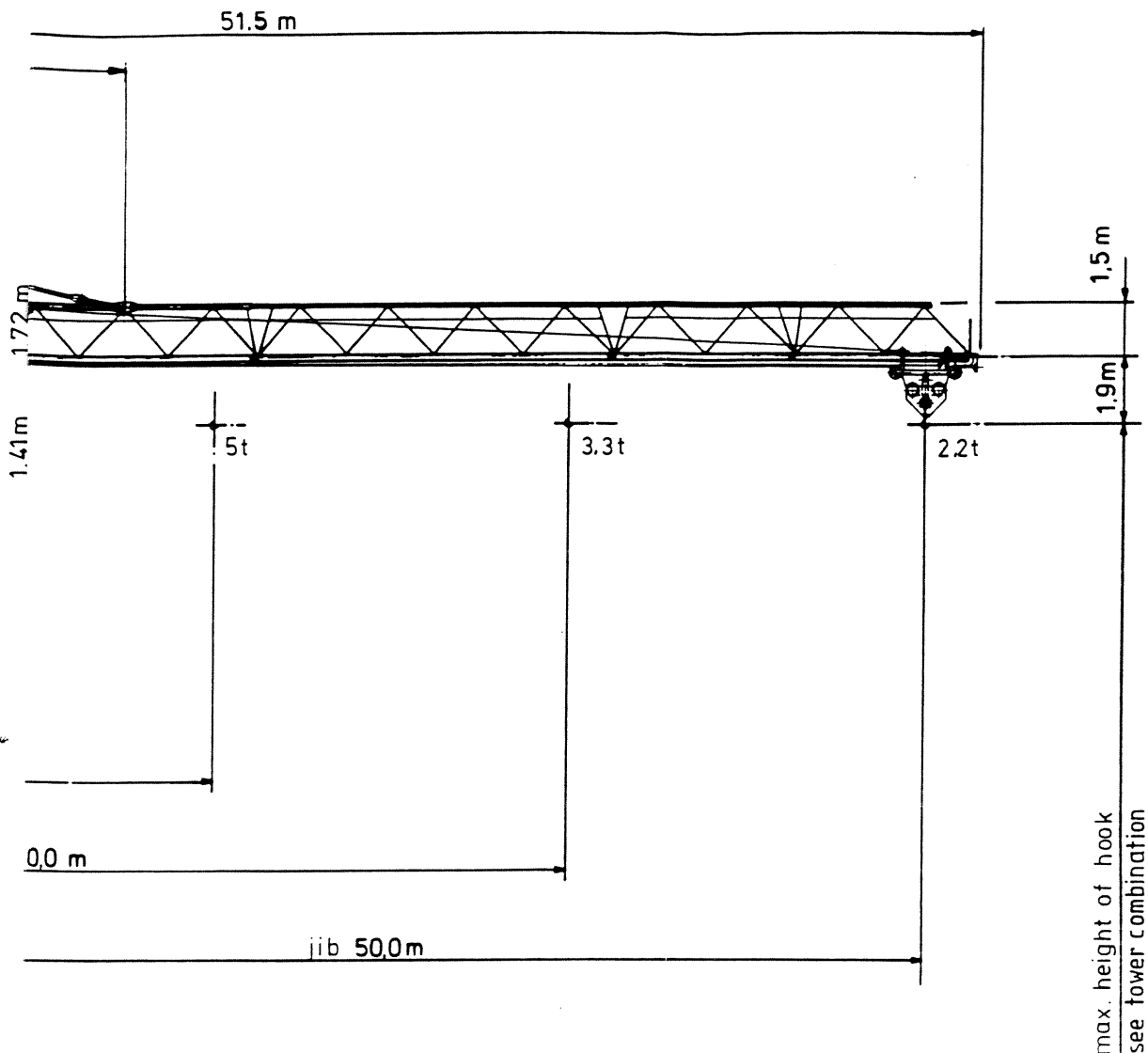


Technical documentation





kind of crane : tower crane with horizontal jib, top - slewing, self-climbing

installation : stationary or travelling

calculation base : FEM

max. load moment : 1582 mt

Wolffkran 135EC1

FEM

M 1: 200

crossframes upon request
or hook is reduced by 0.3m

Bemerkungen	Genehmigungsverm.	Zeichnungs-Nr. des Auftraggebers
Verwendungsbereich	Zul. Abw. meter DIN 7168 Genauigkeitsgr. B DIN 8570 Oberfl. Reihe 2' DIN 3141	Maßstab 1:200 Werkstoff Modell-Nr. Raum-Nr. Sach-Nr.
	1980 14.02. Bertsch per Name	Benennung WK 122 SL1 general view
	MAN WOLFFKRAN GMBH	Zeichnungsnummer XIV10410 E

Wolffkran 135 EC

XIV 10497E

TECHNICAL DATA

CAPACITY – RADIUS

	Radius [m]	2,6–	25	30	35	40	45	50			
Jib length [m]	30	2,6 – 19,77	8,0	6,16	5,00						
	35	2,6 – 19,09		5,92	4,80	4,00					
	40	2,6 – 18,64		5,76	4,67	3,89	3,30				
	45	2,6 – 17,64		5,41	4,38	3,64	3,08	2,65			
	50	2,6 – 17,05		5,20	4,20	3,49	2,95	2,53	2,20		

ARRANGEMENT OF COUNTERWEIGHTS

Jib [m]	25	30	35	40
to tower 				
Tot. weight [t]		7,92	10,32	11,32

Jib [m]	45	50		
to tower 				
Tot. weight [t]	13,72	16,12		

OPERATIONAL SPEEDS – MOTOROUTPUTS

Drive [Typ]	Operational speeds [Motion]		Reev- ing [falls]	max. Hook- travel [m]	Output [kW]	Total Output [kW]
Hw 4372	Hoisting up to	2,0 t 4,0 t	76,0 43,0	2	160	48,9
	Hoisting up to	4,0 t 8,0 t	38,0 21,5	4	80	
Tw 50 FG	Travers. up to	4,0 t 8,0 t	80/40/20 40/20		3,9	
Dw – FK	Slewing		0,85 min ⁻¹		2 x 4,0	
Fw	Cranetravel		25		11 – 22	59,9 – 70,9

XIV 10498E

CAPACITY – RADIUS

[illegible]

Jib [m]	25	30	35	40
to tower 				
Tot. weight [t]		7,92	10,32	11,32

Jib [m]	45	50		
to tower 				
Tot. weight [t]	13,72	16,12		

Drive [Typ]	Operational speeds [Motion]		[m/min]	Reev- ing [falls]	max. Hook- travel [m]	Output [kW]	Total Output [kW]
Hw 4453	Hoisting up to	1,1 t 2,0 t 4,0 t	147,0 95,0 53,0	2	160	45	56,9
	Hoisting up to	2,2 t 4,0 t 8,0 t	73,5 47,5 26,5	4	80		
Tw 50 FG	Travers. up to	4,0 t 8,0 t	80/40/20 40/20			3,9	
Dw – FK	Slewing		0,85 min ⁻¹			2 x 4,0	
Fw	Crănetravel		25			11 – 22	67,9 – 78,9

WK 135 EC

Hoisting rope: design according to DIN 15 020
kind of operation **TWG1 A_m**

rope $\varnothing$ 15 mm, twistfree, impregnated

minimum breaking strength = 118 kN

Wolffkran rope: minimum breaking strength = 148.1 kN
 calculated breaking strength = 190.2 kN
 rated tensile strength = 1770 N/mm²

basic equipment:

rope length	1 x 248 m	42 m height under hook 50 m - jib
--------------------	------------------	--

Upon decrease or increase of the height under hook of 4.5 m,
the necessary rope length is shortened or lengthened by 9 m with rope
in 2 falls and by 18 m with rope in 4 falls.

traversing ropes: design according to DIN 15 020
kind of operation **TWG 1 A_m**

rope $\varnothing$ = 8 mm, low twist, zinc coated

minimum breaking strength = 38 kN

Wolffkran rope: minimum breaking strength = 43 kN
 calculated breaking strength = 57 kN
 rated tensile strength = 1770 N/mm²

basic equipment:

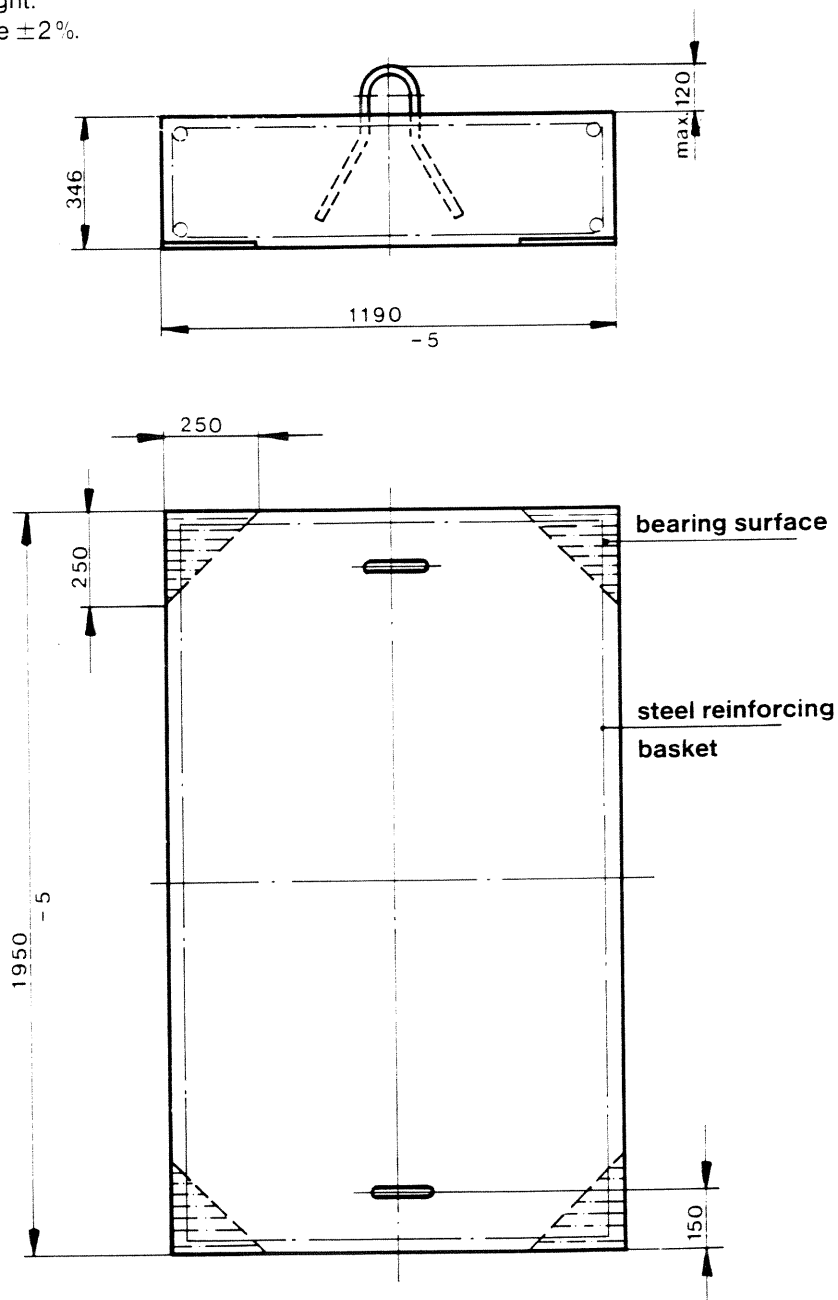
rope length	1 x 60 m	50 m - jib
	1 x 98 m	

WK 135 EC

Counterweights (platform with machinery)

Material: concrete of min. BN 250 density $8 = 2,4 \text{ t/m}^3$

All counterweights to be weighed again and to be clearly identified,
stating the actual weight.
max. weight allowance $\pm 2\%$.



Weight		Volume m ³
Nr.	t	
1	1.92	0.80

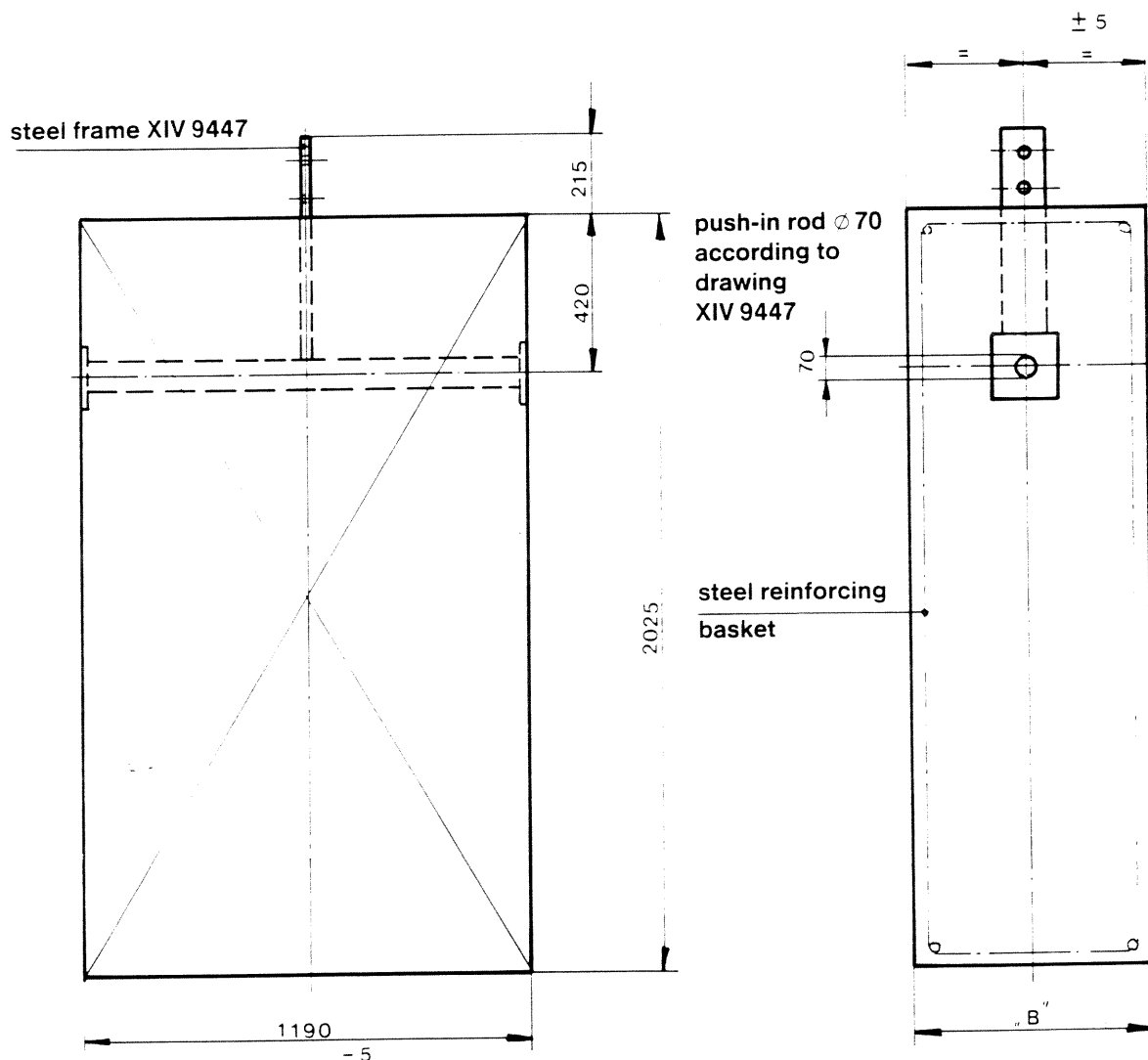
Arrangement of the counterweights
see technical data

WK 135 EC

Counterweights

Material: concrete of min. BN 250 density $\rho = 2,4 \text{ t/m}^3$

All counterweights to be weighed again and to be clearly identified,
stating the actual weight.
max. weight allowance $\pm 2\%$.



Weight		Volume m^3	Width "B" mm
Nr.	t		
1	3.6	1.52	630
2	2.4	1.00	415
3	1.0	0.42	175

Quantity and arrangement of the counterweights
see technical data

Wolffkran 122SL1

XIV 10350

WK 135 EC1

Drehteil

Slewing part

Partie tournante

Hakenhöhe

A = 1.50m

Height under hook

A = 1.50m

Hauteur sous crochet

A = 1.50m

Auslegeranlenkpunkthöhe

B = 3.42m

Height of jib pivot point

B = 3.42m

Haut. de l'axe du pied de fleche

B = 3.42m

Gesamthöhe

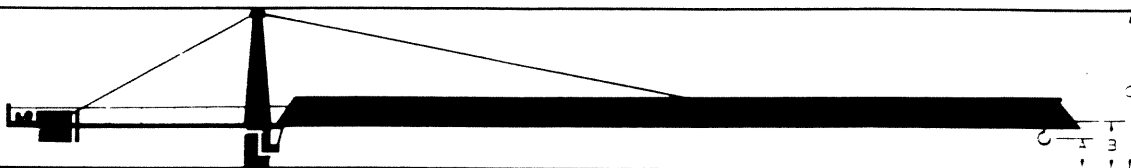
C = 10.6m

Total height

C = 10.6m

Hauteur totale

C = 10.6m

		1	2*	3	4	5	6
Turmelemente lower elements éléments de tour	Hakenhöhe (m) Height of hook (m) Hauteur sous crochet (m)						
1	6.0	UT 15	UT 15	UT 15	UT 15	UT 15	UT 15
2	10.5	UT 15	UT 15	UT 15	UT 15	UT 15	UT 15
3	15.0	UT 15	UT 15	UT 15	UT 15	UT 15	UT 15
4	19.5	UT 15	UT 15	UT 15	UT 15	UT 15	UT 15
5	24.0	UT 15	UT 15	UT 15	UT 15	UT 15	UT 15
6	28.5	UT 15	UT 15	UT 15	UT 15	UT 15	UT 15
7	33.0	UT 15	UT 15	UT 15	UT 15	UT 15	UT 15
8	37.5	UT 15	UT 15	UT 15	UT 15	UT 15	UT 15
9	42.0		UT 15	UT 20	UT 20	TVA 20	TVA 20
10	46.5			UT 20	TVA 20	TV 20	TV 20
11	51.0				TV 20	TV 20	TV 20
12	55.5				TV 20	TV 20	TV 20
13	60.0					TV 20	TV 20
14	64.5					TV 20	TV 20
15	69.0					TV 20	TV 20
16	73.5					TV 20	TV 20
17	78.0						TV 25
18	82.5						TV 25

* nur bis 45 m Ausladung - up to 45 m jib radius only

Die hier gezeigten Turmkombinationen stellen Empfehlungen für eine kostengünstige Kранаufstellung dar und können jederzeit verwendet werden. Jedes Turmelement gilt in der gezeigten Position auch als Turmbasisstück bei stationären Aufstellungen mit kleineren Hakenhöhen. Turmkombinationen mit größeren Hakenhöhen oder anderen Turmelementen sind möglich, müssen aber vor Aufstellung des Kranes von uns geprüft und schriftlich bestätigt werden.

