

Water softener softliQ:SD

Intended use

The water softener softliQ:SD may only and exclusively be used for the softening and partial softening of cold drinking water.

The water softener softliQ:SD protects water pipes and connected water-carrying systems from scaling and from malfunctions and damage caused by scaling.

Function

The water softener softliQ:SD works according to the well-proven ion exchange principle.

Based on the consumption of the past four weeks, the system capacity is automatically and continuously adapted to the individual water consumption of the operator for every day of the week.

The softliQ:SD water softener can be operated in five different modes.

- **Eco**
Minimum use of resources.
- **Comfort (factory setting)**
Optimum use of resources and optimum system output.
- **Power**
Maximum performance for highest demands.
- **Individual**
To enter your individual user profile.
- **Fix**
To enter a permanently fixed capacity figure without consideration of the past and adaptation of the capacity figure.
- **Ergonomic system design** for operation and maintenance
- **Removable brine tank** for hygienic and easy cleaning
- **Integrated support tray** to safely fill the brine tank
- **Removable service lid** for quick and convenient access to the control valve
- **Compact and easily accessible** brine valve for easy maintenance
- **Integrated safety float** for increased protection in case of power failures
- **Exchanger with special distribution system** for efficient salt utilisation
- **Special ion exchanger resin** to meet highest demands on drinking water
- **Glass beads** for even distribution of the water

A regeneration is released daily, if at least 50 % of the current system capacity is used up. The time of regeneration is automatically scheduled in a time period where usually no water is consumed. The time of regeneration can also be set at a fixed time. Should water be required during the regeneration process, non-softened water is available.

During each regeneration, only the used-up system capacity is regenerated and only as much salt is used as necessary. For hygienic reasons, the system releases a full regeneration after four days at the latest.

The intelligence of the softliQ:SD allows for an efficient operation at the lowest salt and power consumption possible.

