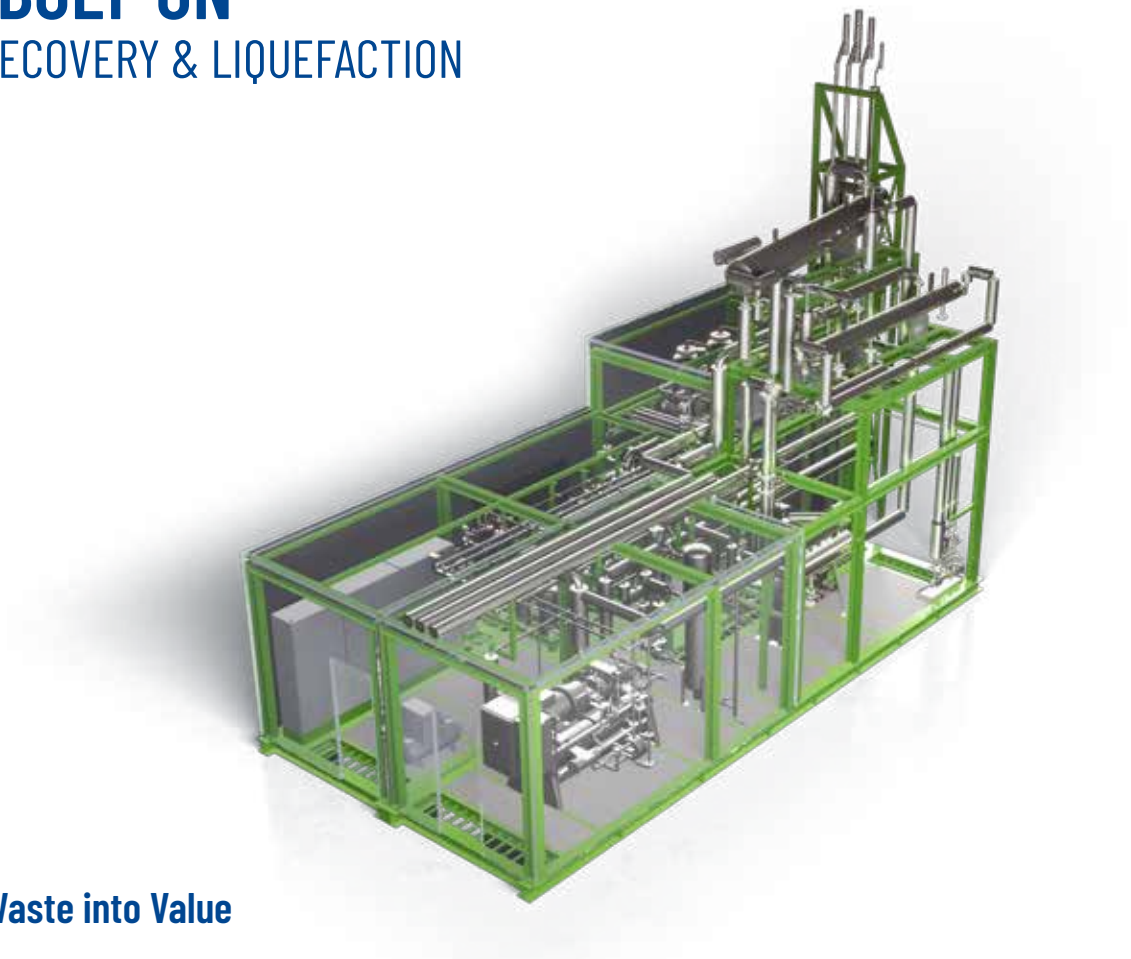
CO_2BOLT-ON

CO_2 RECOVERY & LIQUEFACTION



Turn Waste into Value

Capture and recover waste stream by-product CO_2 from the biogas upgrading process with Pentair CO_2Bolt-On. Biogas upgrading vents a highly concentrated flow of CO_2 as a waste stream. Capture this waste by-product and turn it into an economic value stream.

Benefit from the flexibility of Pentair CO_2Bolt-On as it is compatible as an optional add-on to both Pentair and non-Pentair Biogas Upgrading Systems.[1]

How it Works

The exhaust CO_2 from the biogas upgrading unit is fed into the Pentair CO_2Bolt-On system, where the CO_2 compressor units increase the gas pressure to 18 barg (261 psig) in two stages removing condensate in the process.