The tower configurations are recommended for economic crane installations and may be used in any case. Each tower element in its indicated position may be used as a basic tower element for static cranes with its corresponding height under hook. Tower configurations not shown here, with greater heights u. n. or by means of other tower elements are possible but must be checked and confirmed by us in every individual case and before crane installation starts.

Les configurations de tour représentées constituent des recommandations pour une installation de grue favorable. Elles peuvent être utilisées toujours. Chaque élément de tour fait également fonction dans la position représentée. élément de base de tour au cas d'installation stationnaire avec des hauteurs sous crochet moins importantes. Des combinaisons de tour avec des hauteurs plus importantes ou avec d'autres éléments de tour sont possibles, mais doivent être vérifiées et confirmées par avis écrit de nos services avant l'installation de la grue.

Wolffkran 122SL1

XIV 10351

WK 135 EC1

Drehteil:

Hakenhöhe
Auslegeranlenkpunkthöhe
Gesamthöhe

A = 1,50 m
B = 3,42 m
C = 10,6 m

Slewing part:

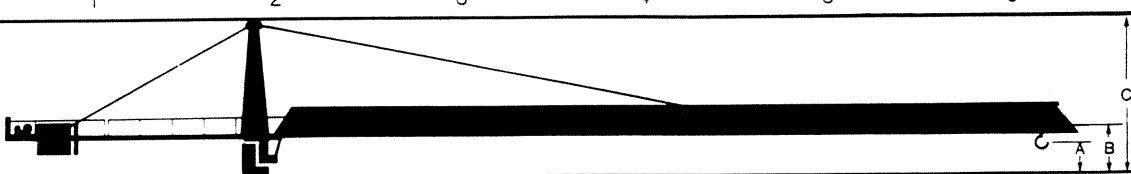
Height under hook
Height of jib pivot point
Total height

A = 1,50 m
B = 3,42 m
C = 10,6 m

Partie tournante

Hauteur sous crochet
Haut. de l'axe du pied de fleche
Hauteur totale

A = 1,50 m
B = 3,42 m
C = 10,6 m

		1 2 3 4 5 6					
Turmelemente lower elements Éléments de tour	Hakenhöhe (m) Height of hook (m) Hauteur sous crochet (m)						
1	6,0		UT 15	UT 15	UT 15	UT 15	UT 15
2	10,5		UT 15	UT 15	UT 15	UT 15	UT 15
3	15,0		UT 15	UT 15	UT 15	UT 15	UT 15
4	19,5		UT 15	UT 15	UT 15	UT 15	UT 15
5	24,0		UT 15	UT 15	UT 15	UT 15	UT 15
6	28,5		UT 15	UT 15	UT 15	UT 15	UT 15
7	33,0		UT 15	UT 15	UT 15	UTÜ 15	UTÜ 15
8	37,5			UTÜ 15	UTÜ 15	UT 20	UT 20
9	42,0	UW 250		UT 20	UT 20	TVA 20	TVA 20
10	46,5			UT 20	TVA 20	TV 20	TV 20
11	51,0				TV 20	TV 20	TV 20
12	55,5		UW 260.1*			TV 20	TV 20
13	60,0			UW 260.2**		TV 20	TV 20
14	64,5						TV 20
15	69,0				UW 260.3 UW 460 UW 280.1		TV 20
16	73,5						TVÜ 20
17	78,0	*für Ausleger 45/50 m nur bis 46,5 m / with 45/50 m jib up to 46,5 m only.					
18	82,5	**für Ausleger 50 m nur bis 51,0 m / with 50 m jib up to 51,0 m only.					
						UW 280.2 UW 480	

Die hier gezeigten Turmkombinationen stellen Empfehlungen für eine kostengünstige Krananstellung dar und können jederzeit verwendet werden. Jedes Turmelement gilt in der gezeigten Position auch als Turmbasisstück bei stationären Aufstellungen mit kleineren Hakenhöhen. Turmkombinationen mit größeren Hakenhöhen oder anderen Turmelementen sind möglich, müssen aber vor Aufstellung des Kranes von uns geprüft und schriftlich bestätigt werden.

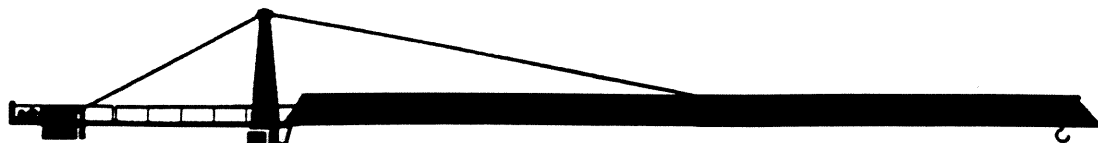
The tower configurations are recommended for economic crane installations and may be used in any case. Each tower element in its indicated position may be used as a basic tower element for static cranes with its corresponding height under hook. Tower configurations not shown here, with greater heights u. h. or by means of other tower elements are possible but must be checked and confirmed by us in every individual case and before crane installation starts.

Les configurations de tour représentées constituent des recommandations pour une installation de grue favorable; elles peuvent être utilisées toujours. Chaque élément de tour fait également fonction dans la position représentée, élément de base de tour au cas d'installation stationnaire avec des hauteurs sous crochet moins importantes. Des combinaisons de tour avec des hauteurs plus importantes ou avec d'autres éléments de tour sont possibles, mais doivent être vérifiées et confirmées par avis écrit de nos services avant l'installation de la grue.

Tower configuration

for a free-standing stationary crane without climber on a concrete foundation

Slewing part:



1	6,0		UV 15		UV 15		UV 15		UV 15
2	10,5		UV 15		UV 15		UV 15		UV 15
3	15,0		UV 15		UV 15		UV 15		UV 15
4	19,5		UV 15		UV 15		UV 15		UV 15
5	24,0		UV 15		UV 15		UV 15		UV 15
6	28,5		UV 15		UV 15		UV 15		UV 15
7	33,0		UV 15		UV 15		UV 15		UV 15
8	37,5		UV 15		UV 15		UV 15		UV 15
9	42,0		UV 15		UV 15		UVÜ 15		UVÜ 15
10	46,5		UV 15		UVÜ 15		UV 20.3		UV 20.3
11	51,0				UV 20.3		TVA20		TVA20
12	55,5				UV 20.3		TV 20		TV 20
13	60,0						TV 20		TV 20
14	64,5						TV 20		TV 20
15	69,0						TV 20		TV 20
16	73,5						TV 20		TVÜ 20
17	78,0								TV 25
18	82,5								TV 25
Tower elements	Height under hook(m)								



For the UV 20.3 tower elements push pins with a turned groove at the conical part have to be used.

For data regarding the foundation anchor and cross frame see accessories, section 10.

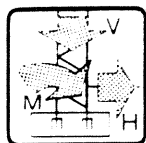
The tower configurations are recommended for economic crane installations and may be used in any case. Each tower element in its indicated position may be used as a basic tower element for static cranes with its corresponding height under hook.

Tower configurations with other tower elements are possible, but must be checked and confirmed by us in even individual case and before crane installation starts.

Wolffkran WK 122 SL1

WK 135 EC1

XIV 9646 E



Foundationloads

for cranes free standing without climbers on concrete foundation. Values given are for least favourable jib length. Other length of jib may result into lower foundation loads.

Always acting loads are:

Vertical forces of loadcase 2 and a moment of 608 kNm

free stand- ing height under hook (m)	Crane in service (for loadcase 1 of DIN 1054) torquemoment: 178 kNm		
	M (kNm)*	H (kN)*	V (kN)*
15.0	1662	42	487
19.5	1852	43	506
24.0	2051	44	525
28.5	2246	45	545
33.0	2440	46	566
37.5	2636	47	592
42.0	2836	49	623
46.5	3042	50	654
51.0	3252	52	685
55.5	3468	54	716
60.0	3687	55	747
64.5	3910	57	778
69.0	4135	59	809
73.5	4362	60	825
78.0	4683	62	882
82.5	4926	63	899

Crane out of service (for loadcase 2 of DIN 1054) torquemoment: 0 kNm		
M (kNm)*	H (kN)*	V (kN)*
1057**	27	166
1166**	28	183
1180**	30	201
1248**	31	218
1659	73	492
1999	79	515
2364	86	543
2762	94	571
3190	100	600
3645	106	628
4121	111	656
4616	117	685
5127	122	713
5653	125	727
6471	140	779
7076	142	795

*New units for forces and moments to international law: 10 kNm $\approx$ 1 t $\cdot$ m

10 kN $\approx$ 1 tf

**Moments during crane erection

M = Moment

H = Horizontal force

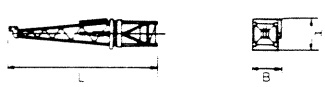
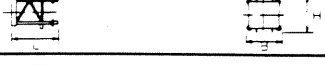
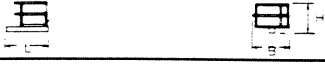
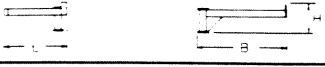
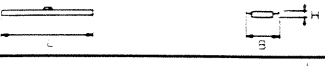
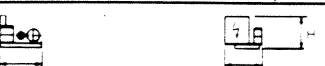
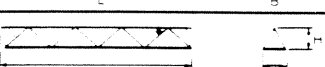
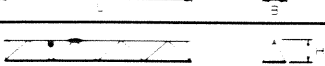
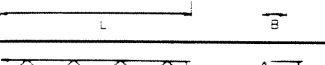
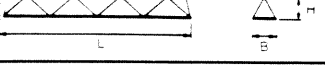
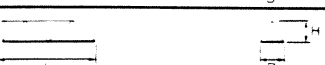
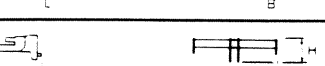
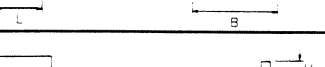
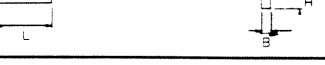
V = Vertical load

