

SETUP & OPERATION MANUAL

AVAILABLE LANGUAGES:

ENG

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BEAVER
TECHNOLOGY
SERVICES

BIRENCHSAFE®

MOBILE ANCHOR CUBE (MAC)



MOBILE ANCHOR CUBE (70208)

AS/NZS 5532: 2013

OSHA: 1926.502

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Operation & Maintenance Manual

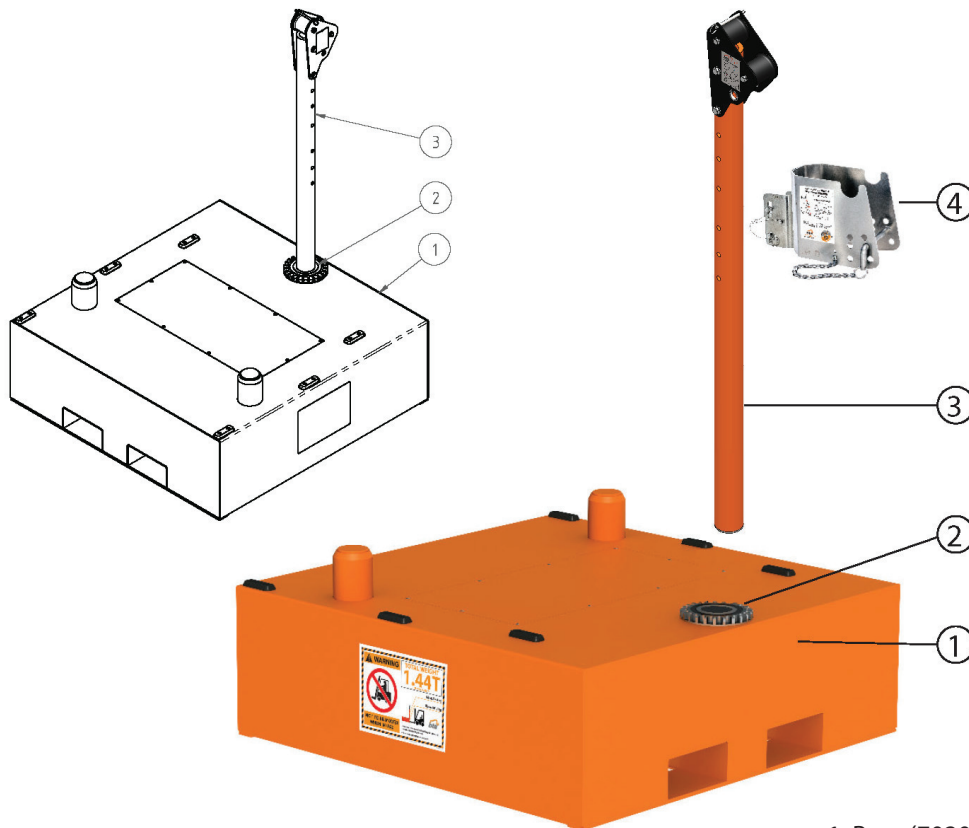
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PARTS IDENTIFICATION



- 1. Base (70208B)
- 2. Base Sleeve reducing liner (7586P601)
- 3. Mast (70208M)
- 4. Inertia Reel Bracket (60174-HRA)

