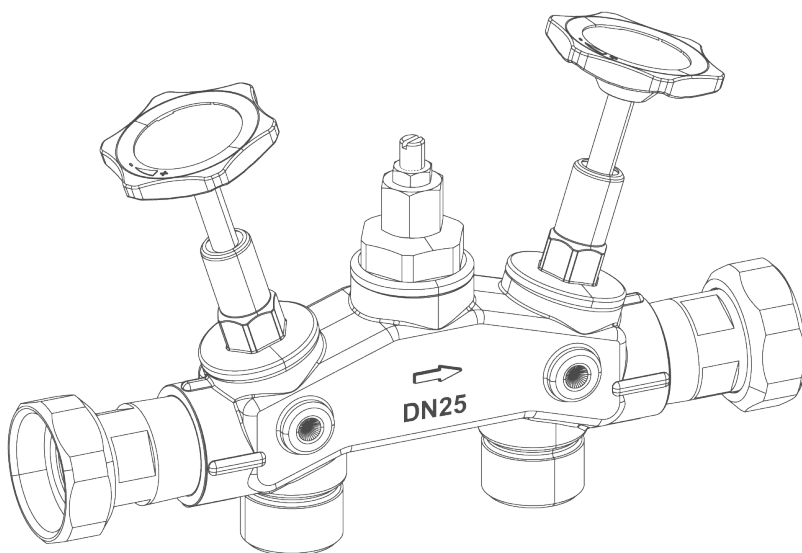


We understand water.



Accessories | Mechanical blending valve

Operation manual

grünbeck

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7:00 am - 4:00 pm

Subject to technical modifications.

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Original operation manual

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1 Other applicable documents

The following documents also apply in the case of mechanical blending valves:

- The instructions for the water softener used

2 Target group

This manual is intended for Grünbeck's technical service/authorised service company or qualified specialists trained by Grünbeck.

3 Validity of the manual

This manual applies to the following products:

- Mechanical blending valve 1" (DN 25)

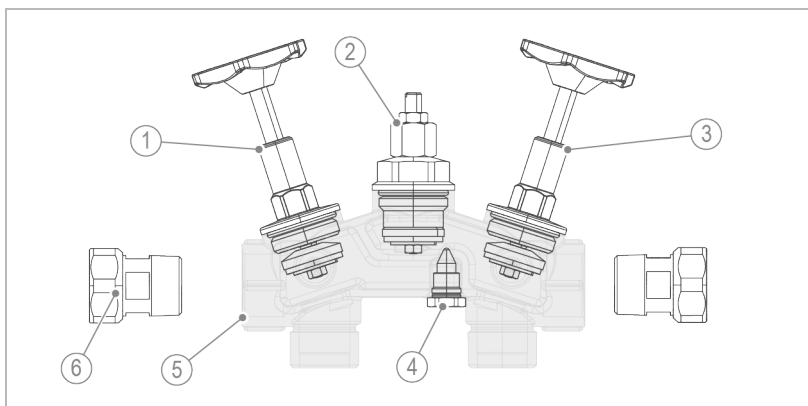
4 Intended use

The mechanical blending valve is used as an accessory for GENO-mat water softeners to produce partially softened water.

- Max. nominal pressure PN 10
- For domestic, industrial and commercial applications
- Maximum water temperature for the intended use is 90° C

5 Product description

5.1 Product components



Bezeichnung	
1	Inlet shut-off valve
2	Main valve blending
3	Outlet shut-off valve

