

# XF Xtra filtration magnetic dirt separator



577 series

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## Application

The Caleffi XF “Xtra Filtration” magnetic dirt separator safeguards components within hydronic systems by ensuring a hydronic fluid free from impurities, maximizing heat transfer efficiency. This compact device integrates three distinct separation methods: collision media for large non-magnetic debris, a central magnet for capturing ferrous material, and a 160 µm mesh filter for trapping remaining fine particle impurities. Efficient separation commences at the initial pass, effectively removing a substantial amount of debris during system startup.

Designed for applications such as heat pumps and boilers, where critical components like heat exchangers are sensitive to debris and magnetic impurities, the XF provides top-notch performance. The XF’s top cap rotates to control an internal brush that cleans the fine mesh filter by dislodging debris and directing it toward the purge valve. Removing the central magnet facilitates the release of ferrous material. Simple hassle-free inline maintenance is made possible by purging the XF through its hose barb blowdown port.

Featuring Caleffi’s Posi-Stop™ union o-ring technology, the XF’s inlet and outlet ports eliminate the need for fiber gaskets. Additionally, the connection points incorporate a rotating collar that connects to the main body, allowing for installation flexibility in both horizontal and vertical piping orientations. In 1-1/4” and 1-1/2” models, the XF includes a partial bypass feature to continue removing impurities without significant head loss after startup debris removal.

## Typical Specification

Furnish and install on the plans and describing herein, a 577 series XF Xtra filtration magnetic dirt separator, as manufactured by Caleffi. Each separator must be designed with a brass tee fitting and composite PA66G30 body. The dirt separator must include a glass reinforced nylon PA66 internal mesh element, peroxide-cured EPDM hydraulic seals and Posi-Stop union embedded o-ring seals, brass purge valve with hose connection. Equipped with bottom mounted dry-well with magnetic pull rod, in primary flow path, and top collar rotatable internal cleaning brushes. Each separator has 45 psi (3 bar) maximum working pressure and 32 - 195 °F (0 - 90 °C) operating temperature range. Body internal volume 18 fl oz for size 1”, 21.3 fl oz for sizes 1 1/4” and 1 1/2”. Filter mesh size 160 µm. Magnetic induction 3 x 0.475 T. Provide with optional inlet and outlet isolation ball valves, code 290031, for size 1”, NA108 series with threaded nipples for sizes 1 1/4” and 1 1/2”, separately sourced, field installed. Each valve shall be Caleffi model 577 series or approved equal. (See product instructions for specific installation information.)

## Technical specifications

### Materials

Body:	PA66G30	
Upper cap:	brass EN 12164 CW617N	
Purge screw:	brass EN 12164 CW617N	
Locking nut for tee fitting:		
	size 1”:	PPSG40
	sizes 1 1/4” and 1 1/2”:	brass EN 12420 CW617N
Tee fitting:		brass EN 1982 CB 753S
Internal element:		PA66
Hydraulic seals:		peroxide-cured EPDM
Posi-Stop™ union embedded o-ring seal:		peroxide-cured EPDM
Internal brushes:		PA66

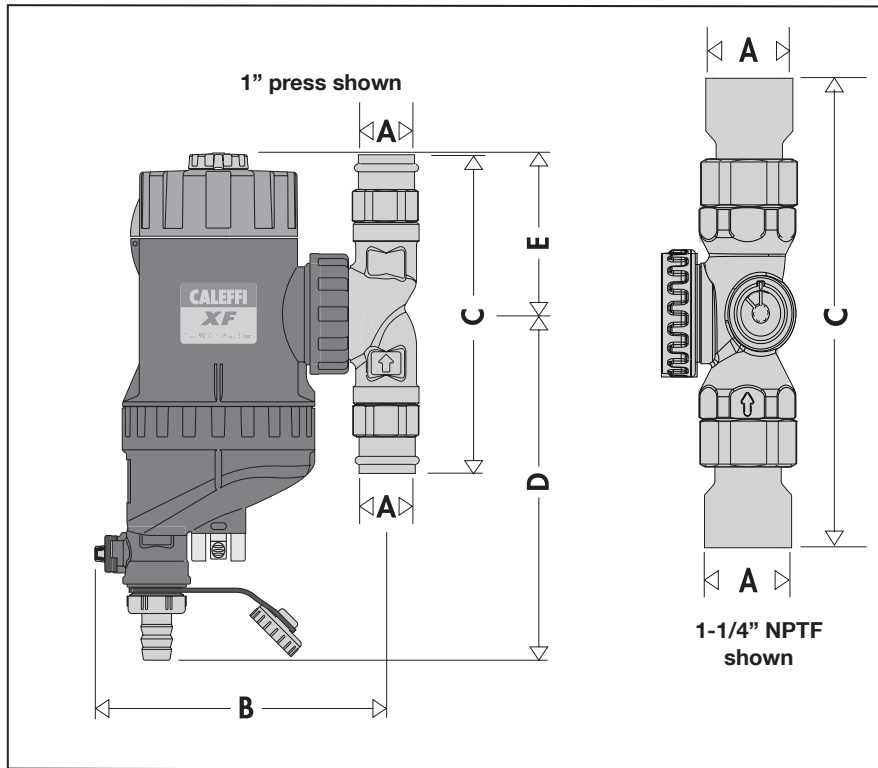
### Performance

Suitable fluids:	water, glycol solutions	
Maximum percentage of glycol:	30%	
Maximum working pressure:	45 psi (3 bar)	
Operating temperature range:	32 to 195 °F (0 to 90 °C)	
Body internal volume:		
	size 1”:	18 fluid ounces (0.53 liter)
	sizes 1 1/4” and 1 1/2”:	21.3 fluid ounces (0.63 liter)
Filter mesh size:		160 µm
Magnetic induction:		3 x 0.475 T

### Connections

	size 1”:	NPT male union
	sizes 1-1/4” and 1-1/2”:	NPT female union
	sizes 1”, 1-1/4” and 1-1/2”:	press, sweat union

**Dimensions**



Code	A	B	C	D	E	Wt. (lb/kg)
<b>NPT female threaded connections</b>						
577870A	1¼"	7 5/16"	10 15/16"	7¼"	5½"	8.7/4.0
577980A	1½"	7 5/16"	8 13/16"	7¼"	4 3/8"	8.4/3.8
<b>NPT male threaded connections</b>						
577660A	1"	6¼"	6 13/16"	7¼"	3 3/8"	4.3/2.0
<b>Sweat connections</b>						
577669A	1"	6¼"	6 13/16"	7¼"	3 3/8"	4.3/2.0
577879A	1¼"	7 5/16"	9 7/16"	7¼"	4 11/16"	8.7/4.0
577989A	1½"	7 5/16"	8 9/16"	7¼"	4 5/16"	8.0/3.6
<b>Press connections*</b>						
577666A	1"	6¼"	6 15/16"	7¼"	3½"	4.3/2.0
577876A	1¼"	7 5/16"	13½"	7¼"	5 15/16"	8.9/4.0
577986A	1½"	7 5/16"	13 3/16"	7¼"	6 5/8"	7.8/3.5

**\*Lay length for press:**  
 size 1": 5 1/16 inch  
 size 1-1/4": 9 11/16 inch  
 size 1-1/2": 8 5/16 inch

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Job name _____	Size _____
Job location _____	Quantity _____
Engineer _____	Approval _____
Mechanical contractor _____	Service _____
Contractor's P.O. No. _____	Tag No. _____
Representative _____	Notes _____