

VEGA INSTRUCTIONS

Date: 31/03/08 Check 03



**DYNATECH
DYNAMICS AND TECHNOLOGY, S.L.**

**OVERSPEED GOVERNOR
VEGA**

CONTENTS

1.-	INTRODUCTION.	1
2.-	MAIN COMPONENTS.....	1
3.-	WORKING PRINCIPLES.....	2
3.1.	Overspeed contact.	6
3.2.	Remote tripping mechanism (optional).....	7
3.3.	Remote reset device (Optional)	9
3.4.	Parking System (Optional)	9
3.5.	VEGA LS OVERSPEED GOVERNOR	10
4.-	FIXING TO THE FLOOR.....	10
5.-	TECHNICAL FEATURES.....	11
6.-	TYPE OF ADJUSTMENT.	12
7.-	INSTRUCTIONS OF USE AND MAINTENANCE.....	14
8.-	INSTALLATION DRAWINGS.....	15
9.-	EC TYPE-EXAMINATION CERTIFICATE.....	18

1.-INTRODUCTION.

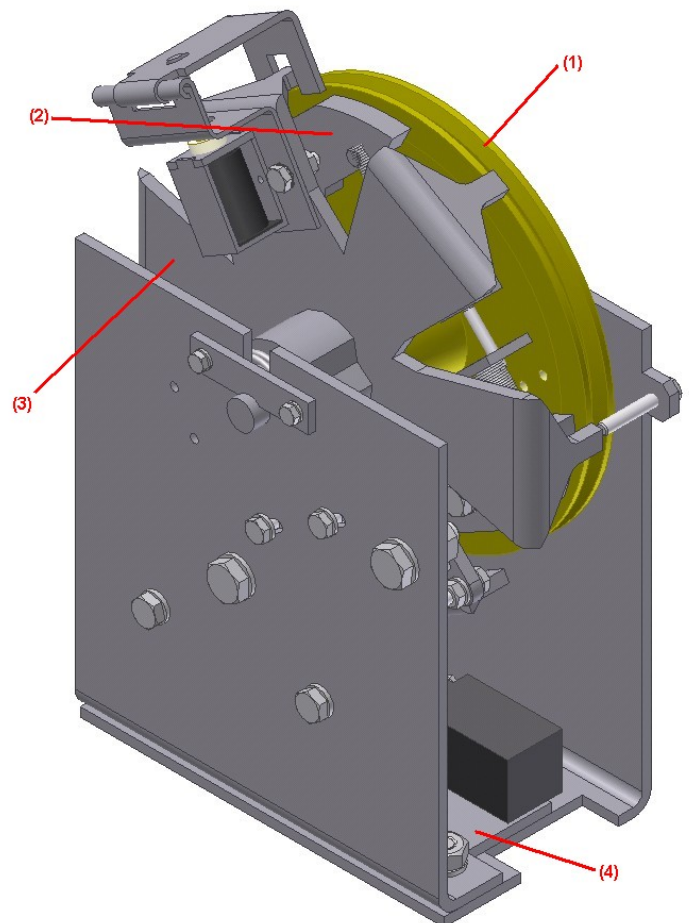
The DYNATECH VEGA overspeed governor is designed to cut off the current of the security series line in the event of car overspeed, bringing the lift to a standstill when necessary.

The VEGA overspeed governor covers a wide range of speeds and can be used with instant and progressive safety gears.

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 to link the governor to the floor in the machine room.

The following picture shows 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 or in the upper part of the well, joined by the rope to its tensing pulley located in the pit.

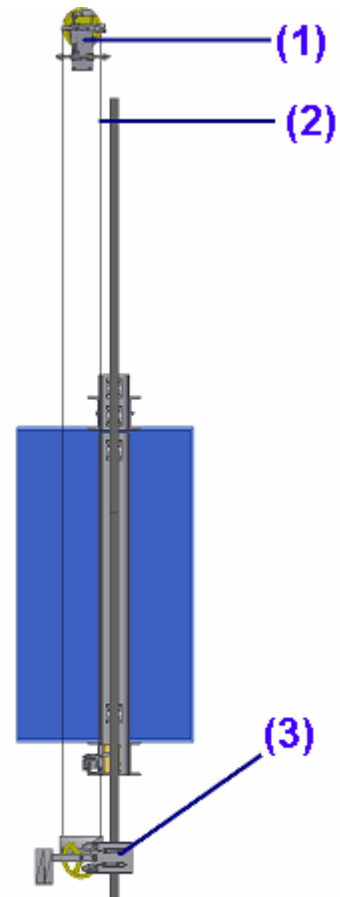
This tensing pulley is attached to the guide pulley by flanges.

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

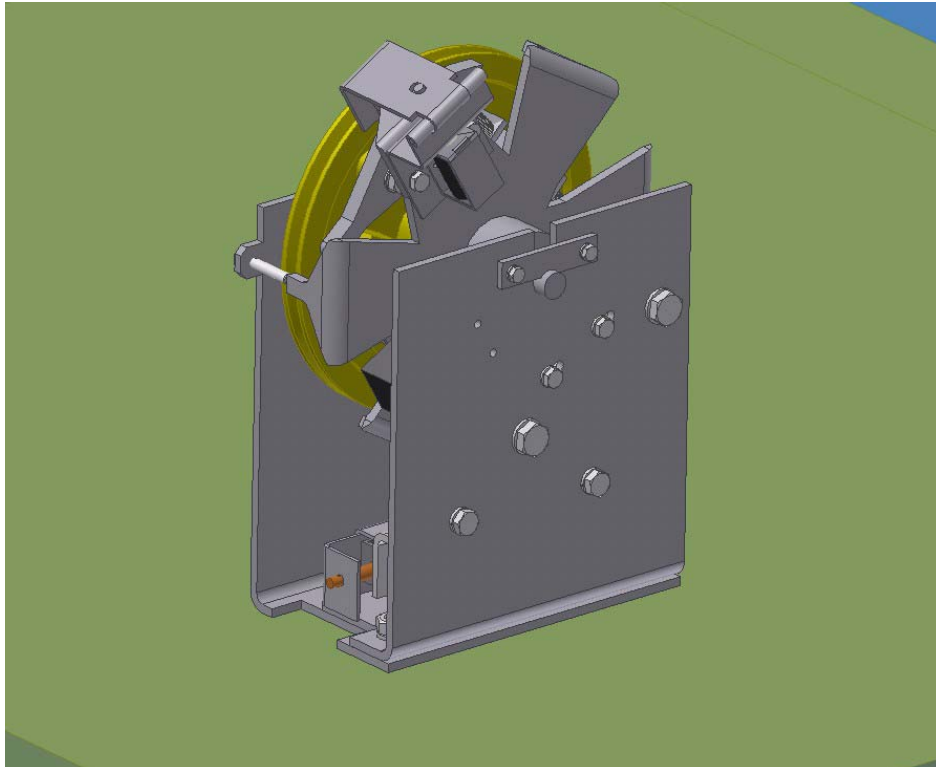
The ends of the rope are attached to the linkage anchoring. Thus, when the car reaches its tripping speed, the rope-governor relative movement will lock it.

