

Installation and operating instructions

JUDO BIOSTAT 25 TGA

Water treatment device

Valid for: Canada

Language: English

Attention:

Carefully read through the installation and operating instructions and safety information before installing and putting the unit into service.

These instructions must always be issued to the owner/user.

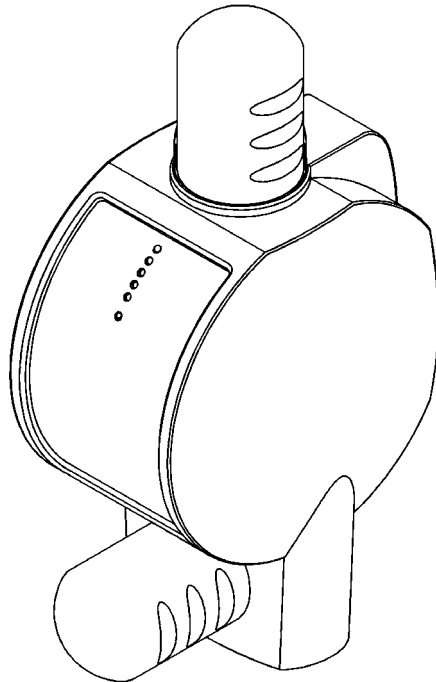


Fig.: BST 25 TGA



For lime protection according to DVGW-W510

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Dear Customer,

thank you for the confidence you have shown in us by purchasing this unit. With this water treatment device you have purchased an unit that fully corresponds to the most updated standards of technology.

This water treatment device is suitable for use in cold drinking water up to a maximum ambient temperature of 86 °F (30 °C).

Each unit is thoroughly checked before delivery. If any difficulties occur, please contact the responsible customer service (see back page).

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Federal Communication Commission Interference Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio / TV technician for help.

FCC Caution: To assure continued compliance, any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

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11. Spare parts BIostat 25 TGA

12. Customer service

Unit no.:

1. About this operating instructions



(siehe Kapitel „Safety information and dangers due to non-compliance“)

This users' manual should always be kept near the actual device in operation.

This instruction manual is intended to make it easier to familiarize yourself with the water treatment device and its possible intended uses.

The instruction manual contains important information required for the safe, correct and economical use of the unit concerned. It contains fundamental information, which must be observed during installation, operation and maintenance. Observance of this information helps to avoid dangers, reduce repair costs and increase the reliability and working life of the water treatment unit.

The instruction manual must be read and used by each person entrusted with carrying out work on the water treatment device, for example:

- **installation**
- **operation**
- **maintenance**
(servicing, inspection, repair)

Installation and maintenance may only be carried out by personnel authorized by the manufacturer, who are capable of fulfilling the instructions given in the installation and operating instructions and the country-specific prescriptions.

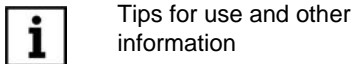
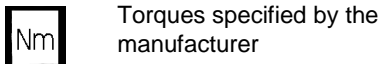
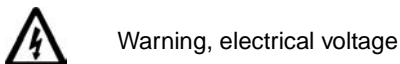
Apart from the instruction manual and the laws governing health & safety applicable in the country and place of use, the recognised technical regulations for safe and proper work must also be observed.

Therefore, this instruction manual must always be read by the fitter and responsible skilled personnel/owner or operator before installation, commissioning and maintenance.

Not only the general safety notes given in the chapter “Intended use“ are to be observed, but also the special safety notes inserted under the other main items.

1.1 Symbols used

The safety notes contained in this instruction manual are labelled with the following symbols:



Notes directly attached to the water treatment device, e.g.:

- direction of flow (see fig. 1)
- type plate
- cleaning information

must always be observed and kept in a fully legible condition.

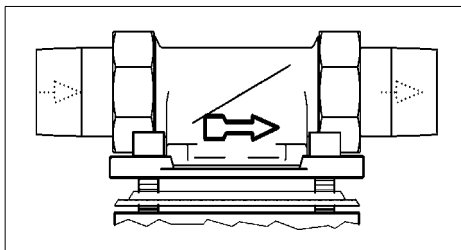


Fig. 1: Built-in rotary flange

1.2 Safety information and dangers due to non-compliance

Failure to observe the general danger symbols may result, for example, in the following risks:

- failure of important functions of the water treatment device.
- danger to persons due to electrical and mechanical effects.
- danger to persons and the environment due to leaks.

Refrain from any unsafe working methods.

Failure to comply with this instruction manual and the safety information can not only result in dangers for people but can also harm the environment and the unit.

1.3 Units used

In derogation of the International System of Units (SI = System International), the following units are used:

Unit	Conversion
°F	$^{\circ}\text{F} = 9/5 \text{ }^{\circ}\text{C} + 32$
psi	1 bar = 15 psi
gpm	$1 \text{ m}^3/\text{h} = 4.4 \text{ gpm}$
gal	$1 \text{ m}^3 = 264 \text{ gal}$
¾"	DN 20
1"	DN 25
1½"	DN 40

2. Intended use

Installation and use of the water treatment device are each subject to the applicable national regulations.

Apart from the instruction manual and the legally binding accident prevention provisions applicable in the country and place of use, the recognized technical regulations for safe and proper work must also be observed.

The water to be treated must comply with the European Drinking Water Directive!

Always contact the manufacturer/supplier before using water with a different quality or with additives!

This water treatment device is suitable for use in cold drinking water up to maximum ambient temperature of 86 °F (30 °C).

It is produced according to the newest standards of technology and the generally accepted safety regulations in Germany.