2. SAFETY INSTRUCTIONS - MUST BE READ PRIOR TO USE

- Prior to using the equipment, ensure all Installation and Operating procedures have been read and understood.
- The system is to be only installed by a competent person who has been trained in safe use of the system and associated equipment.
- Use appropriate Personal Protective Equipment (PPE) during installation, operation and maintenance of the system.
- All non-operational bystanders are to be kept clear of work areas.
- Ask for assistance when lifting/moving heavy components. Before lifting, position body close to the load and keep back straight and knees slightly bent.
- Ensure all workplace OH&S requirements are identified and understood. A risk assessment complete with site specific safe work method procedure must be complete and approved by management prior to commencing work.
- A rescue plan must be devised and be ready to be implemented prior to usage of the system.
- This product requires periodic inspection and maintenance by a competent person "Inspection" & "Maintenance" section of this manual. The system must not be used if any part of it is overdue for service, inspection or is damaged.
- Only approved full body harness, certified to EN361:2002, AS/NZS1891.1 is to be used with this system.
- Visually inspect the product for damage prior to use. The system must not be used if there is any deterioration or deformation of any component or the structure to which the system is attached. If the Davit mast shows signs of overload or fall, immediately tag the system "Out of Service" and do not use until it has been fully inspected and re certified by a competent person.
- Person with muscular, skeletal and physical disorders should consult a physician before using Personal Fall Protection Equipment. Increasing age or lowered physical activity may reduce a person's ability to use this equipment.
- This user manual does not in any way replace the need for completion of a recognized height safety training course.

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3. PRODUCT APPLICATIONS

The system provides two anchor points for the attachment of Personal Fall Arrest Systems (PFAS). Each anchor point is to be used by a single user (maximum of 136kg including all clothing, tools and equipment). The system is designed to be set up and used in either a restraint work positioning set-up with (SRL- Type 2) or in Limited Free Fall Arrest/Rescue-Recovery with (SRL-Type 3). System is to be used for Personal Fall Protection ONLY and not for materials handling.

The product has been tested to AS/NZS5532:2013.

4. APPLICATION RESTRICTIONS

There are restrictions and limitations that must be carefully considered in the selection, installation, and operation of this type of mobile anchor. Serious injury or death may result from failure to consider these factors.

System Capacity

System designed and rated to provide limited free-fall protection for up to two workers, each weighing a maximum of 136kg including all clothing tools and equipment. There are two attachment points, 1 per user.

SRL maximum arrest force rating of 4kN or less.

Note: This system is not intended for use with shock absorbing lanyards or other energy absorbing devices other than approved SRL's. Please refer to the appropriate manufacturer's instructions and specifications for all system accessories to ensure compatibility of components.

Note: The system shall not be used outside its limitations or for any purpose other than that for which it is intended.

5. SITE CHARACTERISTICS, PHYSICAL and ENVIRONMENTAL FACTORS

Work sites have associated with them a number of potential hazards related to the site itself. These may include, but are not limited to:

- Poisonous or explosive atmospheric conditions.
- Poisonous or corrosive chemical hazards.
- Dust and other airborne contaminants.
- Hot surfaces.
- Electrical hazards including overhead power lines.
- Sharp edges.
- Engulfment hazards.
- Moving machinery.
- Work Surface – Unconsolidated fill, rocky uneven ground, corrugated compacted hardstand and soft sandy ground.
- Weather conditions such as high wind.

All of these factors must be taken into consideration when selecting equipment for any given application.

6. GENERAL SYSTEM REQUIREMENTS

The system must be set up keeping in mind the following information:

- Maximum deflection of the anchor device: approximately 30mm.
- Maximum displacement of the anchor point: less than 30mm.

6.1 Substrate Requirements

The base of the system is designed to be set up and used on a firm level surface ($\pm 2^\circ$ from level). Substrate to be capable of safely supporting a 32kN load. Examples of suitable areas include, smooth flat compacted/concrete yard, car park or maintenance areas. Do not use this equipment on areas where the ground structure is in question. The ground giving way under the equipment whilst in use could result in serious injury or death.

Note: All installations MUST BE approved by a Competent Person and used by a competent person (or used under the supervision of a competent person).

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All connectors used to connect components in the system must be compatible with each other to ensure sufficient strength and eliminate the risk of accidental disengagement or rollout during use. Connectors supplied with products designed, manufactured and/or approved by BTS meet all applicable requirements for connectors. Any connectors not supplied by BTS must be selected and approved by a Competent Person.

6.3 Full Body Harness

Use only a full body harness designed, tested and approved for fall arrest (refer to EN361:2002, AS/NZS1891.1) when connecting a person to this system.

