

RAPTOR MAXI

REUSABLE 2006/42/CE

LARGE RIGGING DEVICE FOR TIMBER ELEMENTS

VARIABLE LOAD CAPACITY DUE TO VARIABLE NUMBER OF SCREWS

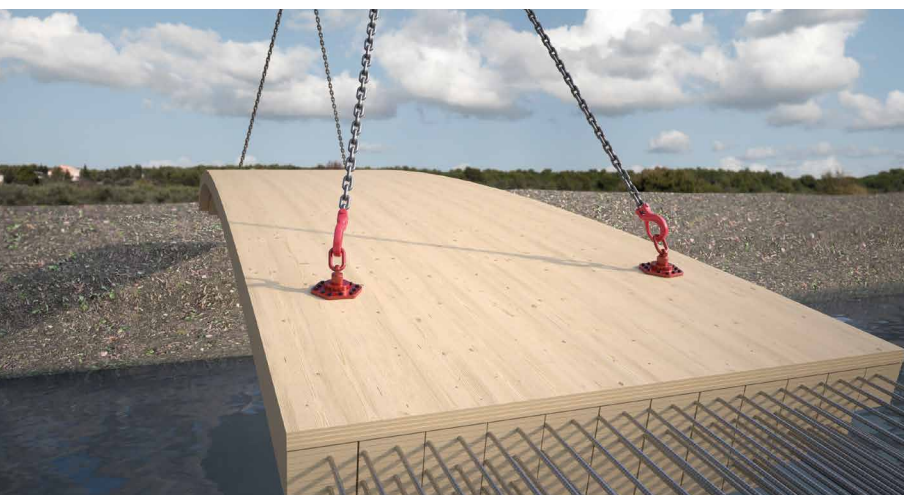
The lifting plate allows effective load management thanks to the possibility for fastening with 4, 6, 8, 10 or 12 screws – ideal for heavy components and high safety requirements.

SELF-ALIGNING HOOK

The integrated lifting hook is rotatable, allowing attachment from any direction without the need for alignment – for efficient and safe on-site handling.

CERTIFIED

Lifting plate certified in accordance with the Machinery Directive 2006/42/EC for tensile loads of up to 8.0 tonnes and shear loads of up to 4.0 tonnes.



FIELDS OF USE

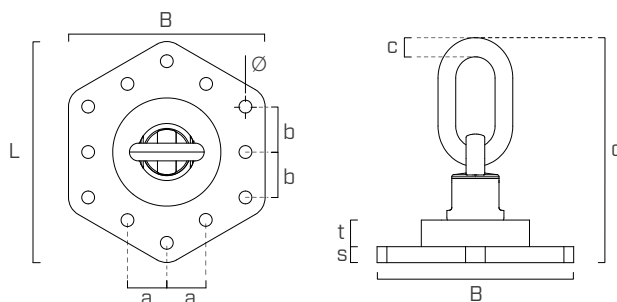
- Heavy prefabricated modules
- Large CLT and hybrid (timber-concrete) floor panels
- Large timber beams
- Heavy special timber constructions

CODE

CODE	plate sizes	max. capacity		suitable screws	pcs
RAPMAXI	200 x 225 mm			VGS PLATE Ø11 mm	1
		≤ 8000 kg	≤ 4000 kg	HBS PLATE Ø10 mm	
				VGS Ø11 mm (+ HUS10)	

DIMENSIONS

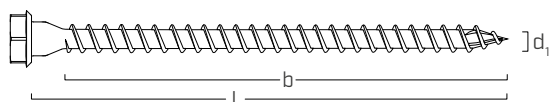
CODE	B	L	s	t	Ø	a	b	c	d
	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
RAPMAXI	200	225	15	20	13	46	46,2	20	237



COMPATIBLE SCREWS

VGS PLATE

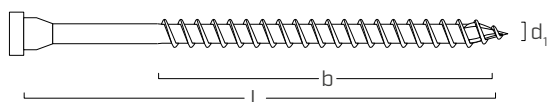
pan head screw for lifting



d ₁	CODE	L	b	pcs
[mm]		[mm]	[mm]	
11 SW 17 TX 50	VGSPL1160	60	50	25
	VGSPL1180	80	70	25
	VGSPL11100	100	90	25
	VGSPL11120	120	110	25
	VGSPL11140	140	130	25
	VGSPL11160	160	150	25
	VGSPL11180	180	170	25
	VGSPL11200	200	190	25
	VGSPL11240	240	230	25
	VGSPL11280	280	270	25

HBS PLATE - HBS PLATE EVO

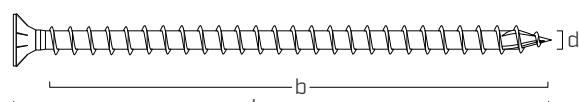
pan head screw for plates



d ₁	CODE	L	b	pcs
[mm]		[mm]	[mm]	
10 TX 40	HBSPLEVO1060	60	52	50
	HBSPL1080	80	60	50
	HBSPL10100	100	75	50
	HBSPL10120	120	95	50
	HBSPL10140	140	110	50
	HBSPL10160	160	130	50
	HBSPL10180	180	150	50

