

ZOOMLION

FLAT-TOP TOWER CRANE

LIFTING SOLUTIONS



CE



LIFTING SOLUTIONS

WORLD LEADER IN FLAT-TOP TOWER CRANE TECHNOLOGY, ZOOMLION FOCUSES ON EUROPE

ZOOMLION History

ZOOMLION Group based in Changsha China, has more than 50 years of history of innovation. One of the major milestone in the history of the Group is the foundation of the CICM, lately ZOOMLION, the **Changsha Institute of Construction Machinery**. The institute did concentrate all its activity in research and development of technologies applied to construction and in particular to concrete transportation, pumping, lifting machines and tower cranes.

ZOOMLION Italia

In 2021 we inaugurated the production facility in Solferino (MN) in order to meet the needs of European logistics and concrete companies, and support them with direct assistance. **Our solutions**, consisting of a wide range of aerial working platforms, tower cranes, mobile cranes and truck mounted pumps, **are therefore designed specifically for the European market.**

9+

Countries R&D Center
overseas Bases

10+

Countries
Service platform

10+

Countries
Subsidiaries

200+

Dealers



Tower cranes



Construction
Machinery



Agriculture
Industry



Financial
Service



ZValley



Zoomlion Vision

To be a World-class Enterprise in Equipment Manufacturing



Scientific & Technological Industrialization



Development Globalization



Industry Technologization

ADVANCED MANUFACTURE

Advanced processing method

- Green factory with low emission low pollution
- High level automated production lines
- Electrophoretic primer & water based paint
- Passes to overseas regional markets according to FEM1.001, EN14439, EN13001, DIN15018

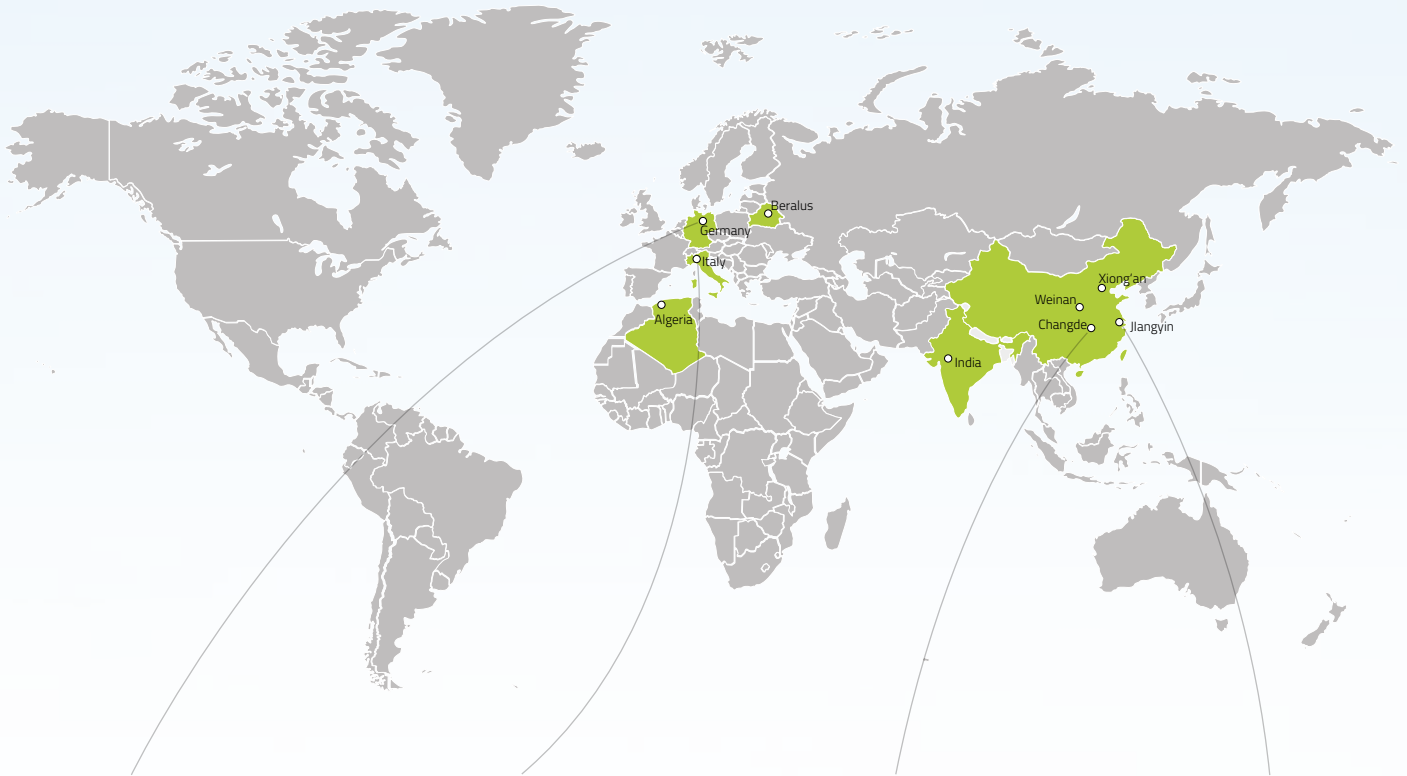
Reliable Quality Assurance

- TUV accredited management system
 - Strict enterprise standards
 - Multiple effective inspection & test methods
-

World's largest production

- Annual capacity 20.000 units
- 9 manufacturing in Asia, Africa and Europe (Changde , Jiangyin, Weinan , Xiong'an , India, Beralus , Algeria , Germany and Italy)





German Factory

- More than 85 years of experience in construction industry
- The entire crane manufacture complies with DIN EN 1090-2 (EXC 3) and DIN EN ISO 3834-2 standard
- TUV - accredited management system

ZOOMLION CIFA Europe

- A new 10.000 sqm plant and distribution center in Solferino (province of Mantova, Italy) been built for local assembly, customization and PDI of Zoomlion Lifting Products
- For the distribution and development of Zoomlion branded lifting machinery

Changde Factory

- Green factory with low emission low pollution
- High-level automated production lines (contain a lot of welding robot, AGV, RGV, sensors etc.)

Jiangyin Factory

- An established factory proximity to Shanghai port for easy loading and transportation of goods

FLAT-TOP TOWER CRANES RANGE

Reliability, speed, easy assembly and maintenance are key factors in the construction world. Leveraging a know-how of more than 60 years in the design of tower cranes, Zoomlion has developed a wide range of machines, working on key global markets to address customers' needs. Zoomlion's high-performance, reliable tower cranes are now also available in a new European configuration. Together with our customised flat-top tower crane solutions, we are able to offer a full range of services, such as product development and ad-hoc product configuration, sales and after-sales support and financial services through our European headquarter located in Italy.