Bezeichnung	
4	Bypass valve
5	Connection block
6	Water meter screw connection

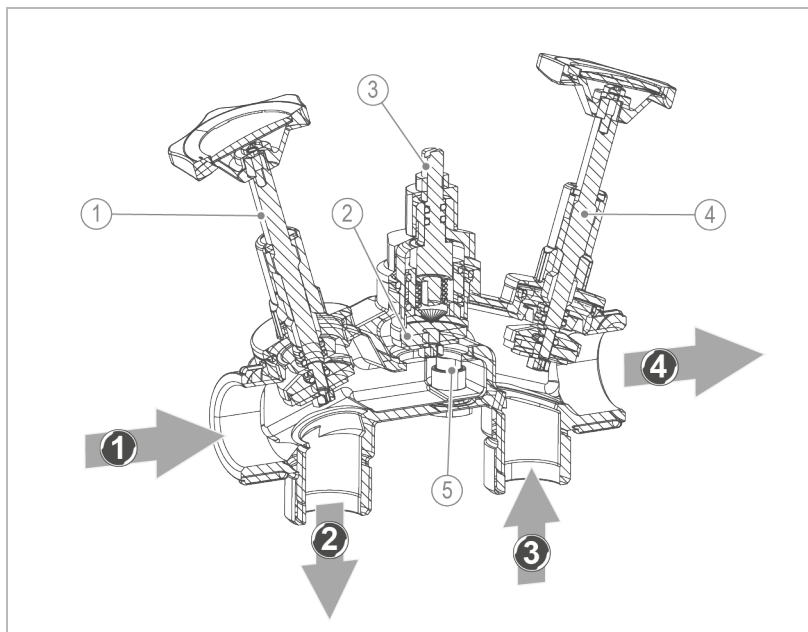
Blending units are fully automatic mixing valves for water softeners in the industrial water sector.

The blending unit with shut-off valves is installed as a ready-to-connect fitting at the inlet and outlet of the water softeners.

The blending unit maintains the residual hardness of the blending water at a constant level, independent of the withdrawal volume and pressure fluctuations. The residual hardness in the mixed water is set only once during assembly.

The blending unit works independent of its position.

5.2 Function



Bezeichnung		Bezeichnung	
1	Shut-off valve open	4	Shut-off valve open
2	Spindle (main valve)	5	Spindle (bypass valve)
3	Spindle (bypass valve)		

Flow direction	Water flow
①	Raw water inlet
②	Water softener inlet
③	Water softener outlet
④	Soft water outlet with blending

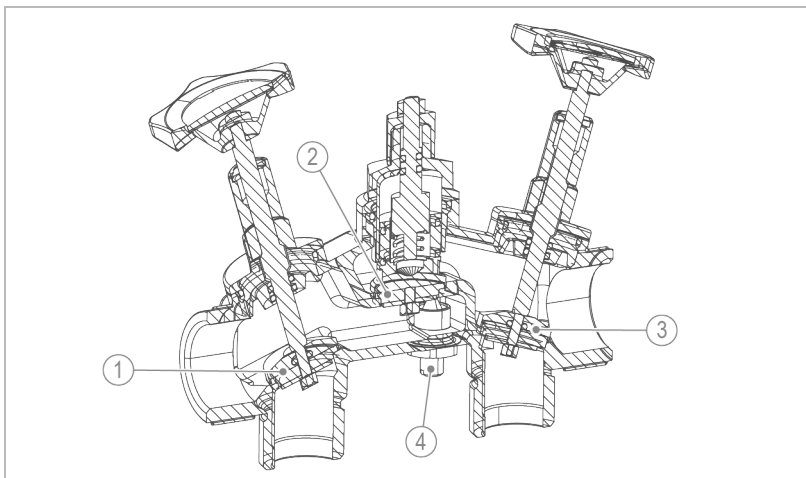
The incoming raw water enters the water softener with the shut-off valve open (raw water inlet).

The water softened to 0 °dH leaves the water softener (water softener outlet) and flows into the service water pipe (soft water outlet with blending) with the shut-off valve open.

The raw water is mixed with the soft water coming from the water softener to achieve a specific blending water hardness.

The required raw water quantity is set at the blending unit on the main valve, which then adds this quantity of raw water automatically in the correct dosage, independent of the water consumption.

If a larger quantity of water is withdrawn, the pressure loss of the water softener results in a differential pressure which opens the valve cone of the main valve, so that now, according to the selected setting, a greater or smaller quantity of raw water can flow into the soft water.



Bezeichnung	
1	Shut-off valve (raw water inlet) closed
2	Valve cone (main valve) closed

Bezeichnung	
3	Shut-off valve (soft water outlet with blending)
4	Bypass cone open

If a low volume of water is withdrawn, a certain amount of raw water is added to the soft water only via the bypass valve, depending on the setting.