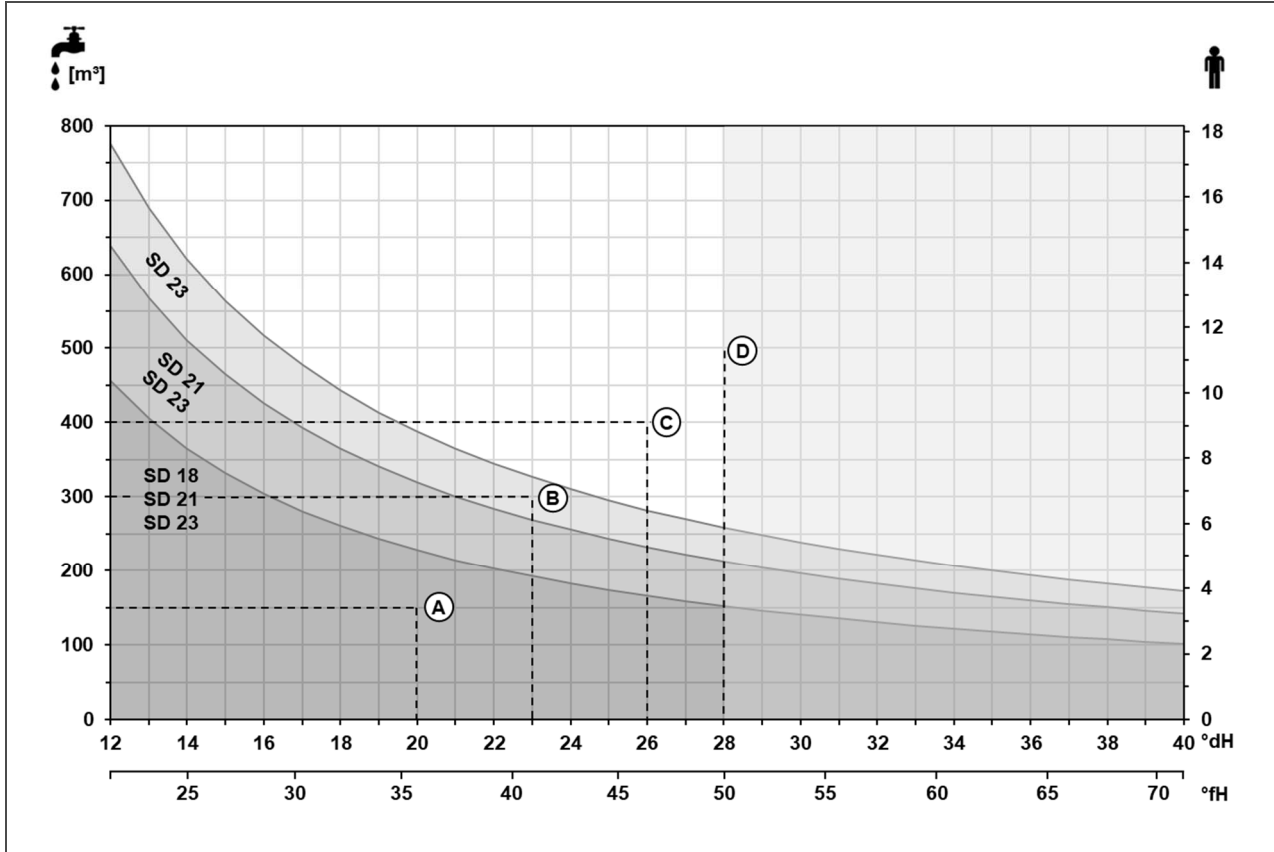
Design

- Compact design requiring little floor space and making optimum use of the space available

Scope of supply

- Water softener incl.
 - Connection technology
 - Audio signal
 - Water sensor (in case of softliQ:SD21 and softliQ:SD23)
 - Illuminated LED ring (in case of softliQ:SD21 and softliQ:SD23)
 - Indication of salt supply (in case of softliQ:SD21 and softliQ:SD23)
- Water test kit "Total hardness"
- Operation manual

Range of application of the softliQ:SD water softener



The chart indicates the operating ranges of the softliQ:SD water softeners and applies to softening to a recommended soft water hardness of 4 °dH.

The vertical axes indicate the annual water consumption in m³ and the number of people in the household at an average water consumption of 121 litres per person per day.

