

Treating **water** is  
**useful** and convenient

# Products Catalogue

Cleaning and Self-cleaning Filters  
Dosing Systems  
Chemicals and Testing Kits



azienda certificata  
ISO 9001:2008



What's the  
**water** like?



**Visit our web site:**  
[www.acquabrevetti95.it/eng](http://www.acquabrevetti95.it/eng)

Since over 20 years **Acqua Brevetti 95** is engaged in the design and manufacturing of patented systems for the purification of water both for civilian and for industrial use. This background makes **Acqua Brevetti** the benchmark company in Italy for domestic filtration and polyphosphate dosage.

Today **Acqua Brevetti** supply high quality devices for every need in the field of: protection filtration, scaling and corrosion prevention, central heating system treatment.

20 years of experience and a slim organization format have produced in our company the perfect mix of tradition and flexibility to be "S.M.A.R.T." in the market business.

Our service to the customers is distinguished by offering a wide-range consulting in water treatment devices choosing and the possibility to indicate and provides devices customized on your specific needs.





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## Cleaning and self-cleaning filters

### Clear like wellspring water

Part of impurities commonly found in waters consist of sand, flakes of oxides and coarse material. They can cause serious troubles to equipments and plants, if not properly removed from the flow of water. Installation of a protection filter is the most simple and effective way to avoid such problems. Cleaning and self cleaning filters are advanced versions of cartridge filters and are designed specifically for protection of equipments.

All our filters are simple, efficient, small, compact and easy to use products, guaranteeing, as well as water impurities elimination, the complete filtering cartridge cleaning. Filtering cartridges are made of stainless steel, a material that allows to be washed without disassembling the filter itself.

All models have simple and efficient cleaning systems, which ensure the long-life of the device. According to the model, the washing can be carried out manually or completely automatically by a timer or by a differential pressure switch. The standard cartridges filtration degree is 89 Micron and we can supply every filtration degree required.

Every device and planting solution are realized strictly in compliance with latest technical norms standards in force.

The **Acqua Brevetti** filters may be used for the protection of:

- Central hot and cold water distribution plant
- Heating and cooling systems
- Process water distribution systems
- Steam generators

# 1 Cleaning and self-cleaning filters

## Manual filters - residential

### BravoCALOR

#### Cleaning filter

##### Overview

Often in water are present impurities as sands, rust flakes, incrustation residues that could damage sanitary systems (pipes, valves, mixers etc.). The installation of a protecting filter is the easier and more effective solution to avoid such problems. Furthermore, the filtration is indispensable for the protection of closed loop heating circuits where, during the time, could form slurries, flakes oxides and residues able to obstruct and damage static and shifting parts of appliances.

BravoCALOR is a cleaning protective filter of compact size, completely made in brass, suitable both for hot and cold water applications. BravoCALOR is equipped with stainless steel cartridge with a filtration rating of 89 microns (drinkable water) or 500 microns (hot water applications).

BravoCALOR is available also with pressure gauge version, which allows to control the pressure value.

The cleaning of the cartridge is of easy execution, simply requiring the opening of the discharge tap on the bottom. For a more careful cleaning of the cartridge it is sufficient to put the filter in by-pass, open the bowl, extract the filtering element and put it to a more adequate cleaning cycle.

BravoCALOR works with temperature up to 90°C and pressures of 16 bar.

BravoCALOR, thanks to its high speed discharge system guarantee, as well as the discharge of the suspended impurities of the water, an efficient cleaning of the filtering cartridge.



##### Key features

- ✓ Compact dimension
- ✓ Suitable for hot water
- ✓ Completely made in brass
- ✓ Stainless Steel Cartridge
- ✓ Available with pressure gauge
- ✓ Completely made in Italy



##### Application

BravoCALOR has been specifically realized for the filtration of drinkable water cold and hot in both domestic than technologic applications. BravoCALOR could be employed for the protection of cold sanitary systems networks, cold and hot closed loop circuits, heating circuits, feeding of cooling and heating systems, process water networks.

# Manual filters - residential



## BravoCALOR - performances and technical data

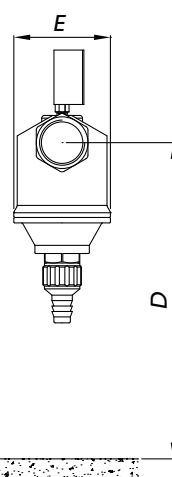
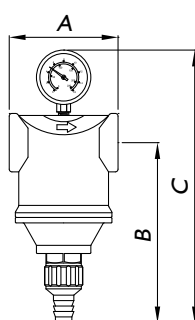
CODE		FT200	FT202	FT204	FT210	FT212	FT214	FT220	FT222	FT224	FT230	FT232	FT234
CONNECTIONS	inches	½" F	¾" F	1" F	½"F	¾"F	1"F	½"F	¾"F	1"F	½"F	¾"F	1"F
NOMINAL FLOW RATE	lt/h	1800	3200	4800	1800	3200	4800	1800	3200	4800	1800	3200	4800
HEAD LOSS AT MAXIMUM FLOW RATE	bar	0.2											
STANDARD FILTRATION RATING	micr.	500						89					
MIN. WORKING PRESSURE	bar	1.5											
MAX WORKING PRESSURE	bar	16											
MIN./MAX WATER TEMPERATURE	°C	5/90											
PRESSURE GAUGE 0-25 BAR		YES			NO			YES			NO		



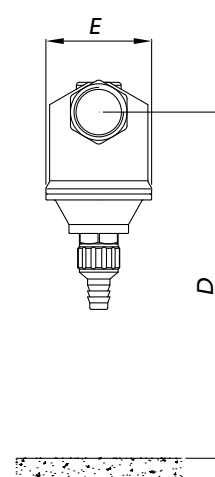
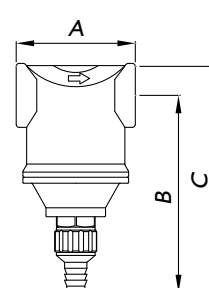
## QUOTES

CODE		FT200	FT202	FT204	FT210	FT212	FT214	FT220	FT222	FT224	FT230	FT232	FT234
WIDTH (A)	mm	80	80	80	80	80	80	80	80	80	80	80	80
CONNECTION HEIGHT (B)	mm	132	132	132	132	132	132	132	132	132	132	132	132
TOTAL HEIGHT (C)	mm	205	205	205	160	160	160	205	205	205	160	160	160
MINIMUM HEIGHT FROM GROUND (D)	mm	300	300	300	300	300	300	300	300	300	300	300	300
DEPTH (E)	mm	71	71	71	71	71	71	71	71	71	71	71	71

BravoCALOR Filter



da FT200/204 e FT220/224



da FT210/214 e FT230/234



### Text per offer

Cleaning filter BravoCALOR (specify the model) of compact size completely made in brass for water filtration, employed for the removal of foreign bodies both for sanitary systems and closed loop circuit with hot water (up to 90°C). Manual cleaning through the discharge valve opening.

# 1 Cleaning and self-cleaning filters

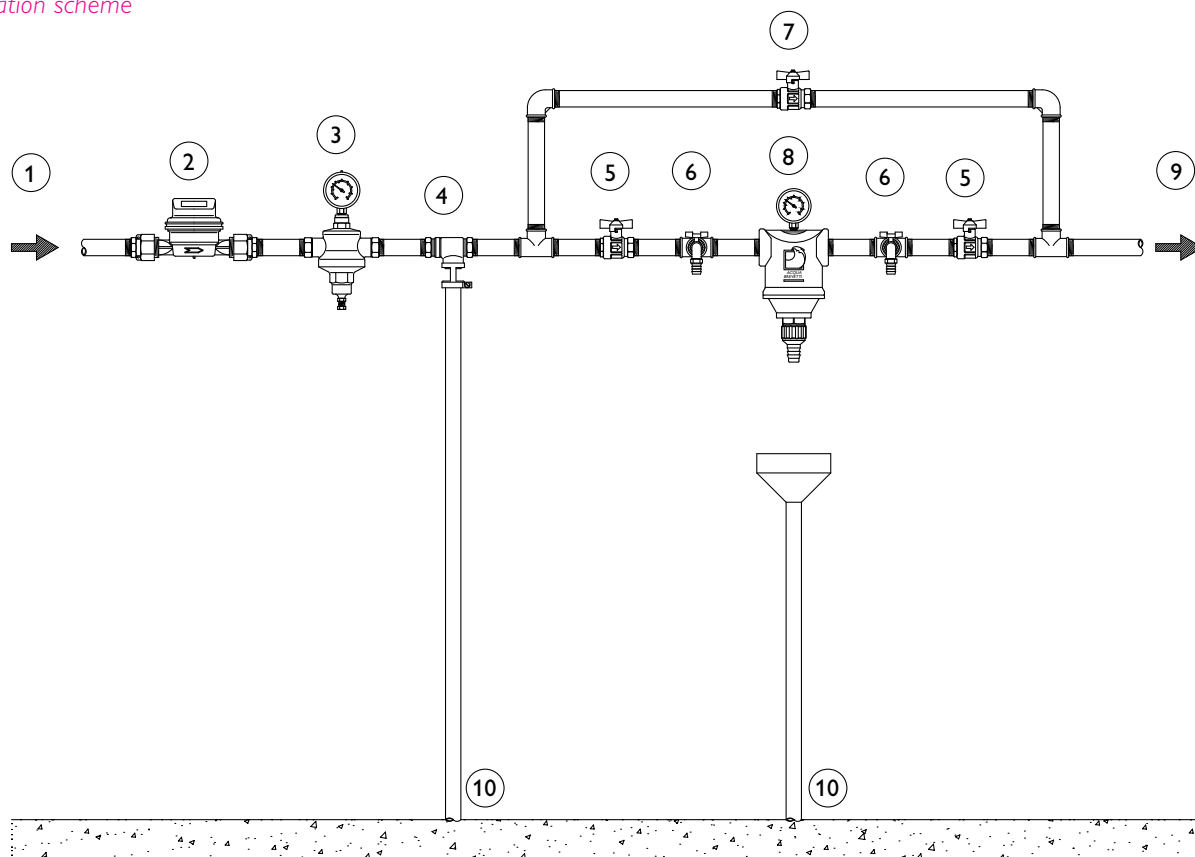
## Manual filters - residential



### Referential EU norms and EN standards

BravoCALOR is manufactured in compliance with the Italian decree D.M. N°174/04, article 9 of the Italian decree D.L. N°31/01, Italian decree D.M. N° 25/12, Standards UNI EN 13443:1 2007. The Italian decree D.P.R. N°59/09, decree D.M. N°37/08, standards UNI CTI 8065, UNI CTI 8884, UNI CTI 7550 prescribe the installation of protecting filter in the water inlet to domestic water, heating and cooling plants. Acqua Brevetti 95 s.r.l. works with a Quality System certified in compliance with the requirements of the UNI-EN ISO 9001:2008 with certificate 501007368 issued by TÜV Italy Srl.

### Installation scheme



### Legenda

- 1.** Cold water inlet **2.** Inlet water meter; **3.** Pressure reducer; **4.** Backflow prevention device; **5.** Zone valve; **6.** Sample tap; **7.** By-pass valve; **8.** Filter BravoCALOR; **9.** Cold water outlet; **10.** Discharge.

## Manual filters - residential

# Bravo

### Cleaning filter

#### Overview

Bravo is an high-reliability product in the field of civil filtration. It is simply composed of three pieces, each one made of the best materials available in the market, to assure maximum resistance to pressure and corrosion: bar moulded brass head, bowl in Trogramid® with build-in drainage tap, and cartridge in stainless steel AISI 304 with double o-ring sealing. The particular structure of the filtering cartridge makes it resistant to mechanical shocks and pressure gradients eliminating deformation and crushing of the filtering cartridge. Thanks to high-velocity discharge, Bravo guarantees the removal of dirty accumulated and a complete cleaning of the cartridge. The cleaning operation is easy and quick, requiring only the opening of the discharge valve for sufficient time to make the complete removal of dirt from the bowl.



#### Key features

- ✓ Compact dimension
- ✓ High flow rate
- ✓ Pressure gauge (if requested)
- ✓ Resistance to high pressure
- ✓ Discharge tap
- ✓ Stainless steel cartridge
- ✓ No need of cartridge replacing
- ✓ Entirely made with the best materials
- ✓ Completely Made In Italy



#### Application

Point of entry of main water into the buildings, hot water circuits, farming and gardening. Part of impurities commonly found in waters consist of sand, flakes of oxides and coarse material can cause serious troubles to equipments and plants, if not properly removed from the flow of water: installation of a protection filter is the most simple and effective way to avoid such problems. In case of drinkable water is treated, current national laws on drinkable water quality and on quality of materials in contact with food must be followed.

# 1 Cleaning and self-cleaning filters

## Manual filters - residential



### Bravo - performances and technical data

CODE		FT300	FT310	FT302	FT312	FT304	FT314
CONNECTIONS	inches	½"F	½"F	¾"F	¾"F	1"F	1"F
PRESSURE GAUGE		NO	YES	NO	YES	NO	YES
NOMINAL FLOW RATE	lt/h	2400	2400	4200	4200	5100	5100
PRESSURE GAUGE SCALE	bar	-	1,5-12	-	1,5-12	-	1,5-12
ΔP (nominal flow rate)	bar	0,2					
STANDARD FILTRATION RATING*	micr.	89					
MIN. WORKING PRESSURE	bar	1,5					
MAX. WORKING PRESSURE	bar	12					
MIN./MAX WATER TEMPERATURE	°C	5/30					
MIN./MAX EXTERNAL TEMPERATURE	°C	5/30					
HEAD MATERIAL		BRASS					
BOWL MATERIAL		TROGAMID					
CARTRIDGE MATERIAL		AISI304 STAINLESS STEEL					

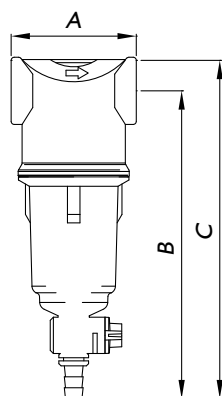
\* Other filtration ratings available on demand: 50 micron.  
Included: filter opening key and brush for cartridge clean.



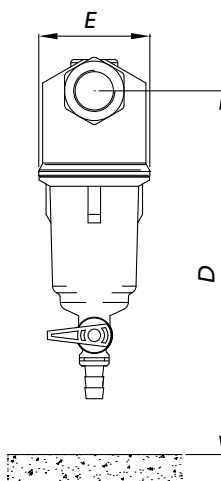
### QUOTES

CODE		FT300	FT302	FT304	FT310	FT312	FT314
WIDTH (A)	mm	80	80	80	80	80	80
CONNECTION HEIGHT (B)	mm	197	197	197	197	197	197
TOTAL HEIGHT (C)	mm	225	225	225	270	270	270
MINIMUM HEIGHT FROM GROUND (D)	mm	300	300	300	300	300	300
DEPTH (E)	mm	71	71	71	71	71	71

Bravo Filter



FT300, FT302, FT304



FT310, FT312, FT314



# Manual filters - residential



## Text per offer

Cleaning filter Bravo – (specify the model) – is suitable for filtering water, eliminating suspended particles, such as: sand, silt, metal particles, etc. up to 89 microns rating. The filter is suitable to protect domestic supplies, hydro-thermo-sanitary plants and equipments in general. Equipped with pressure gauge ABS 0-12 scale bar for viewing the pressure in line. Product is suitable for treating drinking water for domestic use (visit our web site for further information).



## Referential EU norms and EN standards

Bravo is manufactured in compliance with the Italian decree D.M. N°174/04, article 9 of the Italian decree D.L. N°31/01, Italian decree D.M. N° 25/12, Standards UNI EN 13443:1 2007. The Italian decree D.P.R. N°59/09, decree D.M. N°37/08, standards UNI CTI 8065, UNI CTI 8884, UNI CTI 7550 prescribe the installation of protecting filter in the water inlet to domestic water, heating and cooling plants. Acqua Brevetti 95 s.r.l. works with a Quality System certified in compliance with the requirements of the UNI-EN ISO 9001:2008 with certificate 501007368 issued by TÜV Italy Srl.

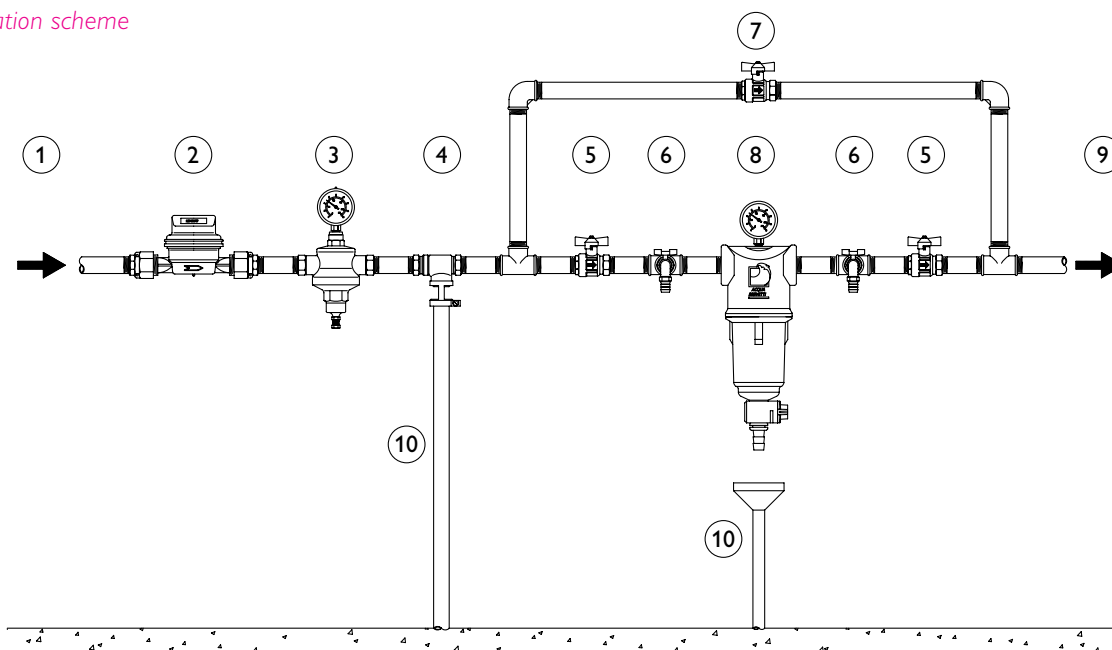


Bravo filters are equipped with a special swap for cartridge clean and a green key to open the filter, simply turning the vase.



Cartridge in stainless steel AISI 304 with double o-ring sealing.

## Installation scheme



## Legenda

- 1.** Cold water inlet; **2.** Inlet water meter; **3.** Pressure reducer; **4.** Backflow prevention device; **5.** Zone valve; **6.** Sample tap; **7.** By-pass valve; **8.** Bravo Filter; **9.** Treated water outlet; **10.** Discharge.



# 1 Cleaning and self-cleaning filters

## Manual filters - residential

### MiniBRAVO

#### Self-cleaning filter

#### Overview

MiniBRAVO is a small, compact self-cleaning filter characterized by an innovative and simple cleaning system, that makes it a vanguard product in the field of domestic filtration. Once the filter is installed, the bi-directional connection permits to regulate the water flow direction into the filter, according to the need.

The cleaning system of MiniBRAVO includes the back-washing of the cartridge and the discharge of dirt. The cleaning operation is simple and swift: it is just required to move the knob (reversing the water flow) on the top, then open the discharge tap at the bottom. Close the tap and switch the knob to the original position to bring the filter in filtering position.

The opening from the top is a simple but useful feature and it permits easier maintenance operations.



Prodotto Conforme  
D.M. 174/2004



#### Key features

- ✓ Bi-directional connection
- ✓ Cartridge back-washing
- ✓ Compact dimension
- ✓ Opening from the top
- ✓ Calendar
- ✓ Stainless steel cartridge
- ✓ No need of cartridge replacing
- ✓ Entirely made with the best materials
- ✓ Completely Made In Italy



#### Application

Point of entry of main water into the buildings, hot water circuits, farming and gardening.

Part of impurities commonly found in waters consist of sand, flakes of oxides and coarse material can cause serious troubles to equipments and plants, if not properly removed from the flow of water: installation of a protection filter is the most simple and effective way to avoid such problems. In case of drinkable water is treated, current national laws on drinkable water quality and on quality of materials in contact with food must be followed.

# Manual filters - residential



## MiniBRAVO - performances and technical data

CODE		FT004	FT006
CONNECTIONS	inches	1/2" F	3/4" F
MAX. FLOW RATE	lt/h	1800	3200
ΔP (max. flow rate)	bar	0,2	
STANDARD FILTRATION RATING	micr.	89	
MIN. WORKING PRESSURE	bar	1,5	
MAX. WORKING PRESSURE	bar	10	
MIN./MAX WATER TEMP.	°C	5/30	
MIN./MAX EXTERNAL TEMP.	°C	5/30	
HEAD MATERIAL		BRASS/POM	
BOWL MATERIAL		TROGAMID®	
CARTRIDGE MATERIAL		STAINLESS STEEL AISI304	

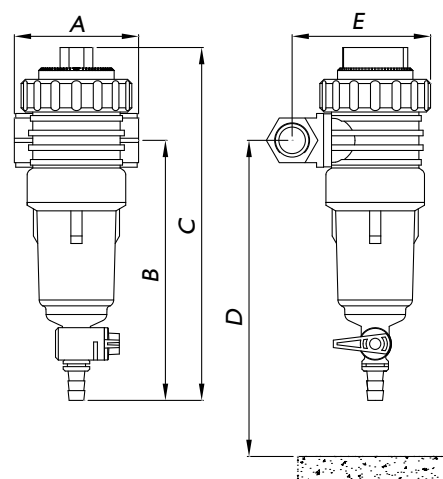
Included: swab for cartridge clean.



## QUOTES

CODE		FT004	FT006
WIDTH (A)	mm	90	90
CONNECTION HEIGHT (B)	mm	185	185
TOTAL HEIGHT (C)	mm	253	253
MINIMUM HEIGHT FROM GROUND (D)	mm	300	300
DEPTH (E)	mm	100	100

## MiniBRAVO Filter



FT004, FT006



MiniBRAVO filters are equipped with a special swap for cartridge clean.



Cartridge in stainless steel AISI 304 with double o-ring sealing.



## Text per offer

Self cleaning filter MiniBRAVO – (specify the model) – is suitable for filtering water, eliminating suspended particles, such as sand, silt, metal particles, etc. up to 89 microns rating. The filter is suitable to protect domestic supplies, hydro- thermo-sanitary plants and equipments in general. Once filter has been installed, bidirectional connection allow to set the entry direction of the water into the filter as necessary, turning of use of the knob. Suitable for drinkable water filtration (visit our web site for further information).



## Referential EU norms and EN standards

MiniBRAVO is manufactured in compliance with the Italian decree D.M. N°174/04, article 9 of the Italian decree D.L. N°31/01, Italian decree D.M. N° 25/12, Standards UNI EN 13443:1 2007. The Italian decree D.P.R. N°59/09, decree D.M. N°37/08, standards UNI CTI 8065, UNI CTI 8884, UNI CTI 7550 prescribe the installation of protecting filter in the water inlet to domestic water, heating and cooling plants. Acqua Brevetti 95 s.r.l. works with a Quality System certified in compliance with the requirements of the UNI-EN ISO 9001:2008 with certificate 501007368 issued by TÜV Italy Srl.

# 1 Cleaning and self-cleaning filters

## Manual filters - residential

### Cleaning or replacement of MiniBRAVO filter cartridge



1. Shut off the water at the both sides of the filter



2. Turn the ring nut counter-clockwise until it is released.



3. Extract the flow diverter with the cartridge from the filter body.



4. Brush the cartridge under the water using the special swab provided: if necessary, put the cartridge into 100 °C water or replace it.  
5. For re-assembling, insert the diverter+cartridge assembling, insert the ring nut and rotate it clockwise until it is tight.  
6. Turn on the water at the both side of the filter.



1. Change the water in-take by switching the knob from IN DX to IN SX or vice-versa.



2. Open the discharge tap for few seconds  
3. Close the tap and switch the knob to the original position.

### BI-DIRECTIONAL FITTING

Once installed, the water in-take to the filter can be set as needed using the knob indicating IN SX (inlet from left) - IN DX. (inlet from right)

**IN SX (water comes from Left)**

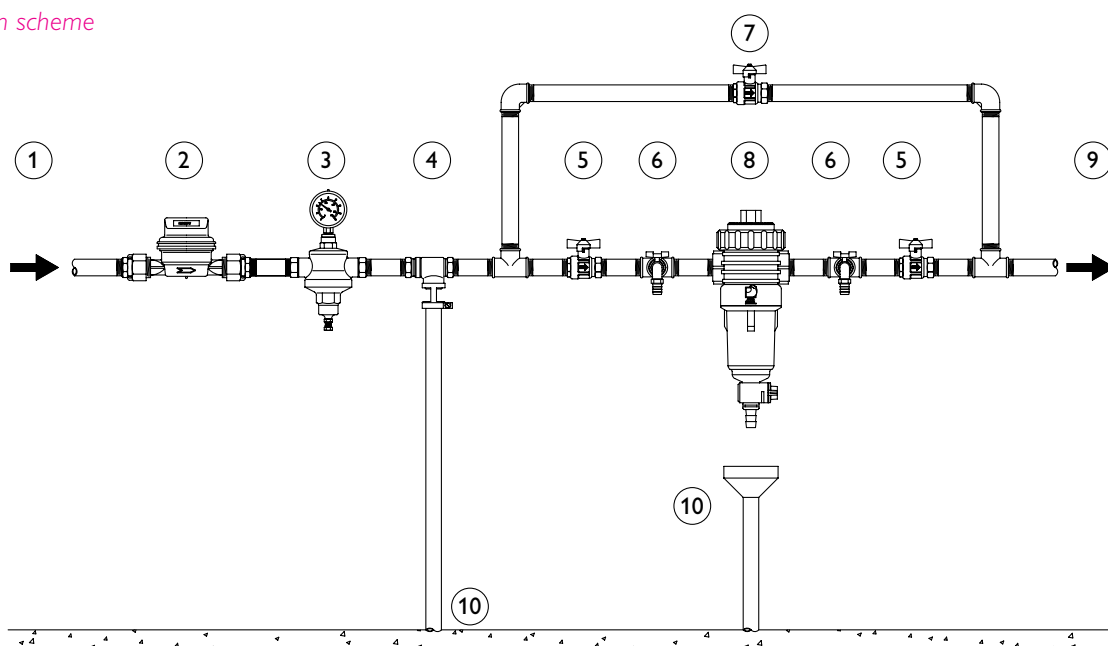


**IN DX (water comes from Right)**

**Date disk:**  
after cleaning the filter cartridge, set the date as reminder.

**Knob:**  
the picture is indicating left-hand in-take..

### Installation scheme



### Legenda

1. Cold water inlet; 2. Inlet water meter; 3. Pressure reducer; 4. Backflow prevention device; 5. Zone valve; 6. Sample tap; 7. By-pass valve; 8. MiniBRAVO Filter; 9. Treated water outlet; 10. Discharge.

## Manual filters - residential

# BravoDUE

### Cleaning filter



### Overview

Often in water are present impurities as sands, rust flakes, incrustation residues that could damage sanitary systems (pipes, valves, mixers etc.). The installation of a protecting filter is the easier and more effective solution to avoid such problems.

BravoDUE is a cleaning protective filter with net cartridge of compact size that could be employed for the protection of cold water distributing nets, feeding of heating and cooling plants and process water networks. It is suitable for installation in drinkable water. BravoDUE allows flexible installations thanks to the 360° adjustable connecting brass plate (every 90°), it is highly resistant to mechanical shear stresses that usually leads to the breakage of plastic heads. The connection plate incorporates a non-return valve. Stainless steel cartridge with o-ring sealing, resistant to pressure shocks, avoiding crushing and straining. For activate the cleaning it is sufficient to open the drainage tap on the bottom of the bowl, which create a tangential high-velocity flow able to remove the dirt.



#### Key features

- ✓ Compact dimensions
- ✓ Flexible installation (360° adjustable connection plate)
- ✓ Non-Return valve
- ✓ Resistance to high pressures
- ✓ Stainless steel cartridge
- ✓ No need of cartridge replacing
- ✓ Completely made in Italy



#### Application

Point of entry of main water into the buildings, hot water circuits, farming and gardening. Part of impurities commonly found in waters consist of sand, flakes of oxides and coarse material can cause serious troubles to equipments and plants, if not properly removed from the flow of water. Installation of a protection filter is the most simple and effective way to avoid such problems. In case of drinkable water is treated, current national laws on drinkable water quality and on quality of materials in contact with food must be followed.

