

GENERAL INFORMATION

Type	Horizontal Axis Wind Turbine	
Rated Power at Grid	kW	100
Model	ATB DD100.28_C36	
Design Standards	EN IEC 61400 / CEI 021	
Wind Class	III A	
Cut-in Speed	m/s	3,0
Rated Wind Speed	m/s	8,5
Cut-out Wind Speed	m/s	25,0
Orientation	Upwind	
Air Density	kg/m ³	1,225
Operation Temperature	from -10° to + 45°	
Survival Temperature	from -20° to + 50°	
Solar radiation intensity	W/m ²	1.500
Wind share exponent	0,2	
Weibull distribution	k	2

ROTOR & BLADES

Nr of blades	n°	2
Rotor diameter	m	28
Swept area	m ²	616
Power per area	W/m ²	162,3
Blades material	Glass-Fibre reinforced Epoxy	
Overall length	m	13,4
Rotor speed range	rpm	from 19.0 to 58.4
Rated rotor speed	rpm	52,0
Tip speed	m/s	76,2
Rotation direction	clockwise	
Hub material	steel	
Lightning protection	Aluminium Receptor system	
Aerodynamic Profile	Windblade	
Maximum Chord length	m	1,29
Production method	VI or HL	
Pitch Sensors	1 x absolute position, 2 x digital limit switches	

NACELLE

main frame material	steel	
No of drives	n°	2
Yaw area	deg	-720 to +720
Yaw speed	deg/s	1
normal pitch speed	deg/s	5
Max pitch speed	deg/s	8
Yaw Sensor	1 x absolute position, each side: 2x digital limit switches (warning, stop)	

GENERATOR

Type	Permanent Magnet Generator	
Nominal voltage	Vac	400 3ph
Transmission	direct drive	
Cooling	passive air cooling	
Protection class	IP56	

FULL POWER CONVERTER

Type	IGBT Based Modular Designed Full Power Converter with LC Filter	
Nominal voltage	Vac	400 3ph
Frequency (line side)	Hz	50 / 60
Power Factor	1 - 0,9 (cap. and ind.)	
Grid code	EON grid code 2008	

CONTROL

Control System	PLC Controller	
Control Concept	Variable speed	
Supervisory System	Scada	
Connection	Modem GPRS/UMTS/ADSL /Wifi	
Rotor speed	digital	
wind speed / direction	ultrasonic	

SAFETY SYSTEM

Over Speed	2 pcs. independent overspeed guards	
Vibrations	digital tower vibration sensor	

BRAKE SYSTEM

Aerodynamic brake	feathering position of blades via pitch hydraulic (emergency stop function)	
Hydraulic brake	hydraulic brake calliper	

TOWER

Tower type	concrete	
Rotor Hub Height	m	37
Number of tower sections	n°	3
Weigth without fixtures	t	35

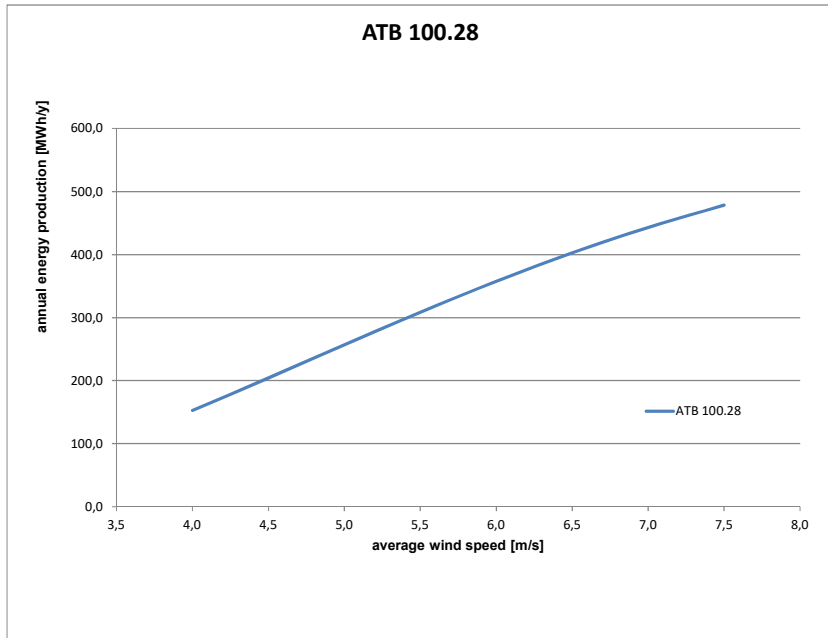
LUBRICATION SYSTEMS

Lubrication central systems	Automatic lubrication for all bearings	
-----------------------------	--	--

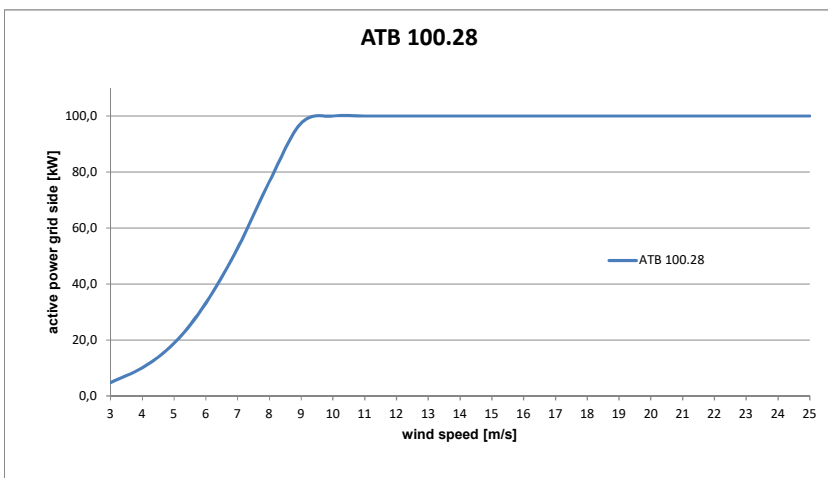
LIGHTING PROTECTION

According to	IEC 61400-24 IEC 61024 & IEC 62305	
--------------	---------------------------------------	--

WIND SPEED [m/s]	POWER [kW]	AVERAGE WIND SPEED [m/s]	AEP [MWh/y]
3	4,8		
4	10,1	4,0	152,8
5	18,8	4,5	204,1
6	33,2	5,0	256,9
7	52,8	5,5	308,6
8	76,6	6,0	357,6
9	100,0	6,5	402,7
10	100,0	7,0	443,1
11	100,0	7,5	478,4
12	100,0		
13	100,0		
14	100,0		
15	100,0		
16	100,0		
17	100,0		
18	100,0		
19	100,0		
20	100,0		
21	100,0		
22	100,0		
23	100,0		
24	100,0		
25	100,0		



3	4,8
4	10,1
5	18,8
6	33,2
7	52,8
8	76,6
9	97,5
10	100,0
11	100,0
12	100,0
13	100,0
14	100,0
15	100,0
16	100,0
17	100,0
18	100,0
19	100,0
20	100,0
21	100,0
22	100,0
23	100,0
24	100,0
25	100,0



(*) Active power is given at the turbine main switch and does not consider high voltage transformer losses nor other subsequent site specific grid connection losses.
 Availability 100% Wind share exponent 0,2

All data can be changed and modified at any time without any notice .