



ENERGY. ANYPLACE.



Introduzione	
Introduction	3
Introducción	3
Amer Group	
4	
NSM	
6	

1	
Alternatori monofase - 2 poli	
Single-phase Alternators - 2 Poles	8
Alternadores monofásicos - 2 polos	8
Alternatori trifase - 2 poli	
Three-phase Alternators - 2 Poles	10
Alternadores trifásicos - 2 polos	10
Alternatori monofase - 4 poli	
Single-phase Alternators - 4 Poles	12
Alternadores monofásicos - 4 polos	12
Alternatori trifase - 4 poli	
Three-phase Alternators - 4 Poles	13
Alternadores trifásicos - 4 polos	13
Tractorwatt - Generatori a cardano	
Tractorwatt - PTO Generators	14
Tractorwatt - Generadores a cardán	14
Saldatrici AC e DC - 2 poli	
AC and DC Welders - 2 Poles	16
Soldadoras AC y DC - 2 polos	16

2	
Generatori DC	
DC Generators	17
Generadores DC	17

3	
Generatori a magneti permanenti	
Permanent Magnet Generators	18
Generadores de imanes permanentes	18

4	
Generatori per applicazioni eoliche	
Generators for Wind Applications	20
Generadores para aplicaciones eólicas	20

5	
Macchine speciali	
Special Machines	21
Máquinas especiales	21

Coefficienti di variazione della potenza	
Output Power Variation Coefficients	22
Coefficientes de variación de la potencia	22
Condizioni generali di garanzia	
General Terms of Warranty	23
Condiciones generales de garantía	23



SPECIALISTI NEL GENERARE ENERGIA

NSM: 50 ANNI DI ESPERIENZA

Fondata nel 1963, NSM opera con successo dal oltre 50 anni in ambito elettromeccanico nella produzione di alternatori sincroni, saldatrici, generatori a magneti permanenti e macchine elettriche rotanti speciali.

Dal 2006 NSM entra a far parte dell'[Amer Group](#), condividendone gli ideali e le scelte strategiche.

EN

ENERGY GENERATION SPECIALISTS

NSM: 50 YEARS OF EXPERIENCE

Established in 1963, NSM has been successfully operating for over 50 years in the electromechanical field, manufacturing synchronous alternators, welding sets, permanent magnet generators and special rotating electrical machines.

In 2006 NSM joins the [Amer Group](#), sharing its ideals and strategic choices.

ES

ESPECIALISTAS EN LA GENERACIÓN DE ENERGÍA

NSM: 50 AÑOS DE EXPERIENCIA

Fundada en 1963, NSM ha estado trabajando con éxito durante más de 50 años en el sector electromecánico, construyendo alternadores síncronos, soldadoras, generadores de imanes permanentes y máquinas eléctricas rotativas especiales.

En 2006 NSM se une al [Amer Group](#), con el cual comparte sus ideales y decisiones estratégicas.

AMER GROUP



Amer Group è una realtà globale con **6 unità produttive** in Nord Italia e Svizzera, e **3 sedi commerciali**, distributive e after-sales nel mondo, perfettamente integrate fra loro.

Un network che da 40 anni sta crescendo, grazie alla nostra caparbia, ai piccoli miglioramenti quotidiani, e soprattutto alla scelta strategica di reinvestire i profitti in ricerca e sviluppo ed infrastrutture.

Le nostre **soluzioni custom** integrate, dai generatori, ai sistemi elettronici di controllo, ai motori DC, ai sistemi di trazione e di movimentazione lineare, sono il frutto dell'**attenzione alle esigenze** dei nostri partner internazionali.

Grazie a loro, e ad un team affiatato e in linea con la vision del gruppo, siamo diventati un attore importante e un punto di riferimento a livello mondiale.



Francesco Battistella, Chairman - Amer S.p.A.

Molti parlano di innovazione. Pochi possono dire di essere realmente innovativi.



EN

Amer Group is a global enterprise with 6 production facilities throughout northern Italy and Switzerland; and 3 well-integrated branches providing sales, distribution & after-sales support around the world.

This network has been growing for 40 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.

Many people talk about innovation, but only a few can claim to be really innovative.

ES

Amer Group es una compañía global con 6 plantas de producción en el norte de Italia y en Suiza, y 3 sucursales muy bien integradas que ofrecen servicios de venta, distribución y post venta en todo el mundo.

Esta red ha estado creciendo durante 40 años, gracias a nuestra tenacidad, a las pequeñas mejoras diarias y sobre todo a la decisión estratégica de reinvertir los beneficios en investigación y desarrollo e infraestructuras. Nuestras soluciones personalizadas, tales como generadores, sistemas de control electrónico, motores de corriente continua, sistemas de tracción y de movimiento lineal, son el resultado de la atención a las exigencias de nuestros socios internacionales. Gracias a ellos y a un equipo muy unido en línea con la visión del grupo, nos hemos convertido en un actor clave y un punto de referencia a nivel mundial.

Muchos hablan de innovación pero muy pocos pueden decir que son realmente innovadores.



DC motors, gear motors and traction systems
amer.it



AC & DC generators
nsmsrl.it



Electronic devices
italsea.srl.it



Linear actuators
siractuators.com



Linear actuators - Scopics
schumo.ch



Automation for shutters
antamatic.com



North America distribution
amermotion.com



India distribution
amer-nsm.co.in



China distribution
amershanghai.com

L'ENERGIA ALLA BASE DI TUTTO

"L'energia è alla base della nostra vita quotidiana, è un bene prezioso. La nostra sfida è quella di interpretare in maniera corretta le ultime scoperte tecniche, per creare prodotti sempre più efficienti."

EN

ENERGY AT THE BASIS OF EVERYTHING
"Energy is the basis of our everyday life, it is without a doubt a valuable asset. Our challenge is to interpret the latest technological discoveries in a correct way, in order to develop increasingly efficient products."

ES

ENERGÍA EN LA BASE DE TODO
"La energía es la base de nuestra vida cotidiana, es sin duda un bien precioso. Nuestro desafío es interpretar correctamente los últimos descubrimientos técnicos, para crear productos que sean más eficientes."

NEW CHALLENGES

In NSM la quota di persone che si occupano di ricerca e sviluppo è molto alta, e questo ci rende un partner appetibile per le aziende che vogliano intraprendere progetti nuovi nel campo della generazione di energia. Questo è un settore in rapida e costante evoluzione: cogliamo le opportunità in maniera veloce e flessibile!



EN

NEW CHALLENGES
In NSM the share of people employed in R&D is very large, and this makes us a highly attractive partner for companies that want to undertake new projects in the field of energy generation. Such sector is rapidly and constantly changing: let's act fast and seize the opportunity with a flexible approach!

ES

NUEVOS DESAFÍOS
En NSM hay una alta proporción de personas que trabajan en investigación y desarrollo, y eso nos convierte en un socio muy atractivo para las empresas que quieran desarrollar nuevos proyectos en el ámbito de la generación de energía. Este sector está evolucionando muy rápidamente: ¡aprovechamos la oportunidad con flexibilidad y velocidad!

SINERGIE DI GRUPPO

Essere parte di un gruppo globale ci permette di dare ai nostri partner vantaggi fondamentali; dall'esperienza Amer sui magneti permanenti, allo sviluppo di inverter e regolatori elettronici (AVR) con Italsea e molto più.



EN

GROUP SYNERGIES
Being part of a global group allows us to provide our partners with great advantages, such as Amer's expertise on permanent magnets, or the development of inverters and electronic regulators (AVR) by Italsea, and much more.

ES

SINERGIAS DE GRUPO
Ser parte de un grupo global nos permite ofrecer importantes beneficios a nuestros socios, tales como la experiencia Amer en los imanes permanentes o el desarrollo de inversores y reguladores electrónicos (AVR) con Italsea y mucho más.