Warning: Body belts or straps do not provide adequate restraint/support to the body and may cause serious injury or death in the event of a fall and **MUST NOT** be used.

6.4 Fall Protection

Activities involving working at heights require the use of Personal Protective Equipment (PPE) to protect the worker in the event of a fall. Suitable fall protection must be provided as required by applicable local regulations when using this equipment. Fall protection equipment **MUST BE** selected, installed and used by a competent person or under the supervision of a competent person.

Note: Persons with muscular, skeletal and physical disorders should consult a physician before using Personal Fall Protection Equipment. Increasing age or lowered physical activity may reduce a person's ability to use this equipment.



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7. SYSTEM SET-UP AND OPERATION

7.1 Introduction

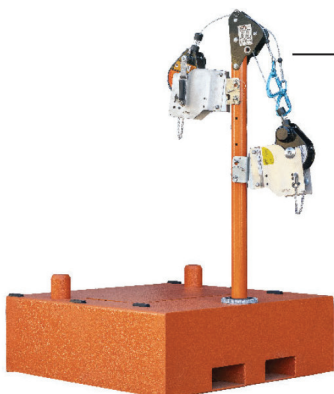
All accessories and their installation must be approved by a Competent Person for use with the system.

7.2 Set-up of 70208 with Type-3 Rescue Device (winch operated)



A. Insert mast into the base sleeve.

B. When using MAC with Type 3 inertia reel connect Inertia reel bracket (60174-HRA) onto a mast.
 Note: If set-up is for two workers, the brackets need to be connected opposite sides of the mast, as shown.

