



CTT 331-16 H20

Technical Specifications

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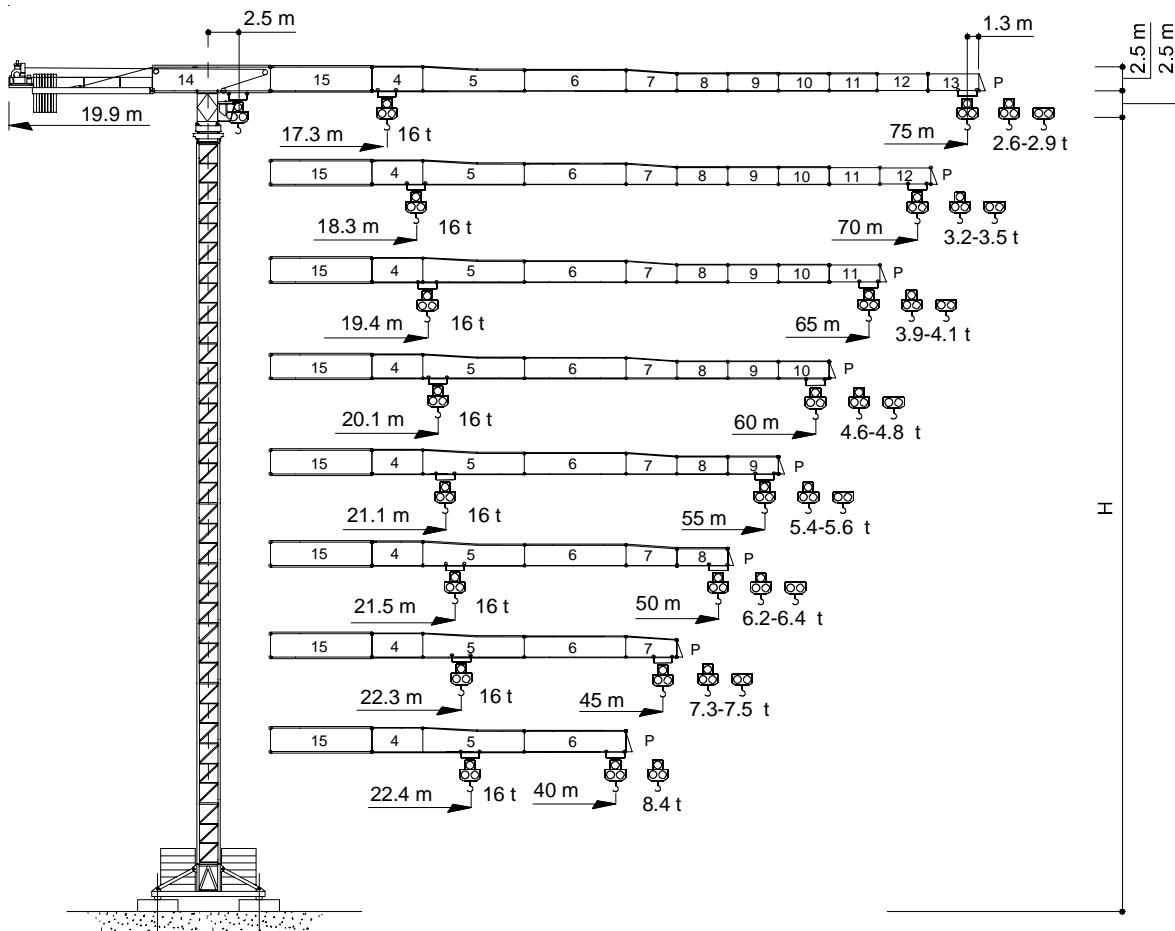
Chapter 2



Gru a torre "Flat Top"

"Flat Top" Tower Crane • Grue à tour "Flat Top"

"Flat Top" Turmdrehkran • Grua torre "Flat Top"



