

Safe Use/Installation Instructions

Manhole Box Base and Top Extensions (600 Series)

This describes the correct and safe method of assembly, to change and add extensions, and dis-assembly, to remove the spindles and extensions. It also offers a guide to Correct Installation Procedure.

The method of equipment installation described is only a suggestion, the ultimate safety and responsibility of installation is with the company/responsible person installing it.

Box Type	Length	Height	Spindles
Manhole Box Base	4.5mtr	2.5mtr	(Mini 650-750) Plus 1mtr Ext.
Manhole Box Top Extension	4.5mtr	1.4mtr	(Mini 650-750) Plus 1mtr Ext.

Part 1

The changing/making up of the Manhole Box described above, adding of spindles and extensions can be carried out as follows:

- (1) The manhole box needs to be put down in a safe working area and on a flat safe surface.
- (2) The manhole box plates need to be separated into two halves, it needs to be lifted safely using the correct lifting points on the box, and a chain sling that has the correct safe working load, and conforms to LOLER. Making sure, that if you lift it up directly above the plate on the ground, no one walks or works underneath while the top is elevated.
- (3) Once the plates are separated, you are ready to add the spindles and extensions, to form your square or rectangle. To insert the spindles in the spindle holders, simply remove the small Pins and R Clips supplied in the spindle holders, add the spindles into the spindle holders in the plate on the ground and replace the pins through the spindles, adding the small R clips onto the end of the pins.
To add the extensions, simply remove the pins and clips from the sockets on the end of the extensions, and put the socket end into the male end of the mini spindle, remembering not to hold the extensions at the end, (risk of jamming your hand in the joint) and re-add the small pins and R clips.
You are now ready to complete the connection of the spindles and extensions to the manhole box. Remove the small pins and R clips from the spindle holders in the elevated plate, and gently lower the top plate onto the end of the extensions you have already added, again remembering not to put your hands on the end of the spindle extensions, (risk of jamming your hand in the spindle joint) then adding the small pins and R Clips once the spindles are in the holders. The Manhole Box is now ready to be used.
- (4) If you wish to reduce the size of the manhole box (take out Extensions) simply reverse the exercise in Paragraph 3. If you wish to increase or decrease the internal of the manhole box when it is in the ground insert a suitable bar through the hole provided in the collar and turn the spindle clockwise to decrease, and anti clockwise to increase.

Part 2

- (1) Excavate approximately 1.5mtr below ground level to the overall plan size as required
- (2) Place assembled manhole box base in the excavation by use of a suitable 4 Leg chain sling (as can be supplied by us) on the correct lifting points on the box plates. It is correct practice to install the box vertically.
- (3) The Manhole box base can be progressively installed by using the 'cut and lower' technique, using the Excavator to apply downward pressure to each corner of the box. When the top of the base is at ground level it is now ready for the top extension to be added.
- (4) The top extension will come made up with the four top box connectors and pins and clips ready to be attached to the base. To connect, simply take out the R clips from the pins at the end of the top box connectors, remove the pins and lift safely the top extension onto the base, making sure the connectors fit tightly into the holders on the four corners of the manhole box base, then add the big pins and R clips that you removed previously.
- (5) If you wish to add any further top extensions, repeat paragraph 4 (Part 2)
- (6) Once you are ready to extract the boxes, you must lift off the top extensions one by one, using the correct lifting points and method.

It is very important that you consider the risk to the person going into the excavation putting the chains onto the boxes for extraction – the only safe way is to use a suitable man working cage that has head and side protection.

When you are ready to lift out the Manhole Box base you need to account for the soil cohesion/friction pressures on the sides of the base. It is correct practice to try and free the box from the sides of the excavation before extracting, using caution not to damage the box.

Warning – Shock loads can be more than twice the static load, and can cause very serious damage to the chain you are using – which could also include the chain failing, causing death or serious injury to the people around the excavation.

- (7) The manhole box base should be progressively withdrawn as you are backfilling the excavation.

Current Safety Legislation

We recommend that users of any excavation support equipment are familiar with the following references and publications:

- (i) HSE – Safety in Excavations – CIS8REV1
- (ii) HSE – Health and Safety in Excavations - Be Safe and Shore – HSG 185
- (iii) BS8002 (1994) – Earth Retaining Structures
- (iv) CIRIA SP95 – The Design and Construction of Sheet Piled Cofferdams
- (v) CIRIA Report 97 – Trenching Practice

Current Safety Legislation requires that the product users formulate a safe system of work to undertake the Excavation, which may include a Temporary Works Design. This information is intended to provide general guidance only on the practical aspects of installing and dismantling our boxes – if ever there is a doubt about whether you need trench support or not, remember this:

Four very experienced groundworkers were laying foul drains across a greenfield site. The trench was 4.5mtr deep and 2.2mtr wide, with vertical sides. The contractors were advised to provide shoring but they insisted that the ground, comprising of mudstone, was self-supporting and showed no sign of movement. The following day the trench side collapsed catastrophically, killing three of the workers and seriously injuring the fourth.

Moral to the story – No matter how much trenching experience you have never take the ground for granted – don't become a statistic!

For any further information you require, on technical support or advice on temporary works designs and equipment, contact:

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