

Overview wind power generators

Synchronous and asynchronous
generator, Yaw drives



Advantages for our customers

VEM Sachsenwerk GmbH is worldwide active in various industry sectors and among other things puts focus on the development of machines for wind power generators. Due to our highly efficient calculation and construction departments the wind power generators are made to custom with regard to the individu-

al user requirements at which our development departments collaborate closely with partners in science and research. This results into products which belong to the technological leaders on the market and set standards for the product generation of wind power generators.

Low and high voltage asynchronous generators

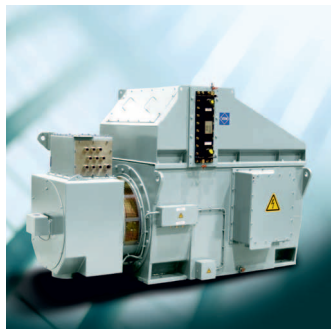
Product information

Type series	DAS..., DAK..., DAA...
Capacity range	1,500 kVA to 7,000 kVA
Voltage	690 V, 950 V, 3,300 V, 6,600 V
Speeds	800 to 2,200 rpm (further speed ranges on request)
Cooling types	air/air cooling (IC 611 - IC 666), air/water cooling (IC 81 W7, IC 86 W7)
Characteristics	Design acc. to DIN EN 60034 (IEC 72), generators for variable speed at fixed stator frequency construction types IM B3 acc. to DIN/IEC, robust, low vibration design, degrees of protection IP 23, IP 54, IP 55, thermal class F, insulation system VEMoDUR®-VPI-155 vacuum pressure impregnation (VPI), energy-efficient and environmentally friendly, various modifications possible

Product examples

Type	DASAA 5023-4U	DASAB 5025-6U	DASAA 5025-4U	DAKAA 6330-6U	DASAA 6329-6U	DASAA 8030-6UA	DAMAK 8032-6WF
Capacity kW	1,500	1,500	2,000	2,500	3,600	5,400	6,500
Voltage V	690	575	690	660	950	950	6,600
Frequency Hz	50	60	50	50	50	50	50
Rated speed rpm	1,800	1,440	1,800	1,100	1,200	1,170	1,170
Speed range rpm	1,000-2,000	800-1,600	1,000-2,000	700-1,300	600-1,400	670-1,330	670-1,330
Construction type	IM B3	IM B3	IM B3	IM B3	IM B20	IM B3	IM B3
Degree of protection	IP 54	IP 54	IP 54	IP 54	IP 54	IP 54	IP 54
Cooling type	IC 666 air/air	IC 666 air/air	IC 666 air/air	IC 86 W7 air/water	IC 616 air/air	IC 616 air/air	IC 86 W7 air/water
Thermal class	F	F	F	F	F	F	F

technology...



1.3 MW

Double feed asynchronous generator
Type: DAKAA 5027-6U, air/water cooling
Voltage: 690 V, speed: 1,100 rpm, frequency: 50 Hz



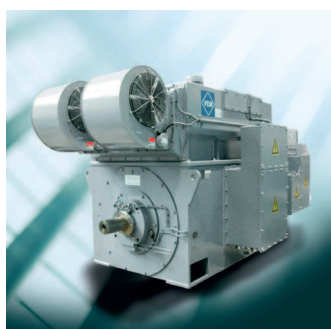
1.5 MW

Double feed asynchronous generator
Type: DASAA 5023-4U, air/air cooling
Voltage: 690 V, speed: 1,800 rpm, frequency: 50 Hz



1.5 MW

Double feed asynchronous generator
Type: DASAB 5027-6U, air/air cooling
Voltage: 690 V, speed: 1,440 rpm, frequency: 60 Hz



2.0 MW

Double feed asynchronous generator
Type: DASAA 5025-4U, air/air cooling
Voltage: 690 V, speed: 1,780 rpm, frequency: 50 Hz

products...



2.5 MW

Double fed asynchronous generator
Type: DASAA 6328-6U, air/water cooling
Voltage: 690 V, speed: 1,650 rpm, frequency: 50 Hz



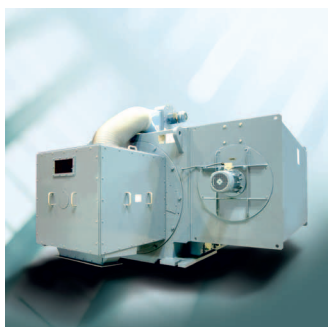
3.3 MW

Double fed asynchronous generator
Type: DASAA 6329-6U, air/air cooling
Voltage: 950 V, speed: 1,200 rpm, frequency: 50 Hz



5.0 MW

Double fed asynchronous generator
Type: DASAA 8030-6UA, air/air cooling
Voltage: 950 V, speed: 1,170 rpm, frequency: 50 Hz



6.0 MW

Double fed asynchronous generator
Type: DAMAK 8032-6WF, air/water cooling
Voltage: 6,600 V, speed: 1,170 rpm, frequency: 50 Hz

products...



