

HDS HEAVY DUTY SHORING

The Modular 1,000kN System

Product Brochure



Contents

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Important notes

All current safety regulations and guidelines must be observed in those countries where our products are used.

The photos shown in this brochure feature construction sites in progress. For this reason, safety and anchor details in particular cannot always be considered as conclusive or final. These are subject to the risk assessment carried out by the contractor.

In addition, computer graphics are used which are to be understood as system representations. For ensuring a better understanding, these and the detailed illustration shown have been partially reduced to certain aspects. The safety installations which have possibly not been shown in these detailed descriptions must nevertheless be available.

The systems or items shown might not be available in every country.

Safety instructions and load specifications are to be strictly observed at all times. Separate structural calculations are required in case of changes and deviations.

The information contained herein is subject to technical changes in the interests of progress. Errors and typographical mistakes reserved.

NEW Heavy Duty Shoring Tower

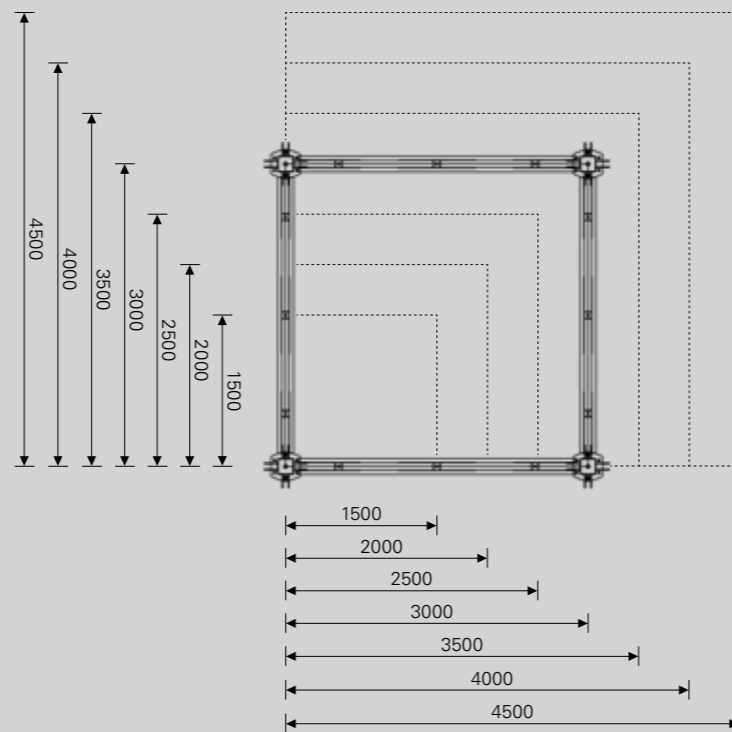
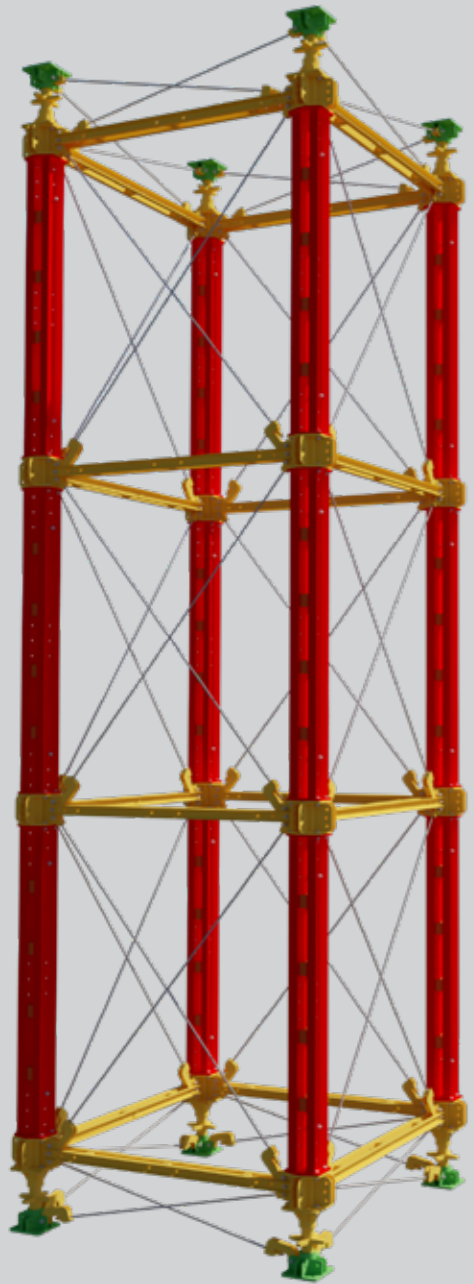
The Modular 1,000kN System

Heavy Duty Shoring Tower

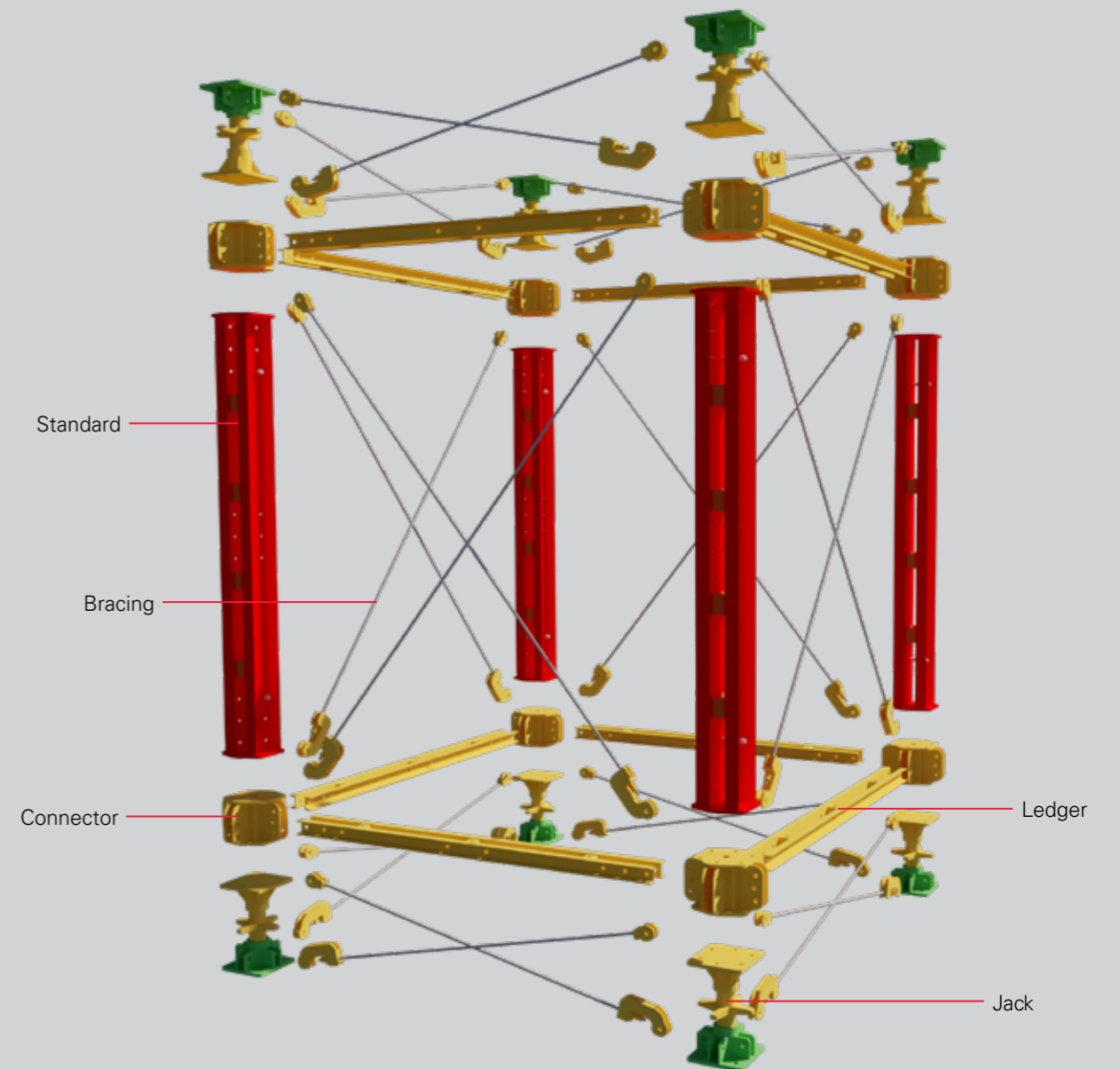
Only 5 Types of Components

Facilitate total cost reductions for heavy-duty applications

- Proven load-bearing capacity of 1,000kN per leg with a safety factor of 2
- Efficient assembly with only 2 standard connections
- Flexible configuration of horizontals and verticals to facilitate all dimensions



The HDS ground plan is available in dimension of 1.5m up to 4.5m in 50cm increments.