CE FEM 1.001 A3
(A2 )

THE ULTIMATE CRANE™

Dati illustrativi non impegnativi
Con riserva di modifica senza preavviso

Specifications and data not binding
Subject to modification without notice

Données techniques seulement indicatives
Modifications réservées sans préavis

Angaben und Beschreibung unverbindlich
Änderungen vorbehalten ohne weitere Mitteilung

Dibujos y datos sin compromiso
Modificaciones reservadas sin preaviso

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Diagramma di portata
Load Diagram

I
GB

Courbes de charges
Lastkurven

F
D

Curvas de cargas

E

		CTT 331-16																			
		10	15	20	25	30	35	40	45	50	52	55	57	60	62	65	67	70	72	75	
8 t	- 32,1 m	8	8	8	8	8	7,24	6,21	5,42	4,78	4,57	4,27	4,09	3,84	3,69	3,48	3,35	3,17	3,06	2,90	
8 t	- 31,5 m	8	8	8	8	8	7,06	6	5,19	4,53	4,31	4,00	3,82	3,56	3,41	3,19	3,06	2,87	2,76	2,60	
16 t	- 17,3 m	16	16	13,54	10,48	8,48	7,06	6	5,19	4,53	4,31	4,00	3,82	3,56	3,41	3,19	3,06	2,87	2,76	2,60	
8 t	- 34,5 m	8	8	8	8	8	7,86	6,76	5,91	5,23	5,00	4,68	4,48	4,22	4,06	3,83	3,69	3,50			
8 t	- 33,6 m	8	8	8	8	8	7,61	6,50	5,64	4,95	4,71	4,39	4,20	3,93	3,76	3,54	3,40	3,20			
16 t	- 18,3 m	16	16	14,46	11,23	9,11	7,61	6,50	5,64	4,95	4,71	4,39	4,20	3,93	3,76	3,54	3,40	3,20			
8 t	- 36,3 m	8	8	8	8	8	7,17	6,28	5,57	5,32	4,99	4,78	4,51	4,34	4,10						
8 t	- 35,8 m	8	8	8	8	8	7,03	6,12	5,40	5,15	4,81	4,60	4,31	4,14	3,90						
16 t	- 19,4 m	16	16	15,44	12,03	9,79	8,21	7,03	6,12	5,40	5,15	4,81	4,60	4,31	4,14	3,90					
8 t	- 38,1 m	8	8	8	8	8	7,59	6,65	5,91	5,65	5,30	5,09	4,80								
8 t	- 37,4 m	8	8	8	8	8	7,41	6,47	5,72	5,46	5,11	4,89	4,60								
16 t	- 20,1 m	16	16	16	12,59	10,27	8,63	7,41	6,47	5,72	5,46	5,11	4,89	4,60							
8 t	- 40 m	8	8	8	8	8	8	7,02	6,24	5,97	5,60										
8 t	- 39,2 m	8	8	8	8	8	7,82	6,83	6,04	5,77	5,40										
16 t	- 21,1 m	16	16	16	13,24	10,81	9,10	7,82	6,83	6,04	5,77	5,40									
8 t	- 40,9 m	8	8	8	8	8	8	7,20	6,40												
8 t	- 40,1 m	8	8	8	8	8	8	7	6,20												
16 t	- 21,5 m	16	16	16	13,57	11,08	9,32	8,02	7	6,20											
8 t	- 42,5 m	8	8	8	8	8	8	7,50													
8 t	- 41,5 m	8	8	8	8	8	8	7,30													
16 t	- 22,3 m	16	16	16	14,10	11,53	9,70	8,35	7,30												
8 t	- 40 m	8	8	8	8	8	8	8													
8 t	- 40 m	8	8	8	8	8	8	8													
16 t	- 22,4 m	16	16	16	14,19	11,60	9,76	8,40													

