DYNATECH

DYNAMICS AND TECHNOLOGY, S.L.

OVERSPEED GOVERNOR

LBD-300

CONTENTS

1.- INTRODUCTION.

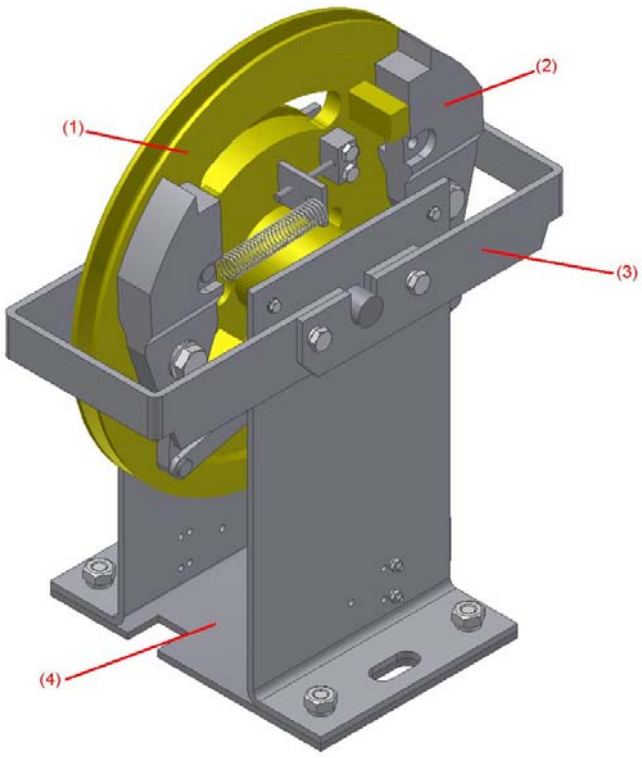
The DYNATECH LBD-300 overspeed governor is designed to cut off the current to the security series line in the event of car overspeed, bringing the lift to a standstill when necessary.

The LBD-300 overspeed governor covers a wide range of speeds and can be used with instant and progressive safety gears.
It can also include several additional systems to increase the reliability and safety of the remaining lift installation.

2.- MAIN COMPONENTS.

Each governor is composed of the following main elements: a pulley, a centrifugal system, a locking device, a casing and a plate linking the governor to the floor in the machine room.

Below is an image of the governor assembly:



Where:

(1) – Main Pulley.

(2) – Centrifugal system.

(3) – Locking system.

(4) – Floor fixing plate.

3. WORKING PRINCIPLES.

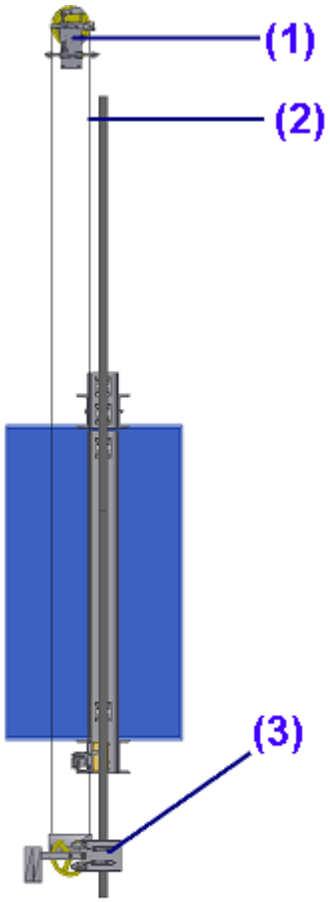
The governor is of the centrifugal type and is able to work either **upwards** or **downwards**.

The governor is fixed directly to the floor in the machine room, joined by the rope to its tensing pulley located in the pit.

This tensing pulley is attached to the guide pulley by flanges.

The rope passes through the groove of governor and the tensing pulley.

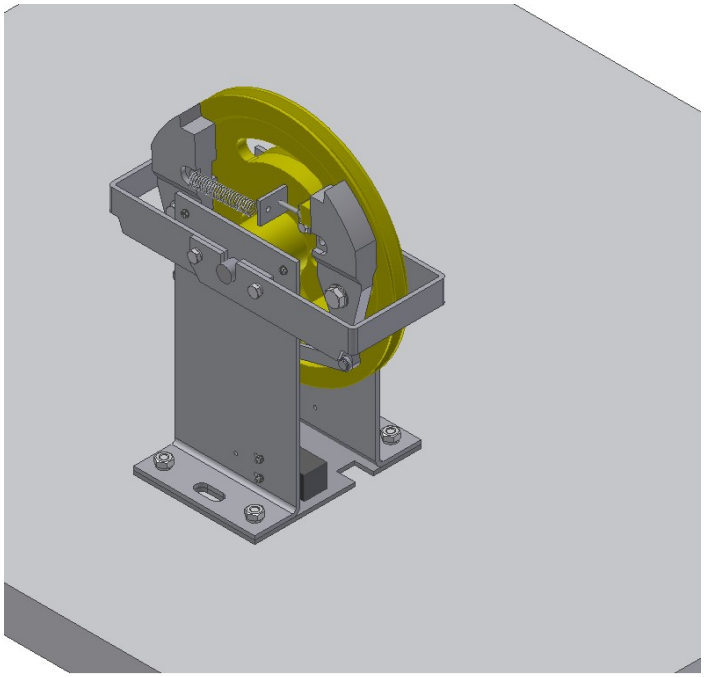
The ends of the rope are attached to the linkage anchoring. Thus, when the car reaches its tripping speed, the rope-governor relative movement will lock it.



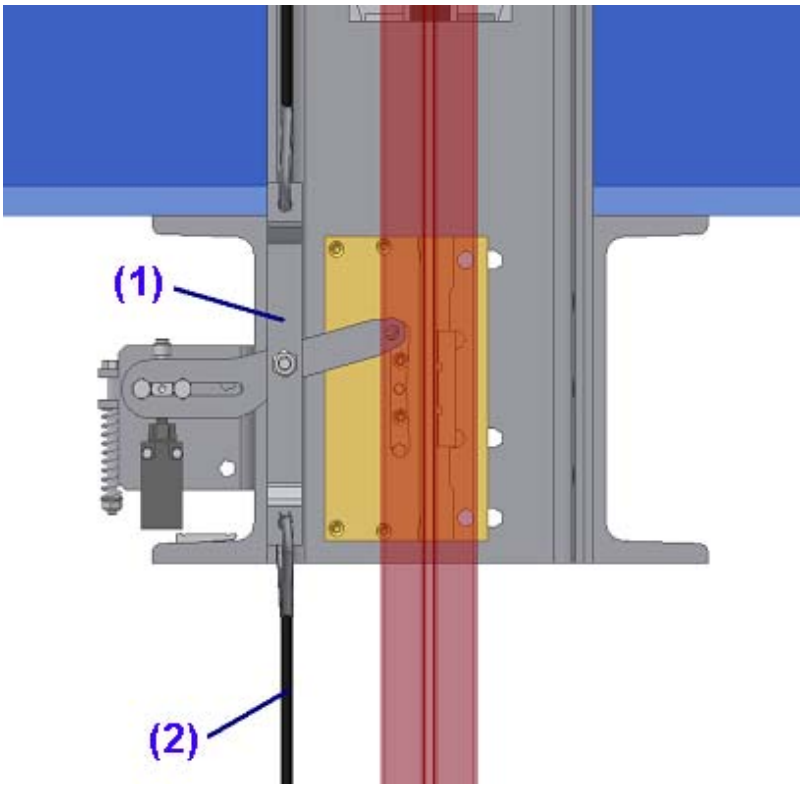
The working diagram is as follows:

(1) LBD-300 governor
(2) Governor rope
(3) Tension weight

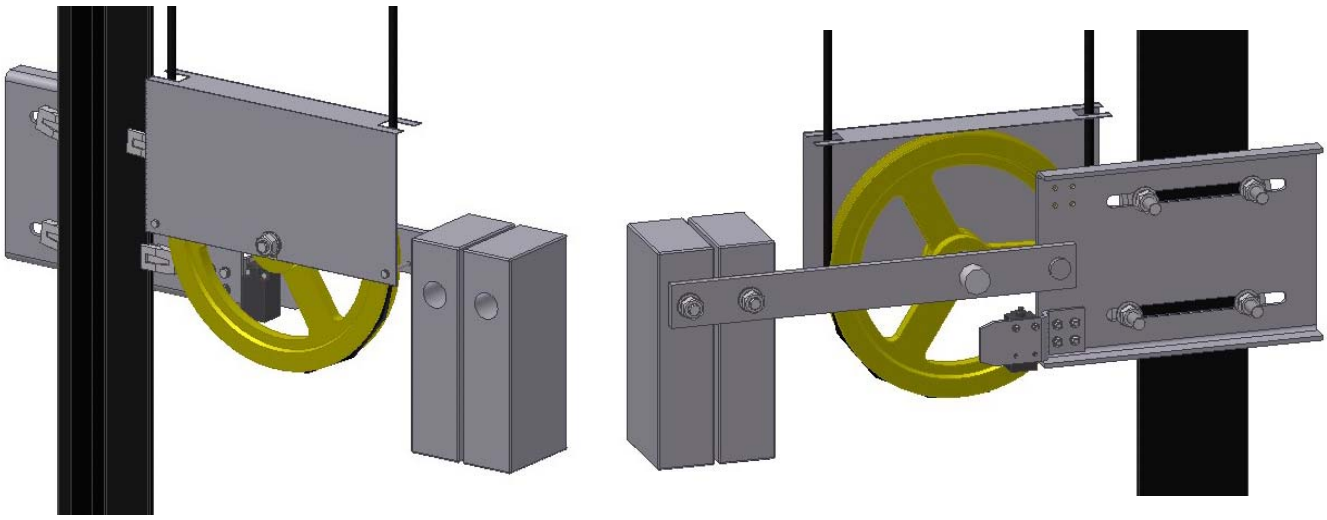
As indicated above, the governor is secured to the floor in the machine room.



