

Rev. 06/2024

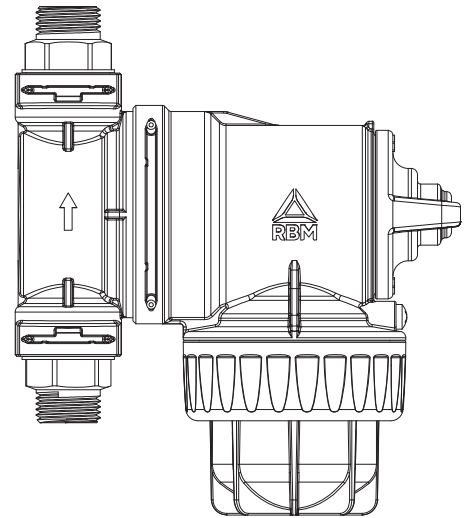
SERIES 4161 DP LINE

In-line polyphosphate doser with front interception

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In-line polyphosphate doser with front interception

- +** Interception for maintenance included
- Quick and easy installation
- Can be installed VERTICAL and HORIZONTAL
- High efficiency
- Eliminates impurities
- Fights corrosion
- Increases the lifespan of the boiler
- Maintains optimum system efficiency



PRODUCTION RANGE

Code	Size	Connection	Diverter valve body
4161.04.00	G 1/2"	MM	Body: Polymer Connections: Brass
4161.05.00	G 3/4"	MM	Body: Polymer Connections: Brass
4161.06.00	G 1"	MM	Body: Polymer Connections: Brass
4161.22.00	Ø22	MM	Body: Polymer Connections: Brass
4161.28.00	Ø28	MM	Body: Polymer Connections: Brass



DESCRIPTION

The **DP LINE** polyphosphate doser provides the water with a suitable anti-scale and anti-corrosive treatment, leaving its potability characteristics unchanged. It is mainly applied upstream of domestic hot water supply systems, directly at the cold domestic water inlet to the boiler. The DP1 polyphosphate doser has a small footprint, simple and quick installation, low product consumption and low maintenance costs. Equipped with a 1/2" swivel brass shank, it adapts to all types of boilers; the built-in shut-off system allows maintenance without the need for other shut-off devices.

A polyphosphate charge is included in the package. The use of polyphosphate silicates guarantees:

- Scaling inhibition: helps reduce the formation of adherent deposits of insoluble carbonates on heat exchange surfaces
- Attenuation of previous scales (restorative effect): progressive reduction of the layer of deposits formed in the installations in the absence of suitable chemical conditioning.
- Corrosion inhibition: hinders corrosive phenomena by facilitating the formation of a protective film on parts in contact with water.

CONSTRUCTION FEATURES

Body:	Technopolymer with high mechanical performance
Hydraulic seals:	EPDM PEROX
Load product:	Bright blue crystals of food grade polyphosphate in a glassy state. Grams: 70 g
Connection fitting:	Brass

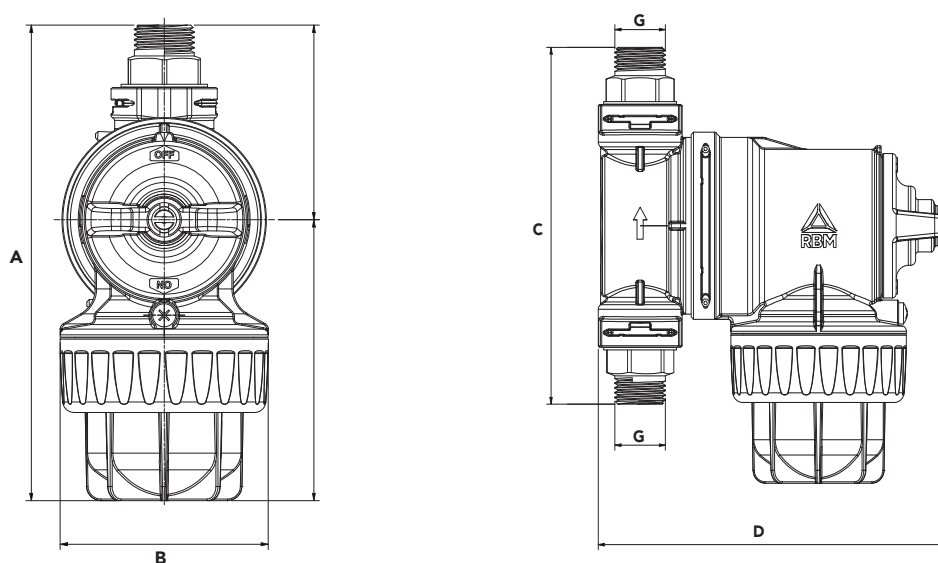
TECHNICAL FEATURES - DP LINE

Max. operating pressure:	6 Bar
Operating temperature:	0-30°C
Induced noise: (according to EN13443 and UNI 3822). DP LINE induced noise in pipes is 0 dB(A). As specified in EN 13443 regulation, DP LINE belongs to the I group, as well as all other products having noise levels < 20 dB(A).	

