

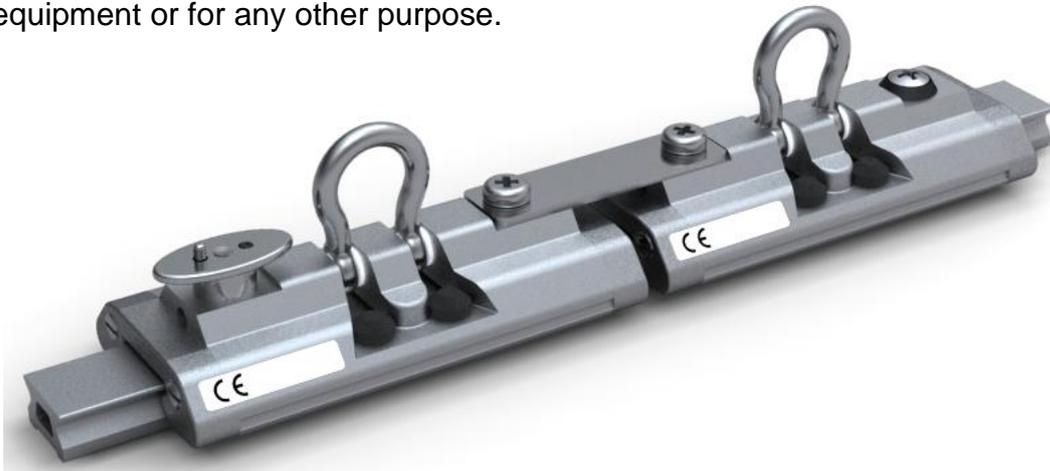


## SAFETY RAIL SYSTEM S22

**CE** Certified to European Standard EN795:2012, Type D: Personal fall protection equipment – Anchor Devices.

A reliable anchor device is an essential component of any personal protection system.

This system provides a method of attachment for use in conjunction with personal protection equipment to protect against falls from a height, such as when working outside of conventional guardrails for cleaning and maintenance purposes. It shall not be used for lifting equipment or for any other purpose.



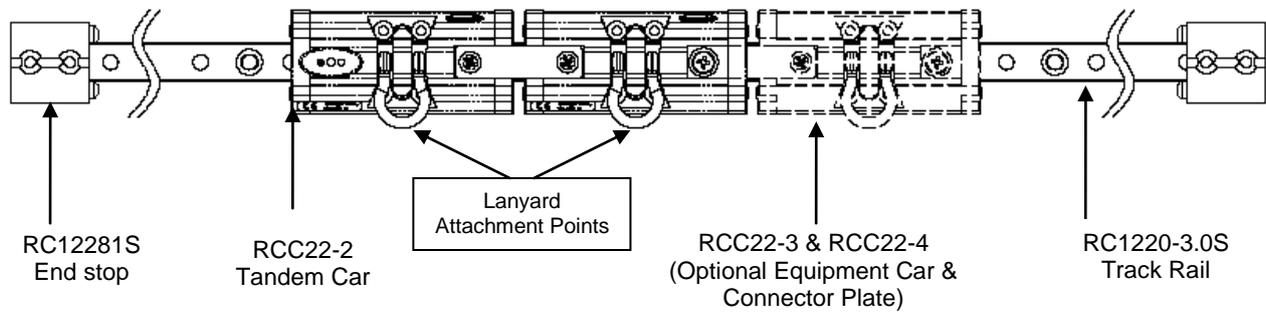
### **Important Advice**

- The system is tested and certified to the European Standard EN795:2012 Type D by Lloyd's Register, Copenhagen (Denmark), and is appropriate for single person use only.
- This anchor device is designed for the attachment of components of a personal fall protection system (harnesses, lanyards, fall arresters and other devices) in accordance with EN363, Personal fall protection equipment – Personal fall protection systems.
- Each harness or device must be secured to a separate attachment point.
- If this anchor device is to be used as part of a fall arrest system, the user must be equipped with a means of limiting the maximum dynamic forces exerted on the user during the arrest of a fall to a maximum of 6KN.

