

D TECHNICAL SHEET



D.1 CRANE'S TECHNICAL DATA

Versions		A2	A3	A4	A5	A6	A7	A8
Max. net lifting moment	 t m kNm	37.7 370	36.4 357	35.6 349	34.9 342	34.2 336	33.7 331	33.1 325
Max. dynamic moment	 $daNm$ kNm	43050 430.5						
Capacity at min. hydraulic outreach	hook [S2]  kg	8565	8170	7905	7620	7470	7100	6970
Max rated capacity	grab [S1]  kg	8565	8170	7905	7620	7470	7100	6970
	min.outreach  m	4.4	4.45	4.50	4.58	4.58	4.75	4.75
Capacity at max. hydraulic outreach	hook [S2]  kg	4695	3495	2725	2130	1695	1330	1055
	grab [S1]  kg	4695	3495	2725	2130	1695	1330	1055
	max.outreach  m	7.97	10.05	12.10	14.25	16.35	18.67	20.85
Capacity of 1st man. extension	capacity  kg	3495	2725	2130	1695	1330	1055	880
	max.outreach  m	10.05	12.10	14.25	16.35	18.67	20.85	22.95
Max. load height above the base for the last extension	hydraulic  m	10.5	12.5	14.6	16.7	18.8	21.1	23.3
	manual  m	18.8	21.1	23.3	25.4	27.4	27.4	27.4
Weight of crane without stabilizers	 kg	3250	3480	3700	3910	4100	4280	4450
Weight of stabilizers	ST-H kg	600						
	EX-H kg	770						
Weight of 1st man. extension	 kg	132	118	104	90	76	62	45
Max. working pressure	 bar	345						
Max. oil flow rate	 l/min	100						
Max. power needed	 kW	-						
Oil tank capacity	 l	230						
Slewing angle	 $^{\circ}$	430						
Gross slewing torque	 $daNm$ kNm	4800 48.0						
Max. working heel	 $^{\circ}$	4						
	 $^{\circ}$	3						
Max boom inclination for use with CE winch	$^{\circ}$	75						
Max. stabilizer force on the ground	ST daN	14850						
with stabilizers fully extended	EX daN	11640						
Max. stabilizer pressure on the ground	ST MPa	3.28						
with stabilizers fully extended	EX MPa	2.57						
Lifting conversion factor, k	kgm/bar	125.94						
Distribution factor of dyn. moment on base, β	-	0.62						
Position of standard dead point (see D.6)								

D.2 WINCHES' TECHNICAL DATA

T12 - SINGLE LINE PULL

Versions		A2	A3	A4	A5	A6	A7	A8
 Max line pull	kg	2000	2000	2000	2000	2000	2000	2000
Start angle - pull%		-	-	-	-	-	-	-
Final angle - pull%		-	-	-	-	-	-	-

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

kg	Crane version						
Type of stabilizers	A2	A3	A4	A5	A6	A7	A8
ST-H	3850	4080	4300	4510	4700	4880	5050
EX-H	4020	4250	4470	4680	4870	5050	5220

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

Additional weight for automatic turning stabilizers: 70 kg

Additional weight for T12 winch: 150 kg

Additional weight for T13 winch: 385 kg

Additional weight of 1st extra function activated with slides: 10 kg pro hydraulic extension

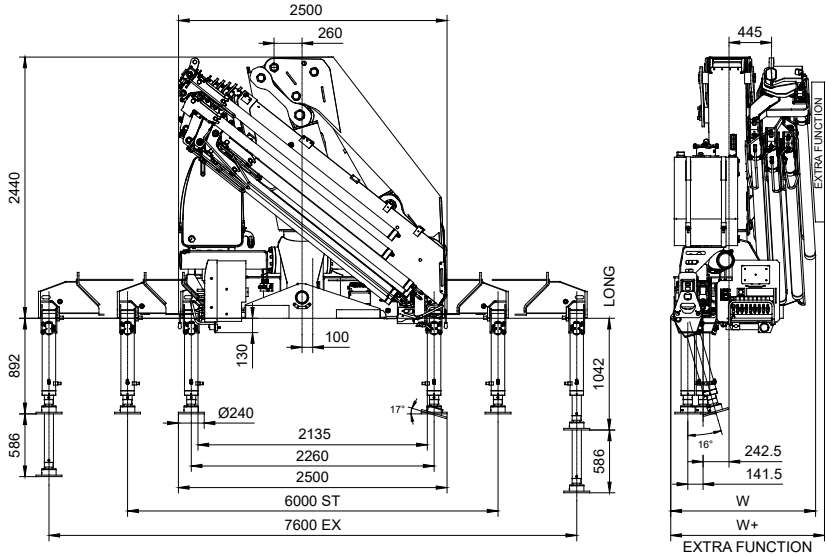
Additional weight of 2nd extra function activated with slides: 3 kg pro hydraulic extension

Additional weight of 1st extra function activated with hose reel: 100 kg

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

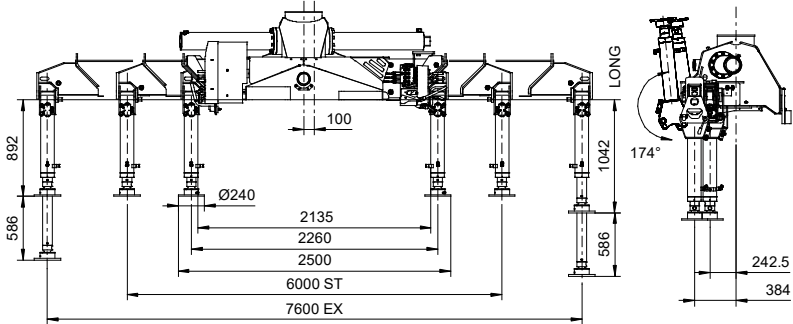
D.4 OVERALL DIMENSIONS

FIXED STABILIZERS LEGS

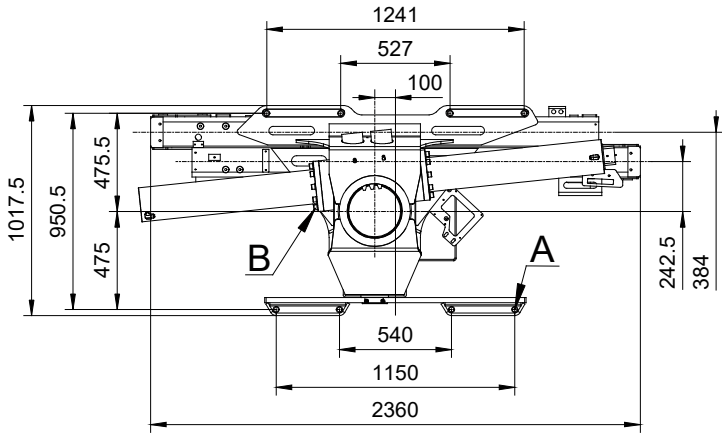


	A2	A3	A4	A5	A6	A7	A8
W (mm)	1250	1250	1250	1250	1250	1350	1350
W+ (mm)	slides	1310	1310	1310	1310	N/A	N/A
	hose reel	N/A	N/A	N/A	N/A	1390	1390

