

Note: The disclaimer on the first worksheet applies to all tables in this workbook

Rig Manufacturer : E.G.T.		Rig Type : VD210	
Operation mode: Auger Drilling			
Completed by: R. Savi	22/08/2015	Checked by:	

Main Components :

	Item	Mass (kg)	Moment arm (m)	Moment (kNm)
UPPER WORKS	Mast Assembly	2208	1,54	33,36
				0,00
				0,00
				0,00
				0,00
				0,00
				0,00
				0,00
LOWER WORKS	Base Machine	3292	-0,60	-19,38
	Cage	770	1,80	13,60
				0,00
				0,00
				0,00
ROPE / KELLY / CHAIN SUSPENDED EQUIPMENT	Auger	300	1,80	5,30
	Rotary head	650	1,80	11,48
				0,00
				0,00
COUNT.	Counterweight	0	0,00	0,00
				0,00
OTHER	None	0	0,00	0,00
				0,00
				0,00

Main Components Totals

UPPER WORKS	2208	1,54	33,36
LOWER WORKS	4062	-0,15	-5,78
ROPE / KELLY / CHAIN SUSPENDED EQUIPMENT	950	1,80	16,78
COUNTERWEIGHT	0	0,00	0,00
OTHER	0	0,00	0,00
TOTAL	7220	0,63	44,35

Tracks

Track bearing length (m)	1,57	
Track pad width (m)	0,3	
Distance between centrelines of tracks (m)	0,82	

Front Foot Pads

Pad Bearing Area (m ²)	0,90	Actual Dimensions	0,25 dia
Pad Maximum Loading (kN)	150,00	Actual Shape	round
Pad Moment Arm (m)	1,80		

Rear Foot Pads

Pad Bearing Area (m ²)	0,20	Actual Dimensions	0,25 dia
Pad Maximum Loading (kN)	100,00	Actual Shape	round
Pad Moment Arm (m)	-1,10		

Forces

Maximum Extraction Force (kN)	120,00		
Maximum Penetration Force (kN)	60,00		
Maximum Auxillary Force (kN)	0,00	Auxillary Force Moment Arm (m)	0,00

Notes

flat ground required
mast in front position
mast foot on the ground while drilling
mast side rotation with vertical mast



E.G.T. VD210	Weight (kg) / Load (kgf)	Distance to CL rotation (m)	Horizontal moment (kNm)	Mode : Auger Drilling Standing						Transformation from triangular or trapizoidal to an equivalent rectangular pressure distribution under track maintaining the load centriod		
				Relative Angle - Upper Body and Tracks (degrees)	Bearing pressure at front of L.H. track (kN/m ²)	Bearing pressure at rear of L.H. track (kN/m ²)	Bearing pressure at front of R.H. track (kN/m ²)	Bearing pressure at rear of R.H. track (kN/m ²)	Max Track loading dimensions			Equivalent Bearing
				ecc (m)	Bearing Len. (m)	L (m)	Q (KPa)					
Lower Works	4062	-0,145	-6									
Counterweight	0	0,000	0									
Upper Works	2208	1,540	33									
Other	0	0,000	0									
Rope / Kelly / Chain Suspended	950	1,800	17									
Machine Weight (kg)	7220	0,626	44									
				Force (kN)	Max. (kN)							
Auxiliary Line (kgf)	0	0,000	0	0,00	0,00	Foot Pad Area (m2)						
Net Extraction Force (kgf)	0	1,800	0	0,00	120,00							
Net Penetration Force (kgf)	0	1,800	0	0,00	60,00							
Front Foot Pads Loading (kgf)	0	1,800	0	0,00	150,00	0,896	Front Foot Pads Equivalent Length (m)and Bearing Pressure (kN/m ²)		2,988	0		
Rear Foot Pads Loading (kgf)	0	-1,100	0	0,00	100,00	0,196	Rear Foot Pads Equivalent Length (m)and Bearing Pressure (kN/m ²)		0,654	0		
Others	0	0,000	0	Track Bearing Length (m)		1,570	Maximum Equivalent Design Values		0,360	457		
Track Total Loading (kgf)	7220	0,626	44	Track Width Centres (m)		0,822						
				Track pad width (m)		0,300						
									BRE LOAD CASE (1 or 2)		1	



Auxiliary Line Force OK
Extraction Force OK
Penetration Force OK
Front Foot Pad Force OK
Rear Foot Pad Force OK



