

# Technical data sheet for an industrial water softener

## TECHNICAL DATA SHEET - INDUSTRIAL WATER SOFTENER: MAGNUM 2" VOLUMETRIC SIMPLEX

### Application

The SYR/Oceanic Magnum water softening systems are flexible and powerful installations that are individually tailored to the requirements of industrial applications, large residential buildings, hotels, or swimming pools. Depending on the demands, the systems can be configured as single, duplex, or triplex units to ensure optimal scale reduction and reliable water treatment.

Thanks to their high softening capacity, they protect piping and technical equipment against limescale buildup, thereby helping to reduce maintenance costs and energy consumption. The SYR/Oceanic Magnum offers an efficient solution for installations of any size and application, featuring user-friendly control and a long service life.



### General data

|                                    |                                                 |
|------------------------------------|-------------------------------------------------|
| Connection size inlet/outlet:      | 2" (length of flexible hoses: 60 cm)            |
| Backwash water connection:         | 50 mm                                           |
| Power supply:                      | 230-12 V/50 Hz                                  |
| Maximum current consumption:       | 24 W                                            |
| Minimum inlet pressure:            | 2 bar                                           |
| Maximum inlet pressure:            | 7 bar                                           |
| Nominal flow rate (control valve): | 17,3 m³/h atj Δp 1 bar (20 m³/h atj Δp 1,5 bar) |
| Maximum water temperature:         | 43 °C                                           |
| Article code:                      | OMITVDS18xxx                                    |

### Capacity and consumption figures

|                  |                   |      |      |      |      |      |      |      |      |      |      |      |
|------------------|-------------------|------|------|------|------|------|------|------|------|------|------|------|
| Resin volume     | Liters            | 150  | 200  | 250  | 300  | 350  | 400  | 500  | 600  | 700  | 800  | 850  |
| Capacity         | m³ x °fH          | 750  | 1000 | 1250 | 1500 | 1750 | 2000 | 2500 | 3000 | 3500 | 4000 | 4500 |
|                  | m³ x °dH          | 421  | 561  | 702  | 843  | 983  | 1124 | 1404 | 1685 | 1966 | 2247 | 2528 |
|                  | kg/CaCaCO3        | 7,5  | 10   | 12,5 | 15   | 17,5 | 20   | 25   | 30   | 35   | 40   | 45   |
| Salt consumption | kg / Regeneratie  | 16,5 | 22   | 27,5 | 33   | 38,5 | 44   | 55   | 66   | 77   | 88   | 93,5 |
|                  | kg / (m³ x °dH)   | 0,04 |      |      |      |      |      |      |      |      |      |      |
| Backwash water   | m³ / Regeneration | 0,99 | 1,41 | 1,8  | 1,9  | 2,3  | 2,4  | 2,9  | 4,2  | 4,5  | 5,8  | 6    |

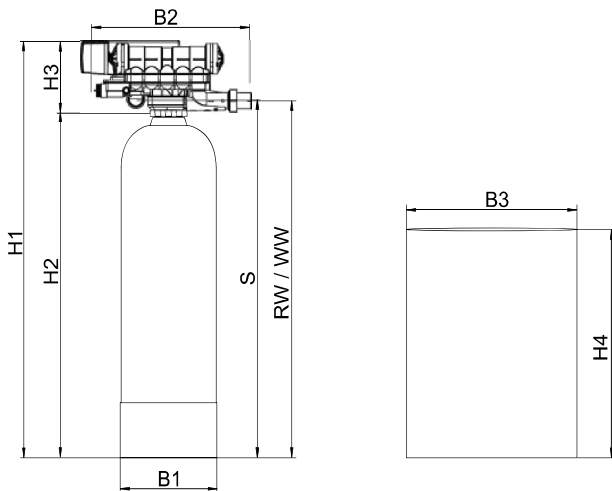
### Flow rate (at 0 °f residual hardness)

|                                                     |          |                 |     |     |     |     |     |     |     |     |     |     |
|-----------------------------------------------------|----------|-----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Resin volume                                        | (liters) | 150             | 200 | 250 | 300 | 350 | 400 | 500 | 600 | 700 | 800 | 850 |
| Nominal resin flow rate (m³/u) (0 °f)               |          | 12              | 12  | 12  | 13  | 13  | 13  | 15  | 15  | 15  | 15  | 15  |
| Max. flow rate of the valve (m³/u) (Δp 1 bar)       |          | 17,3 m³/u       |     |     |     |     |     |     |     |     |     |     |
| Max. flow rate of the valve (Δp = 1.5 bar): 20 m³/u |          | 20 m³/u         |     |     |     |     |     |     |     |     |     |     |
| Minimum flow rate                                   |          | 450 l/h/ column |     |     |     |     |     |     |     |     |     |     |

