

Brochure

Synchronous generators for steam and gas turbines

Proven generators – reliable power



We provide motors, generators and mechanical power transmission products, services and expertise to save energy and improve customers' processes over the total life cycle of our products, and beyond.

The world's leading supplier of generators

ABB has been manufacturing motors and generators for more than a century. With a product portfolio that covers the power range from 14 kVA to over 80 MVA, we are widely acknowledged to be the world's leading supplier of electric motors and generators.

We have supplied thousands of synchronous turbine-driven generators to power utilities, paper mills, sugar plants, oil and gas installations, and many other sectors. These generators are producing power reliably and efficiently in all kinds of conditions, both on- and offshore, around the world. Our unrivalled experience in generator applications means you can be confident that we will supply the optimum solution to meet your requirements.

We know that local support and fast response are essential in critical power generation applications. Thanks to our global organization and network of local service centers, we can quickly deliver competent support wherever our generators are installed. For our customers this means maximum power production with minimum downtime.

Quality comes first

At ABB we put quality first. In all the decisions we make and work we do – whether in R&D, sourcing, manufacturing, sales, or any other area – we follow our own rigorous quality program. In addition we comply with the requirements of

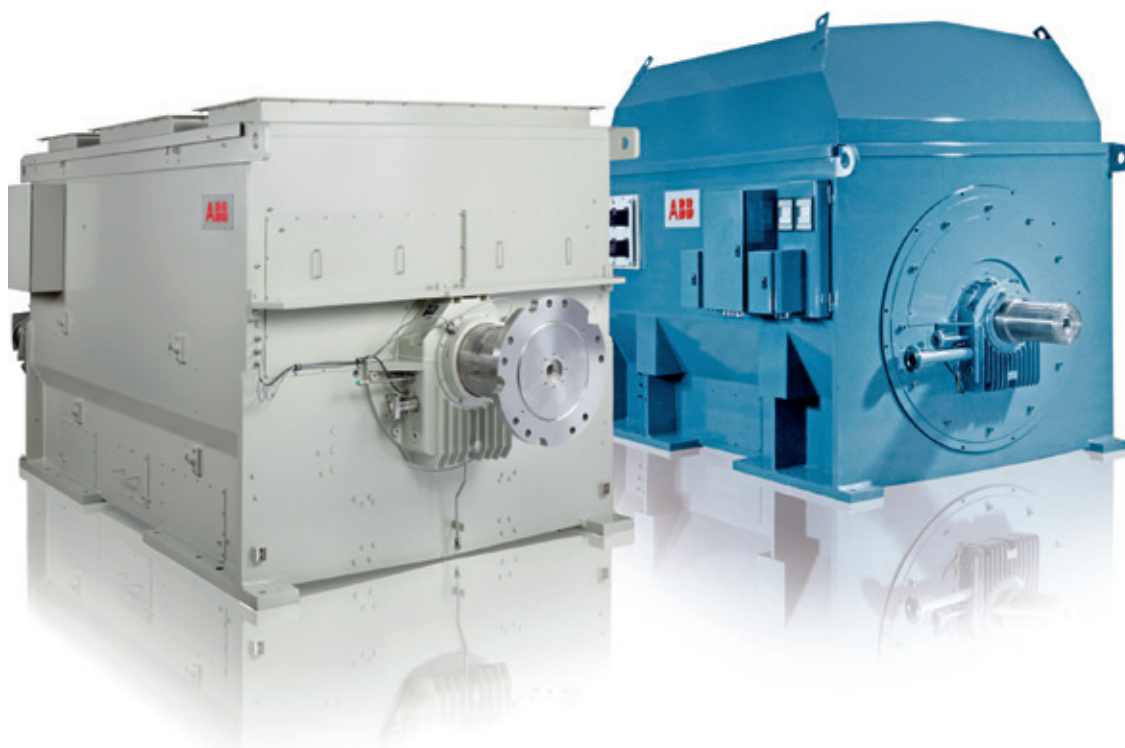
the ISO 9001 and ISO 14001 quality and environmental standards. This dedication to quality is the foundation of our reputation for quality products, and customers can be sure that wherever our generators are built, they will always represent the same high quality.

Investing in R&D for even better generators

By investing consistently in R&D over many years we have secured our place as a technology leader – a position that gives us the flexibility to respond to advances in turbine designs and changing customer needs. When the market started demanding higher powers, for example, we developed our proven 4-pole concept to deliver outputs up to 80 MVA and above.

