

SILEX 11 – Top-Grade Demineralized Water

Plant description

A SILEX plant produces demineralized water of the highest quality without chemical usage at the installation site.

A complete SILEX plant comprises a stainless steel tank and a conductivity meter that continuously indicates the conductivity of the demineralized water.

The SILEX tank contains cation and anion exchange resins with a certain demineralization capacity.

Price - Complete Silex 11 plant

- 1 Silex 11 tank unit stainless steel tank (AISI 316Ti)
- 1 Conductivity Meter Type ST 3
- 1 Transformer 230/12 VAC
- 12 litres Ion exchange resins (The tank unit is filled with ion exchange resins at the time of delivery)
- 1 Measuring cell ½"
- 3 1,2 m Plastic hose ½"

Total price without taxes and shipping: 11,600 Swedish kronor

Delivery time: 3-4 weeks



Consumables

Ion exchange resins

When the mixed bed ion exchangers have been consumed they must be replaced by new exchangers. You can either order new ion exchangers from us in bags of 25 litres each or buy the mixed bed ion exchangers locally in your country.

Price - ion exchange resin

1 bag of ion exchange resin, 25 litres

Price without taxes and shipping: 1 600 Swedish kronor

Application

The system is specially developed for users needing demineralised water of highest quality and who neither want to store nor handle regeneration chemicals (acid and lye) at the installation site.

The system is applicable for the following main purposes:

- Demineralisation of mains water.
- Polishing/final treatment of demineralised water.

Typical Customer Groups

- Laboratories
- Battery water
- Photo-laboratories
- Printing firms
- Dentists, physicians, and pharmacies
- Schools, high schools etc.

Water Quality

Dependent on application the major part of the plant capacity has conductivities below 0,1 $\mu\text{S}/\text{cm}$.

Plant Construction

A complete plant is composed of a tank unit and a conductivity meter that continuously displays the conductivity.

The tank unit comprises a stainless steel tank (AISI 316Ti) with couplings.

- 1 Silex 11 tank unit stainless steel tank (AISI 316Ti)
- 1 Conductivity Meter Type ST 3
- 1 Transformer 230/12 VAC
- 12 litres Ion exchange resins (The tank unit is filled with ion exchange resins at the time of delivery)
- 1 Measuring cell 1/2"
- 3 1,2 m Plastic hose 1/2"

Quality requirements of the untreated water

The temperature of the water to be demineralized **must not exceed 35°C and must not contain iron, manganese, oil, or large quantities of organic matter.** Common mains water will normally meet these requirements.

Plant Data

Water temperature.....max.	35°C
Inlet water pressuremax.	6 bar
Pipe connection, to, from, and drain.....	DN 15/20 mm PVC
Connection.....	Plastic hose 1/2"
Electrical connection.....	1 x 230 VAC, 50 Hz
transformed into	12 VAC, 50 Hz

Specifications

Type	Flow rate litres/h	Basic capacity* litres °GH	Diameter mm	Height mm	Transport weight kg
SILEX 11	240	12900	237	400	15

Capacity calculation

The volume of mains water that a tank can demineralize is calculated based on the basic capacity of the tank.

The tank capacity is calculated by dividing the total salt content of the saline water converted into °GH into the basic capacity.

Example:

SILEX 11 has a basic capacity of 12 900 litres °GH.

The total salt content of the water corresponds to 20°GH.

Calculated capacity: 12 900 divided by 20 = 645 litres.

Calculation of total salt content of the inlet water, converted into °GH

Cation load		°GH.	Calculation °GH
Calcium	Ca ²⁺	mg/l x 0,140 =	
Magnesium	Mg ²⁺	mg/l x 0,230 =	
Sodium	Na ⁺	mg/l x 0,122 =	
Ammonium	NH ₄ ⁺	mg/l x 0,156 =	
Anion load			
Chloride	Cl ⁻	mg/l x 0,079 =	
Sulphate	SO ₄ ²⁻	mg/l x 0,058 =	
Bicarbonate	HCO ₃ ⁻	mg/l x 0,046 =	
Nitrate	NO ₃ ⁻	mg/l x 0,045 =	
Silicic Acid	SiO ₃	mg/l x 0,047 =	
Uncombinex Carbonic Acid	CO ₂	mg/l x 0,064 =	
		The total salt content – German degree °GH	

Total saltcontent equivalent °GH (German degree)	SILEX 11 The actual capacity per unit / L
4 °GH	3225
5 °GH	2580
6 °GH	2150
7 °GH	1843
8 °GH	1612
9 °GH	1433
10 °GH	1290
11 °GH	1173
12 °GH	1075
13 °GH	992
14 °GH	921
15 °GH	860
16 °GH	806
17 °GH	759
18 °GH	717
19 °GH	679
20 °GH	645
21 °GH	614
22 °GH	586
23 °GH	561
24 °GH	538
25 °GH	516