### **System Description**

The complete Safety Rail System consists of the following components:

- One track rail with stop holes at 50mm centres and mounting holes at 100mm (3 15/16") centres.
- One tandem sliding car assembly consisting of two cars joined together with a connecting plate.
  - Each car has a single attachment point for personal protection equipment.
  - One of the cars has a spring-loaded plunger to allow the assembly to be fixed in position at any of the stop holes in the track rail. This plunger can be disengaged to allow the free movement of the car assembly along the rail.
- Two end stops installed at the extremities of the track rail.



## Features

- Marine grade aluminium alloy cars, track rails and end stops, anodised for corrosion protection and long service life.
- Recirculating Torlon® ball bearings for free running, low friction performance and low maintenance. *(Torlon® is a registered trademark of Solvay Advanced Polymers).*
- Grade 316 forged stainless steel pivoting shackles for lanyard attachment.
- Rubber buffers for reduced vibration and to lift pivoting shackles away from car body for quick access.
- Spring-loaded stainless steel plunger for simple, positive re-positioning at stop locations. Can be locked in the disengaged position to allow free movement along the track rail. The elliptical knob is easy to grip and turn, and indicates clearly whether the plunger is engaged or not.



Plunger down, fixed in position

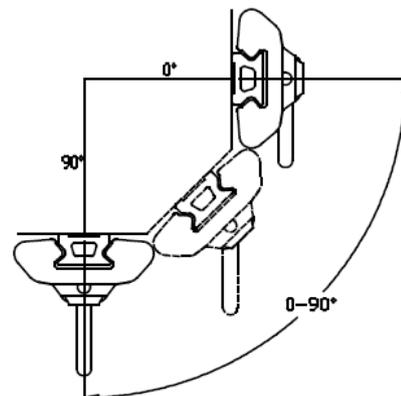


Plunger up, ready to move to new position



Plunger up and locked, car free to move along track rail

- The track rail can be mounted in either a vertical plane (90°), horizontal plane (0°) or at an incline between 0° and 90° as shown below.



## Options

- Longer runs can be achieved by using more than one section of track rail and trimming to length as required, provided that the distance between mounting fasteners never exceeds 100mm (3 15/16"). The joining insert RC1221J is used to aid alignment when fitting multiple sections of track rail.
- Additional sliding cars for supporting tools or equipment can be connected to the main tandem car RCC22-2 with the connector plate RCC22-4.
- Cover plate RC12281PS can be fitted to the track end stop RC12281S with the screws provided to conceal the exposed end of the track.

