



LIMITADOR DE VELOCIDAD/  
OVERSPEED GOVERNOR/  
LIMITEUR DE VITESSE/  
GESCHWINDIGKEITSBEGRENZER/

**QUASAR**

INSTRUCCIONES DE USO Y MANUTENCIÓN/  
INSTRUCTIONS FOR USE AND MAINTENANCE/  
INSTRUCTIONS D'USAGE ET ENTRETIEN/  
GEBRAUCHS- UND WARTUNGSANLEITUNG/



# EU TYPE-EXAMINATION CERTIFICATE

According to annex IV part A of Directive 2014/33/EU

**Certificate number:** ATI / LV / 008 **rev:** 3

**Notified Body:** TÜV SÜD ATISAE S.A.U.  
Ronda de Poniente, 4  
ES 28760 Tres Cantos MADRID  
ID number: 0053.

**Product:** Safety Component  
Overspeed Governor (LV)

**Type:** QUASAR

**Manufacturer:** DYNATECH. DYNAMICS AND TECHNOLOGY S.L.  
P.I. PINA DE EBRO, SECTOR C PARCELA 9  
ES 50750 ZARAGOZA

**Certificate Holder:** DYNATECH. DYNAMICS AND TECHNOLOGY S.L.  
P.I. PINA DE EBRO, SECTOR C PARCELA 9  
ES 50750 ZARAGOZA

**Date of submission:** 09.06.2022

**Date of type examination:** 09.20.2022

**Test laboratory & report:** Please refer to tech. annex section 2.13

**Directive:** Directive 2014/33/EU of 26 February 2014

**Standards of reference:** EN 81-20:2020; EN 81-50:2020;

**Report number: <sup>(1)</sup>** 8103622447 (09.20.2022)

**Expiry date:** Indefinite. (Please refer to tech. annex section 2.15)

**Statement:** The safety component allows the lift on which it is installed to satisfy the health and safety requirements of the Lifts Directive when it is used within the scope, as well as under the installation conditions that are set up in the technical annex to this certificate.

This certificate has a technical annex with reference ATI / LV / 008 R3.  
This certificate is digitally signed. Only the document issued in format 'pdf' with its signature is legally valid

<sup>(1)</sup> other applicable reports in section 2.17 of the technical annex



DAS / 000261-1

Jordi Olivera  
LCC Technical Director

TÜV SÜD ATISAE S.A. (Unipersonal). Organismo de Control acreditado por ENAC con acreditación nº 05 / EI 730  
EC12.04F4-EN v.2019-01-31

Sede Técnica: Ronda de Poniente, 4 – P.E. EURONOVA – 28760 Tres Cantos (Madrid) – España

## INSTRUCTIONS FOR USE AND MAINTENANCE

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## 1 GENERAL INSTRUCTIONS

Quasar overspeed governor is a compact governor with a 120-mm pulley.

This governor is of a standard type, that is to say, it may be installed both in the machine room and within the shaft.

Its reduced size makes its installation easier in those locations where saving space is a key factor

This governor is designed to be installed on homelifts and lifts with little or reduced traffic.

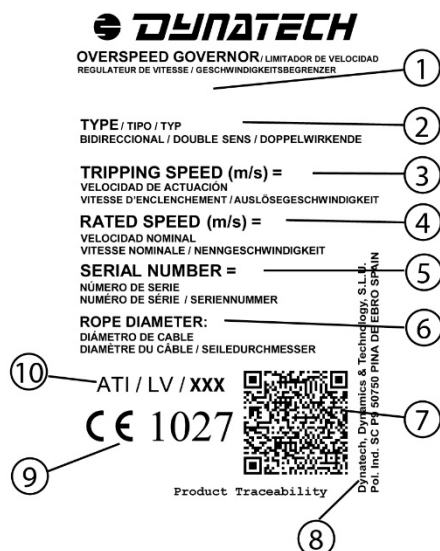
In case of overspeed, the governor trips the safety gear to stop the car.

It is strictly forbidden:

- To modify or replace the overspeed governor adjustment spring.
- Use an overspeed governor in a lift for which it is not intended, or whose features do not correspond to those marked on the lift (e.g. nominal speed or rope type).
- To adjust any component of the overspeed governor, except for those parts specified in the manual.

DYNATECH DYNAMICS & TECHNOLOGY, SL will not be liable for any damage caused by failure to observe any of these general conditions.

