



<b>Product Certificate Number</b>	<b>20065-CER</b>
<b>Applicant</b>	TGB Group c/ L'Alsina, parcela 37, Nave 3. Polígono Industrial La Masia 08798 Sant Cugat Sesgarrigues. Barcelona, Spain
<b>Model</b>	TVR200
<b>Type of unit</b>	Spin system for solar tracker
<b>Technical Data</b>	See page 2
<b>International Standard</b>	<b>IEC 62817: 2014</b> Photovoltaic systems – Design qualification of solar trackers. Chapter 8.5 Environmental testing.

Having assessed the test report number: 20065-TR performed by Certification Entity for Renewable Energies based on the requirements of the ISO/IEC 17025.

The above-mentioned spin system complies with the requirements of the Chapter 8.5 Environmental testing from IEC 62817:2014: Photovoltaic systems – Design qualification of solar trackers.

This certification is according the CERE internal process PE.T-CERE-09 Rev13 based on the requirements of the EN ISO/IEC 17065:2012. For this certification process the conformity assessment activities was according Scheme Type 5 based on:

- Testing of production samples selected by CERE.
- Audit of quality system according ISO 9001 with certificate number 12 100 42716 TMS issued by a certification body accredited according EN ISO/IEC 17021.
- Inspection of the manufacturing process.

Madrid, at 06<sup>th</sup> of July of 2018. This certificate is valid until 06<sup>th</sup> of July of 2021

Miguel Martínez Lavin  
Certification Manager

# Technical specifications

Female connector - SP2110/S3  
Supplied by electrical control supplier

SP2113P3

M16 (x8)  
Equally spaced  
Tolerance 6AZ

M16 (x8)  
Equally spaced  
Tolerance 6AZ

187 ±1

27

328

20

601

302

94

254 ±2

127 ±1

40

88.75 ±1

177.50 ±2

234 ±4

20.50

302 ±4

Motor  
XD033\*

Voltage (VDC)	24
Current (A)	<1
Speed (rpm)	1.57 ± 8%
Torque (Nm)	320
Current (A)	<6.25
Speed (rpm)	1.2 ± 8%
Max. Torque (Nm)	410

SP21 Series  
Wire Definition:  
pin 1 motor -  
pin 2 motor +  
pin 3 Ground

Motorized Drive TVR200-Z16-RM + XD033	Rated output torque	5120Nm
	Rated output speed	0,03 rpm (±8%)
	Max. output torque	6560Nm
	Speed at Max. torque	0,023 rpm (±8%)

\*DC motor able to work at short-time movements for regular operation. Eventually, DC motor could work at continuous operation for 7 minutes maximum.

REV	DESCRIPTION	DATE	NAME	CHECK
E	Note Added and speed at max torque	08/11/17	AC	TD
D	Drive Design Updated	31/08/17	AC	TD
C	Drive Design Updated	25/08/17	MF	TD
B	Drive Design Updated	05/07/17	AC	TD
A	Final Design	21/06/17	MF	TD

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NOTE: THIS SLEWING DRIVE IS ONLY ABLE TO TURN 120° DUE TO THE MECHANICAL STOP ON THE UPPER PART OF THE DRIVE

**MAIN PERFORMANCE PARAMETERS**

GEAR RATIO	40:1	HOLDING TORQUE	34KNM
EFFICIENCY	40% ±5%	TILTING MOMENT	7KNM
SELF-LOCKING GEAR	YES	RADIAL STATIC LOAD	54KN
BACKLASH CLEARANCE	<0,30°	AXIAL STATIC LOAD	108KN
MAXIMUM TORQUE	9,600NH	RADIAL DYNAMIC LOAD	49KN
NOMINAL TORQUE	7,000NH	AXIAL DYNAMIC LOAD	98KN

NOTE: ALL NEW DRIVES ARE PRELUBRICATED. MAXIMUM OUTPUT SPEED 1500 RPM. ALL BEVERS REQUIRE PRELUBRICATED. BEVERED PARTS FOR CONNECTION THROUGH EXHAUST. DRILL: 44L 12040

**Variant models:**

Spin system:

TVR 200-Z1	TVR 200-Z11	TVR 200-Z16	TVR 200-Z21
TVR 200-Z2	TVR 200-Z12	TVR 200-Z17	TVR 200-Z24
TVR 200-Z5	TVR 200-Z13	TVR 200-Z18	TVR 200-Z25
TVR 200-Z7	TVR 200-Z14	TVR 200-Z19	
TVR 200-Z8	TVR 200-Z15	TVR 200-Z20	

Motor DC

XD015	XD032	XD037	XD043	XD050
XD017	XD033	XD038	XD045	XD051
XD020	XD033-G	XD040	XD046	XD053
XD028	XD034	XD040.B	XD047	XD053-G
XD030	XD036	XD041	XD049	XD055

Motor AC

XA009.AS	XA099	XA176
XA058	XA118	XA184
XA062	XA129	XA196.AS
XA072	XA130	XA211
XA083	XA131	
XA095	XA146	



The sample selected to test was representative of the production.  
The sample was selected in:

TGB Group  
c/ L'Alsina, parcela 37, Nave 3.  
Polígono Industrial La Masia  
08798 Sant Cugat Sesgarrigues.  
Barcelona, Spain

Sample Report Number

20065-TM

The inspection of manufacturing process was performed on:  
July 03<sup>rd</sup> of 2018

TGB Group  
c/ L'Alsina, parcela 37, Nave 3.  
Polígono Industrial La Masia  
08798 Sant Cugat Sesgarrigues.  
Barcelona, Spain

Inspection Report Number:

20065-IF

