

# SPRING 20S

Cat. no: 20DS-TOC-05





### Technical specification:

- The device works under tap water pressure.
- Water purification levels:
  - sediment filtration – prefilter 5 $\mu$ m,
  - module A (sediment-carbon-softening),
  - demineralization on a spectrally clean mixed ion exchange resin,
  - cascade microfiltration capsule 0,45/0,2 $\mu$ m.
- Automatic and unattended system operation.
- Equipped with a pump increasing feed water pressure.
- Water intake point - second purity class (ISO 3696:1999, ASTM, CLSI) - nozzle reach min. 2 m, equipped with a pressure tank.
- System equipped with a 10 dm<sup>3</sup> pressure storage tank.
- Optional replacement with a bigger tank (40dm<sup>3</sup>, 80dm<sup>3</sup> and more).
- The possibility of installing additional water intake point for general-purpose water (third class (ISO 3696:1999)).
- Automated system shutdown when the tank is full.
- Optional connection to an autoclave, washer machine etc.
- User-performed maintenance procedures (easy disposables replacement).
- Intended to be fed by cold water: 5-40°C.
- Energy consumption less than 70W.
- Optional user-performed device installation.
- Power supply: 220-240V/50Hz.

**Dimensions (SxGxW):** 235x470x570 mm

**Tank 10l:** height: 390 mm, diameter: 250 mm

### Functions monitoring the device:

- The device is equipped with a 24V automatics with a microprocessor control and measurement system, that includes:
  - color display screen with a Touch Panel,
  - conductometer measuring conductivity and temperature of feed water, after reverse osmosis and purified water (measured in  $\mu$ S/cm or MOhm),
  - clock displaying date and time,
  - information about current system status,
  - information about the membrane module retention level,
  - alarm informing about necessity to replace module A,
  - alarm informing about necessity to replace ionex resins,
  - alarm informing about necessity to replace microfiltration capsule,
  - graphic and sound alarm signal,
  - maintenance dates preview,
  - tank fill level,
  - built-in RS 232 connection to personal computers allowing to adjust maintenance frequency and alarm levels,
  - built-in USB connection to personal computers allowing to adjust maintenance frequency and alarm levels.
- Software.
- Built-in manometer measuring feed water pressure.

### Functions protecting the device:

- Pump shutdown when:
  - the feed water pressure is too low (lack of feed water) - low pressure sensor,
  - the tank is full - high pressure sensor.
- Thermal protection of the RO module, automated system shutdown when the feed water temperature is below 4°C or above 40°C.
- Can be automatically shut down when any alarm occurs.
- System autostart.
- Notification/alarm preview.

**Standard:**

Water purified by the Spring device fits the requirements of the ISO 3696:1999, EP, ASTM, CLSI standard for I\* and II purity class, microbiological and physicochemical parameters match the FP requirements for purified production water

**Application:**

Obtained water may be used for instrumental analyses AAS, ICP/MS, IC\*, HPLC\*, GC, bacteria cultures\*, biochemical analyses\*.

\*point with a 0,2µm microfiltration capsule

**Required connections:**

- cold water connection ½" or ¾",
- 220-240V socket,
- drain.

**General information:**

- fed by: tap water
- efficiency: min. 20 l/h
- conductivity: 0,06 µS/cm
- resistivity: 18,2 MOhm\*cm
- bacteria < 1 cfu/ml\*
- particles > 0,2 µm < 1/ml\*

| model        | Sediment prefilter 5µm | Module A2 | Modules H6              | MF capsule 0,2µm |
|--------------|------------------------|-----------|-------------------------|------------------|
| SPRING 20S   | +                      | +         | +                       | +                |
| Lifetime     | 6 months*              | 6 months* | 5000 dm <sup>3</sup> ** | 12 months        |
| Cataloge no. | EO-005-10              | EO-MA-12  | EJ-5000-0               | EM-SP-20         |

\* The life of a filter cartridge can be affected by the flow, it's characteristic as well as the level and type of the contamination.

\*\* \* Volume of the purified water depends on the quality of the feed water, the maximum amount of the dissolved salt in the feed water - 1200 mg/l.