

MAXI BRACE

Technical Data Sheets

MAXI BRACE





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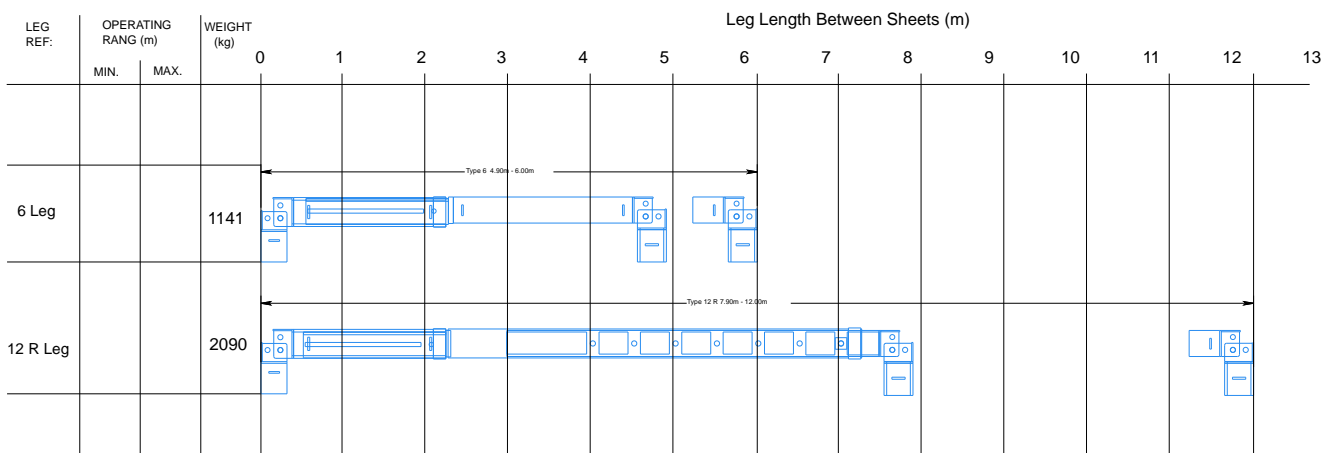
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Introduction

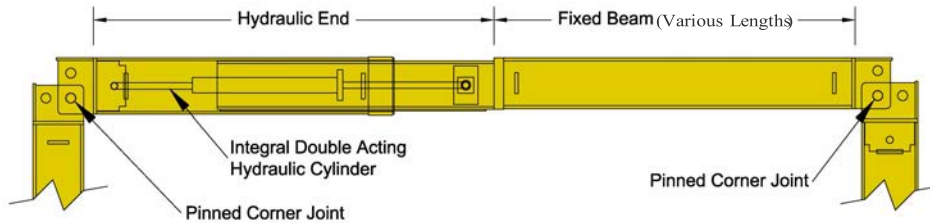
Maxi Brace consists of individual leg units. Individual legs are assembled to produce a 4-sided telescopic hydraulic bracing frame which is used in conjunction with trench sheeting to support excavations up to 12.0m square.

Legs are constructed from high yield steel sections and incorporate a double acting hydraulic ram. This means the legs can be expanded and retracted hydraulically, greatly simplifying installation and removal procedures.



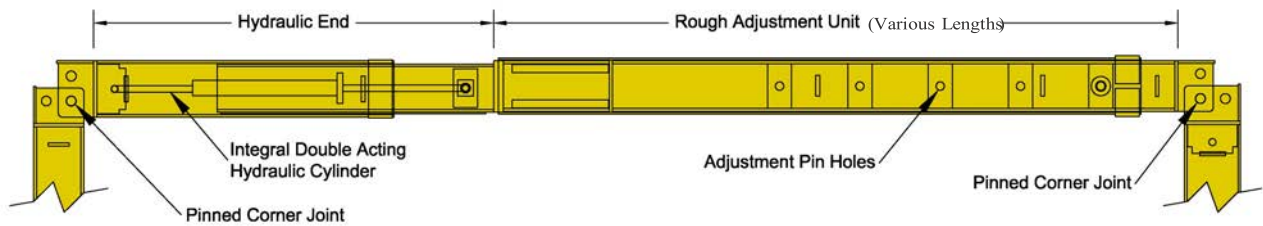
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Standard leg 6 to 10 configuration