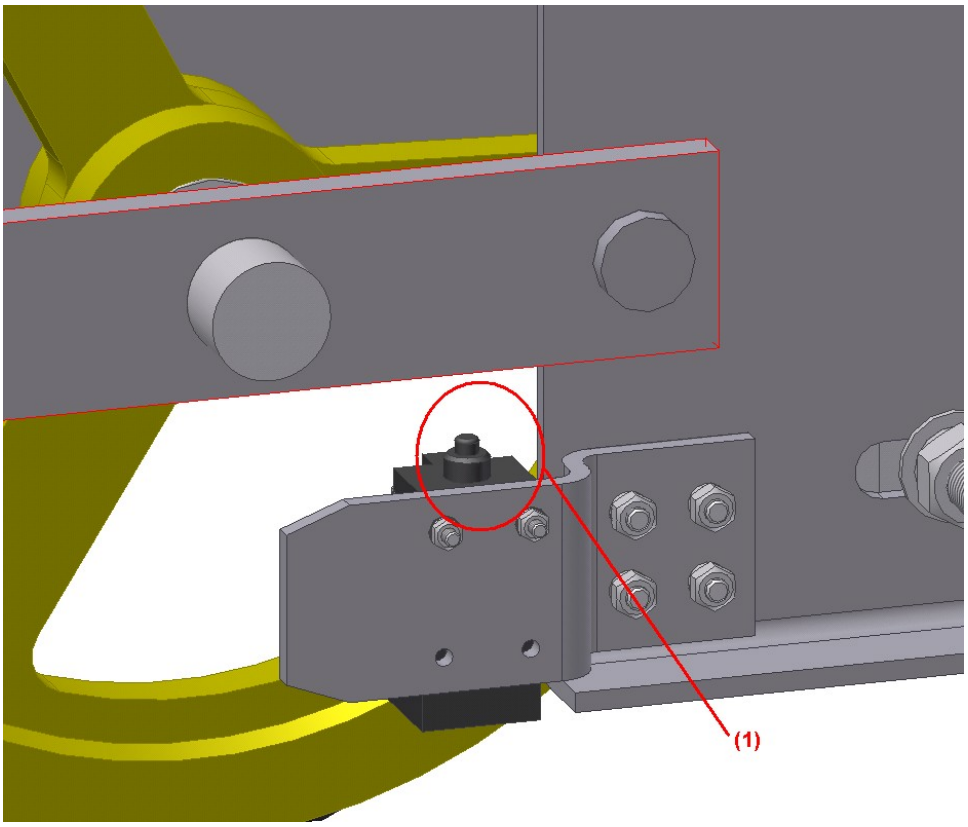
The ends of the rope (2) are attached to the linkage anchoring (1) through eyes.



The tension weight is secured to the guide rail by flanges.

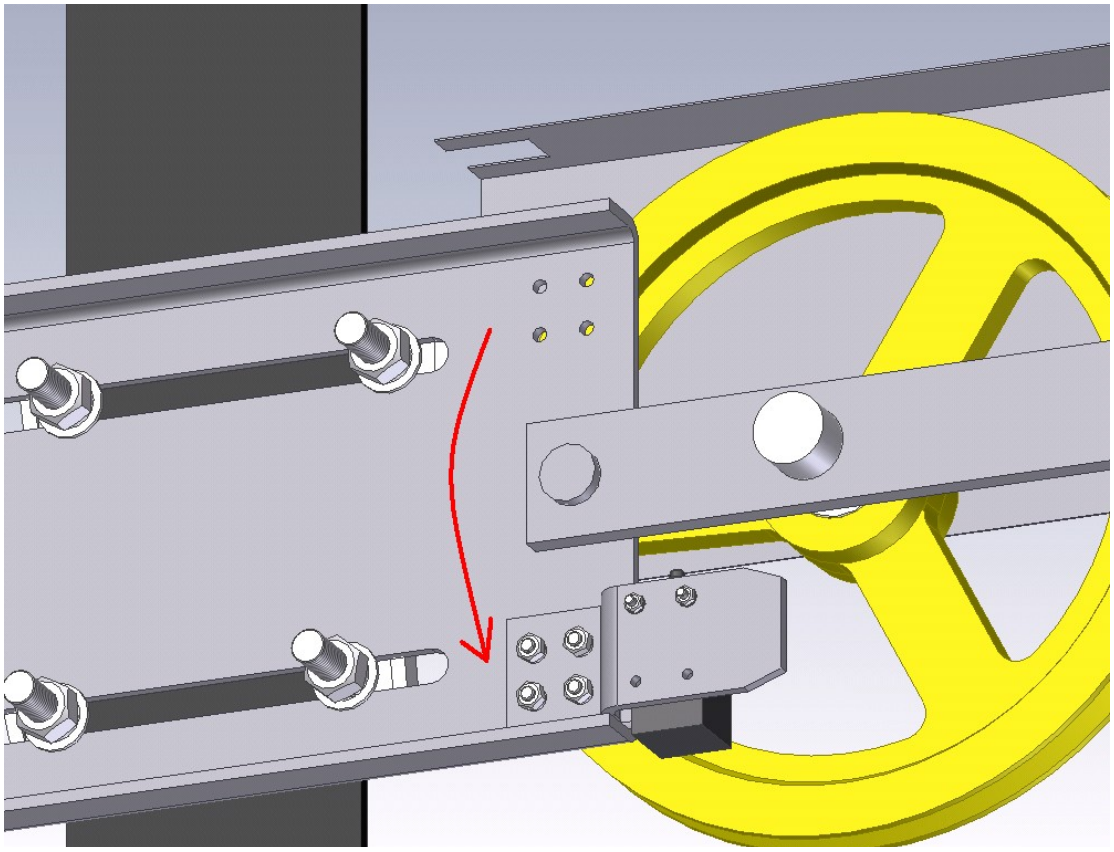


The rope must have enough tension (500 N on each side). In the event of tension loosening or rope breakage, a rope slackening contact (1) connected to the installation security series line will cut off the current.

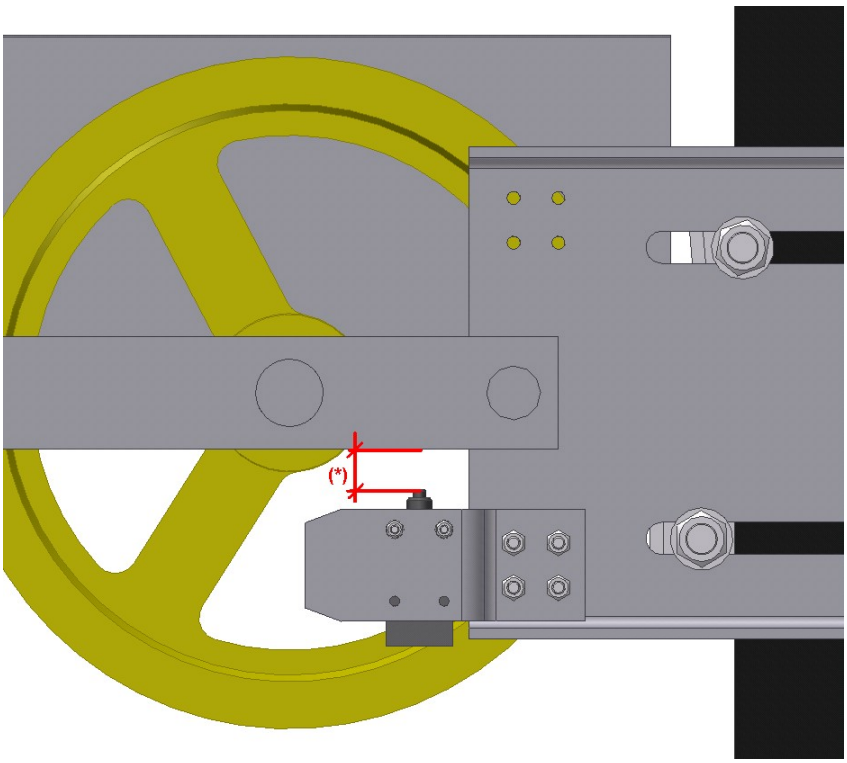


In the event of the tension loosening or even the rope breaking, the current would be cut thanks to the contact located underneath the weight-bearing bar. Due to the weight of the masses, the contact is protected from knocks by the part to which it is attached and, therefore, the sensor cannot be damaged.