EN14439

» Ultra simplified structure

- Safe, high-efficiency
- Low stress flow design with optimal fatigue resistance prolonging the working life of the equipment

» Higher return on investment and peace of mind

- Reduced costs through optimization of loading planes

Reliability

» Reliable tower design

- There are various standard tower sections with different specifications to meet further requirements
- Higher free standing heights thanks to pin connection and reliable tower structure

» Reliable raw materials

- Steel, components and parts from major manufacturers
- Supplier inspection report + severe quality tests implemented by the company in-house laboratory

User-friendly

» Ergonomic driver's cabin

- Spacious, large bearing capacity: 200 kg
- Ultra vision
- Flat window
- Air conditioned
- Heating system
- Adjustable and comfortable seats
- Hook video system with second display in cabin (optional)

High efficiency

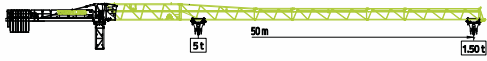
» Efficient assembly and disassembly

- Boom is connected with quick couplers
- All aviation plugs are equipped with water & dust protection

» Efficient movement and control

- Use of a high-efficiency reducer makes the structure simple, easy maintenance and highly reliable
- Big hoist drum with double broken line groove completely resolves rope arrangement problems
- The system adapts the speed in accordance with the lifted load

Standard range



R90-5



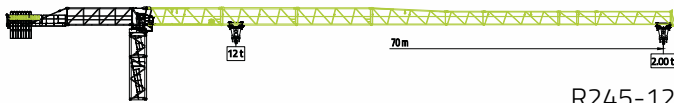
R135-8



R165-8



R220-10



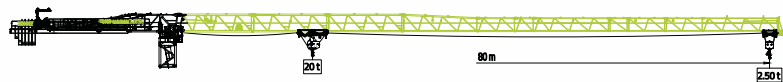
R245-12



R275-12

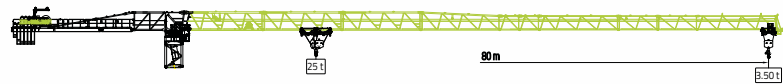


R335-16

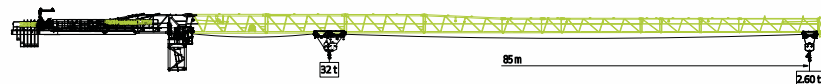


R370-20

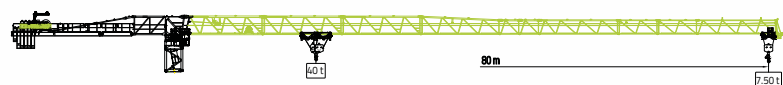
Heavy duty range



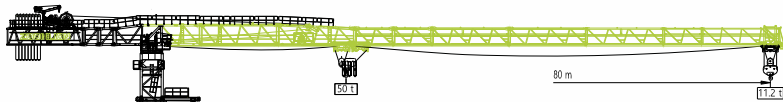
R500-25



R630-32



R800-40



R1000-50

Reliable tower design

- There are various standard tower sections with different specifications to meet further requirements
- Higher free standing heights thanks to pin connection and reliable tower structure
- Maximum height electric cables and lifting ropes set included
- New round tower section design



Reliable raw materials

- Steel, components and parts from major manufacturers
- Supplier inspection report + severe quality tests implemented by the company in-house laboratory

Solferino (MN), Italy: the new Zoomlion CIFA Europe plant

- Assembly, installation and testing of flat top tower cranes for the European market
- Dedicated warehouse with parts in stock in prompt delivery
- CE certifications and technical support



Coating

- Primer + intermediate coat + finishing coat
- Inner cavity of the mast section adopts electrophoretic treatment to effectively avoid corrosion



Ultra simplified structure

- Safe, high-efficiency
- Low stress flow design with optimal fatigue resistance prolonging the working life of the equipment

Higher return on investment and peace of mind

- Reduced costs through optimization of loading planes



EN Standard

» Overload testing for structure

- Static 1.5 times | higher than EN/DIN
- Dynamic 1.25 times | higher than EN/DIN
- 1.5 x rated load testing with 450t crane

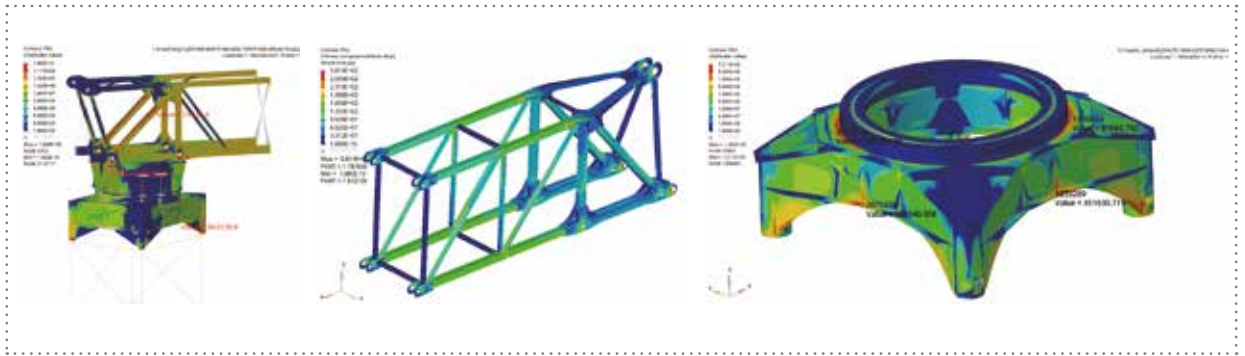
» Classification: A3-A4

- 356400 cycles = 30 years × 330 days × 12 hrs × 3cycles/hr
- Higher than A3 requirements
- More than 100,000 cycles testing with 100% rated moment

» Controls comply with EN 60204-32

» Crane safety PLd / PLc

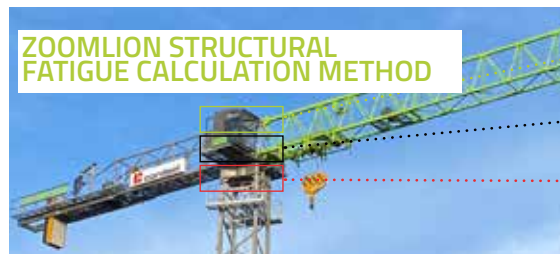
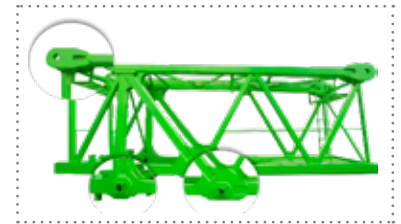
» C25/D25 for out of service



Ultra-simplified structure

Designed to last

- Upper crane designed LIFE > 30 years
- Simulation analysis
- Experimental verification
- Lower stress concentration & longer service life
- More than 100,000 circles maximum tension
- Pression force testing with tower corner