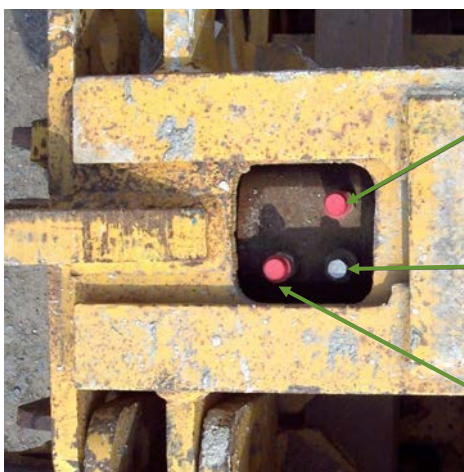


Each leg incorporates a telescopic hydraulic ram section (1.1m stroke) and two choices of beam length to achieve the overall leg length stated in the range chart on page 2. This configuration provides an operating range of 4.9m to 10.0m when combined with any other Maxi Leg. Note: these legs do not have a rough adjustment option.

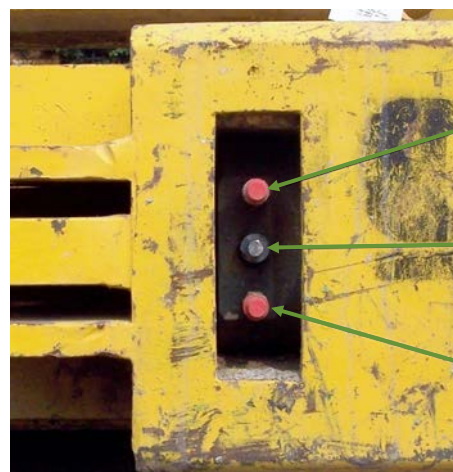
Standard leg 8R to 12R configuration (with rough adjustment unit)



Each frame leg incorporates a telescopic hydraulic ram section (1.1m stroke) and three choices of rough adjustment unit to achieve the overall leg length stated in the range chart on page 2. This configuration provides an operating range of 5.9m to 12.0m when combined with any other Maxi Leg.



Flow Coupling (Ram Extension)
Lock Off Valve
Return Coupling (Ram Retraction)



Flow Coupling (Ram Extension)
Lock Off Valve
Return Coupling (Ram Retraction)

There are two pumping stages required for installing any frame in an excavation:-

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1. Prior to installing the frame, individually extend the legs to the approximate excavation dimensions.
2. Once the frame has been lowered into the ground, extend the frame to bear against the trench sheets and finally pressurise each leg of the assembled frame to the required installation pressure up to 1500 psi (refer to the design documentation for specific pre-load).

All Maxi Brace systems will be supplied with either a hand pump or a motorised pump, depending on customer preference. The following procedures outline the extension and retraction stages to be followed when installing the equipment leg by leg.

Note: It is essential that both pump hoses are connected to the ram couplings otherwise the hydraulic ram will not operate.

Ram Extension

1. Ensure there is sufficient shoring fluid in the pump reservoir.
2. Ensure the hoses and couplings are clean and then connect both hydraulic hoses from the pump to the ram.
3. Open the lock off valve on the ram by rotating twice anticlockwise. If using a motorised pump – ensure the control level is set to neutral when opening the lock off valve.
4. Set the control valve on the pump to 'expand' and operate the pump to expand the leg to the required dimension. Carry out this operation for each leg in turn.
5. Reconnect the hoses to the first ram. The ram should then be pressurised up to the specified pre-load (typically 1000 to 1500 psi) as indicated on the pump pressure gauge. Do not exceed 1500 PSI.
6. Close the ram lock off valve by turning fully clockwise - Do not over tighten.
7. Disconnect the hydraulic hoses from the ram, and repeat the same procedure for all frame legs. Ensure that all hose quick release fittings are clean prior to each re-connection.

