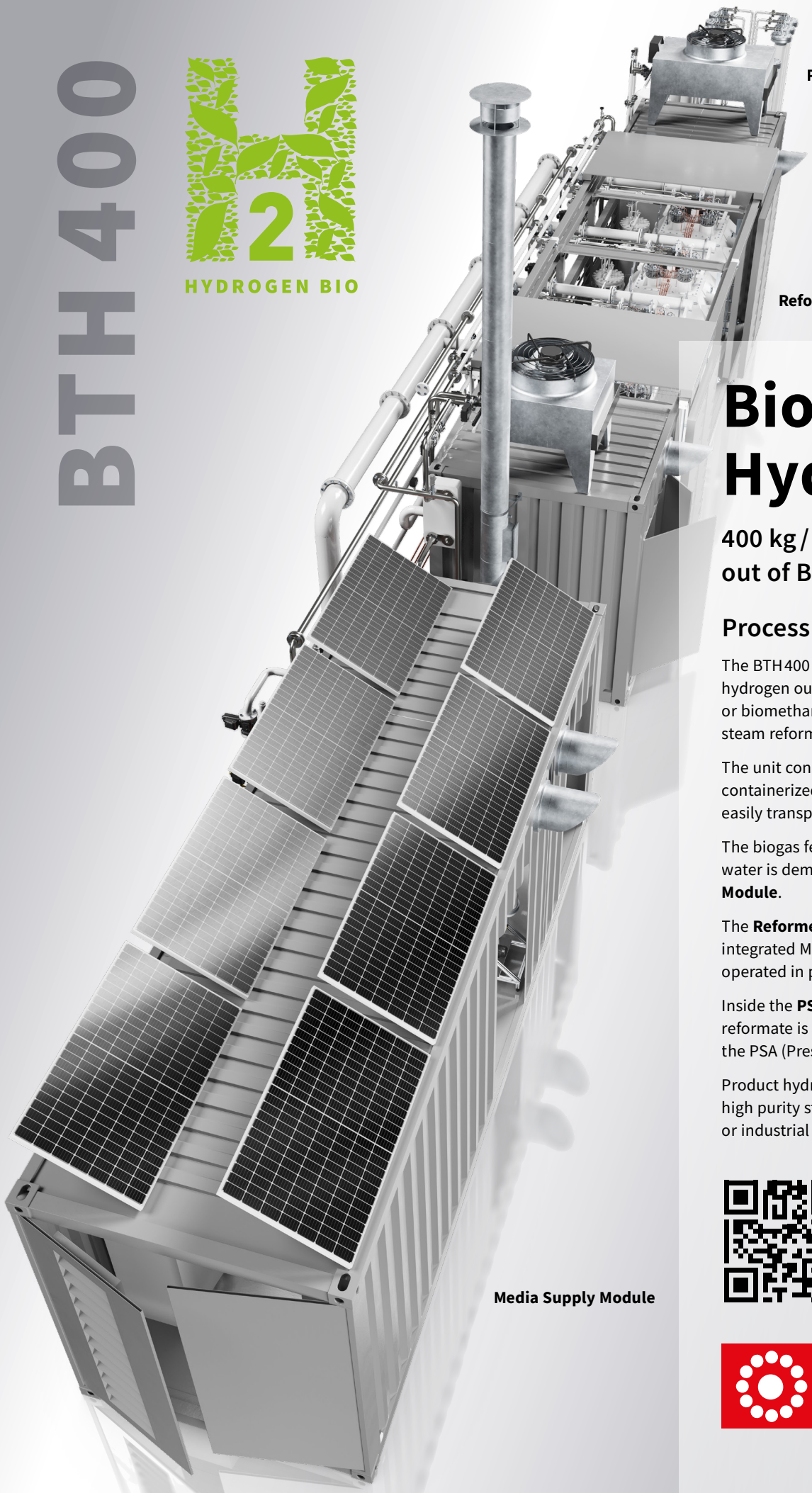
BTH400

HYDROGEN BIO



Biogas to Hydrogen

400 kg/day Green Hydrogen out of Biogas or Biomethane.

Process

The BTH400 plant produces pure green hydrogen out of biogas (CH_4-CO_2-mixture) or biomethane by means of the classical steam reformer process.

The unit consists of pre-fabricated containerized submodules, which are easily transported on roads.

The biogas feed-stock is compressed, water is demineralized in the **Media Supply Module**.

The **Reformer Module** consists of highly integrated M50 FLOX® reformers, which are operated in parallel.

