



PARACAÍDAS PROGRESIVO DYNATECH/  
DYNATECH PROGRESSIVE SAFETY GEAR/  
PARACHUTE À PRISE AMORTIE DYNATECH/  
BREMSFANGVORRICHTUNG DYNATECH/

## **PQ-4000-UD**

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 / PP / 008	rev: 2
Notified Body:	TÜV SÜD ATISAE S.A.U. Ronda de Poniente, 4 ES 28760 Tres Cantos MADRID ID number: 0053.	
Product:	Safety Component Progressive safety gear (PP)	
Type:	PQ 4000 UD	
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 2.9	
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 2.11)	
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 / PP / 008 R2. 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 2.13 of the technical annex



DAS / 000268-1

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

Each pair of safety gears supplied is factory tared according to the required conditions of use: Total mass (P+Q) and guide rails' thickness. These features are indelibly displayed, along with the standardisation password and serial number; on the protection plates on top of the safety gear boxes (see section 2.1).

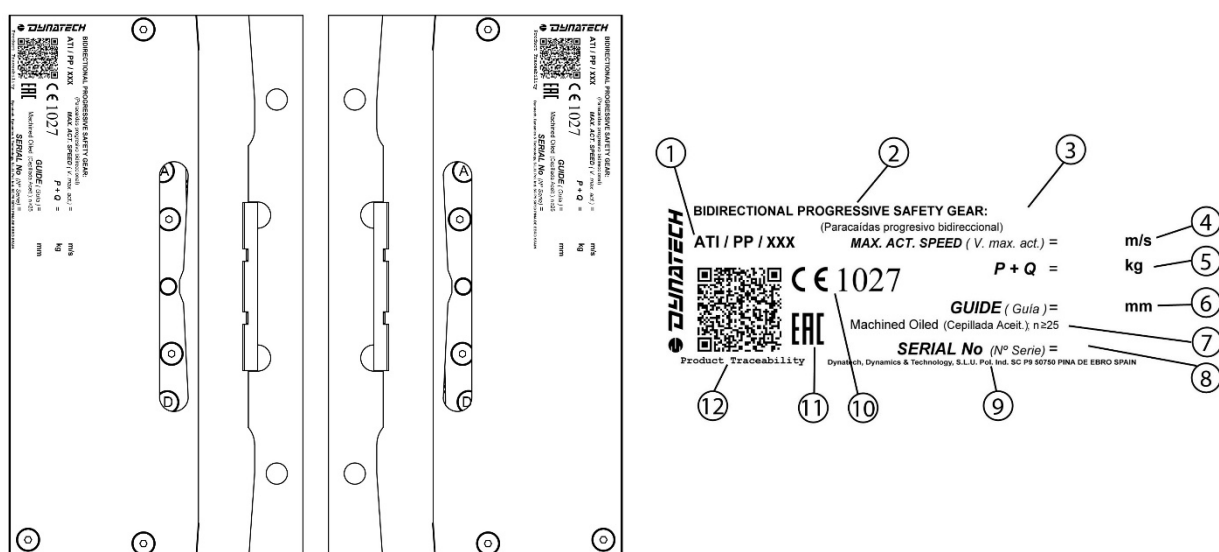
*It is strictly forbidden:*

- To combine and assemble safety gear boxes with different serial numbers.
- To use a pair of safety gears for installations with characteristics different from those indicated on that pair of safety gears' protection plates.
- To handle any of the safety gear's components.

DYNATECH DYNAMICS & TECHNOLOGY, S.L. cannot be held responsible for the damage caused due to the non-observance of any of these general instructions.

## 2 SAFETY GEAR IDENTIFICATION AND CHARACTERISATION

### 2.1 IDENTIFICATION



SAFETY GEAR IDENTIFICATION LABEL			
1	EU type examination certificate number	7	Guide rail type
2	Safety gear type	8	Safety gear serial number
3	Safety gear model	9	Dynatech address
4	Safety gears' maximum tripping speed (m/s)	10	Quality assurance CE marking and notified body number
5	Total load (Kg)	11	Marking for market access to member states of the Customs Union
6	Guide rail thickness (mm)	12	QR product traceability code

