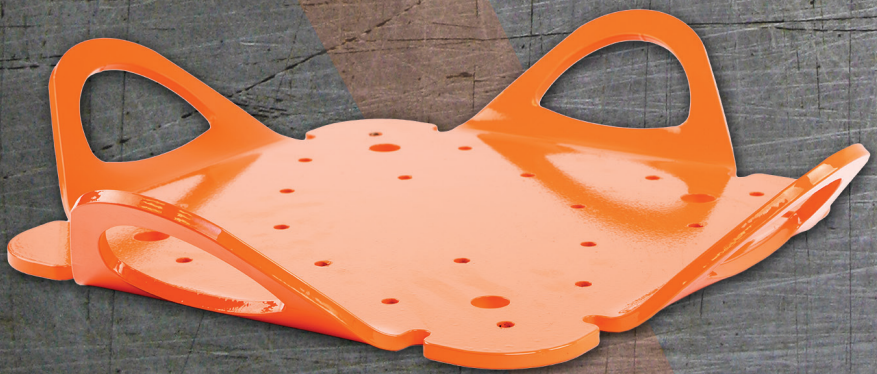
MALTA DYNAMICS

Multi-Directional Anchor Plate

Instruction Manual - A6304



Multi-Directional Anchor Plate
INSTRUCTION MANUAL

These instructions apply to the following model(s):
A6304 - Multi-Directional Anchor Plate

Manual Revision Code:
MD-MDAPUIM160721

Please visit www.MaltaDynamics.com for the latest user instruction manual revision available for this product offering.

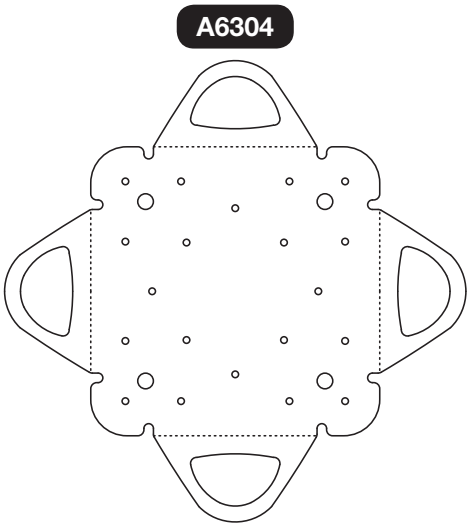


TABLE OF CONTENTS

UNDER PENALTY OF LAW

This manual must be read and understood in its entirety, and used as part of a fall protection training program, as required by OSHA or any state/local regulatory agencies. User must read and fully understand the limitations and proper use of the equipment. All users must be properly trained by their employer prior to use, per OSHA 29 CFR 1910.66, 29 CFR 1926.503, and applicable local standards.

When used in accordance with instruction specifications, this product meets or exceeds all applicable OSHA 1926 and ANSI A-10.32-2012 standards for fall protection. Applicable standards and regulations depend on the application, along with some state-specific regulations. Consult regulatory agencies for more information on personal fall arrest systems and associated componenets.

NOTE: This *User Instruction Manual* is not to be removed except by the equipment user. Current *User Instruction Manuals* must always be available to the user. Read and understand these instructions before using equipment. *Do not discard these instructions.*

WARNING

Misuse or failure to follow warnings, instructions, and limitations on the use of this equipment may result in serious personal injury or death. For further instructions about proper use, refer to a supervisor or contact Malta Dynamics at 1-800-494-1840.

MATERIALS AND CONSTRUCTION

Anchor Plate Materials

- **Anchor Plate:** A-36 Steel (1/4” thick)

PURPOSE

Malta Dynamics' Multi-Directional Anchor Plate is an active fall protection system that meets all of the design requirements or applicable standards set forth by OSHA 1926.500 AND 1910.66: *Anchorages used for attachment of a personal fall arrest system.*

Safety Devices: The Multi-Directional Anchor Plates are safety devices intended to be installed on roofs with ribbed steel decking, plywood sheathing, or solid concrete slabs.