Altre installazioni
Other configurations

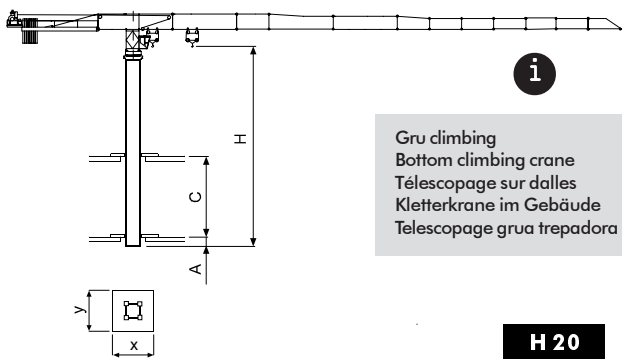
I
GB

Autres implantations
Aufstellungsmöglichkeiten

F
D

Otras implantaciones

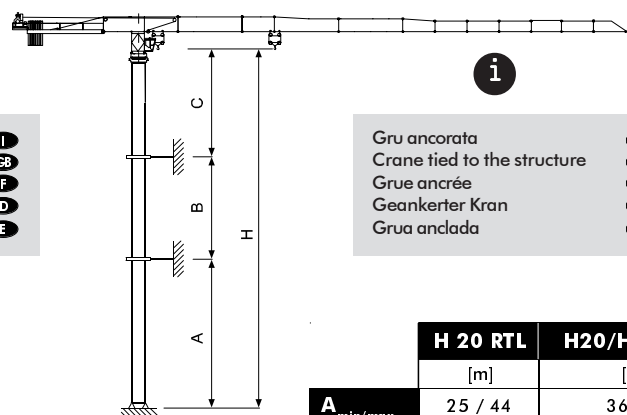
E



Gru climbing
Bottom climbing crane
Télescage sur dalles
Kletterkrane im Gebäude
Telescage grua trepadora

I
GB
F
D
E

	H 20
	[m]
A _{min}	1
C _{min}	10
H _{max}	30
x	2.6
y	2.08



Gru ancorata
Crane tied to the structure
Grue ancrée
Geankerter Kran
Grua anclada

I
GB
F
D
E

	H 20 RTL	H20/HD23 R ₄
	[m]	[m]
A _{min/max}	25 / 44	36 / 54
B _{min/max}	15 / 22.5	15 / 22.5
C _{max}	27	27
H _{max}	i	



