OMICRON	**PRODUCT DATA SHEET** **MG/2000B Demineralizer - code 3000.4**	Technical Department

Production of demineralized water for industrial battery maintenance

Our demineralizers are designed to supply high-purity demineralized water, essential for the correct operation and long service life of batteries. Thanks to ion-exchange technology, they remove salts and impurities from mains water, ensuring conductivity values below 30 µS/cm.
Available in different models, the devices stand out for:

- **Ease of use**
- **Low operating costs**
- **Compact and robust structure**
- **Fixed and mobile versions for every operating requirement**

MG/2000B DEMINERALIZER

The MG/2000B demineralizer is a unit designed to produce pure water for topping up batteries.
It is a rationally designed system, easy to install and compact in size, developed to provide the necessary amount of water for daily battery topping-up operations over time.
It contains ion-exchange resin that demineralizes tap water. The unit simply needs to be fixed to the wall and connected to the water mains by means of a flexible hose. As mains water passes through the resin, it is demineralized and becomes ready for use.

When the resin contained in the cartridge has turned orange, it must be replaced.

The quantity of resin contained in the MG/2000 demineralizer column can produce approximately 1,800/2,000 liters of water at 15° f.
The demineralizer is supplied complete with resin and ready for installation.

EQUIPMENT DESCRIPTION

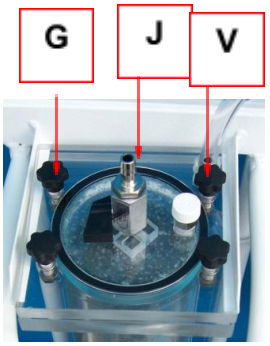
The equipment essentially consists of:

- Two transparent Plexiglas columns mounted on a painted steel support designed for wall mounting or fitted with wheels.
- A tap located on the upper part of the columns to receive water from the mains supply.
- A Vipla hose for the outlet of demineralized water.
- Mixed-bed ion-exchange resin.

Feed pressure	Max 1 bar	
Feed temperature	Min. 5°C - Max 60°C	
Approx. liters of demineralized water per cartridge	Water hardness	Liters
	10° f	2000
	20° f	1800

	30° f	1100
	40° f	800

TECHNICAL FEATURES



Ref.	Description	Code
T	Support frame	MG/2000-T
K	Plexiglas columns	MG/2000-K
J	Water inlet	MG/2000 -J
E	Treated water outlet	MG/2000 -E
S	Sliding supports	MG/2000 -S
F	Clamp	MG/2000 –F
G	Locking handwheels	MG/2000 –G
V	Air vent	MG/2000 – V
R	Replacement resin	3000.7

REQUIREMENTS AND SPECIFICATIONS	*NOTE*
Weight	20 kg
Dimensions	1000 mm x 450 mm x 450 mm
Column	2 Plexiglas
Portability (manual, cart)	Frame for wall mounting
Feed water	Mains water supply
Inlet	8x12
Outlet	8x12
Operating pressure	Max 1 bar

Operating environment	Battery charging room
Resin specification	Mixed-bed ion-exchange resin
Outlet water conductivity	µS/cm 0,1
Replacement resin code	Code 3000.7

USE

☞ **Warning!**	***The system must be used only and exclusively to filter mains water. It must not be used to purify polluted water or process waste water.***

Installation and operation of the demineralizer are very simple: simply fix the demineralizer to the wall and connect it to the water mains by means of a flexible hose. As the mains water passes through the resin, it is demineralized and ready for use. At this point, simply collect the demineralized water in the containers of the topping-up systems. It is important not to connect the demineralizer directly to the battery to be topped up. Numerous topping-up systems are available to meet the widest range of application requirements. On average, at a pressure of 1 bar, the demineralizer produces approximately 3 liters of demineralized water per minute.

During use, the resin contained in the column gradually loses its exchange capacity and becomes exhausted. A slow and progressive color change of the resin will be observed, from top to bottom, until the color has fully changed and the demineralizing capacity is exhausted. The resin will have turned orange and must therefore be replaced. Resin replacement is extremely simple: the basic construction of the unit allows the column to be easily disassembled and the new resin to be quickly installed.

Standard production includes installation of the column on wall-mounting supports; however, a frame fitted with wheels is available on request.

Demineralizers are static devices, not subject to deterioration and designed to last over time without maintenance, provided they are not exposed to temperatures below 0°C.

The resin is exhausted when it has changed color along the entire length of the column and has turned orange.

ION-EXCHANGE RESIN CHARACTERISTICS

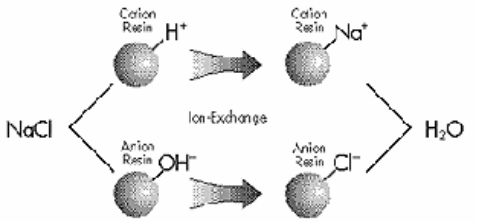
The product contained inside the demineralizers and the related spare parts is a mixed-bed ion-exchange resin, consisting of a cationic strong-acid resin in hydrogen ion form and an anionic strong-base resin in hydroxide ion form.

The resin appears in the form of very small blue-green beads.

In the ion-exchange process, water passing through a mixed bed of ion-exchange resin exchanges the ions contained in the water with other ions fixed on the resin. Deionization is the most common ion-exchange method. A mixed-bed cartridge makes it possible to obtain the highest achievable ionic purity, with a conductivity of 0.1 µS/cm.

Conductivity	µS/cm 0,1 (µS/cm 1 > 1 < 1)
Hardness	Absent
Foreign minerals	Absent

Mixed-bed ion-exchange technology



Deionization resins exchange both hydrogen ions with cations and hydroxyl ions with anions. Cation-exchange resins, made of styrene and divinylbenzene containing sulfonic groups, exchange one hydrogen ion with any cation they come into contact with (e.g. Na+, Ca++, Al+++, soluble charged organics). Similarly, anion-exchange resins, made of styrene and divinylbenzene containing quaternary amine groups, exchange one hydroxyl ion with any anion (e.g. Cl-). The hydrogen ions from the cation resins and the hydroxyl ions from the anion resins combine to form water. These resins are installed in mixed-bed exchangers (anion and cation resins mixed together). Once the resins have exchanged all their hydrogen ions and/or hydroxyl ions with the ionic contaminants present in the water, they must be replaced.