AUTOMATIC TURNING STABILIZERS LEGS



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	M30x2 L=1100 (4) L=1300 (4)	700 Nm
	Kit with 4 crane mounting bolts	4	42CrMo4+QT EN 10083-3	M33x2 L=1000	1100 Nm
B	Fixing bolts for each slewing cylinder	10	12.9	M16x2 L=50	235 Nm

D.6 INSTALLATION TYPE NUMBER

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

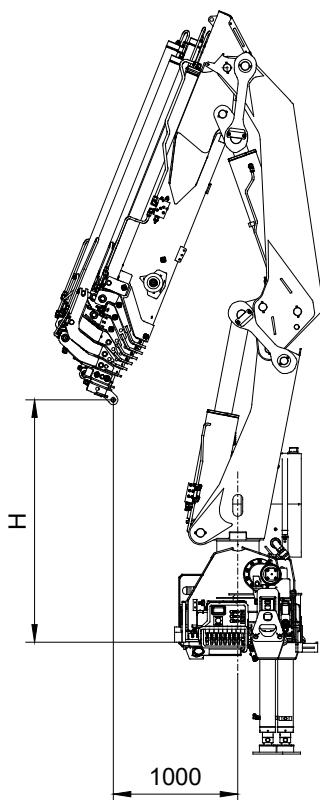
STANDARD DEAD POINT		OPPOSITE DEAD POINT	
1 	2 	3 	4
5 	6 	7 	8
9 	10 	11 	12
13 	14 	15 	16

Legend:

▲ : position of dead point (STOP)

□ : position of main manual controls (on column side)

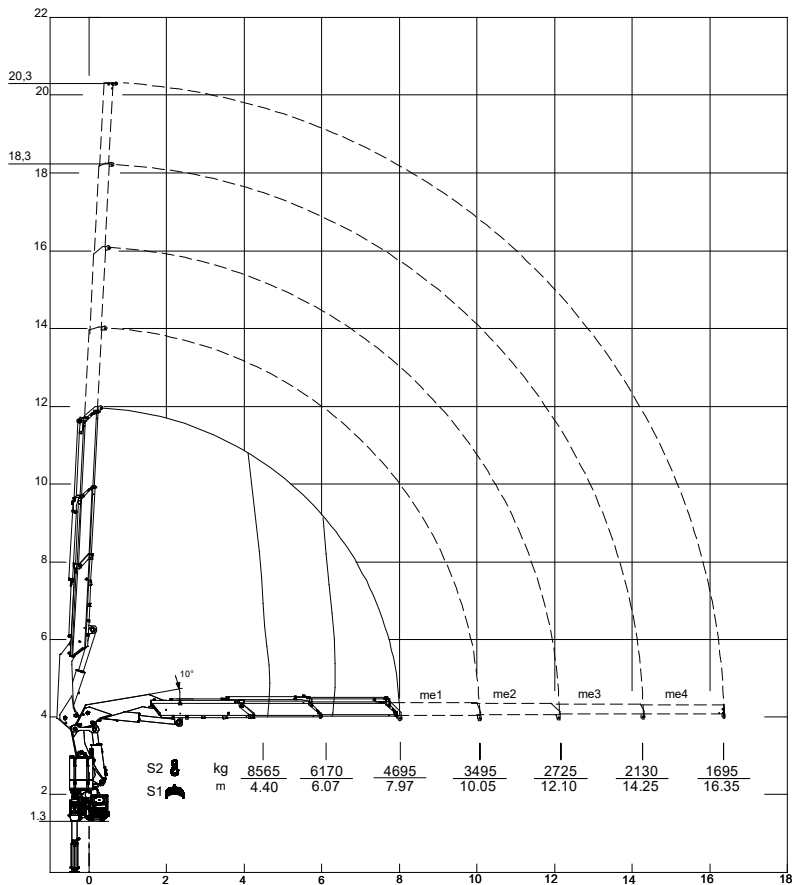
D.7 LIFTING HEIGHT CLOSE TO THE COLUMN



Version	H mm
A2	2294
A3	2233
A4	2177
A5	2119
A6	2142
A7	1948
A8	1930

D.8 LOAD CHARTS FOR USE WITH HOOK/TOOL

7441C A2



(*) 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

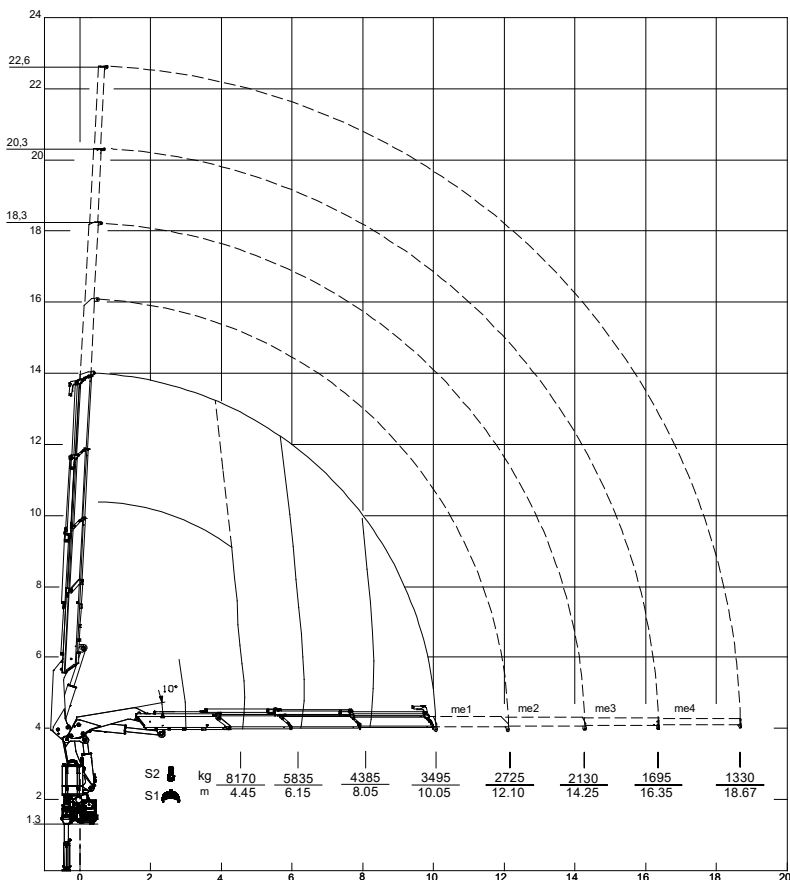
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LOAD CHART FOR USE WITH HOOK/TOOL 7441C A3