# 1 Cleaning and self-cleaning filters

## Manual filters - residential



### BravoDUE - performances and technical data

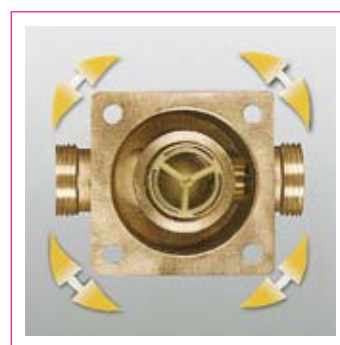
CODE		FT320	FT322	FT324
CONNECTION	inches	¾" F	1" F	1"¼ F
NOMINAL FLOW RATE (DP=0.2 BAR)	lt/h	2500	3500	3800
PEAK FLOW RATE (DP=0.5 BAR)	lt/h	4200	5800	6300
STANDARD FILTRATION RATING	micr.	89		
WORKING PRESSURE MIN/MAX	bar	1.5 - 10		
WATER TEMPERATURE MIN/MAX	°C	5 - 30		
EXTERNAL TEMPERATURE MIN/MAX.	°C	5 - 30		



BravoDUE filters are equipped with a special swap for cartridge clean and a green key to open the filter, simply turning the vase.



Cartridge in stainless steel AISI 304 with double o-ring sealing.



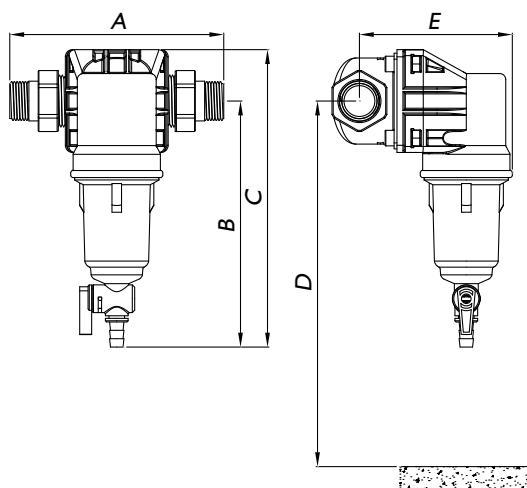
360° adjustable connection plate with non-return valve.



### QUOTES

CODE		FT320	FT322	FT324
WIDTH (A)	mm	177	179	190
CONNECTION HEIGHT (B)	mm	206	206	206
TOTAL HEIGHT (C)	mm	250	250	250
MINIMUM HEIGHT FROM GROUND (D)	mm	300	300	300
DEPTH (E)	mm	129	129	129

### BravoDUE Filter



FT320, FT322, FT324

# Manual filters - residential



## Text per offer

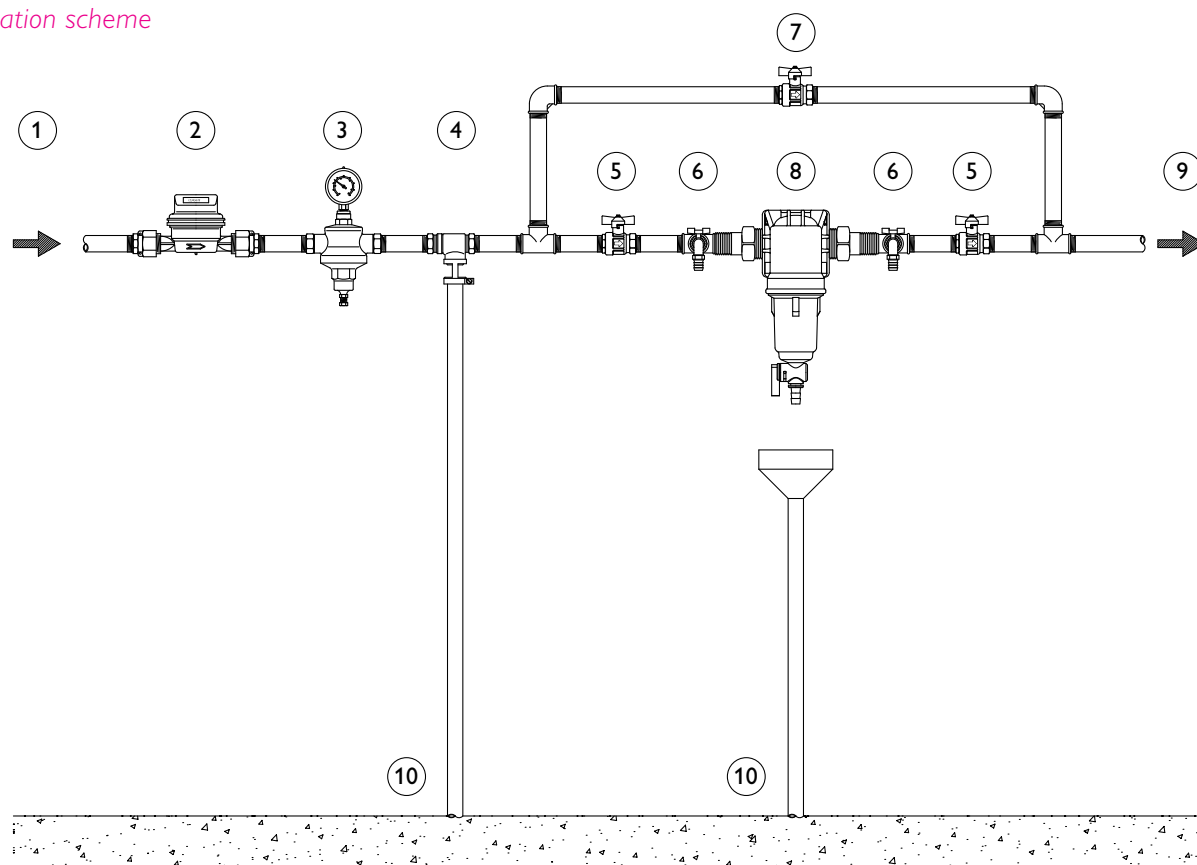
Cleaning filter BravoDUE, (specify the model) of compact dimensions, suitable for water filtration, for elimination of suspended material, such as: sand, silt, metal particles, etc. up to 89 microns rating in domestic drinking water, cold water distributing nets, feeding of heating and cooling plants and process water networks. Equipped with 360° adjustable brass plate connection with non-return valve incorporated, and 89 microns stainless steel cartridge with o-ring sealing. All the material that compose the filter are highly resistant to typical plants strains. Cleaning of the cartridge is activated trough the opening of the discharge tap. Connection available:  $\frac{3}{4}$  - 1 - 1  $\frac{1}{4}$ . Equipped with opening plastic key.



## Referential EU norms and EN standards

BravoDUE is manufactured in compliance with the Italian decree D.M. N°174/04, article 9 of the Italian decree D.L. N°31/01, Italian decree D.M. N° 25/12, Standards UNI EN 13443:1 2007. The Italian decree D.P.R. N°59/09, decree D.M. N°37/08, standards UNI CTI 8065, UNI CTI 8884, UNI CTI 7550 prescribe the installation of protecting filter in the water inlet to domestic water, heating and cooling plants. Acqua Brevetti 95 s.r.l. works with a Quality System certified in compliance with the requirements of the UNI-EN ISO 9001:2008 with certificate 501007368 issued by TÜV Italy Srl.

## Installation scheme



## Legenda

- 1.** Cold water inlet; **2.** Inlet water meter; **3.** Pressure reducer; **4.** Backflow prevention device; **5.** Zone valves; **6.** Sampling taps; **7.** By-pass valve; **8.** BravoDUE filter; **9.** Treated water outlet; **10.** Discharge.



# 1 Cleaning and self-cleaning filters

## Semi-automatic filters - residential

### PuliFIL

#### Cleaning filter



#### Overview

PuliFIL is an innovative filter with a patented system of cleaning composed by two different actions: brushing of the filtering cartridge and high speed discharge. This method allows an efficient and thorough cleaning both of the filtering cartridge and the filter bowl. Raw water entering PuliFIL flows from the outside toward the inside of the filtering cartridge. The cleaning is started by rotating clockwise the upper green knob: this movement activates, at each click, the brushing system and the opening of the discharge valve which creates an high speed tangential flow which removes impurities accumulated in the filter bowl.

PuliFIL head's is made in brass resistant to mechanical shear stresses due to installation which usually lead to breakage of plastic heads. The vessel, equipped with the discharge valve, is made in high-tenacity polyamide (maximum pressure 16 bar). The filtering surface is in stainless steel soldered on a stretched wire netting. The particular structure of the filtering cartridge makes it resistant to mechanical shocks and pressure gradients eliminating deformation and crushing of the filtering cartridge. PuliFIL's cleaning brushes are equipped with silver inserts which contrast the bacterial proliferation in the filter. PuliFIL meets Italian requirements for drinking water treatment. The standard filtration rating of PuliFIL is 89 microns; other filtration ratings (30, 50, 150 microns) are available upon request. PuliFIL with 1½" and 2" connections are equipped with two pressure gauges to monitor pressure drop through the filtering cartridge enabling one to easily determine the degree of clogging.



#### Key features

- ✓ Patented cleaning system brushing+drainage
- ✓ Connections from ¾" to 2"
- ✓ No need of cartridge replacing
- ✓ Resistance to high pressure and hot water
- ✓ Stainless steel cartridge
- ✓ Silver wires inside the brushes
- ✓ Entirely made with the best materials
- ✓ Completely Made In Italy



#### Application

Point of entry of main water into the buildings, hot water circuits, farming and gardening. Part of impurities commonly found in waters consist of sand, flakes of oxides and coarse material can cause serious troubles to equipments and plants, if not properly removed from the flow of water. Installation of a protection filter is the most simple and effective way to avoid such problems. In case of drinkable water is treated, current national laws on drinkable water quality and on quality of materials in contact with food must be followed.



# Semi-automatic filters - residential



## PuliFIL - performances and technical data

CODE		FT010	FT012	FT014	FT016	FT018
CONNECTIONS	inches	3/4"F	1"F	1 1/4"F	1 1/2"M	2"M
NOMINAL FLOW RATE	lt/h	4800	6000	6500	12000	16000
ΔP (NOMINAL FLOW RATE)	bar	0,2				
STANDARD FILTRATION RATING*	micr.	89				
MIN. WORKING PRESSURE	bar	1,5				
MAX WORKING PRESSURE	bar	16				
MIN./MAX WATER TEMPERATURE	°C	5/30				
MIN./MAX EXTERNAL TEMPERATURE	°C	5/30				
WATER CONSUMPTION FOR CLEANING	lt	6 (@3bar)				
HEAD MATERIAL		BRASS				
BOWL MATERIAL		TROGAMID®				
CARTRIDGE MATERIAL		STAINLESS STEEL AISI 304				
BRUSHES MATERIAL		NYLON-SILVER				

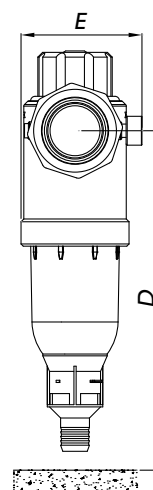
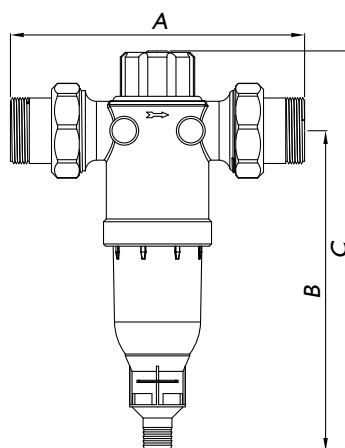
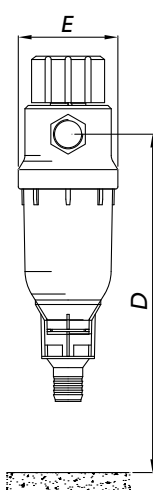
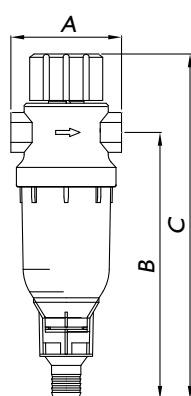
\* Other filtration ratings available on demand: 30, 50, 150 micron.



## QUOTES

CODE		FT010	FT012	FT014	FT016	FT018
WIDTH (A)	mm	100	100	100	251	265
CONNECTION HEIGHT (B)	mm	237	237	242	292	292
TOTAL HEIGHT (C)	mm	312	312	313	364	364
MINIMUM HEIGHT FROM GROUND (D)	mm	400	400	400	600	600
DEPTH (E)	mm	90	90	90	120	120

### PuliFIL Filter



FT010, FT012, FT014

FT016, FT018

# 1 Cleaning and self-cleaning filters

## Semi-automatic filters - residential



### Text per offer

Cleaning filter PuliFil – (specify the model) – is suitable for filtering water, eliminating suspended particles, such as: sand, silt, metal particles, etc. up to 89 microns rating. The filter is suitable to protect domestic supplies, hydro- thermo-sanitary plants and equipments in general. Thanks to its patented cleaning system brushing + discharge, PuliFIL guarantees an effectiveness well cleaning of filtering cartridge, as well as the discharge of impurities suspended in water. The presence of silver threads within the system cleaning ensures the maintenance of conditions that impede bacterial and algal proliferation inside the vase. Suitable for drinkable water filtration.



### Referential EU norms and EN standards

PuliFIL is manufactured in compliance with the Italian decree D.M. N°174/04, article 9 of the Italian decree D.L. N°31/01, Italian decree D.M. N° 25/12, Standards UNI EN 13443:1 2007. The Italian decree D.P.R. N°59/09, decree D.M. N°37/08, standards UNI CTI 8065, UNI CTI 8884, UNI CTI 7550 prescribe the installation of protecting filter in the water inlet to domestic water, heating and cooling plants. Acqua Brevetti 95 s.r.l. works with a Quality System certified in compliance with the requirements of the UNI-EN ISO 9001:2008 with certificate 501007368 issued by TÜV Italy Srl.

### Cleaning System



The cleaning is activated by a clockwise rotation (manually operated) of the green knob. Each turn of the knob carries out the complete polishing of cartridge surface and, at the same time, the drainage of dirt, through the bottom valve opening.

Each turn brushing and discharge



Filtering cartridge in stainless steel AISI 304, with double o-ring sealing.

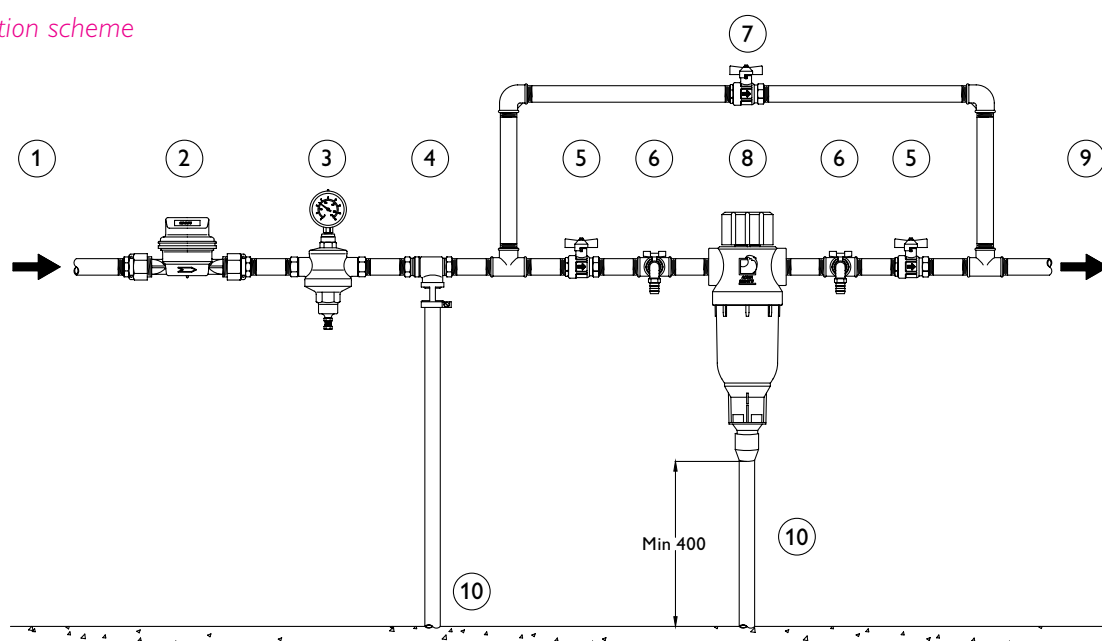


Brushes are formed by nylon bristles with a silver wire ensuring bacteriostatic conditions inside bowl.



It is available as accessory a green key to open and disassemble the filter.

### Installation scheme



### Legenda

1. Cold water inlet; 2. Inlet water meter; 3. Pressure reducer; 4. Backflow prevention device; 5. Zone valves; 6. Sampling taps; 7. By-pass valve; 8. PuliFIL filter; 9. Treated water outlet; 10. Discharge.

# Automatic filter - residential

## PuliMATIC

### Automatic cleaning filter

#### Overview

Raw water entering PuliMATIC flows from the outside toward the inside of the filtering cartridge. PuliMATIC is an automatic cleaning filter with an electronic control board which starts the filter cleaning in an operator-independent way. The innovative filter cleaning cycle is composed by two different actions: brushing of the filtering cartridge and opening of the discharge valve which creates an high speed tangential flow which removes impurities accumulated in the filter bowl. This method allows an efficient and thorough cleaning both of the filtering cartridge and the filter bowl. The filter cleaning cycle is started automatically by the electronic control board when a pre-set time interval has elapsed.

PuliMATIC head's is made in brass resistant to mechanical shear stresses due to installation which usually lead to breakage of plastic heads. The vessel, equipped with the discharge valve, is made in high-tenacity polyamide (maximum pressure 16 bar). The filtering surface is in stainless steel soldered on a stretched wire netting. The particular structure of the filtering cartridge makes it resistant to mechanical shocks and pressure gradients eliminating deformation and crushing of the filtering cartridge. PuliMATIC's cleaning brushes are equipped with silver inserts which contrast the bacterial proliferation in the filter. PuliMATIC meets Italian requirements for drinking water treatment. The standard filtration rating of PuliMATIC is 89 microns; other filtration ratings (30, 50, 150 microns) are available upon request. PuliMATIC is available in two versions:

- PuliMATIC – short cleaning cycle  
(adjustable cleaning interval: each 2 – 4 – 6 – 8 hours);
  - PuliMATIC – long cleaning cycle  
(adjustable cleaning interval: each 12 – 24 – 36 – 48 hours).
- PuliMATIC with 1½" and 2" connections are equipped with two pressure gauges to monitor pressure drop through the filtering cartridge enabling one to easily determine the degree of clogging. Furthermore PuliMATIC is equipped with a black button allowing to start manually, at any time, a washing cycle. Further, PuliMATIC is endowed with an output signal (voltage free contact) which can be used to control, through an electrical auxiliary board, pumps, solenoid valves, alarms, etc.



#### Key features

- ✓ Patented cleaning system brushing+drainage
- ✓ Connections from ¾" to 2"
- ✓ No need of cartridge replacing
- ✓ Resistance to high pressure and hot water
- ✓ Timed cleaning
- ✓ Stainless steel cartridge
- ✓ Silver wires inside the brushes
- ✓ Entirely made with the best materials
- ✓ Completely Made In Italy



#### Application

PuliMATIC has been specifically designed for the filtration of cold drinking water predominantly in civil applications but it may also be used for the protection of water distribution lines in technological applications (heating and cooling systems, industrial installations, etc.).

# 1 Cleaning and self-cleaning filters

## Automatic filter - residential



### PuliMATIC - performances and technical data

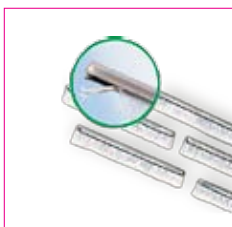
SHORT CLEANING CYCLE CODE		FT370	FT372	FT374	FT376	FT378
LONG CLEANING CYCLE CODE		FT360	FT362	FT364	FT366	FT368
CONNECTION	inches	¾"F	1"F	1¼"F	1½"M	2"M
NOMINAL FLOW RATE (DP=0.2 BAR)	lt/h	4800	6000	6500	12000	16000
STANDARD FILTRATION RATING*	micr.	89				
WORKING PRESSURE MIN/MAX	bar	1.5 - 16				
CLEANING INTERVAL	hours	short cycle (2 - 4 - 6 - 8) ÷ long cycle (12 - 24 - 36 - 48)				
CLEANING DURATION - WATER CONSUMPTION	sec - lt	19 - 6				
WATER TEMPERATURE MIN/MAX	°C	5 - 30				
EXTERNAL TEMPERATURE MIN./MAX.	°C	5 - 30				
TRANSFORMER**	V	230/18				

\* Other filtration ratings available on demand: 30, 50, 150 micron.

\*\* Available on request 110/18 V transformer.

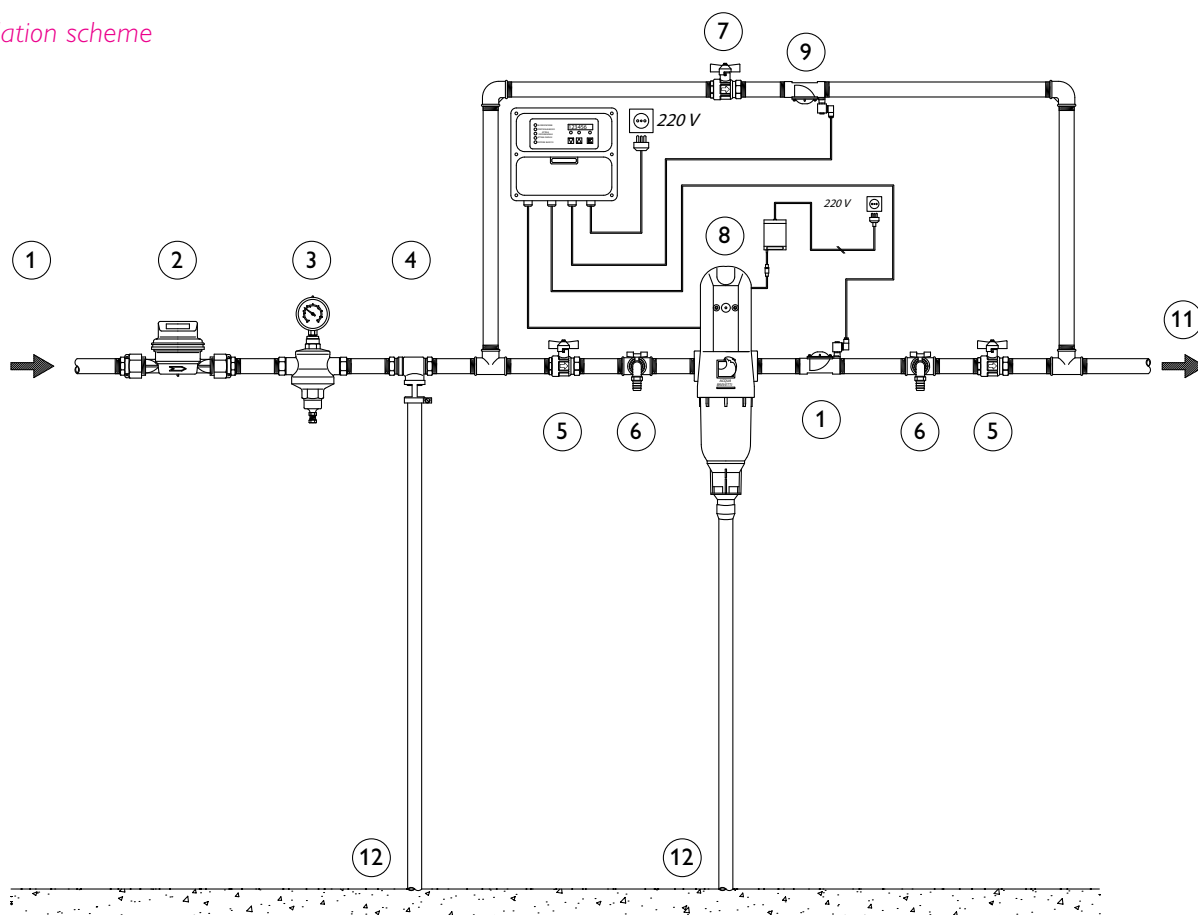


Filtering cartridge in stainless steel AISI 304, with double o-ring sealing.



Brushes are formed by nylon bristles with a silver wire ensuring bacteriostatic conditions inside bowl.

### Installation scheme



#### Legenda

**1.** Cold water inlet; **2.** Inlet water meter; **3.** Pressure reducer; **4.** Backflow prevention device; **5.** Zone valve; **6.** Sample tap; **7.** By-pass valve; **8.** PuliMATIC Filter; **9.** Treated water outlet; **10.** Discharge.

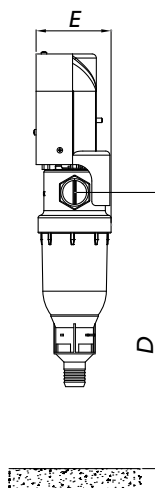
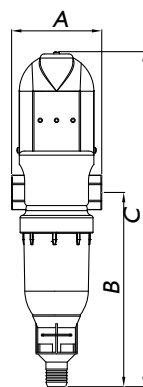
# Automatic filter - residential



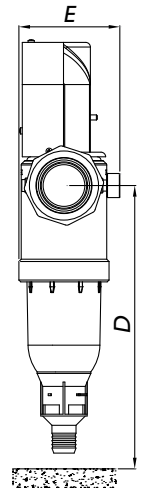
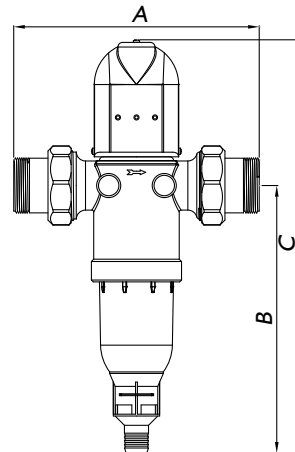
## QUOTES

CODE		FT360 FT370	FT362 FT372	FT364 FT374	FT366 FT376	FT368 FT378
WIDTH (A)	mm	100	100	100	251	265
CONNECTION HEIGHT (B)	mm	237	237	242	292	292
TOTAL HEIGHT (C)	mm	408	408	408	459	459
MINIMUM HEIGHT FROM GROUND (D)	mm	400	400	400	600	600
DEPTH (E)	mm	90	90	90	120	120

### PuliMATIC Filter



FT370, FT372, FT374, FT360, FT362, FT364



FT376, FT378, FT366, FT368

# 1 Cleaning and self-cleaning filters

## Semi-automatic filters - residential

### BravoFIL

#### Self-cleaning filter

##### Overview

Raw water entering BravoFIL flows from the outside toward the inside of the filtering cartridge. BravoFIL is a self-cleaning filter with an innovative system of cleaning composed by two different actions: brushing and high speed back-wash with filtered water of the filtering cartridge. This method allows an efficient and thorough cleaning both of the filtering cartridge and the filter bowl. The cleaning is started by rotating clockwise the upper green knob: this movement activates, at each click, the brushing and the opening of the discharge valve which creates a tangential flow which removes impurities accumulated in the filter bowl. During the filter cleaning the water entering BravoMATIC is diverted and, after having passed through an auxiliary back-wash filter, it is forced by the turbo-jet against the cartridge ensuring the effective removal of impurities retained by the filter cartridge. The automatic opening of the discharge valve (located at the bottom of the bowl) creates a tangential high-speed flow which removes impurities accumulated in the bowl during working.

BravoFIL is equipped with a 360° adjustable connection plate (4 90° steps) of brass resistant to mechanical shear stresses due to installation which usually lead to breakage of plastic heads. The adjustable connection plates offers the maximum installation flexibility. Further, in the connection plate it is housed a non-return valve which allows the filter back-washing without the risk of pressure surge in the main water line. BravoFIL is equipped with an auxiliary cartridge for the filtration of water during back-wash. This precaution allows to perform the filter cleaning always with clean water obtaining the best results. The head of the filter is made in acetal resin and the vessel, equipped with the discharge valve, is made in high-tenacity polyamide (maximum pressure 10 bar). The filtering surface is in stainless steel soldered on a stretched wire netting. The particular structure of the filtering cartridge makes it resistant to mechanical shocks and pressure gradients eliminating deformation and crushing of the filtering cartridge. BravoFIL's cleaning brushes are equipped with silver inserts which contrast the bacterial proliferation in the filter. BravoFIL meets Italian requirements for drinking water treatment. The standard filtration rating of BravoFIL is 89 microns; other filtration ratings (30, 50, 150 microns) are available upon request.



