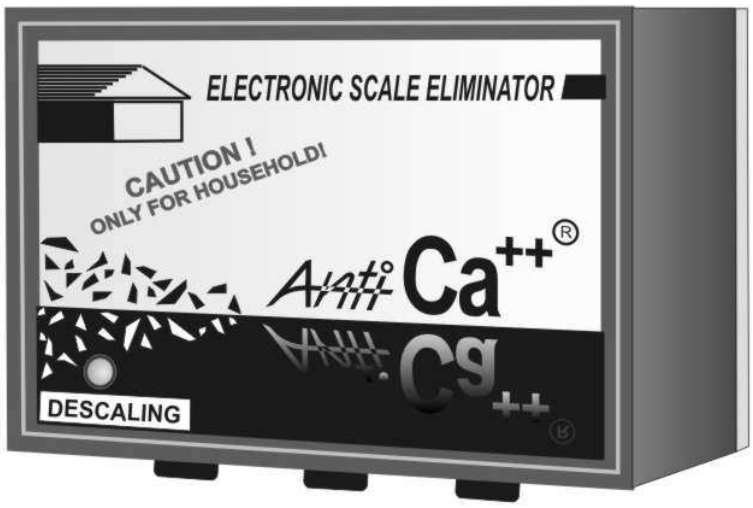
ELECTRONIC SCALE ELIMINATOR

FOR HOUSEHOLD

MANUAL



FOR TYPE:

EUV 15 Dom
EUV 20 Dom
EUV 25 Dom
EUV 32 Dom
EUV 40 Dom
EUV 50 Dom
EUV 65 Dom

AQUATECH® s.r.o.

Application of AntiCa++

Devices Anti Ca^{++} - type EUV 15 Dom - EUV 65 Dom are intended to prevent scaling and for treatment of hard water in boilers, electric water heaters and electric kettles, gas boilers and gas hot water heaters, washing machines, dishwashers, etc. In homes where hard water leaves hard deposits on surfaces, tubs, washbasins, bath tubs, glass surfaces etc., after installation of this device on the water supply the need for harsh chemicals to clean these hard deposits is reduced. The sediments are then washable with ordinary household cleaners. This device is intended for use in households, condominiums, cottages, etc. Furthermore it is widely used for the protection of various types of industrial equipment, in which the formation of solid calcareous scales takes place as a result of temperature or pressure changes in hard water. For appropriate devices for industrial, commercial and institutional applications contact the representative or the manufacturer directly at their web site.

*Anti*Ca $^{++}$ Characteristics

The success and high performance achieved by *Anti*Ca $^{++}$ devices is because they are installed to the following parameters:

- prior to installation of the device, either a chemical analysis of the untreated water, or a determination of the hardness of the untreated water (the latter determined by **Tetra**test kit in **german degrees (^{o}dH)**
- the diameter of the pipe where the instrument will be installed
- volume of flow through the pipe and/or velocity of flow
- pipe material – metal or plastic

Description of *Anti*Ca^{++} devices

AntiCa^{++} devices are composed of an electronic unit and power cable with silicone insulation.
The electronic unit is the source of the signal for feeding the coil and circuits for signalling the device function.

Type EUV 15 Dom - EUV 25 Dom LED indicator:
- power to power cable with silicone insulation - green LED **DESCALING**
Type EUV 32 Dom - EUV 65 Dom LED indicators:
- power to power cable with silicone insulation - green LED **DESCALING**
- power to electronic unit –red LED **POWER**.

The power cable is used to form coils on the water supply pipe and is connected to the electronic unit at the bottom. The electronic unit is sealed in a special material, thus protecting the parts against moisture and other corrosive environments, hence the high reliability and guarantee on the life of the device.

Location and installation of *Anti*Ca^{++}

The power cable may be installed on the main water supply entry into the house, in front of the boiler for hydronic heating, or in front of the hot water heater, washing machine and dishwasher water supply. In houses supplied by well water the best location is on the pump discharge piping. In short, the power supply cable may be installed on the main water supply into the building, upstream of equipment that requires protection. In case of doubt, contact the manufacturer or his representative.

Installation:

1. Obtain water total hardness in **german degrees (^{o}dH)**.

2. From the above table determine the number of coil turns and install as shown on Schematic 1.
3. Install the turns either on vertical or horizontal straight piping.
4. Secure the ends of the insulated power cable (red) in position with the supplied cable ties, so that the remaining ends of both sides of the power cable are approximately equal in length.
5. When it is not possible to determine the water hardness, then as a compromise install **2 x 14** coil turns.

