

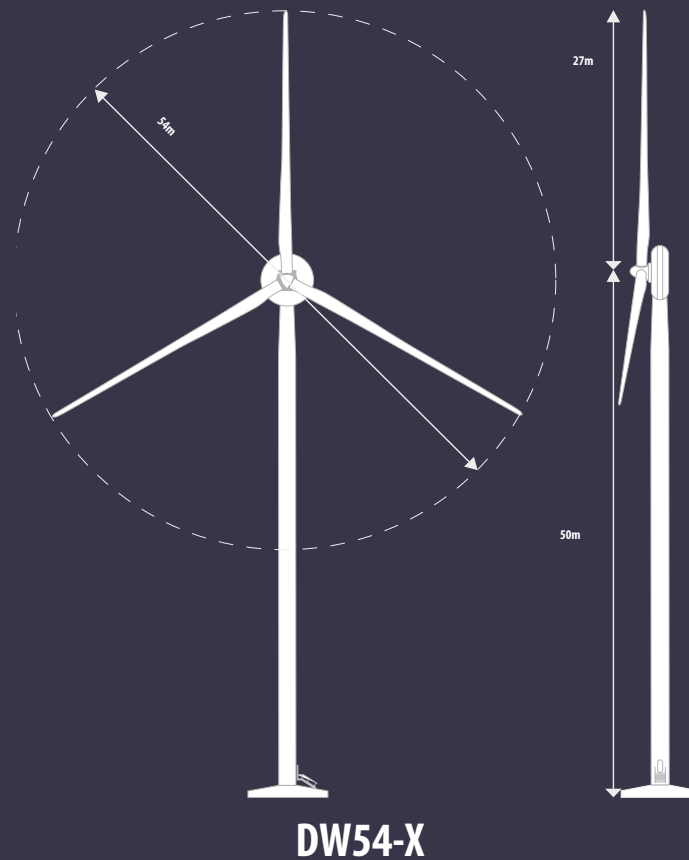
DIRECTWIND turbine platform up to 1MW

EWT DIRECTDRIVE

MAXIMISING PERFORMANCE AT THE LOWEST COST OF ENERGY

IEC wind class IA – High wind

For wind speeds of 8.5-10 m/s average at hub height



ROTOR DIAMETER	RATED POWER	HUB HEIGHTS	TIP HEIGHTS
54m	1MW*	50m	77m

** Type certified end of 2019*

MAXIMISING ELECTRICITY GENERATION

EWT offers an extensive range of highly efficient wind turbines, featuring a wide variety in rated generating capacity of 250kW to 1MW, rotor diameters of 52m to 61m and hub heights of 35m to 75m.

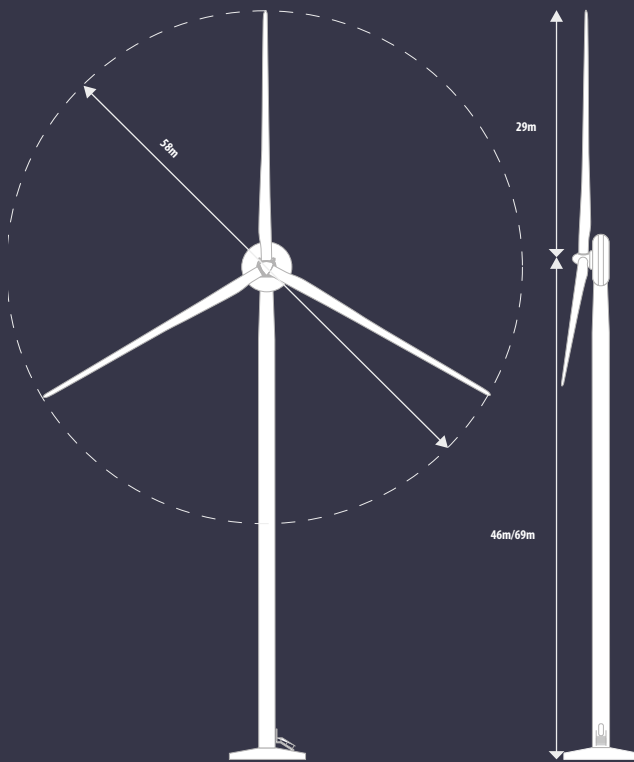
Continually improving performance and availability

EWT's highly qualified engineers are continuously working to optimize components and improve turbine designs. Experienced Operations & Maintenance professionals at the central control room use specialist software to monitor hundreds of operational wind turbines worldwide.

Monitoring and turbine performance analysis take place on a 24/7 basis, which guarantees the earliest possible response to any irregularity. Complementing this are established Service Teams in countries where EWT wind turbines are in operation, in order to ensure a quick response time should on-site support be required.