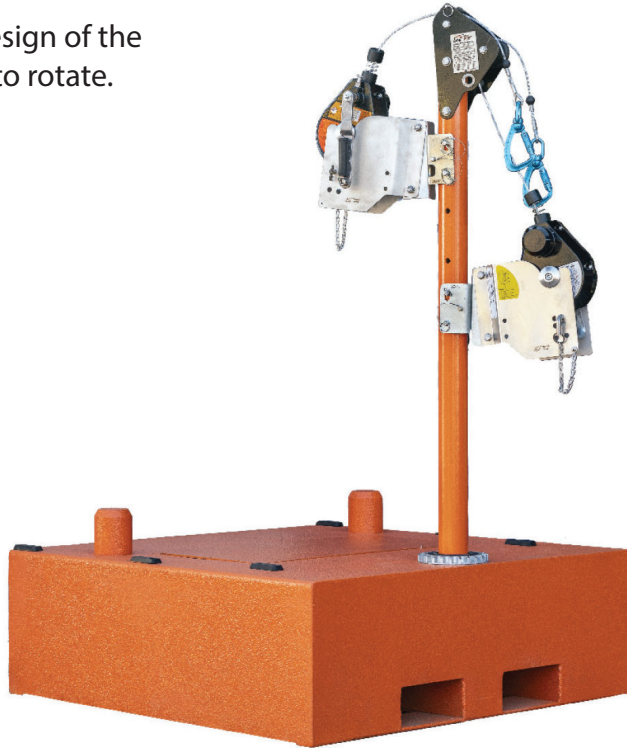


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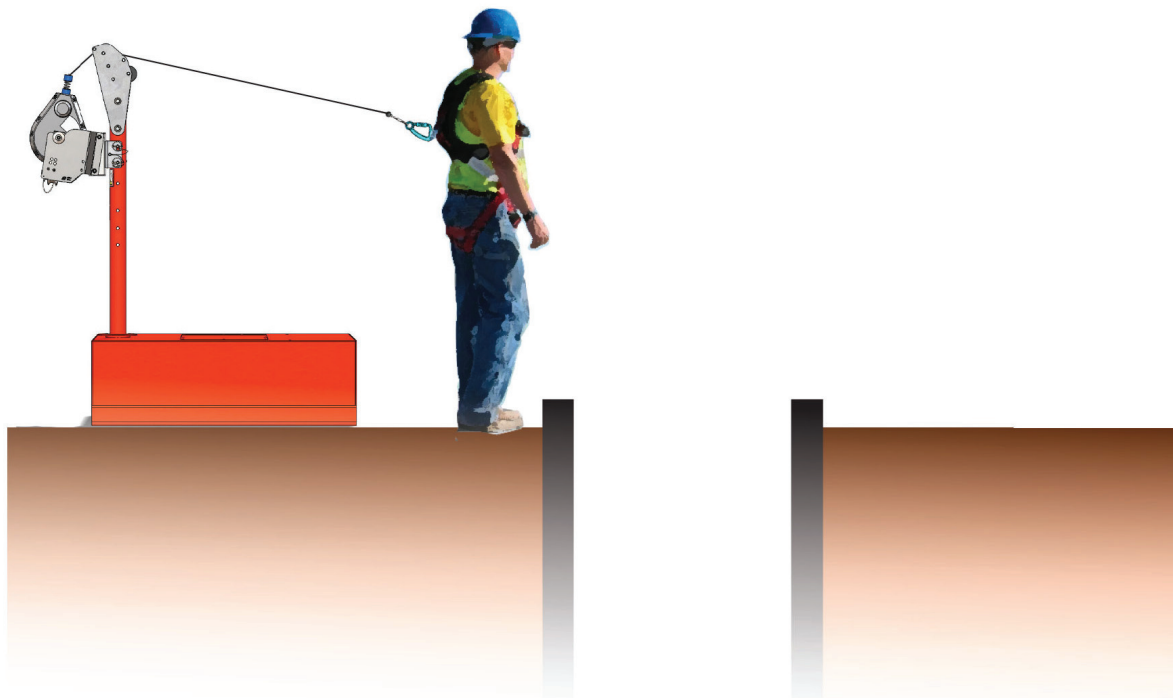
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Set-up complete. The design of the system allows the mast to rotate.



Please note below correct orientation of the system towards the fall hazard.



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A. Insert mast into the base sleeve.

B. When using MAC with Type 2 inertia reel connect karabiner into anchor point, located on side plates of the mast bracket.

Note: If set-up is for two workers, connect 1 user to 1 anchor point, as shown below.



Set-up complete. The design of the system allows the mast to rotate.