The tension weight assembly can be attached to both sides of the guide pulley. The guide rail fixing plate has holes on both sides so that the contact is not a problem when changing the position of the assembly and so that the sensor can be attached on both sides.



The loosening margin (*) is shown in the figure below:

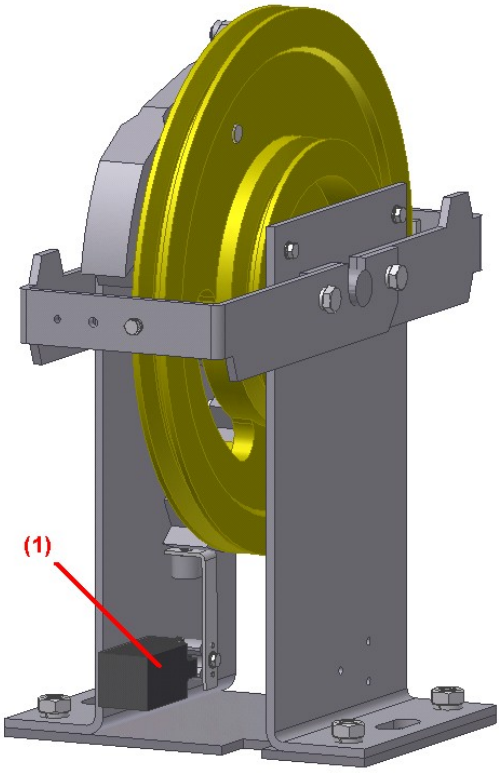


As indicated, should the tightness be less than acceptable or should the rope break, the bar supporting the weight and the pulley would make contact with the sensor.

Overspeed contact.

The governor has a built-in overspeed contact.

Below is a drawing of the overspeed contact location (1) on the governor.

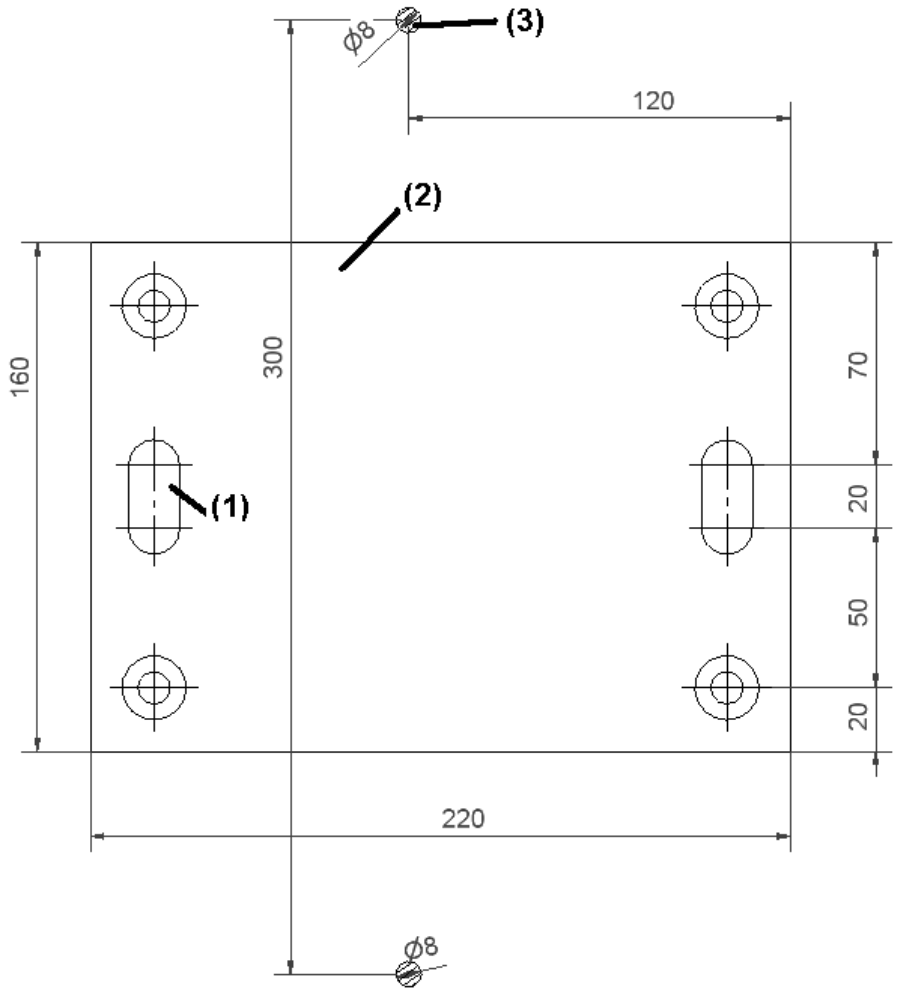


The contact will act when the governor reaches a speed above the rated speed yet below the speed at which the governor is enabled.

When this contact is triggered, the current of the security series line is cut off. This system is manually reset, which means that once the contact has been triggered it does not return to its initial position unless this is done manually.

4. FIXING TO THE FLOOR.

The figure shows the governor anchoring points to the lift floor. Distances appear in millimetres.



The above figure represents the bottom view of the governor base plate (2). The governor is anchored to the floor using the threaded holes (1) in the plate. The rope (3) and its position with regard to the base plate can also be seen in the drawing.

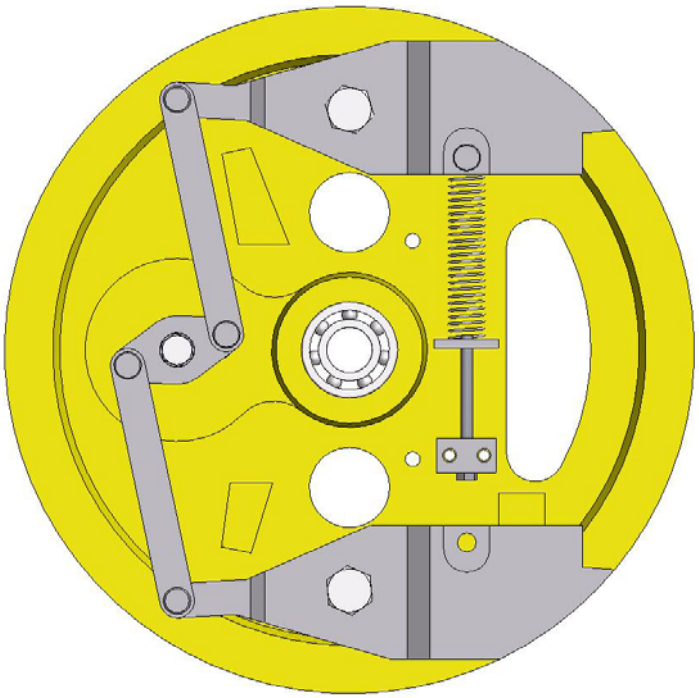
5. TECHNICAL FEATURES.

- **Machine:** Overspeed governor
- **Model:** LBD-300
- **Manufacturing company:**
  DYNATECH, DYNAMICS & TECHNOLOGY, S.L.
- **Range of use:**
  Minimum rated speed: 0.1 m/s
  Minimum tripping speed: 0.9 m/s
  Maximum rated speed: 1.5 m/s
  Maximum tripping speed: 2 m/s
- **Rope:**
  Diameter: 6 and 8 mm
  Composition: 6 x 19 + 1
- **Rope pre-tightness:**
  500 N
  This tightness is achieved by positioning the tension weight so that the bar is horizontal.
- **Tightness produced on the rope during interlocking:**
  Greater than 300 N
- **Pulley diameter:** 300 mm
- **Overspeed contact.**
- **Safety gears with which it may be used:**
  All safety gears with a tripping speed that can be reached by the overspeed governor.

6.- TYPE OF ADJUSTMENT.

The tripping speed is adjusted using a regulating screw that tightens or untightens the centrifugal system spring. When tightening the spring, the speed required to drive the centrifugal system will be higher. Thus, the tripping speed can be adjusted to within a range of speeds.

This adjustment is carried out in the factory using a computerised gauging system according to the customer's specifications. Once the adjustment has been made and checked, it is sealed so that it cannot be modified.



