
INSTRUCTION MANUAL

TROLLEY

ROSCAMAT®
3arm®



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1. INTRODUCTION

Dear customer,

We would like to congratulate you on your choice and we are pleased to continue our constant work to provide our customers with a simple, reliable and versatile way to improve ergonomics in the workplace.

We hope these simple instructions will help you to set up and operate the equipment you have selected. We suggest you pay special attention to the pages on the concepts of installation, maintenance and safety.

We wish a long life to your equipment and we hope that you can confirm the very good investment made in purchasing a trolley compatible with 3arm[®] and ROSCAMAT[®] products.

2. ABOUT THIS MANUAL

This document is the trolley instruction manual.

- ORIGINAL MANUAL -

Intellectual/Industrial Property Information:

Tecnospiro Machine Tool, S.L.U. (the Company) informs that all content in this document including, for example, the text, images, graphic designs, brands, trading and company names (hereinafter, the Intellectual/Industrial Property), belong to the Company and that the Company is the exclusive owner of their use. 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 use and safety instructions correctly.
- ✓ All the instructions listed in this manual refer to the individual unit. It is the end user's responsibility to analyze 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 it for future reference.

- ✓ If any part of this manual is unclear, confusing or inaccurate, please do not hesitate to contact us.
- ✓ The content of this manual may be subject to change without prior notice.
- ✓ If the manual is lost or damaged, contact TECNOSPIRO MACHINE TOOL, S.L.U. for a replacement.
- ✓ Reproducing or sharing this documentation – or part of it – to third parties is only permitted with express written authorization from TECNOSPIRO MACHINE TOOL, S.L.U.
- ✓ The illustrations shown in this manual may differ in some details from 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.

2.1 DOCUMENT VERSION

Document	Date - version
Instruction manual Trolley	18/06/2024

3. SAFETY INFORMATION

3.1 SCOPE OF APPLICATION

This chapter contains very important information related to the safety of your equipment; it is aimed at all staff involved in any of the life stages of this equipment (transport, assembly, installation, commissioning, adjustment, learning, operation, cleaning, maintenance, troubleshooting, dismantling/decommissioning).

3.2 WARNINGS AND GENERAL CONSIDERATIONS

- ✓ The equipment described in this document has been built in accordance with the current technological level and pursuant to the applicable technical standards in terms of safety. However, improper use, or incorrect integration by the end user can generate risk of injury.
- ✓ The equipment must only be used in perfect technical condition, respecting the safety regulations and the instructions provided in this document.
- ✓ Any breakdown that may affect safety must be corrected immediately.
- ✓ Without the proper authorization of TECNOSPIRO MACHINE TOOL, S.L.U.

No modification of equipment should be made.

- ✓ The equipment must only be operated for its intended use. Any other use is strictly prohibited. Any use other than that indicated is considered misuse and is prohibited. The manufacturer assumes no liability for damages that may arise from it. This is solely at the user's own risk.
- ✓ The device has been designed for use in conjunction with 3arm® products and ROSCAMAT® tapping machines, and with compatible 3arm® and ROSCAMAT® accessories. The manufacturer assumes no liability for damage which may result from 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 the equipment in any way that is not considered in this manual and pay special attention to the uses mentioned in section 3.3 EXCLUSIONS, which must not be carried out.
- ✓ The operator must only use the equipment after having received the instructions for its use.
- ✓ Do not exceed the maximum working loads indicated in this

- manual as well as in the identification on the equipment structure.
- ✓ It is recommended that only one operator use the equipment at a time, any other use must be evaluated by the integrator/end user.
 - ✓ When not in use, it should be left in the braking position.
 - ✓ The operator may only use the equipment for safe movements, accompanying the movement of the equipment at all times, and thus reducing the risk of uncontrolled or involuntary movements.
 - ✓ The work area of the equipment and its surrounding area must respect conditions of safety, health and hygiene at work. 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 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.
 - ✓ Only authorized personnel may be present in this area while the equipment is in use.
 - ✓ It is important that the users who operate this equipment are familiar with and sufficiently trained to use this product or similar products.
- ✓ It is recommended that the operator have basic knowledge of: Safety procedures, precautions and safe working habits.
 - ✓ 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.
 - ✓ To the perimeter of the equipment, you must add the opportune distance to allow people to walk around it safely. Work areas must remain free from obstacles, columns, etc. that may hinder the operators' work.
 - ✓ Suitable spaces must be available to carry out maintenance, adjustment, cleaning, etc. tasks.
 - ✓ If you have questions about handling or maintenance procedures, please contact the authorized technical service.
 - ✓ It is forbidden to climb on the trolley during its use.

3.3 EXCLUSIONS


The following is beyond the scope of use of this equipment:

- ✓ 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 by animals.
- ✓ Use by people without a completed course on labor risks prevention.

- ✓ Loads greater than the maximum working load limits (WLL).
- ✓ Operation in severe conditions (e.g. extreme environmental conditions such as freezing, high temperatures, corrosive environment, strong magnetic fields, high humidity)
- ✓ Use in areas with risk of explosion.
- ✓ Installation in outdoor areas.
- ✓ To transport people or animals.

