

*Inkema Sistemas, S.L.*



*Instruction Manual*  
**PA1 Folding Bridge**



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## 02 – Introduction

This manual provides the instructions for the correct use and safe and correct maintenance of the **PA1** Folding Bridge.

Compliance with these instructions will guarantee a long working life of the machine and the observance of the safety regulations will prevent the most common accidents caused during the machine's operation or maintenance.

The instructions included in this manual do not guarantee a safe operation on their own, i.e., they do not exempt the operator from complying with the safety codes or laws and/or local or national regulations or by-laws.

The service regulations described in this manual are solely referred to moving ramps and truck loading and unloading activities.

A new copy must be requested for each specific type of machine in case the instructions and maintenance manual is misplaced. The manual must be near the machine at all times, in order to check any specific instructions at any moment or when the operator has any doubt related to its operation.

The manufacturer does not have direct control over the operations, locations or maintenance activities carried out on the machine. The operator will be responsible for complying with the safety and maintenance instructions.

The operator must read and understand this manual before using the machine.

The machine must be used with the adequate precautions and training, since this does not only protect the operator, but also the persons near the machine or who depend on said operations.

The information included in this manual is valid on the date it is published.

The images and drawings are generic and, therefore, can be modified as a result of the constant development and research activities carried out by **INKEMA SISTEMAS S.L.**

Contact our technical department if you detect any discrepancies.

This manual is an integral part of the unit and must be included with it when the machine is sold.



**DECLARATION OF CONFORMITY**

**INKEMA SISTEMAS S.L.** declares under its sole responsibility that the Folding Bridges:

Brand : **INKEMA**  
Model : **PA11** and **PA12** with a **4,000 Kg<sup>(\*)</sup>** capacity  
Year of manufacture : **2009**

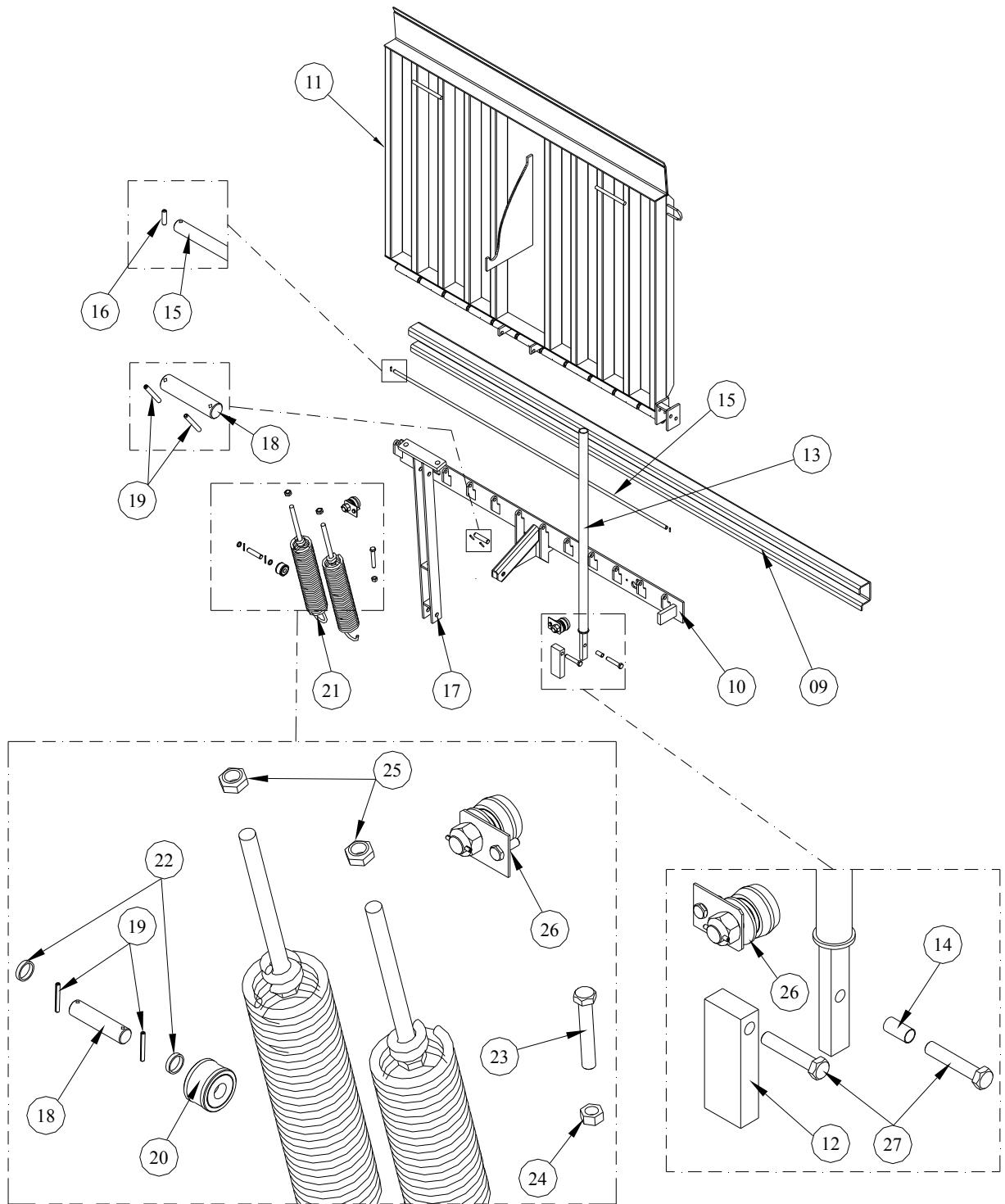
Complies with the essential requirements of the following directives:

**D 98 / 37 / EC** Machine safety.

And has been calculated and designed in compliance with the following European regulations:

**EN 1398:1998** Leveling ramps

**EN 292-2:1991** Machine safety. Basic concepts. General principles for design.



<b>Pos.</b>	<b>Part code</b>	<b>Description</b>	<b>Quant.</b>
09	30.0008.0023	Rail guide for the PA1(SKB) Folding Bridge	1
10	20.0027... (*)	Transfer cart PA11 4t (*)	1
11	20.0027... (*)	Structure PA11 4t (*)	1
12	30.0005.0050	PA Folding Bridge locking pedal	1
13	20.0027... (*)	Folding Bridge handling bar (*)	1
14	30.0007.0011	Tube Ø18-Ø16 x 35	1
15	30.0006... (*)	Folding Bridge shaft (*)	1
16	30.0012.0006	Elastic connecting pin Ø5x20 DIN-1481	2
17	20.0027... (*)	Compensation arm PA11 (*)	1
18	30.0006.0024	Compensation arm shaft PA11	2
19	30.0012.0007	Elastic connecting pin Ø5x40 DIN-1481	4
20	20.0027.0007	Roller guide + bearings assembly PA11	1
21	20.0027... (*)	Spring assembly (*)	2
22	30.0007.0012	Tube Ø25-Ø21 x 5	2
23	30.0012.0033	Zinc coated screw M16x100 DIN-933	1
24	30.0012.0026	Zinc coated nut M16 DIN-934	1
25	30.0012.0001	Zinc coated nut DIN-934 M20	2
26	20.0027.0010	Movement wheel assembly PA	2
27	30.0012.0043	Zinc coated screw M16x85 DIN-931	2

(\*) Specify the code of the part and description, as well as the machine model and dimensions.

## 05 – Assembly

**VERY IMPORTANT:** Respect the occupational hazard prevention act and occupational safety, health and hygiene regulations at all times when using the Folding Bridge.

The Folding Bridge must be placed with the help of a crane or similar element, using chains, slings or similar elements to lift it. These elements must have a load capacity that is equal to or greater than the weight of the ramp.