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Torre
Tower

I
GB

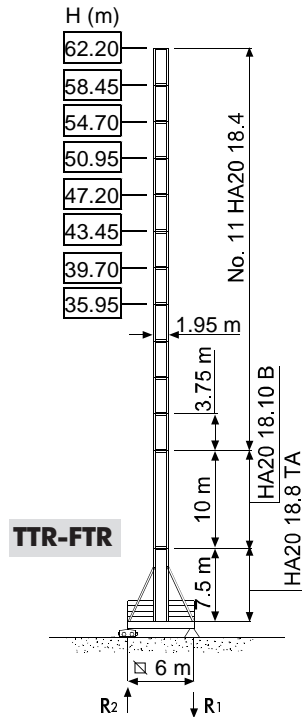
Tour
Turm

F
D

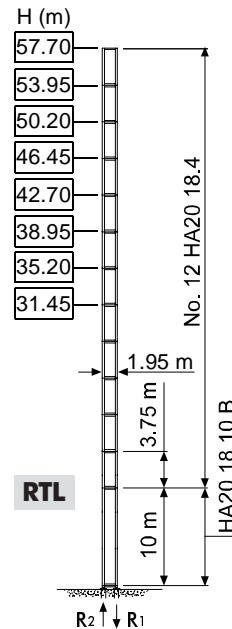
Mástil
Mast

E

H20

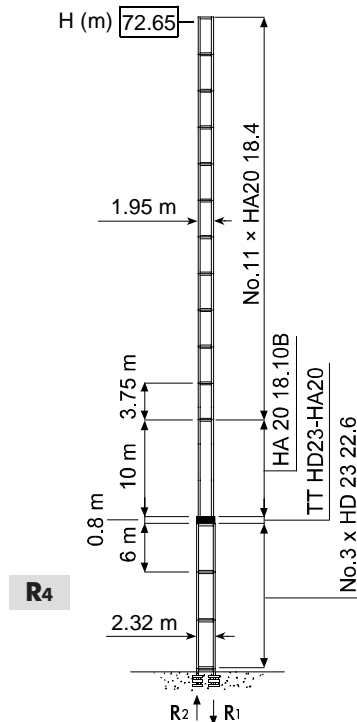


R1	1435 kN ●	1515 kN ◆
R2		150 kN ◆
	107 t	



R1	2640 kN ●	2670 kN ◆
R2	1990 kN ●	2060 kN ◆
	87 t	

H20/HD23



R1	3000 kN ●	3900 kN ◆
R2	2250 kN ●	3250 kN ◆
	101 t	

H	Altezza massima sotto gancho	I
●	In servizio	
◆	Fuori servizio	
	A vuoto, senza zavorra, braccio max., altezza max.	
H	Max. under hook height	GB
●	In service	
◆	Out of service	
	Without load, without ballast, max. jib and max. height	
H	Hauteur maxi. sous crochet	F
●	En service	
◆	Hors service	
	A vide, sans lest, avec flèche et hauteur maximum	
H	Höchste Hackenhöhe	D
●	In Betrieb	
◆	Außer Betrieb	
	Ohne Last und Ballast, mit Maximalausleger und Maximalhöhe	
H	Maxima altura bajo gancho	E
●	En servicio	
◆	Fuera de servicio	
	Sin carga, sin lastre, con pluma y altura máxima	



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Meccanismi
Mechanisms



Mécanismes
Antriebe



Mecanismos



114 * kVA	400 V - 50 Hz / 460 V - 60 Hz	2000/14/CE

* Gru senza traslazione / Crane without travelling equipment / Grue sans translation / Krane ohne Schienenfahren / Grúa sin traslación

		m/min	t	kW		
	45 AFC 80 (VECTOR)		0 ⇨ 30	8	45	430 m 560 m (LEBUS)
			0 ⇨ 38	6		
			0 ⇨ 60	4		
			0 ⇨ 90	2		
			0 ⇨ 117	1.2		
			0 ⇨ 15	16		
			0 ⇨ 19	12		
			0 ⇨ 30	8		
			0 ⇨ 45	4		
			0 ⇨ 58.5	2.4		

	DSR 3 70	12 ⇨ 36 ⇨ 72 m/min	70/50 Nm
	DCC 5 112	0 ⇨ 95 m/min	11 kW
	SSR 4 4 65	0.73 r.p.m.	4 × 65 Nm
	TSR 2RG 4M8	12 ⇨ 24 m/min	4 × 80 Nm

	Sollevamento		Hoisting		Levage		Heben		Elevación	
	Traslazione carrello		Trolleying		Distribution		Katzfahren		Distribución	
	Rotazione		Slewing		Orientation		Schwenken		Orientación	
	Traslazione		Travelling		Translation		Schienenfahren		Traslación	
	Direttiva sul livello acustico		Directive on noise level		Directive sur le niveau acoustique		Richtlinie für den Schall-Leistungspegel		Directiva sobre el nivel acustico	
	Consultateci		Consult us		Nous consulter		Auf Anfrage		Consultarnos	
	Potenza totale richiesta		Power requirements		Puissance totale nécessaire		Geforderte Stromstärke		Potencia necesaria	
	Alimentazione		Power supply		Alimentation		Stromversorgung		Alimentación	

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2

CRANE CLASSIFICATION

Standards for structural calculations of the crane: FEM 1.001

Machine grade: A3 (A2 for jibs)

