



# **EW-16**

**SMALL WIND TURBINE**

## THE INNOVATIVE SMALL WIND TURBINE

**EUNICE Wind SA**, with a long-lasting experience in the design and operation of wind farms in Greece, presents the **EW-16** Small Wind Turbine with a rated power of **50kW**.

- The **EW-16** is an advanced, flexible and reliable Small Wind Turbine (SWT) designed and certified under the IEC 61400-2 standard.

- The **EW-16** has a gearless drive-train, uses minimum mechanical parts, and requires no hydraulic system; thus, it increases efficiency, reduces downtimes, and ensures optimum energy yield.

- The **EW-16** is designed in Germany and manufactured in Greece, using all applicable standards and infrastructure methods and it is available in two hub heights, of 22 and 30m respectively.

- Its high energy yield, even at low wind sites, makes it ideal for small wind farms, agricultural or industry centres, community buildings, and notably for stand-alone solutions and hybrid systems combining wind energy with solar, batteries and/or diesel.

- Its direct-drive design without gearbox, without pitch system and without any hydraulics, ensures a robust turbine with minimized effort for maintenance.

- **EW-16** is available from EUNICE Wind SA at a rated power of 50kW.

- The tubular steel tower is available for hub heights of 22 and 30 meters. The 30 meter version consists of two segments; while the shorter tower has only one segment. The tower is equipped with a ladder.

- The control cabinet can be found at the bottom of the tower thus keeping the electronics at ground level. The PLC control system and the pulse-width modulated IGBT converter ensure a high quality power output and maximum flexibility with respect to grid connectivity. The cabinet is equipped with a display to monitor and to manually control the SWT.

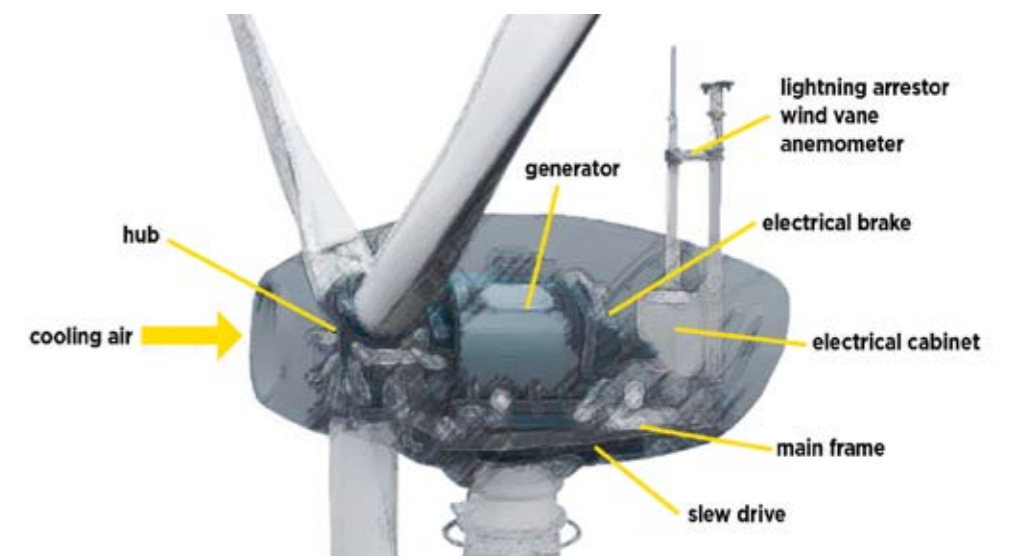
- A full lightning protection and earthing system is installed on the blades, the nacelle and the tower ensuring a safe and trouble free operation on all kinds of installations.

- Online SCADA connection, both the owner and the EUNICE Wind Service staff can monitor the turbine and make diagnosis of any errors of the machine.

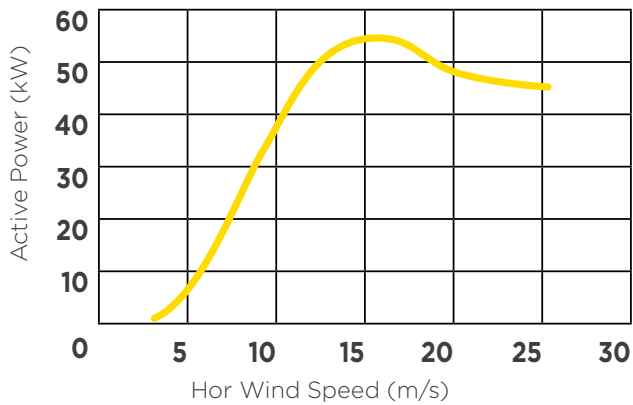
- The turbine foundation is optimized for the individual soil conditions of each installation site.

- The design and calculation of the SWT is made according to IEC 61400-2. It fulfils the local utility requirements according to VDE AR M 410S. An adaption at any other electrical requirement is possible.

- The turbine is stopped electrically via the generator, which can supply power to the grid down to Orpm. In case of the grid fault, this energy feeds electrical resistors. The electromechanical fail safe disk-brake is thus used in case of major fault on the generator and/or frequency converter.



### POWER CURVE



### ANNUAL ENERGY PRODUCTION

Annual average wind speed (m/sec)	Annual Energy Production (MWh)
4.0	54
4.5	73
5.0	94
6.0	137
7.0	179
8.0	217
8.5	233

### EW-16 TECHNICAL DATA

Rated power	Rotor diameter	Hub height	Rotor speed	Cut-in wind speed	Rated wind speed	Cut-out wind speed
50kW	15.96m	22/30m	0 to 58rpm	3m/s	12m/s	25m/s
50-year gust	Wind class	Temperature range	Rated voltage	Power factor		Rated frequency
59.5m/s	IEC SWT Class II-A	-10°C to +40°C	400V AC / 3-phase	0.9 - 1.0 capacitive and inductive, remotely adjustable		50Hz



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