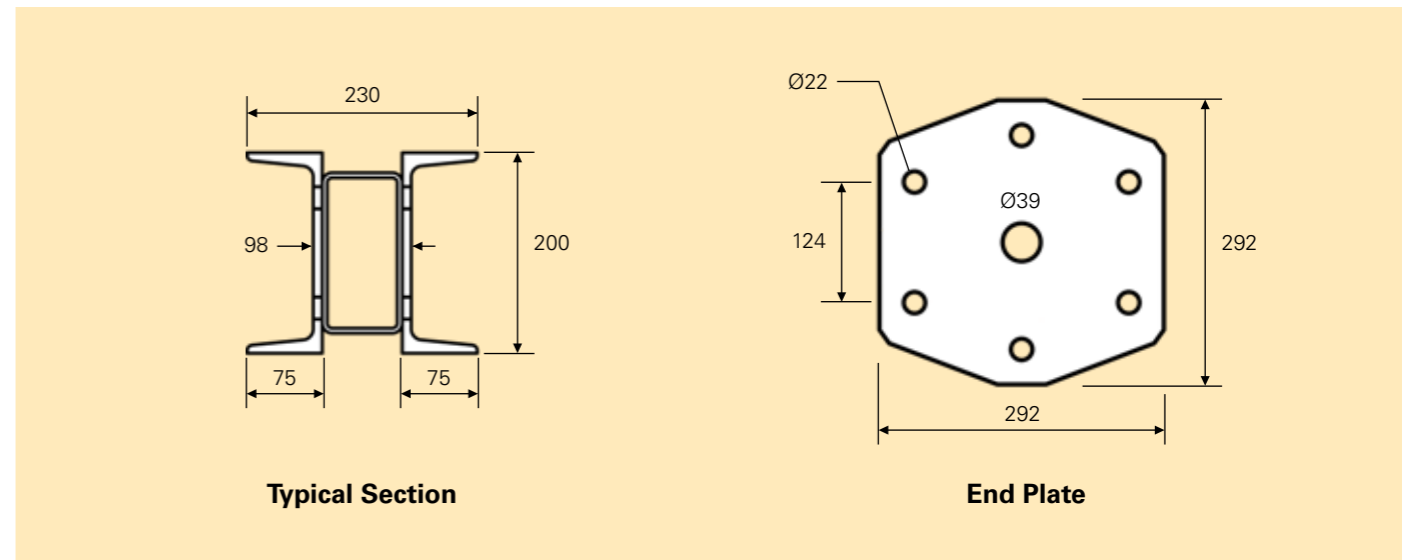
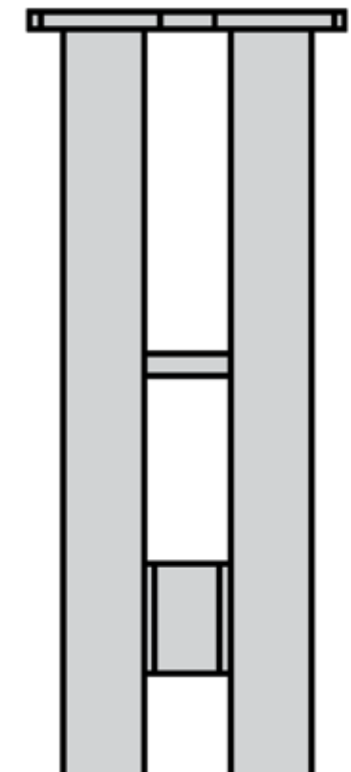
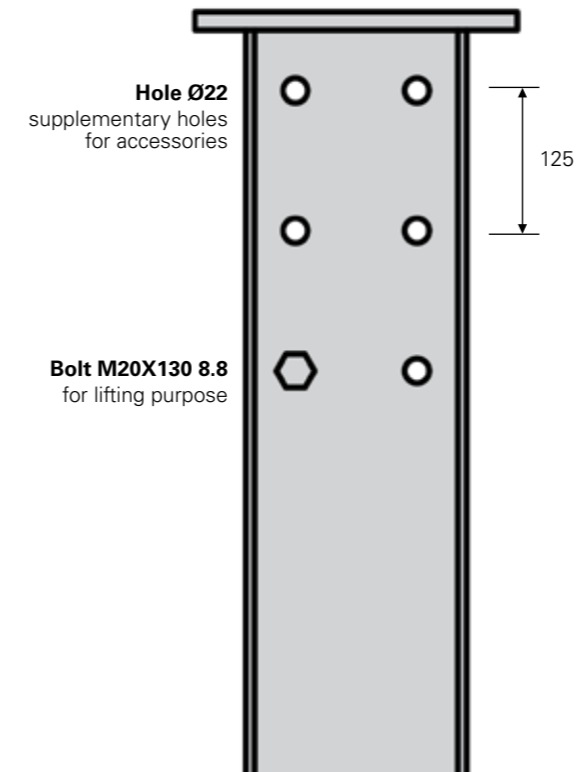


Heavy Duty Shoring Tower Applications

HDS Standard Details

Pre-cast bridge construction

HDS is highly suitable for the construction of pre-cast segmental bridges. The system increases site efficiency compared to conventional solutions - especially for heights of 15m and above.