The horizontal axes indicate the raw water hardness in °dH and °fH. You may ask your waterworks for the raw water hardness of your drinking water.

Examples of a reading:

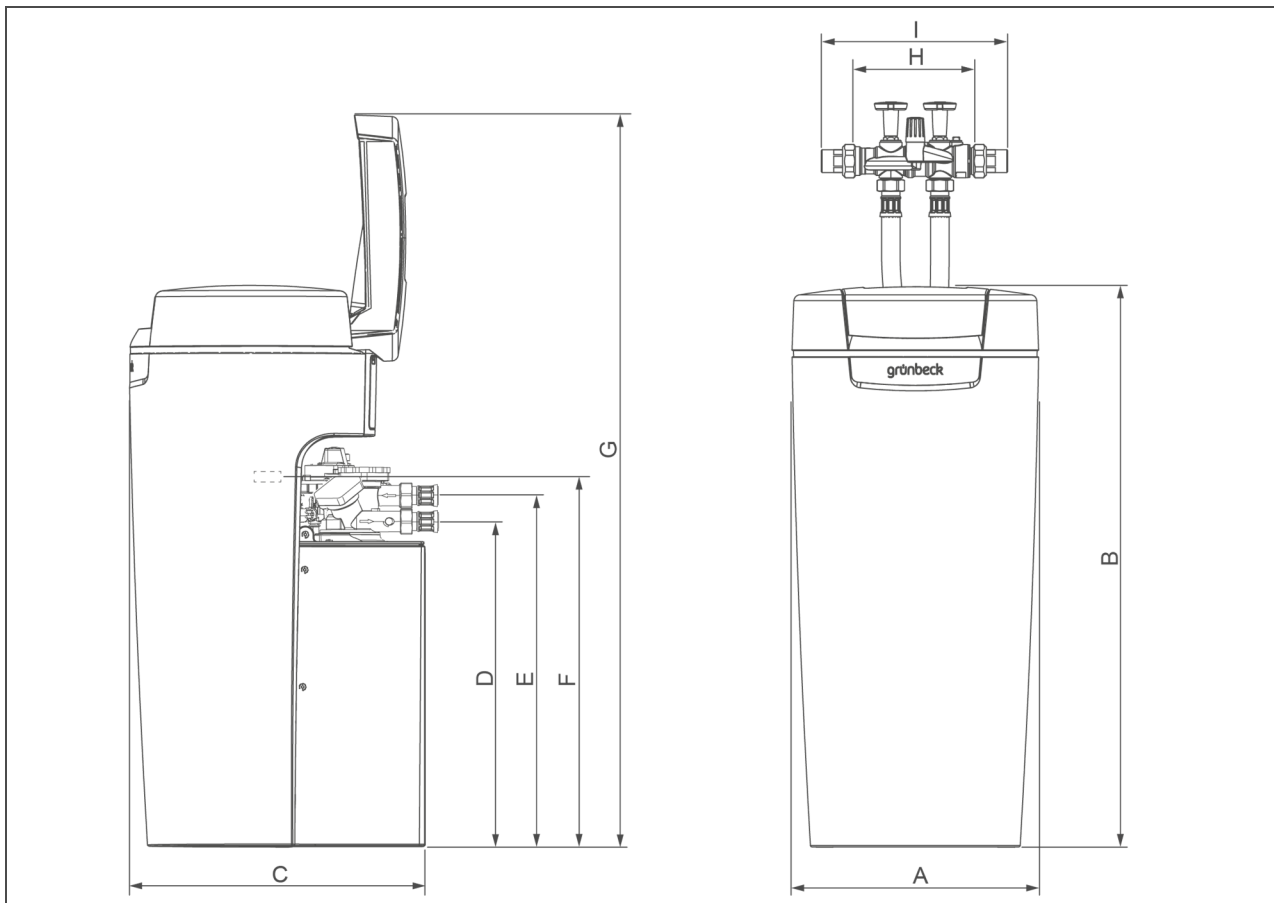
- A Water consumption 150 m³, raw water hardness 20 °dH
→ The softliQ:SD18, softliQ:SD21 and softliQ:SD23 systems can be applied.
- B Water consumption 300 m³, raw water hardness 23 °dH
→ The softliQ:SD23 system can be applied.
- C Water consumption 400 m³, raw water hardness 26 °dH
→ The softliQ:SD systems cannot be applied. We recommend using the water softeners softliQ:MD32 or softliQ:MD38.
- D Starting from a raw water hardness of 28 °dH, the maximum limit value for sodium (200 mg/l) stipulated in the German Drinking Water

