

OPERATING AND INSTALLATION MANUAL

IPS

ProtectX

A device intended for the protection against lime scale



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 **DRAŽICE**
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CAREFULLY READ THIS MANUAL BEFORE INSTALLING THE PRODUCT ACCESSORIES!

Dear customer,

The Works Cooperative of Dražice - Machine Plant, Ltd., would like to thank you for your decision to use a product of our brand.

The product is not intended to be controlled by

- a) people (including children) with reduced physical, sensual or mental capacities, or
- b) people with insufficient knowledge and experiences unless supervised by responsible person, or unless properly instructed by such responsible person.

The manufacturer reserves the right for engineering modification of the product.

It is recommended to use the product in indoor environment with air temperatures from +2 °C to +45 °C and a relative humidity up to 80 %.

Meaning of pictograms used in the Manual



Important information for heater users.



Abiding by the recommendations of the manufacturer serves to ensure trouble-free operation and the long service life of the product.



Caution!
Important notice to be observed.

1 PRODUCT TECHNICAL SPECIFICATION

1.1 FUNCTION DESCRIPTION

The IPS device (Ion Polarization System) - ProtectX is designed for physical and galvanic water treatment for households, public buildings and industrial plants. Water hardness refers to the amount of calcium and magnesium found in the water. ProtectX - is not a softener - it adds or removes nothing from the water. It preserves all its health benefits and improves its properties. At the same time, it effectively prevents the formation of solid lime scale deposits and corrosion in cold and hot service water pipelines, boiler heating elements, facets, appliances, etc. ProtectX is suitable for new pipelines as a prevention item, but also for older pipelines, where it gradually removes the existing deposits. ProtectX is a through-flow body with inlet and outlet ports. The electrodes in the shape of turbines (not magnets) are located there; they are made of two different electrically conductive materials. The design of the electrodes is patent protected (TGP®- turbulent galvanic polarization) and creates a swirling water flow, resulting in a change of the mineral structure. The water that flows through the body creates a galvanic wet cell with a voltage of 4.2 to 6 V with the electrodes. As a result, the minerals and salts in the treated water lose their ability to form hard crystalline deposits (calcite). They acquire the structure of soft particles - sludge (aragonite) and are washed away with the water. They maintain this structure for up to 72 hours.

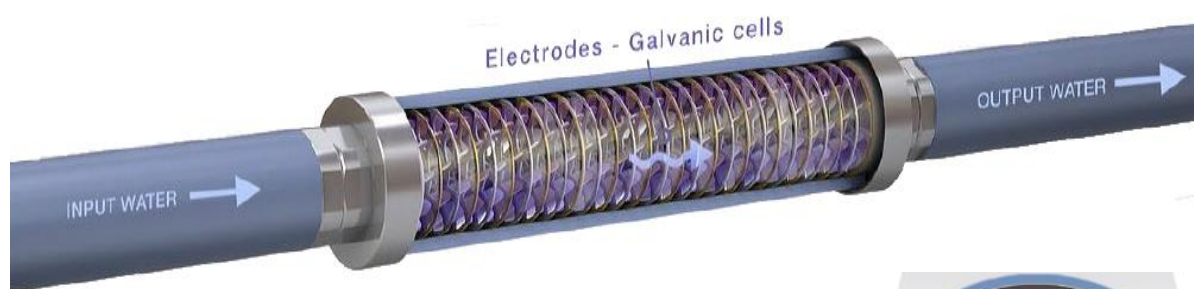


Figure 1

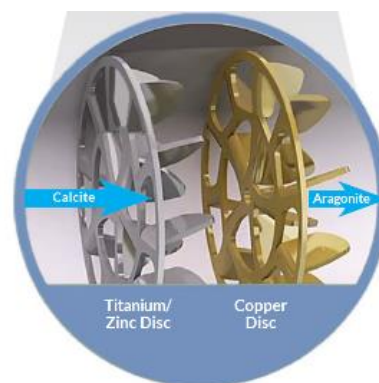


Figure 2

1.2 INFORMATION FOR THE CONSUMERS



The device is effective in water with a conductivity of 50-2000 $\mu\text{s}/\text{cm}^2$. It is normal water with a hardness of 8-30 $^{\circ}\text{dH}$ (German degrees). ProtectX meets all safety criteria for drinking water contact and has an international IAPMO certificate confirming 76 % efficiency of lime scale reduction.

ProtectX is an environmentally friendly product. It works efficiently and reliably for about 10 years without:

- an external energy sources
- operator
- operating costs
- chemicals
- magnets.

USAGE OF ProtectX

households, public buildings, restaurants, hotels, manufacturing and processing plants. It works reliably in heat transfer stations, to protect heat exchangers and cooling equipment.

1.3 GENERAL DIMENSIONS

MODEL	CONNECTION	WIDTH [mm]	LENGHT [mm]	WEIGHT [g]	MAX. FLOW [m3/hour]
ProtectX G 1/2"	thread	50	245	910	1
ProtectX G 3/4"	thread	50	245	890	3,2
ProtectX G 1"	thread	50	251	933	4

Table 1

2 OPERATING AND ASSEMBLY INFORMATION

2.1 ASSEMBLY



When installing ProtectX, the flow direction (FLOW DIRECTION) indicated by the arrows on the body of the device must be observed. Compliance with this condition affects the correct functioning and efficiency of the device.

In a system with ProtectX, an ion converter, electromagnetic system, or equipment using external voltage must not be used. The maximum speed of water flow through the device is 4 m/s. The device is designed for pressure of up to 1 MPa. Pressure losses are negligible.

2.2 ASSEMBLY DIAGRAM

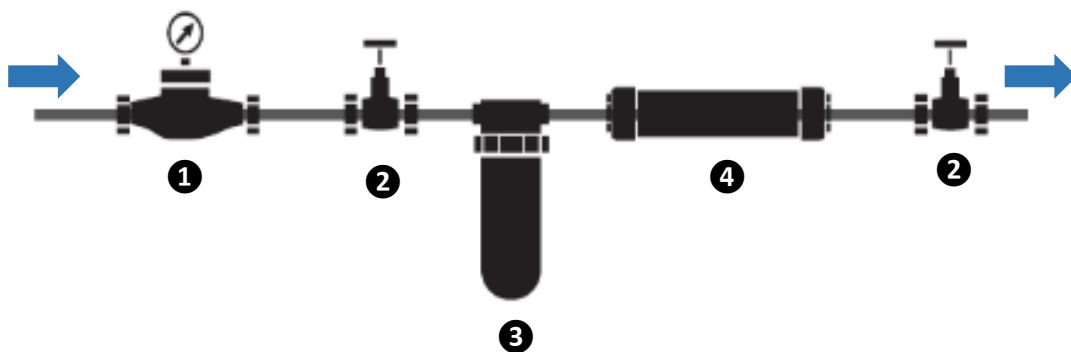


Figure 3

1. Consumption merer
2. Shut-off valve
3. Filter for mechanical impurities
4. ProtectX

3 IMPORTANT WARNINGS

3.1 DISPOSAL OF PACKAGING MATERIAL AND NON-FUNCTIONAL PRODUCT

For the packaging in which the product was delivered, a service fee was paid to ensure the return and recovery of the packaging material. The service fee was paid according to Act No. 477/2001 Coll., as amended, at the company EKO-KOM a.s. The client number of the company is F06020274. Dispose of the packaging from the water heater to a waste disposal site designated by the municipality. Disassemble the discarded and unused product after its operation and transport it to a waste recycling centre (collection point) or contact the manufacturer.



5-11-2019