

## **Make Distributed New Energy Within Reach**





#### INTRODUCTION



Reliablesmall& mediumsizedWTGsupplier



10000+Wind & Solar hybrid systems



Stock code : 430324;



110+Patents & Certifications;



Shanghai Ghrepower, Stock code: 430324), founded in 2006, with registered capital of USD 11 million. It successfully went to public in China's National Equities Exchange and Quotations system - NEEQ, then becoming the first renewable com pany dedicated in the renewable energy application solutions in the Board.

Shanghai Ghrepower is a high-technology enterprise, located in Shanghai, which engages itself in the renewable energy R & D, manufacturing, sales, operations and maintenance, and industrial investment. The company devotes to the power solutions of telecoms, military and civil use, com mercial and utilities fields, meanwhile provides application studies of micro grid, intellectual grid and commercial power generation investments.

The company is oriented by the market and persistent with technology innovations, and has achieved 118 items of independent intellectual properties and patents, of which there are 24 inventions, 4 PTC patents and 16 software creations. The company attends to draft multiple national stan-dards, and has obtained CE, ETL, G59, CEIO-21, IEC61400, SWCC, ClassNK, CRES certifications.

Shanghai Ghrepower takes "Make Distributed New Energy Within Reach" as its enterprise mission. It accelerates the widespread distribution of renewable energy globally, making contribution to dis tributed new energy become economical and affordable. In the future, Ghrepower will insist in new energy industry, move at a pace of globalization and forge the company to be a renewable energy application leader, and pay its utmost contribution to the beautiful earth village.contribution to the beautiful earth village.



#### 2020 - Now

Start to promote carbon neutral domestic and international double cycle strategy.

Import foreign distributed experience into China and fully promote carbon neutrality

#### 2015-2019

#### **Entered into the Japanese market**

ClassNK certification with three models, set up a wholly-owned subsidiary

#### 2013-2015

#### Domestic communication base stations entered the period of comprehensive development

Domestic communication base station business market share exceeds 50%

#### 2013

#### Publicly Listed in the New Third Board (NEEQ)

Stock code:430324, became the first company in the renewable energy application solutions

#### 2012

#### Full access to the North American market

The first FD16-30 wind turbine was exported to the United States, America Ghrepower was established

#### 2011

#### Full access to the European market

FD21-60 wind turbine customized design for Italy development, successfully connected to the grid, Italy Ghrepower was established

#### 2009

#### Overseas market development

The first FD13-50 w as exported to U.K., opening up internationalized strategy.

#### 2008

#### Won the bid for China Mobile's centralized procurement

Became the suc cessful bidder f or China Mobile's centralized procurement of new energy base station power supply sys tems for the firs t time and rated "Outstanding Supplier" for many consecutive years.

#### 2006

#### Shanghai Ghrepower established

Focusing on research, development, manufacturing, sales, operation and maintenance of small and medium sized WTGS.



### **Continuous innovation from user to service**









Shanghai Ghrepower manu factctures WTGS, controllers, inverters, blades, other ancillary equipment and raw materials in stric taccordance with quality control system, to ensure the safety and reliability of the entire system. Excellent R&D strength



## Advanced project investment philosophy

Shanghai Ghrepower explores overseas markets, and has set up branches in the United States, Italy, Canada, Japan and Taiwan, China to carry out small and medium sized WTGS projectinvestment. The transformation from product sales to industry investment not only brings long-term steady business returns, but also guides industry model innovation.



## Improved operation and maintenance system

To ensure the ability to pro vide customers with high quality services, Shanghai Ghrepower has set up a strict service staff certification management system to train, examine and certify them. Their improved skills provide guarantee for customer satisfaction.



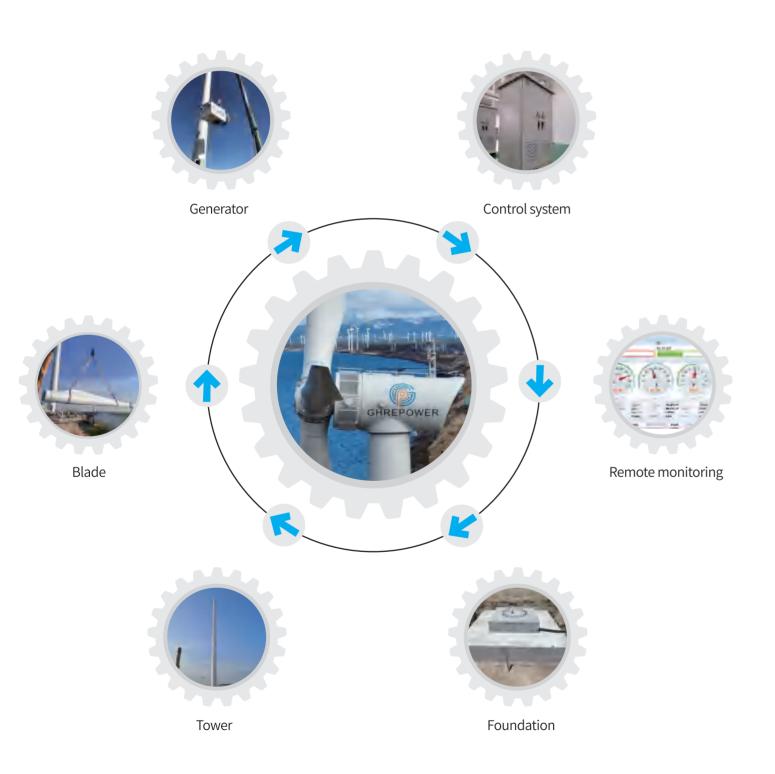
### **Excellent R&D strength**

Shanghai Ghrepower has a group of experienced independent R&D team engaged in wind energy application research