3.4 SYMBOLS AND ICONS

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

	<p>Danger: General danger symbol. This symbol is generally accompanied by an additional symbol or a more detailed description of the danger.</p>
------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------------------------------------------

3.5 PERSONAL PROTECTIVE EQUIPMENT (PPE)

Personal protective equipment for the equipment is reduced to safety footwear, for all stages of the equipment's life.

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

Operators must not wear loose clothing, rings or bracelets that may fall within the equipment's mechanism.

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

3.6 LEVEL OF TRAINING FOR PERSONNEL WHO WORK WITH THE DEVICE

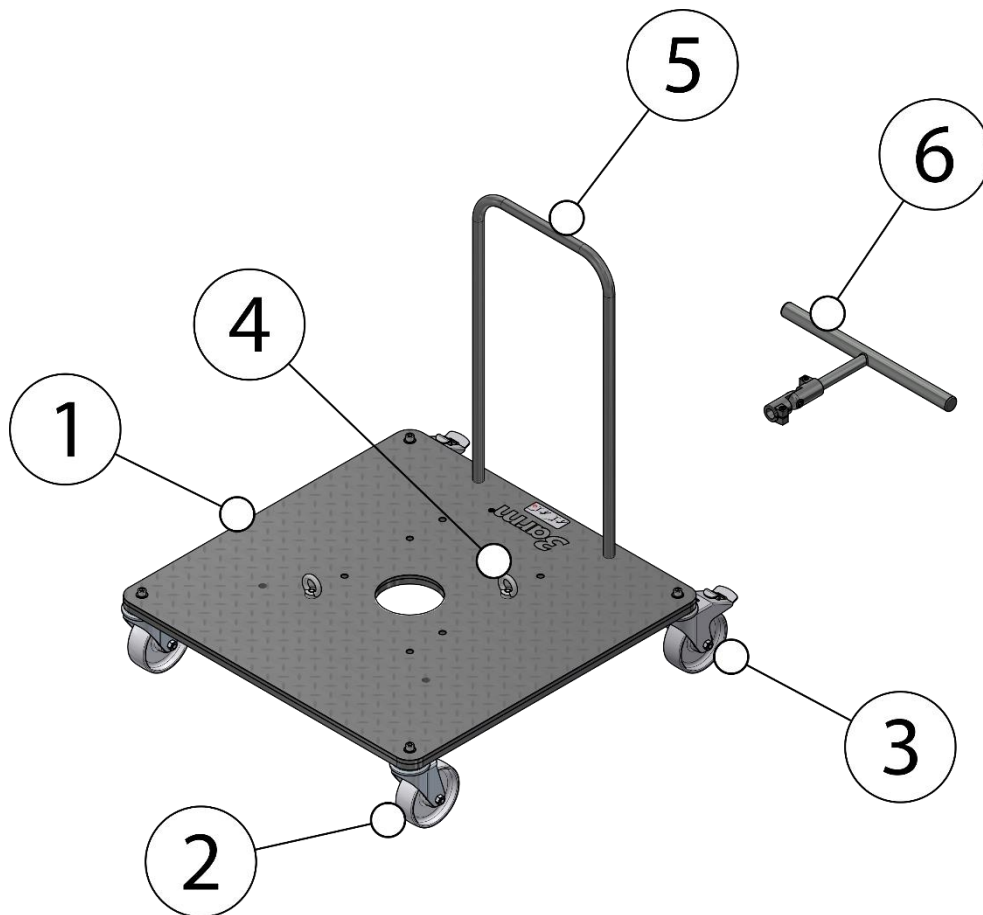
All persons who work with the device must read and understand the documentation in the chapter on safety.

4. GENERAL DESCRIPTION AND TECHNICAL INFORMATION

This Trolley was designed to be used with 3arm® and ROSCAMAT® products, as well as compatible accessories, providing greater mobility to your 3arm® or ROSCAMAT® equipment in an easy and safe way.