Next, trace impurities and moisture are removed. The purified CO_2 gas is led into the cooling system, where the CO_2 is liquefied.

The off-gas containing all non-condensable gases (CH_4, O_2, N_2) is purged as an off-gas and can be brought back into the inlet of the upgrading unit.

The purified liquid CO_2 product is fed at 17.5 barg (218 psig) to the onsite storage tank.

Key Benefits

Capitalize on waste

- Create food-grade quality CO_2.
- Turn CO_2 waste stream into commercial opportunity

Efficient technology

- Recover CO_2 with energy & cost-efficient cryogenic-based technology.
- Modular-based approach for ease of installation.
- Heat recovery capability with no external heat required.

Support

- Service support for the lifetime of the system.

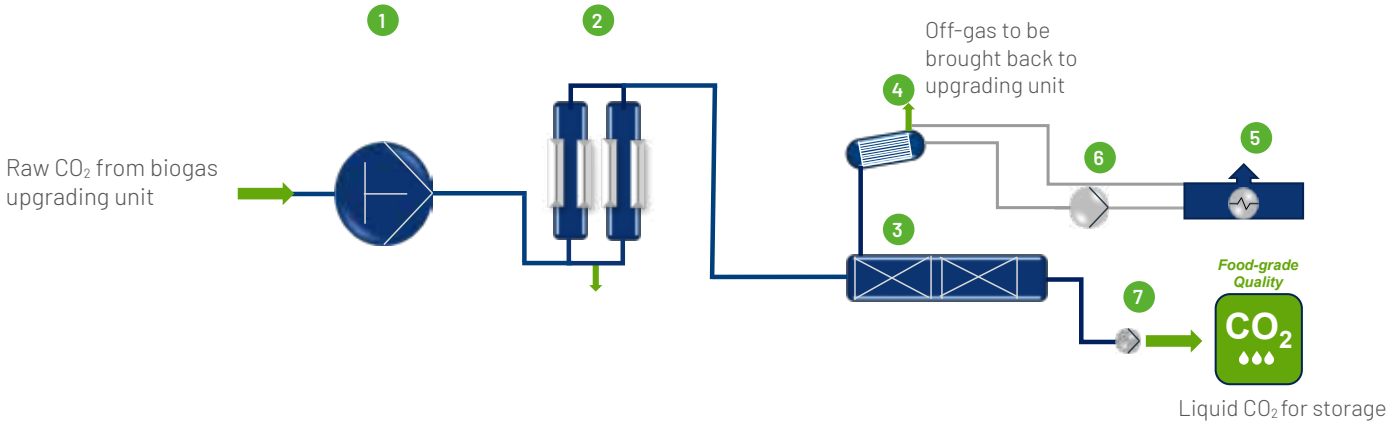
[1] It is possible to connect a Pentair CO_2Bolt-On to a non-Pentair Biogas Upgrading System when compatible. To be reviewed on a case-by-case basis.

CO_2BOLT-ON
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Scope of Supply

1. CO_2 compressor
2. Activated carbon filter & drier
3. Stripper-reboiler
4. Refrigerant cooled CO_2 condenser
5. Refrigerant (dry) condenser
6. Refrigerant compressor
7. Liquid CO_2 pump

> Main parts skid mounted and controlled by MCC



INLET GAS CO_2 CAPACITY	TYPICAL INLET GAS CONSUMPTION	FOOTPRINT (LXWXH)	POWER CONSUMPTION	TYPICAL OFF-GAS OUTLET CONDITIONS	LIQUID CO_2 TO STORAGE TANK
250 – 1800 Nm^3/h 500 – 3600 Kg/h	< 99% CO_2, 0,9% CH_4, 0,1% N_2/O_2	12,8 x 10 x 2,8 m	~ 110 Wh/Nm^3 ~ 220 Wh/kg	30% CH_4, 3% N_2/O_2, 67% CO_2 45% CH_4, 5% N_2/O_2, 50% CO_2	CO_2 > 99,997 % EIGA 2018

About Pentair

Pentair designs, builds, installs, and services end-to-end membrane-based Biogas Upgrading Solutions that produce biomethane and cryogenic and amine-based CO_2 Capture and Recovery Systems.

Let's work together to explore your biogas upgrading potential.
Visit biogas.pentair.com to find out more.

PENTAIR

LEARN MORE

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