

EN	DATAS	SHEET	rev. B
	<b>ST</b> 0	0109	
	050	049	

## **Y-FILTERS**

Description





**Barberi**® impurity collecting filters are components with cylindrical filtering cartridge, that can be easily removed and inspected for normal cleaning and maintenance operations. They are used in domestic water installations, booster pump systems, heating systems, central heating systems, heat generators (wall-mounted boilers, solid fuel generators, heat pumps), thermal solar installations, generic industrial and agricultural water systems.

#### **Range of products**

Series 050	Brass Y-filter - FF - stainless steel filtering cartridge
Series 049	Bronze Y-filter - FF - stainless steel filtering cartridge

#### Features

Working temperature range (peaks): -20–110 °C Working temperature range: 0 (no frost)–95 °C Max. working pressure: 16 bar Suitable fluids: water for thermal systems, glycol solutions (max 30%), domestic water (only 050 series) Threaded connections: ISO 228-1 Tests: EN 12266-1 §A.3 *On request:* Different mesh types Viton gaskets Nickel-plated surface

#### Materials

#### Body:

050: brass EN 12165 CW617N 049: bronze EN 1982 CB491K Cartridge: stainless steel AISI 304L Plug: brass EN 12165 CW617N Gaskets: 050: EPDM 049: Fiber

## Dimensions





G	Kv [m3/h]	H [mm]	L [mm]	Mesh type	Weight [g]	N. P/B	N. P/C
G 1/4 F	1,6	33	48	А	140	20	80
G 3/8 F	3	33	48	А	100	25	200
G 1/2 F	4,5	34	52	A	115	20	160
G 3/4 F	7	42	63	А	185	14	84
G1F	7,8	50	75	А	320	10	60
G 1 1/4 F	15	63	91	A	515	5	30
G 1 1/2 F	21	70	102	А	665	4	24
G 2 F	34	87	118	А	1195	2	12
G 2 1/2 F	64	108	150	А	1930	-	8
	<i>G</i> G 1/4 F G 3/8 F G 1/2 F G 3/4 F G 1 F G 1 1/4 F G 1 1/2 F G 2 F G 2 1/2 F	G Kv [m3/h]   G 1/4 F 1,6   G 3/8 F 3   G 1/2 F 4,5   G 3/4 F 7   G 1 F 7,8   G 1 1/4 F 15   G 1 1/2 F 21   G 2 F 34   G 2 1/2 F 64	G Kv [m3/h] H [mm]   G 1/4 F 1,6 33   G 3/8 F 3 33   G 1/2 F 4,5 34   G 3/4 F 7 42   G 1 F 7,8 50   G 1 1/4 F 15 63   G 1 1/2 F 21 70   G 2 F 34 87   G 2 1/2 F 64 108	G Kv [m3/h] H [mm] L [mm]   G 1/4 F 1,6 33 48   G 3/8 F 3 33 48   G 3/8 F 3 33 48   G 1/2 F 4,5 34 52   G 3/4 F 7 42 63   G 1 F 7,8 50 75   G 1 1/4 F 15 63 91   G 1 1/2 F 21 70 102   G 2 F 34 87 118   G 2 1/2 F 64 108 150	G Kv [m3/h] H [mm] L [mm] Mesh type   G 1/4 F 1,6 33 48 A   G 3/8 F 3 33 48 A   G 1/2 F 4,5 34 52 A   G 3/4 F 7 42 63 A   G 3/4 F 7.8 50 75 A   G 1 F 7,8 53 91 A   G 1 1/4 F 15 63 91 A   G 1 1/2 F 21 70 102 A   G 2 F 34 87 118 A   G 2 1/2 F 64 108 150 A	G Kv [m3/h] H [mm] L [mm] Mesh type Weight [g]   G 1/4 F 1,6 33 48 A 140   G 3/8 F 3 33 48 A 100   G 1/2 F 4,5 34 52 A 115   G 3/4 F 7 42 63 A 185   G 1 F 7,8 50 75 A 320   G 1 1/4 F 15 63 91 A 515   G 1 1/2 F 21 70 102 A 665   G 2 F 34 87 118 A 1195	G Kv [m3/h] H [mm] L [mm] Mesh type Weight [g] N. P/B   G 1/4 F 1,6 33 48 A 140 20   G 3/8 F 3 33 48 A 100 25   G 1/2 F 4,5 34 52 A 115 20   G 3/4 F 7 42 63 A 185 14   G 1 F 7,8 50 75 A 320 10   G 1 1/4 F 15 63 91 A 515 5   G 1 1/2 F 21 70 102 A 665 4   G 2 F 34 87 118 A 1195 2   G 2 1/2 F 64 108 150 A 1930 -