GO GREEN!

NSM vive e respira quotidianamente temi delicati come l'ambiente, la sostenibilità e le fonti di energia rinnovabili. Abbiamo recentemente introdotto una nuova gamma di generatori a magneti permanenti (PMG) e siamo oggi all'avanguardia nell'ambito della produzione energetica da fonti micro-eoliche. Prestazioni elevate e bassissimo cogging, per permettere il funzionamento del sistema anche in condizioni di vento minime, sono la dimostrazione del costante impegno di un team affiatato. **La qualità per noi è la somma di tutti i piccoli dettagli!**



EN

GO GREEN!
Environment, sustainability and renewable energy sources are sensitive issues that NSM lives and breathes on a daily basis. A new line of Permanent Magnet Generators (PMG) has recently been introduced and nowadays we are at the forefront of micro wind energy production. High performance and very low cogging ensure that the system work and function properly even in low wind conditions, showing the constant team effort we put into our projects. **To us, quality is the sum of all the small details!**

ES

¡GO GREEN!
NSM vive y respira diariamente en el ámbito de temas delicados, tales como el medio ambiente, la sostenibilidad y las fuentes de energía renovables. Recientemente, hemos introducido una nueva línea de generadores de imanes permanentes (PMG) y hoy en día estamos en vanguardia en la producción de energía micro-eólica. Alto rendimiento y cogging muy bajo, así que el sistema funcione incluso en condiciones de viento mínimas, demuestran el compromiso continuo de un equipo cohesionado. **¡Calidad para nosotros es la suma de todos los pequeños detalles!**

ESSENTIAL TIMELINE

1963
Viene fondata la Saccardo S.p.A., azienda elettromeccanica di motori asincroni standard.
EN Establishment of Saccardo S.p.A., an electromechanical company manufacturing standard asynchronous motors.
ES Se funda Saccardo S.p.A., empresa electromecánica que fabrica motores asíncronos estándar.
1976
Inizia la produzione di generatori con una gamma di frequenze da 50 a 400Hz.
EN The company begins manufacturing generators with a frequency range from 50 to 400Hz.
ES Se comienzan a producir generadores con una gama de frecuencias de 50 a 400Hz.
1986
Assume la denominazione e l'assetto societario di Nuova Saccardo Motori S.r.l.
EN The company changes its name and company structure to Nuova Saccardo Motori S.r.l.
ES Adopta el nombre y la organización societaria de Nuova Saccardo Motori S.r.l.
2006
Nuova Saccardo Motori ed Amer uniscono le proprie forze. NSM si trasferisce nella nuova sede. Nascono i Permanent Magnet Generators (PMG) e la linea 4 poli brushless.
EN Nuova Saccardo Motori and Amer combine forces. NSM moves to the new production facility. Permanent Magnet Generators (PMG) and the 4-pole brushless line are created.
ES Nuova Saccardo Motori y Amer unen sus fuerzas. NSM inaugura su nueva planta de producción. Nacen los generadores de imanes permanentes y la línea sin escobillas de 4 polos.
2015
Nasce Amer Group; l'azienda cambia denominazione in NSM S.r.l.
EN The Amer Group is founded; the company changes its name into NSM S.r.l.
ES Se funda el Amer Group; la empresa cambia su nombre a NSM S.r.l.

Alternatori monofase - 2 poli
Single-phase Alternators - 2 Poles
Alternadores monofásicos - 2 polos

Alternatori sincroni monofase brushless a condensatore

- ENSingle-phase Brushless Synchronous Alternators with Capacitor
- ESAlternadores síncronos monofásicos sin escobillas con condensador



Modello Model Modelo	Potenza Output Power Potencia		Potenza assorbita Driving Power Potencia absorbida		Potenza Output Power Potencia		Potenza assorbita Driving Power Potencia absorbida		Peso Weight Peso		
	cosφ 1 [kVA]		4/4 - cosφ 1 [kW]	η %	cosφ 1 [kVA]		4/4 - cosφ 1 [kW]	η %	cone [kg]	B34 [kg]	SAE [kg]
	50Hz - 3000rpm				60Hz - 3600rpm						
K80 A	1,5		2,1	70,5	2,2		3,1	71,5	10,5	11,5	---
K80 B	2,2		3,1	72,0	3,0		4,1	73,0	12,5	13,5	---
K80 C	2,7		3,7	73,0	3,4		4,6	74,0	14,5	15,5	---
K80 D	3,0		4,1	73,0	3,7		5,0	74,0	15,0	16,0	---
K100 B	2,2		3,1	70,0	2,7		3,8	71,0	16,0	---	---
K100 C	2,7		3,8	71,0	3,5		4,9	72,0	17,0	---	---
K100 D	3,5		4,9	72,0	4,5		6,2	73,0	17,5	---	---
K100 E	4,2		5,8	73,0	5,5		7,4	74,0	20,0	---	---
K100 F	5,0		6,7	75,0	6,0		7,9	76,0	21,5	---	---
K100 FX	5,5		7,3	75,5	6,5		8,5	76,5	23,5	---	---
K100 G	6,0		7,9	76,0	7,2		9,4	77,0	25,0	---	---
K112 E	4,0		5,5	73,0	5,0		6,8	74,0	25,0	---	27,5
K112 G	6,0		8,0	75,0	7,2		9,5	76,0	27,0	---	29,5
K112 H	7,0		9,1	77,0	8,5		10,9	78,0	32,5	---	35,0
K112 J	8,0		10,3	78,0	10,0		12,7	79,0	34,0	---	36,5
K112 L	10,0		12,7	79,0	12,5		15,6	80,0	39,0	---	41,5
M100 SEJ	4,2		5,8	73,0	5,5		7,4	74,0	20,5	22,0	24,0
M100 SFK	5,0		6,7	75,0	6,0		7,9	76,0	22,0	23,5	25,5
M100 SFX	5,5		7,3	75,5	6,5		8,5	76,5	24,0	25,5	27,5
M100 SG	6,0		7,9	76,0	7,5		9,7	77,0	27,0	28,5	30,5
M100 LH	7,0		9,0	78,0	8,5		10,8	79,0	30,0	31,5	33,5
M100 LL	8,0		10,0	80,0	10,0		12,3	81,0	35,0	36,5	38,5
M112 SB	10,0		12,6	79,5	13,0		16,1	80,5	43,0	44,5	45,5
M112 SC	12,0		14,8	81,0	15,0		18,3	82,0	48,0	49,5	50,5
M112 SD	13,0		16,0	81,5	17,0		20,6	82,5	51,5	53,0	54,0
M112 MB	16,0		19,4	82,5	20,0		24,0	83,5	66,0	67,5	68,5



Alternatori sincroni monofase a spazzole con regolatore automatico di tensione (AVR)

- ENSingle-phase Brush Synchronous Alternators with Automatic Voltage Regulator (AVR)
- ESAlternadores síncronos monofásicos con escobillas y regulador automático de voltaje (AVR)

