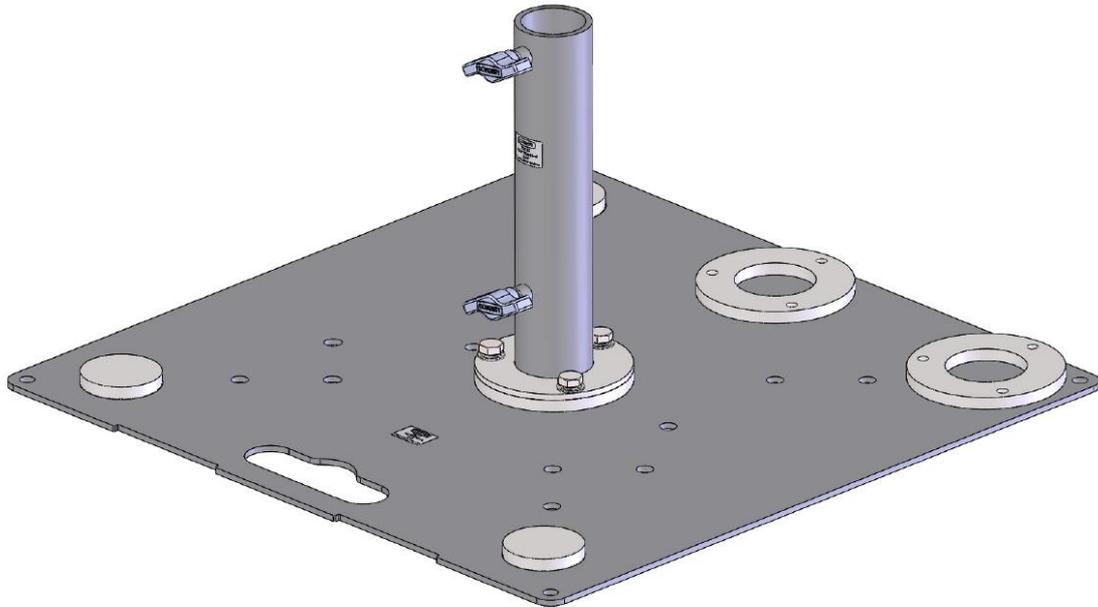




Engineering Ltd

T54265 3 Position Tank Trap Manual



User Manual

IMPORTANT – READ CAREFULLY BEFORE USE – KEEP FOR FUTURE REFERENCE

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1. Introduction

This User Manual must be read by every operator prior to use.

Tank traps are used in the entertainment industry in places such as theatres, event venues, museums etc.

The use of tank traps is solely foreseen for professional use as improper use is inherently dangerous.

Only skilled persons should install and use this product. A skilled person in this respect is an individual with relevant technical education, training and/or experience enabling him/her to perceive risks and to avoid hazards occurring during use of this product.

Special attention must be taken to safety, particularly to the stability of the final installation. The use of ballast such as stage weights or sand bags should be considered when the load bearing barrel is used in the central position. Ballast must be used when the barrel is being used in the offset positions.

If increased stability is required the following should be considered:

- Use a clamp and eyebolt fitted to the top of the barrel to which a rope can be attached: the other end of the rope being securely attached to a structural feature of the building, vertically above the barrel.
- If a suitable wall fixing point is available, fit a wall bracket as near to the top of the barrel as possible and fix securely to the wall.

Holes are provided in the base plate to secure the tank trap to the floor if required.

Up to three barrels can be installed onto one tank trap base. The tank trap will need to be appropriately ballasted or secured to ensure stability. Tank traps are supplied with one barrel receiver. Extra receivers can be purchased from Doughty agents. (Receiver part number TH3054, Fixing kit S3641).

Readers and users are encouraged to notify Doughty of errors in this manual and send in suggestions for improvements. All communications will be carefully considered for future printings of this manual and changes to our products. Send comments to sales@doughty-engineering.co.uk.

2. Scope

The intended use of a tank trap is to provide a floor mounted base into which a Ø48mm aluminium barrel or galvanised scaffold pole can be fitted and secured vertically. The barrel can then be used to suspend loads. These loads can be, but not limited to, lighting fixtures, video projectors, sound systems and set pieces. Tank traps can be used as a standalone system or as part of a larger installation.