The working diagram is as follows:

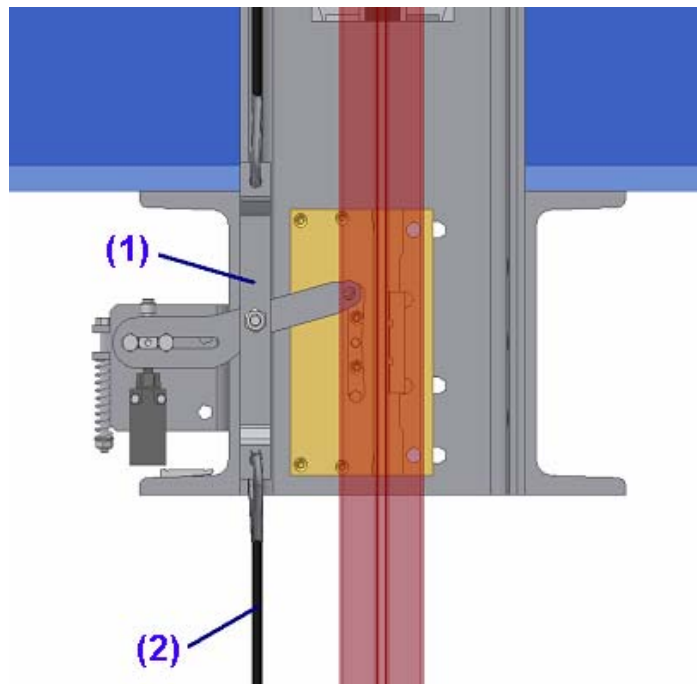
- (1) VEGA governor
- (2) Governor rope
- (3) Tension weight



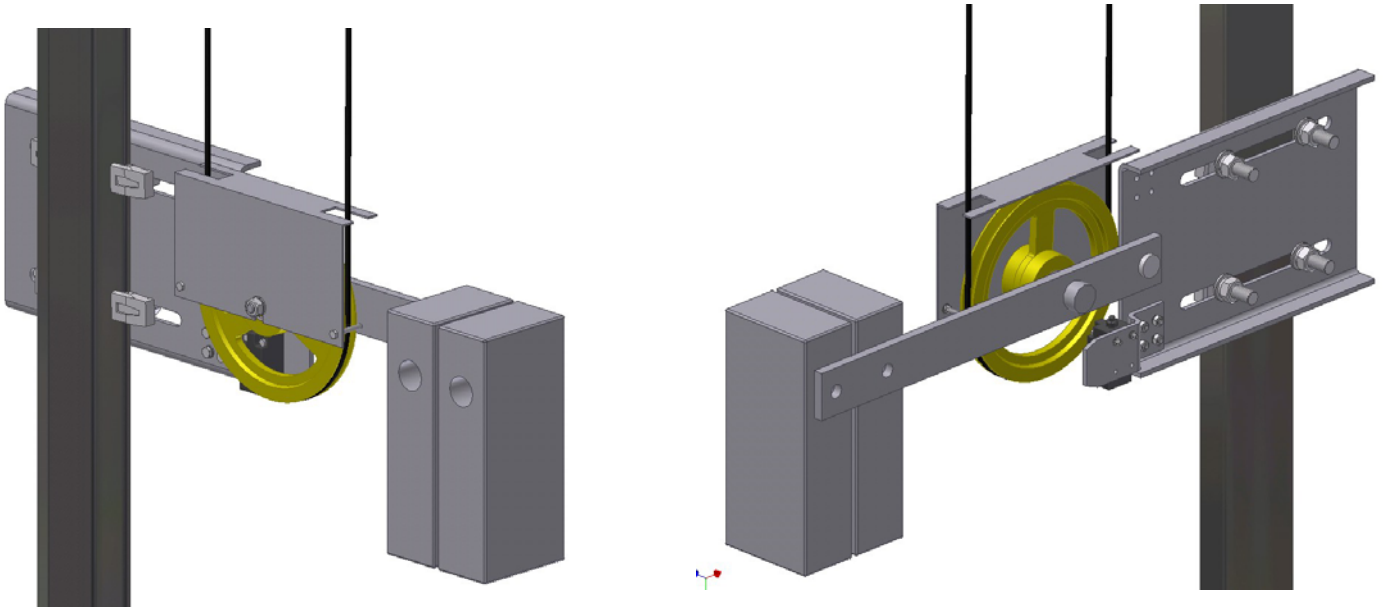
As it was indicated above, the governor is secured to the floor in the machine room or to the well.



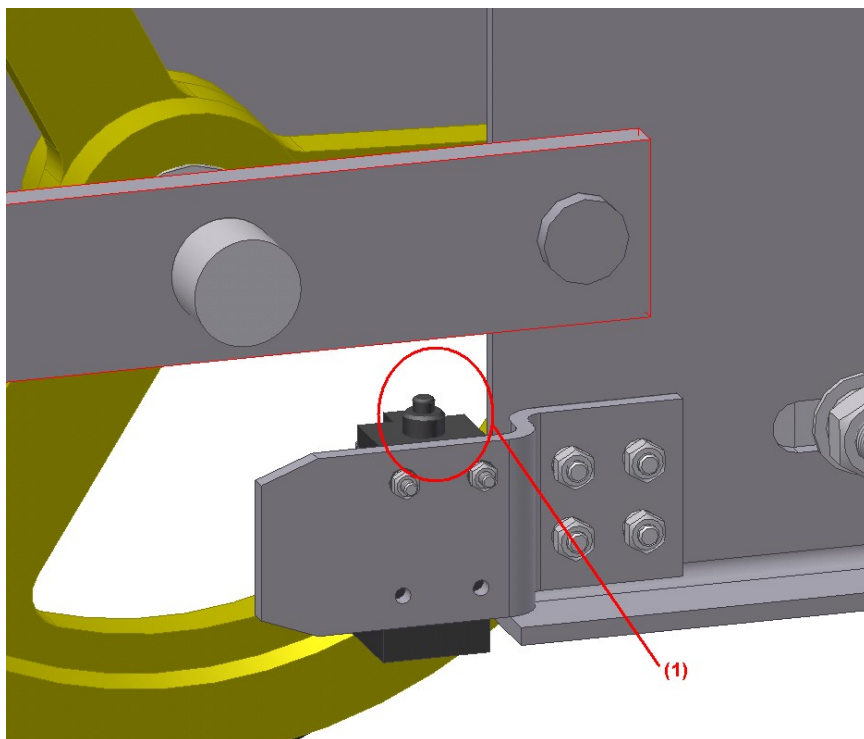
The ends of the rope (2) are attached to the linkage anchoring (1) through eyes.



