POTAIN®

K masts
Guide Produit

2022 range

CE

Notes

Guide Produit are available under Manitowoc Direct > Potain at: www.manitowoc.com

This Guide Produit is an update of document GP 534 F - K masts.

The mast sections described are those indicated on the 2022 price list.

The Guide Produit 02GP_534_2022_07-**1** cancels et replaces the previous version 02GP_534_2022_07

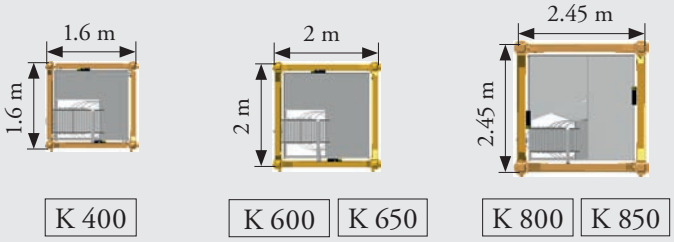
Contents

K MASTS

POTAIN EXCLUSIVE

Wide range of mast composition, adapted to all job site applications

- Standard, mixed, telescoping masts. Cab-IN masts
- 3 cross-sections: 1.6 m / 2 m / 2.45 m



Sections	Profile dimensions	Stepped pins
K 400 (1.6 m)	L 120 mm x 15 mm	∅ 50 / 49 mm
K 600 (2 m)	L 150 mm x 18 mm	∅ 60 / 59 mm
K 650 (2 m)	L 200 mm x 20 mm	∅ 80 / 79 mm
K 800 (2.45 m)	L 150 mm x 18 mm	∅ 60 / 59 mm
K 850 (2.45 m)	L 200 mm x 20 mm	∅ 80 / 79 mm

- Design

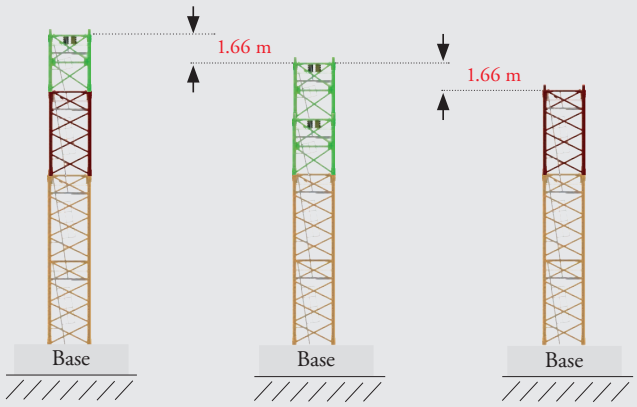
  - Mast composition: assembly of 4 angle iron columns by submerged arc welding and assembling with the addition of tubes welded manually or by welding robots
  - Monoblock mast section: complete mast section equipped with its factory-fitted accesses. Shorter fitting time on the job site
  - Panel mast: can be dismantled in 4 panels. Reduced space requirement for transport, significant reduction in the number of containers or trucks required

- Three mast section lengths to adjust the hook height every 1.66 m:

3.33 m / short mast sections >
for precise adjustment of the hook height

5 m / standard mast sections >
for telescoping in minimum time

10 m / long mast sections >
for stacking with mobile crane (quick fitting)



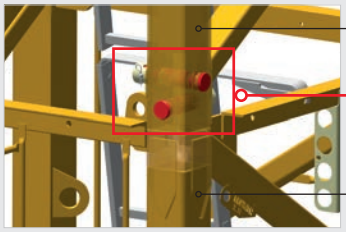
- Compatible with all the bases in the range: fixing angles, chassis, cross

Various fitting solutions

- Crane trucks
- Telescopic cages

Fishplating with crossed pins

- Patented link principle:



POTAIN PATENT

The POTAIN fishplating system, a proven concept:

> Prestressed fishplating with corrosion protection treatment applied in the factory: tight tolerances, perfect surface conditions, longer service life
> Fishplates: easier guidance when assembling two mast sections
> Advanced surface treatments: optimization of mechanical (high surface hardness) and anti-corrosion characteristics

- Pins with stepped diameters: faster and easier installation
- Crossed pins: reinforced assembly
- Tirax: effortless insertion and extraction of the pins




Names of mast sections

K | **R / M / MT / RM / RMT** | **4 / 6 / 65 / 8 / 85** | **0 / 1 / 2 / 3 / 4** | **7 / 9 / 10 / 14** | **A / C / E / B / P / H** | **2**

Name of each mast section written on its commercial plate

Minor changes not related to performance (access, etc.)

Length of mast sections:
A = 5 m mast section
C = short 3.33 m mast section
E = long 10 m mast section, without lugs
B = long 10 m mast section, with lugs
P = 3.33 m resting mast (climbing inside the building)
H = reinforced mast section (climbing inside the building)

Column strength rating depending on the mast cross-section

		7	9	10	14
1.6 m (K 400)	Profile thickness	15 mm	15 mm + ▣		
2 m (K 600)	Profile thickness	15 mm	18 mm 18 mm + ▣ (KR mast section)		
2 m (K 650)	Profile thickness			20 mm + ▣	
2.45 m (K 800)	Profile thickness		18 mm 18 mm + ▣ (KR mast section)		
2.45 m (K 850)	Profile thickness			20 mm + ▣	20 mm + ▣

▣: reinforcement plate

Mast section generation index

Cross-section indices:
4 = 1.6 m
6 and 65 = 2 m
8 and 85 = 2.45 m

R = Reinforced (higher performance)
M = Monoblock, non-telescoping
MT = Monoblock & Telescoping
RMT = Reinforced, Monoblock, & Telescoping