3. Safety Information

SAFETY INSTRUCTIONS

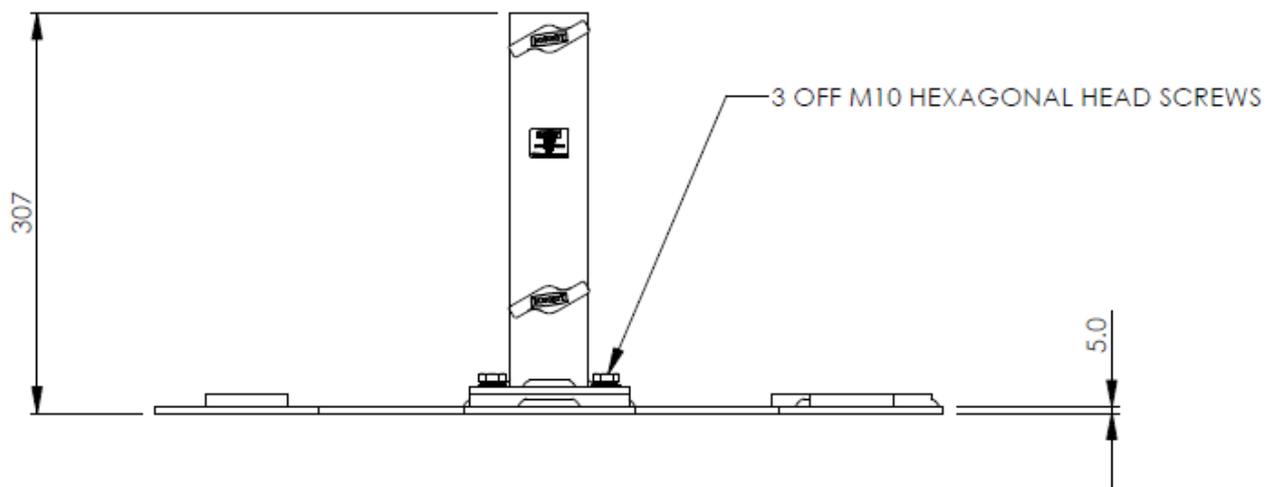
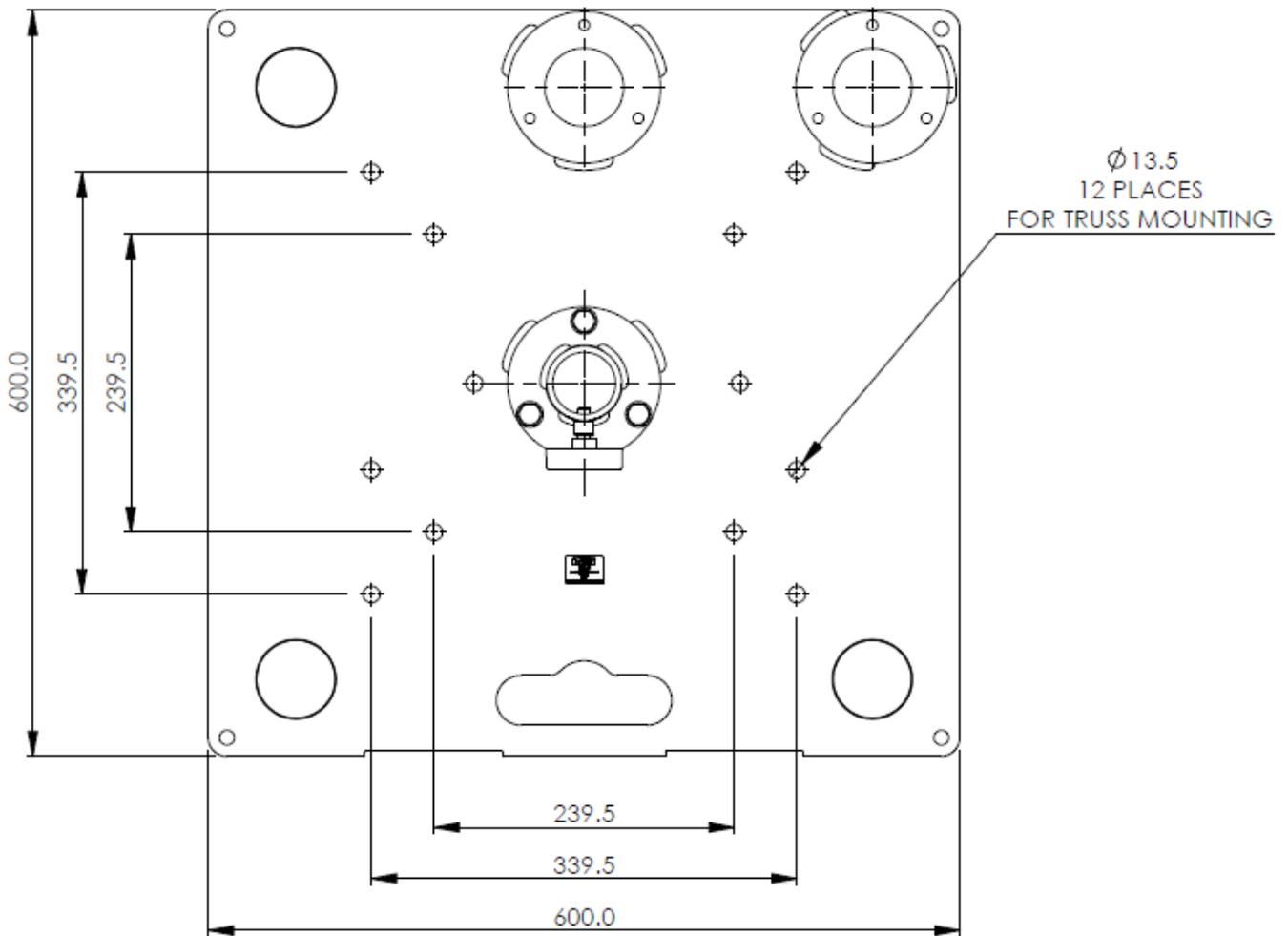
For health and safety reasons people assembling, installing, disassembling, transporting, maintaining and cleaning tank traps should wear adequate Personal Protection Equipment such as, but not limited to; gloves, hard hats and safety shoes.

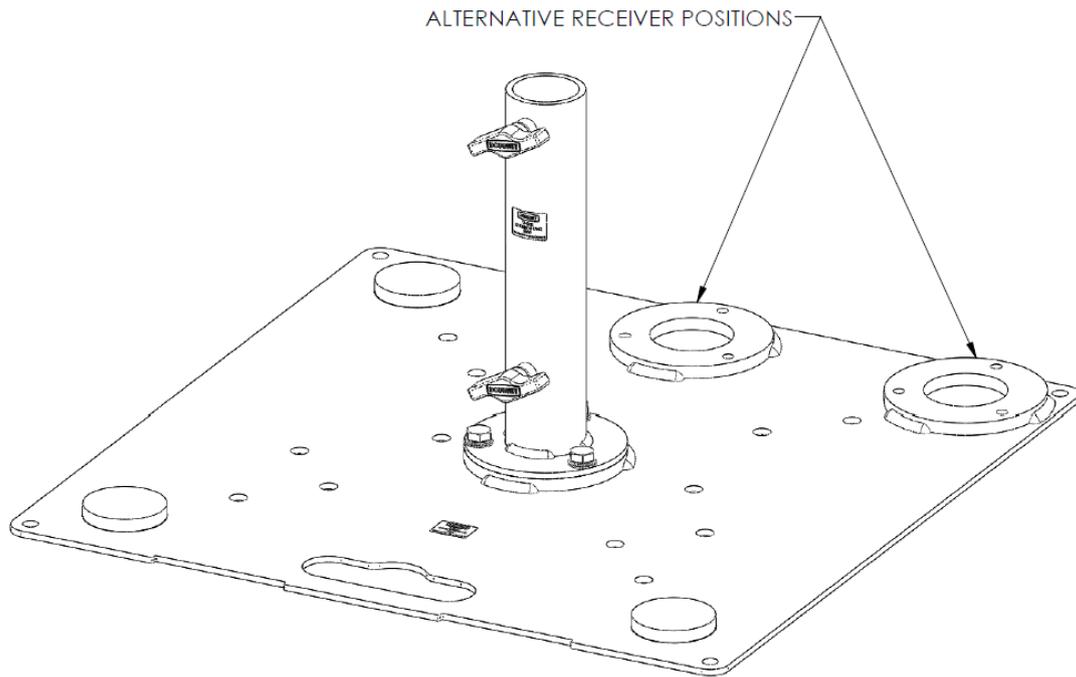
-  Make sure the resulting forces on the supporting structure are approved by a skilled person.
-  When loads are using electrical power, equip-potential bonding shall be put in place.
-  Inspect equipment before every use. Damaged tank traps shall be taken out of service.
-  A tank trap must be taken out of service immediately if, during use, repair or maintenance any serious damage is discovered.
-  Maintenance and repairs can be undertaken only by authorised personnel. In any doubt contact the manufacturer.
-  It is imperative to observe local accident prevention regulations and general rules of occupational health and safety.