Code	G	Kv [m3/h]	H [mm]	L [mm]	Mesh type	Weight [g]	N. P/B	N. P/C
<b>049</b> 010000	G 3/8 F	1,4	32	54	В	250	10	80
<b>049</b> 015000	G 1/2 F	3,3	42	65	В	250	10	80
<b>049</b> 020000	G 3/4 F	5,6	45	85	В	360	15	60
<b>049</b> 025000	G 1 F	7,9	47	92	В	450	10	40
<b>049</b> 032000	G 1 1/4 F	12,9	65	105	В	744	5	30
<b>049</b> 040000	G 1 1/2 F	15,8	72	115	В	915	4	24
<b>049</b> 050000	G 2 F	19	98	131	В	1560	2	12
<b>049</b> 065000	G 2 1/2 F	55	124	147	В	2765	-	8
<b>049</b> 080000	G 3 F	81	148	167	В	3715	-	5
<b>049</b> 100000	G 4 F	102	185	226	В	6700	-	2
	N. P/B: number of pieces in box - N. P/C: number of pieces in carton							

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### Mesh type A: STANDARD CARTRIDGE



n° holes/cm²	70	270	24
Hole area	0,25 mm <sup>2</sup>	0,025 mm <sup>2</sup>	1,0 mm <sup>2</sup>
D	1,0 mm	0,5 mm	2,0 mm
øF	0,50 mm (500 μm)	0,3 mm (300 µm)	1,0 mm (1000 μm)
Size	G 1/4 - G 2 1/2	G 1/2 - G 2	G 1/2 - G 2

**ON REQUEST** 

Regarding the values of Hole area, D and øF, consider a tolerance of about  $\pm 15\%$ 

## Mesh type B: STANDARD CARTRIDGE



n° holes/cm²	65	70	50
Hole area	0,18 mm <sup>2</sup>	0,25 mm <sup>2</sup>	0,64 mm <sup>2</sup>
D	1,0 mm	1,0 mm	1,0 mm
øF	0,40 mm (400 µm)	0,50 mm (500 μm)	0,80 mm (800 μm)
Size	G 3/8 - G 1	G 1 1/4 - G 2	G 2 1/2 - G 4

Regarding the values of Hole area, D and øF, consider a tolerance of about  $\pm 15\%$ 

## Diagrams



050	Code	G	Kv [m3/h]
	<b>050</b> 008 000	G 1/4 F	1,6
	<b>050</b> 010000	G 3/8 F	3
	<b>050</b> 015000	G 1/2 F	4,5
	<b>050</b> 020000	G 3/4 F	7
	<b>050</b> 025 000	G1F	7,8
	<b>050</b> 032000	G 1 1/4 F	15
	<b>050</b> 040000	G 1 1/2 F	21
	<b>050</b> 050 000	G 2 F	34
	<b>050</b> 065000	G 2 1/2 F	64



049	Code	G	Kv [m3/h]
	<b>049</b> 010000	G 3/8 F	1,4
	<b>049</b> 015000	G 1/2 F	3,3
	<b>049</b> 020000	G 3/4 F	5,6
	<b>049</b> 025000	G 1 F	7,9
	<b>049</b> 032000	G 1 1/4 F	12,9
	<b>049</b> 040000	G 1 1/2 F	15,8
	<b>049</b> 050000	G 2 F	19
	<b>049</b> 065000	G 2 1/2 F	55
	<b>049</b> 080000	G 3 F	81
	<b>049</b> 100000	G 4 F	102

#### Working way

Y-filter with metal mesh prevents impurities from entering the pipes and, by depositing, reducing bores, thus increasing head losses and giving origin to oxidation phenomenons. This kind of filter should always be installed upstream of all other components that could be damage or their performance reduced by the presence of impurities. It is usually installed at the water supply inlet before check valves, backflow preventers and pressure reducing valves. It is also used in closed heating circuits at the heat generator inlet to protect heat exchangers from impurities coming from the system. Impurities, depositing inside heat exchangers, reduce the heat exchange and decrease both their performance and life.