## System Components



RCC22-2



RC1221J



RCC22-1



RCC22-4



RC12281S

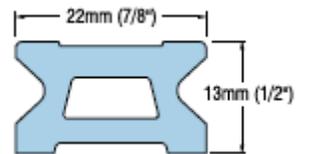
RC12281PS



RCC22-3



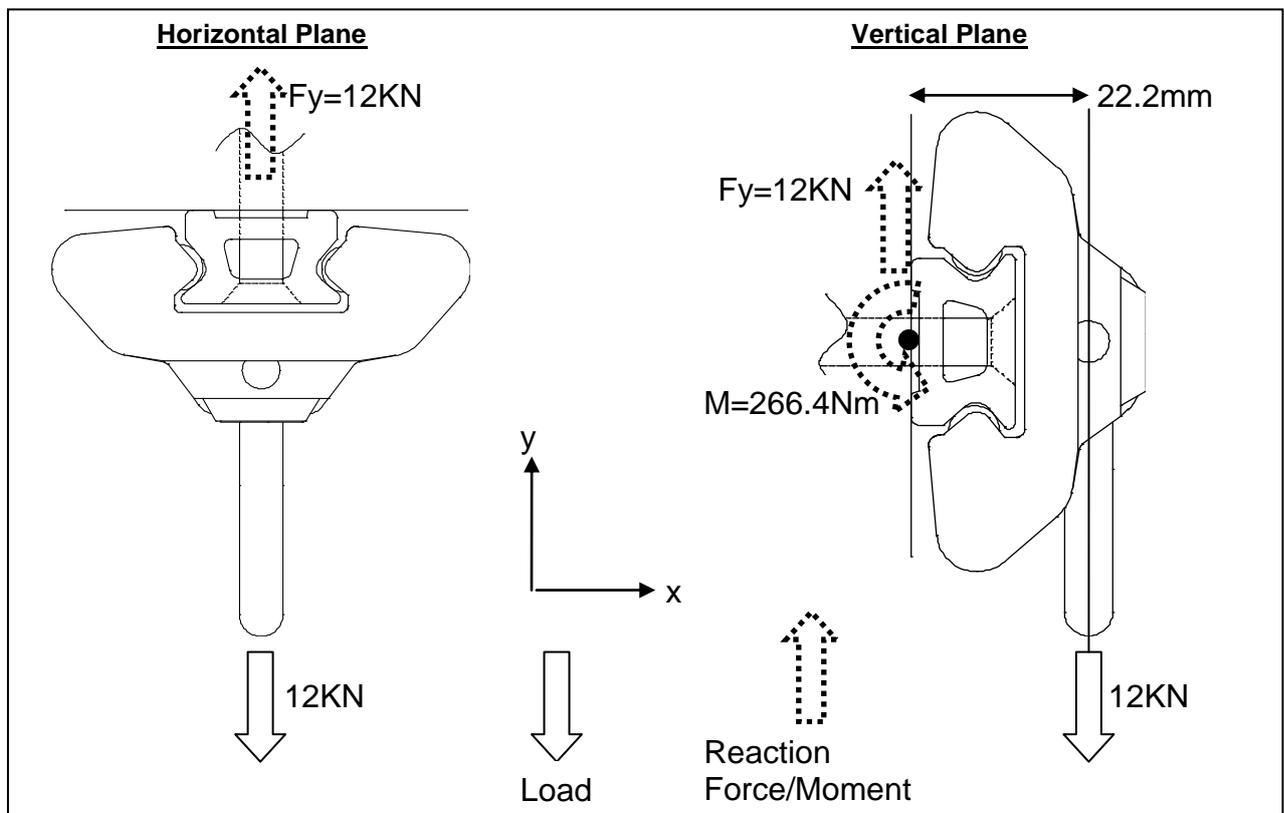
RC1220-3.0S



Part No.	Description	Length		Width	
		mm	in	mm	in
RCC22-2	Tandem Car, 2 Attachment Points, Plunger Stop	254	10	58	2 5/16
RCC22-1	Single Car, 1 Attachment Point, Plunger Stop	124	4 7/8	58	2 5/16
RCC22-3	Single, Car, 1 Attachment Point	124	4 7/8	58	2 5/16
RCC22-4	Connector Plate including Screws				
RC12281S	Track Rail End Stop	50	1 31/32	45	1 25/32
RC12281PS	End Stop Cover Plate including screws				
RC1221J	Track Rail Joiner				
RC1220-3.0S	Track Rail	2996	118	22	7/8