Figure 1: Safety gear identification

### 2.2 SAFETY GEAR'S FEATURES AND USE

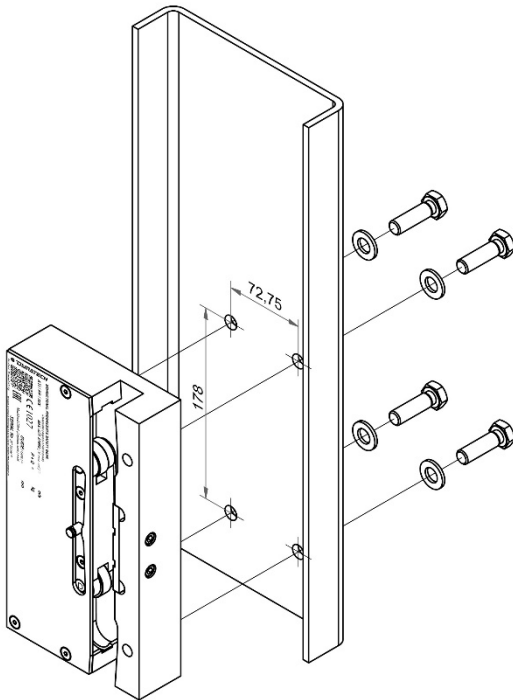
- The guide rails to be used should be machined. Allowable tolerances for guide rail thickness should be within the limits set by the standard: ISO 7465:2007.
- For lubricated guide rails, the recommended lubricating oil is the type used for machines according to ISO VG 150, although other viscosities within the margins established in ISO-VG may be accepted.
- This safety gear can be used up to a maximum tripping speed of 2.5 m/s.
- Allowable guide rail thicknesses: 7 – 16 mm.
- Guide rail's braking surface equal to or more than 25mm.

### 3 INSTALLATION AND ADJUSTMENT

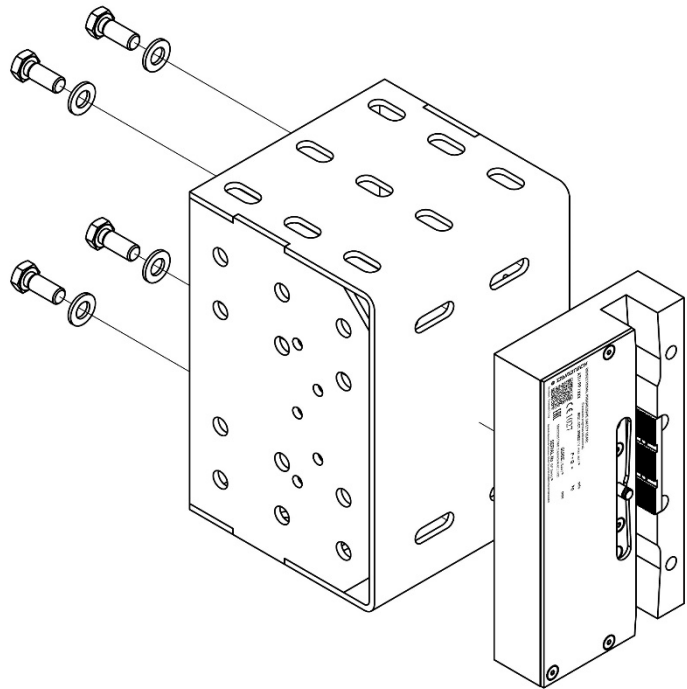
#### 3.1 ASSEMBLY ON THE FRAME

The holes should be made on the frame's uprights to secure the safety gear, according to the dimensions and position displayed in the safety gear drawings attached (DYN 11.C001.01), ensuring that the guide rail's axis is centred with the frame.

To secure the safety gear onto the frame, we recommend a 79.09 Nm tightening torque for grade 8.8 M12 bolts, and of 111 Nm for grade 10.9 bolts.