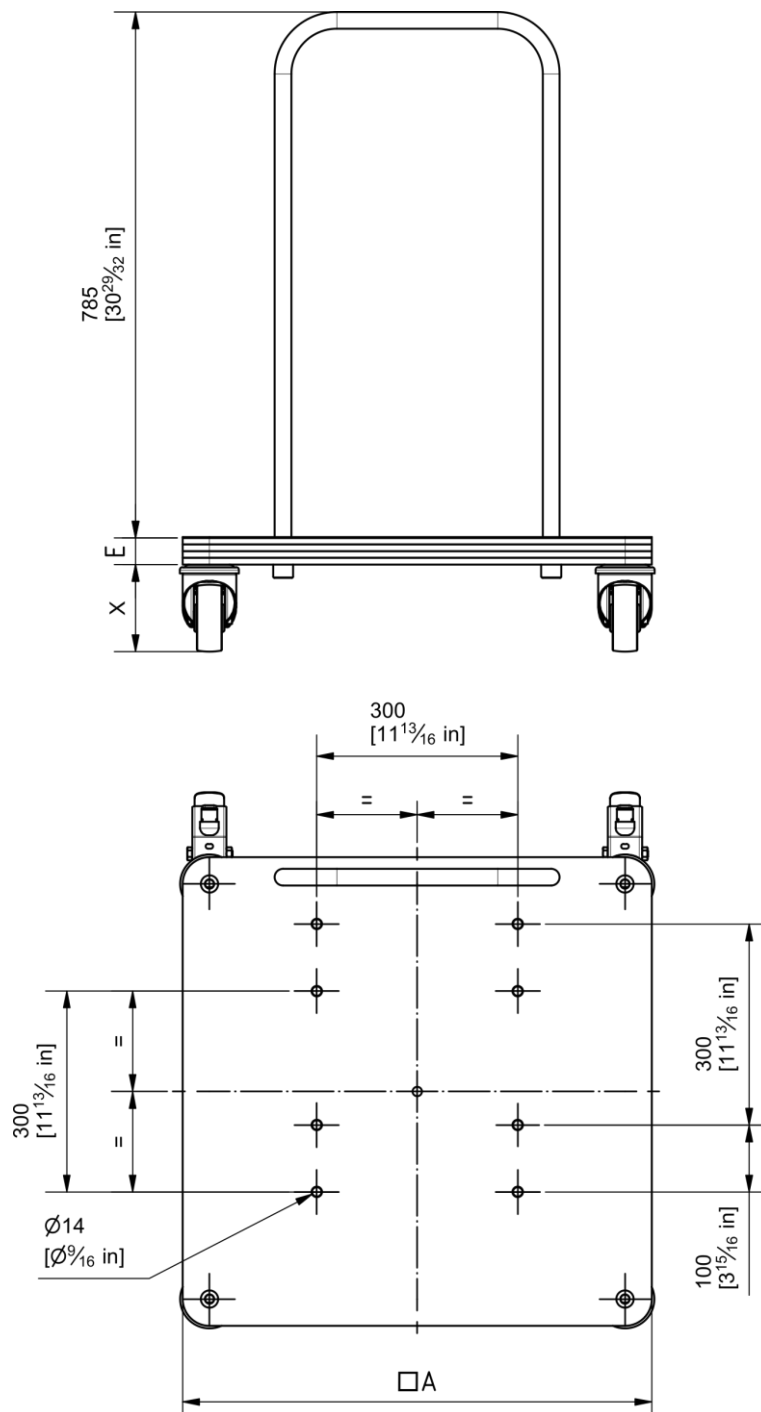
The trolley is designed to move your 3arm equipment within an industrial environment, on a flat surface, and place it precisely in certain working positions.

4.1 MAIN PARTS



1. Base with anti-slip mat
2. Front wheels (without brake)
3. Rear wheels (with brake)
4. Eye bolt
5. Manipulation and steering handle (Type A configuration)
6. Manipulation and steering handle (Type B configuration)

4.2 DIMENSIONS



A: 700x700, 800x800 or 900x900 mm.

E: Thickness of base [See [BASE DIMENSIONS AND THICKNESSES](#) page 10].

X: Corresponds to 130mm or 190mm depending on which rolling support the trolley uses, depending on whether it is Ø100mm or Ø150mm [See [TYPES OF ROLLER MOUNTS](#) page 11].

4.3 BASE DIMENSIONS AND THICKNESSES

Three dimensions are available for the trolley base, 700x700 800x800 and 900x900

The thickness of the base and the number of add-on elements forming it will depend on the end use.



The thickness should be chosen depending on the configuration in which the trolley is to be installed in order to guarantee the stability of the assembly.

There are various thicknesses for the add-on elements forming the base.

Thicknesses
25mm (63/64")
30mm (1 3/16")
35mm (1 3/8")
40mm (1 37/64")
45mm (1 49/64")
50mm (1 31/32")
55mm (2 11/64")
60mm (2 23/64")
65mm (2 9/16")
70mm (2 3/4")
75mm (2 61/64")
80mm (3 5/32")
85mm (3 11/32")
90mm (3 35/64")
95mm (3 47/64")
100mm (3 15/16")

4.3.1 TYPES OF ROLLER MOUNTS

The trolley can be provided with rubber or polyamide castors depending on the end-use application.

	Type A	Type B
Material	Polyamide	Rubber
Applications	General purpose tools on abrasive surfaces	Use of torque tools
Available WITHOUT brake	Yes	No
		
Wheel size	Trolley 700: Ø100 Trolley 800: Ø100 Trolley 900: Ø150	Ø100

4.4 TECHNICAL SPECIFICATIONS

GENERAL TECHNICAL SPECIFICATIONS		
Load capacity		
	Nominal capacity ¹ with wheels Ø100	800Kg <i>(1764 lb)</i>
	Nominal capacity with wheels Ø150	1000Kg <i>(2204 lb)</i>
Working conditions		
	Temperature	-10 to +50 °C
	Relative humidity	Max. 70%
	Environment	Industrial environments

¹ Nominal capacity: Load that can be transported on the trolley under the conditions specified. This is defined as a load evenly distributed on the platform.