Standards for the electrical components: CEI - EN 60204 - 1

3

LOAD HANDLING DEVICES

16 t (35,280 lbs.) - Hook UNI 946 S / DIN 15401

4

WORK ENVIRONMENT



- Working temperature: **0 °C ➔ 40 °C** (upon the customer's request, cranes withstanding temperatures up to -20 °C can be supplied)
- Maximum relative humidity: **90%**
- Maximum wind speed:

<u>during assembly</u>	14	m/s	(~50 km/h)
<u>in service</u>	20	m/s	(~72 km/h)
<u>out of service</u>	42	m/s	(~150 km/h)



U.S. Customery units

- Working temperature: **32 °F ➔ 104 °F** (upon the customer's request, cranes withstanding temperatures up to -4 °F can be supplied)
- Maximum relative humidity: **90%**
- Maximum wind speed:

<u>during assembly</u>	46	ft/s	(~31 mph)
<u>in service</u>	66	ft/s	(~45 mph)
<u>out of service</u>	138	ft/s	(~93 mph)

- *Maximum front surface:*

the maximum admitted surface exposed to the wind in corispondence of the full load allowed at a certain jib length during hoisting is obtained by the ratio:

$$A = \frac{0.03 \times P}{q \times 1.2} \quad \text{where}$$

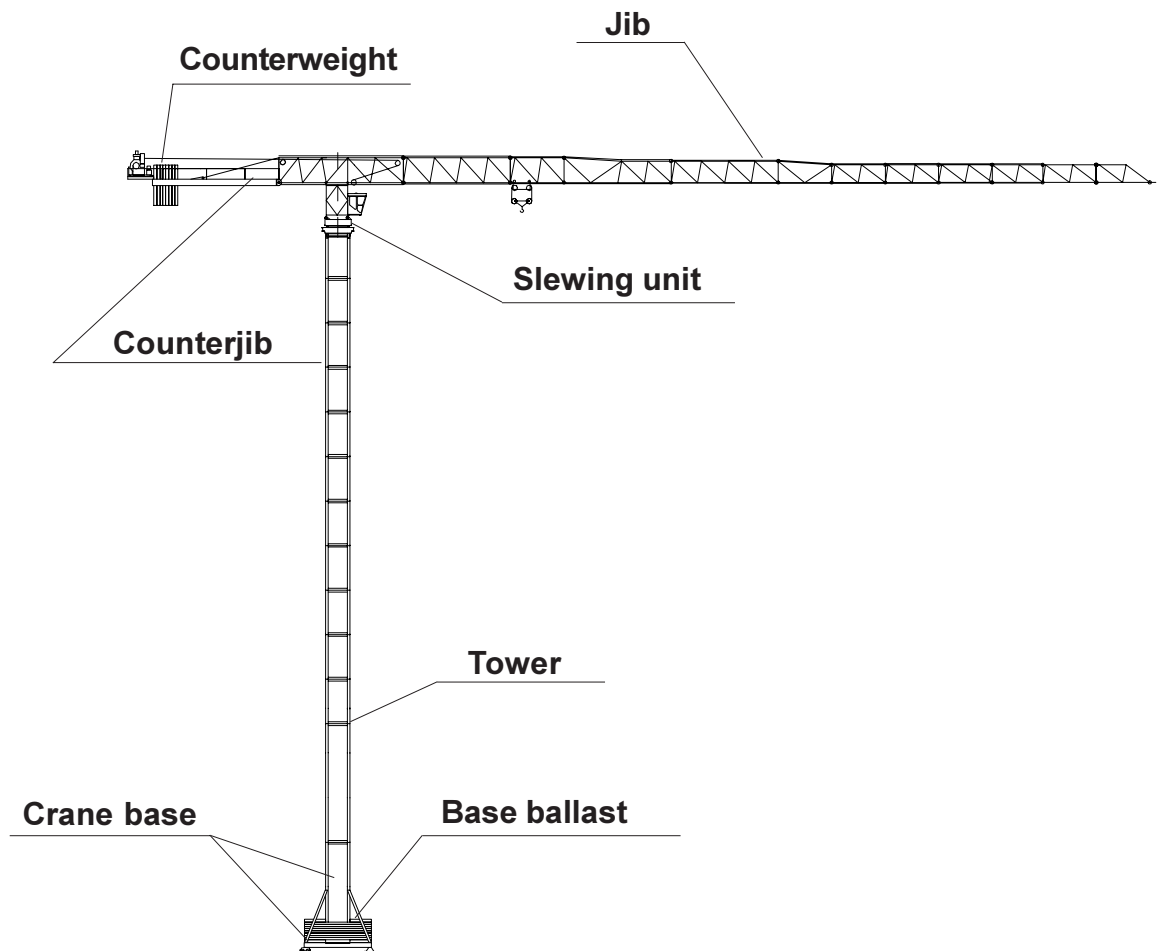
A = Front surface exposed to the wind [m²]
P = Weight of the load hanging from the hook [daN]
q = Pressure factor = $\frac{v^2}{16}$ [daN/m²]
v = Wind speed [m/s]

