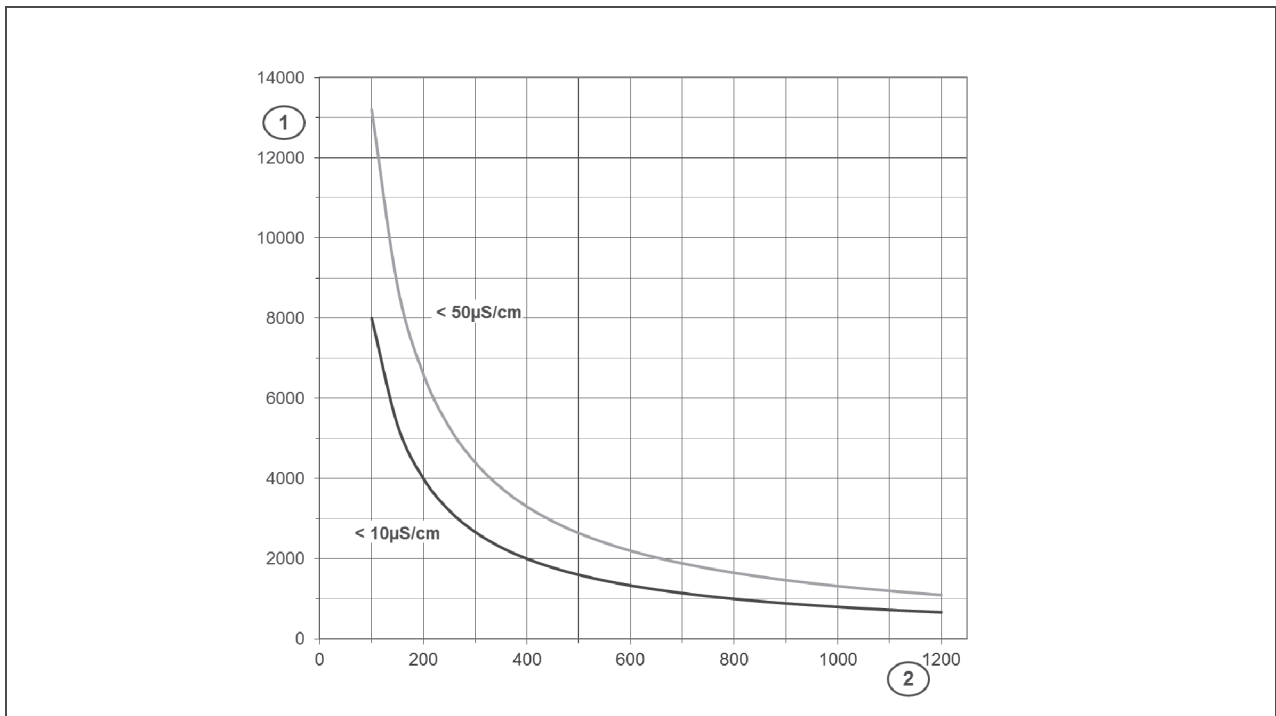
Technical specifications III

Capacity curve of mixed-bed cartridge desaliQ:MA9



Item	Designation	Item	Designation
1	Volume of demineralised water in m³	2	Conductivity of the raw water in µS/cm