VGS

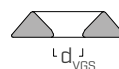
full thread screw with countersunk head



d ₁	CODE	L	b	pcs
[mm]		[mm]	[mm]	
11 TX 50	VGS1180	80	70	25
	VGS11100	100	90	25
	VGS11125	125	115	25
	VGS11150	150	140	25
	VGS11175	175	165	25
	VGS11200	200	190	25
	VGS11225	225	215	25
	VGS11250	250	240	25
	VGS11275	275	265	25
	VGS11300	300	290	25
	VGS11325	325	315	25
	VGS11350	350	340	25
	VGS11375	375	365	25
	VGS11400	400	390	25

The VGS screw can only be installed in combination with HUS washer.

HUS - turned washer

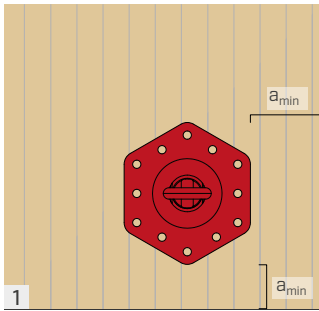


CODE	d _{VGS}	pcs
	[mm]	
HUS10	11	50

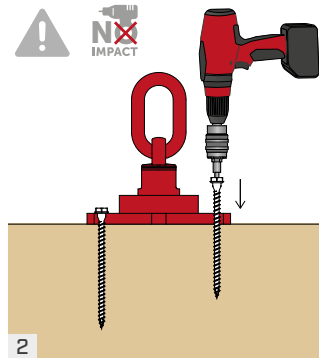
RAPTOR MAXI INSTALLATION



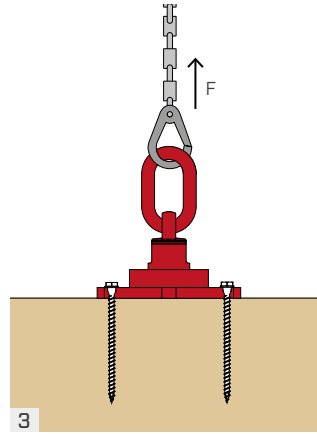
HB SPL Ø10 $M_{ins,max} = 35 \text{ Nm}$
VGS | VGSPL Ø11 $M_{ins,max} = 40 \text{ Nm}$



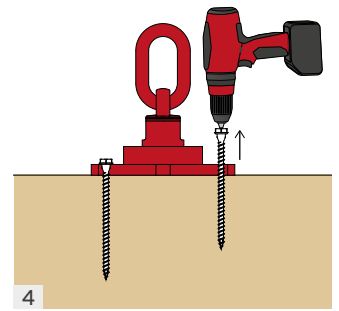
Read the instructions for use carefully and follow the directions. The positioning of the plate on the timber element must comply with the minimum recommended distances.



Length and quantity of screws depend on the application and the weight of the element to be moved. It is recommended to tighten them in accordance with the tightening torques indicated in the relevant installation instructions.

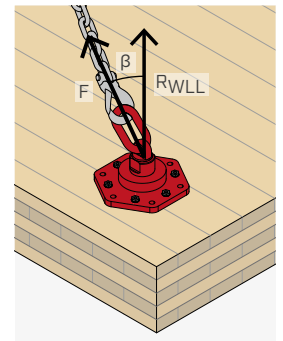
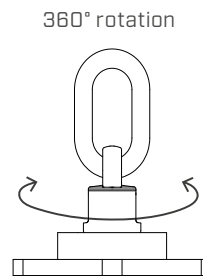
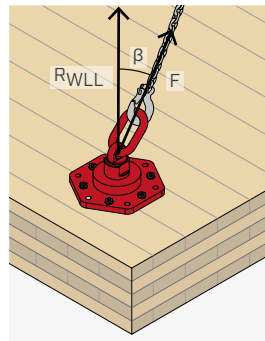
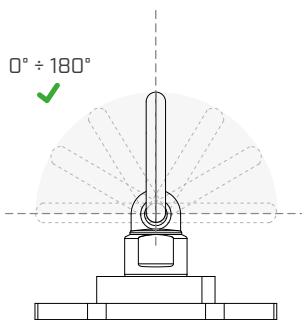


Connect the crane hook and carefully lift the element. Be careful at the corners and about the allowed lifting directions and corresponding maximum lifting capacities.



When lifting is complete, remove the screws and dispose of them. They can be used for a single lifting operation, except the VGS PL, which is reusable for transport under specific conditions. See the instructions.

LOAD DIRECTIONS ALLOWED



POSSIBLE LAYOUT OF SCREWS

Only the symmetrical screw configurations shown below are permitted. In the case of partial fastening, the load values specified in the tables refer to the number of screws used, regardless of the configuration selected and the direction of the load relative to the screws.