The water treatment device may only be used as described in the instruction manual. Any other or further use is deemed not to be intended use.

Additional dangers exist in case of non-intended use and failure to observe the danger symbols and safety information. The manufacturer/supplier are not liable for any losses or damage resulting from this. The risk is solely borne by the user.

Intended use also includes observing the instruction manual.

The manufacturer/supplier must always be consulted before using the water treatment device outside the use limitations given in the instruction manual.

The water treatment device is only to be used in a technically perfect condition, for their intended use, safely and aware of the dangers and with full observance of the instruction manual!

Have any malfunctions corrected immediately!

In order to be able to discharge safely the wastewater in operation and in case of any defect in the system, precise compliance with the details stated in the chapter "Requirements for the place of installation" is necessary!

2.1 Water pressure

The water pressure must be between 22 psi (1.5 bar) and 116 psi (8 bar).

If the water treatment device is not regularly regenerated, this can result in a pressure loss and impairment of the softening function.



(see chapter "Safety information and dangers due to non-compliance")

If the **water pressure is more than 116 psi (8 bar)** a pressure reducer must be installed **before** the water treatment device (see fig. 2). An operating pressure of more than 116 psi (8 bar) can lead to malfunction and failure.

The optimal operating pressure for the water treatment device lies between 44 psi (3 bar) and 73 psi (5 bar). It works most economically under these pressure conditions. In modern sanitary installations (in particular where single lever mixers are used), despite normal system pressure conditions, peak pressures of up to over 435 psi (30 bar) frequently occur. This can cause damage to important functional interior parts of the water treatment device.

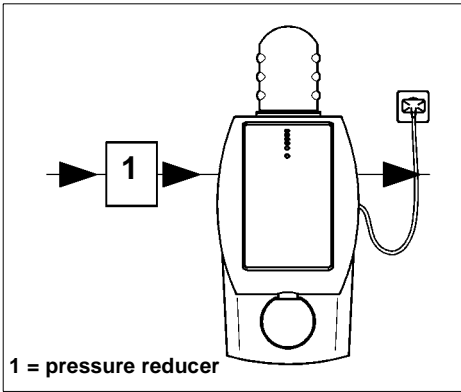


Fig. 2: Pressure reducer upstream of the water treatment device

i For a **water pressure of 73 psi (5 bar) to 116 psi (8 bar)** we recommend the installation of a pressure reducer.

2.2 Notes on special dangers

2.2.1 Electrical equipment / installations



There must not be any electrical cables and devices underneath or in the immediate vicinity of the water treatment device!

Electrical devices / equipment, which are not splash proof and which are located near the water treatment device can be damaged by water which escapes from the water treatment device during cleaning/flushing or improper use. If the electrical devices / installations are connected to the power supply, a short circuit can also occur. In this case there is a risk of people suffering an electric shock. Electrical devices / equipment located near the water treatment device must therefore be splash proof and comply with the legal regulations for wet rooms (IP44).

3. Product information

3.1 Intended purpose

This water treatment device is suitable for use in cold drinking water up to a maximum water temperature of 86 °F (30 °C).



ATTENTION

(see chapter “Safety information and dangers due to non-compliance”)

Please refer to the chapter “Intended use” for use restrictions.

This water treatment device reduces the tendency of the water to precipitate out excess calcium and thus protects the water-pipes and water heaters from lime deposits.

Appliances and taps are protected.



Lime deposits restrain the water flow and can therefore lead to an increased energy consumption.

3.2 Test marks



Fig. 3: DVGW mark

The devices conform to the technical regulations for drinking water installations in accordance with the German standard DIN 1988.

They comply with the requirements of the work sheet W 510 (lime protection devices for use in drinking water installations) issued by the DVGW (Deutsche Vereinigung des Gas- und Wasserfaches e.V.), the German technical-scientific association for the gas and water industries, and are entitled to bear the DVGW mark (see fig. 3).

3.3 Materials used

The materials used are resistant to the physical, chemical and corrosive loads to be expected in the drinking water. All materials are hygienically and physiologically safe. Plastics fulfill the official guideline of the German Federal Environmental Agency as well as the work sheet W 270 issued by the DVGW. Metallic materials fulfil the requirements of the German standard DIN 50930-6 (influence on drinking water condition).

4. Installation

4.1 General



ATTENTION

(see chapter “Safety information and dangers due to non-compliance”)

The unit may only be installed by skilled personnel.

The chapter “Intended use” has always to be observed !

The pipes must be able to support in a safe way the water treatment device.

Otherwise mechanical damage or fractures/bursts can occur in the pipes. This can result in major water damage. People close to the water treatment device are exposed to a health risk due to the large quantities of water released. Therefore, if necessary, the pipes must be additionally fixed or supported.

Always observe the given spacings to ensure convenient operation and servicing (see chapter “Mounting dimensions”).

A distance of at least 6 inch (150 mm) above and below the water treatment device is required in order to be able to carry out properly all the maintenance and servicing work.

When installing the water treatment device in the feed-pipe to the water heater, ensure that the safety valve of the water heater is located **after** the water treatment device in the direction of flow.

4.2 Requirements for the place of installation

The room where the unit is installed must be dry and frost free!

Unauthorised persons must not have access to the water treatment device!



ATTENTION

(see chapter "Safety information and dangers due to non-compliance")

- The ambient temperature must not exceed 86 °F (30 °C)! At higher temperatures or direct sun radiation the material can be damaged.
- We recommend that the water treatment device is installed after a backwash protective filter, to prevent particles of dirt and sand being swept in.