6 Installation

When installing the blending unit comply with the following:

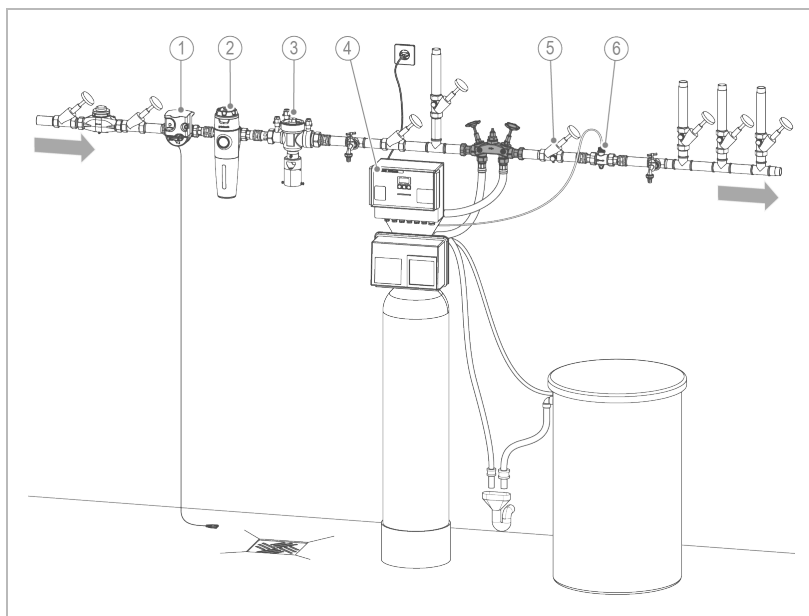
- Installation preferably in horizontal water pipes.
- Suitable for flow direction either from the right or the left.

The nominal connection diameter and the connection size must match.



The direction of flow is indicated by an arrow on the blending unit.

The blending unit is installed in the raw water pipe and the raw water flows through it in the direction of the arrow.

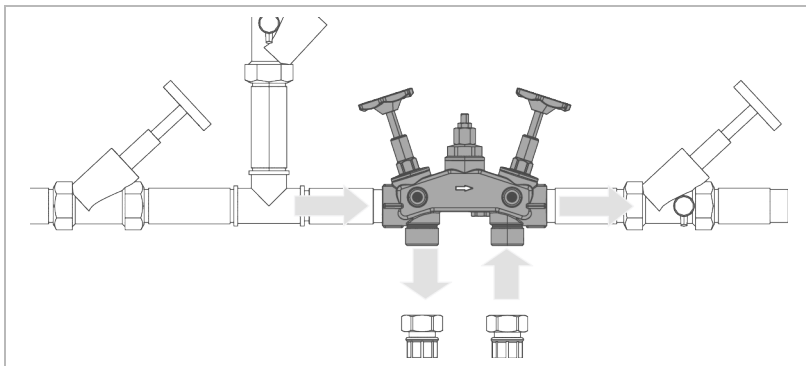


	Bezeichnung
1	Safety device
2	Filter
3	System separator

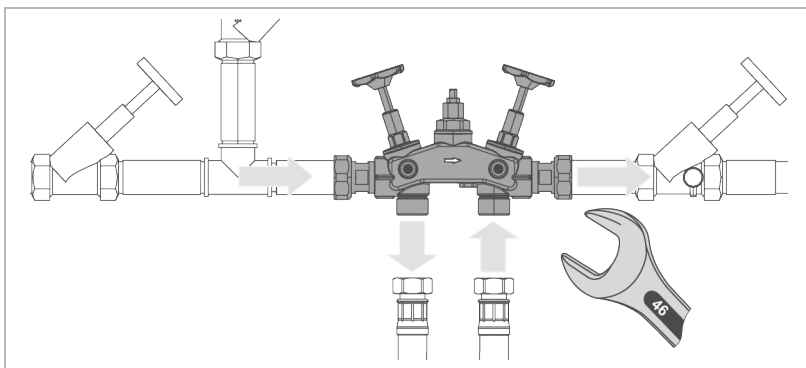
	Bezeichnung
4	Water softener
5	Shut-off valve with sampling tap
6	Water meter

