

SILEX 41 – Top-Grade Demineralised Water

Plant description

A SILEX plant produces demineralised 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 demineralised water.

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

Price - complete Silex 41 plant

- 1 Silex 41 tank unit stainless steel tank (AISI 316Ti)
- 1 Conductivity meter type ST 3
- 1 Transformer 230/12 VAC
- 41 litres of 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 of plastic hose, 1/2"

Total price without taxes and shipping: 16 600 Swedish kronor

Delivery time: 3-4 weeks



Consumables

Ion Exchange Resin

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: 1600 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.

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Quality requirements of the untreated water

The temperature of the water to be demineralised **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 pressure max.	6 bar
Pipe connection, to, from, and drain.....	DN 15/20 mm PVC
Connection.....	Plastic hose ½”
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 41	840	43 200	237	1200	45

Capacity calculation

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

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

Example:

SILEX 41 has a basic capacity of 43,200 litres °GH.
 The total salt content of the water corresponds to 20°GH.
 Calculated capacity: 43,200 divided by 20 = 2,160 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 salt content equivalent °GH (German degree)	SILEX 41 The actual capacity per unit / L
4 °GH	10800
5 °GH	8640
6 °GH	7200
7 °GH	6171
8 °GH	5400
9 °GH	4800
10 °GH	4320
11 °GH	3927
12 °GH	3600
13 °GH	3323
14 °GH	3086
15 °GH	2880
16 °GH	2700
17 °GH	2541
18 °GH	2400
19 °GH	2274
20 °GH	2160
21 °GH	2057
22 °GH	1964
23 °GH	1878
24 °GH	1800
25 °GH	1728
30 °GH	1440