

# Yamamoto Electric Works Co., Ltd.

Hyogo "Only-One" Company (certified in FY2020)

## [Company Profile]

|                  |   |
|------------------|---|
| Address          | 1-2-3 Nishishiriike-cho, Nagata-ku, Kobe-shi 653-0031                             |
| TEL              | 078-631-6000  |
| FAX              | 078-631-6020  |
| URL              | <a href="http://www.manostar.co.jp/">http://www.manostar.co.jp/</a> (In Japanese) |
| No. of employees | 122 (as of April 2021)  |
| Capital          | 30 million yen  |
| Founding         | July 2, 1971  |
| Representative   | Hirokazu Yamamoto   |

## [Business Overview]

Designs, manufactures and sells micro differential pressure gauges (Manostar series) and gas turbine engine peripherals

## [Technology]

"MANOSTAR series" at the forefront of micro differential pressure gauges



"MANOSTAR", which is now synonymous with micro differential pressure gauges in Japan, is our original brand name for the micro differential pressure gauge that we first developed in

1961. "MANOSTAR" means "become a shining star of manometers."

Since its launch, it has undergone thorough improvements, and now there is a lineup of Manostar gauges, Manostar switches, Manostar digital sensors, Manostar transmitters, and other related equipment. All of these products are highly evaluated for their excellent value for the price and wide variety of accessories.

## **[History of Development]**

In 1963, expensive overseas-made micro differential pressure gauges were the mainstream. We started developing micro differential pressure gauges on the request of a major heavy industry manufacturer. At that time, the grandfather and father of our current president had been repairing measuring gauges for ships, and that seems to be why we received such a request.

At the beginning, about 100 units were manufactured, but they hardly sold. Through improvements mainly in terms of performance, the prototype of the current Manostar series was completed.

## **[Originality]**

Micro differential pressure gauges have a very complicated mechanism. Their parts are diverted from watches and other devices, a differential pulley system is used for balance, and a bundling mechanism is used to directly connect the pressure receiver part to the pointer.

In addition, the digital micro differential pressure gauge EMD8A is the world's smallest sensor that uses a diaphragm as the pressure receiver.

## **[Future Development]**

As digital technologies such as IoT, DX, and AI continue to develop, it is necessary for us to develop and evolve products with added value such as communication functions and more efficient power supplies.

## **[Topics]**

Launch of new product, "QDP33"

"QDP33" is our first product to use a domestically manufactured MEMS sensor through joint research with Tohoku University. It took 5 to 6 years to complete the sensor and a total of 10 years to bring it to market.

Our new product, which is planned to be launched in April 2021, has a 10-pascal range, probably the world's smallest "ultra-low" pressure range.



## [Corporate History]

- 1948 Hajime Yamamoto, the founder, remodeled his home in Suma-ku, Kobe-shi, and opened Yamamoto Electric Measuring Machine Works with his father.
- 1961 Succeeded in producing our first micro differential pressure gauge, the "LOW MANO," which became the first one to be brought to market in Japan.
- 1965 Establishment of the "Manostar" brand
- 1967 Developed "Auto-uniter," an automatic winder for air filters of air conditioners, and developed "Taisan Ark" and "Arc Star" in collaboration with Teikoku Sanso, which contributed to the production of trolleys for Shinkansen trains.
- 1971 Established Yamamoto Electric Works Co., Ltd. Hajime Yamamoto appointed as President and Representative Director.
- 1976 Cooperated with Kawasaki Heavy Industries in developing industrial and emergency gas turbines, and succeeded in developing original engine control electronic devices and auxiliary equipment.
- 1977 Established Takatori Factory, which mainly manufactures electrical and mechanical devices for Kawasaki Heavy Industries.
- 1981 Increased capital to 30 million yen.
- 1982 Succeeded in developing a fuel control device for all-electronic gas turbine engines.
- 1985 Developed the electronic micro differential pressure measurement system "Manosys."
- 1986 Developed improved versions of the Manostar products "MS65," "MS61," "FR51" and "WO70" to meet the demand for high-precision and high-sensitivity products.
- 1990 Developed the 40kW starter motor "SM40."
- 1992 Developed and sold "WO81," an improved Manostar product, and "EMT6," a small and low-priced Manosys pressure transmitter.
- 1996 Developed the DC magnet switch "RY23," and developed and sold a small digital micro differential pressure gauge, "EMD7."

- 2000 Constructed a new headquarters factory in Nagata-ku, Kobe-shi and relocated there.
- 2002 Received UL certification. Developed and sold the EC directive-compliant small digital micro differential pressure gauge, "EMD7."
- 2003 Developed improved Manostar switch "MS61A" and improved small-sized 2000ADC magnet switch "RY20A." Shigeyuki Shirai appointed as President and Representative Director.
- 2004 Received ISO14001 certification.
- 2006 Received ISO9001 certification. Began to be actively engaged in developing ecological products, and started selling products compliant with the Restriction of Hazardous Substances Directive (European Union Directive 2002/95/EC). Hirokazu Yamamoto appointed as President and Representative Director.
- 2008 Developed and sold a gas turbine engine control box (SL5), the Manostar switch "MS30," and the compact digital micro differential pressure gauge "EMD8."
- 2010 Developed and sold the improved Manostar product "FR51A."
- 2011 Sold the "EMP5" receiver and "EMA3" controller.
- 2014 Developed and sold the improved digital micro differential pressure gauge "EMD8A."
- 2016 Opened the Yokohama branch office. Developed and sold the Manostar switch "MS99V."
- 2017 Developed and sold the Manostar gauge "WO71R, FV, PV" and the Manostar switch "MS99 C."
- 2018 Developed and sold the Manostar gauge "WO71FS, PS," Manostar switch "MS99S," receiver "EMP5A," Manostar transmitter "EMT1H (ic)," and gas mixer "GMX."
- 2019 Developed and sold the Manostar digital sensor "QDP33," and Manostar transmitter "EMT1H (ia)."
- 2020 Certified as a Hyogo "Only-One" Company.