4. Limitations of Use

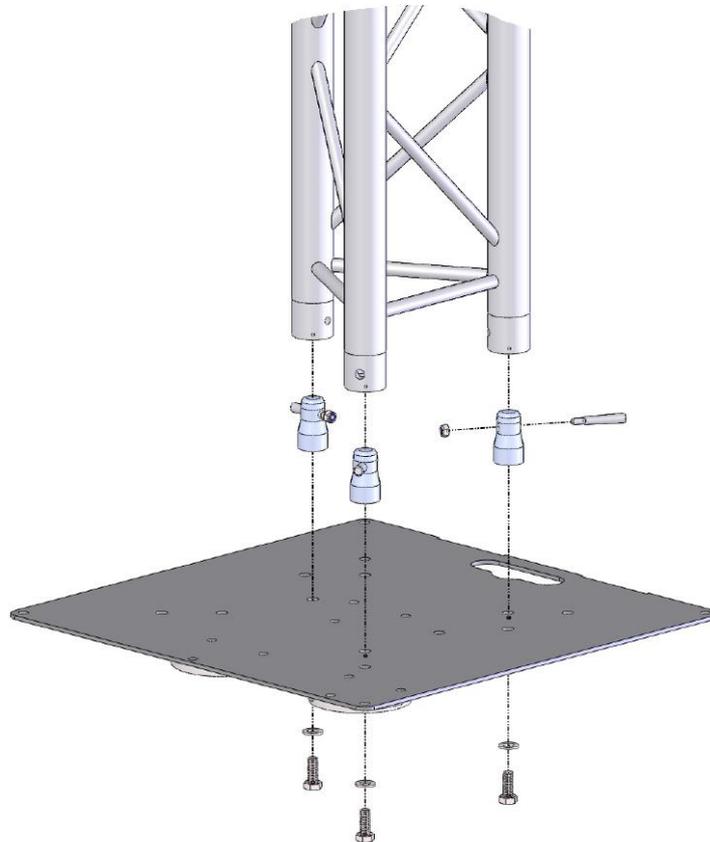
- The tank trap can be used in temperatures from -20° Celsius up to +60° Celsius.
- The use of the tank trap is the sole responsibility of the user.
- It is also imperative to observe the local accident prevention regulations and/or occupational health and safety regulations.
- To be used indoors only, on level, flat, dry surfaces.

5. Technical Data





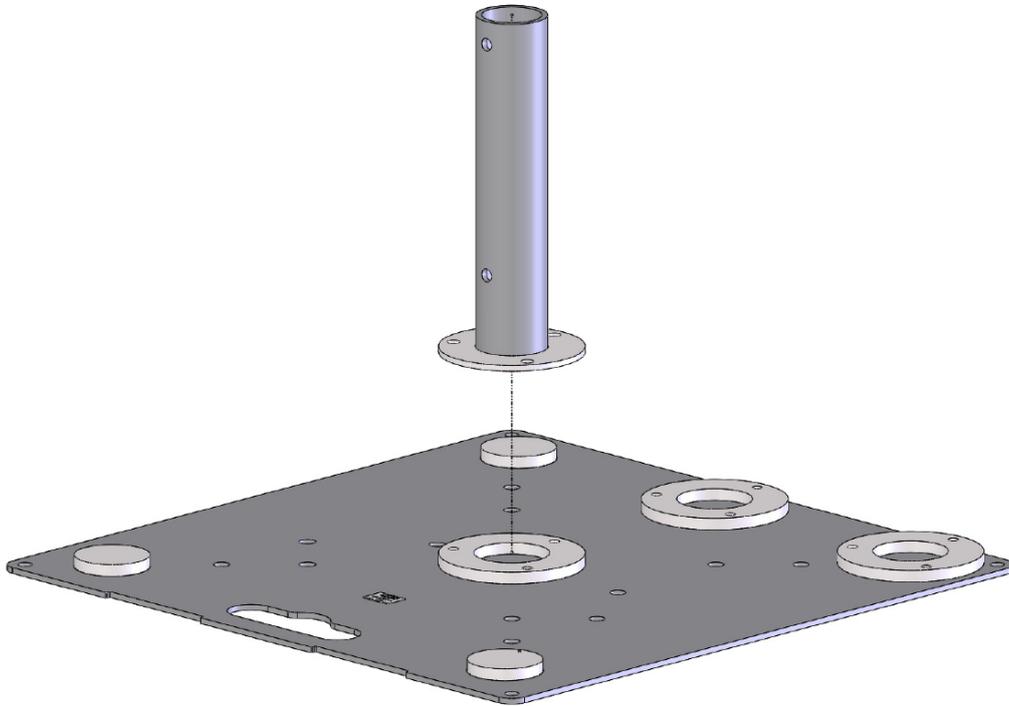
The weight of a complete tank trap is 18.2kg.



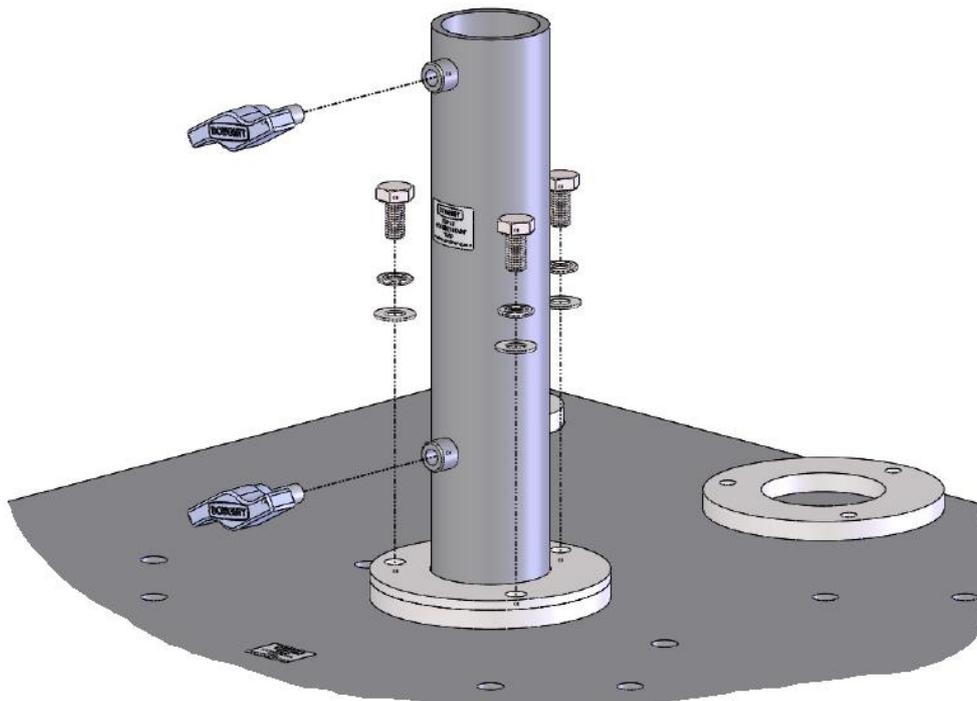
Tank trap base plate used as a truss base-plate.
Note: base plate inverted.

