

# HyCo

## Compact On-site H<sub>2</sub> Production and Compression for High Pressure H<sub>2</sub> Delivery in the Laboratory Environment

### What is HyCo?

HyCo operates without moving parts – thus, it operates silently and requires no maintenance

HyCo is plug-and-play – no time-consuming setup is required

HyCo safely compresses hydrogen up to 200 bar (2900 psi)

HyCo delivers ultra pure H<sub>2</sub>

HyCo is extremely safe



### Operating Principles

HyCo uses the thermodynamic properties of a selected metallic alloy forming hydrides under favourable conditions.

At low temperature, hydrogen atoms are absorbed in the metallic compound and located within the interstitial sites.

The equilibrium pressure at room temperature is less than 10 bar.

On demand, the metal hydrides bed is heated up to increase the pressure. Impurities such as O<sub>2</sub> are trapped in the metallic compound and ultra pure H<sub>2</sub> is supplied to the user.

Increase the safety in your lab – get rid of high pressure H<sub>2</sub> cylinders.

[www.grz-technologies.com](http://www.grz-technologies.com)

## Specifications

- Near ambient pressure in idle mode
- Reaches 200 bar in less than 6 minutes
- Up to 90 NI H<sub>2</sub> storage capacity maximal outlet flow rate: 800 Nml/min by single Compressor
- Up to 180 NI H<sub>2</sub> storage capacity. Maximal outlet flow rate: 1600 Nml/min when HyCo including the Expansion Module Casing and dimensions stay the same as the standard HyCo
- Variable outlet pressure from 10 bar (145 psi) up to 200 bar (2900 psi)
- Versatile refill options such as electrolyzers, low pressure hydrogen lines or high pressure cylinders stored externally
- Filling Pressure 10 bar



## Additional Equipment

In order to expand the possibilities of the hydrogen compressor, the following equipment is available:

PRODUCT NR	DESCRIPTION
HYCO 110	HyCo Metal Hydrides Hydrogen Compressor for Laboratory Use. Maximal Pressure: 200 bar. Capacity: 90 NI. Maximal flow rate: 800 Nml/min. Dimensions: 483 x 461 x 133 mm.
HYCO 110	HyCo Expansion Module The expansion module allows doubling the storage capacity and the maximal hydrogen flow rate to 180 NI and 1600 Nml/min, respectively.
CONN 010	Connection Kit HyCoElectrolyzer Kit for the connection of the electrolyzer to the HyCo.
CONN 020	Connection Kit HyCo Pressure Regulator: Kit for the connection of the HyCo to the pressure regulator.
MPRE 200	Manual pressure regulator for a perfectly constant hydrogen pressure. Dimensions: 483 x 461 x 89 mm
HG 2U PRO 100	Hydrogen generator with long life PEM cell Maximal output flow of 100 ml/min at 12 bar and a purity of 6.0 Dimensions: 483 x 461 x 89 mm
HG 2U PRO 250	Hydrogen generator with long life PEM cell Maximal output flow of 250 ml/min at 12 bar and a purity of 6.0 Dimensions: 483 x 461 x 89 mm
HG 2U PRO 600	Hydrogen generator with long life PEM cell Maximal output flow of 600 ml/min at 12 bar and a purity of 6.0 Dimensions: 483 x 461 x 89 mm
HG 4U PRO 800	Hydrogen generator with long life PEM cell Maximal output flow of 800 ml/min at 12 bar and a purity of 7.0 Dimensions: 483 x 461 x 178 mm
HG 4U PRO 1000	Hydrogen generator with long life PEM cell Maximal output flow of 1000 ml/min at 12 bar and a purity of 7.0 Dimensions: 483 x 461 x 178 mm
HG 4U PRO 1200	Hydrogen generator with long life PEM cell Maximal output flow of 1200 ml/min at 12 bar and a purity of 7.0 Dimensions: 483 x 461 x 178 mm
RACK-010	Aluminum rack for the easy integration of an electrolyzer and a HyCo into a compact, standalone system.