

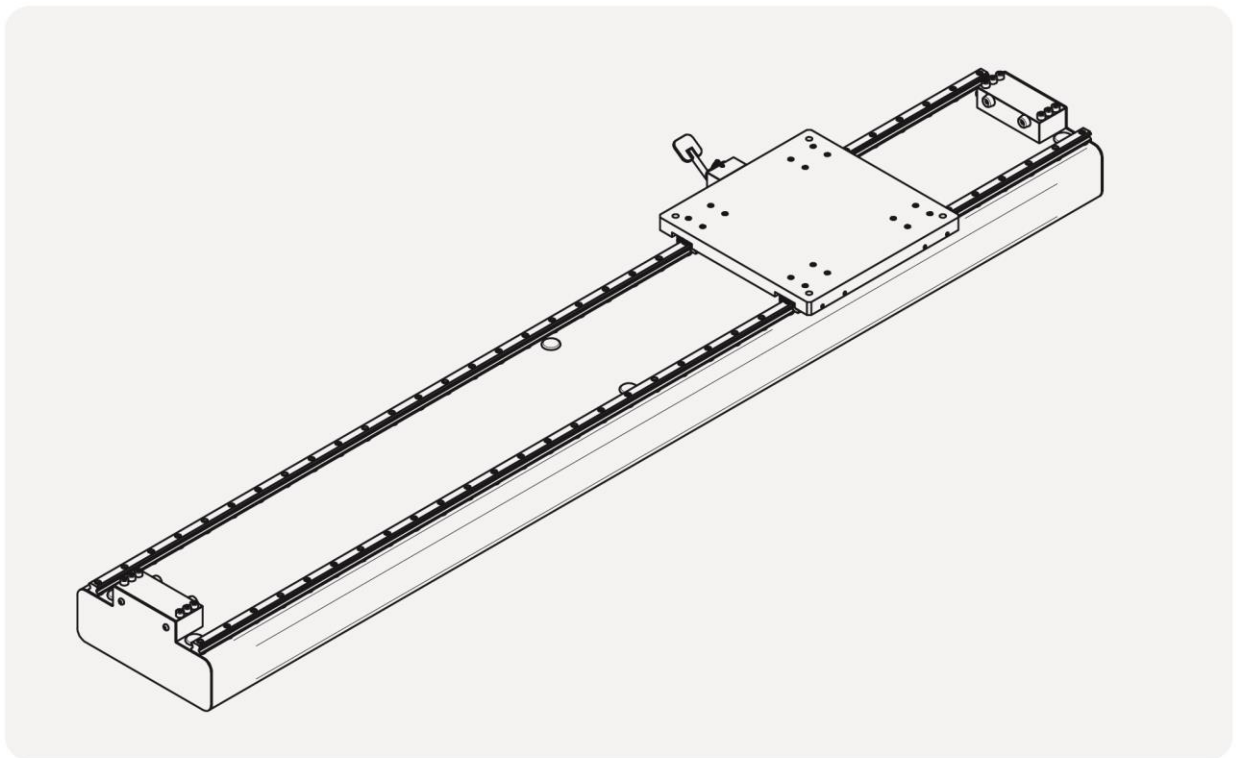
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# INSTRUCTION MANUAL

## FLOOR RAIL

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**3arm**<sup>®</sup>  
Handling emotions  
**RSCAMAT**<sup>®</sup>



**TECNOSPIRO MACHINE TOOL, S.L.**

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**TECNOSPIRO**  
MACHINE TOOL SL



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**2 ABOUT THIS MANUAL**

This document corresponds to the floor rail instruction manual.

-ORIGINAL MANUAL-

Intellectual/Industrial Property Information

Tecnospiro Machine Tools, S.L. (the Company) informs that all content included in this document including, for example, the text, images, graphic designs, brands, trading and company names, belong to the Company or that the Company is the exclusive owner of their use (hereinafter, the Intellectual/Industrial Property). Copying, reproduction, distribution, public communication and total or partial use of the Intellectual/Industrial Property, in any form or manner, even quoting the sources, is prohibited, unless expressly agreed in writing by the Company. The use of any content that due to its characteristics is similar to the Industrial/Intellectual Property is also considered an infringement of the Company's Industrial/Intellectual Property rights.

**2.1 CONSIDERATIONS**

- ✓ Before using the equipment, be sure to read this instruction manual and follow the instructions for use and safety correctly.
- ✓ All the instructions listed in this manual refer to the individual equipment. It is the end user's responsibility to analyse and apply all the necessary safety measures required for the end use.

- ✓ This manual must be kept for the entire life of the equipment, in a place close to the equipment for future consultations.
- ✓ If any part of this manual is unclear, confusing or inaccurate, please contact your 3arm® and/or Roscamat® distributor.
- ✓ The content of this manual may be subject to change without prior notice.
- ✓ If this manual deteriorates, please contact TECNOSPIRO MACHINE TOOL, S.L. to replace it.
- ✓ Reproducing or sharing this documentation – or part of it – to third parties is only permitted with express written authorisation from TECNOSPIRO MACHINE TOOL, S.L.
- ✓ The illustrations shown in this manual may differ in some details with respect to their specific configuration and should be understood as a standard representation.

✓ Paragraphs indicating assembly, adjustment, installation or maintenance steps are framed with a brown background.

✓ Paragraphs with highlighted information are framed with a grey background.

**2.2 VERSION**

Document	Revision date
Instruction manual	05/09/2024

**3 SAFETY INFORMATION**

**3.1 SCOPE OF APPLICATION**

This section contains very important information related to the safety of your equipment, it is addressed to all personnel involved in any of the life phases of this equipment (transport assembly and installation commissioning adjustment learning, operation, cleaning, maintenance, fault finding/detection, dismantling/de-commissioning).