HDS Standard Properties

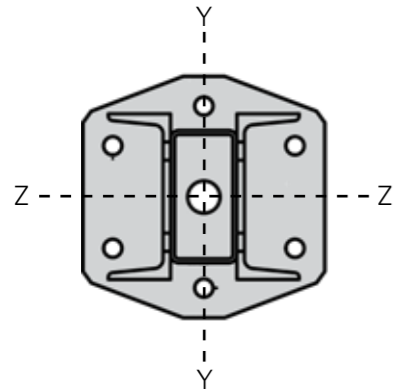


Table of Properties
HDS Standard

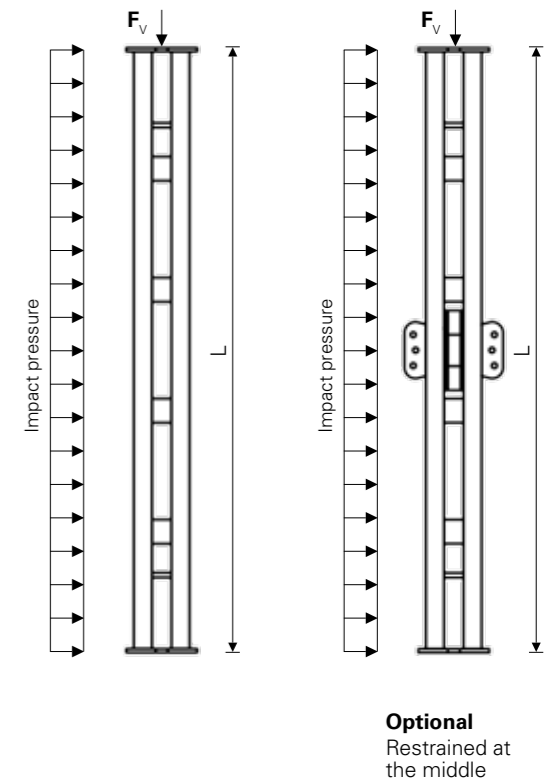
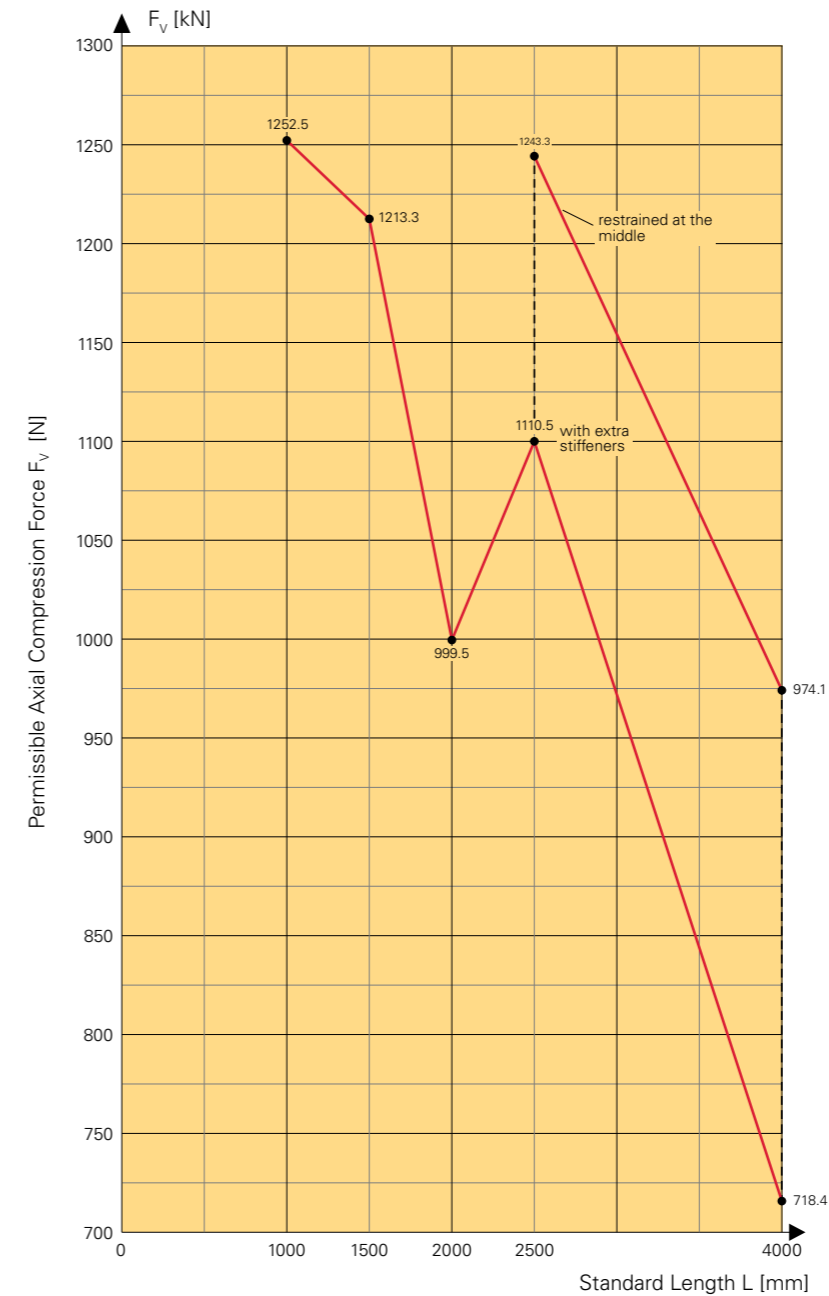
Standard Lengths	L [m]	1.00	1.50	2.00	2.50	4.00	2.50+	4.00+
Surface Area	A [cm ²]	65.670	65.670	65.670	65.670	65.670	65.670	65.670
Moment of inertia, yy	I _{yy} [cm ⁴]	1553.0	1817.0	1915.0	2101.0	2117.0	1612.0	1686.0
Moment of inertia, zz	I _{zz} [cm ⁴]	3820.0	3820.0	3820.0	3820.0	3820.0	3820.0	3820.0
Elastic Modulus, yy	Z _{yy} [cm ³]	135.00	158.00	167.00	183.00	184.00	140.00	147.00
Elastic Modulus, zz	Z _{zz} [cm ³]	382.00	382.00	382.00	382.00	382.00	382.00	382.00

Note:
2.50+ and 4.00+ refers to HDS STANDARD 2500 and 4000 with restraint at the middle.



HDS Standard Design Tables

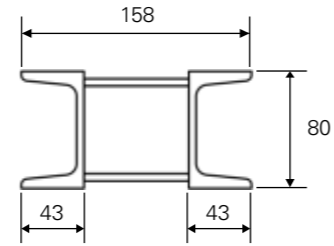
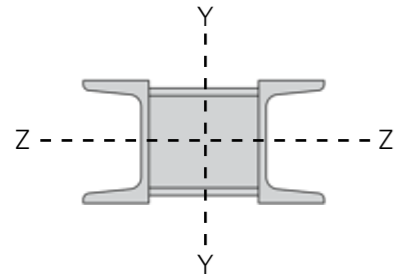
Permissible leg load
HDS Standard 1000 - 4000



Note:
The permissible axial compression force F_v is considered with impact pressure at 3.0kN/m². This graph indicates the capacity of individual members only. Separate verification of HDS tower and connections is required!

HDS Ledger

Details & Properties



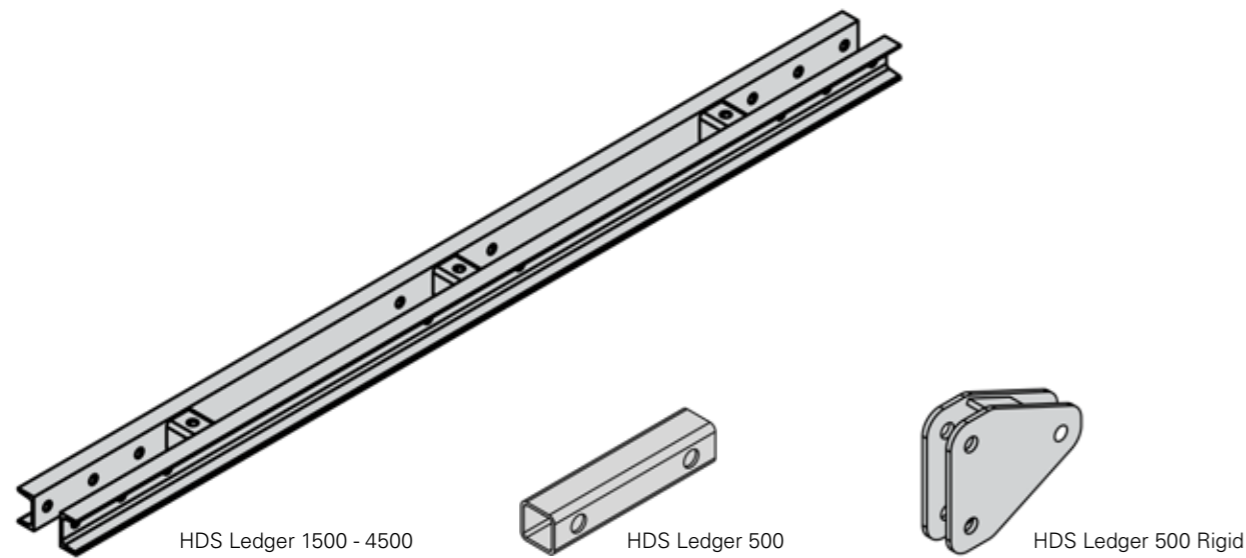
Typical Section

Table of Properties

HDS Ledger

Ledger Lengths	L [m]	0.50	1.50	2.00	2.50	3.00	3.50	4.00	4.50
Surface Area	A [cm ²]	6.950	20.500	20.500	20.500	20.500	20.500	20.500	20.500
Moment of inertia, yy	I _{yy} [cm ⁴]	23.730	457.00	481.00	435.00	383.00	521.00	466.00	496.00
Moment of inertia, zz	I _{zz} [cm ⁴]	23.730	202.00	202.00	202.00	202.00	202.00	202.00	202.00
Elastic Modulus yy	Z _{yy} [cm ³]	9.492	58.000	61.000	55.000	48.000	66.000	59.000	63.000
Elastic Modulus zz	Z _{zz} [cm ³]	9.492	50.500	50.500	50.500	50.500	50.500	50.500	50.500

Note:
This table indicates the capacity of individual member only. Separate verification of HDS tower and connections is required!