E.G.T.		Weight (kg) / Load (kgf)	Distance to CL rotation (m)	Horizontal moment (kNm)	Mode : Auger Drilling Travelling						Transformation from triangular or trapezoidal to an equivalent rectangular pressure distribution under track maintaining the load centroid	
VD210					Relative Angle - Upper Body and Tracks (degrees)	Bearing pressure at front of L.H. track (kN/m ²)	Bearing pressure at rear of L.H. track (kN/m ²)	Bearing pressure at front of R.H. track (kN/m ²)	Bearing pressure at rear of R.H. track (kN/m ²)	Max Track loading dimensions		
								ecc (m)	Bearing Len. (m)	L (m)	Q (KPa)	
Lower Works		4062	-0,145	-6								
Counterweight		0	0,000	0								
Upper Works		2208	1,540	33								
Other		0	0,000	0								
Rope / Kelly / Chain Suspended		950	1,800	17								
Machine Weight (kg)		7220	0,626	44								
					Force (kN)	Max. (kN)						
Auxiliary Line (kgf)		0	0,000	0	0,00	0,00						
Net Extraction Force (kgf)		0	1,800	0	0,00	120,00						
Net Penetration Force (kgf)		0	1,800	0	0,00	60,00						
Front Foot Pads Loading (kgf)		0	1,800	0	0,00	150,00	0,896	Front Foot Pads Equivalent Length (m) and Bearing Pressure (kN/m ²)		2,988	0	
Rear Foot Pads Loading (kgf)		0	-1,100	0	0,00	100,00	0,196	Rear Foot Pads Equivalent Length (m) and Bearing Pressure (kN/m ²)		0,654	0	
Others		0	0,000	0	Track Bearing Length (m)		1,570	Maximum Equivalent Design Values		0,360	457	
Track Total Loading (kgf)		7220	0,626	44	Track Width Centres (m)		0,822					
					Track pad width (m)		0,300					
										BRE LOAD CASE (1 or 2)		1



Auxiliary Line Force OK
Extraction Force OK
Penetration Force OK
Front Foot Pad Force OK
Rear Foot Pad Force OK



E.G.T.		Weight (kg) / Load (kgf)	Distance to CL rotation (m)	Horizontal moment (kNm)			Mode : Auger Drilling Handling						Transformation from triangular or trapezoidal to an equivalent rectangular pressure distribution under track maintaining the load centroid	
VD210							Relative Angle - Upper Body and Tracks (degrees)	Bearing pressure at front of L.H. track (kN/m ²)	Bearing pressure at rear of L.H. track (kN/m ²)	Bearing pressure at front of R.H. track (kN/m ²)	Bearing pressure at rear of R.H. track (kN/m ²)	Max Track loading dimensions		Equivalent Bearing
										ecc (m)	Bearing Len. (m)	L (m)	Q (KPa)	
Lower Works		4062	-0,145	-6										
Counterweight		0	0,000	0										
Upper Works		2208	1,540	33										
Other		0	0,000	0										
Rope / Kelly / Chain Suspended		950	1,800	17										
Machine Weight (kg)		7220	0,626	44										
					Force (kN)	Max. (kN)								
Auxiliary Line (kgf)		0	0,000	0	0,00	0,00								
Net Extraction Force (kgf)		0	1,800	0	0,00	120,00								
Net Penetration Force (kgf)		0	1,800	0	0,00	60,00								
Front Foot Pads Loading (kgf)		0	1,800	0	0,00	150,00	0,896	Front Foot Pads Equivalent Length (m) and Bearing Pressure (kN/m ²)				2,988	0	
Rear Foot Pads Loading (kgf)		0	-1,100	0	0,00	100,00	0,196	Rear Foot Pads Equivalent Length (m) and Bearing Pressure (kN/m ²)				0,654	0	
Others		0	0,000	0	Track Bearing Length (m)		1,570	Maximum Equivalent Design Values				0,318	372	
Track Total Loading (kgf)		7220	0,626	44	Track Width Centres (m)		0,822							
					Track pad width (m)		0,300					BRE LOAD CASE (1 or 2)		1



Auxiliary Line Force OK
 Extraction Force OK
 Penetration Force OK
 Front Foot Pad Force OK
 Rear Foot Pad Force OK



