

Plumbing Hardware Dancing in the Water

After going through a rise and fall, the plumbing industry began to engage in technical arts and aesthetics, which has led to a new competitiveness.

In the 1960s, the plumbing industry started to rise and boom in Dingfan Village, Changhua County for 20 years. In the 1990s, the industry faced transformation difficulties due to the factory relocation and global competition. MIRDC determinedly took the initiative and has continued to furnish the industry with technical support and innovative capacities since then.

Since 1999, MIRDC has implemented a series of guidance programs in order to provide a full range of services for plumbing manufacturers. Thousands of manufacturers have received guidance from MIRDC, which has not only put effort into the origin of product design but introduced the concept of ergonomics. At the same time, MIRDC has endeavored to promote the patent licensing system, including pressure balance valve patent, thermostatic and control valve patent. A complete database has been built over the past decade. MIRDC also built the sanitary valve inspection laboratory which won the overseas IAPMO (International Association Plumbing and Mechanical Officials) laboratory accreditation. With this certificate, MIRDC has successfully assisted manufacturers in obtaining export permits in North America.

Indeed, MIRDC's great technical capability

provides a strong back-up for manufacturers. Aside from analysis mechanism design, pressure balance valve technology, and transferring the functions of control valves, MIRDC has also supported related manufacturing technologies as well. MIRDC has built a lot of management SOPs, including ISO 9001 quality control systems, GLM (Global Logistics Management) systems and customer service management systems, and intends to conduct an overall transformation on both the hardware and software sides.

In 2011, responding to the new U.S. inspection requirements for NSF faucet harmful substances, MIRDC received assistance in equipment establishment from the Department of Industrial Technology, Ministry of Economic Affairs and qualification guidance from IAPMO. In the future, MIRDC's lab is expected to provide services for inspection and certification of toxicity, performance, endurance, pressure and anti-scalding.

In addition to safety, harmless material, green and energy-saving designs, human-based, intelligent operation interfaces have also been a trend in the valve industry. In the future, MIRDC will continue to reinforce lab functions, deepen product design technologies, manufacturing and analysis, and assist manufacturers in expanding into markets in Europe, Asia and Australia.

Green, Clean Energy Moving Ahead

Energy-saving, quiet and lightweight mainstream thoughts have facilitated electric vehicles to become the focus of the green-energy automotive industry.

More than 150 of Taiwan's manufacturers have invested in electric vehicles. In 2009, MIRDC has completed "the MIRDC EV No.1 lightweight electric concept vehicle" and laid the foundation to form industrial clusters. In 2010, the Executive Yuan approved "The development strategies and plans for smart electric vehicles," which have been executed for three years. At present, there are six domestic and foreign manufacturers of electric vehicles and eight types of pure electric vehicles, including electric automobiles and electric buses, which have attained VSCC accreditation (Vehicle Safety Certification Center) and participated in domestic demonstration projects.

MIRDC has put a lot of effort into the R&D of chassis, especially concerning safety, riding, and handling ability. Firstly, the weight of the MIRDC EV No. 2, chassis was reduced by 16.6% due to the use of a lightweight aluminum alloy and tube structure. After that, the MIRDC EV No. 3 successfully built a chassis structure assembly of space frame modules through the use of a variable matching design of key component modules.

Since the electric vehicle industry was one of the emerging industries, MIRDC established an exchange platform in 2010 for five major industrial

clusters, including powertrains, energy storage, accessories, system integration and niche electric vehicles in order to encourage the vertical interaction of manufacturers. In 2012, extra web pages about e-Supply Chain in English were added to the MIRDC's website for the purpose of displaying Taiwan's electric vehicles and components of fine quality. Since then, fifteen R&D alliances have been founded in three years while eight R&D alliance projects, such as the cooperation project of TECO Corp. and Chroma ATE Inc, have been approved.

Batteries are a key module of electric vehicles. An excellent energy management system is critical for extending the product life of batteries. In recent years, MIRDC has also put effort into the R&D of battery management systems. In order to cope with the trend of small quantity large variety and high quality, MIRDC will develop compatible space frame chassis which can be installed in a variety of xEV, C-Segment models, L6/L6 micro cars, etc. At the same time, a trial manufacturing center of vehicle components will be established in order to shorten the development and manufacturing time of CBU plants and bring domestic vehicle components factories into the international supply chain.