

# Installation & Technical Manual

August 2023  
Revision 4.2



# Introduction

## General Information

It is imperative that the contents of this manual are read and understood by all potential users of the fall protection system. The contents of this manual are intended as a reference guide for operatives that have received the relevant training for using the fall protection system.

This Manual contains safety information and instructions for installing the Weight Angel Safety system and should be stored in an area where it is accessible to installers and layout designers of the system.

Continued improvement and advancement of product design may have caused changes to the current Weight Angel Safety System, which are not included in this Manual.

Whenever a question arises regarding the Weight Angel, or this Manual, please consult the Bettersafe International website at [www.bettersafeinternational.com](http://www.bettersafeinternational.com) for the latest available information.

### Testing and Conformity

Tested by

SATRA Technologies Europe, Bracetown Business Park, Clonee, Co. Meath, DY15 YN2P,  
Ireland

Notified Body Number

2777

Weight Angel complies with the current standards and requirements:

- CE to EN 795 Type E
- IN ACCORDANCE WITH PPE Regulation (EU) 2016/425

### **WARNING!**

- This manual is invalid if any unauthorised alteration has occurred.
- Unauthorised use of this manual may lead to prosecution
- This manual was, to the best of our knowledge, correct at its date of issue.
- It is the user's responsibility to ensure that all subsequent authorised amendments are incorporated and that the manual is to the current issue status.
- A manual that is not to the latest issue status is invalid and must not be used.

# Introduction

## General Information

### IMPORTANT SAFETY INFORMATION

Do not install the Weight Angel Safety System unless you have read and understand the instructions and warnings in all Manuals and have been authorised by Bettersafe International to do so.

- Work at Height should not be attempted by a “lone” worker
- All fall protection systems are subject to an annual test and inspection by a trained and competent person and in line with the manufacturers examination procedures. This should include cleaning with mild detergent only. Allow to air dry away from direct heat
- This is required under EN795 and PPE Regulations
- No special storage requirements are needed.
- The expected lifespan of the Weight Angel is 25 years
- Before each use, all preliminary inspections should be carried out as stated in their end user training.
- Operators must carry out a Pre-Use Check of the equipment to ensure that it is in a serviceable condition and operates correctly before it is used, covering component condition, legibility of all markings and the complete component quantity is present.
  - Damage to the central post, missing parts or labels deem the product unsafe for use.
  - Any defect should lead to an inspection by a manufacturer approved competent person.
- The manual is NOT intended as a substitute for training.
- Failure to follow the instructions or heed the warnings or improper operation could result in injury or death. WARNING: You must consult your doctor if there is any reason to doubt your fitness to safely absorb the shock from a fall arrest. Age and fitness levels have implications on a worker’s ability to withstand falls. Pregnant women or minors must not use the system under any circumstances.
- Users must be capable of lifting 24kg safely. Muscular Injury from lifting not in accordance with local Manual Handling regulations is possible.
- Do not tamper with or make any alterations to the Weight Angel Safety System.
- The Weight Angel Safety System shall not be used outside its limitations as described in this Manual, or for any purpose other than that for which it is intended.
- The operation and maintenance of the Weight Angel Safety System must comply with the work safety laws of the jurisdiction in which it is used. Compliance may include the requirement for a Risk Assessment or Fall Hazard Survey Report.
- Only competent individuals who have been given appropriate training (or who are under the immediate responsibility of a proficient supervisor) should use this safety equipment. In addition, the user must also be aware of the characteristics, application limits and consequences of the incorrect use of the equipment.
- A full body harness suitable for fall-arrest is the only acceptable body holding device that can be used with the Weight Angel Safety System.
- Suitable Fall Arrest or Restraint equipment tested to the relevant CE standard must be used to connect the harness to the Weight Angel to limit the load to 6kN per user.
- It is essential for safety that equipment is withdrawn from use immediately should any doubt arise about its condition for safe use.
- Do not remove the labels from the Weight Angel Safety System.
- Do not tamper with or alter the Weight Angel in any way unless instructed to do so by the manufacturer or authorised representative.
- For protection of one person only.
- A rescue plan shall be in place to deal with any emergencies that could arise during the work