IEC wind class IIA - Medium wind

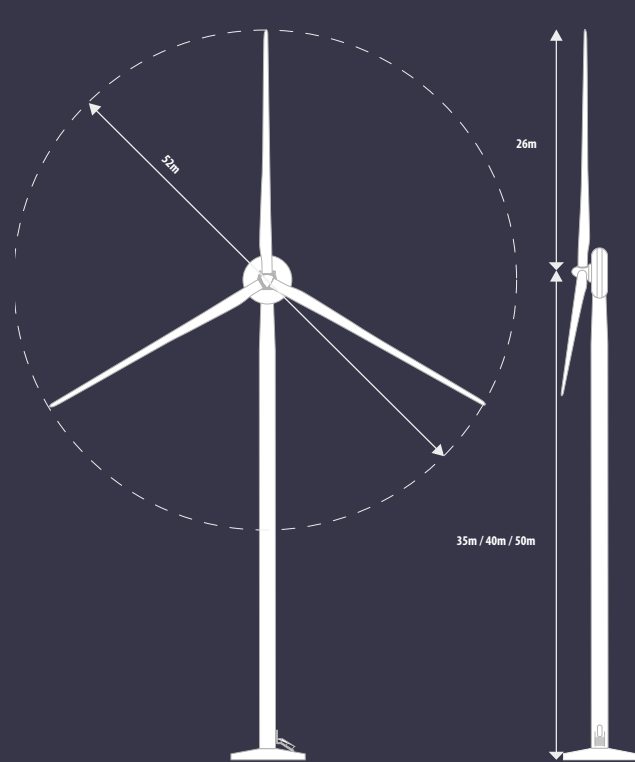
For wind speeds of 7.5-8.5 m/s average at hub height



DW58

ROTOR DIAMETER	RATED POWER	HUB HEIGHTS	TIP HEIGHTS
58m	500kW, 1MW*	46m, 69m	75m, 98m

*Other output ratings are available on request



DW52

ROTOR DIAMETER	RATED POWER	HUB HEIGHTS	TIP HEIGHTS
52m	250kW, 500kW, 900kW*	35m, 40m, 50m	61m, 66m, 76m

*Other output ratings are available on request

OUTSTANDING SERVICE

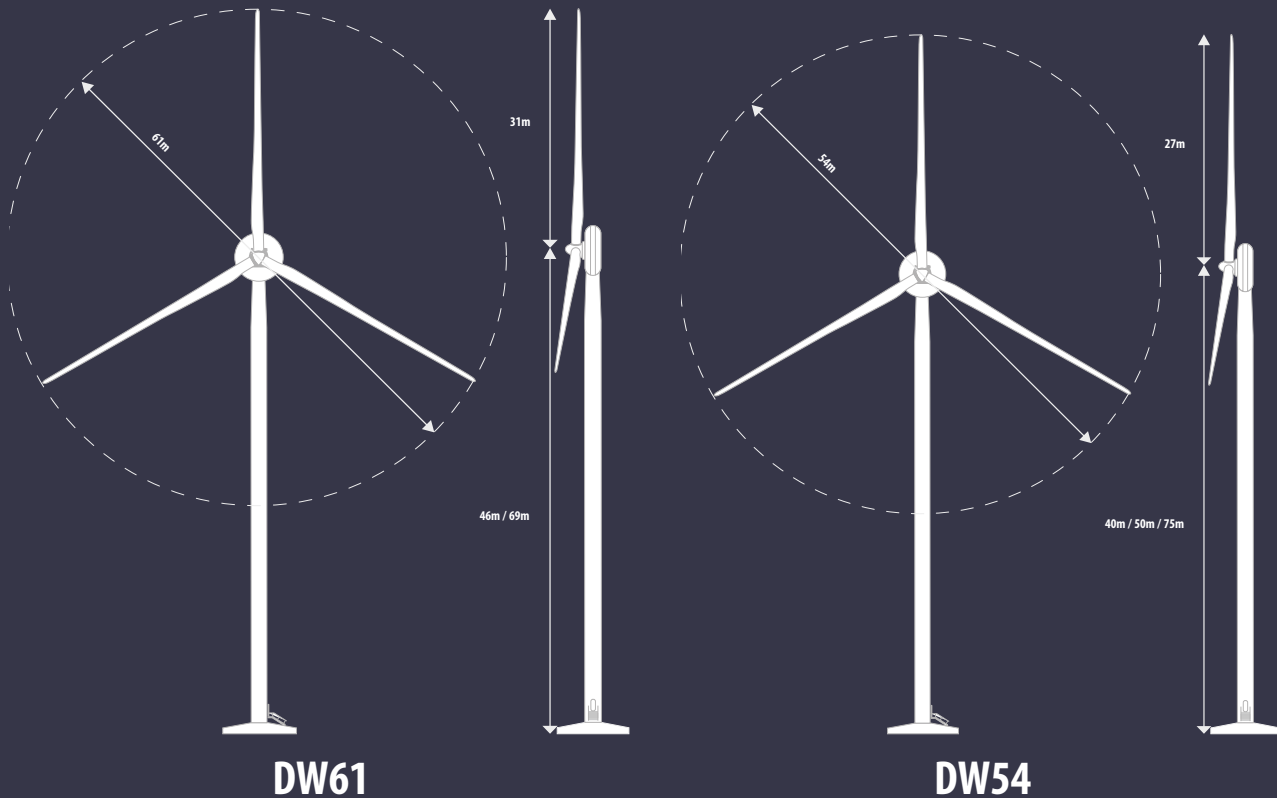
EWT offers comprehensive service and maintenance packages at very competitive prices. Our clients know they can rely on the performance and availability of their wind turbines, due to tailor-made service, bankable contracts and EWT team's 24/7 availability. EWT prides itself on the high renewal rate of the operations & maintenance contracts with clients, largely due to DIRECTWIND turbines' outstanding performance.

