



ABOUT US

SINO-FOREIGN PRIVATE JOINT VENTURE SHANDONG SWISS ELECTRIC CO. LTD. ("SSE") IS A PROVIDER OF GEARLESS WIND TURBINES WITH SUPERIOR, PROPRIETARY AND CHINESE DEVELOPED TECHNOLOGY. THE CHINESE EQUITY SHAREHOLDER OF SSE HAS DEVELOPED WIND TURBINES FOR MORE THAN 25 YEARS AND DEVELOPED SUBSTANTIAL KNOW-HOW AND PROPRIETARY TECHNOLOGY.

SSE IS LOCATED IN THE SHANDONG PROVINCE IN CHINA. THE WIND RECOURSES IN THIS AREA ARE CLASSIFIED IN THE CLASS 3 – LOW WIND SPEED AREA. THEREFORE SSE OFFERS TURBINES, WHICH CAN PRODUCE MORE ENERGY – THE TURBINES PROVIDE ENERGY FROM 2,3 METER/SEC. ON. THE DEVELOPMENT OF OR TURBINES ARE BASED ON 17 PATENTS. ALL DEVELOPMENT HAS BEEN DONE IN CHINA.



MR. ZHANG
CEO OF SWISS ELECTRIC

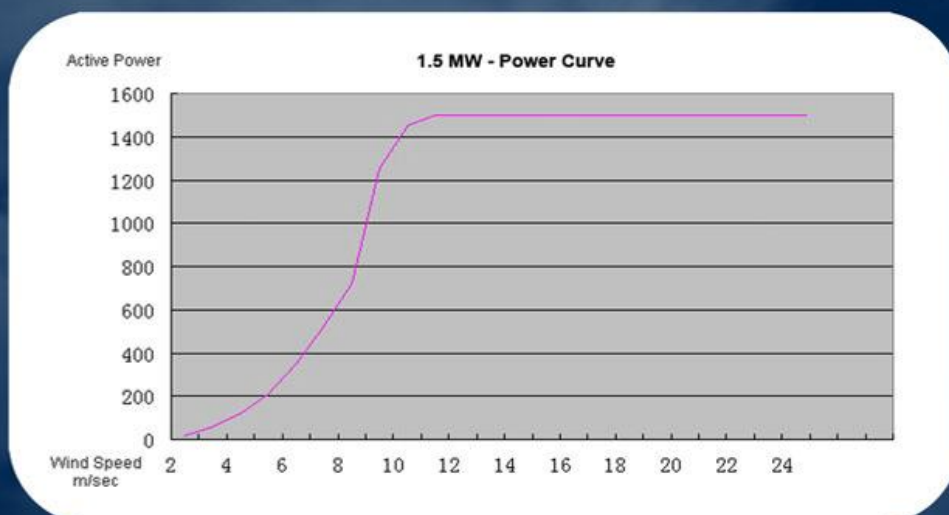
TECHNOLOGY

SSE EXCLUSIVELY MANUFACTURES GEARLESS WIND TURBINES WHICH HAVE LOWER OPERATING AND MAINTENANCE COSTS OVER LIFETIME LESS DOWNTIME RELATIVE TO GEARED TURBINES PROVIDE HIGHER OPERATING EFFICIENCY SINCE ENERGY IS PRODUCED ALREADY AT MUCH LOWER WIND SPEED (2,3 METER/SEC.)

SSE WILL INTRODUCE THE NEW TECHNOLOGY OF THE PERMANENT MAGNETIC DIRECT-DRIVE TURBINE BASED ON THE ACTUAL TYPES 1.5 MW, 2.0 MW, 2.5 MW AND 3.0 MW .



PRODUCTS



1.5 MW

TECHNICAL SPECIFICATIONS

TURBINE

Turbine Type	YZ70/1.5	YZ78/1.5	YZ82/1.5
IEC wind Area	IEC I/II	IEC II/III	IEC II/III
Rated power (KW)	1500	1500	1500
Cut-in Wind Speed (m/s)	2.5	2.3	2.3
Cut-out Wind Speed (m/s)	25	25	20
Rated Wind Speed (m/s)	11.5	10.5	10.2
Critical Wind Speed (m/s)	70/59.5	59.5/52.5	59.5/52.5
Operating ambient temperature (°C)	normal temperature-15~+45, low temperature-30~+45		
Survival temperature (°C)	normal temperature-25~+45, low temperature-45~+45		

BLADES

Blades Diameter (m)	70	78 (77)	82
Blade length (m)	34	38 (37.5)	40
Number of Blades (m)	3	3	3

GENERATOR

Type	permanent magnet direct drive composite cooling		
Rated output Voltage (V)	650	650	650
Frequency (Hz)	17.97	14.29	13.07
Power Factor	0.988	0.988	0.988
Rated Speed (rpm)	22	17.5	16

PITCH SYSTEM

Drive Control	active pitch system control, driven by motor and reducer
---------------	--