Modello Model Modelo	Potenza Output Power Potencia		Potenza assorbita Driving Power Potencia absorbida		Potenza Output Power Potencia		Potenza assorbita Driving Power Potencia absorbida		Peso Weight Peso		
	cosφ 1 [kVA]	cosφ 0,8 [kVA]	4/4 - cosφ 1 [kW]	η %	cosφ 1 [kVA]	cosφ 0,8 [kVA]	4/4 - cosφ 1 [kW]	η %	cone [kg]	B34 [kg]	SAE [kg]
	50Hz - 3000rpm				60Hz - 3600rpm						
KR80 B	2,2	1,8	3,0	73,5	2,7	2,2	3,6	74,5	13,0	14,0	---
KR80 D	2,7	2,2	3,6	75,0	3,3	2,6	4,3	76,0	15,5	16,5	---
KR100 D	3,5	2,8	4,9	71,0	4,2	3,3	5,8	72,0	17,5	---	---
KR100 E	4,2	3,3	5,8	72,0	5,0	4,0	6,8	73,5	20,0	---	---
KR100 FX	5,0	4,0	6,6	76,0	6,0	4,8	7,8	77,0	23,0	---	---
KR100 G	6,0	4,8	7,8	77,0	7,2	5,7	9,2	78,0	25,0	---	---
MR100 SF	5,5	4,5	7,3	75,0	6,5	5,0	8,6	76,0	25,0	26,5	28,5
MR100 LG	6,0	5,0	7,9	76,0	7,5	6,0	9,7	77,0	29,0	30,5	32,5
MR100 LH	7,0	5,5	9,0	78,0	8,5	7,0	10,8	79,0	31,0	32,5	34,5
MR100 LL	8,0	6,5	10,0	80,0	10,0	8,0	12,3	81,0	36,0	37,5	39,5
MR112 SA	9,0	7,2	11,3	79,5	11,0	8,8	13,7	80,5	38,0	39,5	40,5
MR112 SB	10,0	8,0	12,4	80,5	13,0	10,5	16,0	81,5	43,0	44,5	45,5
MR112 SC	12,5	10,0	15,2	82,0	15,0	12,0	18,1	83,0	48,0	49,5	50,5
MR112 MA	15,0	12,0	18,0	83,5	18,0	14,5	21,3	84,5	62,0	63,5	64,5
MR112 MC	16,5	13,5	19,5	84,5	20,0	16,0	23,4	85,5	68,0	69,5	70,5

Alternatori trifase - 2 poli
Three-phase Alternators - 2 Poles
Alternadores trifásicos - 2 polos

Alternatori sincroni trifase a spazzole e compound

EN Three-phase Brush Synchronous Alternators with Compound

ES Alternadores síncronos trifásicos con escobillas y compound



Modello Model Modelo	Potenza Output Power Potencia		Potenza assorbita Driving Power Potencia absorbida		Potenza Output Power Potencia		Potenza assorbita Driving Power Potencia absorbida		Peso Weight Peso		
	3 ph cosφ 0,8 [kVA]	1 ph λ cosφ 1 [kVA]	4/4 – cosφ 0,8 [kW] η %		3 ph cosφ 0,8 [kVA]	1 ph λ cosφ 1 [kVA]	4/4 – cosφ 0,8 [kW] η %		cone [kg]	B34 [kg]	SAE [kg]
	50Hz – 3000rpm				60Hz – 3600rpm						
T100 SB	6,0	2,7	6,1	79,0	7,5	3,7	7,5	80,0	28,5	30,0	32,0
T100 SC	7,0	3,5	7,0	80,0	9,0	4,5	8,9	81,0	30,0	31,5	33,5
T100 SCM	7,0	4,0	7,0	80,5	---	---	---	---	30,5	32,0	34,0
T100 LA	8,5	4,5	8,3	82,0	11,0	5,5	10,6	83,0	36,0	37,5	39,5
T100 LB	10,0	5,0	9,5	84,0	13,0	6,5	12,2	85,0	40,0	41,5	43,5
T112 SA	12,0	6,0	11,7	82,0	15,0	7,5	14,5	83,0	44,0	45,5	46,5
T112 SB	13,5	7,0	13,0	83,0	17,0	8,5	16,2	84,0	49,0	50,5	51,5
T112 SC	16,0	8,0	15,2	84,0	20,0	10,0	18,8	85,0	55,0	56,5	57,5
T112 MA	20,0	10,0	18,6	86,0	25,0	12,5	23,0	87,0	67,0	68,5	69,5
T112 MC	25,0	12,0	23,1	86,5	30,0	15,0	27,4	87,5	73,0	74,5	75,5

Alternatori sincroni trifase a spazzole con regolatore automatico di tensione (AVR)

EN Three-phase Brush Synchronous Alternators with Automatic Voltage Regulator (AVR)

ES Alternadores síncronos trifásicos con escobillas y regulador automático de voltaje (AVR)



Modello Model Modelo	Potenza Output Power Potencia		Potenza assorbita Driving Power Potencia absorbida		Potenza Output Power Potencia		Potenza assorbita Driving Power Potencia absorbida		Peso Weight Peso		
	3 ph cosφ 0,8 [kVA]	1 ph λ cosφ 1 [kVA]	4/4 – cosφ 0,8 [kW]	 η %	3 ph cosφ 0,8 [kVA]	1 ph λ cosφ 1 [kVA]	4/4 – cosφ 0,8 [kW]	 η %	cone [kg]	B34 [kg]	SAE [kg]
	50Hz – 3000rpm				60Hz – 3600rpm						
TR100 SA	5,5	2,7	5,7	77,0	7,0	3,5	7,2	78,0	25,0	26,5	28,5
TR100 SC	7,0	3,5	6,9	81,0	9,0	4,5	8,8	82,0	27,0	28,5	30,5
TR100 LA	8,5	4,5	8,2	83,0	11,0	5,5	10,5	84,0	33,0	34,5	36,5
TR100 LB	10,0	5,0	9,4	85,0	13,0	6,5	12,1	86,0	37,0	38,5	40,5
TR112 SA	11,0	5,5	10,6	83,0	13,5	6,5	12,9	84,0	40,0	41,5	42,5
TR112 SB	13,0	6,5	12,4	84,0	17,0	8,0	16,0	85,0	45,0	46,5	47,5
TR112 SC	15,0	7,5	14,1	85,0	20,0	10,0	18,6	86,0	52,0	53,5	54,5
TR112 MA	20,0	10,0	18,4	87,0	25,0	12,0	22,7	88,0	63,0	64,5	65,5
TR112 MC	22,0	11,0	20,2	87,0	---	---	---	---	69,0	70,5	71,5

Alternatori monofase - 4 poli

Single-phase Alternators - 4 Poles
Alternadores monofásicos - 4 polos

Alternatori sincroni monofase brushless a condensatore

EN

Single-phase Brushless Synchronous Alternators with Capacitor

ES

Alternadores síncronos monofásicos sin escobillas con condensador



Modello Model Modelo	Potenza Output Power Potencia		Potenza assorbita Driving Power Potencia absorbida		Potenza Output Power Potencia		Potenza assorbita Driving Power Potencia absorbida		Peso Weight Peso		
	$\cos\varphi$ 1 [kVA]		$4/4 - \cos\varphi$ 1 [kW]	η %	$\cos\varphi$ 1 [kVA]		$4/4 - \cos\varphi$ 1 [kW]	η %	cone [kg]	B34 [kg]	SAE [kg]
	50Hz - 1500rpm				60Hz - 1800rpm						
M132 XSA	4,5		5,8	77,0	5,5		7,1	78,0	46,0	48,0	54,0
M132 XSB	6,5		8,1	80,0	8,0		9,9	81,0	52,0	54,0	60,0
M132 SA	8,5		10,5	81,0	10,0		12,2	82,0	62,0	64,0	70,0
M132 SB	10,0		12,2	82,0	12,5		15,1	83,0	71,0	73,0	79,0
M132 MA	12,5		14,9	84,0	15,0		17,6	85,0	88,0	90,0	96,0
M132 LB	16,0		18,9	84,5	20,0		23,4	85,5	118,0	120,0	126,0

Alternatori sincroni monofase a spazzole con regolatore automatico di tensione (AVR)

EN

Single-phase Brush Synchronous Alternators with Automatic Voltage Regulator (AVR)

ES

Alternadores síncronos monofásicos con escobillas con regulador automático de voltaje (AVR)