(*) 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
 The dashed lines represent load curves with regenerative valve deactivated (optional)

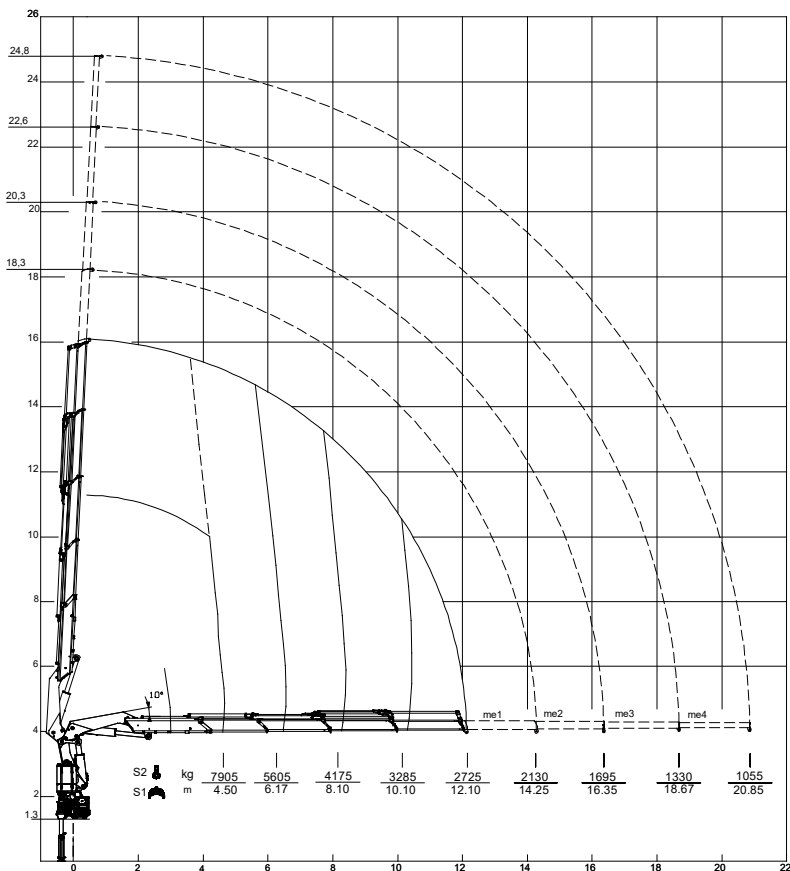
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LOAD CHART FOR USE WITH HOOK/TOOL 7441C A4



(*) 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
The dashed lines represent load curves with regenerative valve deactivated (optional)

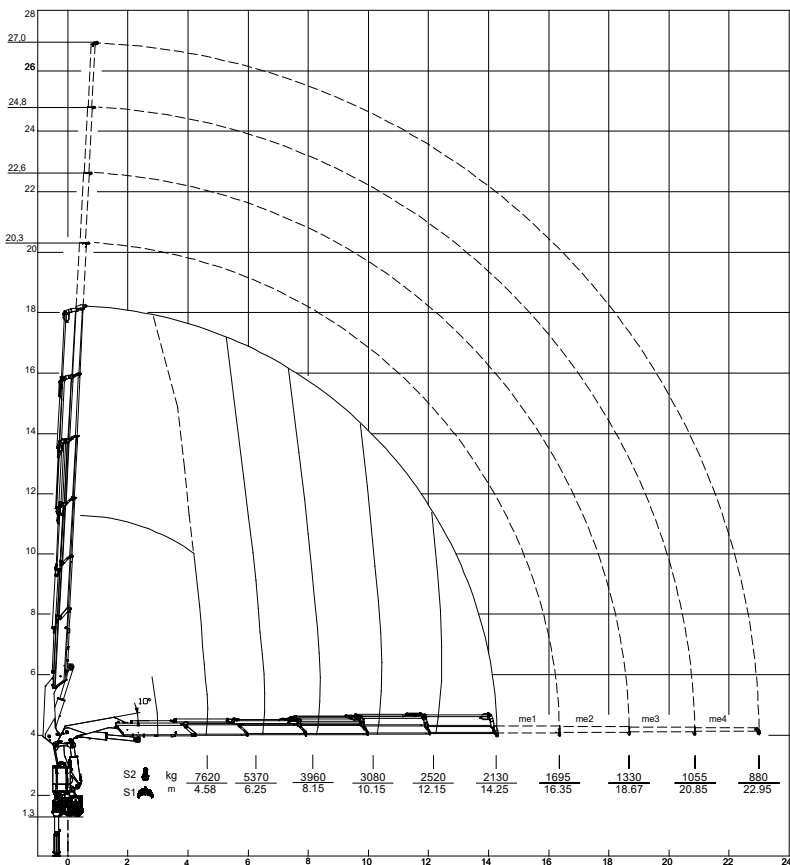
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LOAD CHART FOR USE WITH HOOK/TOOL 7441C A5



(*) 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
 The dashed lines represent load curves with regenerative valve deactivated (optional)