## Installation

- The Anchor Device should only be installed by competent persons or competent organisations.
- The installation should be verified appropriately (eg: by calculation and/or testing).
- Note must be taken of the maximum loads that could be exerted on the structure and fasteners by the anchor device as detailed below.
- It is recommended that the structure used to hold the fasteners is stiff enough to ensure there is no failure of either the fastener or structure at these maximum loads as well as ensuring there is no permanent deformation or deflection of the anchor system under the service load of 1KN.
- Consideration should also be given to the material used in the structure so that it does not cause corrosion in either the fastener or the structure. Isolation between the fastener and the structure may be required.
- The track rail must be mounted using 6mm (1/4") countersunk Grade 316 Stainless Steel fasteners at 100mm (3 15/16") centres. It is recommended that these fasteners have a minimum strength of 620MPa to meet the load requirements detailed below.
- The track rail must be mounted horizontally (i.e. parallel to water plane), within a tolerance of  $\pm 5^\circ$ .
- End stops must be mounted using 6mm (1/4") countersunk Grade 316 Stainless Steel fasteners.
- Maximum loads that could be transmitted in service from the anchor device to the structure are:



- The RCC22-2 tandem car is supplied with ball bearings already fitted, on a short loading track rail. To install the car, first remove the RC12281S end stop from the end of the installed track rail. Align the loading track rail with the installed track rail such that they are in contact with each other end-to-end, then slide the car onto the installed track rail and fit the end stop back in place. DO NOT discard the loading track rail, which is required for retaining the ball bearings while installing or removing the car.
- If the sliding car cannot pass through a discontinuity in the track (eg: Track ending before a sharp corner, then starting again around the corner), a second car must be available after the track discontinuity. The user must always be attached to at least one car when using the anchor device.
- If the marking of the anchor device is not accessible after installation, additional marking near the anchor device is recommended.

## **Installation Documentation**

For the user, the installation documentation provides evidence that the installation has been carried out properly. Moreover, it is the essential basis for future examination of the anchor device, given that in many cases the fixing of the anchor device is not visible or accessible.

After Installation, copies of the installation documentation should be handed over to the user. This documentation should be kept on site for the purpose of subsequent examinations of the anchor device.

Refer to **APPENDIX A** for the Installation Plan which must be completed by the installer.

## **Use and Maintenance**

- Labels are affixed to each individual car by the manufacturer.
  - One label indicates the standard (EN795:2012 Type D) to which the product conforms.
  - A second label indicates the part number and date of manufacture, which must be referred to in all communication with the manufacturer or its authorised representatives.
  - A third label (fixed to cars with plunger stop) indicates that the car is for single person use only.
- If re-sold outside the original country of destination, it is essential for the safety of the user that the reseller provide all information relating to the installation, use, maintenance, periodic examinations and service of the system in the language of the country of destination.
- Each user must read and understand this user manual prior to first use of the system.
- As with any workplace where hazards may be present, an appropriate rescue plan shall be in place for any emergencies that may arise during work involving the system.
- The system must be used only in conjunction with personal protective equipment approved to relevant standards.
- The user must NEVER rely on only one attachment point for personal protective equipment!
- The spring loaded plunger which locks the car in position along the track rail must ONLY be disengaged from the track rail while the user is changing position. Once the user is in position, the plunger MUST be re-engaged to hold the car in position and limit the user's movement along the track rail.
- For the safety of users, a visual inspection of the system must be carried out by a competent person before each use to verify the following conditions:
  - The track rail is securely fixed to its mounting surface and both end stops are in place at the extremities.
  - The sliding cars run smoothly and freely on the track rail.
  - The lanyard attachment points (pivoting shackles) are free to articulate. (Any deformation in the shackle indicates a fall or overload of the anchor device and it must be replaced).
  - There are no signs of excessive wear, corrosion, deformation or breakage of parts.
  - The plunger used to fix the car in position is operating correctly.
  - All screws in the sliding car assembly are in place and secure.
- It is recommended that the complete system be inspected annually by a competent person. In addition to verification of the conditions noted above, the cars shall be removed from the installed track rail and the following checks performed:
  - To remove a car from the track rail, use the short loading track rail that was originally supplied with the car. (If no loading track is available, contact the manufacturer before proceeding).
  - Once the car is transferred to the loading track rail, the recirculating ball bearings can be inspected from the underside of the car.
  - A small screwdriver may be used to push the ball bearings to verify that they are free to circulate.
  - If all ball bearings are present, the balls can be pushed together to leave a space slightly less than one ball diameter. A larger space indicates that one or more balls are missing. Each individual car in the RCC22-2 tandem assembly (and the individual cars RCC22-1 and RCC22-3) must contain a total of 74 ball bearings.
  - Any ball bearings that are missing, or that appear worn or cracked, must be replaced. Use only replacement ball bearings supplied by the manufacturer.
  - The plunger assembly may be lubricated with a light grease. Lift the spring loaded plunger and apply grease to the exposed rod below the elliptical knob.
  - The manufacturer should be contacted if the labels on any car are found to be missing or illegible.