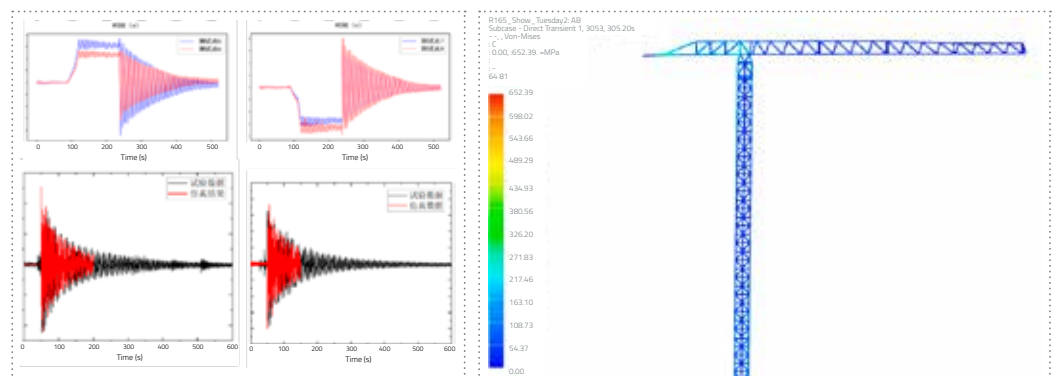
Tower top 30 years

Turntable 50 years

Slewing support 100 years

Extreme conditions testing

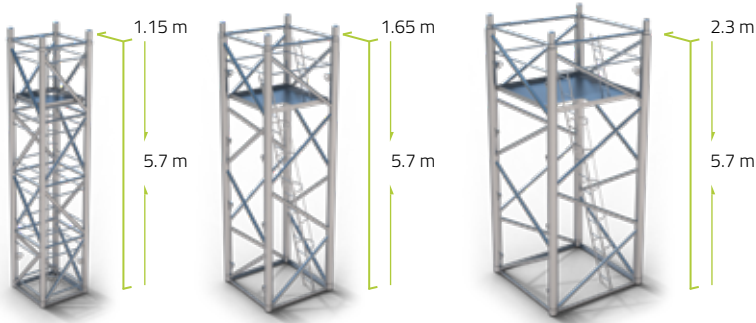
- Damage rope testing
- Maximum free standing height, maximum tip load testing with rope damage
- High agreement between calculation and test results



TOWER CRANE HIGHLIGHT

Portfolio: 3+2 Tower sections, 12 R Models

Round Tube Tower

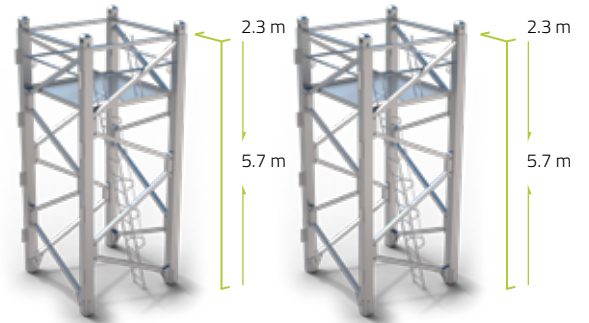


- » 1. RE
▪ R90

- » 2. RA
▪ R135
▪ R165
▪ R220

- » 3. RB
▪ R245
▪ R275
▪ R335
▪ R370

Square Tube Tower



- » 4. S23A
▪ R500
▪ R630

- » 5. S23B
▪ R800
▪ R1000

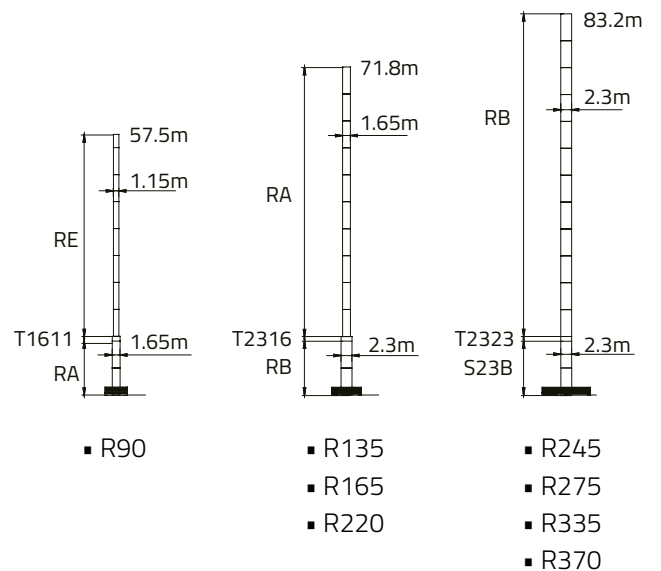
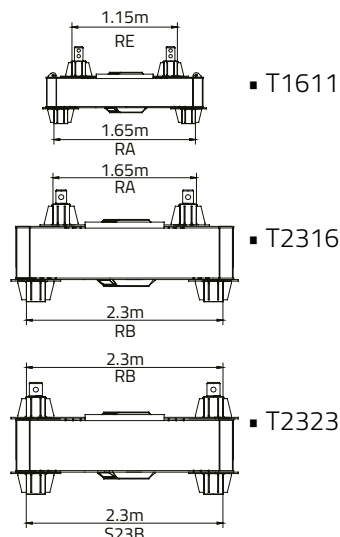
High efficiency

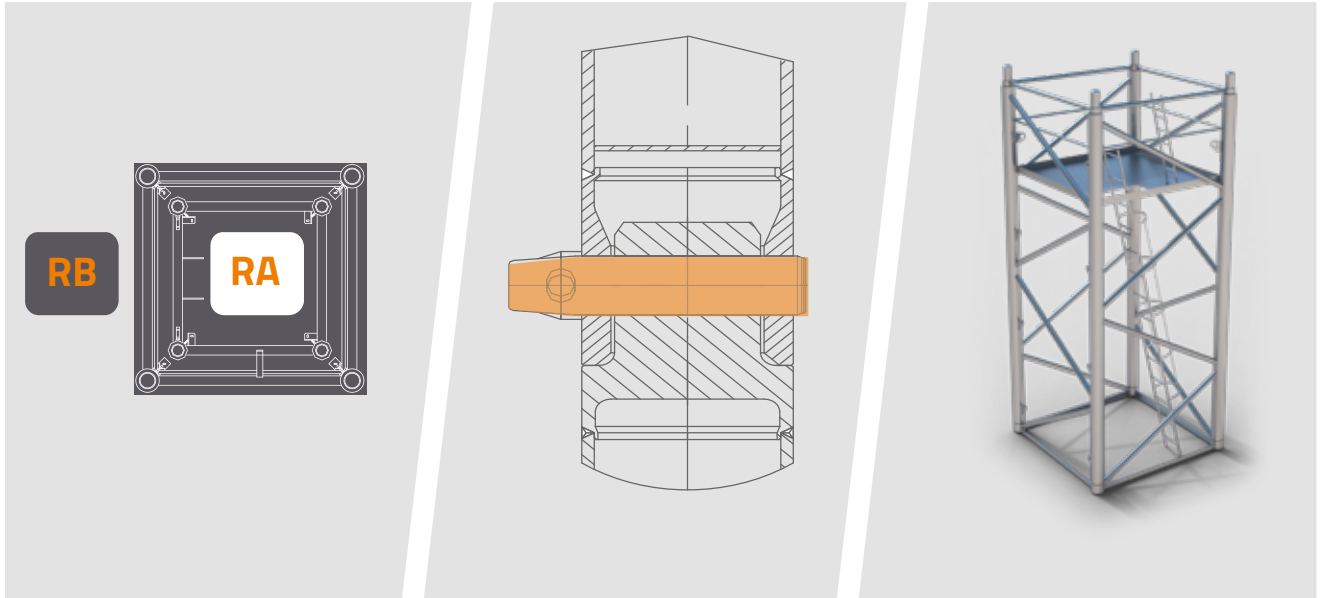
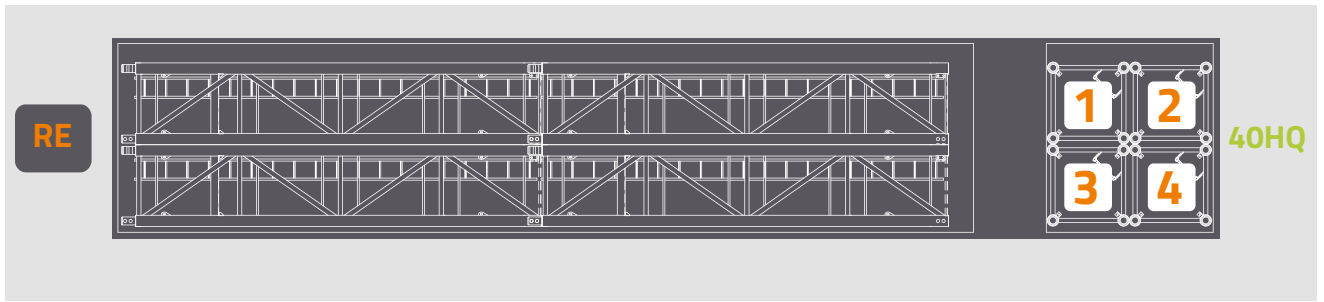
» Smooth slewing

