

DANWIN 200-24 24.0 !O!

File C:\Users\Wind\Documents\WindPRO Data\WTG Data\DANWIN 200-24 24.0 !O!.wtg

Company	DANWIN
Type/Version	
Rated power	200,0 kW
Secondary generator	24,0 kW
Rotor diameter	24,0 m
Tower	Tubular
Grid connection	50 Hz
Origin country	DK
Blade type	LM 11
Generator type	Two generator
Rpm, rated power	40,6 rpm
Rpm, initial	0,0 rpm
Hub height(s)	30,0; 0,0 m
Maximum blade width	0,00 m
Blade width for 90% radius	0,00 m
Valid	No
Creator	EMD
Created	15.02.1997 00:00
Edited	15.02.1997 00:00



Power curve: Fabrikant 1.225 25.00 0.00

Source Fabrikant

Source date	Creator	Created	Edited	Default	Stop windSpeed [m/s]	Air density [kg/m3]	Tip angle [°]	Power control	CT curve type
30.12.1899 00:00	EMD	12.09.1991 00:00	15.11.2000 14:18	No	25,0	1,225	0,0	Stall	Standard stall

Omregnet fra en DANWIN 180 kW melt pe Risw

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]	0,00	1,40	9,30	23,20	41,60	64,20	89,30	116,60	144,10	167,60	186,70	200,80	200,50	197,30	185,10
Ce	0,000	0,079	0,269	0,388	0,438	0,453	0,442	0,421	0,391	0,350	0,307	0,264	0,214	0,174	0,136

Wind speed [m/s]	18,00	19,00	20,00	21,00	22,00	23,00	24,00	25,00
Power [kW]	171,80	158,40	153,50	149,10	149,70	155,70	161,20	166,50
Ce	0,106	0,083	0,069	0,058	0,051	0,046	0,042	0,038

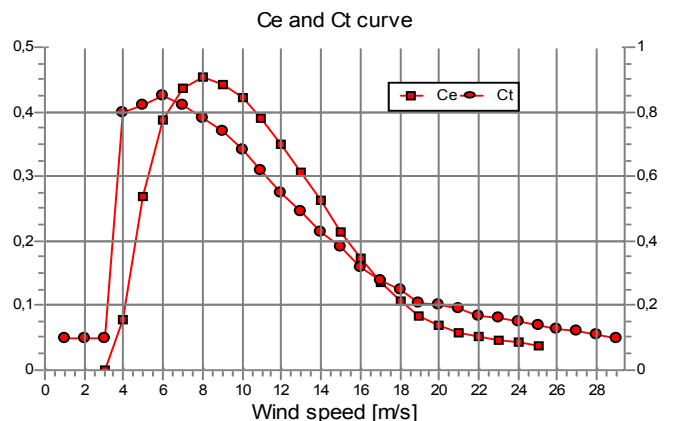
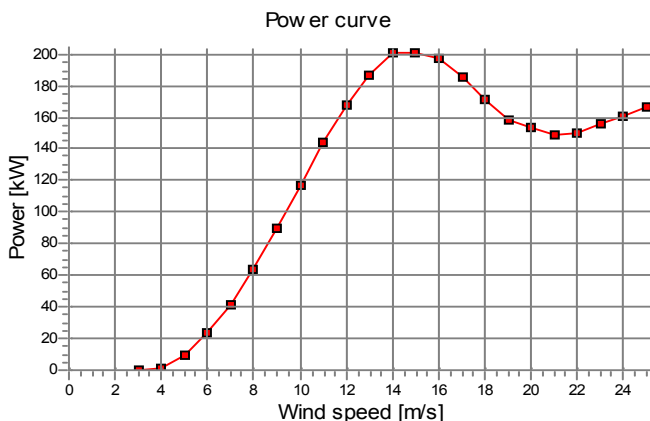
Ct curve

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	25,00	26,00	27,00	28,00	29,00
Ct	0,10	0,10	0,10	0,80	0,82	0,85	0,82	0,78	0,74	0,68	0,62	0,55	0,49	0,43	0,38	0,32	0,28	0,25	0,21	0,20	0,19	0,17	0,16	0,15	0,14	0,13	0,12	0,11	0,10

HP curve comparison

Vmean [m/s]	5	6	7	8	9	10
HP value [MWh]	213	356	503	644	771	882
Fabrikant 1.225 25.00 0.00 [MWh]	217	357	505	643	763	860
Check value [%]	-2	0	0	0	1	3

The table shows comparison between annual energy production calculated on basis of simplified "HP-curves" which assume that all WTGs 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.



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Noise:

Source Wdegaard og Danneskjold-Samsøe

Source date	Creator	Created	Edited	Default
08.11.1988 00:00	User	24.09.1992 00:00	24.09.1992 00:00	No

Octave data

Hub height [m]	Wind speed [m/s]	Lwa,ref [dB(A)]	Wind speed dependency [dB(A)/m/s]	Pure tones	Penalty [dB]	63 [dB]	125 [dB]	250 [dB]	500 [dB]	1000 [dB]	2000 [dB]	4000 [dB]	8000 [dB]	A weighted	
All	8,0	100,2		0,0	Yes	0,0	79,5	84,4	89,5	94,9	96,9	89,9	82,1	80,0	Yes

(MEMO)