



Location	Longgang District, Shenzhen	
Site area	100,000m ²	
Established	August 1992	
Employees	1,614	
Main products	High efficiency air-cooled screw water chiller (heat pump / heat recovery) unit, air-cooled screw water chiller (heat pump / heat recovery) unit, modular variable frequency air-cooled heat pump unit, modular air-cooled water (heat pump) unit, small air-cooled water heat pump unit, water-cooled vortex water chiller, advanced purified air treatment unit, combined air conditioning unit, small clean central air conditioning unit, cabinet air conditioning unit, total heat recovery fresh fan unit, fan coil unit, concealed ceiling split air conditioner, ceiling embedded split air conditioner, roof air conditioning unit, air-cooled air/heat pump type high static pressure pipe air conditioner, open suspended ceiling type split air conditioner, water cooler, water heat pump unit, split water source heat pump unit, modular water cooler, integrated water source heat pump unit, modular air source heat pump water heater, multi-unit, refrigeration, magnetic suspension, etc.	
ISO 9001 certified	February 1996	
ISO 14001 certified	March 2004	
OHSAS 18001 certified	April 2010	
Green Heart Factory certified	Month 0000 rank: Silver	

Environment: Efforts to Reduce Environmental Impact

■ Increased use of volatile oil in fin pressing

1. Before improvement:

Since the automatic volatile oil pump for fin pressing could not completely discharge volatile oil from metal drum and the residual oil had to be disposed of as hazardous waste, it was not cost effective and the amount of hazardous waste continuously increased.

2. After improvement:

We made a 30-degree tilt cart to put a metal drum on. As a result, the automatic oil pump is now able to completely discharge volatile oil from a metal drum, reducing excessive cost and the amount of hazardous waste.



3. Efficiency and profit:

- We reduced the amount of waste volatile oil by about 0.6 ton per year.
- We saved the cost of volatile oil by approximately 19,000 yuan per year.

■ Automation of manual inspection at assembly lines C, D, and E

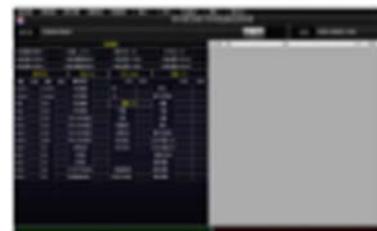
1. Before improvement:

All operational inspection processes were manually conducted including energization of units, adjustment and turning on/off of water flow, and water blowoff. Human operators evaluated items and results of operation test and human resources were intensively used also in manual transcription of operation data into the record book, Time spent in operation test was 840 seconds per unit.



2. After improvement:

Units are automatically operated after relevant bar codes are scanned during the test process. Operation items to be tested are automatically run and the evaluation of test results have also been automated. Operation data are also automatically recorded into the computer. Time spent in operation test was 720 seconds per unit.



3. Efficiency and return :

- Electricity consumption was saved by about 20,000 kWh per year.
- CO₂ emission was reduced by 18.9 tons per year.
- The operation cost was reduced by approximately 18,000 yuan per year.

Environment: Activities to Protect Biodiversity

■ Construction of sponge city

In FY2019, McQuay newly built a green botanical garden with rain water storage function within its plant to enhance its drainage capability and maintain its biodiversity through sponge facilities such as green spaces and pools.



■ Tree Planting Day

In March 2019, the Environmental Management Committee held a tree planting festival under the slogan of "Protect the environment together, McQuay will continue to work on it". They planted 188 fukien tea and golden leaf trees on the premises of the plant.



Environment: Environmental Communication Examples

■ Handmade Creative Production Competition by Parents and Children for Environmental Protection

In June 2019, the Environmental Management Committee held "Handmade Creative Production Competition by Parents and Children for Environmental Protection."

Our employees and their children worked together to create environment-friendly hand-made works from recycled materials in order to cultivate the next generation's awareness of the environment.