6.1 Water installation

Installation example without water meter screw connection



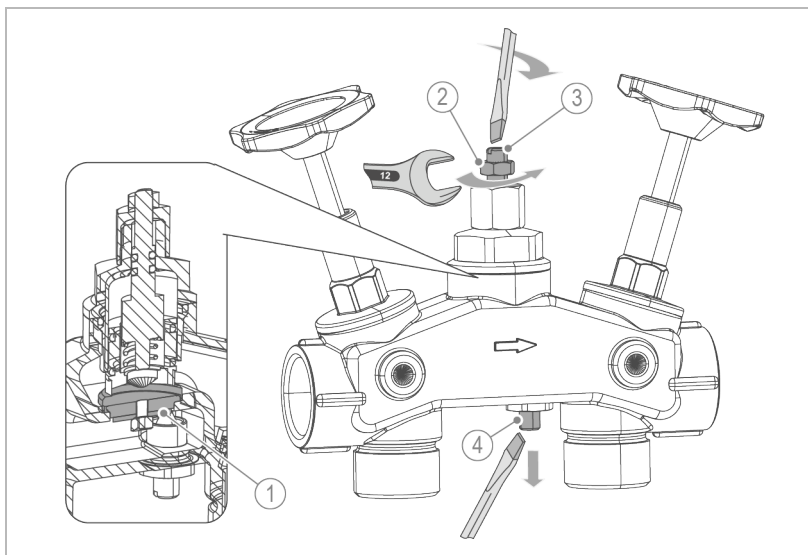
Installation example with water meter screw connection



- ▶ Install the blending valve in the water pipe free of mechanical stress - observe the flow direction.
- ▶ Connect the connection hoses of the water softener.

6.2 Setting

- Set the required blending hardness under operating conditions as follows:



Bezeichnung		Bezeichnung	
1	Valve cone (main valve)	3	Spindle (main valve)
2	Locknut	4	Spindle (bypass valve)

1. Close the main valve (valve cone).
 - a Loosen the lock nut.
 - a Screw in the spindle (main valve) up to the stop.

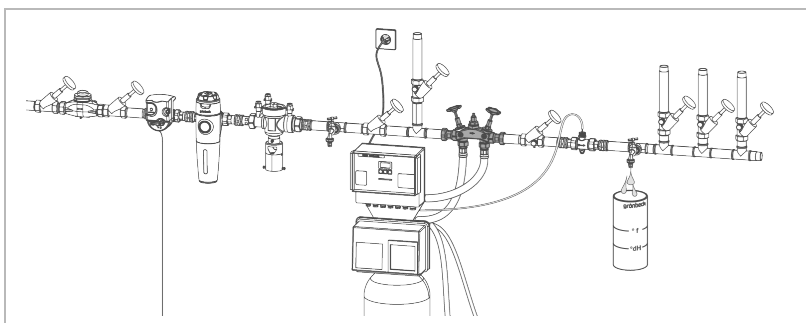


A mechanical stop must be noticeable when screwing in the spindle.

2. Adjust the spindle (bypass valve) so that the desired water hardness is achieved at 10 – 20 % of the max. water consumption.

3. Open the valve cone at maximum water consumption by turning the spindle (main valve) anti-clockwise until the desired water hardness is achieved.
4. Tighten the lock nut.
 - » The blending hardness is set.

7 Start-up



- Measure the blending hardness using the water test kit at the sampling tap.



If the raw water changes significantly, e.g. because the water works delivers a different water type, the blending unit and the water softener must be readjusted.