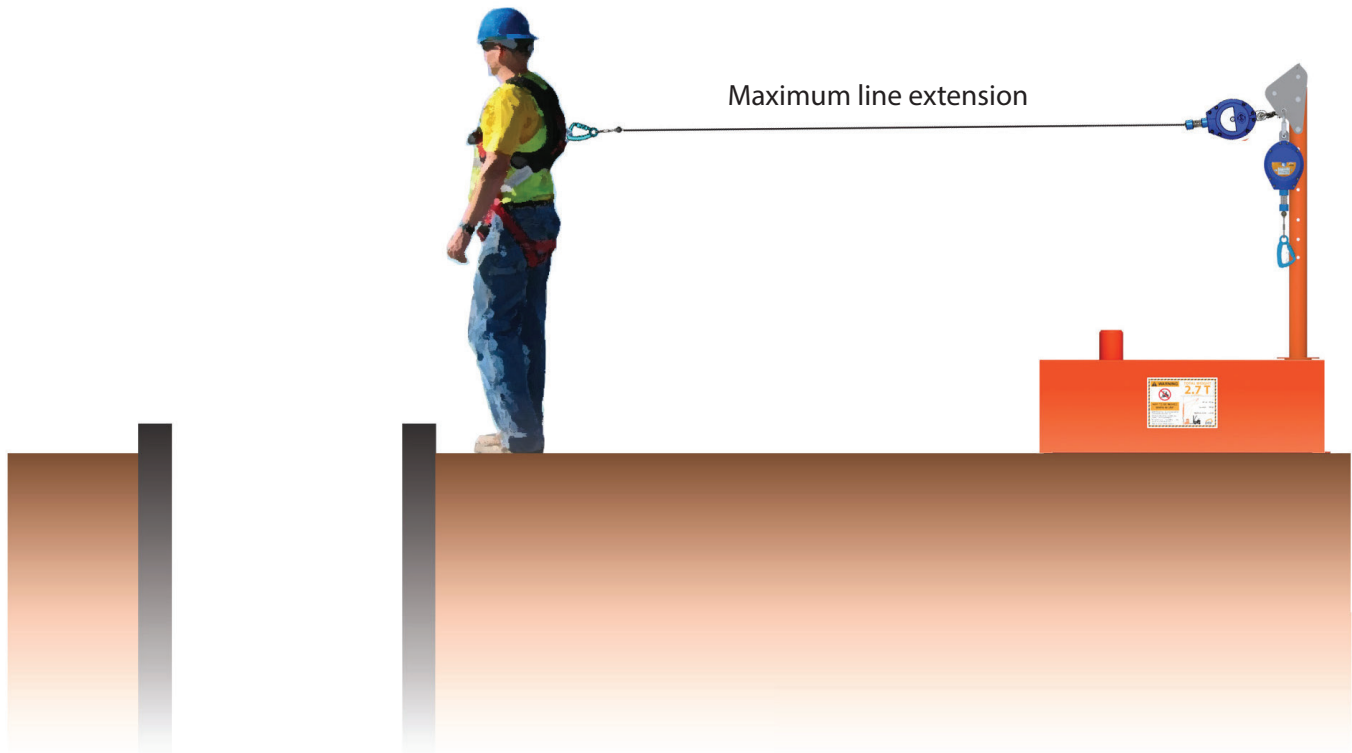
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It is preferred when setting up MAC with Type 2 Inertia reel, MAC is to be set-up to provide fall restraint system, as shown below. The maximum extension of SRL line restricts the user to go past the fall hazard line.

When setting up with Type 2 Inertia reel, MAC can be set-up to provide fall restraint system. As shown below.



8. TRAINING

All persons using this equipment must receive appropriate training from their employer on all equipment involved prior to operating. Users must also read and fully understand this manual and any other instruction manual(s) relating to the system being used, or have the instructions fully explained to them before using this equipment.

Additionally, users must be properly trained in the use of any accessories that are to be used with the MAC system, as well as fall protection, confined space safety and any other procedures that are applicable to the work being performed; in compliance with local regulations.

Note: Documented training records should be kept for all users of this equipment.

9. SYSTEM USAGE

- Before using the system, ensure that free space beneath the workplace/edge is calculated to achieve minimum required clearance, so that, in case of a fall, there will be no collision with the ground or other obstacle in the fall path.
- This includes 1m clearance, limited fall arrest distance of the device used and stretch in the harness.
- Fit a full body harness (compliant to AS/NZS1891.1, EN361:2002 or equivalent country/state or territory applicable standards/ directive/ regulations) and ensure that the harness is fitted as per the manufacturer's instructions. Never use a harness that is not adjusted correctly as it does not provide adequate support in the event of a fall.
- Connect the HRA's/ SRL's hook to the Dorsal Dee ring of the harness, if you cannot see that the connection has been done correctly, have another worker confirm that the hook is in the correct location and closed properly. Please read the operators manual for this item prior to use.
- Using winch to retrieve the personnel from the excavation. Please read Operator's instructions for the Winch provided by its manufacturer.

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10. INSPECTION and MAINTENANCE

The system must be inspected by a competent person before each use and periodically on a scheduled basis. Any problems must be reported immediately to the supervisor and the equipment tagged "Out of Service" to prevent further use until it has been repaired.

