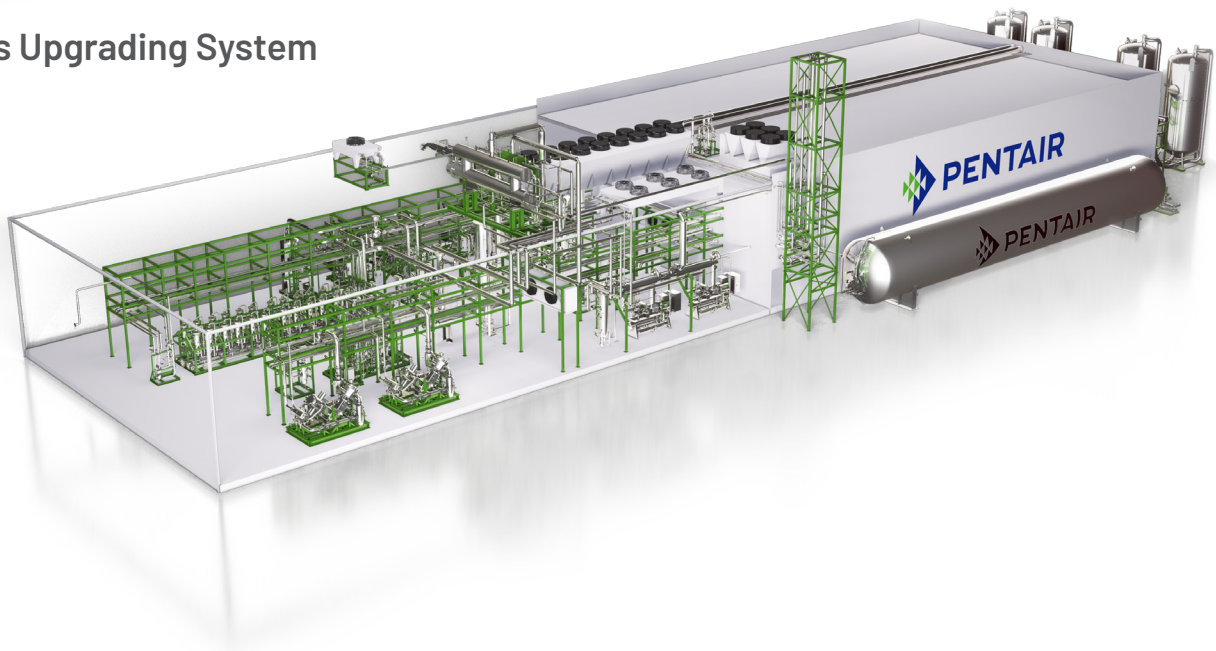


BIOGAS UPGRADING SOLUTIONS

PENTAIR® BIOCOMPLETE

Biogas Upgrading System



UTILIZE YOUR BIOGAS TO ITS FULL POTENTIAL

Biogas can be a viable option for producing heat and electricity from organic matter. However, the calorific value of biogas makes it a less cost-competitive energy source.¹

Don't settle for the modest yields of biogas. Utilize your biogas to its full potential by upgrading it to biomethane.

Pentair BioComplete is a comprehensive approach to upgrading biogas into biomethane. Furthermore, our CO₂ recovery technology, Pentair CO₂Bolt-On captures and recovers the CO₂ waste stream.

HOW IT WORKS

In pre-treatment, water and contaminants are removed from the biogas. The biogas pre-treatment allows for modest contamination levels of hydrogen sulfide (H₂S) and volatile organic compounds (VOC). For bulk removal of H₂S or VOCs, other options are available.

After pre-treatment, the biogas is compressed to the most OPEX and CAPEX efficient pressure that allows for the removal of CO₂. The membranes then remove the CO₂ from the methane.

Our membrane-based, power-efficient biogas upgrading system produces biomethane with a high methane yield.

Potential biomethane outcomes:

- ◆ Cost-competitive renewable energy: biomethane.
- ◆ Non-fossil based transport fuels: bio-LNG & bio-CNG.

CO₂ recovery outcome:

- ◆ Commercial by-product: bio-CO₂

BENEFITS

Capitalize on waste

- ◆ Greater methane yield for more cost-efficient, commercial energy.
- ◆ Commercial potential with biofuels.
- ◆ Commercial potential with bio-CO₂

Technology

- ◆ Two-stage membrane-based systems for energy and resource-efficient CO₂ & CH₄ separation.
- ◆ Recover CO₂ with energy & cost-efficient cryogenic-based technology.
- ◆ Modular design for plug & play installation.