Ordinance has to be taken into consideration when softening to a soft water hardness of 4 °dH. Should your raw water hardness exceed 28 °dH, please contact your local Grünbeck partner. Together with you, he will identify the perfect solution for your requirements. To find your local Grünbeck partner, go to www.gruenbeck.com.

For assistance with regard to selecting the right system, go to: www.gruenbeck.com/productfinder



Technical specifications I



Dimensions and weights		softliQ:SD18	softliQ:SD21	softliQ:SD23
A System width	[mm]		360	
B System height	[mm]		815	
C System depth	[mm]		430	
D Connection height of control valve (soft water)	[mm]		470	
E Connection height of control valve (raw water)	[mm]		510	
F Height of safety overflow of brine tank	[mm]		520	
G Height with open lid	[mm]		1060	
H Installation length without screw connection	[mm]		190	
I Installation length with screw connection	[mm]		271	
Operating weight, approx.	[kg]	65	69	73
Shipping weight, approx.	[kg]	22	24	26

Technical specifications II

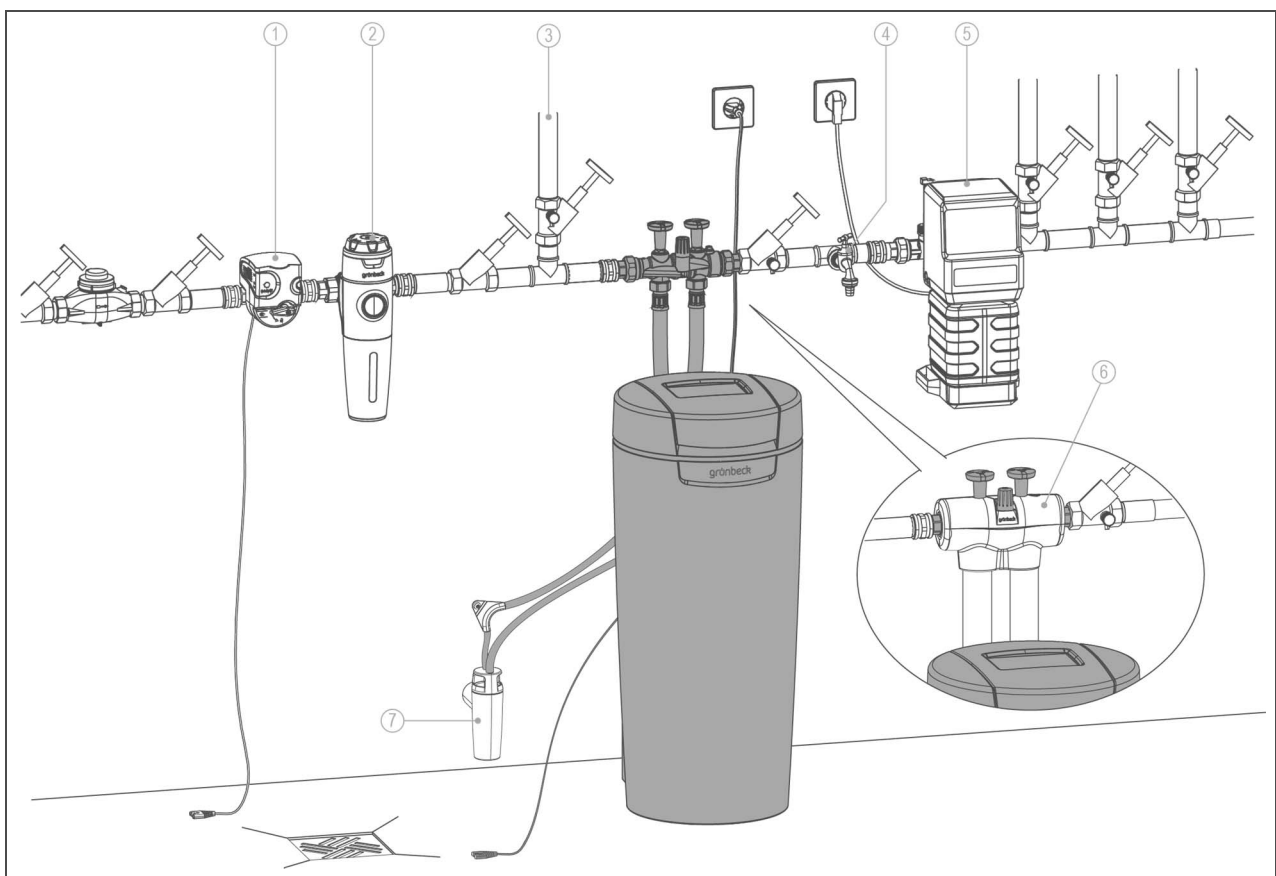
Connection data		softliQ:SD18	softliQ:SD21	softliQ:SD23
Nominal connection diameter		DN 25 (1" male thread)		
Min. drain connection		DN 50		
Rated voltage range	[V]	100 – 250		
Rated frequency	[Hz]	50 – 60		
Rated load (during regeneration, temporarily)	[W]	8		14
Power input for softening if display, Wi-Fi and illuminated LED ring are switched off (illuminated LED ring for softliQ:SD21 and softliQ:SD23 only)	[W]	< 3.5		
Protection/protection class		IP 54/□		

Dimensions and weights		softliQ:SD18	softliQ:SD21	softliQ:SD23
Nominal pressure		PN 10		
Rated pressure	[MPa]/ [bar]	1.0 / 10		
Min./max. operating pressure (recommended)	[bar]	2.0/8.0 (4.0)		
Nominal flow (0 °dH, 0 °f, 0 mol/m ³) acc. to DIN EN 14743 at a pressure loss of 1.0 bar (theoretical value)	[m ³ /h]	1.8	2.1	2.3
Nominal flow at a pressure loss of 1.0 bar following DIN 19636 (raw water hardness 20 °dH (35.6 °f, 3.56 mol/m ³), soft water hardness 8 °dH (14.2 °f, 1.42 mol/m ³))	[m ³ /h]	3.0	3.5	3.8
Nominal capacity variable	[m ³ x °dH]	6 - 14	8 - 20	9 - 23
	[m ³ x °f]	11 - 25	14 - 36	16 - 41
	[mol]	1.1 - 2.5	1.4 - 3.6	1.6 - 4.1
Capacity per kg of regeneration salt	[mol/kg]	6.7 – 4.5	7.1 – 4.5	
Regeneration time for a complete regeneration	[min.]	20 – 40		
Regeneration (1x per day) in case of reduction in capacity	[%]	> 50		

