



## The Easy Choice for **Wind and Water Powered Microturbines**

### **PMG-WG**

#### **Transforming the Stream of Wind and Water into Power**

Variable speed technology by NSM finds one of its most successful applications in the micro-wind and hydroelectric industry for renewable source energy generation.

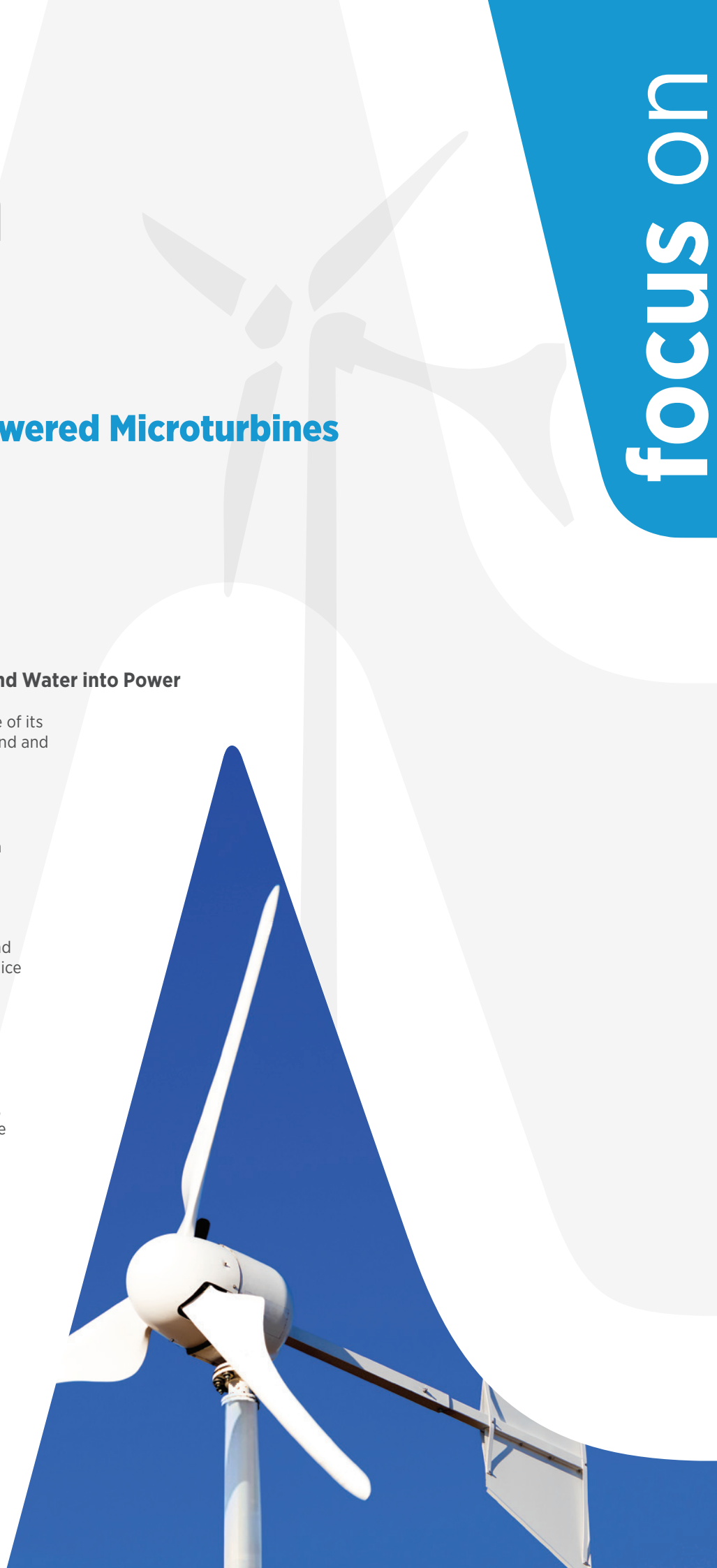
**PMG-WG** is a high efficiency, low rpm, variable speed generator manufactured with permanent magnets (Nd-Fe-B) for an unquestionable high power density and remarkably compact size.

The rich range of available output powers and mechanical configurations offers a great choice of versatile and easily assembled solutions. Shaped for direct drive applications, **PMG-WG** needs no gearboxes, nor maintenance, and is suitable for use in all environments.

NSM long-time experience in variable speed, R&D endeavours and accurate testing are the key factors in the achievement of **very low cogging** generators, so that the turbine starts spinning even with minimum wind and water speed.

**PMG-WG** for microturbines supply continuous output power **from 0,5kVA** (415rpm) **to 6kVA** (150rpm), with high overload capacity (max kVA) for limited time spans.

Highly customized solutions for special projects can be developed on request.



## PMG-WG

### A - SR

In these configurations, the fixed part (inner wound stator) and rotating part (outer rotor with magnets) are supplied separately, for the customer to adopt the adequate technical solutions in terms of coupling and retaining structure.