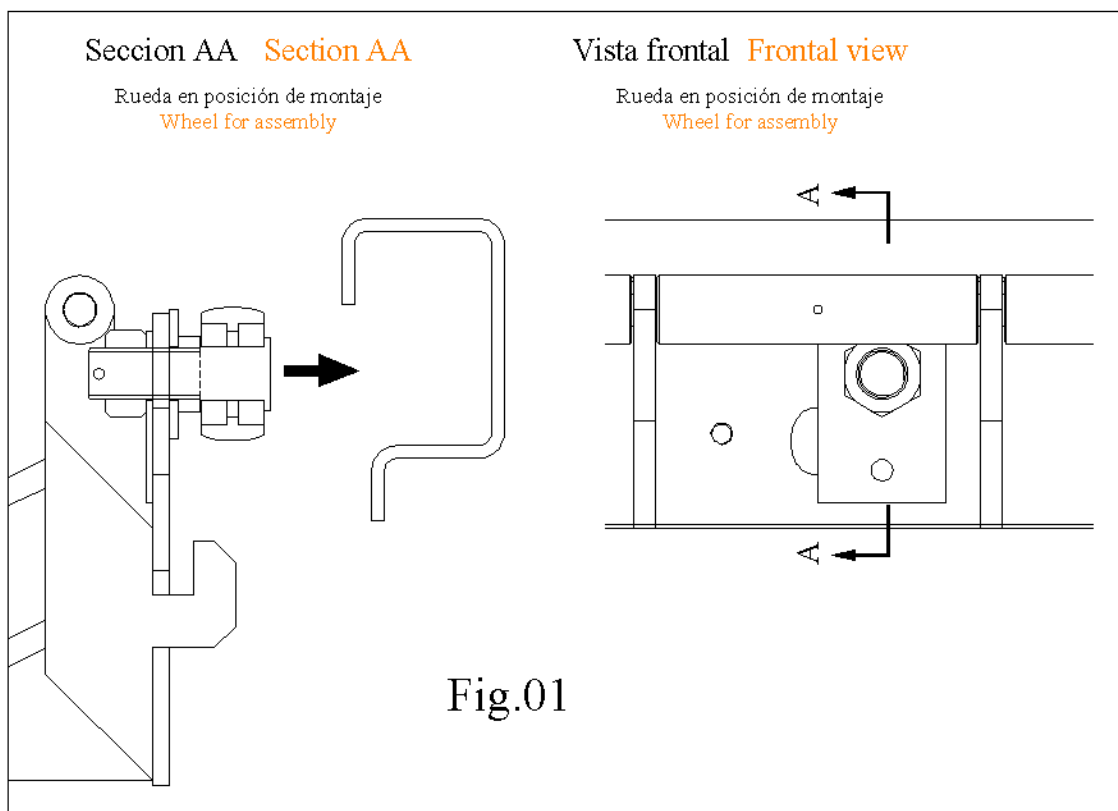
Place the movement wheels in the assembly position while the Folding Bridge is in the lifted position, fixing the said position by slightly tightening the main nut. (See Fig. 01)

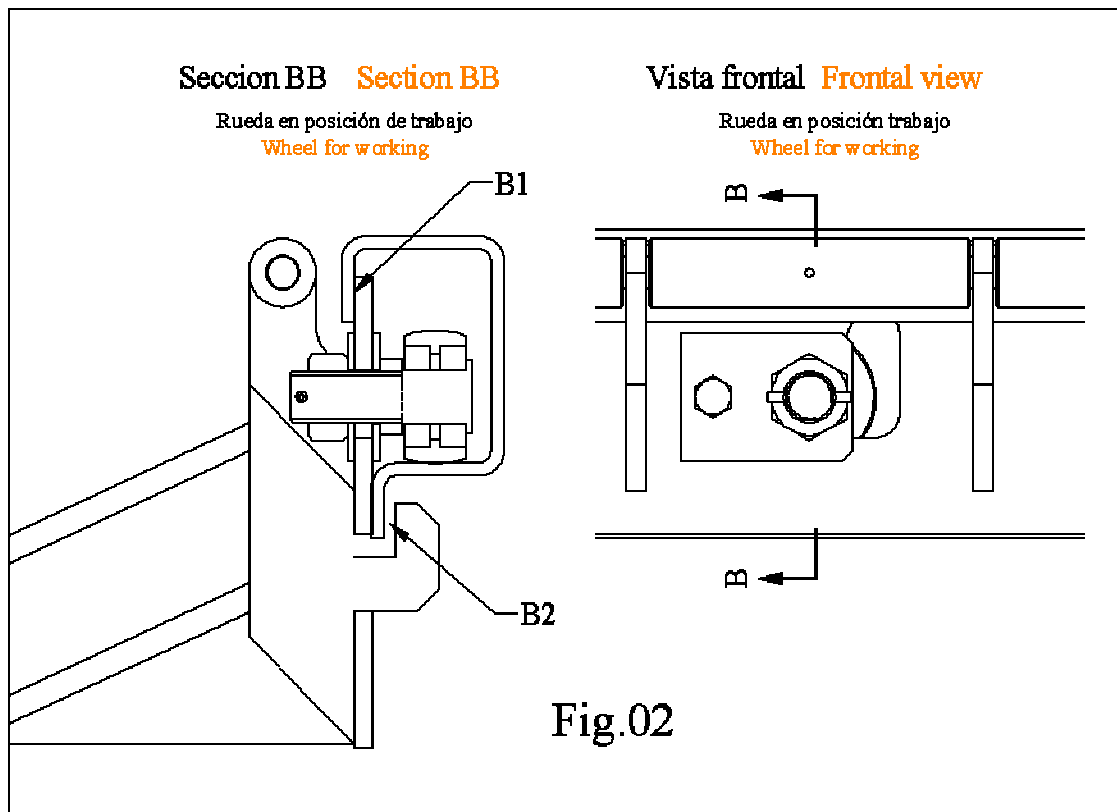
Adjust the movement cart on the guide, making sure that the top edge is inside the crane and the central stops fit in the lower section. (See pts. B1 and B2 on Fig. 02)