E.G.T.		Weight (kg) / Load (kgf)	Distance to CL rotation (m)	Horizontal moment (kNm)			Mode : Auger Drilling Penetrating					Transformation from triangular or trapezoidal to an equivalent rectangular pressure distribution under track maintaining the load centroid		
VD210					Force (kN)	Max. (kN)	Relative Angle - Upper Body and Tracks (degrees)	Bearing pressure at front of L.H. track (kN/m ²)	Bearing pressure at rear of L.H. track (kN/m ²)	Bearing pressure at front of R.H. track (kN/m ²)	Bearing pressure at rear of R.H. track (kN/m ²)			Max Track loading dimensions
										ecc (m)	Bearing Len. (m)	L (m)	Q (KPa)	
Lower Works		4062	-0,145	-6										
Counterweight		0	0,000	0										
Upper Works		2208	1,540	33										
Other		0	0,000	0										
Rope / Kelly / Chain Suspended		950	1,800	17										
Machine Weight (kg)		7220	0,626	44										
Auxiliary Line (kgf)		0	0,000	0	0,00	0,00								
Net Extraction Force (kgf)		0	1,800	0	0,00	120,00								
Net Penetration Force (kgf)		-4212	1,800	-74	32,00	60,00								
Front Foot Pads Loading (kgf)		0	1,800	0	0,00	150,00	0,896	Front Foot Pads Equivalent Length (m) and Bearing Pressure (kN/m ²)				2,988	0	
Rear Foot Pads Loading (kgf)		-2243	-1,100	24	22,00	100,00	0,196	Rear Foot Pads Equivalent Length (m) and Bearing Pressure (kN/m ²)				0,654	112	
Others		0	0,000	0	Track Bearing Length (m)		1,570	Maximum Equivalent Design Values					0,019	658
Track Total Loading (kgf)		765	-0,775	-6	Track Width Centres (m)		0,822							
					Track pad width (m)		0,300						BRE LOAD CASE (1 or 2)	



Auxiliary Line Force OK
 Extraction Force OK
 Penetration Force OK
 Front Foot Pad Force OK
 Rear Foot Pad Force OK



E.G.T.		Weight (kg) / Load (kgf)	Distance to CL rotation (m)	Horizontal moment (kNm)	Mode : Auger Drilling Extracting						Transformation from triangular or trapezoidal to an equivalent rectangular pressure distribution under track maintaining the load centroid		
VD210					Relative Angle - Upper Body and Tracks (degrees)	Bearing pressure at front of L.H. track (kN/m ²)	Bearing pressure at rear of L.H. track (kN/m ²)	Bearing pressure at front of R.H. track (kN/m ²)	Bearing pressure at rear of R.H. track (kN/m ²)	Max Track loading dimensions			Equivalent Bearing
Lower Works		4062	-0,145	-6									
Counterweight		0	0,000	0									
Upper Works		2208	1,540	33									
Other		0	0,000	0									
Rope / Kelly / Chain Suspended		950	1,800	17									
Machine Weight (kg)		7220	0,626	44									
					Force (kN)	Max. (kN)							
Auxiliary Line (kgf)		0	0,000	0	0,00	0,00							
Net Extraction Force (kgf)		9244	1,800	163	100,00	120,00							
Net Penetration Force (kgf)		0	1,800	0	0,00	60,00							
Front Foot Pads Loading (kgf)		-9174	1,800	-162	90,00	150,00	0,896	Front Foot Pads Equivalent Length (m) and Bearing Pressure (kN/m ²)				2,988	100
Rear Foot Pads Loading (kgf)		0	-1,100	0	0,00	100,00	0,196	Rear Foot Pads Equivalent Length (m) and Bearing Pressure (kN/m ²)				0,654	0
Others		0	0,000	0	Track Bearing Length (m)		1,570	Maximum Equivalent Design Values				0,295	404
Track Total Loading (kgf)		7289	0,637	46	Track Width Centres (m)		0,822						
					Track pad width (m)		0,300						
											BRE LOAD CASE (1 or 2)		2



Auxiliary Line Force OK
Extraction Force OK
Penetration Force OK
Front Foot Pad Force OK
Rear Foot Pad Force OK



E.G.T. VD210	Weight (kg) / Load (kgf)	Distance to CL rotation (m)	Horizontal moment (kNm)			Mode : Auger Drilling Other						Transformation from triangular or trapezoidal to an equivalent rectangular pressure distribution under track maintaining the load centroid		
				Force (kN)	Max. (kN)	Relative Angle - Upper Body and Tracks (degrees)	Bearing pressure at front of L.H. track (kN/m ²)	Bearing pressure at rear of L.H. track (kN/m ²)	Bearing pressure at front of R.H. track (kN/m ²)	Bearing pressure at rear of R.H. track (kN/m ²)	Max Track loading dimensions		Equivalent Bearing	
										ecc (m)	Bearing Len. (m)	L (m)	Q (KPa)	
Lower Works	4062	-0,145	-6											
Counterweight	0	0,000	0											
Upper Works	2208	1,540	33											
Other	0	0,000	0											
Rope / Kelly / Chain Suspended	950	1,800	17											
Machine Weight (kg)	7220	0,626	44											
Auxiliary Line (kgf)	0	0,000	0	0,00	0,00									
Net Extraction Force (kgf)	0	1,800	0	0,00	120,00	Foot Pad Area (m2)								
Net Penetration Force (kgf)	0	1,800	0	0,00	60,00									
Front Foot Pads Loading (kgf)	0	1,800	0	0,00	150,00	0,896	Front Foot Pads Equivalent Length (m)and Bearing Pressure (kN/m ²)						2,988	0
Rear Foot Pads Loading (kgf)	0	-1,100	0	0,00	100,00	0,196	Rear Foot Pads Equivalent Length (m)and Bearing Pressure (kN/m ²)						0,654	0
Others	0	0,000	0	Track Bearing Length (m)		1,570	Maximum Equivalent Design Values						0,318	372
Track Total Loading (kgf)	7220	0,626	44	Track Width Centres (m)		0,822								
				Track pad width (m)		0,300	BRE LOAD CASE (1 or 2)						1	



