LIMITADOR DE VELOCIDAD/

OVERSPEED GOVERNOR/

LIMITEUR DE VITESSE/

GESCHWINDIGKEITSBEGRENZER /

VEGA

INSTRUCCIONES DE USO Y MANUTENCIÓN/

INSTRUCTIONS FOR USE AND MAINTENANCE/

INSTRUCTIONS D'USAGE ET ENTRETIEN/

GEBRAUCHS- UND WARTUNGSANLEITUNG/

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

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

Número de certificado. / Certificate number	**ATI / LD–VA / M155A-3 / 11**
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.** **Pol. Ind. Pina del Ebro. Sector C p-9** **50750 Pina de Ebro ZARAGOZA (ESPAÑA).**
Propietario del certificado. Certificate Owner	**DYNATECH, DYNAMICS & TECHNOLOGY S.L.** **Pol. Ind. Pina del Ebro. Sector C p-9** **50750 Pina de Ebro ZARAGOZA (ESPAÑA).**
Fecha de presentación. Date of submission	**11/02/2011**
Fecha del examen de tipo. Date of EC type examination.	**06/09/2011**
Laboratorio de ensayo. Test laboratory	**(véase en el anexo técnico sección 2.7).** (Please refer to technical annex section 2.7)
Informe de ensayo / Test report	**(véase en el anexo técnico sección 2.7).** (Please refer to technical annex section 2.7)
Directiva CE aplicada. / EC- Directive.	**Directiva 95/16/CE de 29 de Junio de 1995**
Norma de referencia. / Reference standard	**EN 81-1:1998+A3:2009** **EN 81-2:1998+A3:2009**
Informe de ATISAE. / ATISAE report	**MD_EVN_110070.001 (06.09.2011)** **MD_EVN_110070 (06.09.2011)** **MD_DEU_111244.001 (06.09.2011)** **MD_DEU_070744 (21.12.2007)**
Plazo de validez / Expiry date	**Indefinido / (véase en el anexo técnico sección 2.9).** Indefinite / (Please refer to technical annex section 2.9)

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.

ORGANISMO NOTIFICADO ATISAE 0053

Tres Cantos, a 06 de SEPTIEMBRE de 2011

José Manuel Flórez González
Director Técnico de Elevación

Este certificado consta de esta portada, un anexo técnico de 4 hojas y 3 planos / documentos. Su reproducción carece de validez si no se realiza totalmente.

This certificate consists of this main page, a technical annex with 4 pages and 3 plans/documents. It shall be reproduced with all its pages to be considered valid.

Procedimiento EC.12.04 Anexo 4 Rev 0 Septiembre 2005

INSTRUCTIONS FOR USE AND MAINTENANCE

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Note: This manual displays partial information on the instructions for use and maintenance of this product. Please refer to the customer area in Dynatech's website in order to consult the full manual; http://customers.dynatech-elevation.com/

1 INTRODUCTION.

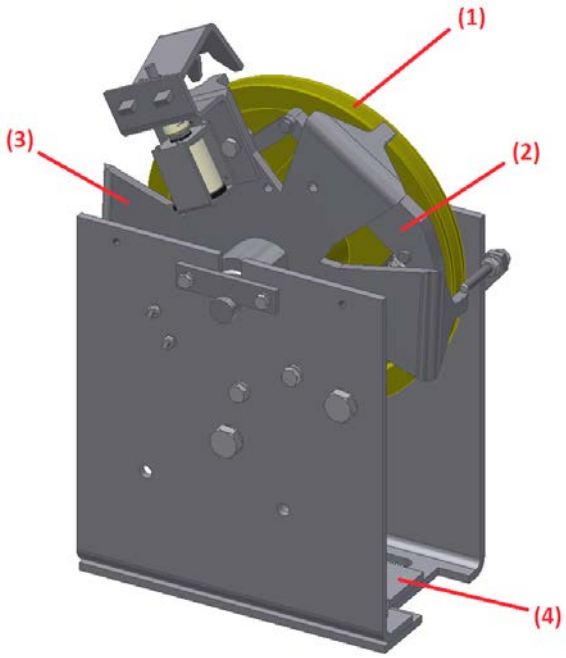
The DYNATECH VEGA overspeed governor is designed to cut off the current of the security series line in the event of car overspeed, bringing the lift to a standstill when necessary.