Wolffkran 122 SL1

XIV 10078 E

Colli List

WK 135 EC 1

Pos.	Quantity	Description	Colli	L (m)	B (m)	H (m)	Weight (kg)	Volume (m³)
1	1	tower top, slipring system various bracing parts slewing frame, KDV, slewing drive lower tower top part		10,62	2,1	2,28	5980	50,85
Pos. 1 divided up		tower top, slipring system various bracing parts		7,03	1,76	1,95	1945	24,13
		slewing frame, KDV, slewing drive lower tower top part		4,54	2,09	2,28	4035	21,63
		slewing frame, KDV, slewing drive		1,43	2,09	2,28	2155	6,81
		lower tower top part		3,11	1,6	1,92	1880	9,55
2	1	tower top platform		1,43	0,82	1,22	125	1,43
3	1	driver's cabin suspension		1,22	1,76	0,29	230	0,63
4	1	driver's cabin		1,65	1,02	2,16	455	3,64
5	1	counter jib – head		6,57	2,42	0,67	1405	10,65
		counter jib – foot		7,73	1,58	0,54	1375	6,60
5.1	1	bracing parts		7,04	0,15	0,13	225	0,14
6	1	platform with hoist unit		2,16	3,18	1,54	2685	10,58
7	1	jib part : traversing drive		10,19	1,6	1,86	1690	30,33
8	1	jib part :		10,22	1,56	1,72	1335	27,42
9	1	jib part : traversing rope pulley		10,26	1,56	1,64	1555	26,25
10	1	jib part :		10,26	1,56	1,57	1300	25,13
11	1	jib part :		5,22	1,56	1,57	635	12,78
12	1	jib part :		5,19	1,56	1,57	535	12,71
13	1	rope swivel traverse traversing rope pulley		0,86	1,48	0,4	120	0,51
14	1	bracing parts		8,38	0,22	0,4	905	0,74
15	1	trolley, complete		2,13	0,8	1,79	300	3,05
16	1	hook block		1,15	0,2	1,55	450	0,36
17	1	standard handrails		2,6	1,04	0,98	230	2,65
18	1	crate with small parts		1,6	0,9	0,8	360	1,15

15 01 82 151

WK 135 EC1

Basic erection

For 10.5 m height under hook of the construction crane.

Erection single weights and heights under hook for the mobile crane.

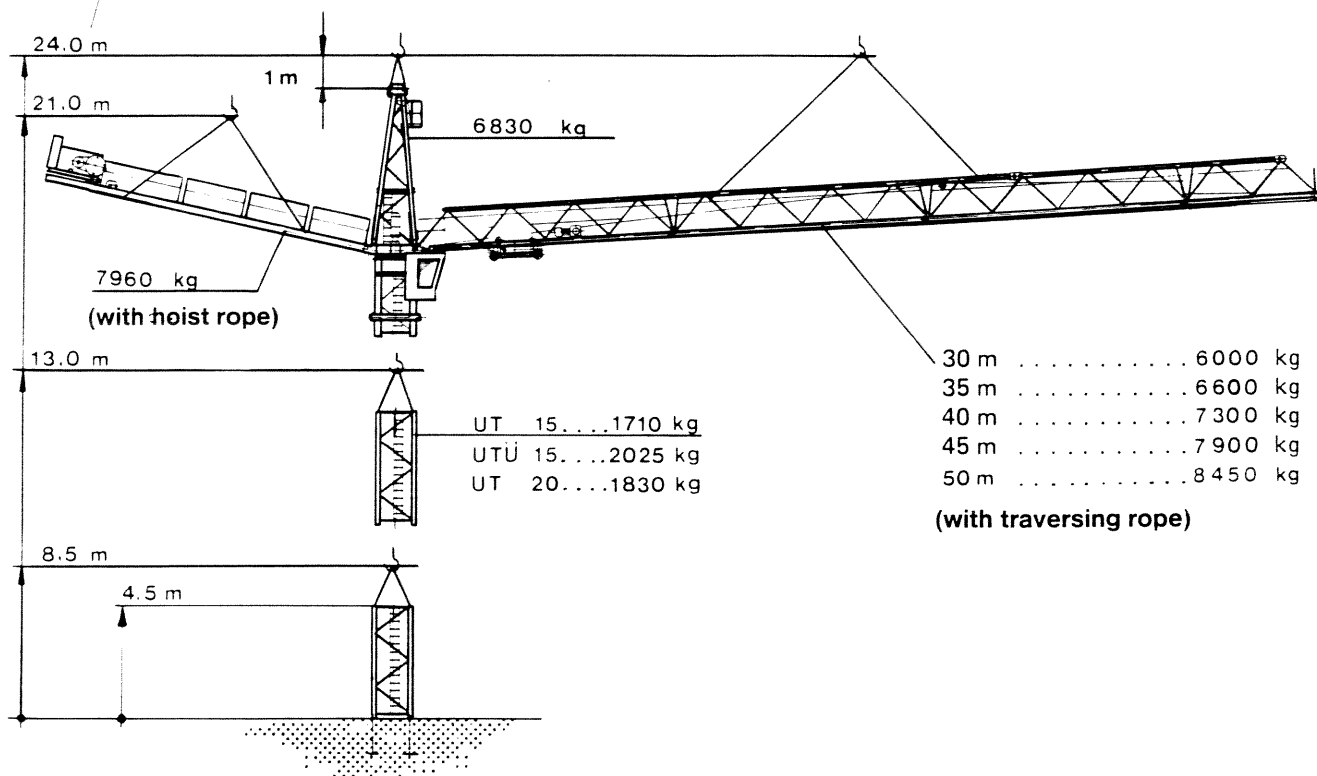
For every additional tower element the necessary height under hook will be increased by 4.5 m.

Attention:

Upon basic erections with restricted erection weights, the main parts jib – tower top – counter jib can be further disassembled.

Further details colli list.

minimum height under hook



climbable above 10.5 m

Wolffkran 122 SL1 WK 135 EC1 ^{XIV 10128 E}

Basic erection

For 15.0 m height under hook of the construction crane.

Erection single weights and heights under hook for the mobile crane.

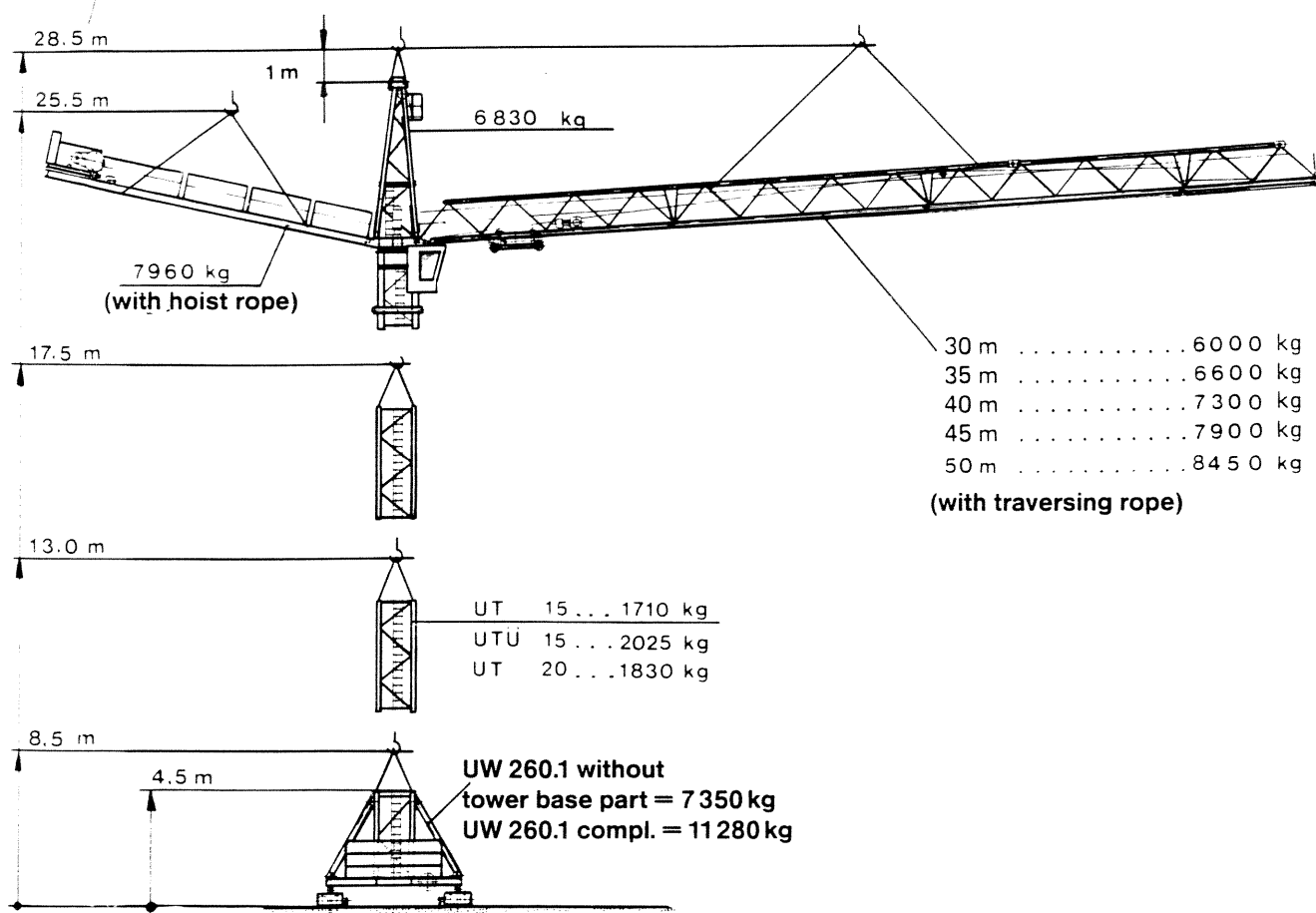
For every additional tower element the necessary height under hook will be increased by 4.5 m.