5. INSTALLATION



INSTALLATION

- ✓ The trolley is designed to work on a smooth, horizontal, firm and non-slip surface.
- ✓ This trolley has been designed for use together with 3arm® and ROSCAMAT® products, as well as 3arm® and ROSCAMAT® compatible accessories. 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.
- ✓ It is prohibited to install the column displaced by 100 mm in relation to the centre of the trolley.

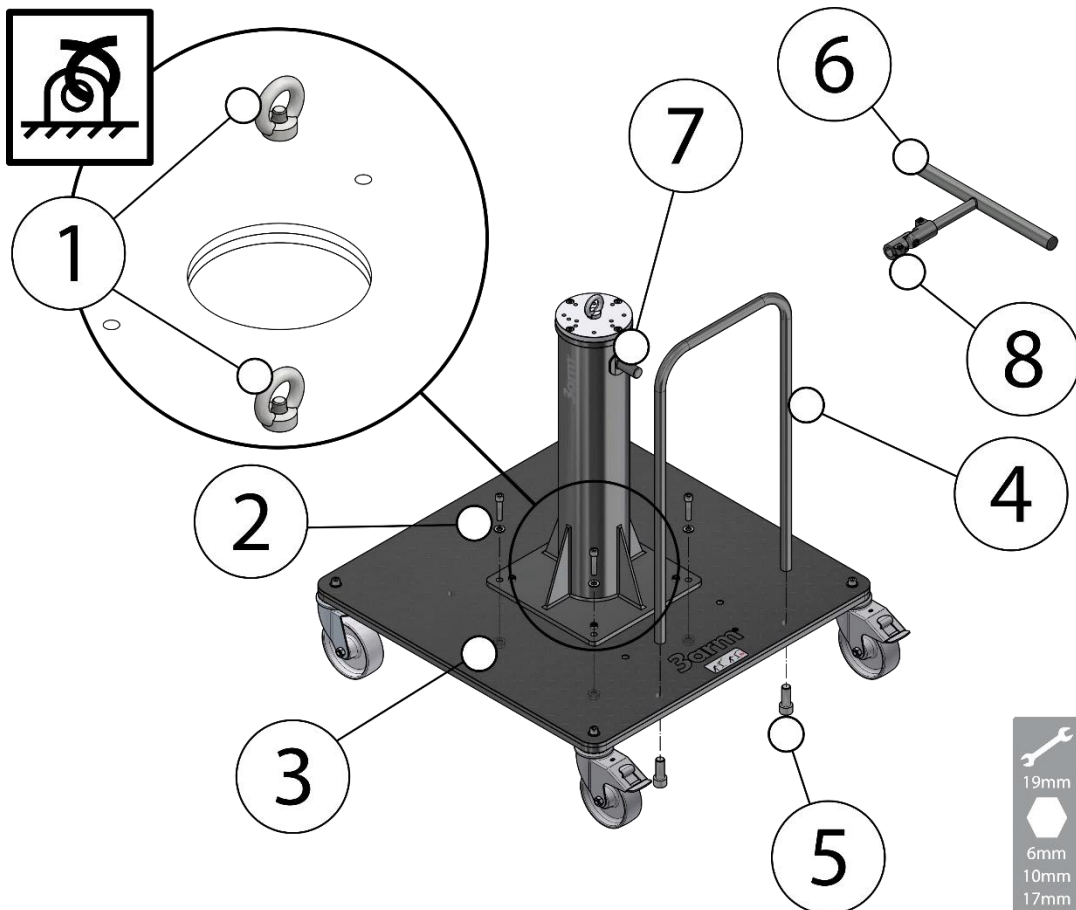
- 1- Use the eyebolts (1) to remove the trolley from its original packaging.
- 2- Remove the eyebolts (1) and install the column² centred on the trolley with the screws (2) (10mm Allen key) and the nuts (3) (19mm Socket wrench).

Configuración tipo A

- 3- Place the handlebar (4) on the trolley and tighten the screws (5) (17mm Allen key).

Configuración tipo B

- 4- Place the handlebar (6) on the column (7) and tighten the screw (8) (6mm Allen key).



² See attached manual of the lifting column for its location on the trolley.