**3.2 ALERTS AND GENERAL CONSIDERATIONS**

- ✓ The equipment described in this document has been built in accordance with the current technological level and in accordance with the applicable technical standards in terms of safety. However, improper use, or incorrect integration by the end user can generate risks of injuries.
- ✓ The equipment should only be used in perfect technical condition, respecting the safety regulations and under consideration of this document.
- ✓ Any breakdown that may affect safety should be corrected immediately.
- ✓ The equipment must not be modified without due authorisation from TECNOSPIRO MACHINE TOOL, S.L.
- ✓ The equipment must only be operated for its intended use. Any other use is strictly prohibited. Any use other than the use indicated is considered misuse and is prohibited. The manufacturer

assumes no responsibility for any damage that may arise from it.

- ✓ The equipment has been designed for use together with 3arm® and ROSCAMAT® products, as well as 3arm® and ROSCAMAT® compatible accessories. The manufacturer assumes no responsibility for any damage that may arise from the use of the equipment for other purposes.
- ✓ It is the responsibility of the integrator owner and/or end user to determine the suitability of the product for each use, as well as its place of installation and the specific definition of the task to be carried out with this product within the limits stated in this manual.
- ✓ Do not use it for any purpose that is not considered in this manual.
- ✓ The operator must only use the equipment after having received the instructions for its use.
- ✓ Do not exceed the maximum working load limits indicated in this manual as well as in the identification in the structure of the equipment.
- ✓ It is recommended that only one operator use the equipment at a time, any other use must be evaluated by the integrator end user.
- ✓ It is forbidden to manipulate mobile and joint elements during use.
- ✓ The work area of the handling equipment and its surrounding area must respect safety, health and hygiene at work conditions. It is the

integrator/end user's responsibility to conduct a study to guarantee safety.

- ✓ The presence of third parties in the work area of the handling equipment should be restricted as much as possible, thus avoiding any impact on safety. For any other use, an additional study of the hazards derived from this way of working must be carried out.
- ✓ It is important that the users who act as operators of this handling equipment are familiar with and sufficiently trained to use this product or similar products.
- ✓ In any case, the operator must read and understand this manual before use regardless of their knowledge, training or experience with similar equipment, especially the sections dedicated to installation, operation and safety.
- ✓ If you have questions about handling or maintenance procedures, please contact your 3arm® and/or Roscamat® distributor.

**3.3 EXCLUSIONS**



Outside of the use of this equipment:  
 Operation in severe conditions (e.g. extreme environmental conditions such as freezing, high temperatures, corrosive environment, strong magnetic fields, dusty areas).

- ✓ Loads greater than the maximum working load
- ✓ Use in areas with risk of explosion.
- ✓ Installation in outdoor areas.
- ✓ Handling of any component or functions of the equipment outside of those specified in this manual.

- ✓ Use by people with some type of disability or animals.

**3.4 SYMBOLOGY AND ICONS**

- ✓ Throughout this manual and in the structure of the quasi-machine, different symbols and pictograms can be observed, the meaning of which is summarised below.

	<p>General danger symbol. It is usually accompanied by another symbol, or a more detailed description of the danger.</p>
	<p>Trapping hazard</p>

**3.5 DECLARATION OF INCORPORATION**

Pursuant to the European Directive 2006\42\CE on construction of machines, the floor rail is considered a quasi-machine. It can only be commissioned when the following requirements are met:

- ✓ It is integrated for a specific application.
- ✓ It is integrated with all the safety functions and protective devices necessary to be considered a machine for a specific application, pursuant to the European directive for machine construction.
- ✓ Once integrated, it complies with the requirements of the European machinery construction directive, which is proven with a conformity assessment process.

The integrator/end user must draft an EC statement of compliance pursuant to the applicable directives.

### **3.6 ASSEMBLY INSTRUCTIONS**

The quasi machine, as an incomplete machine, is supplied with assembly instructions pursuant to Appendix II B of Machinery Directive 2006/42/EC.

A list of the basic requirements met according to Appendix I forms part of these assembly instructions.

It is forbidden to commission the incomplete machine while it is not assembled or integrated, with the help of other parts, in a machine that complies with the provisions of the European Machinery Directive and with the EC statement of compliance according to appendix II A.

### **3.7 SYSTEM INTEGRATOR**

The system's integrator or end user is responsible for integrating the quasi machine in the installation, respecting all the relevant safety measures.

The integrator/end user is responsible for the following tasks:

- ✓ Location and correct installation
- ✓ Connections
- ✓ Risk assessment
- ✓ Facilities with the necessary safety and protection functions.
- ✓ Issue of the EC statement of compliance.
- ✓ Placement of the CE marking.
- ✓ Preparing the machine's service instructions.

bE

### **3.8 PERSONAL PROTECTION EQUIPMENT (PPE)**

The personal protection equipment for this quasi machine is just safety footwear for the assembly, installation and dismantling phases.

It is the integrator/end user's responsibility to define the personal protection equipment derived from the final application of the quasi machine, in order to comply with the essential health, safety and hygiene requirements.

Operators should not wear loose clothing, rings or bracelets that may fall within the mechanism of the quasi machine.

It is also mandatory to wear the hair collected to avoid snags with the moving parts of the quasi machine.

### **3.9 TRAINING LEVEL OF THE STAFF INVOLVED**

All people working with the quasi-machine must have read and understood the safety chapter of the documentation.




**4 GENERAL DESCRIPTION AND TECHNICAL INFORMATION**

The floor rail has been designed for use together with 3arm® and ROSCAMAT® products, as well as compatible 3arm® and ROSCAMAT® accessories, thus providing greater functionality by significantly increasing the work area.

A transfer carriage (carriage assembly) supported by four side locks enables movement along the two existing rails. The locking assembly enables the carriage to be locked in any position along the run.

There is a basic configuration of 2002 mm in length (1518 mm of run) to which additional rails can be added to obtain a longer run and, therefore, a larger work area.