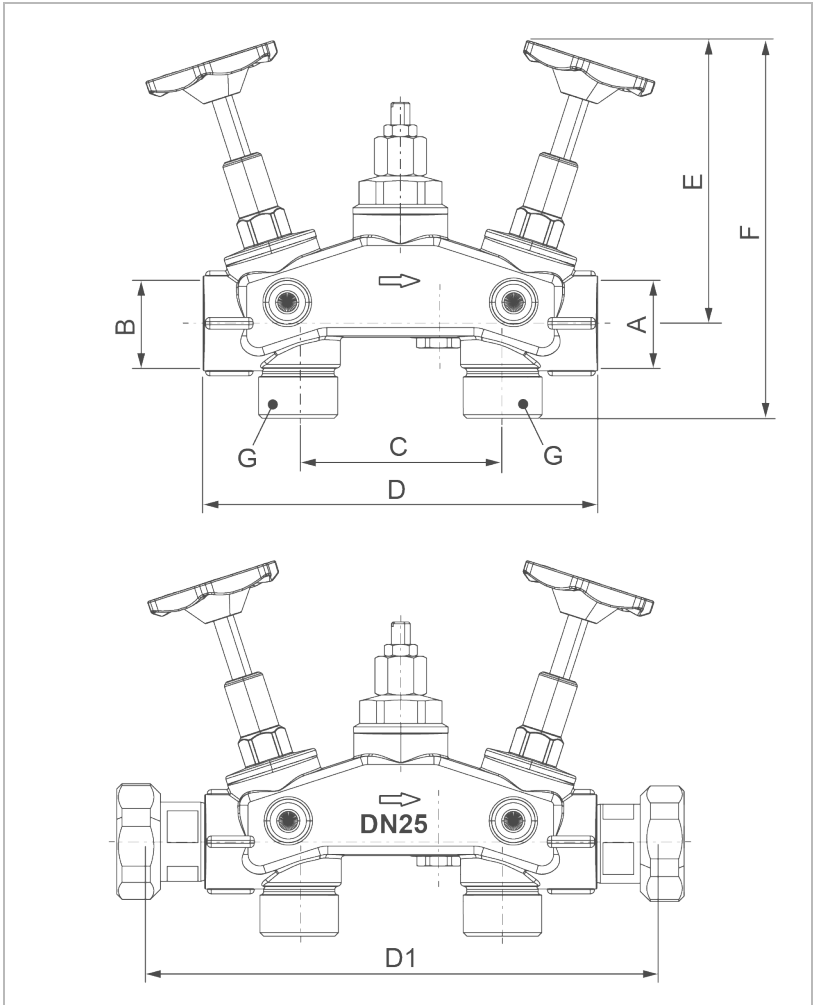
- Check the installation for leaks.

8 Disposal

Do not dispose of the packaging, the product and/or the accessories with household waste.

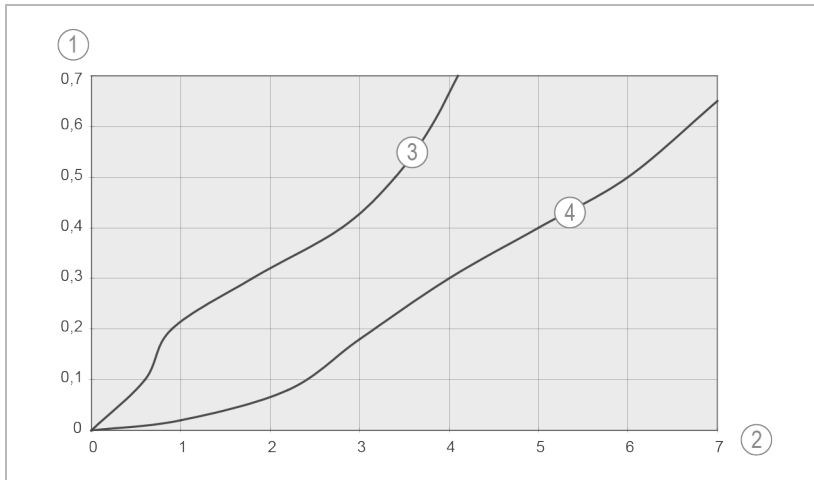
- Comply with the applicable national regulations for disposal.
- Make sure that the packaging, the product and the accessories are disposed of properly.

9 Technical specifications



Maße und Gewichte		DN25
A Nominal connection diameter		1" female thread
B Nominal connection diameter		1" female thread
C Spacing hose connection	mm	86
D Retracted length without screw connection	mm	166
D1 Retracted length with screw connection	mm	220
E Height above centre of connection	mm	124
F Total height	mm	164
G Connection diameter hose connection		1¼" male thread
Weight	kg	2.4
Order no.		126 010

9.1 Pressure loss



Bezeichnung	
1	Differential pressure in bar
2	Flow rate in m³/h

Bezeichnung	
3	Pressure loss with open water softener
4	Pressure loss with shut off water softener

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