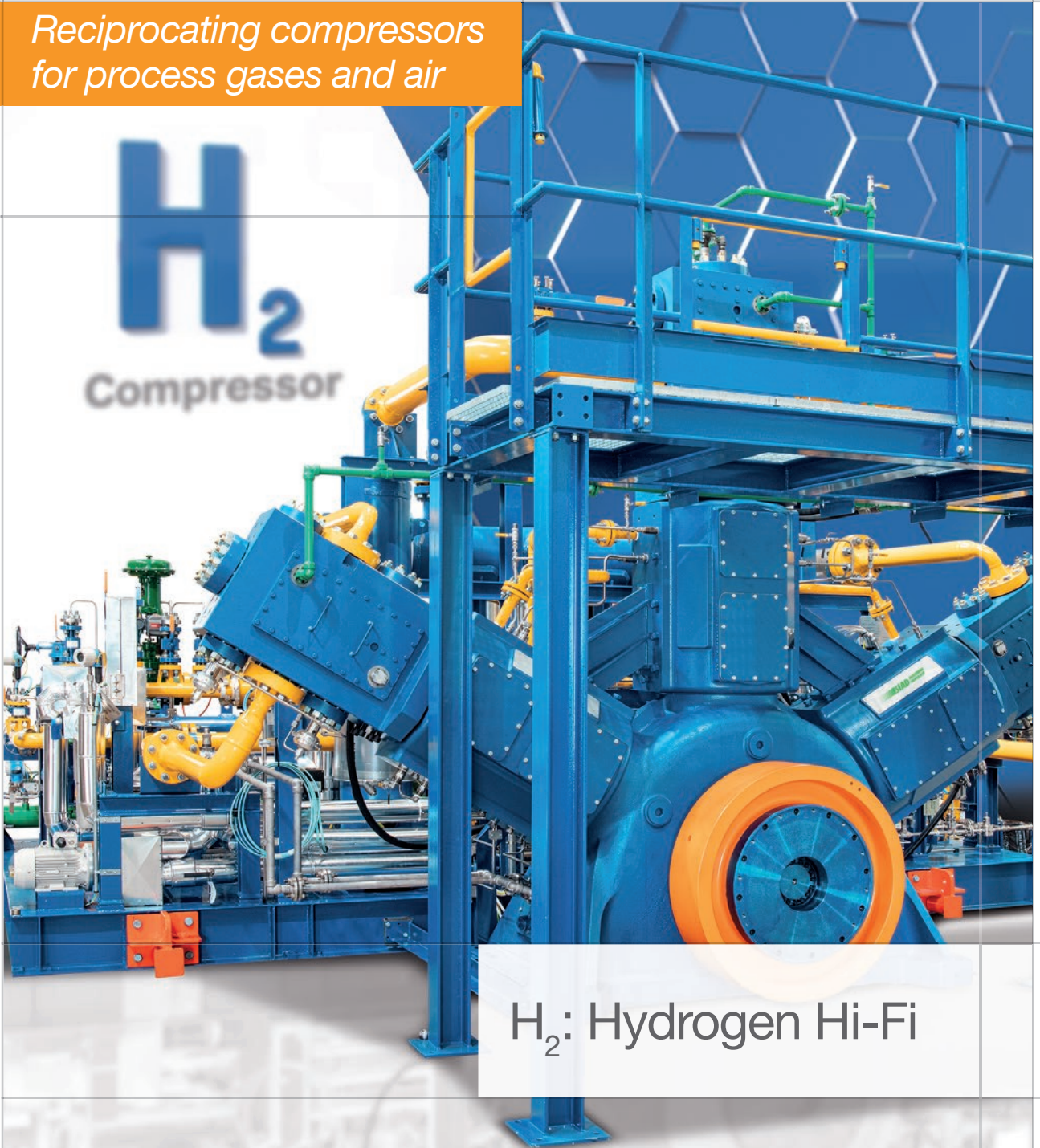


*Reciprocating compressors
for process gases and air*

H₂
Compressor



H₂: Hydrogen Hi-Fi

A certified design for optimal, reliable and safe performance

SIAD Macchine Impianti's hydrogen compressors are reciprocating compressors which can compress hydrogen or hydrogen-rich mixtures for all types of applications, with any degree of purity.