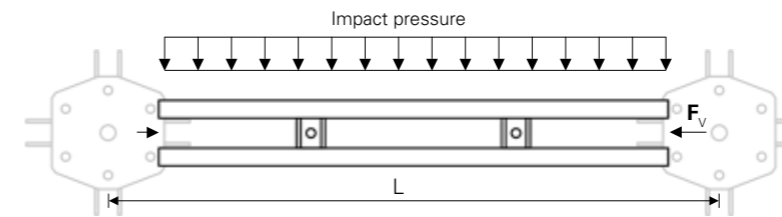
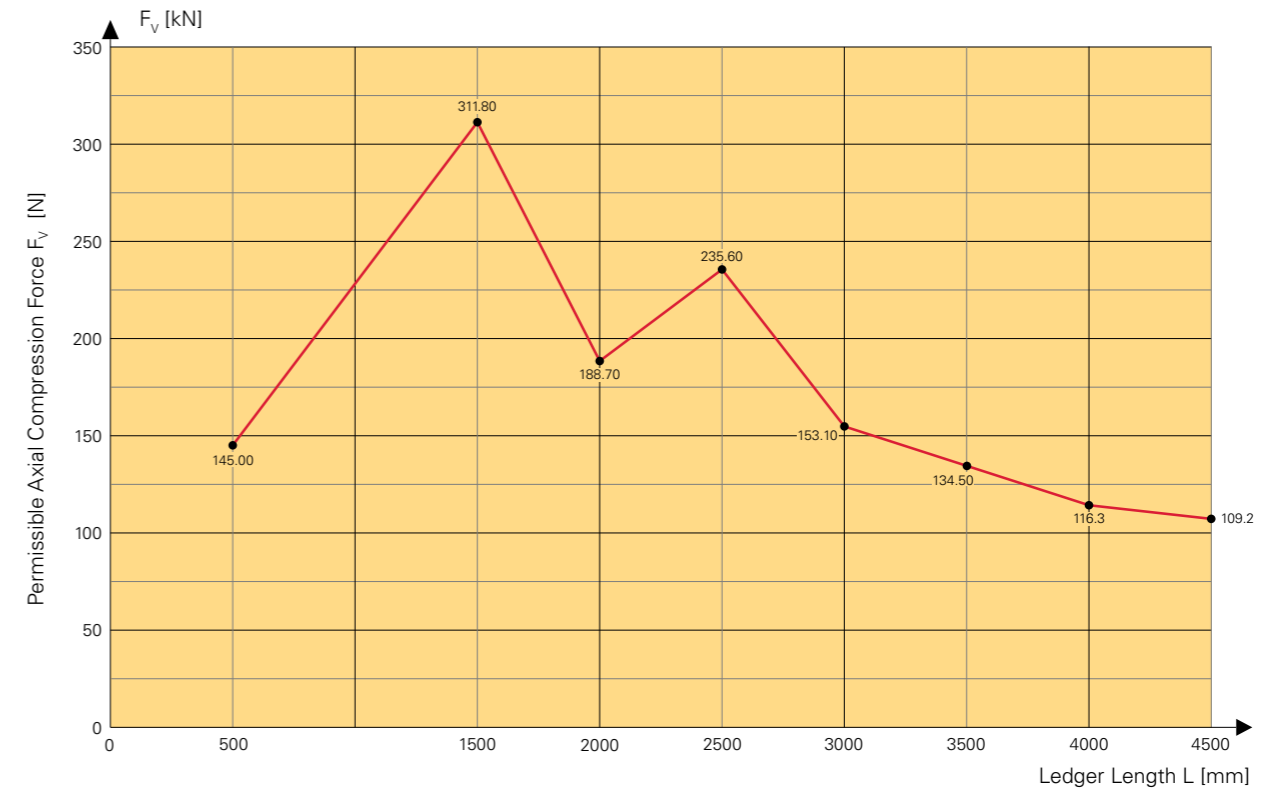


HDS Ledger

Design Tables

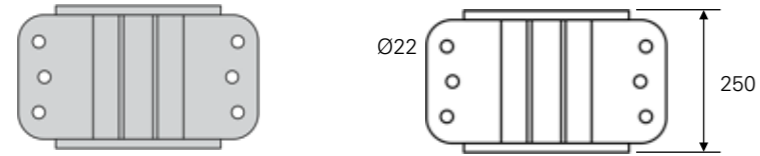
Permissible load

HDS Ledger 500 - 4500



Note:
The permissible axial compression force F_V is considered with impact pressure at 3.0kN/m². This graph indicates the capacity of individual members only. The axial compression force is the limiting factor in typical applications. The permissible axial tension force is therefore not stated. Separate verification of HDS tower and connections is required!

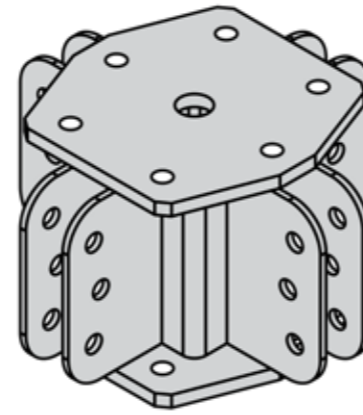
HDS Connector Details & Properties



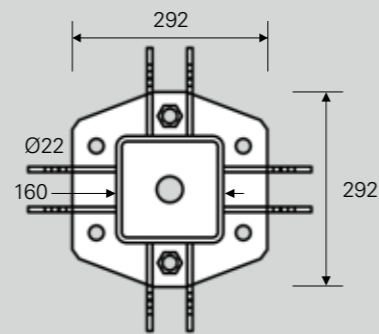
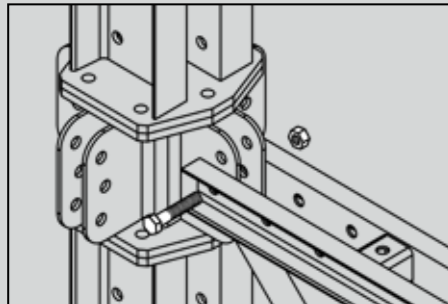
Connection Capacity HDS Ledger-to-Connector

Ledger	HDS Ledger 1500 - 4500		HDS Ledger 500	
	BOLT M20X110 10.9	PIN 21X120	BOLT M20X110 10.9	PIN 21X120
Perm. load [kN]	69.20	74.00	45.00	53.00

Notes:
Separate verification of HDS tower and connections is required!

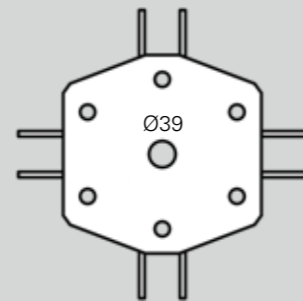
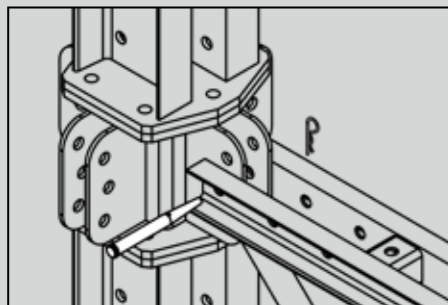


Bolt Connection



Typical Section

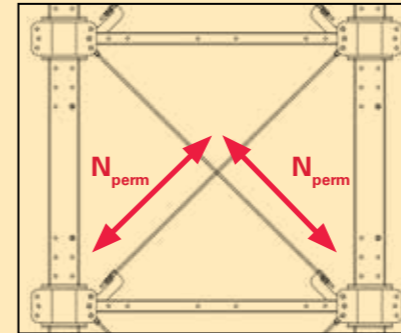
Pin Connection



End Plate

HDS Bracings Details & Properties

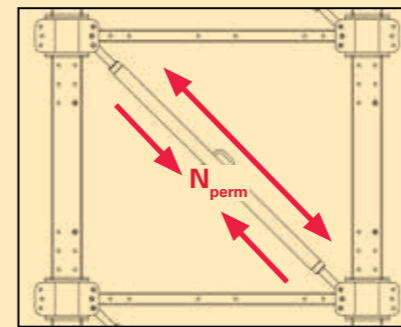
HDS Bracings Details



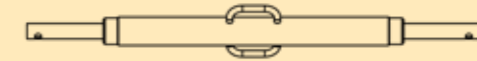
- Tension only diagonal bracing
- Cost reduction by realizing local fabrications
- RCS bracings can be used as substitution