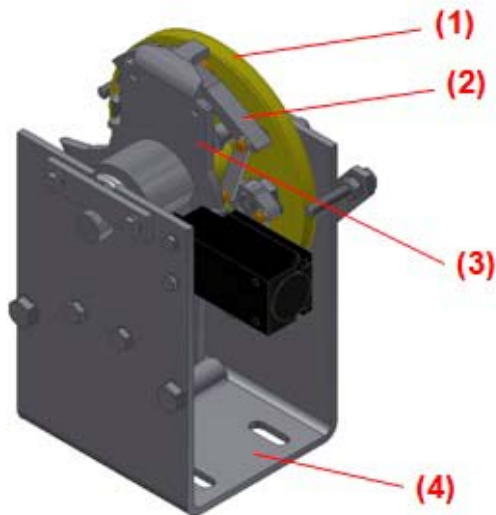
## 2 OVERSPEED GOVERNOR IDENTIFICATION



OVERSPEED GOVERNOR IDENTIFICATION LABEL			
1	Governor model	6	Rope diameter (mm)
2	Governor type	7	QR product traceability code
3	Performance speed (m/s)	8	Dynatech address
4	Rated speed (m/s)	9	Quality assurance CE marking and notified body number
5	Serial number	10	EU type examination certificate number

## 3 MAIN COMPONENTS

Please find below a figure of the Quasar governor displaying its main components.



Where:

- (1) - Main pulley
- (2) - Centrifugal system
- (3) - Locking system
- (4) - Governor's fixing

## 4 WORKING PRINCIPLES.

The governor is of the centrifugal type, and can be unidirectional or bidirectional.

The ropes which can be used for this governor are:

Rope of 6.5 mm Gustav Wolf PAWO 819W

Rope of 6 and 6,5 mm Drako 250 T

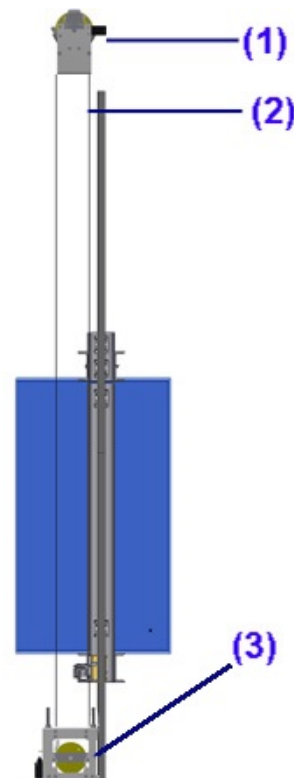
The governor is directly anchored to the slab in the machine room or to the upper part of the lift shaft, linked to its tensioning pulley in the pit via the rope.

The rope runs along the governor and the tensioning pulley's groove.

The ends of the rope are fixed to the driving bar's cable ties. This way, when the car reaches the tripping speed, the movement concerning the governor rope will cause it to lock.

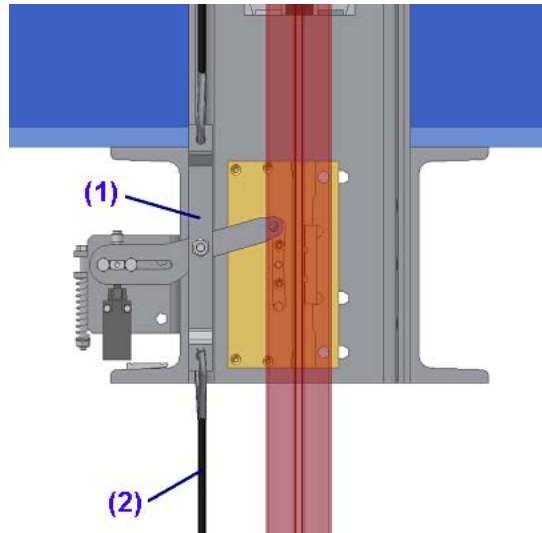
The working diagram is as follows:

- (1) QUASAR governor
- (2) Governor's rope
- (3) Tensioning Pulley

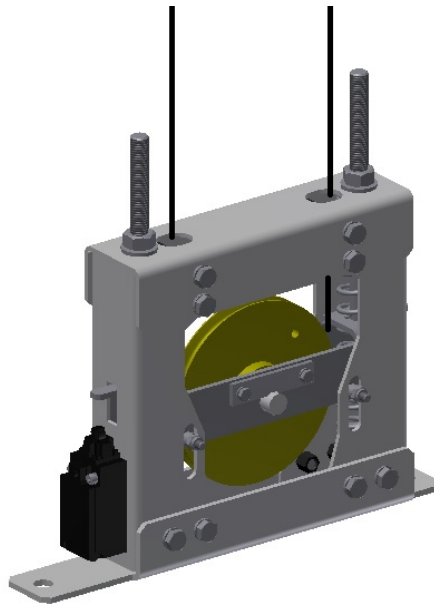


As previously mentioned, the governor is anchored to the slab, either in the machine room or at the upper part of the lift's shaft.

The ends of the rope (2) are fastened to the governor's attachment (1) of the driving bar by using thimbles and cable clips.



The tensioning pulley is located in the hoistway pit.



The rope is to be tightened enough for the governor to be able to transmit the force required to trip the safety gear. Should the rope become untightened or break, there is a de-tensioning contact that would interrupt the safety line in any of the cases.

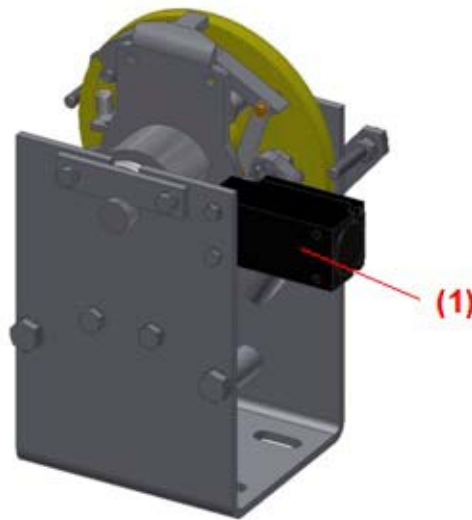
*NB. The Quasar governor uses special ropes. Carefully read the Compact tensioning pulley 126 manuals for their proper installation.*

#### **4.1 OVERSPEED CONTACT**

The governor incorporates an overspeed contact (1) as displayed in the image on the right.

In this governor, electrical tripping occurs just before the governor interlocks. Thanks to a return mechanism in the interlocking system, the electrical contact does not require to be manually reset. The contact is automatically reset.

This means that, once the governor and safety gear have been tripped, just unjam the safety gear and the governor will return to its standby position.



## 4.2 REMOTE OPERATION

The governor incorporates a remote jamming system to check for the correct interlocking of the governor and the subsequent jamming of the safety gear.

It is basically made up of a remote electromagnetic interlocking system that may be operated from the machine room. There are three versions available for the installer to choose at his/her convenience.

24 V DC (Direct current) powered coil. A 1.2 A current must be guaranteed.

48 V DC (Direct current) powered coil. A 0.5 A current must be guaranteed.

190 V DC (Direct current) powered coil. A 0.16 A current must be guaranteed.

Note: In any case, only a few seconds are required to interlock the governor. After operation, the power feeding the coil is to be cut so as not to excessively overheat it. That is the reason why it is recommended to operate the system via a pushbutton.

The figure displays both the device and its location within the unit (1)

## 4.3 TEST PULLEY

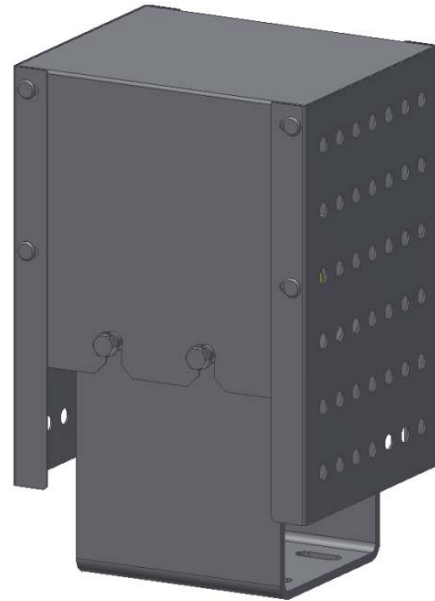
As an option, the Quasar governor may be supplied with a test pulley. The figure on the right displays its location at the rear of the main pulley.

To test jamming, move the rope in the main pulley to the test pulley; this way, the governor will interlock at the rated speed of the lift, thus jamming the safety gears.

