



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

**QUASAR-SV**

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

<b>Certificate number:</b>	<b>ATI / LV / 007</b>	<b>rev: 1</b>
<b>Notified Body:</b>	<b>TÜV SÜD ATISAE S.A.U.</b> Avda. de los Artesanos, 20 E 28760 Tres Cantos MADRID (ESPAÑA) ID number: <b>0053</b> .	
<b>Product:</b>	<b>Safety Component</b> <b>Overspeed Governor (LV)</b>	
<b>Type:</b>	<b>QUASAR (onboard)</b>	
<b>Manufacturer:</b>	<b>DYNATECHS DYNAMICS &amp; TECHNOLOGY, S.L.U.</b> <b>P.I. PINA DE EBRO, SECTOR C, PARCELA 9</b> <b>E 50750 PINA DE EBRO (ZARAGOZA)</b>	
<b>Certificate Holder:</b>	<b>DYNATECHS DYNAMICS &amp; TECHNOLOGY, S.L.U.</b> <b>P.I. PINA DE EBRO, SECTOR C, PARCELA 9</b> <b>E 50750 PINA DE EBRO (ZARAGOZA)</b>	
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<b>Directive:</b>	<b>Directive 2014/33/EU of 26 February 2014</b>	
<b>Standards of reference:</b>	<b>EN 81-20:2020; EN 81-50:2020;</b>	
<b>Report number<sup>1</sup>:</b>	<b>8102221623 (04.05.2021)</b>	
<b>Expiry date:</b>	<b>Indefinite. (Please refer to tech. annex section 2.19)</b>	
<b>Statement:</b>	<p>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.</p> <p>This certificate consists of this cover, a technical annex with 3 pages and 1 enclosed document. It shall be reproduced with all its pages and documents to be considered valid.</p>	



<sup>1</sup> other applicable reports in section 2.21 of the technical annex

DAS / 000092-1

Bruno Cano Hernández  
Director Técnico de Elevación

TÜV SÜD ATISAE S.A. (Unipersonal) (Áreas territoriales: Madrid, Castilla y León, Cantabria, Galicia, Logroño, Cataluña, Tenerife, Murcia, Mérida, Asturias, Pamplona, Valencia, Vitoria y Zaragoza). Organismo de Control acreditado por ENAC con acreditación nº 05 / EI 730

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## INSTRUCTIONS FOR USE AND MAINTENANCE

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<b>1</b>	<b>GENERAL INSTRUCTIONS.....</b>	<b>1</b>
<b>2</b>	<b>OVERSPEED GOVERNOR IDENTIFICATION.....</b>	<b>1</b>
<b>3</b>	<b>MAIN COMPONENTS OF THE GOVERNOR.....</b>	<b>1</b>
<b>4</b>	<b>WORKING PRINCIPLES.....</b>	<b>2</b>
4.2	QUASAR SV'S TRIPPING SETTINGS.....	4
4.3	REMOTE TRIPPING SYSTEM.....	4
4.4	OVERSPEED CONTACT.....	4
4.5	UCM UNCONTROLLED MOVEMENT DEVICE.....	5
4.5.2	UCM WARNINGS.....	5
<b>5</b>	<b>FIXING THE GOVERNOR TO THE FRAME.....</b>	<b>6</b>
<b>6</b>	<b>TECHNICAL FEATURES.....</b>	<b>7</b>
<b>8</b>	<b>INSTRUCTIONS FOR USE AND MAINTENANCE.....</b>	<b>8</b>
8.1	STORAGE AND SERVICE LIFE.....	8
<b>9</b>	<b>INSTALLATION DRAWINGS.....</b>	<b>8</b>

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## 1 GENERAL INSTRUCTIONS

DYNATECH's QUASAR SV overspeed governor was specially designed to be fitted in the lift's car or frame and move along with them.

The governor moves along the hoist way whereas the rope remains fixed attached to the shaft and pit's ceiling via a tensioning system. The information about the devices making up the Governor will be extended further on.