YAW SYSTEM

Type	active
Drive Control	motor and reducer

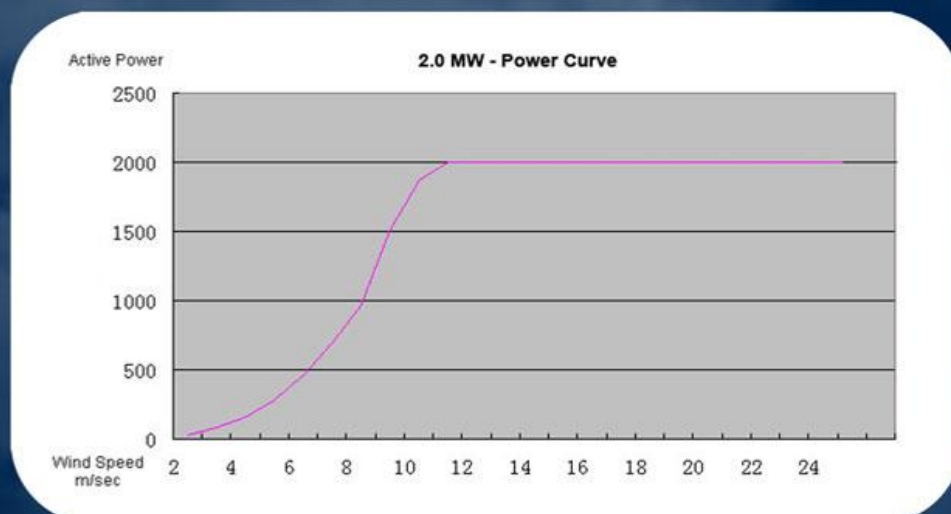
CONTROL SYSTEM

Drive Control	PLC+ remote control
---------------	---------------------

TOWER

Type	active		
Height (m)	60/70	70/80	70/80

PRODUCTS



2.0 MW

TECHNICAL SPECIFICATIONS

TURBINE

Turbine Type	YZ77/2.0	YZ82/2.0	YZ87/2.0
IEC wind Area	IEC I/II	IEC II/III	IEC II/III
Rated power (KW)	2000	2000	2000
Cut-in Wind Speed (m/s)	2.8	2.5	2.3
Cut-out Wind Speed (m/s)	25	22	20
Rated Wind Speed (m/s)	12	11.5	11
Critical Wind Speed (m/s)	70/59.5	59.5/52.5	59.5/52.5
Operating ambient temperature (°C)	normal temperature-15~+45, low temperature-30~+45		
Survival temperature (°C)	normal temperature-25~+45, low temperature-45~+45		

BLADES

Blades Diameter (m)	77	82	87
Blade length (m)	37.5	40	42.5
Number of Blades (m)	3	3	3

GENERATOR

Type	permanent magnet direct drive composite cooling		
Rated output Voltage (V)	650	650	650
Frequency (Hz)	14.7	14.29	13.88
Power Factor	0.987	0.987	0.987
Rated Speed (rpm)	18	17.5	17

PITCH SYSTEM

Drive Control	active pitch system control, driven by motor and reducer
---------------	--

YAW SYSTEM

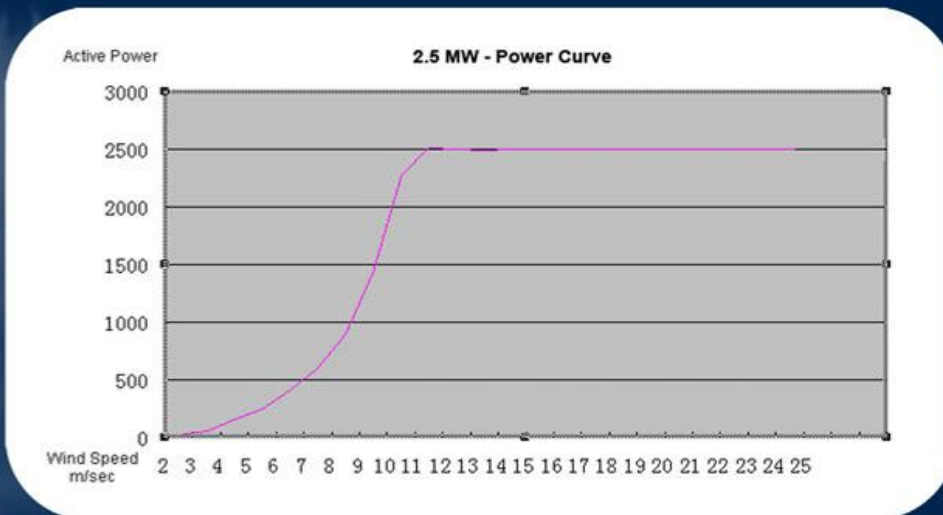
Type	active
Drive Control	motor and reducer