##### Key features

- ✓ Patented two-steps cleaning system
- ✓ Back-wash with filtered water
- ✓ Brass connection plate 360° adjustable
- ✓ Resistance to high pressure and hot water
- ✓ No need of cartridge replacing
- ✓ Stainless steel cartridge
- ✓ Silver wires inside the brushes
- ✓ Entirely made with the best materials
- ✓ Completely Made In Italy



##### Application

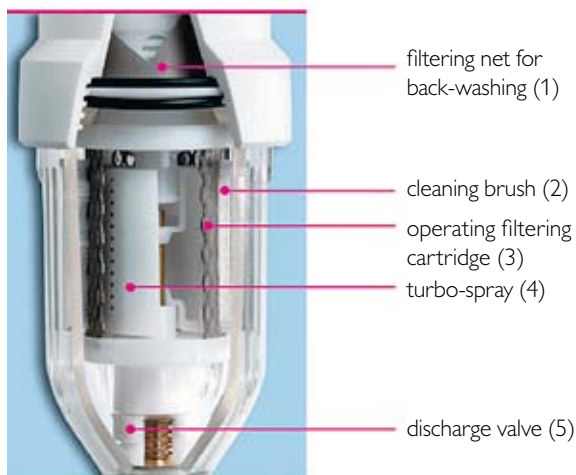
Point of entry of main water into the buildings, hot water circuits, farming and gardening.

Part of impurities commonly found in waters consist of sand, flakes of oxides and coarse material can cause serious troubles to equipments and plants, if not properly removed from the flow of water: installation of a protection filter is the most simple and effective way to avoid such problems.

In case of drinkable water is treated, current national laws on drinkable water quality and on quality of materials in contact with food must be followed.



## Semi-automatic filters - residential



### Patented self-cleaning system

Water enters the filter and flows down through the filtering cartridge (3) from the exterior to the interior and comes out clean. By turning the knob clockwise the filtering cartridge turns 90° and it is automatically cleaned by brushes located in the bowl (2). At the same time the incoming water is diverted, runs through the counter-wash filter (1), enters inside the cartridge and activates the turbo-jet plate (4), which sprays clean water at high speed uniformly over the filtering cartridge from internal side to external (in back-washing). Dirt comes out from the discharge valve (5) together with water. The two-step cleaning procedure is accomplished by two knob notches.



Brushes are formed by nylon bristles with a silver wire ensuring bacteriostatic conditions inside bowl.

### Cleaning manoeuvre



#### 1° STEP – BACKWASH

Turn the knob clockwise till the click. Hold it in cleaning phase (discharge valve opened) for few seconds until have obtained the complete removal of dirty accumulated into the bowl.

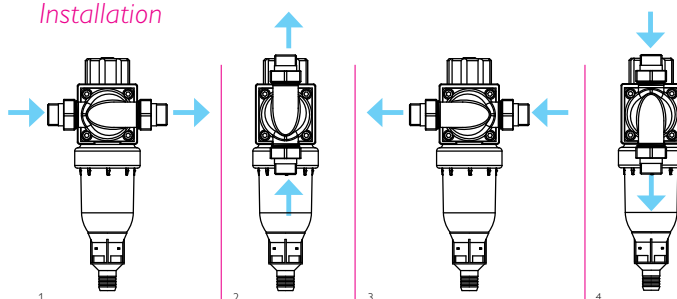


#### 2° STEP – FILTRATION

Turn again the knob clockwise till the click. Filters returns in working phase (filtration).

This operation can be repeated several times in case of excessive deposits of dirt.

### Installation



The connection plate can be turned of 360°, every 90°, to be suitable to any installing conditions. It is only required to follow the water flow direction indicated by the arrow placed on the plate.

### 360° ADJUSTABLE CONNECTION PLATE WITH NON-RETURN VALVE



### Text per offer

Self cleaning filter BravoFIL (specify the model) is suitable for filtering drinkable water, eliminating suspended particles, such as: sand, silt, metal particles, etc. up to 89 microns rating. The filter is suitable to protect household appliance, hydro-thermo-sanitary plants and equipments in general. BravoFIL is equipped of double action cleaning system: through of use of a simple manoeuvre user activates a high speed turbo-spray making a back wash with filtered water and, simultaneously, brushing of the entire cartridge surface, performing a real and complete cleaning.

The silver wires within the brushes ensures the maintenance of conditions that impedes bacterial and algal proliferation inside the vase (visit our web site for further information).



### Referential EU norms and EN standards

BravoFIL is manufactured in compliance with the Italian decree D.M. N°174/04, article 9 of the Italian decree D.L. N°31/01, Italian decree D.M. N° 25/12, Standards UNI EN 13443:1 2007. The Italian decree D.P.R. N°59/09, decree D.M. N°37/08, standards UNI CTI 8065, UNI CTI 8884, UNI CTI 7550 prescribe the installation of protecting filter in the water inlet to domestic water, heating and cooling plants. Acqua Brevetti 95 s.r.l. works with a Quality System certified in compliance with the requirements of the UNI-EN ISO 9001:2008 with certificate 501007368 issued by TÜV Italy Srl.



# 1 Cleaning and self-cleaning filters

## Semi-automatic filters - residential



### BravoFIL - performances and technical data

CODE		FT020	FT022	FT024	FT026
CONNECTIONS	inches	¾" M	1" M	1¼" M	1½" M
MAX. FLOW RATE	lt/h	3200	4500	5000	6000
ΔP (MAX. FLOW RATE)	bar	0,2			
STANDARD FILTRATION RATING*	micr.	89			
MIN. WORKING PRESSURE	bar	1,5			
MAX WORKING PRESSURE	bar	10			
MIN./MAX WATER TEMPERATURE	°C	5/30			
MIN./MAX EXTERNAL TEMPERATURE	°C	5/30			
WATER CONSUMPTION FOR BACKWASH	lt	6 (@3bar)			
HEAD MATERIAL		BRASS/POM			
BOWL MATERIAL		TROGAMID®			
CARTRIDGE MATERIAL					
BRUSHES MATERIAL					

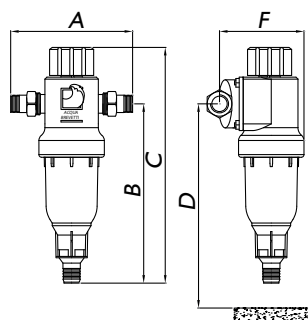
\* Other filtration ratings available on demand: 30, 50, 150 micron.  
Included: nuts and tails for connection.



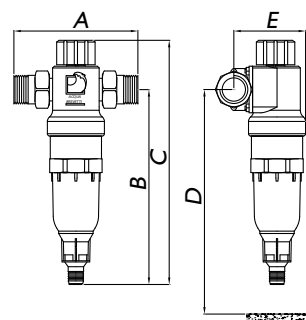
### QUOTES

CODE		FT020	FT022	FT024	FT026
WIDTH (A)	mm	177	179	190	198
CONNECTION HEIGHT (B)	mm	264	264	267	331
TOTAL HEIGHT (C)	mm	350	350	353	416
MINIMUM HEIGHT FROM GROUND (D)	mm	400	400	400	500
DEPTH (E)	mm	136	136	136	136

#### BravoFIL Filter

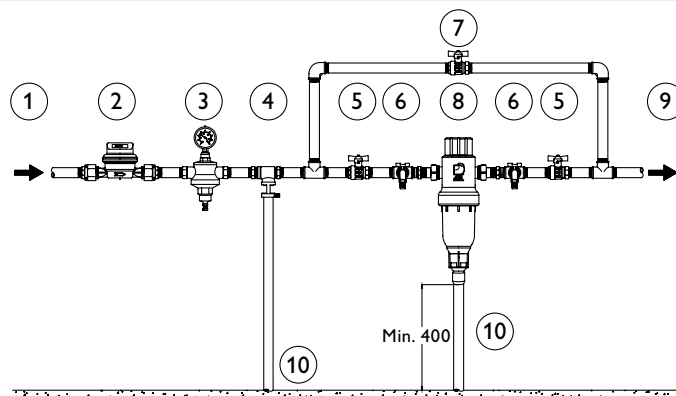


FT020, FT022, FT024



FT026

#### Installation scheme



#### Legenda

1. Cold water inlet; 2. Inlet water meter; 3. Pressure reducer; 4. Backflow prevention device; 5. Zone valve; 6. Sample tap; 7. By-pass valve; 8. BravoFIL Filter; 9. Treated water outlet; 10. Discharge.

# Semi-automatic filters- residential

## BravoFIL PLUS

Self - cleaning filter with pressure reducer incorporated.

### Overview

BravoFIL PLUS is the new filter that offers complete protection to civil water distribution systems: a single device that combines the effectiveness of a self-cleaning filter and the protection of a pressure reducer. BravoFIL PLUS is equipped with a 360° adjustable connection plate (4 90° steps) of brass resistant to mechanical shear stresses due to installation which usually lead to breakage of plastic heads. The adjustable connection plates offers the maximum installation flexibility. Further, in the connection plate it is housed a non-return valve which allows the filter back-washing without the risk of pressure surge in the main water line. BravoFIL PLUS is equipped with an auxiliary cartridge for the filtration of water during back-wash. This precaution allows to perform the filter cleaning always with clean water obtaining the best results. The head of the filter is made in acetal resin and the vessel, equipped with the discharge valve, is made in high-tenacity polyamide (maximum pressure 10 bar). The filtering surface is in stainless steel soldered on a stretched wire netting. The particular structure of the filtering cartridge makes it resistant to mechanical shocks and pressure gradients eliminating deformation and crushing of the filtering cartridge. BravoFIL PLUS's cleaning brushes are equipped with silver inserts which contrast the bacterial proliferation in the filter. BravoFIL PLUS meets Italian requirements for drinking water treatment. The standard filtration rating of BravoFIL PLUS is 89 microns; other filtration ratings (30, 50, 150 microns) are available upon request.



### Operation

Raw water entering BravoFIL PLUS flows from the outside toward the inside of the filtering cartridge. BravoFIL PLUS is a self-cleaning filter with an innovative system of cleaning composed by two different actions: brushing and high speed back-wash with filtered water of the filtering cartridge. This method allows an efficient and thorough cleaning both of the filtering cartridge and the filter bowl. The cleaning is started by rotating clockwise the upper green knob: this movement activates, at each click, the brushing and the opening of the discharge valve which creates a tangential flow which removes impurities accumulated in the filter bowl. During the filter cleaning the water entering BravoFIL PLUS is diverted and, after having passed through an auxiliary back-wash filter, it is forced by the turbo-jet against the cartridge ensuring the effective removal of impurities retained by the filter cartridge. The automatic opening of the discharge valve (located at the bottom of the bowl) creates a tangential high-speed flow which removes impurities accumulated in the bowl during working. BravoFIL PLUS is equipped with a built-in pressure reducer which allows the regulation of pressure to values between 1.5 bar and 6 bar protecting the equipment and the distribution line downstream. The reducer is preset at 3 bar but it can be adjusted simply by turning the adjustment screw.

# 1 Cleaning and self-cleaning filters

## Semi-automatic filters - residential



### Key features

- ✓ Pressure Reducer Incorporated in the connection plate
- ✓ Patented two-steps cleaning system
- ✓ Back-wash with filtered water
- ✓ Brass connection plate 360° adjustable
- ✓ Resistance to high pressure and hot water
- ✓ No need of cartridge replacing
- ✓ Stainless steel cartridge
- ✓ Silver wires inside the brushes
- ✓ Entirely made with the best materials
- ✓ Completely Made In Italy



### Application

BravoFIL Plus has been specifically designed for the filtration of cold drinking water predominantly in civil applications but it may also be used for the protection of water distribution lines in technological applications (heating and cooling systems, industrial installations, etc.).



BravoFIL Plus is equipped with pressure reducer which allows to stabilize pressure between values from 1.5 and 6 bars, protecting appliances and water plant downstream. The pressure reducer is pre-calibrated at 3 bars, but it is possible to adjust it acting on the regulating screw.

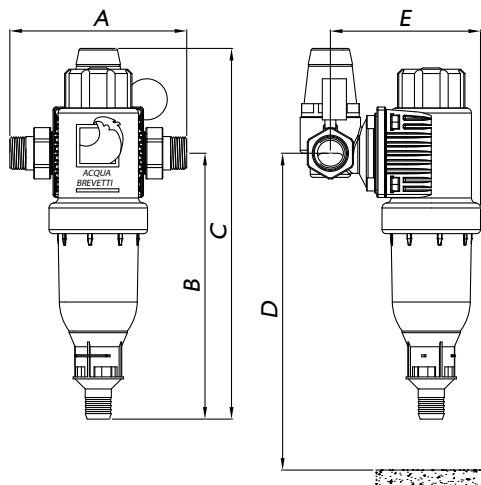


### BravoFIL PLUS - performances and technical data sheet

CODE		FT120	FT122	FT124
CONNECTION	inches	3/4"M	1"M	1 1/4"M
NOMINAL FLOW RATE (DP=0.2 BAR)	lt/h	3200	4500	5000
STANDARD FILTRATION RATING	micron	89		
DOWNSTREAM ADJUSTABLE PRESSURE	bar	1.5 - 6		
WORKING PRESSURE MIN/MAX	bar	1.5 - 10		
WATER TEMPERATURE MIN/MAX	°C	5 - 30		
EXTERNAL TEMPERATURE MIN/MAX.	°C	5 - 30		

\* Other filtration rating available on demand: 30, 50, 150 micron.

### BravoFIL PLUS Filter



FT120, FT122, FT124

## Semi-automatic filters - residential



### Text per offer

Semi-automatic protection self-cleaning filter with a built-in pressure reducer with a standard filtration rating of 89 micron which retains coarse impurities from water preventing them from damaging the system. The cleaning is started by rotating clockwise the upper green knob which activates per each click the cartridge cleaning and discharge of dirt. During the filter cleaning the water entering BravoFIL PLUS is diverted and, after having passed through an auxiliary back-wash filter, it is forced by the turbo-jet against the cartridge ensuring the effective removal of impurities retained by the filter cartridge, and contemporaneously is performed the external cartridge cleaning with brushes. The automatic opening of the discharge valve (located at the bottom of the bowl) creates a tangential high-speed flow which removes impurities accumulated in the bowl during working.



### Referential EU norms and EN standards

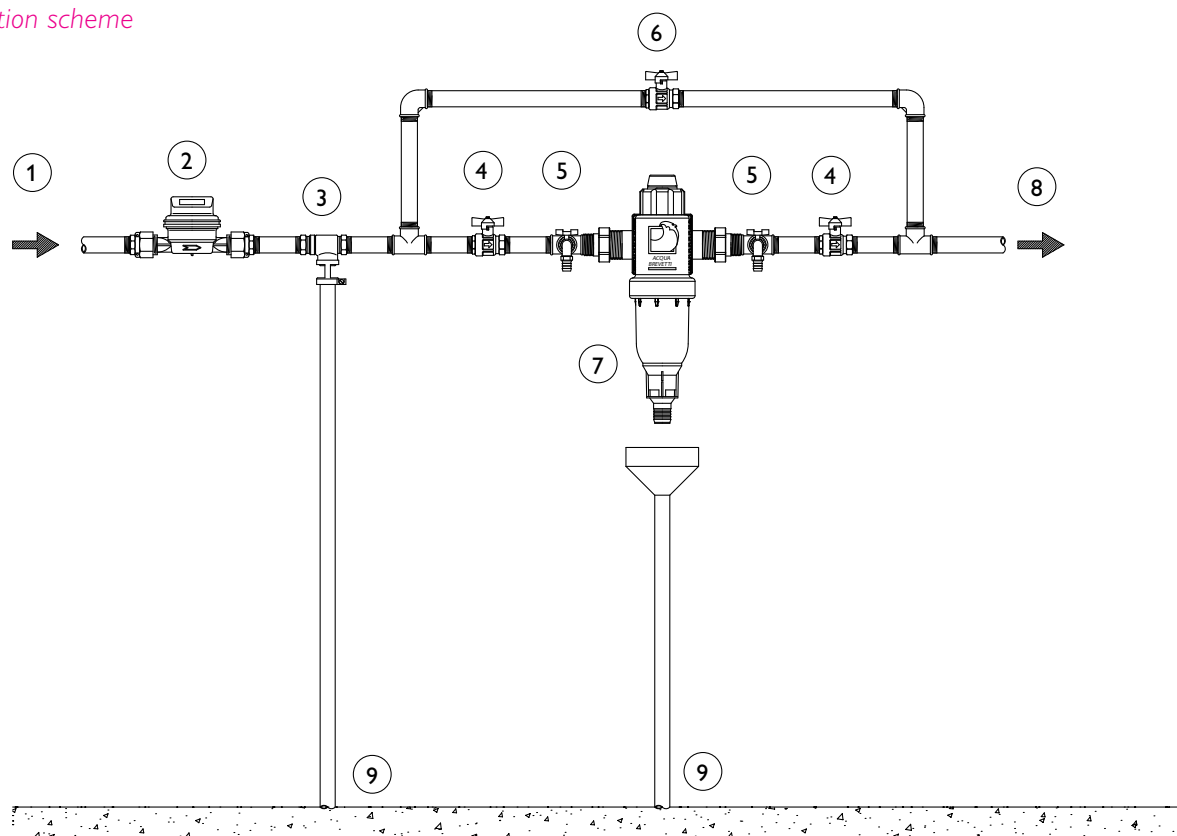
BravoFIL PLUS is manufactured in compliance with the Italian decree D.M. N°174/04, article 9 of the Italian decree D.L. N°31/01, Italian decree D.M. N° 25/12, Standards UNI EN 13443:1 2007. The Italian decree D.P.R. N°59/09, decree D.M. N°37/08, standards UNI CTI 8065, UNI CTI 8884, UNI CTI 7550 prescribe the installation of protecting filter in the water inlet to domestic water, heating and cooling plants. Acqua Brevetti 95 s.r.l. works with a Quality System certified in compliance with the requirements of the UNI-EN ISO 9001:2008 with certificate 501007368 issued by TÜV Italy Srl.



### QUOTES

CODE		FT120	FT122	FT124
WIDTH (A)	mm	177	179	190
CONNECTION HEIGHT (B)	mm	264	264	267
TOTAL HEIGHT (C)	mm	370	370	373
MINIMUM HEIGHT FROM GROUND (D)	mm	400	400	400
DEPTH (E)	mm	180	180	180

### Installation scheme



### Legenda

1. Water inlet 2. Main flow meter; 3. Non return valve; 4. Valve; 5. Sampling taps; 6. By-pass valve;  
7. Filter BravoFIL Plus with pressure reducer; 8. Filtered water outlet; 9. Drain.

# 1 Cleaning and self-cleaning filters

## Automatic filters - residential

# BravoMATIC

### Self-cleaning filter

#### Overview

BravoMATIC is a completely automatic self-cleaning filter which is able to supply filtered water constantly for a considerable period of time without requiring any maintenance. BravoMATIC is robust and compact, and suitable for uses both domestic and industrial. BravoMATIC is equipped with an electronically controlled programmable timing system that activates back-wash cycle (patented system). BravoMATIC is equipped also with a built-in hydraulic differential pressure switch that constantly tracks head losses and activates the back-wash when a differential pressure of 0.5 bar is detected, regardless of timer. This system guarantees an adequate cleaning and avoid any possible clogging. BravoMATIC has a patented washing cycle involving dirt drainage + cartridges brushing + high-speed spray: when differential pressure is higher than 0.5 bar or the preset time is elapsed, motor runs 90° clockwise the filtering cartridge that is automatically cleaned by brushes located in the bowl; at the same time the incoming water is diverted by the rotation and runs through the back-wash filter; it goes into turbo-jet channel, which sprays clean water at high speed on the entire cartridge, from internal to external side. Furthermore BravoMATIC is equipped with a black button allowing to start manually, at any time, a washing cycle. Further, BravoMATIC is endowed with an output signal (voltage free contact) which can be used to control, through an electrical auxiliary board, pumps, solenoid valves, alarms, etc.



#### Key features

- ✓ Automatic cleaning
- ✓ Patented two-steps cleaning system
- ✓ Automatic cleaning activated by timing and differential pressure switch
- ✓ Brass connection plate adjustable 360°
- ✓ No need of cartridge replacing
- ✓ Stainless steel cartridge
- ✓ Silver wires inside brushes
- ✓ Entirely made with the best materials
- ✓ Completely Made In Italy



#### Applications

BravoMATIC is suitable both for domestic and industrial uses. It protects hydraulic systems and pipes from damages caused by reduced quantities of foreign bodies such as sand, silt, rust, metal oxides, etc. which can cause erosion-corrosion as a result of contact with pipes. BravoMATIC is available in a range of connection dimensions ranging from 3/4" to 1 1/2" M inches. Maximum flow rates range from 3.2 mc/h to 6 mc/h with limited head losses (0.2 bar at maximum flow rate). A solenoid valve should be installed downstream to interrupt water flow when the back washing cycle is active.



#### Text for offer

Automatic self cleaning filter BravoMATIC - (specify the model) - is suitable for filtering water, eliminating suspended particles, such as: sand, silt, metal particles, etc. up to 89 microns rating. The filter protects household appliance, hydro-thermo-sanitary plants and equipments in general. BravoMATIC system is equipped of electronic automatic system with a presetting timer to make washing cycle every 2-4-6-8 hours or every 12-24-36-48 hours. BravoMATIC is also furnished with electro-hydraulic differential that monitors continuously the cartridge clogging and can activate backwash, out of the time set, in case of DP=0.5 bar. BravoMATIC has a self cleaning system working by double cleaning action: backwash (with high speed spray of filtered water) and, simultaneously, brushing of surface entire cartridge. The silver wires within the brushes ensures the maintenance of conditions that impedes bacterial and algal proliferation inside the vase (visit our web site for further information). Depending on applications, upstream of the filter it is advisable to install an solenoid valve (manageable by electrical contact available on the filter) that break the use of water during backwash operations. Suitable for drinkable water filtration.

# Automatic filters - residential



## BravoMATIC - performances and technical data

CODE		FT030	FT032	FT034	FT036	FT130	FT132	FT134	FT136
CONNECTIONS	inches	¾"M	1"M	1¼"M	1½"M	¾"M	1"M	1¼"M	1½"M
MAX. FLOW RATE	lt/h	3200	4500	5000	6000	3200	4500	5000	6000
ΔP (MAX. FLOW RATE)	bar	0,2							
STANDARD FILTRATION RATING*	micr.	89							
MIN. WORKING PRESSURE	bar	1,5							
MAX WORKING PRESSURE	bar	10							
MIN./MAX WATER TEMPERATURE	°C	5/30							
MIN./MAX EXTERNAL TEMPERATURE	°C	5/30							
WATER CONSUMPTION FOR BACKWASH	lt	6 (@3bar)							
PRESET TIMINGS FOR BACKWASHING	hours	2-4-6-8				12-24-36-48			
ΔP FOR AUTOMATIC CLEANING	bar	0,5							
HEAD MATERIAL		DELFIN							
BOWL MATERIAL		TROGAMID®							
CARTRIDGE MATERIAL		STAINLESS STEEL AISI 304							
BRUSHES		NYLON-SILVER							
TRANSFORMER**	V	230/18							

\* Other filtration ratings available on demand: 30, 50, 150 micron. Included: nuts and tails for connections.

\*\* Available on request 110/18 V transformer



## Referential EU norms and EN standards

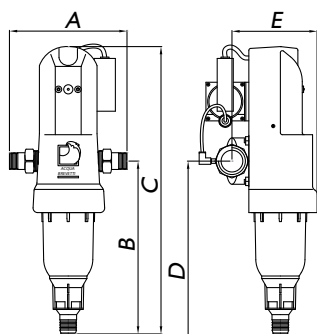
BravoMATIC is manufactured in compliance with the Italian decree D.M. N°174/04, article 9 of the Italian decree D.L. N°31/01, Italian decree D.M. N° 25/12, Standards UNI EN 13443:1 2007. The Italian decree D.P.R. N°59/09, decree D.M. N°37/08, standards UNI CTI 8065, UNI CTI 8884, UNI CTI 7550 prescribe the installation of protecting filter in the water inlet to domestic water, heating and cooling plants. Acqua Brevetti 95 s.r.l. works with a Quality System certified in compliance with the requirements of the UNI-EN ISO 9001:2008 with certificate 501007368 issued by TÜV Italy Srl.



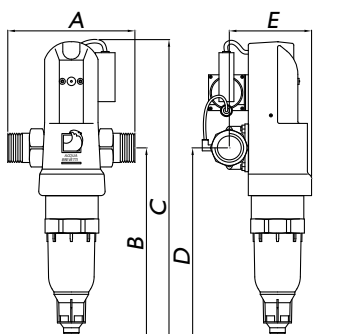
## QUOTES

CODE		FT030 FT130	FT032 FT132	FT034 FT134	FT036 FT136
WIDTH (A)	mm	177	179	190	198
CONNECTION HEIGHT (B)	mm	264	264	267	331
TOTAL HEIGHT (C)	mm	452	452	453	516
MINIMUM HEIGHT FROM GROUND (D)	mm	400	400	400	500
DEPTH (E)	mm	140	140	140	140

## BravoMATIC Filter

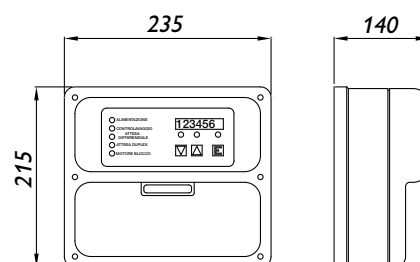


FT030, 032, 034  
FT130, 132, 134



FT036  
FT136

## Control panel (cod.23022030)





# 1 Cleaning and self-cleaning filters

## Automatic filters - residential

### Optionals

In order to get the most effective washing during the BravoMATIC cleaning phase it is necessary a 2 bars pressure on-line downstream the filter. In case of this condition is not present, we advice to apply BravoMATIC filter with closing solenoid valve for the backwash. For purchasing please order the code correspondent to the BravoMAX filter followed by "/EV". F.e. for a BravoMAX 2" threaded connection with solenoid valve, use: "FT052/EV".



### Control panel

It is available a control panel (optional) which is able to manage simply BravoMATIC (and BravoMAX) filters. The control panel is powered by a transformer 12/24 Vac and manage directly a filter and up to nr.2 solenoid valves 24 Vac. For BravoMATIC filters is generally sufficient to install a closing solenoid valve (for the backwash) placed at the filtered water outlet thus to create ideal pressure for the backwash of filter. Other contacts can be used to open by-pass valves or to manage the backwash pumps. In BravoMAX filters may be necessary to control two solenoid valve: one for closing (as suggested for BravoMATIC) and another for managing discharge and facilitating the removal of dirt, suitable for particularly dirty water.



### Closing solenoid valve for backwash

The solenoid valve for the backwash is useful to be installed downstream to the filter, managed by a control panel, which close it to create an high pressure on-line to get a better backwash of filter.