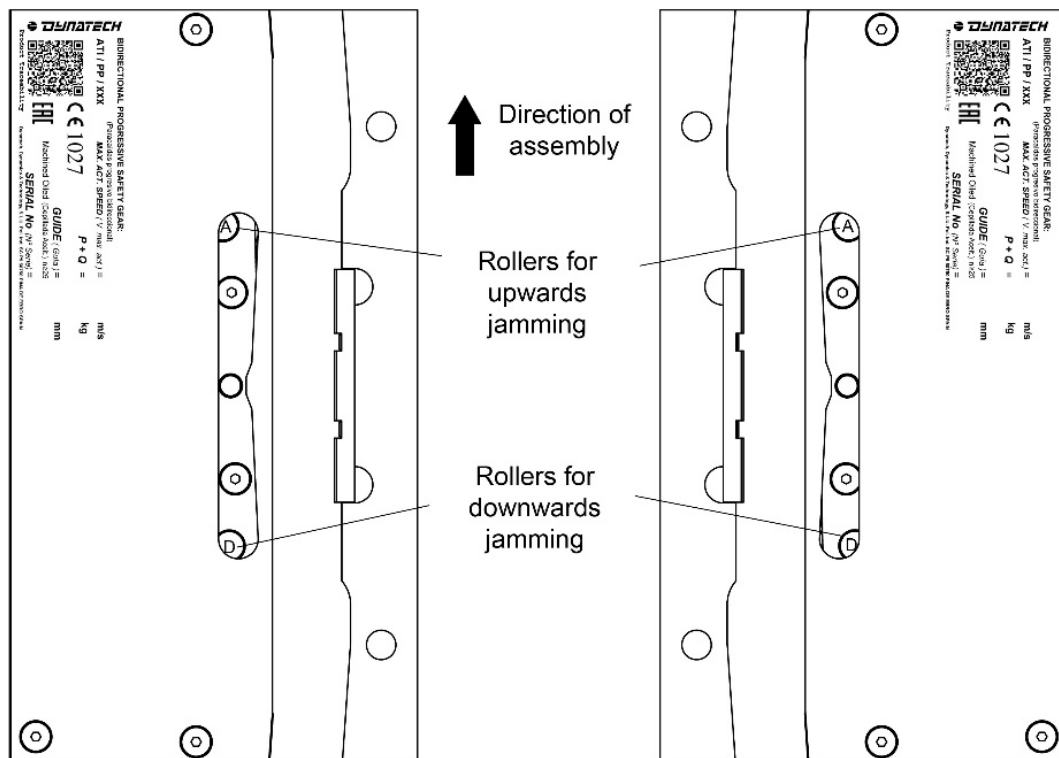
**Figure 2: Assembling the safety gear onto the frame (1)**



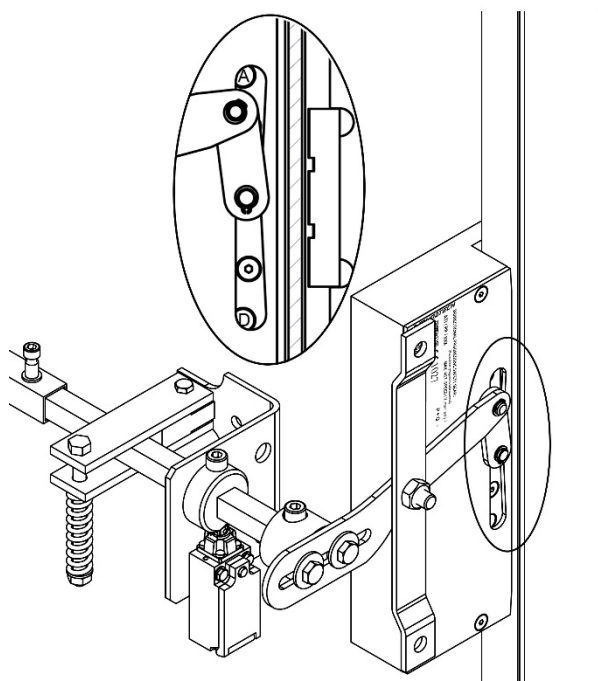
**Figure 3: Assembling the safety gear onto the frame (2)**

Safety gear position:

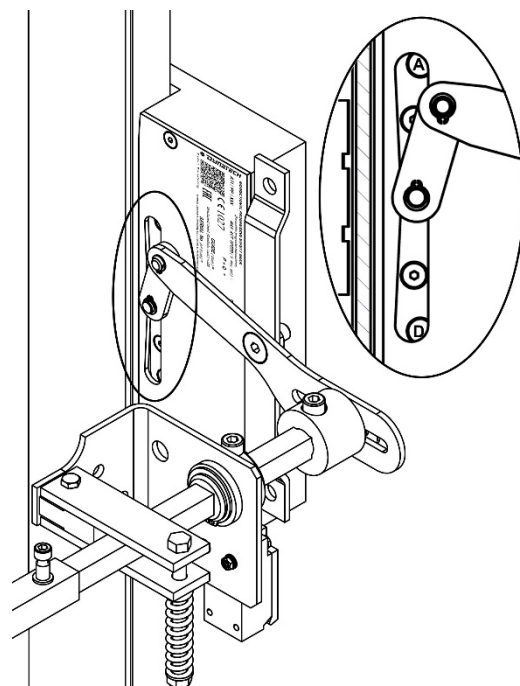
- a) The safety gears should be assembled in the position displayed in Figure 4
- b) The roller for upwards jamming is indicated with letter "A". That is to say, roller "A" should be on the upper part of the safety gear.
- c) The roller for downwards jamming is indicated with letter "D". That is to say, roller "D" should be on the lower part of the safety gear.



