

Renewal of Hydrogen Production Unit “HYSERVE-300”
—Launch of “HYSERVE-300X” with Low-Cost and Compact Design—

September 27, 2023

Osaka Gas Co., Ltd.

Osaka Gas Liquid Co., Ltd.

Osaka Gas Co., Ltd. (Representative Director and President: Masataka Fujiwara, hereinafter referred to as “Osaka Gas”) has developed the hydrogen production unit “HYSERVE-300X” featuring lower cost and more compact design compared to the conventional model “HYSERVE-300”, which boasts the highest production capacity among the HYSERVE series.

Osaka Gas Liquid Co., Ltd. (President & CEO: Katsuya Yoshida, hereinafter referred to as “Osaka Gas Liquid”) will be responsible for the manufacture and sale of “HYSERVE-300X”, its installation at customer factories, and the supply of hydrogen produced by this unit.

The “HYSERVE-300” can produce high-purity hydrogen at a flow rate of $300 \text{ Nm}^3/\text{h}^*1$ from raw materials such as city gas and propane gas. It has world-class reforming efficiency.

The hydrogen production flow of the newly developed “HYSERVE-300X” has been fundamentally revised, resulting in a reduction in the number of component equipment. This has led to an approximately 40% reduction in size (reduced footprint)*3 compared to the conventional model, while reducing initial and maintenance costs. Osaka Gas Liquid has commenced the production of “HYSERVE-300X” in response to orders from semiconductor plants.

Hydrogen is utilized for various industrial applications, including the production of electronic components, such as semiconductors, and the heat treatment of metals. It also serves as an energy source supplied through hydrogen refueling stations and other facilities.

More than 50 years ago, Osaka Gas began developing the process of producing city gas from petroleum-based feedstock using catalysts.

In addition to the catalyst technology cultivated through producing city gas, we have been developing hydrogen production units using our own strengths, such as burner technology and gas purification technology.

Since the launch of “HYSERVE-30” in 2003, the lineup of the “HYSERVE series” has expanded to four models with different production capacities in response to customer needs. It is also possible to use biogas, a type of biofuel generated from sewage and food waste, and e-methane*4 produced from recovered carbon dioxide as raw materials for this unit.

Osaka Gas and Osaka Gas Liquid will continue to strive for the widespread of the “HYSERVE series” to promote the use of hydrogen in industrial and energy sectors, thereby contributing to the realization of a low-carbon/carbon-neutral society.

- *1: "Nm³" is a unit of gas volume converted into the standard condition of 0°C and 1 atmosphere pressure.
- *2: Reforming efficiency = Calorific value of produced hydrogen / Sum of the calorific values of raw materials and fuel
- *3: "HYSERVE-300" is 12.9 m wide x 3 m deep, whereas "HYSERVE-300X" is 8 m wide x 3 m deep (excluding the control panel).
- *4: Synthetic methane produced from non-fossil energy-based hydrogen, namely green hydrogen, and CO₂

1. Appearance of the newly developed model "HYSERVE-300X" (conceptual image)



2. Lineup of the "HYSERVE series"

Model				
	HYSERVE-5	HYSERVE-30	HYSERVE-100	HYSERVE-300
Raw materials	City gas, Propane gas, Biogas, etc.			
Hydrogen production capacity	5Nm ³ /h	30Nm ³ /h	100Nm ³ /h	300Nm ³ /h
Hydrogen purity	99.99% or more*	99.999% or more		

* 99.999vol% is also possible.

For more details, please contact Osaka Gas Liquid's Hydrogen Solutions Department through the following website.

<https://www.liquidgas.co.jp/english/contact/>

3. Company profiles

■ Osaka Gas Co., Ltd.

Headquarters	4-1-2 Hiranomachi, Chuo-ku, Osaka
Representative	Masataka Fujiwara, Representative Director and President
Establishment	April 10, 1897
Main business	Production and sale of gas; generation and sale of electricity, etc.

■ Osaka Gas Liquid Co., Ltd.

Headquarters	5th Floor, Sumitomo Building No. 3, 4-7-19, Kitahama, Chuo-ku, Osaka
Representative	Katsuya Yoshida, President & CEO
Establishment	July 1, 1991
Main business	Liquefied natural gas cryogenic energy utilization business, production and sale of high-pressure gases, sale of liquefied natural gas Design, construction, sale, and maintenance/management of supply facilities, equipment, devices, piping, etc. related to high-pressure gases Survey, research, development, consulting, etc.