

WALERS AND STRUTS

TRENCH SUPPORT SYSTEM



RMD Kwikform Technical Data Sheets

Metric Specification

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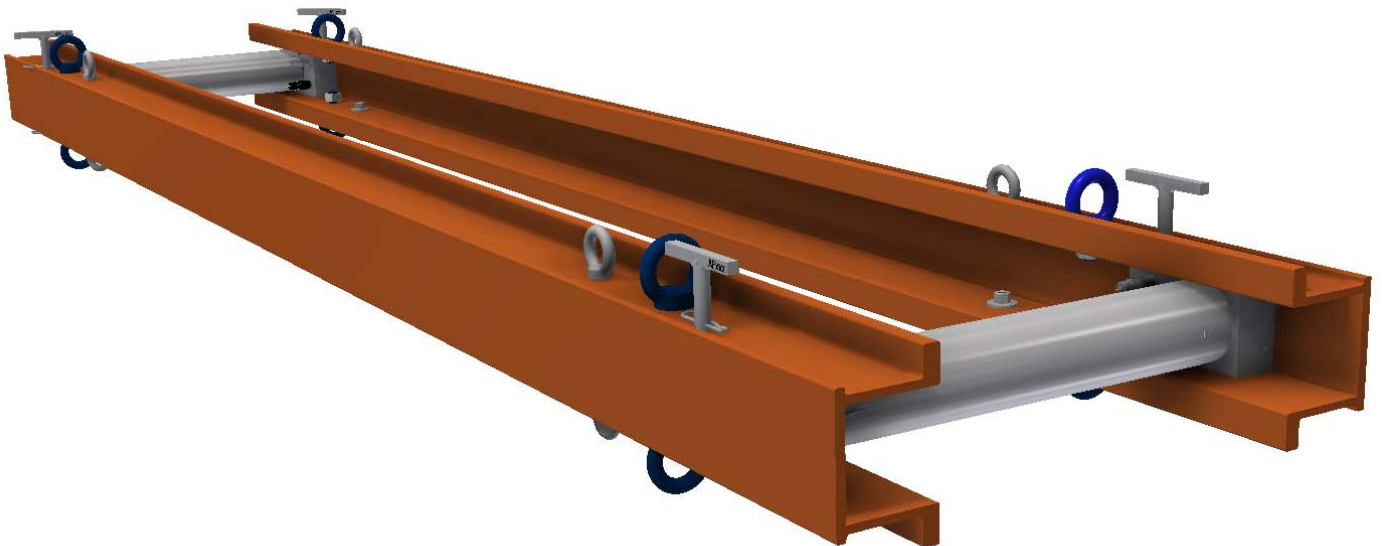


Introduction

Comprising of 6 different lengths of strut assemblies (types A-F) and 5 different lengths of aluminium walers with simple pin connections, this easy to assemble hydraulic system is designed to be used in conjunction with steel sheets for the support of small trenches for the safe installation of utilities.

Design to EN Standards

The RMD Kwikform aluminium walers and struts have been designed in accordance with EN14653. To facilitate a simplified scheme design using established permissible load methods, load performance data in this document is displayed as an 'Allowable Working Load'. Should Limit State Design be required, the Design Resistance may be obtained by multiplying the Allowable Working Load by 1.5.