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.

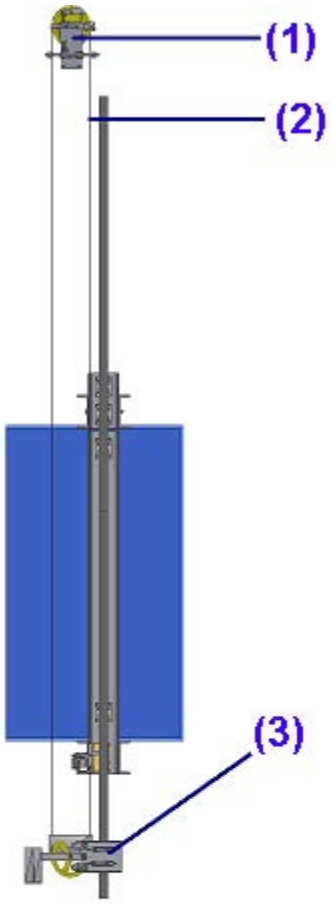
The governor is of the centrifugal type and is able to work either **upwards** or **downwards**.

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:

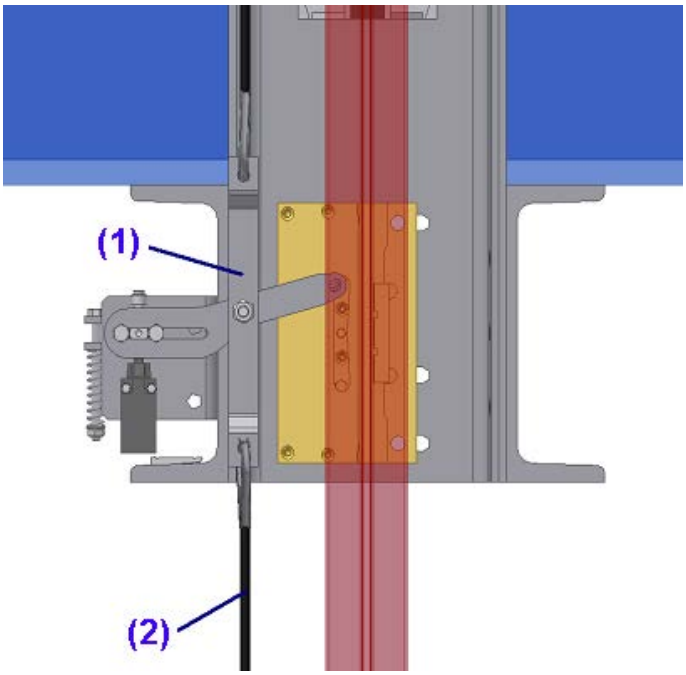
(1) VEGA governor

(2) Governor rope