Loosen the main nut of the movement wheels and place them in the working position, locking indicated position with the lever and locking screw. Firmly tighten the main nut and fix it with the elastic connecting pin. (See Fig. 02)

Finally, release the Folding Bridge from the crane's fixing elements and check its operation, adjusting the springs if required.

It is very important to make sure that the Folding Bridge always tends to fall and lie on the truck when placed in its working position,  $\pm 7^\circ$  from the loading dock level. If this is not the case, loosen the tension of the springs until this effect is achieved.







## 06 – Disassembly

**VERY IMPORTANT:** Respect the occupational hazard prevention act and occupational safety, health and hygiene regulations at all times when using the Folding Bridge.

The Folding Bridge must be in the stand-by position (vertical) before it is disassembled.

This operation must be carried out with the help of a crane or similar element, using chains, slings or similar elements to lift it. These elements must have a load capacity that is equal to or greater than the weight of the ramp.

Slightly lift the Folding Bridge, until the movement wheels do not receive its weight, taking care not to lift it too much, since this could break the guide and/or transfer cart. Remove the safety elastic connecting pin from the movement wheel's screw, loosen the main nut and release the movement wheel from its work housing, removing the screw and safety plate.

Place the wheel in its assembly position while the Folding Bridge is lowered so that points B1 and B2 shown on Fig. 02 are free, so that the Folding Bridge is pulled out of the guides and is disassembled.

## 07 – Instructions for use

### 07.01 – Before use

Perform a visual check to make sure that the Folding Bridge is in perfect conditions for use.

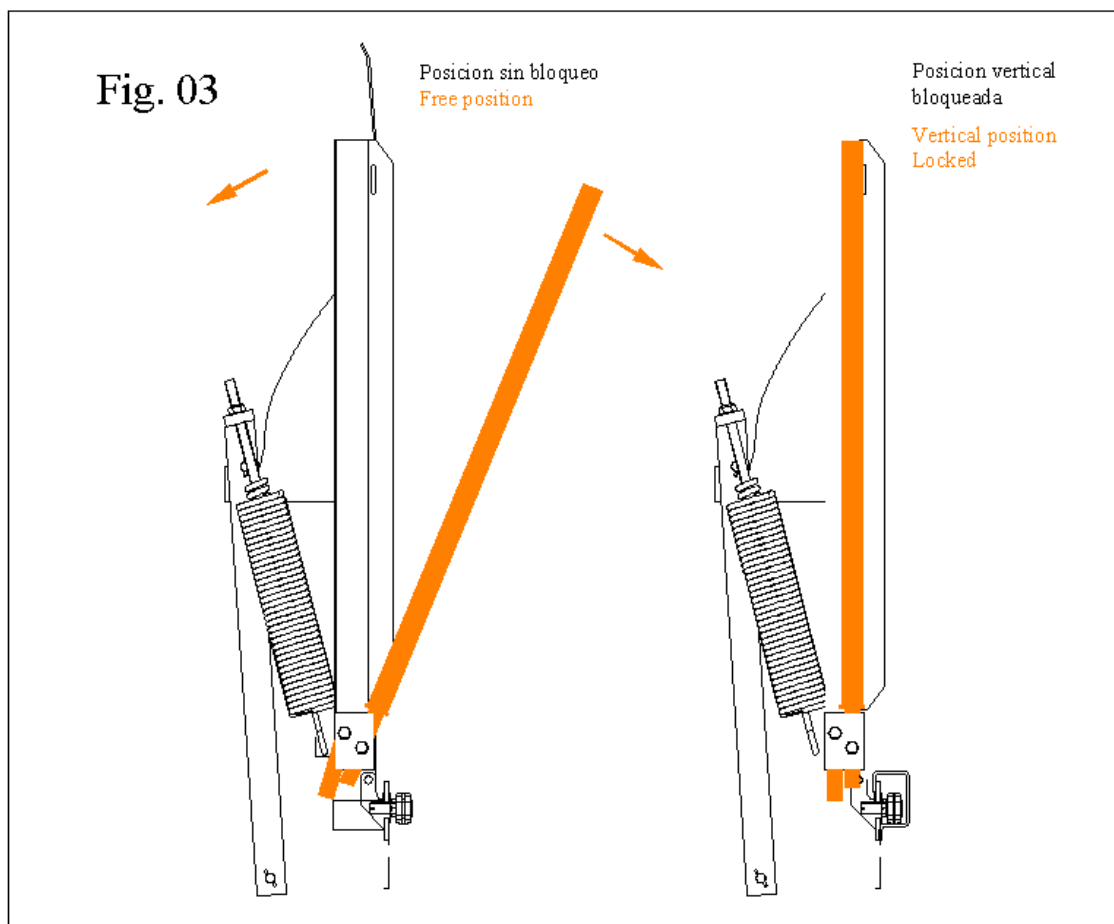
Centre the vehicle and park it at a distance to make sure that the end of the Folding Bridge is supported on its box.

