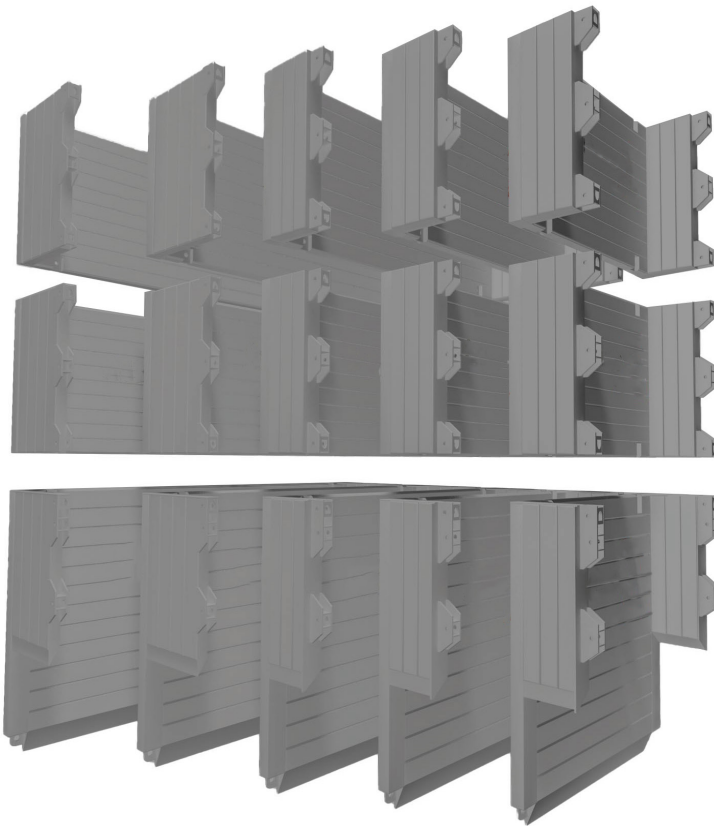




GROUNDWORKS

MANHOLE BOX

User Guide



GENERATION
HIRE & SALE

LH/11.22

Altrad Generation Hire & Sale

Support for Construction & Industry

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Manhole Box - Introduction

Health and safety legislation states that construction equipment users should formulate a site specific Safe System of Work to undertake any work they are planning. This guide was designed to offer basic instruction of Shoring Equipment Systems including the assembly, installation and extraction of the Manhole Box, including the Manhole and Backhoe Manhole Boxes. The correct sizes and weights of the components will also be shown so that use of equipment can be planned ahead. It is necessary that users enforce the appropriate safety practices of excavations and trenching throughout installation.

The users of Shoring Equipment should be familiar, confident and competent when handling and installing boxes and accessories. Altrad Generation Hire & Sale excavation systems can be supplied with a full range of additional safety products including ladder access and guardrails as well as various other ancillary products. These products are designed to act in accordance with the practice of Shoring Equipment and meet the requirements of the Lifting Operations & Lifting Equipment Regulations, Work at Height Regulations and the Confined Spaces Regulations.

Personnel should make themselves aware that certain conditions such as the close proximity of structures, site roads, railways and excavated materials near the trench can all increase surrounding earth pressures. If in doubt please seek advice.

For additional details please contact your local Altrad Generation Hire and Sale Branch.

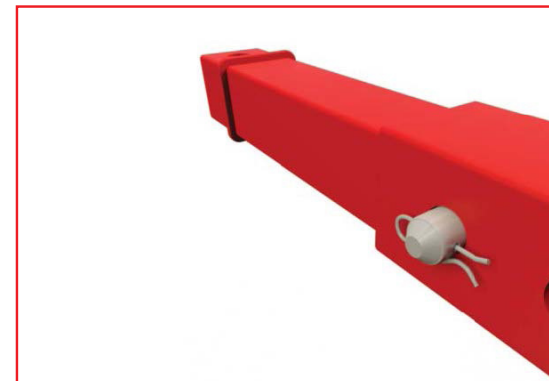
Manhole Box - Assembly



1: Lay Panel Flat on ground with pockets facing upwards.



2: Assemble the struts.