# Introduction

## General Information

### IMPORTANT SAFETY INFORMATION

- TEMPERATURE RANGES – The Weight Angel can be used between -40C and 40C
- TRANSPORTATION – The Weight Angel should be disassembled and secured suitably for transportation.
- SHARP EDGES: Avoid working where the connecting subsystem (i.e. full body harness, lanyard, self-retracting lifeline etc.) or other system components will be in contact with, or scrape against, unprotected sharp edges. If it is unavoidable to use the System near sharp edges, ensure adequate protection against cutting is provided by using a heavy pad (or similar) whilst working over the exposed sharp edge.
- SWING FALLS: Swing falls occur when the anchorage point is not directly above the point where a fall occurs. The force of striking an object while swinging can be great and may cause serious injury. Also in a swing fall situation, the total vertical fall distance of the user may be greater than if the user had fallen vertically (directly below the anchorage point). Therefore, there will be an increase in the total free fall distance and the distance needed to arrest the fall will increase. Swing falls can be minimised by using an anchorage point, which is located directly above the user's working zone.

### INSPECTION AND RECORDS INFORMATION

- All fall protection systems are subject to an annual test and inspection by a trained and competent person and in line with the manufacturers examination procedures. This should include cleaning with mild detergent only. Allow to air dry away from direct heat
- Records should be kept of all inspections and the following information should be recorded
  - Product
    - Weight Angel
  - Name and contact details of the manufacturer or supplier
    - Bettersafe International  
Industrieweg 11  
4214 KZ Vuren  
The Netherlands
  - Serial number
  - The year of manufacture or life expiry date (25 years from date of purchase)
  - Date of purchase
  - Date first put into use
  - History of periodic examinations and repairs, to include:
    - Dates and details of each periodic examination and repair,
    - Name and signature of the competent person who carried out the periodic examination or repair
    - Next due date for periodic examination

