GET H₂ READY!

NEUMAN & ESSER GROUP
ELECTROLYZERS and COMPRESSORS Optimizing the Future H₂ ECONOMY

Energy transition with compressors
For 80+ years NEUMAN & ESSER have been serving processes in refineries, the petrochemical and chemical industries according to API 618. This is why NEA has a profound know-how in the compression of all process gases, especially of hydrogen and hydrogen mix gases. NEA GROUP has broadened its portfolio of applications by supporting the transformation from the fossil fuel based oil & gas sector to an H₂ Economy with green hydrogen from renewable energy. This is where the proven compressor technologies from NEA and HOFER come into play. The conversion of the energy system with Power to Gas needs energy-efficient piston and diaphragm compressors. They are the perfect match to ensure both the flexibility of demand and energy security with green gases.

HYTRON ELECTROLYZER:
The alkaline and PEM electrolyzer systems from HYTRON with a wide range of capacities producing high quality H₂ up to 99,9999% with pressures up to 40 barg and 5 MW power per container.

NEA COMPRESSOR:
NEA piston compressors for H₂ pipelines and storage in caverns are available as 4-, 6-, and 8-crank designs with pressures exceeding 200 bar and 25,000 kW shaft power.

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MKZ COMPRESSOR:
Oil- and abrasion-free compression with MKZ diaphragm compressors from HOFER serve all power-to-X applications with pressures even beyond 1000 bar, suitable for H₂ bottle & trailer fillers, car, truck, bus and rail fuel stations.

TKH COMPRESSOR:
Hydraulically driven TKH piston compressors from HOFER for 100% non-lube fueling of 700 bar hydrogen vehicle tanks.

NEUMAN & ESSER: Agile. Solution. Experts. neuman-esser.com
The NEA GROUP Portfolio for the H₂ Value Chain

Primary Energy

Biomass
CH₄ + H₂ up to 8000 Nm³/h
1-10 to 70-80 bar

Wind, Solar, Hydro

Surplus Power from Conventional Power Plant

Conversion & Processing

Refinery & Processing and Liquefaction Plants
Hydrocracking
Desulphurization
Synfuels

H₂ Generation Electrolyzers, SMR+CCS, Pyrolysis, …

200-5000 Nm³/h
1-30 to 500 bar

Storage

Salt Cavern H₂ Storage

40-100 kNm³/h
1-30 to 70-80 bar

40-100 kNm³/h
1-30 to 70-80 bar

Transport & Distribution

H₂ Transportation, LH₂ Regasification, LOHC

Natural Gas Grid
H₂ feed in 100-200 kNm³/h
1-30 to 70-80 bar (10-20%)

H₂ Pipeline Grid
200-2000 kNm³/h
30 to 70-80 bar

Service & Commercial
Industry, e.g. Steel, Glass, …

Final Energy Demand

Residential

Electrical Grid

Fuel Cell Power Plant

H₂ Turbine Power Plant

Residential

Transportation

Electrical Grid

Fuel Cell Power Plant

Residential

Transportation