Attention:

Upon basic erections with restricted erection weights, the main parts jib – tower top – counter jib can be further disassembled.

Further details colli list.

minimum height under hook



climbable above 15.0 m

HT-bolt connections

Pos.	Connection	Bolts				Torque	
		Quan- tity	Dimensions	DIN	Quality grade	MoS2 Nm	MoS2 ft. lb
1	ballrace bearing – slewing frame	40	M 20 x 140	931	12.9sg	560	400
2	ballrace bearing – lower top part	40	M 20 x 140	931	12.9sg	560	400
	extension sleeve – lower top part	40	∅ 38 x 66				
3	tower top – slewing frame	16	M 30 x 120 Mu	6914	10.9	erection 1650	1190
4	counter jib – joint	12	M 24 x 100 Mu	6914	10.9	erection 800	580
5	counter jib – m. platform	4	M 20 x 70 Mu	931	8.8	erection 330	240
		2	M 30 x 80 Mu	931	8.8	1150	830
6	hoist unit – motor (Hw 4372)	8	M 16 x 70 Mu	931	8.8	170	120
	or – motor (Hw 4453)	8	M 16 x 70 Mu	931	8.8	170	120
	– gear box	8	M 16 x 80 Mu M 16 x 160	931	8.8	170	120
	– brake	6	M 12 x 130	912	8.8	35	25
	– pedestal bearing	2	M 20 x 75 Mu	6914	10.9	450	330

Note:

DIN 6914 = hexagon head cap bolt
DIN 931 = hexagon head cap bolt
DIN 912 = socket head cap bolt
Mu = with nut
sg = finally rolled

Attention: For the HT-bolt connections tempered plain washers DIN 6916 with chamfer outside must be used. Spring rings may not be used.

The bolts lubricated with MoS2 are installed.

The bearing surfaces must remain without grease.

Wolffkran 122 SL1

XIV 11 155 E

WK 135 EC1

List of pins

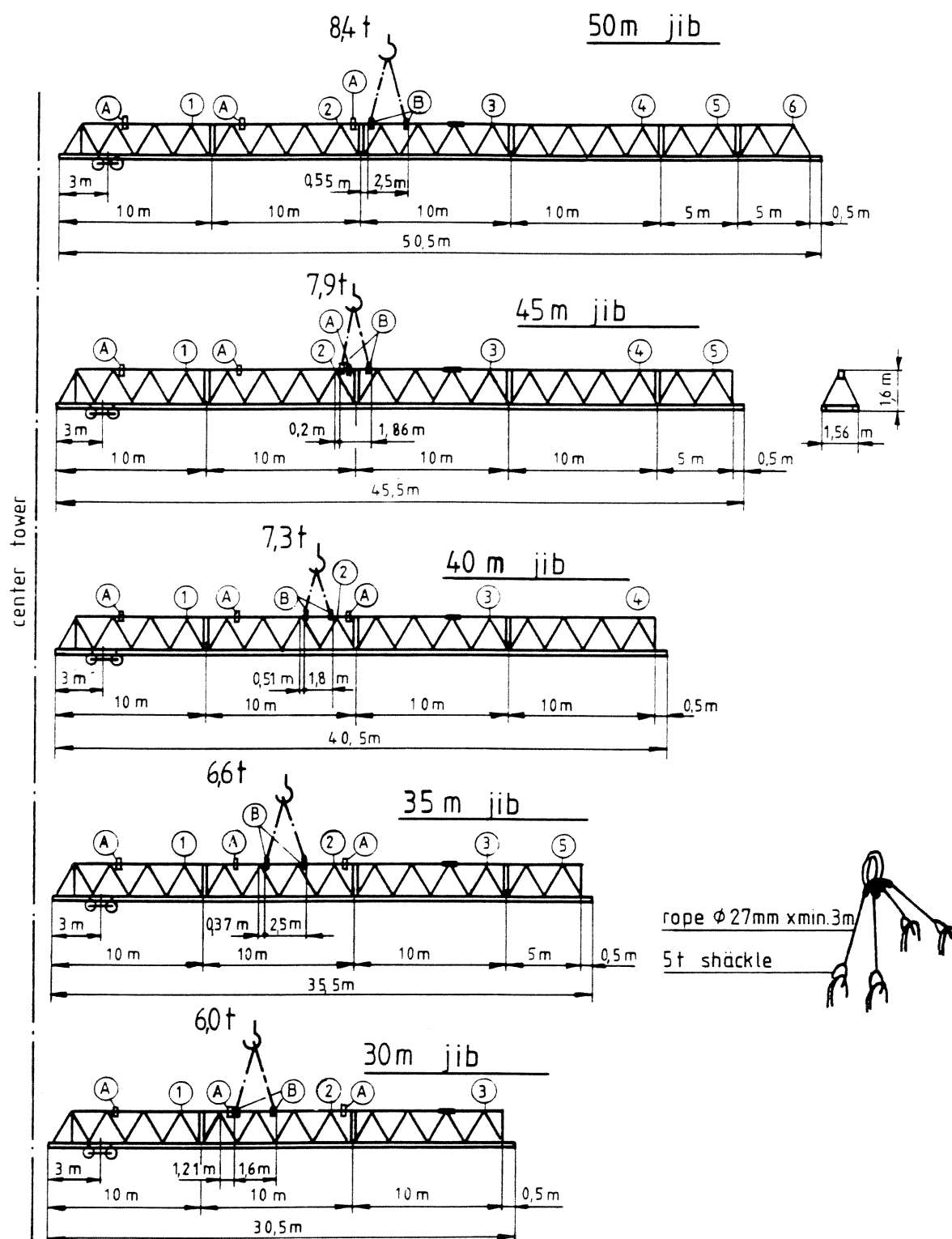
Pos.	Connection	Pins		Spring plug		Split pin	
		Quan- tity	Dimension	Quan- tity	Dimension	Quan- tity	Dimension
1	jib joint, top	82.0 ft / 25 m					
		2	∅ 90/80 x 165	2	∅ 6/80		
		3	∅ 90/80 x 165	3	∅ 6/80		
		3	∅ 90/80 x 165	3	∅ 6/80		
		4	∅ 90/80 x 165	4	∅ 6/80		
		5	∅ 90/80 x 165	5	∅ 6/80		
		180.4 ft / 55 m					
		196.8 ft / 60 m					
	jib joint, bottom	82.0 ft / 25 m					
		6	∅ 80/70 x 143	6	∅ 6/80		
		8	∅ 80/70 x 143	8	∅ 6/80		
		8	∅ 80/70 x 143	8	∅ 6/80		
		10	∅ 80/70 x 143	10	∅ 6/80		
		12	∅ 80/70 x 143	12	∅ 6/80		
		180.4 ft / 55 m					
		196.8 ft / 60 m					
2							
3	bracing counter jib	2	∅ 50 x 132			2	∅ 10
		4	∅ 50 x 170			8	∅ 10
	link point counter jib	1	∅ 90 x 1544	clamp			
4	bracing trolley jib	1	∅ 70 x 240			2	∅ 10
		4	∅ 70 x 180			8	∅ 10
		1	∅ 70 x 260			2	∅ 10
		1	∅ 80/70 x 222	axle guard		40	x 10
5	lower tower top with sleeve	TV 15	4 ∅ 70 x 290	8	∅ 10/--		
		UT 15	8 ∅ 60 x 290	16	∅ 10/--		