# Introduction

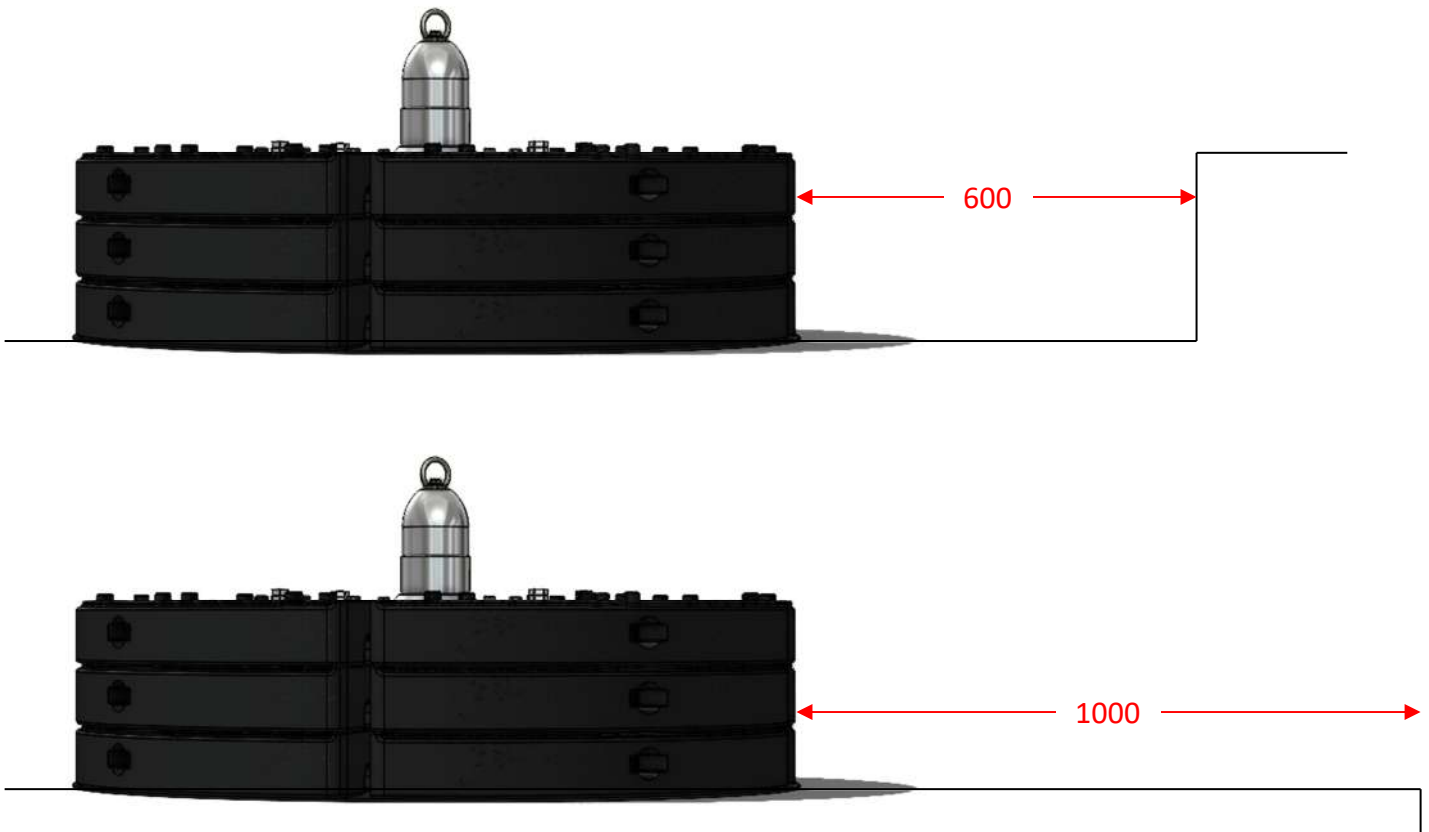
## Installation Limitations

The Weight Angel Safety System is designed with the following limitations:

- Fall Arrest for one user.
- Roof Area
  - Maximum roof pitch of five (5) degrees
  - The roof area must be capable of retaining at least twice weight of the Weight Angel in the area required.
  - The Weight Angel must be in direct contact with the roof surface.
- Weather
  - Wet surfaces are tested
  - Dry surfaces are tested
- Minimum Safe Edge Distance (fall arrest) to allow for deflection and weight movement in a fall
 

*Bettersafe International recommend that all working at height is done in restraint, with the length of the lanyard plus 500mm being a guide to ensuring this is achieved.*

  - No Parapet 1000mm
  - Parapet 600mm



# Introduction

## User Notes

1. The Weight Angel Safety System is suitable for use with the following products
  - i. Full Body Harness conforming to EN361
  - ii. Self Retracting Lifelines conforming to EN360 and sharp edge testing
  - iii. Adjustable Lifelines conforming to EN353
  - iv. Horizontal single span lifelines conforming to EN795 Class C
  - v. Rescue Equipment and Descent controllers conforming to relevant EN standards
2. The Weight Angel Safety System should only be used by a maximum of
  - Fall Arrest: one (1) user at any one time.
  - Fall Restraint: two (2) users at any one time.
3. Care should be taken to only use karabiners and hooks that will not interact with each other and cause forced roll out. A screw gate type karabiner is recommended.
4. Installation via the following instructions must be performed completely prior to use.
5. Before each use, the user must examine the equipment to ensure it is in perfect operating condition. It is important to check for deformation, corrosion, sharp edges and abrasive areas on the metal and absorbing parts of the system or component.
6. If the system or one of its components fails the above visual check, it should be immediately removed from service. Only competent and skilled persons may decide on the possibility of return to service and this permission should always be given in writing.
7. Prior to a fall arrest system being used, it is essential to check the clearance under the user's working zone to prevent a collision with an obstacle or the ground in case of fall.
8. SHARP EDGES: Avoid working where the connecting subsystem (i.e. full body harness, lanyard, self-retracting lifeline etc.) or other system components will be in contact with, or scrape against, unprotected sharp edges. If it is unavoidable to use the System near sharp edges, ensure adequate protection against cutting is provided by using a heavy pad (or similar) whilst working over the exposed sharp edge.
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# Ordering System Components & Tools

## General Information

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### System components

When components are required, please contact Bettersafe International quoting relevant part number from the list. Guidance is provided in the component explanatory notes.

Orders should be sent to [orders@bettersafeinternational.com](mailto:orders@bettersafeinternational.com)

### Amendments

1. Bettersafe International reserve the right to continually update their range of products and manufacturing processes, in the interests of reliability, durability and performance
2. In this respect, this installation and servicing manual will need occasional updating. Bettersafe International shall issue all registered holders the relevant amendments.
3. If in any doubt regarding the current Issue Status of a manual, please contact Bettersafe International.