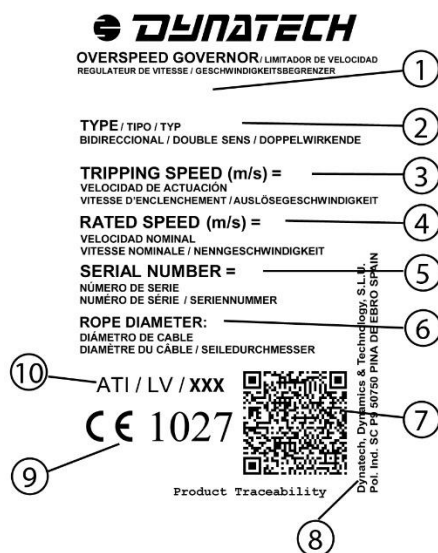
The Quasar SV governor is a governor with reduced dimensions (120 mm pulley diameter). It was designed so as to save space.

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

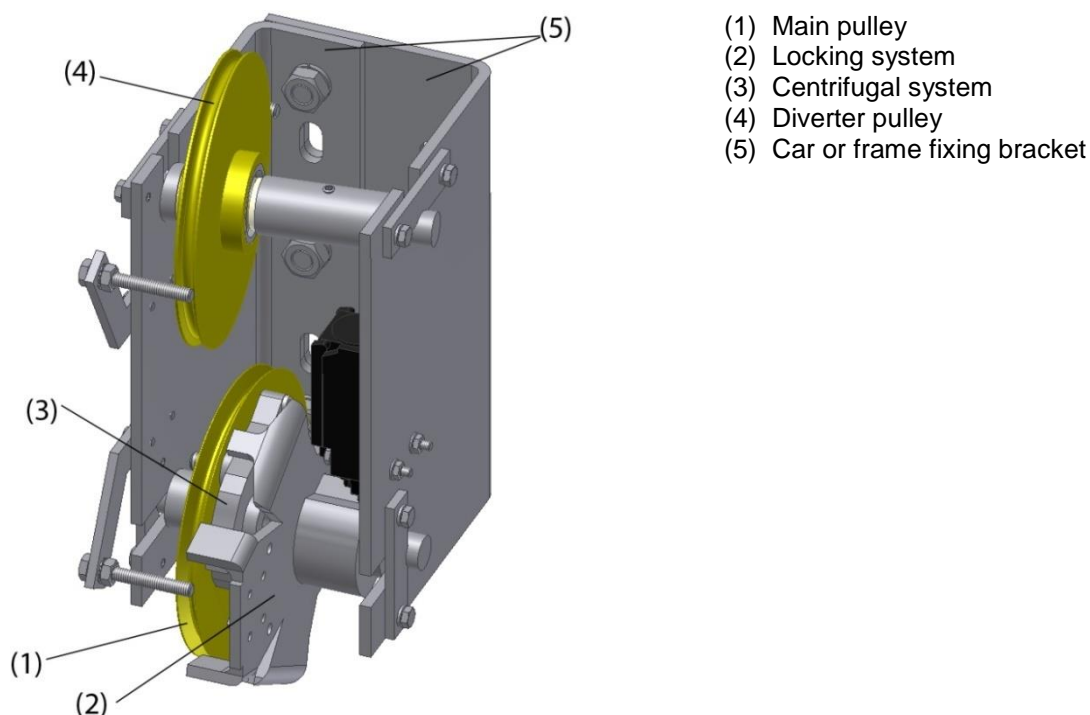


OVERSPEED GOVERNOR IDENTIFICATION LABEL			
1	Governor model	6	Rope diameter (mm)
2	Governor type	7	QR product traceability code
3	Performance speed (m/s)	8	Dynatech address
4	Rated speed (m/s)	9	Quality assurance CE marking and notified body number
5	Serial number	10	EU type examination certificate number

## 3 MAIN COMPONENTS OF THE GOVERNOR

The overspeed governor is made up of the following main elements: One main pulley with centrifugal system, one diverter pulley, a centrifugal system, a locking part and a component linking the governor to the car or frame.

