Separation of Water and Particles from Hydrogen

Eaton gas/liquid separators purify hydrogen for efficient and clean power generation

Hydrogen is expected to make a substantial contribution to a sustainable, climate-neutral energy supply. Its environmental friendliness, energy efficiency and availability make it highly attractive as an energy carrier for power and heat generation, industry and transportation.

Hydrogen, produced through electrolysis using water and renewable energy sources, generates emission-free electrical energy with high efficiencies in a hydrogen fuel cell, where oxygen serves as the reaction partner.

In both hydrogen production and utilization, it is crucial to remove impurities, such as liquid and solid particles, to safeguard the equipment and fuel cells, and ensure efficient and safe operation.

To remove liquid and solid particles from hydrogen, Eaton offers gas/liquid separators in various designs and for different droplet sizes. The separators are designed and manufactured specifically for the application and can separate up to 90 wt% liquid from the hydrogen gas stream. The standard design has no wearing or moving parts, making them efficient and maintenance-free.

Optional accessories

Eaton offers different float drain traps for automatic discharge of the separated liquid. They have a separation capacity of up to 2,800 lb/h (1,200 kg/h) in a differential pressure range from 5 to 500 psi (0.35 to 34 bar).

Gas/liquid separators can also be equipped with a convenient level indicator, providing easy visual monitoring of the liquid level.

Float drain tap type 90 AC

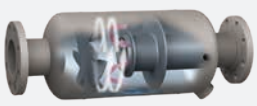
Float drain tap type 230 AC

	Specifications gas/liquid separators
Connection size	DN15 (1/2") to DN1000 (42")
Connection type	Flange, thread or customer-specific connection
Efficiency	99% of liquid particles > 10 µm
Direction of flow	Vertical or horizontal
Material	Carbon steel, stainless steel, nickel-based alloy or cast iron
Construction	Fabricated or cast construction according to AD2000, EN 13445, ASME U code stamp
Design	Single or two stage
Options	• With additional demister for a separation efficiency of 99% of liquid particles > 4 µm • With filter elements for a separation efficiency of 99% of liquid particles > 0.3 µm

Type T

Type TF

Type 31L



Type CLC

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