10.1 Daily Inspection & Maintenance

- Inspect the system and all accessories for physical damage, bent parts etc. that may have been caused by an excavator or other plant on the job site. Check also for loose or missing hardware and missing or illegible labels (Refer to section for Labels and Markings). Replacement labels and accessories for all BTS products are available from your equipment supplier.
- Inspect the pulleys on the mast to ensure they are clean and rotate freely.
- Inspect the mast head to check if there are any signs of a fall occurred. Before each use ensure the following:
 - Install a HRA or SRL on the structure as per the applicable instructions.
 - In both inertia type systems (Type 2 or Type 3) HRA or SRL, apply a sharp, steady pull on the lifeline to engage the SRL brakes and then pull on the lifeline to test the system.
- If used with a HRA a visual inspection and functional test of the HRA fall arrest block must be performed before every use. To do so, attach the fall arrest block to a suitable anchor point: Pull the rope, the ratchets must lock audibly and the device must be locking. Firmly hold the rope and allow it to retract into the fall arrest block in a controlled manner. See the operators manual for further information.

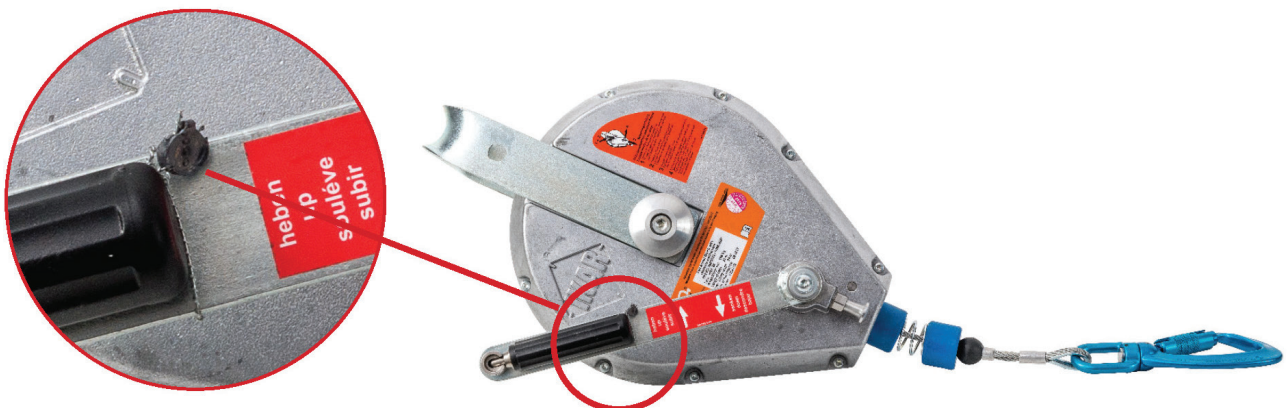
10.2 Annual Inspection & Maintenance

At least annually, the MAC system needs to go through a detailed inspection by a competent person following the inspection procedure outlined in Section 10.1 and the results recorded in an Inspection Log (a sample log is provided on the back of this manual).

Note: The Inspection plate on the MAC mast needs to be marked with the date of inspection and date of next inspection.

10.3 Inspection of IKAR HRA Rescue / Retrieval Handle Wire Seal

The IKAR HRA (Rescue Retrieval Winch) has a Wire seal that prevents the handle from being used as a materials winch. If the seal is broken, it will indicate that a rescue has been performed with this HRA & that an incident report has been filled out and documented in the provided inspection log.



Note: The Rescue Recovery Winch is NOT to be used for Lifting or Lowering of materials. It is for personnel recovery only

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11. Labels



IKAR RESCUE WINCH INTERFACE BRACKET
HRA-12TA / HRA-18TA / HRA-24TA

Rescue Winch Operation

1. Open the seal. (1).
2. Pull gear trigger (2) up and crank arm (3) will pop out.
3. Unfold handle (4), turn crank arm slightly until gear wheel and gear trigger (2) snap in. 4. The casualty can now be cranked up and down.

