

Matsuyama Kigata Industry Co., Ltd.



A specialist in small-to-medium lot and mass production precision machining with divisions focusing on prototype development and manufacturing various molds

Assumed field Wind Turbine Manufacturing / O&M > Casting Tooling Manufacturing



Integrated production system starting with manufacturing casting molds: Manufacturing molds and processing various types of casting machinery

Matsuyama Kigata Industry handles everything in-house, from wooden master models for casting, cores, and sand molds to mass-production molds (HPDC/GDC), to achieve short lead times, low costs, and stable quality. Maintaining precision machining, resin mold model machining, and measurement divisions, the company boasts a proven track record in manufacturing a broad range of components for diverse industries including automotive, agricultural machinery, semiconductors, heavy industry, hydraulics, aerospace, and nuclear power. Handling diverse materials ranging from cast iron and aluminum to general steel, the company is equipped to machine large components using five-axis, five-face machining centers. Utilizing approximately 120 machining centers, the company has mass production capabilities at a scale of several thousand units per month. It maintains a robust quality control system for mass production, honed through experience in the automotive sector.

- Materials used: FC, FCD, AC, ADC, special materials (material tune-up)
- Max. size/weight: 2,500 mm × 6,500 mm × (H) 1,850 mm; 10-t weight
- Various machining centers × 126; NC lathes × 46
- Licensing/authorization: Certified factory for nuclear components



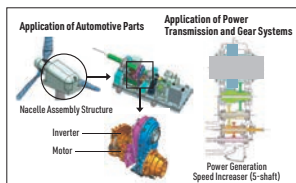
Leveraging strengths in manufacturing prototypes of large casting components: Establishing a system specialized for development support

The company conducts sand-mold prototyping of large aluminum casting components (gigacasting) for integrated molding of automotive body parts at its prototype plant. This significantly reduces part count and manufacturing processes, contributing to cost reduction, improved production efficiency, and weight reduction. The company focuses on prototype support with mass production in mind after verifying drive components and engine-related cast parts through 3D printing (ABS resin). Designed for mass production from the prototype stage, the company's quality management system is highly regarded. It is frequently involved in new vehicle development directly commissioned by automotive parts manufacturers.

- Materials used: FC/FCD, AC materials, and other tune-up materials
- Manufacturing size/weight: 5-t mold weights

Technical Achievements and Case Studies

Prototyping and mass production of nacelle components for onshore wind power generation



Matsuyama Kigata Industry has a proven track record providing end-to-end support, from prototyping to mass production, for components inside nacelles for onshore wind power generation. Performing precision machining using large machining centers, the company uses aluminum cast components as the material.

Reverse engineering production for heavy load conveyance



Matsuyama Kigata Industry is equipped to create new products from existing physical parts, even when drawings or 3D models are unavailable. It maintains reverse engineering capabilities from mold making to casting production, leveraging scanning technologies to reconstruct 3D data. Application of these capabilities is anticipated in the wind power generation sector, including those involving overseas technologies.

Main Equipment and Machinery [Specification / Unit]

- Gantry machining centers (5-axis, etc.): 2,500 × 6,500 × 1,850, etc. / 8units
- Horizontal machining centers (U-axis, 5-axis, etc.): 1,270 × 900 × 1,100, etc. / 68units
- Vertical machining centers (5-axis, etc.): 1,050 × 900 × 820, etc. / 50units
- Lathes (Multi-function machines, CNC vertical lathes, NC lathes, etc.): 410 × 280 × 120 × 500, etc. / 57units
- Vertical NC milling machine: 1,050 × 550 × 550 / 1unit
- CAD/CAM (CATIA/IGES, etc.)
- Flow/solidification analysis software

Company Information

Business: Mold Manufacturing and Precision Machining (Prototype and Mass Production)
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