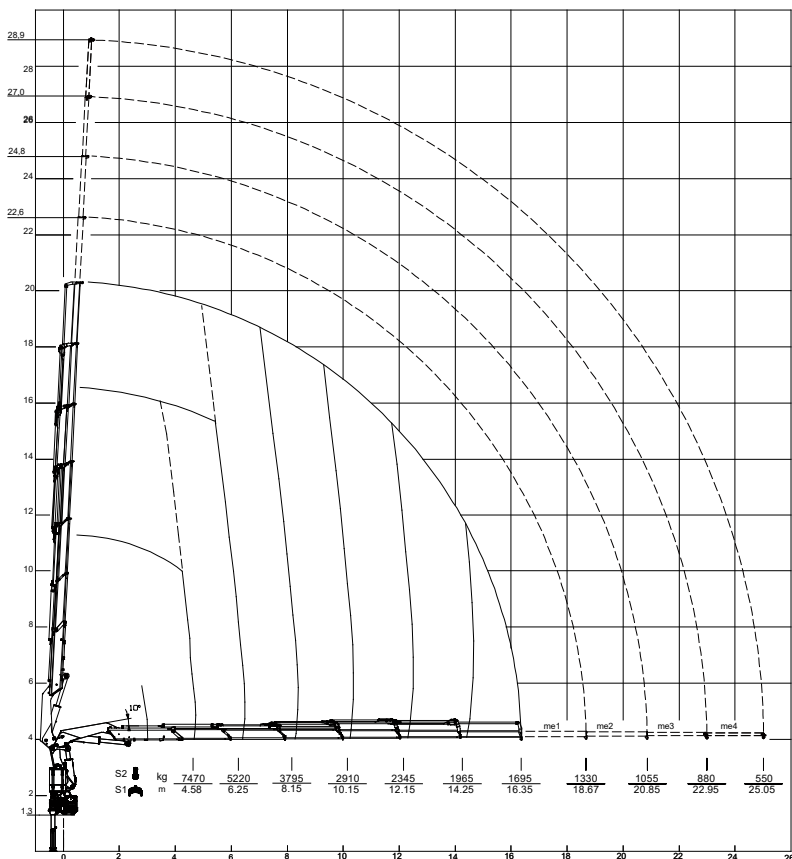
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LOAD CHART FOR USE WITH HOOK/TOOL 7441C A6



(*) 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
The dashed lines represent load curves with regenerative valve deactivated (optional)

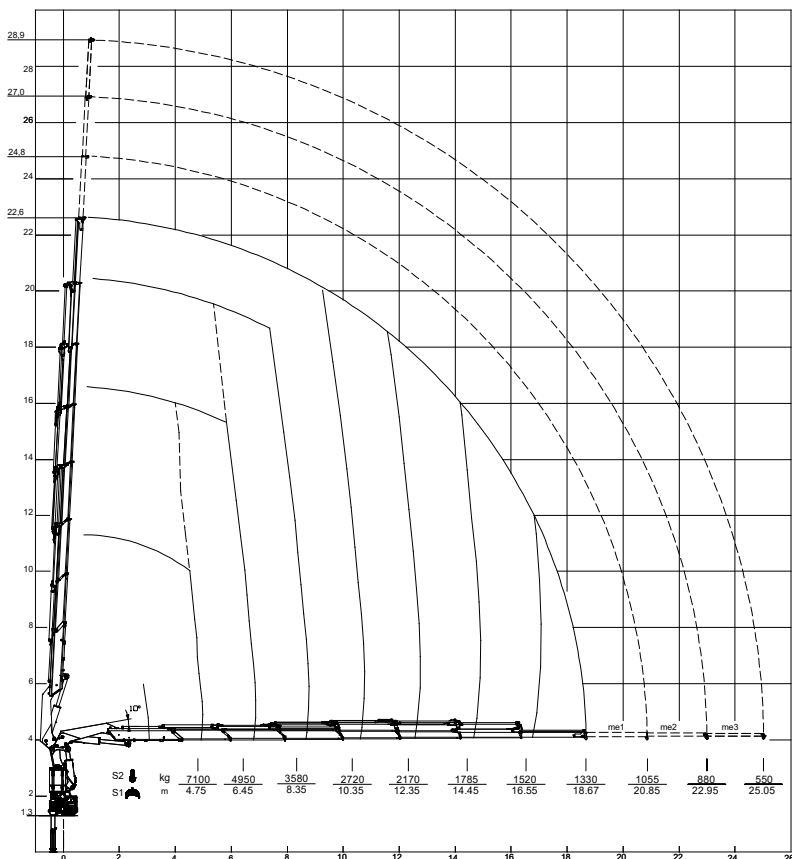
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LOAD CHART FOR USE WITH HOOK/TOOL 7441C A7



(*) 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
 The dashed lines represent load curves with regenerative valve deactivated (optional)

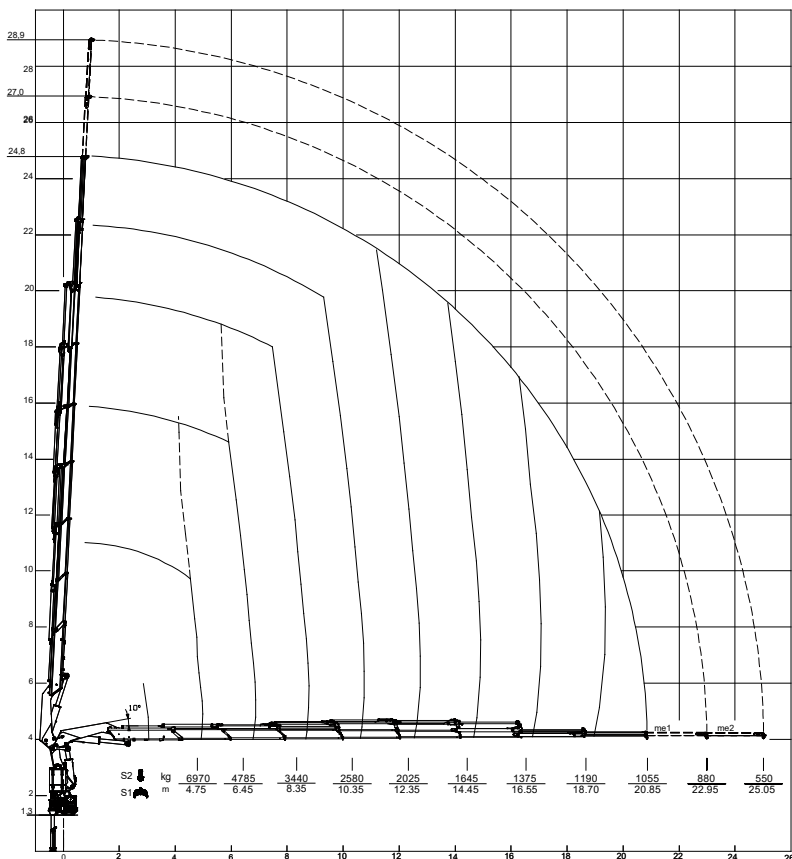
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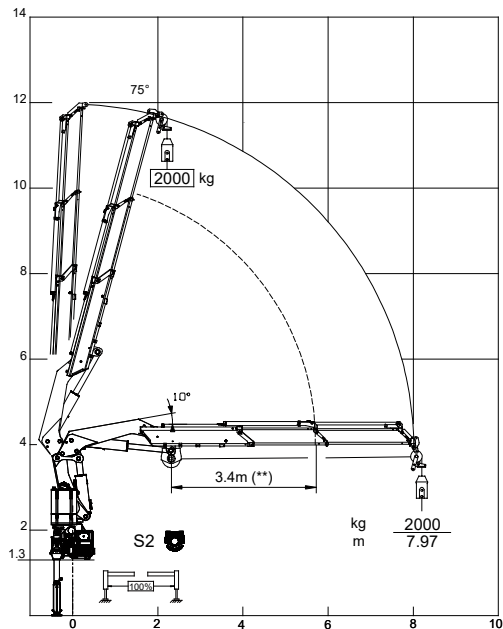
LOAD CHART FOR USE WITH HOOK/TOOL 7441C A8