#### 4.4 QUASAR GOVERNOR'S COVER

As an option, a cover may be installed for the governor in order to avoid bumps, entanglement or other damage caused by the rotation of the governor's mobile parts.

This is a cover reaching the main part of the governor.  
It is easy to assemble



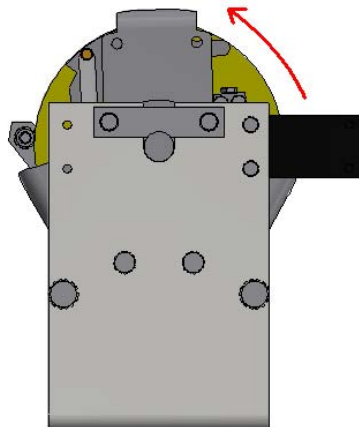
#### 4.5 QUASAR LS

There is a low speed QUASAR governor called QUASAR LS.

The minimum performance speed is 0.30 m/s

This governor is DOWNWARDS ACTING ONLY and the performance speed range is: 0.30 – 0.70 m/s

**Important Note:** Customers asking for a QUASAR LS, may know that it's unidirectional. In order to know the right way, it must pay attention to the arrow in the governor.

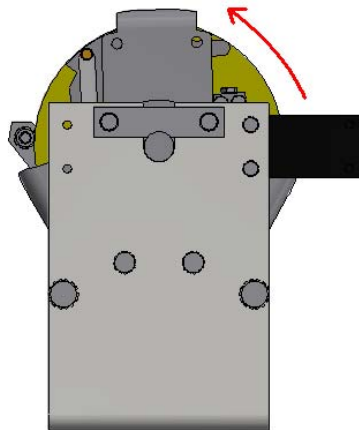


#### 4.6 ONE-WAY QUASAR OVERSPEED GOVERNOR

The QUASAR overspeed governor may be sent for any speed as a one-way overspeed governor.

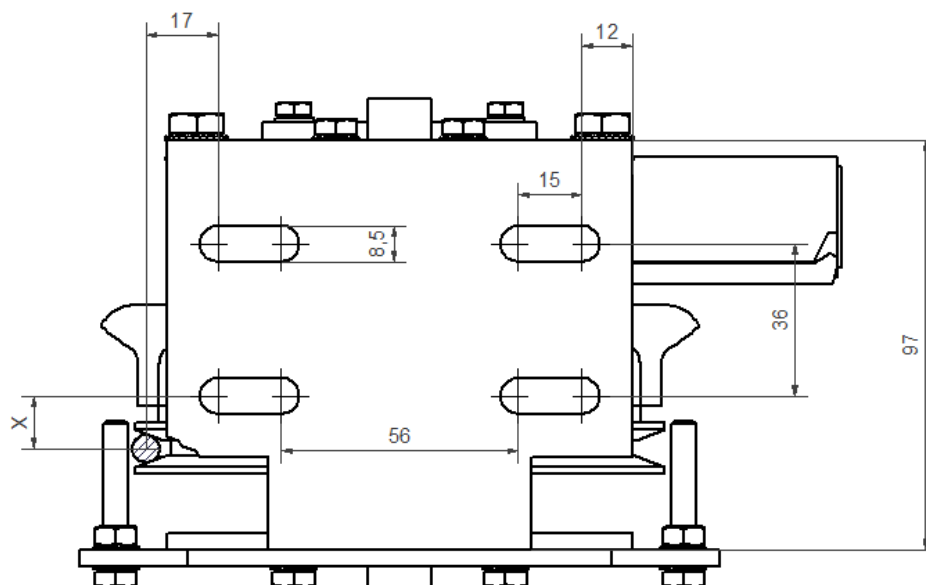
Attention must be paid to the direction of rotation of the overspeed governor when it is one-way.





## 5 FIXING TO THE SLAB

The figure displays the governor's anchoring points to the slab: Measurements are given in millimetres.



X=12.5 mm Quasar (6/6,5 mm rope)

The figure above displays the floor plan view of the governor's motherboard.

The governor is anchored to the slab via the slotted holes on the board.

It also displays the rope and its location with reference to the motherboard.