EWT TURBINE SUPPORT

- ▶ Long-term, highly comprehensive and competitive O&M package
- ▶ Rapid response – no matter how many turbines you own
- ▶ Local EWT O&M teams
- ▶ Specialist support as and when required
- ▶ 24/7 remote turbine monitoring and analysis at EWT's control room
- ▶ Performance optimization
- ▶ Guaranteed availability

IEC wind class IIIA - Low wind

For wind speeds up to 7.5m/s average at hub height



ROTOR DIAMETER	RATED POWER	HUB HEIGHTS	TIP HEIGHTS
61m	500kW, 750kW ¹ , 900kW, 1MW*	46m, 69m	77m, 100m

¹DIBt certified

*Other output ratings are available on request

ROTOR DIAMETER	RATED POWER	HUB HEIGHTS	TIP HEIGHTS
54m	250kW, 500kW, 900kW*	40m, 50m, 75m	67m, 77m, 102m

*Other output ratings are available on request

TURBINE OPTIONS

The following options are available:

- ▶ Aviation lights
- ▶ Shadow flicker prevention
- ▶ Bat protection
- ▶ Scheduled stop
- ▶ Delayed shutdown
- ▶ DMS 3P (3rd party SCADA interface)
- ▶ Park Controller
- ▶ Inter tripping
- ▶ Power curtailment
- ▶ Export Limitation Scheme
- ▶ G59/SEL protection relay
- ▶ Reactive power control
- ▶ Automatic voltage control
- ▶ Automatic frequency control
- ▶ Low Voltage Ride-through (LVRT)
- ▶ High Voltage Ride-through (HVRT)
- ▶ Island mode
- ▶ Climb assist
- ▶ Custom Logo
- ▶ Wireless internet 3G/4G/satellite
- ▶ Ice detection and/or prevention system
- ▶ Cold climate
- ▶ Black painted blades

More energy, less complexity

EWT's extensive product range of 250kW to 1MW DIRECTWIND wind turbines is designed to deliver high yields, reliable performance and a low cost of energy, maximising returns on investment. A best-in-class combination of direct drive technology and advanced control features achieves the highest possible energy yield out of sites with a high, medium or low wind resource, harnessing their full potential.

Every site is different and has its own challenging requirements in terms of planning policy or technical and environmental constraints, such as noise, grid or an extreme climate to operate in. EWT's highly qualified engineers have the expertise to provide a tailor-made solution for any site, addressing the issues and optimising power output. The DIRECTWIND turbines can be installed with a connection to the local grid network, integrated into an existing power system with other sources of energy, or operate as a stand-alone solution. Over the last 10 years, EWT has installed hundreds of wind turbines over three continents, exceeding customers' expectations time and again.

DIRECTWIND technology

The DIRECTWIND wind turbines are fitted with EWT's state-of-the-art direct drive technology. This means that the rotor drives the synchronous generator directly, without the need for a gearbox. Not having a gearbox allows DIRECTWIND turbines to have a very compact nacelle layout, featuring a single main bearing which supports the rotor assembly and generator. This efficient design has been independently certified to IEC 61400. It has achieved a significant reduction in the number of rotating components, and therefore wear and tear on the parts, resulting in lower maintenance requirements, less downtime and lower costs.

The DIRECTWIND turbine is suitable to operate in weak grids and micro grids and can easily be connected to the existing network infrastructure. This allows for:

- ▶ Distributed generation; on-site generated electricity, at the point of consumption
- ▶ Improvement of micro grids
- ▶ Integration of the DIRECTWIND technology with other forms of on-site generation such as diesel and solar, connected to the local substation



DIRECTWIND

BENEFITS AND ADVANTAGES



HIGH ENERGY YIELDS



TURN KEY SOLUTIONS



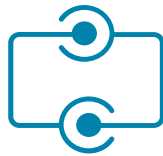
LOW COST OF OPERATIONS
AND OWNERSHIP



FRIENDLY TO WEAK GRIDS



LOW NOISE LEVELS



HYBRID SOLUTIONS



COUNTRY SPECIFIC GRID
COMPLIANCE



COLD CLIMATE
CONFIGURATIONS



COMPREHENSIVE SERVICE
PACKAGES



EFFICIENT DELIVERY AND
INSTALLATION

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More information

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