



# 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 1,200 kg/h in a differential pressure range from 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

<b>Connection size</b>	DN15 (1/2") to DN1000 (42")	Type T	Type TF
<b>Connection type</b>	Flange, thread or customer-specific connection		
<b>Efficiency</b>	99% of liquid particles > 10 µm	Type 31L	Type CLC
<b>Direction of flow</b>	Vertical or horizontal		
<b>Material</b>	Carbon steel, stainless steel, nickel-based alloy or cast iron	Type 31L	Type CLC
<b>Construction</b>	Fabricated or cast construction according to AD2000, EN 13445, ASME U code stamp		
<b>Design</b>	Single or two stage	Type 31L	Type CLC
<b>Options</b>	<ul style="list-style-type: none"> <li>• With additional demister for a separation efficiency of 99% of liquid particles &gt; 4 µm</li> <li>• With filter elements for a separation efficiency of 99% of liquid particles &gt; 0.3 µm</li> </ul>		