

### Dosing Computer EXADOS® ES 6, ES 12

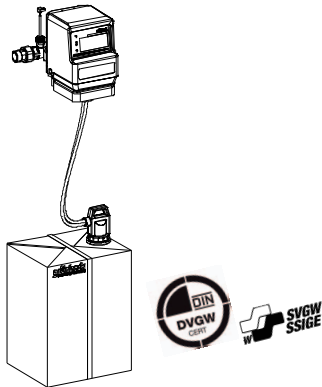


Fig. 1: Dosing computer EXADOS® ES with suction lance

#### Designated application

The dosing computers EXADOS®-ES 6, ES 12 are designed for the dosing of EXADOS®-dosing solutions (refer to product data sheet EXADOS®-agents) into drinking and industrial water. They protect the water pipes and the connected water carrying system components (fittings, devices, operating facilities, appliances, boilers, production systems, etc.) from malfunctions and damage caused by scale deposits and/or corrosion.

#### Function

When water is withdrawn, a contact water meter measures the water quantity flowing through. Even at a low flow rate (see technical specifications), the water meter is transmitting pulses to the control electronics via the pulse cable, triggering the dosing strokes required. At each dosing stroke, a defined quantity of the dosing agent is sucked in by the pump via a suction lance and is added to the water flowing by via a dosing point.

The electronics of proven modular technology and in cassette design (self-regulating) controls the driving motor of the dosing pump and checks the exact addition of the dosing agent.

The dosing frequency is indicated by the alternating blinking of two yellow light-emitting diodes. An electronic level control switches off the pump automatically when the dosing tank is empty and thus protects the pump from running dry. The necessary replacement of the tank is indicated visually (blinking of a red light-emitting diode) and additionally by an acoustic alarm (an interrupted acoustic signal tone).

In case of possible disturbances, the self-control system of the electronics

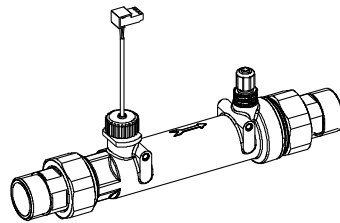


Fig. 2: Turbine water meter with pulse generator

prevents an inadmissible over-dosage by switching off the device.

At a fuse drop-out, the incorporated signal changes to a continuous tone, at the same time all LEDs extinguish.

#### Design

The dosing computer consists of a contact water meter and a control/pump unit.

The contact water meter is designed as a turbine-type flow meter, with pulse generator, pulse cable and water meter screw connections; the dosing point with non-return valve is integrated in the outlet piece.

The control/pump unit is suitable for installation at the pipe, the contact water meter or on the wall. It incorporates the control electronics with light emitting diodes for operation, dosing frequency, tank replacement as well as the driving motor with pump.

The driving motor is a synchronous motor with overload protection, the dosing pump is a combined membrane piston pump with pre-delivery. The suction lance with suction and return pipe is fixed permanently to the dosing pump. It has a level control which automatically switches off the dosing pump as soon as the dosing solution has been consumed (dry-run protection). Dosing is made from a disposable 10 or 20 kg canister. Via a dosing line of 1.5 m in length, the dosing pump is connected to the dosing point with non-return valve. The dosing volume is factory-set according to the DVGW directives. The control/pump unit is protected from unauthorised access by means of a cover with clear-view screen and child-proof protection.

The systems are RFI suppressed. Power is supplied by means of a transformer with

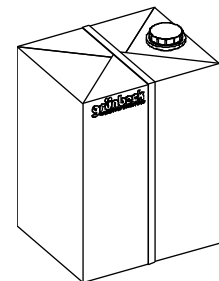


Fig. 3: Environmental-friendly folding canister (recyclable)

1.5 m cable. The system itself is operated with protective low voltage 24 V/50 Hz.

The various solutions of EXADOS®-agents must not be mixed as this might cause malfunctions of the dosing computer.