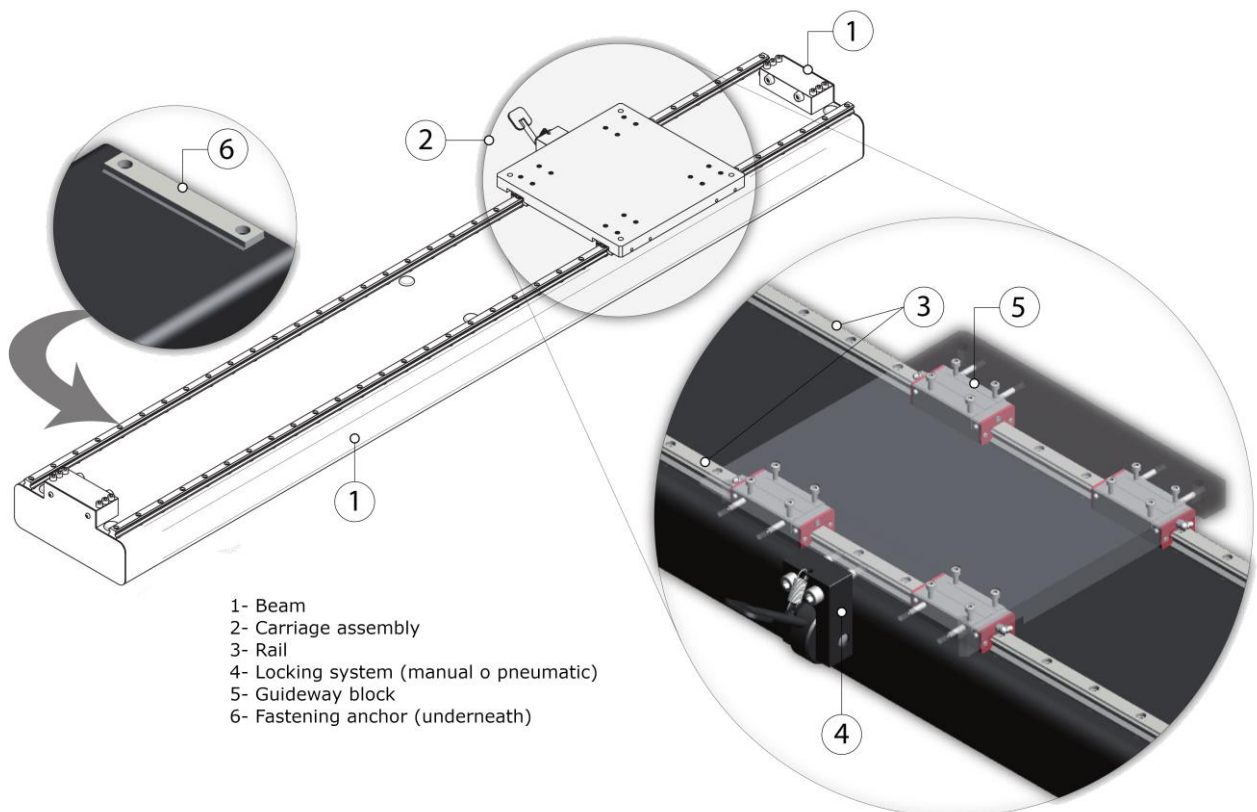
In customised or specific configurations, larger or smaller rails than the basic rail can be obtained, thus adapting to the specific working conditions.



**INTEGRATION**

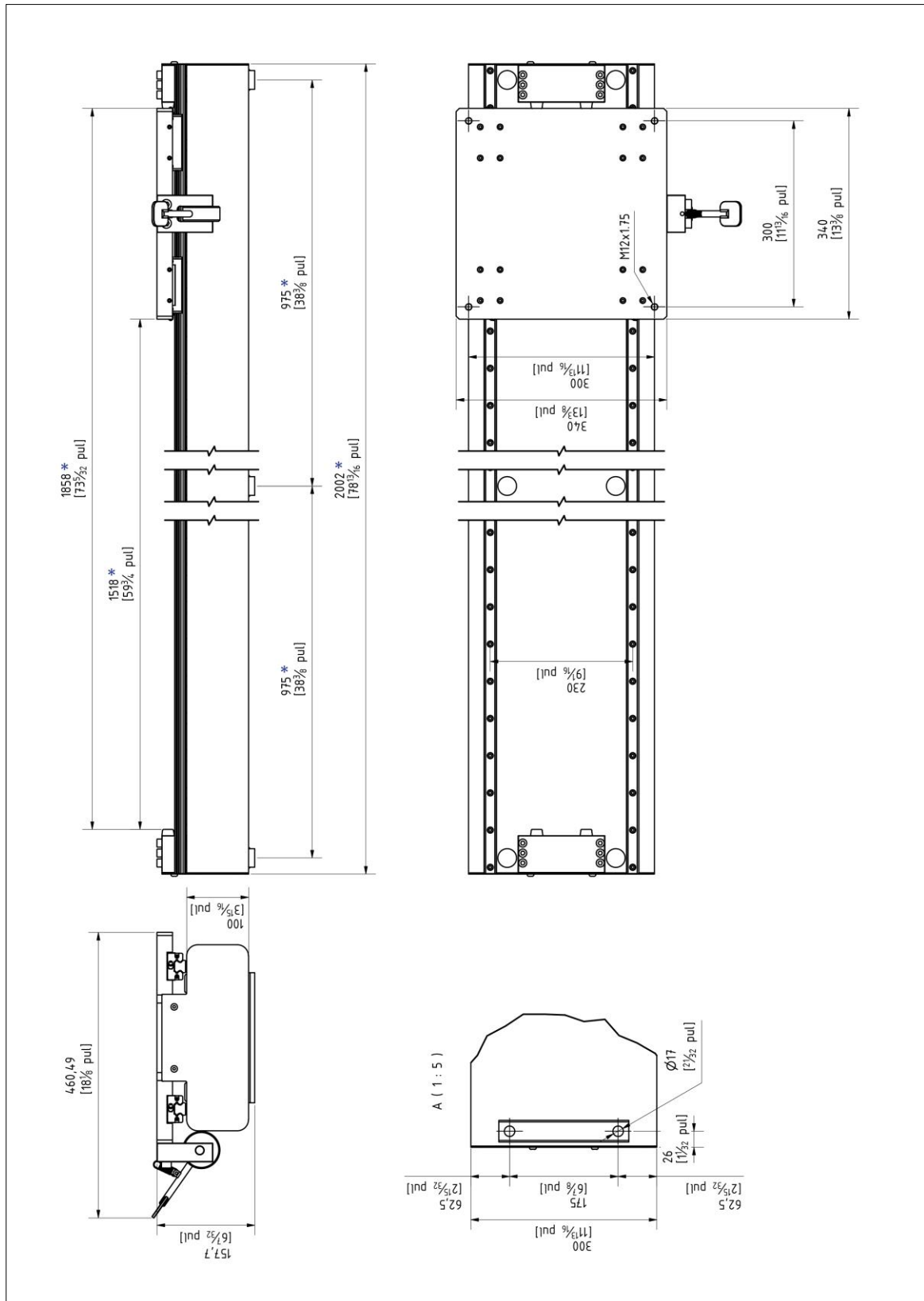
✓ This equipment on its own is not a machine, it needs an additional compatible unit (Roscamat® or 3arm®) to make a specific application. It is the integrator's responsibility to study, design and analyse the possible risks of the specific application.