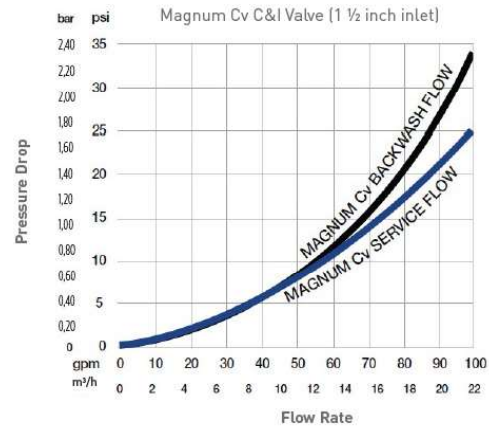
### Regeneration

|                                    |                                        |
|------------------------------------|----------------------------------------|
| Start                              | 2 hours (factory setting – adjustable) |
| Total duration                     | Maximum 120 minutes per resin vessel   |
| Maximum days between regenerations | 5 (adjustable from 1 to 30 days)       |
| Consumption-based regeneration     | Variable day reserve 30% (adjustable)  |
| Optional                           | No bypass function during regeneration |

## Dimensions and valve flow table



## FLOW RATE VS PRESSURE DROP

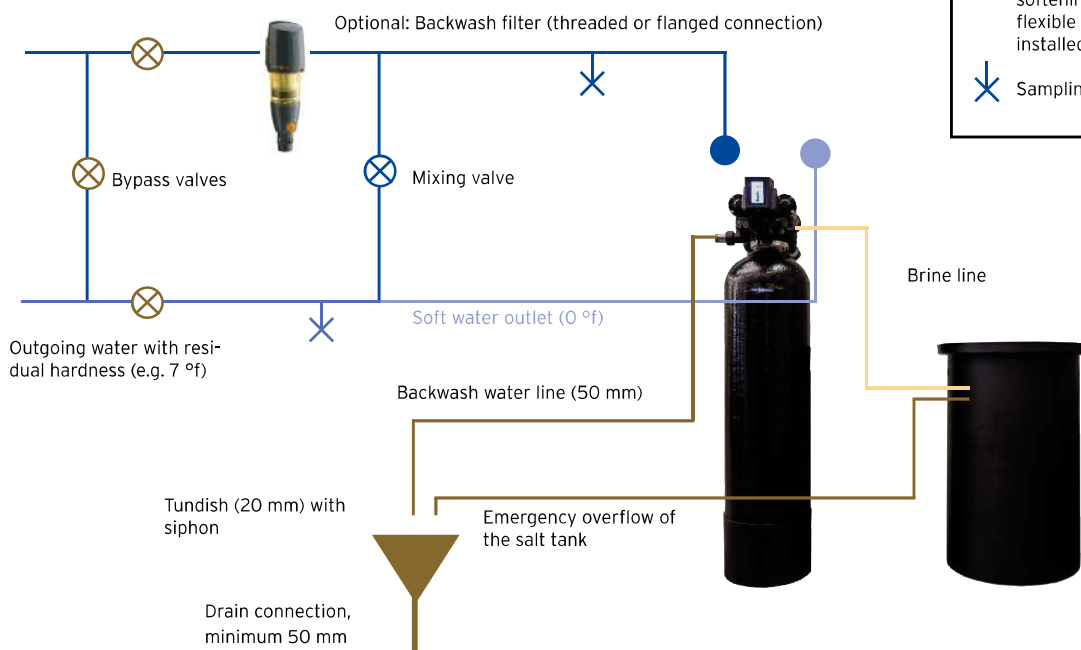


| Typ | Total height<br>cm<br>(H1) | Tank<br>height cm<br>(H2) | Tank dia-<br>meter cm<br>(B1) | Valve height<br>cm<br>(H3) | Valve length<br>cm<br>(B2) | Height of drain<br>connection cm<br>(S) | Height of water<br>connection<br>cm | Salt tank dia-<br>meter cm<br>(B3) | Salt tank height<br>cm<br>(H4) | Volume<br>(liters) |
|-----|----------------------------|---------------------------|-------------------------------|----------------------------|----------------------------|-----------------------------------------|-------------------------------------|------------------------------------|--------------------------------|--------------------|
| 150 | 195                        | 166                       | 44                            | 29                         | 70                         | 170                                     | 170                                 | 70                                 | 91                             | 300                |
| 200 | 202                        | 173                       | 46                            | 29                         | 70                         | 177                                     | 176,5                               | 70                                 | 91                             | 300                |
| 250 | 197                        | 168                       | 56                            | 29                         | 70                         | 172                                     | 171,5                               | 88                                 | 106                            | 500                |
| 300 | 216                        | 187                       | 62                            | 29                         | 70                         | 191                                     | 190,5                               | 88                                 | 106                            | 500                |
| 350 | 216                        | 187                       | 62                            | 29                         | 70                         | 191                                     | 190,5                               | 88                                 | 106                            | 500                |
| 400 | 216                        | 187                       | 62                            | 29                         | 70                         | 191                                     | 190,5                               | 88                                 | 106                            | 500                |
| 500 | 222                        | 193                       | 76                            | 29                         | 70                         | 197                                     | 196,5                               | 96                                 | 120                            | 750                |
| 600 | 222                        | 193                       | 76                            | 29                         | 70                         | 197                                     | 196,5                               | 96                                 | 120                            | 750                |
| 700 | 232                        | 203                       | 93                            | 29                         | 70                         | 207                                     | 206,5                               | 96                                 | 120                            | 750                |
