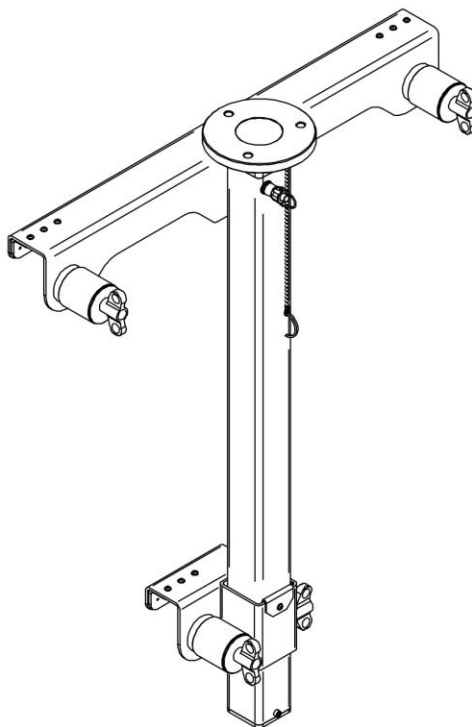

INSTRUCTION MANUAL

HAND RAIL BRACKET

3arm[®]
ROSCAMAT[®]



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1 ABOUT THIS MANUAL

This document is the instruction manual for the hand rail bracket.

- 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.

1.1 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 unit. 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 it for future consultations.
- ✓ 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 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.

1.2 VERSION

Document	Revision date
Hand rail bracket instruction manual	12/02/2019

2 SAFETY INFORMATION

2.1 SCOPE OF APPLICATION

This section contains very important information related to the safety of your, 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.

2.2 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. This will be solely at the user's own risk.

- ✓ The device was designed for use in conjunction with 3arm® products (use with ROSCAMAT® products is subject to prior consultation with your distributor). The manufacturer accepts no responsibility for any damage that may be caused by using 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.

2.3 WARNINGS AND CONSIDERATIONS (INTEGRATION)

- ✓ The operator must only use the equipment after having received the instructions for its use.
- ✓ It is recommended that only one operator use the equipment at a time, any other use must be evaluated by the integrator/end user.
- ✓ The operator may only use the manipulator for safe movements, accompanying the movement of the


unit at all times, and thus reducing the risk of uncontrolled or involuntary movements of the manipulator and/or the load.

- ✓ Although the parts with a higher risk of possible shearing or mechanical gripping are protected and have guards, it is forbidden to manipulate the moving components and joints when it is in use.
- ✓ The work area of the 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 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.

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

- ✓ Use with equipment or applications other than use with 3arm® and ROSCAMAT® arms and/or 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 animals
- ✓ Any use not considered in this manual
- ✓ Operation in severe conditions (e.g. extreme environmental conditions such as freezing or excessively high temperatures)

2.5 SYMBOLY AND ICONS

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

2.6 DECLARATION OF CONFORMITY

If the equipment is fitted in an installation, the integrator/end user must draw up an EC statement of compliance in accordance with the applicable guidelines.

2.7 PERSONAL PROTECTION EQUIPMENT (PPE)

The personal protection equipment for this equipment is merely safety footwear for all stages of the life of the equipment.

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


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

2.8 TRAINING LEVEL OF THE STAFF INVOLVED

All people working with the equipment must have read and understood the safety chapter of the documentation.

3 DESCRIPTION AND APPLICATIONS

The hand rail bracket enables you to couple your 3arm®¹ to existing components in the workplace such as handrails, structures, etc.



INTEGRATION

- ✓ This unit itself is not a machine, it needs additional compatible 3arm® equipment for a certain application. It is the integrator's responsibility to study, design and analyse the possible risks of the specific application.
- ✓ The unit may only be used with 3arm® and ROSCAMAT® equipment after proper integration *[see 3ARM® – ROSCAMAT® COMPATIBILITY p. 15]*

4 TECHNICAL SPECIFICATIONS

<i>GENERAL TECHNICAL SPECIFICATIONS</i>	
<i>Empty weight²</i>	9 kg <i>(20 lb)</i>
<i>Operating conditions</i>	
	<i>Temperature</i>
	0 to +45°C <i>(32 – 113°F)</i>
	<i>Relative humidity</i>
	Max. 70%
	<i>Environment</i>
	Industrial environments

¹ Use in conjunction with ROSCAMAT® products depends on prior consultation with your distributor.

² Empty weight: The empty weight refers to the typical weight of the hand rail bracket.