A power connection (120 V, 60 Hz), which has to be permanently under voltage, must be available.

- Length of the power lead is approximately 118 inch (3 m).
- Particularly in the case of small cross-sections and soft pipe materials, the water pipes should be supported in the vicinity of the connecting flange with two pipe-clamps.

4.2.1 Installation position



ATTENTION

(see chapter "Safety information and dangers due to non-compliance")

Always install the water treatment device in a vertical position ($\pm 5^\circ$)!

Unless, impairments of its function can occur.

4.2.2 Power supply



A splash proof socket is required for the power supply, in accordance with the legal regulations for wet rooms.



ATTENTION



(see chapter "Safety information and dangers due to non-compliance")

A permanent power supply that is not connected to a light switch must be available. If the water treatment device is not permanently supplied with power, there is no warning in case of faults, and no water is treated.

4.2.3 Mounting the built-in rotary flange

The built-in rotary flange is used as a connecting element between the pipe and the water treatment device.

It is suitable for both, horizontally and vertically mounted pipes.

The built-in rotary flange must be installed in the direction of flow. This is marked by a cast in arrow (see fig. 1).

If these instructions aren't respected, the water treatment device doesn't work.



ATTENTION



(see chapter "Safety information and dangers due to non-compliance")

The flange surface of the built-in rotary flange must be in a vertical position! The built-in rotary flange must be fitted thus that mechanical stresses cannot occur! Otherwise mechanical damages can arise at the built-in rotary flange. This can lead to major water damages.

In this case, people close to the water treatment device are exposed to a health risk due to the large quantities of water.

Therefore, when mounting, ensure that no large forces act on the pipe, built-in rotary flange and water treatment device.

4.2.4 Mounting the water treatment device

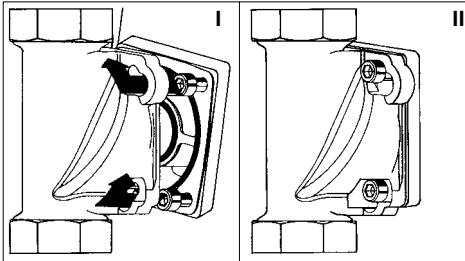


Fig. 4: Built-in rotary flange with bayonet fixture

- After flushing the water pipe, remove the assembly lid of the built-in rotary flange.
- Remove the white protective disc on the connecting flange of the water treatment device by unscrewing the four M6 Allen screws.

Do not completely unscrew the screws because of the bayonet connection!

- Lift up the water treatment device and swivel it approx. 30° in an anti-clockwise direction.
- Position it on the built-in rotary flange so that the screw heads pass through the bayonet fixing drill holes (see fig. 4 I).
- Swivel the water treatment device approx. 30° back in a clockwise direction and tighten the four Allen screws (see fig. 4 II).



Select the torque (approx. 4 Nm) so that the gasket locks and the water treatment device is not damaged or strained!

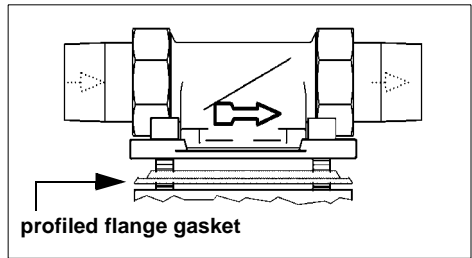


Fig. 5: Built-in rotary flange

The profile of the profiled flange gasket must point towards the built-in rotary flange (see fig. 5). Failure to observe this can lead to leaks and water escaping. This can cause damage due to water to the house and its installations.

4.3 Discharging the flushing water

An adequately dimensioned wastewater connection (e. g. floor drain) according to DIN 1986 must be available for the flushing water.

The dimensioning depends on the local circumstances (e. g. wastewater pipe gradient, number of pipe bends, length of the wastewater pipe, etc.). The dimensioning must at least ensure that all the wastewater can be discharged temporarily coordinated.

If it is not possible to locate a drain connection directly under the water treatment device, the wastewater hose can be routed over the water treatment device.

The wastewater hose for the flushing water must be led to the drainage channel without any kinks.

In all options, a free discharge must be ensured in accordance with EN 1717.

The loose end of the hose has to be firmly fixed with the included adhesive tape at the pipe or a similar object.

The flushing water must be discharged into a firmly mounted drain.



Ensure that the wastewater connection functions before plugging the power supply unit into the socket.

Flushing water discharge options

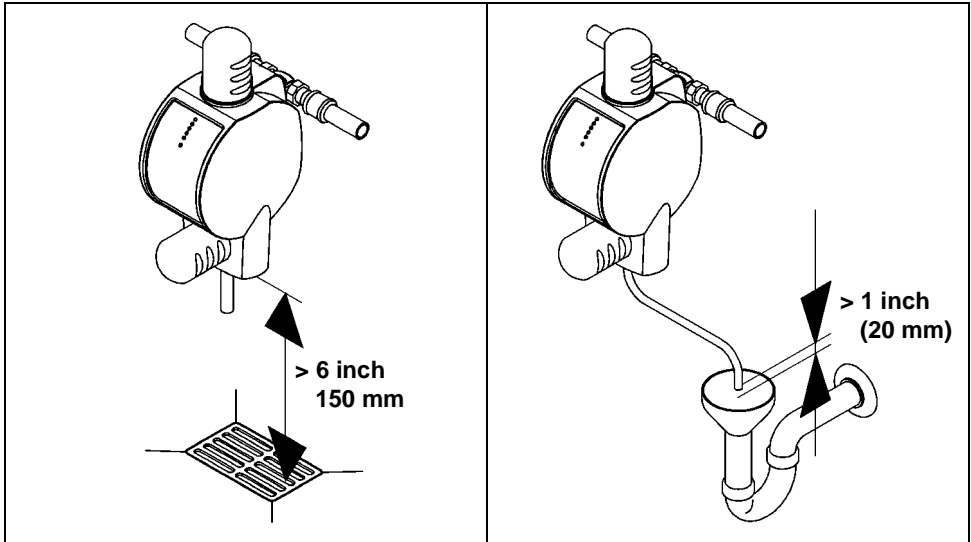


Fig. 6: Flushing water discharge options

5. Operation



ATTENTION

(see chapter “Safety information and dangers due to non-compliance”)