Modello Model Modelo	Potenza Output Power Potencia		Potenza assorbita Driving Power Potencia absorbida		Potenza Output Power Potencia		Potenza assorbita Driving Power Potencia absorbida		Peso Weight Peso		
	$\cos\varphi$ 1 [kVA]	$\cos\varphi$ 0,8 [kVA]	$4/4 - \cos\varphi$ 1 [kW]	η %	$\cos\varphi$ 1 [kVA]	$\cos\varphi$ 0,8 [kVA]	$4/4 - \cos\varphi$ 1 [kW]	η %	cone [kg]	B34 [kg]	SAE [kg]
	50Hz - 1500rpm				60Hz - 1800rpm						
MR132 SA	8,0	6,5	9,9	81,0	10,0	8,0	12,2	82,0	64,0	66,0	72,0
MR132 SB	10,0	8,0	12,2	82,0	13,0	10,0	15,7	83,0	73,0	75,0	81,0
MR132 MA	13,0	10,0	15,5	84,0	16,0	13,0	18,8	85,0	90,0	92,0	98,0
MR132 LB	16,0	13,0	18,9	84,5	20,0	16,0	23,4	85,5	120,0	122,0	128,0

Alternatori trifase - 4 poli

Three-phase Alternators - 4 Poles
Alternadores trifásicos - 4 polos

Alternatori sincroni trifase a spazzole e compound

EN

Three-phase Brush Synchronous Alternators with Compound

ES

Alternadores síncronos trifásicos con escobillas y compound



Modello Model Modelo	Potenza Output Power Potencia		Potenza assorbita Driving Power Potencia absorbida		Potenza Output Power Potencia		Potenza assorbita Driving Power Potencia absorbida		Peso Weight Peso		
	3 ph $\cos\varphi$ 0,8 [kVA]	1 ph λ $\cos\varphi$ 1 [kVA]	$4/4 - \cos\varphi$ 0,8 [kW]	η %	3 ph $\cos\varphi$ 0,8 [kVA]	1 ph λ $\cos\varphi$ 1 [kVA]	$4/4 - \cos\varphi$ 0,8 [kW]	η %	cone [kg]	B34 [kg]	SAE [kg]
	50Hz - 1500rpm				60Hz - 1800rpm						
T132 XSA	8,0	3,2	8,0	80,0	10,0	4,0	9,9	81,0	52,0	54,0	60,0
T132 XSB	10,0	4,0	9,9	81,0	12,5	5,0	12,2	82,0	58,0	60,0	66,0
T132 SA	13,0	5,0	12,5	83,0	16,0	6,5	15,2	84,0	68,0	70,0	76,0
T132 SB	16,0	6,5	15,2	84,0	20,0	8,0	18,9	84,5	77,0	79,0	85,0
T132 MA	20,0	8,0	18,6	86,0	25,0	10,0	23,1	86,5	94,0	96,0	102,0
T132 LA	25,0	10,0	23,1	86,5	30,0	12,0	27,6	87,0	112,0	114,0	120,0
T132 LB	30,0	12,0	27,6	87,0	35,0	14,0	31,8	88,0	124,0	126,0	132,0

Alternatori sincroni trifase a spazzole con regolatore automatico di tensione (AVR)

EN

Three-phase Brush Synchronous Alternators with Automatic Voltage Regulator (AVR)

ES

Alternadores síncronos trifásicos con escobillas y regulador automático de voltaje (AVR)



Modello Model Modelo	Potenza Output Power Potencia		Potenza assorbita Driving Power Potencia absorbida		Potenza Output Power Potencia		Potenza assorbita Driving Power Potencia absorbida		Peso Weight Peso		
	3 ph $\cos\varphi$ 0,8 [kVA]	1 ph λ $\cos\varphi$ 1 [kVA]	$4/4 - \cos\varphi$ 0,8 [kW]	η %	3 ph $\cos\varphi$ 0,8 [kVA]	1 ph λ $\cos\varphi$ 1 [kVA]	$4/4 - \cos\varphi$ 0,8 [kW]	η %	cone [kg]	B34 [kg]	SAE [kg]
	50Hz - 1500rpm				60Hz - 1800rpm						
TR132 XSB	10,0	4,0	9,9	81,0	12,5	5,0	12,2	82,0	54,0	56,0	62,0
TR132 SA	13,0	5,0	12,5	83,0	16,0	6,5	15,2	84,0	64,0	66,0	72,0
TR132 SB	15,0	6,0	14,3	84,0	18,0	7,0	17,0	84,5	73,0	75,0	81,0
TR132 MA	20,0	8,0	18,6	86,0	25,0	10,0	23,1	86,5	90,0	92,0	98,0
TR132 LA	25,0	10,0	23,1	86,5	30,0	12,0	27,6	87,0	108,0	110,0	116,0
TR132 LB	30,0	12,0	27,6	87,0	35,0	14,0	31,8	88,0	120,0	122,0	128,0

Alternatori sincroni trifase brushless con regolatore automatico di tensione (AVR)

EN

Three-phase Brushless Synchronous Alternators with Automatic Voltage Regulator (AVR)

ES

Alternadores síncronos trifásicos sin escobillas con regulador automático de voltaje (AVR)



Modello Model Modelo	Potenza Output Power Potencia		Rendimento Efficiency Rendimiento	Potenza Output Power Potencia				Rendimento Efficiency Rendimiento	Peso Weight Peso			
	3 ph - cosφ 0,8 [kVA]		4/4 - cosφ 0,8 η %	3 ph - cosφ 0,8 [kVA]				4/4 - cosφ 0,8 η %	cone [kg]	B34 [kg]	SAE [kg]	
	50Hz - 1500rpm			60Hz - 1800rpm								
	tensione nominale - nominal voltage - voltaje nominal											
	380V	400V	415V	380V	416V	440V	460V	480V				
	XG132 XSA	8,0		80,0	8,5	9,0	9,5	9,5	10,0	81,0	58,0	60,0
XG132 XSB	10,0		81,0	11,0	11,5	12,0	12,5	13,0	82,0	64,0	66,0	72,0
XG132 SA	13,0		83,0	14,0	14,5	15,5	16,0	16,5	84,0	74,0	76,0	82,0
XG132 SB	15,0		84,0	16,0	17,0	18,0	18,5	19,0	84,5	83,0	85,0	91,0
XG132 MA	20,0		86,0	21,5	23,0	24,0	24,0	25,0	86,5	100,0	102,0	108,0

Potenza S1 cl. H ($\Delta T=125^{\circ}\text{C}$) - inferiore 1000m s.l.m - t.a. < 40°C
Output Power S1 cl.H ($\Delta T=125^{\circ}\text{C}$) - below 1000m a.s.l.- a.t. < 40°C
Potencia S1 cl. H ($\Delta T=125^{\circ}\text{C}$) - inferior 1000m s.n.m. - t.a. < 40°C

Tractorwatt - Generatori a cardano
Tractorwatt - PTO Generators
Tractorwatt - Generadores a cardán