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

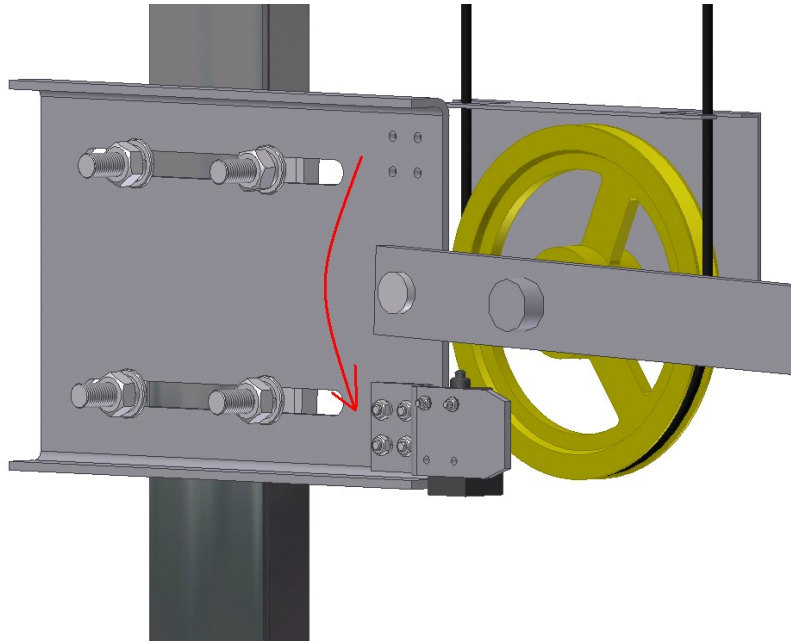


The rope must have enough tension (500 N on each side). In the event of tension loosening a rope slackening contact (1) connected to the installation security series will cut off the current.

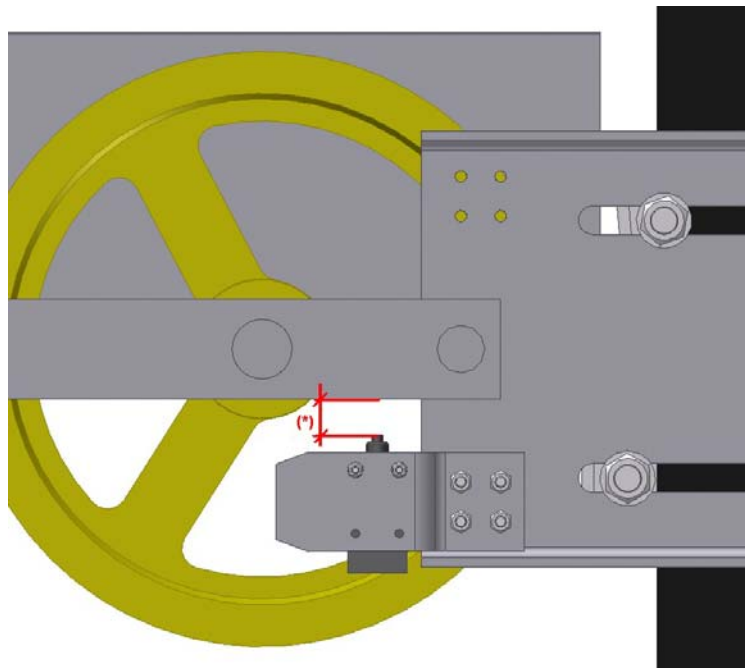


Due to the weight of the masses, the contact is protected from knocks by the part to which it is attached, therefore, the sensor cannot be damaged.

The tension weight assembly can be attached to both sides of the guide rail. 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:

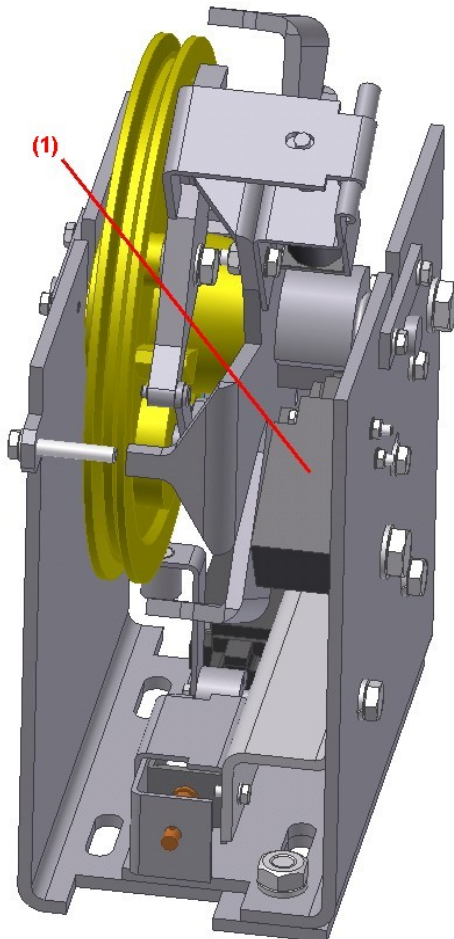


As indicated, if the tightness would be less than acceptable, the bar supporting the weight and the pulley would make contact with the sensor.

3.1. Overspeed contact.

The governor has a built-in overspeed contact.

According to the European Standard UNE-EN 81, at the 9.9.11.1 section, the current cut off by means of the overspeed governor contact is mentioned. In this section is specified that for rated speeds of no more than 1 m/s, the overspeed contact can be triggered when the governor locks.



Therefore, the governors, whose rating speed is 1 m/s or lower, will be provided with an overspeed switch that is triggered at the same time as the governor locks.

In the left picture the contact situation is shown (1).