# Installation

## General Information

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### Foreword

The nature of the following text is instructional on the installation attachment of the Weight Angel System. Selection of structural locations must be made by the competent Engineer in charge of the system installation. A competent engineer is defined as: -

*'A person who has a recognised Structural or Civil Engineering qualifications, and who has had adequate previous installation experience.'*

This manual does not automatically infer design approval to or for particular system configurations. This must be obtained from architectural or site authority as appropriate, before commencement of work.

### Pre-requisite Installation requirements

Installation cannot take place until the following have been fully considered and completed.

### Site Plan

A site plan must be drawn up to indicate the Weight Angel System configuration, to include: -

- Locations
- Extremities
- Entry / exit access points
- Roof surface angle
- Direction of Installation
- Obstacles.



# Installation

## Process

Lay the mat in the location where the Weight Angel is required to be installed.



Insert the rod assembly into the base of the weight and lay on the mat. Repeat this for the 4 lower weights.

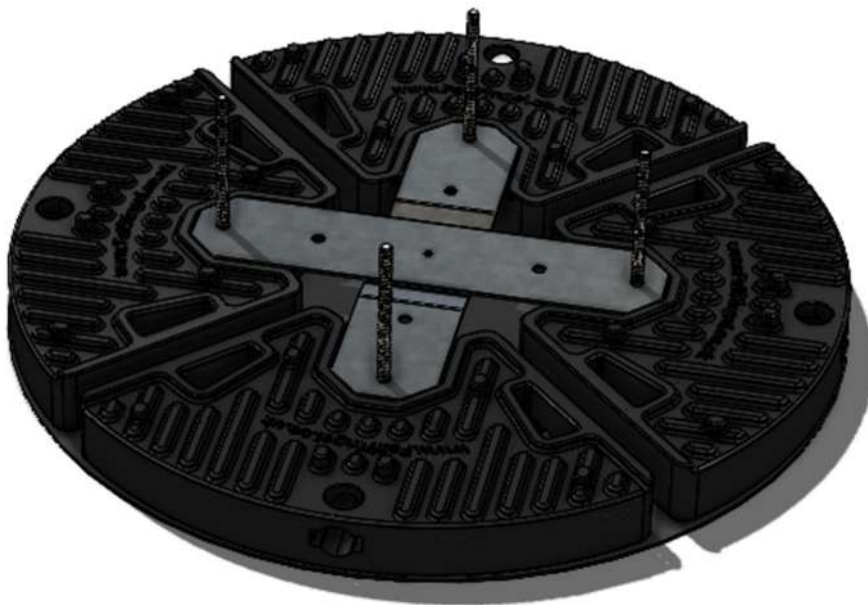


# Installation

## Process



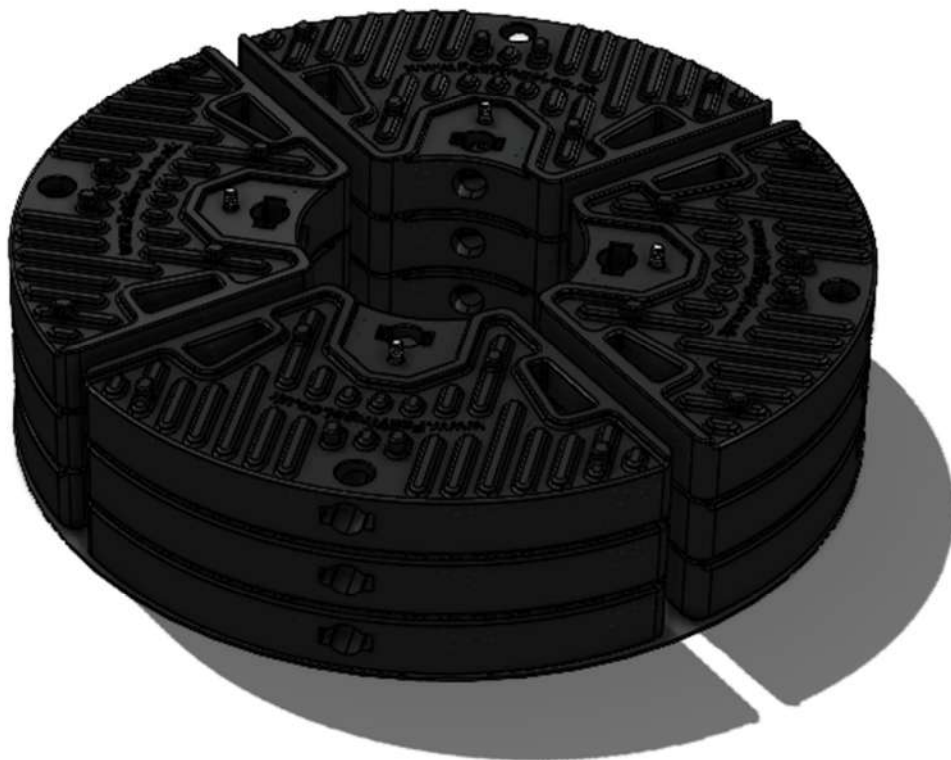
Use the Post mounting frame to locate and align the lower weights, then remove the frame.



