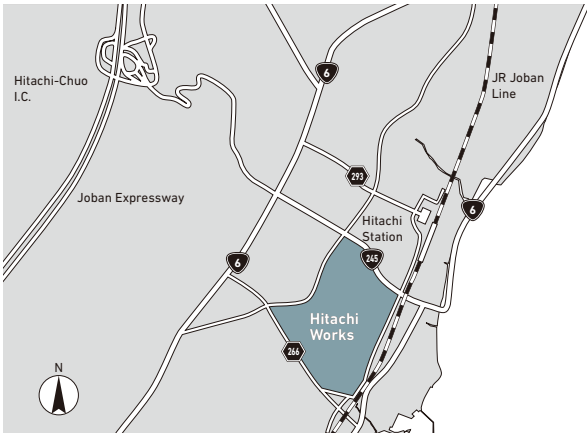




Installation of World's Largest High Speed Balance (HSB)

#### Brief History

- |      |  |      |  |
|------|--|------|--|
| 1910 | Started machine manufacturing and repairing as an independent annex to Hitachi Mine, Kuhara Mining Co., Ltd. | 1993 | Gas Turbine Research & Development Center built.   |
| 1912 | Started marketing products as Hitachi Seisakusho Kuhara Mining Co., Ltd.                                     | 1997 | 70 MW Class Superconducting Generator completed.   |
| 1918 | 1,000 kVA Steam Turbine Generator completed.   | 2010 | Celebrated its 100th year in business.   |
| 1920 | Incorporated as Hitachi, Ltd. with ¥10 million paid-in capital.  | 2011 | Kaigan Factory damaged during Great East Japan Earthquake. (Declaration of full restoration made after two weeks.)   |
| 1930 | Kaigan Factory established.  | 2014 | Mitsubishi Hitachi Power Systems, Ltd., a joint venture company formed by Mitsubishi Heavy Industries and Hitachi, integrating thermal power generation systems and other related businesses, established. Mitsubishi Hitachi Power Systems' Hitachi Works was formed as a result. |
| 1933 | 2.8 MW Land Steam Turbine completed.   | 2016 | Hitachi Works Main Building Opened.  |
| 1945 | Kaigan Factory destroyed.  | 2020 | Established Mitsubishi Power, Ltd. Mitsubishi Power's Hitachi Works was formed as a result.  |
| 1956 | The electrical machinery repair shop was named the Initial Workshop and restored in the Kaigan Factory.      |      |  |
| 1972 | The first Nuclear Turbine (138.6 MW) completed.  |      |  |
| 1988 | The first H-25 Type Gas Turbine (25 MW class) completed.   |      |  |



#### Access

##### Hitachi Works

1-1, 3-chome, Saiwai-cho, Hitachi-shi, Ibaraki 317-8585, Japan  
Phone: +81-294-55-0111

[By train] Take the JR Joban Line to Hitachi Station.  
About 10 minutes on foot

# HITACHI WORKS



Turbine Generator



## HITACHI SINCE 1930

### Powering the Energy Needs of Tomorrow

Hitachi Works was founded in 1930 as an electrical equipment repair and manufacturing facility. After nearly a century of developing sophisticated technologies, precision manufacturing and cutting-edge facilities, it has remained a microcosm of industrial pioneering and continues to push the envelope with societal enrichment as its primary objective.

#### Area

About 434,000 m<sup>2</sup>

#### International Certifications

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

#### Annual Production Capacity



Mitsubishi Power, Ltd.

power.mhi.com

MP43-02CC02E1-A-0, (3.0)20-9, ZTP



# HITACHI WORKS

## Main Products



Thermal Power Steam Turbine Generator



Nuclear Power Steam Turbine Generator



Hydro Pump-Turbine (Commissioned product by Hitachi Mitsubishi Hydro corporation)



H-25 Gas Turbine



H-100 Gas Turbine

## Outline



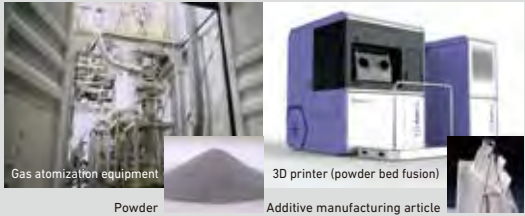
- |  |   |  |
|--|---|--|
| 1 Main Gate  | 9 Steam Turbine Blade and Vane, Mid-Sized Component Shop          | 17 Second Large Component Machining and Assembly Shop for Turbines |
| 2 Main Office                                      | 10 Gas Turbine Stationary Blade and Vane Shop                     | 18 350-ton High Speed Balance (HSB)                                |
| 3 Long Blade Welding Shop for Steam Turbines       | 11 Gas Turbine Rotating Blade Shop                                | 19 Generator Component Control Shop                                |
| 4 First Combustor Shop for Gas Turbines            | 12 Steam Turbine Long Blade Shop                                  | 20 Large Generator Machining and Assembly Shop                     |
| 5 Second Combustor Shop for Gas Turbines           | 13 Generator Core Stamping Shop                                   | 21 Machining Shop for Generator Components                         |
| 6 Large and Mid-Sized Fabrication and Welding Shop | 14 Large Component Assembly Shop                                  | 22 Generator Coil Shop   |
| 7 Mid-Sized Component Shop for Steam Turbines      | 15 Additive Manufacturing Shop (AM-Zone®)                         |  |
| 8 Gas Turbine Hot Parts Coating Shop               | 16 First Large Component Machining and Assembly Shop for Turbines |  |

## Additive Manufacturing Shop (AM-Zone®)

Our company has original material technologies for metal additive manufacturing, which enables us to provide the alloys with optimized mechanical properties for different purposes. The Hitachi Works integrates whole AM production supply chain, which starts from the development and production of metal powder used as a material to metal additive manufacturing, product finishing, and even final inspections.

※AM : Additive Manufacturing

- Our equipment include master ingot melting, gas atomization, various types of metal AM equipment, machining equipment, and 3D dimensional measuring equipment.



## Main Production Facilities



CNC Large Rotor Lathe



High Speed 5 Axes Machining Center for Steam Turbine Blades



CNC Large Portal Boring and Milling Machine



Side-Entry Processing Machine for Turbine Rotor



CNC Horizontal Boring and Milling Machine (Spindle Diameter: φ200)



6,000-ton Hydraulic Press