The solenoid valves are available in following versions:

Connection 3/4" code EVC001

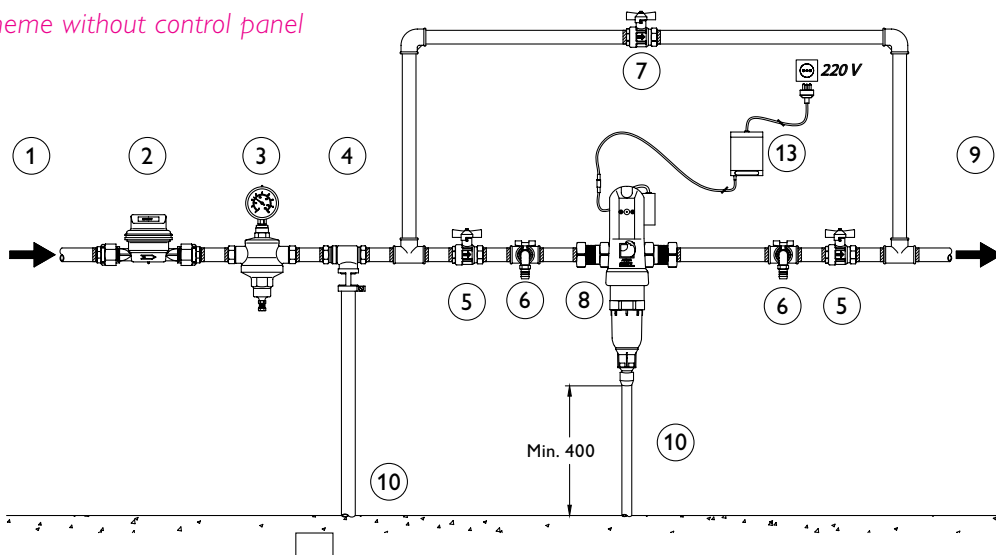
Conn. 2" cod. EVC005

Conn. 1" cod. EVC002

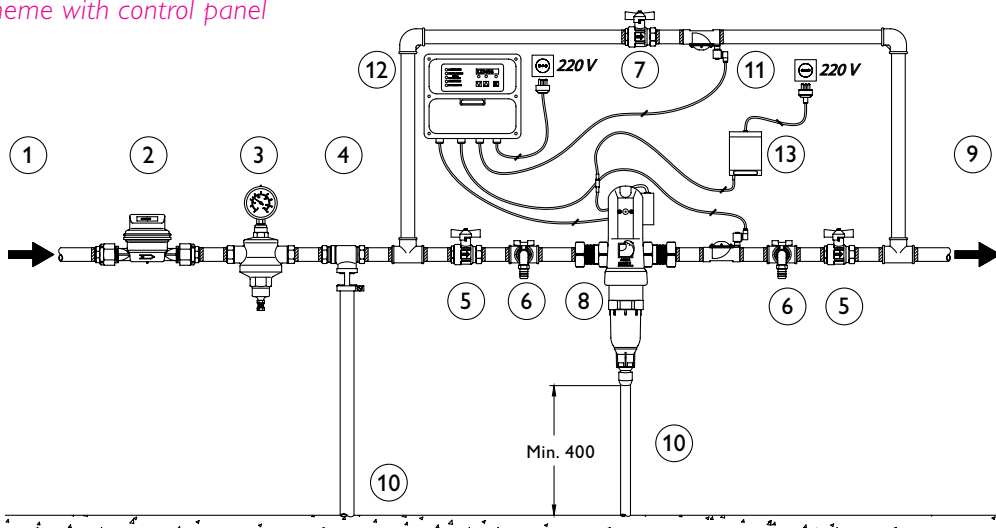
Conn. 1 1/4" cod. EVC003

Conn. 1 1/2" cod. EVC004

### Installation scheme without control panel



### Installation scheme with control panel



### Legenda

**1.** Cold water inlet; **2.** Inlet water meter; **3.** Pressure reducer; **4.** Backflow prevention device; **5.** Zone valve; **6.** Sample tap; **7.** By-pass valve; **8.** BravoMATIC Filter; **9.** Treated water outlet; **10.** Discharge; **11.** Solenoid valve for back wash; **12.** Control panel; **13.** Filter power feeder.



## Semi-automatic filters - industrial

# BravoMAX M

### Cleaning filter

#### Overview

BravoMAX M is a semi-automatic cleaning filter made in stainless steel AISI 304 suitable for several type of industrial and civil applications where high flow rates are required.

Raw water entering BravoMAX M flows from the outside toward the inside of the filtering cartridge. BravoMAX M is an innovative filter with a patented system of cleaning composed by two different actions: brushing of the filtering cartridge and high speed discharge. This method allows an efficient and thorough cleaning both of the filtering cartridge and the filter bowl. The cleaning is started by rotating clockwise the upper green knob: this movement activates, at each click, the brushing system and the opening of the discharge valve which creates an high speed tangential flow which removes impurities accumulated in the filter bowl.

BravoMAX M is completely made in The filtering surface is in stainless steel soldered on a stretched wire netting. The particular structure of the filtering cartridge makes it resistant to mechanical shocks and pressure gradients eliminating deformation and crushing of the filtering cartridge. BravoMAX M is the ideal solution for the filtration of high water flow rates. BravoMAX M meets Italian requirements for drinking water treatment. The standard filtration rating of BravoMAX M is 150 microns; other filtration ratings are available upon request. BravoMAX M is available with both threaded and flanged connections. BravoMAX M is equipped with two pressure gauges to monitor pressure drop across the filtering cartridge enabling one to easily determine the degree of clogging.



#### Key features

- ✓ Patented cleaning system brushes+drainage
- ✓ Available with both threaded and flanged fittings (1 1/2" to 3" and DN40 to DN80)
- ✓ Equipped with two pressure gauges
- ✓ Stainless steel cartridge
- ✓ Silver wire inside the brushes.
- ✓ Made with highest quality materials.
- ✓ Completely Made In Italy



#### Applications

BravoMAX M is the ideal solution for industrial applications such as: filtration of primary water, cooling waters, water for pumping stations, process water. BravoMAX is the best solution in civil works such as: apartment buildings, hotels, restaurants, campings, rest houses. Maximum flow rates range from 14 m³/h to 35 m³/h with limited head losses (0.2 bar at maximum flow rate). BravoMAX M is available in a range of filtration ratings: 89, 150 (standard) and 200 microns.

# 1 Cleaning and self-cleaning filters

## Semi-automatic filters - industrial



### BravoMAX M - performances and technical data

CODE		FT040/140	FT042/142	FT044/144	FT046/146
CONNECTIONS	inches/DN	1½"/M/DN40	2"/M/ DN50	2½"/M/ DN65	3"/M/DN80
MAX. FLOW RATE	m³/h	14	20	25	35
ΔP (MAX. FLOW RATE)	bar	0,2			
STANDARD FILTRATION RATING*	micr.	150			
MIN./MAX WORKING PRESSURE	bar	1,5/10			
MIN./MAX WATER TEMPERATURE	°C	5/30			
MIN./MAX EXTERNAL TEMPERATURE	°C	5/30			
WATER CONSUMPTION FOR CLEANING	lt	8-10 (@3bar)			
HOUSING MATERIAL		INOX304 STAINLESS STEEL			
CARTRIDGE MATERIAL		INOX304 STAINLESS STEEL			
BRUSHES MATERIAL		NYLON-SILVER			
WEIGHT	kg	7,2 / 7,7	7,5 / 8,0	10 / 10,5	13 /13,5

\* Available on demand other filtration degrees: 89 and 200 micron.

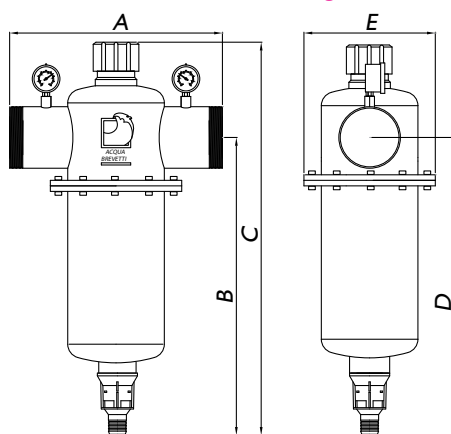


### QUOTES

CODE		FT040	FT042	FT044	FT046
WIDTH (A)	mm	310	310	310	310
CONNECTION HEIGHT (B)	mm	365	365	438	438
TOTAL HEIGHT (C)	mm	510	510	578	578
MINIMUM HEIGHT FROM GROUND (D)	mm	500	500	700	700
DEPTH (E)	mm	190	190	190	190

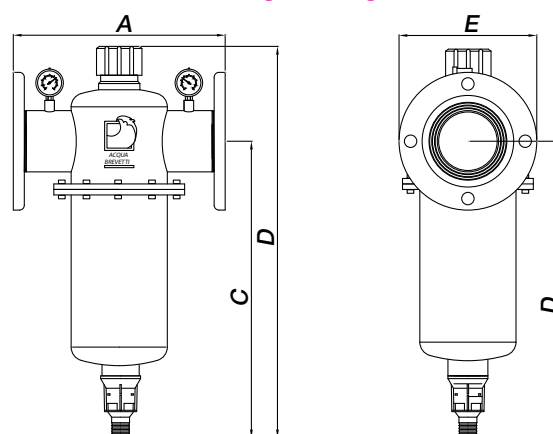
CODE		FT140	FT142	FT144	FT146
WIDTH (A)	mm	310	310	310	310
CONNECTION HEIGHT (B)	mm	365	365	438	438
TOTAL HEIGHT (C)	mm	510	510	578	578
MINIMUM HEIGHT FROM GROUND (D)	mm	500	500	700	700
DEPTH (E)	mm	190	190	190	200

#### BravoMAX filter - threaded fittings



FT040, FT042, FT044, FT046

#### BravoMAX filter - flanged fittings



FT140, FT142, FT144, FT146

# Semi-automatic filters - industrial



## Text for offer

Semi automatic cleaning filter BravoMAX model - (specify the model) - is suitable for filtering water, eliminating suspended particles, such as: sand, silt, metal particles, etc. up to 150 microns rating. The filter is suitable to protect household appliance, hydro-thermo-sanitary plants and equipments in general. BravoMAX M is made completely in stainless steel AISI304, including filtering cartridge. BravoMAX M uses a two-step cleaning system, involving filtering cartridge brushing and opening of the discharge valve to drain the dirt. Brushes are formed by nylon bristles with a silver wire ensuring bacteriostatic conditions in filter bowl. BravoMAX M is equipped with two gauges that allow you to monitor the differential pressure of filtering cartridge, and so to the clogging degree of the filter. Suitable for drinkable water filtration.



## Referential EU norms and EN standards

BravoMAX M is manufactured in compliance with the Italian decree D.M. N°174/04, article 9 of the Italian decree D.L. N°31/01, Italian decree D.M. N° 25/12, Standards UNI EN 13443:1 2007. The Italian decree D.P.R. N°59/09, decree D.M. N°37/08, standards UNI CTI 8065, UNI CTI 8884, UNI CTI 7550 prescribe the installation of protecting filter in the water inlet to domestic water, heating and cooling plants. Acqua Brevetti 95 s.r.l. works with a Quality System certified in compliance with the requirements of the UNI-EN ISO 9001:2008 with certificate 501007368 issued by TÜV Italy Srl.



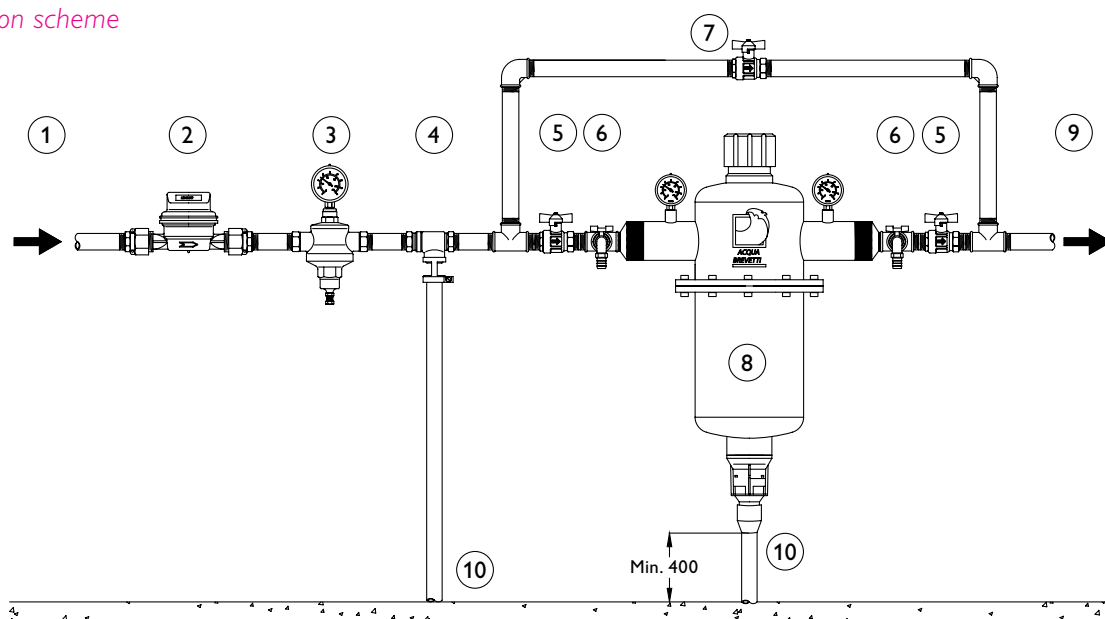
AISI 304 stainless steel filtering cartridge.



Turn the knob clockwise till the click to activate the cleaning.

Every click brush and discharge

## Installation scheme



## Legenda

- 1.** Cold water inlet; **2.** Inlet water meter; **3.** Pressure reducer; **4.** Backflow prevention device; **5.** Zone valve; **6.** Sample tap; **7.** By-pass valve; **8.** BravoMAX M Filter; **9.** Treated water outlet; **10.** Discharge.

# 1 Cleaning and self-cleaning filters

## Automatic filters - industrial

### BravoMAX A

#### Cleaning filter

##### Overview

BravoMAX A is a completely automatic cleaning filter made in stainless steel AISI 304, indicated for several types of civil and industrial applications where high flow rates filtration are requested. Raw water entering BravoMAX A flows from the outside toward the inside of the filtering cartridge. BravoMAX A is an automatic cleaning filter with an electronic control board which starts the filter cleaning in an operator-independent way. The innovative filter cleaning cycle is composed by two different actions: brushing of the filtering cartridge and opening of the discharge valve which creates an high speed tangential flow which removes impurities accumulated in the filter bowl. This method allows an efficient and thorough cleaning both of the filtering cartridge and the filter bowl. The filter cleaning cycle is started automatically by the electronic control board when the pressure drop across the filter cartridge reaches a pre-set value or a pre-set time interval has elapsed.

BravoMAX A is completely made in The filtering surface is in stainless steel soldered on a stretched wire netting. The particular structure of the filtering cartridge makes it resistant to mechanical shocks and pressure gradients eliminating deformation and crushing of the filtering cartridge. BravoMAX A is the ideal solution for the filtration of high water flow rates. BravoMAX A's cleaning brushes are equipped with silver inserts which contrast the bacterial proliferation in the filter. BravoMAX A meets Italian requirements for drinking water treatment. The standard filtration rating of BravoMAX A is 150 microns; other filtration ratings are available upon request. BravoMAX A is available with both threaded and flanged connections. BravoMAX A is equipped with two pressure gauges to monitor pressure drop across the filtering cartridge enabling one to easily determine the degree of clogging. BravoMAX A is available in two versions:

- BravoMAX A – short cleaning cycle  
(adjustable cleaning interval: each 2 – 4 – 6 – 8 hours);
- BravoMAX A – long cleaning cycle  
(adjustable cleaning interval: each 12 – 24 – 36 – 48 hours).

Furthermore BravoMAX A is equipped with a black button allowing to start manually, at any time, a washing cycle. Further, BravoMAX A is endowed with an output signal (voltage free contact) which can be used to control, through an electrical auxiliary board, pumps, solenoid valves, alarms, etc.



##### Key features

- ✓ Automatic cleaning
- ✓ Patented cleaning system brushing+drainage
- ✓ Connections from 1 1/2" to 3"
- ✓ Cleaning automatically activated by set timing or differential pressure switch
- ✓ Stainless steel cartridge
- ✓ Silver wires inside the brushes.
- ✓ Made with highest quality materials
- ✓ Completely Made In Italy



##### Applications

BravoMAX A is the ideal solution for industrial applications such as: filtration of primary water, cooling waters, water for pumping stations, process water. BravoMAX is the best solution in civil works such as: apartment buildings, hotels, restaurants, campings, rest houses. Maximum flow rates range from 14 m<sup>3</sup>/h to 35 m<sup>3</sup>/h with limited head losses (0.2 bar at maximum flow rate). BravoMAX A is available in a range of filtration ratings: 89, 150 (standard) and 200 microns.



##### Text for offer

Automatic cleaning filter BravoMAX A model - (specify the model) - is suitable for filtering water, eliminating suspended particles, such as: sand, silt, metal particles, etc. up to 89 microns rating. The filter is suitable to protect household appliance, hydro-thermo-sanitary plants and equipments in general. BravoMAX A is made completely in stainless steel AISI304, including filtering cartridge. BravoMAX A is equipped of electronic automatic system with a presetting timer (2/4/6/8 or 12/24/36/48 hours). BravoMAX A is also furnished with electro-hydraulic differential that continuously monitors the cartridge clogging and activating backwash, out of the time set, in case of there is a DP = 0.5 bar. The cleaning system involves the brushing complete filtration surface and, simultaneously, the discharge of dirt accumulated in vase throughout valve discharge. BravoMAX A is equipped with two gauges that allow the user to monitor the differential pressure of filtering cartridge, and so to the clogging degree of the filter. Suitable for drinkable water filtration.

# Automatic filters - industrial



## BravoMAX A - performances and technical data

SHORT CYCLE CLEANING CODE	inches/DN	FT050	FT052	FT054	FT056	FT150	FT152	FT154	FT156
LONG CYCLE CLEANING CODE	inches/DN	FT060	FT062	FT064	FT066	FT160	FT162	FT164	FT166
CONNECTIONS	inches/DN	1½"M	2"M	2½"M	3"M	DN40	DN50	DN65	DN80
MAX. FLOW RATE	m³/h	14	20	25	35	14	20	25	35
ΔP (MAX. FLOW RATE)	bar	0,2							
STANDARD FILTRATION RATING*	micr.	150							
MIN./MAX WORKING PRESSURE	bar	1,5/10							
MIN./MAX WATER TEMPERATURE	°C	5/30							
MIN./MAX EXTERNAL TEMPERATURE	°C	5/30							
WATER CONSUMPTION FOR BACKWASH	lt	8-10 (@3bar)							
CLEANING INTERVAL	hours	short cycle (2 - 4 - 6 - 8) - long cycle (12 - 24 - 36 - 48)							
DIFFERENTIAL PRESSURE SWITCH	bar	0,5							
HOUSING MATERIAL		INOX304 STAINLESS STEEL							
CARTRIDGE MATERIAL		INOX304 STAINLESS STEEL							
BRUSHES MATERIAL		NYLON-SILVER							
TRANSFORMER**	V	230/18							
WEIGHT	kg	7,2	7,5	10	13	7,2	7,5	10	13

Models with flanged connections (DN40/50/65/80) are also available. Visit our web-site to find further information, or contact our technical dpt.

\* Available on demand other filtration degrees: 89 and 200 micron.

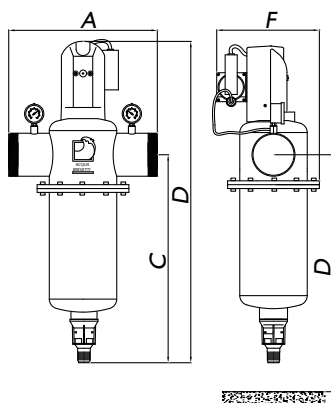
\*\* Available on demand 110/18 V transformer



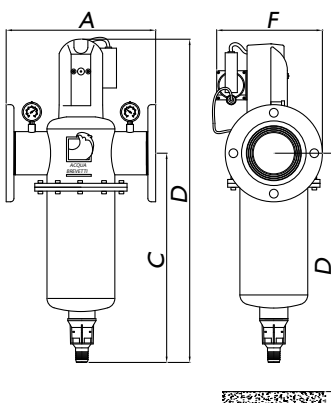
## QUOTES

CODE		FT050 FT060	FT052 FT062	FT054 FT064	FT056 FT066	FT150 FT160	FT152 FT162	FT154 FT164	FT156 FT166
WIDTH (A)	mm	310	310	310	310	310	310	310	310
CONNECTION HEIGHT (B)	mm	365	365	438	438	365	365	438	438
TOTAL HEIGHT (C)	mm	640	640	700	700	640	640	700	700
MINIMUM HEIGHT FROM GROUND (D)	mm	500	500	700	700	500	500	700	700
DEPTH (E)	mm	190	190	190	190	190	190	190	200

### BravoMAX automatic filter

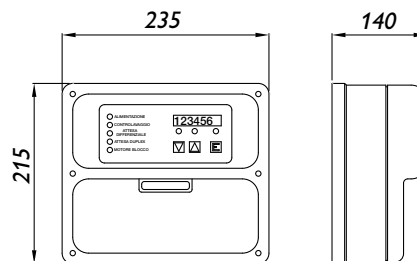


FT050/FT056 - FT060/FT066



FT150/FT156 - FT160/FT166

Control Panel (optional)  
COD. 23022030



### Referential EU norms and EN standards

BravoMAX A is manufactured in compliance with the Italian decree D.M. N°174/04, article 9 of the Italian decree D.L. N°31/01, Italian decree D.M. N° 25/12, Standards UNI EN 13443:1 2007. The Italian decree D.P.R. N°59/09, decree D.M. N°37/08, standards UNI CTI 8065, UNI CTI 8884, UNI CTI 7550 prescribe the installation of protecting filter in the water inlet to domestic water, heating and cooling plants. Acqua Brevetti 95 s.r.l. works with a Quality System certified in compliance with the requirements of the UNI-EN ISO 9001:2008 with certificate 501007368 issued by TÜV Italy Srl.

# 1 Cleaning and self-cleaning filters

## Automatic filters - industrial



### Options

In order to get the most effective washing during the BravoMAX cleaning phase it is necessary a 2 bars pressure on-line downstream the filter. In case of this condition is not present, we advice to apply BravoMAX filter with a closing solenoid valve for back wash.



### Control panel

It is available a control panel (optional) which is able to manage simply BravoMATIC and BravoMAX A filters. The control panel is powered by a transformer 12/24 Vac and manage directly a filter and up to nr.2 solenoid valves 24 Vac. For BravoMATIC filters is generally sufficient to install a closing solenoid valve (for back wash) placed at the filtered water outlet thus to create ideal pressure for back wash of filter. Other contacts can be used to open by-pass valves or to manage back wash pumps. In BravoMAX A filters may be necessary to control two solenoid valves: one for closing (as suggested for BravoMATIC) and another for managing discharge and facilitating the removal of dirt, suitable for particularly dirty water.



### Closing solenoid valve for back wash

The control panel can manage 24 VAC closing solenoid valve for a more effective backwash operation. Closing solenoid valves are available with connections from 3/4" (cod. EVC001) up to 2" (cod. EVC005).



### Discharge electrovalve

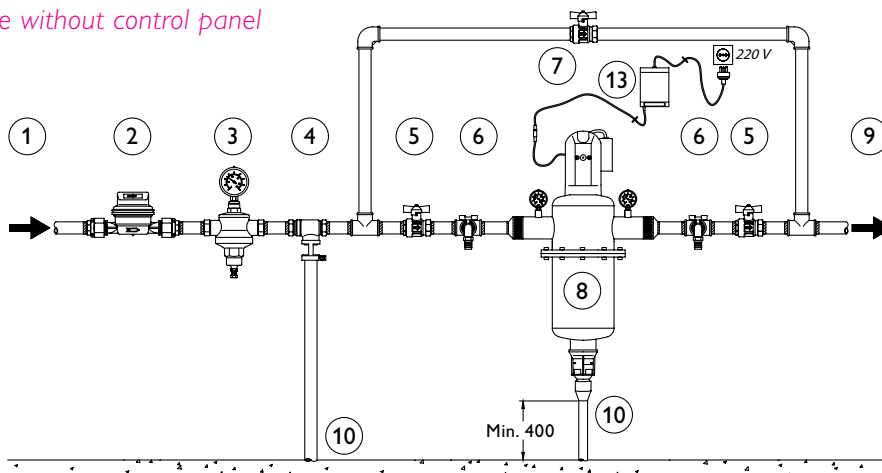
The control panel can also manage a 24 Vac discharge solenoid valve with connection of 3/4" (cod. 23008004) to facilitate the drainage of dirt accumulated inside the filter.



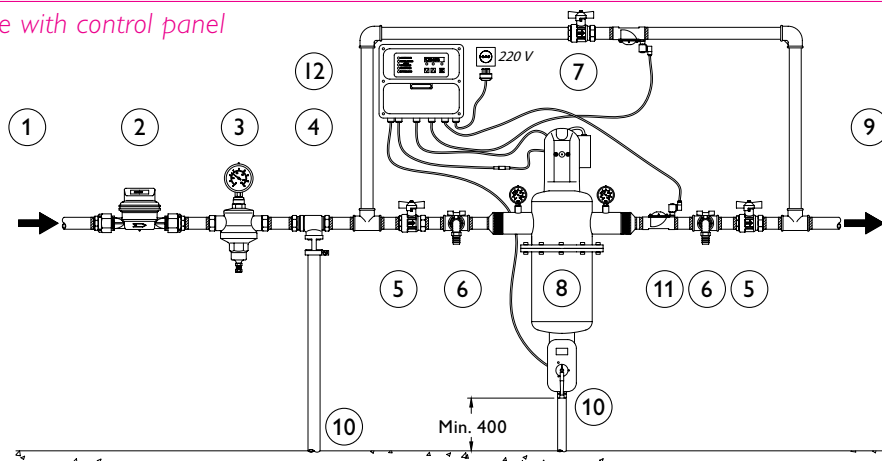
### BravoMAX filter with EV order

BravoMAX filter equipped with discharge solenoid valve may be ordered, indicating ":/EV" in addition to the filter code.

### Installation scheme without control panel



### Installation scheme with control panel



### Legenda

1. Cold water inlet; 2. Inlet water meter; 3. Pressure reducer; 4. Backflow prevention device; 5. Zone valve; 6. Sample tap; 7. By-pass valve; 8. BravoMAX A Filter; 9. Treated water outlet; 10. Discharge; 11. Solenoid valve for back wash; 12. Control panel; 13. Filter power feeder





## Water softener

### **...for the water hardness reduction**

One of the crucial problem of the hydraulic plants is represented from the scale deposits formation caused from the water hardness.

The scale settles on pipes, boilers and water heaters obstructing them, reducing the efficiency, and increasing energetic costs and maintenance costs.

Moreover, the scale deposits on bath tubs and showers, sinks, taps, create unaesthetic stains. But this is not all: hard water does not allow to well clean skin and clothes because of incrusting salts deposits that require also a higher use of detergents and soaps. The water softening represents the technology that offers the greatest guarantees of success in the prevention of scale deposits. ACQUA BREVETTI 95 offers a smart and clever water softener mono-block for domestic uses.

### Scale reduction for residential use

# BravoCAB

## Volumetric water softeners

### Overview

The BravoCAB water softeners contain ion exchange resins that hold selectively the calcium and magnesium ions (responsible for the incrustation formation) releasing sodium ions into the water. With the hardness regulator into the valve is possible to modulate hardness value in the water softener outlet. Once exhausted the exchange capacity, the exchanging resins are regenerated using the sodium chloride (salt). The BravoCAB water softeners are completely automatic and they manage automatically the working regenerating phases, being able to save up the 50% of salt and water consumption compared to the common water softeners. The use of softened water leads to a series of advantages: it reduces scale incrustation on the pipes, in the boilers and in the household appliances, it reduces energetic and detergents consumption allowing to save up to the 15% of energetic costs. The softened water, moreover, has restoring effect on the incrustated surfaces which eliminate, over the time, the scale concentration already existing. BravoCAB is a mono-block water softener realized for reducing water hardness protecting hydraulics household plants, vapor producers and cooling plants, humidification plants, washing machines and laundries, processing hydraulic plants.



### Softening advantages

Use BravoCAB means benefit of:

- ✓ save up to the 15% on the energetic costs;
- ✓ reduction of reparation and maintenance costs;
- ✓ no scale stains on taps, shower etc.;
- ✓ no incrustation on pipes, household and boilers;
- ✓ consumption reduction on detergents up to 50%.
- ✓ save up 50% of salt and water consumption during regeneration phase.