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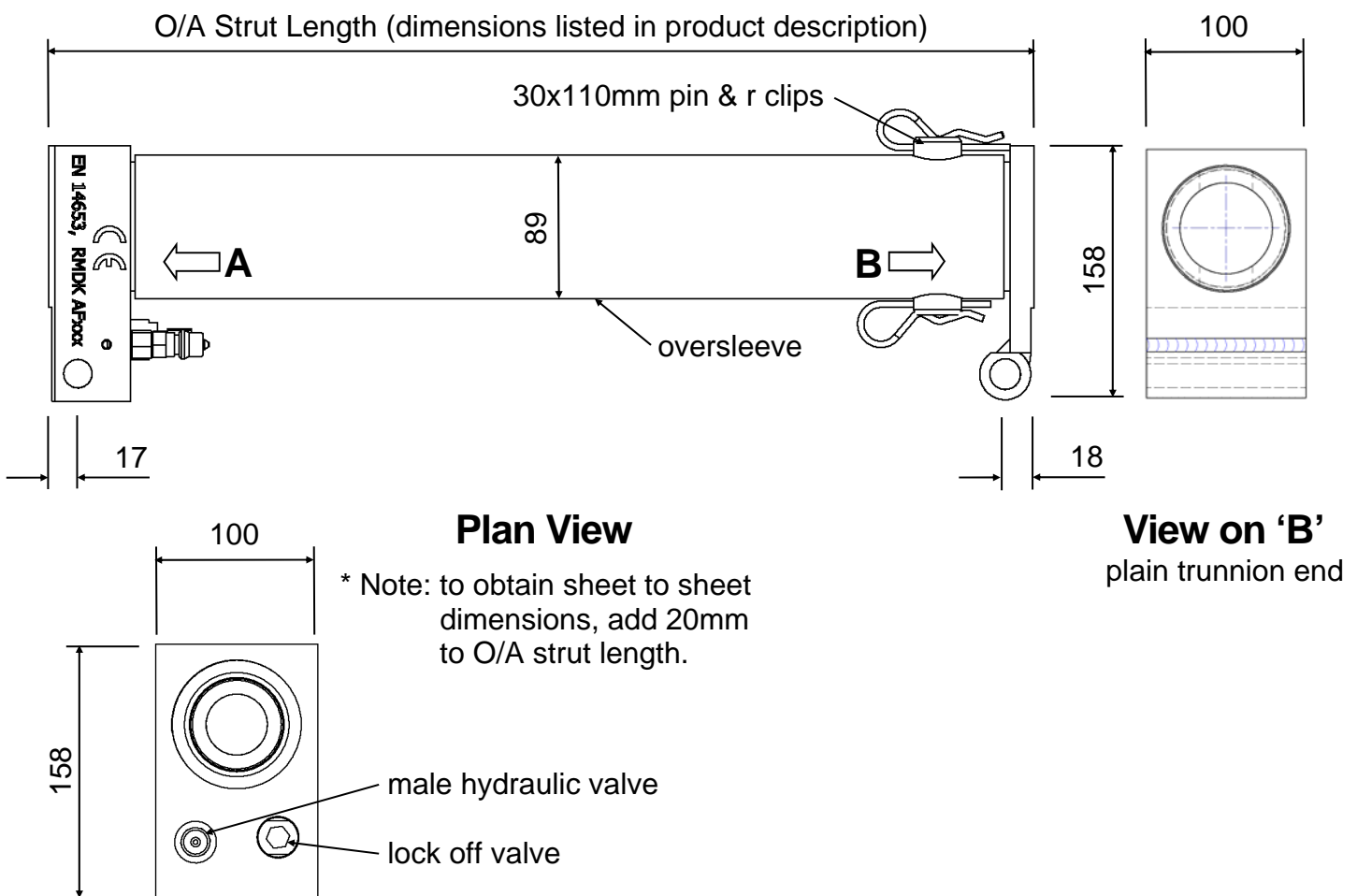
Waler Strut Assemblies A-C

A single acting hydraulic strut used in conjunction with 2 No. Waler Strut T Pins and 2 No. R-Clip 5x30mm dia BZP (HFU60010 + HFU61804) to strut apart Walers and Trench Sheets in small excavations.

The strut assembly consists of a threaded trunnion block end (with male hydraulic valve & lock off valve) connected to a 310mm stroke hydraulic cylinder, a plain trunnion end and a galvanised oversleeve that connect together with a Waler Strut Pin 30x110mm & 2 No. R-Clip 5x30mm dia BZP.