Always observe the chapter “Intended Use”!

5.1 Commissioning

For safety reasons, the water treatment device must be **vented immediately** after having been connected with the water supply.

- Set the bypass valve (if mounted) to the setting “Operation”.
- Turn on a water tap mounted after the water treatment device.
- The power supply must be freely accessible.



Connect the water treatment device to the power supply. Plug the power supply into the socket.

After the power supply has been connected, the electrical circuit performs a self-check of all the functions and parameters stored in the electronics.

Following a successful check, all control lamps flashes four times.

As soon as LED 1 shows a continuous green light indicating “Operation”, the water treatment device is ready for use. When water is flowing, the green LED 1 flashes (see chapter “Control lamps, manual push-buttons”).

Electrical circuit

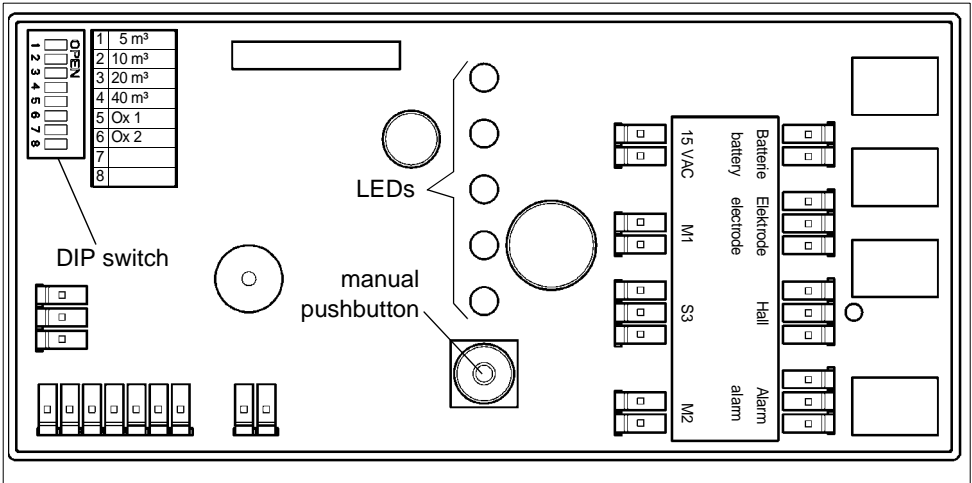



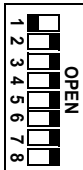
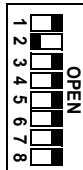


Fig. 7: Electrical circuit

5.2 Setting the cleaning interval

Factory-adjusted setting: 1321 gal (5 m³)
(see chapter “Cleaning / flushing”)

 **Disconnect the power supply from the socket.**

- Remove the panelling of the water treatment device (see chapter “Mounting of the panelling”).
- Set the cleaning interval via the contacts 1 to 4 of the electrical circuit (see chapter “Cleaning / flushing”).

1321 gal (5 m ³)	2642 gal (10 m ³)	5283 gal (20 m ³)	10.567 gal (40 m ³)
			

Tab. 1: Setting the cleaning interval

For setting only one of the contacts 1 to 4 may be positioned to the left.

In case of incorrect settings the circuit responds with an acoustic signal tone (see chapter “Fault”).

- Remount the panelling of the water treatment device (see chapter “Mounting of the panelling”).

 **Plug the power supply into the socket!**

5.3 Description of its function

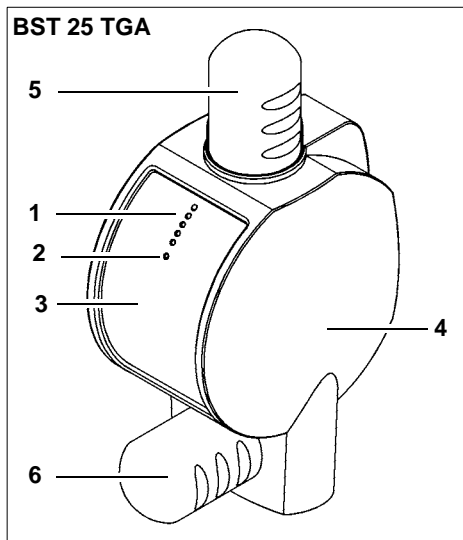


Fig. 8: Description of its function

- 1 Control lamps
- 2 Manual pushbutton
- 3 Type plate
- 4 Panelling
- 5 Cleaning motor
- 6 Flushing motor

5.3.1 Treatment effect

The water treatment device works completely automatically. The treatment effect is adapted at the water flow. In the feed to the water treatment device there is a flow-meter.

The flow-meter consists of a propeller water meter.

Due to the water flow the screw propeller, that can be found in the propeller water meter rotates, and a Hall Sensor receives impulses from the magnet in the propeller.