## GHREP Product Family

### **Integrated Designing Concept**



### **Major Product Line Technical Parameters**



#### GNW Series Inverters

#### CUBE Remote Monitoring System

SerialCode	FD5	FD8	FD16	FD	22	FD	FD25		FD42		FD56	
RotorDia.(m)	5.1	7.8	15.6	21	.8	25		32.2	42		56	
ModelNo.	FD5-5	FD8-9.8	FD16-30	FD22-50	FD22-60	FD25-100	FD25-60	FD32-150	FD42-300	FD42-400	FD56-400	FD56-500
Rated power(kW)	5	9.8	30	50	60	100	60	150	300	400	400	500
Sweep area per kilowatt(m²/kW)	4.08	4.87	6.37	7.46	6.22	4.90	8.18	5.41	4.61	3.46	6.15	4.92
Rated wind speed (m/s)	11	11	10	8.6	9.5	11	9	9.8	11	12	9.5	10.5
AEP(MWh)@5m/s	8.1	19.3	69.3	143	152	205	168	332	591	641	989	1052
AEP(MWh) @5.5m/s	10.3	23.7	84.7	169	183	252	200	405	733	799	1194	1291
Designed grade	IEC	IIIA	IECIIA	IEC	CIIA	IEC	IIIA	IECS (DIIIA)	IECIIIA		IECS (DIIIA)	
Survival(m/s)	52	5	59.5	59	.5	52	5	52.5	52	.5	52	.5
Speed Control	Yaw/	Stall	Stall	Pitch control								
Brake way	Mechanic	al/Electro	magnetic	Pitch control/Mechanical/Electromagnetic								
Application scenarios	Base station		S	mall wind	l farms, sr	mart grids,	, microgri	d systems,	distribut	ed power	generatio	n



## FD56-400/FD56-500

#### **Product Features**

- •Adopt low speed permanent magnet generator, direct-drive gearless transmission design, transmission system is efficient and with reliable long working life
- •Variable pitch control technology to ensure stable power output during gust
- •Multiple safety protections of intellectual variable pitching, mechanical, braking, electric magnetic braking, and active yawing system
- Highly efficient full power inverter, conforming to multiple countries on-grid
- standards and suitable for sorts of grid application requirements.

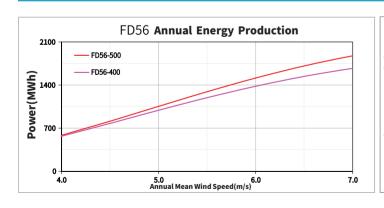
- •Directly connect to the Low-Voltage 400V Grid, access the nearby load distribution system, immediately consume the power and transfer surplus power to the grid leads to efficient energy transmission
- •SCADA monitoring system with perfect functions can realize real-time monitoring, report statistics, fault diagnosis, operation and maintenance management integration
- •Suitable for distributed new energy applications in different scenarios such as industrial parks, ports, oil fields, mines, villages and high-speed service areas

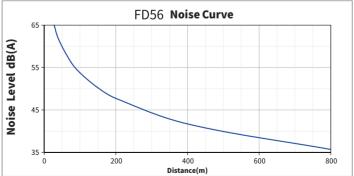


Figure 1 Nacelle structure diagram

- 1) Generator
- ② Braking Device
- ③ Control Box
- 4 Yawing Device
- ⑤ Anemometer / Vane

#### **Annual Energy Production and Noise Level**

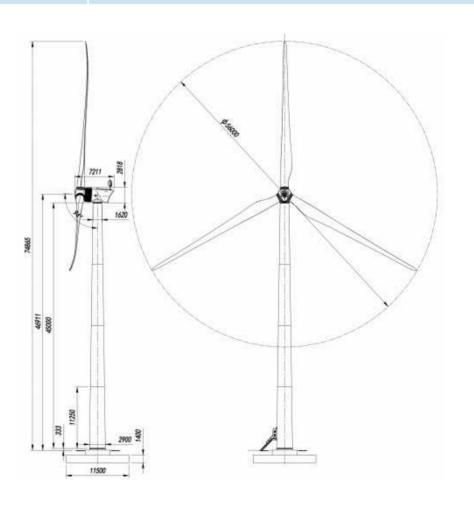




Annual mean wind speed(m/s)	4.0	4.5	5.0	5.5	6.0	6.5	7.0
FD56-500 AEP(MWh)	583	812	1052	1291	1513	1709	1874
FD56-400 AEP(MWh)	567	776	989	1194	1379	1539	1670

#### **Specifications**

Model	FD56-400	FD56-500	Tower Height(m)	49				
Design Class	IECS (	DIIIA)	Nacelle Weight (t)	28				
Rated Power (kW)	400	500	Tower Weight(t)	42				
Rotor Diameter(m)	5	6	Brake System	Pitch/Mechanical/Electromagnetic				
Rated Wind Speed (m/s)	9.5	10.5	Speed Regulation	Pitch Control				
Rated PRM(rpm)	28 29		Lightning Protection	Air Termination				
Cut-in Wind Speed (m/s)	3	3	Surface Anti-corrosion	C5				
Cut-out Wind Speed (m/s)	18(10min	),22(10s)	Blade Material	FRP				
Extreme Wind Speed (m/s)	52	2.5	Generator Type	Permanent Magnet Direct-drive Generator				
Noise Level dB(A)	5	8	Monitoring System	CUBE				
Operating Temperature(°C)	-20	~50	Lifespan(year)	20				
Grid-connected Access Mode	Lifespan(year)Low-Voltage 400V Grid							