3: Insert pins into designated holes and secure with R Clips.

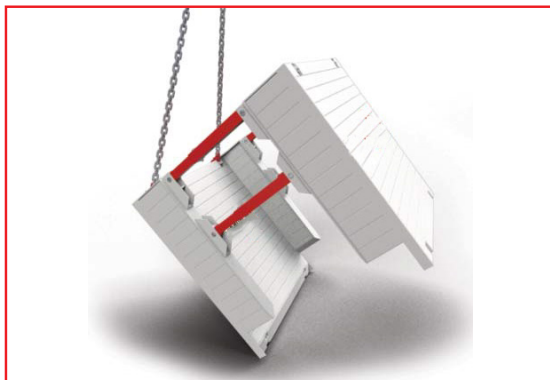
Manhole Box - Assembly



4: Insert the struts into the pockets and lock in place with Pins and Clips.



5: Lower the second panel, pockets facing downwards onto the upraised struts you have just installed and lock in place.



6: Stand the Manhole Box upright on its cutting edges, by attaching chains to the downwards facing panel's lifting points and turn the constructed Manhole Box from flat to upright.

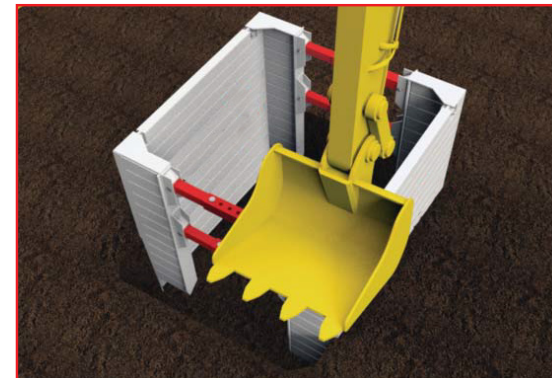
Manhole Box - Installation



1: Dig the trench



2: Lift the Manhole Box into the starter hole.



3: Push box at each corner in turn.

Manhole Box - Installation



4: Excavate beneath the panel and remove any excess material.



5: Push each corner in turn until the box reaches the limit. Install edge protection and ladder access. Enter excavation once safety is declared.

Manhole Box

Adding a Top Box

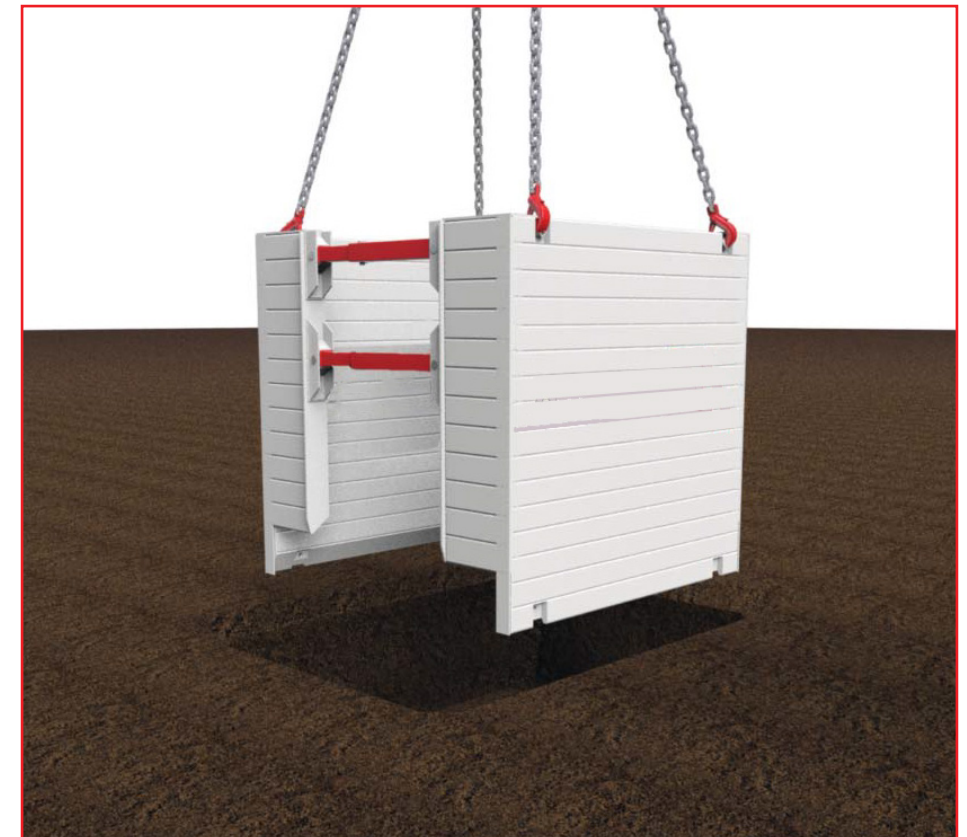
- 1) Fit the panel connectors to the top box
- 2) Lift the box so these panel connectors hang down
- 3) Locate the panel connectors in the top of the panel
- 4) Then pin through connectors and panel
- 5) Secure with these with 'R' Clips
- 6) Repeat stage 4 and 5 until required depth

