

Weights, Dimensions and Transport Guidelines

NM82

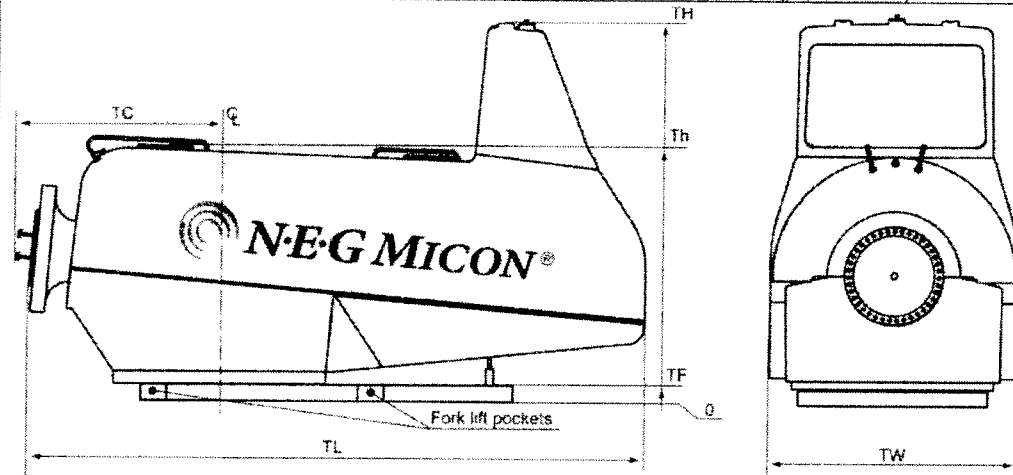
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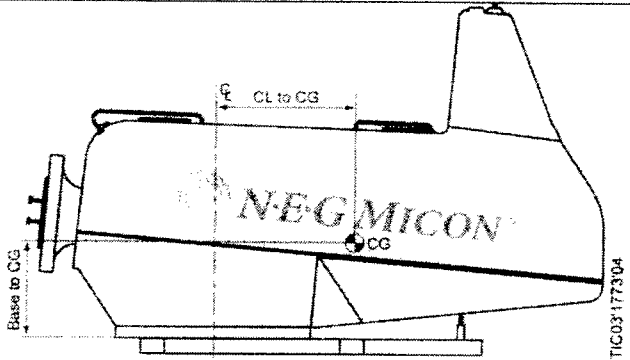
TCD 5001080-03 EN

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Units
Please note that all weights and dimensions in this document are specified in metric units (SI-units). Ex: [ton] = metric tonne.

Nacelle weights and dimensions							
Component	TL [m]	Th [m]	TH [m]	TF [m]	TW [m]	TC (m)	Weight [ton]
Nacelle	7.50	3.50	4.85		3.00	2.55	51.0
Transport frame				0.18			1.2



Centre of gravity - Nacelle	
	<p>To find the centre of gravity (CG), the distance "CL to CG" is measured from the center line (CL) of the yaw bearing towards the radiator cover.</p> <p><u>CL to CG = 1110 mm</u></p>

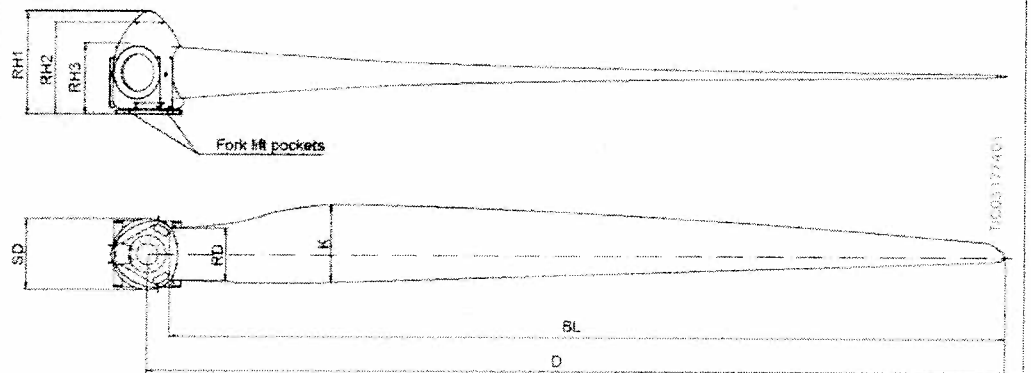
TCD 5001080-03	Weight, dimensions and transport guidelines – NM82	Page
Date:11-05-2004	Editor: TVP	Approval sign: JLA
		2 of 6

Nacelle components weights and dimensions

Component	Length [m]	Height [m]	Width [m]	Weight [ton]
Machine base frame front	3.26	1.30	2.63	6.80
Machine base frame rear	3.20	0.93	2.40	1.20
Main bearing	0.33	0.90	0.90	0.65
Main bearing housing	0.50	1.10	1.50	1.30
Main shaft	2.60	1.40	1.40	7.00
Gearbox with oil	2.30	2.00	2.50	17.00
Gearbox dry weight, no transport frame	2.30	2.00	2.50	16.70
Generator, 50 Hz	2.00	1.45	1.60	8.90
Generator, 60 Hz	2.00	1.45	1.60	8.90
Cooler, Oil	0.25	1.60	1.50	0.12
Cooler, Water	0.25	1.60	1.00	0.08
Yaw gear/motors complete	0.40	0.75		0.20
Yaw bearing	2.48	0.10		0.95
Oil pump / filter unit	0.84	1.00	0.34	0.15