4 screws	6 screws	8 screws	10 screws	12 screws

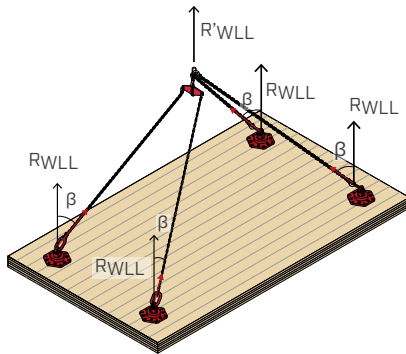
NOTES:

- The RAPTOR MAXI plate must be fixed with homogeneous connectors, same type (HBS PLATE, VGS PLATE or VGS) of the same length. The same configuration must be replicated on all plates used on the element to be moved.

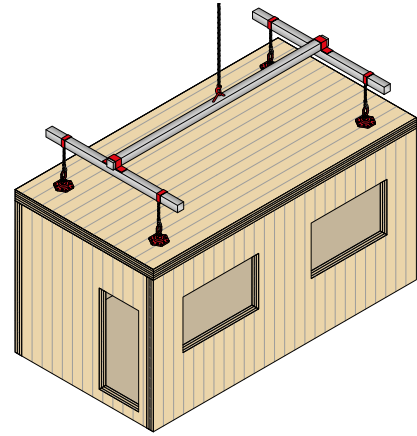
APPLICATION EXAMPLES

To consult the detailed technical tables with load values for different applications, visit the dedicated section on the official Rothoblaas website: www.rothoblaas.com.

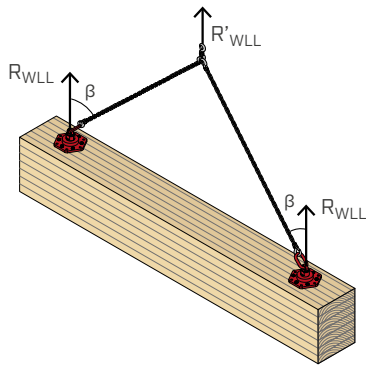
VERTICAL CLT PANEL



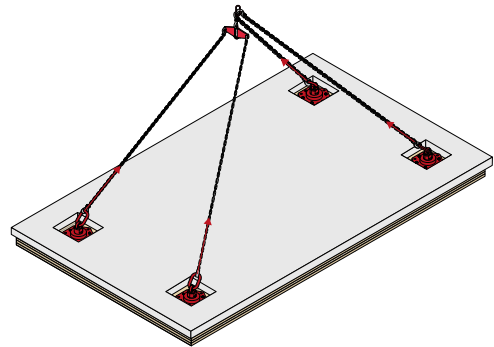
PREFABRICATED MODULAR CONSTRUCTIONS



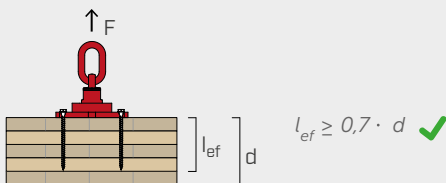
HORIZONTAL BEAM



TIMBER-CONCRETE COMPOSITE STRUCTURES ⁽¹⁾



INFLUENCE OF THE RATIO OF SCREW LENGTH TO THE ELEMENT THICKNESS

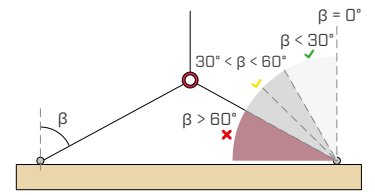
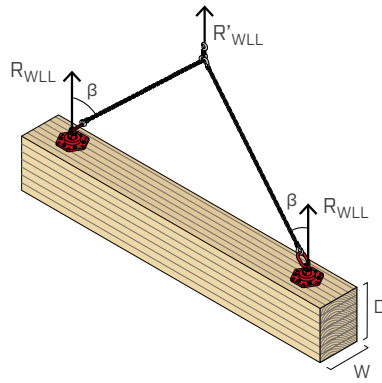


For lifting applications with the load component perpendicular to the timber grain, in order to reach the maximum capacity of the lifting system, it is recommended to use screws longer than $0.7 \cdot d$ (d = depth of the timber element) to avoid cracking. In the event that the ratio is not fulfilled, brittle fracture checks can be carried out according to DIN EN 1995-1-1/NA.

NOTES:

⁽¹⁾ The lifting plate must only be fixed to timber surfaces.

LOAD VALUES | HORIZONTAL BEAM



TOTAL RIGGING CAPACITY CALCULATION

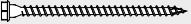
$$R'_{WLL} = R_{WLL} \cdot n$$

R'_{WLL} = total system rigging capacity.

R_{WLL} = reference rigging capacity for a single anchor system (provided in the tables).

n = number of completely load-bearing anchor systems.