**4.1 MAIN PARTS**





4.2 DIMENSIONS



(\* ) The dimensions marked can be discerned with those shown here in customised configurations. Consult the documentation provided with your order to obtain these dimensions.

**4.3 TECHNICAL SPECIFICATIONS**

GENERAL TECHNICAL SPECIFICATIONS		
<b>Maximum momentum<sup>1</sup></b>		1444 Nm (1065 lb ft)
<b>Empty weight<sup>2</sup></b>		
Floor rail 2000		100 (220 lb)
Floor rail 2300		110 (243 lb)
Floor rail 3218		165 (365 lb)
Floor rail 3340		172 (380 lb)
<b>Operating conditions</b>		
Temperature		+15 to +45°C (59 – 113°F)
Relative humidity		Max. 70%
Environment		Industrial environments
<b>Version with pneumatic locking</b>		
Braking force		1000 N
Max. working pressure		6,5 bar

**4.4 IDENTIFICATION**

An adhesive label located above the fastening base identifies the floor rail and indicates the following specifications.

Manufacturer (name, address and company name), manufacture date, serial number, model, maximum work load, maximum feeding pressure, maximum work momentum and empty weight.



If the floor rail has been acquired as an element of an assembly, for example a 3arm® weightless arm together with a floor rail, the corresponding identification tag will indicate the following specifications.

Manufacturer (name, address and company name), manufacture date, serial number, model and empty weight.

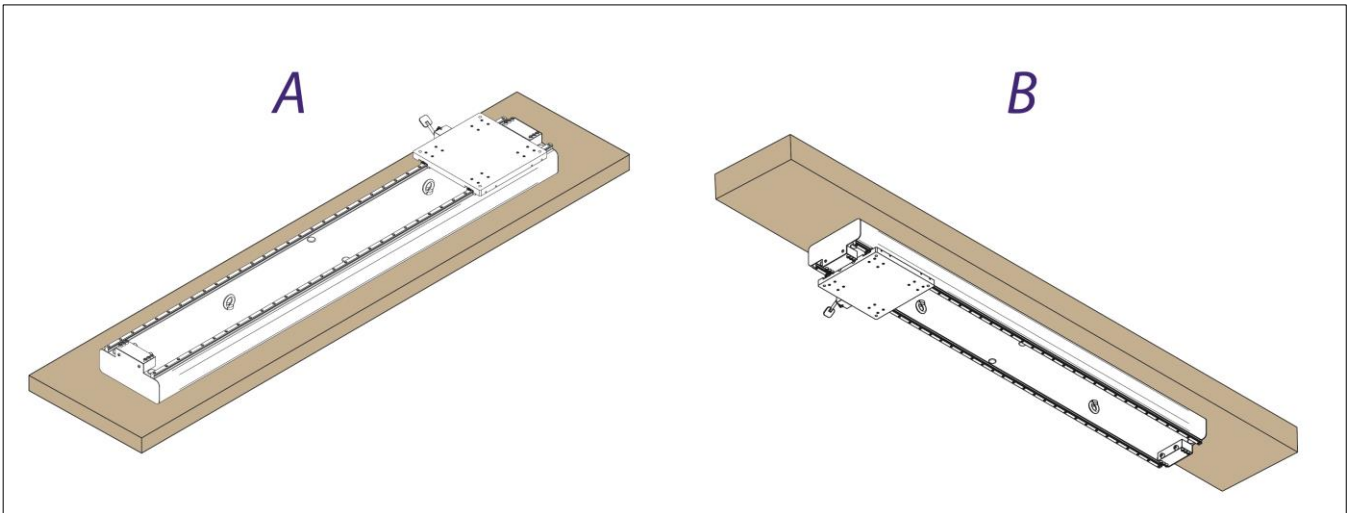


<sup>1</sup> **Maximum momentum:** Maximum applicable momentum in the centre of the transfer carriage. The maximum momentum value for the configuration is found on the identification label. Using the equipment with loads that cause a momentum greater than the maximum momentum is strictly prohibited.

<sup>2</sup> **Empty weight:** This value shown here may not match the value shown on the adhesive label in specific configurations.

**5 INSTALATION, ADJUSTMENTS AND OPERATION**

**5.1 ASSEMBLY CONFIGURATIONS**



A- Floor, B- Ceiling

**5.2 INSTALLATION**



**GENERAL CONSIDERATIONS ABOUT THE INSTALLATION**

- ✓ The work bench or installation location must be a horizontal surface, thus avoiding shifting and deviations. It must also be sufficiently stable and robust.
- ✓ The steps to follow for the installation will depend on the fastening method and the alternatives available in the selected location. In any case, the integrator, owner and/or end user is responsible for determining the product's suitability for each use, the installation location, specifically defining the task to be performed within the limits set forth in this manual and the issue of the statement of compliance.



**INSTALLATION LOCATION**

Do not install the equipment in environments such as:

- ✓ exterior areas
- ✓ corrosive areas
- ✓ areas with extreme temperatures (very high or very low)
- ✓ areas with high humidity
- ✓ dusty areas



**USE OF EYEBOLT**

- ✓ Remove the eyebolts after completing the installation.
- ✓ Use of the eyebolts should be limited to the installation, transport and decommissioning phases.