## 6 UCM UNCONTROLLED MOVEMENT DEVICE

### 6.2 UCM WARNINGS

The anti-creep system requires the lift controller to be able to manage the functions that the anti-creep system uses, such as the coil power, control sensor monitoring and manual rescue. If the controller is unable to manage these functions, Dynatech offers the possibility of installing an electronic module, D-Box. For more information, see the website.

If the D-Box is not used, please observe the following warnings and follow the recommendations below for proper controller design.

**Note.** It is highly recommended that the **controller designer** contacts Dynatech before designing the circuit to manage the anti-creep system, to clarify any doubts regarding connections and to be recommended a specific solution for their installation

- **Locking the overspeed governor** after UCM can be done by either of the following 2 methods: 1) Detecting the UCM or 2) Letting the anti-creep system act.
  - 1) To detect the UCM, either a sensor needs to be placed on each floor or, as is the case with the D-Box, a levelling signal needs to be used. Therefore, if the car creeps with the doors open, the sensor detects it and cuts off the current to the anti-creep system coil, thus locking the overspeed governor.
  - 2) In this case, the anti-creep system clamping device is locked at each floor in the installation. When the lift moves, the anti-creep system coil is excited and releases the overspeed governor. Then, once the car reaches one of the floors, the current to the coil is cut, leaving the anti-creep system in the locked position.
- The D-Box has a feature whereby, when the elevator reaches a floor, **current continues through the coil for a set time**, usually 10 minutes, if the lift does not receive another call. After this time, the anti-creep system locking device is activated. This correction is due to the VDI 4707 Part 1 (German lift energy efficiency standard) which establishes a period of 5 minutes before stand-by.

Thus, the anti-creep system performs fewer on-off cycles, thereby increasing its useful life.  
This is helpful in periods when there is heavy traffic, as it prevents the anti-creep system from repeatedly locking and unlocking the overspeed governor.  
It must be remembered that a UCM sensor will need to be installed if the anti-creep system works this way.
- **It is recommended to over-excite the coil** with a voltage slightly above nominal for less than one second to ensure the anti-creep system unlocks. Once it is unlocked and the lift begins to move, the supply voltage should be reduced during the journey to lessen the coil heating.

Also, if the choice of keeping the coil excited while the lift is at a floor is taken, the voltage to the solenoid can also be lowered. This saves energy and improves the energy efficiency of the lift.  
Below is a table of recommended voltages.

	Over-excitation	Voltage during travel	Voltage at floor
24	30	20	12
48	60	40	30
190	215-205*	150	104

\* This is the voltage at the rectifier output, which can vary between the values shown.

- To ensure proper operation of the device, it is advisable to design a circuit such that, if the inductive sensor does not detect the anti-creep system unlocking, the controller **will try more than once to supply current to the coil** (the Dynatech D-Box makes 7 attempts before the error message appears that no reading for the control sensor is detected).

Thus, if there is any mechanical fault preventing the sensor from being read, the same attempts to solve the problem will be made before an error message appears on the controller.
- To prevent the car from stopping due to the loss of the control sensor signal while travelling, it makes a reading only at the floors.
- **In the event of a cut in the electricity supply** to the electric magnet coil when the car is moving, the speed governor will lock and the safety gear subsequently engaged.

The installation of an autonomous power system is recommended to avoid undesired engagement in the event of a cut in the mains electricity supply.
- Open the pin to enable the speed governor to turn for **automatic rescue**. If the pin is not released, the governor will lock and the safety gear will engage during the rescue movement.
- Use **in installations with re-levelling over 20 mm**: in installations with re-levelling over 20 mm, certified switching must be used to activate the electric magnet during the re-levelling process because if it re-levels by more than 20 mm then the governor could lock and the safety gear engage. In this case, the switching must discriminate between re-levelling and an uncontrolled movement.
- Use in installations with door pre-opening: in **installations with door pre-opening**, certified switching must be used to ensure the electric magnet remains activated during the pre-opening process because if the electric magnet does not remain activated then the governor could lock and the safety gear engage. In this case, the switching must discriminate between pre-opening and an uncontrolled movement.

## 6.4 ANTI-CREEP SYSTEM MAINTENANCE

It is very important that the anti-creep system is in the best possible condition. As it is a mechanism that will perform many cycles over its lifetime, it is advisable to check its condition and operation during lift maintenance.

The anti-creep system should be kept as free of dust and dirt as possible, to ensure the moving parts are not obstructed. It should be checked and cleaned of dirt if necessary. After cleaning, a lubricant should be applied to increase the mechanism life.