Support

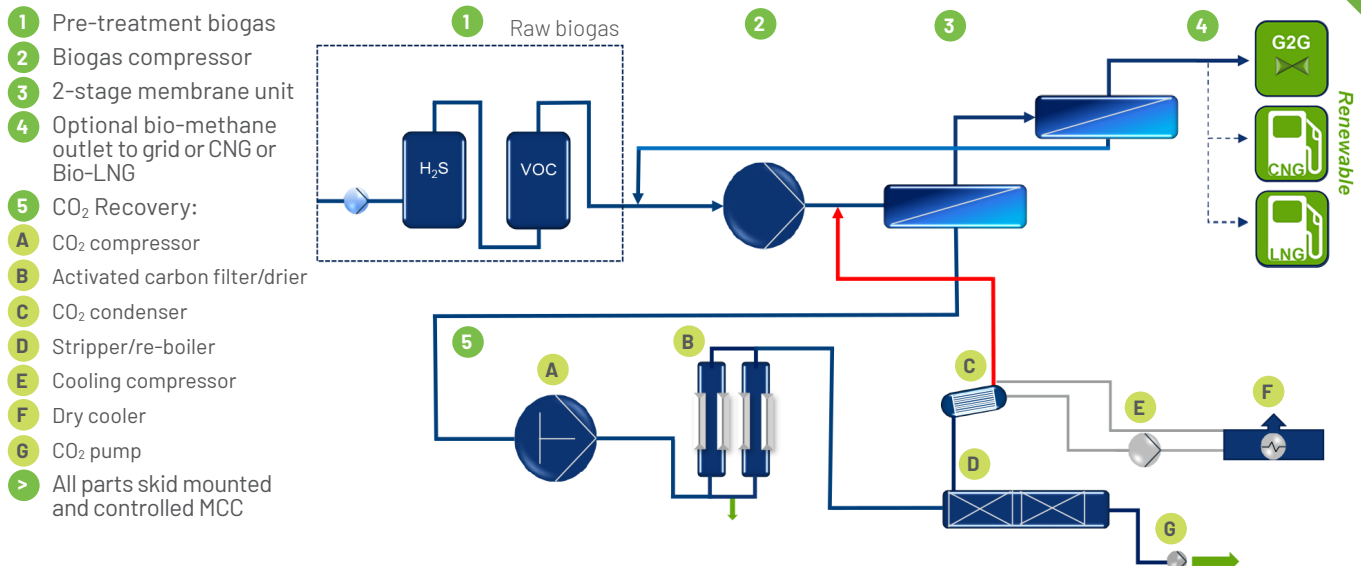
- ◆ Service for the complete life cycle of a system.
- ◆ Turn system data into foresight with biogas upgrading IoT.

¹When compared to wind and solar and depending on the type of feedstock used to produce it.

PENTAIR BIOCOMPLETE

BIOGAS UPGRADING SYSTEM

SCOPE OF SUPPLY



CHOOSING THE RIGHT SYSTEM FOR YOU

SYSTEM	BIOGAS CAPACITY	FOOTPRINT (LXWXH)	POWER CONSUMPTION	BIOMETHANE OUTPUT	ADDITIONAL OUTPUT
Pentair BioCompact	75-750 m ³ /h	12.8 x 2.5 x 2.8 m 42 x 8.2 x 9.2 ft	~ 250 Wh/Nm ³	> 90 - 97 % CH ₄	Bio-CNG/ Bio-LNG
Pentair BioBasic	>1000 m ³ /h	12.8 x 10 x 2.8 m 42 x 432.8 x 9.2 ft	~ 250 Wh/Nm ³	> 90 - 97 % CH ₄	Bio-CNG/ Bio-LNG
Pentair BioPlus	>1000 m ³ /h	20 x 12.5 x 3.6 m 65.6 x 41 x 11.8 ft	~ 235 Wh/Nm ³	> 90 - 97 % CH ₄	Bio-CNG/ Bio-LNG
Pentair Biocomplete	>1000 m³/h	20 x 20 x 3.6 m 65.6 x 65.6 x 11.8 ft	~ 180 Wh/Nm³ ~ 220 Wh/kg (CO₂)	> 90 - 97 % CH₄	Bio-CNG/ Bio-LNG, Bio-CO₂

ABOUT PENTAIR

Pentair designs, builds, installs, and services end-to-end membrane-based biogas upgrading solutions that produce biomethane and cryogenic and amine-based CO₂ systems that capture and recover CO₂.

We are committed to helping organizations make the most out of life's essential resources and, in doing so, help minimize their impact on our environment.

Let's work together to secure a sustainable future for both you and our environment. Insist on Pentair.

Find out more at biogas.pentair.com



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