Filling volumes and consumption data		softliQ:SD18	softliQ:SD21	softliQ:SD23
Resin volume	[l]	5	7.5	9
Salt consumption per complete regeneration	[kg]	0.15 – 0.55	0.20 – 0.80	0.23 – 0.95
Max. capacity of brine tank	[kg]	35		
Salt consumption	per m ³ and °dH	[kg/(m ³ x°dH)]	0.025 - 0.040	
	per m ³ and °f	[kg/(m ³ x°f)]	0.014 - 0.022	
	per mol	[kg/mol]	0.140 - 0.221	
Max. flushing water flow	[m ³ /h]	0.3	0.4	0.6
Total waste water volume per complete regeneration	[l]	21 – 31	28 – 43	32 – 51
Waste water volume	per m ³ and °dH (complete regeneration)	[l/(m ³ x°dH)]	3.5 - 2.2	
	per m ³ and °f (complete regeneration)	[l/(m ³ x°f)]	1.9 - 1.2	
	per mol (complete regeneration)	[l/mol]	19 - 12	

General data		softliQ:SD18	softliQ:SD21	softliQ:SD23
Suitable for homes of ... families (up to ... people)		1 - 2 (4)	1 - 4 (9)	1 - 5 (12)
Water temperature	[°C]		5 - 30	
Ambient temperature (drinking water)	[°C]		5 - 25	
Ambient temperature (technical applications)	[°C]		5 - 40	
Max. humidity of air (non-condensing)	[%]		90	
DVGW registration number		DW-91S1CT0491		
SVGW certificate number		test pending		
Order no.		189 100	189 200	189 300

Installation example



Item	Designation	Item	Designation
1	Safety device protectliQ	2	Drinking water filter pureliQ:KD
3	Garden water pipe	4	Water withdrawal point
5	EXADOS dosing computer	6	softliQ insulating kit
7	Drain connection DN 50 acc. to DIN EN 1717		

Installation requirements

Observe local installation directives, general guidelines and technical specifications. The installation site must be frost-proof and ensure the product's protection from chemicals, dyes, solvents and vapours.

If the softened water is intended for human consumption in the sense of the German Drinking Water Ordinance, the ambient temperature must not exceed 25 °C. For applications that are purely technical, the ambient temperature must not exceed 40 °C.

Always install a drinking water filter and, if required, a pressure reducer (e.g. fine filter pureliQ:KD) upstream of the product.

A shock-proof socket is required within a distance of approx. 1.2 m of the system. The socket outlet requires a permanent power supply and must not be coupled with light switches, emergency heating switch or the like.

A drain connection (DN 50) must be available to discharge the regeneration water.

Make sure that there is a floor drain at the installation site. In case there is none, install the protectliQ safety device or a protection device with water stop of equal quality. This prevents water damage in case of a leakage.

Make sure that lifting systems are resistant to salt water or use our delivery pump for regeneration water.

A water withdrawal point must be available in close proximity of the product.

Accessories

**Dosing computer
EXADOS EK 6
Order no. 115 100**

**Dosing computer
EXADOS ES 6
Order no. 115 200**

Electronically controlled dosing technology for corrosion protection in case of a negative saturation index or for hardness stabilisation.

**Safety device
protectliQ:A20
Order no. 126 400**

Product to protect against water damage in one- and two-family homes.

For other sizes, please inquire.

**Delivery pump for regeneration
water
Order no. 188 800**

To discharge the regeneration water into drain pipes located at a higher level.

- only possible for softliQ:SD23

**Drain connection DN 50
Order no. 188 875**

For professional installation acc. to DIN EN 1717.

- in case of softliQ:SD23, included in the scope of supply

**softliQ:SD insulating kit
Order no. 188 870**

For proper thermal insulation of the connection equipment.

- in case of softliQ:SD23, included in the scope of supply

**Extension kit for connection hoses
Order no. 187 860e**

To extend the hose to 1.6 m.

**Supplementary blending valve
Order no. 187 870**

To generate a second blending hardness (e.g. separate pipe to the kitchen, technical applications, etc.).

**Supplementary soft water outlet
Order no. 187 875**

To easily branch off a 0 °dH pipe (e.g. separate pipe for technical applications, etc.).

Consumables

**Regeneration salt (25 kg)
as per EN 973 type A
Order no. 127 001**

**Water test kit
„Total hardness“
Order no. 170 187**

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