The parking system has a translation movement. This movement should be as smooth as possible. For this purpose, the nylon screw (1) rests on the solenoid edge.

Manually check that the system slides smoothly. If necessary, re-tighten the nylon screw so that it rests on the metallic edge of the solenoid.

## 7 TECHNICAL FEATURES

**Machine:** Overspeed governor

**Model:** QUASAR

**Manufacturing company:**

DYNATECH, DYNAMICS & TECHNOLOGY, S.L.

**Range of use:**

Maximum rated speed: 2.18 m/s

Maximum tripping speed: 2.63 m/s

Minimum rated speed: 0.1 m/s

Minimum tripping speed: 0.3 m/s

From 0.3 to 0.69 m/s, the Governor is UNIDIRECTIONAL

From 0.7 to 2.33 m/s, the Governor is BIDIRECTIONAL or UNIDIRECTIONAL

**Rope:**

6.5 mm Gustav Wolf PAWO 819W

6 and 6.5 mm Drako 250 T

**Rope pre-tensioning:**

500 N (per branch)

**Tension on the rope to be interlocked:**

Above 300 N

**Pulley diameter:** 120 mm

**Overspeed contact.**

**Other features:**

- Possibility to assemble several devices.
- Remote operation
- Anti-creep system to comply with UCM
- Test pulley

**Cover**

**Safety gears with which it may be used:**

All the safety gears with a tripping speed that may be reached by the overspeed governor.

## 8 INSTRUCTIONS FOR USE AND MAINTENANCE.

To prevent unnecessary risks that may cause the incorrect operation of the governor, two essential criteria must be considered: Cleaning and monitoring against corrosion. There are mobile elements in any governor that will perform the interlocking operation. Dirt accumulation in these elements may cause malfunctioning. It is essential that both the installer and maintenance make sure that these components are perfectly clean.

On the other hand, Dynatech governors have anti-corrosion protection in all the cases; however, it is important that maintenance checks if there is a corrosion process that may affect any mobile part of the component and may prevent its natural movement. This will be checked via visual inspection of the surfaces' condition and acting consequently. The frequency of these check-ups is left up to maintenance's criterion; however, they must be more frequent in case the installation is in an especially corrosive environment.

Dynatech cannot be held responsible for any problem or accident arising from the non-compliance of the orders and recommendations mentioned both in these instructions and in the documents concerning the EC type examination certificates.

## **8.1 STORAGE AND SERVICE LIFE**

The overspeed governor must be stored in a cool, dry place. It must be protected from excessive light and never be exposed to the open air.

Storage temperature: 5 - 40°C.