MAXIMUM CAPACITY PER ANCHOR POINT WITH VGS PLATE SCREWS

CODE VGS PLATE screw d x L [mm]	no. of screws 	capacity R_{WLL} [kg]			
		$\beta = 0^\circ$ 	$0^\circ < \beta \leq 30^\circ$ 	$30^\circ < \beta \leq 45^\circ$ 	$45^\circ < \beta \leq 60^\circ$ 
VGSPL1160 11 x 60	4	550	405	290	185
	6	795	595	430	275
	8	1035	760	550	350
	10	1265	960	710	460
	12	1490	1155	865	565
VGSPL1180 11 x 80	4	800	575	410	260
	6	1150	845	605	385
	8	1495	1080	775	495
	10	1825	1370	1000	645
	12	2150	1645	1215	790
VGSPL11100 11 x 100	4	1045	735	515	325
	6	1505	1080	770	490
	8	1955	1390	985	625
	10	2385	1755	1265	810
	12	2815	2110	1540	995
VGSPL11120 11 x 120	4	1290	880	610	380
	6	1860	1295	910	570
	8	2415	1670	1170	735
	10	2950	2110	1500	950
	12	3475	2535	1820	1165
VGSPL11140 11 x 140	4	1540	1020	700	435
	6	2215	1500	1040	650
	8	2875	1935	1340	835
	10	3510	2445	1715	1080
	12	4140	2940	2080	1320
VGSPL11160 11 x 160	4	1785	1150	780	480
	6	2570	1700	1165	720
	8	3335	2195	1500	930
	10	4075	2765	1920	1200
	12	4800	3330	2330	1465
VGSPL11180 11 x 180	4	2030	1280	860	530
	6	2925	1890	1280	790
	8	3795	2445	1660	1025
	10	4635	3080	2115	1315
	12	5465	3705	2565	1605
VGSPL11200 11 x 200	4	2280	1405	935	575
	6	3280	2075	1395	860
	8	4255	2685	1810	1115
	10	5200	3385	2305	1430
	12	6125	4070	2795	1740
VGSPL11240 11 x 240	4	2770	1645	1085	660
	6	3990	2430	1615	990
	8	5175	3155	2100	1285
	10	6325	3975	2675	1645
	12	7450	4750	3215	1980
VGSPL11280 11 x 280	4	3265	1875	1225	745
	6	4700	2775	1830	1115
	8	6095	3610	2380	1450
	10	7450	4545	3025	1850
	12	8000	5215	3560	2205

β = lifting angle

LOAD VALUES | HORIZONTAL BEAM

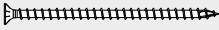
MAXIMUM CAPACITY PER ANCHOR POINT WITH HBS PLATE SCREWS

CODE HBS PLATE screw/ HBS PLATE EVO d x L [mm]	no. of screws 	capacity R _{WLL} [kg]			
		$\beta = 0^\circ$ 	$0^\circ < \beta \leq 30^\circ$ 	$30^\circ < \beta \leq 45^\circ$ 	$45^\circ < \beta \leq 60^\circ$ 
HBSPLEVO1060 10 x 60	4	500	370	265	170
	6	725	540	395	255
	8	940	695	500	320
	10	1150	875	650	420
	12	1355	1055	790	520
HBSPL1080 10 x 80	4	670	485	350	220
	6	965	715	520	335
	8	1250	920	660	425
	10	1530	1160	855	550
	12	1805	1395	1040	680
HBSPL10100 10 x 100	4	840	600	430	270
	6	1210	885	640	405
	8	1565	1135	815	520
	10	1915	1435	1050	675
	12	2255	1730	1280	830
HBSPL10120 10 x 120	4	1060	740	520	325
	6	1530	1090	770	490
	8	1985	1400	990	625
	10	2425	1770	1270	810
	12	2860	2130	1550	995
HBSPL10140 10 x 140	4	1230	840	585	365
	6	1775	1235	865	545
	8	2300	1590	1115	700
	10	2810	2010	1430	905
	12	3310	2415	1735	1110
HBSPL10160 10 x 160	4	1455	965	660	410
	6	2095	1420	985	615
	8	2715	1835	1270	790
	10	3320	2315	1625	1025
	12	3915	2785	1975	1250
HBSPL10180 10 x 180	4	1680	1085	740	455
	6	2420	1600	1100	680
	8	3135	2070	1420	880
	10	3830	2610	1815	1135
	12	4515	3140	2200	1385