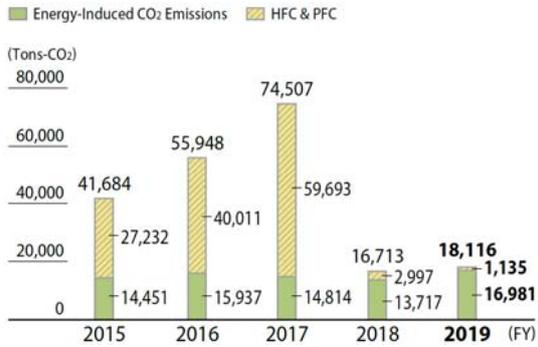
■ Riddle guessing related to environment protection and messages on environmental trees

In June 2019, the Environmental Management Committee organized the company's employees to hold an event of riddle guessing. The purpose of this event was to enhance our employees' awareness of environment protection through riddle guessing games and message writing on the "environment tree".

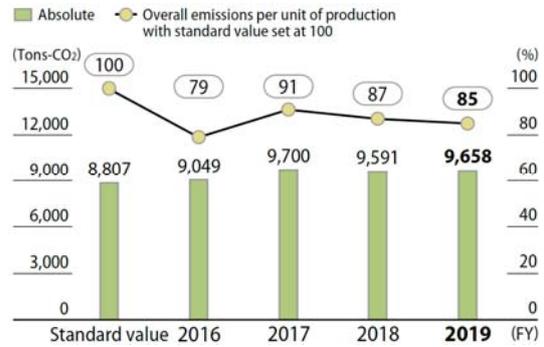


Environment: Environmental Performance Data

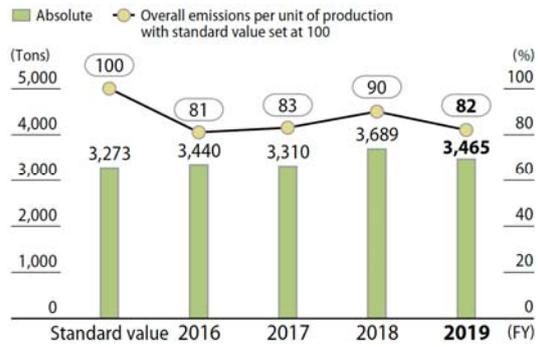
Greenhouse gas emissions



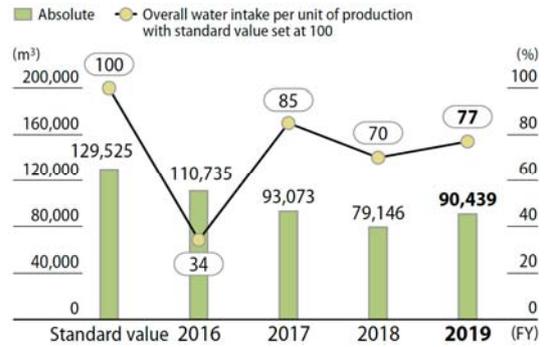
Energy-induced CO₂



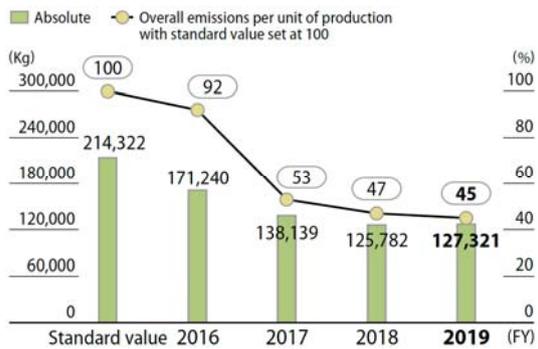
Waste (Including valuable materials)



Water intake



VOC emissions

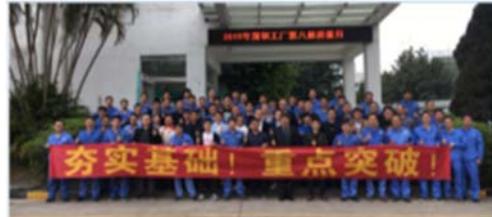


Customers Satisfaction: Efforts to Improve Product Quality

■ QCC training for quality improvement at both of McQuay and suppliers' sides

On December 19 and 20, McQuay invited National Senior Corporate Trainers to our plant to provide a 2-day QCC training for 60 participants from our 30 suppliers, Production Engineering, Production, and Quality Control.