Important



The crane cannot be used in an explosive work environment or a work environment subject to fire risks. Also it cannot be operated in a work environment where flameproof devices are required.

5 MAIN CRANE COMPONENTS



Picture 5.1

Crane base

Found in installations: **“FTR”** (stationary crane on undercarriage) and **“TTR”** (travelling crane). It is made of a long beam connected to two short beams by pins, of the “HA20 18.8 TA” strut mount tower section and of four struts.

It has a support surface of 6×6 m (20×20 ft).

Base ballast

Made of self-supporting reinforced concrete blocks, which uniformly distribute their own weight on the undercarriage structure and, therefore, on the supports.

Tower

With “**TTR**”, “**FTR**” and “**RTL**” installations the base tower section is “HA20 18.10 B” type 10 m (33 ft) long, the remaining ones are “HA20 18.4” standard type 3.75 m (12 ft) long, instead.

All tower sections have a monolithic structure with 180×18 mm box welded L-section stanchions.



Interpret the tower element definitions as follows:

example 1:

HA 20 18.4 : tower element “HA” > width 20 dm (7ft) > stanchion thickness = 18 mm (1 inch)
> height about 4 m (13 ft)

Counterjib and counterweight

It is a platform on which the hoist winch and the counterweights are placed.

It is equipped with platforms with handrails so that the operators can move about safely.

There are **two** types of counterweights (all made of self-supporting reinforced concrete blocks or, on request, with a steel frame). The quantity and composition vary depending **on the jib's length**, as specified in **chapter 3B “Counterweights”** of the crane operation manual.

Slewing unit

It consists of the lower ring support (connected to the tower) and the upper slewing ring support with motors (rotating with the crane's upper part) with the slewing ring placed in the middle.

The cab tower section rests on the upper slewing ring support.