β = lifting angle

LOAD VALUES | HORIZONTAL BEAM

MAXIMUM CAPACITY PER ANCHOR POINT WITH **VGS** SCREWS

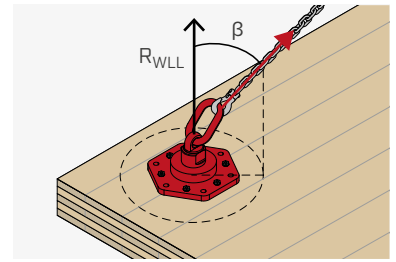
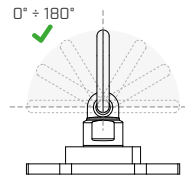
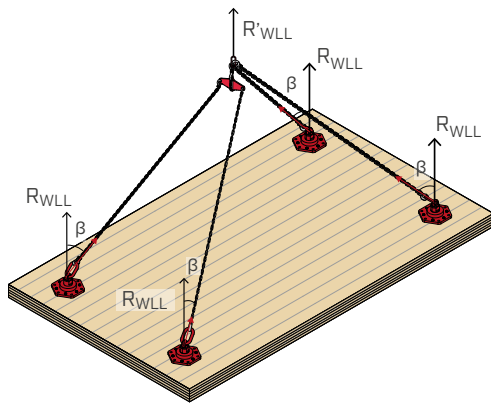
CODE VGS + HUS screws d x L [mm]	no. of screws 	capacity R _{WLL} [kg]			
		$\beta = 0^\circ$ 	$0^\circ < \beta \leq 30^\circ$ 	$30^\circ < \beta \leq 45^\circ$ 	$45^\circ < \beta \leq 60^\circ$ 
VGS1180 11 x 80	4	700	505	360	225
	6	1010	740	530	340
	8	1310	950	680	430
	10	1600	1200	875	565
	12	1885	1445	1065	695
VGS11100 11 x 100	4	945	670	475	300
	6	1365	985	705	450
	8	1770	1270	905	575
	10	2160	1605	1160	745
	12	2550	1930	1415	915
VGS11125 11 x 125	4	1255	860	595	375
	6	1810	1265	890	560
	8	2345	1630	1140	715
	10	2865	2055	1465	930
	12	3375	2475	1780	1140
VGS11150 11 x 150	4	1565	1030	705	440
	6	2250	1520	1050	655
	8	2920	1965	1355	845
	10	3570	2475	1735	1090
	12	4205	2980	2110	1335
VGS11175 11 x 175	4	1870	1195	810	500
	6	2695	1765	1205	745
	8	3495	2280	1555	965
	10	4270	2880	1990	1240
	12	5035	3460	2415	1515
VGS11200 11 x 200	4	2180	1355	905	555
	6	3140	2000	1350	830
	8	4070	2590	1750	1080
	10	4975	3265	2230	1385
	12	5860	3925	2705	1685
VGS11225 11 x 225	4	2485	1505	1000	610
	6	3585	2225	1490	915
	8	4645	2890	1935	1185
	10	5675	3640	2465	1520
	12	6690	4365	2980	1845
VGS11250 11 x 250	4	2795	1655	1090	665
	6	4030	2450	1630	995
	8	5220	3180	2115	1295
	10	6380	4005	2690	1655
	12	7520	4785	3235	1995
VGS11275 11 x 275	4	3105	1800	1180	715
	6	4470	2665	1760	1075
	8	5795	3465	2290	1395
	10	7085	4360	2910	1785
	12	8000	5110	3455	2130
VGS11300 11 x 300	4	3370	1925	1255	760
	6	4855	2850	1875	1140
	8	6290	3705	2440	1485
	10	7690	4665	3100	1895
	12	8000	5235	3575	2215
VGS11325 11 x 325	4	3370	1925	1255	760
	6	4855	2850	1875	1140
	8	6290	3705	2440	1485
	10	7690	4665	3100	1895
	12	8000	5235	3575	2215
VGS11350 11 x 350	4	3370	1925	1255	760
	6	4855	2850	1875	1140
	8	6290	3705	2440	1485
	10	7690	4665	3100	1895
	12	8000	5235	3575	2215
VGS11375 11 x 375	4	3370	1925	1255	760
	6	4855	2850	1875	1140
	8	6290	3705	2440	1485
	10	7690	4665	3100	1895
	12	8000	5235	3575	2215
VGS11400 11 x 400	4	3370	1925	1255	760
	6	4855	2850	1875	1140
	8	6290	3705	2440	1485
	10	7690	4665	3100	1895
	12	8000	5235	3575	2215

β = lifting angle

NOTES:

- The calculations assume a characteristic density of the timber elements of $\rho_k = 385 \text{ kg/m}^3$

RIGGING CAPACITY | HORIZONTAL CLT PANEL



TOTAL RIGGING CAPACITY CALCULATION

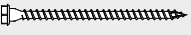
$$R'_{WLL} = R_{WLL} \cdot n$$

R'_{WLL} = total system rigging capacity.

R_{WLL} = reference rigging capacity for a single anchor system (provided in the tables).

n = number of completely load-bearing anchor systems.