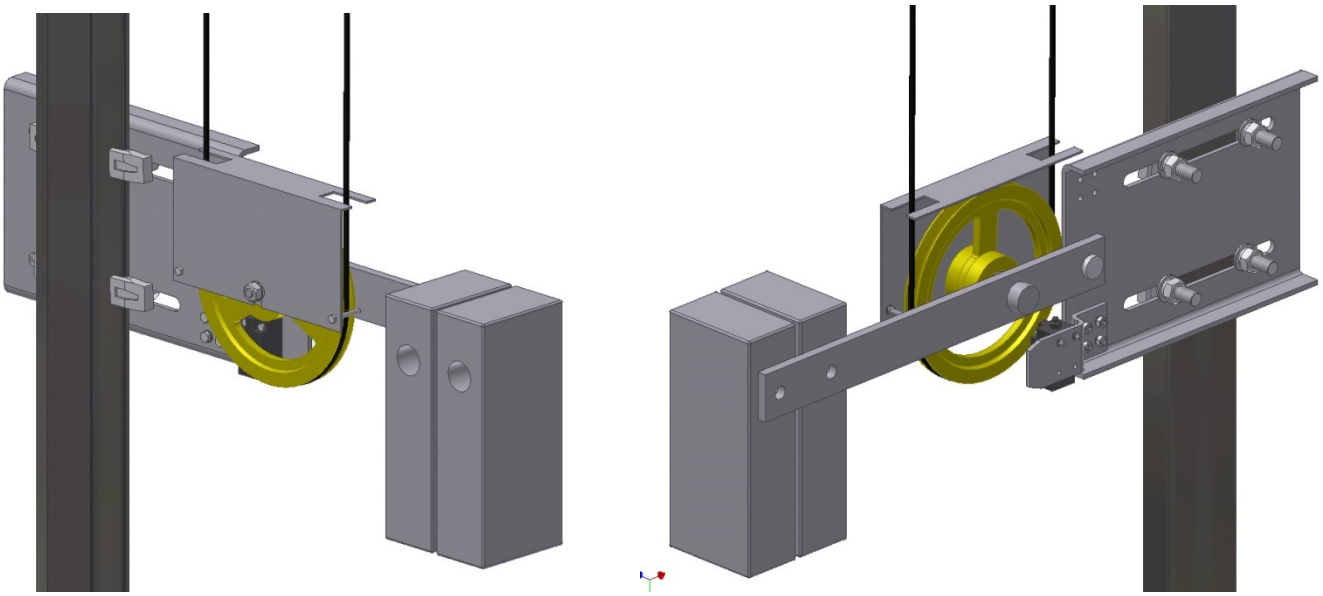
(3) Tension weight

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.

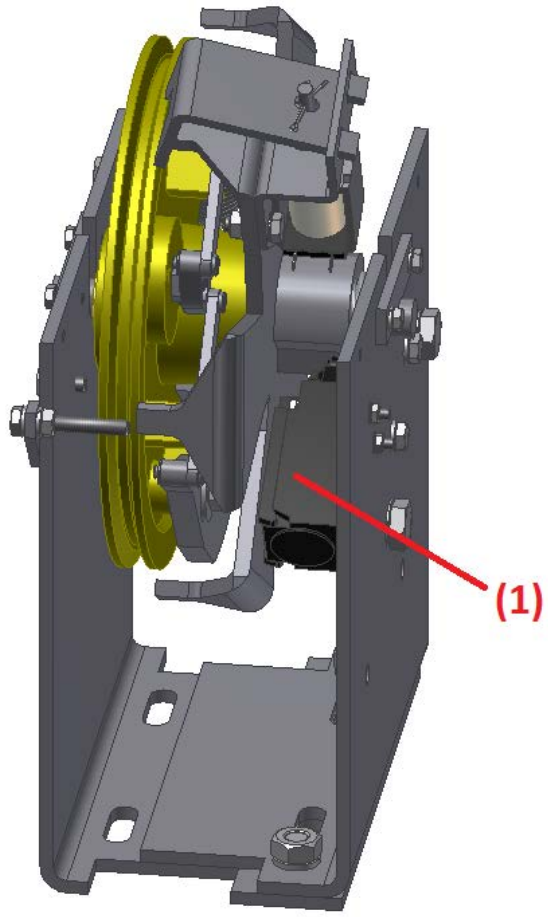


The tension weight is secured to the guide rail by flanges.



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.

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).