CAUTION! *The coils must be installed on straight pipe and spaced adequately from take-offs and other pipe fittings. The minimum distance from the end of the coil turn to any fitting must be greater than three times the diameter of the pipe of installation as shown on Schematic 1.*

6. Mount the device on a wall with the supplied mounting screws taking into account that the distance from the unit to the coils on the pipe should not be greater than 1,5m.
7. Insert the ends of the power cable into the appropriate outlet on the bottom of the device according to the pipe material - see Schematic 1. It is not important which end of the power cable is inserted into the designated outlet.
8. Plug the power cord into the outlet. The LED light must come on:
   - for type EUV 15-25 Dom LED DESCALING
   - for type EUV 32-65 Dom LED POWER and LED DESCALING
9. The Schematic 1 shows installation of power cable coils for instruments EUV xx Dom.

Verifying proper operation of *Anti*Ca^{++}

Considering that the *Anti*Ca^{++} devices change the physical composition of the treated water (creation of aragonite crystals noticed under microscope), verification of the proper operation of an installed device is difficult on site. However, the operation and proper function of the device is observed as follows:

- a short time after installation of the device, the water scales in washing machines start to dissolve and are removed through the drain.
- scale in toilet holding tanks will soften and will be flushed out from the tank.
- the need to clean the toilet float valve or the float valve of a humidifier for proper function is eliminated.
- water scale in electric water kettle softens and gradually dissolves from the kettle element. To hasten this process, it is recommended to fill the kettle with water to cover the elements after each water use. Empty the water that covers the elements every time before next use so as to remove the loose scale from the kettle.

Caution!

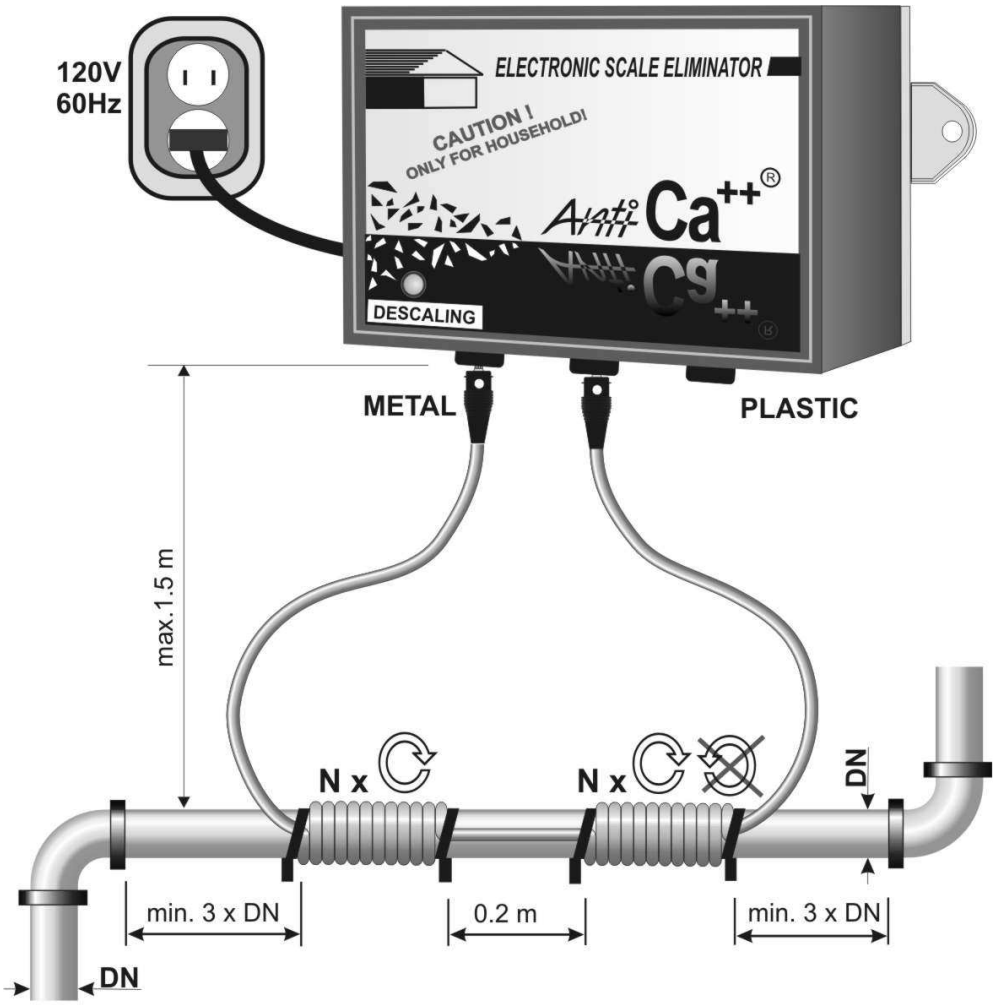
A water kettle with a malfunctioning thermostat which boils rapidly for long periods of time will still scale. However, the formation of scale on the elements is less when compared to untreated water.