Auxiliary Line Force OK
Extraction Force OK
Penetration Force OK
Front Foot Pad Force OK
Rear Foot Pad Force OK



Schedule of Piling Rig Component Weights, Dimensions, Forces and Pressures

Rig Manufacturer :		E.G.T.	Rig Type :		VD210
		Operation mode:	Auger Drilling		
Completed by:	R. Savi	22/08/2015	Checked by:		0
Item	Mass (kg)	Moment arm (m)	Moment (kNm)		
UPPER WORKS	2208	1,54	33,36		
LOWER WORKS	4062	-0,15	-5,78		
ROPE / KELLY / CHAIN SUSPENDED EQUIPMENT	950	1,80	16,78		
COUNTERWEIGHT	0	0,00	0,00		
OTHER	0	0,00	0,00		
TOTAL	7220	0,63	44,35		
Tracks					
Track bearing length (m)	1,57				
Track pad width (m)	0,3				
Distance between centrelines of tracks (m)	0,822				
Front Foot Pads					
Pad Bearing Area (m ²)	0,90	Actual Dimensions	0,25 dia		
Pad Maximum Loading (kN)	150,00	Actual Shape	round		
Pad Moment Arm (m)	1,80				
Rear Foot Pads					
Pad Bearing Area (m ²)	0,20	Actual Dimensions	0,25 dia		
Pad Maximum Loading (kN)	100,00	Actual Shape	round		
Pad Moment Arm (m)	-1,10				
Forces					
Maximum Extraction Force (kN)	120,00				
Maximum Penetration Force (kN)	60,00				
Maximum Auxillary Force (kN)	0,00	Auxillary Force Moment Arm (m)	0,00		
Pressure Summary for Platform Design (unfactored)					
MODE	BRE LOAD CASE (1 or 2)	Length (m)	Width (m)	UDL Pressure (kPa)	
Standing	1	0,36	0,3	457	
Travelling	1	0,36	0,3	457	
Handling	1	0,32	0,3	372	
Penetrating	2	0,02	0,3	658	
Extracting	2	0,30	0,3	404	
Other	NOT USED	N/A	0,3	N/A	
MODE	WARNING MESSAGES	ERROR MESSAGES FOR FORCES			
Standing	None	Auxiliary Line Force OK	Extraction Force OK	Penetration Force OK	
Travelling	None	Auxiliary Line Force OK	Extraction Force OK	Penetration Force OK	
Handling	None	Auxiliary Line Force OK	Extraction Force OK	Penetration Force OK	
Penetrating	None	Auxiliary Line Force OK	Extraction Force OK	Penetration Force OK	
Extracting	None	Auxiliary Line Force OK	Extraction Force OK	Penetration Force OK	
Other	None	Auxiliary Line Force OK	Extraction Force OK	Penetration Force OK	
MODE	ERROR MESSAGES FOR FOOT PADS		Notes		
Standing	Front Foot Pad Force OK	Rear Foot Pad Force OK	Only for rig operation on level ground with a vertical mast, unless noted below !		
Travelling	Front Foot Pad Force OK	Rear Foot Pad Force OK	Only for use where the rig is working on a ground supported platform !		
Handling	Front Foot Pad Force OK	Rear Foot Pad Force OK	Foot pad pressures are adjusted to equalise with the track pressures !		
Penetrating	Front Foot Pad Force OK	Rear Foot Pad Force OK	Rigs to be operated in accordance with manufacturer's & employer's instructions		
Extracting	Front Foot Pad Force OK	Rear Foot Pad Force OK	flat ground required		
Other	Front Foot Pad Force OK	Rear Foot Pad Force OK	mast in front position		
			mast foot on the ground while drilling		
			mast side rotation with vertical mast		
<p>Note: The disclaimer on the first worksheet applies to all tables in this workbook</p>					