计量单位:mm



### FD42-300/FD42-400

#### **Product Features**

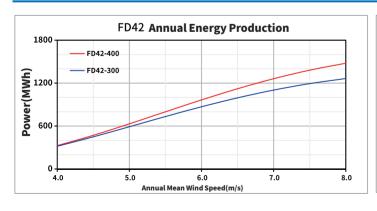
- · Adopt low speed permanent magnet generator, direct-drive gearless transmission design, transmission system is efficient and with reliable long working life
- · Variable pitch control technology to ensure stable power output during gust
- •Multiple safety protections of intellectual variable pitching, mechanical, braking, electric magnetic braking, and active yawing system
- Highly efficient full power inverter, conforming to multiple countries on-grid standards and suitable for sorts of grid application requirements.
- · Directly connect to the Low-Voltage 400V Grid, access the nearby load distribution system, immediately consume the power and transfer surplus power to the grid leads to efficient energy transmission
- · SCADA monitoring system with perfect functions can realize real-time monitoring, report statistics, fault diagnosis, operation and maintenance management integration
- · Suitable for distributed new energy applications in different scenarios such as industrial parks, ports, oil fields, mines, villages and high-speed service areas.

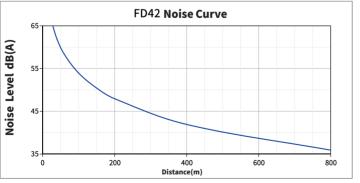


Figure 1 Nacelle structure diagram

- **1**Generator
- ②Braking Device
- **3**Control Box
- 4 Yawing Device
- ⑤Anemometer/Vane

#### **Annual Energy Production and Noise Level**

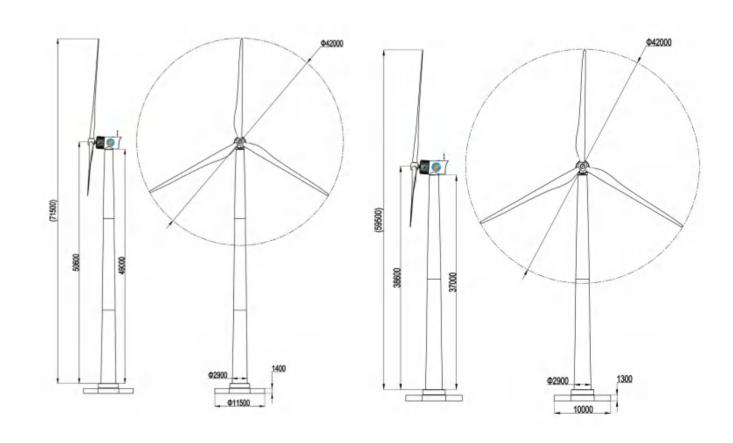




Annual mean wind speed(m/s)	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0
FD42-400 AEP(MWh)	326	471	631	799	965	1122	1262	1381	1478
FD42-300 AEP(MWh)	317	449	591	733	870	994	1103	1193	1264

#### **Specifications**

Model	FD42-300	FD42-400	Tower Height(m)	37/49			
Design Class	IEC	IIIA	Nacelle Weight (t)	25.0			
Rated Power (kW)	300	400	Tower Weight(t)	28.0/38.0			
Rotor Diameter(m)	4	2	Brake System	Pitch/Mechanical /Electromagnetic			
Rated Wind Speed (m/s)	11	12	Speed Regulation	Pitch Control			
Rated PRM(rpm)	35	36	Lightning Protection	Air Termination			
Cut-in Wind Speed (m/s)	3	3	Surface Anti-corrosion	C5			
Cut-out Wind Speed (m/s)	2	4	Blade Material	FRP			
Extreme Wind Speed (m/s)	52	2.5	Generator Type	Permanent Magnet Direct-drive Generator			
Noise Level dB(A)	5	8	Monitoring System	CUBE			
Operating Temperature(°C)	-20	~50	Lifespan(year) 20				
Grid-connected Access Mode	Low-Voltage 400V Grid						



计量单位:mm



## 

#### **Product Features**

- ·Adopt low speed permanent magnet generator, direct-drive gearless transmission design, transmission system is efficient and with reliable long working life
- · Variable pitch control technology to ensure stable power output during gust
- •Multiple safety protections of intellectual variable pitching, mechanical, braking, electric magnetic braking, and active yawing system
- Highly efficient full power inverter, conforming to multiple countries on-grid
- standards and suitable for sorts of grid application requirements.

- · Directly connect to the Low-Voltage 400V Grid, access the nearby load distribution system, immediately consume the power and transfer surplus power to the grid leads to efficient energy transmission
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Figure 1 Nacelle structure diagram



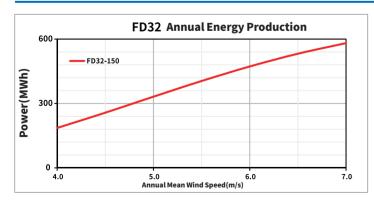


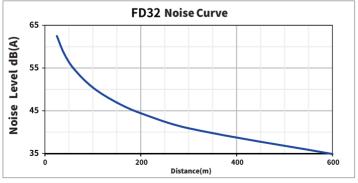
Figure 2 Inverter and Controller

①Generator ②	Lubrication ③Pitch
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(4) Braking Device (5) Control Box (6) Yawing Device