**USE OF EYE BOLT**

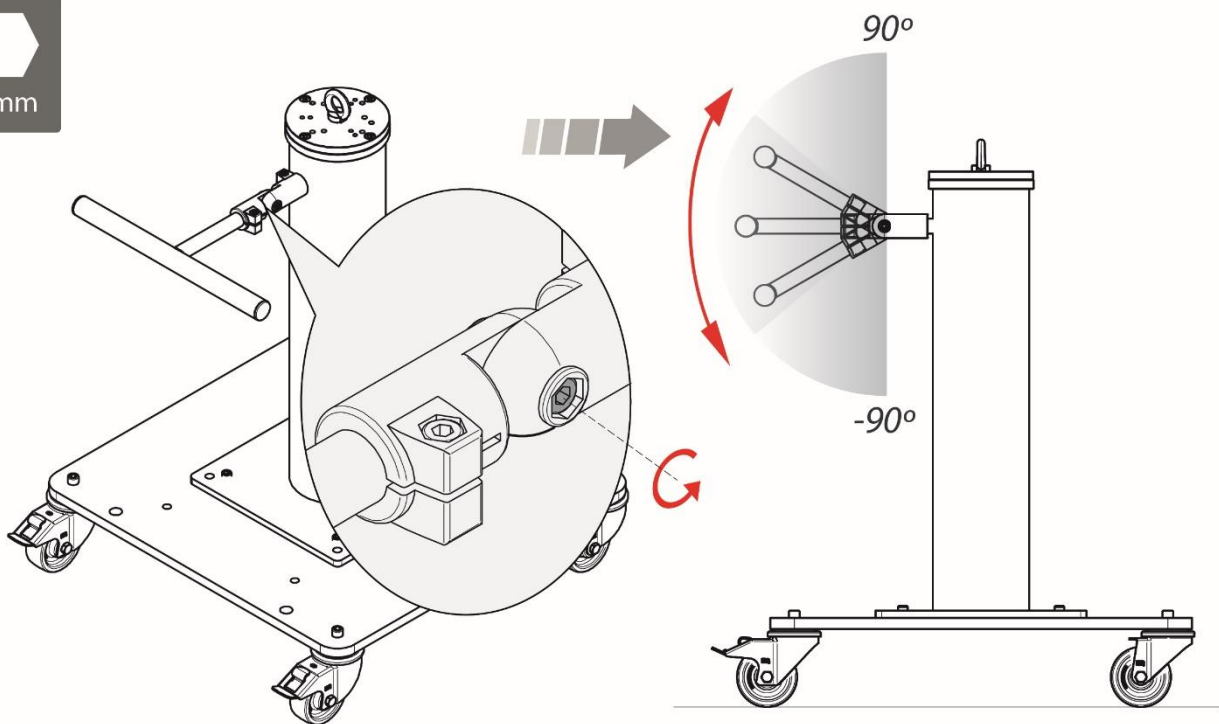
- ✓ Remove the eye bolt after completing the installation.
- ✓ Use of the eye bolt should be restricted to installation, transport or taking out of service phases.
- ✓ It is completely prohibited to use it if suspending other objects or masses additional to the weight of the trolley itself.

6. ADJUSTMENTS

6.1 HANDLE ADJUSTMENT

In type B configurations, the trolley is provided with a handle, which can be adjusted following the guidelines below.

- 1- Loosen the adjustment screw shown (6 mm Allen key).
- 2- Adjust the position of the handle according to preference and working conditions.
- 3- Tighten the adjustment screw securely (6 mm Allen key).



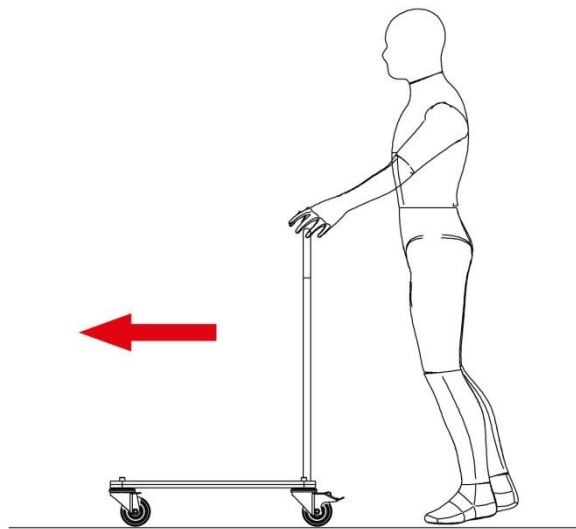
7. OPERATION

7.1 MANIPULATION AND USE

To operate the trolley, ensure that the parking brakes on each of the castors are not applied.

From the operator's position push the trolley horizontally with the hands placed on the handle provided.

The trolley should move and be steered using the handle provided. It should move slowly and smoothly.