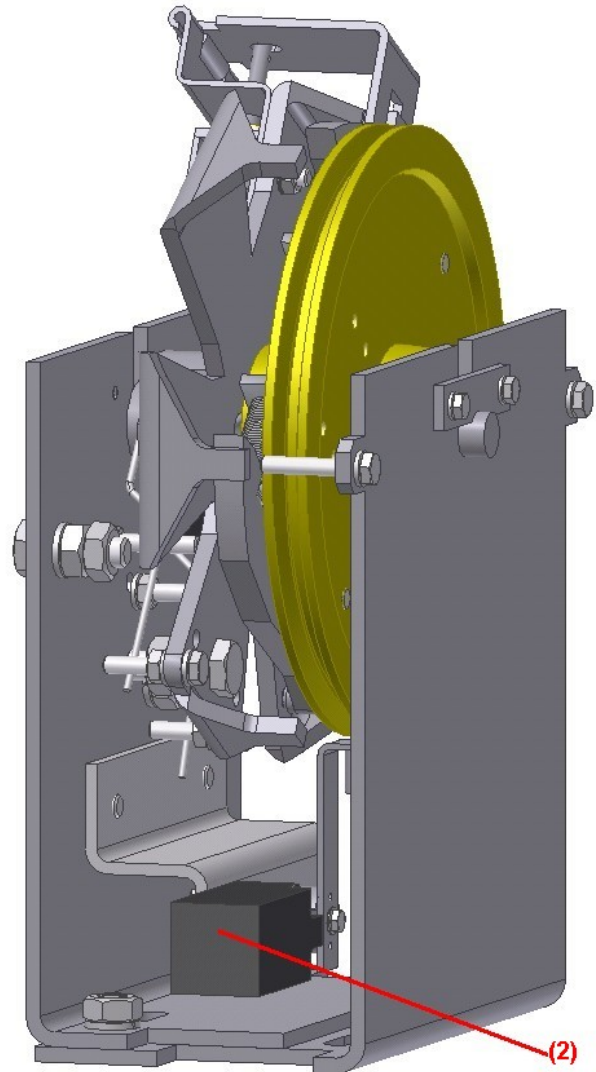
The contact will act when the governor reaches a speed above the rated speed and a moment before the governor actuates.

When this contact is triggered, the current of the security series is cut off. This system has a remote reset.

For rated speeds above 1 m/s, the overspeed switch must be triggered at a speed above the rated speed, but below the tripping speed of the governor.

The contact (2) is shown in the right picture.

This system has a manually reset. If the governor acts on this contact, the current of the security circuit will not circulate until this contact is manually returned to its initial position



Remark: For installations in the well or similar, an automatic reset for this contact is possible. See afterwards

3.2. Remote tripping mechanism (optional)

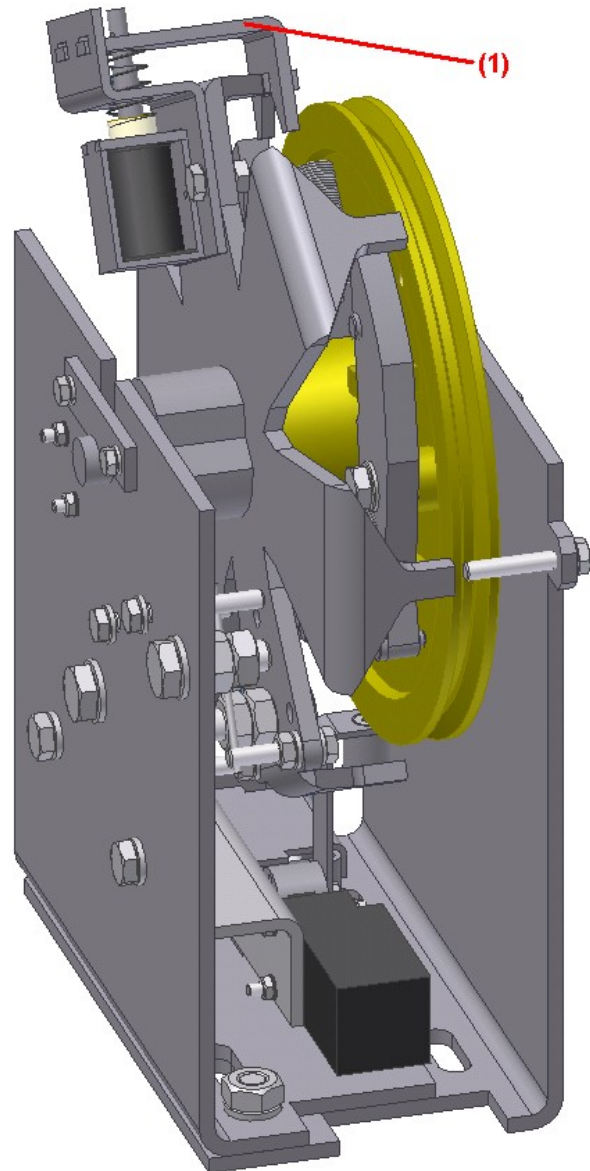
The governor can have a built-in remote tripping mechanism to check the correct interlocking of the governor and the subsequent safety gear wedging.

Basically, it consists of a remote interlocking electromagnetic system, which can be driven from the engine room. In order to help during the installation, three versions of the system are available:

- Solenoid fed by **24 V DC** (direct current). A current of **1,1 A** must be provided.
- Solenoid fed by **48 V DC** (direct current). A current of **0,75 A** must be provided.
- Solenoid fed by **190 V DC** (direct current). A current of **0.2 A** must be provided.

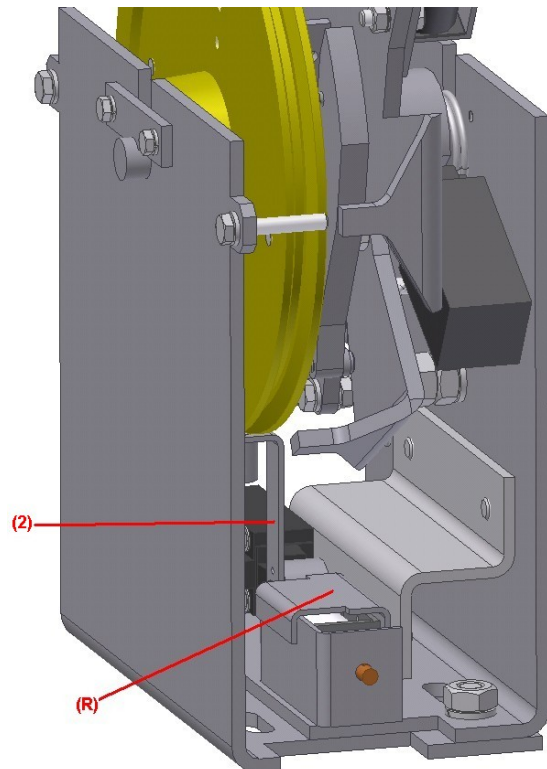
Remark: Anyway, just a few seconds are necessary to engage the governor. After the activation, the current that feeds the solenoid must be switched off to avoid its overheating. In that way, a button is recommended to activate the system.

Some images of it, as well as its position in the set, are shown in the next picture (1).



3.3. Remote reset device (Optional)

The governor has the option of a remote reset (R) of the overspeed contact (2). For this device, a solenoid of 24, 8 or 190 V with a current of 1.1, 0.7 and 0.2 A, respectively, is used.