TECHNICAL FEATURES - POLY PHOSPHATES

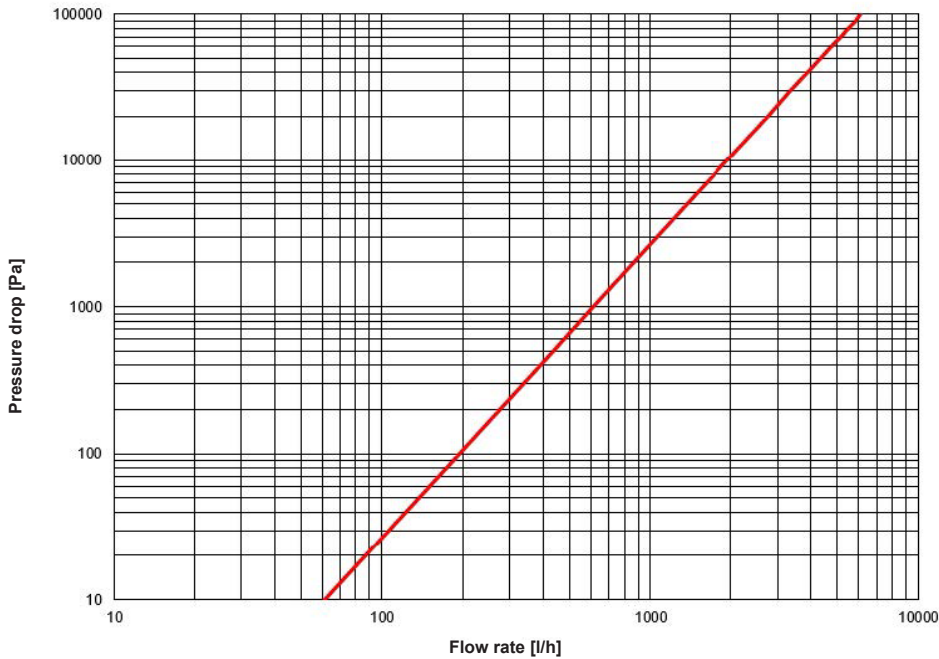
Type of product:	Sodium metaphosphate with antiscaling action and sodium silicate with anticorrosive action
Product Dosage:	Max. 5mg/l P2O5
Compatible fluid:	Drinking Water
T°max for antiscaling actions:	100°C
T°max for anti-corrosive actions:	180°C
Charge duration:	35000 l (approx. 6 months)

DIMENSIONAL FEATURES



Code	Size G	A [mm]	B [Ø]	C [mm]	D [mm]
4161.04.00	1/2"	165.2	72.3	135	144.8
4161.05.00	1/4"	165.2	72.3	135	144.8
4161.06.00	1"	165.2	72.3	135	144.8
4161.22.00	Ø22	165.2	72.3	135	144.8
4161.28.00	Ø28	165.2	72.3	135	144.8

FLUID DYNAMICS FEATURES



Kv [m³/h]

6.03

OPERATING PRINCIPLE

Scaling is the result of calcium and magnesium deposits (salts that determine hardness) on pipe walls, exchange surfaces and control and regulating parts.

The amount of deposit depends on:

- the temperature of the water.
- water hardness.
- the volume of water used.

Unlike other salts, calcium and magnesium salts become less soluble as the temperature rises, which is why all systems in which water is heated, especially those for domestic hot water production, are at risk of scaling.

The parameter to be monitored is total hardness, the sum of calcium and magnesium ion concentrations and responsible for scaling.

Calcium and magnesium bicarbonates are chemically in equilibrium with carbonates (of calcium and magnesium), water and carbon dioxide.

As the temperature increases, soluble bicarbonates turn into insoluble carbonates, forming lime deposits and releasing carbon dioxide.

The sodium and potassium polyphosphates inside the container combine with calcium and magnesium ions to form a chemical compound similar to limescale but which cannot adhere to pipe surfaces.

The precipitation of calcium and magnesium and the consequent formation of lime deposits is prevented.

In addition, polyphosphates are deposited on the surface of the pipes, forming a protective film to protect them from fouling and remove already deposited limescale.

The use of polyphosphates is part of chemical conditioning treatments (as expressed by UNI 8065) which are based on the necessary dosage of salts in relation to the amount of cold water flowing through the device, without changing the hardness of the water.