**Figure 4: Direction of assembly**



**Figure 5: Roller position**



**Figure 6: Roller position on inverted guide rails**

During assembly, the safety gear should be perfectly aligned with the guide rails, both vertically and horizontally. Improper assembly may cause the safety gear to function incorrectly.

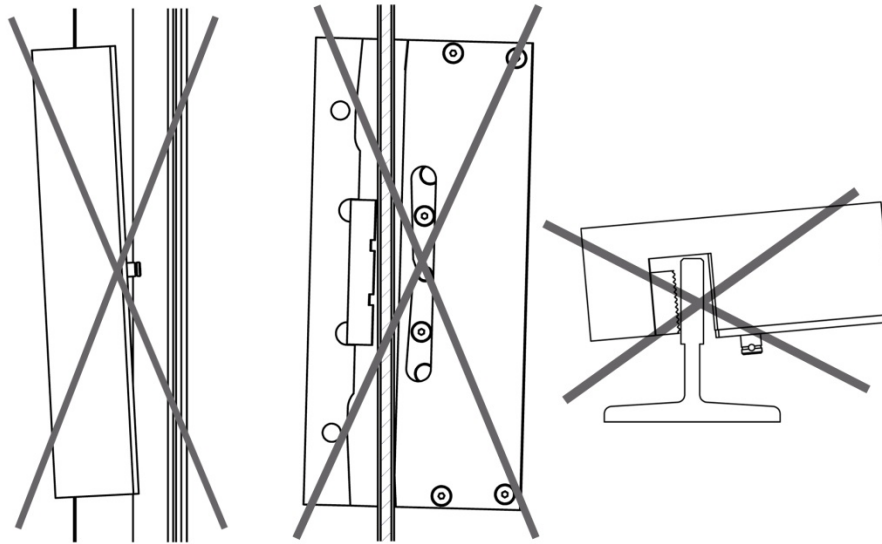


Figure 7: Improper assembly

### 3.2 SAFETY GEAR ADJUSTMENT

The guide rail's position in the block should be adjusted as follows: The side of the guide rail 1.5 mm from the brake shoe; the head of the guide rail 3 mm from the back of the groove (see drawing DYN 11.C001.01).

In order to avoid problems with the installation's normal operation, it is very important that the person carrying out the installation rigorously observes the distances mentioned in this item.

It should be checked that the safety gear is placed so that the rollers for downwards jamming, marked with the letter "D", are on the bottom part of the safety gear, as is shown in item 3.1.

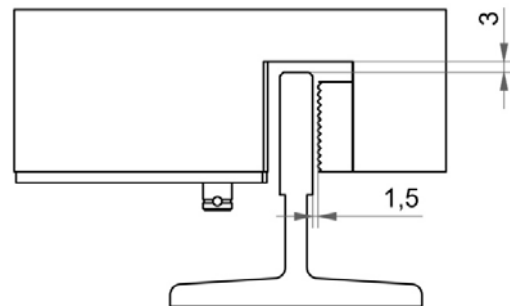


Figure 8 Safety gear adjustment in relation to the guide rail

### 3.3 COUPLING THE DRIVING BAR

It is the responsibility of the person who installs the safety gear to properly position the driving bar in relation to the safety gear, as well as to properly synchronise the safety gears controlled by that driving bar. The driving bar is properly positioned when the trolley's pivot is in the protection plate's central position.

Once it has been fitted and the safety gear's roller's trolleys have been attached to the driving bar's tripping bars, it should be checked that both trolleys operate simultaneously, controlled by the driving bar. This should be checked in both directions, ascending and descending.

The minimum force to be generated by the overspeed governor is double the force that ensures that the performance of the safety gears is synchronised.

The Standard demands that the installation incorporate an AC-15 or DC-13 safety contact as defined in EN 60947-5-1.

#### 3.3.1 USING DYNATECH'S T-3 DRIVING BAR

Both safety gears may be synchronised by assembling Dynatech's T-3 driving bar. For more information concerning T-3 driving bar assembly, please consult its manual: DYN08 – Instructions T-3.

It is not recommended to exceed a maximum force of 1900 N is not recommended with the governor.