The training was composed of 2-day classroom lecture and 1-day practical training. The purpose of this training was to enable our suppliers and colleagues to better understand QCC methods, improve those methods and the ability to solve problems on a team basis, and provide active and long-term support for control of our production quality and cost.



Customers Satisfaction: System to Reflect Customer Needs

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In 2019, the heating facility reconstruction project of Qinling and other stations in the Baocheng Line in Xi'an City used 24 McQuay's air source heat pump units called "Jiaoyang (Strong Sunshine)" to replace the old boiler-type heat source supply system. Since the old cast heating sheet at the secondary side had to be kept after this modification, the heat pump unit requires the water temperature of 60°C or higher. Due to the difference in elevation and altitude among the sites, the climate varies greatly. The extreme temperature under the worst weather condition in the winter is below -20°C. Under this condition, the lowest operating ambient temperature of McQuay's "Jiaoyang" air source heat pump unit can reach -30 °C, the maximum temperature of water discharged from the unit 62 °C, and the maximum heating COP 4.0. Since highly efficient, energy saving, and clean electric and pneumatic energy is adopted, air pollution does not occur. In such a cold region, "Jiaoyang" is considered as the best solution for retrofitting old heating sheet.



Human Resources: Training for Employees

■ Employee training

In order to improve the overall competence of employees, we provided 49 training programs except for skill training this fiscal year. 565 employees participated in the training programs categorized into:

1. TWI education
2. Training for improvement of team leader competence
3. Business reception courtesy and attractive image creation
4. Speech and Job Reporting
5. Training for improvement of Office software application skills
6. Training for analysis of potential invalidity of FEMA



■ Training for technical trainer

1. In FY2019, one brazer participated in the training for technical trainer held at Ares Aotani (Japan) and obtained LT certification.
2. In April 2019, we invited two sheet metal processing masters from DIL to evaluate seven technicians. Three candidates were selected from them for participation in the three-year training program to develop them to become highly-skilled engineers. We have received four times of technical support so far. In November 2019, two technicians participated in the technical training at Ares Aotani.



Human Resources: Promoting Diversity

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We invited two technical advisors from DIL for improvement instructions.

1. Advisor, Product Engineering Department

- Hisanori Nishino



2. Advisor, Quality Control Department

- Toshikazu Ohno



Human Resources: Efforts to Occupational Safety and Health

■ Training for cardiopulmonary resuscitation

In July 2019, the “First Aid Capability Improvement Activity” was held as a monthly safety activity. The members of each department's safety executive committee and employees were trained for the first aid capability in cardiopulmonary resuscitation. They acquired first aid techniques to apply to employees, families, and society and rescue those who need first aid measures and support and save their lives.



Communities: Environmental Protection Activities

■ Outdoor group running activity

In October 2019, we held an outdoor running activity to suggest that we take a “green journey” to be environment friendly. We took this opportunity to go on a green trip and advocate energy conservation and emissions reduction.



Communities: Support for Educational Activities

■ Social practical activity for employees' children during the summer break

In July 2019, we invited the children of our employees to our plant to make them watch the manufacturing process of air conditioners and understand what air conditioning is. We showed them the history of McQuay and gave them a tour of General Skill Dojo, Safety Dojo, and Environment Dojo.



Communities: Other Regional Activities

■ Volunteer Cleaning Activity at Mount Julong

In March 2019, the Environmental Management Committee organized employees to climb to Mount Julong and pick up garbage on the road.



■ Global no-car day

In September 2019, the Environment Management Committee held a global "no-car" day event. They suggested that employees should move in a low-carbon manner and walk or use public transportation to their workplace instead of driving their private cars. 97 employees participated in this event. As a result, 0.33 tons of CO₂ was reduced.



External Evaluation: Awards

■ Energy-saving Employees House of the Province 2019

Host Organization:
广东省一般労働組合
Recipient:
シンセンマクケイ空調有限公司



■ Top Brand in China's Heat Pump Industry

Host Organization:
广东省一般労働組合
Recipient:
シンセンマクケイ空調有限公司