#### **Annual Energy Production and Noise Level**

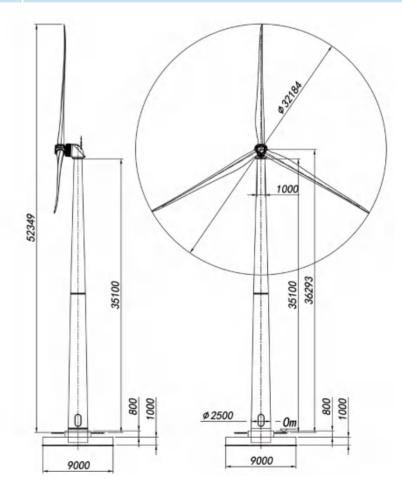




Annual wind speed(m/s)	4.0	4.5	5.0	5.5	6.0	6.5	7.0
FD32-150 AEP(MWh)	196	268	343	417	485	544	593

#### **Specifications**

Model	FD32-150	Tower Height(m)	35						
Design Class	IECS(DIIIA)	Nacelle Weight (t)	9						
Rated Power (kW)	150	Tower Weight(t)	18.2						
Rotor Diameter(m)	32.2	Brake System	Pitch/Mechanical/Electromagnetic						
Rated Wind Speed (m/s)	9.8	Speed Regulation	Pitch Control						
Rated PRM(rpm)	48	Lightning Protection	Air Termination						
Cut-in Wind Speed (m/s)	3	Surface Anti-corrosion	C5						
Cut-out Wind Speed (m/s)	18(10min),22(10s)	Blade Material	FRP						
Extreme Wind Speed (m/s)	52.5	Generator Type	Permanent Magnet Direct-drive Generator						
Noise Level dB(A)	58	Monitoring System	CUBE						
Operating Temperature(°C)	-20~50	Lifespan(year)	20						
Grid-connected Access Mode		Low-Voltage 400V Grid							



计量单位:mm

14



## FD25-60/FD25-100

#### **Product Features**

- •Conform to ItalyCEI0-21, America UL1741, Canada CSA C22.2 NO.107.1-01, England G59/2;
- •CE, IEC61400 certifications
- •Permanent magnet direct-drive wind turbine system with active pitch control technology
- •Active pitch adjustment under gust wind to ensure power output stability.
- •Multiple safety protections of intellectual variable pitch, mechanical braking, electromagnetic braking, and active yawing system.
- •Full power inverter isolation technology ensures safety operation of WTG.
- •Suitable for small scale wind farm, smart grid, micro grid.
- Low noise: Reduce noise by best practice designing.
- High power generation: Optimalize parameters setting by analyzing huge amounts of operation data.
- Lower cost: Reduce initial investment by integrating controller and inverter inside the tower and cutting controller room's installation cost.



Figure 1 Nacelle structure diagram



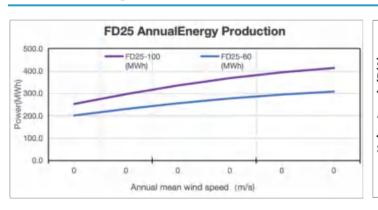


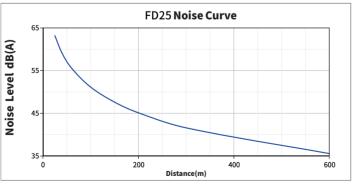
Figure 2 Inverter and Controller

①Generator ②Lubrication ③Pitch

(4) Braking Device (5) Control Box (6) Yawing Device

#### **Annual Energy Production and Noise Level**

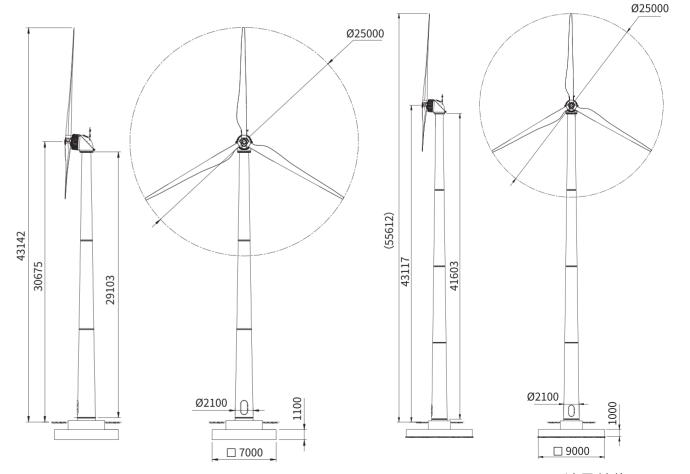




Annual mean wind speed(m/s)	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0
FD25-60AEP(MWh)	100.9	134.8	168.4	200.3	229.3	254.9	276.4	293.8	307.1
FD25-100AEP(MWh)	112.7	157.5	204.8	251.7	295.6	334.5	367.2	393.1	412.4

#### **Specifications**

Model	FD25-60	FD25-100	Tower Height(m)	30/42				
Design Class	IEC	IIIA	Nacelle Weight (t)	9.1				
Rated Power (kW)	60	100	Tower Weight(t)	13.8/19.6				
Rotor Diameter(m)	25		Brake System	Pitch/Mechanical/Electromagnetic				
Rated Wind Speed (m/s)	9	11	Speed Regulation	Pitch Control				
Rated PRM(rpm)	44	52	Lightning Protection	Air Termination				
Cut-in Wind Speed (m/s)	3	3	Surface Anti-corrosion	C5				
Cut-out Wind Speed (m/s)	2	.5	Blade Material	FRP				
Extreme Wind Speed (m/s)	52	2.5	Generator Type	Permanent Magnet Direct-drive Generator				
Noise Level dB(A)	5	8	Monitoring System	CUBE				
Operating Temperature(°C)	-20~50		Lifespan(year)	20				
Grid-connected Access Mode	Low-Voltage 400V Grid							