This is not an indication of malfunctioning of the device!!!

Warning re Electric Hot Water Heater!

In case this device is installed on the system feeding an electric boiler that has been in use for a prolonged period of time without water treatment, it is imperative that this boiler be flushed 2-3 months after device installation. During this period the accumulated scale will soften and break from the piping walls and will settle on the bottom of the boiler. The scale weight, if not removed, may cause possible breakage of the heating elements.

Installation of EUV xx Dom devices.



NOTE: During installation pay attention to the fact, that the coils of the power cable must be wound in **one direction!!!**

Schematic1

Technical data of EUV xx Dom devices.

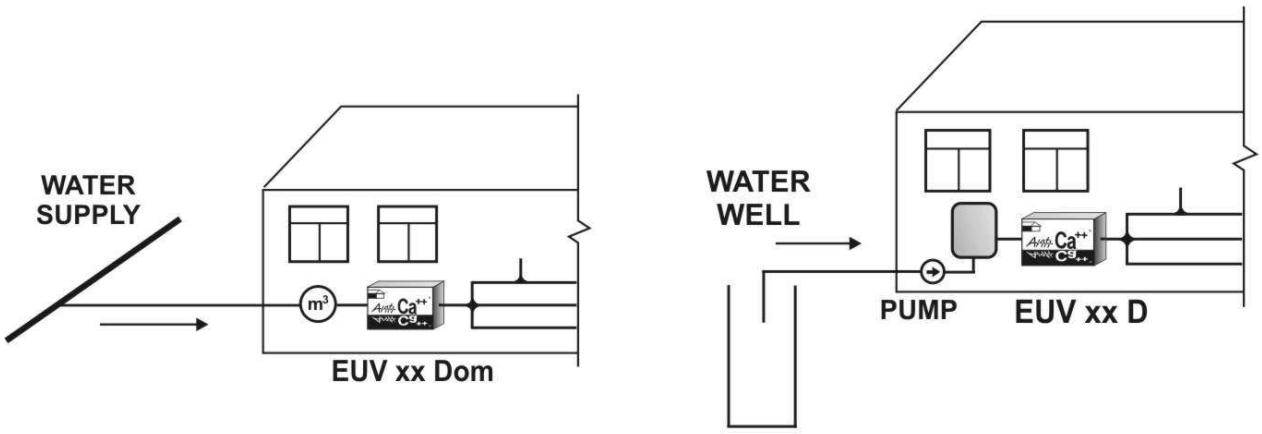
Type	Water Flow		Max. Pipe diameter		Device dimensions		Input [VA]
	[m^3/hour]	[USGPM]	inside [mm-inch]	outside [mm]	[mm]	[in]	
EUV 15 Dom	0.1 – 0.3	1.6 – 4.75	15 (1/2")	21	110x70x55	$4^3/_8$ x $2^3/_4$ x 2	2
EUV 20 Dom	0.2 - 0.6	3.17-9.51	20 (3/4")	27	110x70x55	$4^3/_8$ x $2^3/_4$ x 2	2
EUV 25 Dom	0.3 - 0.9	4.75-14.26	25 (1")	34	110x70x55	$4^3/_8$ x $2^3/_4$ x 2	2
EUV 32 Dom	0.4 - 1.4	6.34-22.19	32 (5/4")	42	160x96x67	$6^5/_{16}$ x $3^3/_4$ x $2^5/_8$	5
EUV 40 Dom	0.8 - 2.3	12.68-36.45	40 (6/4")	48	160x96x67	$6^5/_{16}$ x $3^3/_4$ x $2^5/_8$	5
EUV 50 Dom	1.2 - 3.5	19-55.47	50 (2")	60	160x96x67	$6^5/_{16}$ x $3^3/_4$ x $2^5/_8$	5
EUV 65 Dom	2.0 - 6.0	31.7-95.1	65 (2 1/2")	76	160x96x67	$6^5/_{16}$ x $3^3/_4$ x $2^5/_8$	5