5.2.1 INDEPENDENT SECTION INSTALLATION

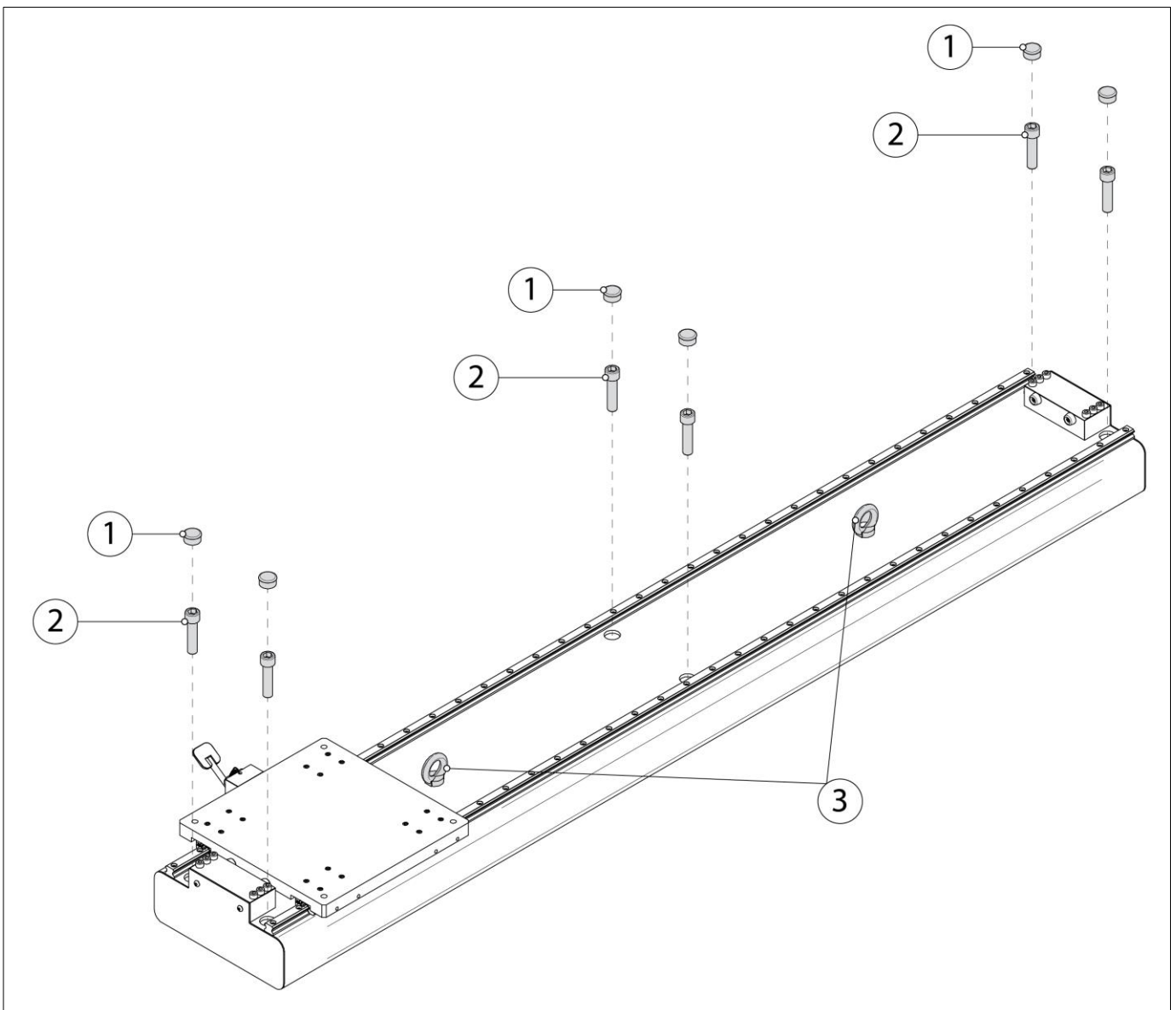
To install the floor rail (on the ceiling or floor), follow these instructions:

1. Remove the floor rail from its original packaging

**NOTE: Make use of the eyebolts (3) for safely handling the equipment**

2. Position the equipment on a horizontal, level and sufficiently robust surface
3. Fasten the floor rail with M12 screws (4) suitable for the location selected (6 units).
4. Remove the eyebolts (3) for transport and handling

