

USER MANUAL
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TECHNICAL SHEET

D TECHNICAL SHEET



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D.1 CRANE'S TECHNICAL DATA

Versions			2S	3S	4S	5S	6S	7S	8S
Max. net lifting moment		 $t\ m$ kNm	22.5 221	22.1 217	21.2 208	20.5 201	20.1 197	19.7 193	19.4 190
Max. dynamic moment		 $daNm$ kNm	28290 282.9						
Capacity at min. hydraulic outreach	hook [S2]	 kg	5265	5175	4885	4610	4430	4270	4130
	grab [S1]	 kg	5265	5175	4885	4610	4430	4270	4130
Max rated capacity		min.outreach  m	4.28	4.28	4.36	4.44	4.53	4.61	4.70
Capacity at max. hydraulic outreach	hook [S2]	 kg	2730	2080	1565	1180	905	695	535
	grab [S1]	 kg	2730	2080	1565	1180	905	695	535
	max.outreach	 m	8.08	10.11	12.22	14.43	16.65	18.90	21.18
Capacity of 1st man. extension	capacity	 kg	N/A	1600	1240	1000	750	570	450
	max.outreach	 m	N/A	12.22	14.44	16.65	18.90	21.18	23.28
Max. load height above the base for the last extension	hydraulic	 m	10.4	12.4	14.5	16.7	19.0	21.2	23.5
	manual	 m	N/A	19.0	21.2	23.5	23.5	25.6	25.6
Weight of crane without stabilizers		 kg	2315	2455	2595	2720	2825	2945	3035
Weight of stabilizers		ST-M kg	285						
		EX-H kg	355						
		SE-H kg	510						
Weight of 1st man. extension		 kg	N/A	80	72	64	56	40	32
Max. working pressure		 bar	315	310					
Max. oil flow rate		 l/min	50						
		 l/min	80						
Max. power needed		 kW	34.1	33.6					
		 kW	54.6	53.7					
Oil tank capacity		 ℓ	130						
Slewing angle		 $^{\circ}$	415 $^{\circ}$						
Gross slewing torque		 $daNm$ kNm	2710 27.1						
Max. base inclination		 $^{\circ}$	4						
		 $^{\circ}$	3						
Max boom inclination for use with CE winch		$^{\circ}$	75						
Max. stabilizer force on the ground with stabilizers fully extended	ST	daN	12400						
	EX	daN	10880						
	SE	daN	7950						
Max. stabilizer pressure on the ground with stabilizers fully extended	ST	MPa	3.3						
	EX	MPa	2.9						
	SE	MPa	2.1						
Lifting conversion factor, k		kgm/bar	85.10						
Distribution factor of dyn. moment on base, β		-	0.70						
Position of standard dead point (see D.6)									

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Versions		4SJ3	5SJ3	6SJ2
Max. net lifting moment	 $t\ m$ kNm	17.8 175	16.9 166	10.4 102
Max. dynamic moment	 $daNm$ kNm	28010 280.1	27160 271.6	26455 264.5
Capacity at min. hydraulic outreach	hook [S2]  kg	2430	2330	1165
Max rated capacity	grab [S1]  kg	N/A	N/A	N/A
	min.outreach  m	7.36	7.27	7.26
Capacity at max. hydraulic outreach	hook [S2]  kg	450	400	460
	grab [S1]  kg	N/A	N/A	N/A
	max.outreach  m	20.41	21.94	22.24
Capacity of 1st man. extension	capacity  kg	375	345	280
	max.outreach  m	22.08	23.60	23.80
Max. load height above the base for the last extension	hydraulic  m	22.7	24.2	24.5
	manual  m	26.5	27.7	26.1
Weight of crane without stabilizers	 kg	3255	3210	3100
Weight of stabilizers	ST-M kg	285		
	EX-H kg	355		
	SE-H kg	510		
Weight of 1st man. extension	 kg	35	30	22
Max. working pressure	 bar	325	330	325
Max. oil flow rate	 l/min	50		
	 l/min	80		
Max. power needed	 kW	35.2	35.7	35.2
	 kW	56.3	57.2	56.3
Oil tank capacity	 l	130		
Slewing angle	 $^\circ$	415°		
Gross slewing torque	 $daNm$ kNm	2710 27.1		
Max. base inclination	 $^\circ$	3		
	 $^\circ$	N/A		
Max boom inclination for use with CE winch	$^\circ$	75		
Max. stabilizer force on the ground with stabilizers fully extended	ST daN	12290	11920	11610
	EX daN	10780	10450	10180
	SE daN	7870	7630	7440
Max. stabilizer pressure on the ground with stabilizers fully extended	ST MPa	3.23	3.13	3.05
	EX MPa	2.83	2.75	2.68
	SE MPa	2.07	2.01	1.95
Lifting conversion factor, k	kgm/bar	85.10		
Distribution factor of dyn. moment on base, β	-	0.70		
Position of standard dead point (see D.6)				

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D.2 WINCH SETTINGS

T11 - SINGLE LINE PULL

Versions	4SJ3	5SJ3	6SJ2
 Max line pull <i>kg</i>	1000	1000	1000
Start angle - pull% Final angle - pull% 	-	-	-

T12 - SINGLE LINE PULL

Versions	2S	3S	4S	5S	6S	7S	8S
 Max line pull <i>kg</i>	2000	2000	2000	2000 (*)	2000 (*)	2000 (*)	2000 (*)
Start angle - pull% Final angle - pull% 	-	-	-	55°-93% 75°-86%	60°-91% 75°-86%	55°-58% 75°-53%	52°-43% 75°-39%

N/A: configuration not available

(*): configuration requiring pull derating: available only for CE/TOP cranes (PCS)

Pull%: pull derating percentage



When the crane is equipped with winch, the max. working pressure and the limiter setting pressure are increased by 10 bar with respect to the standard ones.

D.3 TOTAL WEIGHTS

The table shows the total weights including oil inside the cylinders (fully retracted) and considering oil tank empty.

<i>kg</i>	Crane version									
Type of stabilizers	2S	3S	4S	5S	6S	7S	8S	4SJ3	5SJ3	6SJ2
ST-M	2600	2740	2880	3005	3110	3230	3320	3540	3495	3385
EX-H	2670	2810	2950	3075	3180	3300	3390	3610	3565	3455
SE-H	2825	2965	3105	3230	3335	3455	3545	3765	3720	3610

The weights may vary by $\pm 3\%$

Additional weight for T11 winch: 95 kg

Additional weight for T12 winch: 150 kg

Additional weight of 1st extra function activated with slides: 8 kg pro hydraulic extension

Additional weight of 2nd extra function activated with slides: 2 kg pro hydraulic extension

Additional weight of 1st extra function activated with hose reel: 20 kg

Additional weight of 2nd extra function activated with hose reel: 10 kg

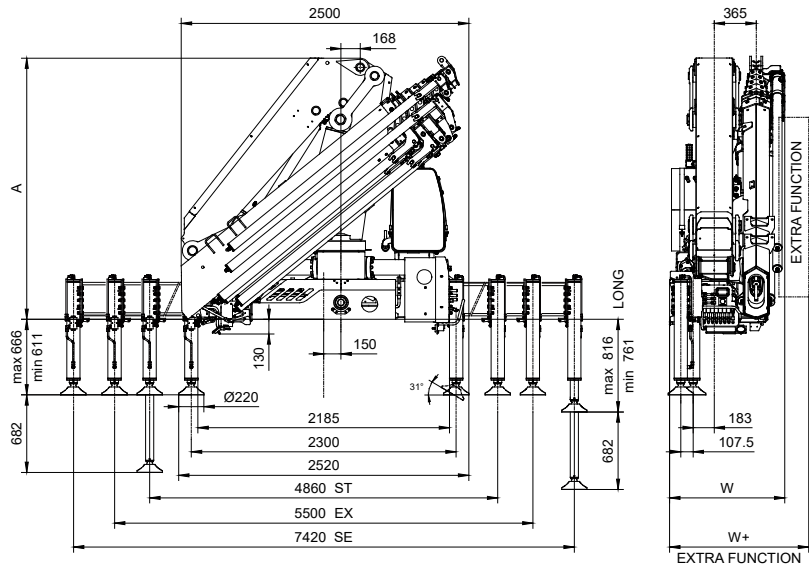
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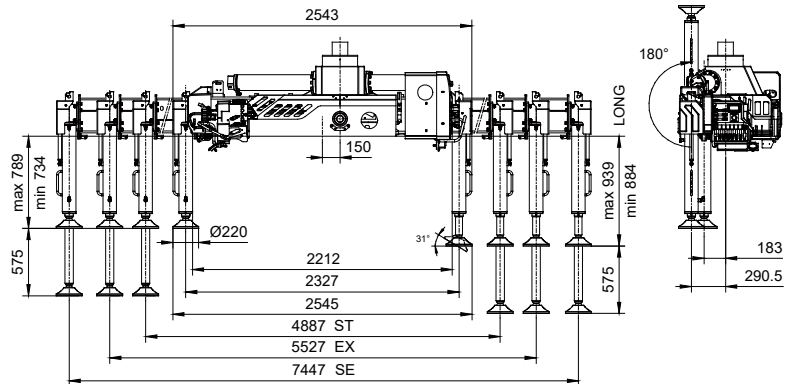
D.4 OVERALL DIMENSIONS

FIXED STABILIZERS LEGS



	2S	3S	4S	5S	6S	7S	8S
A (mm)	2300	2300	2300	2300	2300	2300	2330
W (mm)	935	935	935	935	935	1005	1005
W+ (mm)	slides	1055	1055	1055	1055	N/A	N/A
	hose reel	N/A	N/A	N/A	N/A	1080	1080

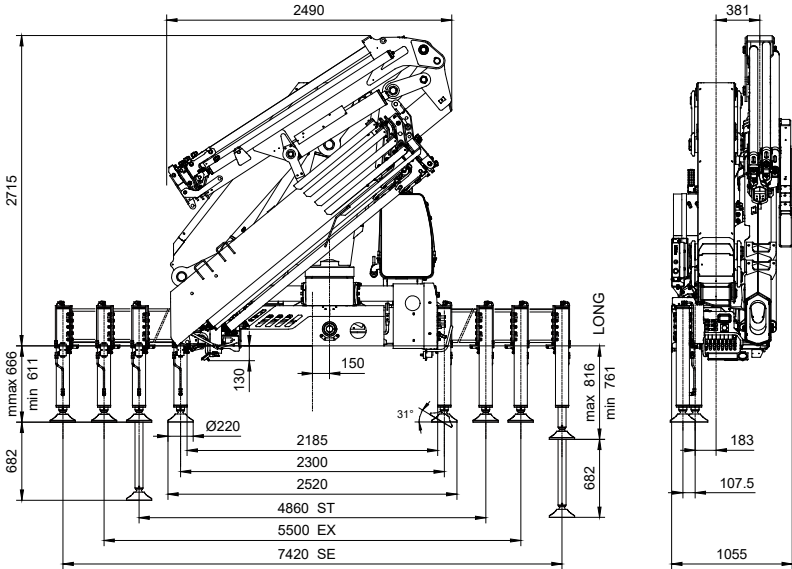
TURNING STABILIZERS LEGS



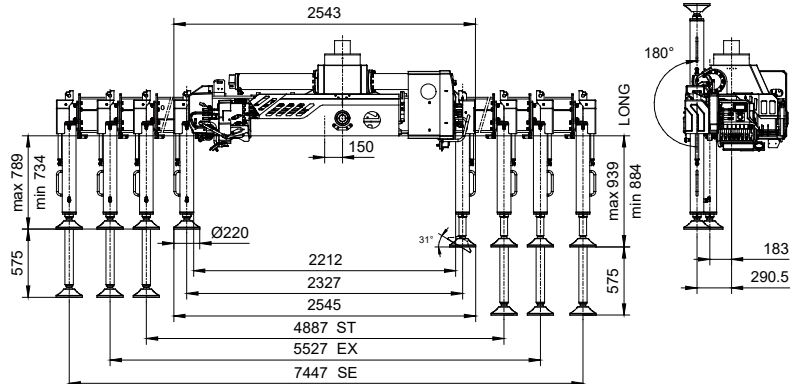
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4SJ3