The electronics then calculate the water flow from the frequency and quantity of the impulses. The electronics regulate the treatment current referring to the relation that exists between the applied voltage and the treatment current as well as from the duration of the treatment current (impulse length). The electronics optimise the treatment current, according to the quality of the water.

As soon as water flows, the water treatment is indicated by the flashing of green LED 1 (see fig. 9).

5.3.2 Lime protection function

The water treatment device sets free the minute seed crystals to which further lime can attach itself. In the treatment section, there is a titanium anode (positive pole) and a circular stainless steel brush switched as the cathode (negative pole). As soon as water flows, there is a pulsating direct current applied to these two electrodes so that there is a flow of electricity between the electrodes. Dissolved calcium in the form of calcium carbonate crystals is then deposited on the cathode (the circular stainless steel brushes). On cleaning, these crystals of calcium carbonate are thrown off the separate bristles by rotating the circular brush. The crystals thus formed are minute micro-crystals. Larger crystals which may possibly also appear sink together with separate loose brush particles to the bottom and are flushed out via the flushing valve during cleaning.

The lime particles can be seen in the flushing water as very fine "sand". The microcrystals remain in suspension and thus form seed crystals on which further lime can be deposited. Principally in the warm water field the growth of the crystals can be realized by a gradual clouding of the water. The crystals slowly grow large enough to be able to disperse the rays of light. At that stage, they are but a few thousandths of a millimeter in size. But even these crystals are small enough to remain in suspension and to be flushed out with the water flow. The same process goes on in the cold water field, too, although the potential here for deposition of lime is considerably less in normal circumstances. Since the excess lime (calcium) is now deposited at the seed crystals, other surfaces (e. g. pipework, boiler etc.) are not affected by lime deposits so that heating elements for example no longer fur up. Although this formation of crystals does reduce the hardness of the water, the reduction is so small that they remain undetectable by means of simple measuring instruments.

In the feed of the unit, is a propeller water meter which can even detect such small flows of water as 0.4 gpm (1.5 l/min). Together with a microprocessor-controlled electronics, optimal water treatment is ensured at all times from tiny flows up to the nominal capacity, and also depending on the water quality by adapting the electrical impulses.

5.4 Control lamps, manual pushbuttons

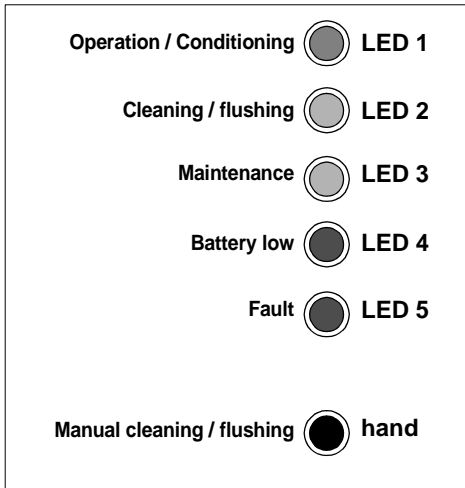


Fig. 9: Control lamps, manual pushbuttons

LED 1	Operation / Conditioning
--------------	---------------------------------

Permanent green light: The water treatment device is ready for use.

Green light flashing: Water treatment is taking place.

LED 2	Cleaning / flushing
--------------	----------------------------

Permanent green light: A cleaning / flushing cycle is being carried out.

LED 3	Maintenance
--------------	--------------------

Permanent yellow light: A maintenance **should be** performed (see chapter "Maintenance").

Permanent red light: A maintenance **has to be** performed.

Red light flashing: A maintenance **must be** performed; there is no water treatment taking place anymore.

LED 4	Battery low
--------------	--------------------

Red light flashing: The battery must be changed otherwise no further cleaning / flushing can be carried out.

LED 5	Fault
--------------	--------------



Red flashing light: the water treatment device is not ready for use (see chapter "Fault").

Hand	manual pushbutton
-------------	--------------------------

Triggers a cleaning / flushing cycle.

5.5 Cleaning / flushing

Depending on the quality of the water and the operating methods, a thin coating of lime is formed on the brush in the treatment chamber. This lime layer must be removed and flushed out of the water treatment device at regular intervals.

The water treatment device has a device for flushing the brush and a flush valve for rinsing out the lime particles.

Cleaning / flushing is carried out automatically by two electric motors.



Make sure that the drain connection is functional before plugging the power supply into the socket (see chapter “Discharging the flushing water”).

During cleaning / flushing, the yellow LED 2 lights up.

The cleaning / flushing can be started manually by operating the manual pushbutton (2).

6. Maintenance



Contact the fitter or the nearest customer service to perform a maintenance (see chapter “Customer service”).

6.1 Demand for maintenance

LED 3 flashes 3 years after commissioning or the latest maintenance of the water treatment device. At a water consumption of over 85.850 gal (325 m³) per year this time frame reduces.

By this the controls signal that a maintenance **should** be performed by the fitter or the nearest customer service.

After four weeks the color of LED 3 changes from yellow to red. A maintenance **must** be performed now.

6.2 Failure to observe the maintenance demand

If the maintenance demand (LED 3 red) is ignored, water treatment will no longer take place after 10 days. The LED 3 flashes red then.

6.3 Warning message "Battery low"

To ensure that cleaning / flushing is carried out completely, even in case of a power failure, the water treatment device has a 9 V block battery installed as an emergency power supply.

