Herco
POLLET WATER GROUP

Mixed bed demineralizer

Clear solutions for pure water technology:
Destillo mixed bed demineralizer D12 - D 100, pressure resistant

In almost all areas where pure, deionized water is required, at any time, good value and in excellent quality, destillo mixed-bed water demineralizers offer ideal solutions.

They enable the simple and inexpensive production of pure, demineralized water for:

- Laboratory and medical technology
- Air conditioning and humidification
- Rinse and clean processes
- Coating technology
- Process water circuits
- Chemical production
- Cosmetics and pharmaceuticals production
- Restaurants and catering
- Battery technology
- Care of glass and solar panels
- Rinse at car wash

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Principle of mixed-bed ion exchange

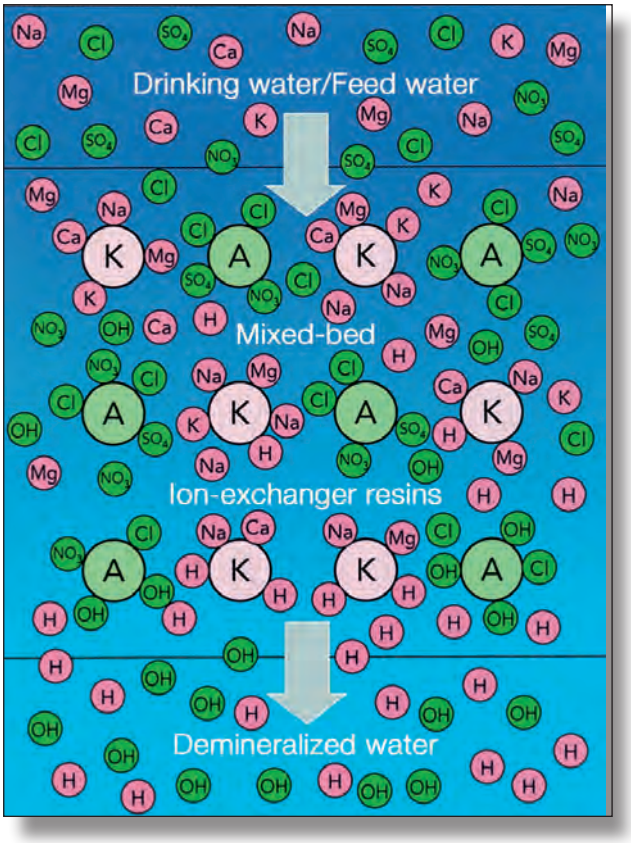
Besides unsissolved impurities (particles, organics, germs, bacteria) most water contains dissolved ions (salts and metals) in various concentrations.

Metals and hydrogen ions are cations (pos. charged) and acid residues and hydroxyl ions are anions (neg. charged). Specific cation and anion exchange resins are used in water treatment to remove these dissolved (dissociated) ions. These resins absorb the dissolved ions, and release an equivalent amount of other ions into the water.

The dissolved cations (eg Mg^{++},Ca^{++}, Na^{+}, K^{+}) are exchanged for H^{+} ions by the cation resin, the anions (eg Cl^{-}, NO_3^{-}, SO_4^{2-}) are replaced with OH^{-}-groups by the anion resin. The result is pure, fully deionized (or demineralized) water.

When the ion exchange resins are saturated (exhausted) they can be regenerated by reversing the charging process with appropriate regenerating agents. The regeneration of the exhausted mixed bed ion exchange resins is performed in a central regeneration station.

Compared to ion-exchange systems that are regenerated on site, mixed-bed units for service regeneration do not produce any waste water for the customer. Therefore, the purchase and operating costs for an approved neutralization system can be saved completely.



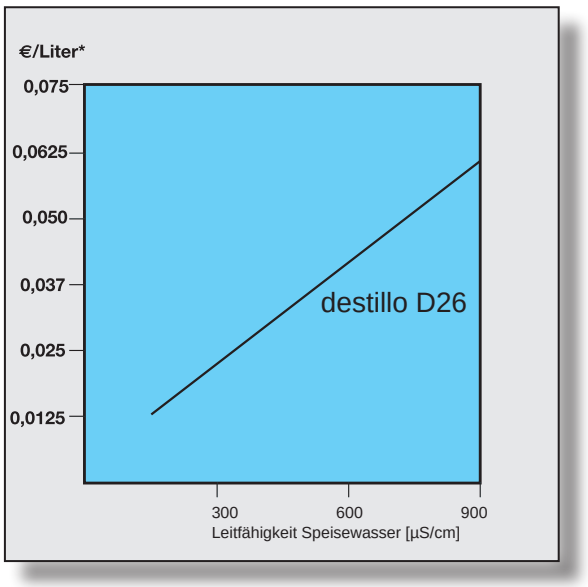
Lowest cost

Water demineralizers do not require electrical power for pure water production. Only the conductivity meter, monitoring the water quality continuously, uses a minimal power of 2 watts. The destillo unit is connected to the drinking water network and uses the existing pipe pressure for its operation.