# Scale reduction for residential use



## BravoCAB - performances and technical data

CODE		CD10409	CD10411	CD10415	CD10422
RESINS VOLUME	liters	09	11	15	22
INLET-OUTLET CON BY-PASS	connection	1" M	1" M	1" M	1" M
NOMINAL FLOW RATE (DP=0,2 BAR) A 0°F	m³/h	0.9	0.9	1.4	1.8
PEAK FLOW RATE (DP=1 BAR)	m³/h	2.0	2.0	2.0	2.0
EXCHANGE CAPACITY	m³ x °f	26-38-49	28-45-61	43-73-102	89-155-183
SALT CONSUMPTION	Kg	0.5-0.8-1,5	0.4-0.8-1.6	0.7-1.4-3.6	1.2-3.4-5.6
MIN./MAX WORKING PRESSURE	Bar	1.5-9.0	1.5-9.0	1.5-9.0	1.5-9.0
MIN./MAX WATER TEMPERATURE	°C	5-50	5-50	5-50	5-50
POWER SUPPLY VOLTAGE	V-Hz	220/24 – 50/60	220/24 – 50/60	220/24 – 50/60	220/24 – 50/60



### Main characters

Thanks to their technical innovative design, the BravoCAB water softeners combine the clever functioning and their huge simplicity, allowing to reduce the consumption of water and salt during regeneration. The water softeners BravoCAB Acqua Brevetti are distinguished from the common water softeners for some noteworthy characteristics.

### Simplicity

The control valve can be dismounted bare-handed and in few gestures; it is realized in certified food grade plastic material and it is realized with the 30% of pieces less than the other control valve normally available in the market. There is no part of the valve, in particular the parts into contact with water, that are realized with metal materials, to exclude corrosion problems and the consequent releasing of metals (copper, zinc metal, lead) in the water. BravoCAB is extremely simple to program: it takes only few seconds requiring only two parameters: time and water hardness. This allows to simplify the procedure of the installer.

BravoCAB is able to use resins with different variable regeneration levels which are automatically and cleverly established from the electronic on the basis of the real consumption. In this way the water softener takes itself automatically on the specific needs of the customer, consuming only the water and salt strictly necessary. This guarantee a save up of salt up to 47% and a save up of 50% of water compared to the other traditional water softeners, which are not equipped with the electronic control valve of BravoCAB.

### Efficiency

The regeneration of the resins is done proportionally to the effective consumption and it is made in countercurrent for a efficient and complete regeneration of the resins.

### Dry brine tank

The brine tank is normally dry and it is filled only when the regeneration time occurred. This avoids the formation of brine bridges and this reduces the uncontrolled water leaks risks.

### Safe

BravoCAB is endowed with by-pass and chlorine producer for the disinfection of the resins for a certified hygienic quality. Moreover BravoCAB performs a regeneration at maximum every 4 days. The maintenance of the statistic data and of programming, even if the power supply becomes less, it is ensured by a permanent memory. BravoCAB is compliant to Italian regulation in force for human consumption. Hardness regulator is integrated in the by-pass, completely made in corrosion resistant plastic material, and it is mounted with the auxiliary of clips. BravoCAB is equipped also with a harness tester to check the water harness on the exit of the water softener.



### Text for offer

BravoCAB , innovative water softener for the scale reduction. BravoCAB combines the clever functioning and the high simplicity. The controller valve is simple to program, it requires to set only time and water hardness, and it is so simple that can be dismounted to bare-handed. The clever electronic that composes the control valve allows to save up 50% of water and salt consumption during the regeneration phase, compared to the traditional and commons water softeners, availing of the variable regenerative level which adapts to the real end user consumption, detecting continuously consumption and statistics (then, inserts data of the model chose).



### Referential Norms

BravoCAB is manufactured in compliance with the Italian decree D.M.174/04, and D.M.25/12. The Italian Decree D.P.R. N°59/09, decree D.M.N°37/08, standards UNI CTI 8065, UNI CTI 884, UNI CTI 7550 prescribe the installation of protecting filter in the water inlet to domestic water, heating and cooling plants. Acqua Brevetti works with a Quality System certified in compliance with the requirements of the UNI-EN ISO 901:2008 with certificate 501007368 issued by TUV Italy Sud.

### 3 Water softener

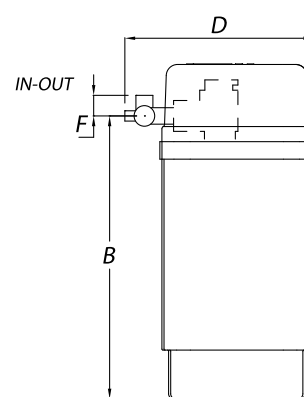
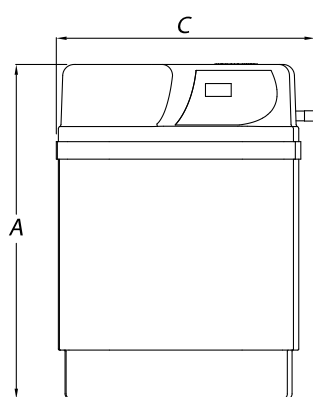
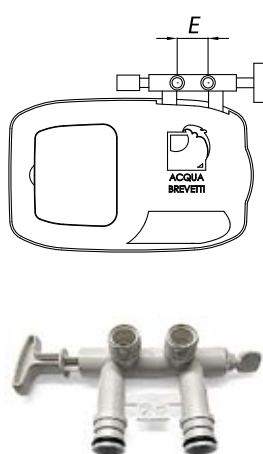
## Scale reduction for residential use



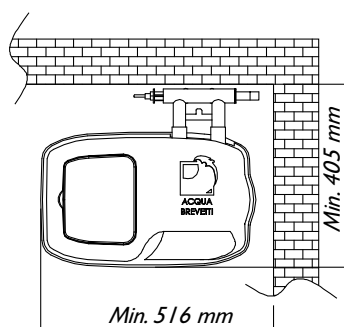
### QUOTES

CODE			CD10409	CD10411	CD10415	CD10422
TOTAL HEIGHT	mm	A	531	695	840	1090
BY PASS CONNECTION WIDTH	mm	B	405	530	695	940
TOTAL WIDTH	mm	C	510	510	510	510
BY PASS DEPTH (TOTAL)	mm	D	400	400	402	402
BY PASS CENTER TO CENTER WIDTH DISTANCE	mm	E	60	60	60	60
BY PASS CENTER TO CENTER HEIGHT DISTANCE	mm	F	40	40	40	40

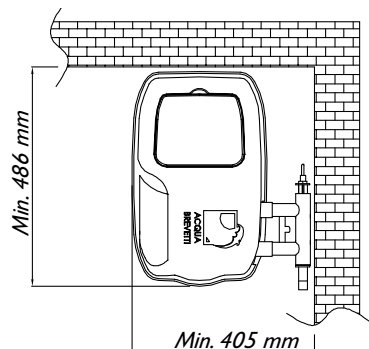
### BravoCAB with bypass endowment



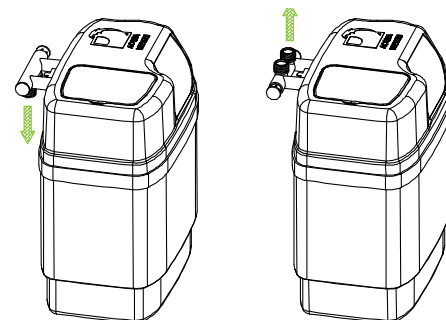
### BravoCAB installation versatility



On high view  
Frontal BravoCAB positioning



On high view  
Lateral BravoCAB positioning



Adjustable By pass connection  
upward/downward



## Dosing systems

### Safe and proportional dosage

The presence of various substances in water may determinate unwanted features, such as: high value of hardness, pH different to neutrality, presence of bacteria, presence of dissolved oxygen. In these cases, it may be necessary to correct the characteristics of water dosing apposite chemical products through reliable and efficient dosing systems. Devices have to be installed before equipments or utilities to be protected.

ACQUA BREVETTI 95 offers a range of dosing pumps capable to fulfill any need in dosage field. MiniDOS, BravaDOS and the new MiniDUE volumetric dosing pumps, specifically realized for the DHW treatment, are used for dosing small quantities of AcquaSIL 20/40® (for MiniDOS and BravaDOS) and of AcquaSIL 2/15® (for MiniDUE), an antiscaling and anticorrosive solution for the protection of boilers and pipes, guaranteeing the absolutely proportionality in the dosage.

For dosing all other chemicals (see Linea AZ® and other chemicals) Acqua Brevetti offers a wide range of dosing devices, covering both industrial and civil fields: DosaNET C, DosaNET P, BravoTHERM feeding devices, BravoPROMAX and Bravo SOLAR PUMP.

The **Acqua Brevetti** dosing systems may be used for the protection and cleaning of:

- Central hot and cold water distribution plant
- Heating and cooling systems
- Process water distribution systems

# Anti-scaling and anti-corrosive systems for residential use

## MiniDUE

Proportional and volumetric mechanical dosing pump for AcquaSIL 2/15®

### Overview

Lime deposits and corrosion are crucial problems affecting domestic water installations. The proportional dosage of anti-scaling and anti-corrosive products is a safe and proven technology which helps in preventing scale deposition and corrosion processes. Polyphosphates, even at very low concentrations, are able to counteract the formation of scale and corrosion in water distribution lines. MiniDUE is a self-priming proportional mechanical dosing pump designed for the precise dosage of AcquaSIL 2/15®.

AcquaSIL 2/15® is an aqueous solution of food grade polyphosphates specific for drinking water treatment and it has a double protective effect: it hinders the formation of scale deposits and it prevents the corrosion of metal components. Through a mechanism known as "threshold effect", polyphosphates, even at concentration in the range of some ppm (the maximum concentration allowed in the drinking water is 5 ppm as  $P_2O_5$ ) interfere with the carbonate crystallization phenomena hindering the formation of scale deposits. Polyphosphates also form a protective layer on metal surfaces protecting them from possible corrosion. AcquaSIL 2/15® is able to slowly dissolve old lime deposits restoring encrusted surfaces. MiniDUE assures a dosage of  $P_2O_5$  always lower than the maximum limit (5 mg/l) allowed by current regulations.

### Innovations brought by MiniDUE

One of the main innovations of MiniDUE is its innovative flexible tank for AcquaSIL 2/15®. A world first! A liquid anti-scaling refill which does not require any manipulation of chemicals: just replace the disposable flexible tank when it is empty. Further, the flexible tank can adapt to narrow and twisted spaces which would not permit the installation of any other equipment with rigid tanks. MiniDUE is endowed with a practical connecting kit for the remote installation of the flexible tank. Depending on needs two sizes of flexible tank are available: 250 gr and 1000 gr. Compared to MiniDOS, MiniDUE pump housing has been greatly reduced and the pumping system has been simplified. For its characteristics of easy handling and adaptability MiniDUE is particularly suitable for recessed boilers. MiniDUE is available in two different versions with ½" connections in order to satisfy any installation need for the treatment of the hot sanitary water.



Equipped with first disposable refill bag 250 gr



Equipped with remote connection Kit



### Key features

- ✓ Compact dimensions
- ✓ Suitable for the **recessed boilers**
- ✓ Very flexible installation (it works even if installed reversed)
- ✓ **Disposable** refill bags of different sizes available (250 gr. - 1000 gr.)
- ✓ Remote installation: refill bags possible to install at distance (a world first!)
- ✓ Completely self-priming
- ✓ Ultra precise proportional dosage ( $2 \leq 3$  ppm/lt)
- ✓ User friendly
- ✓ The best quality of polyphosphate (sodium hexametaphosphate)
- ✓ Dosing system patented in EU
- ✓ Complete made in Italy



# Anti-scaling and anti-corrosive systems for residential use



## MiniDUE - performances and technical data

CODE		PM004	PM005
CONNECTIONS	inches	½" M	½" F
MINIMUM FLOW RATE	lt/h	1,5	1,5
NOMINAL FLOW RATE (DP=0.2 BAR)	lt/h	1000	1000
DOSAGE (AS P <sub>2</sub> O <sub>3</sub> )	mg/l	2.0±0,5	
MIN-MAX WATER HARDNESS	°f	5 - 30	
MAX HEATING TEMPERATURE	°C	60	
250 GR REFILL AUTONOMY (WATER TREATED)	m³	10-11	
1000 GR REFILL AUTONOMY (WATER TREATED)	m³	40-44	
MIN-MAX WATER PRESSURE	bar	1.5 - 6	
MIN-MAX WATER TEMPERATURE	°C	5 - 40	
CHEMICAL	AcquaSIL 2/15®		

Equipped with: first disposable refill bag 250 gr and connection kit for the remote refill installation.



Installation of MiniDUE cod. PM006 with remote Kit.



Installation of MiniDUE cod PM004 with 250 gr refill.



### Applications

The hardness of water consists of dissolved salts of calcium and magnesium. The hardness is responsible for the formation of calcium and magnesium carbonates which, under certain conditions, can bring incrustations deposits on the tubes and the exchangers. Furthermore, the precipitation of carbonates leads to the formation of carbon dioxide, an acid substance that can cause the phenomena of corrosion. In presence of high value of hardness is necessary to dose polyphosphate in water, substances which, dosed in very small quantities, such as 3-4 ppm, is able to protect all the plant from scaling and corrosion, without affecting the potability of the water. The proportional dosage of polyphosphates ensures the protection against scaling and corrosion without modifying the mineral composition of water. MiniDUE volumetric mechanical dosing pumps has been created to dose AcquaSIL 2/15®, a food grade polyphosphate with various specific minerals salts solution for drinking water treatment. Polyphosphate keeps its effectiveness in waters with hardness up 30 °F and maximum temperatures of 60° C.



### Text for offer

MiniDUE is a self-priming volumetric pump, mechanical activated, designed for the service of single devices as household appliances and water heaters for domestic hot water protection. It doses AcquaSIL 2/15®, an aqueous solution of food grade polyphosphates specific for drinking water with double effect: it hinders the formation of scale deposits and it prevents the corrosion of metal components, being also able to slowly dissolve old lime deposits restoring encrusted surfaces. Its compact dimensions makes it of easy handling and makes it suitable also for installation in recessed boilers. Very user friendly, MiniDUE uses an innovative disposable flexible bag to contain AcquaSIL 2/15®, avoiding the manipulation of chemicals. MiniDUE is endowed with a practical connecting kit for the remote installation of the disposable refill bag, making MiniDUE suitable for installation in the narrowest and twisted spaces. Connection: ½" M with horizontal connections (code PM004), or with ½" F DIMA connections for off-line installation (code PM005). Maximum flow rate: 1000 lt/h. First AcquaSIL 2/15® refill bag of 250 gr. included in the packaging.



### Referential EU norms and EN standards

MiniDUE is manufactured in compliance with the Italian decree D.M. N°174/04, article 9 of the Italian decree D.L. N°31/01, Italian decree D.M. N° 25/12. The Italian decree D.P.R. N°59/09, decree D.M. N°37/08, standards UNI CTI 8065, UNI CTI 8884, UNI CTI 7550 prescribe the chemical conditioning of sanitary water. Acqua Brevetti 95 s.r.l. works with a Quality System certified in compliance with the requirements of the UNI-EN ISO 9001:2008 with certificate 501007368 issued by TÜV Italy Srl.



### Polyphosphate salts solution

MiniDUE doses exclusively AcquaSIL 2/15®, an aqueous food grade liquid solution, able to hinders scale deposits and prevent corrosion of metal components. Through a mechanism known as "threshold effect", polyphosphates, even at concentration in the range of some ppm (the maximum concentration allowed in the drinking water is 5 ppm as P<sub>2</sub>O<sub>5</sub>) interfere with the carbonate crystallization phenomena hindering the formation of scale deposits. Polyphosphates also form a protective layer on metal surfaces protecting them from possible corrosion. AcquaSIL 2/15® is able to slowly dissolve old lime deposits restoring encrusted surfaces.

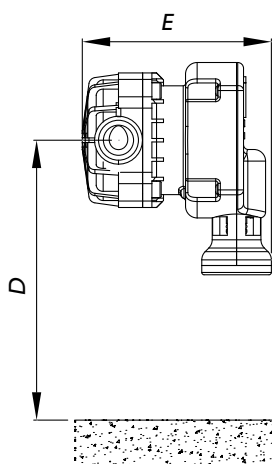
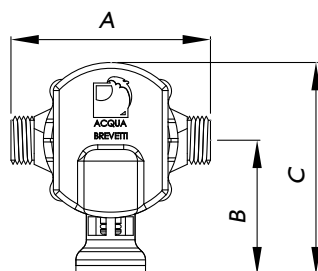
### 3 Dosing systems



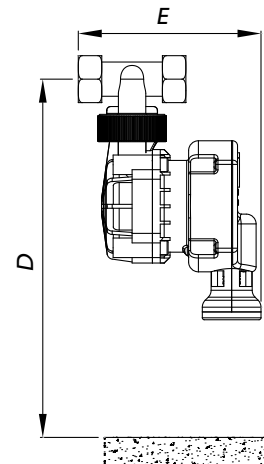
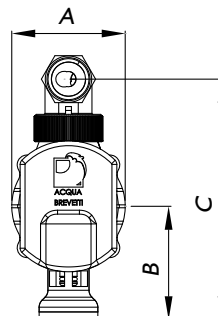
#### QUOTES

CODE		PM004	PM005
WIDTH (A)	mm	90	58
CONNECTION HEIGHT (B)	mm	58	123
TOTAL HEIGHT (C)	mm	92	128
MINIMUM HEIGHT FROM GROUND (D)	mm	300	350
DEPTH (E)	mm	82	93

#### MiniDUE



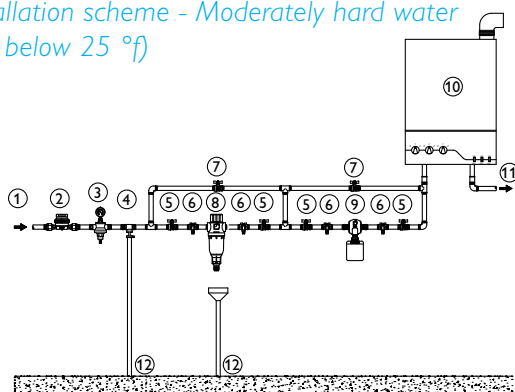
PM004



PM005

#### Installation

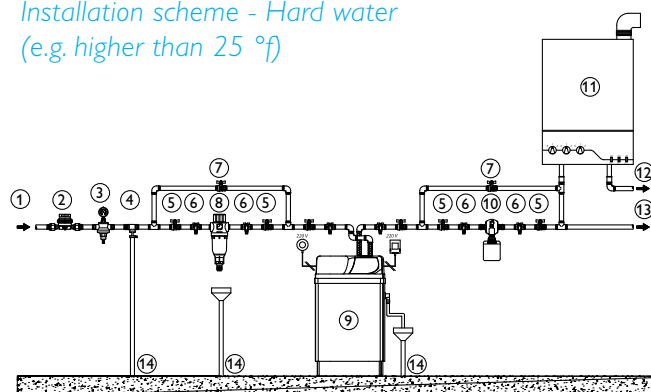
##### Installation scheme - Moderately hard water (e.g. below 25 °f)



#### Legenda

**1.** Cold water inlet; **2.** Inlet water meter; **3.** Pressure reducer;  
**4.** Backflow prevention device; **5.** Zone valve **6.** Sample tap;  
**7.** By-pass valve; **8.** Filter PuiliFIL; **9.** MiniDUE 1/2" dosing pump;  
**10.** Water heater; **11.** Warm water outlet; **12.** Cold water outlet; **13.** Discharge

##### Installation scheme - Hard water (e.g. higher than 25 °f)



#### Legenda

**1.** Cold water inlet; **2.** Inlet water meter; **3.** Pressure reducer;  
**4.** Backflow prevention device; **5.** Zone valve; **6.** Sample tap;  
**7.** By-pass valve; **8.** Filter PuiliFIL; **9.** BravoCAB Softeners; **10.** MiniDUE 3/4" dosing pump; **11.** Water heater; **12.** Warm water outlet; **13.** Cold water outlet; **14.** Discharge.

# Anti-scaling and anti-corrosive systems for residential use

## MiniDOS

Proportional and volumetric mechanical dosing pump for AcquaSIL 20/40®

### Overview

According to the regulations in force, the dosage of antiscalant and anticorrosive for the treatment of drinking water should be proportional in any operational condition, assuring a dosage always lower than the concentration of 5 ppm as  $P_2O_5$  per liter of treated water. ACQUABREVETTI 95 has realized a new equipment that doses SAFELY and PROPORTIONALLY.

MiniDOS is a volumetric dosing pump for the proportional dosage of antiscalant and anticorrosive AcquaSIL 20/40® in drinkable water avoiding possible scaling and corrosion of hydraulic circuits.

MiniDOS doses only AcquaSIL 20/40®. The dosage starts with a minimum withdrawal of 90 lt/h with injection frequency of 3.3 strokes/liter.



### Key features

- ✓ Ultra precise dosage (3.5 ppm/lit)
- ✓ No need of power supply
- ✓ Very user friendly
- ✓ The best quality of polyphosphate (sodium hexametaphosphate)
- ✓ Dosing system patented
- ✓ Liquid solution ready-to-use
- ✓ Complete choose of mounting solutions
- ✓ Small dimensions and beautiful look
- ✓ Completely Made In Italy



### Applications

The hardness of water consists of dissolved salts of calcium and magnesium. The hardness is responsible for the formation of calcium and magnesium carbonates which, under certain conditions, can bring incrustations deposits on the tubes and the exchangers. Furthermore, the precipitation of carbonates leads to the formation of carbon dioxide, an acid substance that can cause the phenomena of corrosion. In presence of high value of hardness is necessary to dose polyphosphate in water, substances which, dosed in very small quantities, such as 3-4 ppm, is able to protect all the plant from scaling and corrosion, without affecting the potability of the water. The proportional dosage of polyphosphates ensures the protection against scaling and corrosion without modifying the mineral composition of water. MiniDOS volumetric mechanical dosing pumps has been created to dose AcquaSIL 20/40®, a food grade polyphosphate with various specific minerals salts solution for drinking water treatment. Polyphosphate keeps its effectiveness in waters with hardness up 30 °F and maximum temperatures of 60° C.



### Text for offer

MiniDOS is a mechanical volumetric dosing device that works by hydraulic pumping system mechanically activated. It achieves proportional dosage in drinking water of AcquaSIL 20/40®, an antiscalant and anticorrosive solution. Thus, MiniDOS allows to prevent from formation of chalky encrustation and from corrosion in hydro-thermal-health distribution plant, and in general circuits with water to lose. In addition, the proportional dosage of AcquaSIL 20/40® is able to restore gradually plant already encrusted. MiniDOS has been designed to protect single device as household appliance and water heater. AcquaSIL 20/40® keeps its effectiveness with water temperatures up to 60 °C and water hardness from 5 °F to 30 °F. MiniDOS is provided of product storage tank with visual indication of antiscalant solution level. MiniDOS doses exclusively the product AcquaSIL 20/40®.

### 3 Dosing systems

## Anti-scaling and anti-corrosive systems for residential use



#### MiniDOS - performances and technical data

CODE		PM008	PM008+AV017	PM009
CONNECTIONS	inches	½"M	½"F	½"F
MIN/MAX WORKING PRESSURE	bar	1.5/6		
MIN. WATER TEMPERATURE	°C	5		
MAX. WATER TEMPERATURE (inside pump)	°C	40		
MIN/MAX WATER HARDNESS	°f	5-30		
ΔP (max. flow rate)	bar	0.5		
MIN. FLOW RATE	lt/h	90		
MAX. FLOW RATE	lt/h	1000		
FRAQUENCY OF INJECTIONS	strokes/lt	3.0		
P <sub>2</sub> O <sub>5</sub> CONCENTRATION IN WATER	mg/l	3.5		
CHEMICAL		AcquaSIL 20/40®		
TANK VOLUME	cc	250		
AUTONOMY (WATER TREATED FOR TANK RECHARGE)	m³	10		
LEVEL INDICATION		VISUAL		



Model PM008



Model PM008 with connection kit

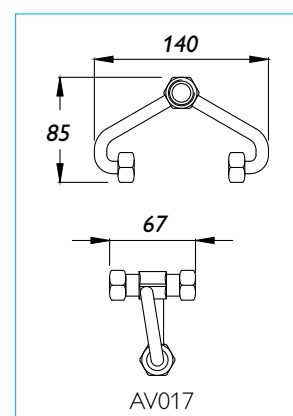
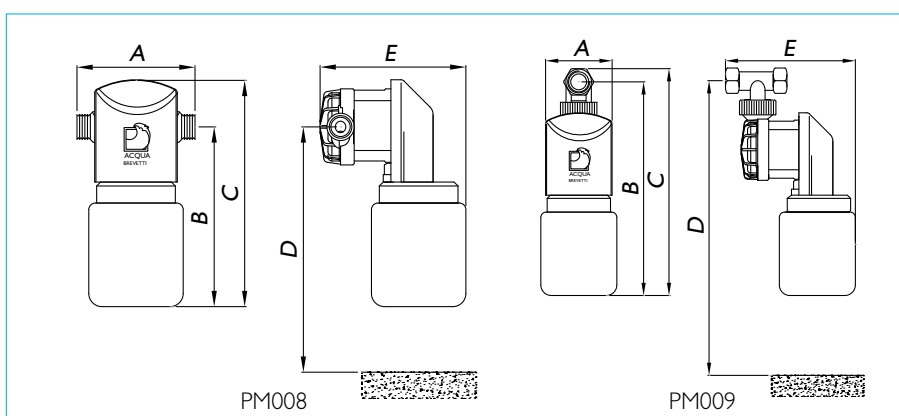


Model PM009 - DIMA conn.



#### QUOTES

CODE		PM008	PM008
WIDTH (A)	mm	90	70
CONNECTION HEIGHT (B)	mm	140	205
TOTAL HEIGHT (C)	mm	175	210
MINIMUM HEIGHT FROM GROUND (D)	mm	300	350
DEPTH (E)	mm	110	115



# Anti-scaling and anti-corrosive systems for residential use



## Referential EU norms and EN standards

MiniDOS is manufactured in compliance with the Italian decree D.M. N°174/04, article 9 of the Italian decree D.L. N°31/01, Italian decree D.M. N° 443/90. The Italian decree D.P.R. N°59/09, decree D.M. N°37/08, standards UNI CTI 8065, UNI CTI 8884, UNI CTI 7550 prescribe the chemical conditioning of sanitary water. Acqua Brevetti 95 s.r.l. works with a Quality System certified in compliance with the requirements of the UNI-EN ISO 9001:2008 with certificate 501007368 issued by TÜV Italy Srl.



## Polyphosphate salts solution

MiniDOS doses exclusively AcquaSIL 20/40®, a combined solution of different salts, as 18% of  $P_2O_5$ . It is suitable to be used in food products specifically for the treatment of drinking water. AcquaSIL 20/40® is available in 1 liter bottle (code PC002) and in 5 liter tank (PC003).

## Installation

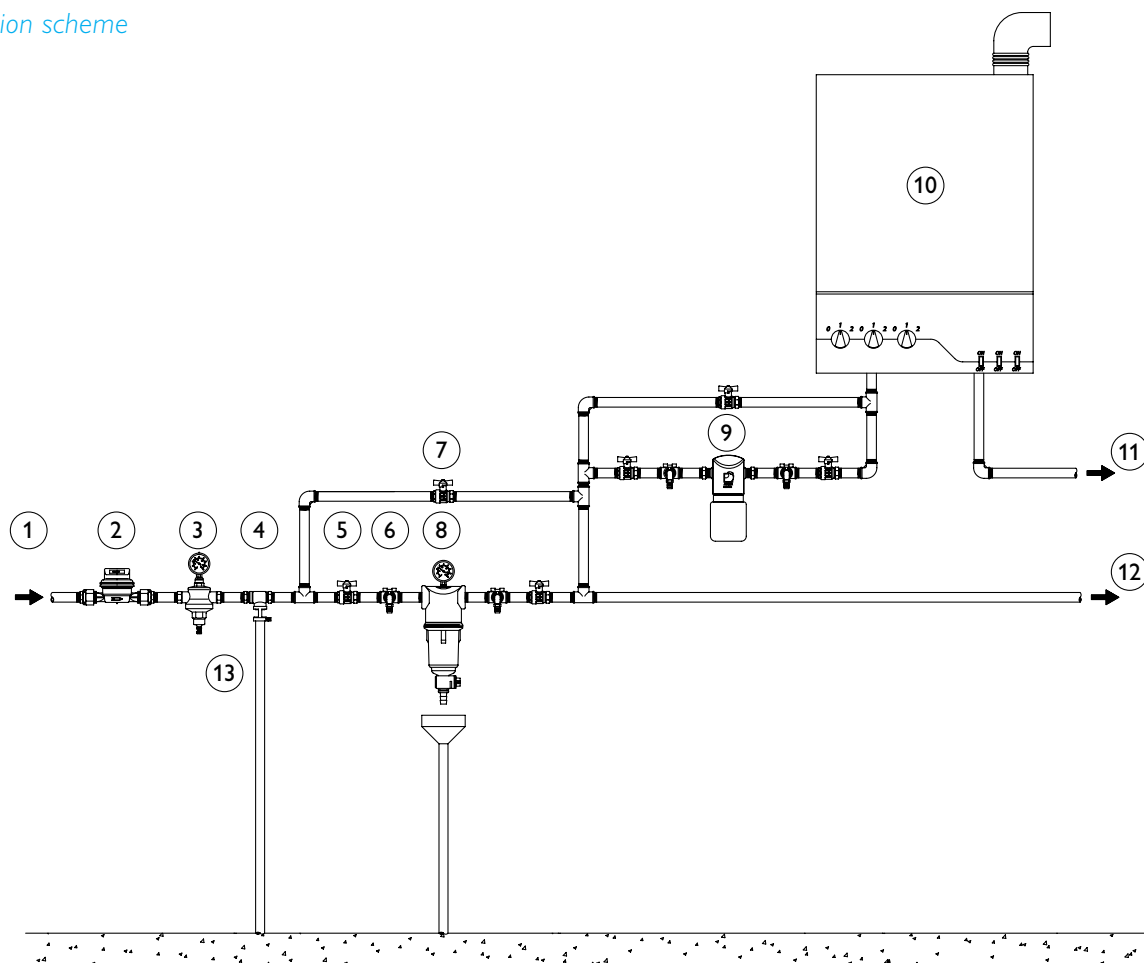


BOILERS



WASHING MACHINE

## Installation scheme



### Legenda

- 1.** Cold water inlet; **2.** Inlet water meter; **3.** Pressure reducer; **4.** Backflow prevention device; **5.** Zone valve; **6.** Sample tap; **7.** By-pass valve; **8.** Filter; **9.** MiniDOS dosing pump; **10.** Water heater; **11.** Warm water outlet; **12.** Cold water outlet.