**NOTE: If necessary, assign two operators to perform this operation with total safety.**



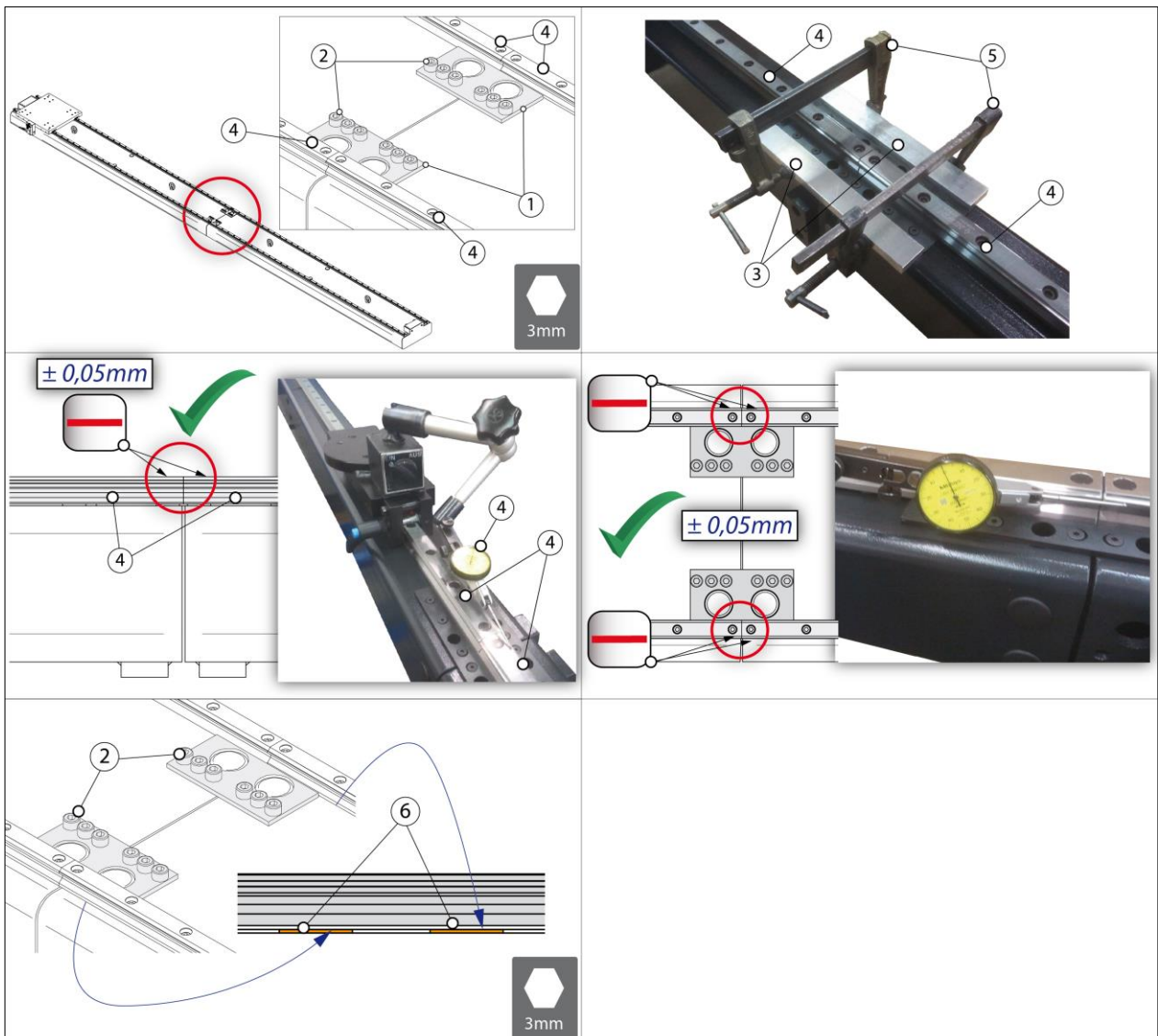
5.2.2 UNION BETWEEN SECTIONS

For the installation of several floor rail sections, make sure that the joint area between both rails is perfectly aligned. *The maximum deviation allowed is  $\pm 0.05\text{ mm}$*

**NOTE:** The installation of this equipment for the configuration described requires specific knowledge and skill. Do not hesitate to contact your ROSCAMAT® and/or 3arm® distributor to clarify or specify any information.

To do this, follow these instructions:

1. Align the two sections of floor rail to be joined, fit the two connecting pieces (1) and slightly tighten the screws (2) (Allen key 3mm)
2. Place platens (3) on both sides of each rail (4) and use two clamp screws (5) for each rail to make pressure in such a way that the rails are as well aligned as possible.
3. Fasten the screws (2) tightly (Allen key 3mm)
4. Place a probe on top of the carriage assembly to verify correct alignment with the sides shown. *The maximum deviation allowed is  $\pm 0.05\text{ mm}$*
5. If the desired alignment is not achieved, the screws (2) can be tightened more or less. Deforming the nylon washers (6) located under the rails can help achieve the maximum deviation required.