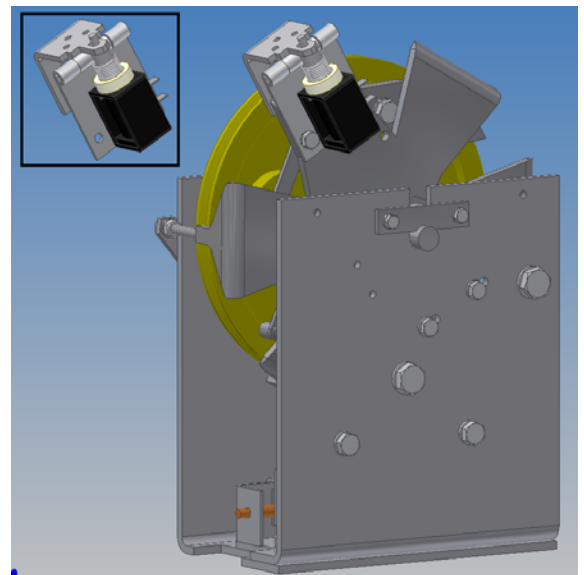
3.4. Parking System (Optional)

The Parking system or anti-creep system is a device designed to keep the overspeed governor locked when the lift is not moving. Therefore, if an uncontrolled movement of the car occurs, the governor would operate the safety gear and the car would remain locked.

This application is interesting for maintenance work in which the person is working with the car of the lift above them.

It is important to bear in mind that, if this device receives current, the overspeed governor will

be released and, when there is no current, the mechanism will lock the governor. Therefore, it is advisable to use some sort of independent supply, so that, if there was a power cut in the installation and we have to move the car manually, this supply would be used to release the parking system and, at the same time, unlock the governor.



As can be seen in the diagram, the system is in the same place as the remote tripping device, in fact, it would operate the other way round.

This mechanism operates as remote control, therefore, when a VEGA with Parking System is fitted, a remote control will not be fitted separately.

In order for the parking system to work as a remote tripping, the installer should design an independent circuit which deactivates the parking system momentarily to lock the limiter at a specific moment. In this way, test of engagements can be carried out.

Note: depending on the length and cross section of the cable installed, the voltage supplied and the voltage in the parking system coil may be different, i.e. the voltage in the coil may be lower. The voltage may therefore be increased to offset this power drop in the cable.

The coils fitted in the parking system are of the 100% type and there is no risk of overheating.

A power supply of 30 V is accepted for the 24 V coil, 54 V for the 48 V coil and 195 V for the 190V coil.

3.5. VEGA LS OVERSPEED GOVERNOR

There is a low speed VEGA governor called VEGA LS.

The minimum performance speed is 0.40 m/s

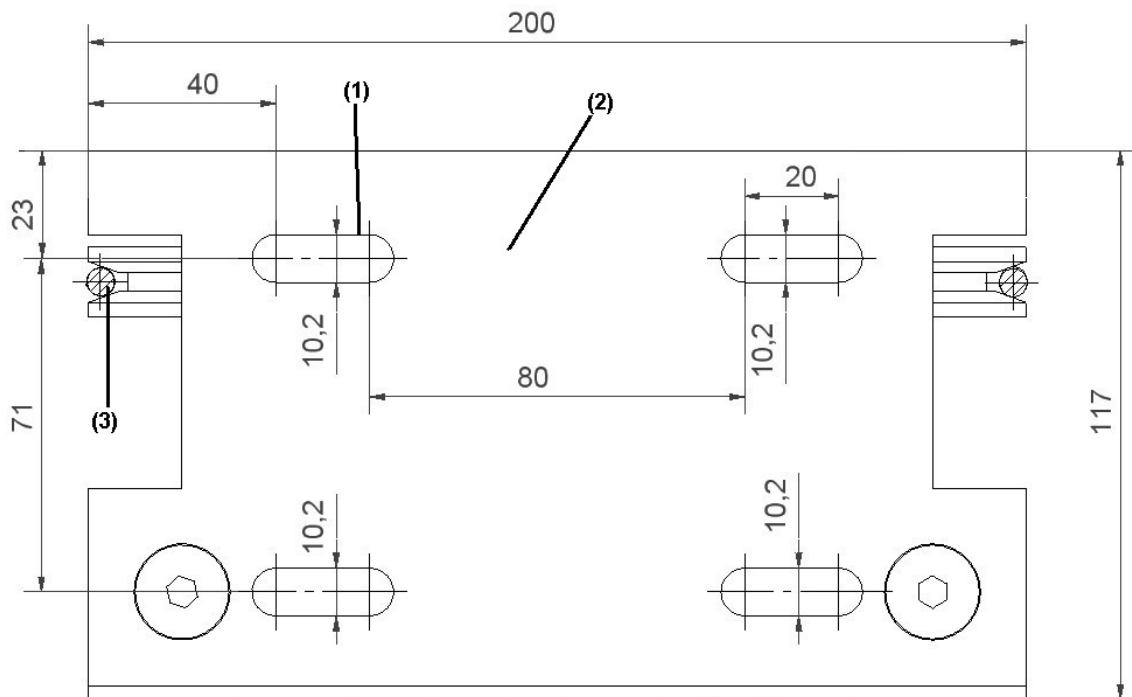
This governor is DOWNWARDS ACTING ONLY and the performance speed range is:

0.40 – 0.70 m/s

IMPORTANT NOTE: *Customers asking for a VEGA LS, may know that it's unidireccional. In order to know the right way, it must pay attention to to the arrow in the governor.*

4.- FIXING TO THE FLOOR.

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



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 respect to the base plate can also be seen in the drawing.

5.- TECHNICAL FEATURES.

- **Machine:** Overspeed governor
- **Model:** VEGA
- **Manufacturing company:**
DYNATECH, DYNAMICS & TECHNOLOGY, S.L.
- **Range of use:**
Maximum rated speed: 2.40 m/s
Maximum tripping speed: 3 m/s

Minimum rated speed: 0.1 m/s

Minimum tripping speed:

- From **0.4 to 0.7 m/s** , the governor is **UNIDIRECTIONAL**

- From **0.7 to 2.87 m/s** the governor is **BIDIRECTIONAL**

- **Rope:**

Diameter: 6 mm, 6.3 mm, 6.5 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:** 200 mm

- **Overspeed contact.**

- **Other features:**

- It is possible to install several devices:
 - Remote tripping system
 - Remote reset
 - Parking System
 - It can be unidirectional or bidirectional
 - An encoder can be assembled (VEGA PLUS)

