



# CTT 331-16 HD23

# Technical Specifications

1	SPECIFICATIONS SHEET
2	CRANE CLASSIFICATION
3	LOAD HANDLING DEVICES
4	WORK ENVIRONMENT
5	MAIN CRANE COMPONENTS
5.1	DRIVE ASSEMBLIES (GENERAL INFORMATION)

## Chapter 2

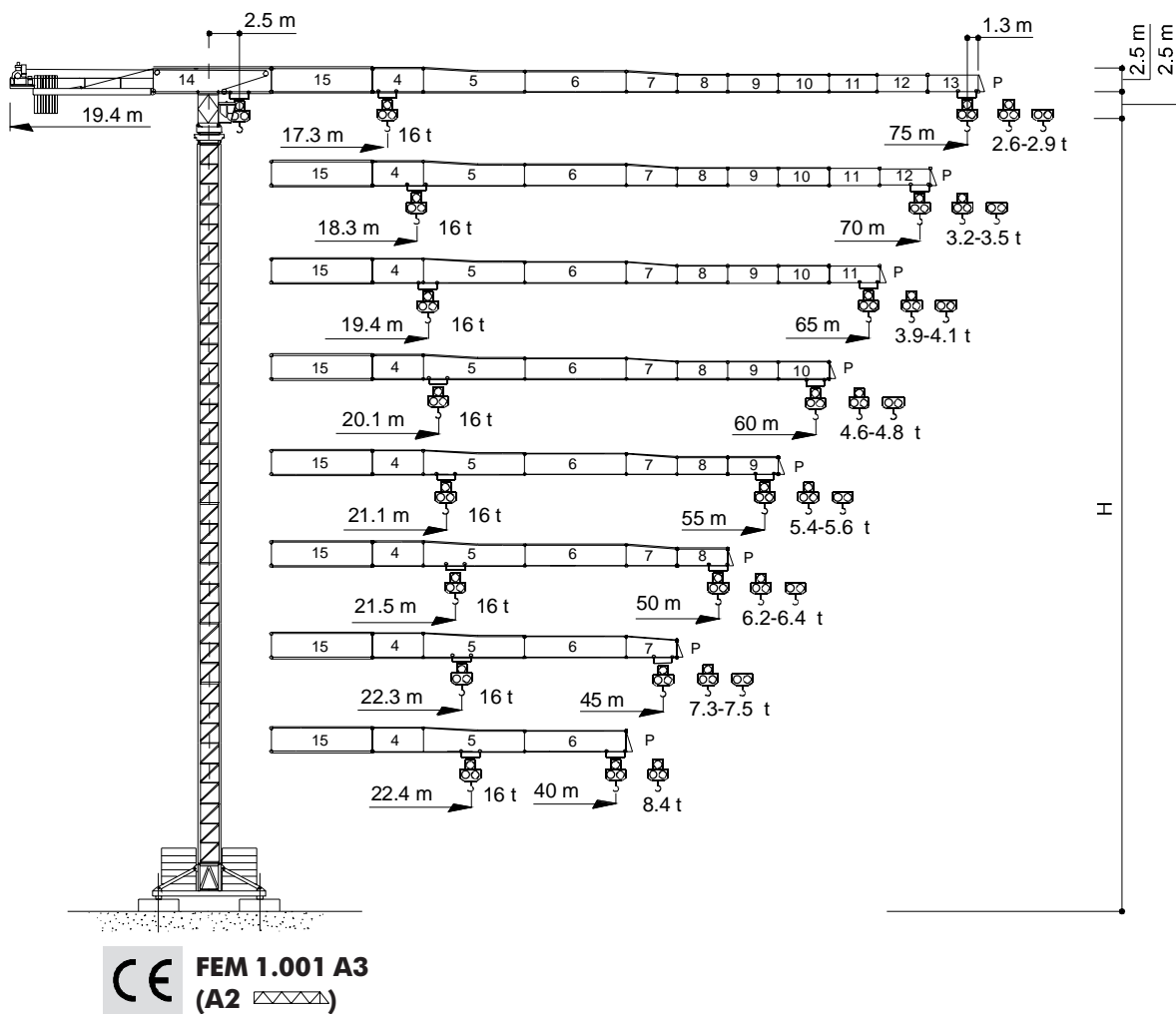




## Gru a torre "Flat Top"

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

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



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

UTEDOC. REV.002

CTT 331-16 HD23



# CTT 331-16

Diagramma di portata  
Load Diagram

I  
GB

Curbes 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	t	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	t	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	t	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	t	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	t	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	t	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	t	8	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	t	8	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	t	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	t	8	8	8	8	8	8	7,59	6,65	5,91	5,65	5,30	5,09	4,80						
8 t - 37,4 m	t	8	8	8	8	8	8	7,41	6,47	5,72	5,46	5,11	4,89	4,60						