- Stable Running
- Accurate Stopping
- Fast Response



» Transition Section System





» **High performance**

- Stronger wind-resistant
- Higher free-standing height

» **Easy assembly and quick-disassembly**

- Less pins connection
- Pressure on the end faces
- Prevent the pins tampering

» **Optimized for transportation**

- 8*RE in 40 HQ, full FSH
- RA inside RB for transportation



Ergonomic driver's cabin

- Spacious, large bearing capacity: 200 kg
- Ultra vision
- Flat window
- Air conditioned
- Heating system
- Adjustable and comfortable seats



Highly-integrated, active danger-avoiding safety monitoring system

- A safety monitoring system integrated into a single display: recording of lifting, weight and height data and management of prohibited areas
- New modular electric control cabinet
- New comfortable cabin



Hook video system

Hook video system with second display in cabin (optional)

Hook video system can realize real-time video tracking of the hook and ensure the operation safety in lifting areas with limited sight.

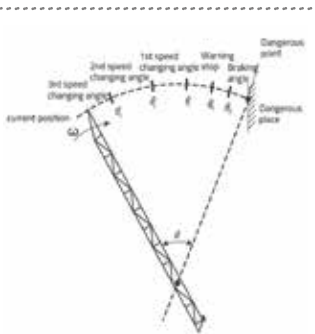
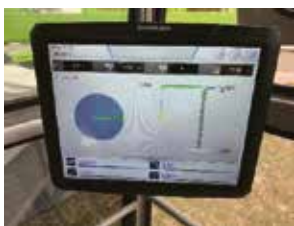


Safety systems

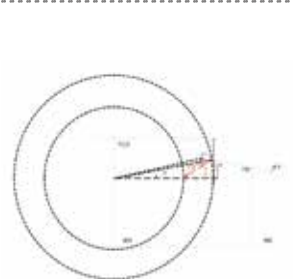
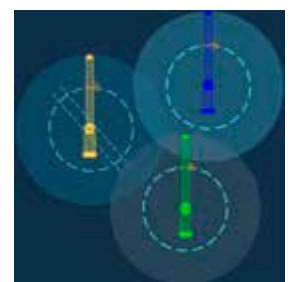
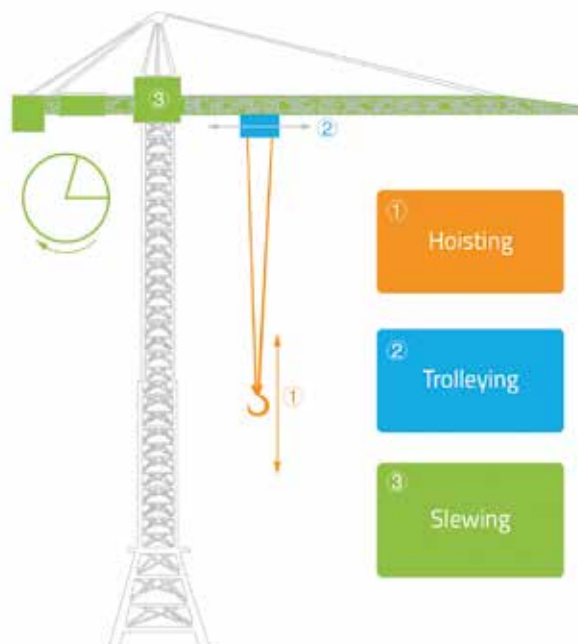
- Setting of the “prohibited area” can limit the working range of the equipment to avoid misoperation
- The optimised collision avoidance system utilises automatic alarms, deceleration, braking and other measures to effectively prevent from collision with adjacent tower cranes



- Six kinds of collision avoidance pre-arms based on two-dimensional algorithm
- Pre-alarm is calculated by length (to reduce angle error)
- Increased structure variables of tower crane, which now also include height of tower, boom, dimensions, boom tie-rod and net height



Five-position control strategy, tower crane boom brake control

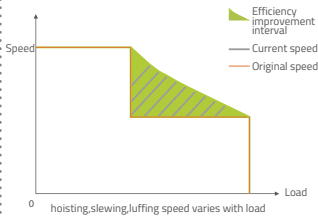


Avoidance algorithm based on tower crane behavior



One click calibration

Allow you to calibrate hook and trolley limit switches through a few simple steps on the calibration interface of the display screen.



Dynamic deceleration

The deceleration position is automatically set. When the mechanism reaches the deceleration limit point it won't immediately decelerate to the first gear, but will decelerate step by step, applying the stepwise deceleration technology. The operation time from the deceleration point to the stop point is greatly shortened, and the operation speed of lifting and luffing is comprehensively improved.



Zero speed hover

In case of fault this control system can detect the downward sliding of the hook, and quickly output torque to ensure the safe operation of the system.