Before each cleaning / flushing a battery test will be effected. A missing, unloaded or defective battery is indicated by the flashing of the red LED 4. A triggering of the container flushing is then not possible.

6.4 Mounting of the panelling

Dismantling:



Disconnect the power supply from the socket.

- Withdraw the upper / inferior clamping fixture.
- Carefully pull apart the right and the left panel parts by the handle cavities on the back of the panelling.
- Remove the type plate and the panelling.

Assembly:

- Push the right and left parts of the panelling together till a gap of approximately 0.6 inch (15 mm) is left.
- Ensure that the cable is not trapped!
- Refit the type plate in the blanks, of the panelling, situated above and below.
- Push the panelling completely together.



Plug the power supply into the socket!

6.5 Replacing the batteries

When a change of batteries is necessary (LED 4 flashes) the following procedure is adopted:



Disconnect the power supply from the socket.

- Remove the panelling from the water treatment device.
- The battery is located behind the electrical switch and must be disconnected from the battery clip.
- Exchange the battery and push it back into the corresponding blank behind the switch.
- Remount the panelling on the water treatment device.



Plug the power supply into the socket!

- Return run-down batteries to a distributor or to a properly-authorized local disposal return point.



Only use 9 V alkaline type block batteries (see battery description).

6.6 Modifications / changes / spare parts



ATTENTION



(see chapter “Safety information and dangers due to non-compliance”)

Only original spare parts are to be used!

Independent modifications and changes are prohibited for safety reasons! These can impair the function of the water treatment device, lead to lead and in extreme cases can cause the water treatment device to burst.

The test marks imprinted on the unit are only valid if original spare parts are used.

6.7 Stoppages



(see chapter “Safety information and dangers due to non-compliance”)

If a water treatment device has to be removed from the flange or unscrewed, the chapter “Intended Use” must always be observed!

- Protect the flange surfaces from damage! Damaged flanged surfaces cannot close tight. As a result, escaping water can damage the building and installations.
- Ensure that no dirt can get into the water treatment device! This dirt can get into contact with and be discharged into the drinking water when the water treatment device is switched back on. The health of people who drink dirty water is at risk.
- Store the water treatment device in frost-free conditions! Frost can cause any water contained in the water treatment device voids to freeze and thus cause mechanical damage to the water treatment device so that it leaks at operating pressure or can burst. Leaking water can cause major damage to the building. In addition, people near the water treatment device can be injured by breaking off water treatment device parts.
- When restarting the water treatment device, follow the instructions for a new water treatment device.

7. Fault

The opening of the units, and the exchange from parts that are water pressure-charged have to be effected only by licensed specialists to ensure the safety of the device as well as its leak tightness.



If a fault occurs at the unit it will be indicated by the LED 5 flashing red.

Deleting the error message:



Disconnect the power supply from the socket. Plug it back in after approx. 5 seconds!

Help with faults:

Fault	Cause	Remedy
Permanent red light from LED 5 and permanent acoustic signal.	DIP switch incorrectly set.	Reset DIP switch (see chapter "Setting the cleaning interval").
LED 5 flashes red.	Momentary power failure.	Delete the failure message. The device reverts automatically to normal operation.
	Cable connections have become loose.	 <p>Disconnect the power supply from the socket!</p> <ul style="list-style-type: none"> – Remove the panelling (see chapter "Mounting of the panelling"). – Check the cable connections, reconnecting each plug-and-socket connection which is loose. – Remount the panelling. – Plug the power supply back into the socket.
Repeated fault message after having reconnected the power supply in the socket.		<p>Inform fitter or nearest available customer service point without any delay.</p> <p>Quote the unit number (see unit no. in front of the chapter entitled "About this operating instructions").</p>  <p>Disconnect the power supply from the socket!</p> <p>The water treatment device has to be out of service till the arrival of the customer service. Set the bypass valve (if mounted) to "Bypass".</p> <p>If there is no bypass valve mounted, ensure that there is not any water escaping from the wastewater connection.</p> <p>Remove the spherical valve actuator with a sudden pull. Close the spherical valve with the included hand lever.</p>
LED 4 flashes red.	Battery is empty.	Replace by a new battery (type alkaline). Return run-down batteries to the collection points.

8. Maintenance



(see chapter "Safety information and dangers due to non-compliance")

Always observe the chapter "Intended use"!

8.1 Cleaning



(see chapter "Safety information and dangers due to non-compliance")

Only use clear, clean drinking water to clean the housing.

Domestic all-purpose cleaners and glass cleaners can contain up to 25% solvents or alcohol (spirits).

These substances can chemically attack the plastic parts, which can lead to brittleness or even fractures.

Such cleaners must therefore not be used.

9. Warranty and services

To keep your legal guarantee claims, it is necessary, in accordance with DIN 1988, section 8, that, depending on the individual water consumption, a visual inspection of the device has to be effected, every 03 to 06 months, and that the unit is flushed according to the operating instructions.

In order to achieve a successful operating, and this also after the putting into service, and for many years, it is indispensable to effect a regular maintenance. Concerning the domestic water technique this is covered by DIN 1988, section 8.

A maintenance contract is the best way, to ensure a good function of the unit, and this also beyond the guarantee period.

Wherever possible, the regular servicing work and supply with consumables and wearing materials, etc. should be carried out by the specialist trade or the factory's customer service department.

10. Data sheet

10.1 Type

JUDO BIOSTAT 25 TGA

Water treatment device

Abbreviated name: BST 25 TGA

10.2 Models

Model	Size	Ordner no.
BST 25 TGA	1"	2210459

10.3 Technical specifications

- Maximum ambient temperature and water temperature: 86 °F (30 °C).
- **The water to be treated must possess quality of drinking water!**
- Threaded connection according to DIN EN 10226-1.

