



**MV3000**  
Full Power Wind Converters  
Low Voltage



## Converteam—a world leader in electrical solutions

Converteam is an engineering company providing customized solutions and systems converting electrical energy into productive performance and reversely. Our offering ranges from design only to turnkey systems, installation and commissioning, and is backed by a wide choice of services.

Serving specialized segments as well as our core markets in marine, oil & gas and offshore, power generation, renewable energy and industry, our workforce provides effective responses to customers around the globe.

# Proven Track Record in Wind Applications

The MV3000 range of Air or Liquid Cooled, Full Power Converters has a proven track record with over six years of production for the Wind industry, for both on and off-shore applications.

The Converter comprises a set of generator and network electronics bridge modules. The generator bridge modules are used for the conversion of a variable frequency AC voltage supply to a rectified DC and the network bridge modules are used for inversion to a fixed frequency AC voltage.

Converteam has supplied 10GW (2010) of the MV3000 power converter range for installations worldwide.

The key features of this range of converters are:

- Modular design allowing ratings from 0.8MW to 6MW to be achieved at 690V
- Customized design to meet the precise requirements of the customer
- Full compliance with the most stringent grid codes

- Optional dynamic braking
- Complete isolation of the Generator from the grid
- Full control within the maximum speed / torque envelope
- Flexibility in layout, design and cooling arrangements.

The MV3000 consists of standard Delta modules. This construction can parallel up to six power modules to give drives ratings of up to 6MW for liquid cooled solutions.

The Delta modules come complete with mountings, connections, air ducts for standard frames and are designed for ease of handling and assembly into cubicles.



Liquid Cooled Converter.  
Grid Bridge



Liquid Cooled Converter.  
Generator Bridge

# Easy to Use Modular Design Featuring the latest Technology

## Outline technical specification

System Power Range	0.8 to 6MW
Supply Voltage	690V, 3 phase
Mains frequency	50/60Hz
Nominal Module Current	800 / 1000A
Pulse Frequency	1.25kHz, 2.5kHz up to 5kHz
Max. Module Weight	95kg
Cubicle Protection	IP21, IP54
Ambient Temperature	0°C to +50°C

Drive type	Power	Supply Voltage
Air Cooled Delta	200kW – 2300kW	690V
Liquid Cooled Delta	600kW – 6000kW	690V

## Active Energy Management

The MV3000 AEM – Active Energy Management range implements the latest low harmonic technology, giving full four quadrant control. A controlled IGBT input bridge replaces the conventional diode bridge to give near sinusoidal supply current during both motoring and regeneration.

Other key characteristics:

- Almost zero harmonic distortion, depending on network configuration
- Regenerative - Four quadrant control capability
- Unity power factor control
- Optional common DC link scheme
- Elimination of bulky phase shift transformers.
- AEM meets the stringent requirements of the EA Engineering Recommendation G5/4 and IEEE S19.



| 800A Delta module

# Provider of Complete and Innovative Solutions

## Cost effective innovative approach

The liquid coolant system transfers heat away from power electronics to provide an extremely compact design and saving of up to 60% space when compared to similar air cooled packages resulting in an overall cost effective solution.

Other main features include:

- Simple cooling system
- High power per volume
- Low audible noise
- Flexible thermal management
- Higher availability.

## Customized to your specific needs

Converteam has a first class track record in the design and manufacture of tailored requirements based on proven core product technologies and creating effective engineered solutions.

Our approach to any project is customer focused and flexible. Our project management teams are committed to providing unrivalled service throughout the contract life cycle and beyond.



| Offshore Wind Farm

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