SLS Spindle Bracings Details



- Tension & compression diagonal bracing
- See PERI Design Tables for verifications



Permissible Axial Tension Force

HDS Bracing

Bracing Unit	HDS Bracing Nut	HDS Bracing Hook	HDS Brace
Perm. load N_{perm} [kN]	90	90	90

RCS Bracing

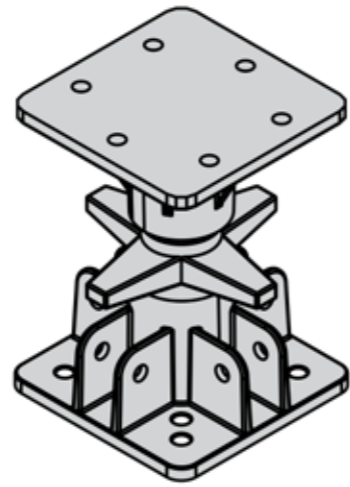
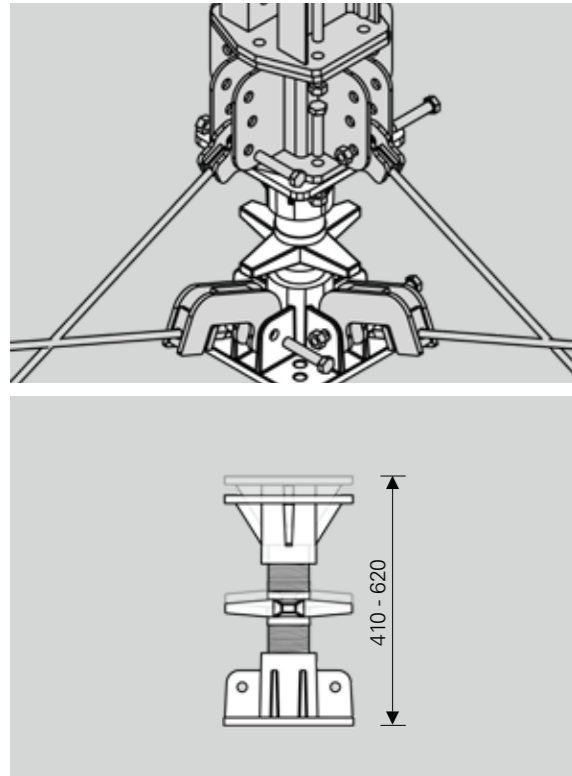
Bracing Unit	Eye Nut RCS	Articulated Spanner RCS	DW15 Tie-rod
Perm. load N_{perm} [kN]	90	90	90

Notes:
Separate verification of HDS tower and connections is required!

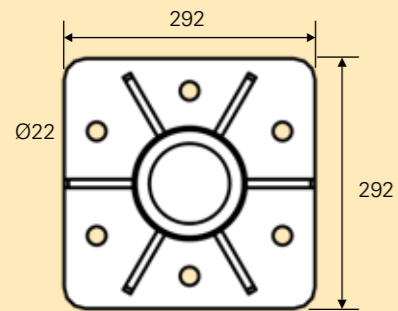
Connection Capacity HDS Bracing-to-Connector

Bracing	HDS Bracing Nut	HDS Bracing Hook	SLS Spindles	SLS Spindles	Eye Nut RCS	Articulated Spanner RCS
Connection Type	BOLT M20X110 10.9	BOLT M20X110 10.9	BOLT M20X110 10.9	PIN 21X120	PIN 21X120	PIN 21X120
Perm. load N_{perm} [kN]	90.0	90.0	70.0	74.0	90.0	90.0

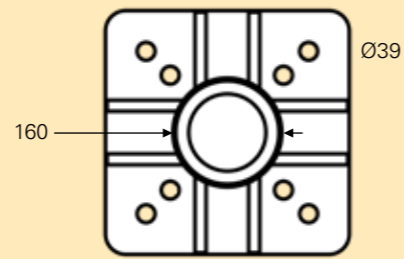
HDS Screw Jack Details



- Adjustable Jack height simplifies striking process
- Vertical load-bearing capacity of 1,000kN per Jack
- Brace connectors to fix bracing for high horizontal loads
- Extension between 410 - 620mm