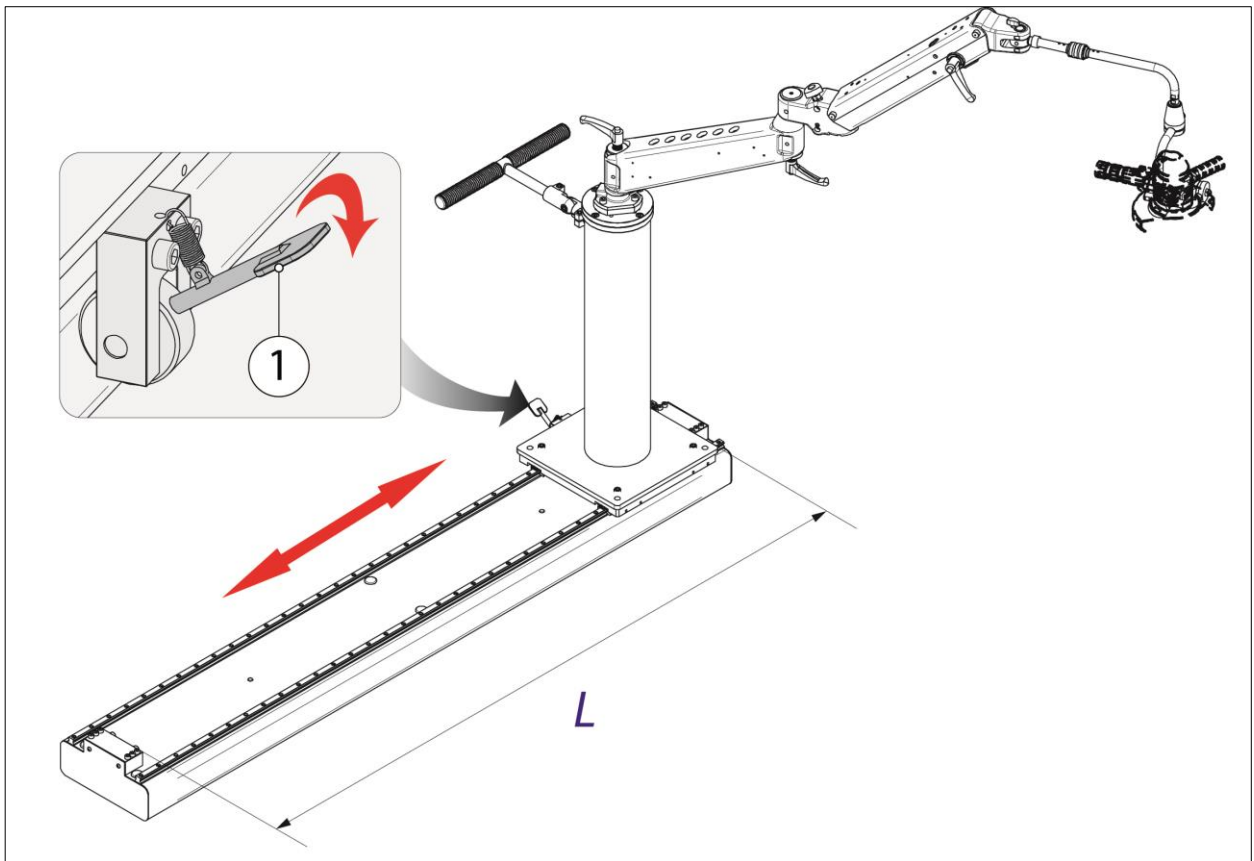
5.3 OPERATION



**OPERATION**

- ✓ The equipment (quasi-machine) should only be used after correct integration and after correct installation.
- ✓ Ensure that the transfer carriage remains free, check that there are no obstacles in the work area with which there could be a collision hazard.

- Move the transfer carriage along the floor rail, preferably from the base of the 3arm® or Roscamat® equipment.
- Lock the transfer carriage in any position with the locking lever in the direction shown (1)



**INACTIVITY PERIODS**

- ✓ In periods of inactivity, position the transfer carriage at one end of the floor rail by activating the locking lever.



## 6 MAINTENANCE

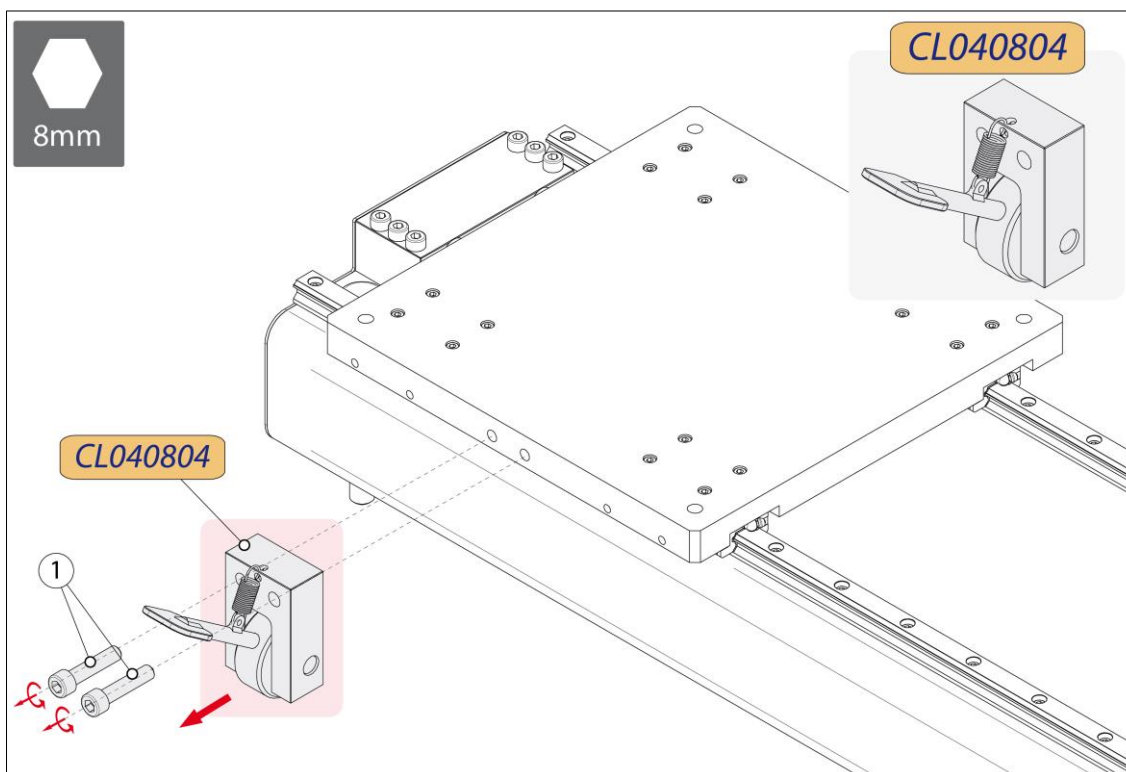
### 6.1 MAINTENANCE PROGRAMME

DESCRIPTION	ACTION	PERIOD
Cleaning and lubricating	Clean the guides with a dry and clean cloth. Add about 5 cm <sup>3</sup> of universal lithium grease to each side lock.	Every 50 km or yearly, whichever comes first.
Screws and fastening elements	Check tightening and functionality of the fasteners.	Periodically.
General cleaning	When dirty, clean with a mild household product. Do not use other cleaning agents, as they may cause damage. <i>(Exclude the guides from this operation)</i>	Periodically
Pneumatic brake system	Life cycle: 5.000.000 cycles without maintenance. Use compressed air quality in accordance with DIN ISO 8573-1 [4:4:4]. The air filter must be kept clean and cleaned, if necessary	Periodically

The list of spare parts can be consulted in this manual [See *SPARE PARTS* page -19-]

### 6.2 REPLACING THE LOCKING ASSEMBLY

1. Remove the two locking screws (1) on the locking assembly (8 mm Allen key)
2. Discard the damaged locking assembly and replace it with a new one (CL040804)
3. Tighten the two locking screws (1) on the locking assembly (8 mm Allen key)





**7 GUIDELINES FOR PACKAGING, TRANSPORT AND DISMANTLING**

**1.1 PACKAGING**

Follow the instructions below for packing the equipment for location changes or shipments for repair and maintenance.

**1.1.1 Preparatory measures**

The equipment must be put out of service.

Assembling the "transport safety elements" will prevent movement during transport and thus possible damage to the installation.

**1.1.2 Choice of packaging**

For long transport distances, the components of the equipment must be packed in such a way that they are protected from atmospheric conditions.

**1.1.3 Inscription on the packaging**

Observe the specific provisions of the country in which the equipment is transported. In fully closed packaging, an indication must be placed on the packaging indicating where the top is.