# Anti-scaling and anti-corrosive systems for residential use

## BravaDOS

Proportional and volumetric electronic dosing pump for AcquaSIL 20/40®

### Overview

Acqua Brevetti 95 S.r.l. has designed BravaDOS, a volumetric electronic dosing pump for the proportional dosing of antiscaling and anticorrosive polyphosphate water solution AQUASIL 20/40® in drinkable water. BravaDOS guarantees an effective protection avoid scaling and corrosion of hydraulic circuits.

The high injection frequency (3 strokes per liter of water) ensures high uniformity of dosage.

BravaDOS is completely self-priming. Refill procedure is fast and clean: simply unscrew the green cap located on the storage tank, insert the charging funnel and pour AcquaSIL 20/40® inside.

BravaDOS automatically starts and stops dosage when there is water withdrawal.

BravaDOS starts to dose at a minimum flow rate of 30 lt/h and the proportional dosage is ensured up to 4200 lt/h (for 1" 1/4 model).

The pump is protected by the counter-pressure by a double check valve.



### Key Features

- ✓ Ultra precise dosage (3.5 ppm/lt)
- ✓ Very user friendly
- ✓ Best quality of polyphosphate (sodium hexametaphosphate)
- ✓ Liquid  $P_2O_5$  solution ready to be used
- ✓ Safety sensor level
- ✓ Self-priming
- ✓ Completely Made In Italy



### Applications

The hardness of water consists of dissolved salts of calcium and magnesium. The hardness is responsible for the formation of calcium and magnesium carbonates which, under certain conditions, can bring incrustations deposits on the tubes and the exchangers. Furthermore, the precipitation of carbonates leads to the formation of carbon dioxide, an acid substance that can cause the phenomena of corrosion. In presence of high value of hardness is necessary to dose polyphosphate in water, substances which, dosed in very small quantities, such as 3-4 ppm, is able to protect all the plant from scaling and corrosion, without affecting the potability of the water. The proportional dosage of polyphosphates ensures the protection against scaling and corrosion without modifying the mineral composition of water. BravaDOS volumetric mechanical dosing pumps has been created to dose AcquaSIL 20/40®, a food grade polyphosphate with various specific minerals salts solution for drinking water treatment. Polyphosphate keeps its effectiveness in waters with hardness up to 30 °F and maximum temperatures of 60° C. Regarding the protection of water distribution plants, the Eu Standard UN8065 expressly provides the dosage of conditioners to prevent and avoid the phenomenons of scaling and corrosion.



### Text for offer

BravaDOS is an electronic volumetric dosing pump working by hydraulic pumping system electronically activated. BRAVADOS achieves proportional dosage in drinking water of AcquaSIL 20/40®, an antiscalant and anticorrosive solution. Thus, BravaDOS allows to prevent from formation of chalky encrustation and from corrosion in hydro-thermal-health distribution plants, and in circuits with water to lose. Moreover, the proportional dosage of AcquaSIL 20/40® is able to restore gradually tubes already encrusted. AcquaSIL 20/40® keep its effectiveness with water temperature up to 60° C and with water hardness from 5° F to 30° F. BravaDOS dosing system is in compliance with all EU norms and technical standards. It is provided of product storage tank with level sensor to prevent dry running. The low quantity of product in the tank is indicated by the red led in the front and by acoustic signal. BravaDOS doses exclusively AcquaSIL 20/40®.



# Anti-scaling and anti-corrosive systems for residential use



## BravaDOS - performances and technical data

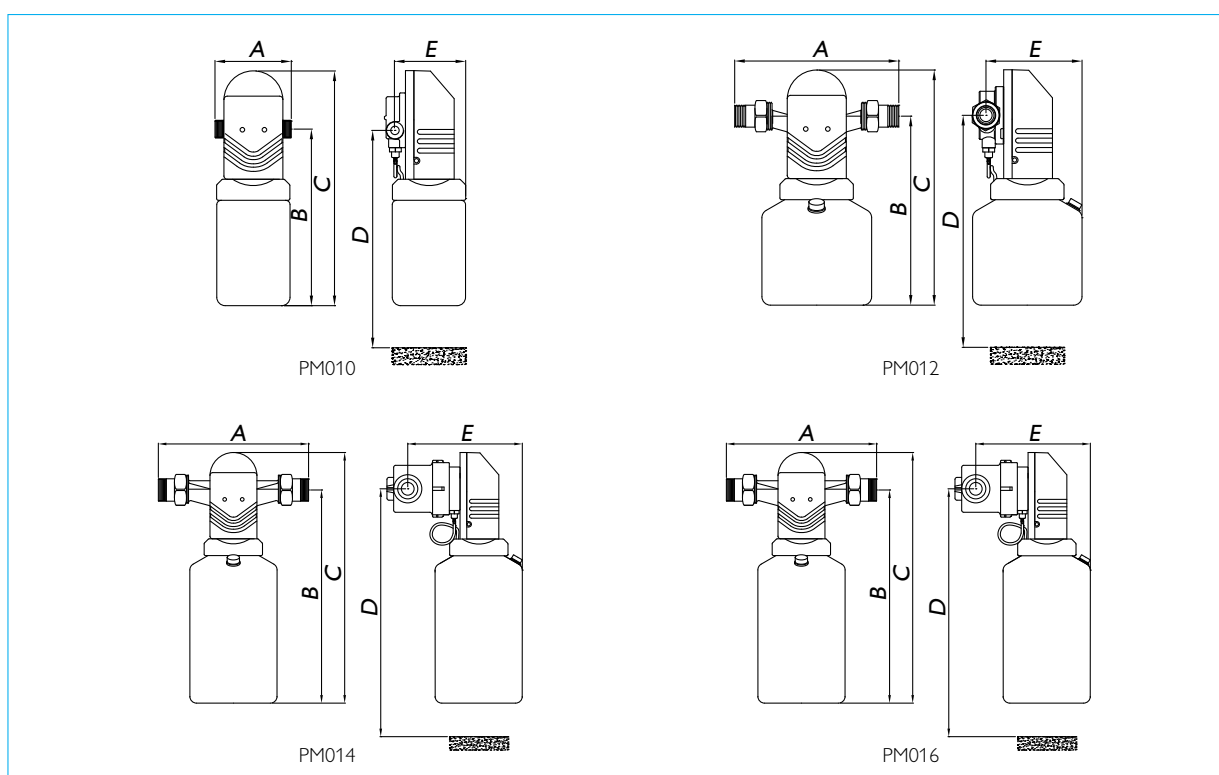
CODE		PM010	PM012	PM014*	PM016*
CONNECTIONS	inches	½"M	¾"M	1"M	1"¼M
MIN./MAX WORKING PRESSURE	bar	1.5/6			
MIN.	°C	5			
MAX. WATER TEMPERATURE (inside pump)	°C	40			
ΔP (max. flow rate)	bar	0.5			
MIN./MAX. WATER HARDNESS	°f	5-30			
MIN. FLOW RATE	lt/h	30	60	90	120
MAX. FLOW RATE	lt/h	1500	2500	3600	4200
INJECTION FREQUENCY	strokes/lt	3.5	2.5	2.0	2.0
2-TOILETS APARTMENT (WARM+ COLD WATER) COVERED	N°	1	2	3	4
P <sub>2</sub> O <sub>5</sub> CONCENTRATION IN WATER	mg/l	3.5			
CHEMICAL		AcquaSIL 20/40®			
TANK VOLUME	cc	500	1000	2500	2500
AUTONOMY (WATER TREATED FOR TANK RECHARGE)	m³	22	47	120	120
ELECTRIC FEED		230 V; 50-60 Hz; 1 VA			
SAFETY SENSOR LEVEL		YES			

\* Possible to install also vertically



## QUOTES

CODE		PM010	PM012	PM014	PM016
WIDTH (A)	mm	90	185	230	235
CONNECTION HEIGHT (B)	mm	210	225	320	320
TOTAL HEIGHT (C)	mm	282	282	380	380
MINIMUM HEIGHT FROM GROUND (D)	mm	360	450	600	600
DEPTH (E)	mm	110	120	170	170



### 3 Dosing systems

## Anti-scaling and anti-corrosive systems for residential use



#### Referential EU norms and EN standards

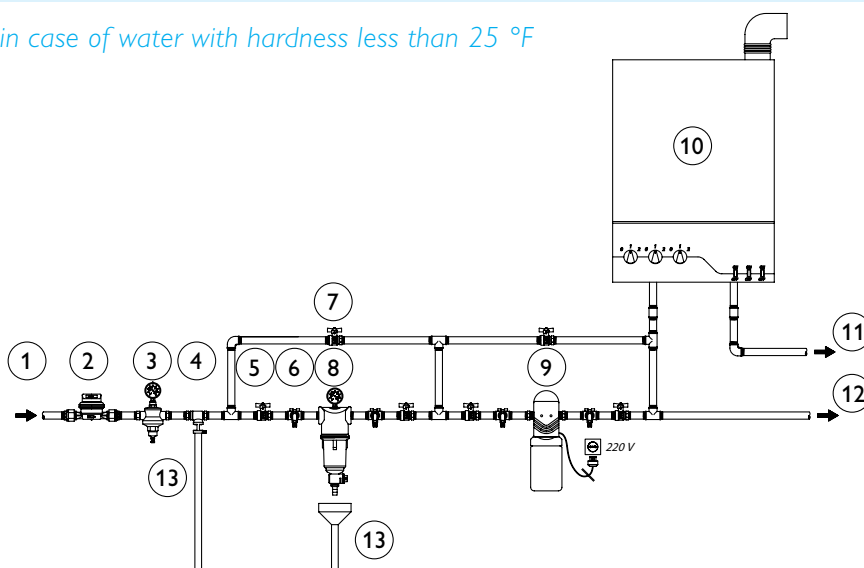
BravaDOS is manufactured in compliance with the Italian decree D.M. N°174/04, article 9 of the Italian decree D.L. N°31/01, Italian decree D.M. N° 443/90. The Italian decree D.P.R. N°59/09, decree D.M. N°37/08, standards UNI CTI 8065, UNI CTI 8884, UNI CTI 7550 prescribe the chemical conditioning of sanitary water: Acqua Brevetti 95 s.r.l. works with a Quality System certified in compliance with the requirements of the UNI-EN ISO 9001:2008 with certificate 501007368 issued by TÜV Italy Srl.



#### Polyphosphate salts solution

MiniDOS doses exclusively AcquaSIL 20/40®, a combined solution of different salts, at 18% of  $P_2O_5$ . It is suitable to be used in food products specifically for the treatment of drinking water. AcquaSIL 20/40® is available in 1-liter bottle (code PC002) and in 5-liter tank (PC003).

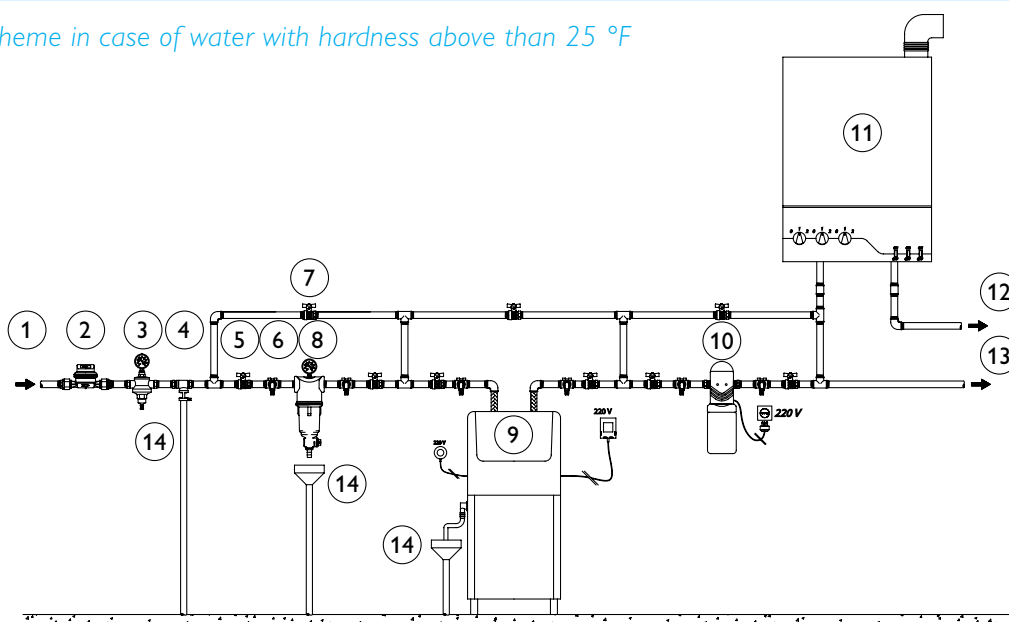
#### Installation scheme in case of water with hardness less than 25 °F



#### Legenda

**1.** Cold water inlet; **2.** Inlet water meter; **3.** Pressure reducer; **4.** Backflow prevention device; **5.** Zone valve; **6.** Sample tap; **7.** By-pass valve; **8.** Filter; **9.** BravaDOS dosing pump; **10.** Water heater; **11.** Warm water outlet; **12.** Cold water outlet.

#### Installation scheme in case of water with hardness above than 25 °F



#### Legenda

**1.** Cold water inlet; **2.** Inlet water meter; **3.** Pressure reducer; **4.** Backflow prevention device; **5.** Zone valve; **6.** Sample tap; **7.** By-pass valve; **8.** Filter; **9.** Softener; **10.** BravaDOS dosing pump; **11.** Water heater; **12.** Warm water outlet; **13.** Cold water outlet; **14.** Discharge.

## Dosing stations for general purposes

# Diaphragm electronic pumps

### Solenoid pumps

#### Overview

Acqua Brevetti 95 s.r.l. offers a complete line of diaphragm electronic pumps and accessories which allows to meet the needs of dosage in primary water treatment. The metering pumps Acqua Brevetti 95 s.r.l allow to perform constant dosing, proportional to the water flow or with schedulable timing by daily scale. The pumps are available in both analogue and digital. The accessories allow to adapt the dosing pumps at a dose of product including sodium hypochlorite and hydrogen peroxide. The rationalization of the components allows to easily assemble dosing stations even of considerable size. The careful choice of pump and related accessories allows to meet most of the requirements of dosing. The storage tanks of chemicals, complete with level probe, are available with volumes from 50 to 1000 liters while the water meters are available with connections from ½ "up to DN150. Agitators are also available for the homogenization of the products as well as a complete set of accessories for the regulation and management of the dose (back pressure valve, priming device, flow sensor, multi-function valve).



#### Purpose

The metering pumps may be used for the dosage of polyphosphates anti-corrosive and anti-fouling, solutions of sodium hypochlorite in the civil sector or for the dosage of sanitizing agents, anti-fouling and anti-corrosive in evaporative cooling towers, cooling systems, boilers or other industrial applications.

#### Features

Depending on the model there are three different hydraulic: Hydraulics 500 ideal for small doses, is able to process flow up to 1.5 l / h with counter pressure up to 20 bar.

Hydraulics 603 ideal for intermediate doses, is able to process flow rates up to 8 liters / h with counter pressure up to 12 bar

Hydraulics 803 ideal for high doses, is able to process flow up to 54 l / h with counter pressure up to 5 bar.



#### AKL COSTANT DOSING PUMP

##### Constant dosage and analogical interface.

CODE	MODEL	PRESSURE bar	FLOW lt/h	CONN.mm	FREQUENCY imp/min	SEALS KIT
PM040	PUMP AKL 603 NHP	12-10-8-2	4-5-6-8	4/6	160	Kit PVC
PM042	PUMP AKL 603 NHH	12-10-8-2	4-5-6-8	4/6	160	Kit PVDF
PM058	PUMP AKL 803 NHP	5-4-2-1	20-25-40-54	8/12	300	Kit PVC

#### APG PROPORZIONALE DOSING PUMP

##### Manual setting, analogical interface, proportional dosage with digital or analogue signal.

CODE	MODEL	PRESSURE bar	FLOW lt/h	CONN.mm	FREQUENCY imp/min	SEALS KIT
PM062	PUMP APG 603 NHP	12-10-8-2	4-5-6-8	4/6	160	Kit PVC
PM063	PUMP APG 603 NHH	12-10-8-2	4-5-6-8	4/6	160	Kit PVDF

## 3 Dosing systems

### Dosing stations for general purposes



#### TPG PROPORZIONAL DOSING PUMP

Manual setting, analogical interface, proportional dosage with digital or analogue signal.

CODE	MODEL	PRESSURE bar	FLOW lt/h	CONN.mm	FREQUENCY imp/min	SEALS KIT
PM056	PUMP TPG 603 NHP	12-10-8-2	4-5-6-8	4/6	160	Kit PVC
PM066	PUMP TPG 603 NHH	12-10-8-2	4-5-6-8	4/6	160	Kit PVDF
PM055	PUMP TPG 500 NHH	20-16-10-6	0.4-0.8-1.2-1.5	4/7 - 4/6	120	Kit PVDF



#### TCK TIMED DOSING PUMP

Constant or timed dosage.

CODE	MODEL	PRESSURE bar	FLOW lt/h	CONN.mm	FREQUENCY imp/min	SEALS KIT
PM054	PUMP TCK 603 NHP	12-10-8-2	4-5-6-8	4/6	160	Kit in PVC
PM044	PUMP TCK 603 NHH	12-10-8-2	4-5-6-8	4/6	160	Kit in PVDF

#### Accessories



##### CB THREADED PULSE WATER METER

Water meter for cold water (up to 30°C), single stream (for 1/2" and 3/4") and multi stream (up to 2").



##### WE FLANGED PULSE WATER METER

Axial eddy water meter. Flanged UNI PM 10/16 for hot water up to 30°C.



##### SER EMPTY TANK

HDPE tank for the storage of various chemicals of different capacity (60-120-220-325-550-1070 liters).



##### MULTI FUNCTIONAL VALVE

Counter pressure valve, antisiphon valve, discharge valve inflow, protection valve. Connector for pipes 6/8. security pressure.



##### FLOW SENSOR

Dosage sensor. Body in PVC and seals in FPM. Connections 4/6



##### PRIMING AID

Priming device for low flow pumps or high elevations (from 1,5 meters) Body in PVC and guarnish in FPM.



##### COUNTER PRESSURE VALVE

Allow the maintenance of constant pressure during the dosage. Max pressure: 10 bar - min pressure: 0,5 bar. Body in PVC, connections 4/6.



##### FLASK TANK

20 mm PVC flask for the correct installation of dosing stations and agitators on HDPE tanks SER models. Body in PVC, membrane in PTFE, guarnish in FPM or EPDM.



##### SUCTION NOZZLE WITH FEELER

Preassembled suction nozzle. Connection 4/6 for tank model SER. Complete of: filter, non-return valve and feeler to stop the pump in case of empty tank.



##### AGITATOR

Agitator (1400 rpm) single-phase in PVC for mixing chemical products in tank model SER.

# Dirt separator with dosing point for heating systems

## BravoTHERM 500

Dirt separator filter for in-line installation in closed-loop heating systems with dosing point for AZ® products.

### Overview

BravoTHERM 500 is composed by a brass head and a plastic bowl resistant up to 80 °C and 6 bars. The filtering media is a net with a particular shape having a filtration rate of 1000 microns and a high specific filtration surface which allows an effective removal of dirt which is driven by the conical shape of the bowl, toward the bottom of the filter where it is located the high flow discharge valve. In the upper brass head of the filter it is located the dosing point for chemicals.



### Applications

In closed-loop heating systems deposits of various types may be formed: limestone, oxides, flakes of rust and slime. This material is commonly referred to as "sludge" and it can cause different problems: blocking of valves and regulators, failure of circulators, cold spots in radiators and floor panels. Deposits can cause the onset of dangerous forms of corrosion. Sludge decreases thermal efficiencies, increasing fuel consumption and lowering the life of all components of the heating system. The first action is thus preventing the formation of sludge and deposits by properly cleaning and protecting heating systems with specific corrosion, scale and fouling inhibitors such as those of the AZ® line. Both new and old heating systems should be periodically cleaned, especially if they have never been protected with any specific corrosion and scale inhibitors. For proper cleaning of closed loop heating systems you can choose among the cleaning products of the AZ® line such as AZ® 2000, AZ® 3000, AZ® 4000 and AZ® 7000 depending on the specific problem (see detailed data sheets for each AZ® product). For proper protection against corrosion and scale you can choose among the protecting products of the AZ® line such as AZ® 1000, AZ® 5000 and AZ® 6000 depending on the specific type of closed-loop heating system. The easiest way to load both cleaning and protecting products in closed-loop heating systems of small size (up to 2 flats) is BravoTHERM 500 which combines the functions of a dirt separator filter and a dosing point for chemicals. The particular inner design of BravoTHERM 500 allows the efficient and easy removal of particulate matter and dirt by a combined mechanical and gravitational action. BravoTHERM is easy to disassemble and to clean in case of clogging. BravoTHERM 500 can be installed both in-line in small applications (up to 1 flat) for both filtering and adding chemicals. For larger installations (2-3 flats) BravoTHERM 500 should be installed in by-pass and used only as adding point for chemicals.

### 3 Dosing systems

## Dirt separator with dosing point for heating systems



#### BravoTHERM 500 - performances and technical data

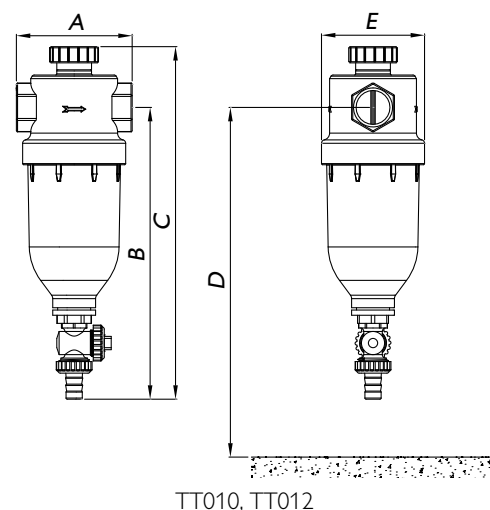
CODE		TT010	TT012
IN/OUT CONNECTIONS	inches	¾" F	1" F
FLATS	units	1	2
FILTER CAPACITY	liters	0.5	
MAX TEMPERATURE	°C	80	
MAX PRESSURE	bar	6	



#### QUOTES

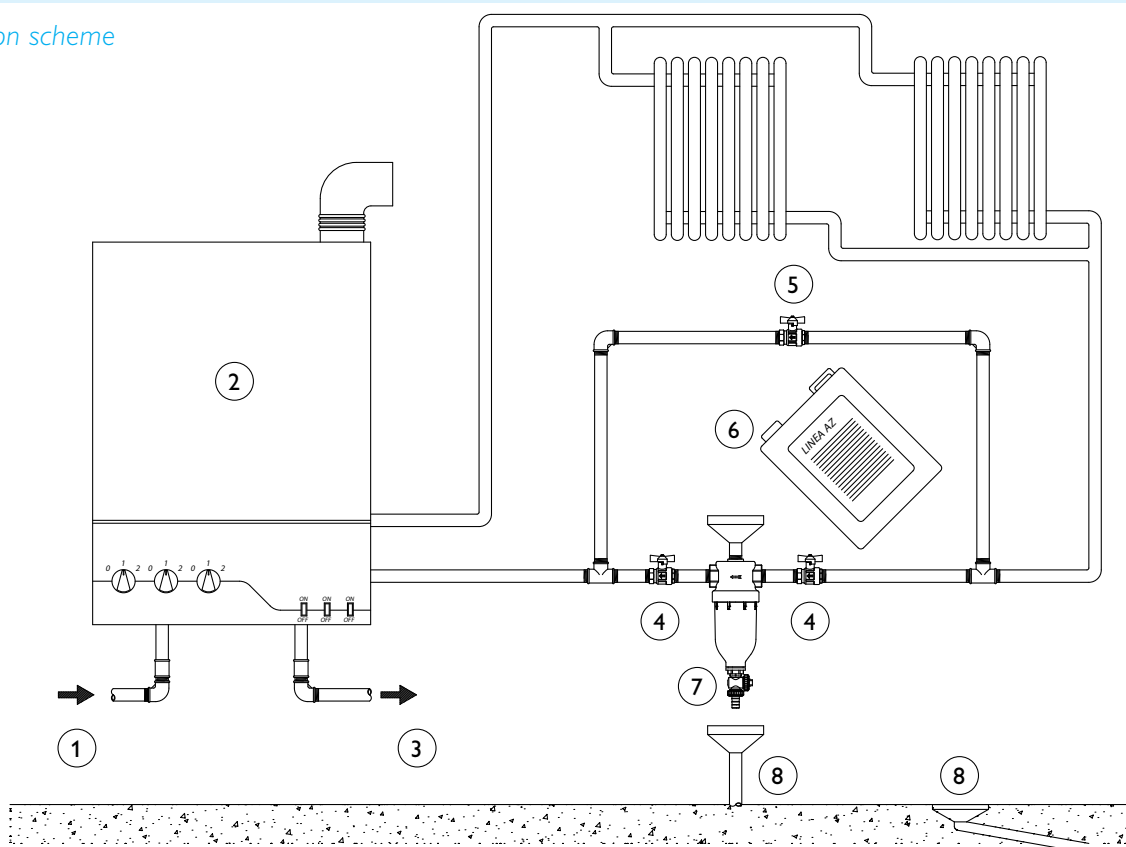
CODE		TT010	TT012
WIDTH (A)	mm	100	100
CONNECTION HEIGHT (B)	mm	252	252
TOTAL HEIGHT (C)	mm	305	305
MINIMUM HEIGHT FROM GROUND (D)	mm	400	400
DEPTH (E)	mm	90	90

#### BravoTHERM 500



TT010, TT012

#### Installation scheme



#### Legenda

1. Boiler tap water feed; 2. Boiler; 3. Sanitary hot water outlet; 4. Closing valve; 5. By-pass valve; 6. AZ® additive; 7. BravoTHERM 500; 8. Drain.



# Dirt separator with dosing point for heating systems

## BravoTHERM 600 650

Dirt separator filter for in-line installation in closed-loop heating systems with dosing point for AZ® products.

### Overview

BravoTHERM 600 and 650 are filled with special inert materials which offer an high filtration efficiency with low heat losses and ease in backwashing.

Once the filtering capacity of the filter is exhausted (increase in head losses) it is possible to back wash filter using tap water. BravoTHERM 600 and 650 head is equipped with multiway manual valves which allow the fast backwash of the filter with tap water without any loss of the precious thermal fluid present inside the heating system.