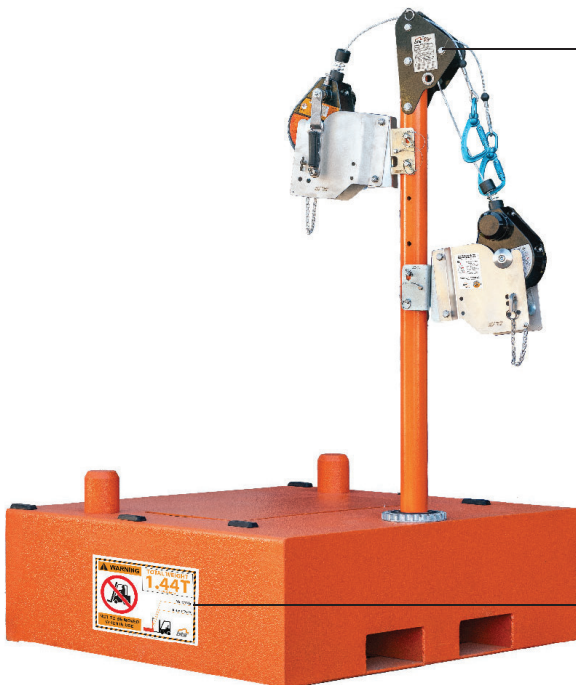
After using the rescue hoisting function, the HRA device **MUST** be checked by an expert trained by the manufacturer.

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LBL-IKARSERV 25-26

LBL-IKAR-HRA



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Product Model: **MARC - 70208**

Batch Number: **BTS XXXXX-XXX**

Asset Number:

Anchor Rating: **2 anchors 15kN each**

Number of users: **2- (1 per Anchor)**

Tested to strength requirement of
AS/NZS 5532 : 2013
EN 795 : 2012

Date inspected				
Next inspection				
Date inspected				
Next inspection				

SP-MARC-A

SP-MARC-A

WARNING

TOTAL WEIGHT
1.44T
(APPROXIMATELY)