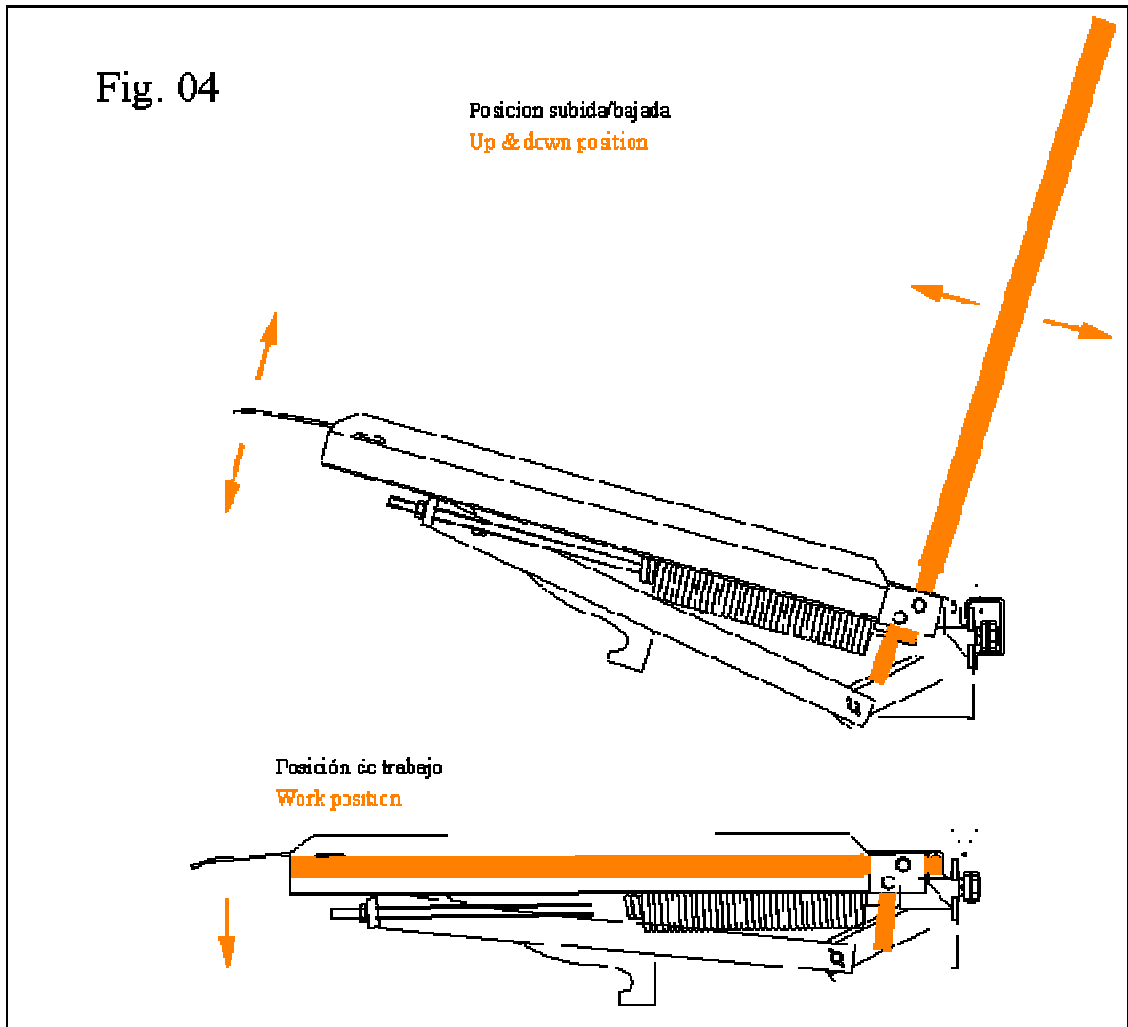
Stop the vehicle's engine, press the parking brake and place the wheel chocks so that it is fully immobilized and blocked.