Cased angle iron uprights, fishplating with pins

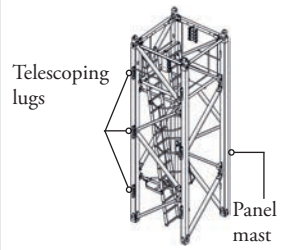
Names of mast sections

K XXXX

PANEL mast

Existing mast sections: K400 / K600 / K800

- Can be stacked with a mobile crane
- Telescopic with a telescopic cage

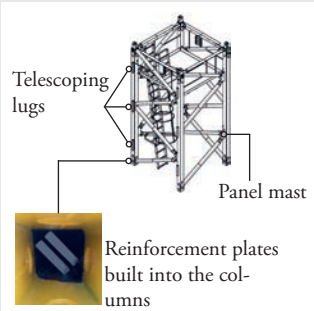


KR XXXX

REINFORCED mast SECTION

Existing mast sections: K600 / K800

- Can be stacked with a mobile crane
- Telescopic with a telescopic cage



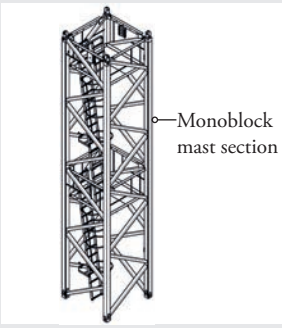
PANEL MASTS

KM XXXX

MONOBLOCK mast SECTION

Existing mast sections: K400 / K600 / K850

- Can be stacked with a mobile crane
- Non-telescopic with a telescopic cage

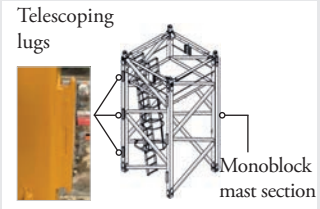


KMT XXXX

MONOBLOCK / TELESCOPING mast SECTION

Existing mast sections: K400 / K600 / K800 / K850

- Can be stacked with a mobile crane
- Telescopic with a telescopic cage

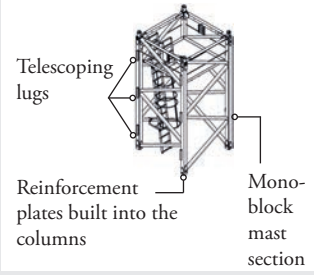


KRMT XXXX

REINFORCED / MONOBLOCK / TELESCOPING mast SECTION

Existing mast sections: K600 / K650 / K800

- Can be stacked with a mobile crane
- Telescopic with a telescopic cage

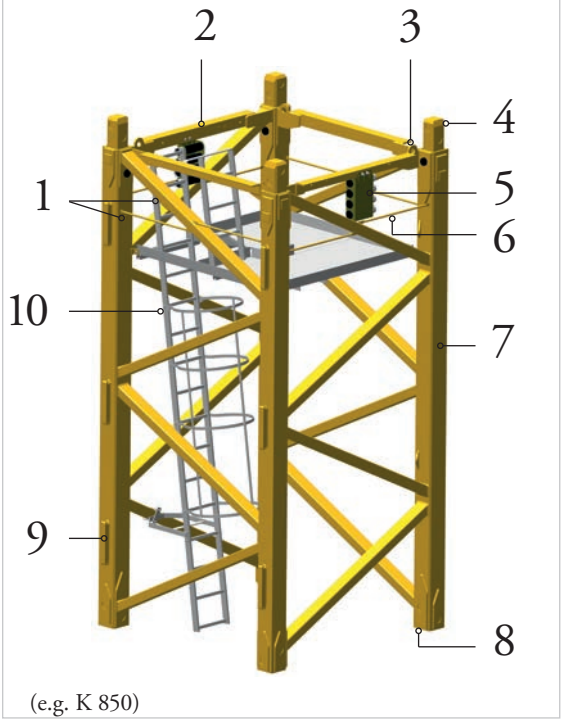


MONOBLOCK MASTS SECTIONS

1. Monoblock mast sections and panel masts

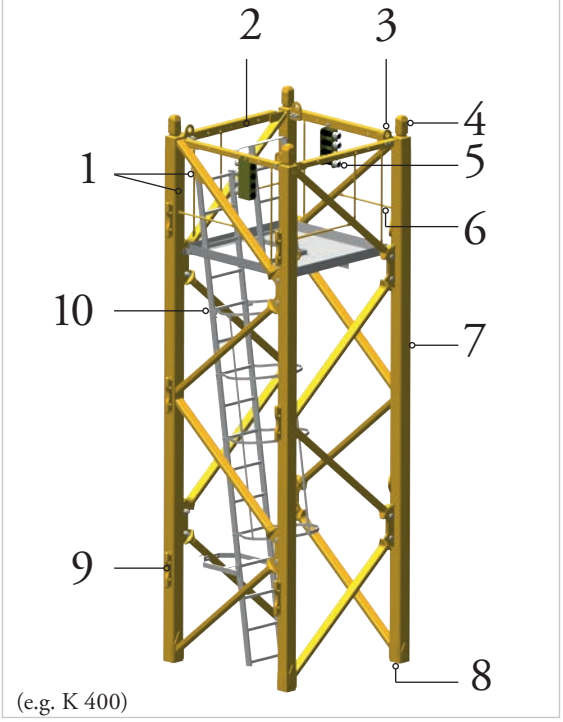
Equipment

MONOBLOCK MAST SECTION



(e.g. K 850)

PANEL MAST



(e.g. K 400)

1 **MARKING**

Commercial plate: indication of the trade name of the mast section (1) and its weight (2), with integrated RFID TAG support (3) (easier fleet management, quick traceability)
Mast composition: easier mast stacking order
> Monoblock mast section / Panel mast: 1 plate per mast section

Identification plate: indication of part code (1), date of manufacture (2), etc.
> Monoblock mast section: 1 plate per mast section / Panel mast: 1 plate per panel

2 **MAST CROSS MEMBER (or connecting bars)** located as per standard at 1.1 m from the platform