CONTROL SYSTEM

Drive Control	PLC+ remote control
---------------	---------------------

TOWER

Type	steel cone tower		
Height (m)	60/70	70/80	70/80



2.5 MW

TECHNICAL SPECIFICATIONS

TURBINE

Turbine Type	YZ88/2.5	YZ90/2.5	YZ97/2.5
IEC wind Area	IEC I/II	IEC II/III	IEC II/III
Rated power (KW)	2500	2500	2500
Cut-in Wind Speed (m/s)	3.0	2.8	2.5
Cut-out Wind Speed (m/s)	25	22	20
Rated Wind Speed (m/s)	12	11	10.5
Critical Wind Speed (m/s)	70/59.5	59.5/52.5	59.5/52.5
Operating ambient temperature (°C)	normal temperature-15~+45, low temperature-30~+45		
Survival temperature (°C)	normal temperature-25~+45, low temperature-45~+45		

BLADES

Blades Diameter (m)	88	90	97
Blade length (m)	43	44	47.5
Number of Blades (m)	3	3	3

GENERATOR

Type	permanent magnet direct drive composite cooling		
Rated output Voltage (V)	690	690	690
Frequency (Hz)	14.29	13.48	12.25
Power Factor	0.987	0.987	0.987
Rated Speed (rpm)	17.5	16.5	15

PITCH SYSTEM

Drive Control	active pitch system control, driven by motor and reducer
---------------	--

YAW SYSTEM

Type	active
Drive Control	motor and reducer

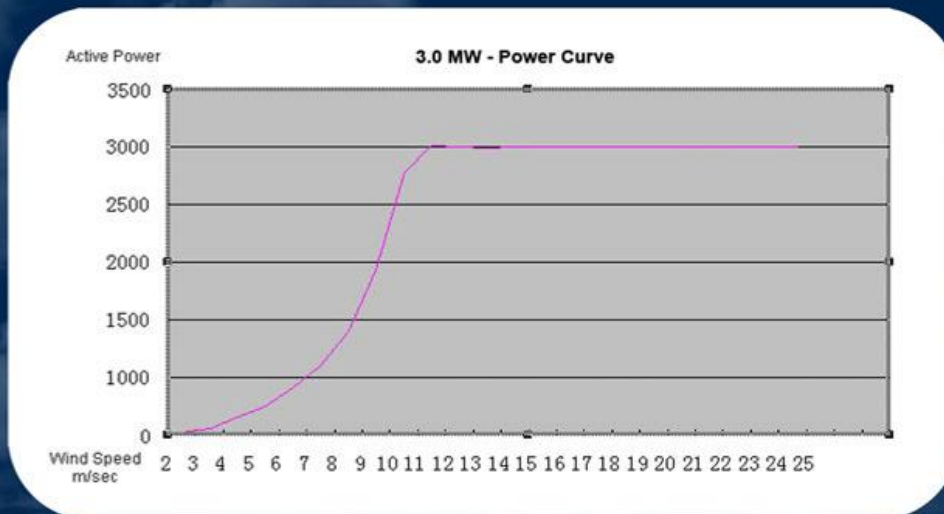
CONTROL SYSTEM

Drive Control	PLC+ remote control
---------------	---------------------

TOWER

Type	steel cone tower		
Height (m)	70/80	80/90	90/100

PRODUCTS



3.0 MW

TECHNICAL SPECIFICATIONS

TURBINE

Turbine Type	YZ100/3.0	YZ105/3.0	YZ113/3.0
IEC wind Area	IEC I/II	IEC II/III	IEC II/III
Rated power (KW)	3000	3000	3000
Cut-in Wind Speed (m/s)	3.0	2.8	2.5
Cut-out Wind Speed (m/s)	25	22	20
Rated Wind Speed (m/s)	11.5	11	10.5
Critical Wind Speed (m/s)	70/59.5	59.5/52.5	59.5/52.5
Operating ambient temperature (°C)	normal temperature-15~+45, low temperature-30~+45		
Survival temperature (°C)	normal temperature-25~+45, low temperature-45~+45		

BLADES

Blades Diameter (m)	100	105	113
Blade length (m)	49	51.5	55.5
Number of Blades (m)	3	3	3

GENERATOR

Type	permanent magnet direct drive composite cooling		
Rated output Voltage (V)	690/3000		
Frequency (Hz)	12.01	11.43	10.62
Power Factor	0.988	0.988	0.988
Rated Speed (rpm)	14.7	14	13

PITCH SYSTEM

Drive Control	active pitch system control, driven by motor and reducer
---------------	--

YAW SYSTEM

Type	active
Drive Control	motor and reducer

CONTROL SYSTEM

Drive Control	PLC+ remote control
---------------	---------------------

TOWER

Type	steel cone tower		
Height (m)	90/100	100/110	100/110



**Head office:**

Weifang Yinma Industrial Park,
Shandong Province
Tel: 0086-536-772 1999
Fax: 0086-536-772 6992
Email: info@swisselectric.com.cn

Weifang branch:

Minying Industrial Park,
State Weifang High Tech Industry Development Zone,
Shandong Province
Tel: 0086-536-610 6252
Fax: 0086-536-610 6252
E-mail: lcb@ruiqineng.com
Contact: Liu Changbao

International trade department :

No. 811, Dongfang Road, State Weifang High Tech Industry Development
Zone, Shandong Province
Tel: 0086-536-879 7777
Fax: 0086-536-889 3186
Email: sales@swisselectric.com.cn
Contact: Li Zhenhua