Low and high voltage synchronous generators

Product information

Type series	DRA..., DRK...
Capacity range	upon request
Voltage	690 V, 950 V, 3,300 V, 6,600 V, 13,800 V
Speeds	800 to 2,200 rpm (further speed ranges on request)
Cooling type	air/air cooling (IC 611 - IC 666), air/water cooling (IC 81 W7, IC 86 W7)
Characteristics	Design acc. to DIN EN 60034 (IEC 72), generators for variable speed at fixed stator frequency construction types IM B3 acc. to DIN/IEC, robust, low vibration design, degrees of protection IP 23, IP 54, IP 55, thermal class F, insulation system VEMoDUR®-VPI-155 vacuum pressure impregnation (VPI), energy-efficient and environmentally friendly, various modifications possible

Product examples

Type	DRSYZ 5623-4WSA	DRSYZ 5623-6USW	DPSPZ 5625-6U *	DRKYX 6325-4WS
Capacity kW	2,000	2,500	2,500	3,400
Voltage V	13,800	690	690	6,600
Frequency Hz	60	50/60	50	50
Rated speed rpm	1,800	1,490/1,650	1,650	1,500
Speed range rpm	-	500-1,850	500-1,850	-
Construction type	IM B3	IM B3	IM B3	IM B20
Degree of protection	IP 54	IP 54	IP 54	IP 54
Cooling type	IC 616 air/air	IC 616 air/air	IC 616 air/air	IC 81 W7 air/water
Thermal class	F	F	F	F

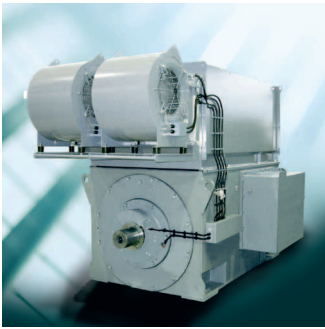
* permanently excited

technology...



2.5 MW

Synchronous generator, brushless excited
Type: DRSYZ 5623-6USW, air/air cooling
Voltage: 690 V, speed: 1,650 rpm, frequency: 60 Hz



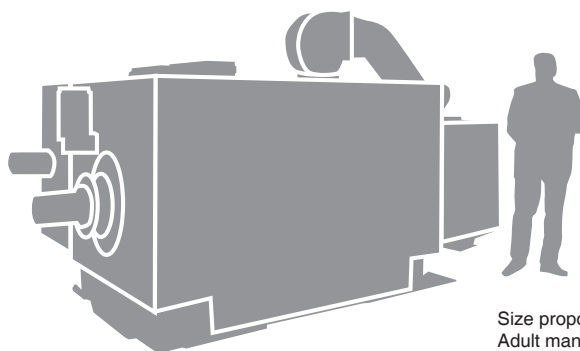
2.5 MW

Synchronous generator, permanently excited
Type: DPSPZ 5625-6U, air/air cooling
Voltage: 690 V, speed: 1,650 rpm, frequency: 50 Hz



1.5 MW / 2.5 MW

Synchronous generator, permanently excited, driveless
Cooperative service



Size proportions:
Adult man and 6.0 MW generator

products...

Yaw drives

As a full liner for induction machines VEM also offers low voltage machines for wind power generators. The AC asynchronous brake motors are characterised by excellent operational reliability, long lifetime and efficiency. Their modifiability permits that our drives can be used universally. High reduction precision drives are used in drive technology for highest requirements with regard to torque and speed. For these high capacity reduction

drives for many years now we produce brake motors, which act as actuating drives for yaw drives. Wind parks with our brake motors can be found in Europe, Asia and North America, in part also in offshore design.

Upon request we also provide asynchronous motors for pitch adjustment.

Low voltage asynchronous motors - yaw drives

Product information

Type series	B21R ... MLEN
Characteristics	Design acc. to DIN EN 60034 (IEC 72) robust, low vibration design, mounted double surface brake, degree of protection IP 55, thermal class F

Product examples

Type	B21R 112MX6
Capacity kW	3.6
Voltage V	400/690
Frequency Hz	60
Rated speed rpm	1,200
Construction type	IM B3
Degree of protection	IP 55
Cooling type	IC 411
Thermal class	F



Mounting for planetary drive

3.6 kW, self-colling brake motor

Type	B21R 112M4
Capacity kW	3.7/3.7
Voltage V	690Y
Frequency Hz	50/60
Rated speed rpm	1,200/1,800
Construction type	IM B5
Degree of protection	IP 55
Cooling type	IC 411
Thermal class	F



Mounting for planetary drive

3.7 kW, self-colling brake motor

technology...

Image Cover: REpower, Jan Oelken

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A world full of motion