计量单位:mm

16



## FD22-50/FD22-60

#### **Product Features**

- Adopt low speed permanent magnetgenerator, direct-drive gearlesstransmission design, transmission system isefficient and with reliable long workingife
- Vari able pi tch control technol ogy to ensure stable power output during gust
- Mul tiple safety protections of intellectual variable pitching,
- Hi ghly efficient full power inverter, conforming to mul tiple countries on-grid standards and sui table for sorts of grid application requirements.
- Directly connect to the Low-Voltage 400V Grid, access the nearby load distribution system, immedi ately consume the power and transfer surplus power to the grid leads to efficient energy transmi ssi on
- · SCADA moni toring system with perfect functions can realize real-time monitoring, report statistics, fault diagnosis, operation and maintenance management integration
- mechani cal, braking, electric magnetic braking, and active yawing system

   Sui table for distri buted new energy applications in different scenarios such as industrial parks, ports, oil fields, mines.villages and high-speed service areas.
- Low noise:Reduce noise by best practice designing.
- High power generation: Optimalize parameters setting by analyzing huge amounts of operation data.
- Lower cost: Reduce initial investment by integrating controller and inverter inside the tower and cutting controller room's installation cost.

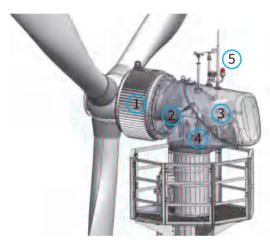
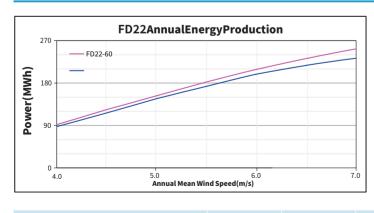
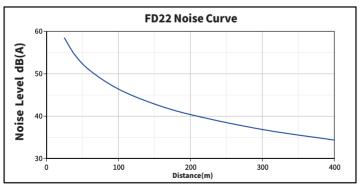


Figure 1 Nacelle structure diagram

- ①Generator
- ②BrakingDevice
- ③ControlBox
- 4 Yawing Device
- ⑤Anemometer/Vane

#### **Annual Energy Production and Noise Level**

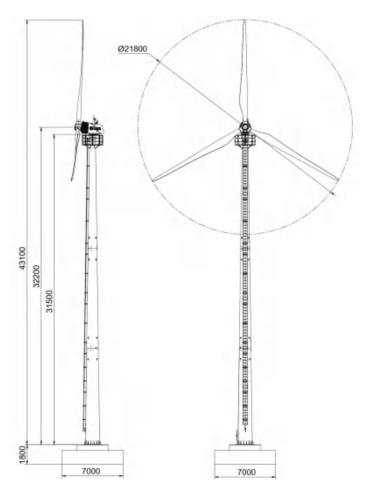




Annual mean wind speed(m/s)	4.0	4.5	5.0	5.5	6.0	6.5	7.0
FD22-60 AEP(MWh)	90	121	152	183	210	234	253
FD22-50 AEP(MWh)	87	115	143	169	192	212	228

#### **Specifications**

Model	FD22-50 FD22-60		Tower Height(m)	31.5			
Design Class	IECS(	DIIIA)	Nacelle Weight (t)	4.0			
Rated Power (kW)	50	60	Tower Weight(t)	10.0			
Rotor Diameter(m)	21.8		Brake System	Pitch/Mechanical/Electromagnetic			
Rated Wind Speed (m/s)	8.6	9.5	Speed Regulation	Pitch Control			
Rated PRM(rpm)	65	66	Lightning Protection	Air Termination			
Cut-in Wind Speed (m/s)	3	3	Surface Anti-corrosion	C5			
Cut-out Wind Speed (m/s)	18(10min	),22(10s)	Blade Material	FRP			
Extreme Wind Speed (m/s)	52	2.5	Generator Type	Permanent Magnet Direct-drive Generator			
Noise Level dB(A)	5	6	Monitoring System	CUBE			
Operating Temperature(°C)	-20~50		Lifespan(year)	20			
Grid-connected Access Mode	Low-Voltage 400V Grid						



计量单位:mm



## GHREP \ \ \ \ FD16-30

#### **Product Features**

- $\bullet \mbox{Designed}$  according to IEC61400-2 standard, sweep area of 191 square meters
- •Conform to Japan CLASSNK, Italy CEI0-21, America UL1741, Canada CSA C22.2 NO.107.1-01, England G59/2;
- •SWCC, CE, IEC61400 certifications
- •Stall speed adjustment to ensure power output stability.
- •Multiple safety protections of mechanical braking, electromagnetic braking, and active yawing system.
- •Full power inverter isolation technology ensures safety operation of WTG.
- SCADA remote online monitoring technology can realize real-time monitoring and adjustment of parameters
- High power generation capacity: FD16 series with special characteristics of high efficiency can produce more power under similar wind speed circumstances.
- Lower Noise: FD16 series adopt advanced 9 phase generator technology and low noise bearing designing, which can control noise more effectively and thereby provide silent and friendly operation environment
- Reduce EPC cost: Integrates traditional inverter, controller and dump load together as a complete control cabinet that can be used independently outside, effectively eliminating the construction cost of the machine room
- Simplified operation and maintenance workload: The integrated design of electrical integrated cabinets effectively simplifies the workload of future operation and maintenance