Mast: 18 kg

Base: 1420 kg

NOT TO BE MOVED WHEN IN USE

bts

Call or visit the website: | +61 2 8811 2008 | www.btstech.com.au | LBL-MAC_MOVE

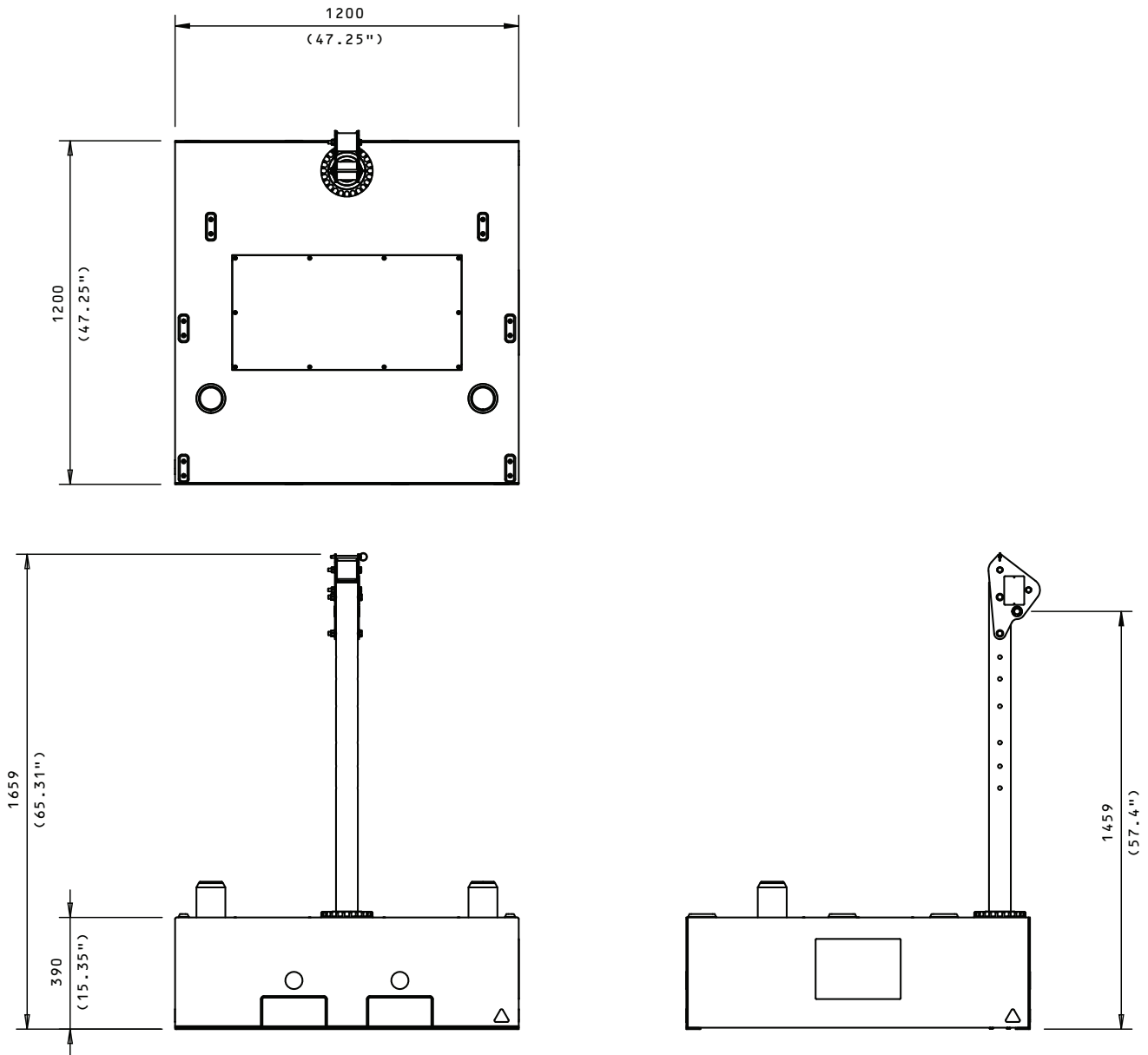
SP-MAC_MOVE

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12. Specifications



Materials: Steel, Aluminium, Plastic

Overall Dimensions: Base 1.2m x 1.2m x 0.4m

Base Weight: 1400kg

13. Cleaning

The system must be clean and free of surface contaminants to work correctly.

Depending on the site conditions, the MAC system may need to be periodically cleaned to remove any built up dirt and debris that may have accumulated. Use a solution of warm water and mild detergent to clean the system.

Do not use solvents or other cleaners to clean the unit, as this may result in damage the surface finish. If the equipment becomes wet, either from being in use or due to cleaning, it should be allowed to dry naturally or wiped down with a cloth.

Do not use heat generating equipment to speed up the process of drying.

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MAC- Mobile Anchor Cube Inspection Log

Product Model No.: Date of Manufacture (dd/mm/yy) :/...../.....

Product Serial No.: Purchase Date: (dd/mm/yy) :/...../.....

INSPECTION ITEM	PASS	FAIL	DETAILS / LOCATION OF DAMAGE	DISPOSITION (REPAIRED / SCRAPPED)	APPROVED FOR USE BY:
Check the MAC - ensure it is free of dents, distortion, cracks, corrosion or other damage.					
Inspect the pulley on Mast to ensure it is clean and rotates freely.					
Inspect Mast side plates check for corrosion, ends, gauging.					
Inspect all bolts and nuts – ensure they are secure and none missing, substituted or altered.					
Ensure all labels are secure and legible (refer to section 11).					
Inspect the system components (SRL, Winch, Karabiners, etc.).					

If the inspection or operation reveals a defective condition, remove the equipment from service immediately and contact an authorized Service Centre for repair.

Date of Inspection:

Inspected By:

Date of Next Inspection:

The information set out in this manual has been compiled from supplier reference data including third party sources. BTS believes that the information is accurate and reliable, though we do not make or give any warranty (other than implied by statute which may not be excluded) with respect to the information. By using this information, the user undertakes not to hold BTS liable or responsible in any way whatsoever in relation or consequential to such use.