FIXED STABILIZERS LEGS



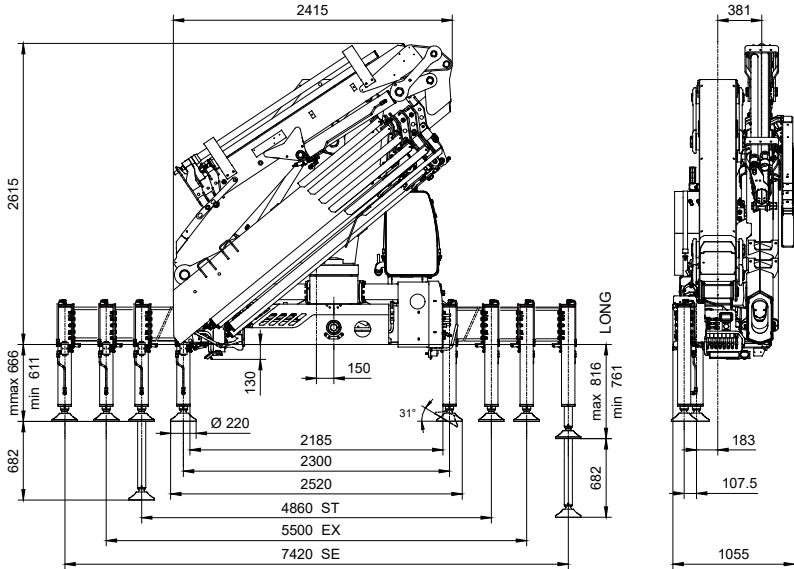
TURNING STABILIZERS LEGS



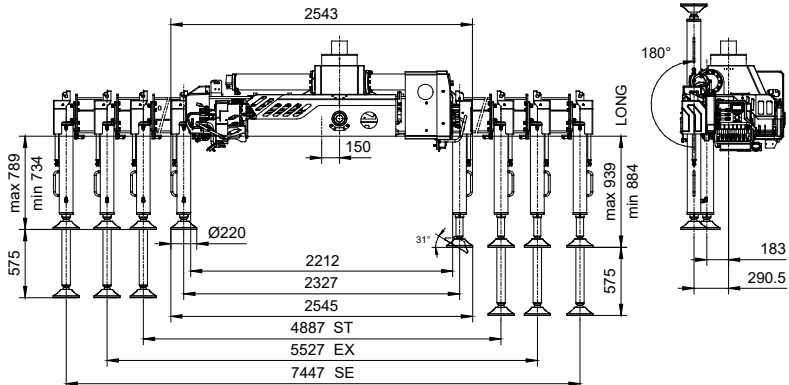
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5SJ3

FIXED STABILIZERS LEGS



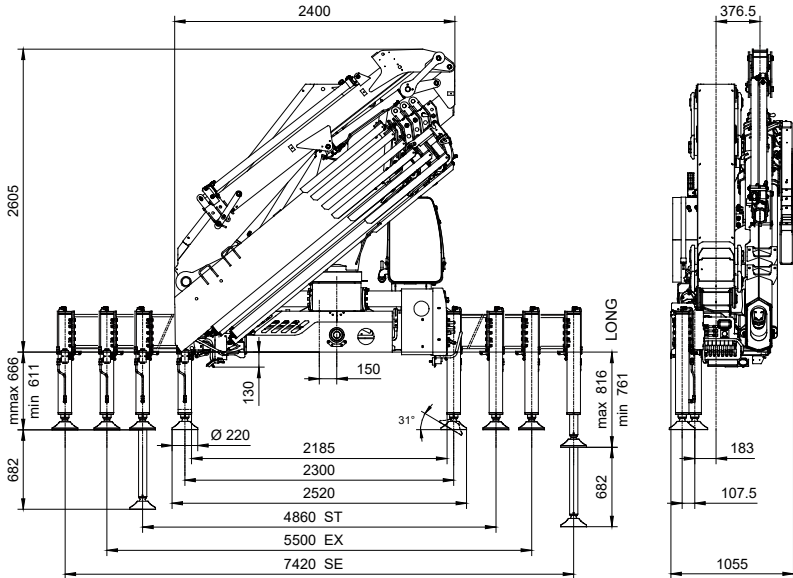
TURNING STABILIZERS LEGS



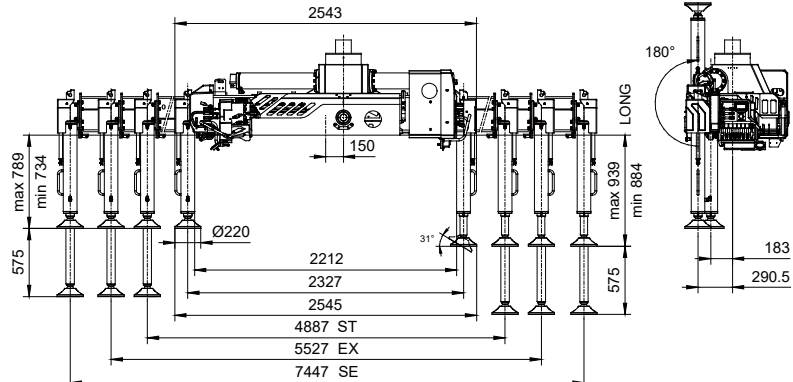
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6SJ2

FIXED STABILIZERS LEGS

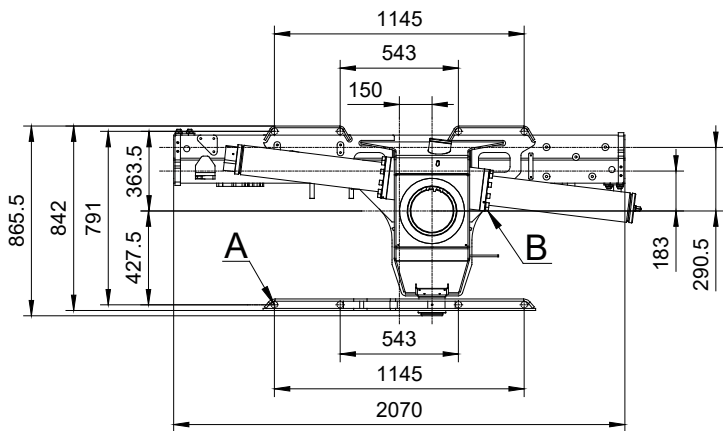


TURNING STABILIZERS LEGS



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D.5 BASE DIMENSIONS AND MOUNTING BOLTS

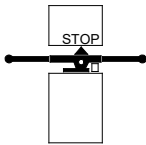
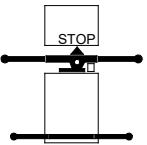
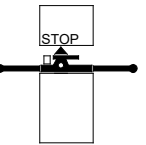
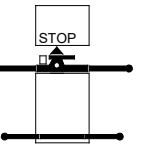
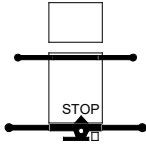
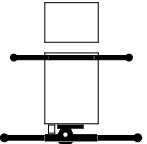
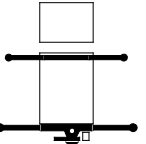
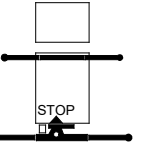
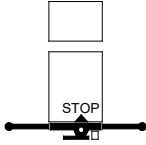
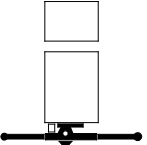
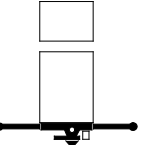
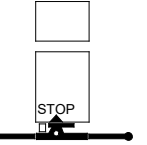
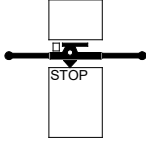
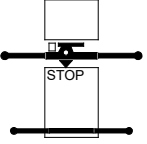
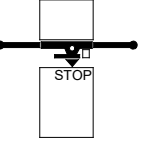
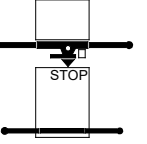


Ref.	Description	Q.ty	Material Grade	Size (Q.ty)	Tightening torque
A	Kit with 8 crane mounting bolts	8	42CrMo4+QT EN 10083-3	M24x2 L=1100 (4) L=1015 (4)	400 Nm
	Kit with 4 crane mounting bolts	4	42CrMo4+QT EN 10083-3	M30x2 L=1000 (2) L=1100 (2)	700 Nm
B	Fixing bolts for each slewing cylinder	10	8.8	M14x2 L=75	80 Nm

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D.6 INSTALLATION TYPE NUMBER

Installation types numbers (ITN) for cranes with standard dead point (STOP) toward swivel bridge.

OPPOSITE DEAD POINT		STANDARD DEAD POINT	
1 	2 	3 	4 
5 	6 	7 	8 
9 	10 	11 	12 
13 	14 	15 	16 

Legend:

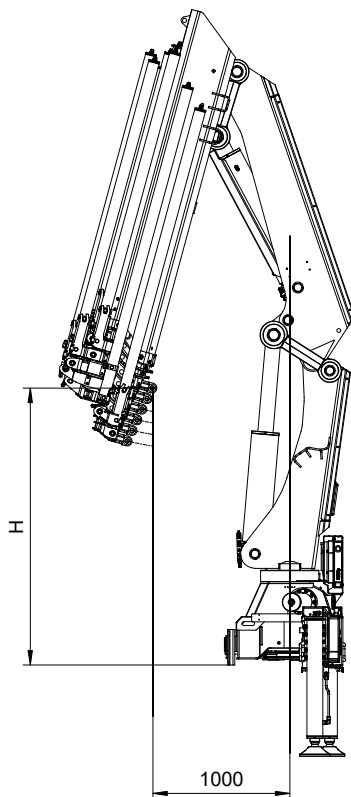
- ▲ : position of dead point (STOP)
- : position of main manual controls (on column side)

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D.7 LIFTING HEIGHT CLOSE TO THE COLUMN



Version	H mm
2S	2015
3S	2015
4S	1931
5S	1847
6S	1762
7S	1678
8S	1593

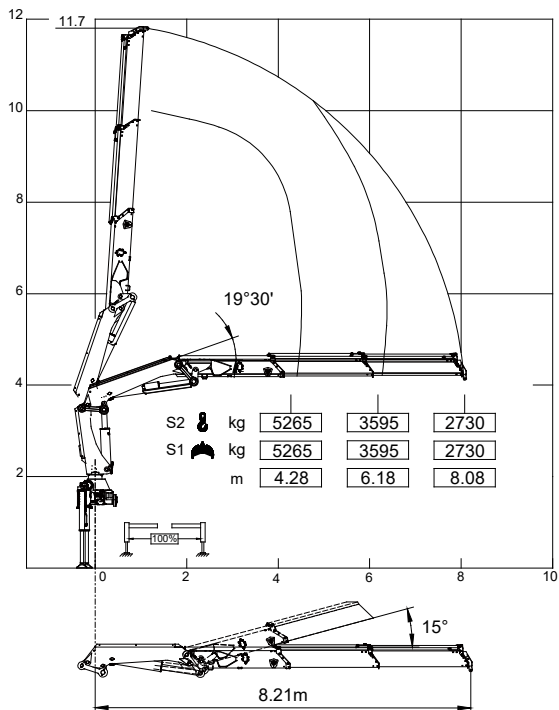
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D.8 LOAD CHARTS FOR USE WITH HOOK/TOOL