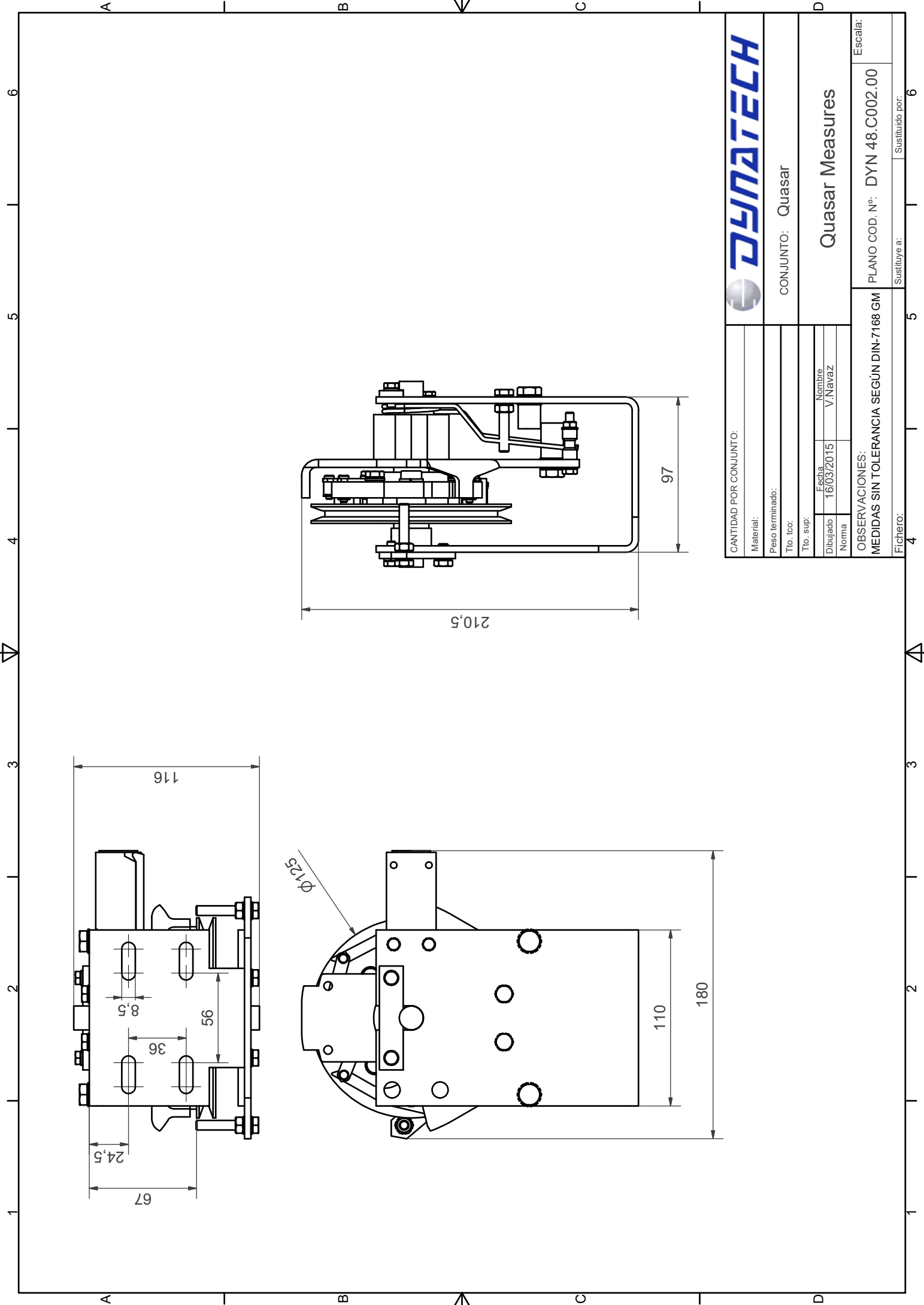
Storage Humidity: 15 - 85% without condensation

Overspeed governor packages should be clean and dry so that they can be clearly identified.

Constantly leaning an unbalanced load on packages, which may cause bending, or the accumulation of products stacked on top of each other is not allowed. When placing products or product packages on top of each other, the storage height should correspond to the packages' load and stability.

If the established criteria of this manual are observed, the overspeed governor's service life is set by the wear of his main pulley groove, which depends on the installation duty cycle. When estimating the element's service life, the effects of grease, dust or dirt due to the shaft's condition or to environmental conditions differing from those stated in this manual, were not taken into consideration

## **9 QUASAR GOVERNOR'S GENERAL DIMENSIONS**



CONJUNTO: Quasar

Quasar Measures

PLANO COD. N°: DYN 48.C002.00

Escala:

Sustituye a:

Sustituido por:

CANTIDAD POR CONJUNTO:			
Material:			
Peso terminado:			
Tto. tco:			
Tto. sup:			
Dibujado		Fecha	Nombre
Norma		16/03/2015	V/Navaz