Generatori trifase a spazzole e compound - 2 e 4 poli

EN

Three-phase Brush Generators with Compound - 2 and 4 Poles

ES

Generadores trifásicos con escobillas y compound - 2 y 4 polos

Modello Model Modelo	Potenza Output Power Potencia		Frequenza Frequency Frecuencia	rpm	Potenza assorbita Driving Power Potencia absorbida	Potenza consigliata Recommended Power Potencia recomendada	Peso Weight Peso	Telaio Frame Bastidor
	3 ph cosφ 0,8 [kVA]	1 ph λ cosφ 1 [kVA max]	[Hz]	[PTO]	4/4 - cosφ 0,8 [kW]	[TRACTOR] * [hp]	IP23 IP44 [kg]	
2 Poli - 2 Poles - 2 Polos								
TW100 LB	10,0	5,0	50	430	10,0	21	102 112	S
TW112 SA	12,0	6,0	50	435	12,3	25	110 120	S
TW112 SB	13,5	7,0	50	435	13,7	28	115 125	S
TW112 SC	16,0	8,0	50	435	16,0	33	121 131	S
TW112 MA	20,0	10,0	50	435	19,6	40	148 160	M
TW112 MC	25,0	12,0	50	435	24,3	50	154 166	M
4 Poli - 4 Poles - 4 Polos								
TW132 XSB	10,0	4,0	50	430	10,4	21	124 151	S M
TW132 SA	13,0	5,0	50	430	13,2	27	134 161	S M
TW132 SB	16,0	6,5	50	430	16,0	33	143 170	S M
TW132 MA	20,0	8,0	50	430	19,6	40	175 187	M
TW132 LA	25,0	10,0	50	430	24,3	50	193 205	M
TW132 LB	30,0	12,0	50	430	29,0	60	205 217	M



EN

Three-phase Brush Generators with Automatic Voltage Regulator (AVR) - 2 and 4 Poles

ES

Generadores trifásicos con escobillas y regulador automático de voltaje (AVR) - 2 y 4 polos

Modello Model Modelo	Potenza Output Power Potencia		Frequenza Frequency Frecuencia	rpm	Potenza assorbita Driving Power Potencia absorbida	Potenza consigliata Recommended Power Potencia recomendada	Peso Weight Peso	Telaio Frame Bastidor
	3 ph cosφ 0,8 [kVA]	1 ph λ cosφ 1 [kVA max]	[Hz]	[PTO]	4/4 - cosφ 0,8 [kW]	[TRACTOR] * [hp]	IP23 IP44 [kg]	
2 Poli - 2 Poles - 2 Polos								
TRW100 LB	10,0	5,0	50	430	9,9	20	99 109	S
TRW112 SB	13,0	6,5	50	435	13,0	27	111 121	S
TRW112 SC	15,0	7,5	50	435	14,9	31	118 128	S
TRW112 MA	20,0	10,0	50	435	19,4	40	144 156	M
TRW112 MC	22,0	11,0	50	435	21,3	45	150 162	M
4 Poli - 4 Poles - 4 Polos								
TRW132 XSB	10,0	4,0	50	430	10,4	21	120 147	S M
TRW132 SA	13,0	5,0	50	430	13,2	27	130 157	S M
TRW132 SB	15,0	6,0	50	430	15,0	31	139 166	S M
TRW132 MA	20,0	8,0	50	430	19,4	40	171 183	M
TRW132 LB	27,0	11,0	50	430	26,1	55	201 213	M
TRW132 LC	30,0	12,0	50	430	29,0	60	213 225	M



Generatori trifase brushless con regolatore automatico di tensione (AVR) - 4 poli

EN

Three-phase Brushless Generators with Automatic Voltage Regulator (AVR) - 4 Poles

ES

Generadores trifásicos sin escobillas con regulador automático de voltaje (AVR) - 4 polos

Modello Model Modelo	Potenza Output Power Potencia		Frequenza Frequency Frecuencia	rpm	Potenza assorbita Driving Power Potencia absorbida	Potenza consigliata Recommended Power Potencia recomendada	Peso Weight Peso	Telaio Frame Bastidor
	3 ph cosφ 0,8 [kVA]	1 ph λ cosφ 1 [kVA max]	[Hz]	[PTO]	4/4 - cosφ 0,8 [kW]	[TRACTOR] * [hp]	IP23 IP44 [kg]	
TBW132 XSB	10,0	4,0	50	430	9,9	21	145 157	M
TBW132 SB	15,0	6,0	50	430	14,3	31	164 176	M
TBW132 MA	20,0	8,0	50	430	18,6	40	181 193	M
TBW132 LB	25,0	10,0	50	430	22,9	50	211 223	M
TBM160 MB	32,0	11,2	50	430	29,0	60	271 283	M
TBM200 SA	42,0	14,7	50	395	38,0	80	355 385	L
TBM200 SB	50,0	17,5	50	395	45,1	90	360 390	L
TBM200 MA	62,0	21,7	50	395	55,0	115	399 429	L
TBM200 MB	75,0	26,3	50	395	66,3	130	440 470	L
TBM225 SA	85,0	29,8	50	395	74,7	155	480 n.a.	L



* Potenza consigliata del trattore, valore puramente indicativo, da verificare in base ai dati tecnici del trattore.
* Recommended tractor power, purely indicative value, must be checked with tractor technical data.
* Potencia aconsejada para el tractor, valor sólo indicativo, tiene que ser comprobado según los datos técnicos del tractor.

NOTA: La potenza monofase può variare in funzione delle prese montate sul pannello in dotazione.
NOTE: Single-phase power may vary depending on the sockets fitted on the standard panel.
NOTA: La potencia monofásica puede variar según las tomas montadas en el cuadro estándar.



NOTA: In caso di protezione IP44, declassare la potenza del 10%.
NOTE: In case of IP44 protection, derate power by 10%.
NOTA: En caso de protección IP44, bajar la potencia de 10%.



Su richiesta: Tractorwatt dotato di saldatrice. (v. nostra gamma di WS)
On request: Tractorwatt equipped with welder. (see our WS range)
A pedido: Tractorwatt equipado con soldadora. (véase nuestra gama de WS)

Saldatrici AC e DC - 2 poli

AC and DC Welders - 2 Poles

Soldadoras AC y DC - 2 polos

Saldatrici AC in corrente alternata (Alternatore brushless monofase)

EN

AC Welders - Alternate Current
(Single-phase Brushless Alternator)

ES

Soldadoras AC de corriente alterna
(Alternador monofásico sin escobillas)

Modello Model	Servizio Duty Servicio	* Corrente saldatura Welding Current Corriente de soldadura	Potenza assorbita Driving Power Potencia absorbida	Alternatore Alternator Alternador	Peso Weight Peso	Dim Size Dim
		 Ø electrode		1 ph cosφ 1 [kVA]	3 ph cosφ 0,8 [kVA]	cone B34 SAE [kg]
50Hz - 3000rpm						
WS 130AC	130A - 35%	100A (Ø=2,5mm) 130A (Ø=3,25mm)	> 4,8kW (6,5Hp) 6,2kW (8,5Hp)	4,0 ---	29,0 30,5 32,5	S
WS 180AC	125A - 60% 180A - 35%	125A (Ø=3,25mm) 180A (Ø=4mm)	> 6,0kW (8Hp) 8,0kW (11Hp)	5,5 ---	34,0 35,5 37,5	S
WS 200AC	180A - 60% 200A - 35%	180A (Ø=4mm) 200A (Ø=4mm)	> 7,5kW (10Hp) 9,0kW (12Hp)	7,0 ---	44,0 45,5 47,5	L
60Hz - 3600rpm						
WS 140AC	140A - 35%	100A (Ø=2,5mm) 140A (Ø=3,25mm)	> 4,8kW (6,5Hp) 6,5kW (9Hp)	5,0 ---	29,0 30,5 32,5	S
WS 190AC	135A - 60% 190A - 35%	135A (Ø=3,25mm) 190A (Ø=4mm)	> 6,5kW (9Hp) 9,0kW (12Hp)	7,0 ---	34,0 35,5 37,5	S
WS 220AC	180A - 60% 220A - 35%	180A (Ø=4mm) 220A (Ø=5mm)	> 7,5kW (10Hp) 9,5kW (13Hp)	8,5 ---	44,0 45,5 47,5	L

* Elettrodi utilizzabili: AC: rutili, acidi. | * Compatible electrodes: AC: rutile, acid. | * Electrodo utilizables: AC: rutilicos y ácidos.