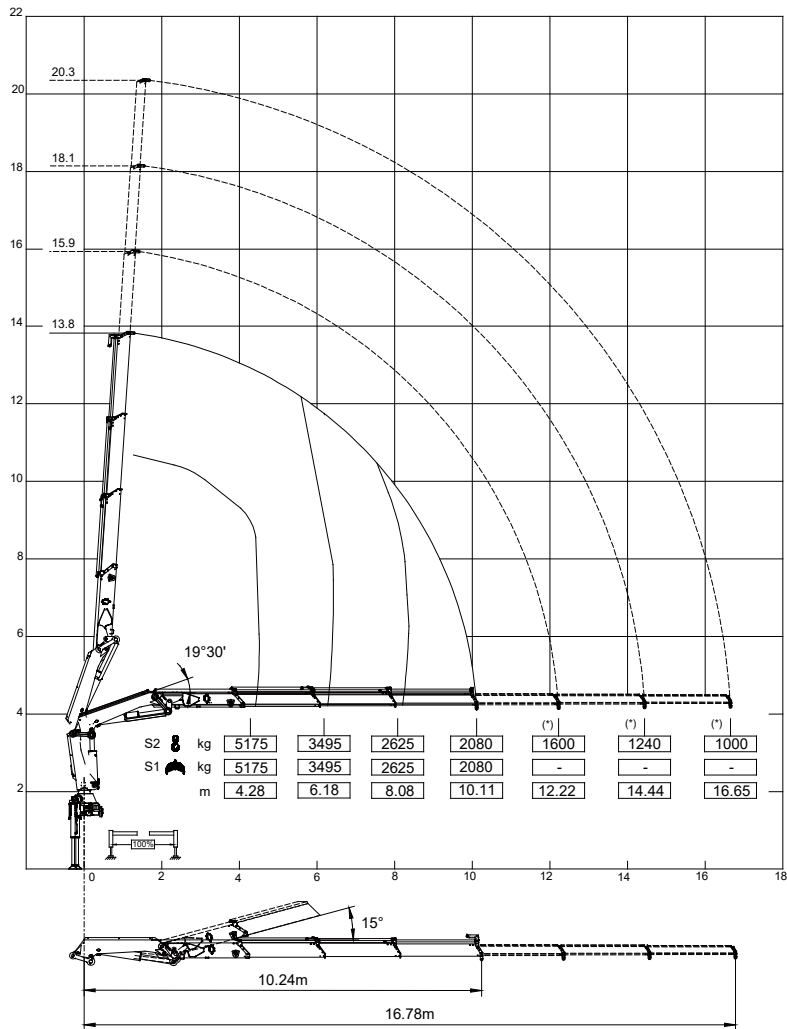
924NG 2S



If an additional lifting tool is mounted, the rated capacities shall be reduced by the tool's weight

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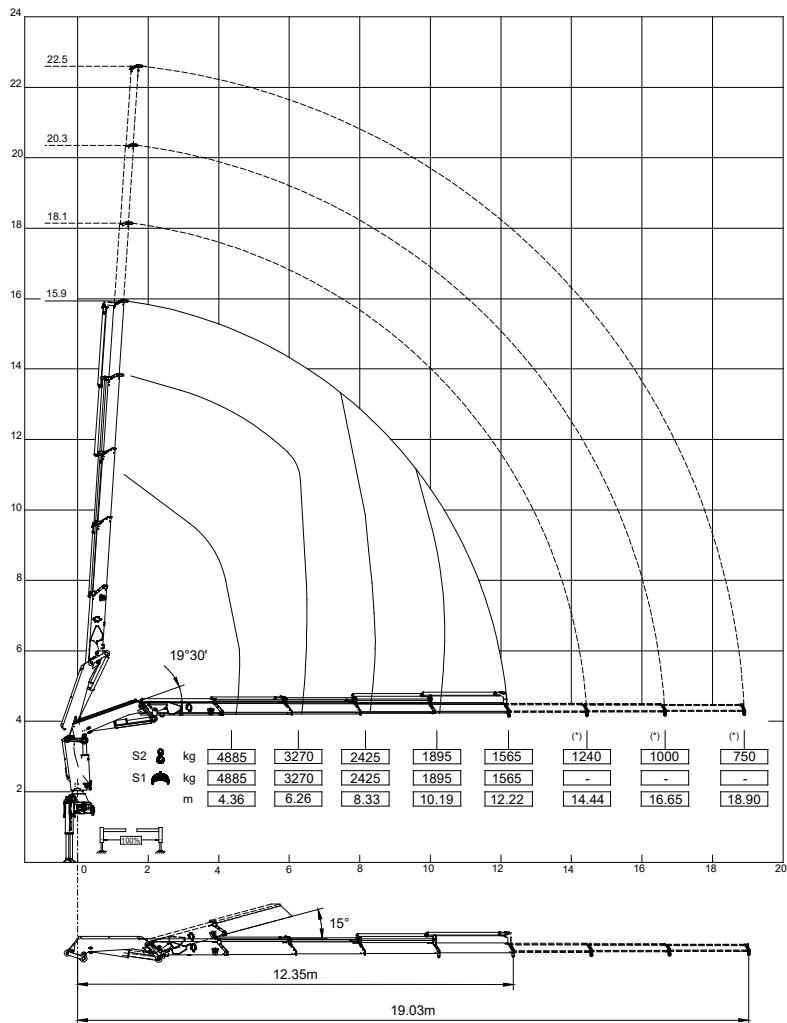
LOAD CHART FOR USE WITH HOOK/TOOL
924NG 3S



(*) Manual extensions (optional): these cannot lift additional hydraulic tools
If an additional lifting tool is mounted, the rated capacities shall be reduced by the tool's weight

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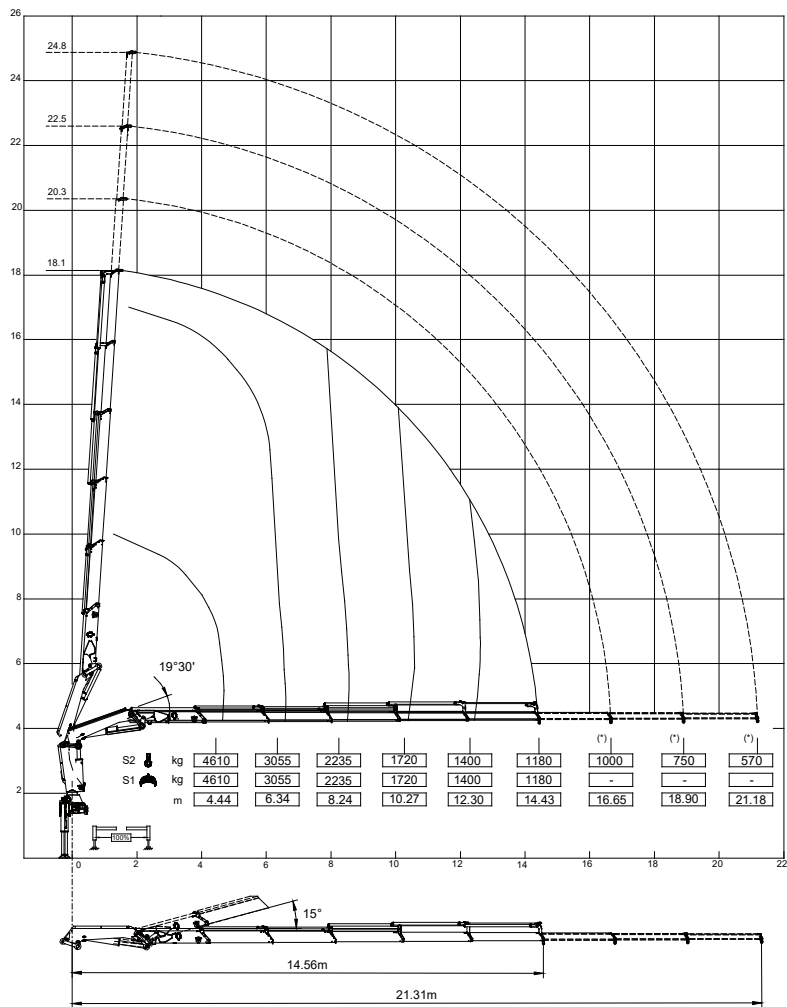
LOAD CHART FOR USE WITH HOOK/TOOL
924NG 4S



(*) Manual extensions (optional): these cannot lift additional hydraulic tools
If an additional lifting tool is mounted, the rated capacities shall be reduced by the tool's weight

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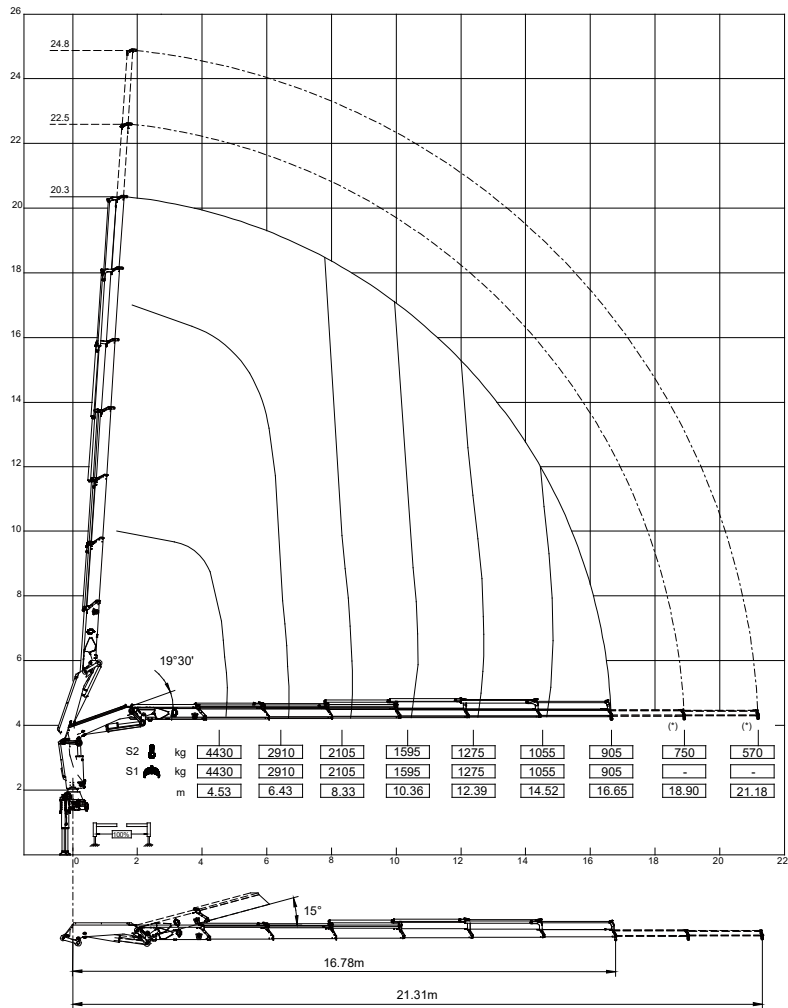
LOAD CHART FOR USE WITH HOOK/TOOL
924NG 5S



(*) Manual extensions (optional): these cannot lift additional hydraulic tools
 If an additional lifting tool is mounted, the rated capacities shall be reduced by the tool's weight

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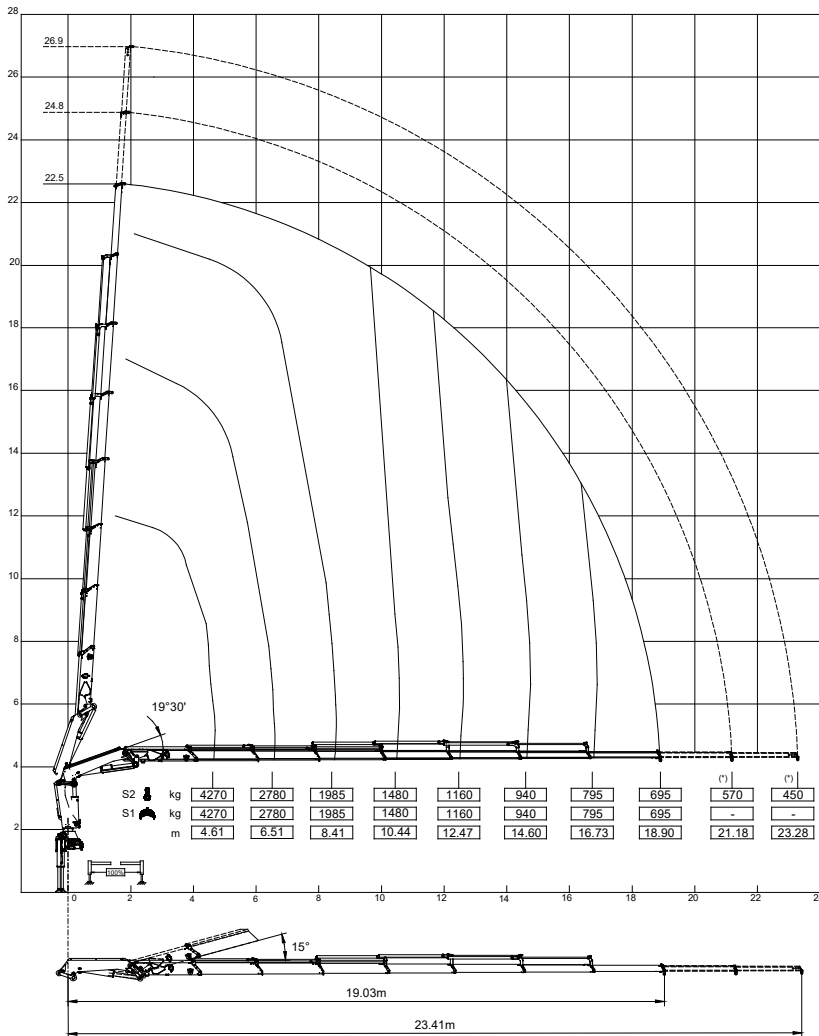
LOAD CHART FOR USE WITH HOOK/TOOL
924NG 6S