(*) 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
The dashed lines represent load curves with regenerative valve deactivated (optional).

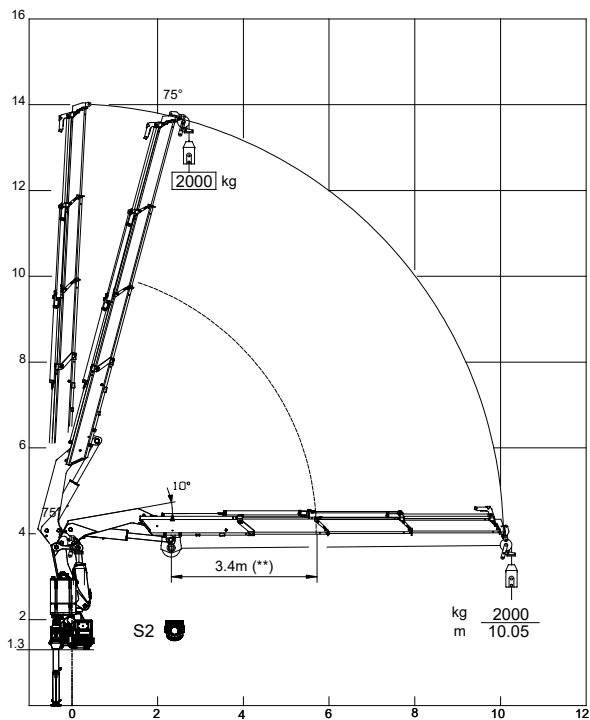
D.9 LOAD CHARTS FOR T12 WINCH IN SINGLE LINE

7441C A2 + T12 SINGLE LINE

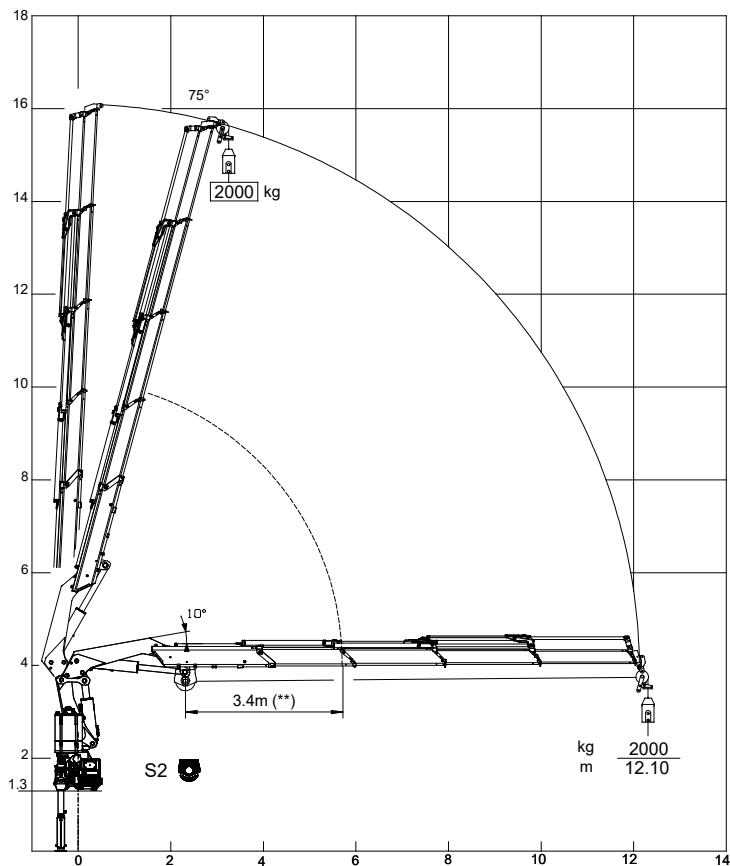


(**) Minimum distance winch - pulley
Winch max. pull: 2000 kg

LOAD CHART FOR WINCH T12 IN SINGLE LINE 7441C A3 + T12 SINGLE LINE



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

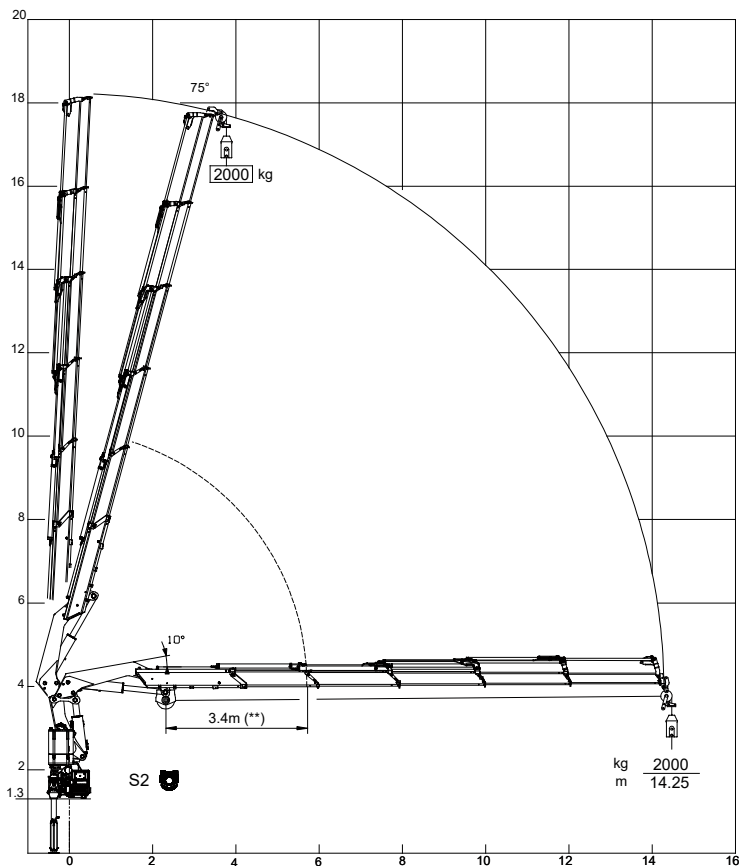
**LOAD CHART FOR WINCH TI2 IN SINGLE LINE
7441C A4 + TI2 SINGLE LINE**

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