5 IDENTIFICATION

An adhesive label on the structure indicates the following characteristics.

Manufacturer (name, address and business name), date of manufacture, serial number, model, maximum load, maximum working moment and empty weight.



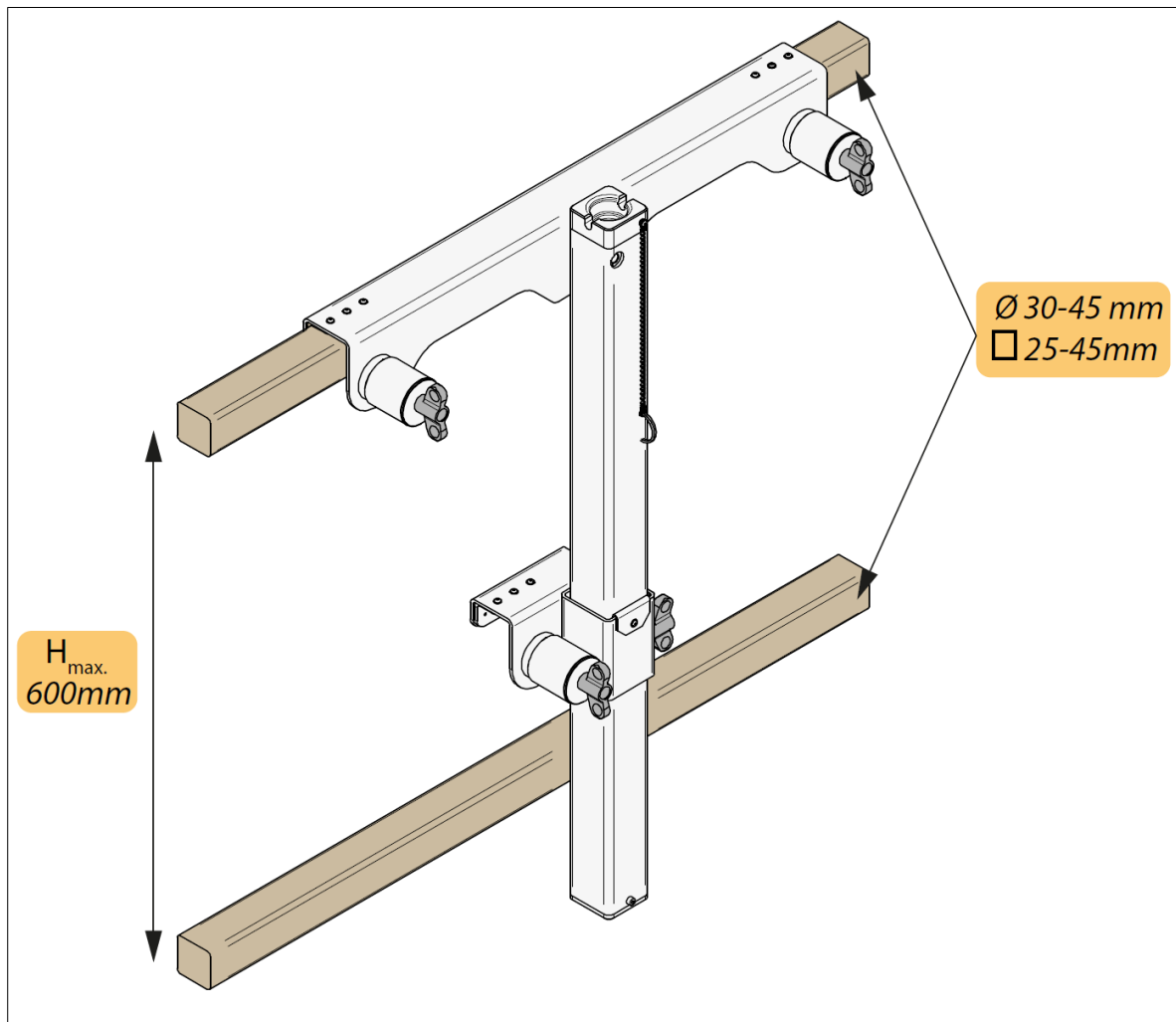
If the accessory has been acquired as a component of an assembly, for example a 3arm® weightless arm together with a hand rail bracket, the corresponding identification label will indicate the following characteristics.