6. Installation

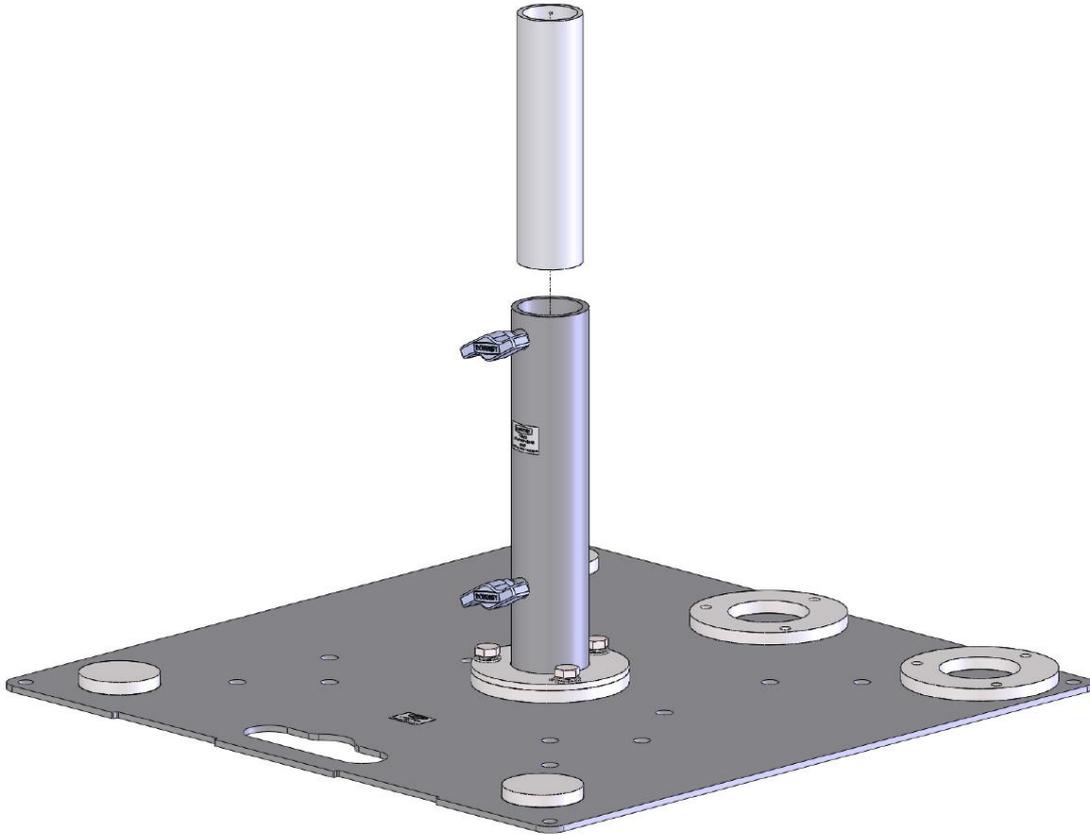
- I. Insert the receiver tube into one of the three possible positions in the base plate most suitable for the installation and align the securing screw holes.

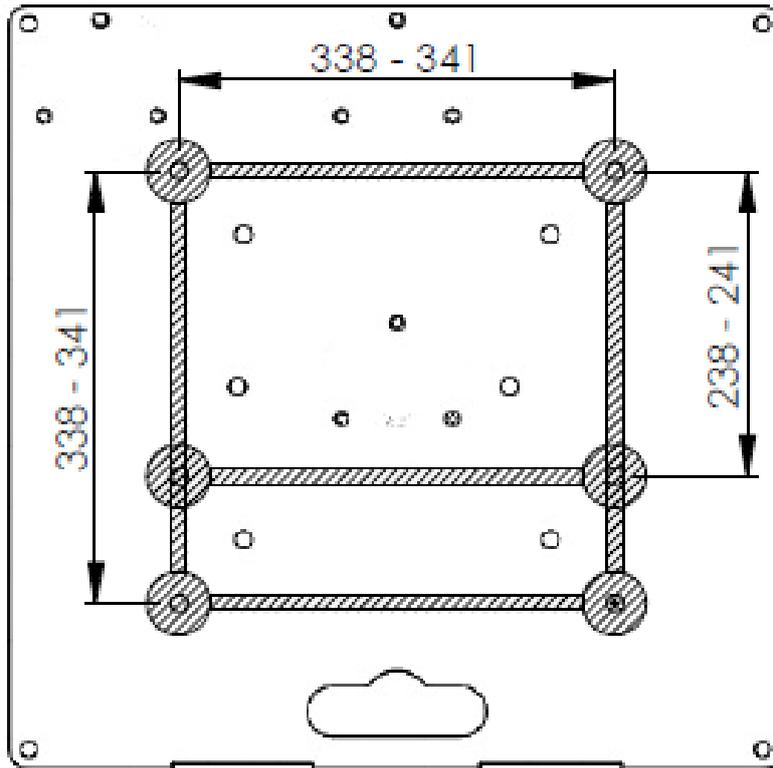


- II. Fit the three M10 x 20 long screws (grade 8.8) along with the washers provided. (All three screws must be fitted). See section 13 for fixing part numbers.