Personal Fall Arrest System (PFAS): The Multi-Directional Anchor Plate was designed to work in tandem with a Personal Fall Arrest System (PFAS). A personal fall arrest system (PFAS) is comprised of all necessary personal protective equipment, including body wear (harness); a connecting device (Self-Retracting Device); and an Anchorage Connector (carabiner) or Anchorage (Multi-Directional Anchor Plate) like this one.

Fall Arrest & Fall Restraint: The Multi-Directional Anchor Plate allows for one worker to access each anchor point, with a maxium of one worker per plate for use in fall arrest applications. The Multi-Directional Anchor Plate may also be used to support a maximum of two people in fall restraint applications. Restraint systems prevent workers from reaching the leading edge of a fall hazard.

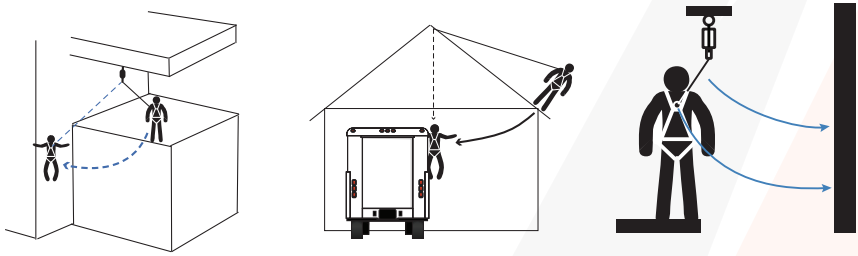
INSTRUCTIONS FOR USE

WARNING

Do not alter or intentionally misuse this equipment.

- Use 900 Maximum Average Arrest force (MAAF) ANSI certified energy absorber lanyard or Leading Edge Self-Retracting Lanyard (SRL-LE). For applications where anchor point is below the D-Ring connection only use appropriately rated energy absorbing lanyards or self-retracting devices.
- Employees shall be trained in accordance with the requirements of OSHA 29 CFR 1910.66: safe use of the system and its components.
- Inspect all PFAS equipment prior to each use. Remove defective equipment immediately.
- Thoroughly evaluate and plan all elements of PFAS before using it. Calculate fall clearance and swing fall clearance. When calculating distance, be sure to consider:
  - Deceleration Distance
  - Movement of Harness Attachment (D-Ring)
  - Free-Fall Distance
  - Worker Height
  - Anchorage Connector Elevation
  - Length of Connecting Subsystems
  - Length of D-Ring Connector
  - Length of Full Body Harness Stretch
  - **Swing Falls:** occur when the anchorage point is not directly above the point of a fall. The force of striking an object in a swing may cause serious injury or death. Minimize potential for swing falls by working as close to the anchorage point as possible. Swing falls significantly increase the amount of clearance required.

Illustration 1: Examples of Swing Fall Hazards



LIMITATIONS FOR USE

WARNING

Do not use this equipment if you are unable to tolerate the impact of a fall arrest. Age and fitness can seriously affect your ability to withstand a fall. Consult with a physician if in doubt. Minors, pregnant women, and anyone with a history of back and/or neck problems must not use this equipment.

WARNING

Use caution when employing this equipment around machines, electrical hazards, chemical hazards and sharp edges or abrasive surfaces, as contact may cause equipment failure, personal injury, or death.

- Do not alter or misuse equipment.
- Workplace conditions must be assessed by a competent person.
- The analysis of the workplace must anticipate where workers perform duties, the routes taken throughout the day, and exposed fall hazards.
- Fall protection equipment must be chosen by a competent person. Selections must account for all potential hazardous workplace conditions. All fall protection equipment must be purchased new.
- User must not use or install equipment before receiving proper training from a competent person, as defined by OSHA 29 CFR 1926.32(f).
- Forces applied to anchors must be calculated by a competent person.
- There must be sufficient clearance below the anchorage connector to arrest a fall before the user strikes the ground or an obstruction. When calculating fall clearance, account for or a Minimum three-foot safety factor, deceleration distance, user height, length of lanyard/SRL, and all other applicable factors.
- This equipment is designed to be used in temperatures ranging from -40°F to +130°F(-40°C - +54°C).
- Do not expose this equipment to chemicals or harsh solutions that may have a harful effect.
- All synthetic material must be protected from slag, hot sparks, open flames, or other heat sources. The use of heat resistant materials is recommended in these applications.
- Allowable worker weight limit (including all tools and equipment) is 130–310 pounds.