Allowable Working Load = 113kN (equates to 357 bar internal pressure)



Code	Description	Weight	Sheet to Sheet Dim
HFU60001	Waler Strut 'A' Assembly 610-920mm	22.9 kg	630-940mm
HFU60002	Waler Strut 'B' Assembly 865-1175mm	30.2 kg	885-1195mm
HFU60003	Waler Strut 'C' Assembly 1125-1435mm	32.1 kg	1145-1455mm

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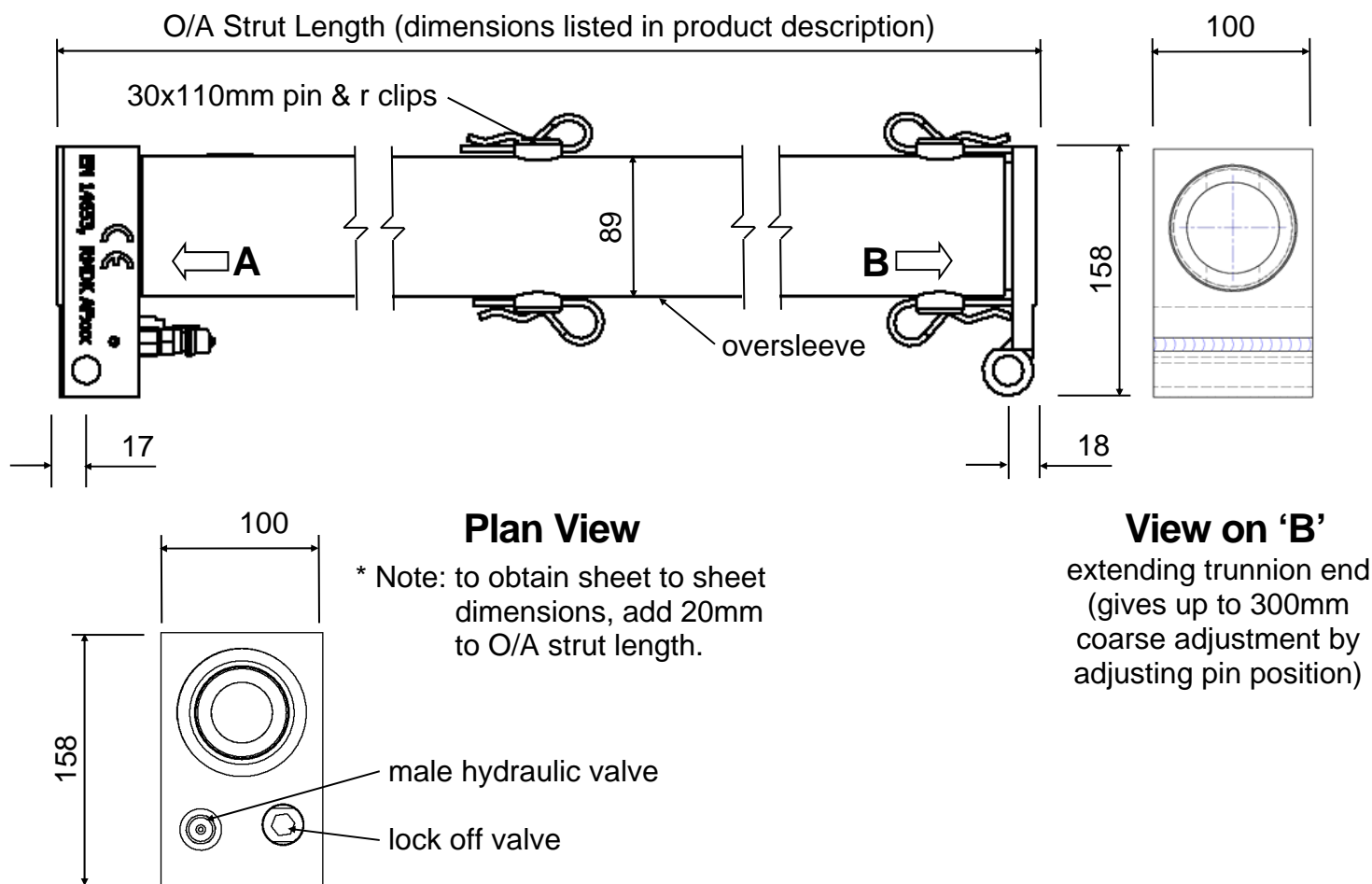
Waler Strut Assemblies D-F

A single acting hydraulic strut used in conjunction with 2 No. Waler Strut T Pins and 2 No. R-Clip 5x30mm dia BZP (HFU60010 + HFU61804) to strut apart Walers and Trench Sheets in small excavations.

