Hyperfilter BioEnergy

Filters for Biogas & Landfill Gas Applications

Short description

Biogas produced in anaerobic digesters and landfills is saturated with water and contains foams, small solid particles in suspension, greases, particulates and other contaminants: it is therefore essential that these contaminants are removed from the gas by filtration prior to any downstream equipment or pipework.

Failure to remove these impurities may lead to a malfunction of devices and processes downstream and, in the absence of effective dehumidification, can cause clogging or blocking of blowers, heat exchangers and gas meters increasing maintenance costs and plant downtime.

Hyperfilter BioEnergy has been specifically designed to prevent these undesired effects, available in a range of sizes matched to the needs of biogas applications. The secret of Hyperfilter BioEnergy is its highly advanced filter element. This combines ultra-high particle retention efficiency with extremely low pressure drop which results in clean, ready to use biogas with service costs kept to a minimum.

Features & Benefits:

- High-Efficiency filtration media which provides maximum protection for downstream equipment and pipework significantly reducing maintenance costs and plant downtime;
- Stainless steel housing materials (AISI304 or AISI316L) with pickling and passivation treatment in order to ensure highly reliable and continuous operation even in the harshest conditions typically experienced in a biogas plant or a landfill;
- Designed using fluid dynamic principles to ensure high efficiency filtration whilst maintaining a very low pressure drop;
- Range of sizes to cover biogas flow rates from 105 to 1110 m ^{3}/h (larger sizes available on request);
- Supplied complete with support legs for easy installation and mounting;
- Top access cover to enable quick and easy element repla

Parker Hiross

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Product-Specification

Hyperfilter BioEnergy FFB 105-1110

Hyperfilter Bioenergy is formed by a stainless steel AISI304 or AISI316L vessel with flanged cover and two flanged pipe connections for biogas inlet and outlet. The filter base acts as a trap for water and other contaminants which can then effectively removed by the manual drain valve. Two threaded etchings are provided to make possible the connection of a differential pressure gauge.

Filtration takes place through a porous filter element made of antistatic, spunbonded polyester to ensure optimum filtration efficiency and high stability. Surface electrical conductivity of the filter media is attained through the application of aluminum powders: this treatment is the best solution for all applications requiring elimination of electrical charges created on the particles to be filtered and therefore on the filter media, in compliance with ATEX regulations.

Filtration quality is 20 µm.

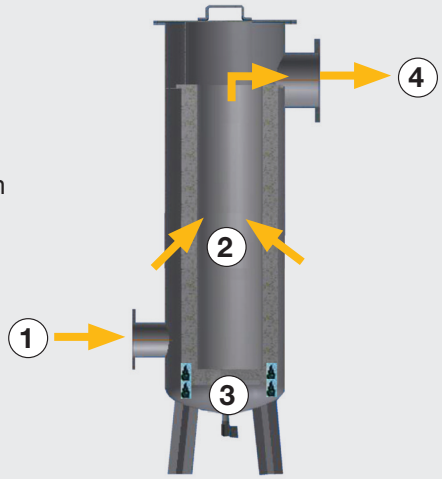
Operation

① The biogas enters the filter.

② The biogas passes through the filter element, which holds virtually all solid and liquid particles with a size higher than 20µm.

③ The filtered liquid and solid particles drop to the bottom of the filter.

④ The filtered biogas exits the filter.



The maintain optimum and effective filtration, filter elements must be replaced at least every 6 month with genuine Parker Hiross parts. Half-year filter elements changes are therefore essential and ensure:

- Optimal performance is maintained
- High filtration quality
- Low operational costs
- Continued protection of downstream equipment & processes

Failure to perform the scheduled replacement can lead to increasing system pressure drops.

Product-Specification

Hyperfilter BioEnergy FFB 105-1110

Area of Application Filter

Standard Filter	Biogas, Landfill Gas and Natural Gas
Max operating pressure	0,5 barg
Operating Temperature	-10°C up to 100°C

Performance Data Element

Removal	Pollutants, foams, particulate and separation of residual moisture
Flow Direction	from outside to inside
Paricle removal size	20µm
Filtration Efficiency	99,999%
Differential pressure,dry	2 mbar

Material housing

Housing body	Stainless steel 304 or 316L
Surface treatment	Pickling and passivation
Gaskets	Mineral fibers with NBR binder

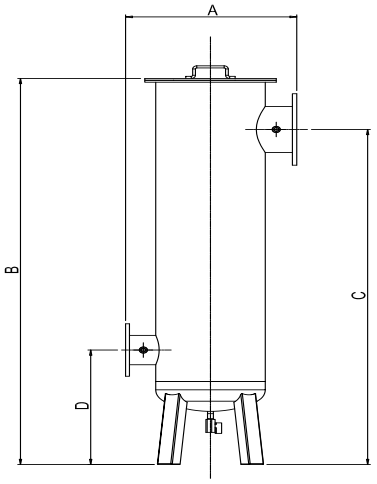
Material Elements

End caps	Galvanized steel
Inner core	Perforated galvanized steel
Filter medium	260g antistatic polyester spunbonded
Sealing	Epoxy resin
Gaskets	Neoprene
A stainless steel grounding wire is mounted underneath the top ring alongside the filter medium	

Technical data Hyperfilter BioEnergy

Model	Gasflow		Connections		Filter elements
	m^3/min	m^3/h	IN	OUT	Quantity
FFB105	1,8	105	DN50	DN80	1
FFB265	4,4	265	DN80	DN125	1
FFB720	12,0	720	DN125	DN200	1
FFB1110	18,5	1110	DN200	DN300	1

Dimensions (mm)				Weight
A	B	C	D	kg
440	1454	1330	420	32
440	1424	1300	390	35
625	1838	1595	545	99
633	1883	1650	600	108



Performances refer to models operating with gas flow rate at FAD 20°C/1 barA.
Weight includes element without manual drain.

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