16 t - 20,1 m	t	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	t	8	8	8	8	8	8	8	7,02	6,24	5,97	5,60								
8 t - 39,2 m	t	8	8	8	8	8	8	7,82	6,83	6,04	5,77	5,40								
16 t - 21,1 m	t	16	16	16	13,24	10,81	9,10	7,82	6,83	6,04	5,77	5,40								
8 t - 40,9 m	t	8	8	8	8	8	8	8	7,20	6,40										
8 t - 40,1 m	t	8	8	8	8	8	8	8	7	6,20										
16 t - 21,5 m	t	16	16	16	13,57	11,08	9,32	8,02	7	6,20										
8 t - 42,5 m	t	8	8	8	8	8	8	8	7,50											
8 t - 41,5 m	t	8	8	8	8	8	8	8	7,30											
16 t - 22,3 m	t	16	16	16	14,10	11,53	9,70	8,35	7,30											
8 t - 40 m	t	8	8	8	8	8	8	8	8											
8 t - 40 m	t	8	8	8	8	8	8	8	8											
16 t - 22,4 m	t	16	16	16	14,19	11,60	9,76	8,40												

Altre installazioni  
Other configurations

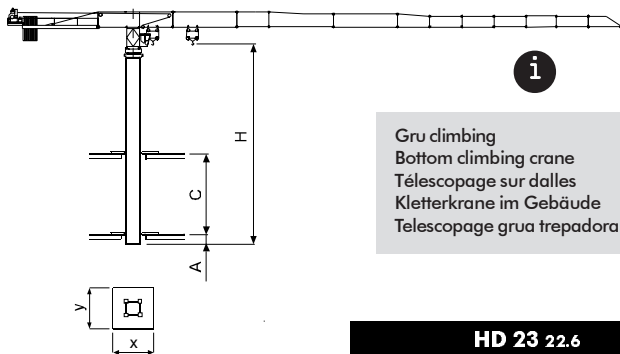
I  
GB

Autres implantations  
Aufstellungsmöglichkeiten

F  
D

Otras implantaciones

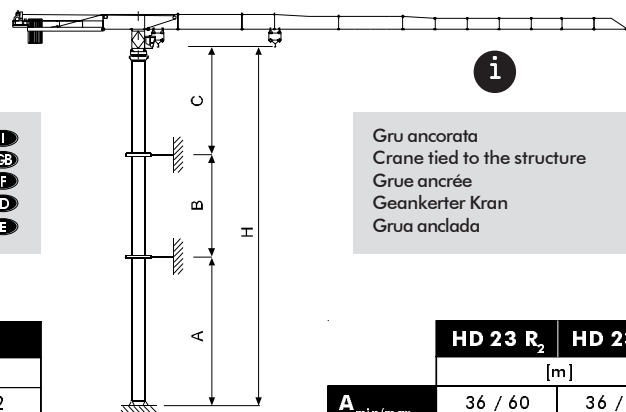
E



Gru climbing  
Bottom climbing crane  
Télescopage sur dalles  
Kletterkrane im Gebäude  
Telescopage grua trepadora

I  
GB  
F  
D  
E

HD 23 22.6				
[m]				
A <sub>min</sub>	2	2	2	2
C <sub>min</sub>	10	12	14	16
H <sub>max</sub>	36	44	50	54
x	2.95			
y	2.42			