INSTALLATION

It is advised to install **DP LINE** on the boiler or heating pump, in order to protect it from any impurities in the system, especially during the start-up phase.

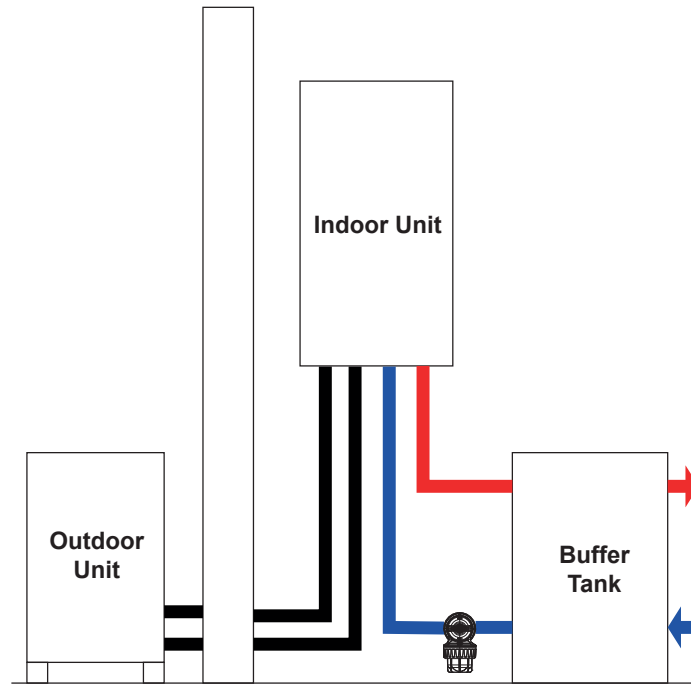
Important Observe the direction indicated by the arrow on the body, to ensure a better performance. **DP LINE** must be installed with the main polyphosphate holder body facing downwards.

The jointed part allows installation on: VERTICAL, HORIZONTAL, DIAGONAL.

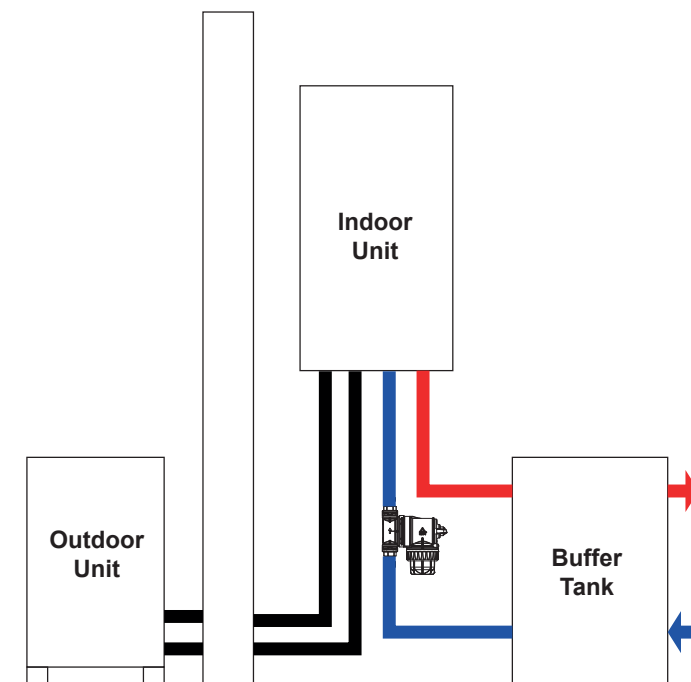
At the end of the installation, de-aerate the device by means of the vent screw; once the air in the vessel has escaped, close the vent screw, carefully checking that it is tight and that there are no leaks.

Do not install the DP LINE in conditions of direct exposure to the weather, and installation in environments where the temperature may fall below 5°C is not recommended (**Risk of Frost**).

HORIZONTAL ASSEMBLY



VERTICAL ASSEMBLY



MAINTENANCE INTERVENTIONS

The transparent bottom allows the status of polyphosphate consumption to be checked. When the polyphosphates inside the transparent glass are no longer present, they must be replenished by performing the following steps:

1



Switch off the system.

2



Intercept the device by turning the knob (By pass activation).

3



Unscrew the screw to depressurise the system (5 seconds).

4



Unscrew the ring nut and remove beaker.

5



Remove the disc filter, wash well and place the polyphosphates in the beaker (**no powder**).

6



Reassemble the beaker and carefully **check that the polyphosphates do not interfere with the closing of the ring nut** (more difficult in the case of horizontal installation).
Screw vent valve and reopen circuits.

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