- In case of any doubts about the condition of the system, or if any component is found to be damaged in any way, the parts must be immediately removed from service. The system must not be used until repairs are completed and approved in writing by a competent person.
- No changes or alterations may be made to the components of the system without the manufacturer's prior written consent. Any repair must be carried out according to the manufacturer's procedures.
- After any fall, the system must not be used until it has been inspected and a competent person has confirmed in writing that it is safe to do so.
- Regular rinsing of all components with fresh water is required to help to prevent the build up of salt and contaminants and ensure efficient operation of the system.
- Spray lubricants should not be used on the rail and ball bearings as they can lead to accumulation of contaminants and dirt which will compromise the long term performance of the system.

### **Record Keeping**

- It is recommended that the anchor device is marked with the date of the next or last inspection.
- It is recommended that a record be kept for each component of the system, with particular regard to installation, inspection, maintenance and service interventions.
- Refer to **APPENDIX B** for the Equipment Record sheet that should be filled out for each component of the system by the competent person inspecting the safety rail system. This forms an inspection, maintenance and repair history for each component of the system.
- If any component of the system is inspected or repaired by Ronstan authorised personnel, a Ronstan Record of Inspection and Revision sheet will be completed. This is to be kept by the user with the Equipment Record and form the Inspection and Maintenance History for the system.
- Refer to **APPENDIX C** for the Annual Inspection and Revision procedure and record sheet.

### **Re-Seller Contact Details**

If the system or any of its components have been supplied by a company or organisation other than the manufacturer, contact details of the supplier may be recorded in the space below:

**APPENDIX A**

<p><b><u>SAFETY RAIL SYSTEM INSTALLATION PLAN</u></b></p> <p>NOTE: THIS MUST BE HANDED OVER TO THE USER AFTER INSTALLATION, COPIES MUST BE DISPLAYED AT ALL ACCESS POINTS TO THE SAFETY RAIL SYSTEM.</p>	
<p><b><u>BUILDING/VESSEL</u></b></p> <p><u>NAME:</u></p> <p><u>DESCRIPTION:</u></p>	<p><u>ADDRESS:</u></p>
<p><b><u>CUSTOMER</u></b></p> <p><u>NAME:</u></p> <p><u>ADDRESS:</u></p>	<p><u>CONTACT PERSON:</u></p> <p><u>CONTACT DETAILS:</u></p>
<p><b><u>INSTALLER</u></b></p> <p><u>NAME:</u></p> <p><u>ADDRESS:</u></p>	<p><u>CHIEF INSTALLER:</u></p> <p><u>CONTACT DETAILS:</u></p>
<p><b><u>ANCHOR DEVICE</u></b></p> <p><u>MANUFACTURER:</u> Ronstan Denmark ApS</p> <p><u>DESCRIPTION:</u> Series 22 Safety Rail System</p>	<p><u>ADDRESS:</u> Jægervænget 36 7100 Vejle, Denmark</p> <p><u>CONTACT DETAILS:</u> Ph) +45 76 42 77 77 office@ronstan.dk      www.ronstan.com</p>
<p><u>CAR PART NUMBER(S) AND DATES OF MANUFACTURE:</u> <i>(this information can be found on product labels)</i></p>	<p><u>NUMBER OF CARS USED:</u> _____</p> <p><u>LENGTH OF TRACK USED:</u> _____ (m)</p>
<p><b><u>FIXING INFORMATION:</u></b></p> <p>Fastener Description: _____ Fastener Strength: _____</p> <hr/> <p>Fastener Manufacturer: _____</p> <p>Torque used to install fasteners: _____</p> <p>Description of substrate structure that fasteners are fixed to: _____</p> <hr/> <p>Were nuts and washers used? _____</p> <p>If not, how are fasteners fixed to substrate? _____</p> <hr/> <p>Is the threaded end of the fastener able to be accessed for inspection and maintenance? _____</p> <p>Remarks:</p>	