The **Barberi** Y-filter is composed of a metal body for pipe connection, a metal mesh for impurity filtering and a plug to remove the filtering mesh for maintenance. The filtering mesh holds particles with a dimension bigger than that of its holes;



particles are partially held or fall towards the body bottom. The filter body is designed so as to use all the filtering mesh surface, thus increasing working times before the mesh gets totally dirty. When necessary, it's possible to remove the filtering cartridge and wash it with countercurrent water to fully clean its passage surface.

#### Installation

Before installing the valve, please verify system working conditions, such as pressure and temperature, to be sure they are within the working conditions of the filter. It is important that the filter is free from obstacles for its periodical maintenance.

#### Positioning

For a better efficiency of the filtering operation and impurity deposit function, it is suggested to install the filter body on horizontal pipes with the plug pointing downwards or on vertical pipes with the flow direction downwards.

For a correct installation please refer to the flow direction indicated by the arrow on the valve body. Connection to pipes is made through threads using standard plumbing procedures.



#### Maintenance

Filter maintenance should be performed according to the quantity of impurities present in the fluid. Anyway, it is suggested to clean the filter at least once a year to avoid, besides an excessive system flow rate reduction, irreversible encrustations which can lead to the filtering mesh replacement. To clean the metal mesh, follow these steps:

- close the shut-off valves upstream and downstream of the filter;
- open the mesh holder plug and extract the metal mesh;
- clean the metal mesh with water by using a plastic bristle brush;

- check if the filter surface is completely cleaned (in case of irreversible encrustations or the filter is broken, replace it);

- assemble the mesh on the plug and screw the plug on the filter body;

- open the shut-off valves.

Warning! In new installations or usually after the system filling phase, it is suggested to clean the filter after the first working week to remove residual debris due to the installation operations (shavings, sealing materials).



049.1

code 049

Stainless steel spare filtering cartridges for

#### Accessories

# **050.**2

Stainless steel spare filtering cartridges for code 050, P21, P22.



Code	Size	Mesh type	12	17
<b>050</b> 015 002	for filter G 1/4 F, G 3/8 F, G 1/2 F	Α	-	-
<b>050</b> 020 002	for filter G 3/4 F	Α	-	-
<b>050</b> 025 002	for filter G 1 F	Α	-	-
<b>050</b> 032 002	for filter G 1 1/4 F	Α	-	-
<b>050</b> 040 002	for filter G 1 1/2 F	Α	-	-
<b>050</b> 050 002	for filter G 2 F	Α	-	-
<b>050</b> 065 002	for filter G 2 1/2 F	Α	-	-
<b>050</b> 080 002	for filter G 3 F	В	-	-
<b>050</b> 100 002	for filter G 4 F	В	-	-

Code	Size	Mesh type	1	1
<b>049</b> 015 001	for filter G 3/8 F, G 1/2 F	В	-	-
<b>049</b> 020 001	for filter G 3/4 F	В	-	-
<b>049</b> 025 001	for filter G 1 F	В	-	-
<b>049</b> 032 001	for filter G 1 1/4 F	В	-	-
<b>049</b> 040 001	for filter G 1 1/2 F	В	-	-
<b>049</b> 050 001	for filter G 2 F	В	-	-
<b>049</b> 065 001	for filter G 2 1/2 F	В	-	-
<b>050</b> 080 002	for filter G 3 F	В	-	-
<b>050</b> 100 002	for filter G 4 F	В	-	-

#### System diagrams



#### **Specifications**

#### Series 050

Brass Y-filter with female connections. Threaded connections from G 1/4 F to G 2 1/2 F. Body and plug in brass. Filtering cartridge in stainless steel. EPDM gaskets. Working temperature range 0–95 °C. Maximum working pressure 16 bar. Mesh size 500  $\mu$ m. Suitable fluids water for thermal systems, glycol solutions (max 30%), domestic water.

#### Series 049

Bronze Y-filter with female connections. Threaded connections from G 3/8 F a G 4 F. Bronze body, brass plug. Filtering cartridge in stainless steel. Fiber gasket. Working temperature range 0–95 °C. Maximum working pressure 16 bar. Mesh size 400  $\mu$ m (from G 3/8 F to G 1 F) 500  $\mu$ m (from G 1 1/4 F to G 2 F) 800  $\mu$ m (from G 2 1/2 F to G 4 F). Suitable fluids water for thermal systems, glycol solutions (max 30%).