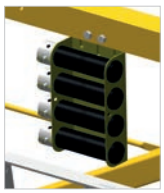
3 **SLINGING AND HANDLING EYES**

Horizontal and vertical mast section handling points: pre-defined slinging points ensure proper balancing of mast sections when handling

4 **MAST SECTION FISHPLATE** (see page 10)

5 **PIN SUPPORTS**

- Storage of pins during transport and when handling the mast sections: no risk of dropping or losing the pins
- Pin supports attached to the mast section cross member: pins easier to access from the platform



6 **PASSAGE OBSTRUCTION SYSTEMS:** horizontal and vertical tubes

7 **UPRIGHTS**: cased angle iron uprights

8 **WATER HOLE** at the bottom of each mast section column

- Evacuation of any stagnant water in the column after storing the mast section horizontally

9 **WITH/WITHOUT LUG**

Lugs: allow telescoping of the mast section or passage of the telescopic cage

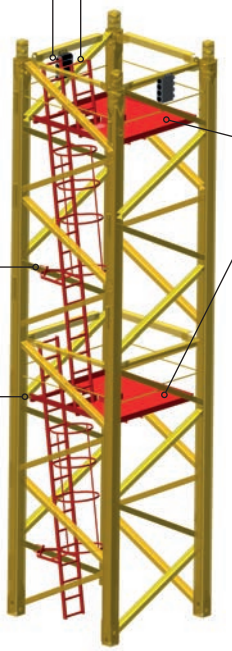
10 **ACCESS - STANDARD MAST SECTION**

Their functions:

- Access to the driver's stand
- Provide access for fitting/dismantling and maintenance

Short aluminum ladder: upper ends embedded in a support: excellent rigidity, no deformation

Inclined aluminum cage ladders, non-slip rungs: less arduous climbing (3 lengths adapted to each mast section length: 3.33 m /5 m /10 m)



Platforms (galvanized) adapted to each mast section:

- access phases (up/down) with rest landings: single platform flight for 3.33 m and 5 m mast sections / double platform flight for 10 m mast sections
- platform sizes adjusted to match the mast as closely as possible:
  correct posture of the fitters during the fishplating operations
- high baseboards prevent any risk of falling parts (tools, pins, etc.)
- standardization of platforms so that the collector can be used with any mast section located under the towerhead + use of trap doors

Ladder attached at the bottom by flanges (panel mast: quick and easy fitting/dismantling)

Support with positive support on all 4 corners of the platforms

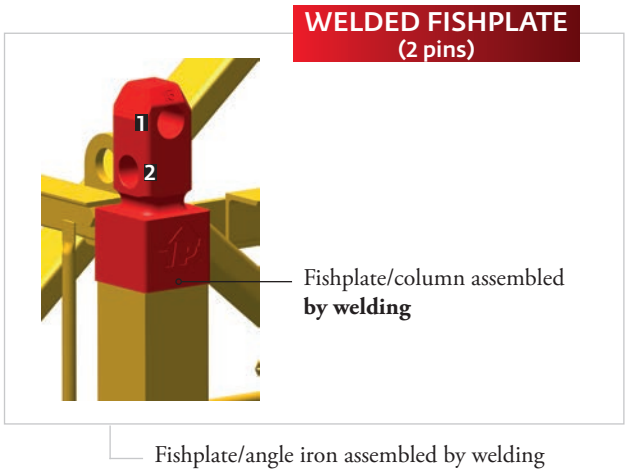
(e.g. K 850)

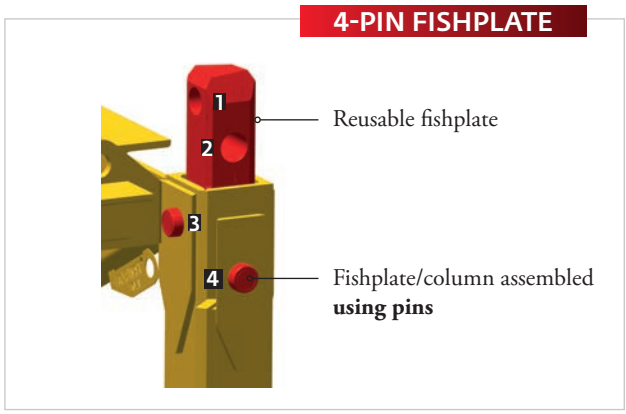
The monoblock mast sections are equipped with their factory-fitted accesses: shorter fitting time on the job site.