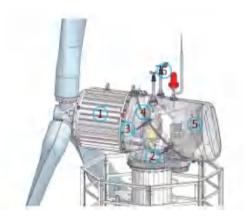


Figure 1 Nacelle structure diagram



#### Figure 2 Inverter and Controller Integrated Cabinet

①Generator ②Yawing Syetem

3 Main Shaft Braking System

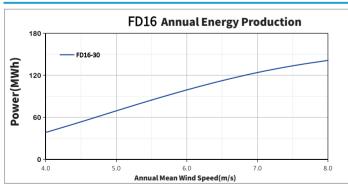
4 Lubrication 5 Signal Collection Box 6 Anemometer/Vane

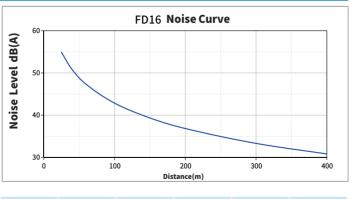
7 Inverter

®Controlle

Dump load

#### **Annual Energy Production and Noise Level**

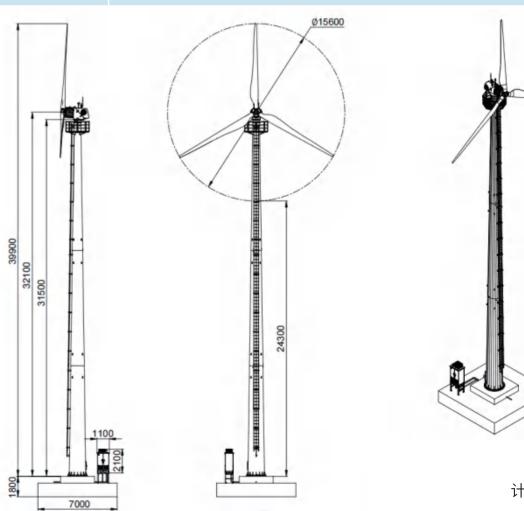




Annual mean wind speed(m/s)	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0
FD16-30 AEP(MWh)	38.4	53.6	69.3	84.7	99.2	112.4	124.0	133.6	141.4

#### **Specifications**

Model	FD16-30	Tower Height(m)	32			
Design Class	IECIIA	Nacelle Weight (t)	3.0			
Rated Power (kW)	30	Tower Weight(t)	9.9			
Rotor Diameter(m)	15.6	Brake System	Mechanical/Electromagnetic			
Rated Wind Speed (m/s)	10	Speed Regulation	Stall Control			
Rated PRM(rpm)	69	Lightning Protection	Air Termination			
Cut-in Wind Speed (m/s)	3	Surface Anti-corrosion	C5			
Cut-out Wind Speed (m/s)	25	Blade Material	FRP			
Extreme Wind Speed (m/s)	59.5	Generator Type				
Noise Level dB(A)	55	Monitoring System	CUBE			
Operating Temperature(°C)	-20~50	Lifespan(year)	20			
Grid-connected Access Mode	Low-Voltage 400V Grid					



计量单位:mm



### FD5-5/FD8-9.8

#### **Product Features**

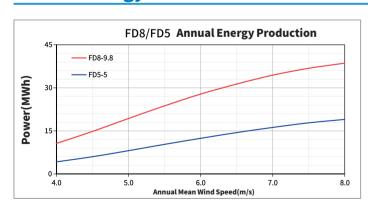
- •Modularized standard designing for easy extending
- $\bullet$  With RS485 communication interface and can be monitored remotely through GPRS
- Sustaining typhoon conditions
- •Professional magnetic route designing, lower start torque
- •Light spare parts, flexible and convenient for installation
- •Over 10,000 sets are in operations all over the globe
- •Widely used for communications, frontier islands, utilities, and residential electricity
- Low noise: Reduce noise level by optimizing generator design
- Reduce cost: Integrates traditional inverter, controller and dump load together as a complete control cabinet that can be used independently outside, effectively eliminates the construction cost of the machine room and simplifies the workload of future operation and maintenance

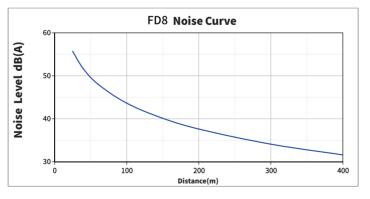






#### **Annual Energy Production and Noise Level**

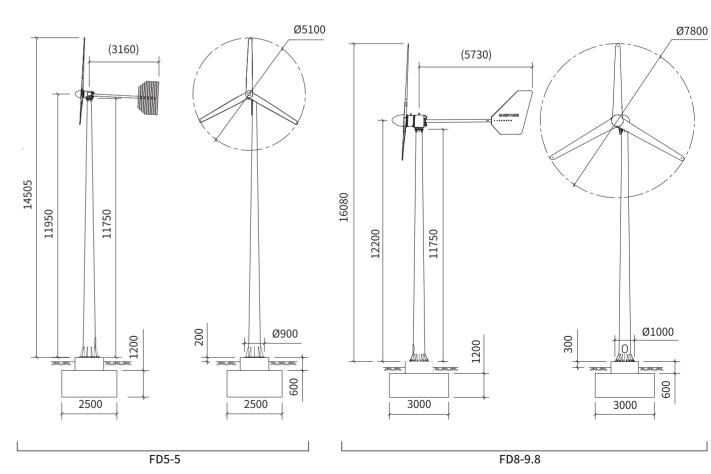




Annual mean wind speed(m/s)	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0
FD8-9.8 AEP(MWh)	10.6	14.8	19.3	23.7	27.8	31.3	34.4	36.8	38.6
FD5-5 AEP(MWh)	4.2	6.0	8.1	10.3	12.4	14.4	16.2	17.8	19.0