(*) Manual extension (optional): this cannot lift additional hydraulic tools
If an additional lifting tool is mounted, the rated capacities shall be reduced by the tool's weight

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924NG 7S



(*) Manual extension (optional): this cannot lift additional hydraulic tools

If an additional lifting tool is mounted, the rated capacities shall be reduced by the tool's weight

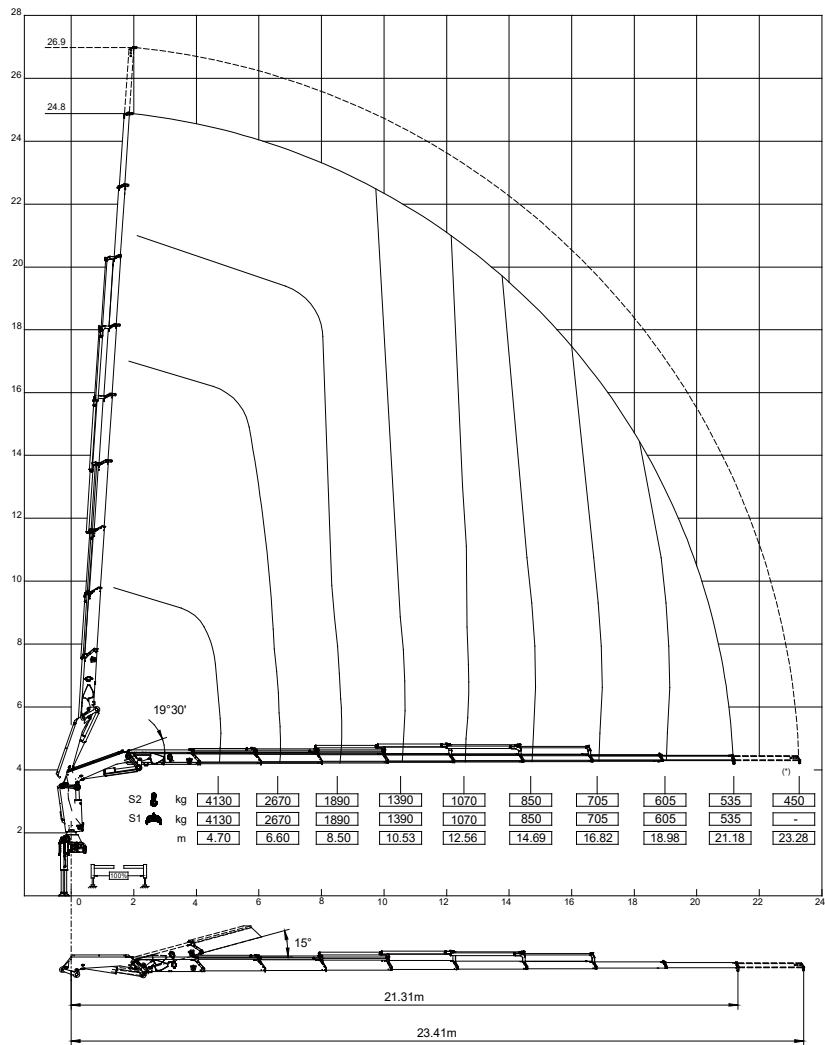
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LOAD CHART FOR USE WITH HOOK/TOOL

924NG 8S



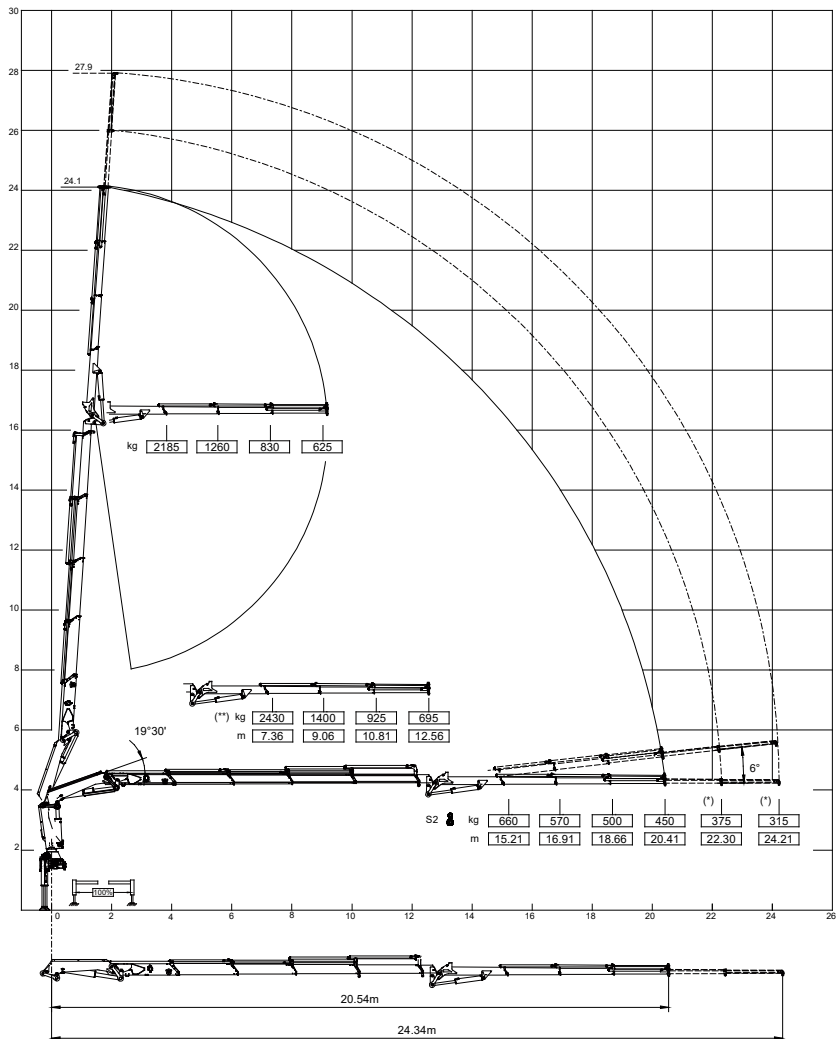
(*) Manual extension (optional): this cannot lift additional hydraulic tools
If an additional lifting tool is mounted, the rated capacities shall be reduced by the tool's weight

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LOAD CHART FOR USE WITH HOOK 924NG 4SJ3



(*) Manual extensions (optional): these cannot lift additional hydraulic tools

(**) Max. lifting capacity of jib

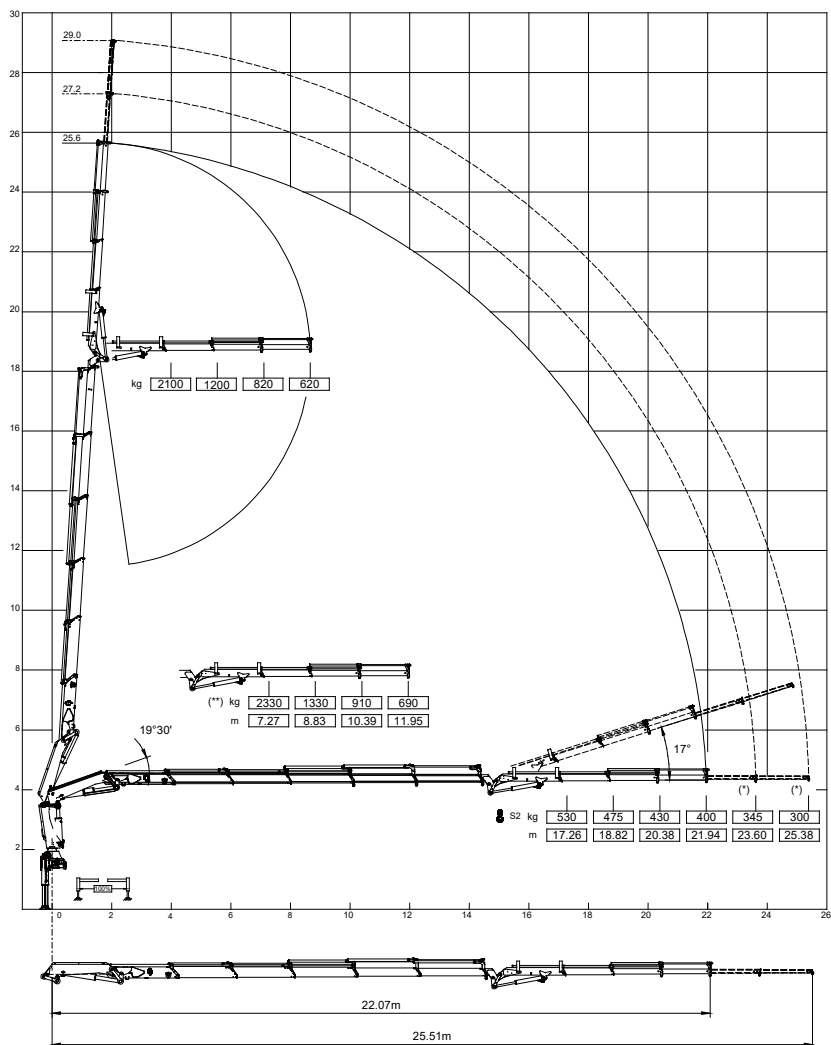
The given rated capacities can be moved only by operating the jib.

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LOAD CHART FOR USE WITH HOOK 924NG 5SJ3



(*) Manual extensions (optional): these cannot lift additional hydraulic tools

(**) Max. lifting capacity of jib

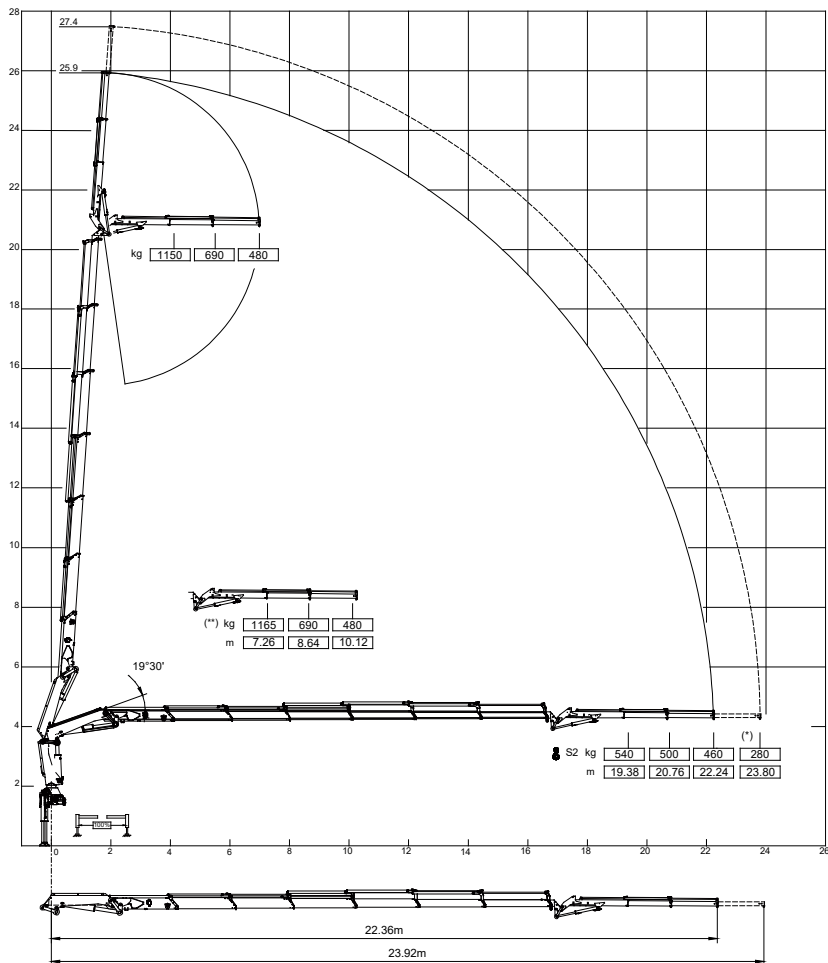
The given rated capacities can be moved only by operating the jib.