CONNECTOR COMPATIBILITY LIMITATIONS

Malta Dynamics equipment must be coupled only to compatible connectors that are suitable to your application. Ensure all connections are compatible in size, shape and strength. Ensure all connectors are fully closed and locked. OSHA 29 CFR 1926.502 prohibits the use of snap hooks to engage to objects unless the following requirements are met:

- Snap hook must be a locking model.
- Snap hook must be explicitly designed for such a connection, meaning that the manufacturer of the snap hook specifically it to connect to the equipment in question.

Use of a non-locking snap hook can result in rollout (a process by which a snap hook or carabiner unintentionally disengages from another connector or the object to which it is coupled (ANSI Z359.0- 2007). Malta Dynamics connectors (snap hooks and carabiners) are designed to be used only as specified in each product's user's instructions.

Avoid the following types of connections:

- Two or more snap hooks or carabiners attached to one D-Ring.
- A snap hook connected to its integral lanyard.
- A snap hook connected to a horizontal lifeline.
- Connection in a manner that results in a load on the gate. NOTE: *Large throat opening snap hooks should not be connected to standard size D-Rings or similar objects, as such use will result in a load on the gate if the hook or D-Ring twists or rotates. Large throat snap hooks are designed for use on structural elements such as rebar or cross members that are not shaped in such a way that they may capture the gate of the hook.*
- False engagement connections, where protruding features of the snap hook or carabiner may catch on the anchor and seem fully engaged to the anchor point. Always confirm engagement.
- Connection to snap hooks or carabiners.
- Direct connection to webbing lanyard, webbing loop, rope lanyard or tie-back (unless the manufacturer's instructions for both the lanyard and connector specifically allow such a connection).
- A snap hook connected to a D-Ring, rebar, or other connection point with improper dimensions or configurations that could cause the snap hook keeper to become depressed by the turning motion of the snap hook, or such that the snap hook or carabiner will not fully close and lock, or that roll-out could occur.

Illustration 2 depicts examples of inappropriate connections:

Illustration 2: Inappropriate Connections

CONNECTING COMPONENT LIMITATIONS

- A Competent Person must ensure the compatibility of all connections and of the system.
- Do not use the system if any connector does not lock or if any other component in the system does not operate properly.
- Allow sufficient safe clearance in the event of a free fall.
- System must be rigged to limit the total free-fall distance according to the type of system, and in compliance with ANSI and OSHA directives.
- Do not use if any part of the system appears to be damaged.
- Do not use a body belt for fall arrest applications.

PERFORMANCE

Fall Arrest:

- One user per each anchor point, one maximum per plate.

Fall Restraint:

- One user per each anchor point, two maximum per plate.

Fall Arrest / Fall Restraint:

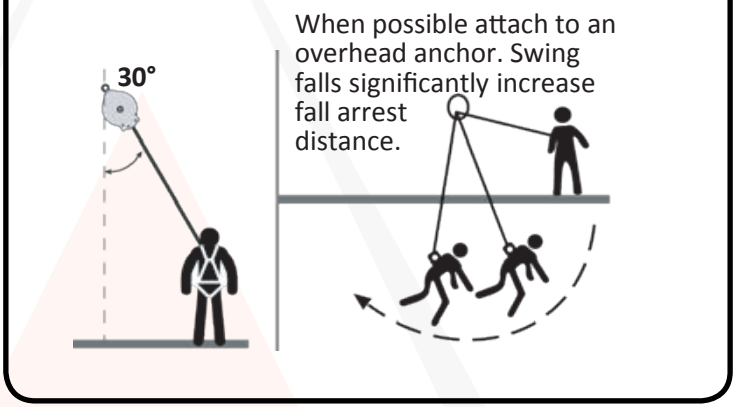
- Use 900 Maximum Average Arrest force (MAAF) ANSI certified energy absorber lanyard or Leading Edge Self-Retracting Lanyard (SRL-LE). For applications where anchor point is below the D-Ring connection only use appropriate rated energy absorbing lanyards or self-retracting devices.
- Only ANSI certified Full Body Fall Arrest harness is acceptable for use with system.
- Anchor is to be installed per directions as shown in 'Multi-Directional Anchor Plate Instruction Manual' by Malta Dynamics.
- It is the responsibility of the building owner to ensure that the material has the capacity to support the anchor and associated loads.
- Per OSHA 1926.500 and 1910.66 - Anchorages used for attachment of personal fall arrest systems (PFAS) shall be independent of any anchorage being used to support or suspend platforms and capable of supporting at least 5,000 pounds per user attached, or be designed, installed and used as part of a complete PFAS that maintains a safety factor of at least two and is under the supervision of a qualified person.
- The structure must be capable of meeting these anchorage strength requirements. This includes, but is not limited to, roof sheathing to framing member and roof framing to wall framing connections, as well as wall and building overall stability.

Note: Never use the Multi-Directional Anchor Plate if fasteners are not embedded in substrate or connection points are not positioned at a 45-degree angle in relation to substrate. Both cases suggest the equipment has been exposed to fall arrest.

Applicable Standards:
Refer to national standards including local, state and federal (OSHA 1910.66, appendix C, 1926.500) requirements for more information on personal fall arrest systems and associated components.

Swing Falls:
Minimize swing fall by working as directly below the anchorage point as possible. Worker movement should remain within 30 degrees maximum deflection of the lifeline from the vertical line directly below the anchorage point. (Illustration 3). Do not permit a swing fall if injury could occur.

Illustration 3: Minimize Swing Fall



Sharp Edges:
Avoid working where sharp edges may contact the lifeline. Provide sufficient protective padding if avoiding sharp edges is not possible. Malta Dynamics energy absorbing device may be required to reduce impact force on the entire system.

Corrosive Environment:
Extensive exposure to environments where corrosion may occur will damage metal parts in the Self-Retracting Lifeline with intergral rescue capability. Use caution when working around corrosive compounds such as ammonia, sewage, fertilizers, sea water, or other corrosives.

Chemical Hazards and Heat:
Use extreme caution in environments containing acid or caustic chemicals, particularly at elevated temperatures, as chemical damage that can impair the functionality of the PFAS is difficult to detect. Do not use the Multi-Direction Anchor Plate in high-heat environments. Hot sparks and slag can damage the equipment and impair functionality.

Electrical Hazards:
Use extreme caution to avoid contact with high voltage power lines. Both web and wire cable Self-Retracting Lifelines may conduct electricity. Moisture absorbed by a lifeline can provide a path for electrical current to flow, resulting in potential electrical shock.

Locking Speed:
Use extreme caution when working on low-pitched roofs where a worker may slide, rather than fall.

Fall Clearance:
Consider the following when calculating fall clearance. (Clearance required is dependent on the following factors):

- Elevation of Anchorage
- Connecting Subsystem Length
- Deceleration Distance
- Free-Fall Distance
- Worker Height
- D-Ring / Connector Length
- Movement of Harness Attachment Element
- Length of Full Body Harness (FBH) Stretch
- Working Level

See Illustration 4.