The strut assembly consists of a threaded trunnion block end (with male hydraulic valve & lock off valve) connected to a 310mm stroke hydraulic cylinder, a rod adaptor cap, an extending trunnion end and a galvanised oversleeve that connect together with 2 no. Waler Strut Pins 30x110mm & 4 No. R-Clip 5x30mm dia BZP.



See Graph 1 on sheet 6 for Allowable Working Loads



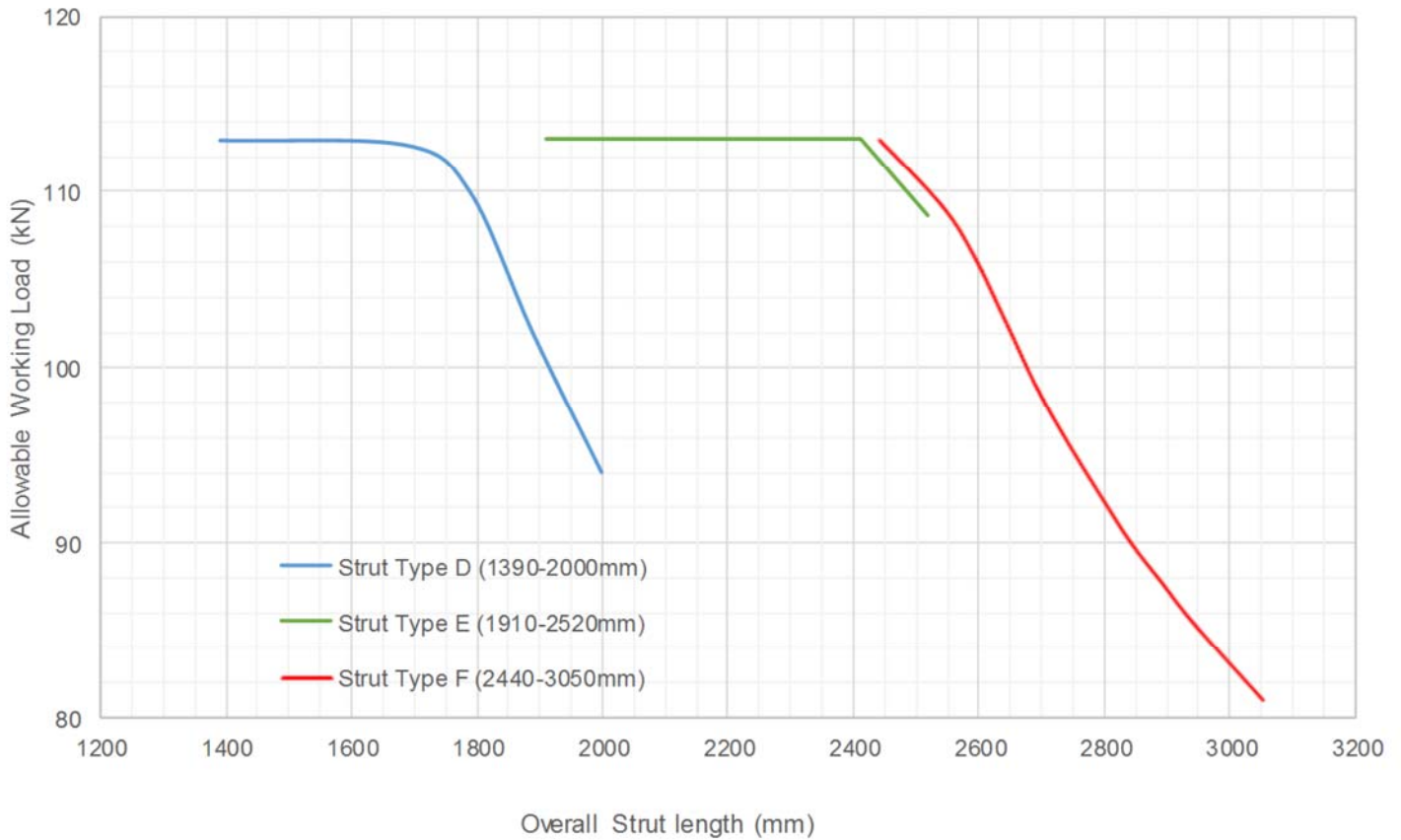
Code	Description	Weight	Sheet to Sheet Dim
HFU60004	Waler Strut 'D' Assembly 1390-2000mm	37.1 kg	1410-2020mm
HFU60005	Waler Strut 'E' Assembly 1910-2520mm	41.0 kg	1930-2540mm
HFU60006	Waler Strut 'F' Assembly 2440-3050mm	44.9 kg	2460-3070mm