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LOAD CHART FOR USE WITH HOOK 924NG 6SJ2



(*) Manual extensions (optional): these cannot lift additional hydraulic tools

(**) Max. lifting capacity of jib

The given rated capacities can be moved only by operating the jib.

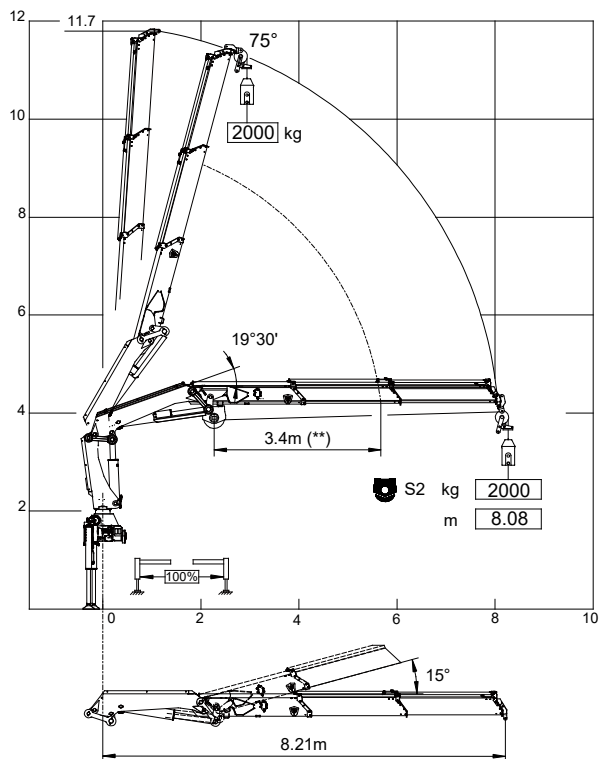
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D.9 LOAD CHARTS FOR T12 WINCH IN SINGLE LINE

924NG 2S + T12 SINGLE LINE



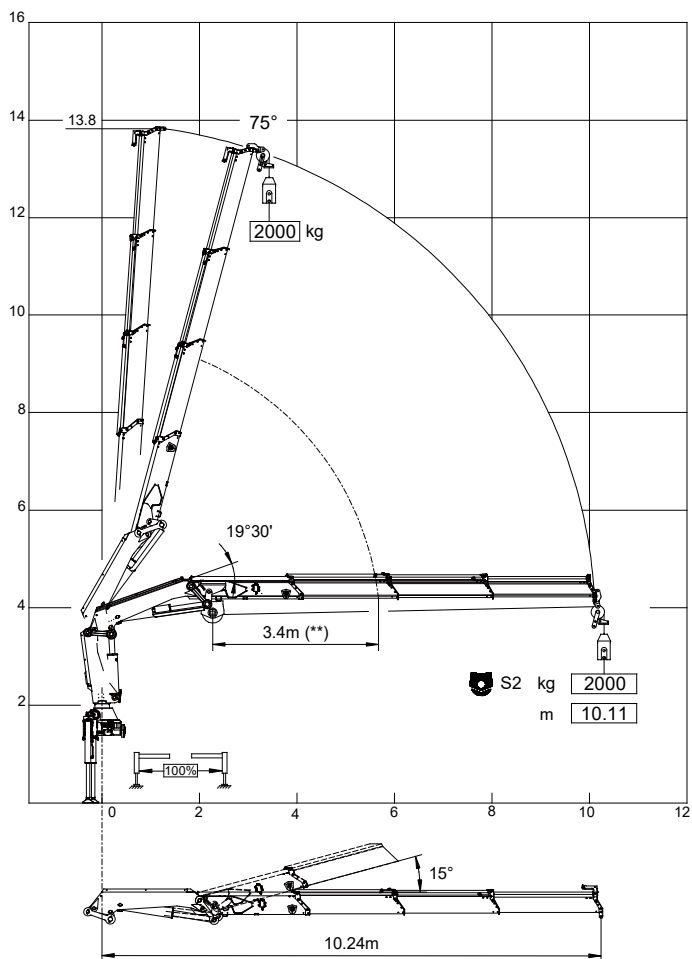
(**) Minimum distance winch - pulley
Winch max. pull: 2000 kg

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LOAD CHART FOR WINCH T12 IN SINGLE LINE 924NG 3S + T12 SINGLE LINE



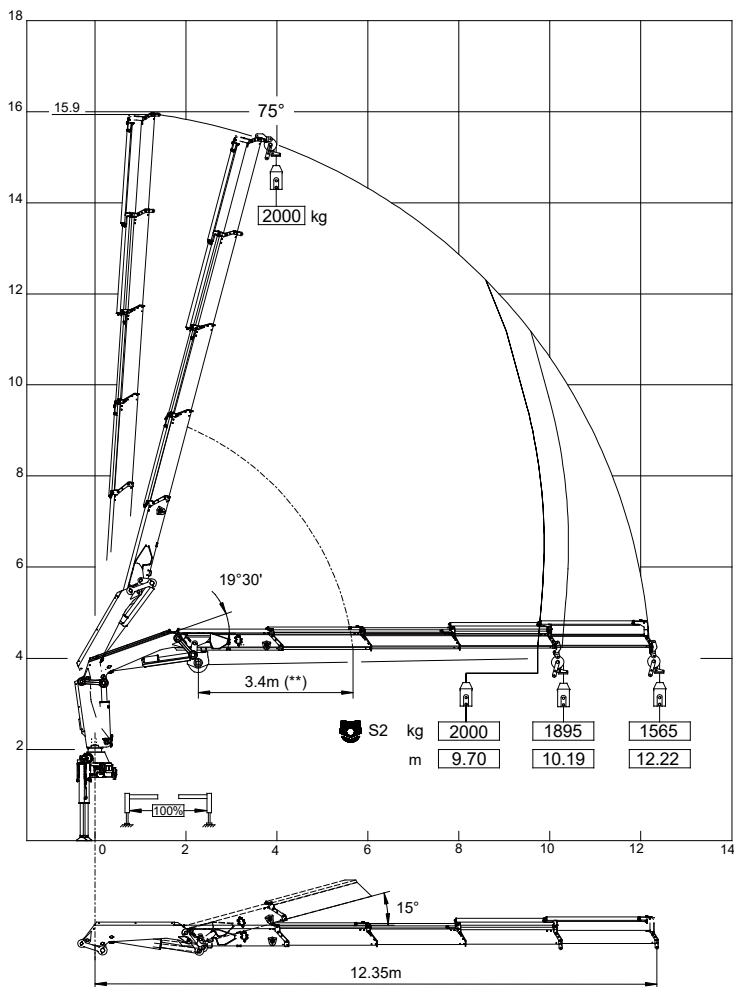
(**) Minimum distance winch - pulley
Winch max. pull: 2000 kg

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LOAD CHART FOR WINCH T12 IN SINGLE LINE 924NG 4S + T12 SINGLE LINE



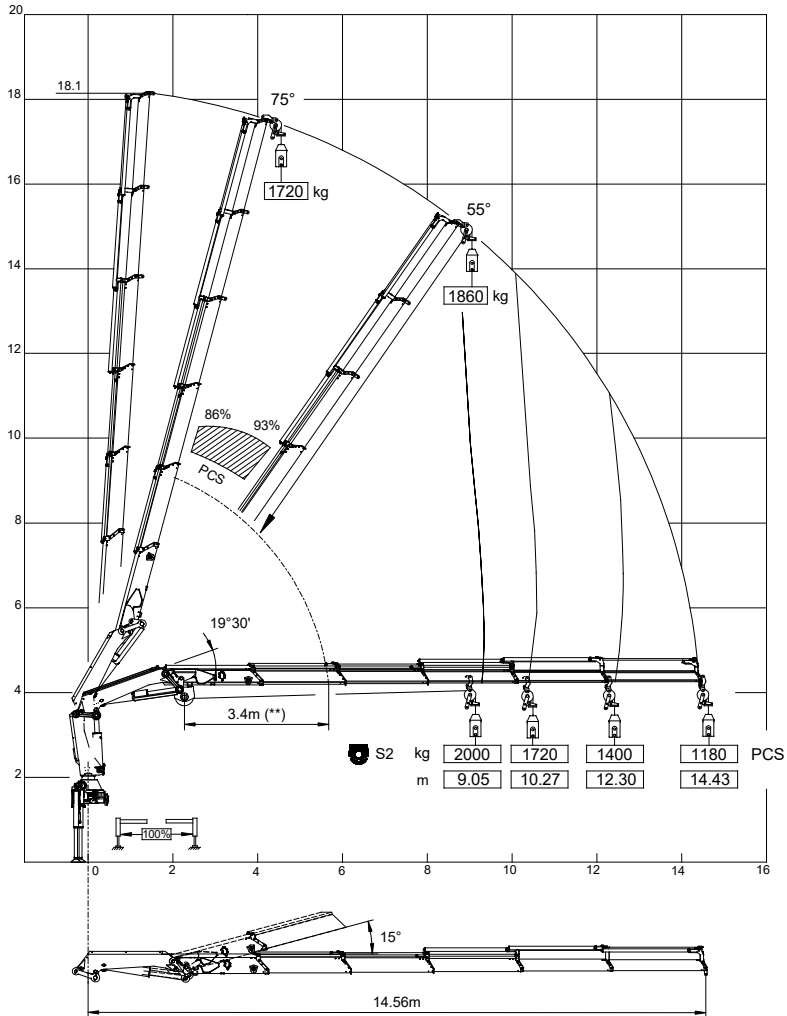
(**) Minimum distance winch - pulley
Winch max. pull: 2000 kg

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LOAD CHART FOR WINCH T12 IN SINGLE LINE 924NG 5S + T12 SINGLE LINE



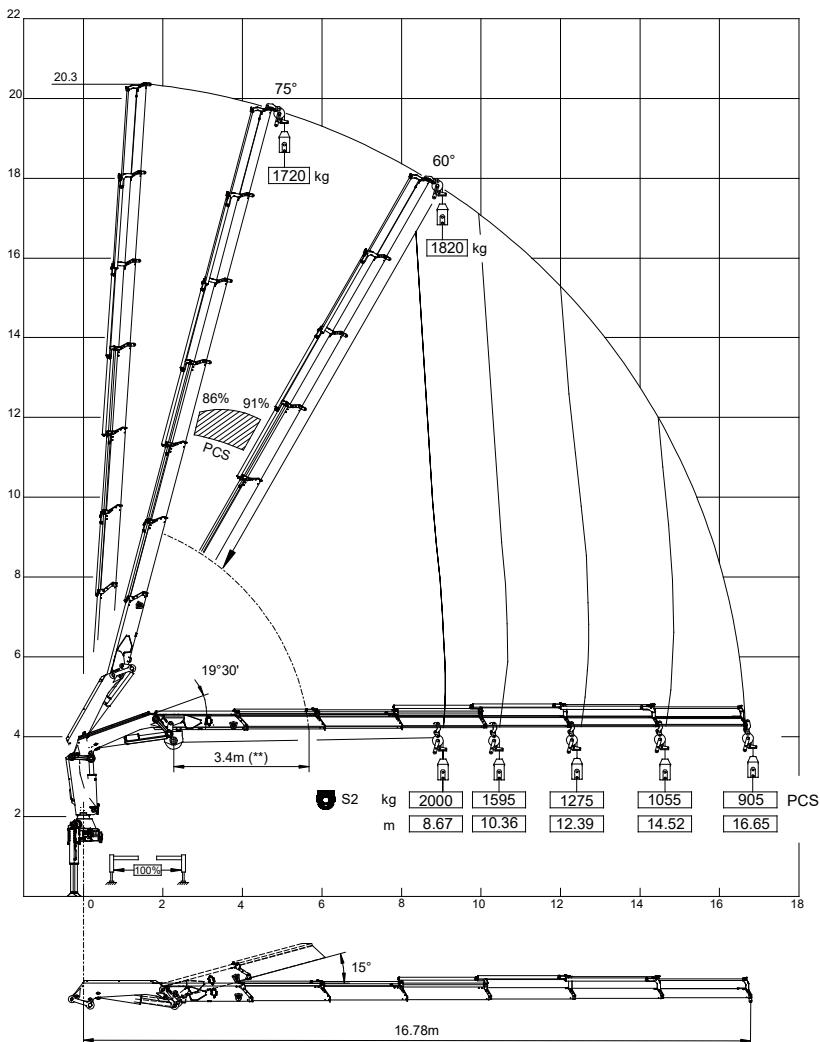
(**) Minimum distance winch - pulley
Winch max. pull with PCS: 2000 kg
PCS: Pull Control System, present on CE/TOP cranes