lifting plan-jib

WK 135 EC

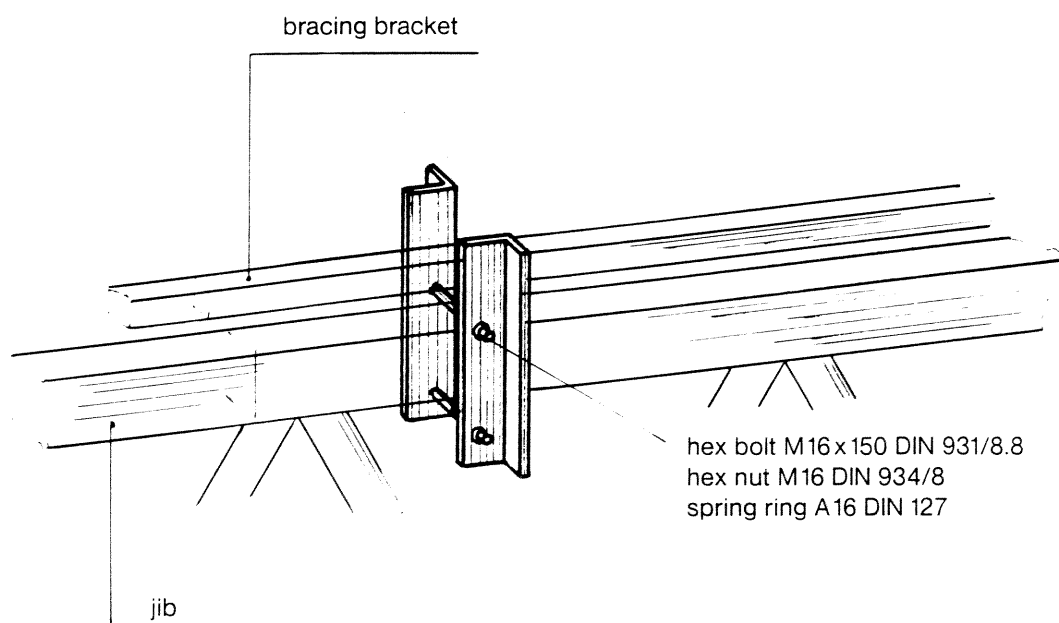
(A) (B) see XIV 10076 E

the single parts of the jib are identified with No. 1-6 on the upper tension rod

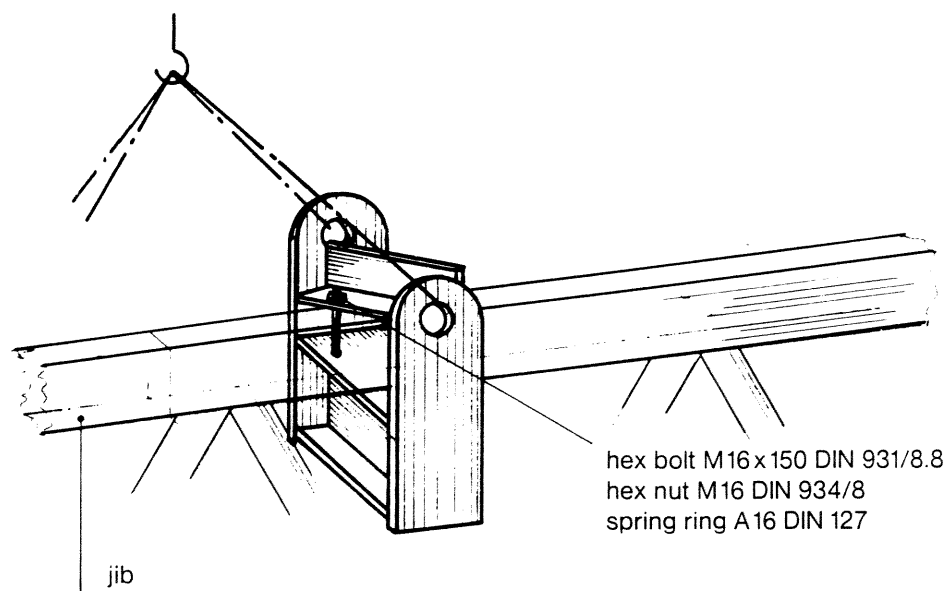


WK 135 EC

Ⓐ Fixing

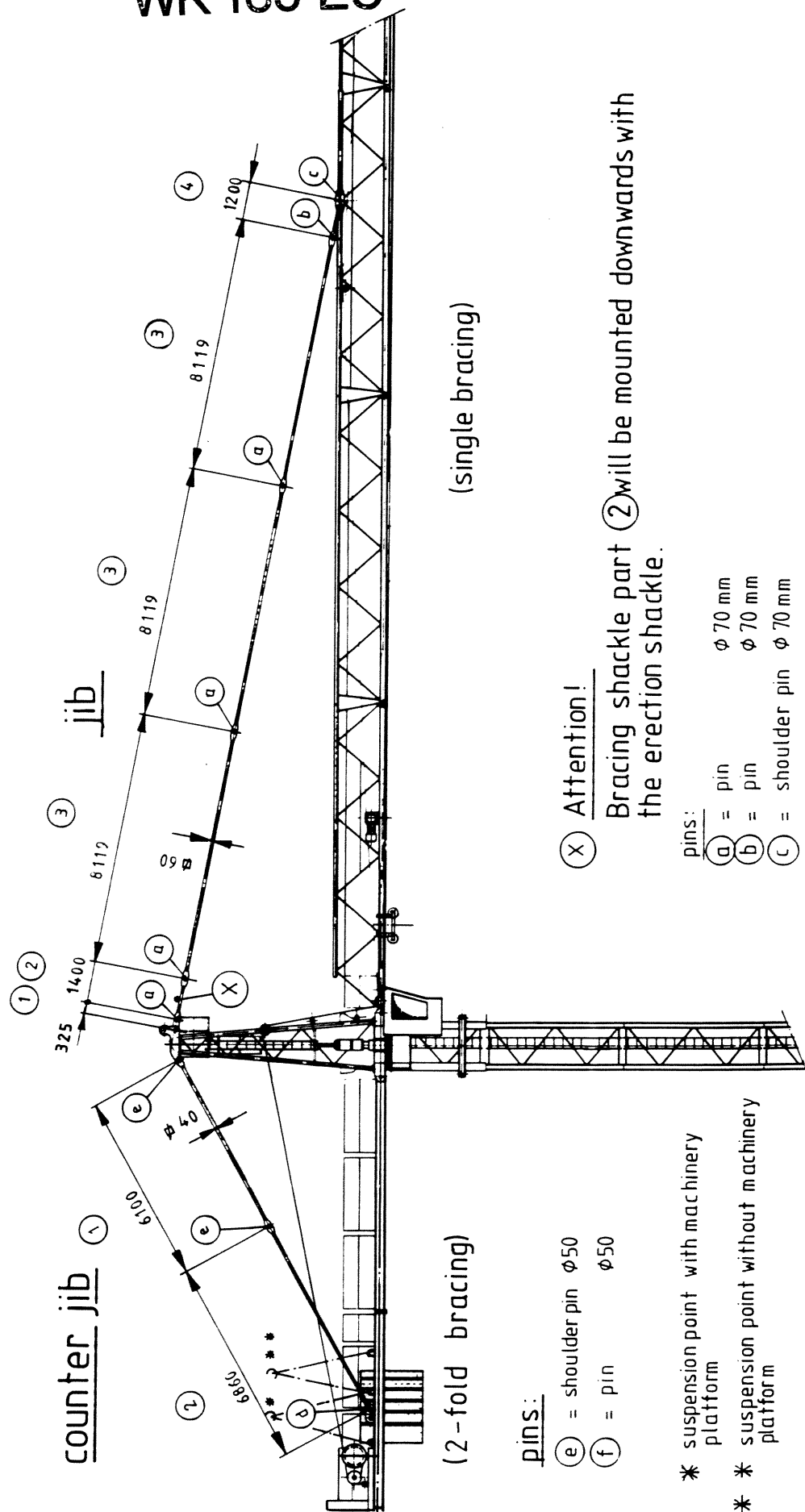


Ⓑ Suspension



WK 135 EC

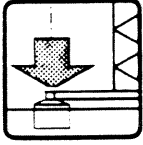
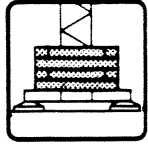
Bracing plan



Wolffkran WK 122 SL1

WK 135 EC1

XIV 10353 E



Centerballast and Cornerloads DIN 15 019

for stationary crane without climber on crossframe

Horizontal forces H and torquemoments to be taken from table "Foundation loads"

KR 800-6, Connection lower tower top part 1.5 m

Height under hook (m)	30,0 m - jib				35,0 m - jib				40,0 m - jib				45,0 m - jib			
	Cornerdistance (m)		Cornerdistance (m)		Cornerdistance (m)		Cornerdistance (m)		Cornerdistance (m)		Cornerdistance (m)		Cornerdistance (m)		Cornerdistance (m)	
	8,0	6,0	8,0	6,0	8,0	6,0	8,0	6,0	8,0	6,0	8,0	6,0	8,0	6,0	8,0	6,0
	Center- ballast (t)		max. Corner- load (kN)*		Center- ballast (t)		max. Corner- load (kN)*		Center- ballast (t)		max. Corner- load (kN)*		Center- ballast (t)		max. Corner- load (kN)*	
15,0	12,5		284		12,5		277		12,5		294		12,5		289	
19,5	12,5		297		12,5		290		12,5		307		12,5		302	
24,0	15,0		316		12,5		303		12,5		321		12,5		316	
28,5	17,5		336		12,5		318		12,5		336		12,5		331	
33,0	17,5		351		15,0		338		15,0		356		15,0		353	
37,5	25,0		383		22,5		370		17,5		396		15,0		409	
42,0	30,0		433		27,5		438		25,0		470		25,0		488	
46,5																

Wolffkran WK 122 SL1

XIV 10352 E

WK 135 EC

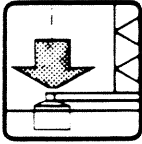
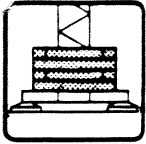
Centerballast and Cornerloads

DIN 15019

for stationary crane without climber on crossframe

Horizontal forces H and torquemoments to be taken from table "Foundation loads"