Rotor weights and dimensions

Component	Height [m]	Length [m]	Width [m]	Weight [ton]
Hub machined, incl. transport frame	RH3 = 3.04	3.04	2.80	10.80
Hub incl. spinner, without nose cone, incl. transport frame	RH2 = 3.93	3.58	SD = 4.13	20.70
Hub incl. spinner, with nose cone, incl. transport frame	RH1 = 4.43	3.58	SD = 4.13	20.70
Transport frame	0.56	3.04	1.88	1.02
Blade total – AL	-	BL = 40	RD = 1.9	7.5



Blade max chord (K):	3.2 m
Rotor diameter (2 x D):	82 m

TCD 5001080-03	Weight, dimensions and transport guidelines – NM82	Page
Date:11-05-2004	Editor: TVP	Approval sign: JLA
		3 of 6

Rotor transport guidelines	
Typical Transport Specification	4m wide road, 12T axle load, 15 m access radius (rear wheel steer trailer), 30 m access radius (non rear wheel steer trailer).
Typical used crane (case 1)	One 400 tonnes lattice boom main crane crane and a 160 tonnes hydraulic mobile help crane
Typical used crane (case 2)	One 800 tonnes hydraulic mobile main crane and a 160 tonnes hydraulic mobile help crane
Surface Pressure for complete rotor on transportation stand	14,50 tonnes/m ² (surface 2,76 m ²)
<p>Case 1: The nacelle is lifted in three steps (machine base frame, gear and generator). Thus the tower determines the choice of crane.</p> <p>Case 2: The nacelle is lifted in one step. Thus the nacelle determines the choice of crane.</p>	

Tower Weights and Dimensions				
UNDER RE-DESIGN!				
Tower Key				
Hub height	59 m			
Wind climate	IEC 2b			
No. of sections	2 sections			
Foundation Type	Embedded cylinder			
Last revision date				
Revision				
Section	Embedded	Bottom	Top	-
Comp. No.				[#]
Length	N.A.	N.A.	N.A.	[m]
Top (min.) diameter	N.A.	N.A.	N.A.	[mm]
Bottom (max) diameter	N.A.	N.A.	N.A.	[mm]
Weight	N.A.	N.A.	N.A.	[kg]
UNDER RE-DESIGN!				
Tower Key				
Hub height	59 m			
Wind climate	IEC 2 UL			
No. of sections	2 sections			
Foundation Type	Embedded cylinder			
Last revision date				
Revision				
Section	Embedded	Bottom	Top	-
Comp. No.				[#]
Length	N.A.	N.A.	N.A.	[m]
Top (min.) diameter	N.A.	N.A.	N.A.	[mm]
Bottom (max) diameter	N.A.	N.A.	N.A.	[mm]
Weight	N.A.	N.A.	N.A.	[kg]

TCD 5001080-03	Weight, dimensions and transport guidelines – NM82		Page
Date: 11-05-2004	Editor: TVP	Approval sign: JLA	4 of 6

Tower Key	NM82-68.5-IEC3a-EU-3P-M-1				
Const. plan	6012323				
Hub height	68.5 m				
Wind climate	IEC2b / IEC3a				
No. of sections	3				
Foundation Type	Embedded cylinder				
Last revision date	27.08.2003				
Revision	1				
Section	Embedded	Bottom	Middle	Top	-
Comp. No.	60094678	6009627	60096400	60096267	[#]
Length	2.514	17.550	18.380	30.175	[m]
Top (min.) diameter	4200	4184	4180	2300	[mm]
Bottom (max) diameter	4500	4200	4184	4180	[mm]
Weight	13000	37000	25500	27550	[kg]
Tower Key	NM82-70-IEC3a-EU-3P-O-4				
Const. plan	6012057				
Hub height	70 m				
Wind climate	IEC2b/ IEC3a				
No. of sections	3				
Foundation Type	Embedded cylinder				
Last revision date	15.08.2003				
Revision	4				
Section	Embedded	Bottom	Middle	Top	-
Comp. No.	60094678				[#]
Length	2.514	17.550	19.880	30.175	[m]
Top (min.) diameter	4200	4184	4180	2300	[mm]
Bottom (max) diameter	4500	4200	4184	4180	[mm]
Weight	13000	37000	28000	27500	[kg]
Tower Key	NM82-78-IEC3a-EU-3P-O-0				
Const. plan	6011137				
Hub height	78 m				
Wind climate	IEC 2b/ IEC3a				
No. of sections	3				
Foundation Type	Embedded cylinder				
Last revision date					
Revision	0				
Section	Embedded section	Bottom	Middle section	Top	-
Comp. No.	60094678	60097315	60097316	60097317	[#]
Length	2.514	19.745	25.48	30.28	[m]
Top (min.) diameter	4200	4100	3350	2300	[mm]
Bottom (max) diameter	4200	4200	4193	3350	[mm]
Weight	13000	46000	39000	29000	[kg]

TCD 5001080-03	Weight, dimensions and transport guidelines – NM82		Page
Date:11-05-2004	Editor: TVP	Approval sign: JLA	5 of 6