Inside the **PSA Module** the hydrogen-rich reformate is cooled, dried and enters the PSA (Pressure Swing Adsorption).

Product hydrogen gas of the PSA meets high purity standards for fuel cells or industrial use.

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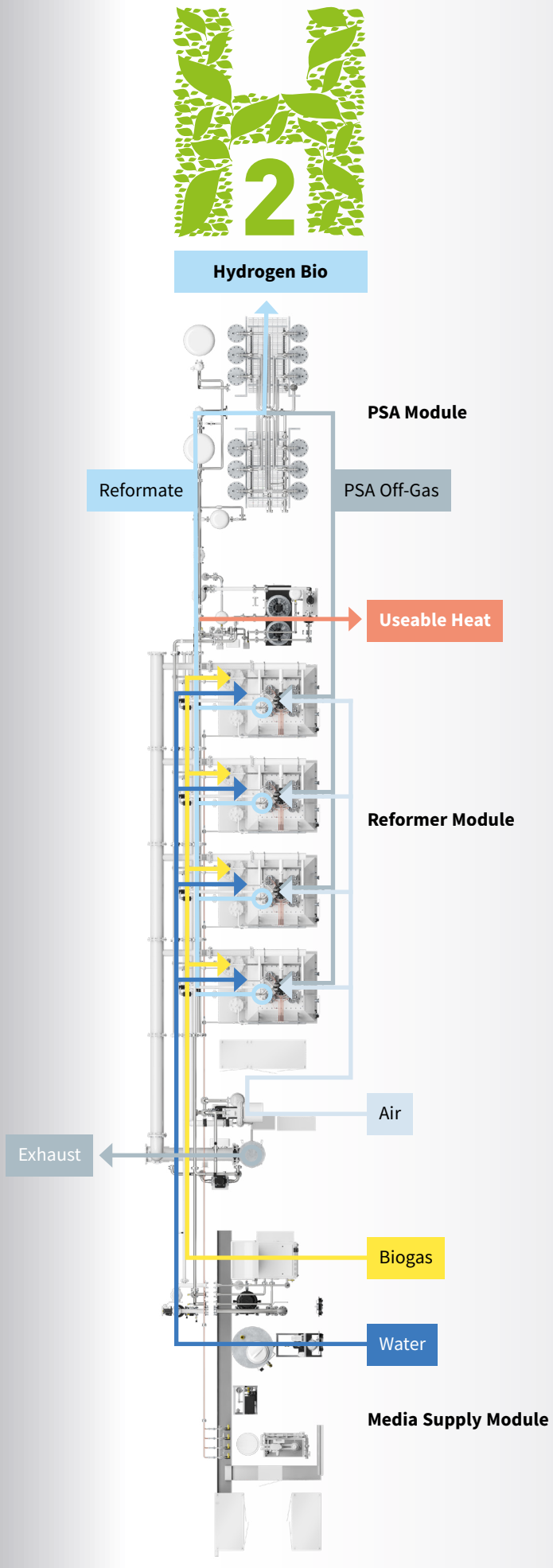
GREEN HYDROGEN 24/7



TECHNICAL DATA

Output

	TYPICAL VALUES
Nominal Hydrogen Yield	400 kg / day @ 10 bar
Hydrogen Quality	ISO 14687 (FC-grade)
Usable Heat (Option)	appr. 240 kW @ 80 °C (cooling water)
Efficiency	up to 90 % (Hydrogen based: 60 - 70 %, thermal 20 - 30 %)

Input

	TYPICAL VALUES
Biogas Consumption*	10 Nm^3 / kg H_2
Biogas Quality	50 - 100 % CH_4, 200 mbar, S < 1 mg/Nm^3, Si < 0,1 mg/Nm^3
Water Consumption	100 l / h (depending on water quality)
Electricity Consumption	2-3 kWh / kg H_2
Turn Down Ratio	Regular operation 100 % - 40 %, Standby operation < 40 %

*50 - 60 % methane in biogas

Scope of Supply

25‘ Media Supply Module
biogas compressor, water treatment system and integrated control cabinet.

40‘ Reformer Module
with 4 M50 FLOX® reformers, reformate cooler.

PSA Module
with skid-mounted PSA Purifier.

Commercial Terms

Indicative Pricing	3.0 Mio € (exW, Renningen)

All technical data subject of change due to technical progress, might differ according to customer’s interfaces, like biogas composition, water quality, etc

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