

## Introduction to 5m & 7.5m Standard Dragbox:

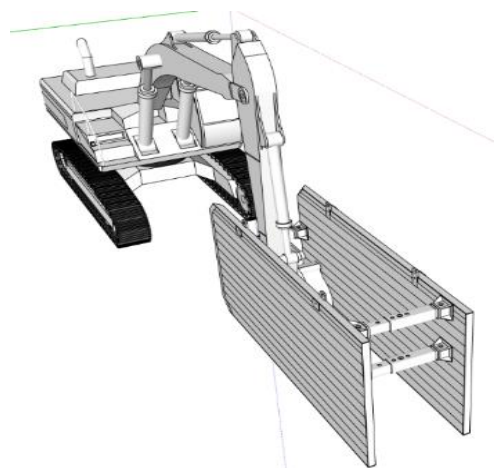
*Proshore's User Guide aims to provide all the necessary information required to allow for safe, effective and well-informed use of Proshore's Dragbox. The guide will cover aspects of practical handling, assembly, installation and systems of best practice. Aspects of the guide will assume general competence within the field, however item specifics such as design components and lifting points will be comprehensively described.*

*The Dragbox's overall aim is to provide a safe working area for installing utility pipes in non-urban environments where large ground movements are not critical. Although general competence is assumed, Operatives should ensure that the length and selected width of the box is sufficient for the intended works and should be aware that Dragboxes are not suitable for use in water bearing soils or excavations containing frequent services.*

*Proshore's Dragbox should only be used under the aforementioned circumstance and is not recommended for any other operative purpose.*

## User Guide Contents:

- **Page 1:** Design
- **Page 2:** System details
- **Page 3:** Assembly & Handling
- **Page 4-5:** Strut components
- **Page 6:** Operational Instructions
- **Page 7:** User Summary



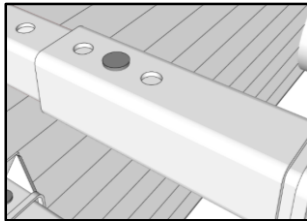
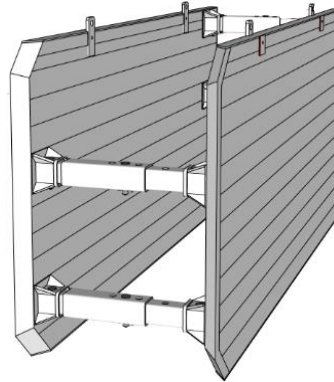
## Design:

Manufactured and designed in accordance with BS EN 13331: 2002 Parts 1 and 2 for Trench Lining systems and BS5975 (2008) for Temporary Works Procedures and the permissible stress design of falsework.

Actions, plans or conditions that may increase the likelihood of exceeding this pressure include; the close proximity of structures, excavated materials, construction materials, roads, services or railways.

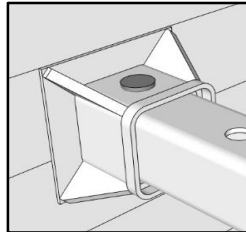
Fabricated from fully welded Grade S355 120x60mm steel box sections to form 60mm or 100mm thick panels, the system comprises drag boxes in a variety of lengths and heights. The system works by using a raised back strut system at the rear of the panel to allow the box to be dragged over and above the installed section of pipe. Generally suitable for trench depths up to 3.25m and trench widths of up to 3m, pipe lengths of up to 6.6m and a pipe OD of up to 2.4. It is not intended as an engineered solution to provide significant strength to the excavated working area and should only be used in dry and stable ground conditions

## Dragbox System Details



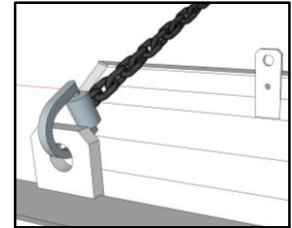
### Telescopic Strut Detail

Telescopic strut inners and outers are connected using a pin and R-clip.



### Strut Pocket Pin Detail

Telescopic strut are connected to the panel pockets using a pin and R-clip detail.



### Handling Point

All Drag Boxes are lifted and handled by attaching lifting chains to the handling points as shown.

<u>Standard Dragbox Systems</u>			
Description	5100 x 1824 Dragbox	5100 x 2424 Dragbox	7500 x 2460 Dragbox
Panel Resistance (kN/m <sup>2</sup> )	30	40	20
Panel Thick/Weight T(mm)/(kg)	110/1146	100/1433	100/2685
Assembled Weight Approx (kg)	2612	3186	5690
Internal Trench Width Wi (mm)	600-3000	600-3000	600-3000
Trench Width We(mm)	800-3200	800-3200	800-3200
Clearance Below Bottom Strut Li (mm)	1072	1372	1500
Clearance Between Struts Li (mm)	4220	4220	6620
Telescopic Strut Type	150	150	150

## Assembly & Site Handling:

- **Operatives:** Health & Safety legislation requires all operatives using this item to be experienced, suitably trained and/or supervised by a competent person. All lifting operations required to deploy this item are to be controlled by an appointed person and all acts are to be in accordance with British Standard: BS7121 and LOLER regulations.
- **Plant required:** Suitable appliances are required for off-loading and assembly of this item. Before lifting, a complete understanding of the size and weight of the item should be checked against the item of plant's lifting capacity and site clearance.
- **Additional hire/tools required:** Lifting chains of a suitable length and capacity are required alongside proof of current certification. Speak to your company's Proshore contact for further advice or item hire.
- **Access required:** Proshore's Drag Box requires a suitable area to offload the lorry and suitable hard standing ground required for the lift machine to operate; Ladders or staging suitable for access to attach required chains and to provision safe access in and out of trench/excavation.
- **Supply & Return of Equipment:** Clients should ensure that the equipment is returned in sections, in the state as supplied and should not be required to assemble or dismantle aspects without previous consent.