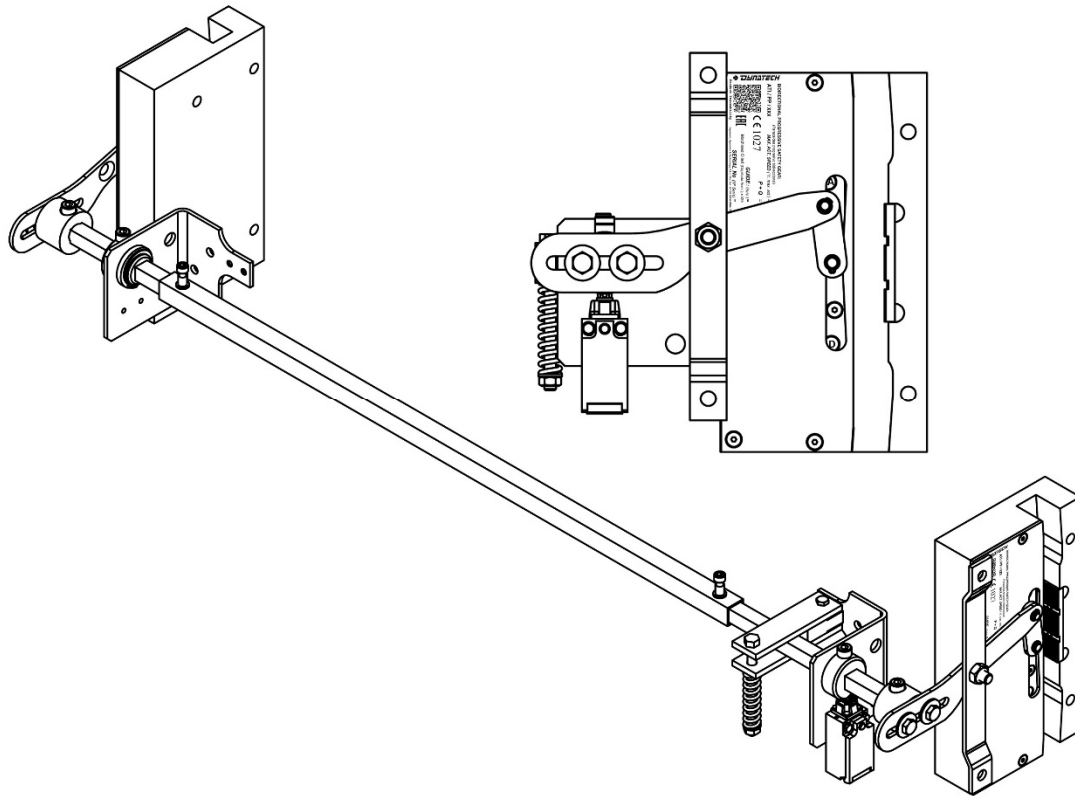


Figure 9: Safety gear synchronisation using the T-3 driving bar

## 4 INSPECTIONS AND MAINTENANCE

### 4.4 STORAGE AND SERVICE LIFE

The safety gear should be stored in a cool, dry place. It should be protected from excessive lighting. It should never be exposed to severe weather conditions.

Storage temperature: 5 - 40°C

Storage humidity: 15 - 85% without condensation.

The safety gears' packaging should be clean and dry, so that they can be clearly identified.

It is not permitted to place constant or unbalanced loads on a package, which may cause the package to be bent, or to allow products to be stacked one on top of the other. When stacking products or packages, the storage height should take into account their load and stability.

If the criteria established for proper maintenance are observed, the safety gears may have the same service life as the rest of the installation's fixed elements provided that their proper functioning is ensured and controlled. The element's service life is not affected by grease, dust or dirt due to the shaft's condition or to environmental conditions differing from those stated in this manual.

## 5 UCM

### 5.1 UCM SYSTEM'S PRELIMINARY DESIGN.

According to EN 81:20 and EN 81:50, lifts should be equipped with means for stopping uncontrolled car movement (UCM). These means should detect UCM and stop the car. This stop must occur at a maximum distance below 1 m (among other requirements).

The safety gears may be used as a braking device for stopping the uncontrolled movement.

The values for the safety gear's braking distance may be calculated beforehand, but several installation parameters must be taken into account. The more information that is known about the physical elements that make up the system, the closer the theoretical value will be to the actual value.

These are theoretical values and may only be used in the system's preliminary design. The installation's compliance with the standard requirements is pending.



## 6 GENERAL DRAWING