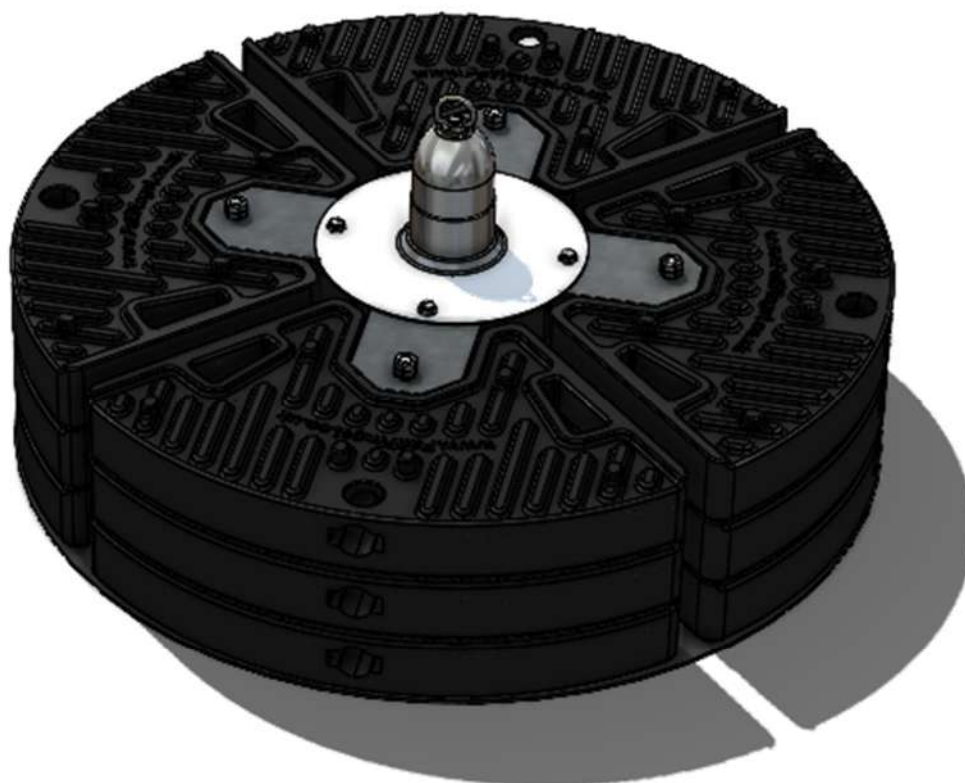
# Installation

## Process

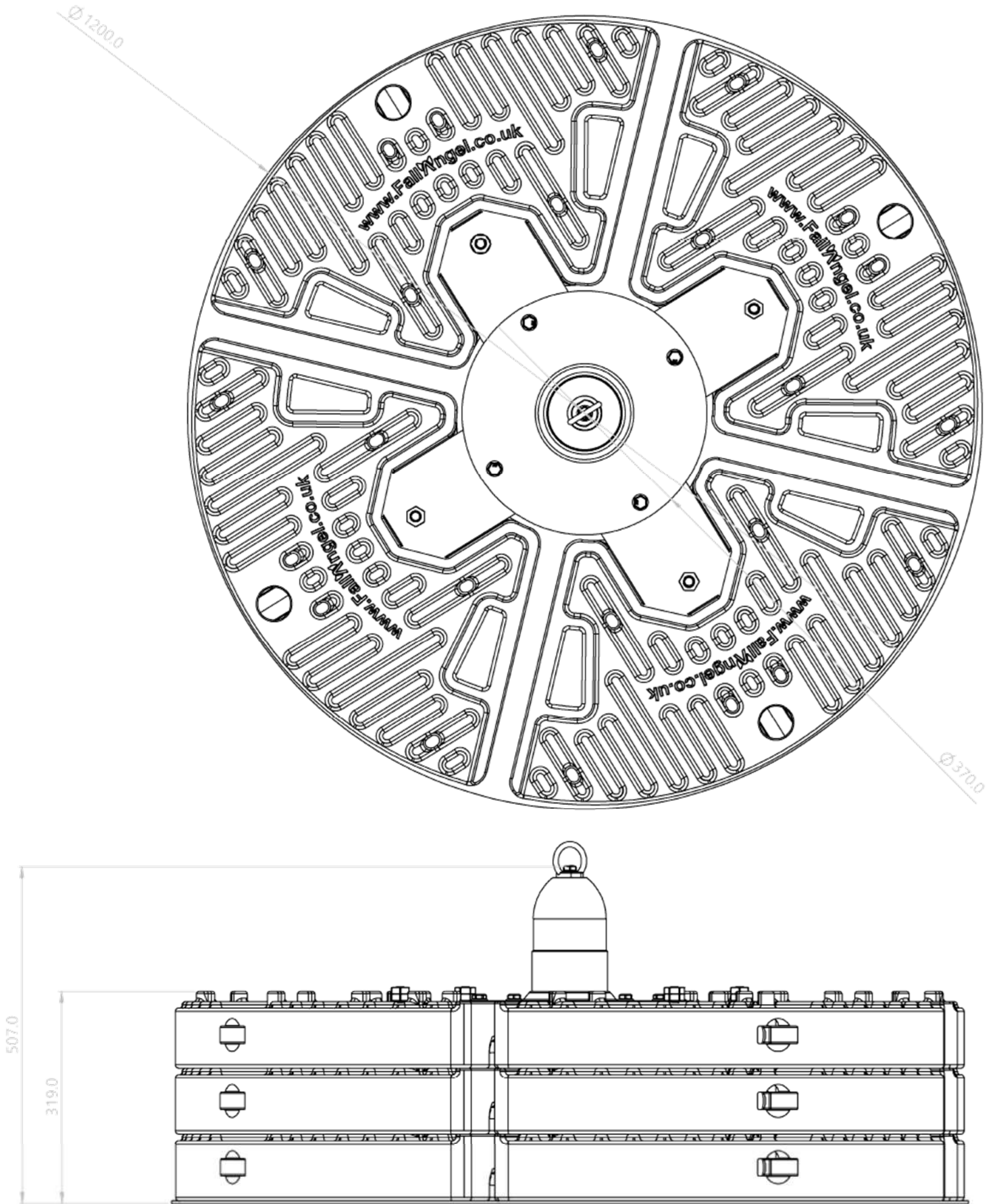
Stack the remaining 8 weights onto the bolt



Place the post mounting frame onto the bolts, and secure with the supplied nuts and washers.



# Technical Dimensions



# Technical

## Weights & Materials

### KEY SPECIFICATIONS

Weight	300 kg
Individual Weights	24 kg
Qty Weights	12 units
Weight of posts /supports	12 kg
Width	1200 mm
Height (to load point of eye)	507 mm
Made from Recycled Materials	

### MATERIALS

Post	Polyurethane & SS316
Eye Ring	SS 316
Cover	Aluminium
Bolts	SS 316
Frame	Galvanised Steel

### MATTING SPECIFICATIONS

Elastomer	Natural
Colour	Black
Quality	Commercial
Grade	N02
Hardness	70° shore a
S.G.	1.55g/cm <sup>3</sup>
Tensile MPA	4
Elongation	300%
Tear strength	12 kg/cm
Compression set	43%
Abrasion resistance	48/0 mm <sup>3</sup>
Operating temperature	-20° / +70° c





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