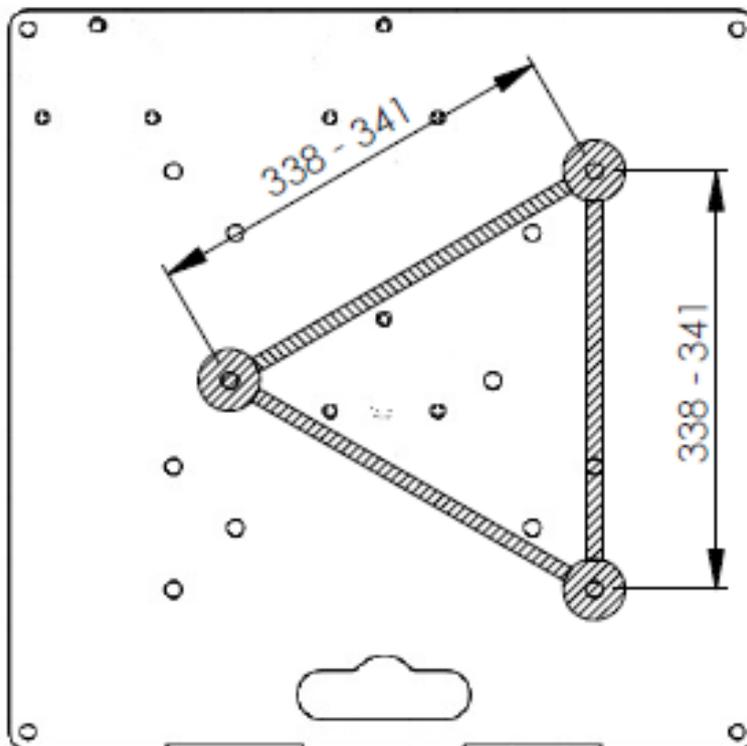


- III. The recommended screw tightening torque bolts is 60Nm.
- IV. Insert the required barrel into the receiver and secure by tightening the two knobs. Hand-tighten **only**, do not use a tool to tighten the knobs.

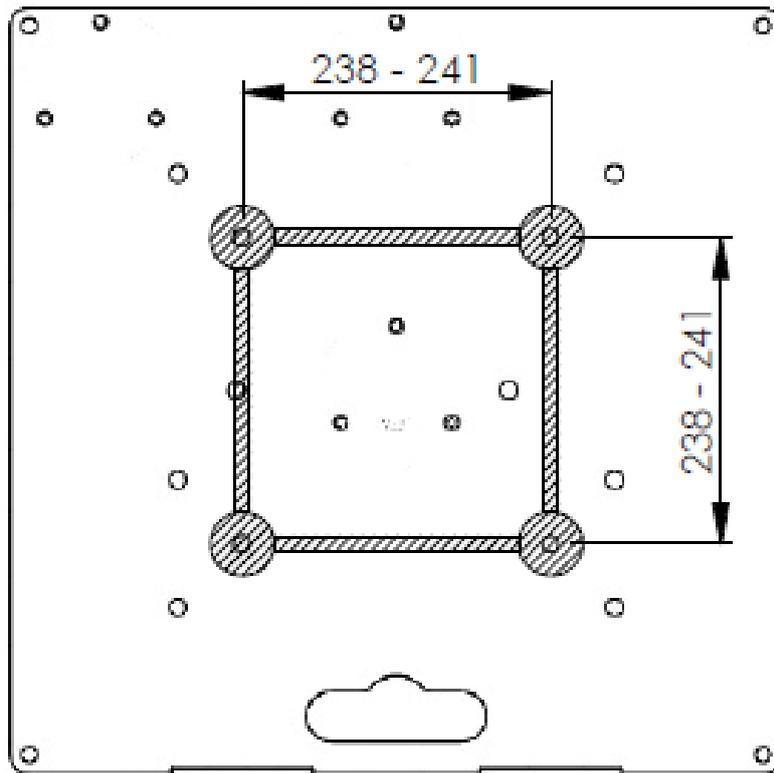




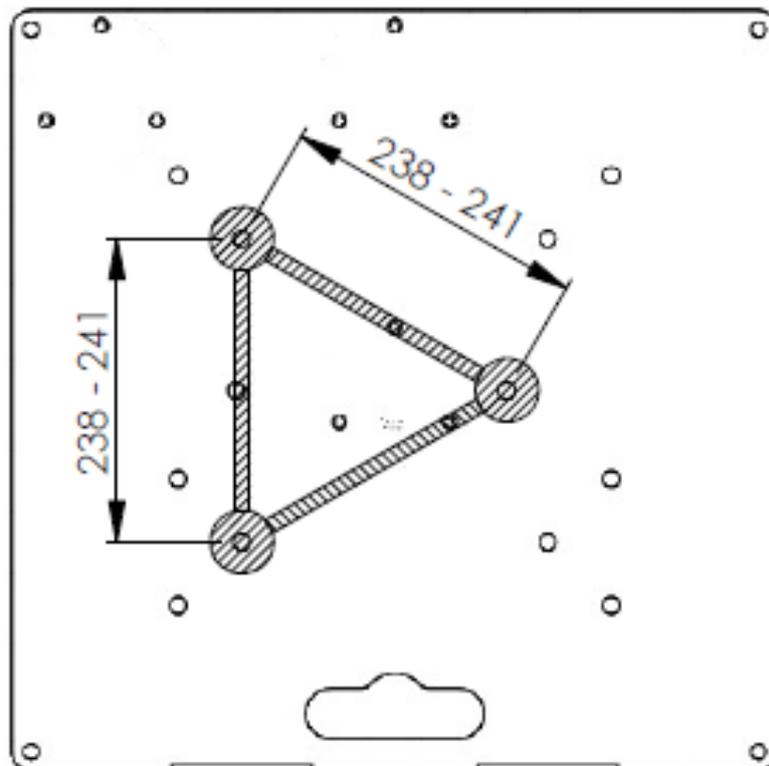
Tank Trap used as a truss base showing the positions of 338mm - 341mm square sections.