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

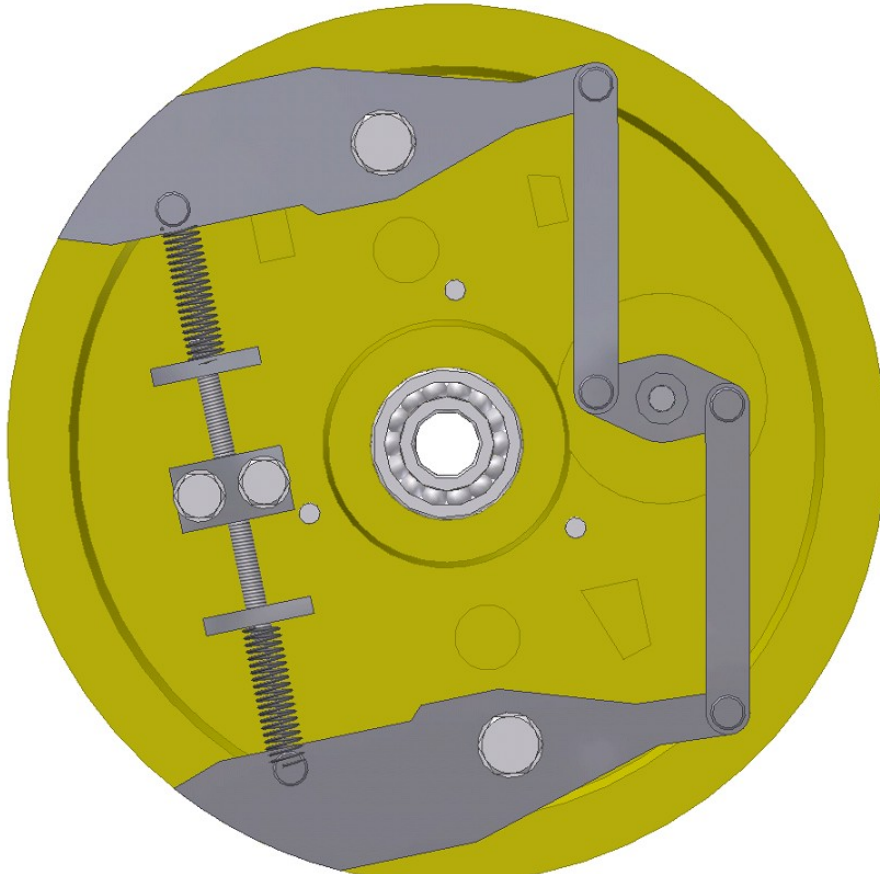
All safety gears with a tripping speed that can be reached by the overspeed governor.

6.- TYPE OF ADJUSTMENT.

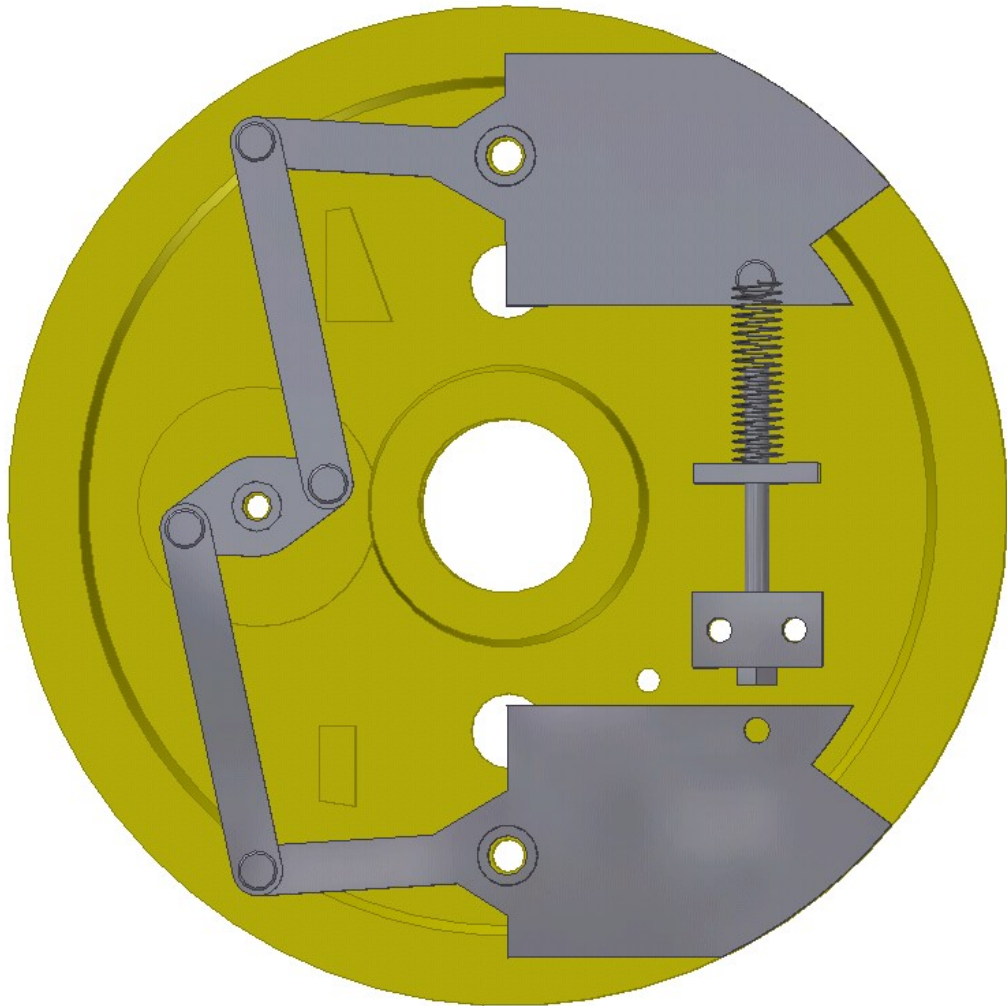
Tripping speed adjusting is carried out by means of a regulating screw which tenses or detenses the centrifugal system spring. When tensing the

spring, the speed required to drive the centrifugal system will be higher. In this way, the tripping speed can be adjusted within the speed range.

The adjustment is carried out in the factory by means of a computerized gauging system according to the customer specifications. Once the adjustment is finished and checked, it is sealed so that it can not be modified..



For tripping speeds lower than 1 m/s, a low speed system is installed, where, as it is shown in the picture, the adjustment is made by means of a tensing screw that lengthen or shrinks the spring that is hooked to the centrifugal system.



7.-INSTRUCTIONS OF USE AND MAINTENANCE.

The tripping speed of the installation can be checked by means of the motor frequency changer, by progressively increasing the motor speed until interlocking is obtained.

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 each governor that carry out the interlocking action. The dirt accumulation on these parts may cause malfunctioning. The installer and the maintenance staff must ensure that these parts are perfectly clean.