- ✓ Fitted with rod seal packs with a gas recovery system from packing rings to avoid loss of H₂ and rods specially treated to work at high pressure in no-lube conditions
- ✓ Specially designed piston rings, rider rings and rod packing rings, either for materials and for geometry
- ✓ Flushing of the spacer chambers and frame with inert gas (nitrogen)
- ✓ Rugged cylinder design in forged steel for higher pressure values
- ✓ Zero-leakage connections with metallic ring joint gaskets (1500# and 2500#) and dedicated metal-to-metal sealing above 2500#
- ✓ Wide and generous cooling area to keep sliding surfaces at low temperature and extend rings' lifetime
- ✓ Specific design and selection of materials for valves (low lift, high quality PEEK grade for plates).
- ✓ Water cooled rod packing.

RECIPROCATING COMPRESSORS FOR H ₂	
Compression stages	Up to 6
Maximum capacity	6000 Nm ³ /h (540 kg/h)
Maximum delivery pressure	550 bar (a)
Crankshaft speed	from 300 to 1 500 rpm

We have a proven track record in this sector, with thousands of hydrogen compressors installed throughout the world.



Green hydrogen compressor (MULTIPLHY Project)

A SUCCESS STORY

SIAD Macchine Impianti (SIAD MI) has installed a **green hydrogen compressor** for a large-scale, multi-megawatt, high-temperature electrolyzer. The compressor has been integrated in the hydrogen processing unit, designed and manufactured by Paul Wurth in the frame of Neste's MULTIPLHY project.

- ✓ **INDUSTRY:** Renewable Energy for Industrial use
- ✓ **INSTALLATION:** Netherlands
- ✓ **SERVICE:** Green Hydrogen
- ✓ **MODEL:** MS3-4
- ✓ **DESIGN DISCHARGE PRESSURE:** 90 bar
- ✓ **INSTALLED POWER:** 250kW

DISCOVER MORE



H₂ testing facility: we test our products in-house

SIAD MI boasts an in-depth knowledge of gases and related processes, since the parent company, SIAD S.p.A., is a Gas Company. The SIAD Group already has a **hydrogen production unit** operating for many years at the Osio plant.

Right in front of the existing hydrogen production unit, SIAD MI has created a testing facility where their own test compressor will be installed. In this way SIAD MI can have all the hydrogen they need in-house, to carry out all the necessary compressor tests.



INNOVATION AND ADVANCED TECHNOLOGY



MORE THAN 25 MILLION OPERATING HOURS



REDUCTIONS IN TERMS OF CONSUMPTION AND MAINTENANCE COSTS



COMPLIANCE WITH THE ATEX DIRECTIVE (94/9/EC) AND OTHER APPLICABLE STANDARDS API standard 618 / SAE standard J2601 and J2719



CONTINUOUS OPERATION WITHOUT ANY MAINTENANCE STOPPAGE up to 12,000 running hours



ABILITY TO COMPRESS OIL FREE HYDROGEN up to 550 bar



The SIAD Group's hydrogen production unit



- SERVICE CENTRES WITH VALVE OVERHAUL SERVICE AND SPARE PARTS HUB
- CERTIFIED SERVICE CENTRES
- OVER 100 SPECIALIZED AND CERTIFIED ENGINEERS
- SIAD MI 24/7 GLOBAL ASSISTANCE

THE GLOBAL SERVICE DIVISION

A complete range of services

To reduce operating costs and to maintain compressors in conditions of maximum efficiency, SIAD Macchine Impianti offers clients a complete range of services, as well as a network of Certified Service Centres run by qualified technicians that extends across all five continents.