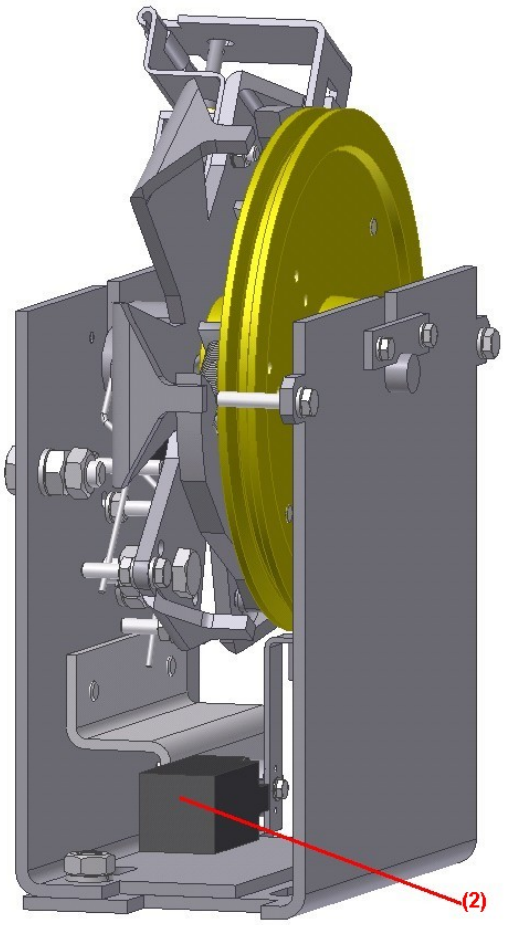
The contact will act when the governor reaches a speed above the rated speed and a moment before the governor actuates.

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 bellow 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 **1,2 A** must be provided.
- Solenoid fed by **48 V** DC (direct current). A current of **0,54 A** must be provided.
- Solenoid fed by **190 V** DC (direct current). A current of **0.16 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.

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 1.2, 0.54 and 0.16 A, respectively, is used.

3.4 UNCONTROLLED MOVEMENT UCM DEVICE

3.4.2 WARNINGS AND SUGGESTIONS

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 inductive 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 inductive 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 **manual rescue.** If the pin is not released, the governor will lock and the safety gear will engage during the rescue movement.

- 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 i**n 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.

3.4.3 THE PARKING SYSTEM AS REMOTE CONTROL.

The parking system can be used as remote control.

Operations are the opposite to those of the parking system, as it unlocks the governor when the lift is running under normal conditions.

The purpose of the remote control system is to lock the governor when the lift is moving. This takes place during engagement tests. On locking the governor, the safety gear is forced to operate.

To do so, a button must be installed on the control panel that disconnects the current to the parking system coil.

As indicated above, the parking system unlocks the governor by powering the solenoid valve in this system. If the governor is to be locked while the car is operating normally, this solenoid valve must be disconnected so that the parking system locks the governor.

3.4.4 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.

A spray type lubricant, which prevents the adhesion of dust, can be used on the parts shown in the figure.

Attaching a protective cover will help prevent dirt from entering, and keep the mechanism in a cleaner condition.

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 unidirectional. In order to know the right way, it must pay attention to the arrow in the governor.

4 VEGA PLUS

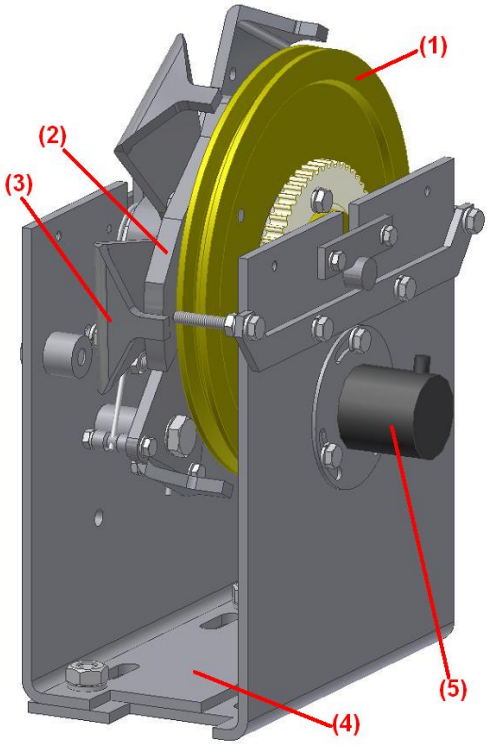
The VEGA Plus governor is characterised by the fact that it is fitted with an Encoder at the rear for permanent control of the position of the car

The Encoder turns thanks to a wheel gear system, with a gear ratio of 3. The angular speed at which the encoder turns is 3 times greater than that of the main pulley.