- Extension factor (X), extension constant (LDIV) the final extended length $L=L*X+LDIV$ (considering the boom extension, width and volume algorithm)



Safety devices (optional)

Efficient assembly and disassembly

- Boom is connected with quick couplers
- All aviation plugs are equipped with water & dust protection



Climbing cage



Fast installation of the boom



All aviation plugs are equipped with water and dust protection



Efficient movement and control

- Big hoist drum with double broken line groove completely resolves rope arrangement problems
- The system adapts the speed in accordance with the lifted load
- ZOOM PLUS power lift function and micro speed movement: by activating this function, the lifting performance of the tower crane can be improved by 10% under specific conditions, and the maximum lifting torque can reach 113%
- Micro speed available for the best lifting operations accuracy
- Use of frequency inverter allows for smooth operation and accurate repositioning



Hoisting mechanism



Three mechanisms with frequency inverter

Remote control

- Joystick remote control included
- Joystick radio remote control with display (optional)



Efficient maintenance

- Automatic greasing system for the slewing ring
- Service hoist (1.0 ton capacity), easy maintenance



Automatic lubrication system



Service hoist (1 ton capacity, optional)

Easy assembly & easy transport

» Easy assembly and disassembly

- Jib is connected with quick couplers
- All connected by pins, fast & safe

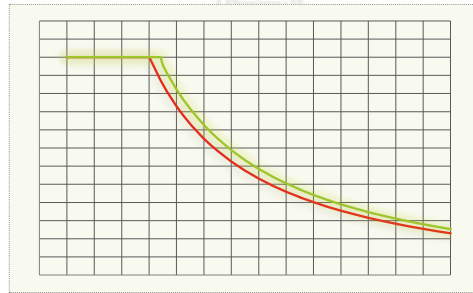
» Easy transportation

- Big hoist drum with double broken line groove completely resolves rope and arrangement problems
- Integral transportation of slewing unit with assembled cabin and cabinet
- Narrow jib » P1: ~140tm / 0.98m wide
P2: 160~275tm / 1.15m wide

Smart functions

» Zoom plus

- One key press, the load charter improves by 10%



» High speed hoisting



Models	Normal configuration (m/min)	Optional (m/min)
6~8t	100	150
10~12t	115	150
16~20t	152	/

Smart functions

- **Zoning system & data logger**
Possibility of controlling x prohibited overflight zones and defined by y points each
- **Anti-collision system**
Management of any interference between 6 cranes with jib horizontal or fletching. Possibility of installing third party / supplier collision avoidance systems via App
- **Hook video system (optional)**
Hook video system can realize real-time video tracking of the hook and ensure the operation safety in lifting areas with limited sight
- **Wireless control system (optional)**
Remote control via 5G suitcase. Equipped with a black box to record important information and support multi-transmitter operation



Zoning system & data logger



Anti-collision system



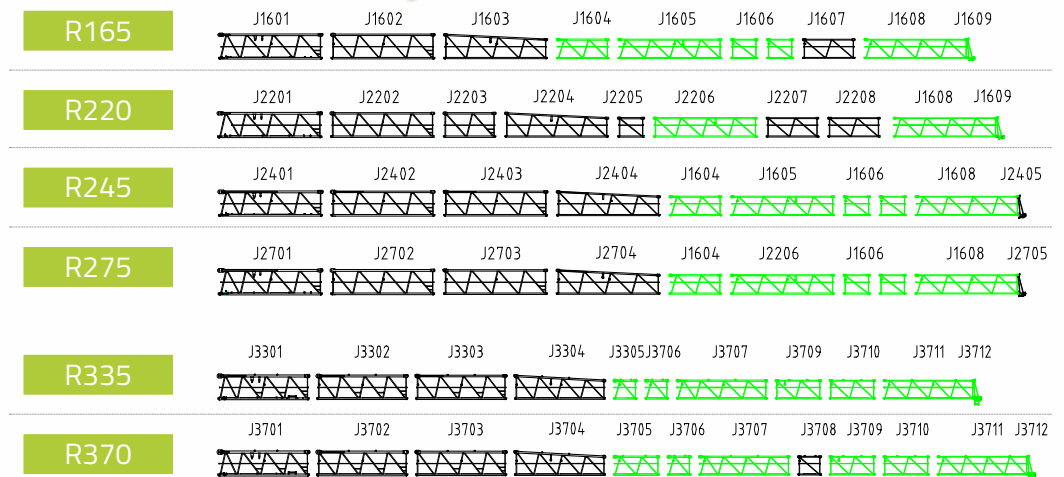
Hook video system



Wireless control system

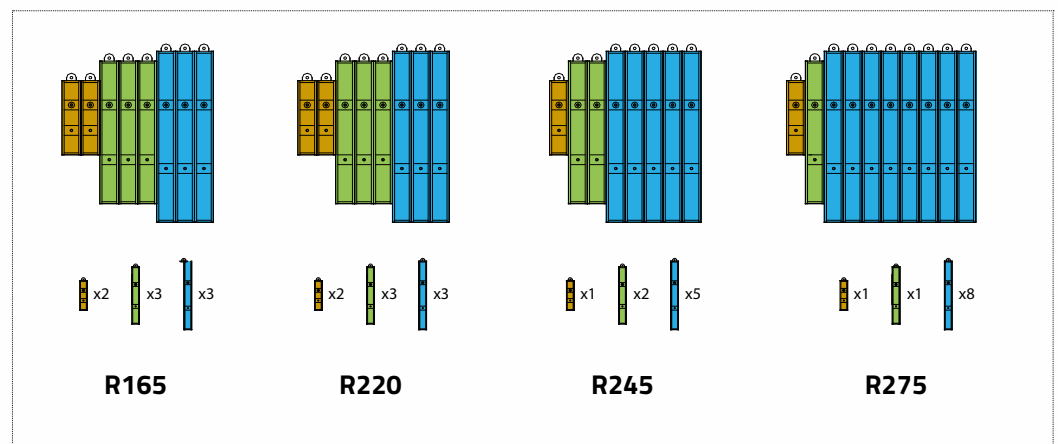
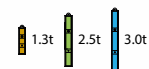
Modularized Jib System

- Exchange rate of jibs is higher than 60%
- Jib length configuration can be changed every 2.5m



Modularized Ballast System

- The configuration below is for the full jib length
- Less ballast blocks for shorter jib length



PRODUCT FEATURES

- » Full jib
- » 3 Mechanism with frequency inverter
- » Cabin CP8 Comfort with:
 - Display showing lifted weight, distance, wind, rotation
 - Heating and conditioned air
 - Anemometer
 - Zoning system & Data Logger
 - Predisposition for Anti-collision system. Management of any interference between 6 cranes with jib horizontal or fletching (Radio frequency module not included)
 - Possibility of installing third party / supplier collision avoidance systems
 - Easy set up
- » Automatic greasing of slewing ring
- » Set of electrical cables and ropes for maximum height included
- » Safety ropes included
- » Service hoist (optional)

Standard models

Model	Max Jib (m)	Tip Load (t)	Max load (t)	Mast Section (m)	Free Standing Height (m)	
					Outrigger	Chassis
R90-5	50	1.5	5	1.15	42.0	43.4 (3.8m City Chassis)
R135-8	60	1.7	8	1.65	55.7	57.5 (4.5m City Chassis)
R165-8	65	1.7	8	1.65	50	51.8 (4.5m City Chassis)
R220-10	65	2.2	10	1.65	47.1	48.9 (4.5m City Chassis)
R245-12	70	2.0	10/12	2.3	70	71.8 (6m City Chassis)
R275-12	70	2.7	10/12	2.3	70	71.8 (6m City Chassis)
R335-16	75	3.0	16	2.3	70	66.1 (6m City Chassis)
R370-20	80	2.5	16/20	2.3	64.3	66.1 (6m City Chassis)

