



# QUEST ONE PEM-ELECTROLYZER ME450

**Ready. Set. Supply.**

**Quest One High  
Performance Electrolyzers**

Figure is for illustrative purpose only

# PEM electrolyzers for a sustainable energy supply system – Quest One ME450

Plug-and-play hydrogen: The Quest One ME450 electrolyzer is a proven turn-key solution for the easy and efficient production of green hydrogen. In the space of just one standard 40-foot container, enough hydrogen can be produced to refuel 90 cars daily. Each ME450 has an electrolysis capacity of 1 MW and can produce 450 kg of high purity hydrogen daily. Its modularity makes it suitable

for projects requiring 1 – 5 MW of electrolysis capacity. Thanks to a multiple stack design, high plant availability and excellent spare parts availability, and our extensive service offering, risks can be minimized, and costs reduced. Due to the proven design the technology of the Quest One PEM electrolyzer is reliable and future-proof.

H <sub>2</sub> production nominal	450 kg/d   210 Nm <sup>3</sup> /h
System specific energy consumption <sup>1,2</sup>	4.7 kWh/Nm <sup>3</sup> H <sub>2</sub>   53 kWh/kg
System efficiency <sup>1,2</sup>	75 %
Performance class	1 MW
H <sub>2</sub> production modulation range	42 – 210 Nm <sup>3</sup> /h   20 – 100 % H <sub>2</sub>
H <sub>2</sub> purity	5.0 (meets ISO 14687:2019 Table 2)
H <sub>2</sub> output pressure	20 – 30 bar (g)
Load change	30 s (Standby to nominal load)
Heat recovery	Heat output: 170 kW BoL   350 kW EoL 57 °C Transfer to customer system   >90% system efficiency
H <sub>2</sub> O required quality	TrinkwV 2020   EU Directive 2020/2184-EU
H <sub>2</sub> O consumption nominal	260 kg / h (at 10° dH)
Power supply electrolysis <sup>3</sup>	3 x 480 V Y, 3 x 480 V ▲ / 50 Hz (acc. IEC 60038), Connecting power: 1.325 MVA
Power supply peripherie	3 x 400 V / 50 Hz (acc. IEC 60038), Connecting value: 150 kW
Dimensions L x W x H	40' Container, incl. attachments ca. 13.2 x 4.0 x 5.7 m
Weight	ca. 36 t (operational)
Ambient temperature	-20 °C <sup>4</sup> bis +40 °C

Technical changes reserved

<sup>1</sup> Standard conditions: BoL, 15 °C outdoor temperature, 30 bar(g) H<sub>2</sub> transfer pressure

<sup>2</sup> 200 Nm<sup>3</sup>/h, based on Higher Heating Value (HHV).

<sup>3</sup> Transformer is required for galvanic isolation

<sup>4</sup> Optionally expandable down to -30 °C with the cold package

## We are the fuel of the global energy transition

As a technological pioneer, we have been playing a decisive role in shaping hydrogen technology for over 25 years. We believe that mobility, production, and consumption are possible without emissions. To achieve this, Quest One

builds on cooperation with visionary customers and partners, and the power of our parent company MAN Energy Solutions. Together, we are making hydrogen production green and the CO<sub>2</sub>-neutral transformation of all sectors a reality.