☞ For more information, refer to page 39

Mast section design

Fishplating the mast sections





- **Special steel** produced according to specifications dedicated to this application
- **PATENTED anti-corrosion and wear-resistance treatment**
- Optimum performance
- Longer fishplate service life
- Complete traceability from manufacturing to shipment

> 4-pin-fishplates available as spare parts

Stepped pins

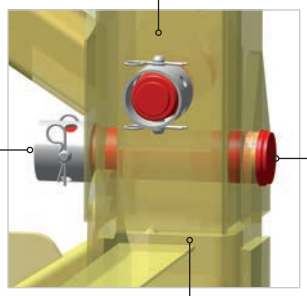
Each pin has two different diameters: the first half of the pin can be inserted easily by hand, the second half using a sledge hammer or Tirax.

∅ 50 / 49 mm: K 400 (1.6 m)
∅ 60 / 59 mm: K 600 (2 m) / K 800 (2.45 m)
∅ 80 / 79 mm: K 650 (2 m) / K 850 (2.45 m)

- PATENTED surface treatment:
  - Heat and thermo-chemical processes: higher surface hardness obtained
  - Excellent wear, seizing and corrosion resistance
  - Increased fatigue resistance
  - Sliding varnish over the entire surface of the pin for easier insertion
- Industrial manufacturing process: high definition machining, perfect surface conditions and strict respect of tolerances

Inserting the pins

- Easy fitting: less fitting effort than with a pin with a single diameter
- Only one blocking position during the traveling movement: quick fitting
- Crossed pins: improved load bearing ability



Crossed pins:
- Perfectly flush
- No micro-movements between the various mast sections
- No damage to the bearing surfaces due to friction

Pin lock:
- Immobilization and locking of the pin in position
- Only one blocking position during the traveling movement: quick fitting
- Simple and accurate positioning by stud and safety pin

Pin head against the surface

Prestressed fishplating:
- Fatigue rates distributed between the various elements
- Compression through the surface of the mast sections, therefore pins not stressed permanently

- No risk of fitting error: the pin in position with the universal ring/safety pin assembly ensures compliant fitting
- Quick and efficient visual check of the assembly: no check of tension or tightening torque

Two types of pin can be fitted in the 4-pin or welded fishplates:

LONG PIN

Full dog point pin

Insertion using Tirax

Pin supports

Tirax makes the mast sections much easier to assemble, due to the power of its hydraulic system.
Compatible with pins ∅ 50 / 60 / 80