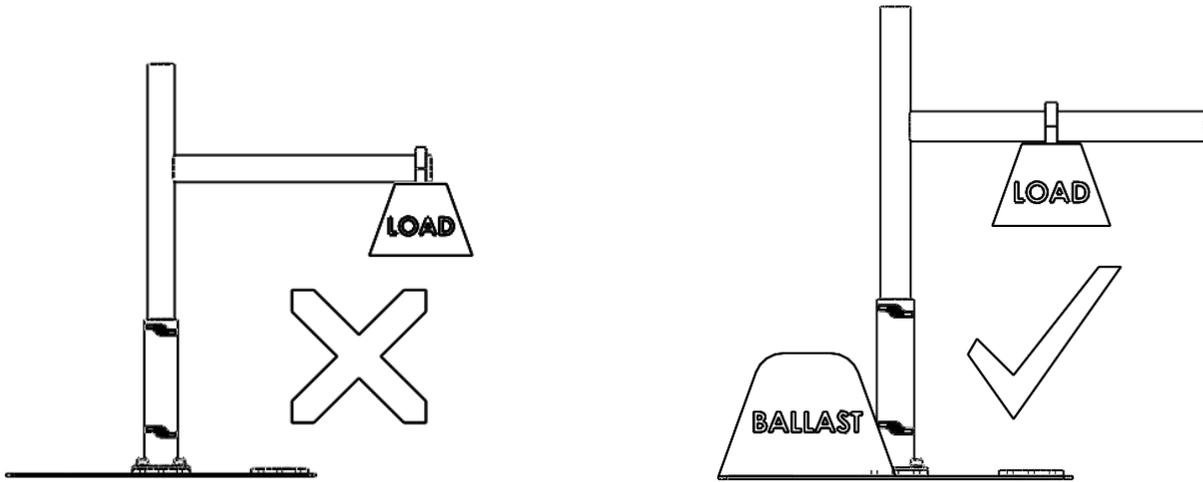
Tank Trap used as a truss base showing the positions of 338mm - 341mm triangular truss sections.



Tank Trap used as a truss base showing the positions of 238mm - 241mm square truss sections.



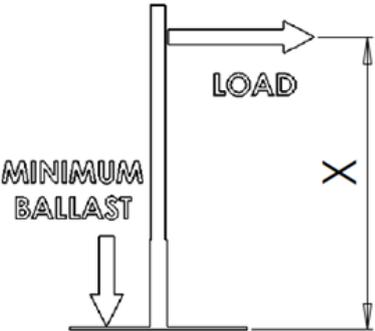
Tank Trap used as a truss base showing the positions of 238mm - 241mm triangular truss sections.



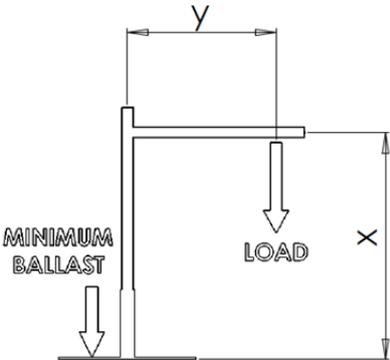
Ballast = Load x distance along boom arm x 1.2.

See table for maximum loads.

Ballast and Deflection Values for 48.3 x 3.2 steel tube (S355)



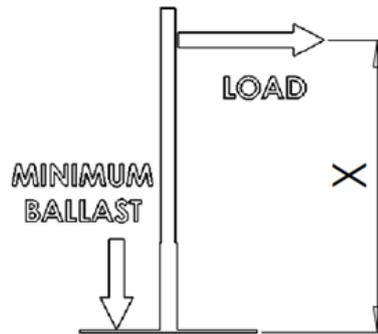
X (MM)	50KG LOAD		100KG LOAD	
	DEFLECTION (MM)	MINIMUM BALLAST (KG) *	DEFLECTION (MM)	MINIMUM BALLAST (KG) *
<=1000	4	205	8	425
<=2000	42	425	84	860
<=3000	158	650	N/A	N/A



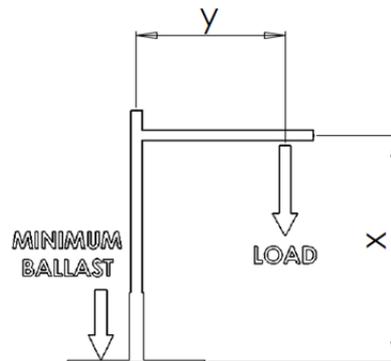
X (MM)	Y (MM)	50KG LOAD		100KG LOAD	
		DEFLECTION (MM)	MINIMUM BALLAST (KG) *	DEFLECTION (MM)	MINIMUM BALLAST (KG) *
<=1000	500	4	70	7	150
	1000	7	190	15	380
<=2000	500	18	70	37	160
	1000	37	190	75	400
<=3000	500	46	70	98	190
	1000	93	200	198	470

* Safety Factor of 2.

Ballast and Deflection Values for 48.3 x 4.25 aluminium tube (6082 T6)



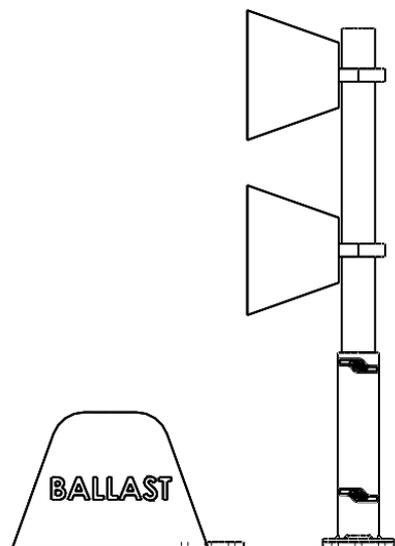
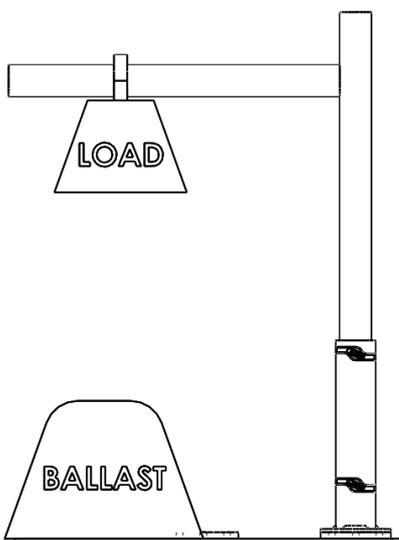
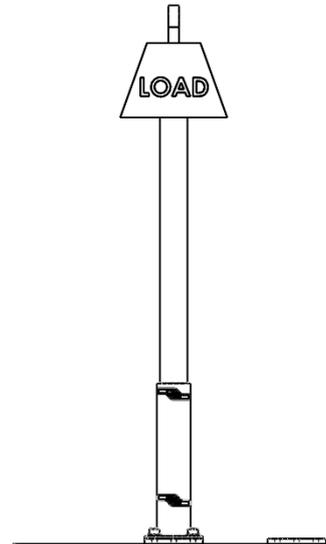
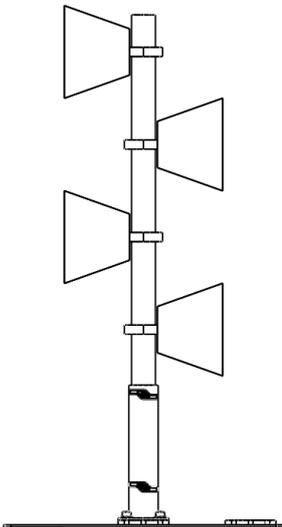
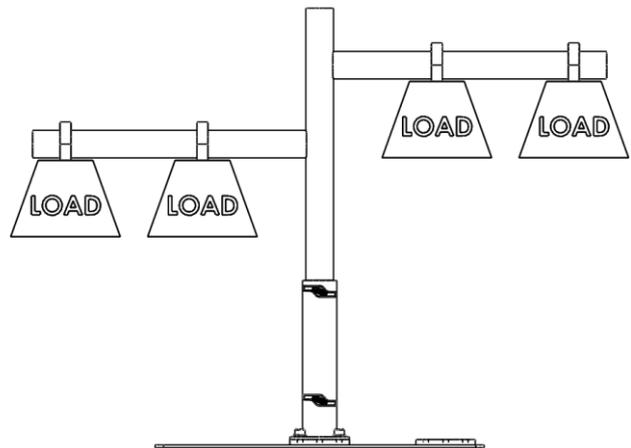
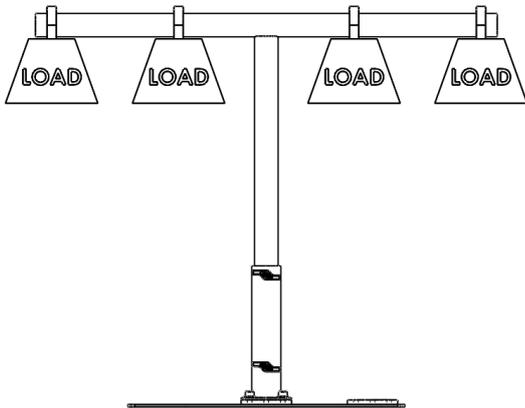
X (MM)	50KG LOAD		100KG LOAD	
	DEFLECTION (MM)	MINIMUM BALLAST (KG) *	DEFLECTION (MM)	MINIMUM BALLAST (KG) *
<=1000	8	205	17	425
<=2000	95	425	N/A	N/A
<=3000	360	650	N/A	N/A