BravoTHERM 600 and 650 is also equipped with a drain valve which allows to eliminate any foreign matter accumulated in the filtering masses, during backwashing. In addition a Venturi system allows the rapid filling of large amounts of chemicals directly from bottles or tanks.

BravoTHERM 600 and 650 are composed by a fiberglass reinforced tank filled with special inert filtrating media. The head is equipped with a manual multiway valve which allows to rapidly switch from service position to back wash position and to chemicals filling position.

BravoTHERM 600 and 650 are fast to be installed and serviced.



### Applications

In closed-loop heating systems deposits of various types may be formed: limestone, oxides, flakes of rust and slime. This material is commonly referred to as "sludge" and it can cause different problems: blocking of valves and regulators, failure of circulators, cold spots in radiators and floor panels. Deposits can cause the onset of dangerous forms of corrosion. Sludge decreases thermal efficiencies, increasing fuel consumption and lowering the life of all components of the heating system. The first action is thus preventing the formation of sludge and deposits by properly cleaning and protecting heating systems with specific corrosion, scale and fouling inhibitors such as those of the AZ® line. Both new and old heating systems should be periodically cleaned, especially if they have never been protected with any specific corrosion and scale inhibitors. For proper cleaning of closed loop heating systems you can choose among the cleaning products of the AZ® line such as AZ® 2000, AZ® 3000, AZ® 4000 and AZ® 7000 depending on the specific problem (see detailed data sheets for each AZ® product). For proper protection against corrosion and scale you can choose among the protecting products of the AZ® line such as AZ® 1000 depending on the specific type of closed-loop heating system. BravoTHERM 600 and 650 dirt separator filters are successfully installed in closed-loop heating systems in order to effectively remove sludge with very limited head losses. They are also equipped with a dosing point for the fast filling of large amounts of both cleaning and protecting AZ® products. BravoTHERM 600 and 650 assures an heating system clean protecting the most sensible parts such as recirculation pumps, valves, heat exchangers.

## 3 Dosing systems

### Dirt separator with dosing point for heating systems



#### Installation

BravoTHERM 600 e 650 filters must be installed only in by-pass position (see figure below) in the lower and colder part of the closed-loop heating system. It is compulsory the installation of closing valves in the inlet and outlet of the closed-loop heat water (upstream and downstream BravoTHERM 600 and 650) and in the tap water inlet for backwashing. These valve are not supplied with BravoTHERM 600 e 650. When installing BravoTHERM 650 it is necessary to install a circulating pump (head 0.5 bar; flow rate: 1 m<sup>3</sup>/h) upstream fo BravoTHERM 650. For a proper installation it is compulsory to strictly observe all indications supplied in the Instruction manual. BravoTHERM 600 e 650 must be installed exclusively by specialized personnel complying with local regulations.



#### Warnings

BravoTHERM 600 e 650 must be installed in a technical room with a sufficient space for installation and servicing. The periodic backwashing of BravoTHERM requires the presence of a water drain and tap water. The filter must be protected form frost and direct sunlight. Avoid oils, acids, solvents, alkalis and aggressive detergents come into contact with both inner and outer parts of BravoTHERM 600 e 650.

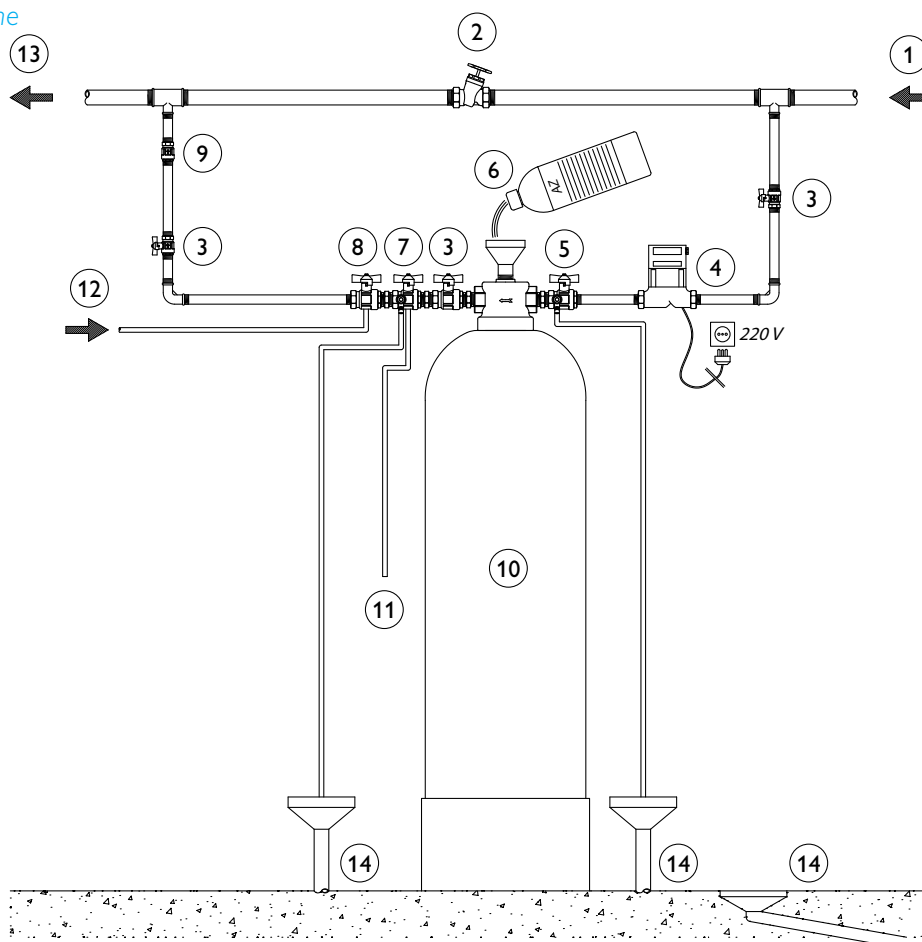
Pressure and temperature levels of the water in the closed-loop heating system must not exceed the maximum values indicated in the Technical data table (see below). In order to assure proper working BravoTHERM 600 e 650 should be checked at least twice a year.



#### BravoTHERM 600 and 650 description for offers

Dirt separator filter for in-line installation in closed-loop heating systems with dosing point for AZ® products. BravoTHERM 600 and 650 eliminate sludge and particulate matter from the system protecting sensible part such as circulating pumps, valves, heat exchanger assuring high flow efficiency and preventing blocking. BravoTHERM 600 e 650 must be installed in the return line in the lowest and coldest part just upstream the boiler. BravoTHERM 600 e 650 is filled with special inert filtering media which effectively remove particulate matter and sludge without impairing flow rates. BravoTHERM 600 and 650 is equipped with multiway head valves which allow the rapid switching from service to backwash position. BravoTHERM 600 e 650 is equipped with a specific system for the rapid charging of large amounts of AZ® cleaning and protecting products.

#### Installation scheme



#### Legenda

1. Closed-loop water inlet 2. By pass valve 3. Closing valve 4. Circulating pump 5. Backwash pump 6. Dosing point 7. Venturi valve 8. Tap water inlet valve 9. Back-flow valve 10. BravoTHERM 600/650 11. Draining pipe 12. Tap water inlet 13. Return line 14. Drain

# Dirt separator with dosing point for heating systems



## BravoTHERM 600 650 - performances and technical data

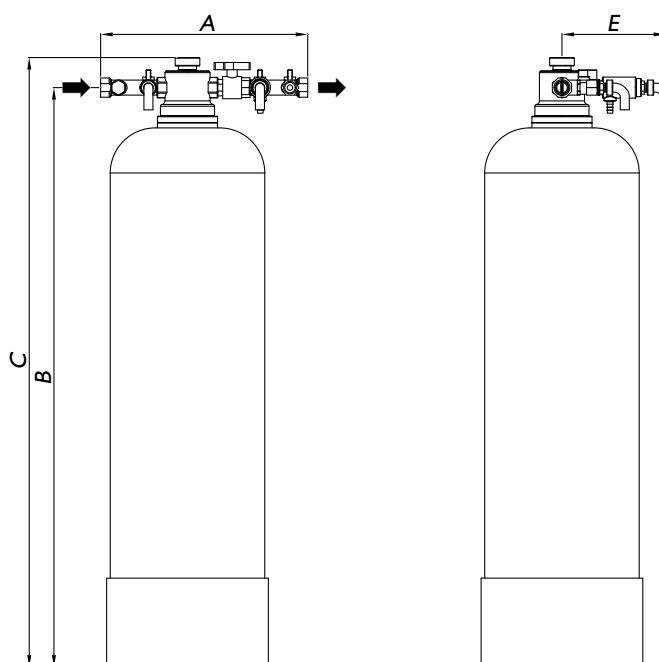
CODE		TT014	TT016
INLET/OUTLET CONNECTIONS	inches	¾" F	¾" F
DRAIN CONNECTION	inches	¾" F	¾" F
NUMBER OF FLATS	units	1-20	21-50
NOMINAL FLOW RATE	lt/h	400	600
MAXIMUM FLOW RATE	lt/h	600	1100
MAXIMUM WATER TEMPERATURE	°C	65	
MIN/MAX ROOM TEMPERATURE	°C	0-40	
MAXIMUM PRESSURE	bar	10	
MINIMUM BACKWASH PRESSURE	bar	2	
PRESSURE RANGE	bar	1.5-6	
BACKWASH FLOW RATE	lt/h	2500	
BACKWASH	-	MANUAL	



## QUOTES

CODE		TT014	TT016
WIDTH (A)	mm	350	350
CONNECTION HEIGHT (B)	mm	964	1294
TOTAL HEIGHT (C)	mm	1014	1344
DEPTH (E)	mm	173	173

### BravoTHERM 600 650



TT014, TT016

### Filling and flushing devices for central heating systems

# BravoPROMAX 30 SUPAFLUSH

Pump for the recirculation, filling and flushing of closed loop heating circuits

#### Overview

BravoPROMAX 30 SUPAFLUSH has been developed for an easy cleaning of the whole heating plant. It removes water circulation problems due to slurry heaps, corrosion and scale deposits. It has been specifically developed for optimized the cleaning effects of the AZ® products. BravoPROMAX 30 SUPAFLUSH allows to quickly perform cleaning operation in heavily soiled heating plants, where the use of the sole circulator of the plant is not sufficient. It combines the mechanic cleaning action performed from the high washing flow rate (up to 5,4 m<sup>3</sup>/h) at low pressure and the detergent action of AZ® conditioning chemicals.

BravoPROMAX 30 SUPAFLUSH is endowed of a practice flow inverter which allows to periodically invert the flux within the plant. This device permit to attack the obstruction on both sides, getting the removal more simple and rapid. Moreover, on the water return connection of the plant to the BravoPROMAX 30 SUPAFLUSH unit, it can be installed a filter with discharge which allows to unlock all the deposits detached from the plant, permitting a rapid and safe removal. BravoPROMAX SUPAFLUSH is equipped with 27 liter tank with a wide refilling opening to facilitate the pouring operation from tanks or barrels. The tank is equipped of bottom cap to facilitate emptying and cleaning operations.

The refill system is endowed with fill port, flush port and deaeration port with shutoff valves and flexible connecting hose. BravoPROMAX SUPAFLUSH pump is equipped with filter for intercepting scraps, soldering and welding residues.

BravoPROMAX 30 SUPAFLUSH has been specifically developed for the use with the cleaning chemicals AZ® 3000 (universal product for new plants) and AZ® 4000 and AZ® 7000 (for old plants).



#### BRAVO PROMAX 30 SUPAFLUSH - performances and technical data

CODE		PD10005
TANK CAPACITY	lt	27
MAX FLOW RATE	lt/min	5400
MAXIMUM HEAD	bar	2
QUOTES (HxWxD)	mm	58x45x30



#### Text for offer

Pump for the replenishment and flushing of closed loop heating circuits, specific for the product AZ® 3000, AZ® 4000 and AZ® 7000. BravoPROMAX 30 SUPAFLUSH is equipped with a patented flow inverter for a quick and efficient cleaning of the heating plants. Tank capacity: 27 lt. Maximum flow rate: 5.5 mc/h. Hydraulic head: 2 bars.

# Filling and flushing devices for central heating systems

## Bravo SOLAR PUMP




Pump for the filling and flushing of solar systems

### Overview

Bravo SOLAR PUMP is the filling unit for solar thermal systems developed specifically to allow easy filling and flushing of solar systems with cleaning solutions and antifreeze based. A robust structure to cart with wheels facilitate the operation of the system Bravo SOLAR PUMP. Bravo SOLAR PUMP 250 and 300 are equipped with a 25-liter tank with large opening for easy filling from tanks or barrels. The tank is equipped with a bottom cap which facilitates the operations of emptying, purging and cleaning of the tank. The feeding pump is equipped with a fill port, flush port and deaeration with shutoff valves and pipes connecting hose. It can also be used a quick secondary intake valve that allows to suck the liquid directly from a tank without the need of pouring the reservoir. The Bravo SOLAR PUMP system is equipped with a filter for the detection of scraps and welding and soldering residues. The use of Bravo SOLAR PUMP makes the cleaning procedures, emptying, venting and filling of the solar plant more simple and it can be realized in a single action. It is also possible to adjust the pressure of the pump casing according to the requirements from 2 bar to 5 bar. The loading system Bravo SOLAR PUMP has been specifically developed for the loading of the protective solution specific for solar panels AZ® 6000, and AZ® 3000 for cleaning products (for new systems) or AZ® 4000 (for old systems). The loading system Bravo SOLAR PUMP can also be used to pump the thermal fluid exhausted (degraded) out of the system if there are no adequate points of discharge.



### Bravo SOLAR PUMP - performances and technical data

	SOLARPUMP 100	SOLARPUMP 250	SOLARPUMP 300
			
CODE	PD10011	PD10009	PD10010
FEEDING PUMP AT HIGH EFFICIENCY WITH BODY IN CAST IRON AND DERLIN IMPELLER RESISTANT TO GLYCOLE	●	●	●
CONNECTING TUBES	●	●	●
FEEDING POINT WITH INTERCEPTION VALVE AND FLEXIBLE CONNECTING TUBE	●	●	●
UNDERCARRIAGE WITH SELF PROJECTING WHEELS		●	●
25 LITERS TANK WITH WIDE FEEDING OPENING AND BOTTOM CAP FOR THE CLEANING		●	●
WASHING DOOR / DEAERATION WITH FLEXIBLE CONNECTING TUBE		●	●
LIQUID ASPIRATION VALVE FROM THE CANISTER (WITHOUT PASSING THROUGH THE TANK)			●
FILTER FOR THE INTERCEPTION OF SCRAPS, WELDING RESIDUALS			●
GAUGE			●
FEEDING PRESSURE REGULATION (FOR THE PRESSURE REGULATION OF PUMPING BODY FROM 2 TO 5 BAR)			●
QUOTES (HXLXP)	27x24x18	60x39x32	78x39x32
WEIGHT KG.	7,70	10,70	14,60
PRESSURE - MAX (BAR)	5	5	5
FLOW RATE - MAX LT/H	25	25	25
POWER HP	0,50	0,50	0,50



### Text for offer

Feeding and cleaning pump for solar systems with manual pressurize pump and pressure gauge (50 bar). The tank capacity as 25 liters facilitate the filling and emptying of the plant. The system (Solar Pump 250 and 300) is mounted on a cart with wheels for a practical handling equipment. Flow rate 25 lt/min, head up to 5 bar.

A new generation of chemicals

## ► Chemicals and testing kits

Highest protection for plants, total safety for users and environment

The presence of various substances in the water may cause unwanted water characteristics: high values of hardness bring to limescale deposits, pH values far from the neutrality and the presence of dissolved oxygen will bring corrosion phenomena, bacteria and micro-organisms which compromise the potability of water. In all these cases it is necessary to correct water characteristics dosing specific chemicals by means of precise and reliable dosing systems. Acqua Brevetti offers a wide range of chemicals to meet every requirement.

We offer the following type of products:

Chemical products for domestic water: specific products based on food grade polyphosphates for anti-corrosive and lime-scale treatment of drinkable waters.

Chemicals for central heating systems conditioning: the new products line AZ® developed and tested to offer the best performance on domestic heating plants guaranteeing total safety for the users and environment. They are formulated with low environmental impact: they are non-acidic and non-caustic, biodegradable and do not contain substances hazardous to the health and the environment, such as nitrites, chromates, amines and phosphates. The range consists of seven products of protective and cleaners.

Biocides chemical products: a range of products for chemical biocidal product range able to avoid the development of microorganisms and to maintain sterile conditions in waters.

Other chemicals: products for control of scale and corrosion, of iron and manganese, of chlorinated substances and sediments.

Analysis kits and tools: Acqua Brevetti provides a full range of tools specific for monitoring chemical and physical characteristics of water (pH, conductivity, temperature, iron, manganese, hardness, chlorine, etc.). In particular there is a complete line of test kit for monitoring of central heating systems treated with AZ® line products.



► AcquaSIL Line



# Anti-scaling and anti-corrosive for drinking water

## AcquaSIL 2/15®

Anti-scaling and anti-corrosive product for MiniDUE pump

### Overview

AcquaSIL 2/15® is an aqueous solution of food grade polyphosphates specific for drinking water treatment and it has a double protective effect: it hinders the formation of scale deposits and it prevents the corrosion of metal components. Through a mechanism known as "threshold effect", polyphosphates, even at concentration in the range of some ppm (the maximum concentration allowed in the drinking water is 5 ppm as  $P_2O_5$ ) interfere with the carbonate crystallization phenomena hindering the formation of scale deposits. Polyphosphates also form a calcium-phosphate-ferrous protective film on metal surfaces protecting them from possible corrosion. AcquaSIL 2/15® is able to slowly dissolve old lime deposits restoring encrusted surfaces. AcquaSIL 2/15® has proven effective with water having hardness in the range 5 °f and 30 °f and temperatures up to 60 °C. AcquaSIL 2/15® is not classified as dangerous by current legislation.



### Key features

- ✓ The best quality of polyphosphate (sodium exametaphosphate)
- ✓ Scale control
- ✓ Corrosion control
- ✓ Red and black water control
- ✓ Contained in disposable refill flexible bags 250gr. and 1000 gr. available
- ✓ No manipulation of the product assuring maximum hygiene and no contact with air



### Dosage and feeding

AcquaSIL 2/15® should be dosed automatically and proportionally to the water flow rate. The quantity dosed by MiniDUE corresponds to  $2 \pm 0.5$  ppm of  $P_2O_5$ . AcquaSIL 2/15® can be used to protect hot and cold water production and distribution systems such as water heating or cooling in open loop circuits. AcquaSIL 2/15® is not effective to protect closed-circuit systems (heating and cooling). Do not use AcquaSIL 2/15® upstream of boilers with solar heating systems, the temperatures reached in these systems can lead to rapid degradation of the product resulting in loss of efficacy. AcquaSIL 2/15® is dosed upstream of equipment to be protected.



### Text for offer

AcquaSIL 2/15® aqueous food grade polyphosphates solution, for the proportional dosage with MiniDUE pump. AcquaSIL 2/15® is employed for the protection of hot and cold water production and distribution systems such as water heating or cooling in open loop circuits, from scale deposits and corrosion that could lead damages to plants and control bodies. AcquaSIL 2/15® is contained in the innovative disposable flexible refill bags of 250gr. or 1000 gr. of size, avoiding the manipulation of the product.



### Referential UE norms and EN standards

AcquaSIL 2/15® has been formulated using raw materials in compliance with Directive 2008/84/CE and standard UNI-EN 1212:2005. Acqua Brevetti 95 s.r.l. works with a Quality System certified in compliance with the requirements of the UNI-EN ISO 9001:2008 with certificate 501007368 issued by TÜV Italy Srl. The material safety data sheet prepared in compliance with Regulation n. 453/2010 is supplied with the product. The material safety data sheet is available in the website: [www.acquabrevetti95.it](http://www.acquabrevetti95.it).



### AcquaSIL 20/15®

CODE	DESCRIPTION	UNIT
PC100	AcquaSIL 2/15® 250 gr. Flexible disposable refill bag (n°4 in a package)	16
PC104	AcquaSIL 2/15® 1000 gr. Flexible disposable refill bag	5

### Anti-scaling and anti-corrosive for drinking water

# AcquaSIL 20/40®

Anti-scaling and anti-corrosive for MiniDOS e BravaDOS pumps

#### Overview

AcquaSIL 20/40® is an aqueous solution of food grade polyphosphates specific for drinking water treatment and it has a double protective effect: it hinders the formation of scale deposits and it prevents the corrosion of metal components. Through a mechanism known as "threshold effect", polyphosphates, even at concentration in the range of some ppm (the maximum concentration allowed in the drinking water is 5 ppm as  $P_2O_5$ ) interfere with the carbonate crystallization phenomena hindering the formation of scale deposits. Polyphosphates also form a calcium-phosphate-ferrous protective film on metal surfaces protecting them from possible corrosion. AcquaSIL 20/40® is able to slowly dissolve old lime deposits restoring encrusted surfaces. AcquaSIL 20/40® has proven effective with water having hardness in the range 5 °f and 30 °f and temperatures up to 60 °C. AcquaSIL 20/40® is not classified as dangerous by current legislation.



#### Key features

- ✓ The best quality of polyphosphate (sodium exametaphosphate)
- ✓ Solution ready to use
- ✓ Scale control
- ✓ Corrosion control
- ✓ Red and black water control



#### Dosage and feeding

AcquaSIL 20/40® should be dosed automatically and proportionally to the water flow rate. The quantity dosed by MiniDOS or BravaDOS corresponds to  $3.5 \pm 0.5$  ppm of  $P_2O_5$ . AcquaSIL 20/40® can be used to protect hot and cold water production and distribution systems such as water heating or cooling in open loop circuits. AcquaSIL 20/40® is not effective to protect closed-circuit systems (heating and cooling). Do not use AcquaSIL 20/40® upstream of boilers with solar heating systems, the temperatures reached in these systems can lead to rapid degradation of the product resulting in loss of efficacy. AcquaSIL 20/40® is dosed upstream of equipment to be protected.



#### Text for offer

AcquaSIL 20/40® aqueous food grade polyphosphates solution, for the proportional dosage with MiniDOS and BravaDOS pumps. AcquaSIL 20/40® is employed for the protection of hot and cold water production and distribution systems such as water heating or cooling in open loop circuits, from scale deposits and corrosion that could lead damages to plants and control bodies.



#### Referential UE norms and EN standards

AcquaSIL 20/40® has been formulated using raw materials in compliance with Directive 2008/84/CE and standard UNI-EN 1212:2005. Acqua Brevetti 95 s.r.l. works with a Quality System certified in compliance with the requirements of the UNI-EN ISO 9001:2008 with certificate 501007368 issued by TÜV Italy Srl. The material safety data sheet prepared in compliance with Regulation n. 453/2010 is supplied with the product. The material safety data sheet is available in the website: [www.acquabrevetti95.it](http://www.acquabrevetti95.it).



#### AcquaSIL 20/40®

CODE	DESCRIPTION	UNIT
PC002	AcquaSIL 20/40® kg.1	8
PC003	AcquaSIL 20/40® kg.5	4

# Anti-scaling and anti-corrosive for drinking water

## AcquaSIL 5/10

Anti-corrosive and anti-scaling for dosing stations (solenoid pumps)

### Overview

AcquaSIL 5/10 is a combined solution of various salts for the treatment of drinking water; suitable to prevent corrosion and scaling encrustations in domestic applications, such as:

- Boilers and kettles
- Pipes and distribution devices
- Heating and cooling water in opened circuits.

The action of AcquaSIL 5/10 is effective against salts of calcium and magnesium compounds, against encrustation, it is effective for protection against corrosion and it has restoring effects, visible after a period of use, strictly depending from the encrustation layer.



### Key features

- ✓ Liquid solution ready to be use
- ✓ The best quality of polyphosphate (sodium hexametaphosphate)
- ✓ Cathodic corrosion control
- ✓ Red & black water control
- ✓ Scale control
- ✓ Softening



### Dosage and feeding

AcquaSIL 5/10 can be dosed by dosing stations or solenoid proportional dosing pumps in quantity as 70 g/m<sup>3</sup> (equal to 3.5 ppm of P<sub>2</sub>O<sub>5</sub>). AcquaSIL 5/10 is available in 25 Kg tank (COD. PC001). The use of AcquaSIL 5/10 is recommended with maximum temperature of 60 °C and water hardness below 30 °f; it should not be used in closed-loop systems.



### Text for offer

AcquaSIL 5/10 aqueous food grade polyphosphates solution, for the proportional dosage with solenoid pumps. AcquaSIL 5/10 is employed for the protection of hot and cold water production and distribution systems such as water heating or cooling in open loop circuits, from scale deposits and corrosion that could lead damages to plants and control bodies.



### Referential UE norms and EN standards

The product comply with DIRECTIVE 98/83/CE ("Quality of water intended for human consumption") and standard UNI-EN 1212:2005. Acqua Brevetti 95 s.r.l. works with a Quality System certified in compliance with the requirements of the UNI-EN ISO 9001:2008 with certificate 501007368 issued by TÜV Italy Srl. The material safety data sheet prepared in compliance with Regulation n. 453/2010 is supplied with the product. The material safety data sheet is available in the website: [www.acquabrevetti95.it](http://www.acquabrevetti95.it).



### AcquaSIL 5/10

CODE		PC001
STATE		LIQUID
COLOUR		COLOURLESS
ODOUR		ODOURLESS
MAX. WATER TEMPERATURE	°C	60
MIN./MAX. WATER HARDNESS	°f	5-30
SPECIFIC WEIGHT	kg/dm <sup>3</sup>	1.03-1.04 (@20°C)
pH		5.8
DOSAGE	g/m <sup>3</sup>	70
TANK WEIGHT	Kg	25



## AZ<sup>®</sup> Line

Chemicals for every kind of heating systems




**The best performance on the heating plant, with complete safety for user and environment**

Practical Guide for AZ<sup>®</sup> Products use







## Heating systems WITH RADIATORS AND MIXED (RADIATORS + PANELS)

NEW

ACTION	PRODUCT	AIMS	DOSAGE AND APPLICATION
CLEANING	 AZ® 3000	Removing of oils, greases, silicones, wood chips, welding fluxes and processing residues	1 liter/100 liters - Make AZ® 3000 circulate into the plant of normal operating temperature by the plant circulator for 1 / 5 hours.
PROTECTION	 AZ® 1000	Anti-corrosive and anti-scaling protection	1 liter/100 liters
PROTECTION	 AZ® 5000	Antifreeze, anti-corrosion, anti-scaling and biocide protection.	At least 25 liters/100 liters




OLD  
(more than 6 months)

ACTION	PRODUCT	AIMS	DOSAGE AND APPLICATION
CLEANING	 AZ® 4000	Removal of slime, oxides, rust, flaky material	1 liter/100 liters - Make AZ® circulate into the plant of normal operating temperature by high flow rate pumps BravoPROMAX 30 SUPAFLUSH, for at least 2/3 hours, according to the level of dirt.
PROTECTION	 AZ® 2000	Eliminating lime scale deposits (noise reducer)	1-5 litri/100 litri - Make AZ® circulate for 1-5 weeks into the plant of normal operating temperature
PROTECTION	 AZ® 1000	Anti-corrosive and anti-scaling protection	1 liter/100 liters
PROTECTION	 AZ® 5000	Antifreeze, anti-corrosion, anti-scaling and biocide protection	At least 25 liters/100 liters






## Heating systems WITH RADIANT PANELS

NEW

ACTION	PRODUCT	AIMS	DOSAGE AND APPLICATION
CLEANING	 AZ® 3000	Removing of oils, greases, silicones, wood chips, welding fluxes and processing residues.	1 liter/100 liters - Make AZ® 3000 circulate into the plant of normal operating temperature by the plant circulator for 1- 5 hours.
PROTECTION	 AZ® 5000	Antifreeze, anti-corrosion, anti-scaling and biocide protection	At least 25 liters/100 liters
PROTECTION	 AZ® 1000 + AZ® BIOCID	Anti-corrosive and anti-scaling protection + biocide	AZ® 1000 1 liter/100 liters + AZ® BIOCID 1 liter/100 liters



OLD  
(more than 6 months)

ACTION	PRODUCT	AIMS	DOSAGE AND APPLICATION
CLEANING	 AZ® 7000	Removing of sludge, organic and biological deposits.	1 liter/100 liters - Make AZ® circulate into the plant of normal operating temperature by high flow rate pumps BravoPROMAX 30 SUPAFLUSH, for at least 2/3 hours, according to the level of dirt.
PROTECTION	 AZ® 5000	Antifreeze, anti-corrosion, anti-scaling and biocide protection all-in-one product.	At least 25 liters/100 liters
PROTECTION	 AZ® 1000 + AZ® BIOCID	Anti-corrosive and anti-scaling protection + biocide	AZ® 1000 1 liter/100 liters + AZ® BIOCID 1 liter/100 liters





## Heating systems WITH SOLAR PANELS

NEW

ACTION	PRODUCT	AIMS	DOSAGE AND APPLICATION
CLEANING	 AZ® 3000	Removing of oils, greases, silicones, wood chips, welding fluxes and processing residues	1 liter/100 liters - Make AZ® 3000 circulate into the plant of normal operating temperature by the plant circulator for 1- 5 hours.
PROTECTION	 AZ® 6000	Anti-corrosive, anti-scaling, antifreeze ALL-in-ONE product.	Fill completely the system with AZ® 6000, without any dilution

OLD  
(more than 6 months)

ACTION	PRODUCT	AIMS	DOSAGE AND APPLICATION
CLEANING	 AZ®4000	Removal of slime, oxides, rust, flaky material	1 liter/100 liters - Make AZ® circulate into the plant of normal operating temperature by Bravo SOLAR PUMP, for at least 2/3 hours, according to the level of dirt.
PROTECTION	 AZ® 6000	Anti-corrosive, anti-scaling, antifreeze ALL-in-ONE product.	Fill completely the system with AZ® 6000, without any dilution, using the Bravo SOLAR PUMP.