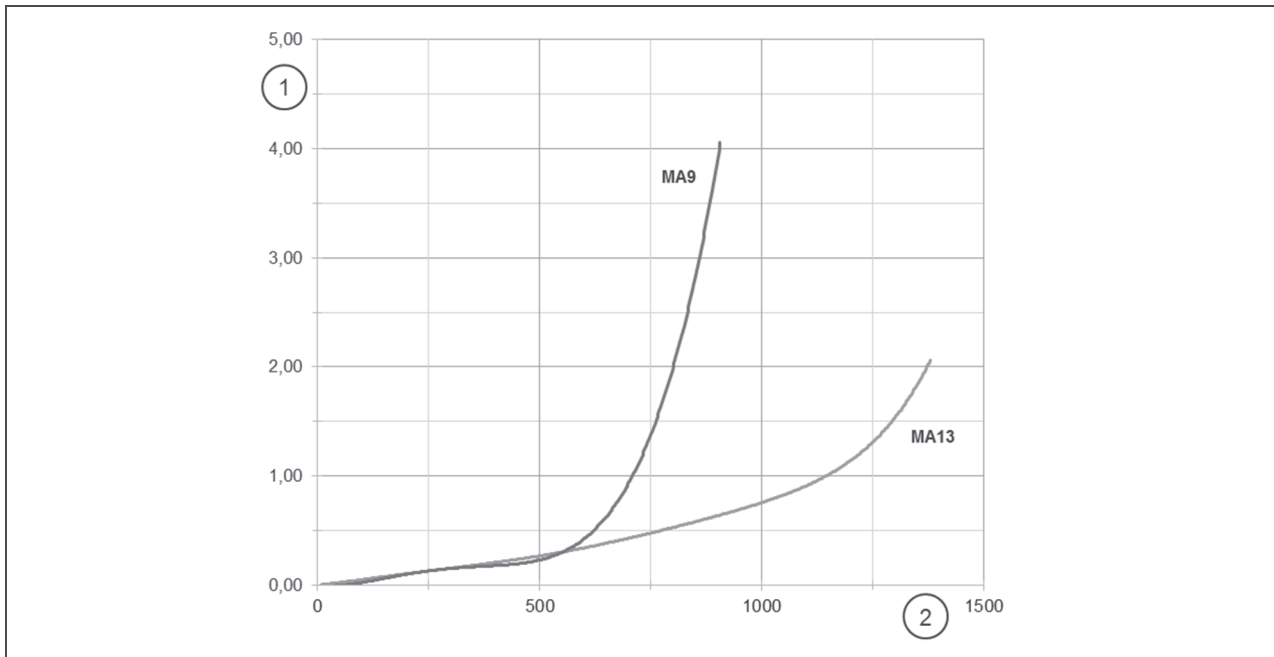
Capacity curve of desaliQ:MA13



Item	Designation	Item	Designation
1	Volume of fully demineralised water in l	2	Conductivity of raw water in µS/cm

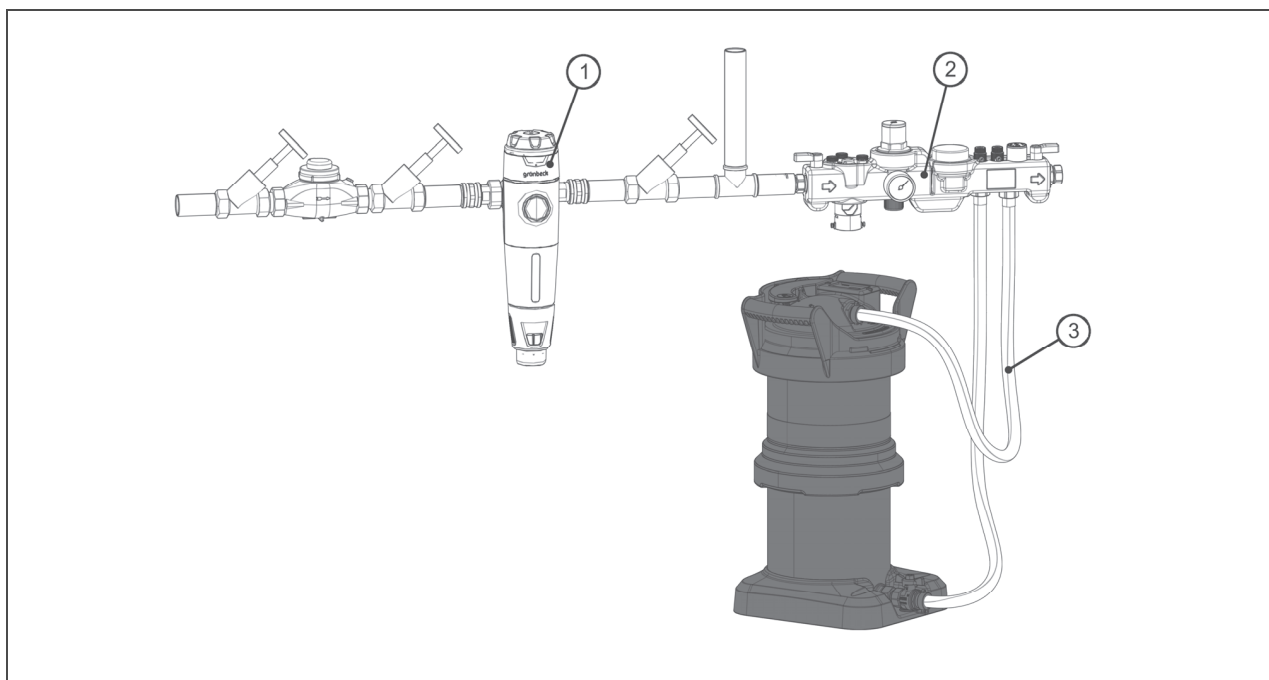
Technical specifications IV

Pressure loss curves of mixed-bed cartridge desaliQ:MA



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	GENO-therm® filling device Basic
3	GENO-therm® hose set		

Requirements with regard to the installation site

Observe local installation directives, general guidelines and technical specifications.

Install the product free from:

- Strong heat
- Frost
- Direct sunlight
- Chemicals, dyes, solvents and other vapours

Accessories

desaliQ:MA resin bags 2 x 6 l
Order no.: 707 435

Consisting of one bucket containing 2 resin bags

desaliQ:MA resin bags 4 x 6 l
Order no.: 707 445

Consisting of one bucket containing 4 resin bags

GENO-therm® hose set
Order no.: 707 850

GENO-therm® filling device Basic
Order no.: 707 120

With integrated system separator

Water meter with connection material
Order no.: 702 845

Euro-system separator
GENO®-DK 2-Mini
Order no.: 133 100

GENO®-STOP 1"
Order no.: 126 875

Protection from water damage. For additional versions, please inquire.

GENO-therm® case Basic
Order no.: 707 160

GENO-therm® case Premium
Order no.: 707 170

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