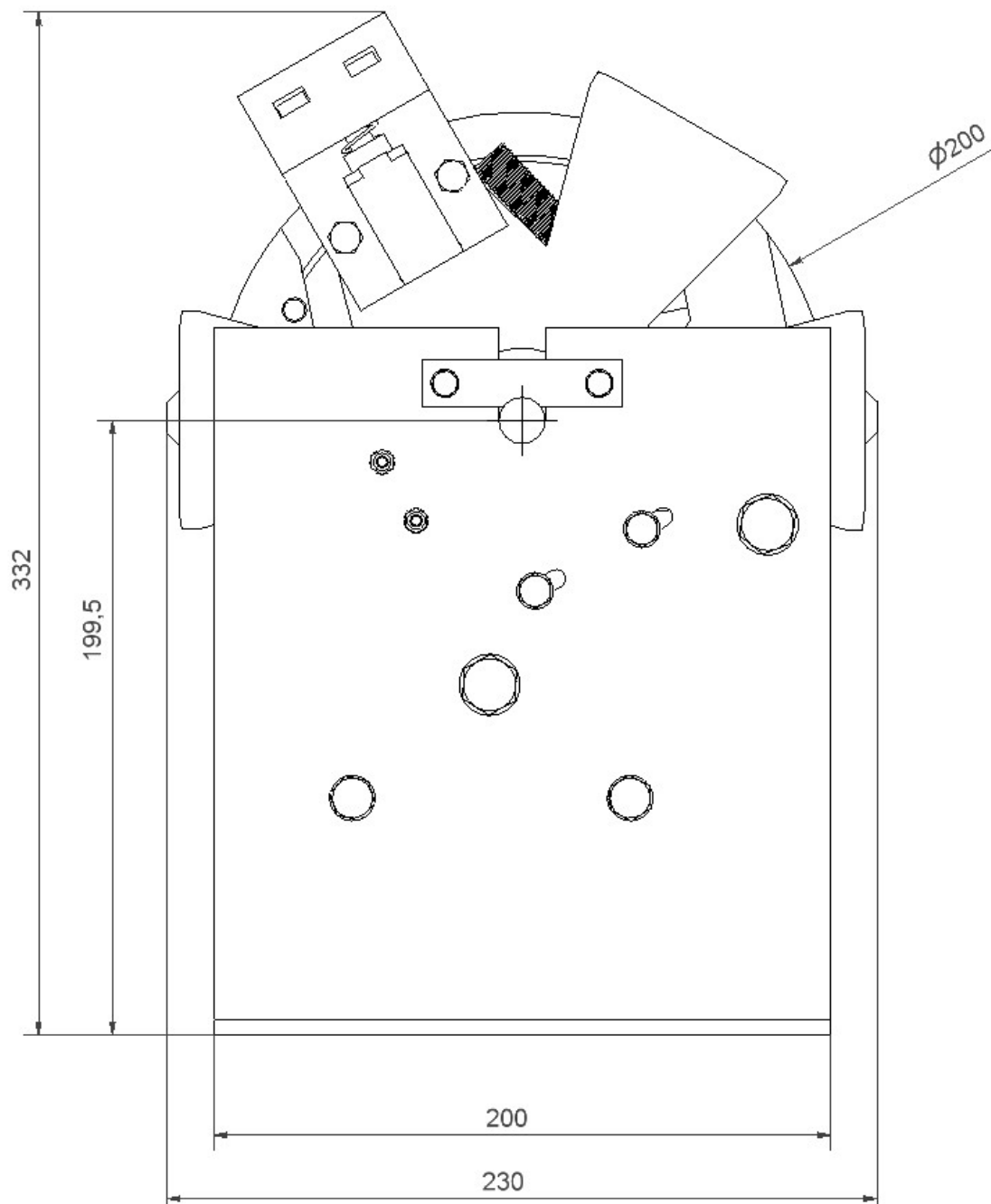
Moreover, all Dynatech governors have rustproof protection, but it is important that the maintenance staff checks the installation to look for any corrosion that may affect any moving part of the elements and that may prevent its natural movement. This check will be carried out by means of a visual inspection of the surfaces conditions 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 an installation in a particularly corrosive environment.

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

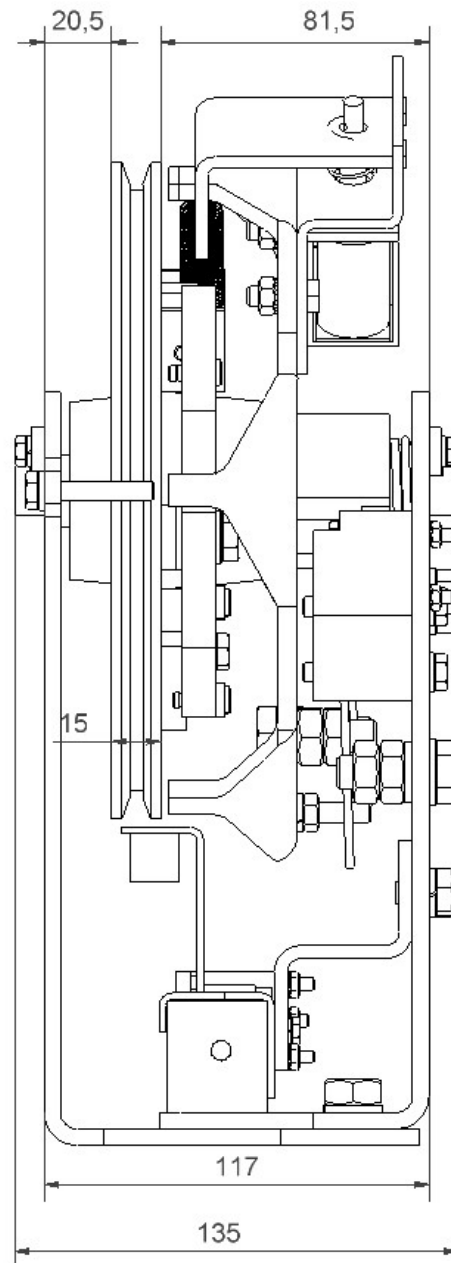
8.-INSTALLATION DRAWINGS.

The following drawings may be of help when adapting and installing the VEGA overspeed governor:

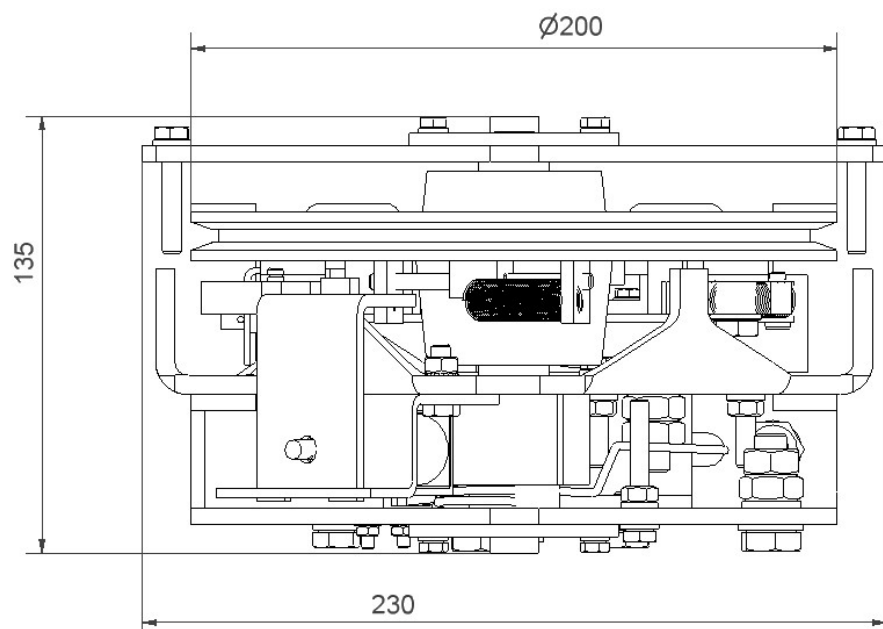
Front view:



Side view:



Bottom view:



9.- EC TYPE-EXAMINATION CERTIFICATE.

