Nagasaki Port Night View

Nagasaki Kunchi Festival (Dragon Dance)

Brief History

1857 At the request of the Tokugawa Shogunate Government, a group of Dutch engineers led by Hendrik Hardes started construction of Nagasaki Yotetsusho (predecessor of Nagasaki Shipyard & Machinery Works).

1860 The foundry was renamed Nagasaki Seitetsusho and the ironworks was opened in March 1861.

1908 Japan's first power generating turbine (output 500 kW) was completed through a technical tie-up with England-based Parsons & Company and installed at the central power station of Mitsubishi Shipyard.

1911 The first boiler was made following acquisition of boiler production rights from England-based Nesdrum Boiler Manufacturing Company.

1934 The works was renamed Nagasaki Shipyard & Machinery Works.

1963 Production facilities at the Machinery Division were modernized.

Brazil-based CBC Industrias Pesadas S.A. was acquired by three companies of the Mitsubishi Group (Mitsubishi Heavy Industries, Ltd., Mitsubishi Corporation and Mitsubishi Electric Corporation) and made into the South American boiler production site.

1971 Boiler-Tube and Pipe-Header Shops were built in the Fukahori/Koyagi areas (Nagasaki City).

1981 Works were constructed newly in the Fukahori area for the exclusive production of large coal-fired boilers.

1993 Electronics Shop was built.

MHI Technical Services Corporation (MTS; currently MHI Power Technical Services Corporation) established in the Philippines as an overseas design company.

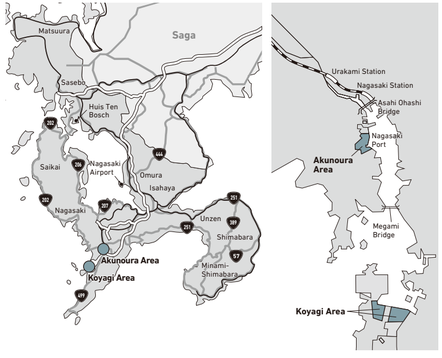
2007 Celebration of the 150th Foundation anniversary.

A joint venture was established with Larsen & Toubro Limited (L&T), a leading construction and heavy machinery company based in India.

2010 Joint venture with Larsen & Toubro Limited (L&T) starts local production of turbines and boilers.

2014 Mitsubishi Hitachi Power Systems, Ltd. was established as a joint venture company between Mitsubishi Heavy Industries and Hitachi integrating thermal power generation systems and other related businesses, therefore changing the name to Nagasaki Works of Mitsubishi Hitachi Power Systems.

2020 Established Mitsubishi Power, Ltd.
Mitsubishi Power's Nagasaki Works was formed as a result.



Access

Akunoura Area

1-1, Akunoura-machi, Nagasaki City, Nagasaki 850-8610, Japan Phone: +81-95-828-6003

[By bus] Take a bus for Tategami, Kaminoshima or Nishidomari from JR Nagasaki Station and get off at Iwasedo (Approximately 20 minutes).

[By taxi] Approximately 45 minutes from Nagasaki Airport
Approximately 10 minutes from JR Nagasaki Station

Koyagi Area

180 Koyagi-machi, Nagasaki City, Nagasaki 851-0393, Japan

[By bus] Take a bus for Koyagihonmura from JR Nagasaki Station and get off at Nagahama or Koyagiguchi (Approximately 55 minutes).

[By taxi] Approximately 60 minutes from Nagasaki Airport
Approximately 35 minutes from JR Nagasaki Station

Mitsubishi Power, Ltd.
power.mhi.com

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MITSUBISHI POWER

NAGASAKI WORKS

Integrated Coal Gasification Combined Cycle Power Plants (IGCC)

MOVE THE WORLD FORWARD MITSUBISHI HEAVY INDUSTRIES GROUP

NAGASAKI SINCE 1857

Creating the Future with Comprehensive Energy Technology

Nagasaki Works was established in 1857 as Nagasaki Yotetsusho, or steel works, and has developed into a central facility for machinery manufacturing. Globally, it plays a key role in terms of the innovation and development of thermal and geothermal power plants, fuel cells, and integrated coal gasification combined cycle power plants (IGCC).

Area

547,769 m²

International Certifications

- ISO 9001 Quality Management System
- ISO 14001 Environmental Management System

Annual Production Capacity

Land SteamTurbines 3,000 MW

Land and Marine Boilers 5,900 MW

NAGASAKI WORKS

Main Products


Misumi Thermal Power Station (Unit 1) (Japan), 1,000 MW: The Chugoku Electric Power Co., Inc.

Boiler

Selective Catalytic Reduction (SCR)


Nakoso Power Station (Unit 10 (Japan), Joban Joint Power Co., Ltd.