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

I  
GB  
F  
D  
E

HD 23 R <sub>2</sub>		HD 23 R <sub>3</sub>	
[m]			
A <sub>min/max</sub>	36 / 60	36 / 78	
B <sub>min/max</sub>	24 / 42		
C <sub>max</sub>	48		
H <sub>max</sub>	i		



# CTT 331-16

Torre  
Mast



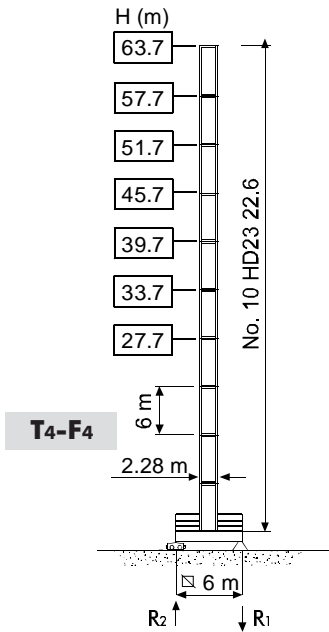
Mât  
Turm



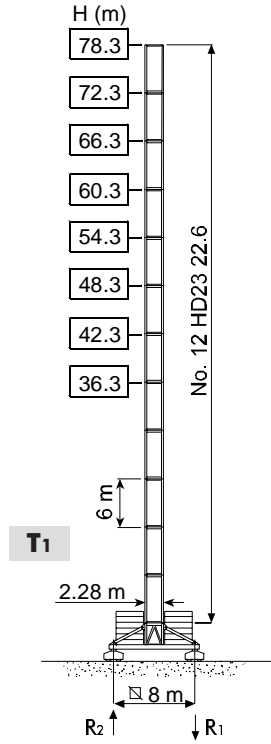
Mástil



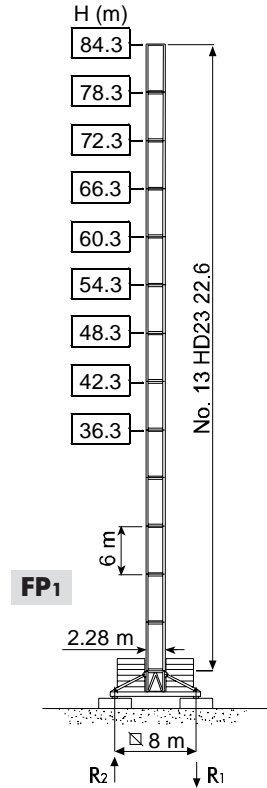
## HD23



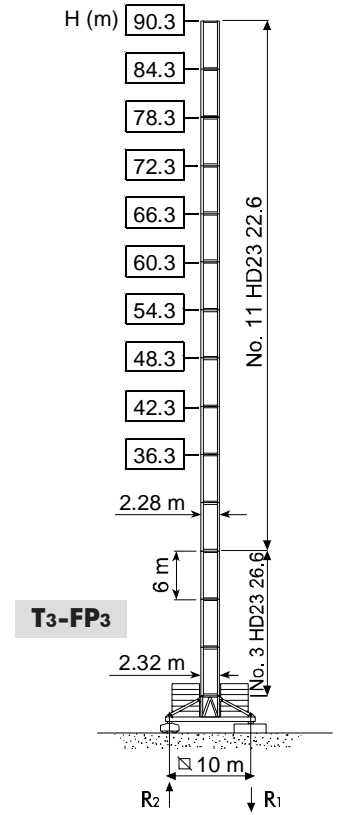
R1	1435 kN ●	1571 kN ◆
	113 t	



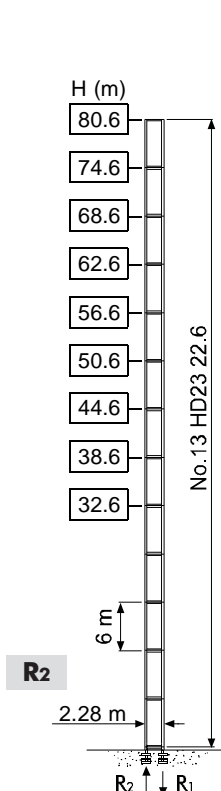
R1	1520 kN ●	1770 kN ◆
R2		245 kN ◆
	140 t	