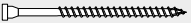
MAXIMUM CAPACITY PER ANCHOR POINT WITH VGS PLATE SCREWS

CODE VGS PLATE screw d x L [mm]	no. of screws 	capacity R_{WLL} [kg]			
		$\beta = 0^\circ$ 	$0^\circ < \beta \leq 30^\circ$ 	$30^\circ < \beta \leq 45^\circ$ 	$45^\circ < \beta \leq 60^\circ$ 
VGSPL1160 11 x 60	4	510	375	270	170
	6	740	550	400	255
	8	955	705	510	325
	10	1170	890	655	425
	12	1380	1045	770	500
VGSPL1180 11 x 80	4	740	530	380	240
	6	1065	780	560	360
	8	1385	1000	715	455
	10	1690	1250	905	580
	12	1995	1465	1055	675
VGSPL11100 11 x 100	4	970	685	480	305
	6	1395	1005	715	455
	8	1810	1270	895	565
	10	2210	1600	1140	725
	12	2605	1870	1330	845
VGSPL11120 11 x 120	4	1195	820	570	355
	6	1725	1200	840	530
	8	2235	1520	1055	660
	10	2735	1910	1345	845
	12	3220	2230	1560	980
VGSPL11140 11 x 140	4	1425	950	650	405
	6	2055	1385	960	600
	8	2660	1750	1200	745
	10	3255	2205	1530	955
	12	3835	2580	1780	1110
VGSPL11160 11 x 160	4	1655	1070	730	450
	6	2385	1560	1065	660
	8	3090	1975	1335	825
	10	3775	2485	1700	1055
	12	4450	2900	1975	1225
VGSPL11180 11 x 180	4	1880	1190	800	490
	6	2710	1730	1170	720
	8	3515	2185	1465	895
	10	4295	2755	1865	1150
	12	5065	3215	2170	1335
VGSPL11200 11 x 200	4	2110	1300	870	530
	6	3040	1900	1275	780
	8	3940	2395	1595	975
	10	4815	3015	2025	1245
	12	5675	3520	2355	1445
VGSPL11240 11 x 240	4	2565	1520	1005	610
	6	3700	2210	1460	890
	8	4795	2780	1820	1105
	10	5860	3505	2320	1415
	12	6905	4110	2715	1655
VGSPL11280 11 x 280	4	3025	1730	1130	685
	6	4355	2515	1645	1000
	8	5645	3155	2045	1235
	10	6900	3970	2595	1575
	12	8000	4635	3035	1840

β = lifting angle

RIGGING CAPACITY | HORIZONTAL CLT PANEL

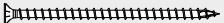
MAXIMUM CAPACITY PER ANCHOR POINT WITH **HBS PLATE** SCREWS

CODE HBS PLATE screw/ HBS PLATE EVO d x L [mm]	no. of screws 	capacity R_{WLL} [kg]			
		$\beta = 0^\circ$ 	$0^\circ < \beta \leq 30^\circ$ 	$30^\circ < \beta \leq 45^\circ$ 	$45^\circ < \beta \leq 60^\circ$ 
HBSPLEVO1060 10 x 60	4	465	340	245	155
	6	670	500	365	235
	8	870	645	465	300
	10	1065	815	600	390
	12	1255	955	705	460
HBSPL1080 10 x 80	4	620	450	325	205
	6	895	665	480	310
	8	1160	850	615	390
	10	1420	1070	780	505
	12	1670	1250	910	585
HBSPL10100 10 x 100	4	775	560	400	255
	6	1120	825	595	380
	8	1450	1050	750	475
	10	1775	1320	955	615
	12	2090	1540	1115	715
HBSPL10120 10 x 120	4	985	690	485	305
	6	1420	1015	720	455
	8	1840	1285	900	565
	10	2245	1610	1150	730
	12	2650	1885	1340	850
HBSPL10140 10 x 140	4	1140	780	545	340
	6	1645	1145	800	505
	8	2130	1455	1010	630
	10	2605	1825	1285	810
	12	3065	2135	1495	940
HBSPL10160 10 x 160	4	1345	900	620	385
	6	1940	1315	910	565
	8	2515	1665	1145	710
	10	3075	2095	1455	910
	12	3625	2450	1695	1060
HBSPL10180 10 x 180	4	1555	1010	690	425
	6	2240	1475	1010	625
	8	2905	1870	1265	780
	10	3550	2350	1615	1005
	12	4185	2740	1875	1160