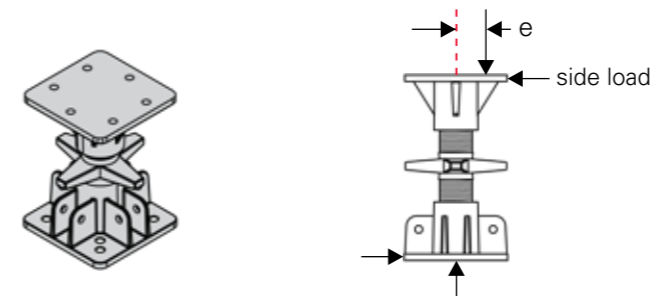


Typical Top Section



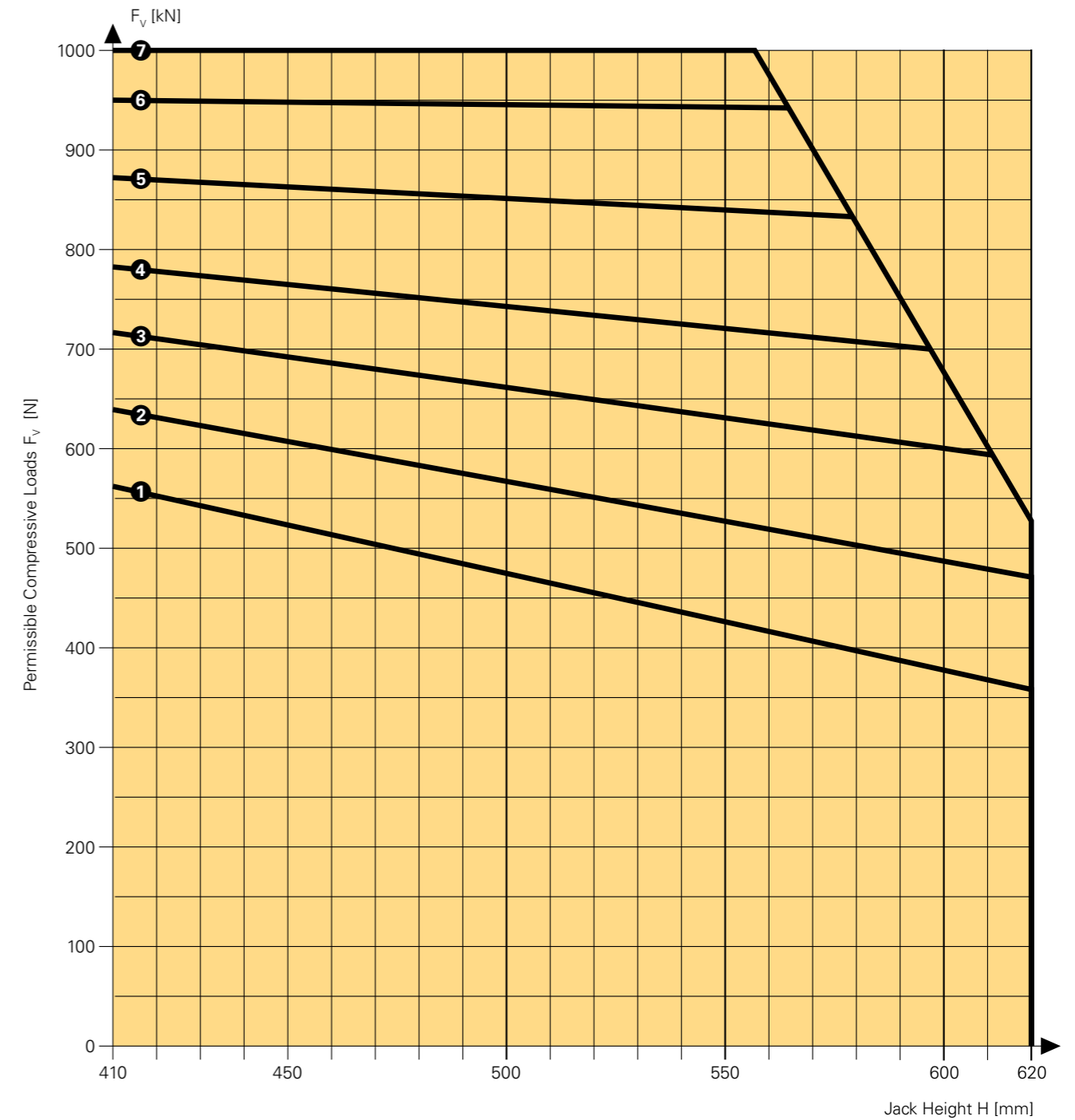
Typical Bottom Section

HDS Screw Jack Design Table

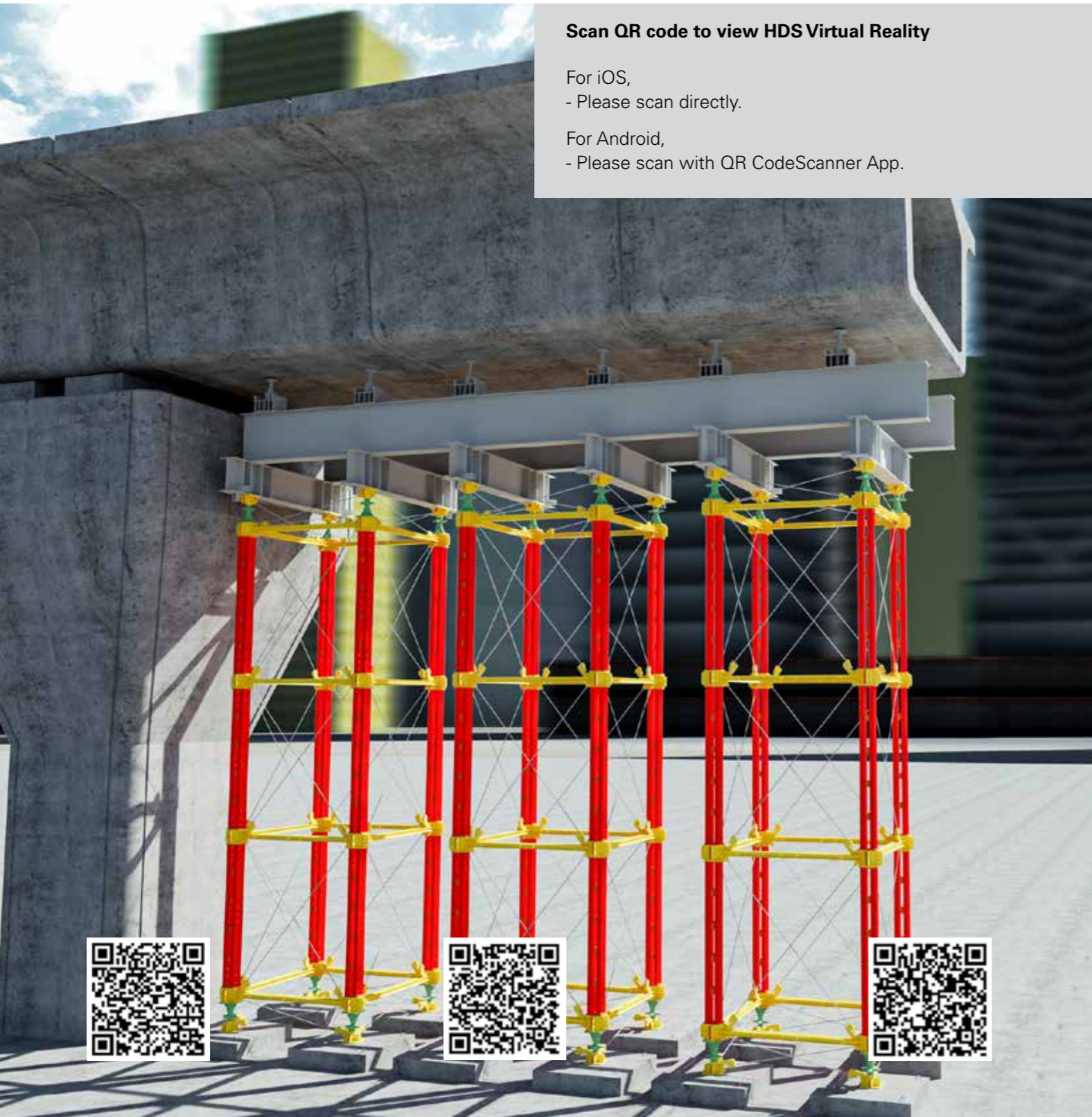


Eccentric loads at top e and side load

- ❶ e = 10mm; side load = 50 kN
- ❷ e = 10mm; side load = 40 kN
- ❸ e = 10mm; side load = 30 kN
- ❹ e = 10mm; side load = 20 kN
- ❺ e = 10mm; side load = 10 kN
- ❻ e = 10mm; side load = 0 kN
- ❼ e = 0mm; side load = 0 kN



Heavy Duty Shoring Tower Virtual Reality

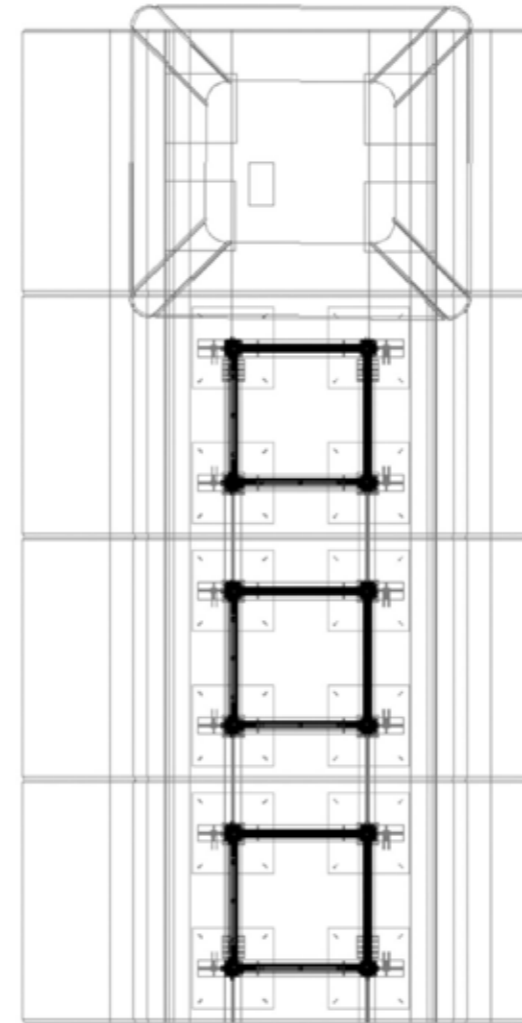


Scan QR code to view HDS Virtual Reality

For iOS,
- Please scan directly.

For Android,
- Please scan with QR CodeScanner App.