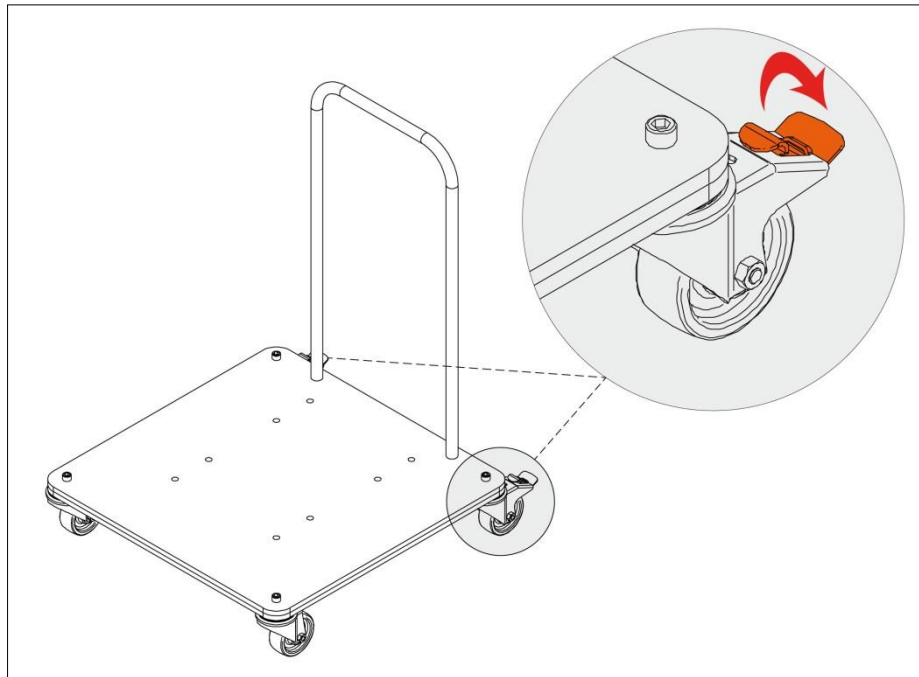
MANIPULATION

- ✓ The trolley should move slowly and smoothly, loaded or unloaded, to avoid compromising its stability.
- ✓ Use on slopes or rough, uneven or unstable surfaces is prohibited.
- ✓ The operator must ensure that the workspace is clear of obstacles along the whole direction of travel.
- ✓ A safe distance must be kept between the feet and the edge of the trolley. The grip on the handle must be such that the arms form an angle of approx. 45-90° with the body of the operator.

7.2 PARKING BRAKE

In the version for general applications, two of the four castors fitted to the trolley can lock the trolley, acting as a parking brake.

In the version for torque tool applications, all four castors can lock the trolley, acting as a parking brake



To activate the parking brake, follow the guidelines below:

- 1- With the trolley completely stopped and on a smooth, horizontal surface, use the foot to activate the lock pedal on each of the castors fitted with this mechanism.
- 2- Check that the trolley is correctly braked by gently pushing on its manipulation and steering handle.
- 3- To release the trolley, repeat the process above in reverse.

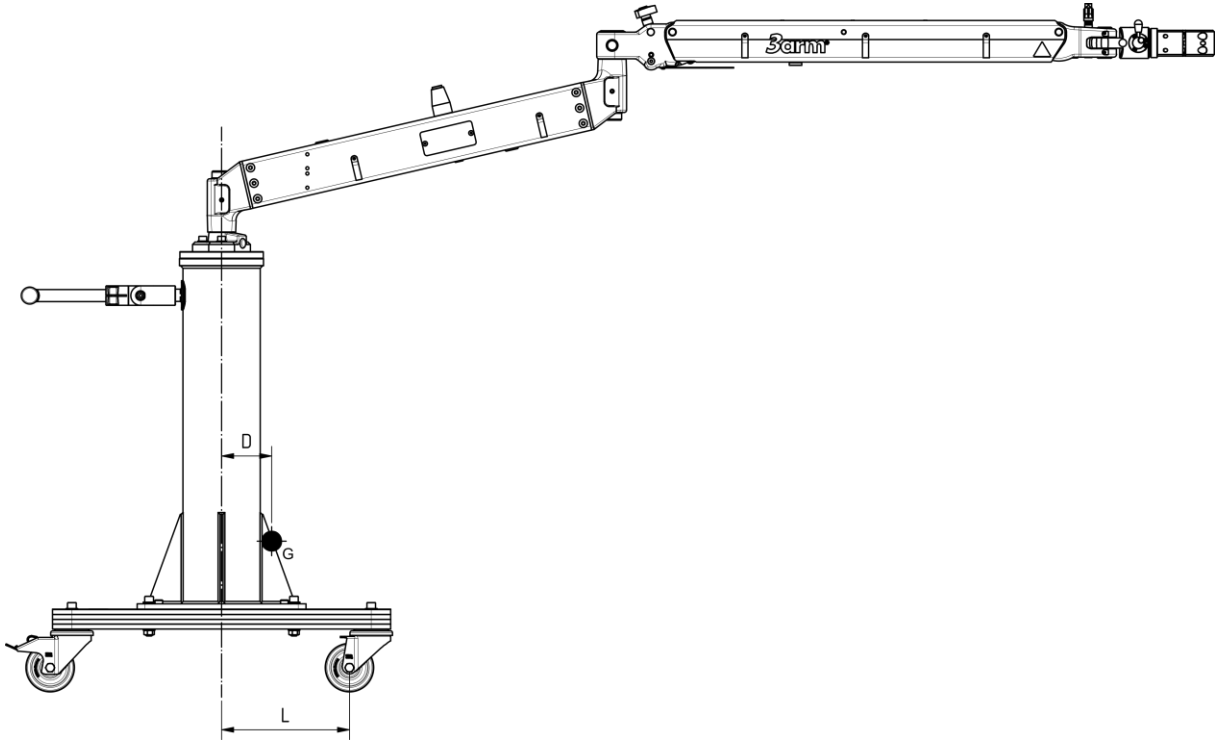


PARKING BRAKE

- ✓ The device's parking brake system must remain activated when the device is not in use or during maintenance or repair.
- ✓ It is prohibited to actuate the lock pedal using the hands of the operator to activate or deactivate the lock

8. STABILITY CALCULATION

Assembled PRJ units are designed so that the distance (D) from the centre of gravity (G) of the whole assembly (including the load and the base) to the axis of the column is not greater than 2/3 of the distance L, in accordance with UNE-EN 14238:2005+A1:2010.