#### Scope of supply

- **Dosing computer, complete, consisting of:**  
Contact water meter with water meter screw connections, pulse generator, pulse cable and dosing point with non-return valve.
- Control/pump unit with fastening material to be mounted to the contact water meter or on the wall; 1.5 m dosing line; transformer with 1.5 m cable. (dissolving tank for dosing agent not included in scope of supply).
- Suction lance with level control.

#### Accessories

##### Switch box

For voltage-free signal (empty signal and disturbance signal) to the central control station. Including connecting cable with plug to dosing computer.

Dimensions: 105 x 105 x 60 mm.

**Order no. 115 700**

##### M-Bus measuring transducer FM-2D/K

To transmit the flow and counter reading as well as the statistical values of a water meter via M-Bus (IEC 870). In addition, flow-controlled pulse output, analogue output and relay contacts to Grünbeck control unit.

Dimensions: 160 x 240 x 160 mm

**Order no. 115 850**

### Installation requirements

Local installation guidelines, general regulations and technical specifications must be observed.

The devices must be preceded by a fine filter (e. g. BOXER®) to protect it from foreign particles.

The installation site must be frost-proof, and protect the systems from chemicals, dyes, solvents and vapours. The ambient temperature and radiation temperature

in the direct vicinity must not exceed 40 °C.

For the electrical connection, a separate socket (230 V/50 Hz) must be available at a max. distance of approx. 1.2 m from the device.

Technical dimensions/weights	Dosing computer EXADOS®	
	ES 6	ES 12
<b>Connection data</b>		
Nominal connection diameter	R 1" DN 25	R 1 ¼" DN 32
Type of contact	Hall	
Power supply	230 V / 50 Hz operation with protective low voltage 24 V / 50 Hz	
Power input during operation = max. / standby [VA]	18 / 15	
Protection	IP 54	
<b>Performance data</b>		
Pressure loss at max. flow [bar]	0.4	0.7
Admissible continuous flow [l/h]	approx. 50 % of the max. flow rate	
Nominal pressure	PN 10	
Dosing sequence [l/Imp.]	0.33	0,5
Operating range [l/h]	30-6000	40-10000
Tank volume	standard 10/20 kg; 100/200 l* <b>on demand</b>	
<b>Dimensions and weights</b>		
A Overall length of water meter with screw connections [mm]	272	280
B Overall length of water meter without screw connections [mm]	190	
C Overall height of dosing computer [mm]	260	
D Max. suction height [mm]	1200	
Min. distance from wall to centre of pipe [mm]	55	
Operating weight, approx. [kg]	6.3	6.5
<b>Consumption data</b>		
Mineral-based EXADOS®-agents [ml/m³]	100	
<b>Test mark/Certification mark</b>		
DVGW registration number	NW-9101CM0333	
SVGW certificate number	8211 - 1236	
<b>Ambient data</b>		
Max. water temperature [°C]	30	
Max. ambient temperature [°C]	40	
<b>Order no.</b>	<b>115 200</b>	<b>115 300</b>

\* By retrofitting the dosing system with a supply tank, the DVGW test mark will expire. According to EN 1717, the dosing system must then be protected by a system separator.

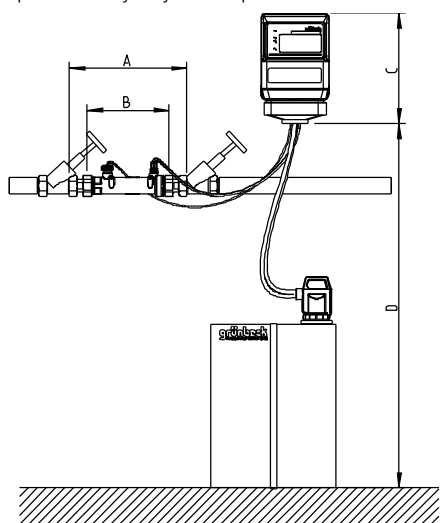


Fig. 4: Dimensional drawing/installation drawing