SHORT PIN

Headed pin

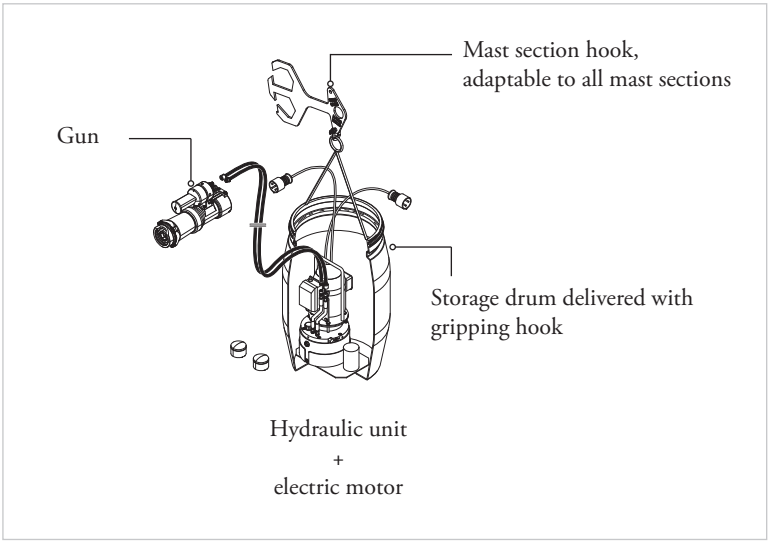
Insertion using a sledge hammer

Mast section design

TIRAX 80

Inserting the pins, possible using Tirax:

- Single device powered with either 400 V/50 Hz or 480 V/60 Hz
- Tractive force 21 t
- 120 mm stroke in 6 s under no load and 12 s under load
- No electric control on the gun
- Hydraulic hoses with quick couplings



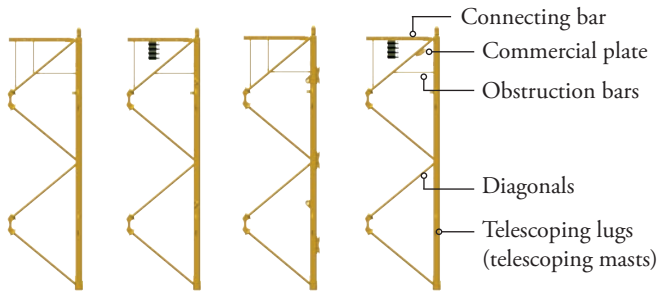
> Gun sold individually or in complete batch as spare parts

Complete Tirax 80	Price code: OOM030
Additional pins per 1.6 m mast section	Price code: OOM050
Additional pins per 2 m mast section	Price code: OOM051
Additional pins per 2.45 m mast section	Price code: OOM052

Mast section design

Principle of the panel masts

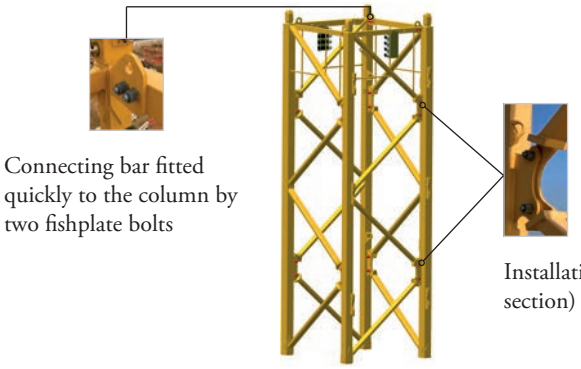
1 panel mast composed of 4 panels



Panels delivered ready to assemble: all the elements forming a panel are welded together (factory-fitted pin supports)

Fitting sequence

- Fast assembly of a panel mast due to the reduced number of assembly points per panel:
  - 2 assembly points on the connecting bar,
  - 2 assembly points at the ends of the diagonal



Connecting bar fitted quickly to the column by two fishplate bolts

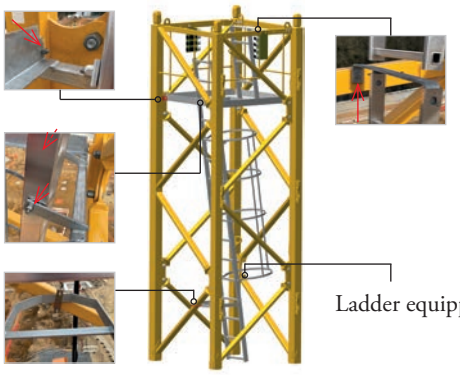
Installation of 2 or 3 screws/nuts (depending on mast section) to anchor the mast diagonals to the column

(e.g. K 400)

- Installation of the accesses

Access platform fixed at the 4 corners by a system of screws and nuts

Long ladder quick and easy to fit by a single fitter:
- upper part: installation of 2 assembly rods locked by safety nuts,
- lower part: installation of a flange reinforced by a plate on the mast diagonal