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Graph 1 - Waler Strut Allowable Working Loads



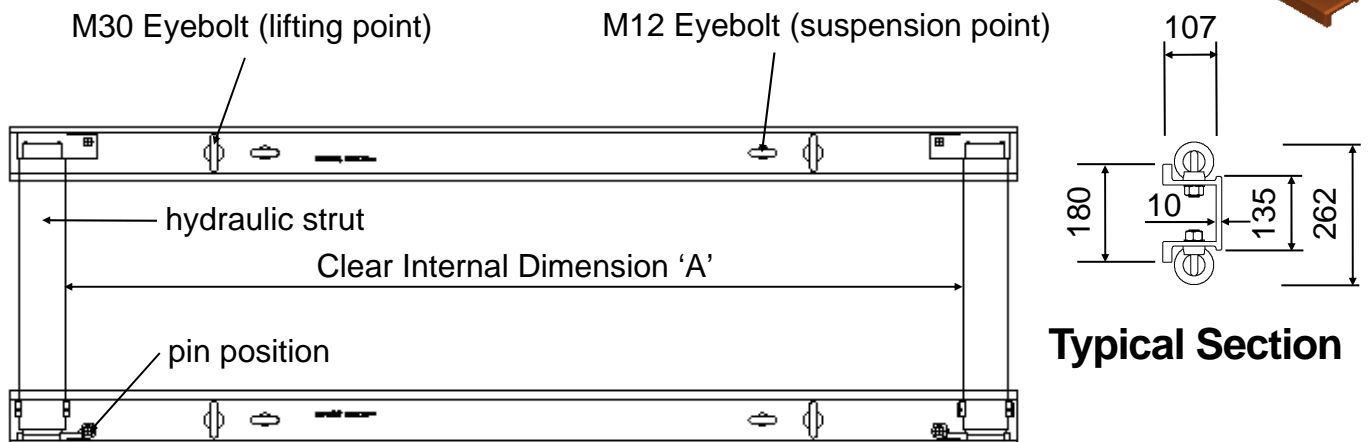
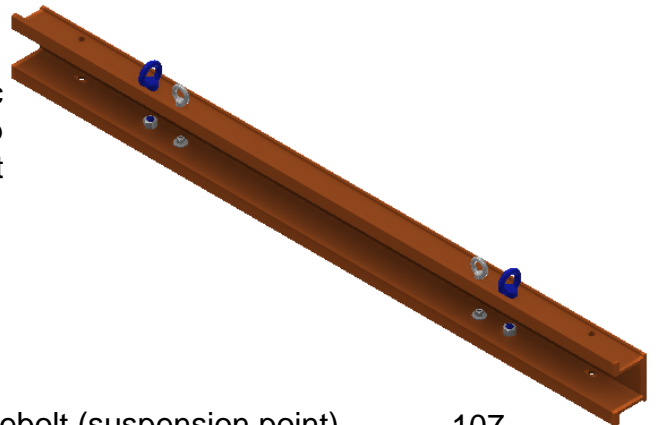
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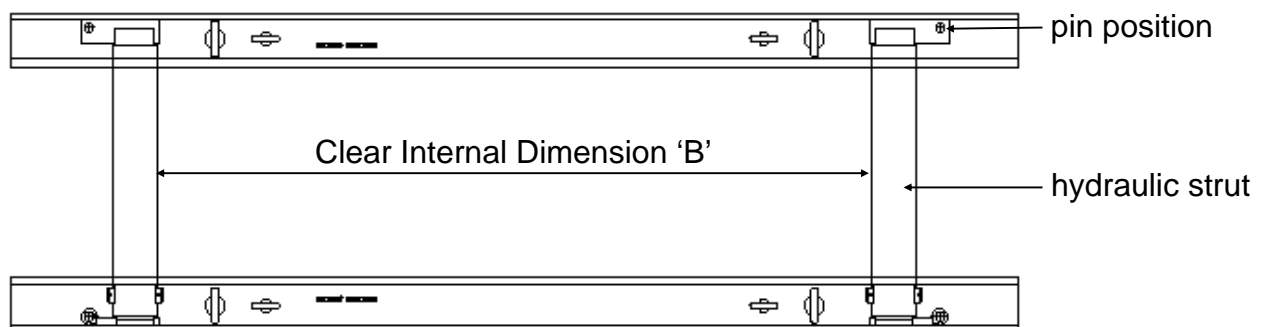
Aluminium Walers