#### **Specifications**

Model	FD5-5 FD8-9.8  IECIIIA  5 9.8  5.1 7.8  11 11  270 170		Tower Height(m)	12	12/20			
Design Class			Nacelle Weight (t)	0.19	0.67			
Rated Power (kW)			Tower Weight(t)	1.8	2.1			
Rotor Diameter(m)			Brake System	Mechanical/Electromagnetic				
Rated Wind Speed (m/s)			Speed Regulation	Cornering/Stall Control				
Rated PRM(rpm)			Lightning Protection	Surge/Tower Grounding				
Cut-in Wind Speed (m/s)	3		Surface Anti-corrosion	C5				
Cut-out Wind Speed (m/s)	25		Blade Material	FRP				
Extreme Wind Speed (m/s)	52.5		Generator Type	Permanent Magnet Direct-drive Generator				
Noise Level dB(A)	56		Monitoring System	CUBE				
Operating Temperature(°C)	-20~50		Lifespan(year)	20				
Grid-connected Access Mode	Low-Voltage 400V Grid							



计量单位:mm



## GHREPO// Solutions

### **Distributed wind power solutions**

More efficient use of resources and higher returns on business investment



Model: FD16-19.2 Project location: Hokkaido, Japan Run time: 2019



Model: FD25-100 Project location: Liaoning Province, China Run time: 2018



Model: FD42-400 Project location: Neimenggu Municipality, China Run time: 2021



Model: FD21-50 Project location: Nova Scotia, Canada Run time: 2015

**Application background :**Global feed-in tariff subsidy policy, high cost of electricity, wind resources rich region

**System features:** Low voltage grid-connected, close to the user side absorption; Not strictly restricted by the power grid standards, leaving out the standardized equipment supporting the power grid, and increasing the users' independent choice; Make full use of recyclable, pollution-free and cheap wind resources to complement distributed photovoltaic in time and space, and improve the overall utilization rate of distributed clean energy; No need for large-scale and intensive capital investment, and existing resources can be reused with lower initial investment and higher return on asset investment

**Application fields:** Oil and gas industry, village power supply, industrial park and other regions power supply

### **Distributed wind power solutions**

Complementary new energy power supply, stable and reliable system



Model: FD32-150
Project location: Yunnan Province, ChinaRun time: 2023
Project description: Project of distributed new energy
for rural revitalization



Model: FD21-50
Project location: Zhejiang Province,
ChinaRun time: 2023
Project description: Project of distributed new energy
for industrial park



Model: FD21-100 Project location: Bristol, England Run time: 2013



Model: FD25-100 Project location: Qingdao, Canada Run time: 2021

**Application background:** Suitable for unstable power grid, insufficient power grid capacity, and no power grid coverage area

**System features:** Strong matching, with good AC/DC power grid adaptability, can realize a variety of energy complementarity such as wind, PV& diesel; The network is flexible, which can be incorporated into the external power grid or formed into an independent power grid with other equipment. Orderly scheduling, can quickly respond to all kinds of scheduling instructions of the system energy management system; Perfect monitoring, monitoring management system can meet the needs of a variety of applications of power and load management; Environment-friendly, preferential use of wind, PV new energy, saving traditional fossil energy **Application fields:** Islands, villages, public utilities and other areas of power supply



## GHREPOM Solutions

### **Distributed windoowersoluti ons**

Compl ementary new energy power supply.stable and reliable system



Model:FD56-500kW Project location:Songyuan,Jilin Run time:2024 Projectdescription:Oil field distrbuted power supply



Model:FD56-500kW Project location:Chengde,Hebei Provibce Run time:2024 Projectdescription:New energy heavy-duty truck charging station



Model:FD16-30kW Project location:Philippines Run time:2024 Projectdescription:is and resort for self-consumpti on



Model:FD26-60kW Project location:Crete and Greece Run time:2024 Projectdescription:Distributed commercial grid connected electricty sales

**Application background:** Sui table for high power cost, unstable power grid, insuficient power grid capacity eareasing lobal **System features:** 

- Low vol tage grid-connected, close to the user side absorption;
- Not strictly restricted by the power grid standards, leaving out the standardized equipment supporting the power grid, and increasing the users'i ndependent choice
- Make full use of recyclable, pollution-free and cheap wind resources to complement distributed photovol taic in time and space, and i mprove the overall utilization rate of distributed clean energy;
- No need for large-scale and intensive capi tal investment, and existing resources can be reused with lower initialinvestment and higher return on asset investment;
- **Application fields:**Oil and gas industry, village power supply,industrial park, expressway, port&dock and other regions power supply

### **Communication base station power supply solution**

Complementary new energy power supply, stable and reliable system



Model: FD5-5
Project location: Nomrog-unitelblinder
Run time: 2010
Project description: Ghrepower and ZTE jointly built
the site, Ghrepower is responsible for providing the
wind turbine and control system, set up 13 sites in
Mongolia



Model: FD5-5
Project location: Heilongjiang Province
Run time: 2010
Project description: Solved the power supply
problem of base station by wind and PV
complementary system



Model: FD5-5
Project location:Xizang municipality
Run time:2009
Project description: The base station is 5600
metersabove sea level, and thelowest temperature is -40Celsius degrees.