Unlock the Folding Bridge with the handling lever (See Fig. 03) and turn it until its edge is supported on the vehicle's box.

Use the handling lever to control the lowering movement while the Folding Bridge is turning to prevent any violent impacts against the truck's box. Once it has been supported on the box, turn the maintenance lever to place it in parallel to the Folding Bridge (See Fig. 04).

Make sure that the working slope range ( $\pm 10\%$  or  $\pm 7^\circ$ ) is correct, so that the Folding Bridge always tends to fall on the vehicle on its own.





### 07.02 – During use

The Folding Bridge will be supported on the loading surface (truck).

Do not exceed the maximum nominal load at any moment. (See machine's data plate).

Make sure that the Folding Bridge is always supported on the load surface during the loading operations.

The Fork lifts must move over the bridge with the adequate precautions. The ramp has been designed with a maximum movement speed of 10 Km/hour.

### 07.03 – After use.

Lift the Folding Bridge, before the truck moves out of its loading position. To do so, turn and pull the handling lever, until the Folding Bridge has been lifted vertically.

Place the lever in its housing, so that the safety pedal blocks the Folding Bridge in its vertical position.



#### **07.04 – Precautions for use**

Do not exceed the maximum nominal load at any moment. (See machine's data plate).

Make sure there are no people in the working area, before any operation is undertaken.

Make sure that the Folding Bridge is well supported on the truck's loading surface, attaching the whole platform to a 130 mm long surface.

At the end of the operation, make sure that the Folding Bridge is in the vertical position, with the lock activated and the handling bar in the retracted position.

## **08 – Technical file**

The Folding Bridge has been designed in compliance with **UNE-EN 1398**.  
Calculated for a maximum nominal load of: (See Folding Bridge data plate).  
It is composed of three parts: Structure, cart and compensation system.

### **08.01 – Structure:**

Top tear plate sheet (Thickness 5/7mm), quality ST-37.

Tubular profiles

Milled 5° at 150 mm from the end (for the perfect attachment to the truck).

### **08.02 – Rail:**

Hinge set.

Movement wheels.

### **08.03 – Compensation system (PA11 models):**

Springs

Catch

Compensation arm

### **08.04 – Safety systems**

Skidproof surface

Locking part in the vertical position.

## 09 – Maintenance

The correct operation and long working life of the Folding Bridge largely depend on the preventive maintenance operations.

The advanced maintenance operations can only be carried out by the Technical Service of **INKEMA SISTEMAS S.L.** or staff that has been certified by the company.

Necessary maintenance activities are carried out with the purpose of making sure that the product's safety and usage features upon installation are in perfect working conditions.

Any unauthorized replacement, repair or handling of the product that does not comply with said guidelines will declare void the two year warranty period and the responsibility for the product of **INKEMA SISTEMAS S.L.** will be cancelled automatically.

Complying with the constant greasing, finishing and supervision tasks is the best guarantee for an optimum performance during many years.

### 09.01 – Greasing points

All shafts and turning points on the Folding Bridge must be inspected once a year, greasing them when necessary.

### 09.02 – Maintenance plan

Maintenance interventions	Daily	Monthly	Six-monthly	Yearly	Two-yearly
General state of the machine	◆	◆	◆	◆	◆
Paint finish inspection			◆	◆	◆
Inspection of side adhesive bands			◆	◆	◆
Greasing				◆	◆
Inspection of welds				◆	◆
Inspection of shafts				◆	◆

## **10 – Conditions for use and limits**

- Nominal loading capacity 4t
- Noise levels <70db
- Maximum movement speed 10Km/h
- Maximum work slope  $\pm 10\%$  ( $\pm 7^\circ$ )
- Range of temperatures:  $-20^\circ\text{C}$   $+50^\circ\text{C}$



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