The Encoder supplied in the VEGA plus is the OMRON E6B2CWZ6C500 0.5M 24V.

This is a 500-pulse incremental encoder powered by 24 V.

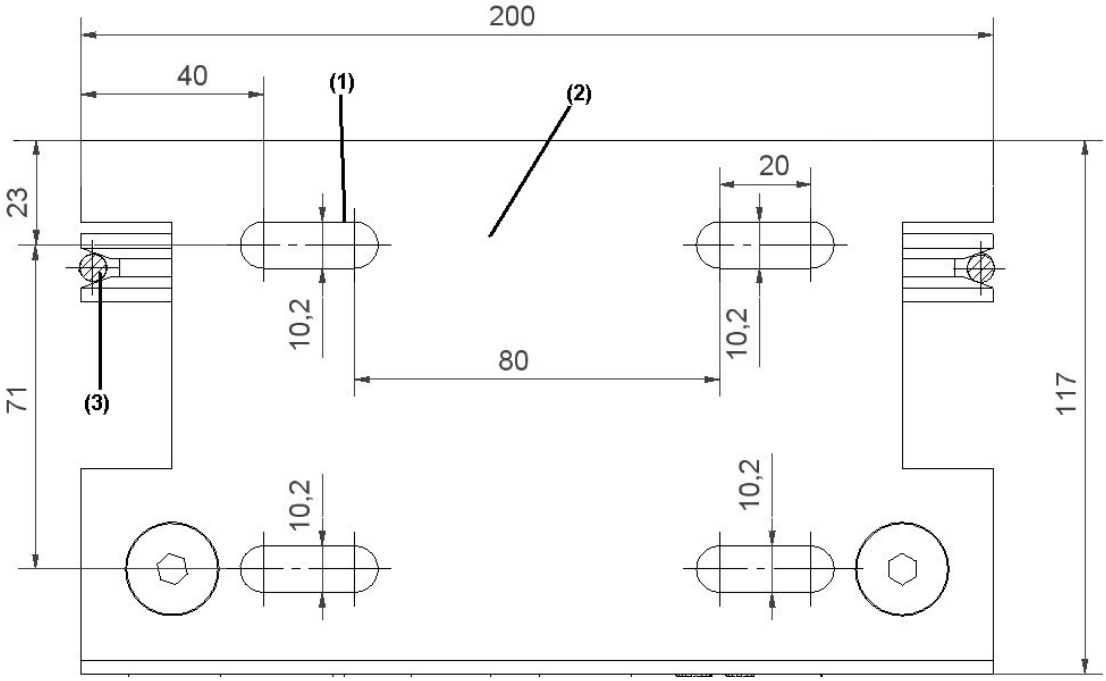
For further information on the encoder indicated, all the information taken from the OMRON catalogue regarding this product is attached below.



Note: Clients preferring to install their own encoders should contact Dynatech for measurements and makes of Encoder to ensure that their encoder can be installed in the governor.

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

6 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: 2.87 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.

8 INSTRUCTIONS OF USE AND MAINTENANCE.

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 staffs 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.

8.1 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 - 40ºC.