ATISAE

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 / M155A-2 / 07
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	VEGA
Fabricante. Manufacturer	DYNATECH, DYNAMICS & TECHNOLOGY S.L. P.I. Pina del Ebro, sector C, parcela 9 50750 ZARAGOZA (ESPAÑA).
Propietario del certificado. Certificate Owner	Véase fabricante / Please refer to manufacturer
Fecha de presentación. Date of submission	01/03/2006
Fecha del examen de tipo. Date of EC type examination.	21/12/2007
Laboratorio de ensayo. Test laboratory	(véase en el anexo técnico sección 2.8). (Please refer to technical annex section 2.8)
Informe de ensayo / Test report	(véase en el anexo técnico sección 2.8). (Please refer to technical annex section 2.8)
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_070744 (21.12.2007)
Plazo de validez / Expiry date	Indefinido / (véase en el anexo técnico sección 2.10). Indefinite / (Please refer to technical annex section 2.10)

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.

Tres Cantos, a 21 de DICIEMBRE de 2007

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.



 José Manuel Flórez González
 Coordinador Técnico

ATISAE

ANEXO TECNICO AL CERTIFICADO CE DE EXAMEN DE TIPO ATI/LD-VA/M155A-2/07 TECHNICAL ANNEX TO THE EC TYPE EXAMINATION CERTIFICATE (ABOVE)

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

ATI / LD-VA / M155A-1 / 06

El alcance de la ampliación se encuentra detallado en la nota 2.1.
The scope of the extension is explained in the remark 2.1.

- 1. Campo de aplicación:**
Scope.
- 1.1. Velocidad de disparo:** **0.40 ÷ 2,87 m/s**
Permissible tripping speed.
- 1.2. Velocidad nominal:** **≤2,40 m/s**
Permissible rated speed.
- 1.3. Diámetro primitivo de la polea del limitador:** **190.5 mm**
Pitch diameter of the governor pulley
- | | | |
|--|------------------------------|-----------------|
| | cable / rope 6.0 mm Ø | 190.5 mm |
| | cable / rope 6.3 mm Ø | 191.5 mm |
| | cable / rope 6.5 mm Ø | 195.0 mm |
- 1.4. Cable:**
Driving rope:
- 1.4.1. Diámetro:** **6.0 / 6.3 / 6.5 mm**
Diameter.
- 1.4.2. Composición:** **6 x 19+1**
Art.
- 1.5. Mínima fuerza tensora:** **1000 N**
Minimum tensioning force.
- 1.6. Fuerza transmitida a los medios de frenado con mínima fuerza tensora.**
Tensile force at minimum tensioning force
- 1.6.1. Hacia abajo / downwards :** **1000 N**
- 1.6.2. Hacia arriba/ upwards :** **450 N**

2. Notas.
Remarks.

- 2.1. La ampliación del alcance establecido por este certificado consiste en los siguientes ítems:**
The scope extension is summarised in the following items:
- a) aplicación de uso unidireccional (actuación sobre paracaídas solo en sentido descendente) en todo el rango de velocidades;
sub-model for ONLY DOWN tripping in the whole range of tripping speeds.
 - b) ampliación a velocidades de disparo más bajas (modelo LS) para actuación SOLO BAJADA;
extension to lower permissible tripping speeds (sub model LS) ONLY DOWN tripping.
- 2.2. 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




ATISAE

El fabricante también informará del diámetro de cable admisible, dado que existen diferencias en la polea y si el limitador es de actuación SOLO BAJADA. Además se debe indicar el sentido de giro para actuación en bajada.

The manufacturer shall also inform about the rope diameter for which the governor is intended because there are differences in the groove, and the condition of ONLY DOWN tripping when required. Furthermore the direction of rotation to operate the safety gear DOWN shall be marked.

- 2.3. El contacto eléctrico de seguridad es de rearme manual ($V_n \geq 1$ m/s); o automático ($V_n < 1$ m/s).
The safety electric contact is reset manually or automatically according the contact model used.
- 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, 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. Las características de estos dispositivos no han sido evaluados y no forman parte de esta certificación.
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. The characteristics of such devices have not been assessed and they are not part of this certification.
- 2.6. La mínima fuerza tensora es la producida en el eje de la polea de desvío. La fuerza transmitida a los medios de frenado es la determinada en el ensayo con cable y ranura nuevos y con un ángulo de abrazamiento de 180°.
The minimum tensioning force is the force produced on the axis of the rope deviation pulley. The tensile force is determined in the test with new rope and groove and a wrap angle of 180°.
- 2.7. El limitador de velocidad puede ser utilizado para accionar dispositivos de frenado de conformidad con 9.9.1., 9.9.3. y 9.10. de EN 81-1 y 9.10.2. de EN 81-2.
The overspeed governor can be used for tripping brake devices according 9.9.1., 9.9.3. and 9.10. of EN 81-1 and 9.10.2. de EN 81-2.

2.8. Laboratorios de ensayo.
Test laboratories.

Laboratorio / Laboratory Laboratorio de Ensayo de Materiales (L.E.M.) E.T.S. Ingenieros Industriales. UPM C/ José Gutiérrez Abascal, 2 28006 MADRID	Informe / report 2006-001 (26.01.2006) 2006-001/2 (09.06.2006)
Laboratorio de Ensayo de Componentes de Ascensores (L.E.C.A.) E.T.S. Ingenieros Industriales. UPM C/ José Gutiérrez Abascal, 2 28006 MADRID	2007-006 (18.06.2007)

2.9. Se adjunta a la presente certificación los siguientes documentos:
The following documents are enclosed to this certificate.

DESIGNACIÓN Number sn	FECHA Date 09.12.05	LEYENDA Title VEGA
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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.

- 2.10 Este certificado perderá su validez debido a cambios de diseño, cambios en la legislación o en la normativa aplicable. El fabricante deberá poner en conocimiento de este Organismo Notificado cualquier cambio de diseño previsto.
This certificate would loose its validity because of design modifications, changes in the applicable law or standards. The manufacturer must communicate to this Notified Body any foreseeable change in the design.

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