Extraction

Extraction is the reverse of installation. Ensure that the trench is backfilled before lifting each corner in turn until box is at least 300mm above ground level, then attach 4 Leg Chain and lift box from the excavation.

A. Attach a Snatch Chain to one lifting point and pull vertically. Repeat this for each corner.

B. The next stage is to connect all four legs of the lifting chain and lift vertically.



Manhole Box - Safety Tips

- Please refrain from using the box on unstable ground and within close proximity to structures due to increase in Earth Pressure.
- Plan all excavations ahead of time to ensure that the correct lifting operations can be used.
- Ensure that all personnel required to install this equipment are suitably trained and supervised whilst assembly and installation is in progress.
- Inspect all components, including lifting points, struts, clips and pins.
- Boxes should never be left flying above the base of the excavation.
- Leave 100mm of the box above ground level on the base/top box.
- Refrain from bearing weight with the bucket in the middle of the panel during installation.
- Only access the box via ladder access.
- Never move the box whilst personnel are inside the excavation.
- Do not use any un-supported part of the trench as access.
- Top Boxes and extension panels are not to be removed before the top of the base box is above ground level.
- To minimise damage do not lift the box via the struts or laterally load them.
- Attach Ladder Access and Guardrails before use.
- Seek advice if you are in doubt.

Manhole Box - Ancillaries



Manhole Box	2.5m		3.0m		3.5m		4.0m		4.7m	
	Base	Top	Base	Top	Base	Top	Base	Top	Base	Top
Panel Length (mm)	2500	2500	3000	3000	3500	3500	4000	4000	4700	4700
Panel Height (mm)	2500	1500	2500	1500	2500	1500	2500	1500	2500	1500
Panel Thickness (mm)	100	100	100	100	100	100	100	100	100	100
Weight (kg)	2402	1374	2608	1670	2800	1800	3570	2370	4850	2910
Distance Between Struts (mm)	2220	2220	2720	2720	3220	3220	3780	3780	4490	4490
Strut Height Clearance (mm)	1500	-	1500	-	1500	-	1500	-	1500	-
To Suit Ring Size (mm)	1050/1200/1350		1350/1500/1800		1800/2100		2100/2400/2700		3000	
Standard Working Load	40kN/m ²		40kN/m ²		40kN/m ²		40kN/m ²		35kN/m ²	

Backhoe Manhole Box	2m		2.5m		3m	
	Base	Top	Base	Top	Base	Top
Panel Length (mm)	2000	2000	2500	2500	3000	3000
Panel Height (mm)	-	-	-	1000	2000	1000
Panel Thickness (mm)	60	60	60	60	60	60
Weight (kg)	808	507	875	460	975	508
Distance Between Struts (mm)	1840	1840	2340	2340	2840	2840
Clearance Below Strut (mm)	1200	-	1200	-	1200	-
To Suit Ring Size (mm)	1050/1200		1050 / 1200 / 1350		1350 / 1500 / 1800	
Standard Working Load	20kN/m ²	20kN/m ²	20kN/m ²	20kN/m ²	20kN/m ²	20kN/m ²

Disclaimer & Copyright

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