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LOAD CHART FOR WINCH T12 IN SINGLE LINE 924NG 6S + T12 SINGLE LINE



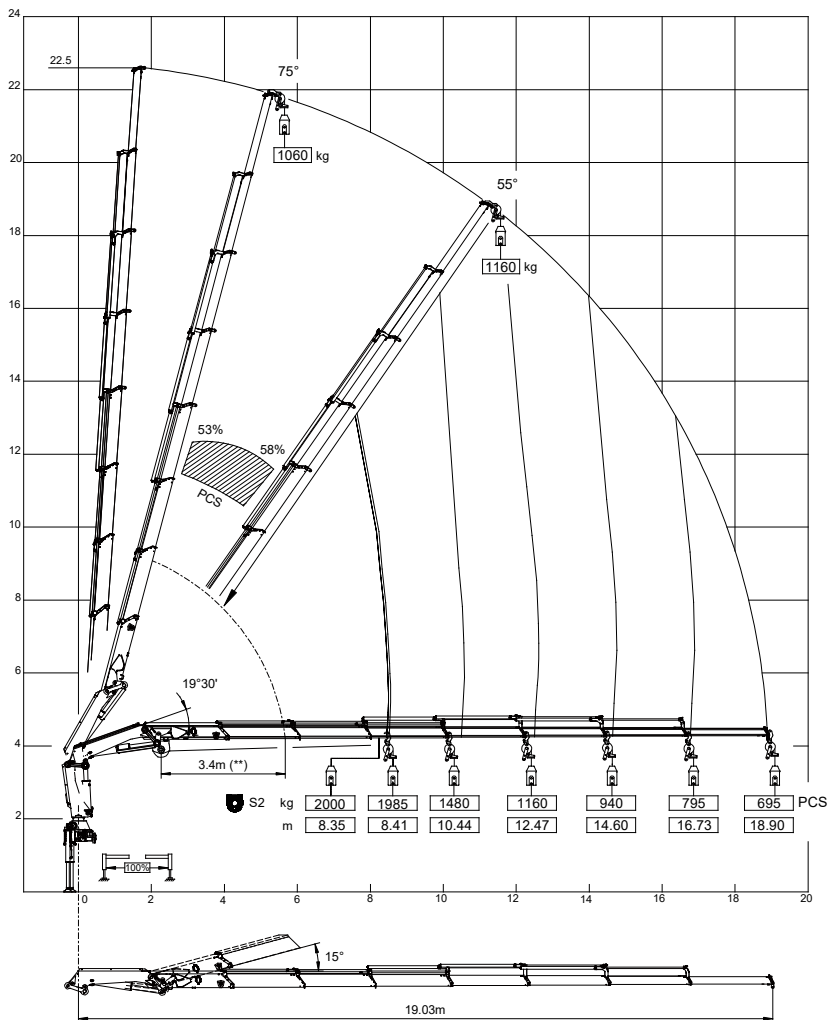
(**) Minimum distance winch - pulley
Winch max. pull with PCS: 2000 kg
PCS: Pull Control System, present on CE/TOP cranes

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LOAD CHART FOR WINCH T12 IN SINGLE LINE 924NG 7S + T12 SINGLE LINE



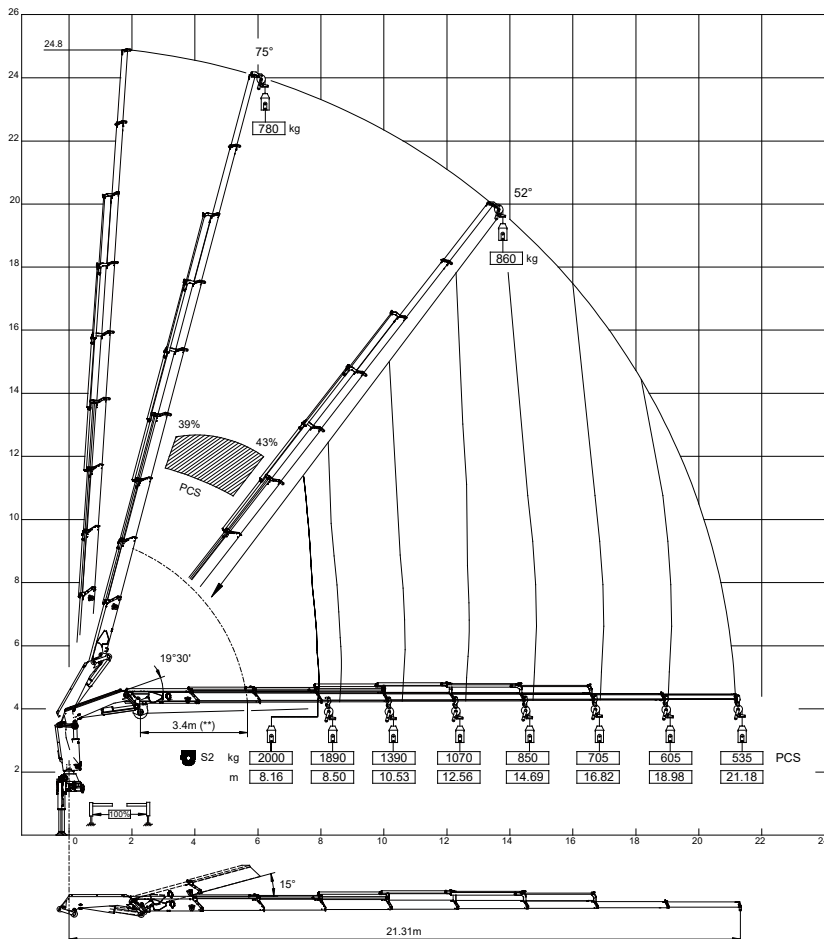
(**) Minimum distance winch - pulley
Winch max. pull with PCS: 2000 kg
PCS: Pull Control System, present on CE/TOP cranes

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LOAD CHART FOR WINCH T12 IN SINGLE LINE 924NG 8S + T12 SINGLE LINE



(**) Minimum distance winch - pulley

Winch max. pull with PCS: 2000 kg

PCS: Pull Control System, present on CE/TOP cranes

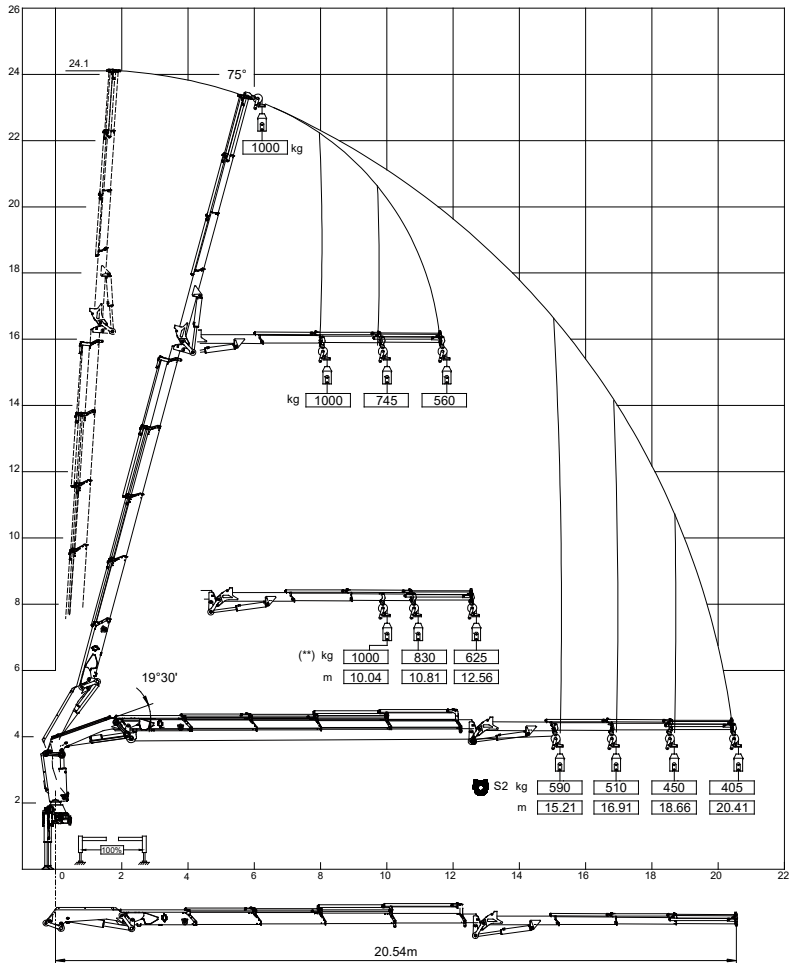
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D.10 LOAD CHARTS FOR T11 WINCH IN SINGLE LINE

924NG 4SJ3 + T11 SINGLE LINE



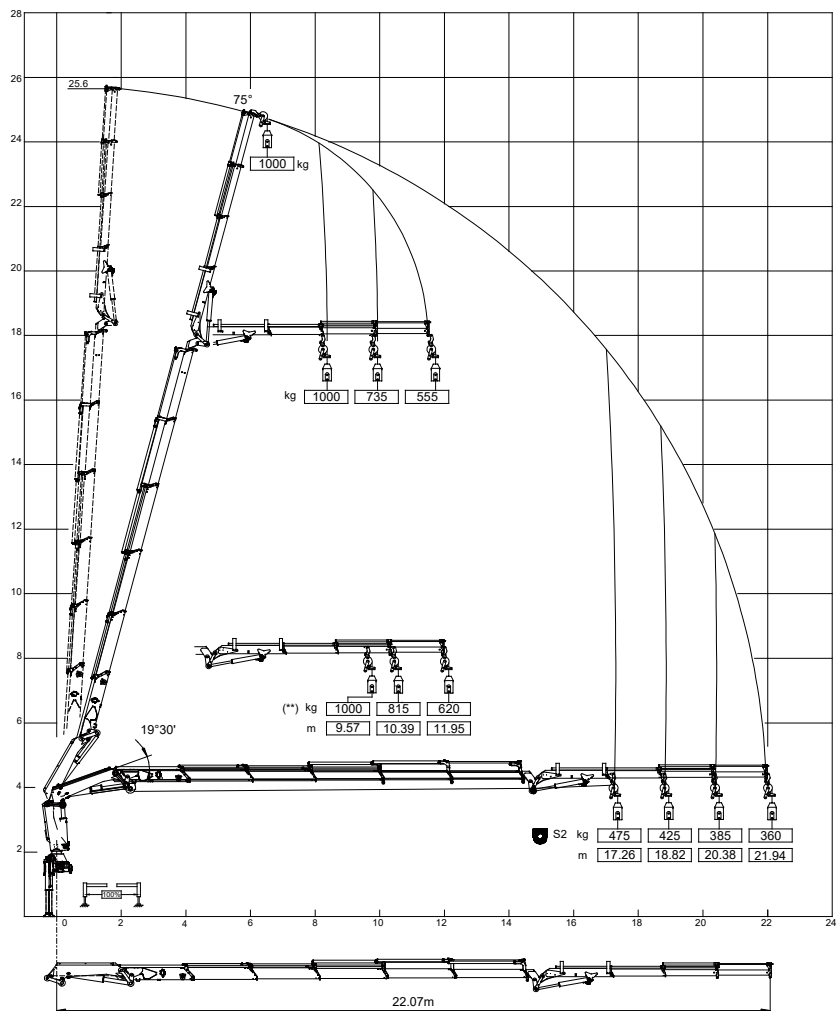
(**) Max. lifting capacity of jib
Winch max. pull: 1000 kg