Storage Humidity: 15 - 85% without condensation

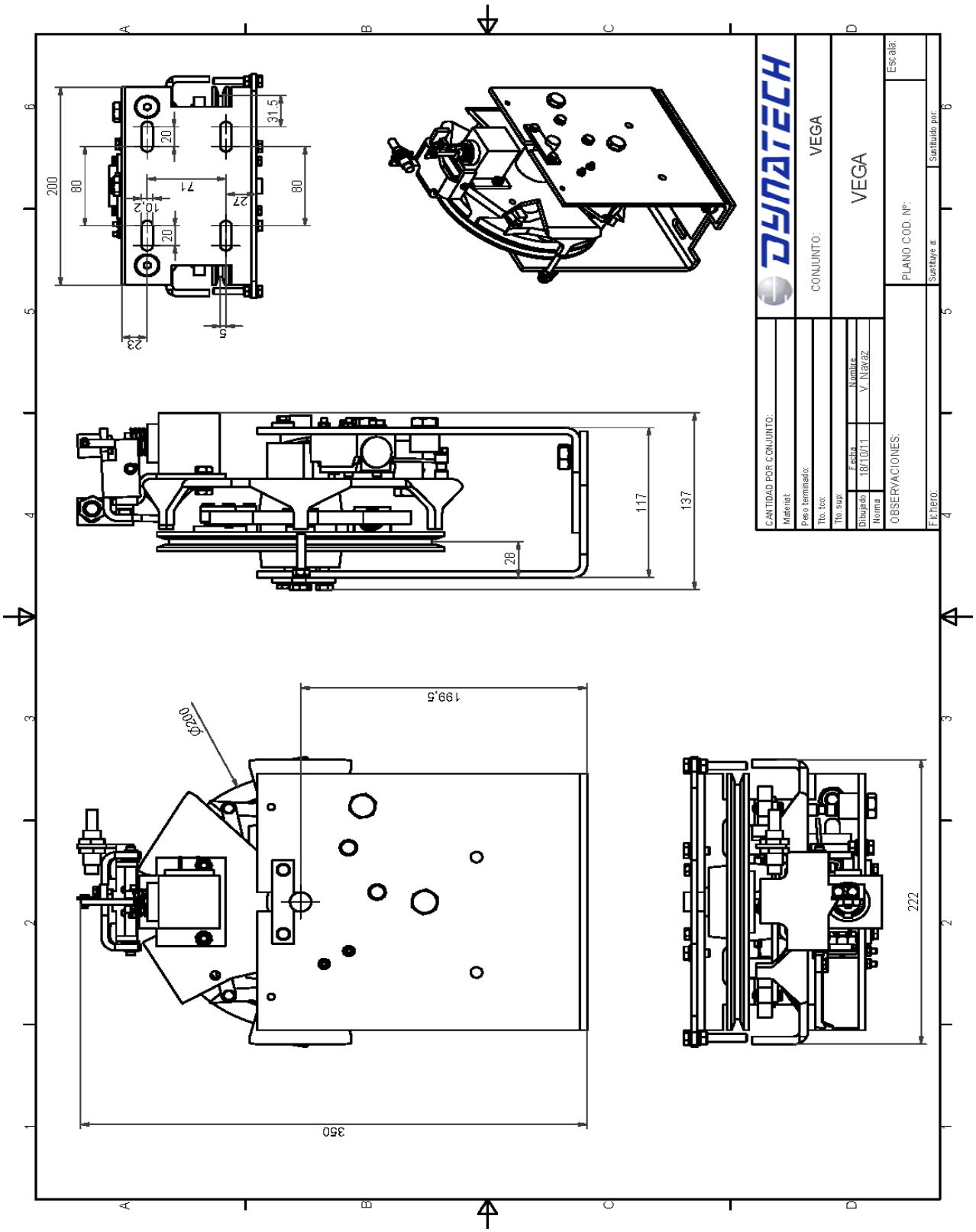
Overspeed governor packages should be clean and dry so that they can be clearly identified.

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 of help when adapting and installing the VEGA overspeed governor:


DYNATECH
CONJUNTO: VEGA
VEGA
Escala:
PLANO COD. Nº:
Sustituido por:
Sustituye a:
CANTIDAD POR CONJUNTO:
Material:
Peso terminado:
Tto. tco:
Tto. sup:
Nombre
Fecha
Dibujado 18/10/11 V. Navaz
Norma:
OBSERVACIONES:
Fichero:
200
80
80
71
27
31,5
20
20
10,2
23
5
28
117
137
199,5
Φ20
350
222

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