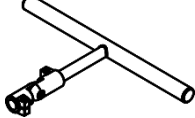



G = Centre of gravity of the whole assembly.

L = Minimum swing distance from the column axis.

D = Distance from the centre of gravity G to the axis of the column.

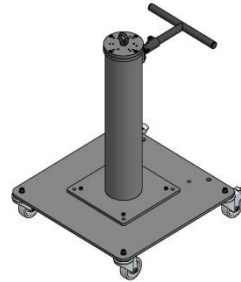
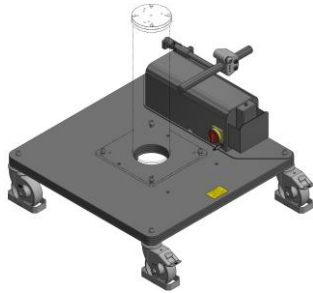
9. SPARE PARTS

CODE	DESCRIPTION	PICT.	CODE	DESCRIPTION	PICT.
CM138500	WHEEL Ø150 (WITHOUT BRAKE)		CM103000	WHEEL Ø150 WITH BRAKE	
AC080446	WHEEL Ø100 (WITHOUT BRAKE)		AC080456	WHEEL Ø100 WITH BRAKE	
AC005006	WHEEL WITH BRAKE (TORQUE APPLICATIONS)		CL0050A4S	COLUMN HANDLE ASSY	
AC006506	RINGBOLT				

10. ACCESSORIES

Caution: not all the accessories shown below are compatible. Check the compatibility table [See [COMPATIBLE ACCESSORIES](#) page 23].

TROLLEY

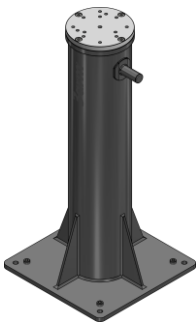


To move the work unit.
It has four orientable wheels.

DESCRIPTION	DIMENSIONS	
Trolley 700	700 x 700 mm	27 9/16" x 27 9/16"
Trolley 900	900 x 900 mm	35 7/16" x 35 7/16"
Electric trolley	900 x 900 mm	35 7/16" x 35 7/16"
Electric trolley	800 x 800 mm	31 1/2" x 31 1/2"

FIXED COLUMN

To secure to the floor using four metal studs.



DESCRIPTION/DIMENSIONS	
Column 62mm	2 1/2"
Column 112mm	4 3/8"
Column 162mm	6 3/8"
Column 275mm	10 7/8"
Column 375mm	14 3/4"
Column 450mm	17 3/4"
Column 635mm	25"
Column 740mm	29 1/8"
Column 850mm	33 1/2"
Column 1100mm	43 1/4"
Column 1350mm	53 1/8"
Column 1600mm	63"

LIFT / PR LIFT



It consists of a telescopic column and a pneumatic cylinder with anti-rotation.

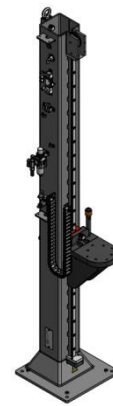


DESCRIPTION	VERTICAL STROKE
Lifter 300	300 mm – 11 7/8"
Lifter 500	500 mm – 19 7/8"
Lifter 750	750 mm – 29 17/32"
Lift 300 PR	300 mm – 11 7/8"
Lift 550 PR	550 mm – 21 5/8"
Lifter 750 PR	750 mm – 29 17/32"

D63 / D100 COLUMN



Pneumatic lift. The vertical position can be locked at any point, it has a pneumatic cylinder. It can be secured to the ground, on a trolley or on the ground rail to have movement on two shafts.



DESCRIPTION	VERTICAL STROKE
Column 1500 D63	940 mm – 37"
Column 2000 D63	1440 mm – 56 11/16"
Column 2500 D63	1940 mm – 76 3/8"
Column 1500 D100	999 mm – 39 7/16"
Column 2000 D100	1455 mm – 57 5/16"
Column 2500 D100	1999mm – 78 11/16"

ELECTRIC COLUMN



Electric lift. The vertical position can be locked at any point. It can be secured to the ground, on a trolley or on the ground rail to have movement on two shafts.

DESCRIPTION	VERTICAL STROKE
Columna 1500	974mm – 38 11/32"
Columna 2000	1474mm – 58 1/32"
Columna 2500	1974mm – 77 23/32"

EXTENSION

(1)



Extender that enables the arm's working area to be increased. It can also be installed on other accessories, such as column, lift, beam, etc.