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

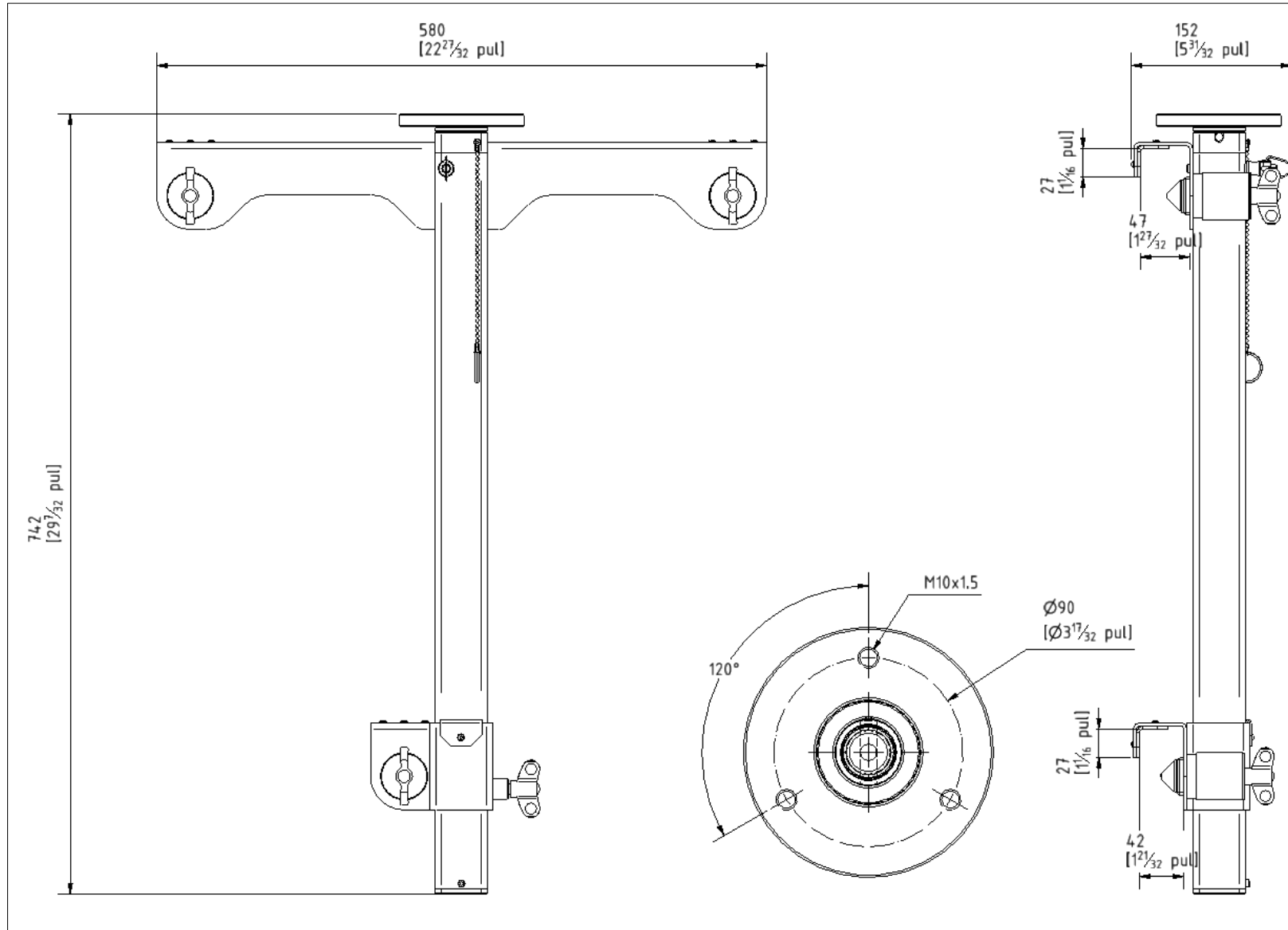


6 SITING REQUIREMENTS

The hand rail bracket is designed to adapt to profiles with a *circular, square or rectangular section* that comply with the following requirements:



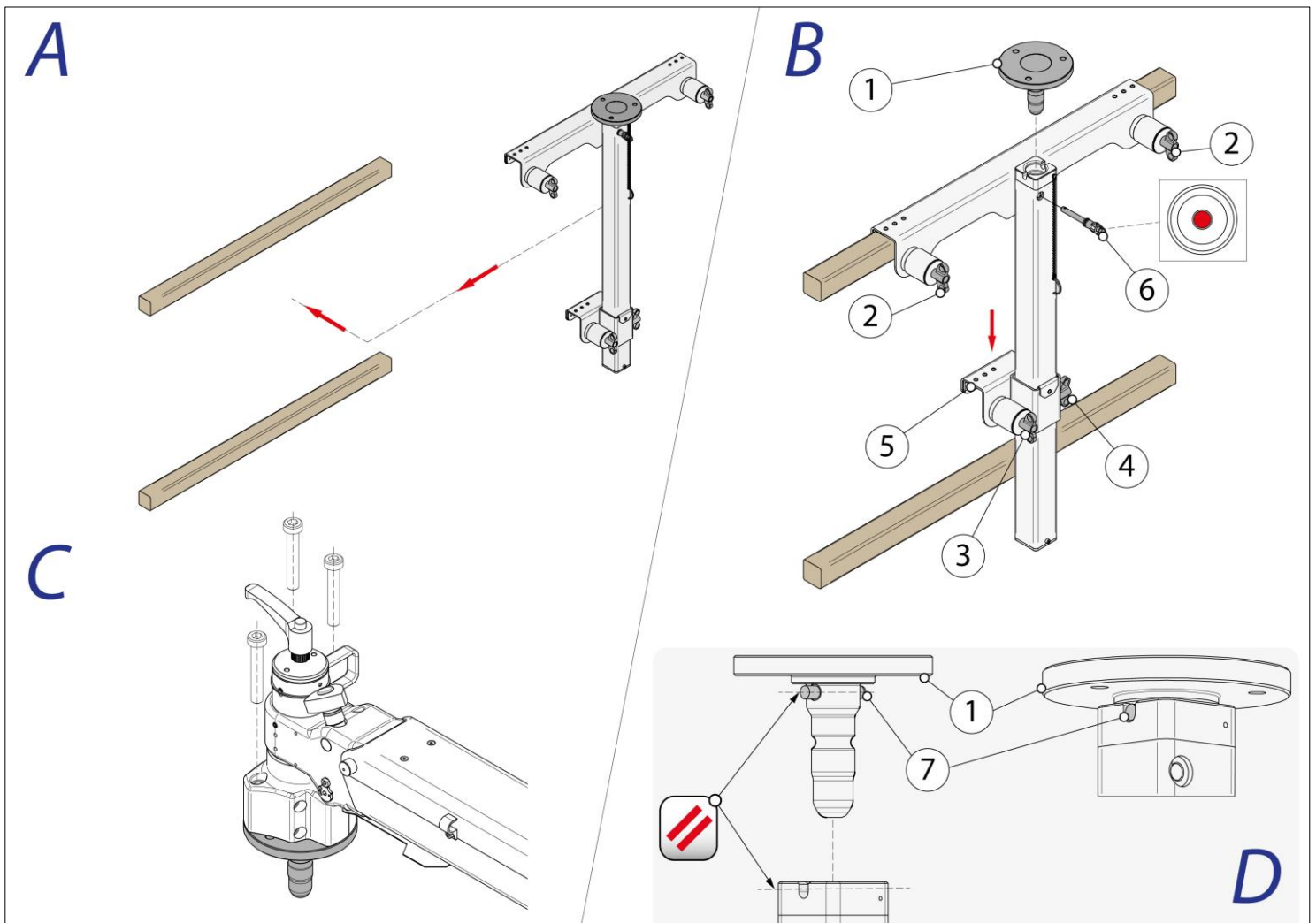
7 GENERAL DIMENSIONS



8 INSTALLATION

1. Remove the bracket from its original packaging.
2. Fit the upper crossbar of the bracket to the hand rail. If necessary loosen the knobs (2) to make this easier.
3. Fit the lower crossbar of the bracket to the hand rail. If necessary loosen the knob (3) to make this easier. Loosen the knob (4) to adjust the height of the carriage (5) to adapt to the dimensions of the hand rail.
4. Tighten all the knobs (2, 3 and 4) to secure the whole assembly.
5. Remove the positioner (6) and the coupling strip (1).
6. Mount the strip, together with your compatible 3arm® equipment [see 3ARM® – ROSCAMAT® COMPATIBILITY p -15-] using the bolts provided with your equipment. (See detail C)
7. Position the strip (1) and 3arm® arm assembly, and then fit the positioner (6) to secure the coupling. Note that the strip (1) has a set position so the direction of the pin (7) must line up with its housing (see detail D).

This must be done by two members of staff for total safety.