X (MM)	Y (MM)	50KG LOAD		100KG LOAD	
		DEFLECTION (MM)	MINIMUM BALLAST (KG) *	DEFLECTION (MM)	MINIMUM BALLAST (KG) *
<=1000	500	8	70	16	150
	1000	16	190	32	380
<=2000	500	43	80	91	190
	1000	86	200	184	450
<=3000	500	117	100	286	280
	1000	210	230	503	600

* Safety Factor of 2.

7. Examples of use



8. Storage

Due to the self-weight & size of the Tank Trap adequate care must be taken with storage. Please avoid storing on high shelves & be aware of stability issues when stacking the plates.

9. Modification

The tank trap should not be modified in any way by a third party.

10. Compliance

- BS EN 12100:2010 – Safety of Machinery – General Principles for Design – Risk Assessment and Risk Reduction.

11. Inspection and Commissioning

Initial Inspection

Before initial use, the tank trap must be inspected by an expert. Such an inspection will be a visual and functional check.

- Check for missing or cracked welds on the base plate and receiver.
- Check tapped holes, screws and Doughty knobs for damaged threads.
- Check the base plate is flat.
- Ensure the tube to be used with the tank trap fits into the receiver and slides all the way down to the base plate.

12. Maintenance

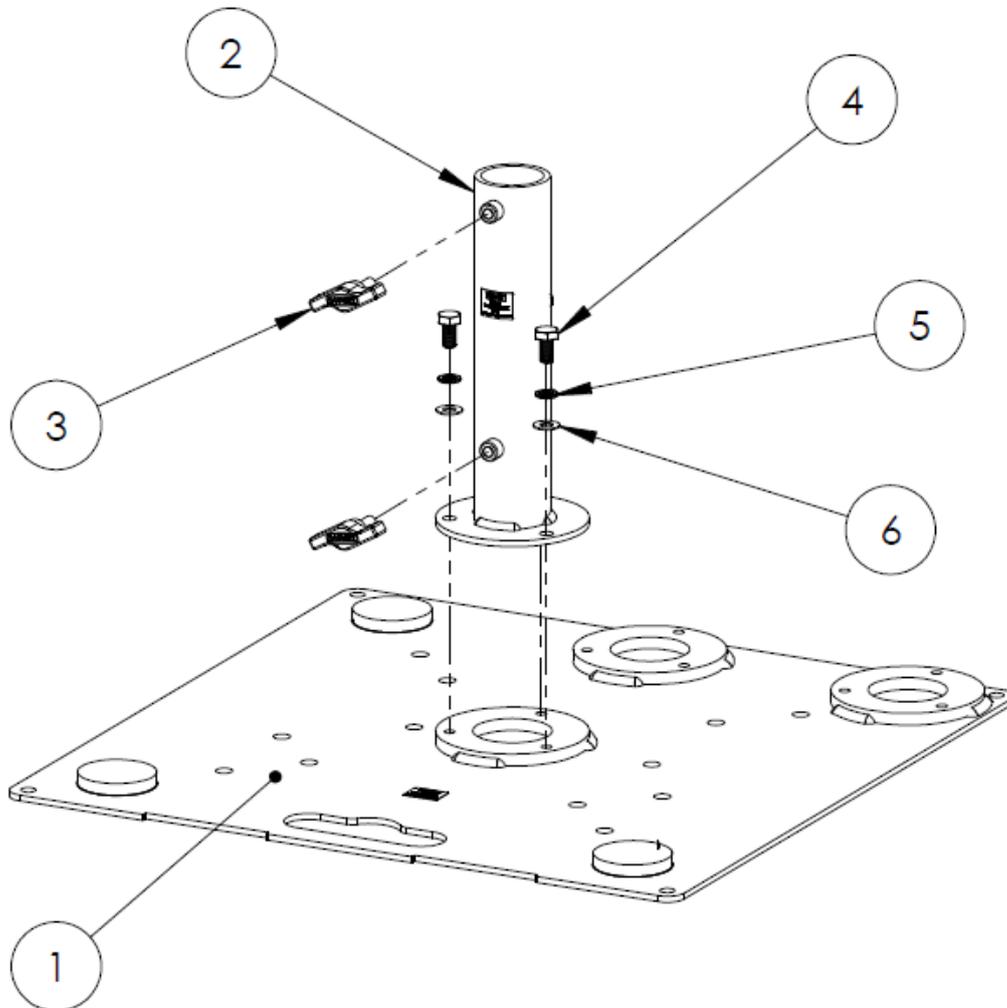
Regular Inspection

Regular inspections should be performed by a skilled person and should be carried out prior to each incident of use.