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TECHNICAL SHEET

LOAD CHART FOR WINCH T1 IN SINGLE LINE 924NG 5SJ3 + T1 SINGLE LINE



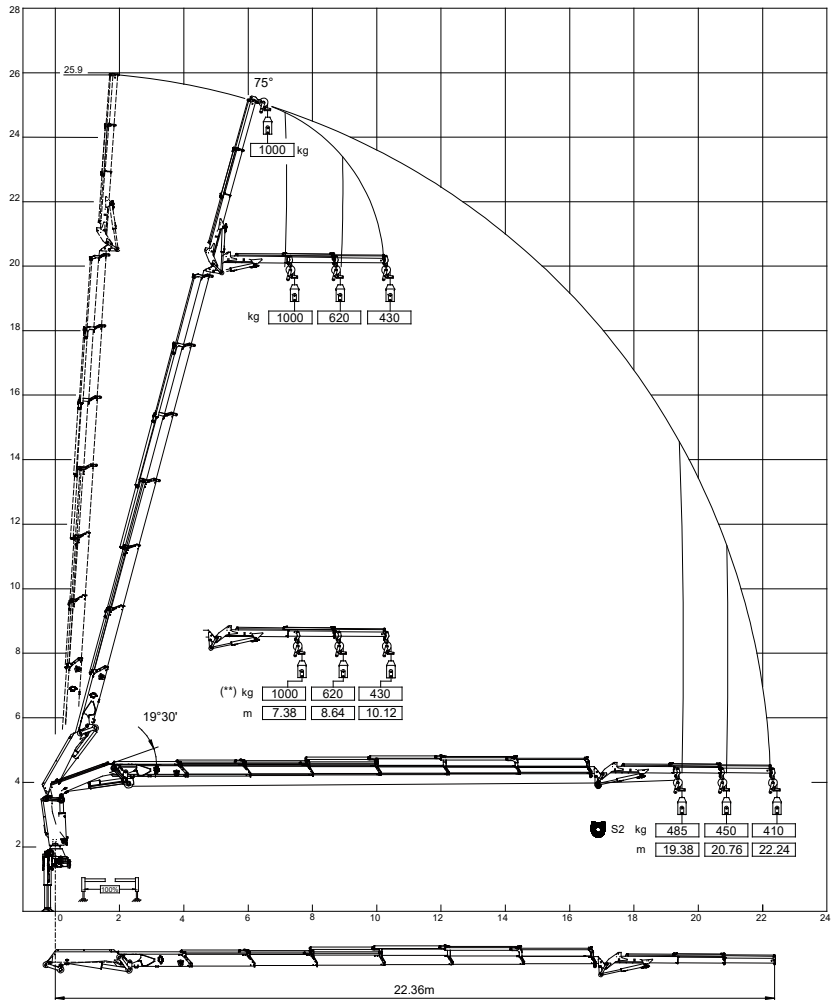
(**) Max. lifting capacity of jib
Winch max. pull: 1000 kg

USER MANUAL

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TECHNICAL SHEET

LOAD CHART FOR WINCH T1 IN SINGLE LINE 924NG 6SJ2 + T1 SINGLE LINE



(**) Max. lifting capacity of jib
Winch max. pull: 1000 kg

USER MANUAL

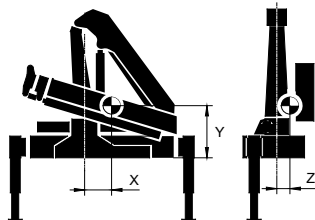
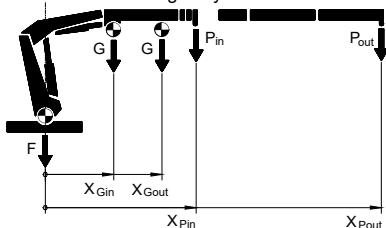
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TECHNICAL SHEET

D.11 CENTERS OF GRAVITY AND TEST LOADS

This annex contains the data needed for the stability test in accordance with EN 12999.

Loads and centers of gravity



Hooking point for the test load



Key:

F = weight of fixed parts (stabilizers, base, column, 1st boom cylinder)

G = weight of booms

X_G = distance between G and column axis

P = rated capacity

X_P = distance between P and column axis

TL = test load, to be hooked to the last hydraulic extension

TL2 - #S = additional test load, to be hooked to the hydraulic extension indicated in the table below

X, Y, Z = coordinates of center of gravity for whole crane folded in transport position (EX-H version)

in = configuration with all hydraulic extensions fully retracted

out = configuration with all hydraulic extensions fully extracted

WEIGHTS AND CENTERS OF GRAVITY

924NG	F	G	X_G	P	X_P	TL	X	Y	Z
	kg	kg	in / out m	in / out kg	in / out m	(TL2 - #S) kg		mm	
2S	ST-M : 1510 EX-H : 1580 SE-H : 1735	1090	2.05 2.89	5265 2730	4.28 8.08	3413	232	755	17
3S		1230	2.17 3.51	5175 2080	4.28 10.11	2600	230	770	37
4S		1370	2.28 4.30	4885 1565	4.36 12.22	1974	221	785	55
5S		1495	2.38 5.09	4610 1180	4.44 14.43	1521	211	800	68
6S		1600	2.46 5.88	4430 905	4.53 16.65	1199	203	812	77
7S		1720	2.52 6.63	4270 695	4.61 18.90	869 (130 - 4S)	193	830	90
8S		1810	2.58 7.29	4130 535	4.70 21.18	669 (165 - 4S)	188	843	97
4SJ3		2030	9.13 9.39	660 450	15.21 20.41	563 (274 - 4S)	183	1007	114
5SJ3		1985	9.38 9.56	530 400	17.26 21.94	500 (233 - 5S)	194	1023	111
6SJ2		1875	9.13 9.17	540 460	19.38 22.24	575 (176 - 6S)	182	945	105

The data are relating to crane configuration with horizontal booms.

For the jib version, the "in" data are relating to standard crane's extensions always fully extracted.

USER MANUAL

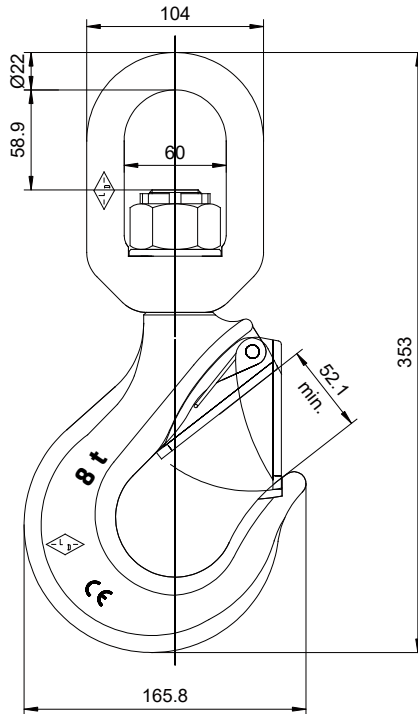
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TECHNICAL SHEET

D.12 HOOK DATA

HOOK MOUNTED ON STANDARD BOOM
VERSIONS: 2S, 3S, 4S, 5S, 6S, 7S, 8S

DIMENSIONS



TECHNICAL PROPERTIES

Working load limit (WLL) : 8000 kg

Material: alloy steel

Weight: 6.2 kg

Swivel hook

Reference standard: DIN 15401

USER MANUAL

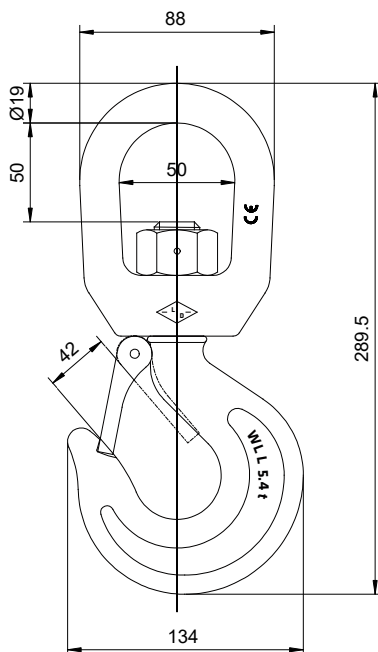
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TECHNICAL SHEET

HOOK DATA

HOOK MOUNTED ON JIB BOOM
VERSION: 4SJ3, 5SJ3, 6SJ2

DIMENSIONS



TECHNICAL PROPERTIES

Working load limit (WLL) : 5400 kg

Material: alloy steel

Weight: 3.2 kg

Swivel hook

Reference standard: DIN 15401

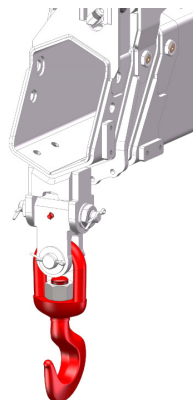
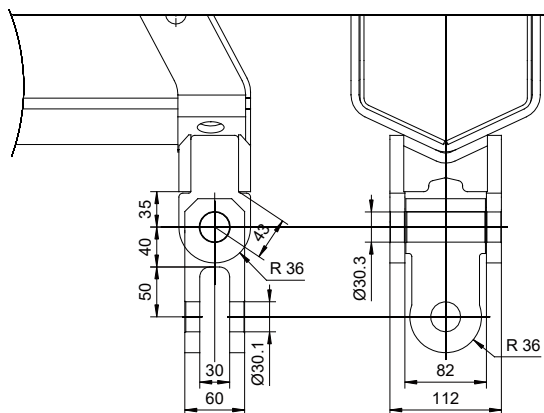
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TECHNICAL SHEET

D.13 LOAD ATTACHMENT

ATTACHMENT FOR HOOK AND LIFTING TOOL



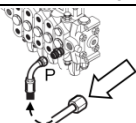
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TECHNICAL SHEET

D.14 HYDRAULIC SYSTEM

FITTINGS FOR CONNECTION TO PUMP

924NG	NO RDC	RDC
Control valve pressure line	 M 7/8"-14 JIC	 M 3/4"-16 GAS
Tank suction line	 M 1"1/2 BSP	 M 1" 1/2 BSP

EXTENSION TIMES OF HYDRAULIC CYLINDERS

924NG	Extension time s	Retraction time s
Slewing (180°)	20	20
1.boom cylinder	18	32
2.boom cylinder	25	16
boom extension 1S (SGS active)	N/A	N/A
boom extension 2S (SGS active)	N/A	N/A
boom extension 3S (SGS active)	N/A	N/A
boom extension 4S (SGS active)	N/A	N/A
boom extension 5S (SGS active)	N/A	N/A
boom extension 6S (SGS active)	N/A	N/A
boom extension 7S (SGS active)	N/A	N/A
boom extension 8S (SGS H7active)	70	58
jib articulation cylinder	N/A	N/A
jib extension 2S	N/A	N/A
jib extension 3S	N/A	N/A

Times are indicative and referring to the following operating conditions:

- unloaded crane operated with a single control lever
- oil flow rate recommended for NO RDC crane
- ISO VG 46 oil at a temperature of 50°C

MAX. ALLOWABLE SINK RATE FOR THE LOAD

The sink rate is the uncontrolled descent of the load in a given time interval due to internal leakage of hydraulic components. The table below shows the maximum permitted descent of the rated load, at the max. hydraulic outreach and in the given time interval.