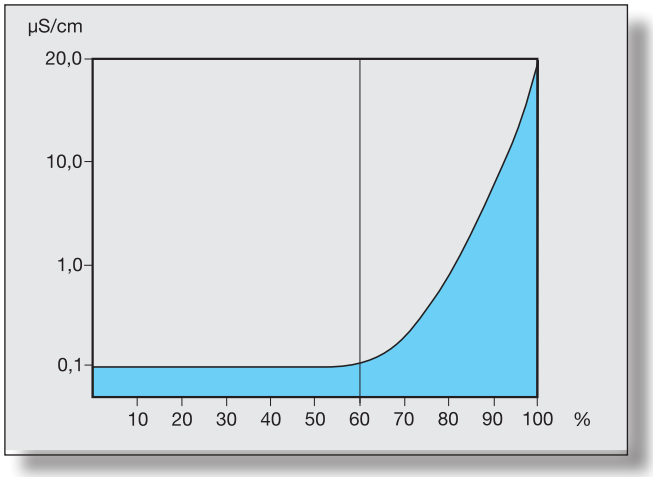
The production cost for pure, demineralized water is dependent on the total salt content of the feed water. Based on the high efficiency of our water demineralizers cost of pure water **below 0.05 € / liter** * is achieved even with a high total salt content of 20 °dH (about 600 uS / cm).

If the required amount of demineralized water is well over 150 liters per day, the cost per liter of pure water may be further reduced considerably through the use of our reverse osmosis systems.

*Base: List price, 05 / 2011, without transportation cost



Cost of demineralized water (up to 20 µS/cm) in € / Liter in dependence of the feed water conductivity (base: destillo D 26 cartridge)



Conductivity of demineralized water, in dependance of the saturation of ion exchange resin

Highest Quality

The mixing ratio of the ion-exchange resins (anion and cation exchanger) and the specific design of our destillo products guarantee very low conductivities over an extended period. Based on the full capacity at a maximum allowable conductivity of 20 µS/cm the following conductivities are achieved, in % of the full capacity:

- 0.1 µS / cm up to 60% capacity
- < 1.0 µS / cm up to 75% capacity
- < 10 µS / cm up to 90% capacity
- < 20 µS / cm up to 100% of capacity

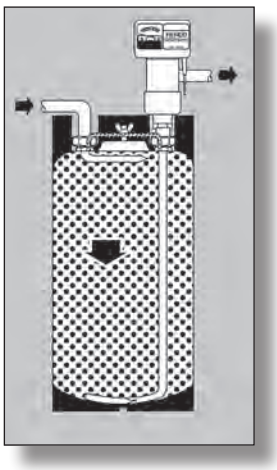
Highly Versatile Use

The stainless steel cartridges are pressure resistant to 10 bar. Destillo water demineralizers can be used very versatile and are ideal for:

- direct supply of several users
- connection of a solenoid valve on the clean water output
- subsequent use of filter units and filtration systems
- the supply of air conditioners and humidifiers
- use in combination with rinsing, cleaning and sterilization equipment

By its compact design the destillo systems are best suited for installation in cabinets and housings and allow adaptation to individual user requirements.

The special water distribution system - all stainless steel - and the water flow from top to bottom provide an ideal flow across the resin bed. Thus, the exchange capacity is used to a maximum, increasing its flowrate capacity and minimizing pressure loss.



Central Regeneration

The exhausted ion exchange resins are regenerated environmentally friendly in the central regeneration station according to strict standards.

Quality Assurance and Environmental Protection

Only pure-graded quality resins of permanent regeneration qualities are used in our destillo water demineralizers. Besides the high quality of the resins the special mixture ratio between anion and cation resins guarantees best performance of our units.

The exhausted resins are re-used repeatedly after regeneration. Of course the resins are subject to a strict quality control and a continuous rejuvenating process through addition of brand new quality resins.

The permanent regeneration capability of the high quality resins **allows recycling** in its purest form, which is why destillo demineralizers deserve the title "**particularly environmentally friendly**".

In order to be able to continue the pure water production also during the regeneration of the resin, you only need a second destillo cartridge, which you may order at the same time when buying your water demineralizer.

Technical data and spare parts can be found on our data sheet for **destillo D 12 - D 100**.

For users with a particularly low demand of pure water and pressure-free operation the water demineralizers **destillo D 2 - D 10** are ideal. We would be happy to send you these documents.

Performance data destillo D12 - D 100

Type destillo D	Flowrate l/h	Capacity in l at	
		10° dH / 300 µS/cm	20° dH / 600 µS/cm
12 dE	300	1400	700
17 dE	300	2000	1000
22 dE	950	2800	1400
26 dE	1000	4000	2000
46 dE	1200	6000	3000
100 de	2500	13000	6500

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