**1.1.4 Packaging procedure**

The equipment must be placed on manufactured wooden pallets. Use lashing straps to ensure the components are secured against possible falls. Attach all the technical documentation that should accompany the equipment.

**1.2 TRANSPORT**

The following data must be taken into account for transport.

External dimensions depending on the segment (width x height x depth), approx. in mm.  
 l total weight depending on the segment:

<b>COLUMN</b>	<b>MASS (KG/lb)</b>	<b>DIMENSIONS (mm/")</b> (Width x Height x Depth)
Floor rail 2000	100/(220)	2002x157x460 / 78 5/6 x 6 1/6 x 18 1/9
Floor rail 2300	110 / (243)	2302x157x460/ 90 5/8 x 6 1/6 x 18 1/9
Floor rail 3218	165 / (365)	3220 x157x460/ 126 7/9 x 6 1/6 x 18 1/9
Floor rail 3340	172 (380)	3340x157x460 / 131 ½ x 6 1/6 x 18 1/9

### 1.3 **DISASSEMBLY**

- ✓ The equipment must be taken out of service by duly trained and authorised personnel.
- ✓ The equipment must be dismantled taking the safety instructions, waste disposal and recycling into account.
- ✓ Protect the environment. The equipment must be disposed of pursuant to current regulations and guidelines on safety, noise prevention, environmental protection and accident prevention.

**8 COMPATIBILITY TABLE 3ARM - ROSCAMAT**


Accessory	SERIES – 3arm						
	S1	S2	S3	S4	S6	M3	M5
Floor rail	●	●	●	●	●	●	●

Accessory	SERIES – ROSCAMAT						
	200	400	500	Dragon	Mosquito	Tiger	Shark
Floor rail	●	●	●	●	●	●	●

**9 ACCESORIES COMPATIBILITY TABLE**

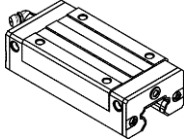
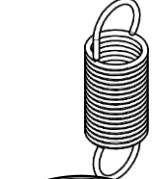
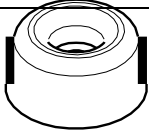
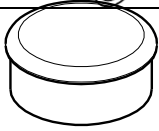
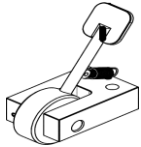
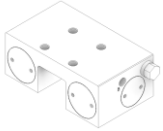
	FLOOR RAIL
<b>EXTENSION 500 *</b>	●
<b>EXTENSION 1000 *</b>	●
<b>CARRIAGE</b>	X
<b>FIXED COLUMN</b>	●
<b>LIFT 500 *</b>	●
<b>COLUMN 2000 D63</b>	●
<b>LINEAR GUIDE</b>	X

- = Compatible
- X = NOT Compatible

 **COMPATIBILITY**

✓ The equipment has been designed for use together with 3arm® products and ROSCAMAT® threaders, as well as compatible 3arm® and ROSCAMAT® accessories. The manufacturer does not assume any responsibility for damage that may arise from the use of the equipment for other purposes.

**10 SPARE PARTS**

CODE	DESCRIPTION	PICT.	CODE	DESCRIPTION	PICT.
NH121176	HGH20HA side lock assembly		CL041703	BRAKE SPRING FLOOR RAIL	
AC040646	SKIFFY TOPALL 048200011407		AC040136	REPRIMSA CAP R26 Ø30	
CL040804	RAIL BRAKE				
NH135200	PNEUMATIC BRAKE				

## **11 WARRANTY**

The machine's warranty period is 12 months. Damage caused by overloading or undue treatment is excluded. The warranty is only valid if the product has been installed, used and serviced as described in the operating instructions.

The warranty covers the cost of labour and defective spare parts. Costs derived from transport, packaging and insurance as well as defects caused by not using original spare parts are the customer's responsibility.

Any attempt to repair the equipment without prior authorisation from TECNOSPIRO MACHINE TOOL, S.L. is also exempt from the warranty.



# **DECLARATION OF INCORPORATION**

***According to Directive 2006/42/CE on machinery, Appendix II B***

The manufacturer:

Company: TECNOSPIRO MACHINE TOOL, S.L.  
Address: P.I. Pla dels Vinyats I, s/n nau 1  
City: Sant Joan de Vilatorrada  
Country: Spain - EU

Declares that this product:

Name	Linear transfer guide
Model:	Floor rail
Type:	Floor rail 2000, 2300, 3218, 3340
Serial number:	001-001 Consecutive

Complies with Machinery Directive 2006/42/EC

We also declare that the technical documentation of this incomplete machine has been prepared according to the requirements of Appendix II B. This documentation will be released by the competent market watchdog authorities with a duly motivated requirement.

It is forbidden to commission the incomplete machine while it is not assembled or integrated, with the help of other parts, into a machine that complies with the provisions of the European machinery directive and with the EC statement of compliance according to the appendix II A.



Applied regulation:

Directive/Regulation	Description
2014/68/CE Directive	Pressurised equipment
UNE-EN 349:1994+A1:2008 standard	Machinery safety. Minimum distances to avoid crushing parts of the human body.
UNE-EN ISO 13857:2008 standard	Machinery safety. Safety distances to prevent the upper and lower limbs from reaching dangerous areas.
UNE-EN 13001-1:2015 standard	Cranes General design requirements Part 1: General principles and specifications.
UNE-EN 13001-2:2015 standard	Crane safety. General design requirements Part 2: Loading actions.
UNE-EN ISO 12100:2012 standard	Machinery safety. General design principles. Risk assessment and risk reduction.
UNE-EN 14238:2005+A1:2010 standard	Cranes Manual control load handling devices.
UNE-EN 12077-2:1999+A1:2008 standard	Crane safety. Health and safety requirements Part 2: Limiting devices and indicators.

Authorised for documentation:

Mr Ramon Jou Parrot of TECNOSPIRO MACHINE TOOL, S.L

Sant Joan de Vilatorrada, Friday, 16 May 2018

Ramon Jou Parrot, Technical Director

**RASCAMAT® 3arm® TECNOSPIRO**  
MACHINE TOOL S.L