Saldatrici DC in corrente continua (Alternatore a spazzole monofase o trifase)

EN

DC Welders - Direct Current
(Single or Three-phase Brush Alternator)

ES

Soldadoras DC de corriente continua
(Alternador monofásico o trifásico con escobillas)

Modello Model	Servizio Duty Servicio	* Corrente saldatura Welding Current Corriente de soldadura	Potenza assorbita Driving Power Potencia absorbida	Alternatore Alternator Alternador	Peso Weight Peso	Dim Size Dim
		 Ø electrode		1 ph cosφ 1 [kVA]	3 ph cosφ 0,8 [kVA]	cone B34 SAE [kg]
50Hz - 3000rpm						
WS 180DC	140A - 60% 180A - 35%	140A (Ø=3,25mm) 180A (Ø=4mm)	> 6,0kW (8Hp) 7,5kW (10Hp)	3,0 ---	33,0 34,5 36,5	S
WS 200DC	170A - 60% 200A - 35%	170A (Ø=4mm) 200A (Ø=5mm)	> 7,0kW (9,5Hp) 9,0kW (12Hp)	4,0 ---	45,0 46,5 48,5	L
WS 220DC	170A - 60% 220A - 35%	170A (Ø=4mm) 220A (Ø=5mm)	> 7,0kW (9,5Hp) 9,0kW (12Hp)	4,5 ---	45,0 46,5 48,5	L
WS 220TDC	170A - 60% 220A - 35%	170A (Ø=4mm) 220A (Ø=5mm)	> 7,0kW (9,5Hp) 9,0kW (12Hp)	3,5 6,5	45,0 46,5 48,5	L
60Hz - 3600rpm						
WS 200DC	150A - 60% 200A - 35%	150A (Ø=4mm) 200A (Ø=4mm)	> 6,3kW (8,5Hp) 8,0kW (11Hp)	3,4 ---	35,0 36,5 38,5	S
WS 210DC	180A - 60% 210A - 35%	180A (Ø=4mm) 210A (Ø=5mm)	> 7,5kW (10Hp) 8,7kW (11,8Hp)	4,5 ---	45,0 46,5 48,5	L
WS 240DC	200A - 60% 240A - 35%	200A (Ø=5mm) 240A (Ø=5mm)	> 8,5kW (11,5Hp) 11,0kW (15Hp)	5,0 ---	45,0 46,5 48,5	L
WS 240TDC	200A - 60% 240A - 35%	200A (Ø=5mm) 240A (Ø=5mm)	> 8,5kW (11,5Hp) 11,0kW (15Hp)	4,0 7,0	45,0 46,5 48,5	L
50Hz - 3000rpm						
WS 300DC	250A - 60% 300A - 35%	250A (Ø=5mm) 300A (Ø=6mm)	> 12,0kW (16Hp) 15,0kW (20Hp)	6,0 ---	73,0 74,5 75,5	
WS 300TDC	250A - 60% 300A - 35%	250A (Ø=5mm) 300A (Ø=6mm)	> 12,0kW (16Hp) 15,0kW (20Hp)	4,0 10,0	73,0 74,5 75,5	
60Hz - 3600rpm						
WS 350DC	300A - 60% 350A - 35%	300A (Ø=6mm) 350A (Ø=6mm)	> 15,0kW (20Hp) 18,5kW (25Hp)	8,0 ---	73,0 74,5 75,5	
WS 350TDC	290A - 60% 350A - 35%	290A (Ø=6mm) 350A (Ø=6mm)	> 14,5kW (19,5Hp) 18,5kW (25Hp)	5,0 12,0	73,0 74,5 75,5	

* Elettrodi utilizzabili: DC: tutti, inclusi basici e cellulósici. | * Compatible electrodes: DC: all types, included basic and cellulósic. | * Electrodo utilizables: DC: todos, incluidos básicos y celulósicos.

Generatori DC

DC Generators

Generadores DC

PMG-DC / PMG-DCs



La gamma PMG-DC individua una serie di generatori a magneti permanenti con tensione di uscita DC, ideali per l'alimentazione di Stazioni Radio Base (BTS) o carica batterie in genere.

La tecnologia a magneti permanenti associata all'utilizzo di ponti raddrizzatori montati direttamente sulla struttura del generatore (nella parte superiore o **posteriore** a seconda della tipologia costruttiva) permette di ottenere un prodotto con un'alta densità di potenza e ingombri e peso limitati. La versione DCs rende possibile, tramite una scheda logica separata, la gestione della tensione in uscita variando il numero dei giri del motore (con attuatore lineare) e l'eventuale integrazione di ulteriori fonti di energia (da pannelli solari) in ingresso.

A richiesta, la possibilità di realizzare generatori con specifiche tecniche personalizzate.

PMG-DC series identifies Permanent Magnet Generators with DC output voltage, that are ideal for supplying Base Transceiver Stations (BTS) or battery chargers in general. Permanent magnet technology together with the use of rectifier bridges directly mounted on the generator frame (either on the **top** or **back** side depending on the type of construction) make it possible to obtain a product with a high power density and reduced dimensions and weight. The DCs version, thanks to a separate logic board, allows to control the output voltage by regulating the engine rpm and the potential integration of additional input energy sources (solar panels). On request, it is possible to create generators with customized technical specifications.

La gama PMG-DC identifica una serie de generadores de imanes permanentes con tensión de salida en DC, ideal para la alimentación de Estaciones Radio Base (BTS) o carga baterías en general.

La tecnología de imanes permanente asociada al uso de puentes rectificadores montados directamente en la estructura del generador (en la parte **superior** o **trasera** según el tipo de construcción) permite obtener un producto con una alta densidad de potencia y dimensiones y peso reducidos. La versión DCs hace posible, a través de una placa lógica separada, la gestión de la tensión de salida variando el número de las revoluciones del motor y la potencial integración de fuentes de energía adicionales (paneles solares) de entrada. A pedido, la posibilidad de realizar generadores con especificaciones técnicas personalizadas.

IT | Caratteristiche tecniche

Tensione nominale 12 / 24 / 48 o 60Vdc (in alternativa)
Classe d'isolamento H
Protezione IP21

EN | Technical characteristics

Nominal Voltage 12 / 24 / 48 or 60Vdc (alternatively)
Insulation class H
Protection IP21

ES | Características técnicas

Voltaje nominal 12 / 24 / 48 o 60Vdc (en alternativa)
Clase de aislamiento H
Protección IP21

Model	1500rpm		2000rpm		2400rpm		3000rpm	
	Max Power [kW]	* Max Current [A]	Max Power [kW]	* Max Current [A]	Max Power [kW]	* Max Current [A]	Max Power [kW]	* Max Current [A]
PMG-DC 150SC	3,0	80	4,0	100	4,8	110	6,0	110
PMG-DC 185SC	5,0	140	6,5	150	8,0	160	10,0	160
PMG-DC 185SF	7,0	140	10,0	150	13,0	160	18,0	160
PMG-DC 295MB	13,0	90	16,0	100	18,5	110	22,0	110
PMG-DC 295MF	21,0	90	26,0	100	30,0	110	36,0	110
PMG-DC 295MH	28,0	90	35,0	100	40,0	110	48,0	110

* A seconda della tipologia costruttiva | depending on the construction type | en función del tipo de construcción

Consultare la tabella per individuare il modello adatto, in funzione della tensione desiderata.
Refer to the above table to find the suitable model, depending on the desired voltage.
Consultar la tabla para encontrar el modelo adecuado, en función del voltaje deseado.

Generatori a magneti permanenti

Permanent Magnet Generators

Generadores de imanes permanentes

PMG-GS per gruppi elettrogeni

EN PMG-GS for Generating Sets

ES PMG-GS para grupos electrógenos



Il sistema è costituito da un generatore a magneti permanenti, da un inverter monofase completo di filtro EMC e da un kit di regolazione e controllo dei giri del motore (attuatore lineare).