Operating pressure	Nominal pressure
22 psi (1.5 bar) to 116 psi (8 bar)	PN 10

The nominal pressure signifies the pressure step, according to that the water treatment device must fulfil the requirements according to W 510. The maximum operating pressure is lower, in order to ensure the optimal function of the water treatment device.

Technical specifications

Nominal flow rate	11 gpm (2,5 m ³ /h)
Pressure loss at nominal flow rate	5.8 psi (0.4 bar)
Pipe connection	1"
Max. power consumption	25 W
Average daily water consumption	max. 800 liters

Installation height depends on the type of drainage (see chapter "Discharging the flushing water").

10.4 Mounting dimensions

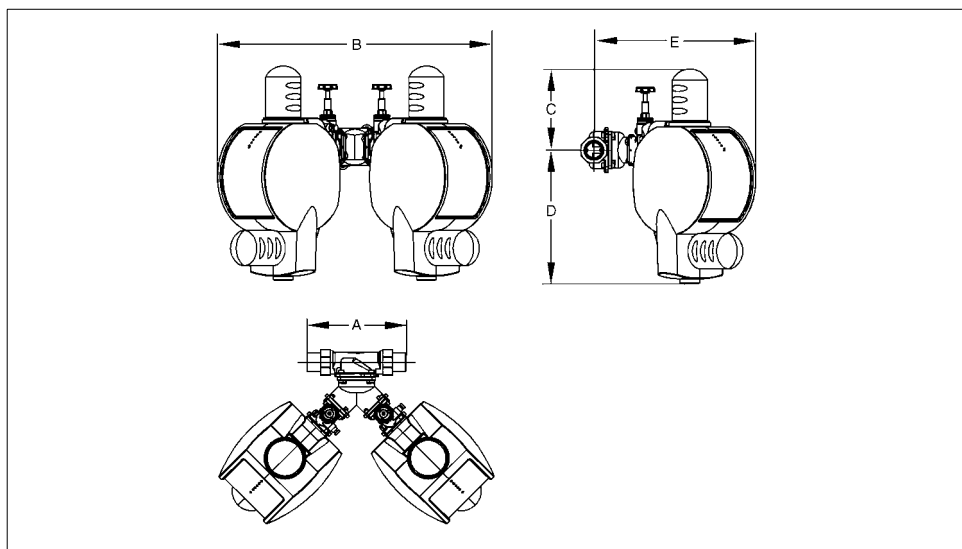


Fig. 10: Mounting dimensions (example: BST 2050)

A	= mounting length (rotary flange)	10 (255)
B	= device width	28 (700)
C	= height above pipe center	8 (210)
D	= height below pipe center	14 (350)
E	= mounting depth to pipe center	16 (415)

All dimensions in inch (mm) (see fig. 10)

10.5 Scope of supply

- water treatment device
- wall support (2200500) to prevent the water treatment device from twisting.
No support of weight!
- installation and operating instructions
- hand lever

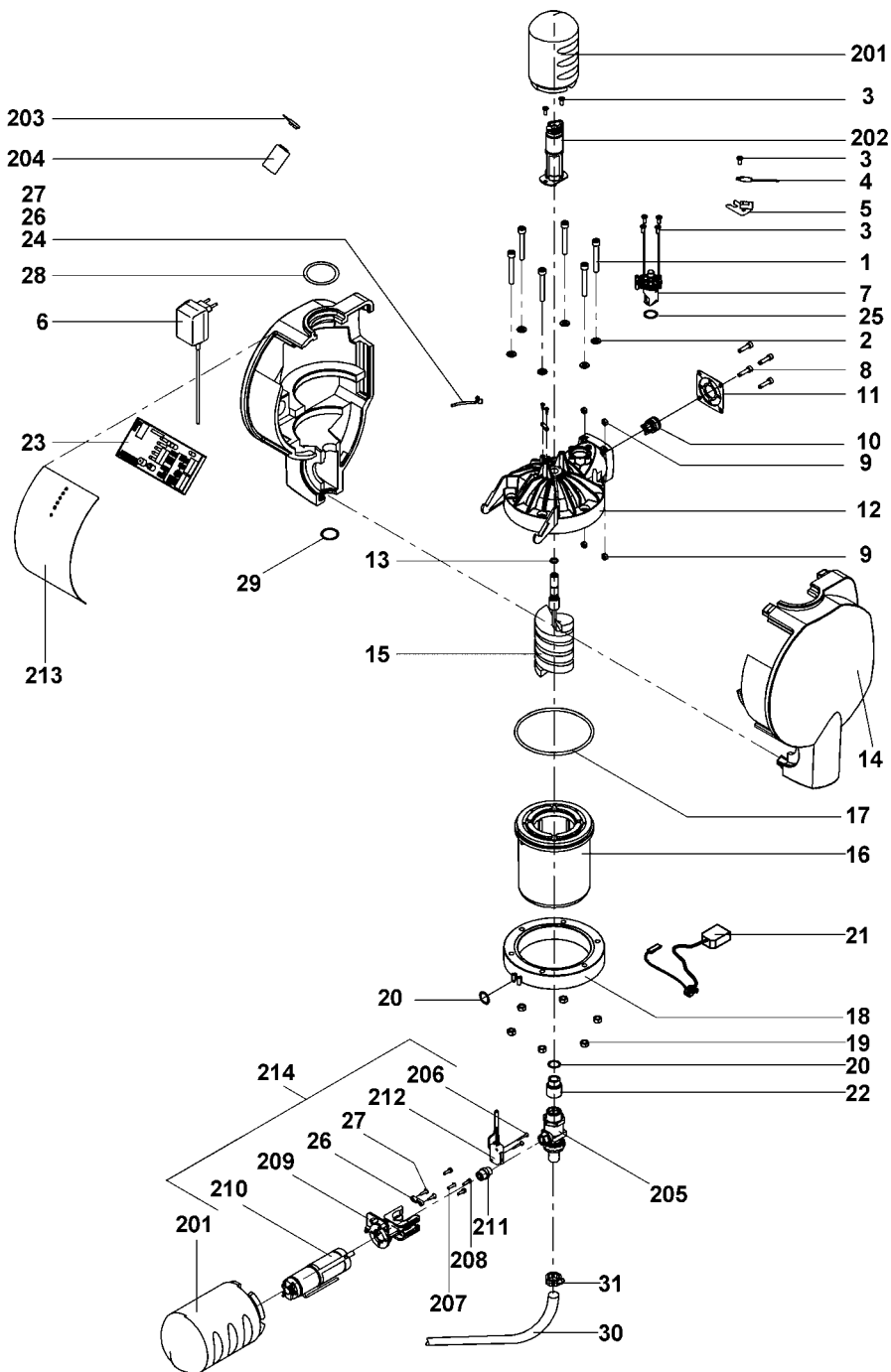
10.5.1 Protective measures against corrosion