Heavy Duty Shoring Tower Augmented Reality



Blueprint mode

Please open the AUGMENTECTURE app on
your mobile phone and scan the QR Code:



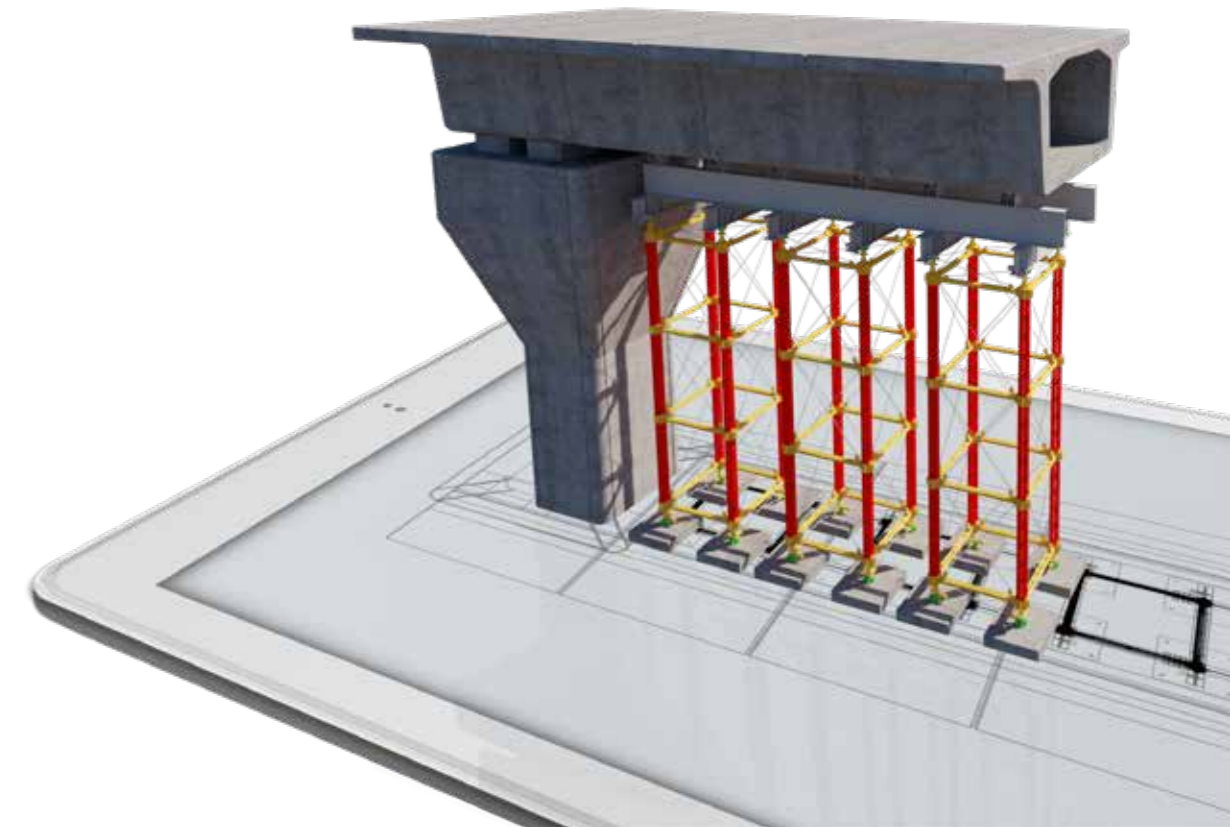
If you do not have the AUGMENTECTURE app installed,
please scan the QR code for app installation:



iOS



Android



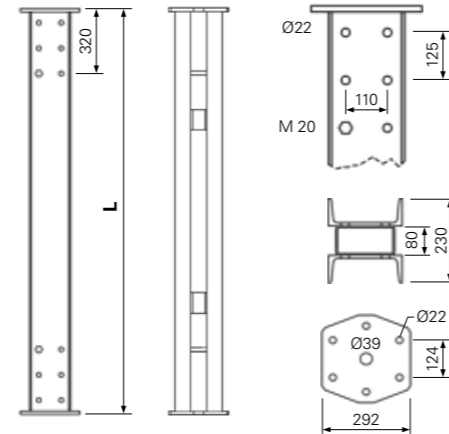
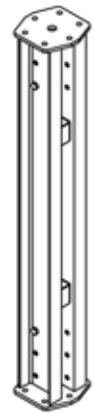
HDS Shoring Towers



Item no.	Weight kg	HDS Standards	L
200588	74.000	HDS Standard 1000	1000
200589	101.500	HDS Standard 1500	1500
200590	127.300	HDS Standard 2000	2000
200591	153.100	HDS Standard 2500	2500
200592	234.100	HDS Standard 4000	4000

Note

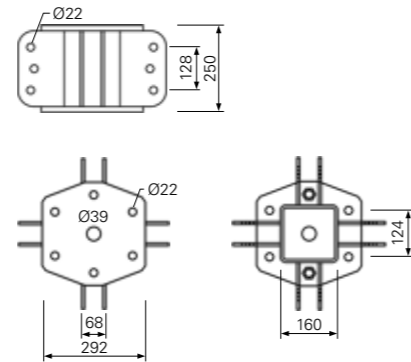
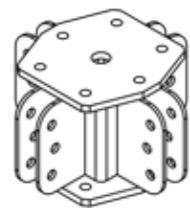
Bolts are needed for connecting accessories:
 2 pc. 200266 M20 x 130 Hex Bolt-8.8
 2 pc. 200268 M20 Nut



200585	40.100	HDS Connector
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Note

For rigid connection of HDS standards.

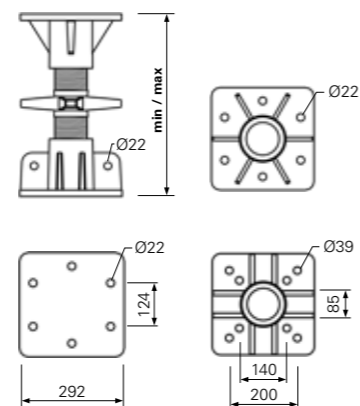
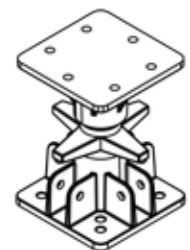


200608	71.980	HDS Screw Jack	min. L	max. L
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410 620

Note

For top and bottom connections with adjustable leveling. Maximum load capacity 1,000 kN.



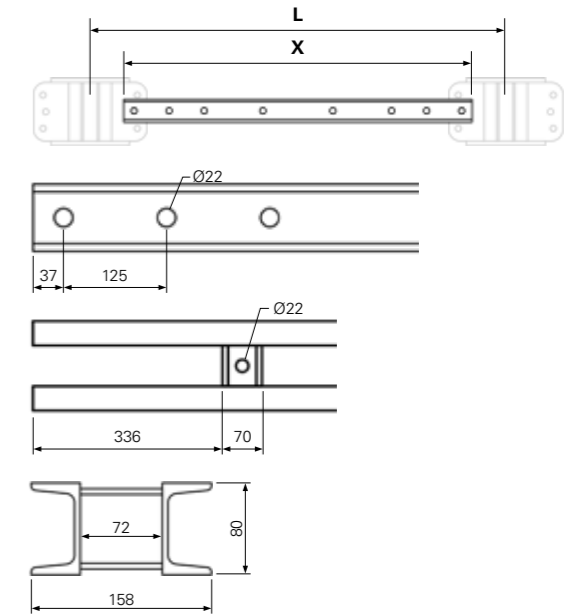
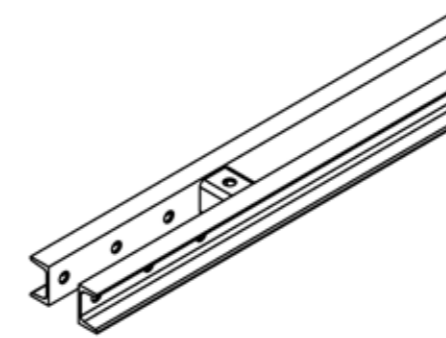
HDS Shoring Towers



Item no.	Weight kg	HDS Ledgers	X	L
200595	21.420	HDS Ledger 1500	1242	1500
200596	29.480	HDS Ledger 2000	1742	2000
200597	38.240	HDS Ledger 2500	2242	2500
200598	46.300	HDS Ledger 3000	2742	3000
200599	55.100	HDS Ledger 3500	3242	3500
200600	63.100	HDS Ledger 4000	3742	4000
200601	72.660	HDS Ledger 4500	4242	4500

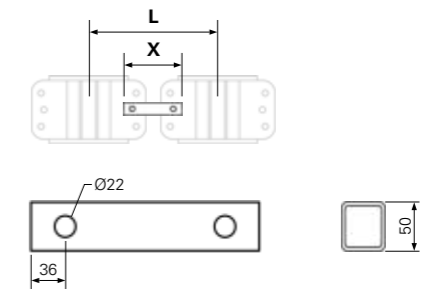
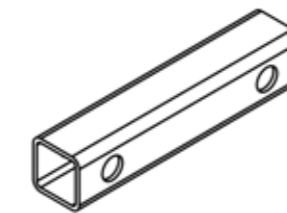
Note

All lengths below 80.00kg and thus man-handlable.



