



Emergya Wind Technologies BV

Engineering

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Doc code:	S-1209891.docx	

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Title:


Specification

Power Curve DW58*1000

Revision	Date	Author	Approved	Description of changes
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-	-	-	-	-
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-	-	-	-	-
-	-	-	-	-


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1 General information

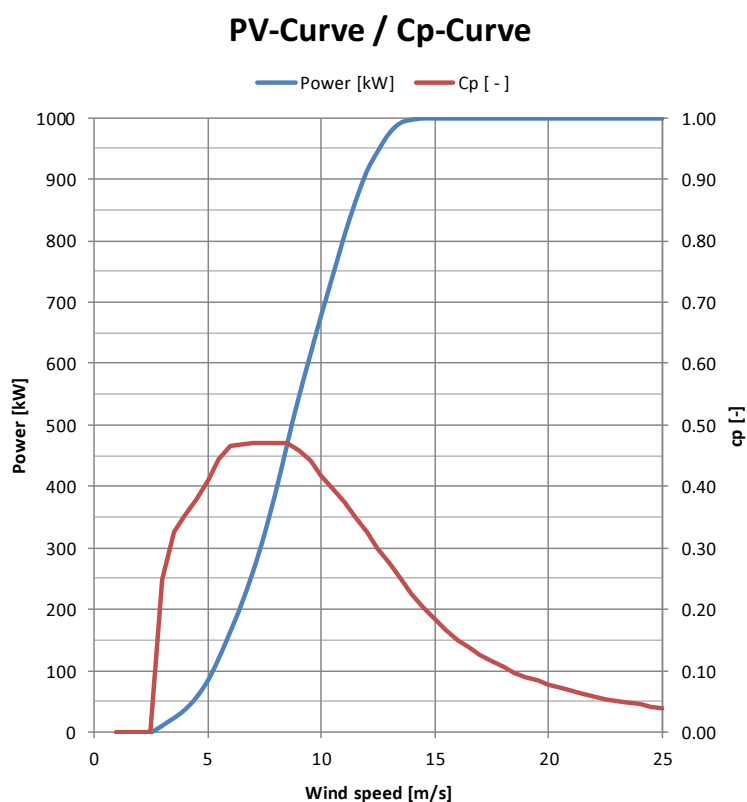
Rotor diameter: 58 m
 Rated power: 1000 kW
 IEC wind turbine class: IIA

Cut-in wind speed: 3 m/s
 Cut-out wind speed: 25 m/s
 Rated wind speed: 14.5 m/s


Wind speeds based on 10 minute averages at turbine hub height

2 Power curve

Wind speed [m/s]	Power [kW]	Cp [-]
0 - 2.5	0	0.000
3.0	11	0.248
3.5	23	0.325
4.0	37	0.353
4.5	56	0.380
5.0	83	0.411
5.5	120	0.445
6.0	163	0.466
6.5	208	0.468
7.0	261	0.469
7.5	322	0.470
8.0	390	0.470
8.5	468	0.470
9.0	542	0.459
9.5	612	0.440
10.0	678	0.418
10.5	742	0.396
11.0	805	0.373
11.5	863	0.350
12.0	912	0.326
12.5	947	0.299
13.0	976	0.274
13.5	993	0.249
14.0	998	0.224
14.5	1000	0.202
15 to 25	1000	0.183 to 0.040

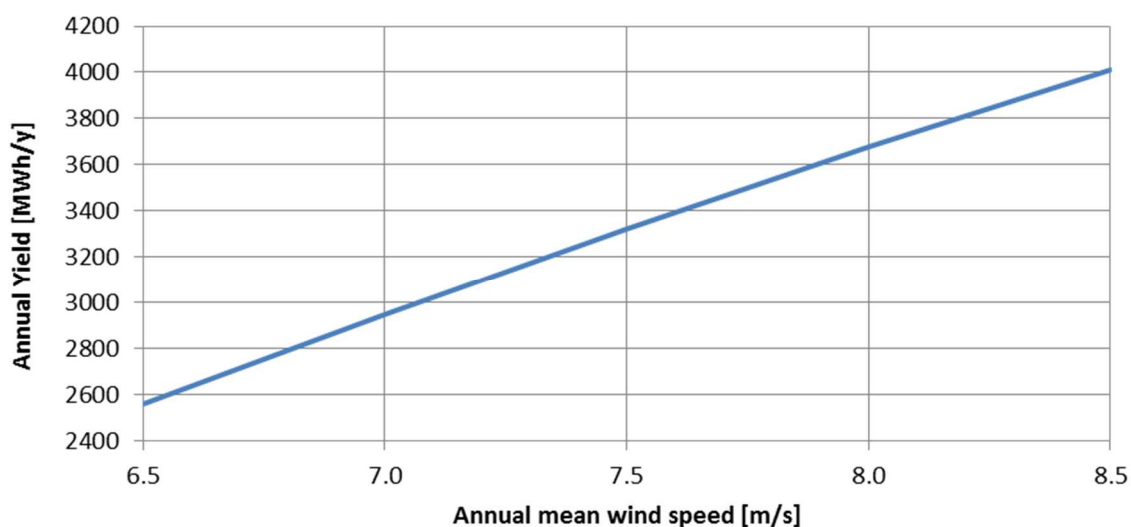


The power curve is valid for standard atmospheric conditions whereby a temperature of 15 °C and an air density of 1.225 kg/m³ are considered, together with a vertical wind shear exponent of 1/7. The data is applicable for a non-complex site with no flow inclination and clean blades.

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3 Wind turbine annual energy production

The wind turbine annual energy production for different annual mean wind speeds at hub height is calculated with the above power curve data assuming a Weibull wind speed distribution with a shape factor (k) of 2.0. Transformer and other losses are not taken into account.



Wind speed [m/s]	Turbine annual energy production [MWh/y]
6.5	2561
7.0	2949
7.5	3323
8.0	3677
8.5	4008