Support inserted in the mast connecting bar secured by screw/nut (short ladder)

Ladder equipped with its factory-fitted cage

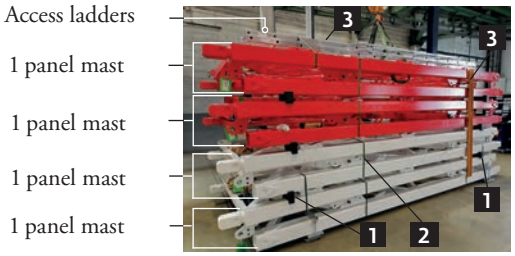
(e.g. K 400)

A panel mast is fitted with the mast down. This information is given as a guide only. Under no circumstances should it replace the technical manual of the crane.

Ex-works shipment, two possible solutions

MAST SECTIONS DISMANTLED INTO PANELS:

- Compact and secure packaging for handling and transport operations



Packaging example for 4 mast sections K 600

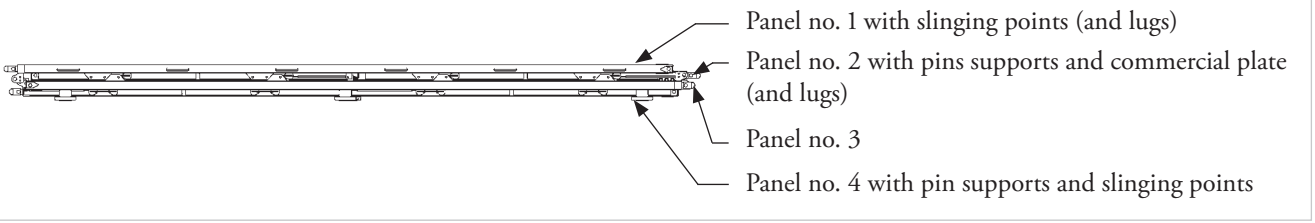
(Access platforms packed separately)

1 Plastic inserts placed at the ends of each panel mast: ensure the stability of the mast sections and separate the mast sections from each other

2 Strap to keep the mast sections securely held together

3 Packaging flanges preventing the mast sections from sliding (not present on the K 800 mast sections)

Each panel mast section is packed in the order in which it is assembled to save time when fitting.



- Reduced space requirement during transport, lower transport costs between job sites over very long distances: fewer containers/trucks required

PACKAGING EXAMPLES		
Panel masts Length 5 m	**Maximum number of mast sections per stack**	**Number of packages per truck or container**
K 447A or K 449A	5	2 (i.e. maximum 10 mast sections)
K 649A or KR 649A	4	2 (i.e. maximum 8 mast sections)
K 849A or KR 849A	3	1 stack of 3 mast sections / 1 stack of 2 mast sections (i.e. maximum 5 mast sections)

MAST SECTIONS FULLY FITTED, FULLY ASSEMBLED:

- Shorter fitting time on the job site, crane quickly operational

Additional cost per 1.6 m, 2 m or 2.45 m mast section / **lengths 3.33 m and 5 m**

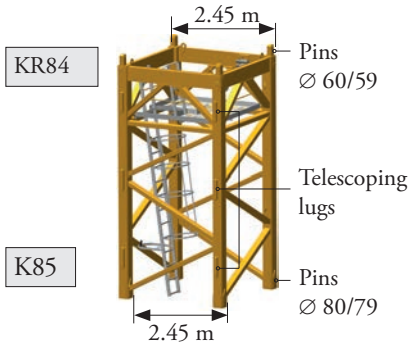
Price code: OM020

Additional cost per 1.6 m, 2 m or 2.45 m / **length 10 m**

Price code: OM021

2. Connecting and telescoping masts

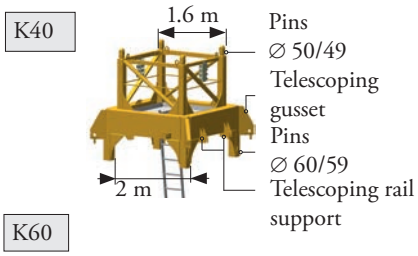
CONNECTING MAST



(e.g. K85/KR84A2)