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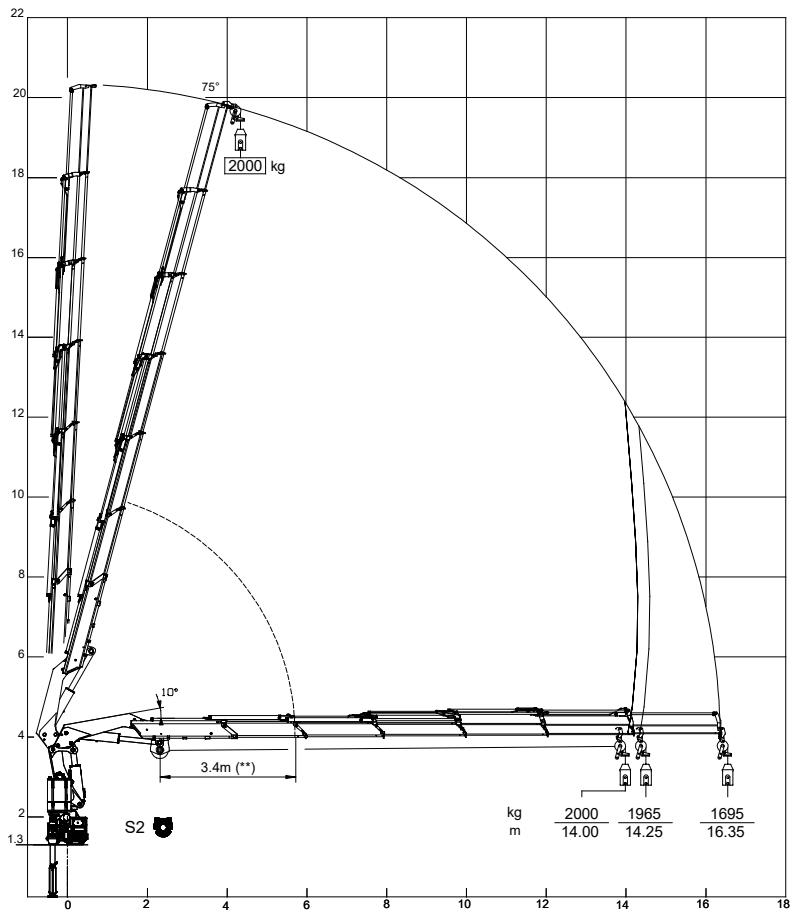
DRAFT

LOAD CHART FOR WINCH TI2 IN SINGLE LINE
7441C A5 + TI2 SINGLE LINE



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

LOAD CHART FOR WINCH TI2 IN SINGLE LINE 7441C A6 + TI2 SINGLE LINE



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

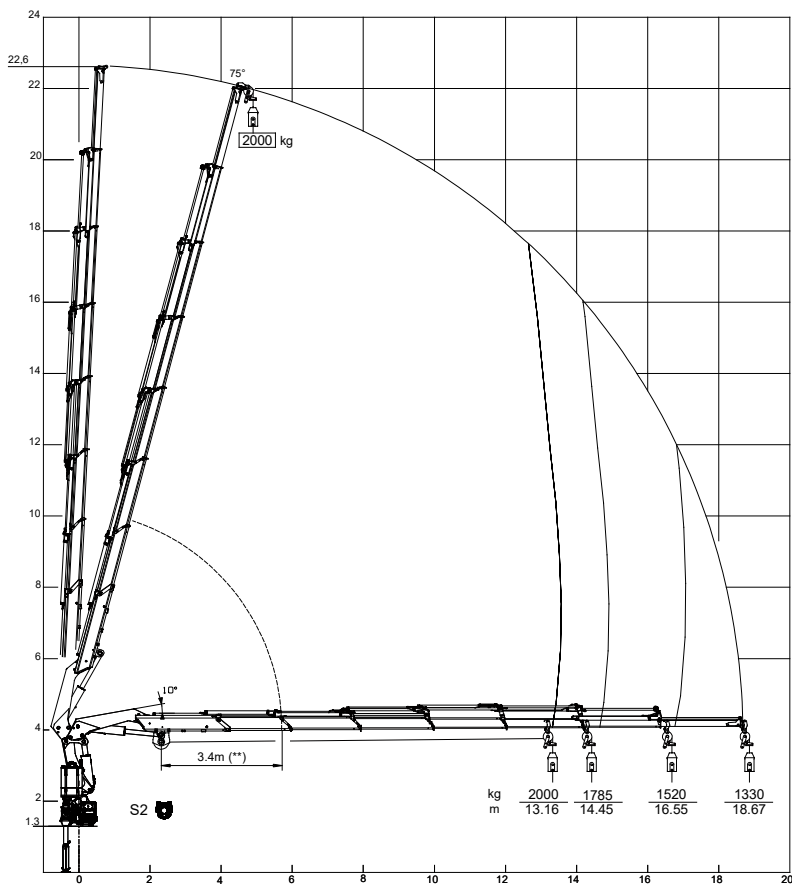
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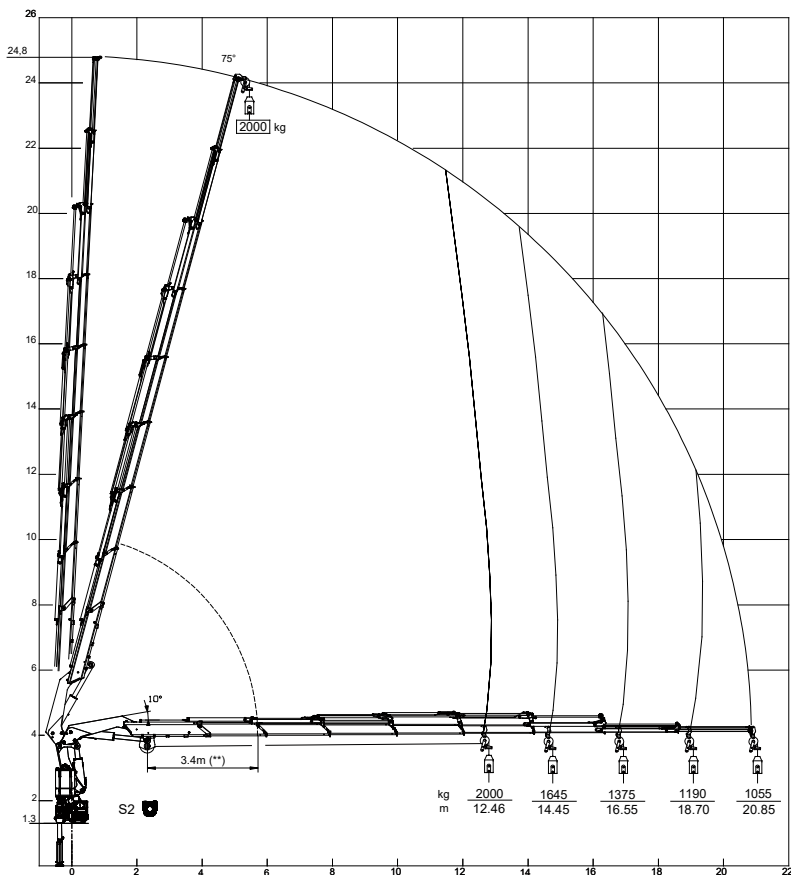
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LOAD CHART FOR WINCH T12 IN SINGLE LINE 7441C A7 + T12 SINGLE LINE