Model: FD5-5
Project location: Sichuan Province
Run time: 2008
Project description: Wind turbine, energy storage
communication base station power supply

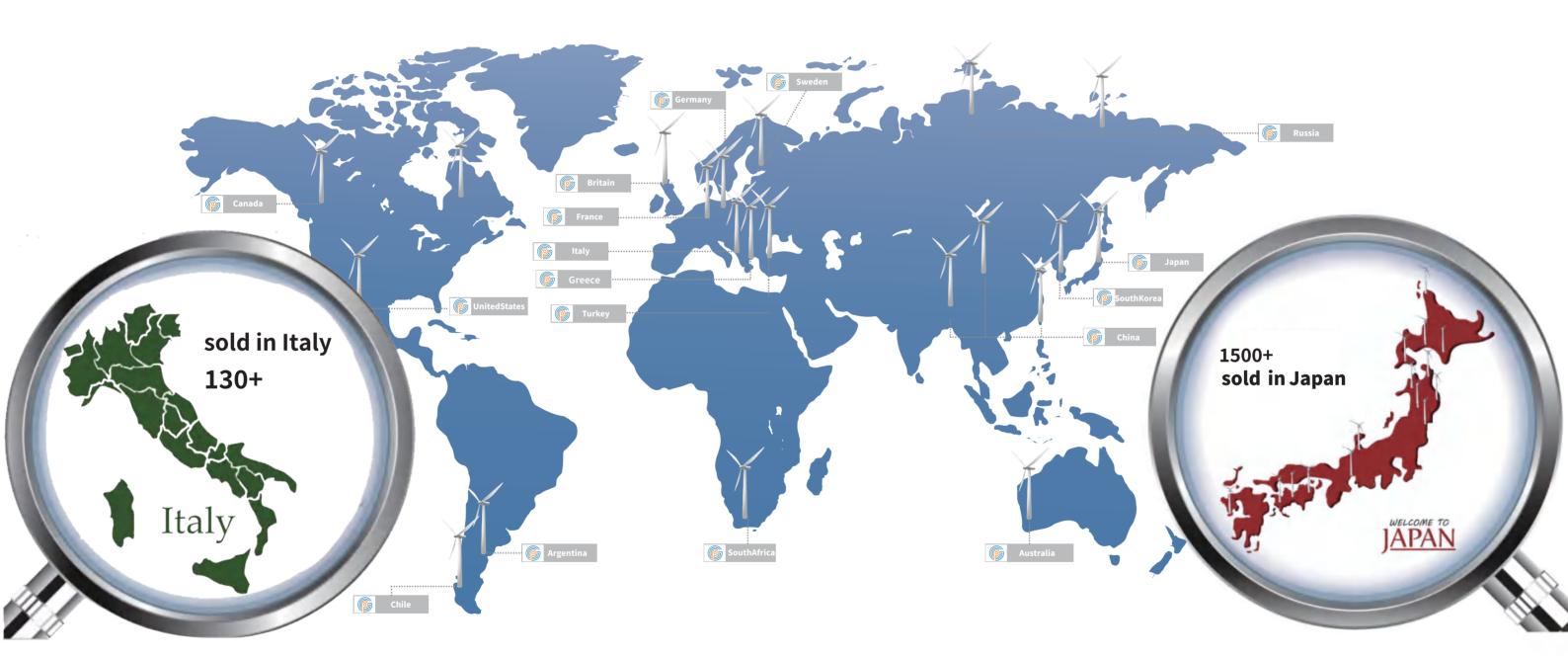
**Application background :**With the rapid development of the communication industry, power grid cannot cover or power grid is unstable leads to the unreliable power supply of the base station

**System features:** For different working conditions, the system has island, high cold, high altitude, desert options; Multi-energy power supply, the pursuit of stable investment equity ratio; Modular design to meet the requirements of different systems; Remote monitoring, real-time understanding of status, reduce operation and maintenance costs

**Application fields:** Communication base stations with no power, unstable power grid or with energy saving and emission reduction requirements



# GHREPOWER



### **Global Sales Map**

- \* Data collected internally by Shanghai Ghrepower
- \* Data collection deadline on this page: March 31, 2024

30+

Countries & regions

**50%**+

Market Share in Japan

### **1Company**

Jointly Funded in Canada

### **1Company**

Solely Funded in Japan

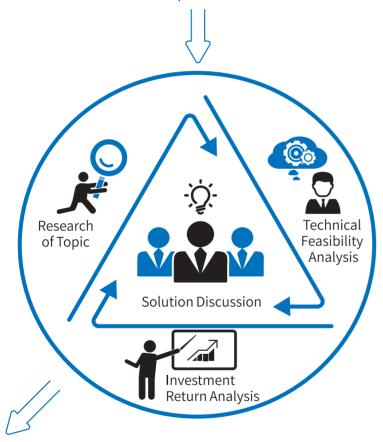


## GHREPOWER

### **Pre-sale service**



Customer requirement collection













Project report and implementation

### **After-sale service**











Place oder

Manufacturing & inventory



Sea transportation

Shanghai Ghrepower keeps regular inventory, responds to orders in the first time, and provides customers with safe, efficient and economical logistics solutions.





Destination port unloading

### **After-sale service**

- EPC skills training certification:
- 1. Wind turbine installation skills training;
- 2. Wind turbine commissioning and grid-connection skills training;
- 3. Skill training for wind turbine troubleshooting;
- 4. Wind turbine operation and maintenance skills training.

Provide 20 years of product operation and maintenance service, more than 3000+ system operation and maintenance experience.





