



The mobile, hydrogen-powered generator

Zero-emission power supply for diverse applications



Image shown is based on a preliminary design and is subject to change without notice.

GREEN & RELIABLE POWER. ANYTIME, ANYWHERE

Replacing diesel with green hydrogen

Diesel generators are a major source of pollution but are still used almost everywhere. CO₂ free solutions like battery energy storage systems (BESS) are expanding rapidly, but they still need to be charged. Green hydrogen is emerging as a low carbon alternative to diesel for diverse applications and is becoming increasingly available and cost competitive. Green hydrogen is produced using renewable energy like wind, solar or hydro. As renewable generation grows, the amount of excess electricity that cannot be used by the power grid increases significantly. Instead of wasting this precious energy, it can instead be used to produce green hydrogen.

Presenting kvyreen

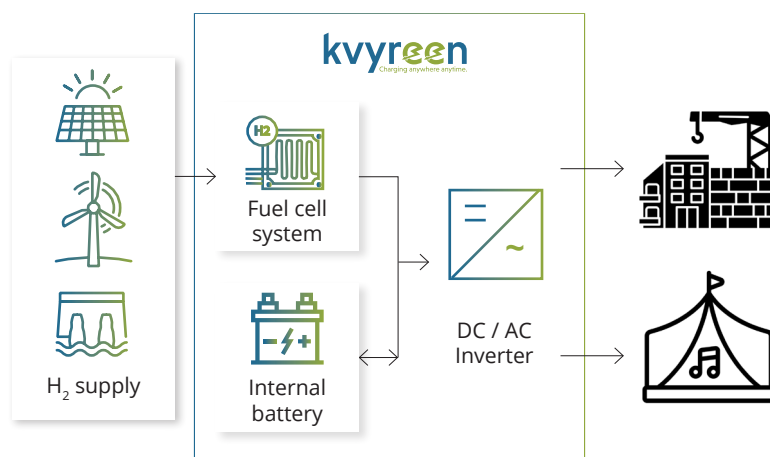
kvyreen is a mobile, hydrogen-powered generator. When used with green hydrogen, it generates CO₂-free electricity, independent from the local electricity grid and without the use of fossil fuels. The kvyreen genset can be used to replace diesel generators on construction sites and film sets, at events or concerts as well as in many other use cases. For applications which have already adopted BESS to create hybrid micro-grids, the kvyreen genset can be used to charge these batteries on site with hydrogen serving as the zero-emission energy vector. The kvyreen genset is part of a powerful and flexible product range, all built on a common power module and other standard parts like a high voltage battery, remote monitoring and control system and an easy-to-use graphical interface.



**The kvyreen genset
is based on the same
technology as the
kvyreen charger, a proven
industrial product!**

A flexible and powerful platform

The kvyreen genset offers a power output of 80 kW or 160 kW, with higher power models available in the future. Hydrogen is either supplied via bundle, tube trailer or the Hydros spider¹ network. kvyreen uses state-of-the-art fuel cell technology and custom power electronics to transform energy stored in hydrogen into electricity to supply on-site power. The same technology platform is currently operating as a fast charger for battery electric vehicles but can also be used to power off-road vehicles and ships, as well as to deliver AC power to the grid as part of combined heat and power system.



Guaranteeing ease of use

The kvyreen's system allows real-time data management and control via a remote dashboard. A comprehensive service package covering planned and unplanned maintenance, spare parts management, remote support and training is available. The kvyreen system can be installed in less than 60 minutes once the hydrogen supply has been prepared.

Customization

Upon acquiring kvyreen, you gain the flexibility to customize it according to your unique brand identity. See picture on right for example of customized kvyreen 80 charger for customer AVIA Volt Switzerland.

Watch video of kvyreen charger in action



Benefits at a glance

- 3-phase AC output of 100 or 200 kVA
- 100% reliable and guaranteed power output
- Remote dashboard for monitoring and condition based maintenance
- CO₂ and NO_x free with green hydrogen
- Mobile unit, can be installed wherever needed
- External protective frame available as option
- Integration with various external H₂ supplies possible



¹ Containerized hydrogen logistics solution from H2 Energy. For more information see: <https://www.hydros spider.ch/en>

Technical specifications

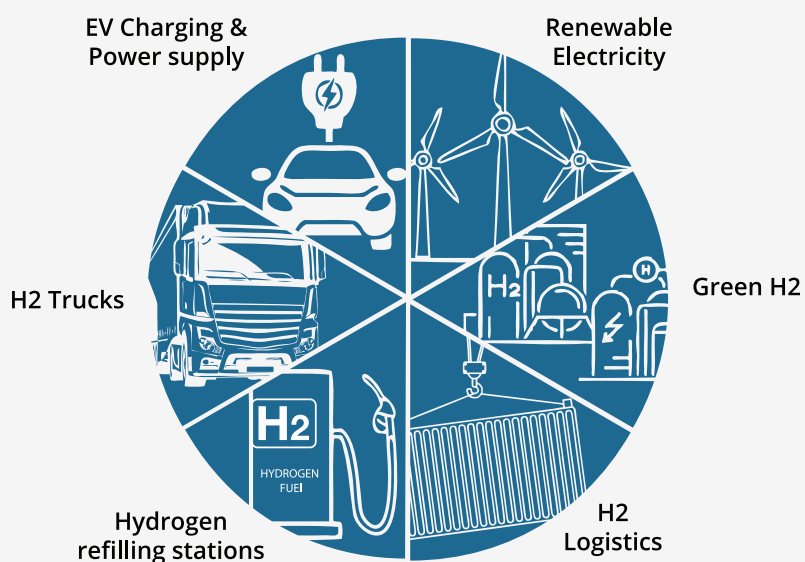
Specifications ²	Unit	kvyreen 80 GS	kvyreen 160 GS
Dimensions (W × L × H)	m	1.6 × 2.1 × 2.4	1.6 × 3.1 × 2.4
Weight (approx.)	kg	2,000	3,000
Max. inclination	degree	+/- 5 to horizontal	+/- 5 to horizontal
Ambient temperature ³	°C	-30 to +35	-30 to +35
Hydrogen supply pressure	bar	9 to 16	9 to 16
Max. altitude	m a.s.l.	1,500	1,500
Fuel cell system			
Rated power	kW	80	160
Hydrogen consumption ⁴	kg/hr	5.5	11
Hydrogen quality	-	ISO14687-2 2012 Type I, Grade D SAE J2719	
Electrical output⁵			
Power	kVA	100	200
Voltage	V	400	400
Frequency	Hz	50	50
Number of phases	-	3 + N + PE	3 + N + PE

² Specifications are work in progress and can be subject to change

³ Without de-rating of charging power

⁴ At rated power and beginning of life

⁵ Initial release of product capable of off-grid operation only



About Kvyreen

Kvyreen is a subsidiary of H2 Energy and is responsible for the global sales and marketing of the kvyreen product range. Founded in 2014, H2 Energy is a pioneer in the hydrogen industry and develops, engineers and invests in clean hydrogen eco-systems around Europe. The company is involved in the entire hydrogen value chain, offering know-how and engineering excellence every step of the way.

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