

Generator Services

Expert repair solutions from a leading manufacturer

BENEFITS

- Improved lifetime and generator performance
- Save on replacement costs by up to 60% compared to new*
- Reduced O&M costs
- Reduced downtime
- Plug and play solutions
- Global repair loop to keep your costs at a minimum
- One-stop-shop for all your generator related queries

*Dependent on component-specific conditions

Building on more than 40 years of R&D expertise and the engineering know-how of manufacturing generators, Vestas has the experience and knowledge to offer you the best service solutions available.

We offer repairs and upgrades designed to improve the lifetime of your wind turbines and reduce your O&M costs on most of the prominent generator brands, including:

- VND/Weier[®]
- Leroy Somer[®]
- ABB[®]
- Elin[®]
- Loher[®]
- Siemens[®]
- Cantarey[®]
- VEM[®]
- Winergy[®]
- Indar[®]
- Hitachi[®]

Experience as a capability

Vestas has broad experience in handling generator repairs, both on-site and in workshops.

With more than 350 generators repaired annually and more than 43,000 turbines under performance monitoring, Vestas can identify and rectify even the most complex faults in a timely and professional manner.

Global Presence

Vestas' global repair loops ensure quick processing times and rapid delivery. Workshop repairs are carried out in Vestas' generator repair factories or in one of our partnership factories around the globe. Our substantial inventory pool and warehouse footprint allows us to provide agile support even for customers with substantial global operations.

Generator Services

Extending lifetime, boosting profits

Fleetwide all-round repair services

Our R&D engineers are continuously developing innovative repairs and upgrades for both Vestas and non-Vestas generators – making us a genuine fleetwide service partner. In working with Vestas, you will benefit from a true one-stop-shop supplier that offers service packages including labor, proprietary crane-less solutions and components in one place.

Inspections

The structural base of the generator is exposed to significant mechanical loads over its lifetime. A failure of the base can result in significant damages to your turbine, an issue mainly affecting older, welded generator supports. All failures begin with a crack. Our magnetic particle inspection technique allows us to detect cracks early and perform cost-effective repairs that ensure the turbine's structural integrity.

Uptower and onsite repairs

Carrying out repairs uptower and onsite is the most cost-efficient renovation method available, potentially saving you 80% of the price of a new generator. That is why we continuously aim to offer as many uptower solutions as possible, currently including:

- Bearing shields exchange
- Replacement of bearing PT 100 sensors
- Bearing journal repair
- Replacement of rotor/stator cables
- Rebalancing

By choosing Vestas you can benefit from the insights and expertise of a generator producer.

BENEFITS OF UPTOWER AND ONSITE REPAIRS

- Optimising cost savings
 - Minimised downtime
 - Short lead time
 - Service flexibility
 - Only pay for what is fixed
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Repair loops and workshop repairs

To help you minimise downtime, Vestas offers a unique generator exchange programme using repair loops from our workshops. To secure a fast return to service, we carry a stock of replacement generators and can swiftly deliver a replacement generator to your site.

If you prefer a 1:1 exchange, we bring your generator to our industry-leading workshop facilities or one of our accredited partners sites. We conduct in-depth analysis and troubleshoot the full scope of technical problems with access to a wide range of skilled personnel and technology.

In the repair shops we are able to dismantle, clean and inspect every generator before writing a report on the required renovations and interventions. During the repair process, each generator undergoes a rigorous test. If the required repair work is not deemed feasible after taking the generator age and other features into account, we will recommend alternative solutions. Our generators are available as spare parts as well.



BENEFITS OF WORKSHOP REPAIRS

- Capability to address even the most complex issues
 - Easier and faster decision making based on informed overviews
 - Original parts and service kits for all repair work
 - Reduced downtime with express service
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Damage classification

We maintain a damage classification system with 4 distinct fault categories (A, B, C or D). These repair categories reflect the condition of the generator and the scope of required repair.

Industry standards

Every generator that leaves our factory or workshop – whether new or repaired – is tested according to your choice of international manufacturing standards, including a full load test. Our work processes adhere to ISO 9001:2008, ISO 14001 and OHSAS 18001:2007, and are certified by German Lloyd to provide total quality assurance.



Damage classification

Category A: Mechanical Refurbishment:	Category B: Electrical Refurbishment:	Category C: Electrical Refurbishment:	Category D: Electrical Refurbishment:
Water cooled-housing	Stator:	Rotor:	Rotor
Unbalance	Stator winding	Connection cable	Stator
Fan	Connection cables	Connection stud	
Bearing exchange		Rotor winding	
Bearing system			
Bearings sleeve			
Bearing shield			
Shaft sleeve			

Vestas is the leading global manufacturer and service provider of wind turbines, and a company solely dedicated to renewable energy. We started our work more than 40 years ago and have been an industry pioneer ever since. Passion has brought us to where we are today. See for yourself how our passion, expertise and a global knowledge base can support your business goals. Put us to the test.

www.vestas.com/contact

Generator Services repair capabilities

Wind Turbine	Downtower		Uptower									
	Repairs	Upgrades	Bearing Shields exchange	Replacement of bearing PT 100 sensors	Bearing journal repair	Replacement of stator cables	Replacement of rotor cables	Replacement of RCC components	Rebalancing	Drive Train / Generator Alignment	High Speed Coupling Replacement	Slip Ring
Gamesa®												
G47	●											
G5x	●											
G1xx	●											
G8x	●		●							●	●	●
G9x	●										●	
Siemens®												
SWT 2.3	●										●	
SWT 3.0	●											
GE®												
1.X	●		●							●	●	●
2.X	●										●	
Vestas®												
V39-V44	●		●					●		●	●	●
V47	●	●	●					●		●	●	●
V52-V60	●	●	●	●			●			●	●	●
V66	●	●	●	●	●		●	●	●	●	●	●
V80	●	●	●	●	●		●		●	●	●	●
V82	●		●	●	●				●	●	●	●
V90	●	●	●	●	●		●		●	●	●	●
V100	●	●	●	●	●		●		●	●	●	●
V110	●	●	●	●	●		●		●	●	●	●
V112	●	●	●	●	●				●	●	●	●
V117	●		●	●	●	●			●	●	●	●
V126	●		●	●	●	●			●	●	●	●
V136	●		●	●	●	●			●	●	●	●

Vestas has repair capabilities for the below turbine platforms as well.

Contact us for your tailor made offer.

- Acciona® - AW 70, AW 77
- Clipper® - C9X
- DeWind® - D6, D8
- GE Wind® - TW80, TW300, TW600x
- Nordex® - N90
- Suzlon® - S8X

Additional wind turbine types upon request