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

LOAD CHART FOR WINCH T12 IN SINGLE LINE 7441C A8 + T12 SINGLE LINE

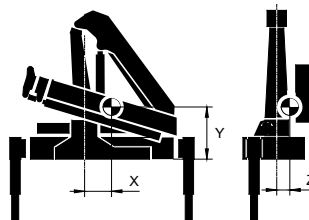
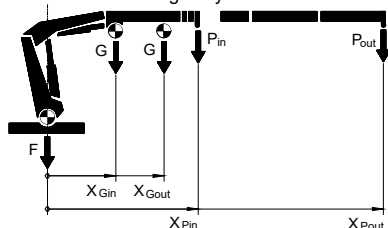


(**) Minimum distance winch - pulley
Winch max. pull: 2000 kg

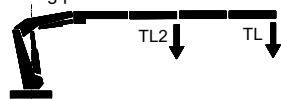
D.10 WEIGHTS AND CENTERS OF GRAVITY

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 - A# = 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

7441C	F kg	G kg	X_G in / out m	P in / out kg	X_P in / out m	TL (TL2 - A#) kg	X	Y	Z
A2	ST-H : 2390 EX-H : 2560	1460	2.23 3.01	8565 4695	4.40 7.97	5869	209	894	36
A3		1690	2.38 3.78	8170 3495	4.45 10.05	4369	203	909	59
A4		1910	2.49 4.55	7905 2725	4.50 12.10	3414	193	922	78
A5		2120	2.58 5.32	7620 2130	4.58 14.25	2714	181	935	93
A6		2310	2.66 6.09	7470 1695	4.58 16.35	2206	174	943	101
A7		2490	2.73 6.84	7100 1330	4.75 18.67	1778	161	962	117
A8		2660	2.78 7.56	6970 1055	4.75 20.85	1459	153	976	129

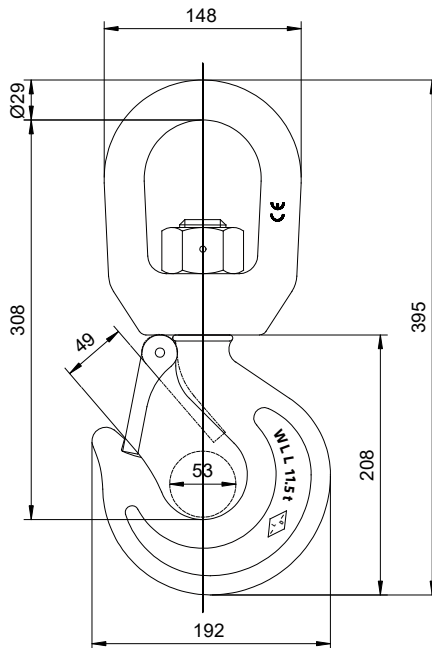
The data are relating to crane configuration with horizontal booms.

D.11 HOOK DATA

HOOK MOUNTED ON STANDARD BOOM

VERSIONS: A2, A4, A5, A6, A8

DIMENSIONS



TECHNICAL PROPERTIES

Working load limit (WLL) : 11500 kg

Material: alloy steel

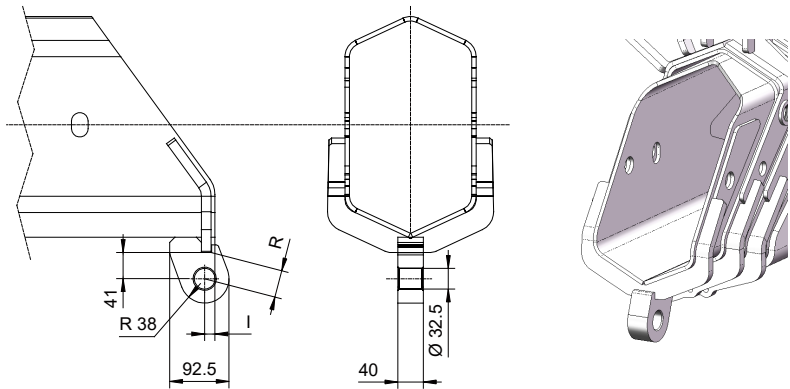
Weight: 10.5 kg

Swivel hook

Reference standard: DIN 15401

D.12 ATTACHMENTS FOR HOOK AND PULLEY

ATTACHMENT FOR HOOK



	A2	A3	A4	A5	A6	A7	A8
R (mm)	39	42	43	41	51	41	51
I (mm)	16	16	16	11	12	10	12

ATTACHMENT FOR PULLEY

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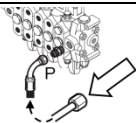
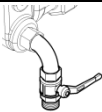
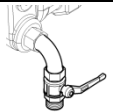
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D.13 HYDRAULIC SYSTEM