Gasifier, Heat Recovery Steam Generator

Steam Turbine


Hellisheidi Geothermal Power Plant (Iceland), Reykjavik Energy

Geothermal Power Plant

Fuel Cells


MRS Mill


Axial Flow Fan with Variable Pitch Rotor Blade

Boiler Machinery

Plant Control System

Outline

Akunoura Area

The Akunoura Area has a long history dating back to its foundation in 1857 as the Nagasaki Yotetsusho Foundry established by the Tokugawa Shogunate Government.
The turbine shop, with an annual production capacity of 3,000 MW, uses highly automated facilities and equipment to manufacture high performance steam turbines, ranging from large 1,000 MW operations to those for geothermal power generation, vessels, and other various industrial purposes.
The Akunoura Area also has electronics, fuel cell shops and Remote Monitoring Center (RMC) that produce state-of-the-art technological products.

1. Main Gate
2. Main Office
3. Electronics Shop
4. Turbine Blade Shop
5. Turbine Shop
6. Museum
7. SOFC Shop

Koyagi Area

The Koyagi Area was founded in 1972.
The IGCC & Boiler Shop boasts an annual production capacity of 5,900 MW, making it the largest in the country. The shop is equipped with state-of-the-art automated lines, facilities and equipment capable of manufacturing large 3,800-ton modules to produce massive-sized, high quality and high performance IGCC & boilers.

8. IGCC & Boiler Shop (Gasifier Pressure Vessel, Gasifier Water Wall, Module Shop)
9. Module Center
10. IGCC & Boiler Shop (Furnace Wall & Economizer Tube, Gasifier Water Wall Shop)
11. IGCC & Boiler Shop (Pipe-Header & Module Shop)
12. IGCC & Boiler Shop (Superheater & Reheater Tube Shop)
13. IGCC & Boiler Shop (Gasifier Pressure Vessel Shop)
14. Mitsubishi Heavy Industries, Ltd. Research & Innovation Center

Main Production Facilities

Akunoura Area

Machining Facilities	Large NC combined production milling machine (GANTRY PLANO MILLER): 8,500 (W) × 16,000 (L) × 4,200 (H) mm Large NC lathe: 4,200 (D) × 14,500 (L) mm Large NC vertical lathe: 8,500 (D) × 5,000 (H) mm
Assembly Facilities	Turbine-rotor large high-speed rotation testing machine Turbine governor test facilities
High-Tech Facilities	Computer control systems assembling tester, Environmental testing facilities, Simulator training center, Remote Monitoring Center (RMC)
	Fuel cell manufacturing facilities

Koyagi Area

Boiler Production Facilities Superheater & Reheater Tube Shop	TIG automatic welder, Assembling and welding robot Continuous bender Continuous heat treatment facilities
Boiler Production Facilities Furnace Wall & Economizer Tube, Gasifier Water Wall Shop	Multiple head panel processing machine, capable of 44 welding head simultaneous welding Automatic tube elongation facilities Spiral fin tube welder Assembling and welding robot
Boiler Production Facilities Pipe-Header & Module Shop	High-Frequency pipe bender, NC header boring machine, MIG automatic welder, Header nozzle welding robot
Boiler Production Facilities Gasifier Pressure Vessel, Gasifier Water Wall, Module Shop	Large sized annealing furnace: 7,500 (W) × 13,000 (L) × 7,500 (H) mm 400-ton overhead travelling crane (overhang) Welding machine for large sized pressure vessel 6 MeV "LINAC" Non-Destructive Tester
Assembly Facilities	Large fan test facilities

Combustion Test Facility

Mitsubishi Power has a combustion test facility that features the world's largest capacity of coal combustion (4 tons/hr).
The facility was built to achieve more advanced combustion technologies, the core factor in boilers, particularly in terms of lower emissions of nitrogen oxides (NOx), less unburned combustibles and lower excess air ratio. The facility can accommodate a wide variety of fuels, including bituminous coal, subbituminous coal, lignite, anthracite, biomass, petroleum coke and residual oil. By significantly improving combustion evaluation capability, we are pushing ahead with the development of boilers that contribute to further reducing fuel costs, thereby enhancing availability and easing environmental impact.

World Cultural Heritage "Sites of Japan's Meiji Industrial Revolution"

In 2015, the five facilities in Mitsubishi Heavy Industries Nagasaki Shipyard & Machinery Works were registered as World Cultural Heritage "Sites of Japan's Meiji Industrial Revolution," which consist of 23 sites located in 8 different prefectures.

Former Pattern Shop
(now used as a museum)

Senshokaku Guest House
(Not open to public)

No.3 Dry Dock
(Not open to public)

Kosuge Slip Dock
(Abacus Dock)

Giant Cantilever Crane
(Not open to public)