7.- INSTRUCTIONS FOR USE AND MAINTENANCE.

The tripping speed on the installation can be checked either on the motor frequency changer by progressively increasing the motor speed until interlocking is obtained or on the check pulley.

To avoid unnecessary risks that may cause the governor to operate incorrectly, two basic criteria must be taken into account: cleaning and checking for corrosion. There are moving parts in any governor that carry out the interlocking actions. The accumulation of dirt on these parts may cause malfunctioning. The installer and the maintenance staff must ensure that these parts are perfectly clean.

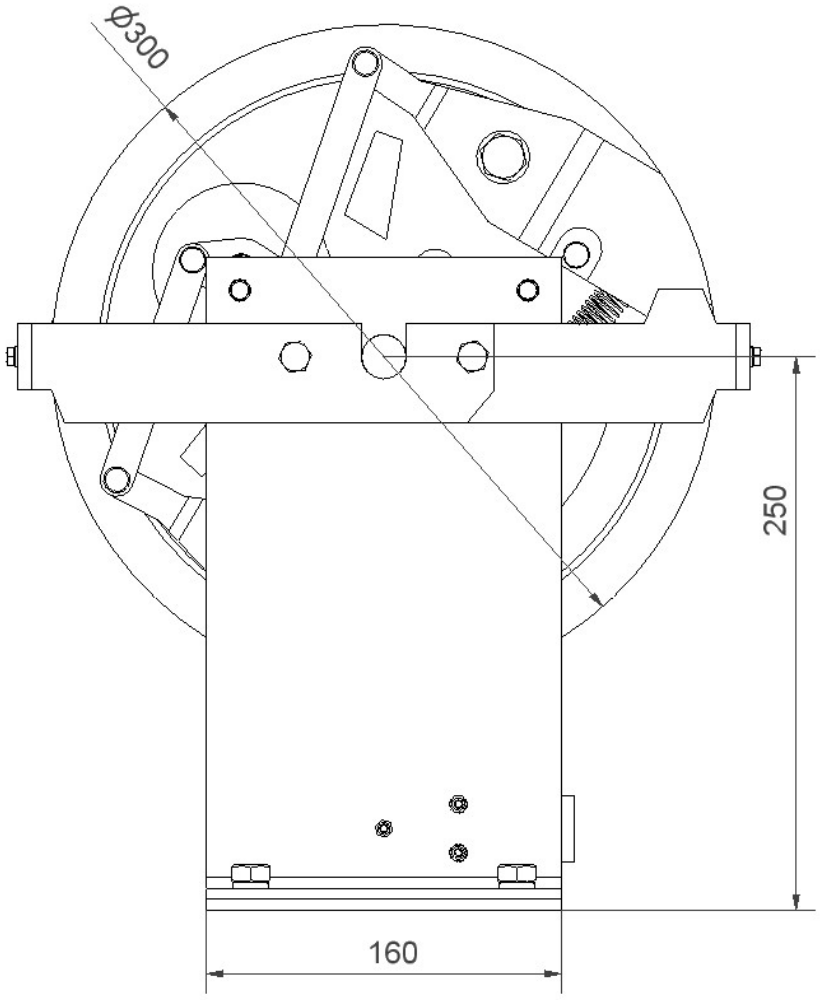
Moreover, all Dynatech governors have rustproof protection, although it is important for maintenance staff to check for any corrosion that may affect any moving piece of the part and prevent its natural movement. This check will be carried out by visually inspecting the surface condition and by making the parts move. The frequency of these checks is at the discretion of the maintenance staff, although they should be more frequent in the event of the installation being in a particularly corrosive environment.

Dynatech will not be held responsible for any problem or accident caused by not observing the indications and advice described both in these instructions and in the EC Type examination certificates.

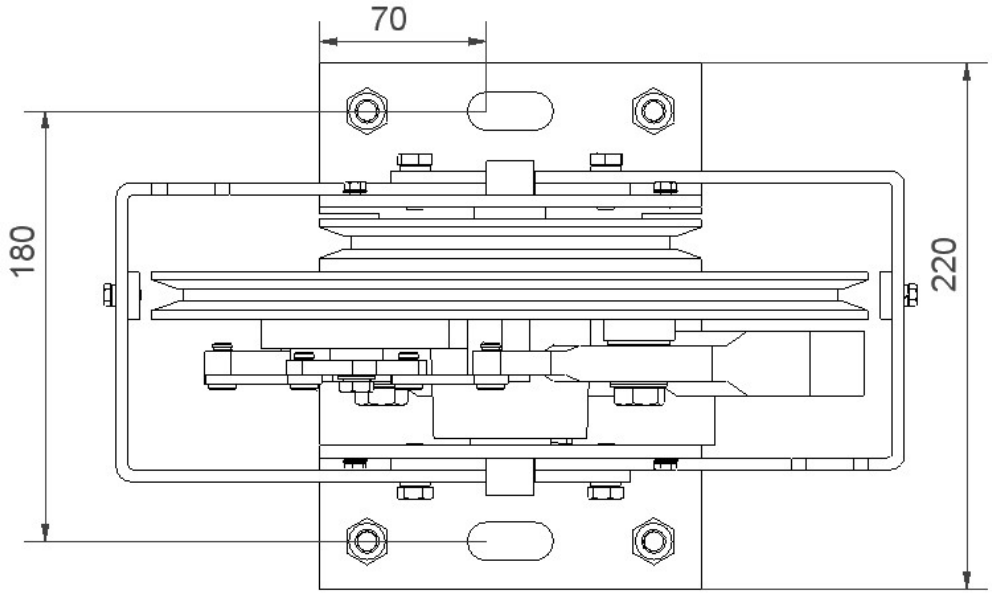
8.- INSTALLATION DRAWINGS

The following drawings may be of great help when adapting and installing the LBD-300 overspeed governor:

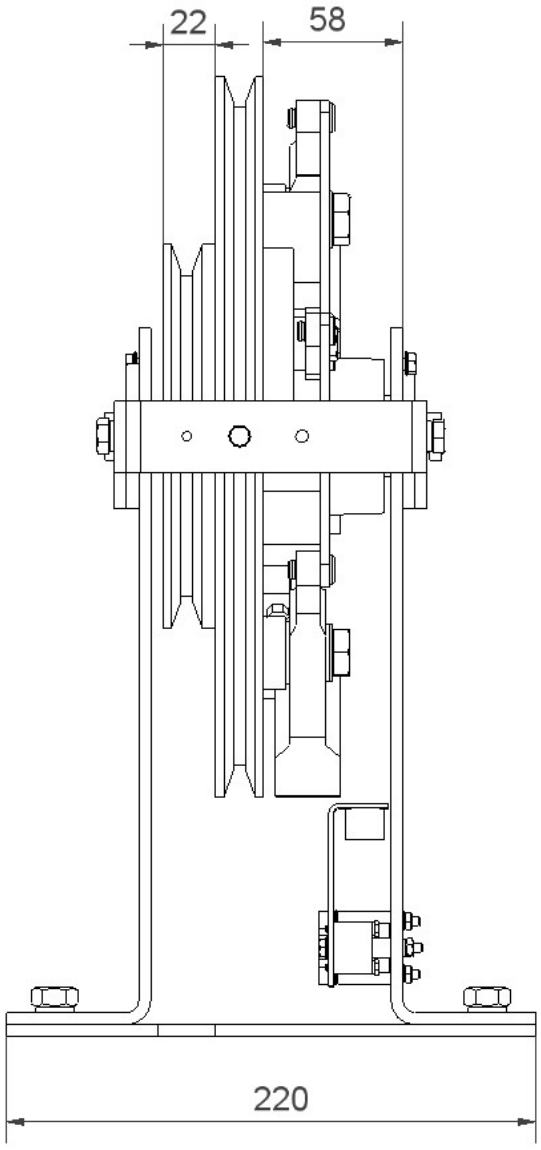
Top view:



Bottom view:



Side view:

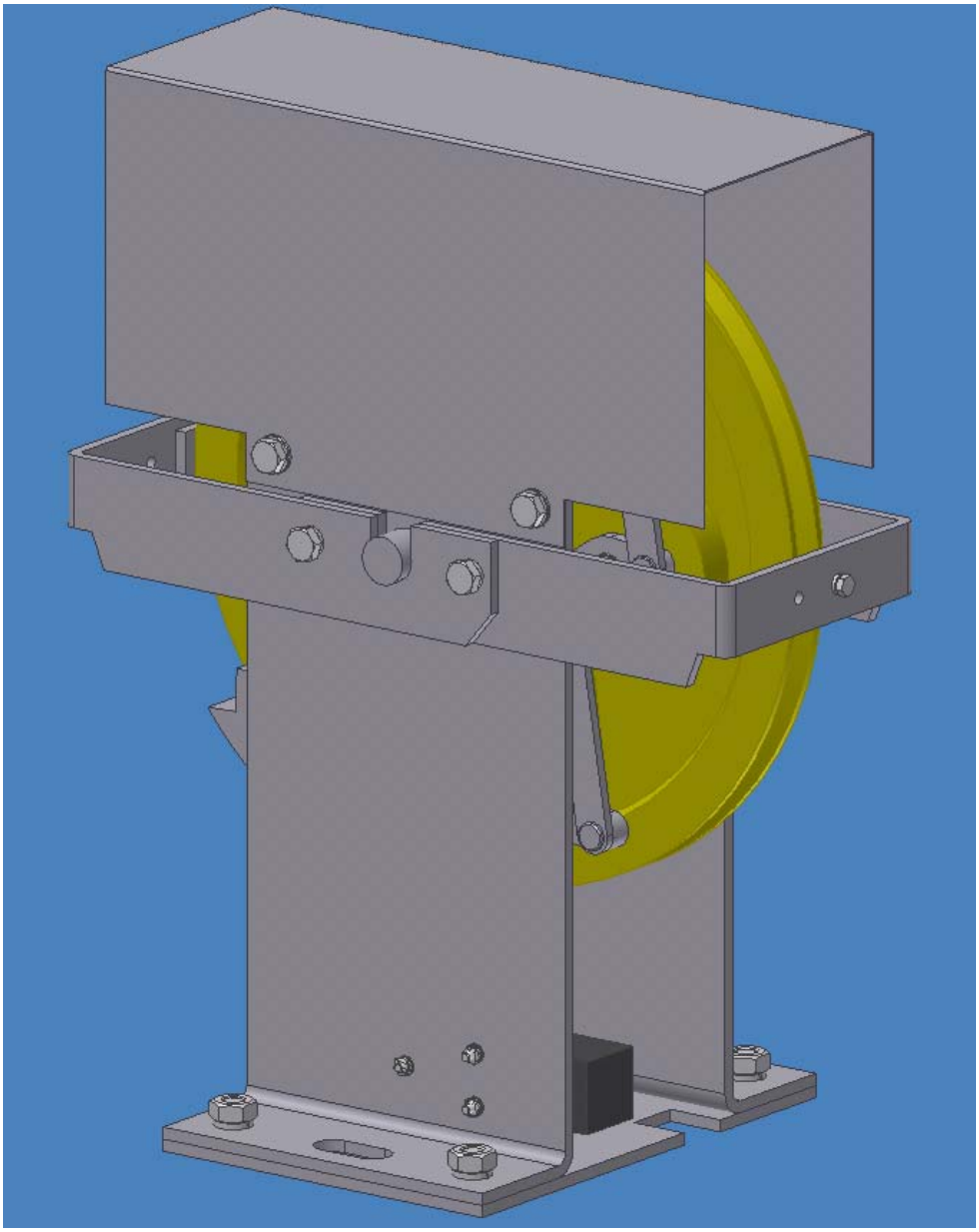


9.- OPTIONAL DEVICES FOR LBD-300.

Protection Plate:

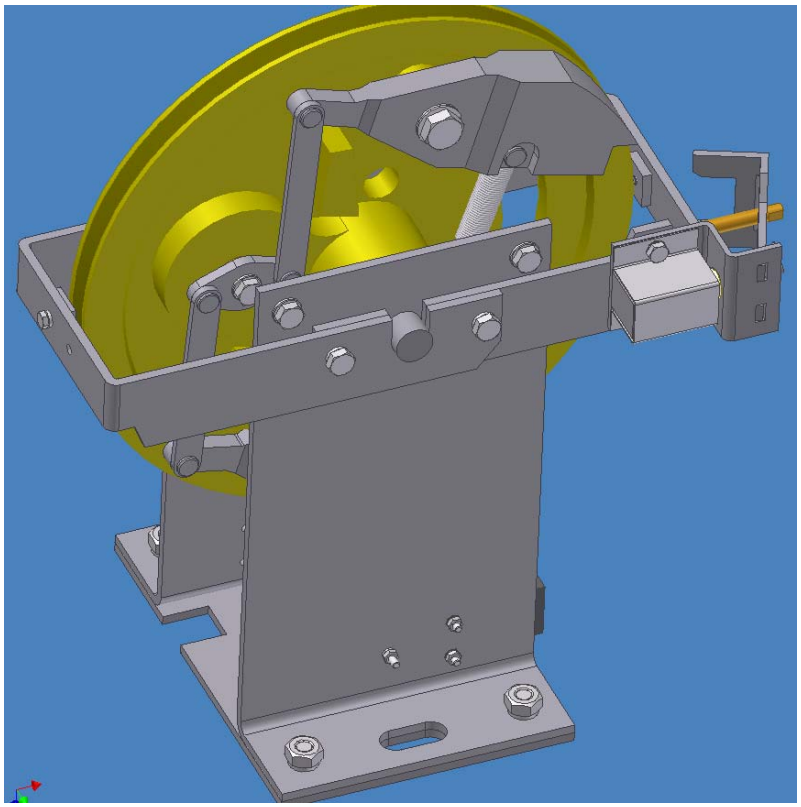
As it is indicated in the 9.7.1 section of the UNE-EN 81 standard, the overspeed governor must be with a protection in order to avoid corporal damages and the entrance of foreign objects.

Next it is shown a figure appearing the protection plate.

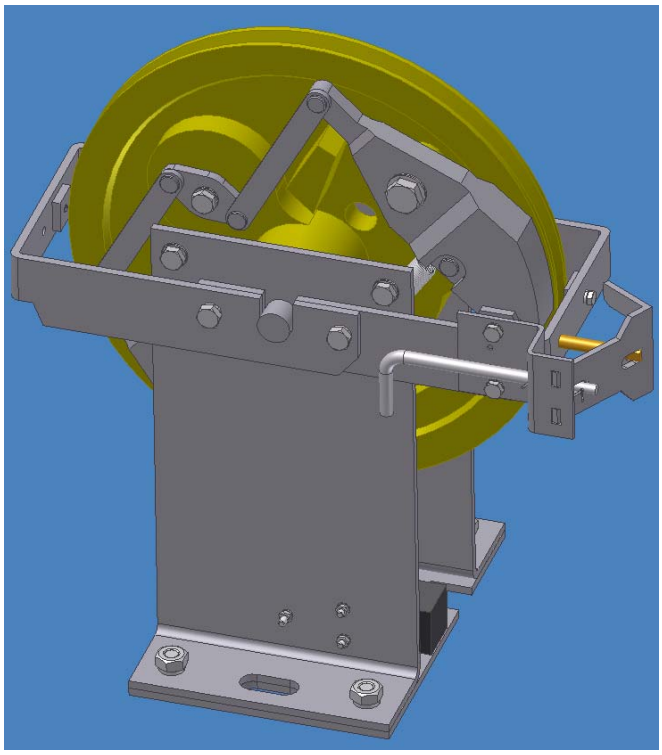


Remote Tripping Mechanism

In the overspeed governor it is able to be incorporated a mechanic system that interferes in the centrifugal masses, causing an acting of the overspeed governor. This system consists of a solenoid that is available on 24, 48 or 190 V , which currents are 1.1, 0.7 and 0.2 A respectively.

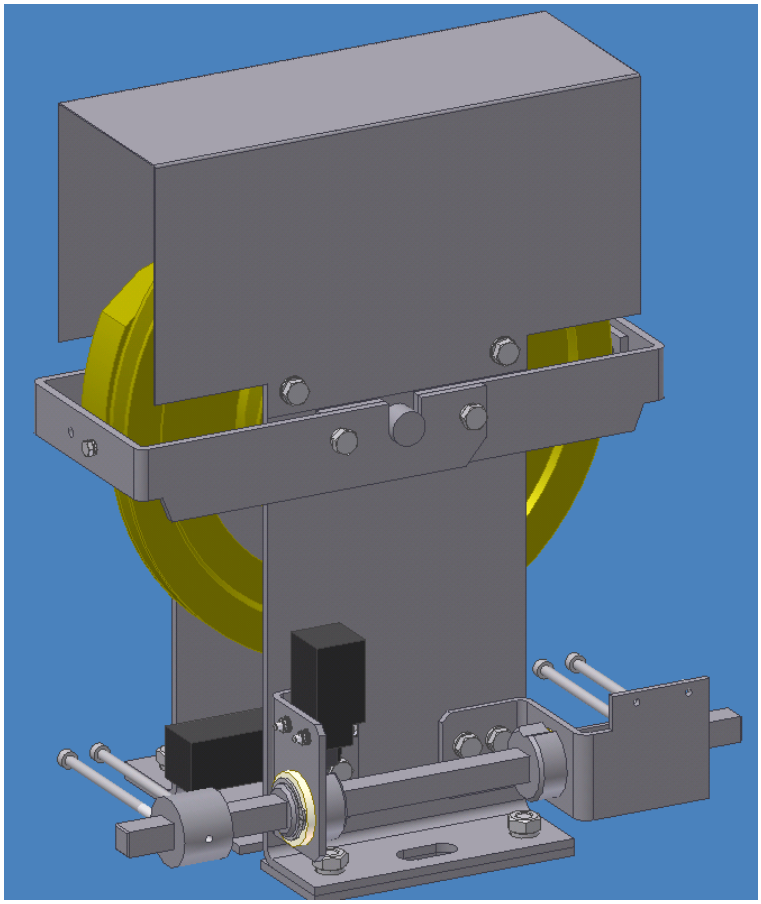


Also there is an option of acting the system without the solenoid. It is able to act manually the mechanic system, as it´s shown in the figure by means of a lever.