Used in conjunction with 2 no. single acting hydraulic struts, 4 No. Waler Strut T Pins and 4 No. R-Clip 5x30mm dia BZP (HFU60010 + HFU61804) to strut apart Trench Sheets in small excavations.



Typical Section

Plan Showing Strutting Arrangement 1



Plan Showing Strutting Arrangement 2

Code	Description	Weight	Clear Internal Dimension 'A'	Clear Internal Dimension 'B'	Allowable Working Load	Maximum Deflection
HFU60020	Aluminium Waler 107 - 2.0m	22.6 kg	1783mm	-	51.0 kN/m	18mm
HFU60020	Aluminium Waler 107 - 2.0m	22.6 kg	-	1419mm	87.5 kN/m	12mm
HFU60025	Aluminium Waler 107 - 2.5m	27.9 kg	2283mm	-	31.6 kN/m	29mm
HFU60025	Aluminium Waler 107 - 2.5m	27.9 kg	-	1919mm	46.9 kN/m	21mm
HFU60030	Aluminium Waler 107 - 3.0m	33.4 kg	2591	-	25.1 kN/m	37mm

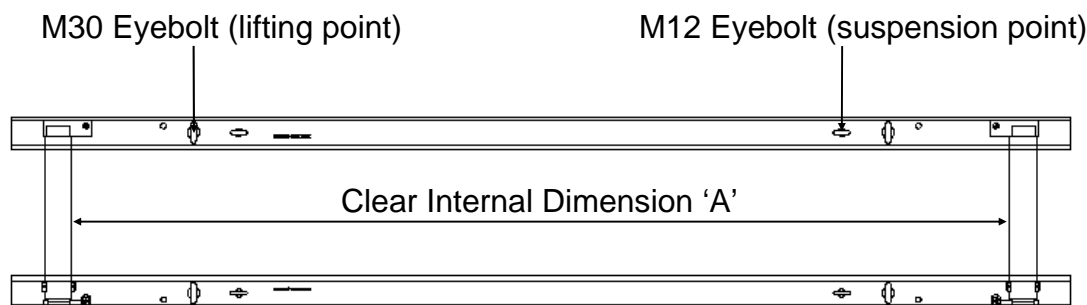
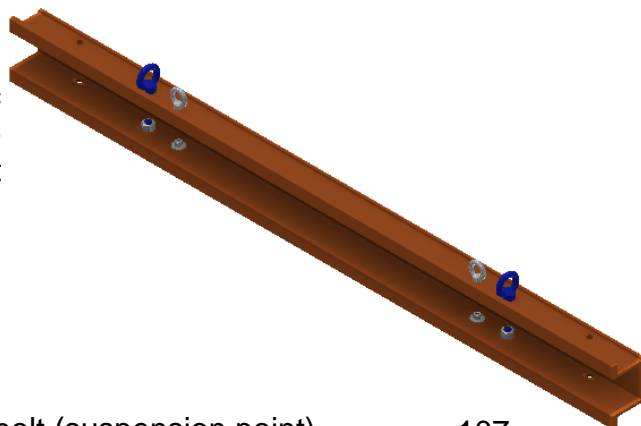
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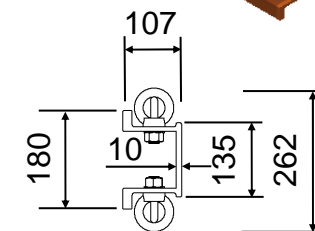