A picture displaying the governor as a whole can be seen below:



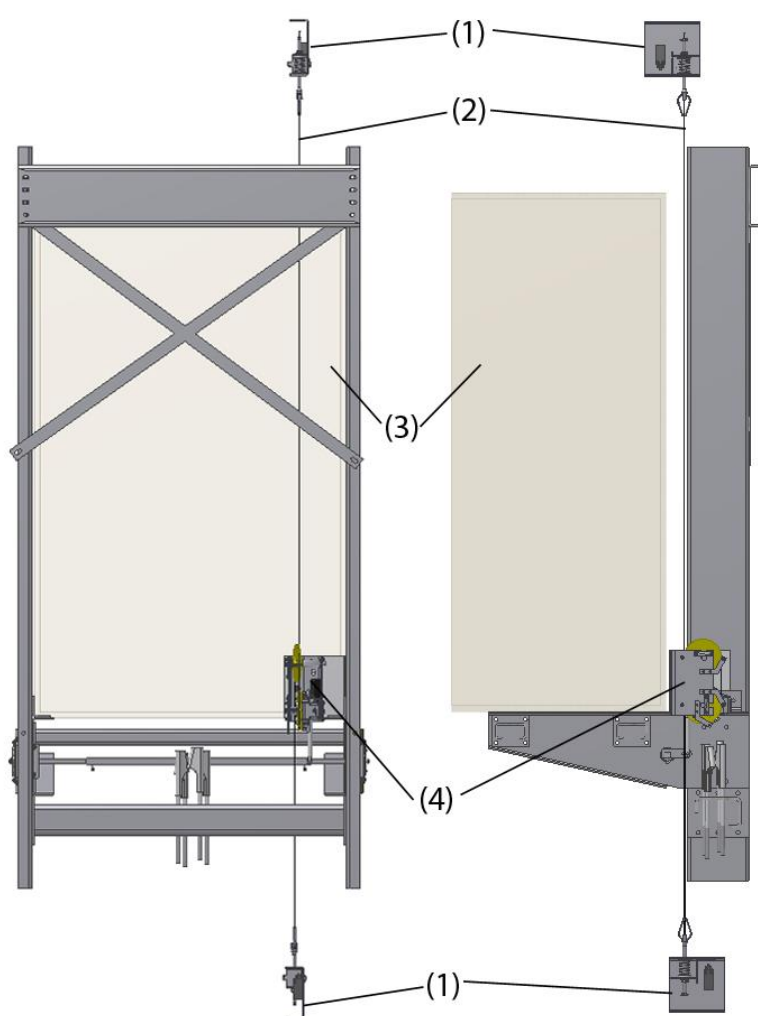
## 4 WORKING PRINCIPLES

The Quasar governor is of a centrifugal type. It may operate either going up or down or only going down according to the governor model.

The governor in the Quasar SV assembly is of the “on-board” type. This means that the governor travels along with the car and the rope remains static (unlike a conventional governor).

The rope, attached to the pit’s ceiling and floor, goes through the governor along its pulleys’ grooves. This way, the rope makes the pulley rotate and when the car reaches tripping speed, the main pulley will rotate until the speed allows the centrifugal system to lock on the locking part. This governor locking will cause the safety gear to operate, thus stopping the car movement. This rope is in an open circuit, both ends being tensed by a spring-tensioning device.

A diagram of the unit assembly is displayed below.



- (1) Spring-tensioning device
- (2) Governor rope
- (3) Lift car
- (4) Quasar SV

The interlocking process is such that, when the car speed exceeds a pre-set level (governor's tripping speed), the centrifugal system, attached to the pulley, interlocks on the governor's "locking system", which is linked, in turn, to the steering mechanism via an auxiliary part. At this point, the main pulley locks and the friction force between the rope and the pulley is transferred to the safety gear via an auxiliary mechanical system and the steering mechanism. The safety gear, when jamming, will make the car stop.