Illustration 4: Fall Clearance Considerations

A. Connecting Subsystems (Energy Absorbing Lanyard shown) Length + Movement of Harness Attachment + Length of FBH Stretch

B. Working Level (Thickness)

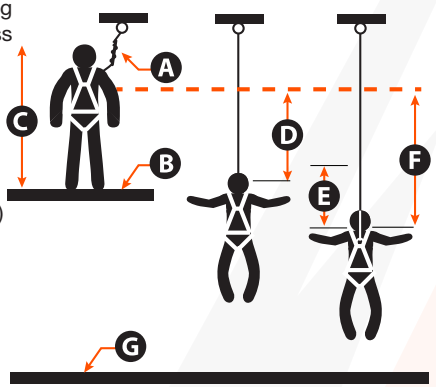
C. Worker Height + Connector Length

D. Free-Fall—Six Foot Max. (per ANSI Z359.1)

E. Deceleration Distance

F. Total Fall Distance: Sum of A through E

G. Lower Level or Obstruction

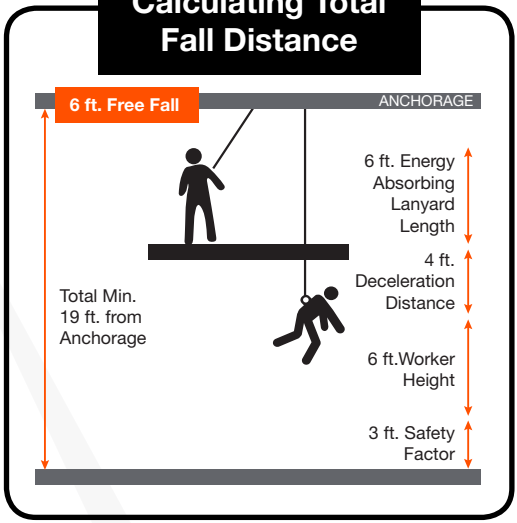


If there is a risk of a fall or if the only anchorage point is below the attachment points on the harness, it is essential to use a lanyard provided with an energy absorber. Before using a shock absorbing lanyard, ensure that there is sufficient fall clearance below the user to prevent any collision with the structure or ground.

Calculating Total Fall Distances: Total Fall Clearance below worker is calculated from Anchorage Connection. Free-Fall Distance + Working Level + Energy Absorber + Deceleration Distance + Worker Height + Connector Length + Safety Factor. Ensure that the total fall distance is clear of obstructions and equipment. Avoid potential contact with a lower level. **See Illustration 5.**

Horizontal Systems and Tripods: Ensure the support structure and/or horizontal system components are compatible if using the Self-Retracting Lifeline in conjunction with a horizontal system, tripod, or davit arm. Horizontal systems must be designed and installed under the supervision of a qualified engineer.

Illustration 5: Calculating Total Fall Distance



TRAINING

Employers are responsible for providing training to any employee who may be exposed to fall hazards in order to enable the employee to recognize and reduce them. Training must be conducted by a competent or qualified person. Trainer and trainees must not be exposed to fall hazards during training courses.

INSPECTION

Note: Keep all instructions available for referene. Record the date of first use:

Prior to EACH use, inspect Multi-Directional Anchor Plate for deficiencies, (corrosion, deformation, pits, burrs, rough surfaces, sharp edges, cracking, rust, paint buildup, excessive heating, alteration, broken stitching, fraying, bird-caging, and missing or illegible labels). IMMEDIATELY remove Multi-Directional Anchor Plate from service if defects or damage are found, or if exposed to the forces of a fall arrest.

Ensure that applicable work area is free of all damage, including, but not limited to, debris, rot, rust, decay, cracking, and hazardous materials. Ensure that selected work area will support the application-specific minimum loads set forth in this instruction manual. Ie.

At least every six months, a competent person, other than the user, must inspect the Multi-Directional Anchor Plate. Competent person inspection MUST be recorded in the inspection log in this instruction manual and on the equipment inspection grid label. The competent person must sign their initials in the box corresponding to the month and year the inspection took place.

Inspection Procedures Before Each Use:

Step 1: Inspect for loose screws and bent or damaged parts.

Step 2: Read, understand and follow all instrcutions in the Multi-Directional Anchor Plate Instructi Manual by Malta Dynamics.

Step 3: Designate a competent person who can fulfill regulation obligations.