KR 1000-8, KR 1000-6, Connection lower tower top part 1.5 m



Height under hook (m)	30 m – jib				35 m – jib				40 m – jib				45 m – jib			
	Cornerdistance (m)		Cornerdistance (m)		Cornerdistance (m)		Cornerdistance (m)		Cornerdistance (m)		Cornerdistance (m)		Cornerdistance (m)		Cornerdistance (m)	
	8,0	6,0	8,0	6,0	8,0	6,0	8,0	6,0	8,0	6,0	8,0	6,0	8,0	6,0	8,0	6,0
	Center- ballast (t)		max. Corner- load (kN)*		Center- ballast (t)		max. Corner- load (kN)*		Center- ballast (t)		max. Corner- load (kN)*		Center- ballast (t)		max. Corner- load (kN)*	
15,0	-	12,5	235	284	-	12,5	232	277	-	12,5	245	294	-	12,5	244	289
19,5	-	12,5	245	297	-	12,5	242	290	-	12,5	256	307	-	12,5	255	302
24,0	-	15,0	256	316	-	12,5	253	303	-	12,5	267	321	-	12,5	266	316
28,5	-	17,5	269	336	-	12,5	265	318	-	12,5	279	336	-	12,5	277	331
33,0	-	17,5	280	351	-	15,0	277	338	-	15,0	291	356	-	15,0	289	353
37,5	-	25,0	293	383	-	22,5	289	370	-	17,5	311	396	-	15,0	326	409
42,0	2,5	30,0	324	433	-	27,5	328	438	-	25,0	356	470	-	25,0	372	488
46,5	7,5	37,5	382	510	5,0	35,0	387	516	7,5	37,5	420	558	5,0	37,5	431	577
51,0	15,0		448		12,5		453		15,0		487		15,0		502	
55,5	22,5		519		20,0		524		25,0		562		22,5		574	
60,0	32,5		598		30,0		603		35,0		642		32,5		654	
64,5	42,5		681		40,0		687		45,0		725		45,0		742	
69,0	55,0		772		52,5		778		55,0		813		55,0		831	
73,5	67,5		868		65,0		874		67,5		910		67,5		927	
78,0																

Height under hook (m)	50 m – jib				m – jib		m – jib		m – jib	
	Cornerdistance (m)		Cornerdistance (m)		Cornerdistance (m)	Cornerdistance (m)	Cornerdistance (m)	Cornerdistance (m)	Cornerdistance (m)	Cornerdistance (m)
	8,0	6,0	8,0	6,0						
	Center- ballast (t)		max. Corner- load (kN)*		Center- ballast (t)	max. Corner- load (kN)*	Center- ballast (t)	max. Corner- load (kN)*	Center- ballast (t)	max. Corner- load (kN)*
15,0	–	12,5	248	291						
19,5	–	12,5	258	304						
24,0	–	12,5	269	318						
28,5	–	12,5	281	333						
33,0	–	15,0	300	371						
37,5	–	15,0	341	427						
42,0	–	25,0	387	507						
46,5	5,0	37,5	446	596						
51,0	15,0		518							
55,5	22,5		590							
60,0	32,5		671							
64,5	42,5		755							
69,0	55,0		848							
73,5	67,5		945							
78,0										

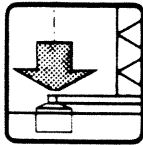
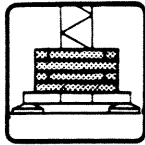
New units for forces and moments to international law: 10 kNm $\approx$ 1 t $\cdot$ m

10 kN $\approx$ 1 t $\cdot$ f

Wolffkran WK 122 SL1

WK 135 EC1

XIV 10256 E



Centerballast and Cornerloads DIN 15 019

for stationary crane without climber on crossframe

Horizontal forces H and torquemoments to be taken from table "Foundation loads"

KR 800-5, Connection lower tower top part 1,5 m

Height under hook (m)	30,0 m - jib				35,0 m - jib				40,0 m - jib				45,0 m - jib			
	Cornerdistance (m)		Cornerdistance (m)		Cornerdistance (m)		Cornerdistance (m)		Cornerdistance (m)		Cornerdistance (m)		Cornerdistance (m)		Cornerdistance (m)	
	6,0	5,0	6,0	5,0	6,0	5,0	6,0	5,0	6,0	5,0	6,0	5,0	6,0	5,0	6,0	5,0
	Center-ballast (t)		max. Corner-load (kN)*		Center-ballast (t)		max. Corner-load (kN)*		Center-ballast (t)		max. Corner-load (kN)*		Center-ballast (t)		max. Corner-load (kN)*	
15,0	25,0		340		25,0		329		27,5		355		27,5		348	
19,5	27,5		360		25,0		344		27,5		370		27,5		363	
24,0	30,0		381		25,0		366		27,5		386		27,5		378	
28,5	32,5		403		25,0		376		27,5		402		27,5		395	
33,0	32,5		420		30,0		405		27,5		420		27,5		419	
37,5	40,0		455		37,5		439		32,5		474		27,5		486	
42,0	47,5		519		45,0		525									
46,5																

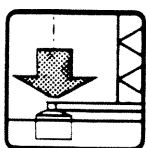
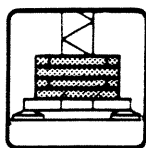
Height under hook (m)	50,0 m - jib				m - jib				m - jib				m - jib			
	Cornerdistance (m)		Cornerdistance (m)		Cornerdistance (m)		Cornerdistance (m)		Cornerdistance (m)		Cornerdistance (m)		Cornerdistance (m)		Cornerdistance (m)	
	6,0	5,0	6,0	5,0	6,0	5,0	6,0	5,0	6,0	5,0	6,0	5,0	6,0	5,0	6,0	5,0
	Center-ballast (t)		max. Corner-load (kN)*		Center-ballast (t)		max. Corner-load (kN)*		Center-ballast (t)		max. Corner-load (kN)*		Center-ballast (t)		max. Corner-load (kN)*	
15,0	27,5		349													
19,5	27,5		363													
24,0	27,5		379													
28,5	27,5		396													
33,0	27,5		439													
37,5	27,5		507													
42,0																
46,5																

* New units for forces and moments to international law: 10 kNm $\approx$ 1 t $\cdot$ m

10 kN $\approx$ 1 t $\cdot$

XIV 10257 E

WK 135 EC1



Centerballast and Cornerloads DIN 15 019

for stationary crane without climber on crossframe

Horizontal forces H and torquemoments to be taken from table "Foundation loads"

KR 700-5, Connection lower tower top part 1.5 m

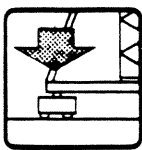
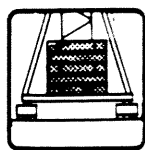
[illegible][illegible]

*New units for forces and moments to international law: $10 \text{ kNm} \approx 1 \text{ tfm}$

$$10 \text{ kN} \approx 1 \text{ tf}$$

XIV 9601 E

~~WK 135 EC1~~



Centerballast and Cornerloads

DIN 15019

for travelling cranes without climber on undercarriages

Horizontal forces H and torquemoments to be taken from table "Foundation loads"

UW 250. Connection lower tower top part 1.5 m or for KRE

[illegible][illegible]

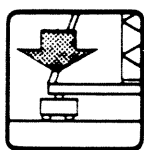
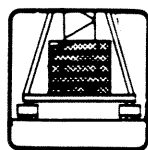
* New units for forces and moments to international law: $10 \text{ kNm} \approx 1 \text{ tfm}$

$$10 \text{ kN} \approx 1 \text{ tf}$$

Wolffkran WK122SL1

XIV 9600 E

~~WK 135 EC1~~



Centerballast and Cornerloads

DIN 15019

for travelling cranes without climber on undercarriages

Horizontal forces H and torquemoments to be taken from table "Foundation loads"

UW 260.1. Connection lower tower top part 1.5 m or for KRE

Height under hook (m)	30 m – jib				35 m – jib				40 m – jib				45 m – jib			
	Gauge (m)		Gauge (m)		Gauge (m)		Gauge (m)		Gauge (m)		Gauge (m)		Gauge (m)		Gauge (m)	
	6,0	5,0	6,0	5,0	6,0	5,0	6,0	5,0	6,0	5,0	6,0	5,0	6,0	5,0	6,0	5,0
	Center-ballast (t)		max. Corner-load (kN)*		Center-ballast (t)		max. Corner-load (kN)*		Center-ballast (t)		max. Corner-load (kN)*		Center-ballast (t)		max. Corner-load (kN)*	
15,0	12,5	25,0	301	334	12,5	17,5	293	310	12,5	17,5	310	328	12,5	17,5	306	323
19,5	12,5	25,0	314	347	12,5	20,0	306	329	12,5	20,0	323	347	12,5	20,0	319	342
24,0	15,0	27,5	333	367	12,5	20,0	320	343	12,5	22,5	337	366	12,5	20,0	333	356
28,5	15,0	30,0	347	387	12,5	22,5	334	363	12,5	22,5	352	381	12,5	20,0	347	371
33,0	17,5	32,5	368	408	15,0	27,5	355	389	12,5	27,5	368	408	12,5	22,5	365	393
37,5	22,5	37,5	394	435	20,0	35,0	381	422	17,5	32,5	412	451	15,0	27,5	425	459
42,0	30,0	45,0	449	489	27,5	42,5	454	494	25,0	40,0	486	526	25,0	40,0	505	544
46,5	37,5	55,0	526	573	35,0	52,5	532	578	37,5	55,0	574	620	37,5	55,0	592	639
51,0	45,0		611		42,5		617		47,5		663					
55,5																
60,0																
64,5																
69,0																
73,5																

Height under hook (m)	50 m – jib				m – jib		m – jib		m – jib	
	Gauge (m)		Gauge (m)		Gauge (m)	Gauge (m)	Gauge (m)	Gauge (m)	Gauge (m)	Gauge (m)
	6,0	5,0	6,0	5,0						
	Center- ballast (t)		max. Corner- load (kN)*		Center- ballast (t)	max. Corner- load (kN)	Center- ballast (t)	max. Corner- load (kN)*	Center- ballast (t)	max. Corner- load (kN)*
15,0	12,5	20,0	308	331						
19,5	12,5	20,0	321	344						
24,0	12,5	20,0	334	358						
28,5	12,5	22,5	349	378						
33,0	12,5	22,5	382	411						
37,5	15,0	27,5	443	478						
42,0	25,0	40,0	523	563						
46,5	35,0	55,0	607	659						
51,0										
55,5										
60,0										
64,5										
69,0										
73,5										