Aluminium Walers

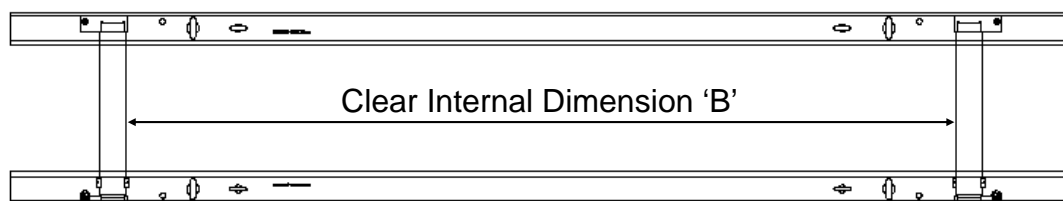
Used in conjunction with 2 no. single acting hydraulic struts, 4 No. Waler Strut T Pins and 4 No. R-Clip 5x30mm dia BZP (HFU60010 + HFU61804) to strut apart Trench Sheets in small excavations.



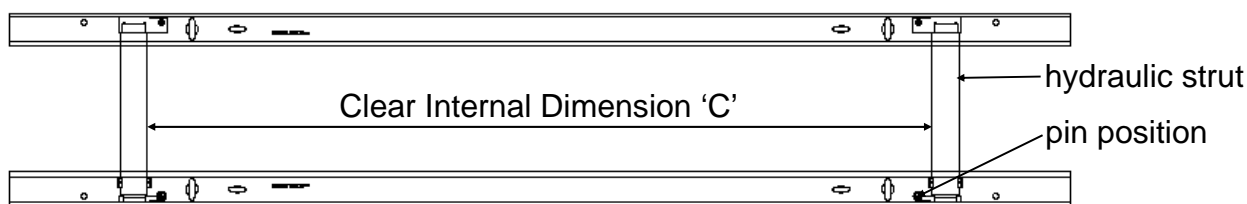
Plan Showing Strutting Arrangement 1



Typical Section



Plan Showing Strutting Arrangement 2



Plan Showing Strutting Arrangement 3

Code	Description	Weight	Clear Internal Dimension 'A'	Clear Internal Dimension 'B'	Clear Internal Dimension 'C'	Allowable Working Load	Maximum Deflection
HFU60035	Aluminium Waler 107 - 3.5m	38.6 kg	3103mm	-	-	17.6 kN/m	53mm
HFU60035	Aluminium Waler 107 - 3.5m	38.6 kg	-	2739mm	-	23.5 kN/m	41mm
HFU60035	Aluminium Waler 107 - 3.5m	38.6 kg	-	-	2591mm	27.3 kN/m	37mm
HFU60040	Aluminium Waler 107 - 4.0m	43.9 kg	3305mm	-	-	16.0 kN/m	59mm
HFU60040	Aluminium Waler 107 - 4.0m	43.9 kg	-	2941mm	-	21.8 kN/m	46mm
HFU60040	Aluminium Waler 107 - 4.0m	43.9 kg	-	-	2603mm	32.7 kN/m	35mm