**GENERAL CONSIDERATIONS ABOUT THE INSTALLATION**

- ✓ The hand rail or structure assembled with the bracket must meet the requirements set out in the section *[see SITING REQUIREMENTS p. -9-]* It must also be sufficiently stable and robust.
- ✓ The integrator, owner and/or end user is responsible for determining the suitability of the product for each use and its installation site, specifically defining the task to be performed within the limits set out in this manual and issuing the Declaration of Conformity.

9 GUIDELINES FOR PACKAGING, TRANSPORT AND DISMANTLING

9.1 PACKAGING

Follow these instructions for packaging the hand rail bracket for changes in location or shipping for repair and maintenance.

9.1.1 Preparatory measures

Take the hand rail bracket out of service.

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

9.1.2 Choice of packaging

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

9.1.3 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.

9.1.4 Packaging procedure

Place the hand rail bracket 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.

9.2 TRANSPORT

The following data must be taken into account for transport.

- ✓ External dimensions depending on the segment (width x height x depth), approx. 200x620x200 mm
- ✓ Total weight depending on the segment: 12 kg

9.3 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.

10 3ARM® – ROSCAMAT® COMPATIBILITY

Description	3arm® SERIES					
	S1	S2	S3	S4	S6	M3/M5
Hand rail bracket	●	●	●	●	●	X


- = Compatible
- X = NOT Compatible

NOTE: For use with ROSCAMAT® machines, consult your 3arm® distributor

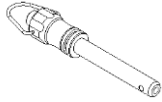
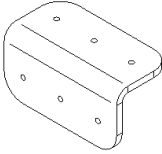
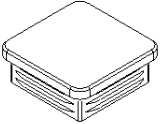
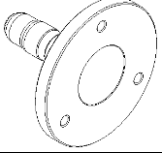
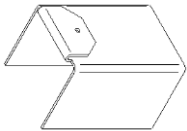
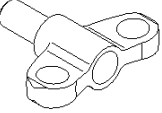
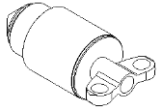

11 ACCESSORIES COMPATIBILITY TABLE

	Hand rail bracket
EXTENSION 500	X
EXTENSION 1000	X
CARRIAGE	X
FIXED COLUMN	X
LIFT (500)	X
COLUMN 2000 D63	X
FLOOR RAIL	X
LINEAR GUIDE	X

- = Compatible
- X = NOT Compatible

	<p>COMPATIBILITY</p> <p>✓ The device was designed for use in conjunction with 3arm® products, the manufacturer accepts no responsibility for any damage that may be caused by using the equipment for other purposes.</p>
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12 SPARE PARTS

REFERENCE	DESCRIPTION	PICT.
CM107300	KIPP K0790.101508045	
CL108400	NYLON GUIDE FOR HAND RAIL BRACKET	
CM10610C	CAP KAPSTO 50x50x3 - 260 Q 5050 3	
CL108900	MACHINE BASE FOR HAND RAIL BRACKET	
CL108700	SLIDING GUIDE TUBE FOR HAND RAIL BRACKET	
AC060426	LEVER ELESA EWN55pM10x20-C1	
CL108200	PISTON ASSEMBLY FOR HAND RAIL BRACKET	
CM107200	BALL CHAIN GN 111-200-3.5-30	

13 WARRANTY

See warranty attachment

DECLARATION OF INCORPORATION

In accordance with the Directive 2006/42/EC 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 - 08250
Country: Spain - EU

Declare that this product:

Designation: SUPPORT
Model: HAND RAIL BRACKET
From the serial number: 001-001 Consecutive

Confirms with Machinery Directive 2006/42/EC specifically with the following articles of Annex 1 of the directive: 1.1.2, 1.1.3, 1.1.5, 1.1.6, 1.3.1, 1.3.2, 1.3.4, 1.5.4, 1.6.1, 1.7.1, 1.7.4.

We also declare that the technical documentation of this partly completed machine has been drawn up in accordance with the requirements in Appendix II B. This documentation shall be released to the competent authorities of market supervision with a duly motivated request.

It is forbidden to commission the partly completed 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 CE statement of compliance according to Appendix II A.

Harmonised standards of reference:

Standard	Description
EN ISO 12100:2012	Machinery safety. General design principles. Risk assessment and risk reduction.

Authorised for documentation: Mr Ramon Jou Parrot of TECNOSPIRO MACHINE TOOL, S.L

Sant Joan de Vilatorrada, Tuesday, 12 February 2019

TECNOSPIRO
MACHINE TOOL SL



Ramon Jou Parrot, Technical Director