β = lifting angle

RIGGING CAPACITY | HORIZONTAL CLT PANEL

MAXIMUM CAPACITY PER ANCHOR POINT WITH **VGS** SCREWS

CODE VGS + HUS screws d x L [mm]	no. of screws 	capacity R _{WLL} [kg]			
		$\beta = 0^\circ$ 	$0^\circ < \beta \leq 30^\circ$ 	$30^\circ < \beta \leq 45^\circ$ 	$45^\circ < \beta \leq 60^\circ$ 
VGS1180 11 x 80	4	650	465	330	210
	6	935	685	495	315
	8	1210	880	630	400
	10	1480	1105	805	515
	12	1745	1295	935	600
VGS11100 11 x 100	4	875	620	440	275
	6	1265	915	655	415
	8	1640	1160	820	520
	10	2005	1460	1050	670
	12	2360	1705	1220	775
VGS11125 11 x 125	4	1160	800	555	350
	6	1675	1170	820	515
	8	2170	1480	1030	645
	10	2655	1865	1310	825
	12	3130	2175	1525	960
VGS11150 11 x 150	4	1450	960	660	410
	6	2085	1400	965	600
	8	2705	1775	1215	755
	10	3305	2235	1545	965
	12	3895	2605	1795	1115
VGS11175 11 x 175	4	1735	1110	750	465
	6	2500	1625	1105	685
	8	3235	2055	1385	855
	10	3955	2580	1760	1090
	12	4665	3020	2050	1270
VGS11200 11 x 200	4	2020	1255	840	515
	6	2910	1830	1230	755
	8	3770	2310	1540	940
	10	4610	2905	1955	1200
	12	5430	3400	2285	1405
VGS11225 11 x 225	4	2305	1395	925	565
	6	3320	2035	1355	830
	8	4305	2560	1690	1030
	10	5260	3225	2150	1315
	12	6200	3780	2515	1535
VGS11250 11 x 250	4	2590	1530	1005	610
	6	3730	2225	1470	895
	8	4835	2800	1835	1115
	10	5910	3520	2325	1415
	12	6965	4130	2720	1660
VGS11275 11 x 275	4	2875	1660	1085	660
	6	4145	2420	1590	965
	8	5370	3035	1975	1195
	10	6565	3820	2505	1520
	12	7735	4480	2935	1780
VGS11300 11 x 300	4	3160	1790	1165	705
	6	4555	2610	1705	1035
	8	5900	3275	2120	1280
	10	7215	4120	2690	1630
	12	8000	4740	3125	1905
VGS11325 11 x 325	4	3370	1890	1225	740
	6	4855	2750	1790	1085
	8	6290	3455	2230	1345
	10	7690	4350	2830	1710
	12	8000	4890	3260	1995
VGS11350 11 x 350	4	3370	1890	1225	740
	6	4855	2750	1790	1085
	8	6290	3455	2230	1345
	10	7690	4350	2830	1710
	12	8000	4890	3260	1995
VGS11375 11 x 375	4	3370	1890	1225	740
	6	4855	2750	1790	1085
	8	6290	3455	2230	1345
	10	7690	4350	2830	1710
	12	8000	4890	3260	1995
VGS11400 11 x 400	4	3370	1890	1225	740
	6	4855	2750	1790	1085
	8	6290	3455	2230	1345
	10	7690	4350	2830	1710
	12	8000	4890	3260	1995

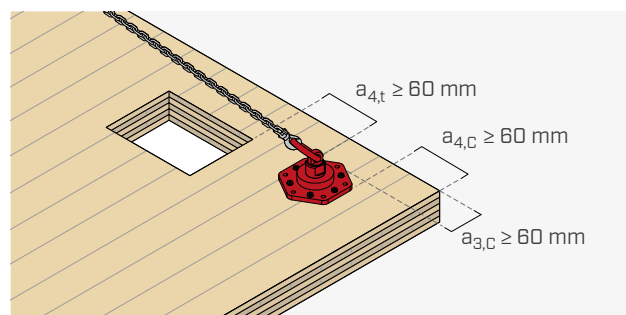
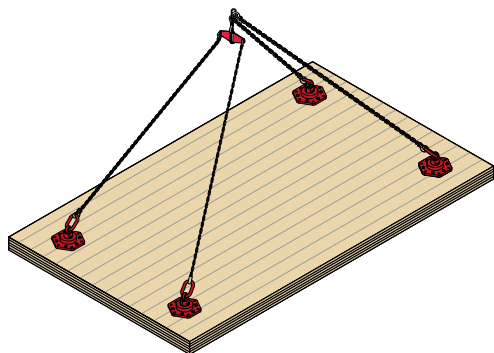
β = lifting angle

NOTES:

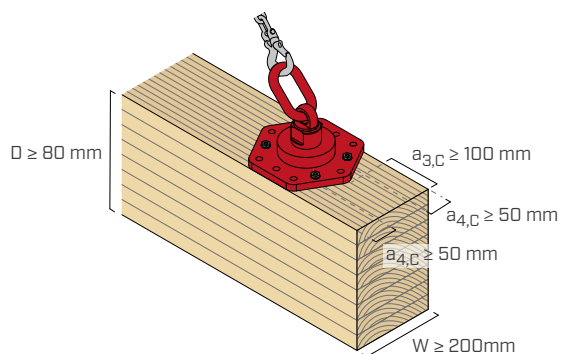
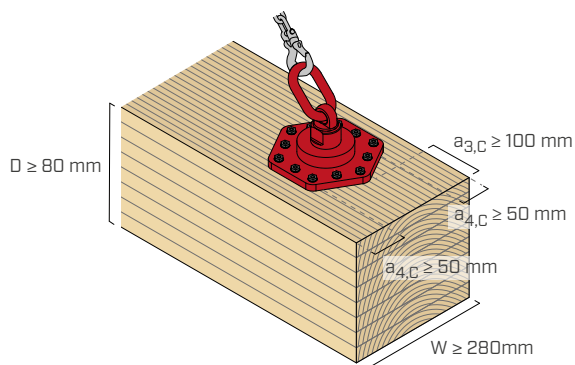
- When transporting horizontal CLT panels, the ratio of timber thickness to screw length can affect the load-bearing capacity.
- The load-bearing capacity values given are per single anchorage point.
- In order to consider all fastening points as fully load-bearing, it is necessary to ensure that the load is evenly distributed over all fastening points by means of suitable compensating systems.
- Minimum floor thickness: $t_{CLT} \geq 100$ mm.