FITTINGS FOR CONNECTION TO PUMP

7441C	NO R	R
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

7441C	Extension time s	Retraction time s
Slewing (180°)	30	30
1.boom cylinder	37	34
2.boom cylinder	29	25
boom extension A1 (EQS active)	3	N/A
boom extension A2 (EQS active)	7	N/A
boom extension A3 (EQS active)	12	N/A
boom extension A4 (EQS active)	19	N/A
boom extension A5 (EQS active)	30	32
boom extension A6 (EQS active)	N/A	N/A
boom extension A7 (EQS active)	N/A	N/A
boom extension A8 (EQS active)	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 R crane
- ISO VG 46 oil at a temperature of 50°C

CAPACITY OF HYDRAULIC SYSTEM

7441C	Cylinders extended ℓ	Cylinders retracted ℓ
A2	105	69
A3	116	75
A4	127	81
A5	139	88
A6	151	96
A7	162	103
A8	175	112

Capacities do not include the oil tank.

ADDITIONAL CAPACITY FOR HYDRAULICALLY OPERATED STABILIZER EXTENSIONS

EX-H	+9.0	+5.0
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D.14 OIL COOLER



TECHNICAL SPECIFICATIONS

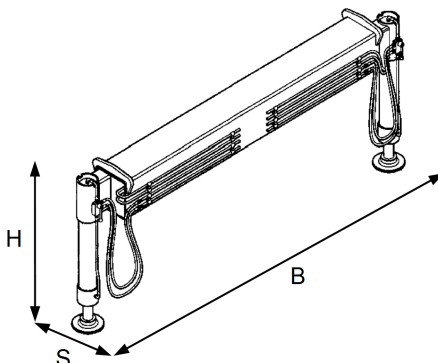
Heat transfer coefficient: 235 W/K (oil flow rate of 40 l/min)

Activation temperature: 48 °C

Weight: 13.5 kg

Capacity: 4 l

D.15 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:

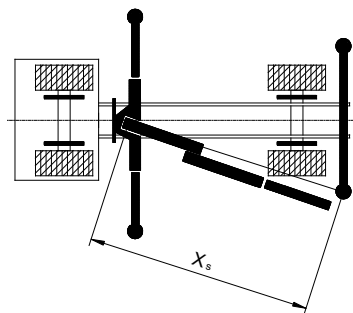
M_{dyn} : max. dynamic moment of the crane

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.

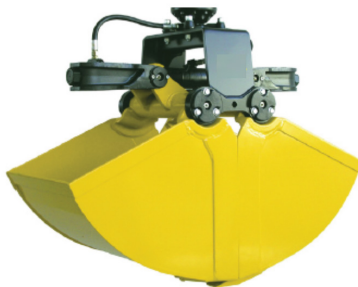


- In addition, CE additional stabilizer must be equipped with safety devices integrated with the crane's stability control system. Therefore we recommend to install the following models designed by crane's manufacturer.

Code	Spread (m)	Weight (kg)	R_{max} (kg)	Overall dimensions BxHxS (mm)
W7850104	5.02	540	12700	2420x842x430
W7850103	5.02	570	12700	2420x1012x430

For further information see the User Manual for additional stabilizers.

D.16 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⁾
A2	4695	H605-650	410	650	975	4285	29%	100%
A3	3495	H605-650	410	650	975	3085	40%	100%
A4	2725	H605-650	410	650	975	2315	51%	100%
A5	2130	H605-650	410	650	975	1720	65%	100%
A6	1695	H605-650	410	650	975	1285	82%	100%
A7	1330	H605-650	410	650	975	920	100%	94%
A8	1055	H604-200	195	200	300	860	47%	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⁾
A2	4695	H653-4 large	435	500	750	4260	25%	100%
A3	3495	H653-4 large	435	500	750	3060	34%	100%
A4	2725	H653-4 large	435	500	750	2290	43%	100%
A5	2130	H653-4 large	435	500	750	1695	56%	100%
A6	1695	H653-4 large	435	500	750	1260	70%	100%
A7	1330	H653-4 large	395	350	525	935	69%	100%
A8	1055	H653-4 large	395	350	525	660	87%	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⁾
A2	4695	H634-0,25	170	4000	4525	89%	100%
A3	3495	H634-0,25	170	4000	3325	100%	83%
A4	2725	H634-0,25	170	4000	2555	100%	64%
A5	2130	H634-0,25	170	4000	1960	100%	49%
A6	1695	H634-0,25	170	4000	1525	100%	38%
A7	1330	H634-0,25	170	4000	1160	100%	29%
A8	1055	H634-0,25	170	4000	885	100%	22%

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

USER MANUAL

7441C

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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⁾
A2	4695	H333-850	400	3000	4295	72%	100%
A3	3495	H333-850	400	3000	3095	97%	100%
A4	2725	H333-850	400	3000	2325	100%	78%
A5	2130	H333-850	400	3000	1730	100%	58%
A6	1695	H333-850	400	3000	1295	100%	43%
A7	1330	H333-850	400	3000	930	100%	31%
A8	1055	H333-850	400	3000	655	100%	22%

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

USER MANUAL

7441C

MAINTENANCE

DRAFT

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⁾
A2	4695	H415 3000-500	215	3000	4480	68%	100%
A3	3495	H415 3000-500	215	3000	3280	92%	100%
A4	2725	H415 3000-500	215	3000	2510	100%	84%
A5	2130	H415 2000-500	155	2000	1975	100%	99%
A6	1695	H415 2000-500	155	2000	1540	100%	77%
A7	1330	H415 1500-500	135	1500	1195	100%	80%
A8	1055	H415 1500-500	135	1500	920	100%	61%

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