Ram Retraction

1. Ensure the frame is fully supported by packing the underside of the frame and checking that the restraining chains are in position.
2. Connect the hydraulic hoses from the pump to the ram, as per the procedure outlined above.
3. Open the lock-off valve on the ram 2-turns anticlockwise. If using the motorised pump – ensure the control lever is set to neutral when opening the lock off valve.
4. Set the pump control to 'retract' and operate the pump to retract the ram until the corner pin can be released.
5. Release the pin and pump in the ram so the leg is clear to lift out.
6. Repeat the same procedure for each leg.

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Lifting Chains

Restraining Chains

All lifting must only be carried out using certified 4-leg chains of adequate capacity. We are able to hire out suitable chains. The contractor should carry out a detailed risk assessment and lifting plan before any lifting operation takes place.

Notes on chain attachment points

Most equipment is fitted with both lifting eyes and restraining chain attachment points. When lifting assembled frames into or out of the excavation, only use the red painted lifting eyes for slinging. Restraining points must only be used to attach the restraining chains.

Restraining chains are used to provide vertical restraint to the frame (s) once installed. The upper chains are hooked over the top of the trench sheets using the eye slip hook then connected to the frame restraining points by bow shackles. A minimum of four chains will be required per brace or as indicated on any drawings supplied. Some adjustment in overall length of the chain will be necessary to ensure all support points are level and to remove any slack. Shortening chains to the required length is achieved by inserting the bow shackle through the appropriate chain link. Additional restraining chains connect lower level frames to the frame above, and should be connected to restraining points as shown on the diagram. Any required adjustment in length can be achieved by the same method as for the hanging chains. Note: restraining chains must be positioned to hang vertically and no more than four frames must be linked.



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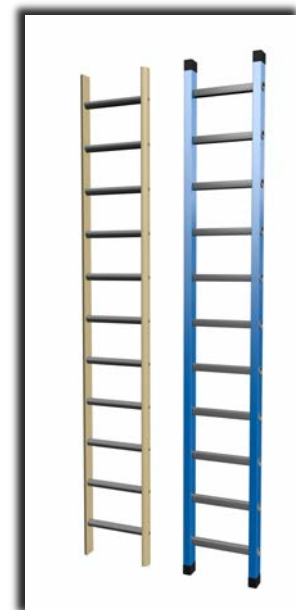
Edge Protection

Edge Protection is available for all Trench Sheets for the safety of all personnel.



Ladder Access Platform

Used for safe access into the excavation with the use of our ladders.



MANHOLE BRACES

4 Leg Lifting Chains

Used for lifting complete Brace assemblies or individual legs.



CHAIN SIZE (mm)	SINGLE LEG SLINGS			2, 3, OR 4 LEG SLINGS			BASKET SLINGS		
	STRAIGHT SLING	*ADJUSTABLE SLING	REEVED SLING	STRAIGHT SLING			REEVED SLING	1 LEG	2 LEG
				60°	90°	120°	Max 60°	Max 60°	Max 60°
6	1.4	1.4	1.1	2.4	2.0	1.4	1.8	1.8	3.2
7	1.9	1.9	1.4	3.3	2.7	1.9	2.5	2.5	4.3
8	2.5	2.5	1.9	4.3	3.5	2.5	3.3	3.3	5.6
10	4.0	4.0	3.0	6.9	5.6	4.0	5.2	5.2	9.0
13	6.7	6.7	5.0	11.6	9.4	6.7	8.7	8.7	15.1
16	10.0	10.0	7.5	17.3	14.1	10.0	13.0	13.0	22.5
20	16.0	16.0	12.0	27.7	22.6	16.0	20.8	20.8	36.0
22	19.0	19.0	14.3	32.9	26.8	19.0	24.7	24.7	42.8
26	26.5	26.5	19.9	45.8	37.4	26.5	34.5	34.5	59.6
32	40.0	40.0	30.0	69.2	56.4	40.0	52.0	52.0	90.0