## Chemicals for central heating systems

# AZ® 1000

Protective, anti-corrosive and anti-scaling for central heating systems

### Overview

AZ® 1000 is a ready to use aqueous solution of corrosion inhibitors and organic dispersants, suitable to protect metallic heating equipment stuff from corrosion and fouling. AZ® 1000 provides effective protection against all metallic materials commonly present in plants, including aluminum. Using AZ® 1000 also helps to prevent gas formation by helping to keep a high heating system efficiency, eliminating the problem of cold radiators and partially blocked pumps. AZ® 1000 is effective with all types of water, with high and low hardness. AZ® 1000 is a product easy to use, with low environmental impact, not containing amines, nitrites, phosphates and chromates.



### Key features

- ✓ Protection against limescale and corrosion
- ✓ All system metals protection, including aluminium
- ✓ Ensures optimum boiler efficiency
- ✓ Avoid boiler noise
- ✓ Prevent gas formation
- ✓ Neutral pH formulation, easy to handle
- ✓ Low environmental impact, non-toxic and biodegradable
- ✓ Do not contain phosphates, chromates, amines or nitrites
- ✓ Available in 1 lt, 3 lt and 25 lt packaging



### Dosage and feeding

The optimal dose of AZ® 1000 is of 1 liter per 100 liters of water. Before loading the system with AZ® 1000, it is advisable to make cleaning and rinsing of the system. A new plant should be adequately treated with AZ® 3000. The old plants should be treated either with AZ® 2000 in the case of lime scale, or with AZ® 4000 in the case of rust and magnetite sludges. Check at least once a year the effective protection level using the AZ® 1000 analysis kit (cod. 48105002). AZ® 1000 can be introduced directly in the plant using the BravoTHERM feeding device, through the vent valve of a radiator, into the expansion tank of the system, or by dosing stations solenoid pump. Available in 1 lt bottle, 3 lt tank and 25 lt tank.



### Text for offer

AZ® 1000 protective product for scale and corrosion control in all central heating systems including those containing parts in aluminum. It is effective with all types of water, both with high and low value of hardness. AZ® 1000 is a low environmental impact formulation not containing: phosphates, chromates, amines or nitrites.



### Safety information

For more information on safety, transportation, storage and handling of AZ® 1000 read the safety data sheet available in our web site.



### AZ® 1000

CODE	PC1001	PC1002	PC1003
STATE	LIQUID		
COLOUR	PALE YELLOW		
ODOUR	ABSENT		
pH (1%)	7.5		
DENSITY REL.	1.03 - 1.07		
DOSAGE (lt/100lt)	1 LITER PER 100 LITERS OF WATER		
VOLUME (LITERS)	1	3	25



# Chemicals for central heating systems

## AZ<sup>®</sup> 2000

Restoring product for heating system calcium deposits

### Overview

AZ<sup>®</sup> 2000 is a ready to use non-acidic product suitable to eliminate lime scale deposits from boilers and heating systems. The formulation of AZ<sup>®</sup> 2000 - based solely on non-acidic organic compounds - allows a safe use in any plant, including those containing aluminum. The use of AZ<sup>®</sup> 2000 helps to prevent and control the problems of noise and reduced heat transfer caused by the presence of limescale in the system.

AZ<sup>®</sup> 2000 is a product easy to use, with low environmental impact, not containing amines, nitrites, phosphates and chromates.



#### Key features

- ✓ Cleaner for calcium deposits
- ✓ Non-acidic, safe for metallic parts
- ✓ Eliminate boiler noise
- ✓ Restores boiler efficiency
- ✓ No need to flush stays in system
- ✓ Low environmental impact, non-toxic and bio-degradable
- ✓ Do not contain phosphates, chromates, amines or nitrites
- ✓ Available in 1 lt, 3 lt and 25 lt packaging



#### Dosage and feeding

The optimal dosage of AZ<sup>®</sup> 2000 is 1 liter per 100 liters of system water. In order to keep the product concentration uniform in all parts of the plant it is recommended to make the product run (the plant circulator is sufficient). Once treatment is done, rinse the plant and then fill it with AZ<sup>®</sup> 1000. If into the plant are also present slurries of rust and magnetite, it is advisable to follow the treatment with AZ<sup>®</sup> 2000 with a AZ<sup>®</sup> 4000 cleaning product treatment. Treatment can take a long time ranging from several days to some weeks, depending on the hardness and the quantity of lime scale present. AZ<sup>®</sup> 2000 can be introduced directly in the plant by means of the BravoTHERM feeding device, through the vent valve of a radiator into expansion tank of the system, or by a dosing stations.



#### Text for offer

AZ<sup>®</sup> 2000 is a non-acidic product based solely on non-acidic organic compounds suitable to eliminate calcium carbonate encrustations in boilers exchangers and heating systems. AZ<sup>®</sup> 2000 is effective in solving the problem of boiler noise due by the presence of calcium deposits on heat exchangers surfaces. AZ<sup>®</sup> 2000 is a low environmental impact formulation not containing: phosphates, chromates, amines or nitrites.



#### Safety information

For more information on safety, transportation, storage and handling of AZ<sup>®</sup> 2000 read the safety data sheet available in our web site.



### AZ<sup>®</sup> 2000

CODE	PC2001	PC2002	PC2003
STATE	LIQUID		
COLOUR	PALE YELLOW		
ODOUR	ABSENT		
pH (1%)	7.5		
DENSITY REL.	1.03 - 1.07		
DOSAGE (lt/100lt)	1 LITER PER 100 LITERS OF SYSTEM WATER		
VOLUME (LITERS)	1	3	25

## 4 Chemical and testing kits

### Chemicals for central heating systems

# AZ<sup>®</sup> 3000

Cleaner for new heating systems (less than 6 months)

#### Overview

Whenever you install a new system or new equipment, inside circuit may stay process residues and traces of chemicals such as organic oils, cleaners, scales, that if not removed could cause significant problems. AZ<sup>®</sup> 3000 is a non-acidic and non-caustic treatment ideal for cleaning and preparation of new heating systems installed for less than six months. AZ<sup>®</sup> 3000 removes organic residues, oils, cleaners and sludges. In addition, AZ<sup>®</sup> 3000 also helps to prevent corrosion in all metal surfaces, in particular due to the re-deposition of copper. The particular formulation of AZ<sup>®</sup> 3000, based solely on non-acidic and non-caustic organic compounds, grant a safe use in any plant including those containing aluminum. Furthermore AZ<sup>®</sup> 3000 does not alter the plastic or elastomeric materials commonly found in plants. AZ<sup>®</sup> 3000 is a product easy to use, with low environmental impact, not containing amines, nitrites, phosphates and chromates.



#### Key features

- ✓ Organic residues, oils, cleaners and sludges remover
- ✓ Non-acidic and non-caustic, safe for metallic parts
- ✓ Low environmental impact, non-toxic and bio-degradable
- ✓ Do not contain phosphates, chromates, amines or nitrites
- ✓ Available in 1 lt, 3 lt and 25 lt packaging



#### Dosage and feeding

The optimal dosage of AZ<sup>®</sup> 3000 with new plant is of 1 liter per 100 liters of water. AZ<sup>®</sup> 3000 should be used with warm water at a temperature below 60 ° C. In order to keep the concentration uniform in all parts of the plant is recommended to make the product run (the circulator of the plant is sufficient). Treatment can take a long time ranging from several days to some weeks, depending on the seriousness of the problem. Once treatment is done, rinse the plant and then fill it with AZ<sup>®</sup> 1000. AZ<sup>®</sup> 3000 can be introduced directly in the plant by means of the BravoTHERM feeding device, through the vent valve of a radiator into expansion tank of the system, or by a dosing stations.



#### Text for offer

AZ<sup>®</sup> 3000 is a non-acidic and non-caustic solution suitable to remove organic residues, oils, cleaners and sludges in new heating systems (filled with water for less than six months). AZ<sup>®</sup> 3000 is a low environmental impact formulation not containing: phosphates, chromates, amines or nitrites.



#### Safety information

For more information on safety, transportation, storage and handling of AZ<sup>®</sup> 3000 read the safety data sheet available in our web site.



#### AZ<sup>®</sup> 3000

CODE	PC3001	PC3002	PC3003
STATE	LIQUID		
COLOUR	PALE YELLOW		
ODOUR	ABSENT		
pH (1%)	7.5		
DENSITY REL.	1.14-1.18		
DOSAGE (lt/100lt)	1 LITER PER 100 LITERS OF SYSTEM WATER		
VOLUME (LITERS)	1	3	25

# Chemicals for central heating systems

## AZ<sup>®</sup> 4000

Sludge remover for old heating systems (more than 6 months)

### Overview

AZ<sup>®</sup> 4000 is a ready-made non-acidic and non-caustic ideal for cleaning of heating system installed for more than six months. AZ<sup>®</sup> 4000 removes organic residues, sludge and rust deposits formed during the exercise. AZ<sup>®</sup> 4000 is able to bring in suspension slurries restoring circulation in radiators. Moreover, AZ<sup>®</sup> 4000 helps to prevent corrosion in all metal surfaces (acting as passivating). The particular formulation of AZ<sup>®</sup> 4000, based solely on non-acidic and non-caustic organic compounds, grant a safe use in any plant including those containing aluminum. Furthermore AZ<sup>®</sup> 4000 does not alter the plastic or elastomeric materials commonly found in plants. AZ<sup>®</sup> 4000 is a product easy to use, with low environmental impact, not containing amines, nitrites, phosphates and chromates.



### Key features

- ✓ Organic residues, sludge and rust remover
- ✓ Restore full heat transmission
- ✓ Safe for all metallic parts
- ✓ Low environmental impact, non-toxic and bio-degradable
- ✓ Do not contain phosphates, chromates, amines or nitrites
- ✓ Available in 1 lt, 3 lt and 25 lt packaging



### Dosage and feeding

The optimal dosage of AZ<sup>®</sup> 4000 with new plant is of 1 liter per 100 liters of water. AZ<sup>®</sup> 4000 should be used with warm water at a temperature below 60 ° C. In order to keep the concentration uniform in all parts of the plant is recommended to make the product run (the circulator of the plant is sufficient). The treatment can take a long time ranging from several days to some weeks, depending on the seriousness of the problem. Once treatment is done, rinse the plant and then fill it with AZ<sup>®</sup> 1000. AZ<sup>®</sup> 4000 can be introduced directly in the plant by means of the BravoTHERM feeding device, through the vent valve of a radiator into expansion tank of the system, or by a dosing stations.



### Text for offer

AZ<sup>®</sup> 4000 is a non-acidic and non-caustic treatment for removing of sludge corrosion residuals in heating system filled with water from more than six months. AZ<sup>®</sup> 4000 is a low environmental impact formulation not containing: phosphates, chromates, amines or nitrites.



### Safety information

For more information on safety, transportation, storage and handling of AZ<sup>®</sup> 4000 read the safety data sheet available in our web site.



### AZ<sup>®</sup> 4000

CODE	PC4001	PC4002	PC4003
STATE	LIQUID		
COLOUR	PALE YELLOW		
ODOUR	ABSENT		
pH (1%)	7.5		
DENSITY REL.	1.14-1.18		
DOSAGE (lt/100lt)	1 LITER PER 100 LITERS OF SYSTEM WATER		
VOLUME (LITERS)	1	3	25

## Chemicals for central heating systems

### AZ<sup>®</sup> 5000

Antifreeze, anti-corrosion, anti-scaling and biocide for underfloor heating systems

#### Overview

AZ<sup>®</sup> 5000 is a glycol-based anti-freeze, anti-scaling, corrosion inhibitors and biocides formulated, suitable for all types heating systems, especially for underfloor heating systems. AZ<sup>®</sup> 5000 keeps in suspension sludge and encrustations, making the removal of them easier in the purge operation. AZ<sup>®</sup> 5000 contains an antifreeze agent which can provide adequate protection against lower temperatures (the protection temperature depends on the concentration of the product in the plant). The formulation of AZ<sup>®</sup> 5000 allows a safe usage in any plant including those containing aluminum. AZ<sup>®</sup> 5000 does not alter the plastic or elastomeric materials commonly found in plants. AZ<sup>®</sup> 5000 can be used with any type of water, with low or high hardness. AZ<sup>®</sup> 5000 is a product ready and easy to use, with low environmental impact, not containing amines, nitrites, phosphates and chromates.



#### Key features

- ✓ Multifunctional products
- ✓ Glycol-based
- ✓ Specific for underfloor heating systems
- ✓ Safe for all metallic parts
- ✓ Low environmental impact, non-toxic and bio-degradable
- ✓ Does not contain phosphates, chromates, amines or nitrites
- ✓ Available in 3 lt and 25 lt packaging



#### Dosage and feeding

The optimal dose of AZ<sup>®</sup> 5000 depends on the antifreeze protection required:  
 - 25 liters per 100 lt of water - 7 °C      - 30 liters per 100 lt of water - 12 °C      - 35 liters per 100 lt of water - 15 °C  
 AZ<sup>®</sup> 5000 can be introduced directly in the plant by means of the BravoTHERM feeding device, through the vent valve of a radiator into expansion tank of the system, or by a dosing stations. The anti-corrosion protection can monitored periodically using the specific kit (cod. 48105002) and the antifreeze protection using the refractometer (cod.48105029). The anti-bacteria protection level can be tested using the BIOCONTROL kit (cod. 48105027) along with its incubator (cod. 48105028). Available in 3 liters and 25 liters tanks.



#### Text for offer

AZ<sup>®</sup> 5000 is a non-acid and non-caustic treatment for underfloor heating systems against corrosion, limescale, fouling and freeze. AZ<sup>®</sup>5000 is a low environmental impact formulation, not containing phosphates, chromates, amines and nitrites.



#### Safety information

For more information on safety, transportation, storage and handling of AZ<sup>®</sup> 5000 read the safety data sheet available in our web site.



#### AZ<sup>®</sup> 5000

CODE	PC5002	PC5003
STATE	LIQUID	
COLOUR	TRANSPARENT	
ODOUR	SLIGHT	
pH (1%)	7.5	
DENSITY REL.	1.04-1.05	
DOSAGE (lt/100lt)	See the paragraph "Dosage and use"	
VOLUME (liters)	3	25

# Chemicals for central heating systems

## AZ<sup>®</sup> 6000

Antifreeze, anti-corrosion and anti-scaling for solar panel systems

### Overview

AZ<sup>®</sup> 6000 is a multifunctional non-toxic antifreeze, anti-corrosive and anti-scaling product based on glycerin, suitable for feeding heating solar systems. It has a high value of reserve of alkalinity, it is stable at high temperatures and effective towards metals commonly found in solar systems (steel, copper, brass, aluminum), limiting corrosion, aging and salt deposits during long periods. Suitable for installations where you can reach high temperatures, with peaks of 200 °C, and to prevent the phenomena caused by stagnation. AZ<sup>®</sup> 6000 contains special organic dispersants able to maintain slurries in suspension and making it easy to scale removal during the purge operation. AZ<sup>®</sup> 6000 also contains a non-toxic antifreeze agent. AZ<sup>®</sup> 6000 does not alter the plastic or elastomeric materials commonly found in plants. AZ<sup>®</sup> 6000 is ready and easy to use product that should not be diluted, with low environmental impact not contain amines, nitrites, phosphates, chromates.



#### Key features

- ✓ Multifunctional products
- ✓ Glycerin-based
- ✓ Specific for solar panel systems
- ✓ High reserve of alkalinity
- ✓ Very efficient with high temperature and against stagnation
- ✓ Low environmental impact, non-toxic and bio-degradable
- ✓ Do not contain phosphates, chromates, amines or nitrites
- ✓ Available in 3 lt and 25 lt packaging



#### Dosage and feeding

AZ<sup>®</sup> 6000 is ready for use and should be used directly for filling plant. Must not be diluted with water; nor must be added other additives. AZ<sup>®</sup> 6000 provides frost protection down to -15 °C. AZ<sup>®</sup> 6000 can be introduced directly into the plant by means of the BravoTHERM feeding device, the PNEUMAX manual pump or BravoSOLAR PUMP, or through the vent valve of a radiator, or the expansion tank system or by a dosing pump. The effective protection can be monitored with the specific kit (cod. 48105022).



#### Text for offer

AZ<sup>®</sup> 6000 is a glycerin-based solution, containing dispersant agents and corrosion inhibitors for solar panel systems. Ready-to-use product, it must not be diluted with water. Antifreeze protection up to -15 °C. AZ<sup>®</sup> 6000 is a low environmental impact formulation, not containing phosphates, chromates, amines and nitrites.



#### Safety information

For more information on safety, transportation, storage and handling of AZ<sup>®</sup> 6000 read the safety data sheet available in our web site.



### AZ<sup>®</sup> 6000

CODE	PC6002	PC6003
STATE	LIQUID	
COLOUR	TRANSPARENT	
ODOUR	SLIGHT	
pH	7.8-8.0	
DENSITY REL.	1.25-1.27	
DOSAGE (lt/100lt)	Fill the system exclusively with AZ <sup>®</sup> 6000	
VOLUME (liters)	3	25



## 4 Chemical and testing kits

### Chemicals for central heating systems

# AZ<sup>®</sup> 7000

Cleaner for biological sludge and deposits in underfloor heating systems

#### Overview

AZ<sup>®</sup> 7000 is a non-acidic and non-caustic solutions suitable for cleaning underfloor heating systems in case of fouling due to slimes and biofilms. AZ<sup>®</sup> 7000 eliminates sludge, organic and biological deposits formed during the low-temperature operation of plants. AZ<sup>®</sup> 7000 is able to neutralize the biological charge of the plant; its high penetrating power allows to bring in suspension biofilm and sludge, restoring the correct system circulation. The particular formulation of AZ<sup>®</sup> 7000, based solely on non-acidic and non-caustic organic compound, allows a safe usage in any plant including those containing aluminum. AZ<sup>®</sup> 7000 is ready and easy to use, with low environmental impact, not containing amines, nitrites, phosphates and chromates



#### Key features

- ✓ Multifunctional products
- ✓ Remove bacteria and sludge
- ✓ Specific for underfloor heating systems
- ✓ Non-acidic and non-caustic, safe for user
- ✓ Low environmental impact, non-toxic and bio-degradable
- ✓ Do not contain phosphates, chromates, amines or nitrates
- ✓ Available in 1lt, 3 lt and 25 lt packaging



#### Dosage and feeding

1 litro di AZ<sup>®</sup> 7000The optimal dosage of AZ<sup>®</sup> 7000 with new plant is of 1 liter per 100 liters of water. AZ<sup>®</sup> 7000 should be used with warm water at a temperature below 60 ° C. In order to keep the concentration uniform in all parts of the plant is recommended to make the product run (the circulator of the plant is sufficient). The treatment can take a long time ranging from several days to some weeks, depending on the seriousness of the problem. Once treatment is done, rinse the plant and then fill it with AZ<sup>®</sup> 1000. AZ<sup>®</sup> 7000 can be introduced directly in the plant by means of BravoTHERM feeding device, through the vent valve of a radiator into expansion tank of the system, or by a dosing stations.



#### Text for offer

AZ<sup>®</sup> 7000 is suitable for cleaning of low-temperature heating systems, in particular the underfloor heating systems. It is composed of specific biocide agents, which removes and protects from bacteria and sludge.



#### Safety information

For more information on safety, transportation, storage and handling of AZ<sup>®</sup> 7000 read the safety data sheet available in our web site.



#### AZ<sup>®</sup> 7000

CODE	PC7001	PC7002	PC7003
STATE	LIQUID		
COLOUR	PALE YELLOW		
ODOUR	SLIGHT		
pH	7.5		
DENSITY REL.	1.04-1.05		
DOSAGE (lt/100lt)	1 liter per 100 liters of system water		
VOLUME (LITER)	1	3	25



## Chemicals for central heating systems

# AZ® BIOCLEAN

No-oxidizing biocide, antialgae, anti-limescale, antilegionella

### Overview

No-oxidizing and no-foaming inhibitor; prevents the development of the organic deposits commonly present in the cooling circuit or operating at low temperatures. Particularly suitable in floor heating radiator panels. AZ® BIOCLEAN also plays an effective anti-corrosive action keeping clean the wet surface, otherwise potentially subject of the development of deposits. AZ® BIOCLEAN is ready and easy to use, with low environmental impact, not containing amines, nitrites, phosphates and chromates.



### Key features

- ✓ Protection from algae, bacteria, legionella and fungi
- ✓ Remove bacteria and fungi
- ✓ Specific for underfloor heating systems
- ✓ Anti-corrosive action
- ✓ Low environmental impact, non-toxic and bio-degradable
- ✓ Available in 1lt, 3 lt and 25 lt packaging



### Dosage and feeding

The optimal dosage is 1 lt per 100 lt of water in the plant. AZ® BIOCLEAN can be added in the system through of use of a proportional dosing stations, or by a constant dosing stations, according to requirements.



### Text for offer

AZ® BIOCLEAN is a no-oxidizing and no-foaming biocide, prevents the development of algae, bacteria, different strains of legionella, fungi and all the microorganisms commonly present in the cooling circuit or operating at low temperatures. It is a specific product for underfloor heating systems. The product does not alter the chemical characteristics of wastewater.



### Safety information

For more information on safety, transportation, storage and handling of AZ® BIOCLEAN read the safety data sheet available in our web site.



## AZ® BIOCLEAN

CODE	PC9901	PC9902	PC9903
STATE	LIQUID		
COLOUR	PALE YELLOW		
ODOUR	CHARACTERISTIC		
pH (1%)	7.5		
DENSITY REL.	1.14-1.18		
DOSAGE (lt/100lt)	1 liter per 100 liters of system water		
VOLUME (LITERS)	1	3	25

## 4 Chemical and testing kits

### Biocides

# BC 100

Oxidant biocide for drinking water

#### Overview

Oxidant product based on sodium hypochlorite 13%, suitable as biocide, oxidizing agent in the process of iron removal, manganese removal and ammonia removal (break-point chlorination). Suitable to be used in drinking water.



#### Dosage and feeding

Dosage is depending on the application. BC 100 concentration in the water can be monitored using the appropriate DPD chlorine testing kit (code 48105009). BC 100 can be added in the system through proportional dosing stations, or by constant dosing stations, according to requirements.



#### Text for offer

BC 100 is based on sodium hypochlorite and suitable to be used in drinking water. It is suitable as biocide, oxidizing agent in the process of iron removal, manganese removal and ammonia removal (break-point chlorination).



#### Safety information

For more information on safety, transportation, storage and handling of BC 100 read the safety data sheet available in our web site.



### BC 100

CODE		PC052
STATE		LIQUID
COLOUR		PALE YELLOW
ODOUR		HALOGEN
pH		6.8
DOSAGE	g/m <sup>3</sup>	depending on using
TANK WEIGHT	Kg	25

# Biocides

## BC 200

Oxidant biocide for cold water

### Overview

BC 200 has been developed for biocide treatment of cold water, especially in case of legionella contamination danger, for example on decorative fountains or cooling towers. BC 200 protects from bacteria and micro-organisms proliferation. Its special formula based on hydrogen peroxide and silver ions does not generate toxic or hazardous compounds. BC 200 must be sole dosed, however it is compatible with all the anti-scaling and anti-corrosive products commonly used in water treatment.



### Dosage and feeding

For continuous use: 5-10 g/m<sup>3</sup>. Shock weekly: 30-80 g/m<sup>3</sup>, calculated on the total volume of the plant. The concentration of BC 200 into the water can be monitored using the Peroxide Test Kit (code 48105016). BC 200 can be added in the system through proportional dosing stations, or by constant dosing stations, according to requirements.



### Text for offer

BC 200 is suitable for biocide treatment of cold water, suitable for the biocide treatment in cold water, especially in case of legionella contamination danger. BC 200 protects from bacteria and micro-organisms proliferation. BC 200 is compatible with all the anti-scaling and anti-corrosive products commonly used in water treatment.



### Safety information

For more information on safety, transportation, storage and handling of BC 200 read the safety data sheet available in our web site.



### BC 200

CODE		PC056
STATE		LIQUID
COLOUR		TRANSPARENT
ODOUR		NONE
pH		7.2
CONTINUOUS DOSAGE	g/m <sup>3</sup>	5-10
WEEKLY-SHOCK DOSAGE	g/m <sup>3</sup>	30-80, (on system volume)
DEVICE FOR CONTINUOUS DOSAGE		DOSANET P
DEVICE FOR SHOCK MODE DOSAGE		DOSANET C+TMR001
MONITORING KIT		48105016
TANK WEIGHT	Kg	25

## 4 Chemical and testing kits

### Biocides

# BC 300

Oxidant biocide for continuous use

#### Overview

BC 300 is an oxidizing biocide for cooling and humidification circuits; effective for removing biofilm and effective for control of Legionella. It does not be used for drinking water or where there may be contamination of drinking water. Easily checked by a kit.



#### *Dosage and feeding*

BC 300 must be used in industrial system, not in drinking water systems. Dosage depending on system characteristics and on biological pollution. A dosage inside 0.5-2.0 ppm range of total residual total halogen ensures the microbiological control of the system. Dose in a point of high mixing, undiluted, in continuous or shock weekly. Available in 25 kg tank.



#### *Text for offer*

BC 300 is oxidant biocid liquid for cooling systems (continuous use), efficient for legionella control, suitable for heating and cooling industrial circuits.



#### *Safety information*

For more information on safety, transportation, storage and handling of BC 300 read the safety data sheet available in our web site.



### BC 300

CODE		PC046
STATE		LIQUID
COLOUR		ROSE
ODOUR		HALOGEN
pH		7.2
DOSAGE	ppm	depending on contamination level
TANK WEIGHT	Kg	25

## Analisis kits

# Kits and tools for water analysis



### CODE

#### 48105013 PH-METER

Pocket-size pH meters, able to measure pH in a range from 0.0 to 14.0, with a resolution of 0.1, thermo-compensated reading. The robust watertight external part in ABS makes this device extremely useful for whom needs to operate in high humidity environments. Suitable for applications such as: demineralization, reverse osmosis, water purification.



### CODE

#### 48105029 RIFRACTOMETER

Rifractometer for measuring the percentage of propylene glycol-based antifreeze (AZ® 5000) with calibrated scale.



### CODE

#### 48105001 HARDNESS KIT:

For measuring the total hardness (the quantity of calcium and magnesium) of water.



#### 48105002 AZ® 1000 KIT:

Kit for measuring the protection level of the heating system, where AZ® 1000 chemical is used.



#### 48105021 AZ® 5000 KIT:

Kit for measuring the protection level of the heating system, where AZ® 5000 chemical is used.



#### 48105022 AZ® 6000 KIT:

Kit for measuring the protection level of the heating system, where AZ® 1000 chemical is used.



**48105027 KIT BIOCONTROL:** Kit composed of 20 dip slides for monitoring bacteriological covering given by AZ® 5000, AZ® 7000, AZ® BIOCID chemicals.



#### 48105028 INCUBATOR:

Incubator for kit biocontrol dipslides developing.



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