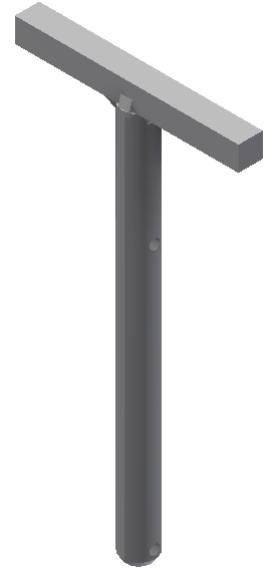
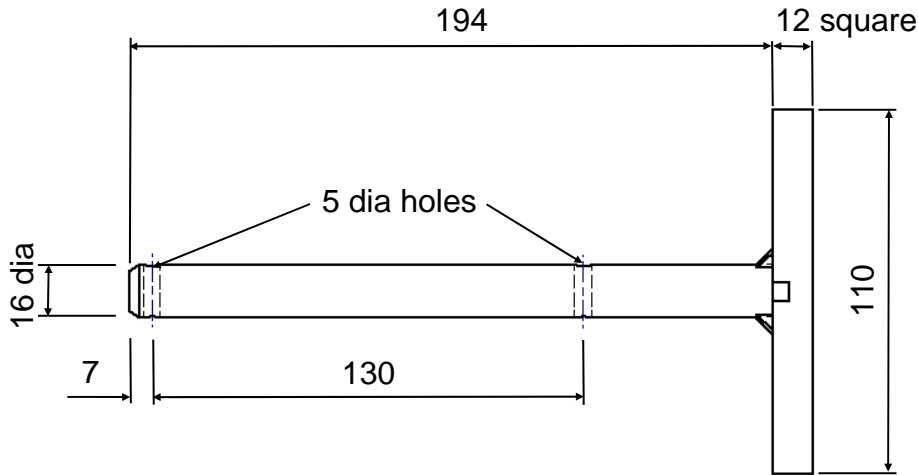
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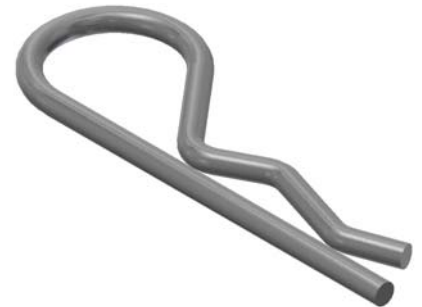
Waler Strut T Pin 16mm (HFU60010) weight 0.43kg

Used in conjunction with 2 no. R-Clip 5x30mm dia BZP (HFU61804) to connect hydraulic waler strut trunion ends into aluminium walers.



R-Clip 5 x 30mm dia BZP (HFU61804) weight 0.1kg

Used in conjunction with the Waler Strut T Pin 16mm (HFU60010).



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4 Leg Lifting Chains

Used for lifting complete Manhole Brace frame assemblies or when unloading individual leg assemblies. SWL 6.7 tonnes



Code	Description	Weight
VAU10019	4 Leg Chains 3mtr - SWL 6.7TON 10mm	21.5 kg
VAU10020	4 Leg Chains 5mtr - SWL 6.7TON 10mm	60.0 kg

Lashing Chains

Used for suspension of Manhole Brace frame assemblies or Walers to Trench Sheets and Sheet Piles.



Code	Description	Weight
VAU10010	Lashing Chain - HD Shackle-Shackle	13.0 kg
VAU10011	Lashing Chain - HD Shackle-Hook	13.0 kg

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Single Acting Bucket Pump (VAU10001) weight 11.6kg

A single acting hydraulic pump used to extend each of the Waler Strut Assemblies in turn.

Note: The pump is normally supplied with a residue of hydraulic fluid within the tank. Supplementary shoring fluid will be supplied in litre bottles for use with the pump. (Mixing instructions for the ratio of shoring fluid to water will be dependent on temperature conditions and will be specified on the shoring fluid packaging).

Note: When strut assemblies reach full extension, excess shoring fluid will vent through the cylinder bleed hole. If a longer strut is required either extend the adjustable trunnion unit or use a longer Waler Strut Assembly.



Hydraulic Connecting Hoses

For use with both the Single Acting & Double Acting Bucket Pumps.



Code	Description	Weight
VAU10005	Hydraulic Connecting Hose (3m)	0.8 kg
VAU10006	Hydraulic Connecting Hose (6m)	1.6 kg

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