Step 4: All personal protective equipment (PPE) must be inspected before each use.

Step 5: All personal protective equipment accessories shall be specifically designed for this system. Use of other components or any alterations or modifications voids the warranty of the system. Malta Dynamics will not accept any responsibility for liquidated damages or penalty clauses.

Step 6: Owner shall establish an inspection regime that will ensure assembly is in working condition before use. This includes: inspection of system before use (check for bent, broken, or missing components); an inspection of system by competent person after a fall occurs; and an annual inspection by a competent person.

Step 7: Owner is to provide worker training and install a written procedure and warning signage in the work area, prior to use of the system.

Note: Owner is to have a written rescue plan and the means to implement it. System is to be used for fall protection only. Any other use voids the warranty and renders the system unusable. Always perform a hazard analysis before use that will identify impact and swing hazards, or any other hazards that may exist. Address and correct all hazards before use.

Always use the buddy system when using fall protection (the monitor or "buddy" does not need to be physically on the system, just nearby, supervising).

Never add additional carabiners, D-Rings, shackles, or connecting hardware to this system. If connecting hardware must be added, compatibility must be verified by a competent person.

MAINTENANCE & CLEANING

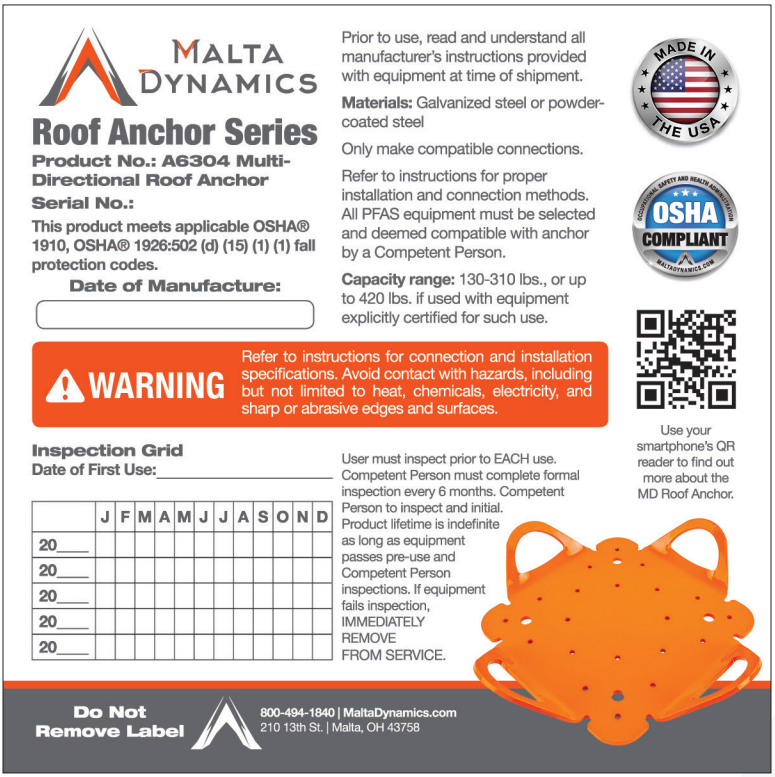
Cleaning after use is important for maintaining the safety and longevity of the Multi-Directional Anchor Plate. Remove all dirt, corrosives, and contaminants from the Multi-Directional Anchor Plate before and after each use. If the Anchor Plate cannot be cleaned with plain water, use mild soap and water, then rinse and wipe dry.

NEVER clean Multi-Directional Anchor Plate with corrosive substances. When not in use, store the equipment where it will not be affected by heat, light, excessive moisture, chemicals, or other degrading elements.

Repairs to the Multi-Directional Anchor Plate can only be made by a Malta Dynamics' Fall Protection representative or an entity authorized by Malta Dynamics. Contact us for all maintenance and repair needs or to inquire about a return at: 1-800-417-9272.

