

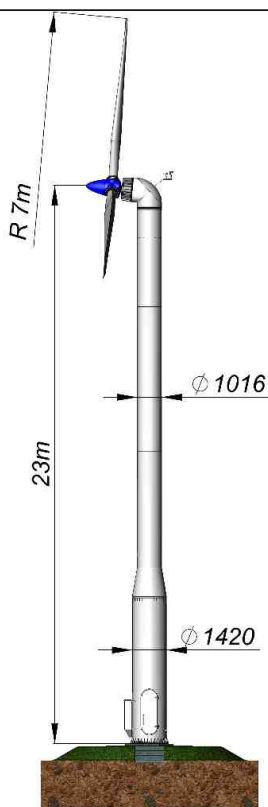
ZEFIR D14-P20-T23

For farm



ZEFIR D14-P20-T23

TECHNICAL SPECIFICATION



MAIN PARAMETERS

Rotor diameter	14m
Rated power	20kW
Rated wind speed	8.3m/s
Start wind speed	3.0m/s \uparrow i 15.0m/s \downarrow (10 min. avg.)
Cut-out wind speed	2.0m/s \downarrow i 20.0m/s \uparrow (10 min. avg.)
Hub height	23m
Wind class	II (EN61400-2:2014)

ROTOR

Type	Upwind with active pitch control
Rotational speed range	18÷75rpm
Rotational direction	Clockwise
Blade material	Fiberglass reinforced with resin
Number of blades	3

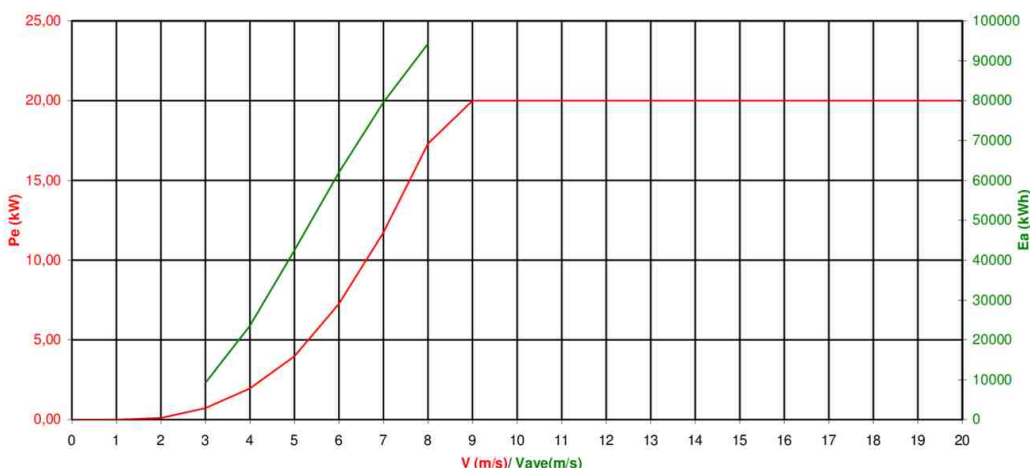
GENERATOR

Type	PMG
Rated power	23kW
Rated rpm	60rpm
Drive system	Direct drive

YAW SYSTEM

Type	Active with gear-motor drive
Yaw bearing	Slide bearing with annular wheel
Additional function	Cable twisting control

V (m/s)	Pe (kW)	Ea (kWh)
0	0,00	
1	0,00	
2	0,10	
3	0,72	9209
4	1,96	23552
5	3,97	42449
6	7,26	61986
7	11,74	79613
8	17,31	94291
9	20,00	
10	20,00	
11	20,00	
12	20,00	
13	20,00	
14	20,00	
15	20,00	
16	20,00	
17	20,00	
18	20,00	
19	20,00	
20	20,00	



DIMENSIONS AND WEIGHT

Steel tower diameter	Ø1420mm	Steel tower diameter at the top	Ø1016mm
Tower height	21.8m	Tower weight	6.56T,
Nacelle WxLxH	1016x3080x1450mm	Nacelle weight	2773kG (without blades)
Number of segments	2	Access to the nacelle	Internal ladder
Rotor blade length	6.3m	Rotor blade weight	210kG
Control box AxBxH	800x300x1200mm	Control box weight	90kG
Inverter AxBxH	600x600x1700mm	Inverter weight	230kG

SAFETY SYSTEM

CONTROL SYSTEM

Power limitation	Automatic pitch control system	Type	ZEFIR dedicated μ P control system
Braking system	Disc brake clamp on the main shaft	Location	In the base of the tower
Safety system concept	"Fail-safe" philosophy design	Remote monitoring	ZEFIR SCADA