CONNECTIVE COMPRESSION

All SIAD MI compressors, including those dedicated to hydrogen, can be continuously monitored through **SIADMI4U**, a remote monitoring and diagnostics system which enables you to view, analyze and manage, in real time, through a smartphone or PC, all the operating parameters of a compressor.

Watch the video YouTube



A solution for every need



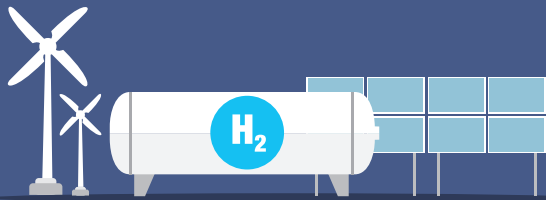
INDUSTRIAL USE (I.E. GREEN STEEL)

80
bar



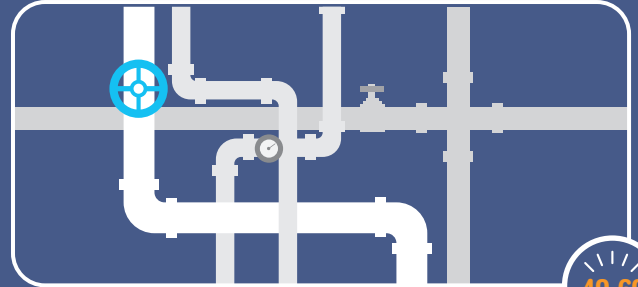
H₂ STORAGE & DISTRIBUTION

350
bar



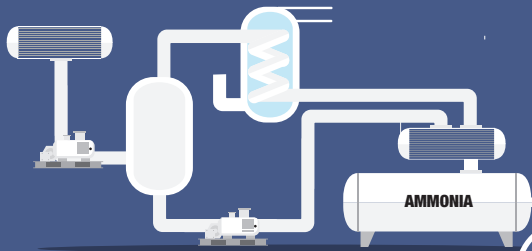
POWER-TO-X

80
bar



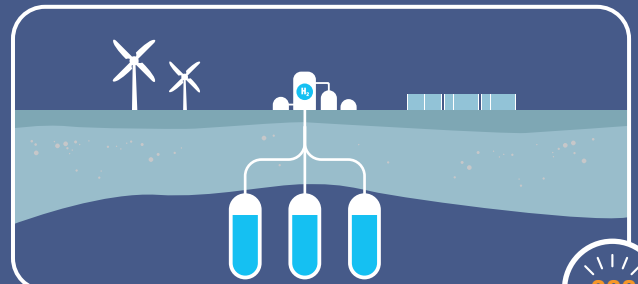
H₂ BLENDING INTO GAS GRID

40-60
bar



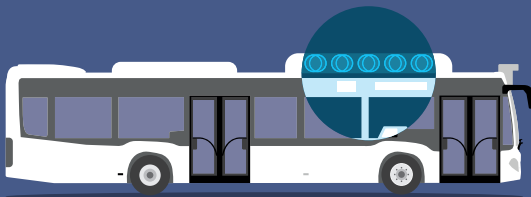
FEEDSTOCK FOR NH₃ SYNTHESIS

150-300
bar



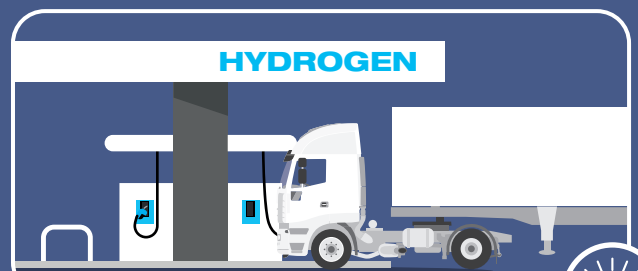
STORAGE UNDERGROUND CAVERN (EG: SALT)

200
bar



ON BOARD HV

~350
bar



HV H₂ REFUELLING STATIONS

~550
bar

The SIAD Group

Engineering

Technical gases



LPG and Natural Gas

Healthcare

Technical gases

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