#### PMG-WG 150

A



fixed part



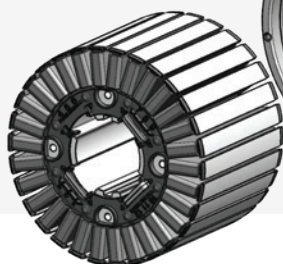
rotating part

#### Key features:

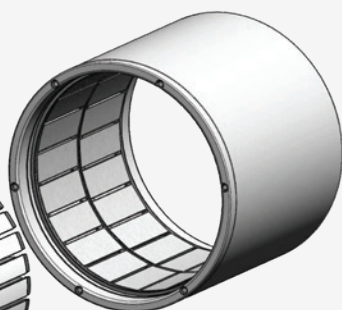
- Low revolutions, 380Vac three-phase output
- Range: from **0,5kVA** up to **3kVA** (at 415rpm)
- Brushless and bearingless
- Tropicalised windings
- Mounting Type: Horizontal/Vertical
- Very low cogging
- IP00

#### PMG-WG 185

SR



fixed part



rotating part

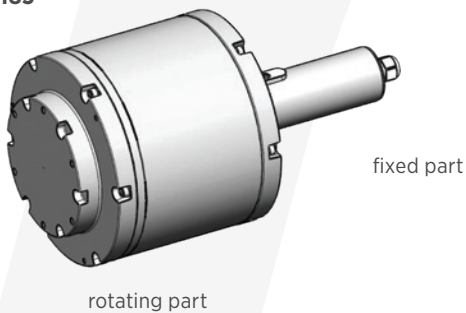
Model	Nominal Power	Max Power	Cogging	rpm	Weight	
	cosφ 1 [kVA]	cosφ 1 [kVA]	[Nm]		A [kg]	SR [kg]
PMG-WG 150SC-22	<b>0,5</b>	0,6	< 0,25	415	7	---
PMG-WG 150SC-16	<b>0,7</b>	1,0	< 0,60	415	7	---
PMG-WG 185SC	<b>1,2</b>	1,8	< 0,60	415	---	10,5
PMG-WG 185MA	<b>2,0</b>	3,6	< 1,20	415	---	17,5
PMG-WG 185LA	<b>3,0</b>	4,9	<1,60	415	---	24,5

# PMG-WG

## T-TAC-B5

These configurations consist in an inner wound stator (fixed part) and an outer rotor with magnets (rotating part), ready for direct drive application.

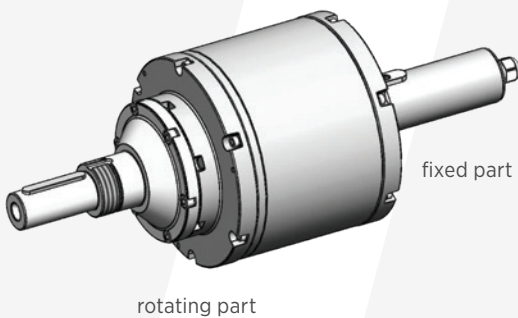
**PMG-WG 295**  
**PMG-WG 185**  
**T**



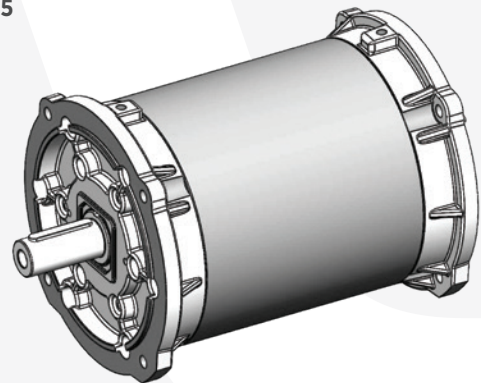
### Key features:

- Low revolutions, 380Vac three-phase output
- Range: from **1,2kVA** up to **6kVA** (at 415 rpm)  
- from **3kVA** up to **6kVA** (at 150 rpm)
- Brushless for ease of maintenance
- Heavy duty bearings
- Shaped for direct drive applications and no need for gearboxes
- B5 configuration especially designed for gearbox coupling
- Tropicalised windings
- Mounting Type: Horizontal/Vertical
- Very low cogging
- IP55

**PMG-WG 185**  
**TAC**



**PMG-WG 185**  
**B5**



Model	Nominal Power	Max Power	Cogging	rpm	Weight		
	cosφ 1 [kVA]	cosφ 1 [kVA]	[Nm]		T [kg]	TAC [kg]	B5 [kg]
PMG-WG 185SC	1,2	1,8	< 0,60	415	22,5	27	41
PMG-WG 185MA	2,0	3,6	< 1,20	415	31,5	35,5	49
PMG-WG 185LA	3,0	4,9	< 1,60	415	40	43,5	60
PMG-WG 185XLB	6,0	9,5	< 3,20	415	---	70	100
PMG-WG 295H	3,0	3,9	< 5,00	150	82	---	---
PMG-WG 295P	6,0	8,5	< 7,50	150	123	---	---

## AMER Group

Amer Group is a global reality with 6 production units in North Italy, Switzerland and Germany, and 3 commercial, distributive and after-sales subsidiaries in the world, perfectly integrated between them.

This network has been growing for 50 years, thanks to our commitment, to small daily improvements and especially to the strategic choice to reinvest our profits in Research & Development and facilities.

Our comprehensive custom solutions, such as generators, electronic control systems, DC motors, traction and linear motion systems, have been developed to carefully satisfy our international partners' needs.

Thanks to them, and to a tight-knit team that shares the company vision, we have become an important key player and a worldwide point of reference.

## NSM

At NSM, we are dedicated to manufacturing **synchronous alternators and welders, PTO generators, and Permanent Magnet Generators (PMG).**

We have solid roots thanks to almost 60 years of experience in producing and exporting our high-quality machines to more than 60 countries across the world.

Consistently with our role as key industry players, we never stop researching and developing innovative solutions for whatever the future of energy generation entails.

The real value of being **Made in Italy**: a mark of origin that we can proudly bear as we are one of the very few companies boasting all the production cycles, from design to manufacturing, in our Italy-based factories.

**A 100% Italian entrepreneurial story**, capable of conquering international markets and anticipating industry trends.



NSM S.r.l. società con socio unico

Via Lazio, 5/b  
36015 Schio | Vicenza | Italy

T +39 0445 595888  
F +39 0445 595800

info@nsmsrl.it  
nsmsrl.it



amergroup.it