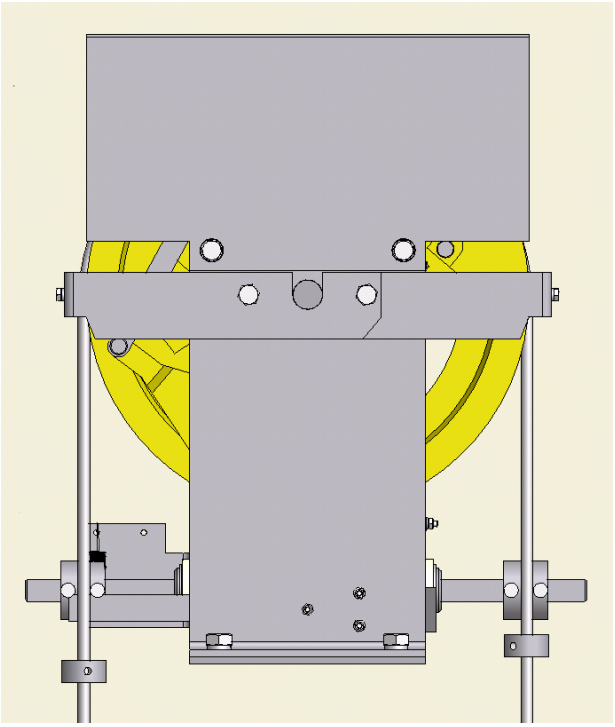


Final Limit Device

A Final Limit device can be assembled in the overspeed governor support. The Final Limit assembled is reflected in the figure below.

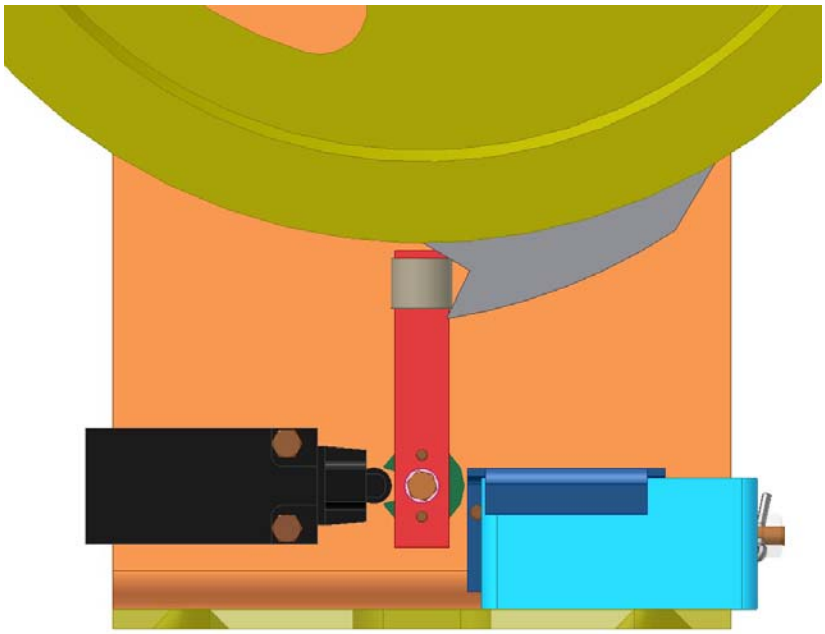


It will be provided a stops which make contact with the levers. This levers will act the security contact switch.



Remote Reset Device

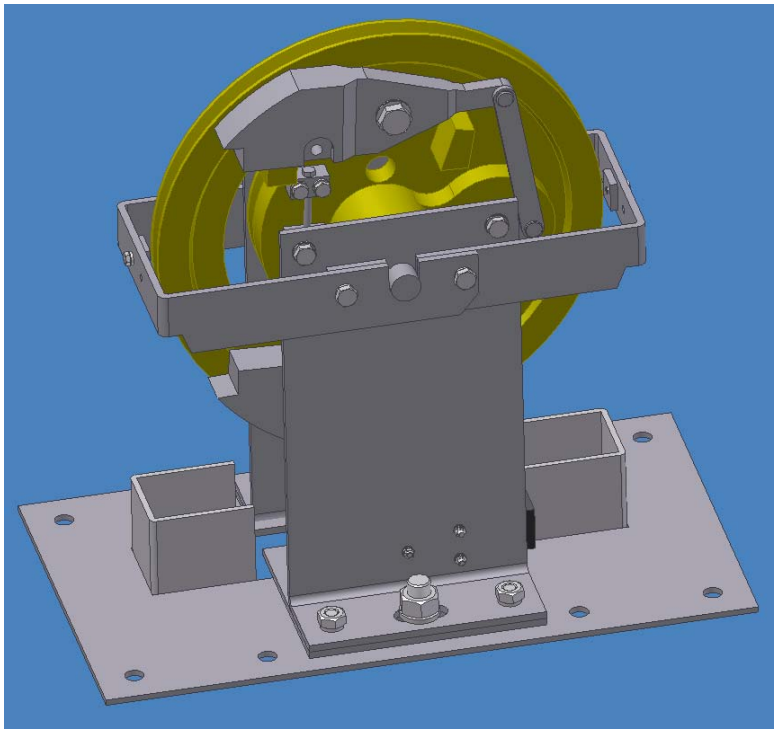
Another option for the overspeed governor LBD-300 is to reset automatically the overspeed contact. It is used a solenoid available in 24, 48 or 190 V with currents of 1.1, 0.7 and 0.2 A respectively.

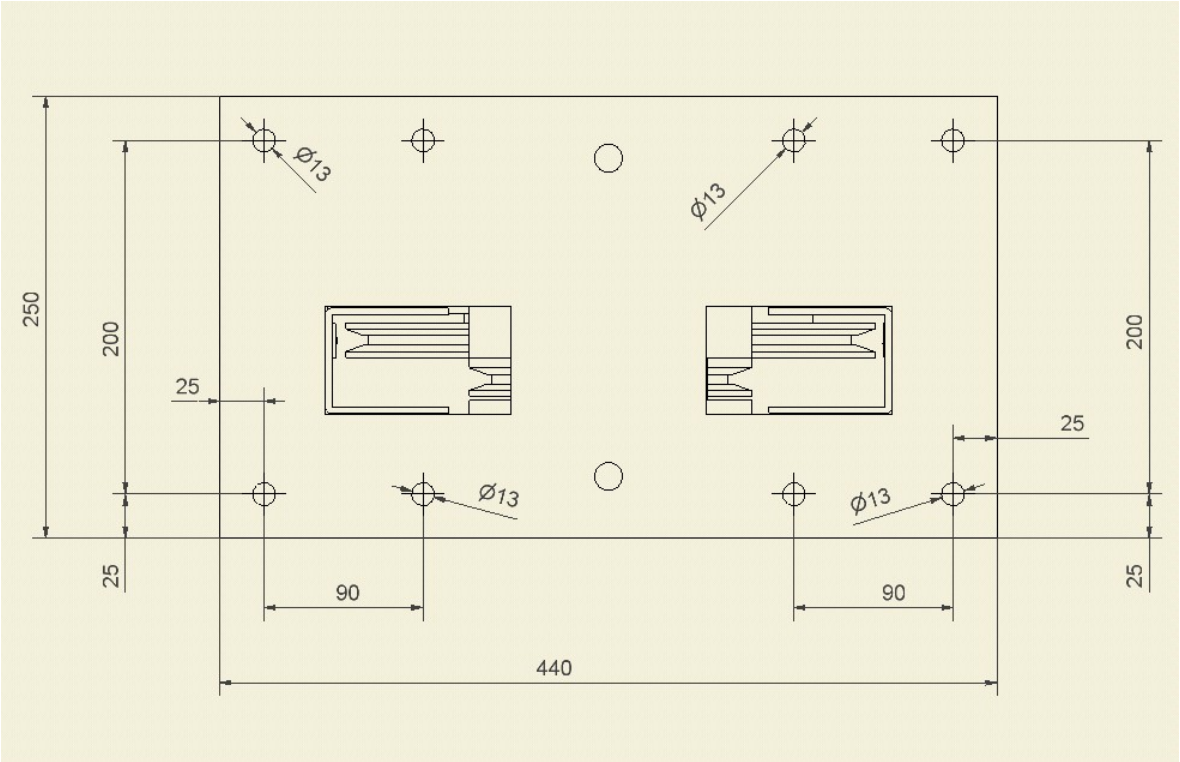


Protection Rope System.