One of the main focuses of our development work is to achieve even higher levels of reliability. The reliability of our generators is an important factor in the productivity, security and cost-efficiency of our customers' activities. Better reliability means better availability, minimized downtime and a long service life.

Key components such as the rotors, stators and frames in our generators are designed for an expected lifetime of 25 years, and many ABB turbine-driven generators are still producing power after several decades of operation.



A wide range of generators for steam and gas

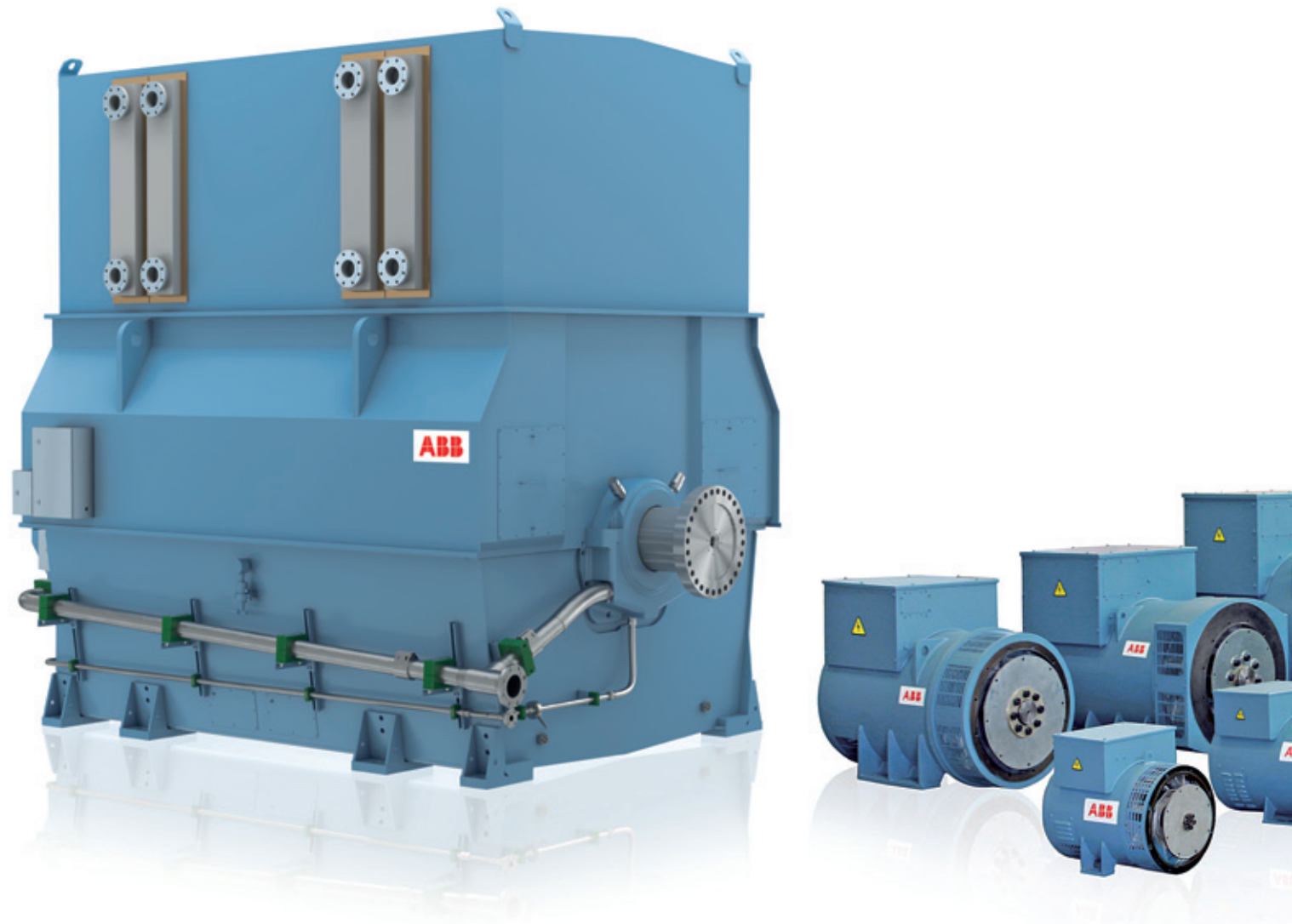
Our broad selection of turbine-driven 4-pole generators enables us to supply the right products for many different customer needs. It also means that customers have the option of doing business with a single vendor, which can save both time and costs by streamlining purchasing processes.