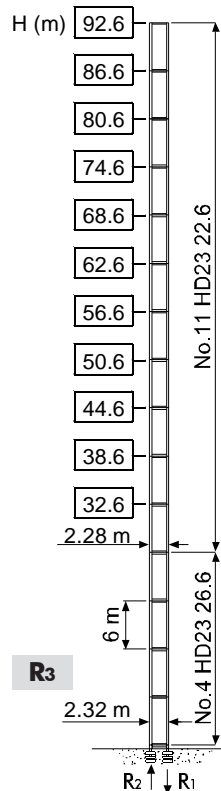
R1	1660 kN ●	2000 kN ◆
R2		260 kN ◆
	145 t	



R1	1700 kN ●	2050 kN ◆
R2		200 kN ◆
	159 t	



R1	3150 kN ●	4400 kN ◆
R2	2350 kN ●	3700 kN ◆
	107 t	



R1	3500 kN ●	5410 kN ◆
R2	2620 kN ●	4630 kN ◆
	123 t	

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



# CTT 331-16

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		
	<b>45 AFC 80 (VECTOR)</b>		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		

	<b>DSR 3 70</b>	12 ⇄ 36 ⇄ 72 m/min	70/50 Nm
	<b>DCC 5 112</b>	0 ⇄ 95 m/min	11 kW
	<b>SSR 4 4 65</b>	0.73 r.p.m.	4 × 65 Nm
		0 ⇄ 50 m/min	4 × 9 kW
		12 ⇄ 24 m/min	4 × 80 Nm

	Max. H [m]		
T <sub>1</sub>	54.3	60.3	> 60.3
T <sub>3</sub>	54.3	66.3	> 66.3
T <sub>4</sub>	51.7	63.7	

	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	

## Gru Comedil s.r.l.

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[www.terex-cranes.com](http://www.terex-cranes.com)

2

## CRANE CLASSIFICATION

*Standards for structural calculations of the crane:* FEM 1.001

*Machine grade:* A3 (A2 for the jib ranges)

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

3

## LOAD HANDLING DEVICES

16 t (35280 lbs) - hooks 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:
 

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



### 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:
 

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

- Maximum front surface:

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

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

where

**A** = Front surface exposed to the wind [m<sup>2</sup>]

**P** = Weight of the load hanging from the hook [daN]

**q** = Pressure factor =  $\frac{v^2}{16}$  [daN/m<sup>2</sup>]

**v** = Wind speed [m/s]

### Important

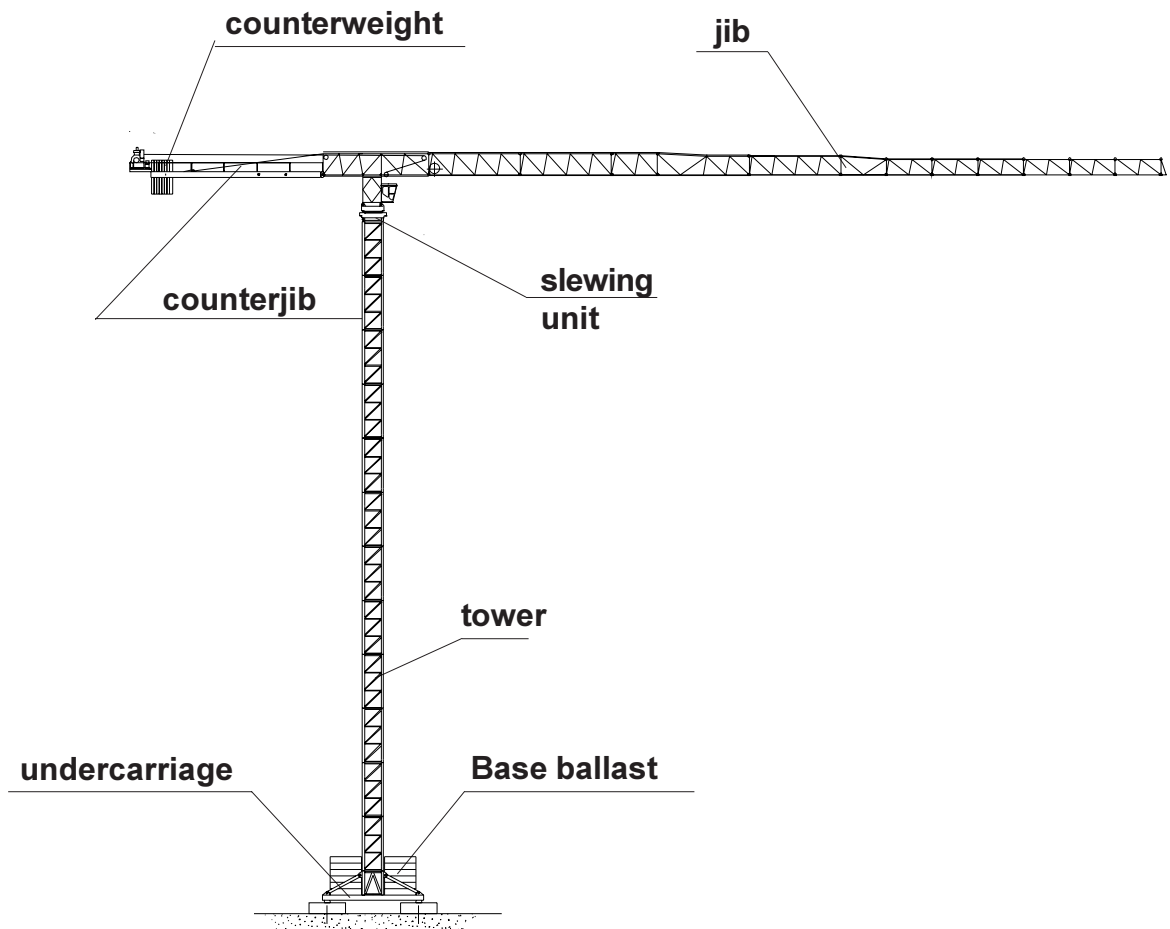


The crane cannot be used in an explosive work environment or a work environment subject to fire risks. Also it cannot be operated in a work environment where flameproof devices are required.



5

## MAIN CRANE COMPONENTS FOR INSTALLATIONS TTR-FTR



Picture 5.1

### Undercarriage

Found in the following configurations:

- “**F**” fixed base on 4 base plates with all the ballast placed on the undercarriage, with the exception of particular installations for which we request to tie-bolt the plates to a lower foundation;
- “**FP**” fixed base on 4 ballast blocks connected to the undercarriage edges and additional base ballast on the undercarriage;
- “**T**” ballasted travelling platform mounted on trucks that ride along rails.

The 8×8 m (26×26 ft) and 10×10 m (33×33 ft) undercarriages are made of a strut mounting tower section, of 4 struts, of 4 short sleepers and 4 long sleepers.

The 6×6 m (20×20 ft) undercarriage is made of a long beam to which 2 short beams and 4 sleepers are connected.

### Base ballast

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

## HD23 Tower

All tower sections are made of different HEM-sectioned stanchions depending on the tower type (HD23 22 or 26). Lugs are welded externally on one side, specifically designed for the tower raising by top climbing unit.

The tower denominations must be interpreted as follows:

### *example:*

**HD 23 22.6** : HD type tower element > width 23 dm (8 ft) > stanchion thickness = 22 mm (0.87in.)  
> height 6 m (20 ft) approx.

## Counterjib and counterweight

A structure bearing the hoisting winch and the counterweight.

It is equipped with side catwalks protected by handrails for the operators' safety.

There are **two** types of counterweights (these are always made of reinforced concrete or, on request, bordered with a steel frame). The quantity and composition vary according to **the length of the jib**, as specified in **chapter 3B "Counterweights"** of the crane operating manual.

## Slewing unit

It consists of a lower slewing ring support (connected to the tower) and a motorized upper slewing ring support (which rotates together with the upper part of the crane) with the slewing ring placed in the middle.

The cab section is placed above the upper slewing ring support.