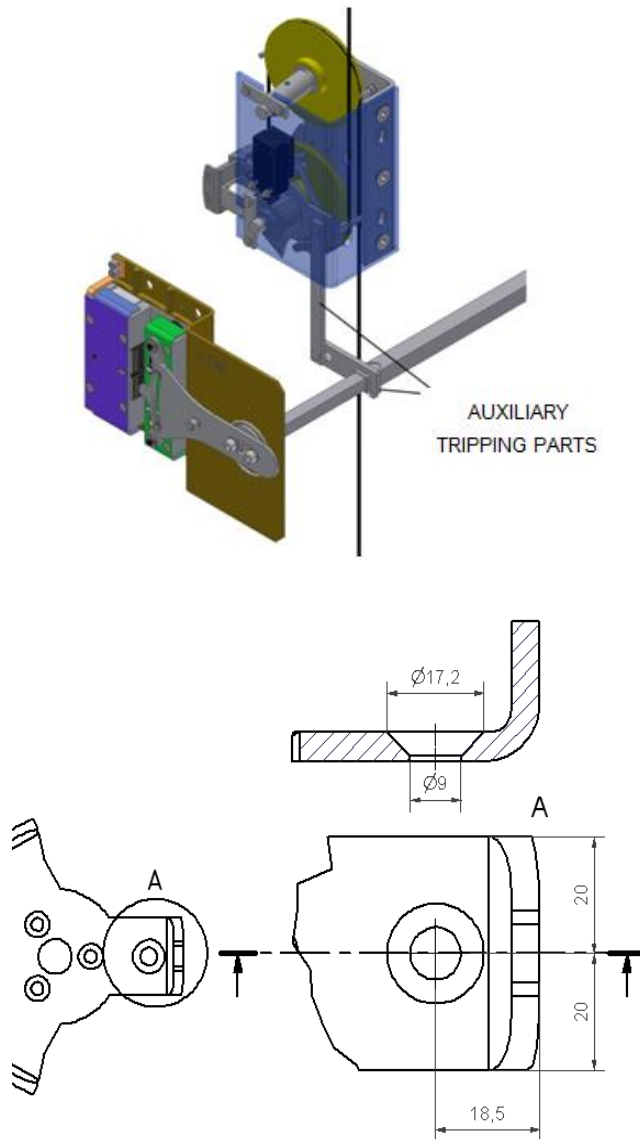
It should be highlighted that the governor and the safety gear are not connected via the governor rope but via an auxiliary mechanical system. The following figure displays an example of this connection.

These parts are not supplied by the company DYNATECH, DYNAMICS & TECHNOLOGY, S.L. They must be designed in such a way that there are no clearances in the transmission and they do not cause extra movements.

Tripping may also operate directly on the safety gear's handle via an auxiliary part; in any case, installing the governor as close as possible to the steering mechanism is highly recommended.

The installer must check that the governor correctly trips the safety gears.

The figure also displays the location where the auxiliary tripping mechanical system is connected to the governor's locking system.



For further information on the Quasar SV's tensioning devices, please refer to the Quasar-SV's Tensioners manual.

### 4.3 REMOTE TRIPPING SYSTEM

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

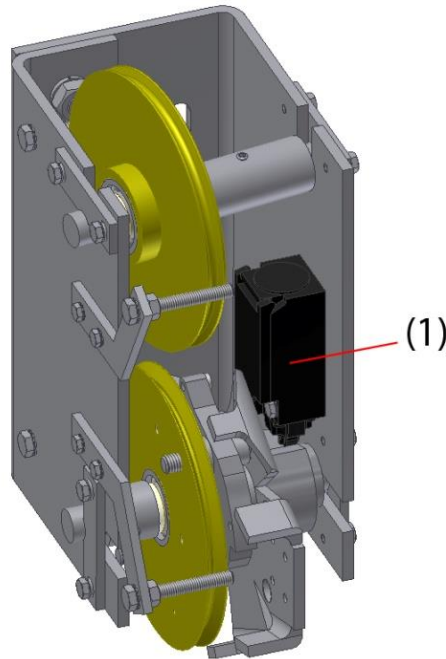
It is basically made up of a remote electromagnetic interlocking system that may be operated from the machine room. There are three versions available for the installer to choose at his/her convenience.

- **24 V DC** (Direct current) coil. A **1.2 A** intensity must be guaranteed.
- **48 V DC** (Direct current) coil. A **0.56 A** intensity must be guaranteed.
- **190 V DC** (Direct current) coil. A **0.16 A** intensity must be guaranteed.

### 4.4 OVERSPEED CONTACT

The governor incorporates an overspeed contact. Bearing in mind that the governor will be fitted in the car, this is an automatic reset contact. In any case, after an interlocking, the lift must be started by a qualified person without having to directly access the governor.

