

File

Company CONERGY
 Type/Version CPW 56
 Rated power 900,0 kW
 Secondary generator 0,0 kW
 Rotor diameter 56,0 m
 Tower Tubular
 Grid connection 50 Hz

Origin country DE
 Blade type 27.1
 Generator type One generator
 Rpm, rated power 28,0 rpm
 Rpm, initial 15,0 rpm
 Hub height(s) 71,0; 59,0 m
 Maximum blade width 0,00 m
 Blade width for 90% radius 0,00 m
 Valid No
 Creator USER
 Created 2008-07-30 12:34
 Edited 2008-07-30 12:34



Power curve: CONERGY POWERWIND 56 Power curve
 Source Manufacturer

Source date	Creator	Created	Edited	Default	Stop windSpeed [m/s]	Air density [kg/m ³]	Tip angle [°]	Power control	CT curve type
2008-03-05 00:00	USER	2008-07-30 12:35	2008-07-30 12:39	No	25,0	1,225	0,0	Pitch	Standard pitch

Power curve	Wind speed [m/s]	3,00	4,00	5,00	6,00	7,00	8,00	9,00	10,00	11,00	12,00	13,00	14,00	15,00	16,00	17,00
Power [kW]		2,90	26,40	66,50	127,70	213,90	329,40	473,40	658,20	880,20	900,00	900,00	900,00	900,00	900,00	900,00
Ce		0,071	0,273	0,353	0,392	0,413	0,426	0,430	0,436	0,438	0,345	0,272	0,217	0,177	0,146	0,121

Wind speed [m/s]	18,00	19,00	20,00	21,00	22,00	23,00	24,00	25,00
Power [kW]	900,00	900,00	900,00	900,00	900,00	900,00	900,00	900,00
Ce	0,102	0,087	0,075	0,064	0,056	0,049	0,043	0,038

Ct curve

Wind speed [m/s]	1,00	2,00	3,00	4,00	5,00	6,00	7,00	8,00	9,00	10,00	11,00	12,00	13,00	14,00	15,00	16,00	17,00	18,00	19,00	20,00	21,00	22,00	23,00	24,00
Ct	0,10	0,10	0,10	0,80	0,82	0,84	0,79	0,72	0,66	0,59	0,53	0,46	0,40	0,33	0,28	0,23	0,20	0,16	0,13	0,12	0,12	0,11	0,11	0,10

HP curve comparison

Vmean [m/s]	5	6	7	8	9	10
HP value [MWh]	1 138	1 842	2 567	3 270	3 859	4 383

The table shows comparison between annual energy production calculated on basis of simplified "HP-curves" which assume that all WTG's performs quite similar - only specific power loading (kW/m²) and single/dual speed or stall/pitch decides the calculated values. Productions are without wake losses.
 For further details, ask at the Danish Energy Agency for project report J.nr. 51171/00-0016 or see WindPRO manual chapter 3.5.2.
 The method is refined in EMD report "20 Detailed Case Studies comparing Project Design Calculations and actual Energy Productions for Wind Energy Projects worldwide", jan 2003.
 Use the table to evaluate if the given power curve is reasonable - if the check value are lower than -5%, the power curve probably is too optimistic due to uncertainty in power curve measurement.

CONERGY POWERWIND 56 Power curve [MWh]	1 210	1 947	2 697	3 389	3 987	4 478
Check value [%]	-6	-5	-5	-4	-3	-2