PRODUCT LABELS

The following labels are affixed to the product and must not be removed:



INSTALLATION & FASTENING INSTRUCTIONS

This anchorage connector is intended to be installed on roofs with ribbed steel decking, plywood sheathing or solid concrete slabs. All fasteners shall be corrosion resistant. Fasteners are not to be reused.

Metal Roof Installation:
The minimum material thickness for steel decking is 22 gauage.

Use twenty (20) #14-10, 2” hex-head self-drilling metal screws, which have an ESR report for this application or have been deemed compatible by a competent person.

Install screws at all 0.365” fastener installation locations. All fasteners must be fully embedded in substrate. Once seated, do not apply additional torque to fasteners.

Wood Sheathing Roof Installation:
The minimum thickness and material grade for plywood is 17/32 inch CDX.

Use twenty (20) #14-10, 2” hex-head wood screws, which have an ESR report for this application or have been deemed compatible by a competent person.

Install screws at all 0.365” fastener installation locations. All fasteners must be fully embedded in substrate. Once seated, do not apply additional torque tofasteners.

Concrete Installation:
Minimum thickness and strength of concrete shall meet the requirements of the concrete anchors.

Use four (4) ½” diameter concrete anchors, which have an ESR report for use in this application or have been deemed compatible by a competent person.

Use only anchors that can support a simultaneous tension and shear working load (unfactored) of 2,000 pounds.

Install anchors at all 0.650” fastener installation locations. Follow fasteners’ manufacturer instructions for limitations and installation procedures.

CORRECT ANCHORAGE POSITIONING

This chart details allowable working zones required to reduce risk of swing falls and improper side loading. Always adhere to information specific by this chart.

Anchor Distance from Leading Edge (Y)	Working Distance Along Roof Edge (Either Direction) (X)	Working Angle from Perpendicular (Ø)
6’	8’	53°
10’	9’-9”	45°
15’	11’-7”	38°
20’	13’-3”	33°
25’	14’-6”	30°
30’	16’	28°
35’	17’-2”	26°
40’	18’-3”	24°
45’	19’-4”	23°
50’	19’-10”	21°
55’	21’-4”	21°
60’	22’-3”	21°

Note: For example, if the anchorage is six feet from the leading edge (Y), the working distance (X) is eight feet in each direction from the perpendicular, which translates to a 53° working angle.

INSPECTION LOG

Date of Manufacture: _____
Model Name/Number: _____
Serial: _____
Date of First Use: _____

Inspection Date	Items Noted	Corrective Action	Approved By

WARRANTY

The following warranty is made in lieu of all warranties or conditions, whether expressed or implied. This includes the implied warranties or confitions of merchantability or fitness for a particular purpose.

Equipment offered by Malta Dynamics is warranted against factory defects in workmanship and materials for a period of one year from date of installation or first use by the original owner.

LIMITED REMEDY: Upon notice in writing, Malta Dynamics will repair or replace all defective items at Malta Dynamics's sole discretion. Malta Dynamics reserves the right to require that the defective item to be returned to its plant for inspection before determining the appropriate course of action.

This warranty does not cover equipment damage resulting from wear, abuse, damage in transit, failure to maintain the product or other damage beyond the control of Malta Dynamics. Malta Dynamics shall be the sole judge of product condition and warranty options. This warranty applies only to the original purchaser and is the only warranty applicable to this product. Please contact Malta Dynamics customer service department at 800-494-1840 for assistance.

LIMITATION OF LIABILITY: IN NO EVENT WILL MALTA DYNAMICS BE LIABLE FOR ANY INDIRECT, INCIDENTAL, SPECIAL OR CONSEQUENTIAL DAMAGES— INCLUDING, BUT NOT LIMITED TO—LOSS OF PROFITS IN ANY WAY RELATED TO THE PRODUCTS, REGARDLESS OF ANY LEGAL THEORY ASSERTED.

NOTES

MALTA DYNAMICS

800-494-1840
MaltaDynamics.com
210 13th Street
Malta, OH 43758 USA

Manual Revision Code:
MD-MDAPUIM160721