MINIMUM DISTANCES

CLT FLOOR



HORIZONTAL BEAM



Lifting range

Solutions engineered for the safe lifting and handling of timber elements. The product range includes devices designed to accommodate different load configurations and on-site handling requirements.



RAPTOR MINI



RAPTOR



RAPTOR MAXI



WASP

The comprehensive technical documentation is available at www.rothoblaas.com



rothoblaas.com

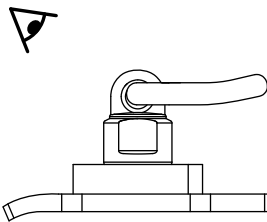
NOTES:

- Minimum clearances are in accordance with ETA-11/0030 and based on testing. They are valid unless otherwise specified in this data sheet.
- The minimum distances shown are valid for screws inserted without pre-drilling hole.
- The minimum distances apply to all screw configurations.

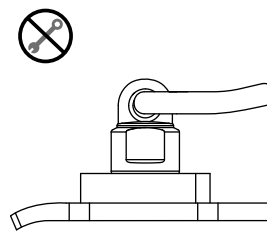
MAINTENANCE



Always follow the instructions in the manual.



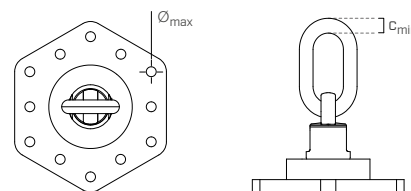
Visual inspection before each use. If there are any defects, the product must not be used again.



Repairs are not permitted!

DIMENSIONS TO BE CHECKED

CODE	$\varnothing_{\max}$ [mm]	$C_{\min}$ [mm]
RAPMAXI	13,5	18,0



GENERAL PRINCIPLES:

- The choice of fastener length is to be based each time on the dimensions of the wooden element, on the fastener's positioning, on the lift angle, on the weight of the load to be lifted and the arrangement of the lifting plate. In all cases, it is recommended the use of connectors that are as long as possible but such that the tip does not protrude from the element to be lifted.
- The rigging capacity values provided are based on calculations made according to EN 1995-1-1/NA in accordance with ETA-11/0030 and the results of tests performed. A safety factor of 4.0 was applied to the values provided in accordance with the Machinery Directive.
- Any checks for potential reductions in strength due to possible brittle failure related to the geometry of the lifted element and the positioning of the plate and connectors must be carried out separately.
- A timber density $\rho_k = 385 \text{ kg/m}^3$, of CLT elements equal to $\rho_k = 350 \text{ kg/m}^3$ was considered in the calculation. For different ρ_k values, the strength values in the table can be converted by the k_{dens} coefficient. The calculated value must never exceed the maximum capacity of the plate of **8000 kg**.

$$R'_{WLL} = \min(k_{\text{dens}} \cdot R'_{WLL}; 8000 \text{ kg})$$

Timber elements										
$\rho_{g,k}$ [kg/m ³]	310	330	350	380	385	405	425	430	440	
C-GL	C16	C20	C24	C30	GL24h	GL26h	GL28h	GL30h	GL32h	
k_{dens}	0,80	0,85	0,90	0,98	1,00	1,02	1,05	1,05	1,07	
CLT elements										
$\rho_{g,k}$ [kg/m ³]	310	330	350	380	385	405	425	430	440	
C-GL	C16	C20	C24	C30	GL24h	GL26h	GL28h	GL30h	GL32h	
k_{dens}	0,88	0,94	1,00	1,04	1,05	1,07	1,10	1,11	1,12	

Strength values thus determined may differ, for higher safety standards, from those resulting from an exact calculation.

- The lifting plate may only be used by qualified personnel. The user manual (available via the QR code on the product) must be read and understood before use. The information and instructions contained therein must be followed. If in doubt, contact the Rothoblaas Technical Department before use.
- For lifting plate rigging capacity calculation in installation configurations other than those indicated here, contact Rothoblaas Technical Department.
- The values indicated in the data sheet for the transport plate fixed with HBS PLATE screws have been calculated considering the geometry and mechanical parameters of the HBS PL version. For the load capacity of the lifting plate when fastened with HBS PL screws, contact the Technical Department for further assistance.
- For safety reasons, HBSPL and VGS screws may only be used once. Once lifting operations are complete, the screws must be removed and disposed of correctly. Only the VGS PL screw may be reused for transport. See the specific screw instructions available at www.rothoblaas.com
- The use of pulse screw guns/impact wrenches is not permitted. Respect the insertion angle with the help of a pilot hole and/or installation template. Avoid bending. Ensure correct tightening. We recommend the use of torque-controlled screwdrivers, e.g. with TORQUE LIMITER. Alternatively, tighten with a torque wrench.
- The load capacities provided are calculated in the case of the plate fixed with screws inserted without pre-drilling hole. In the case of screws inserted with pre-drilling hole, the strength can be considered equivalent.