This option exists In order to avoid the entrance of foreign objects in the gaps where ropes of the overspeed governor go through. This device is shown in the figure. The overspeed is mounted on the plate of the system.

The ensemble it is placed in the floor by means of some holes in the plate.





Above, it´s shown the plate in order to secure the overspeed governor to the floor.

The overspeed governor can be provided with all the option mentioned previously. However the customer can order the overspeed with the options that fit better to their needs.

In the orders it must be indicated what kind of options the customer wish.

10. – EC TYPE EXAMINATION CERTIFICATES

ATISAE
ASISTENCIA TÉCNICA INDUSTRIAL, S.A.E.

CERTIFICADO DE EXAMEN C.E. DE TIPO
EC TYPE-EXAMINATION CERTIFICATE

Según el anexo V parte A de la Directiva 95/16/CE / According annex V part A of Directive 95/16/EC

Número de certificado. / Certificate number	ATI / LD–VA / M139 A-1 / 05
Organismo Notificado. Notified Body	**Asistencia Técnica Industrial S.A.E. (ATISAE)** Avda. de la Industria, 51 bis E 28760 Tres Cantos MADRID (ESPAÑA) Nº de identificación **0053**.
Clase. Tipo. Product. Type	**Limitador de velocidad** / Overspeed governor
Modelo / Model	LBD-300
Fabricante. Manufacturer	DYNATECH, DYNAMICS & TECHNOLOGY S.L. P. I. Pina del Ebro, sector C, parcela 9 50750 ZARAGOZA (ESPAÑA).
Propietario del certificado. Certificate Owner	DYNATECH, DYNAMICS & TECHNOLOGY S.L. P. I. Pina del Ebro, sector C, parcela 9 50750 ZARAGOZA (ESPAÑA).
Fecha de presentación. Date of submission	25/10/2005
Fecha del examen de tipo./ Date of EC type examination.	11/12/2005
Laboratorio de ensayo. Test laboratory	LABORATORIO DE ENSAYO DE MATERIALES. E.T.S. Ingenieros Industriales. UPM C/José Gutiérrez Abascal, 2 28006 MADRID (ESPAÑA)
Informe de ensayo / Test report	2002-031/3-DE MAYO DE 2004. 2005-007 (28/06/2005)
Directiva CE aplicada. / EC- Directive.	Directiva 95/16/CE de 29 de Junio de 1995
Norma de referencia. / Reference standard	EN 81-1/2:1998
Informe de ATISAE. / ATISAE report	MD_DEU_060100

Declaración: El componente de seguridad permite al ascensor sobre el que se instale satisfacer los Requisitos de Seguridad y Salud de la citada Directiva usándose dentro del alcance que queda establecido en el anexo técnico de este certificado, así como con las condiciones de instalación indicadas.

Statement: The safety component allows the lift on which installed to satisfy the requirements of health and safety of Lifts Directive when used among the scope which is established in the technical annex to this certificate, as well as under the shown installation conditions.

Procedimiento EC 12 04 Anexo 4 Rev 0 Septiembre 2005

Tres Cantos, a 12 de DICIEMBRE de 2005

Bruno Cano Hernández
Coordinador Técnico

Este certificado consta de esta portada, un anexo técnico de 2 hojas y 1 plano / documento. Su reproducción carece de validez si no se realiza totalmente
This certificate consists of this main page, a technical annex with 2 pages and 1 drawing./document. It shall be reproduced with all its pages to be considered valid.

Asistencia Técnica Industrial S.A.E. (**ATISAE**)
Organismo Notificado Nº 0053 para la aplicación de la Directiva 95/16/CE
Avda. de la Industria, 51 bis. E28760 Tres Cantos MADRID
Tel: 91 806 17 30

ATISAE
ASISTENCIA TÉCNICA INDUSTRIAL, S.A.E.

ANEXO TECNICO AL CERTIFICADO CE DE EXAMEN DE TIPO ATI/LD-VA/M139A-1/05
TECHNICAL ANNEX TO THE EC TYPE EXAMINATION CERTIFICATE (ABOVE)

1. **Campo de aplicación:**
Scope.

El presente certificado amplia y sustituye al certificado:
This certificate enhances and supersedes the previous.

ATI / LD-VA / M139 / 04

consistente en la ampliación del alcance al uso con cable de 6 mm de diámetro.
and consists of the extension in the scope for driving rope of 6 mm of diameter.

El limitador de velocidad LBD -300 está certificado para actuar como medio de protección en bajada (sensor de velocidad), para el accionamiento en cabina de paracaídas instantáneos de rodillos, instantáneos con efecto amortiguado, paracaídas progresivos; además de paracaídas de estas características instalados en contrapeso o masa de equilibrado. También puede utilizarse como medio de protección en subida (sensor de velocidad),al actuar sobre medios de frenado de protección contra embalamiento en subida del tipo paracaídas en cabina.
LBD-300 overspeed governor, is certified to be used as downward protection mean (speed probe), acting on instantaneous safety gears of the captive roller type, instantaneous safety gears with buffered effect, progressive safety gears; besides counterweight or balancing weight safety gears of these types. It can also be used as upward protection mean (speed probe), acting on braking means against upward overspeed, safety gear type

1.1. Velocidad nominal de los ascensores:
Lift rated speed.

Velocidad Nominal: Rated speed	**≤1,50 m/s**

1.2. Diámetro de la polea de tracción:
Diameter of the traction pulley

Diámetro primitivo de la polea del limitador Pitch diameter of the pulleys for the overspeed governor	**(8 mm)** **(6 mm)**	**≈ 287 mm** **≈ 290 mm**

1.3. Cable:
Driving rope:

Diámetro: Diameter.	**6 / 8 mm**
Composición: Type.	**6 x 19+1**

1.4. Limitador con polea de tensión:
Overspeed governor with tensioning pulley.

Se asocia a un montaje tensor con resultante en el eje de la polea tensora (fuerza mínima de tensión) según los casos:
It is associated to a tensioning assembly with a resultant force in the tensioning pulley axis of (Minimum tensioning force: force produce by the tensioning weight, acting on the axis of rope deviation pulley):

(8 mm) $R_{tensora}$= 1060 N (530 N por ramal/each rope side)
(6 mm) $R_{tensora}$= 390 N (195 N por ramal/each rope side)

Estos valores obtenidos en ensayo, con la polea del limitador boqueada en bajada.
These are test values obtained with the overspeed governor pulley tripped in downward action.

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La fuerza de tensión provocada en el cable por la actuación del limitador de velocidad y transmitida a los medios de frenado en subida y bajada:
Tensile force in the rope when the governor is tripped and transmitted to the braking means in upward and downward motion:

En bajada Downwards	300 N
En subida Upwards	300 N

2. **Notas.**
Remarks.

2.1. **Sobre el dispositivo del limitador de velocidad debe colocarse una placa con los datos indicados a continuación:**
It shall be placed an identifiable plate on the overspeed governor with the following items.

Nombre del fabricante
Manufacturer's name

Signo del examen de tipo y sus referencias
CE type-examination mark and its references

Velocidad de disparo mecánico para la cual ha sido ajustado
The actual tripping speed for which it has been adjusted

2.2. **El contacto eléctrico de seguridad es de rearme manual.**
The safety electric contact is reset manually

2.3. **Existe modelo de actuación unidireccional solo en bajada.**
There is a model for DOWNWARD ONLY action.

2.4. **Con el conjunto de polea de limitador ubicado en cuarto de máquinas, se proveerán protecciones adecuadas contra daños corporales.**
When the governor pulley is located in a machine room according chapter 6 (EN 81-1/-2) suitable protections shall be provided in order to avoid bodily injuries.

2.5. **El limitador puede ser instalado en el interior del hueco o en zonas no accesibles cuando se proporcionen los medios solicitados por 9.9.8.3. de EN 81-1.**
The governor can be located inside the well or at non-accessible places if the means required by 9.9.8.3. of EN 81-1 are provided.

2.6. **La geometría de la ranura es diferente en el limitador para cable de 6 mm del utilizado con cable de 8 mm. El fabricante advertirá convenientemente al usuario del diámetro del cable que corresponde al limitador.**
The geometry of the groove is different for 6 mm diameter driving rope than that of 8 mm. The manufacturer shall warn the user of what diameter fits to the governor.

2.7. **Se adjunta a la presente certificación el siguiente documento:**
The following document, is enclosed to this certificate.