200594	1.640	HDS Ledger 500	X	L
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240 500



HDS Shoring Towers



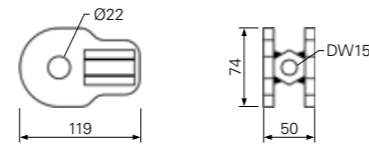
Item no. Weight kg

200271 1.400 **HDS Bracing Nut**



Note

As an articulated connection to the HDS Connector, Screw Jack or Standard for bracing with tie-rods DW15.

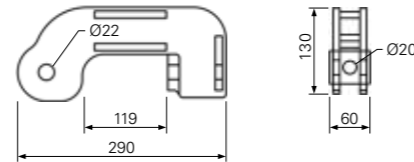


200272 5.000 **HDS Bracing Hook**

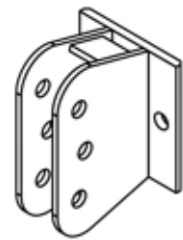


Note

For tensioning and as an articulated connection to the HDS Connector, Screw Jack or Standard for bracing with tie-rods DW15.

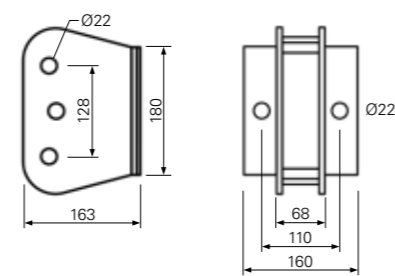


200603 7.000 **HDS Flange Connector**

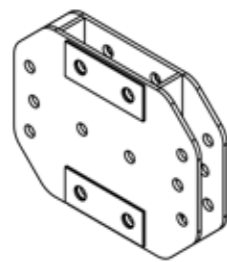


Note

For optional restraining HDS Standard 2500 & 4000 at the middle with a ledger.

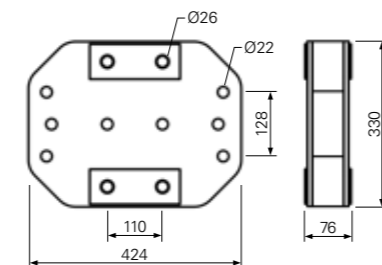


200602 18.500 **HDS Web Connector**



Note

For optional restraining HDS Standard 2500 & 4000 at the middle with ledger.



HDS Shoring Towers



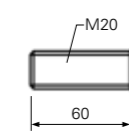
Item no. Weight kg

200607 3.860 **CSK Bolt M20 x 60-8.8**

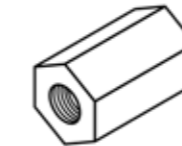


Note

High-strength bolt for HDS Base Plate and HDS Centric Plate.

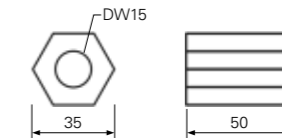


200273 0.230 **HDS Fixing Nut**

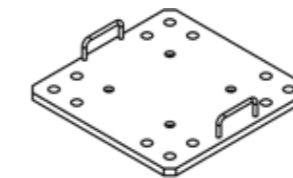


Note

For anchoring with diagonal braces.

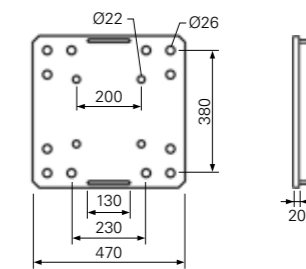


200604 34.900 **HDS Base Plate**



Note

For easy installation of post-drilled anchors, optional.

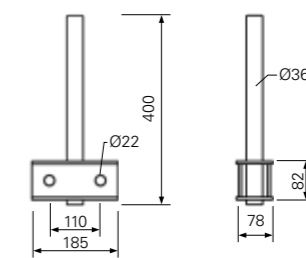


200606 3.510 **HDS Centric Bar**



Note

For easy erection of HDS towers, optional.

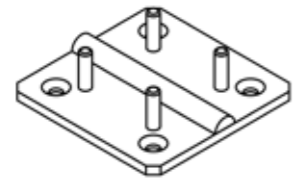


HDS Shoring Towers



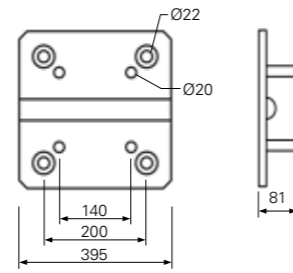
Item no. Weight kg

200605 13.020 **HDS Centric Plate**

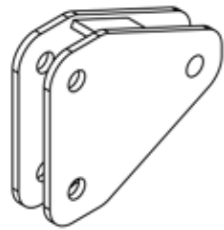


Note

For removing eccentric loads applied to HDS Screw Jack, optional.

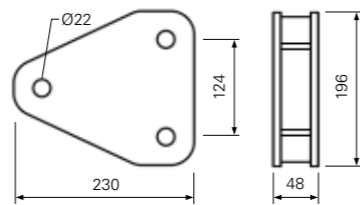


200709 4.400 **HDS Ledger 500 Rigid**

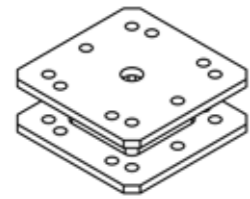


Note

For rigidly connecting HDS tower element without diagonal bracings, for crane-lifting.

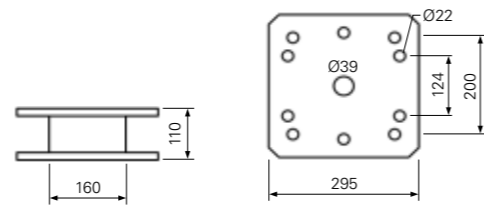


200586 24.700 **HDS Standard 110**

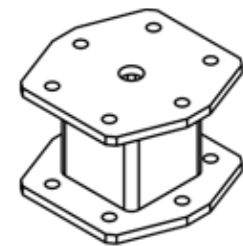


Note

For extending HDS Standard and attaching HDS Connector to VST Screw Jack.

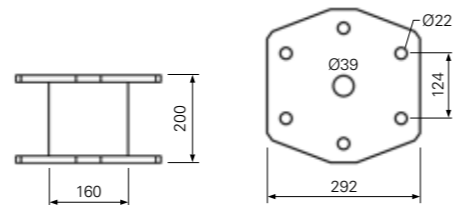


200587 29.380 **HDS Standard 200**



Note

For extending HDS Standard.

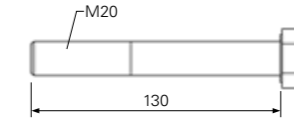
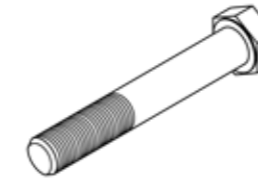


HDS Shoring Towers

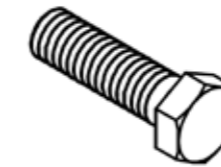


Item no. Weight kg

200055 0.36 **M20 x 130 Hex Bolt-8.8**



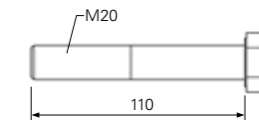
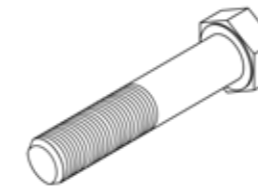
200032 0.23 **M20 x 60 Hex Bolt-8.8**



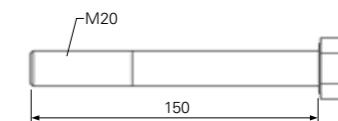
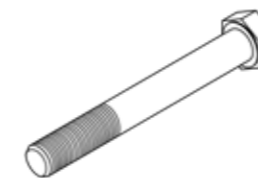
200035 0.065 **M20 Nut**



200710 0.328 **M20 x 110 Hex Bolt-10.9**



200442 0.420 **M20 x 150 Hex Bolt-8.8**



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