COMAP
WTI

ELECTRONIC ANTI-SCALING

Building and industrial plant protection (up to 100 m³/h)

OPERATING PRINCIPLE

Electronic anti-scaling systems (patented process) apply an AC pulse electrical field to the natural electrical charges of the calcium ions (Ca^{2+}) and hydrogen carbonate ions (H_2CO^{3-})that are dissolved in the water.
The action of this electrical field causes ionic movement (Coulomb's law).
This movement displaces the calcium-carbon balance towards the formation of nano-crystals of calcium carbonate ($CaCO_3$).
$2\ HCO^{3-} + Ca^{2+} \Leftrightarrow CaCO_3 + H_2O + CO_2$.
These nano-crystals remain in suspension in the water flow and stimulate crystallisation by fixing calcium ions that haven't been transformed.
Scaling is thus neutralised without the calcium having been removed from the water.
The nano-crystals are evacuated as water is drawn off for consumption.
Calcium is perfectly assimilated by the human organism.

FIELDS OF APPLICATION

- General cold water supply in buildings.
- Hot water production.
- Community buildings (cold water, sanitary hot water).
- Hotels.
- Retirement homes.
- Heat exchangers.
- Cooling circuits.
- Foodstuffs, industrial and pharmaceutical processes with no water evaporation phase.
- Water pumping and treatment stations.

MAJOR ADVANTAGES of electronic anti-scaling

- Pressurised installations effectively protected against scaling.
- Progressive descaling of old installations.
- Physical process leaving all minerals and trace elements in the water.
- Preservation of water drinkability and of its calcium carbon balance.
- Leaves a light whitish powdery non-binding film (calcium) when the water evaporates in the open air, but which can be wiped off without abrasion or solvent.
- Does not consume water or salt. Electricity consumption is low.
- No maintenance required.
- Average life cycle: 20 years.
- Process manufactured since 1987.

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TECHNICAL CHARACTERISTICS

- Scaling prevented by electrical fields (patented), with 2 treatment levels.
- Electrical supply required: 230 V ~ 50-60 Hz.
- Rating: max. 50 VA.
- Consumption: 7 kWh per month.
- Electrical field operation indicator.
- Protection: IP 31.
- EC compliant.
- CSTB Atex N° 575-05/1995.
- GS TÜV Nord TÜV 971/89 and DVGW 14/12/89.
- Fuse: 63 mA (5 x 20).
- Service pressure: 12 bars (NP16).
- Water temperature range: 5 to 20°C (cold water), 5 to 70°C (hot water).
- Water treatment rate: 0 to 100 m³/h (max).
- Materials in contact with water:
  Pressure PVC for cold water elements.
  Stainless 316L for hot water elements.

INSTALLATION / MAINTENANCE

- Easy installation, connects on incoming water pipe (cold water applications) or on the return from a sanitary hot water loop (hot water applications). Horizontal or vertical installation, water can transit in either direction.
- Check that the equipment and pipes are all properly earthed.

MAXIMUM CONCENTRATIONS FOR USE OF PROCESS:
iron (0.5 mg/l), chlorides (100 mg/l), phosphates (5 mg/l), nitrates (40 mg/l), sulphates (100 mg/l), total dissolved salts (4 g/l), max. overall hardness (60°F).

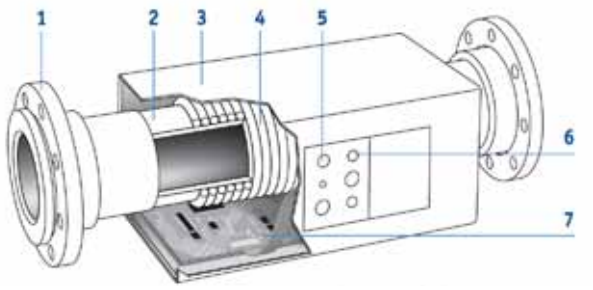
- No maintenance required.

- If a filter is installed upstream of the anti-scaling equipment, then the filter cartridge must be changed at least once per year.

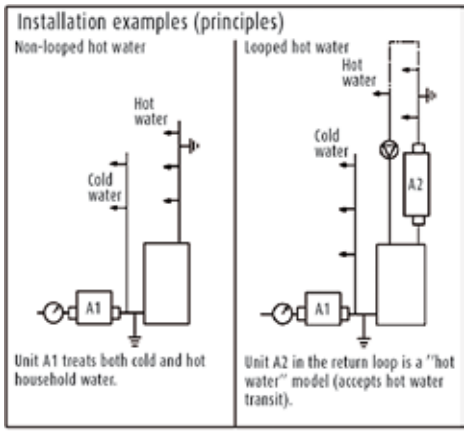
GUARANTEE

1 year parts and labour - excluding transport.

CONSTRUCTION



1 Connection.
2 Pressure PVC treatment chamber for cold water (standard range, stainless for hot water).
3 Plastic case.
4 Treatment by electrical fields.
5 Fuse 5 x 20 - 63 mA.
6 Signal indicator light.
7 Integral lightning protection for overcurrent up to 6500 A for time ‹ 20 µs. Pulsed LV signal emitted by a solid state generator, giving a very long life cycle, with protection against condensation and humidity damage.



Note: Hot water loops are treated in order to limit treatment losses due to CO_2 degassing in the loops.

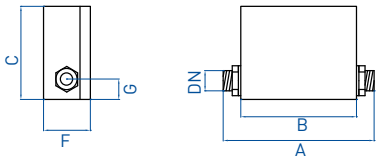


Diagram 1

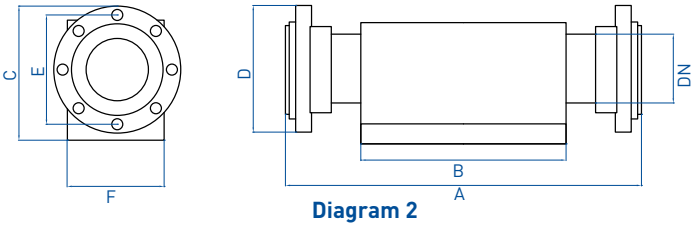


Diagram 2

Part Number	Application	Max. treatment rate (m³)	Diagram n°	ND	A (mm)	B (mm)	C (mm)	E (mm)	F (mm)	G (mm)	Weight (kg)
515001	Cold water	1	1	1/2 "	240	193	164	-	87	33	1,65
515007	Cold water	7	1	1" 1/2	350	240	160	-	90	50	3,2
515015	Cold water	15	1	2"	564	460	196	-	126	50	9,6
515030	Cold water	30	2	3"	800	460	236	8 x Ø 18 - Ø 160	126	N/A	11
515070	Cold water	70	2	5"	800	460	305	8 x Ø 18 - Ø 210	206	N/A	23
515100	Cold water	100	2	6"	800	460	313	8 x Ø 18 - Ø 240	206	N/A	25
515901	Hot water	1	1	1/2 "	240	193	164	-	87	33	1,65
515907	Hot water	7	1	1" 1/2	300	240	160	-	90	50	3,2
515915	Hot water	15	1	2"	540	460	196	-	126	50	9,6
515031	Hot water	30	2	3"	690	460	236	8 x Ø 18 - Ø 160	126	N/A	11
515071	Hot water	70	2	5"	690	460	305	8 x Ø 18 - Ø 210	206	N/A	23
515900	Hot water	100	2	6"	690	460	313	8 x Ø 18 - Ø 240	206	N/A	25

* Consult us for higher treatment rates.

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