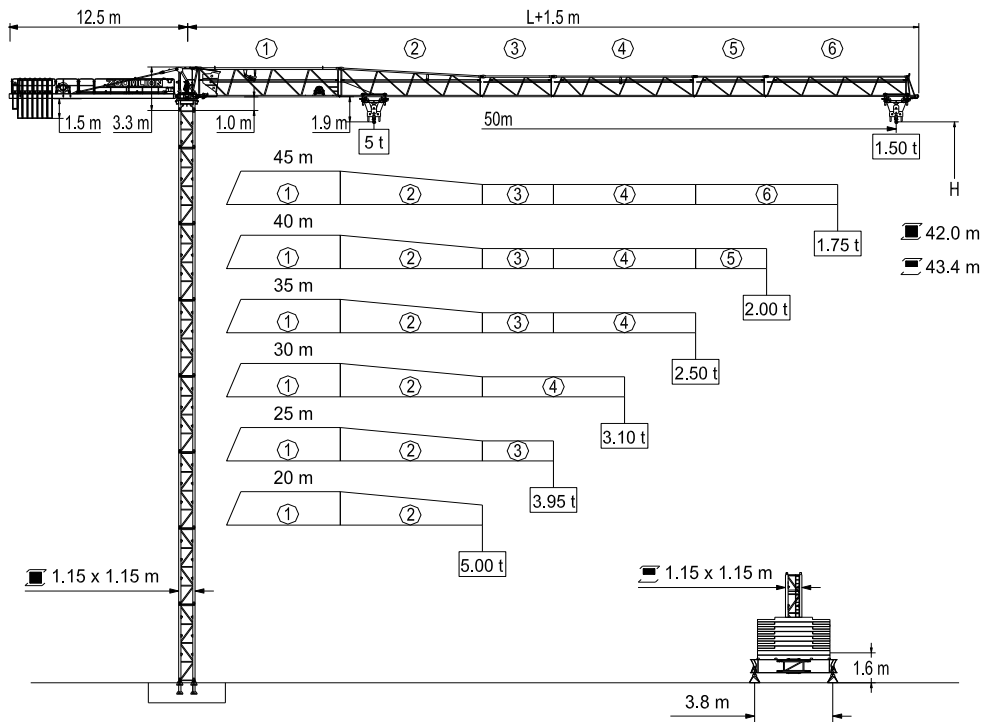
HUH w/o climbing system

Heavy duty

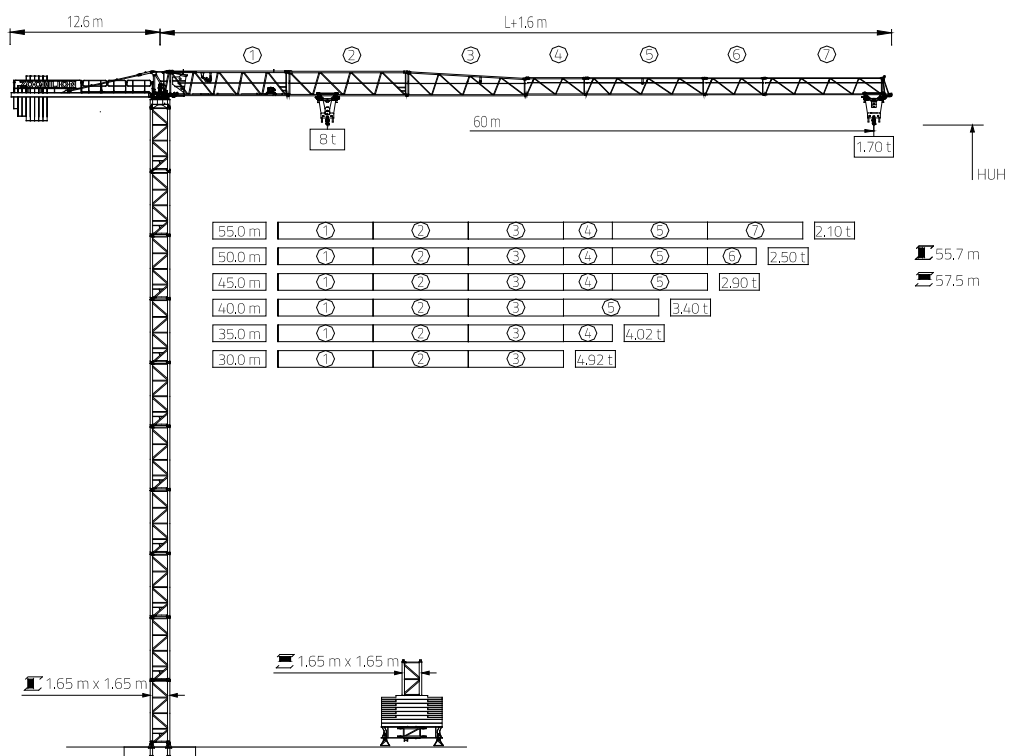
Model	Max Jib (m)	Tip Load (t)	Max load (t)	Mast Section (m)	Free Standing Height (m)	
					Outrigger	Chassis
R500-25	80	3.5	25	2.3	72.6	73.5 (8m Chassis)
R630-32	85	2.6	32	2.3	64.4	70.7 (8m Chassis)
R800-40	80	7.5	40	2.3	60.5	60.5 (10m Chassis)
R1000-50	80	9.7	50	2.3	79.95	81.5 (10m Chassis)