- ⚠ Check all components for damage and corrosion. Damaged and corroded parts shall be removed and thrown away.
- ⚠ Check for elongated holes.
- ⚠ Check for damaged threads.
- ⚠ Check for distortion in any part of the tank trap.
- ⚠ Check all welds for cracks.
- ⚠ Burrs and sharp edges shall be removed with fine sandpaper or a file.
- ⚠ Do not use any mechanical abrasive machinery to remove sharp edges.
- ⚠ Contact your Doughty Supplier for any replacement parts.
- ⚠ Tank traps which are subject to any accident must be inspected for any damage.

13.Repair and Replacement of Parts

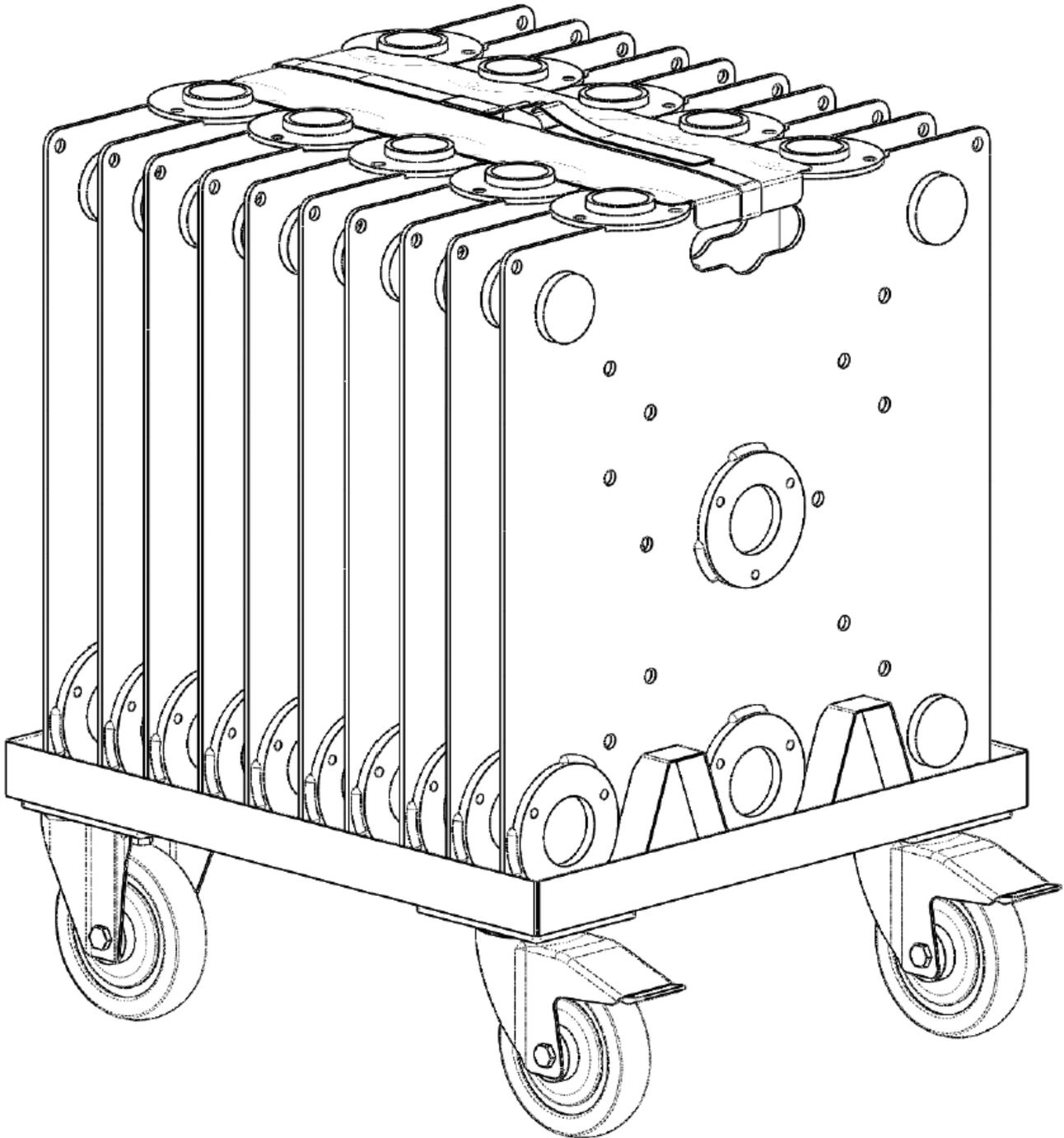
Tank traps should be returned to Doughty for repair. Only use Doughty replacement parts.



FIXINGS F892, F902 & F994 CAN BE ORDERED AS A SET (3 OFF EACH PART) UNDER PART NUMBER S3641

ITEM NO.	PART NUMBER	DESCRIPTION	QTY
1	TH3776	TANK TRAP BASE PLATE 3 POSN - WELDED	1
2	TH3054	RECEIVER TUBE ASSEMBLY	1
3	S0141	M10 X 25 DOUGHTY KNOB MALE BLACK L/HD	2
4	F994	M10 X 20 SET BZP	3
5	F902	M10 SPRING WASHER	3
6	F892	M10 FLT B WASHER	3

Tank traps can be supplied with a transportation trolley (part number T54266) which can carry up to 10 tank traps. The trolley features 2 fixed castors and 2 rotating castors with brakes. A strap is included to secure the tank traps during transportation.



14. Warranty and Liability

- For a period of 12 months we undertake to repair, free of charge, any damage attributable to faulty materials or workmanship, provided that the appliance is forwarded, freight paid, to our works or one of the Doughty appointed service agents.
- The guarantee-period begins on the day of the delivery, proven by a purchase receipt, invoice or delivery note.
- The guarantee only is applicable for new equipment.
- The guarantee does not cover damage due to transport damage, negligent handling, overload or parts subject to normal wear and tear. The guarantee does not cover damages that originate from a case of misuse because of non-observance of the instructions in this manual.
- The fitting of non-original replacement parts or modifications of design by third parties invalidates the guarantee.
- Guarantee repairs do not renew nor extend the guarantee-period.
- In case of a claim under the guarantee, a malfunction or spare part requirements please contact local Doughty agent.
- The manufacturer is not liable for indirect consequential damage or financial loss.
- The manufacturer is not liable for any changes made to the tank trap or for any damage resulting from such changes.