We manufacture **High Voltage (HV) generators** for either steam or gas turbines, built to suit the specific site conditions. We have always been a leading supplier of 4-pole generators at increasingly high powers, and our range now supports outputs up to 80 MVA and above with proven reliability.

ABB also carries a pre-engineered set of generators for gas and steam turbines. This set of generators are designed to meet the most common needs in the market while offering all the advantages of standardization, including short delivery times.

ABB **Low Voltage (LV) generators** feature the cost efficiency of a standard design combined with a full selection of options, enabling deployment in a wide range of situations. They can be used for smaller steam turbines as well as for gas turbine applications.

We have delivered synchronous generators to customers all over the world, and we have extensive experience in designing products to meet the different standards and grid codes that are required globally.

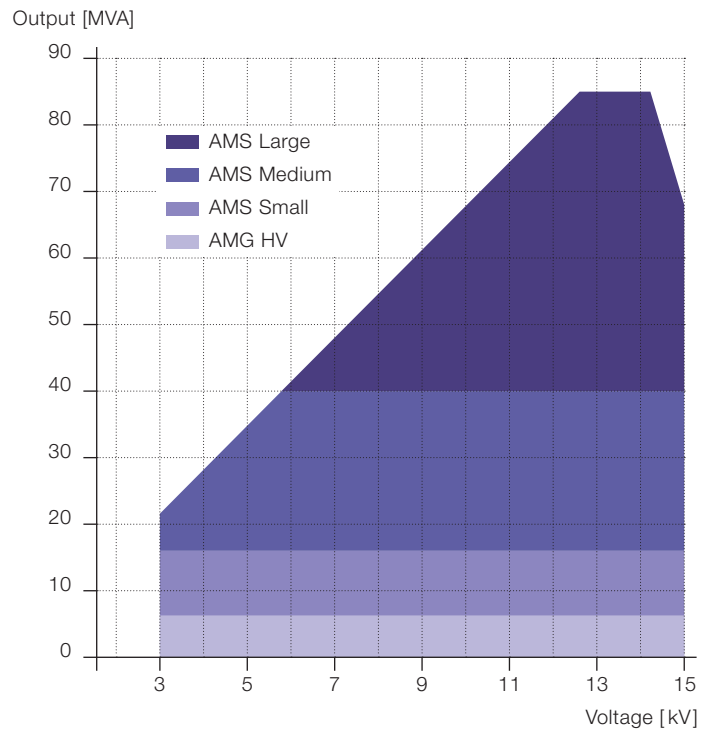


s applications

High voltage (HV) generators

Output	Up to 80 MVA and above
Voltage	3 - 15 kV
Speeds	Up to 1800 rpm
Standards and classifications	IEC, NEMA, CSA, GOST-R, API, ABS, DNV, Lloyd's and more

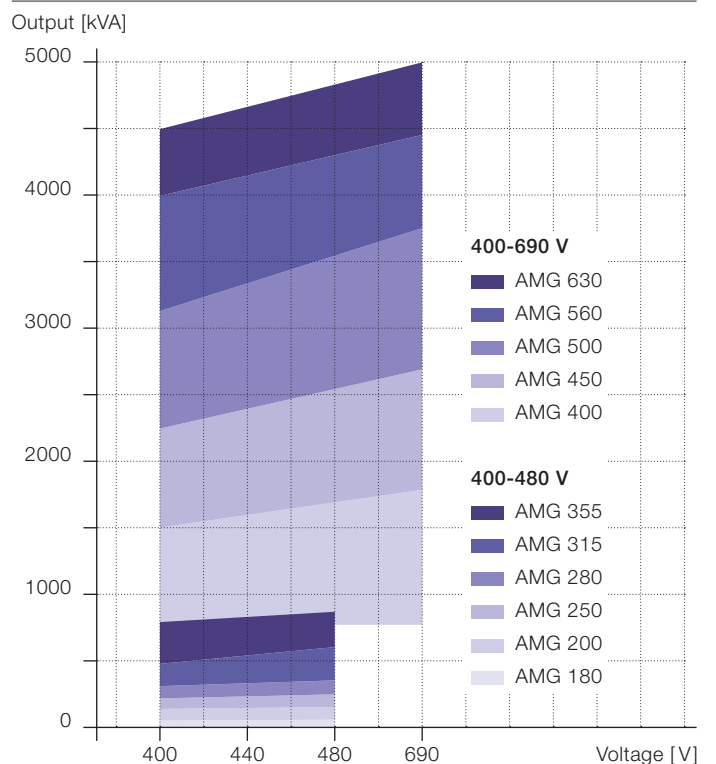
Maximum outputs at different voltages, HV generators