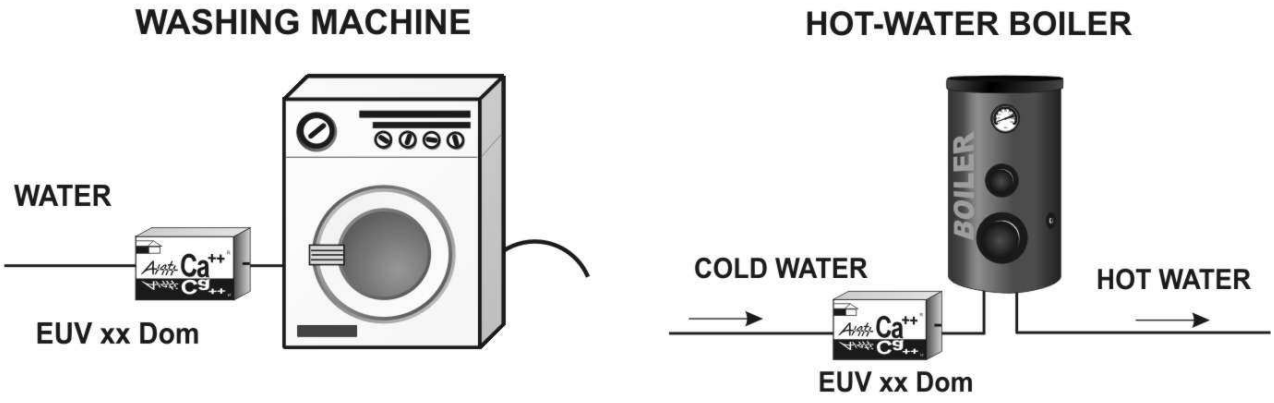
Power supply	120 V, 50-60 Hz
Ambient temperatures	+1 to + 50°C
Pipe temperature	max. 70 °C
Length of output cable	max 1,5 m
Length of power cord	max 1,5 m
Weight	
EUV 15 - 25 Dom	cca 0,5 kg
EUV 32 - 65 Dom	cca 1 kg

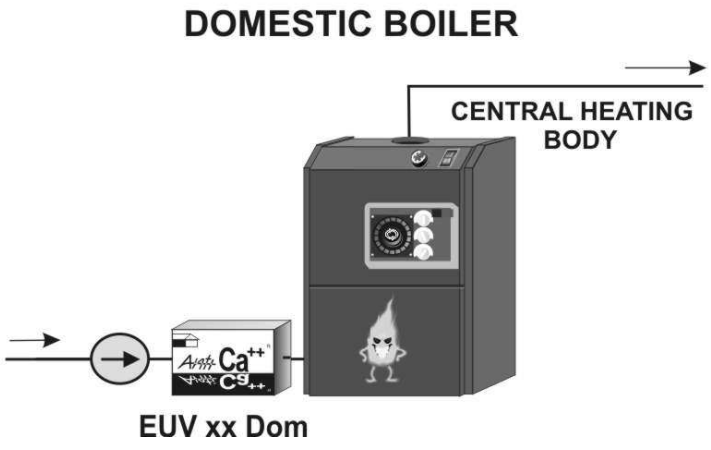
Total hardness °dH	< 16	16 - 24	24 - 32	32 - 40	> 40
Number of turns 2x	11	12	13	14	15
1°dH = 0,18 mmol/l = 0,36 mval/l = 17,8 ppm = 1,78 °f = 0,36 mgekv/l					

Max. hardness of treated water:
8 mmol/l (cca 45°dH - degrees german)
For water of higher degree of hardness the manufacturer makes and furnishes specific devices that are suitable to those applications.

Notice: In accordance with STN 75 7111 the total amount of Calcium and Magnesium (Ca + Mg) in water expressed in mmol/l. For practical reasons it is better to provide hardness in **german degrees (°dH)** because of the simple method to determine water hardness by **Tetra**test kit.


WATER
SUPPLY
m³
EUV xx Dom
WATER
WELL
PUMP
EUV xx D


WASHING MACHINE
WATER
EUV xx Dom
HOT-WATER BOILER
BOILER
COLD WATER
HOT WATER
EUV xx Dom


DOMESTIC BOILER
CENTRAL HEATING
BODY
EUV xx Dom