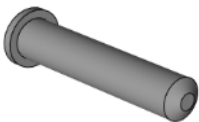
## Components



150 Telescopic Struts		
Component	Strut Inner	Strut Outer
Specification	150x150x12.5 SHS	180x180x10 SHS
Material Grade	S355	S355
Axial SWL	492kN	492kN
Moment SWL	38.9kNm	38.9kNm
Hole Diameter	48mm holes	48mm holes
Unit Mass	52.7kg/m	50.7kg/m



Rigid Struts	
Component	Strut Value
Specification	150x150x12.5 SHS
Material Grade	S355
Axial SWL	492kN
Moment SWL	38.9kNm
Hole Diameter	48mm holes
Unit Mass	52.7kg/m



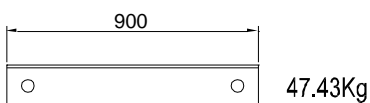
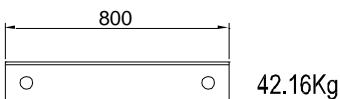
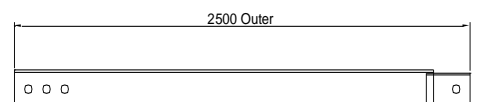
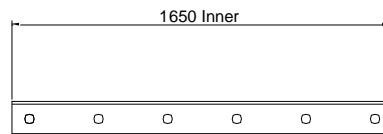
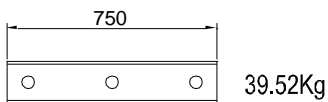
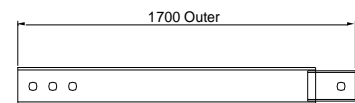
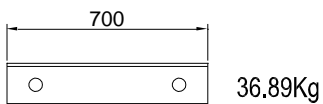
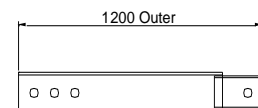
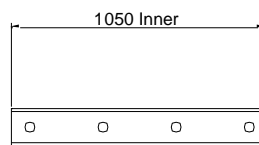
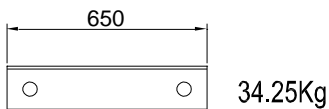
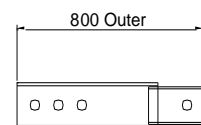
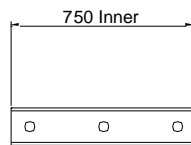
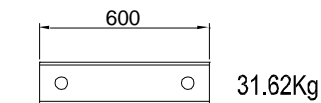
Telescopic Strut Pins & 'R' Clips	
Component	150 Strut Pin
Specification	45mm Round Bar Dia 220mm Long
Material Grade	080M40 (EN8)
Shear SWL	228kN
Weight	3kg

## 150 Telescopic Strut Combinations

Rigid Struts (150 x150x12.5 SHS)

Strut Inners (150 x150x12.5 SHS)

Strut Outers (180 x180x10 SHS)



150 Telescopic Strut Connections			
Range (mm)	Inner Size	Outer Size	Strut Weight (Kg)
1000-1300	750	800	81.5
1400-1800	1050	1200	118.3
1900-2600	1650	1700	176.2
2700-3000	1650	2500	218.2

## **Operational Instruction:**

### **Prior to Installation**

- Ensure that all pins (c/w 'R' clips) are securely fitted before lifting Dragbox into area of use.
- Ensure that the excavator required is suitable. Information should be checked against the manufacturers guide and the quoted digging force should be at least 5x the weight of the Dragbox equipment being utilised.

### **Operating within a support excavation**

- Use suitable access (Ladder) to enter the working space. At no point should an operative climb up and down the Dragbox, additional access required at all times.
- DO NOT use unsupported parts of working area for access.
- DO NOT move/lift the Dragbox whilst operatives are inside.
- Full PPE in accordance with clients working best practice to be worn. MUST include safety helmet.
- Ensure that works are planned and that all site operatives are aware of planned works.

### **Extraction of Dragbox**

- Extraction MUST be completed in accordance with recommended Plant guidance.
- Dragbox should be lifted from the working area with suitable Excavator or Crane.
- Lift should be completed with recommended items connected correctly to the designated lifting points.

### **Site Storage**

- Dragboxes should be stored on their side when not in use.

### **Maintenance**

- Keep all connections tight
- Check all lifting chains for damage – Damaged lifting chains MUST NOT be used.

## User Summary - Proshore Dragbox

### Key Operative Note:

The box must only be moved by pre-digging ahead before carefully lifting and dragging the unit via the front struts, using the bucket of the excavator.

- X - Move the item with Operatives inside
- X - Use the lifting points for uses other than loading/unloading or assembly
- X - Use items with damaged lifting points
- X - Hammer the Dragbox with the excavator bucket
- X - Use unsafe lifting equipment
- X - Enter unsupported parts of the Working Area/Trench/Excavation
  
- ✓ - Ensure that all operatives have been briefed and have confirmed familiarity with the User Guide.
- ✓ - Follow basic maintenance instructions.
- ✓ - Ensure that all access is per recommendation e.g. Using a ladder to enter working area.
- ✓ - Ensure that all operatives have recommended PPE.
- ✓ - Ensure that when not in use –Dragbox is stored on its side.