DESIGNACIÓN Number	FECHA Date	LEYENDA Title
sn	sf	LBD-300 CONJUNTO

Este plano se adjunta con objeto de proporcionar identificación e información sobre el diseño básico del componente de seguridad.
This drawing is enclosed in order to provide identification and information about the basic design of the safety component.

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ORGANISMO NOTIFICADO ATISAE 0053

Anexo técnico al certificado ATI/LD-VA/M139A-1/05
Technical annex to the certificate

Página 2 de 2
Page

ATISAE

COMPLEMENTO A CERTIFICADO DE EXAMEN C.E. DE TIPO

EC TYPE-EXAMINATION CERTIFICATE COMPLEMENT

Según el anexo V parte A de la Directiva 95/16/CE / According annex V part A of Directive 95/16/EC

Número de documento. / document number	**MD_DEU_083598**
Organismo Notificado. Notified Body	**Asistencia Técnica Industrial S.A.E. (ATISAE)** Avda. de la Industria, 51 bis E 28760 Tres Cantos MADRID (ESPAÑA) Nº de identificación **0053**.
Clase. Tipo. Product. Type	**Limitador de velocidad.** Overspeed governor.
Modelo / Model	**LBD-300**
Fabricante. Manufacturer	**DYNATECH – DYNAMICS AND TECHNOLOGY S.L. P.I. Pina de Ebro, sector C, parc 9 50750 ZARAGOZA (ESPAÑA).**
Propietario del certificado. Certificate Owner	**DYNATECH – DYNAMICS AND TECHNOLOGY S.L. P.I. Pina de Ebro, sector C, parc 9 50750 ZARAGOZA (ESPAÑA).**
Fecha de presentación. Date of submission	**02/10/2008**
Fecha del complemento. Date of complement.	**03/10/2008**
Certificado de referencia. Reference cerificate	**ATI / LD-VA /M139A-1 / 05 (12/12/2005)**
Directiva CE aplicada. / EC- Directive.	**Directiva 95/16/CE de 29 de Junio de 1995**
Norma de referencia. / Reference standard	**EN 81-1/-2:1998**
Informe de ATISAE. / ATISAE report	**MD_DEU_083598**

Declaración: El componente de seguridad indicado amplía su alcance en los términos mostrados en el anexo a este complemento. La naturaleza de la modificación solicitada no precisa de la emisión de un nuevo certificado.

Statement: The certified safety component does extend its scope as shown in the annex to this complement. Because of the nature of the applied changes, it is considered not necessary the issue of a new certificate.

Tres Cantos, a 03 de OCTUBRE de 2008

Simón Viñas Sáez
Coordinador Técnico en funciones

Este complemento debe ser utilizado conjuntamente con el certificado de referencia mencionado. Su reproducción carece de validez si no se realiza totalmente.
This complement must be used with the aforementioned referenced certificate. It shall be reproduced with all its pages to be considered valid.

ATISAE, Organismo de Control Autorizado acreditado por ENAC con nº OC-I/025

Procedimiento EC.12.04 Anexo 3 Rev 0 Septiembre 2005

Asistencia Técnica Industrial S.A.E. (**ATISAE**)
Organismo Notificado Nº 0053 para la aplicación de la Directiva 95/16/CE
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Tel: 91 806 17 30

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ATISAE

1. CONTENIDO. / SCOPE

El objeto de este complemento es dar validez a la ampliación de alcance en el modelo de limitador de velocidad **LBD-300** aprobado mediante el procedimiento de examen CE de tipo (indicado en página 1), con objeto de aumentar el rango de velocidad nominal aplicable a 1.7 m/s.

The purpose of this complement is to approve the extension in the scope of the overspeed governor type **LBD- 300**, certified by means of the EC type Examination procedure (shown in page 1) in order to enhance the applicable rated speed range up to 1.7 m/s.

En el certificado de examen CE de tipo se modifica el **apartado 1.1** de la siguiente forma:
The EC type examination certificate's **section 1.1** is modified as follows:

1.1. Velocidad nominal: **≤1.70 m/s**
Permissible rated speed.

Adicionalmente se incluye el rango de velocidades de disparo admisibles.
Additionally it is included the range of tripping speeds.

Velocidad de disparo: **0.80 ÷ 2.0 m/s**
Permissible tripping speed.

2. NOTAS. / REMARKS

El concepto "complemento a examen CE de tipo" para componente de seguridad está recogido en la Directiva 95/16/CE Anexo V parte A párrafo 6 nota (1).

The concept of "complement to a EC type examination certificate" for a safety component is considered in Lifts Directive 95/16/EC Annex V part A paragraph 6 note (1).

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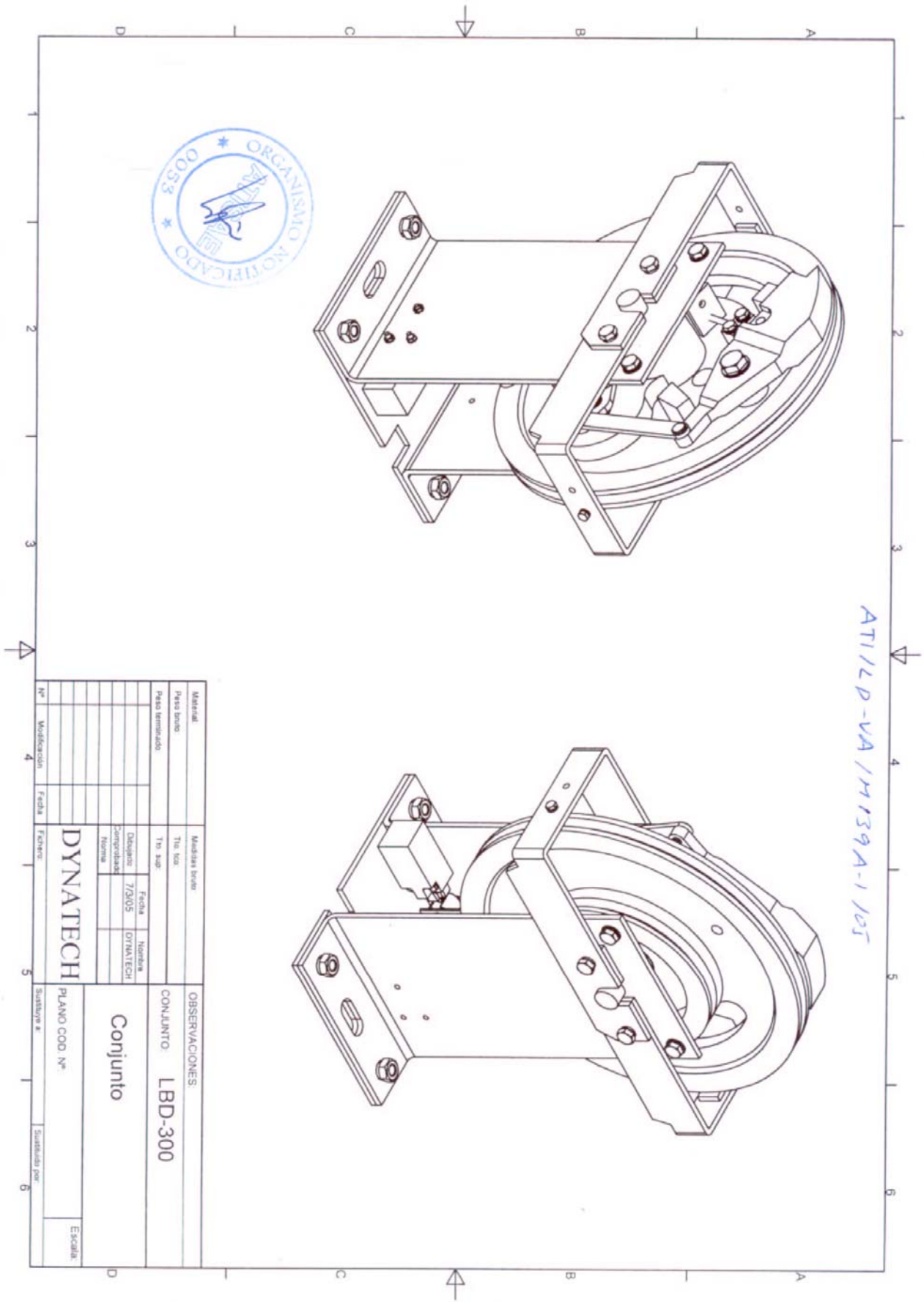
ORGANISMO NOTIFICADO 0035
ATI/LD-VA/M139A-1/07
DYNATECH
Conjunto
LBD-300
PLANO COD. Nº
OBSERVACIONES:
Material:
Peso bruto:
Peso terminado:
Modificaciones broto:
Tto. sup.:
Tto. térmico:
Dibujado:
Comprobado:
Norma:
Fecha
7/3/05
Nombre
DYNATECH
Nº
Modificación
Fecha
Fichero:
Sustituye a:
Sustituido por:
Escala: