

Ingenieure für Ihre Visionen

- Zuverlässig
- Sicher
- Schnell

EXPO
Engineering

Statische Berechnung

Static Analysis

Datum: 17.03.2020
Lieferschein-Nr.: 2020031703
Kunden-Nr.: 53027
Sachbearbeiter/-in: Philip Ottenottebrock

Auftraggeber: GUIL S.L.
Customer: P.O. La Creu C/ Ismael Tomás Alacreu,
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46250 L'ALCÚDIA (VALENCIA) SPAIN
SPANIEN

Projekt: 2020-0048
Project: TMD-570



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Hand out - TMD 570 is checked and approved by Expo Engineering according:

Basics of construction engineering:

- DIN EN 1991 – Eurocode 1: Actions on structures (12/2010)
- DIN EN 1993-1 Eurocode 3: Design of steel structures (12/2010)
- DIN EN 1999-1 Eurocode 9: Design of aluminum structures (05/2010)
- DIN EN 13814 Fairground and amusement park machinery and structures (2005-06)

Accident prevention regulation:

- DGUV commandment 17 (BGV C1): Veranstaltungs- und Produktionsstätten für szenische Darstellungen (04/1998)

Terms for safe use:

- The construction is checked for wind speed up to 8 Beaufort. In the event severe weather warnings of wind speeds greater than 8 Beaufort (17,8 m/s or 64,08 km/h), lower the load and completely disassemble the tower. It is recommended to operate a wind measuring system at the top of the tower.
- Stiffeners for lateral support of the pressure bars must be installed. A total of 3 pieces at a max height with 5 truss elements (5x1,50m).
- The Tower load must not exceed the following values:
live load max. : **800,0 kg**

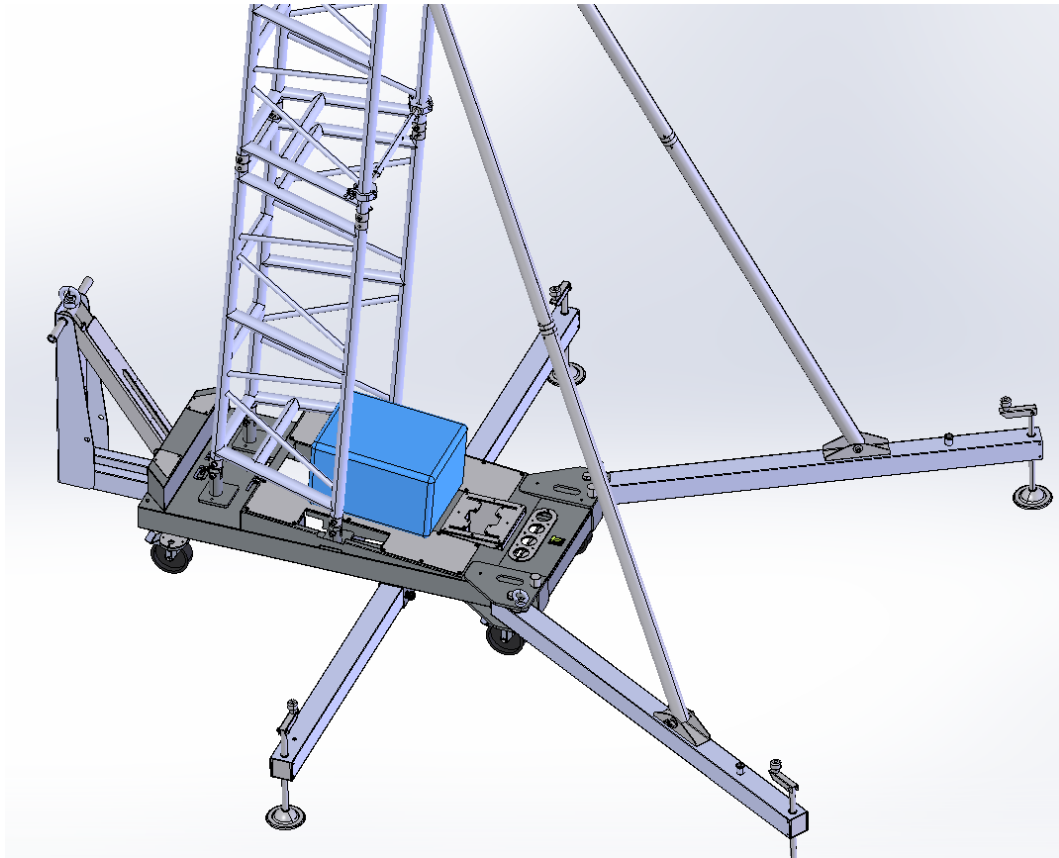
Wind effected area	Tower height	max. 8,1 m
PA Front	: A_{Front,PA}	= 4,0 m²
PA sideways	: A_{Side,PA}	= 2,5 m²

- In service state with the max. wind effected areas, counter weights needs to be placed on structure.
height max. 8,1 m : Counter weight 800,0 kg - weight of PA

These Ballast must be increased if the live load is different to the max. load. example: live load 500,0 kg (h =8,1 m)
counter weight: 800 - 500 = 300,0 kg

- These weights can be modified according the wind affected areas.
- The calculation of both these changes to variables can be done using the Excel-sheet- TMD-570. Contact manufacturer for this.

- **Anchoring by weight anchors (ballast)**



Ballast must be placed direct on the Base frame.

- The structure must be placed on flat ground with sufficient load capacity. For bad ground condition, levelling / pressure spreading activities must be carried out by the user for each individual set-up case. All spindles must be in contact with the ground. Spindles must be set up on pieces of wood (necessary friction factor).
- The construction must be protected against impact.
- Make sure all connections of the tower and also the load cannot become loose.
- The load is secured at the front attachment point of the head section.

DECLARACIÓN DE CONFORMIDAD EC-CERTIFICATE OF CONFORMITY

El Departamento de Investigación y Desarrollo de:
The Research and Development Department of:

GUIL Accesorios Música S.L.

Certifica que el modelo:
Certifies the model:

TMD-570 - Torre para la elevación de equipos Line Array - está fabricado mediante procesos de mecanizado, soldadura (TIG / MIG) y montaje de piezas en acero y aluminio.

TMD-570 - *Rigging tower for line array systems - is manufactured with steel and aluminium parts by drilling, welding (TIG / MIG) and assembly processes.*

Referencia / Reference	TMD-570
Carga Máx. / Max. Weight:	800 kg
Altura Máx. de Trabajo / Max. Working Height:	8.00 m

Fabricado en:
Manufactured at the following location:

P.I. La Creu C/ Ismael Tomás Alacreu, 28
46250 L'Alcúdia -Valencia - SPAIN

Este producto cumple las exigencias de seguridad según las siguientes Normas y Reglamentos:
This product complies with the requirements of safety according to the following Standards and Regulations:

- **2006/42/CE**
- **DIN EN 13814**
- **DIN 56950-1**
- **DGUV Regulations 17 and 18**
- **DGUV Rule 115-002**

Las Torres para la elevación de equipos Line Array modelo **TMD-570** están sometidas a los controles de seguridad y pruebas de resistencia realizadas en la fábrica de producción.

TMD-570 *Rigging towers for line array systems are submitted by the manufacturer to a factory production control and to the further testing of samples taken at the factory.*

El presente certificado es válido salvo suspensión o retirada notificada con tiempo.
This Certificate is valid unless it is cancelled or withdraw upon written notification.

La persona facultada para elaborar el Expediente Técnico es: Salvador Gascó García, realizado en P.I. La Creu C/Ismael Tomás Alacreu, 28 - 46250 - L'Alcúdia, Valencia (SPAIN).

The qualified person to create this technical report is: Salvador Gascó García, carried out at the following address P.I. La Creu C/Ismael Tomás Alacreu, 28 - 46250 - L'Alcúdia, Valencia (SPAIN).

Ingeniero-Jefe
Chief Engineer



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