| 800 | 232                        | 203                       | 93                            | 29                         | 70                         | 207                                     | 206,5                               | 105                                | 128                            | 1000               |
| 850 | 232                        | 203                       | 93                            | 29                         | 70                         | 207                                     | 206,5                               | 105                                | 128                            | 1000               |

Connection via flexible hoses DN 50, length 60 cm

## Installation layout diagram - Magnum Simplex system

Incoming hard water (e.g. 30 °f)



- ● Ball valves, male thread, DN 50
- The control valves of the water softening system are connected via flexible hoses to the ball valves to be installed by the customer.
- ✕ Sampling valves

## Description

The resin tank of the water softener is manufactured from a 100% fiberglass composite construction with a polyethylene inner liner (KYW certified).

The unit is equipped with a hydraulic control valve with camshaft and flappers (self-cleaning), including a built-in pulse water meter, filter, and hardness adjustment. The valves are made of wear-resistant thermoplastic.

Regeneration is initiated automatically, and the electronic volumetric control allows the flushing time to be adjusted.

Our water softener operates on the **principle of proportional counter-current brining** and uses a dry salt tank system.

The salt tank with lid is fitted with a separate compartment for brine formation (i.e. a perforated bottom plate) and is also equipped with an overflow connected to the sewer.

The unit is standard equipped with a **chlorinator**. This has two functions:

- Disinfection of the resin during each regeneration cycle, without the need for additional options
- Salt alarm: during each brine draw, a test is carried out in mA. If the unit is connected to the internet, this information is sent to the customer by email

The unit can also be connected to a **BMS (Building Management System)** via a CAM converter (to be ordered separately), with the choice of a 2-relay connection (open/closed contact), Modbus, or domotics.

Our controller includes a unique parameter for entering the correct **water pressure**. This ensures that the I-Lex system always consumes the correct amount of salt and rinse water. Optionally, a pressure sensor can be installed and connected to the controller, allowing automatic correction of salt and water consumption based on the measured inlet water pressure. Without one of these options, it is impossible to accurately control salt and water consumption.

Very easy to operate, with a clear full-color touchscreen display.

Smart i-Lex control, easily connectable to the internet, offering continuous online monitoring.

Internet connection is standard for remote monitoring.

When connected to the internet, both the end customer and the installation company can request free access to an account via:

**[www.i-lexconnect.com](http://www.i-lexconnect.com)**

Email notifications are automatically sent when the unit is connected to the internet, via **the standard built-in wireless Wi-Fi connection** or via a UPT port (on request).

The following values can be displayed on the screen:

- Current consumption
- Remaining capacity
- Remaining salt supply (in weeks)
- Daily consumption over the last 7 days
- Comparative consumption per week / month / year
- Average water flow rate
- Maximum water flow rate
- Number of regenerations (full / partial / maintenance)
- The water softener is equipped with a backwash controller to regulate the discharge flow rate to the sewer.

Supplied as standard:

- Bypass
- Flexible hoses, high-quality stainless steel, length 60 cm
- Drain hose
- Seals
- User manual

Warranty:

- 3 years
- 5 years with annual maintenance
- 10 years on the resin tank
- 10 years on the salt tank