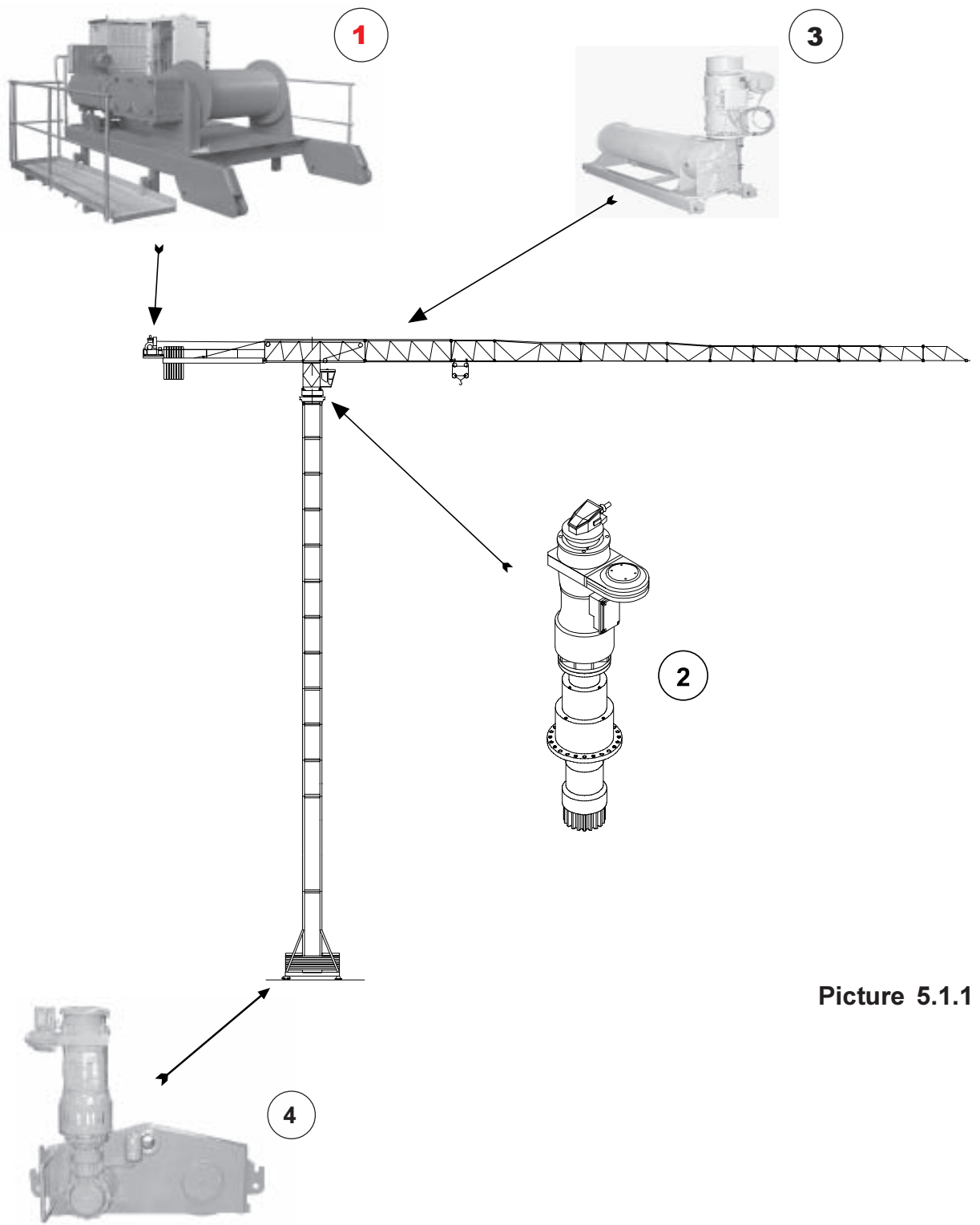
Jib

Self-supporting type, it does not need any tie-bars and consists of 12 triangular sections and a jib point section (for a maximum 75 m / 246 ft jib extension).

Diagonals are made from round-hollow bars; the upper and lower longitudinal spars from square-hollow bars or square sections.

It is equipped with a safety cable, thus allowing the crane operators and maintenance engineers to fasten themselves with the special safety belt when walking along it.

5.1 DRIVE ASSEMBLIES (GENERAL INFORMATION)



Picture 5.1.1

- 1) HOIST WINCH ➔ See **Chapter 9** for technical specifications
- 2) SLEWING UNIT ➔ See **Chapter 13** for technical specifications
- 3) TROLLEY TRAVERSING WINCH ➔ See **Chapter 10** for technical specifications
- 4) TRAVELLING UNIT ➔ See **Chapter 12** for technical specifications