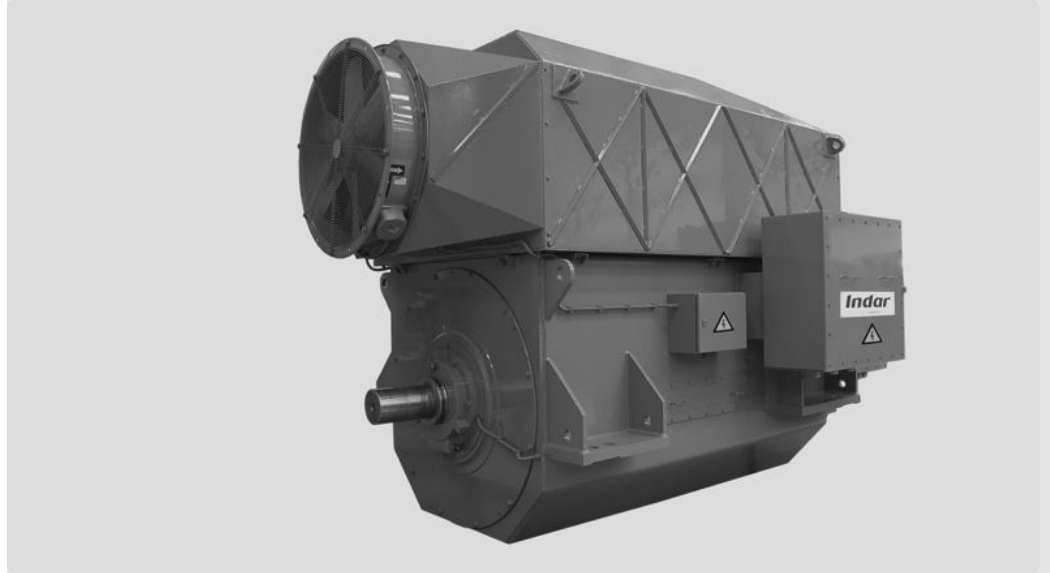


INDAR

DFIG W

Doubly Fed Induction Generator



Indar markets a series called **DFIG W**, which comprises the range of general product of the wind power industry in its more usual speed and power range. However, the core of the series relies on its adaptation to the customer's specific requirements and the integration into the complete solution with the converter. With proven experience in this product range, the main design standards are reliability, performance optimisation and cost-effectiveness. The following table shows the main design features of the **DFIG W** series:

Applications:
On-shore, Off-shore

Test	Procedure
Direct-current windings resistance measurement at cold condition	IEC 60034-4
Phase sequence check	IEC 60034-8
Temperature rise test	IEC 60034-1 IEC 60034-29
No-load saturation test (open circuit saturation curve)	IEC 60034-4
Iron losses measurement at no-load	IEC 60034-2-1
Friction and windage losses measurement (mechanical losses)	IEC 60034-2-1
Total harmonic distortion THD measurement (Voltage waveform)	IEC 60034-1
Sustained three-phase short-circuit test (short-circuit curve)	IEC 60034-4
Additional load losses measurement (stray losses)	IEC 60034-2-1
Determination of efficiency	IEC 60034-2-1
Vibration level measurement	IEC 60034-14
Overspeed test	IEC 60034-1
Withstand voltage test (High voltage dielectric test)	IEC 60034-1
Insulation resistance and polarization index measurement	IEEE Std 43
Noise level test	IEC 60034-9 ISO 3746
Reactances & time constants det.	IEC 60034-4
Full Load Test	IEC 60034

Main features	DFIG W
Rated power range	Up to 8 MW
Electrical layout	Partial converter
Voltage	690 V-12000 V
Network frequency	50 Hz-60 Hz
Cooling	Air-Air / Air-Water
Insulation	F-H
Temperature range	-30 °C / +50 °C (-40 °C optional)
Construction	Horizontal (IM1001 / IM1101)
Protection degree	IP54 / IP55 (slip-rings IP23 / IP54)
Corrosive protection	C3H-C4H-C5M
Speed Range	Drive-Train Config.
HS	3 stage gearbox
Power	Laboratory Characteristics
Voltage levels	back to back up to 43 MW
Driving machines	Up to 30 kV
Frequency	4 MW and 9 MW
	Internal 50/60 Hz network

Our machines are designed manufactured and tested according to the criteria and standards of the International Electrotechnical Commission (IEC). Additionally, we can design and manufacture in accordance with other standards.



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