* New units for forces and moments to international law: 10 kNm $\approx$ 1 t $\cdot$ m

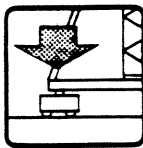
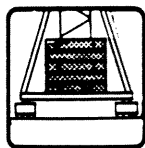
10 kN $\approx$ 1 t $\cdot$ f

Ka. KIL 30.09.80

Wolffkran WK 122 SL1

XIV 9598 E

WK 135 EC1



Centerballast and Cornerloads

DIN 15019

for travelling cranes without climber on undercarriages

Horizontal forces H and torquemoments to be taken from table "Foundation loads"

UW 480, UW 280.2, UW 260.2. Connection lower tower top part 1.5 m or for KRE

Height under hook (m)	30 m – jib						35 m – jib						40 m – jib					
	Gauge (m)			Gauge (m)			Gauge (m)			Gauge (m)			Gauge (m)			Gauge (m)		
	8,0	6,0	5,0	8,0	6,0	5,0	8,0	6,0	5,0	8,0	6,0	5,0	8,0	6,0	5,0	8,0	6,0	5,0
	Centerballast (t)			max. Cornerload (kN)*			Centerballast (t)			max. Cornerload (kN)*			Centerballast (t)			max. Cornerload (kN)*		
15,0	–	12,5	25,0	243	301	334	–	12,5	17,5	240	293	310	–	12,5	17,5	254	310	328
19,5	–	12,5	25,0	254	314	347	–	12,5	20,0	251	306	329	–	12,5	20,0	265	323	347
24,0	–	15,0	27,5	266	333	367	–	12,5	20,0	262	320	343	–	12,5	22,5	276	337	366
28,5	–	15,0	30,0	277	347	387	–	12,5	22,5	274	334	363	–	12,5	22,5	288	352	381
33,0	–	17,5	32,5	289	368	408	–	15,0	27,5	286	355	389	–	12,5	27,5	300	368	408
37,5	2,5	22,5	37,5	308	394	435	–	20,0	35,0	299	381	422	–	17,5	32,5	321	412	451
42,0	5,0	30,0	45,0	339	449	489	5,0	27,5	42,5	348	454	494	–	25,0	40,0	367	486	526
46,5	12,5	37,5	55,0	401	526	573	10,0	35,0	52,5	405	532	578	10,0	37,5	55,0	434	574	620
51,0	17,5	45,0	65,0	462	611	663	15,0	42,5	62,5	467	617	669	20,0	47,5	70,0	505	663	721
55,5	27,5	57,5	80,0	537	707	766	25,0	55,0	80,0	542	714	778	27,5	60,0		576	761	
60,0	35,0			612			35,0			622			37,5			656		
64,5	47,5			699			45,0			705			47,5			739		
69,0	57,5			786			55,0			792			60,0			832		
73,5	70,0			882			67,5			888			72,5			928		
78,0	82,5			982			82,5			993			85,0			1028		

Height under hook (m)	45 m – jib						50 m – jib						– jib					
	Gauge (m)			Gauge (m)			Gauge (m)			Gauge (m)			Gauge (m)			Gauge (m)		
	8,0	6,0	5,0	8,0	6,0	5,0	8,0	6,0	5,0	8,0	6,0	5,0	8,0	6,0	5,0	8,0	6,0	5,0
	Centerballast (t)			max. Cornerload (kN)*			Centerballast (t)			max. Cornerload (kN)*			Centerballast (t)			max. Cornerload (kN)*		
15,0	–	12,5	17,5	252	306	323	–	12,5	20,0	256	308	331						
19,5	–	12,5	20,0	263	319	342	–	12,5	20,0	267	321	344						
24,0	–	12,5	20,0	275	333	356	–	12,5	20,0	278	334	358						
28,5	–	12,5	20,0	286	347	371	–	12,5	22,5	290	349	378						
33,0	–	12,5	22,5	298	365	393	–	12,5	22,5	309	382	411						
37,5	–	15,0	27,5	336	425	459	–	15,0	27,5	351	443	478						
42,0	–	25,0	40,0	382	504	544	–	25,0	40,0	397	523	563						
46,5	7,5	37,5	55,0	445	592	639	7,5	35,0	55,0	461	607	659						
51,0	17,5	47,5	70,0	517	683	741	17,5	47,5	70,0	532	702	761						
55,0	27,5	60,0		592	781		25,0			604								
60,0	37,5			672			35,0			685								
64,5	47,5			756			47,5			773								
69,0	60,0			849			57,5			862								
73,5	72,5			946			70,0			959								
78,0	85,0			1046			85,0			1064								

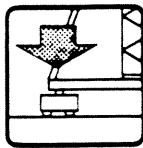
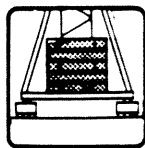
* New units for forces and moments to international law: 10 kNm ≈ 1 t·m

10 kN ≈ 1 t_f

Wolffkran WK 122 SL1

XIV 9599 E

WK 135 EC1



Centerballast and Cornerloads

DIN 15019

for travelling cranes without climber on undercarriages

Horizontal forces H and torquemoments to be taken from table "Foundation loads"

UW 280.1; UW 260.3; UW 460. Connection lower tower top part 1.5m or for KRE

Height under hook (m)	30 m – jib						35 m – jib						40 m – jib					
	Gauge (m)			Gauge (m)			Gauge (m)			Gauge (m)			Gauge (m)			Gauge (m)		
	8,0	7,0	6,0	8,0	7,0	6,0	8,0	7,0	6,0	8,0	7,0	6,0	8,0	7,0	6,0	8,0	7,0	6,0
	Centerballast (t)			max Cornerload (kN)*			Centerballast (t)			max Cornerload (kN)*			Centerballast (t)			max Cornerload (kN)*		
15,0	-	2,5	12,5	243	252	301	-	2,5	12,5	240	248	293	-	2,5	12,5	254	252	310
19,5	-	2,5	12,5	254	263	314	-	2,5	12,5	251	260	306	-	2,5	12,5	265	274	323
24,0	-	2,5	15,0	266	274	333	-	2,5	12,5	262	271	320	-	2,5	12,5	276	285	337
28,5	-	2,5	15,0	277	286	347	-	2,5	12,5	274	283	334	-	2,5	12,5	288	297	352
33,0	-	5,0	17,5	289	304	368	-	2,5	15,0	286	295	355	-	2,5	12,5	300	309	368
37,5	2,5	10,0	22,5	308	328	394	-	7,5	20,0	299	319	381	-	2,5	17,5	321	330	412
42,0	5,0	15,0	30,0	339	363	449	5,0	12,5	27,5	348	368	454	-	10,0	25,0	367	390	486
46,5	12,5	20,0	37,5	401	421	526	10,0	17,5	35,0	405	426	532	10,0	20,0	37,5	434	459	574
51,0	17,5	27,5	45,0	462	488	611	15,0	25,0	42,5	467	493	617	20,0	30,0	47,5	505	531	663
55,5	27,5	37,5	57,5	537	564	707	25,0	37,5	55,0	542	574	714	27,5	40,0	60,0	576	608	761
60,0	35,0	50,0	72,5	612	649	814	35,0	47,5	70,0	622	654	821	37,5	52,5	75,0	656	693	868
64,5	47,5	62,5	87,5	699	737	926	45,0	60,0	85,0	705	743	933	47,5	65,0	90,0	739	783	981
69,0																		
73,5																		

Height under hook (m)	45 m – jib						50 m – jib						m – jib	
	Gauge (m)			Gauge (m)			Gauge (m)			Gauge (m)			Gauge (m)	Gauge (m)
	8,0	7,0	6,0	8,0	7,0	6,0	8,0	7,0	6,0	8,0	7,0	6,0	Centerballast (t)	max Cornerload (kN)*
	Centerballast (t)			max Cornerload (kN)*			Centerballast (t)			max Cornerload (kN)*			Centerballast (t)	max Cornerload (kN)*
15,0	-	2,5	12,5	252	261	306	-	2,5	12,5	256	264	308		
19,5	-	2,5	12,5	263	272	319	-	2,5	12,5	267	275	321		
24,0	-	2,5	12,5	275	283	333	-	2,5	12,5	278	287	334		
28,5	-	2,5	12,5	286	295	347	-	2,5	12,5	290	300	349		
33,0	-	2,5	12,5	298	308	365	-	2,5	12,5	309	318	382		
37,5	-	2,5	15,0	336	346	425	-	2,5	15,0	351	361	443		
42,0	-	7,5	25,0	382	401	504	-	7,5	25,0	397	417	523		
46,5	7,5	17,5	37,5	445	470	592	7,5	17,5	35,0	461	486	607		
51,0	17,5	30,0	47,5	517	547	683	17,5	30,0	47,5	532	563	702		
55,0	27,5	40,0	60,0	592	624	781	25,0	40,0	60,0	604	641	801		
60,0	37,5	52,5	75,0	672	710	889	35,0	52,5	75,0	685	727	909		
64,5	47,5	65,0	90,0	756	800	1002	47,5	65,0	90,0	773	817	1023		
69,0														
73,5														

* New units for forces and moments to international law: 10 kNm $\approx$ 1 t $\cdot$ m

10 kN $\approx$ 1 t $\cdot$