Low voltage (LV) generators

Output	14 - 5000 kVA
Voltage	400 - 690 V
Speeds	1500/1800 rpm
Standards and classifications	ABS, DNV, LR, GL, BV, CCS, NK

Maximum outputs at different voltages, LV generators



Join forces with a market leader

Our customers are always our first priority. We apply the experience we have gained over more than 100 years in the generator business to ensure that our products are a perfect match for our customers' needs. We support plant builders and operators throughout the generator's life cycle: from the initial project concept, through design, installation and many years of successful operation, to eventual migration or replacement.

We can deliver a generator package designed around your turbine: in addition to the generator itself we can provide the cooling system, main terminal box, maintenance tools and control equipment. System monitoring and protection solutions are also available.

We want our customers to have confidence not only in our products but also in ABB as a key partner. We seek to work closely with customers and build lasting business relationships so that we can understand their operations and help them to realize their objectives. Over the years, these long-standing relationships have led to the development of many innovative solutions.



Life cycle services and support

From pre-purchase to migration and upgrades

ABB offers a complete portfolio of services to ensure trouble-free operation and long product lifetimes. These services cover the entire life cycle, from pre-purchase advice, through installation, maintenance and spare parts, to migration and upgrades. Local support is provided through a global network of ABB service centers and certified partners.

The service organization uses its broad experience in generators applications to support customers' efforts to maximize availability and reliability, and optimize process performance.

Pre-purchase

ABB's front-end sales organization is equipped with advanced tools to help customers quickly and efficiently select, configure and optimize the right motor and generator for their application with full support from the experts in the manufacturing units.

Installation and Commissioning

ABB generators are designed for easy installation and commissioning. ABB can provide certified engineers with extensive experience in commissioning. Their know-how ensures faster start-up times and trouble-free operation. Professional installation and commissioning represent an investment in availability and reliability over the entire life cycle.

Engineering and Consulting

ABB's experts can provide a broad range of technical support. Available services include energy efficiency and reliability appraisals, advanced condition and performance assessments and technical studies. Engineering and consulting primarily aims at optimizing on-site life cycle maintenance practices concerning generators for reduced costs.

Condition Monitoring and Diagnosis

ABB's unique services deliver early warnings of developing problems before failures occur. The required data can be collected by an engineer during a site visit or by means of remote monitoring solutions. The services focus on critical areas like the bearings, rotor winding, stator winding insulation and overall mechanical condition.

Maintenance and Field Services

ABB offers life cycle management plans and standardized preventive maintenance products tailored for each life cycle phase. The recommended maintenance program consists

of four levels spaced over the lifetime. Site surveys can be performed to determine repair, maintenance and spare parts needs if there is insufficient information on the current status of the equipment.

Spare Parts

Although ABB's generators range from small standard products to large tailor made units, we are able to offer spare parts and support for all generators throughout the product life cycle. Spare parts are available either as separate components or in packages tailored to the generator design.

Repair and Refurbishment

ABB provides worldwide manufacturer support for all ABB generators as well as other brands. Specialist teams are standing by to deliver a full range of local support in case of emergency. ABB's global service organization includes local sales and service contacts, the site service specialist network and certified workshops worldwide.

Migration and Upgrades

ABB offers life cycle audits to recommend the most appropriate migration paths and upgrades. Component upgrades are available on a turnkey basis to deliver improved efficiency, reliability and safety. Older generators can be upgraded with completely new designs. ABB can supply a direct replacement motor or generator for the original unit.

Training

ABB's product and service training courses take a practical approach. The training ranges from standard courses to specially tailored programs to suit customer requirements.

Specialized Support

ABB generators are designed for fast repairs and maintenance, in many cases on site. Specialized support for customers is offered through a global services organization. Local units worldwide provide major and minor repairs as well as overhauls and reconditioning.

Service contracts

ABB offers tailor made service contracts to fit every customer's service needs. The service contract combines whole service product portfolio and ABB's 120 years of experience to deploy the optimal service practices.

Contact us

www.abb.com/motors&generators

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