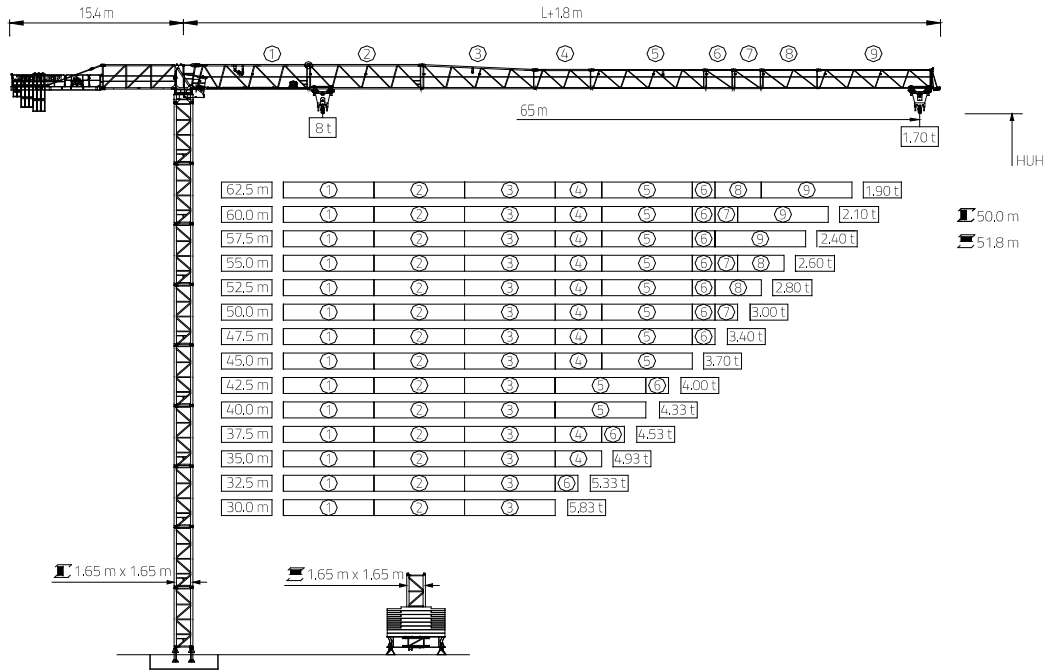
R90-5



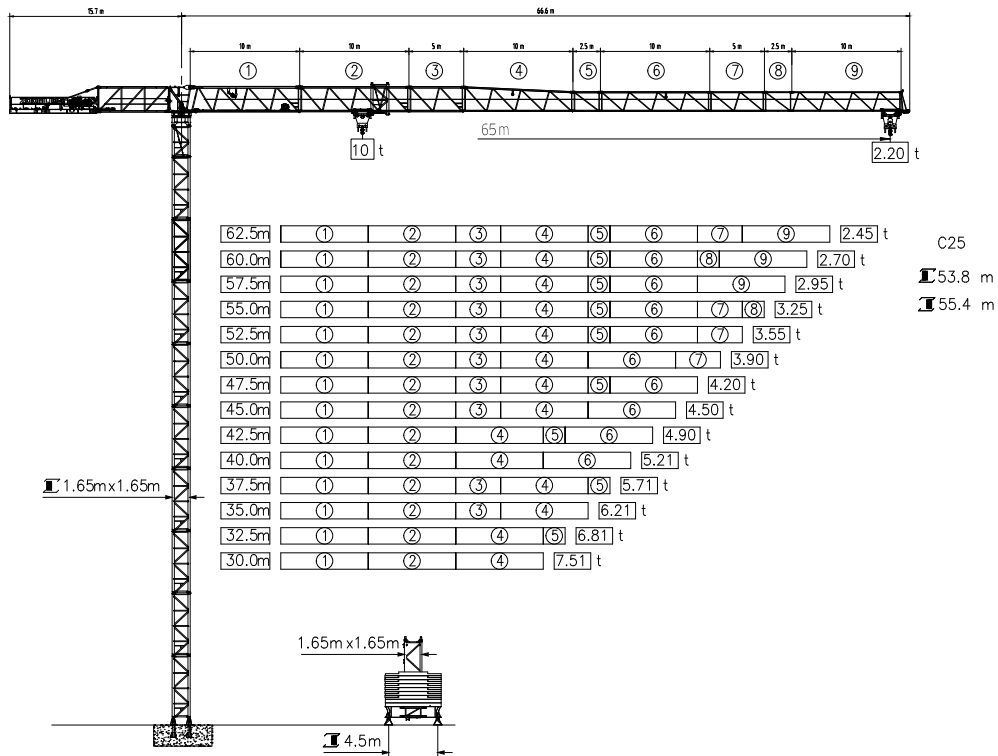
R135-8



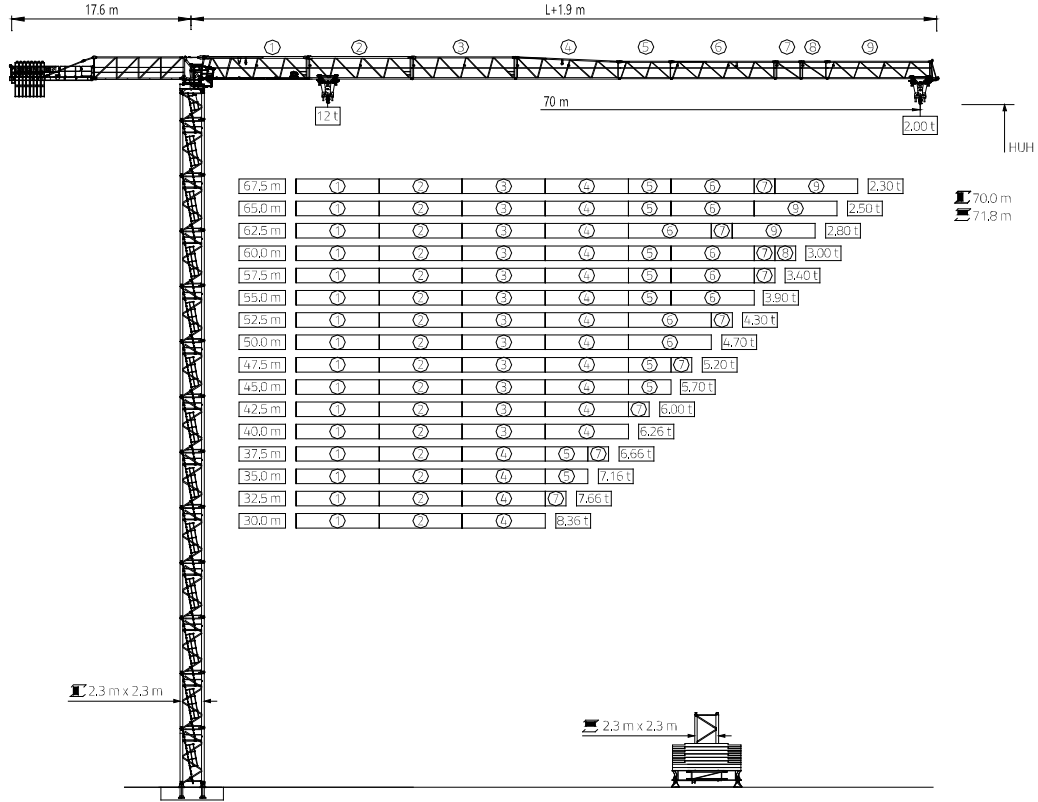
R165-8



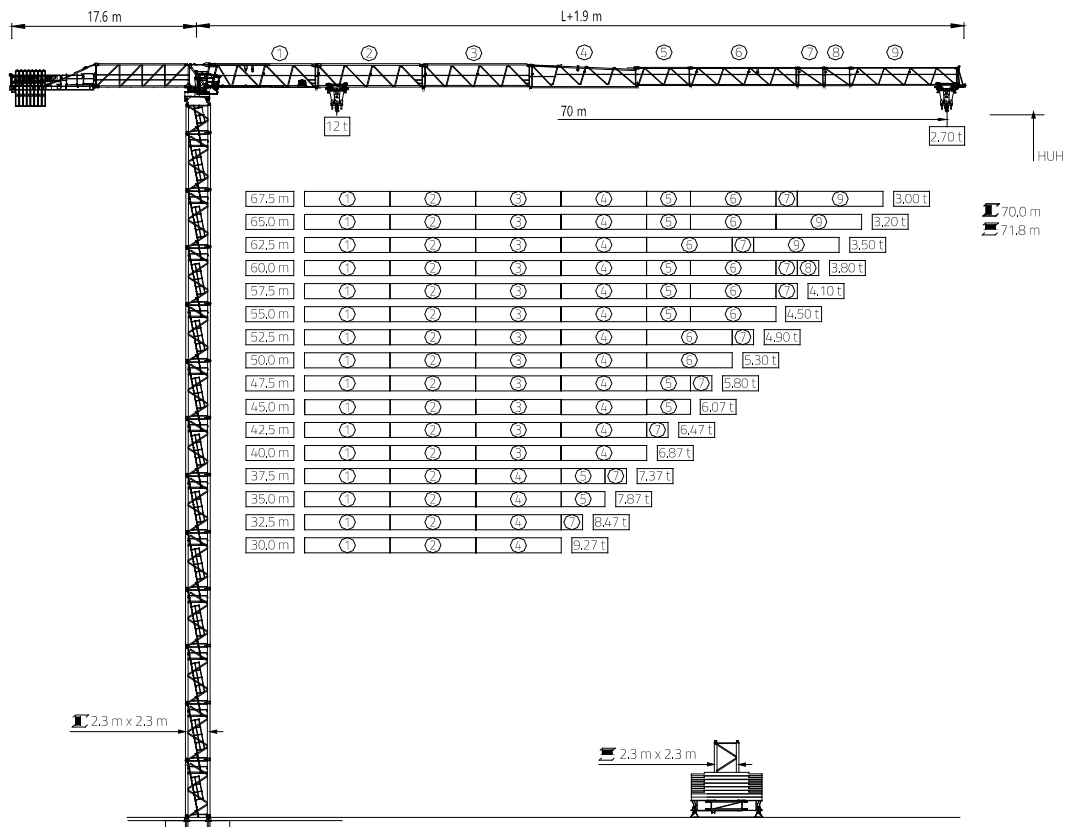
R220-10



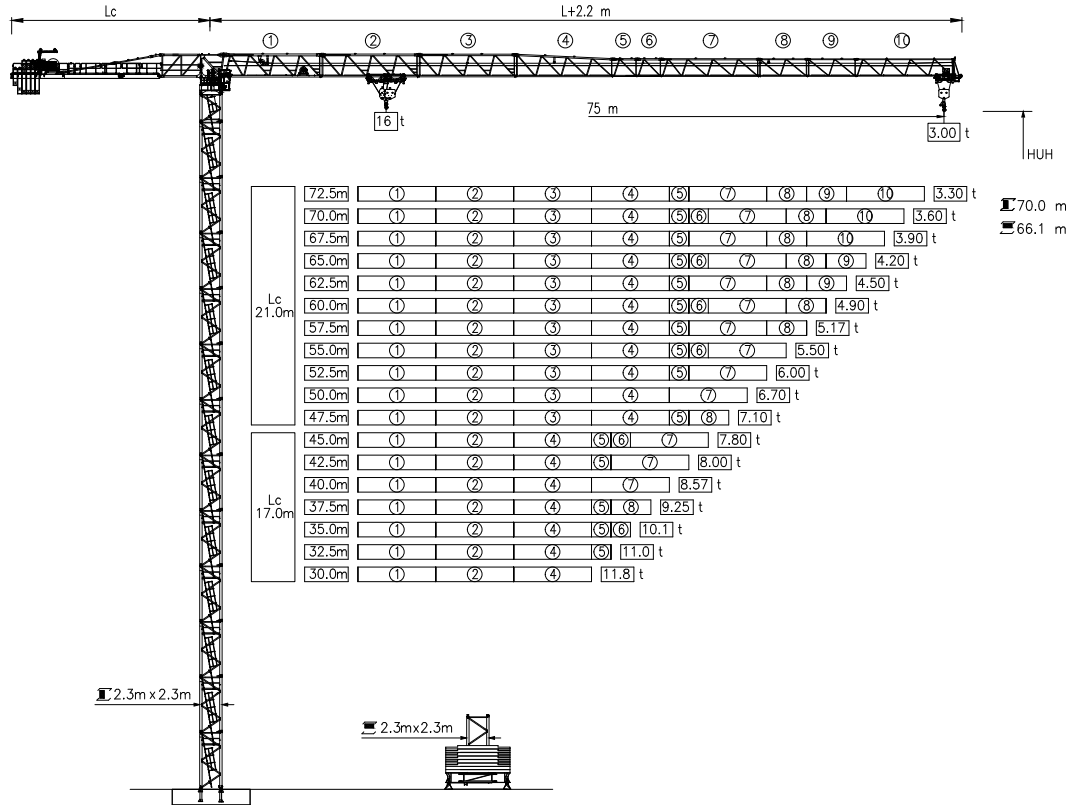
R245-12



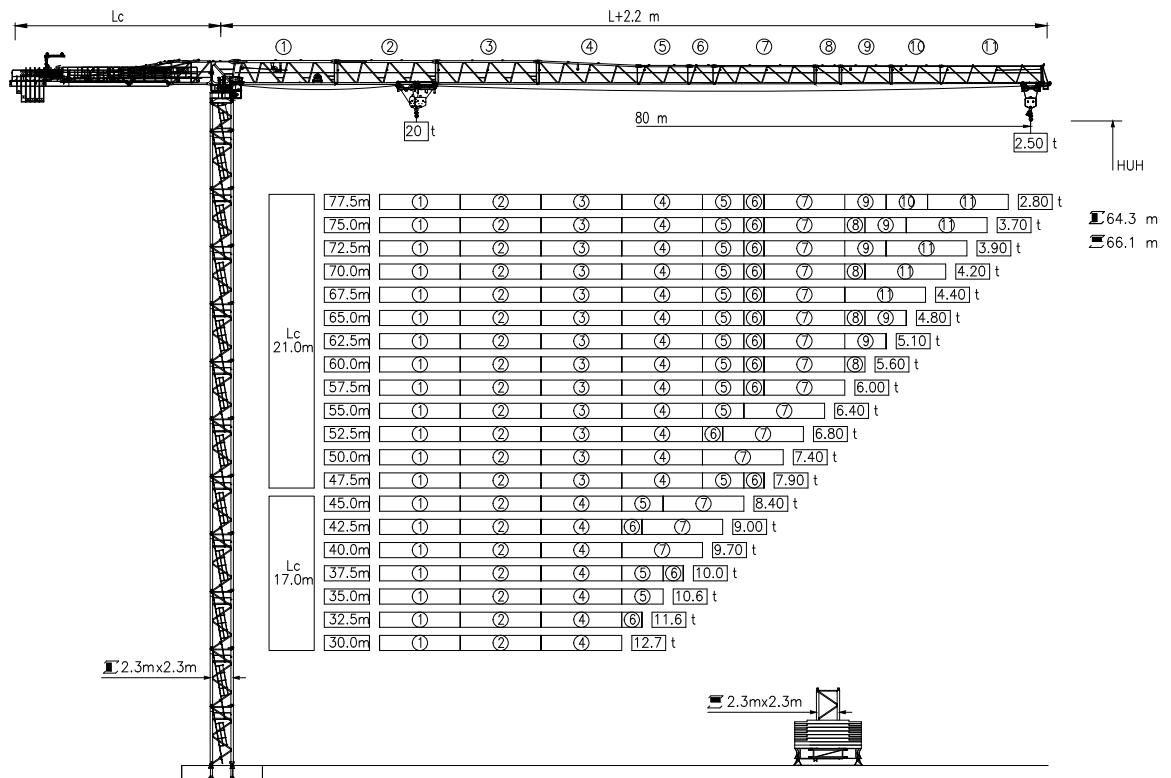
R275-12



R335-16



R370-20











VISION CREATES FUTURE

ZOOMLION
ITALIA

ZOOMLION ITALIA S.r.l.
Via Stati Uniti d'America, 26 - 20030 Senago (MI) - Italy
Phone +39-02-990131 - info@zoomlion-italia.it - www.zoomlion-italia.it

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