PRODUCT DATASHEET

Biogas Upgrading and CBG Gas Train

Membrane biogas upgrading with CBG compression





DETAIL – MEMBRANE MODULES

OVERVIEW

The Tech Inc. Biogas Upgrading and CBG Gas Train upgrades raw biogas to vehicle-grade methane and compresses it to 250 bar as compressed biogas (CBG). Three stages of hollow-fibre membranes separate CO_2 from methane, and the three-stage design loses less methane than one- or two-stage arrangements.

MODELS AND CONFIGURATIONS

- **CG-250** – three-stage membrane train for 250 Nm³/h of raw biogas.
- **CG-500** – 500 Nm³/h of raw biogas, producing about 5–5.5 tonnes of CBG a day.
- **CG-1000** – 1,000 Nm³/h of raw biogas, housed in two containers.

TYPICAL DESIGN DATA

Raw biogas feed	250, 500 or 1,000 Nm³/h, or to client specification
Separation	Three-stage hollow-fibre membranes
Product gas	Vehicle-grade methane, with quality to the applicable fuel standard or client specification
Discharge pressure	Up to 250 bar
CBG output	About 5–5.5 tonnes a day on the CG-500, with other sizes in proportion to the feed
Off-gas	CO2-rich stream to vent, thermal oxidiser or CO_2 recovery, to client specification
Housing	Skid or container, with the CG-1000 in two containers

APPLICATIONS

CBG plants fed with agricultural residue, cattle dung, press mud, or municipal and food waste; distillery and dairy effluent digesters; and landfill gas.

KEY ADVANTAGES

- **Low methane loss** – three membrane stages lose less methane than one- or two-stage designs
- **No water or solvent** – membrane separation runs dry, with no scrubbing liquid to treat
- **Standard sizes** – 250, 500 and 1,000 Nm³/h trains on a common design
- **Compression included** – raw biogas in, CBG out at 250 bar
- **Containerised** – factory-tested modules cut site work

Designed and built by Tech Inc. · **Part of the Davey Group since 1990**

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