An image of the overspeed contact's location is displayed below, where (1) is the automatic reset contact.



Once the governor and, therefore, the safety gear have been interlocked, when unjamming the safety gears, the return spring will return to its initial resting position and, therefore, the overspeed contact will reset on its own.

## 4.5 UCM UNCONTROLLED MOVEMENT DEVICE

### 4.5.2 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.

All values - V	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.

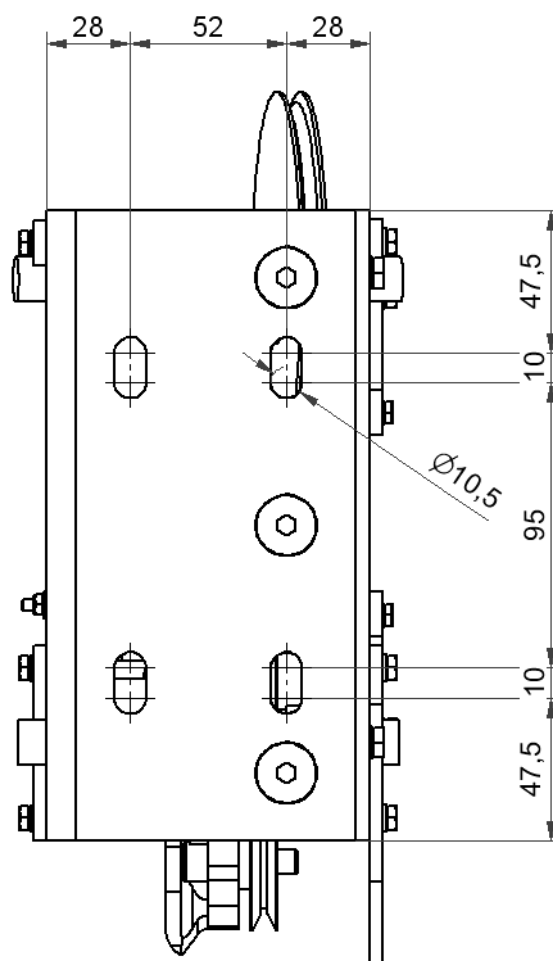
- To ensure proper operation of the device, it is advisable to design a circuit such that, if the inductive sensor does not detect the anti-creep system unlocking, the controller will try more than once to supply current to the coil (the Dynatech D-Box makes 7 attempts before the error message appears 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.

## 5 FIXING THE GOVERNOR TO THE FRAME

The figure on the following page displays the governor's anchoring points to the lift's frame: Measurements are given in millimetres.

The governor must be anchored by means of four M10 screws with an 8.8 quality. Suitable lengths are between 30 and 40 mm.

It is recommended to use Autoblock nuts to prevent screws' loosening.



## 6 TECHNICAL FEATURES

- **Machine:** Overspeed governor
- **Model:** Quasar-SV
- **Manufacturing company:**  
DYNATECH, DYNAMICS & TECHNOLOGY, S.L.
- **Range of use:**  
Maximum rated speed: 2.00 m/s  
Maximum tripping speed: 2.33 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 2.63 m/s**, the Governor is **BIDIRECTIONAL**
- **Rope:** DRAKO STX  
Diameter: 4 mm,
- **Rope pre-tensioning:**  
Via the spring tensioner devices the following are obtained:  
Minimum tension: 491N (below this tension, the contact cuts the safety line).  
Maximum tension: 745 N. (The tensioner plate's position determines this tension.)
- **Pulley diameter:** 120 mm
- **Overspeed contact.**
- **Remote unlocking by default:**
- **Anti-creep system to comply with A3:**  
It is recommended to use the D-Box when using this device.
- **Diverter pulley:** Built in the governor.

## 8 INSTRUCTIONS FOR USE AND MAINTENANCE

Tripping speed in the installation can be checked by operating on the motor's frequency converter; progressively increasing the motor's speed until interlocking occurs.

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 INSTALLATION DRAWINGS

The following drawings may be useful when adjusting and installing the QUASAR SV / QUASAR SV A3 overspeed governor:

- DYN 64.C001.00
- DYN 64.C002.00