La stabilità e la qualità della tensione generata (THD<2%) garantiscono il corretto e sicuro funzionamento di apparecchiature elettroniche, computer, elettrodomestici, ecc. Questo sistema assicura una tensione in uscita dall'inverter costante in presenza di variazioni di carico.

Le performance del motore sono ottimizzate; la velocità viene regolata in funzione del carico in uscita per cui il consumo di carburante e la rumorosità sono notevolmente ridotti.

Il generatore è stato realizzato con una macchina trifase a magneti permanenti, in modo da ottenere un'alta densità di potenza e ingombri limitati.

The system consists of a Permanent Magnet Generator, a single-phase inverter complete with EMC filter and a regulation kit for engine revolutions control (linear actuator).

The stability and the quality of the generated voltage (THD<2%) ensure the smooth and safe functioning of electronic devices, computers, household appliances, etc.

This control system guarantees a constant inverter output voltage if load variations occur. Engine performances are optimized; speed is adjusted according to the output load so that fuel consumption and noise are drastically reduced.

The generator is made of a three-phase permanent magnet machine, in order to obtain high power density and compact size.

El sistema consta de un generador de imanes permanentes, un inversor monofásico completo de filtro EMC y un kit para la regulación y el control de las revoluciones del motor (actuador lineal).

La estabilidad y la calidad del voltaje generado (THD<2%) permiten el correcto funcionamiento y la seguridad de los dispositivos electrónicos, ordenadores, electrodomésticos, etc.

Este sistema de control garantiza un voltaje de salida del inversor constante en presencia de variaciones de carga.

Las prestaciones del motor son optimizadas; la velocidad es regulada en función de la carga de salida así que el consumo de combustible y el ruido se reducen drásticamente.

El generador se realiza con una máquina trifásica de imanes permanentes, para obtener una densidad de potencia elevada y tamaño reducido.

Modello Model Modelo	Potenza Output Power Potencia	Rendimento Efficiency Rendimiento	Range di utilizzo Range of use Rango de uso	Peso Weight Peso				
				PMG cone	PMG SAE 5 *	Inverter	EMC filter	rpm reg. kit
	1 ph [kVA]	(PMG + inverter) η%	[rpm]					
PMG-GS 150 SB	3,0	0,87	2000 ÷ 3000 2400 ÷ 3600	9,0	---	5,5	1,3	2,0
PMG-GS 150 SC	6,0	0,87	2000 ÷ 3000 2400 ÷ 3600	10,0	---	10,0	2,0	2,0
PMG-GS 185 SC	10,0	0,87	2000 ÷ 3000 2400 ÷ 3600	14,5	14,0	10,0	3,0	2,0
PMG-GS 185 SF	10,0	0,88	1700 ÷ 2400 1900 ÷ 2700	17,5	17,0	10,0	3,0	2,0

* SAE4 = SAE5 + 1 Kg

PMG-LT / PMG-LTi per torri faro

EN PMG-LT / PMG-LTi for Light Towers

ES PMG-LT / PMG-LTi para torres de iluminación



Il sistema è costituito da un generatore a magneti permanenti che alimenta direttamente lampade alogene o, tramite accenditori dedicati, lampade della famiglia HID (High Intensity Discharge) montate sulle torri faro.

Differentemente da un alternatore di tipo tradizionale, la tensione viene erogata ad una frequenza più elevata. Questo comporta una serie di vantaggi, sia meccanici che elettrici:

- a parità di potenza erogata, il PMG-LT è molto più compatto, con ingombri ridotti anche relativamente agli accenditori;
- il rendimento è prossimo al 90% (contro un valore del 78÷80% di un alternatore tradizionale);
- la potenza richiesta in ingresso è minore, e può quindi essere accoppiato a un motore di taglia inferiore, limitando i consumi di carburante;
- in caso siano richieste delle prese ausiliarie in tensione monofase è disponibile il modello PMG-LTi con inverter.

The system consists of a permanent magnet generator that supplies either halogen lamps or, by means of a specific ballast, HID (High Intensity Discharge) lamps on light towers. Unlike with traditional alternators, the output voltage is supplied at a higher frequency, thus granting a series of both mechanical and electrical advantages:

- at the same output power, PMG-LT is more compact, with smaller overall dimensions, also for the lamp ballast;
- efficiency is close to 90% (whereas with traditional alternators it is about 78÷80%);
- the needed input power is lower, so it can be coupled with a smaller engine, thus reducing fuel consumption;
- in case auxiliary single-phase sockets are needed, PMG-LTi equipped with inverter is available.

El sistema consta de un generador de imanes permanentes que alimenta directamente las lámparas halógenas o, por medio de sus propios balastos, también las lámparas HID (High Intensity Discharge) de una torre de iluminación.

Diferentemente de un alternador tradicional, el voltaje es erogado con frecuencia más elevada.

Eso garantiza varios provechos, ambos mecánicos y eléctricos:

- a igual potencia, el generador PMG-LT es mucho más compacto, con tamaño reducido incluso con respecto a los balastos;
- su rendimiento se acerca al 90% (contra un valor de 78÷80% de un alternador tradicional);
- la potencia que se necesita en entrada es inferior y por eso se puede acoplar a un motor más pequeño, reduciendo de tal manera el consumo de combustible;
- en caso se necesiten tomas auxiliares de voltaje monofásico tenemos disponible el modelo PMG-LTi con inversor.

						Lamps			
						HID	Halogen		
						4×1000W (ballast)	4×1000W		
					rpm	2000	2200	PMG-LTi 185 F	
						7,7	7,7		
					Input Power [kW]	3000	2700	PMG-LTi 185 H	
						8,0	7,7		
						---	3000	PMG-LTi 185 K	
						---	7,7		

4

Generatori per applicazioni eoliche

Generators for Wind Applications

Generadores para aplicaciones eólicas

PMG-WG per turbine eoliche

EN PMG-WG for Wind Turbines

ES PMG-WG para turbinas eólicas



PMG-WG è un generatore per turbine eoliche ad alta efficienza, realizzato con magneti permanenti (Nd-Fe-B) al fine di ottenere un'elevata densità di potenza con ingombri molto limitati.

L'esperienza NSM ed accurati test hanno permesso di realizzare un prodotto con bassissimo cogging, tale da permettere l'avviamento della turbina anche con velocità del vento minime.

La gamma attuale comprende generatori microeolici in grado di sviluppare potenze da 0,5 a 6kVA continui, con un'elevata capacità di sovraccarico (max kVA) per periodi limitati.

Su richiesta, NSM è in grado di sviluppare progetti con specifiche personalizzate.

PMG-WG is a high efficiency generator for wind turbines, manufactured with permanent magnets (Nd-Fe-B) in order to obtain high power density and very compact size. NSM's experience and accurate tests have allowed us to develop a product with very low cogging, so that the wind turbine spins even with minimum wind speed.

Current range includes micro wind generators that can supply continuous output power from 0,5 to 6kVA, with a high overload capacity (max kVA) for a limited time span.

On request, NSM can develop highly customized solutions.

El PMG-WG es un generador para turbinas eólicas de alto rendimiento, realizado con imanes permanentes (Nd-Fe-B) para obtener una elevada densidad de potencia y un tamaño reducido.

La experiencia de NSM y las pruebas precisas han permitido la realización de un producto con cogging muy bajo, a fin de permitir la rotación de la turbina aun con velocidad del viento mínima.

La gama actual incluye generadores micro-eólicos que pueden suministrar una potencia continua de 0,5 a 6kVA, con alta capacidad de sobrecarga (máx kVA) por un tiempo limitado.

A pedido, NSM puede desarrollar proyectos con especificaciones customizadas.