Our recommendation for corrosion problems in cold water:

A metering pump JUDO JULIA has to be mounted on the water pipe after the water treatment device, in order to enrich proportionally the water with a mineral solution JUL.

Mineral solutions JUL contain active components which create the conditions in which a homogeneous protective coating can be formed in the system of pipework located thereafter. These active components correspond to the prescribed type, quality and quantity, according to in article 11 Drinking Water Regulations 2001 on treatment substances and disinfection methods.

11. Spare parts BIOSTAT 25 TGA



List of spare parts BIostat 25 TGA

Item	Description (Recommended average replacement interval for wearing part [*])	Piece	Order no.	AU ¹⁾ /piece	
1	Cheese head screw M8x65	6	1650365	3	
2	Disc A8,4	6	1607125	1	
3	EJOT screw	7	1650201	3	
4	Sliding contact	1	1500330	15	
5	Sliding contact - support	1	1120622	55	
6	Power supply	1	2201006	85	
7	Water meter - insert	****	1	2210292	45
8	Cheese head screw M6x25	4	2010199	2	
9	Hexagonal nut M6	4	1633145	1	
10	Backflow preventer 1"	1	1610287	29	
11	Profiled flange seal	**	1	1200218	5
12	Upper part	1	2210290	210	
13	O-ring 10x3	**	1	1120332	2
14	Panelling	1	1140114	72	
15	Round brush with O-ring	****	1	2210291	65
16	Lime protection unit	***	1	2210358	398
17	O-ring 135x5	**	1	1200313	15
18	Flange ring complete	1	2210285	79	
19	Hexagonal nut M8	6	1607117	2	
20	O-ring 18x2,5	2	1200291	2	
21	Electrode cable	1	2210351	48	
22	Extension ½"	1	1440162	8	
23	Electrical circuit	1	2210330	640	
24	Hall sensor	1	2200715	51	
25	O-ring 21,89x2,62	****	1	1200125	1
26	Strain relieving bracket	2	1609114	2	
27	Slotted pan head screw 2,9x13	4	1609172	1	

Item	Description (Recommended average replacement interval for wearing part [**])	Piece	Order no.	AU¹⁾/piece
28	Clamping fixture large	1	1120625	5
29	Clamping fixture small	1	1120624	4
30	Wastewater hose	1	2633342	17
31	Hose clamp	1	1633344	7
201	Engine cowling	2	2210390	27
202	Brush drive complete	1	2210348	265
203	Battery cable	1	2210286	11
204	E-block battery 9V Alkaline **	1	1500261	18
205	Spherical valve ½"	1	2210311	24
206	Tapping screw C2,9x19	2	1609174	1
207	Flat head screw M3x10	1	1650381	1
208	Cheese head screw M3x10	3	1650144	1
209	Motor bracket	1	1120590	19
210	Gear motor complete	1	2210374	265
211	Motor coupling	1	1500316	15
212	Rotary selector switch complete	1	2200799	29
213	Front foil	1	1702205	38
214	Flushing motor complete	1	2210347	338

1) AU = Accounting unit

Replacement interval: ** = 2 years, *** = 3 years, **** = 4 years

12. Customer service



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www.judo-online.com

Installed by:

JUDO JULIA

Metering pump for JUL mineral solution against corrosion (brown water) and lime deposits.

JUDO HEIFI-KOM

Combination of the heating backwashing filter and automatic heating feed station for fulfilment of DIN EN 1717.

JUDO PROMI domestic water station

Backwash protective filter with JUDO PROFI-PLUS technology, pressure reduce and backflow preventer.

JUDO ZEWA- WATERSTOP

Central water safety fitting. Stops water flow in the event of water pipe bursts and detects leaks.

JUDO PROFI-PLUS

Backwashing protective filter in the germ protection class with silver plated strainer and point rotation system for optimal cleaning of the strainer.

All illustrations, dimensions and information for the different models are those valid on the date of printing. All rights are reserved for modifications as a result of technical progress or further developments. Claims with regard to models or products are excluded.

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