**(SAFETY RAIL SYSTEM INSTALLATION PLAN CONTINUED)**

**DECLARATION:**

I, as the Chief Installer, declare that the Safety Rail Anchor System:

- was installed in accordance with the manufacturer's manual and installation instructions.
- was carried out according to this plan.
- was fixed to the specified structure and substrate in the method described.
- was fixed using the fasteners as specified.
- was commissioned in accordance with the manufacturer's information.
- was installed and commissioned in accordance with any additional relevant standards.

*(examples are: EN795:2012, Personal fall protection equipment - Anchor Devices*

*MGN422(M) - Use of equipment to undertake work over the side on yachts and other vessels.)*

- was supplied with photographic information/documentation, especially where fasteners and the underlying substrate are no longer visible after installation.
- installation was verified appropriately by calculation and/or testing.
- was installed to meet the load requirements as detailed in the Manufacturer's Installation Instructions

**Date:**

**Signature:**

**APPENDIX B**

<b>EQUIPMENT RECORD</b>				
<b>Manufacturer:</b> Ronstan Denmark ApS Jægervænget 36 7100 Vejle, Denmark		<b>Contact Details</b> +45 76 42 77 77 office@ronstan.dk www.ronstan.com		
<b>Product:</b> SAFETY RAIL SYSTEM S22				
<b>Part Number:</b>				
<b>Year of Manufacture:</b>		<b>Date of Purchase:</b>		<b>Date of First Use:</b>
<b>Other Relevant Information</b> (e.g. document number, details of supplier or installer):				
<b>PERIODIC INSPECTION, MAINTENANCE AND REPAIR HISTORY</b>				
Date	Type of intervention (periodic inspection, maintenance or repair)	Details (defects, repairs, other)	Name/Signature of Competent Person	Date of next periodic inspection



# Safety Rail Cars

## Procedure for Annual Inspection and Revision

<input type="checkbox"/> Inspection of working track(s) and end stops to ensure all fastenings are secure and there are no signs of damage.
<input type="checkbox"/> Removal of car from track.
<input type="checkbox"/> Visual inspection to identify any worn, deformed or damaged parts.
<input type="checkbox"/> Verification of plunger stop functionality.
<input type="checkbox"/> Disassembly of car including removal of ball bearings and pivoting shackle.
<input type="checkbox"/> Visual inspection of disassembled car for signs of corrosion, and inspection of shackle pin for wear.
<input type="checkbox"/> Fresh water cleaning and removal of any contaminants.
<input type="checkbox"/> Replacement of Torlon ball bearings if required.
<input type="checkbox"/> Replacement of rubber buffers if required.
<input type="checkbox"/> Lubrication of plunger stop.
<input type="checkbox"/> Replacement of any other worn or damaged components (note details below if applicable).
<input type="checkbox"/> Re-assembly of car on loading track.
<input type="checkbox"/> Installation of car on working track; verify again that end stops are properly secured.
<input type="checkbox"/> Recording of inspection and revision in the Equipment Record, appendix B in the User Manual.

**Notes:**

Part Number	Description	Quantity	Label Reference

**Date:** \_\_\_\_\_

**Location:** \_\_\_\_\_

**Inspected by:** \_\_\_\_\_