



CF50 – 50kW

CF50 General Data

Supplier/ Manufacturer	C&F Green Energy
Configuration	Horizontal Axis
Life Expectancy	20 Years
Drive Train	Direct Drive
Service Maintenance	Annually
Rated Power	50kW @ 9.0m/s
Cut In Wind Speed	3.0m/sec.
Cut Out Wind Speed	25 m/sec.
Rated Wind Speed	9.5 m/sec.
Survival Wind Speed	60 m/sec.
Passive Power Regulation	Active pitching (blade-angle adjustment)
Active Power Regulation	Fully variable back-to-back IGBT system
Noise Emissions	35dB(a)
Ambient Temperatures	From -10°C UP TO 40°C
Electrical Configuration	Inverter Connected
CE Compliant	Yes

Applied Standards

Degree of Protection	IP55
Standards	IEC 61400-1

Rotor

Rotor Diameter	20.8m/28.4m
Rotor Speed	38rpm
Rotor Weight	2 Tonnes
Power Regulation	Active Blade Pitch

Blades

Number of Blades	3
Length	10m/12m
Swept Area	340m ² /491m ²
Position	Upwind
Direction	Clockwise
Material	Fiberglass/ Vinyl-ester
Colour	Matt White. Ral 9018

Weight 1100kg per set of 3

Shaft Assembly

Shaft Material EN24T
 Bearing Housing Type Ductile Cast Iron
 Bearing Type Dual Spherical Roller
 Bearing Lubrication Grease

Fairing

Nacelle 2 Part - Fiberglass
 Spinner 4 Part - Fiberglass

Electrical Output

Rated Turbine Output 50kW, 53 kVA in 9.5 m/s wind
 Maximum Continuous Turbine Output 50kW, 53 kVA
 Maximum 1 Minute Turbine Output 50kW, 53 kVA
 Maximum 1 Minute Reactive Requirement 1 kVARS
 Maximum Feeder Current 80A
 Design Power Factor 0.96
 Ofgem Total Installed 51kW
 Ofgem Declared Net Capacity 50.7kW

Brake System

Primary Brake System Full Blade Pitching
 Back Up Brake System 1 Passive Spring Applied, Hydraulically Released
 + 1 Hydraulic Active
 Primary Brake Compressor Piston Type – AC Motor
 Primary Brake Working Pressure 95 Bar

Yaw System

Type Active Yaw
 Signal From Anemometer
 Yaw Slew Ring 4 Point Ball Bearing
 Yaw Drive Type Double AC Motor with Planetary Gearbox
 Damping Device Resisters Active & Passive Yaw Brake
 Electrical Connection Twist Cable
 Yaw Locking Device Hydraulic Brake & Electric Brake on Motor

Generator

Manufacturer C&F Green Energy
 Type Permanent Magnet (Radial)
 Voltage 400V
 Frequency 50Hz
 Winding Star

Rated Power	50kW
Rated Current	72A
Number of Poles	48
Rated Rotation Speed	45

Nacelle

Nacelle Frame	Welded Structure
Nacelle Frame Finish	Primer & Paint
Nacelle Cover	2 Parts Fiberglass
Dimensions	5.9m x 2.25m x 2.6m
Weight	10 Tonne Approx.
Colour	RAL 9018

Tower

Type	Monopole Steel with access door
Sections	3 Sections bolted on site
Weight	16 Tonne
Hub Height	30m
Blade Tip Heights	39.6m/41.9m
Location Ladder	Internal with fall arrest system and work platform
Turbine Access	Internal with fall arrest system and work platform
Colour	Matt White Ral.9018

Controller

Manufacturer	Phoenix Contact
Model	PLC-ILC-150-GSM
Remote Monitoring	Bespoke SCADA
Daa Logging	Yes