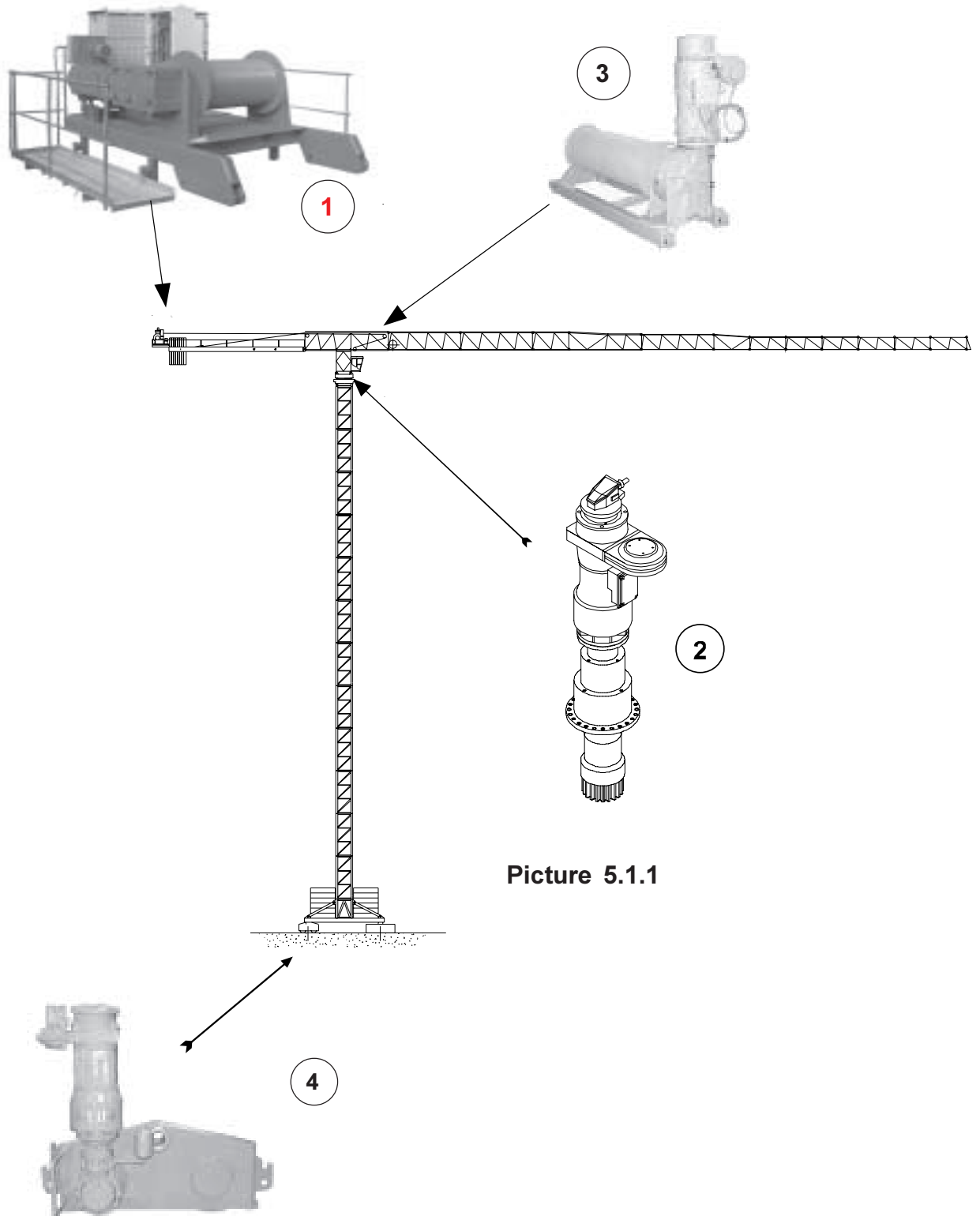
## Jib

Self-supporting type, it does not need tie-bars and it is made of 12 triangular-section elements and a jib tip (for maximum jib extension 75 m / 246 ft).

The diagonals are made of round-hollow bars; the upper and lower longitudinal spars are made of square-hollow bars or of square-hollow section

It is equipped with a safety cable (for the whole length of the jib) 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