CODE	DESCRIPTION	ADDITIONAL WORK AREA
ER0010C0	Extension 500 (1)	500 mm – 19 11/16"
ER200500	Extension 600 (1)	600 mm – 23 5/8"
ER000100	Extension 1000 (2)	1000 mm – 39 3/8"

(2)



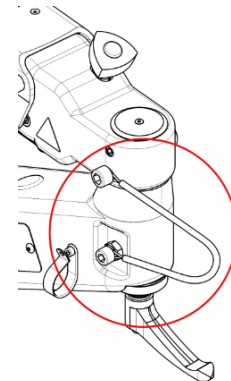
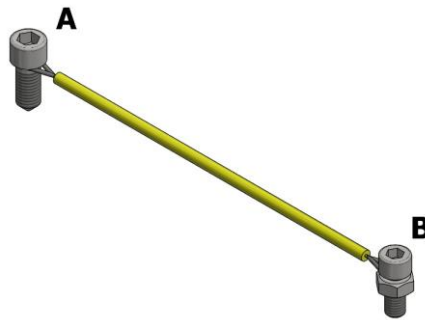
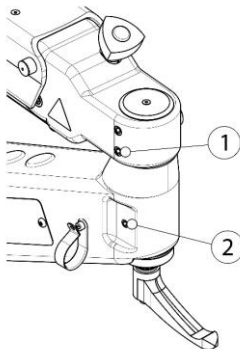
BASE ROTATION LIMITER



Support that limits the rotation of the radial arm of the equipment. The stops can be moved to adjust the range of rotation.

CODE	DESCRIPTION
LG000104	Rotation Limiter

ROTATION LIMITER



The rotation limiter is a flexible reinforced steel cable that limits the rotational movement of the front arm, to a maximum of 1 turn, with an added margin of 10% in each rotation direction.

To assemble it, unscrew the screws/studs (1) and (2) that come in the arm from the factory, and replace them with screws "A" and "B" in the KIT.

Screw "A" (M12) will go in position 1 and screw "B" (M10) in position 2.

CODE	DESCRIPTION
LG100600	Rotation limiter assembly

10.1 COMPATIBLE ACCESSORIES

ACCESSORIES	TROLLEY
RADIAL EXTENSION	⊘
TROLLEY	⊘
FIXED / PR COLUMN	●
PNEUMATIC / PR TELESCOPIC LIFT	⊘
AIR LIFT D63 / D100	●
ELECTRIC LIFTER	●
ROTATION LIMITER	⊘
BASE ROTATION LIMITER	⊘

- = Compatible
- ⊘ = NOT Compatible
- * = Please ask

10.2 COMPATIBLE EQUIPEMENT

EQUIPMENT	TROLLEY
ROSCAMAT	● ³
3ARM	● ³
MANIPULATOR	● ³

11. WARRANTY

See attached guarantee document.

³ Pre-installation of a fixed column/PR, a pneumatic lift D63/D100 or an electric column is required

12. GUIDELINES FOR PACKAGING, TRANSPORT AND DISASSEMBLY

12.1 PACKAGING

Follow the instructions below for packaging the trolley to change location or to ship it for repair and maintenance.

12.1.1 Preparations

Take the trolley out of service.

Using securing straps will prevent movement during transport and hence possible damage to the equipment.

12.1.2 Choice of packaging

When transporting over long distances, the production installation components must be packaged so that they are protected from atmospheric conditions.

12.1.3 Inscription on packaging

Follow the specific provisions of the country where transport is taking place. For completely closed packages, a label must be placed on the package indicating which end is up.

12.1.4 Packing procedure

Place the trolley on manufactured wooden pallets. Using tie-down straps, secure the components to keep them from falling. Attach all technical documentation that must accompany the trolley.

12.2 TRANSPORT

The following information must be considered when transporting the device.

- ✓ External dimensions according to the segment (width x height x depth), approx. In mm
 - 700x700 configurations: 782x782x427
 - 800x800 configurations: 982x982x667
 - 900x900 configurations: 982x982x667
- ✓ Total weight according to the thickness of the trolley.

12.3 DISASSEMBLY

- ✓ The equipment must be taken out of service by properly trained and authorised personnel.
- ✓ The trolley must be disassembled taking into account instructions on safety, waste disposal and recycling instructions.
- ✓ Protect the environment. The equipment must be disposed of following standards and directives in force in the areas of safety, noise prevention, environmental protection and accident prevention.

CERTIFICATE OF INCORPORATION

In accordance with Machinery Directive 2006/42/EC, Annex II B

The manufacturer:

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

Declares that this product:

Designation: Trolley
Type: Trolley 700x700, 800x800, 900x900

Conforms to Machinery Directive 2006/42/EC

We also declare that the technical documentation for this partially complete machinery has been prepared pursuant to the requirements of Annex II B. This documentation will be released to the competent market oversight authorities with a duly substantiated application.

Use of this partially completed machinery is prohibited until it has been fully assembled and commission, in conjunction with other parts, as a machine that complies with the European Machinery Directive and has an EC Declaration of Conformity pursuant to Annex II A.

Harmonized reference standards:

Directive / Standard	Description
EN ISO 12100-1:2012	Safety of machinery. General principles for design. Risk assessment and risk reduction.
UNE-EN 349:1994+A1:2008	Safety of machinery. Minimum distances to avoid crushing of human body parts.

Documentation officer:

Mr Ramon Jou Parrot at TECNOESPIRO MACHINE TOOL, S.L.U.

TECNOSPIRO
MACHINE TOOL SL



Sant Joan de Vilatorrada, Tuesday, 18 June 2024

Ramon Jou Parrot, Technical Director

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