924NG	Time interval min.	Max. load descent mm
2S	10	404
3S	10	506
4S	10	244
5S	10	289
6S	10	333
7S	10	378
8S	10	424
4SJ3	10	408
5SJ3	10	439
6SJ2	10	445

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CAPACITY OF HYDRAULIC SYSTEM

924NG	Cylinders extended ℓ	Cylinders retracted ℓ
2S	74	47
3S	82	52
4S	90	56
5S	98	62
6S	106	67
7S	115	74
8S	123	81
4SJ3	106	66
5SJ3	107	72
6SJ2	116	73

Capacities do not include the oil tank.

ADDITIONAL CAPACITY FOR HYDRAULICALLY OPERATED STABILIZER EXTENSIONS

EX-H	+4.0	+2.5
SE-H	+6.5	+3.5

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D.15 OIL COOLER



TECHNICAL SPECIFICATIONS

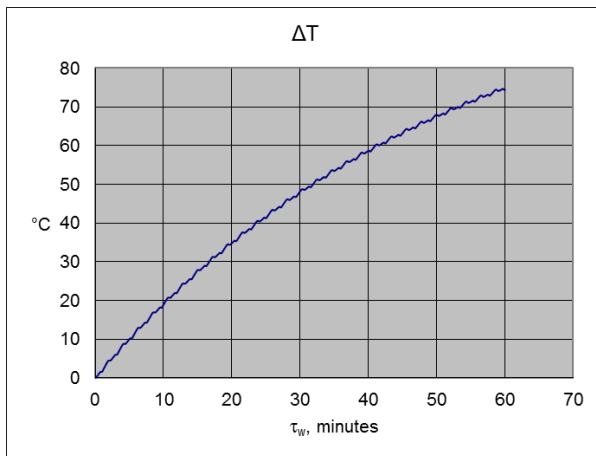
Heat transfer coefficient: 235 W/K (oil flow rate of 40 l/min)

Activation temperature: 48 °C

Weight: 13.5 kg

Capacity: 4 l

For a crane without oil cooler performing a sequence of standard work cycles, the difference in temperature between the oil and the environment is shown in the graph below.



The oil cooler is recommended when

$$T_{env} + \tau_w > 57$$

where:

T_{env} : temperature of the environment (°C)

ΔT : difference in temperature between the oil and the environment (°C)

τ_w : working time (minutes)

USER MANUAL

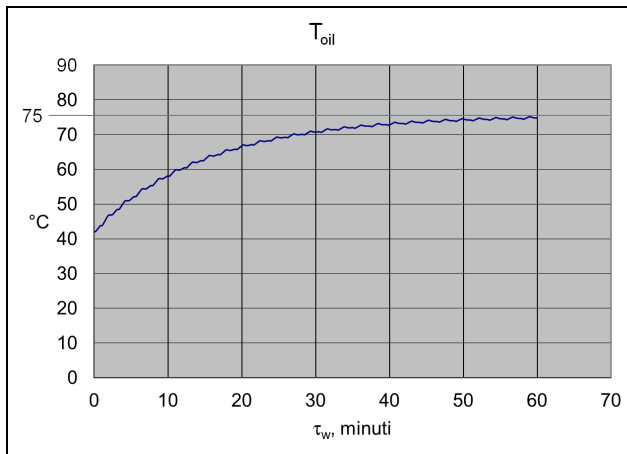
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TECHNICAL SHEET

However, when a crane equipped with oil cooler carries out a sequence of standard work cycles, the oil temperature exceeds 75 °C after the following working times:

T_{env} (°C)	τ_w to exceed 75 °C (minutes)
42	no limit
45	35
48	25
50	21
52	18
54	15

The graph below shows the temperature trend (T_{oil}) with oil cooler when $T_{env} = 45$ °C.



Notes:

The max recommended oil temperature is 75°C (at 80°C you must stop working)

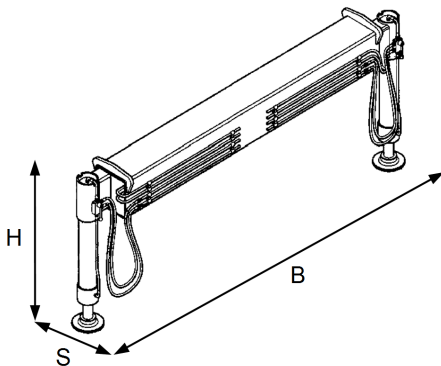
The calculation of the oil temperature is purely indicative and depending on several variables (e.g. working cycle, wind, humidity, weather, etc.)

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D.16 ADDITIONAL STABILIZERS



Additional stabilizers must be chosen so that:

- the installation is stable (see Installer Manual)
- the max. force acting on the additional stabilizers, F_s , is lower than the max. load allowed by the stabilizers itself, R_{max} .

$$F_s = M_{dyn} / X_s \quad F_s \geq 0.6 F_{sg}$$

where:

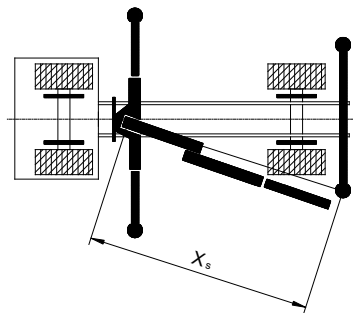
M_{dyn} : max. dynamic moment of the crane

X_s : distance between column axis - stab. cylinder

F_{sg} : max force on stabilizer leg

Check that: $F_s \leq R_{max}$

R_{max} is given in the technical specifications of the additional stabilizers.



- In addition, CE additional stabilizer must be equipped with safety devices integrated with the crane's stability control system. Therefore we recommend to install the following models designed by crane's manufacturer.

Code	Spread (m)	Weight (kg)	R_{max} (kg)	Overall dimensions BxHxS (mm)
7850106	3.33	270	8200	2334x930x220
7850107	3.33	260	8200	2334x840x220
7850105	4.74	390	8250	2346x930x400
7850121	4.74	380	8250	2346x840x400
7850103	5.02	570	12700	2420x1095x430
7850104	5.02	540	12700	2420x970x430

For further information see the User Manual for additional stabilizers.

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D.17 RECOMMENDED ADDITIONAL LIFTING TOOLS

CLAMSHELL BUCKET



Crane version	Gross load kg ⁽¹⁾	Data of recommended tool				Payload kg ⁽³⁾	Load ratio	
		HYVA model	weight kg	volume dm ³	capacity kg ⁽²⁾		crane ⁽⁴⁾	tool ⁽⁵⁾
2S	2730	H605-650	410	650	975	2320	51%	100%
3S	2080	H605-650	410	650	975	1670	67%	100%
4S	1565	H605-450	340	450	675	1225	65%	100%
5S	1180	H604-325	235	325	487.5	945	61%	100%
6S	905	H604-200	195	200	300	710	55%	100%
7S	695	H604-200	195	200	300	500	71%	100%
8S	535	H604-200	195	200	300	340	93%	100%

Notes

- ⁽¹⁾ The gross load is the load capacity of crane at maximum hydraulic outreach
- ⁽²⁾ The tool's load capacity is calculated multiplying the volume by a density of 1.5 kg/dm³
- ⁽³⁾ The payload is the gross load of crane minus the tool's weight
- ⁽⁴⁾ The crane's load ratio is the percentage value of the liftable load with respect to the gross load
- ⁽⁵⁾ The tool's load ratio is the percentage value of the liftable load with respect to tool's capacity

Stress history class: S1

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RECOMMENDED ADDITIONAL LIFTING TOOLS ORANGE PEEL GRAPPLE



Crane version	Gross load kg ⁽¹⁾	Data of recommended tool				Payload kg ⁽³⁾	Load ratio	
		HYVA model	weight kg	volume dm ³	capacity kg ⁽²⁾		crane ⁽⁴⁾	tool ⁽⁵⁾
2S	2730	H653-4 large	435	500	750	2295	43%	100%
3S	2080	H653-4 large	435	500	750	1645	57%	100%
4S	1565	H653-4 large	395	350	525	1170	59%	100%
5S	1180	H653-4 small	250	240	360	930	52%	100%
6S	905	H653-4 small	235	180	270	670	56%	100%
7S	695	H653-4 small	235	180	270	460	73%	100%
8S	535	H653-4 small	235	180	270	300	94%	100%

Notes

⁽¹⁾ The gross load is the load capacity of crane at maximum hydraulic outreach

⁽²⁾ The tool's load capacity is calculated multiplying the volume by a density of 1.5 kg/dm³

⁽³⁾ The payload is the crane's gross load minus the tool's weight

⁽⁴⁾ The crane's load ratio is the percentage value of the liftable load with respect to the gross load

⁽⁵⁾ The tool's load ratio is the percentage value of the liftable load with respect to tool's capacity

Stress history class: S1

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RECOMMENDED ADDITIONAL LIFTING TOOLS
LOGGING GRAPPLE



Crane version	Gross load kg ⁽¹⁾	Data of recommended tool			Payload kg ⁽²⁾	Load ratio	
		HYVA model	weight kg	capacity kg		crane ⁽³⁾	tool ⁽⁴⁾
2S	2730	H634-0,25	170	4000	2560	100%	64%
3S	2080	H634-0,25	170	4000	1910	100%	48%
4S	1565	H634-0,25	170	4000	1395	100%	35%
5S	1180	H634-0,25	170	4000	1010	100%	25%
6S	905	H634-0,25	170	4000	735	100%	18%
7S	695	H634-0,25	170	4000	525	100%	13%
8S	535	H634-0,25	170	4000	365	100%	9%

Notes

- ⁽¹⁾ The gross load is the load capacity of crane at maximum hydraulic outreach
- ⁽²⁾ The payload is the gross load of crane minus the tool's weight
- ⁽³⁾ The crane's load ratio is the percentage value of the liftable load with respect to the gross load
- ⁽⁴⁾ The tool's load ratio is the percentage value of the liftable load with respect to tool's capacity

Stress history class: S1

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RECOMMENDED ADDITIONAL LIFTING TOOLS BRICK STACK GRAPPLE



Crane version	Gross load kg ⁽¹⁾	Data of recommended tool			Payload kg ⁽²⁾	Load ratio	
		HYVA model	weight kg	capacity kg		crane ⁽³⁾	tool ⁽⁴⁾
2S	2730	H332-850	245	2200	2485	90%	100%
3S	2080	H332-850	245	2200	1835	100%	83%
4S	1565	H332-850	245	2200	1320	100%	60%
5S	1180	H332-850	245	2200	935	100%	43%
6S	905	H332-850	245	2200	660	100%	30%
7S	695	H332-850	245	2200	450	100%	20%
8S	535	H332-850	245	2200	290	100%	13%

Notes

⁽¹⁾ The gross load is the load capacity of crane at maximum hydraulic outreach

⁽²⁾ The payload is the gross load of crane minus the tool's weight

⁽³⁾ The crane's load ratio is the percentage value of the liftable load with respect to the gross load

⁽⁴⁾ The tool's load ratio is the percentage value of the liftable load with respect to tool's capacity

Stress history class: S2

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RECOMMENDED ADDITIONAL LIFTING TOOLS PALLET FORK



Crane version	Gross load kg ⁽¹⁾	Data of recommended tool			Payload kg ⁽²⁾	Load ratio	
		HYVA model	weight kg	capacity kg		crane ⁽³⁾	tool ⁽⁴⁾
2S	2730	H415 2000-500	155	2000	2575	79%	100%
3S	2080	H415 1500-500	135	1500	1945	79%	100%
4S	1565	H415 1500-500	135	1500	1430	100%	95%
5S	1180	H415 1500-500	135	1500	1045	100%	70%
6S	905	H415 1500-500	135	1500	770	100%	51%
7S	695	H415 1500-500	135	1500	560	100%	37%
8S	535	H415 1500-500	135	1500	400	100%	27%

Notes

⁽¹⁾ The gross load is the load capacity of crane at maximum hydraulic outreach

⁽²⁾ The payload is the gross load of crane minus the tool's weight

⁽³⁾ The crane's load ratio is the percentage value of the liftable load with respect to the gross load

⁽⁴⁾ The tool's load ratio is the percentage value of the liftable load with respect to tool's capacity

Stress history class: S2