Modello Model Modelo	Potenza nominale Nominal Power Potencia nominal	Potenza max Max Power Potencia max	Cogging	Voltage	rpm
	cosφ 1 [kVA]	cosφ 1 [kVA]	[Nm]	[V]	
PMG-WG 150 SC-22	0,5	0,6	< 0,25	250	415
PMG-WG 150 SC-16	0,7	1,0	< 0,60	250	415
PMG-WG 185 SC	1,2	1,8	< 0,60	380	415
PMG-WG 185 MA	2,0	3,6	< 1,20	380	415
PMG-WG 185 LA	3,0	4,9	< 1,60	380	415
PMG-WG 185 XLB	6,0	9,5	< 3,20	380	415
PMG-WG 295 H	3,0	3,9	< 5,00	400	150
PMG-WG 295 P	6,0	8,5	< 7,50	400	150

5

Macchine speciali

Special Machines

Máquinas especiales

Generatori e convertitori di frequenza sincroni brushless

EN Brushless Synchronous Generators and Frequency Converters

ES Generadores y convertidores de frecuencia síncronos sin escobillas

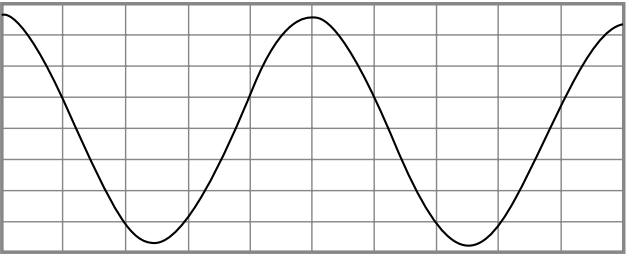


Macchine elettriche ad alte prestazioni, progettate e costruite espressamente per impieghi militari, aeronautici e simili, dove si richiedono efficienza ed alta affidabilità.

High performance electrical machines designed and manufactured specifically for military, aeronautic applications and similar, where high efficiency and reliability are required.

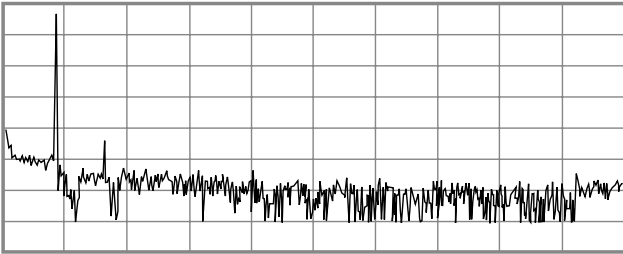
Máquinas eléctricas de altas prestaciones, diseñadas y fabricadas expresamente para usos militares, aeronáuticos y similares, donde se requieren rendimiento y alta fiabilidad.

IT Caratteristiche tecniche	EN Technical characteristics	ES Características técnicas
Range di potenza da 10kVA a 1000kVA	Output power range from 10kVA to 1000kVA	Alcance de potencia de 10kVA a 1000kVA
Range di frequenza in uscita da 16Hz a 600Hz	Output frequency range from 16Hz to 600Hz	Alcance de frecuencia en salida de 16Hz a 600Hz
rpm da 600rpm a 3600rpm	rpm from 600rpm to 3600rpm	rpm de 600rpm a 3600rpm
Es. Generatore con f=400Hz e S=200kVA:	Ex. Generator with f=400Hz and S=200kVA:	Ej. Generador con f=400Hz y S=200kVA:
Precisione statica della tensione ≤ 1% da vuoto a pieno carico	Static accuracy of voltage ≤ 1% from no-load to full load	Precisión estática de voltaje ≤ 1% de vacío a plena carga
Forma d'onda armoniche totali T.H.D. ≤ 1% con carico non distorcente	Waveform T.H.D. ≤ 1% with no-distorting load	Forma de onda armónicos totales T.H.D. ≤ 1% con carga no distorsionante
Transitori di tensione ± 15% da vuoto a carico e viceversa	Voltage transients ± 15% from no-load to full load and vice versa	Transitorios de voltaje ± 15% de vacío a carga y viceversa
Equilibratura fase squilibrio ≤ 0,5% con qualsiasi carico equilibrato, ≤ 5% con 1/3 di corrente squilibrata	Phase balancing unbalance ≤ 0.5% with any balanced load, ≤ 5% with 1/3 unbalanced current	Equilibrado de fase desequilibrio ≤ 0,5% con cualquier carga equilibrada, ≤ 5% con 1/3 de corriente
Modulazione di tensione ≤ 0,8% con carico equilibrato	Voltage modulation ≤ 0,8% with balanced load	Modulación de voltaje ≤ 0,8% con carga equilibrada
Tempo di risposta ≤ 150ms	Response time ≤ 150ms	Tiempo de respuesta ≤ 150ms



Forma d'onda tipica 400Hz

Typical waveform 400Hz
Forma de onda típica 400Hz



Analisi della forma d'onda - Distorsione Armonica Totale (THD) ≤ 1%

Waveform analysis - Total Harmonic Distortion (THD) ≤ 1%
Análisis de la forma de onda - Distorsión Armónica Total (THD) ≤ 1%

Su richiesta è possibile fornire macchine a frequenze diverse o secondo specifiche del cliente.
On request we can supply machines with different characteristics, according to the customer's specifications.
A pedido podemos proveer máquinas con frecuencias diferentes o según especificaciones del cliente.

NSM è specializzata inoltre nella realizzazione di convertitori a basso contenuto di scariche parziali (< 10pC - f = 60÷400Hz).
NSM is also specialized in manufacturing converters for partial discharge tests (low partial discharges: < 10pC - f = 60÷400Hz).
NSM también es especializada en la realización de convertidores a bajo contenido de descargas parciales (< 10pC - f = 60÷400Hz).

Coefficienti di variazione della potenza
Output Power Variation Coefficients
Coeficientes de variación de la potencia

Coefficienti di variazione della potenza in funzione della temperatura ambiente e dell'altitudine

Table with 2 columns: Language (EN, ES) and Description (Output Power Variation Coefficients depending on Ambient Temperature and Altitude, Coeficientes de variación de la potencia en función de la temperatura ambiente y de la altitud)

Traditional Alternators

Table with 6 columns: Altitude [m AMSL], Ambient Temperature (25°C, 40°C, 45°C, 50°C, 55°C), and rows for power ratings: < 1000, 1000 ÷ 1500, 1500 ÷ 2000, 2000 ÷ 3000.

Permanet Magnet Generators (PMG)

Table with 6 columns: Altitude [m AMSL], Ambient Temperature (-15 ÷ 50°C, 55°C, 60°C, 65°C, 70°C), and rows for power ratings: < 1000, 1000 ÷ 1500, 1500 ÷ 2000, 2000 ÷ 2500, 2500 ÷ 3000.

Moltiplicare la potenza del generatore (kVA) indicata a catalogo per il coefficiente ricavato dalle tabelle.
Multiply the generator's Output Power (kVA) stated in the catalogue by the coefficient drawn from the above tables.
Multiplicar la potencia del generador (kVA) indicada en el catálogo para el coeficiente obtenido de las tablas.

Table with 3 columns: IT | CONDIZIONI GENERALI DI GARANZIA, EN | GENERAL TERMS OF WARRANTY, ES | CONDICIONES GENERALES DE GARANTÍA. Each column contains detailed warranty terms and conditions.

Table with 3 columns: PROCEDURA GENERALE DI GARANZIA, GENERAL PROCEDURE OF WARRANTY, PROCEDIMIENTO GENERAL DE GARANTÍA. Each column contains a numbered list of steps for the warranty process.



NSM S.r.l. Via Lazio, 5/b
36015 Schio | Vicenza | Italy

T +39 0445 595888
F +39 0445 595800

info@nsmsrl.it
nsmsrl.it

