

Glass Fiber-Reinforced Polyester (GRP) Multi-Round Filter Housings

Housings for water treatment applications

Entegris' Glass Fiber-Reinforced Polyester (GRP) multi-round housings are state-of-the-art composite pressure vessels designed for water pretreatment. GRP filter housings are easy to use and reliable. The glass fiber-reinforced polyester structure does not corrode in saline applications and is easier to maintain than steel vessels. They ensure quick filter replacement and minimal intervention, reducing operation and maintenance (O&M) costs.

Our filament winding technology provides accurate and repeatable fiber placement, with faster production times than can be achieved with conventional winding methods. This technology ensures higher mechanical properties at a lower thickness.

APPLICATIONS

Originally designed for the highly saline waters that cause major corrosion problems in steel equipment, these GRP filter housings offer longevity in a large variety of high flow filtration applications. Mainly used for pretreatment filtration in desalination plants, these housings protect the most expensive process – the reverse osmosis (RO) unit. Due to the mechanical strength and corrosion resistance properties, our GRP housings offer reliability and reduced costs for pretreatment of Sea Water Reverse Osmosis (SWRO), Brackish Water Reverse Osmosis (BWRO) and produced water in oil and gas fields.

Specific resin and glass fiber combinations offer long term compatibility with clean-in-place (CIP) chemicals.

VERSATILE CONFIGURATIONS

For your process specific flow rates, piping locations, and setup requirements, our housings are designed to EN or ASME standards and can be customized to various sizes in both diameter and height, and will accommodate various cartridge types (standard or high flow), lengths, and form factors.



FEATURES & BENEFITS

Cylindrical shell and domes are fabricated as one part without a center body flange, seams, or joints	Reduces leak potential and provides easy maintenance
Unique polar filament winding technology using 5 axis computer numerical control (CNC) equipment	Enables controlled fiber placement, providing high mechanical strength Assures optimal mechanical properties in both the axial and circumferential directions, lowering product weight
Wetted parts and the support skirt or saddle are made entirely of composite and plastic materials	Prevents corrosion and extends operation lifetime Non-metal support legs eliminate corrosion and the need for painting that is common with conventional housings, reducing maintenance costs
Streamlined cartridge basket with single center lifting lug	Simplifies replacement of all cartridges into one operation, enabling fast and efficient operation
Specially designed inlet distributor in small diameter housings and inlet deflector in large diameter housings	Prevents damage of cartridges at inlet zone
Dual laminate construction of false bottom plate	Assures a perfect seal of cartridge to false bottom, providing excellent sealing efficiency Provides high strength and minimized deflection during operation

GPR MULTI-ROUND FILTER HOUSINGS



Large GRP horizontal housing with high-flow cartridges



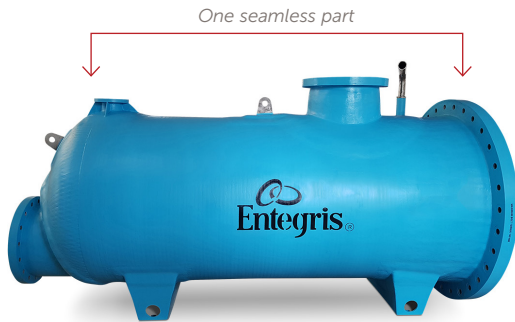
Small (400-700 mm ID) GRP vertical housing with fast opening



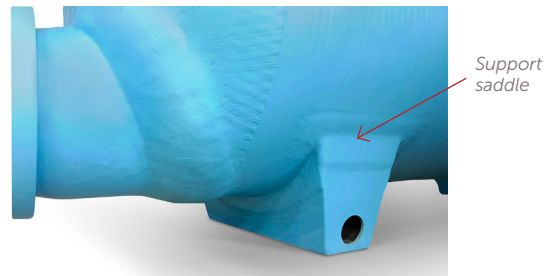
Small (200-700 mm ID) GRP horizontal housing with high-flow cartridges



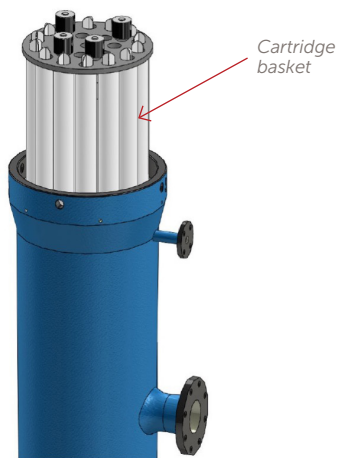
Small (200-700 mm ID) GRP horizontal housing with high-flow cartridges



Fabricated as one part, no seams or joints, reduces leak potential



Support saddle is made of GRP (no metal)



Streamlined cartridge basket simplifies filter changeout



Large GRP vertical housing design with basket

SPECIFICATIONS

Materials	Housing body, head, internal plates, support saddle or skirt	Glass Fiber-Reinforced Polyester (GRP)
	Fixing rods and nuts	PVC
	O-rings/gasket	EPDM
	Resins	Food grade vinyl ester, isophthalic resin or orthophthalic resin compliant with FDA Title 21 CFR 177.2420
	External bolts, nuts, and washers	Stainless steel 304, 316, or hot dipped galvanized carbon steel
External surface finish	UV stabilized top-coat	
External color	Arctic blue or ash grey; other colors upon request	
Connections	Inlet, outlet, vent, drain	Flanged, ASME or EN standard
Temperature rating	Operating temperature	10°C to 40°C (50°F to 104°F)*
	Design temperature	5°C to 50°C (41°F to 122°F)*
Pressure rating*	Max forward differential pressure	2.5 bar
	Operating pressure	5.5, 9, 13.5, 18 bar
	Design pressure	6, 10, 15, 20 bar
	Test pressure	130% to 143% of design pressure
Design standard	ASME X or EN 13121/EN-13923	
Cartridge types	Standard or high flow	

*Pressure rating can be customized according to requirements. Contact Entegris for more information

FOR MORE INFORMATION

Please call your Regional Customer Service Center today to learn what Entegris can do for you. Visit entegris.com and select the [Contact Us](#) link to find the customer service center nearest you.

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