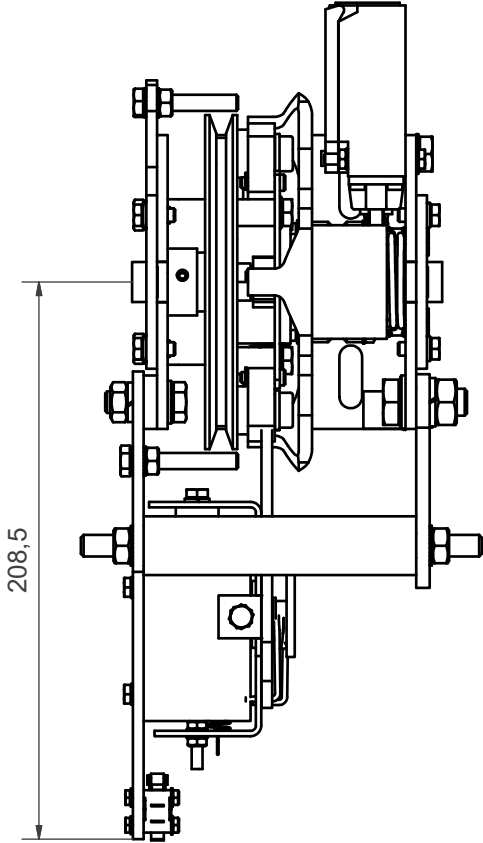
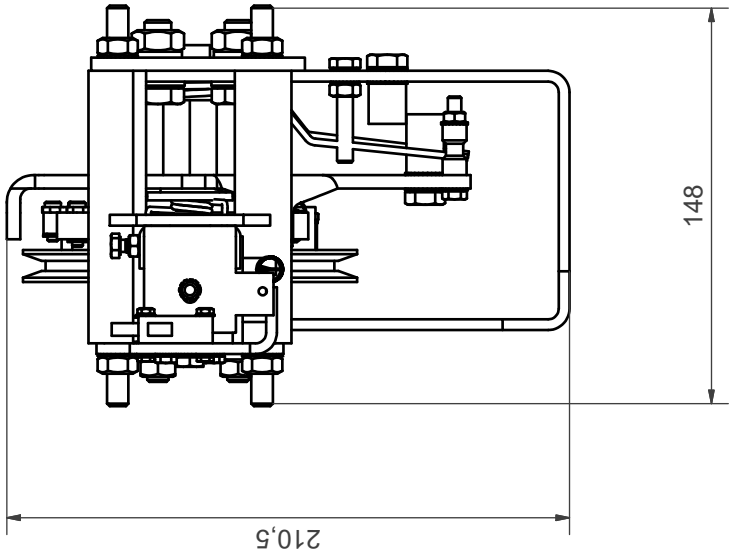
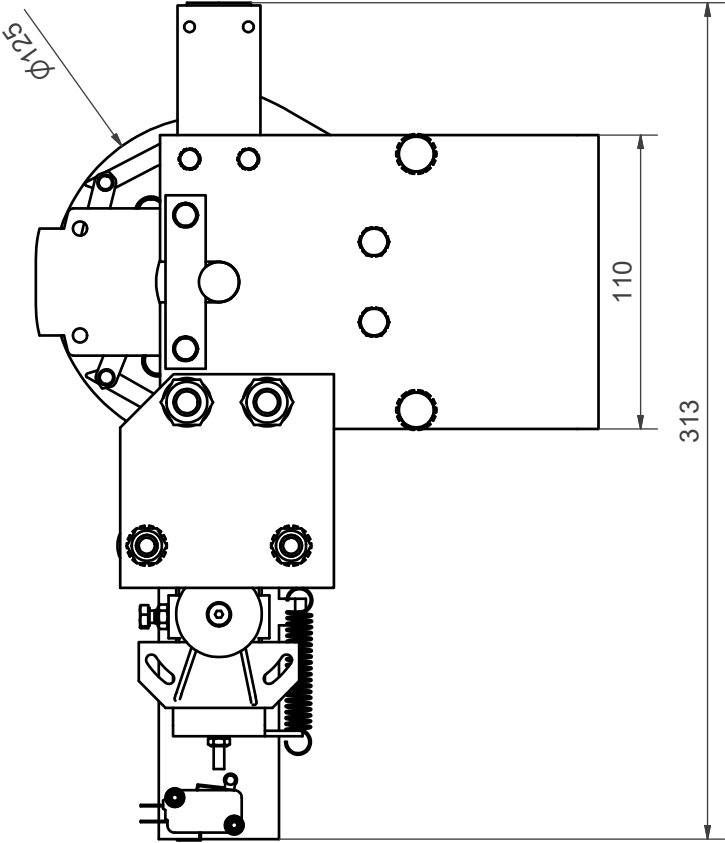
OBSERVACIONES:  
MEDIDAS SIN TOLERANCIA SEGÚN DIN-7168 GM

Fichero:

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5

6



CANTIDAD POR CONJUNTO:			
Material:		CONJUNTO: Quasar	
Peso terminado:		Quasar A3 measures	
Tto. tco:		OBSERVACIONES:	
Tto. sup:		MEDIDAS SIN TOLERANCIA SEGÚN DIN-7168 GM	
Dibujado		Fecha	Nombre
Norma		16/03/2015	V/Navaz
Fichero:		PLANO COD. N°: DYN 48.C003.00	
Sustituye a:		Escala:	
4		5	
Sustituido por:		6	