- Connection between masts of different sections and/or technologies (pin diameters different between the upper and lower fishplating)
- Mast integrated in the hook heights

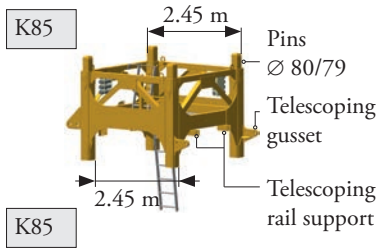
CONNECTING & TELESCOPING MAST



(e.g. K60/K40)

- Dual function:
  connecting and telescoping

TELESCOPING MAST



(e.g. K85/K85)

- Connections between the masts and the fixed towerhead to perform telescoping operations.

  The telescoping mast is used to:
  - fix the cage and its accessories
  - obtain the height required to position the mast sections on the monorail
- Mast integrated in the hook heights
- Accesses adapted to the configurations under towerhead or under standard 3.33 m mast section (if clearance needed for trolley, hook, and gripping device)

▼ ▼ ▼

Mast sections useful when fitting/dismantling cranes with a telescopic cage

Mast sections essential to create mixed masts (also called “composite masts”)

Monoblock masts

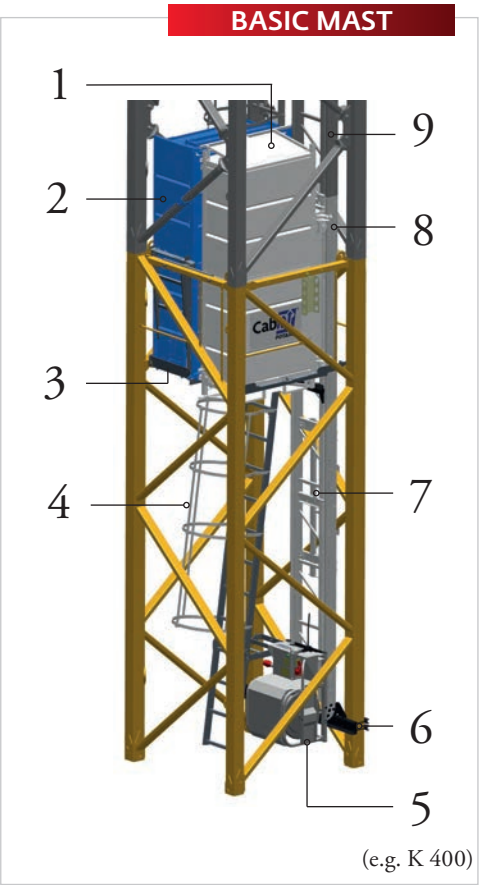
☞ For more information, refer to page 39

MIXED MASTS

-

Important free-range height obtained by stacking mast sections with different sections made possible by connecting and telescoping masts

3. Cab-IN mast sections



1 **CRANE-OPERATOR LIFTING EQUIPMENT CAB** and its mechanization

2 **LOWER SECURED ACCESS ENCLOSURE** (special packaging) remains permanently installed inter-site for the 10 m or 2 x 5 m mast sections

3 **CAB ACCESS LANDING** composed of a platform with fixed and foldable parts

4 **TWO-POSITION CAGE LADDER**: vertical and inclined

5 **CABLE WINDER** and its wiring

6 **SUPPORT BEAM** for the rack ladder assembly (length adapted to each mast section)

7 **RACK LADDER FIXING SUPPORTS** (positioned every 5 m over the full mast height)

8 **1 m LADDER**: connection with the upper rack ladder (quick locking system)

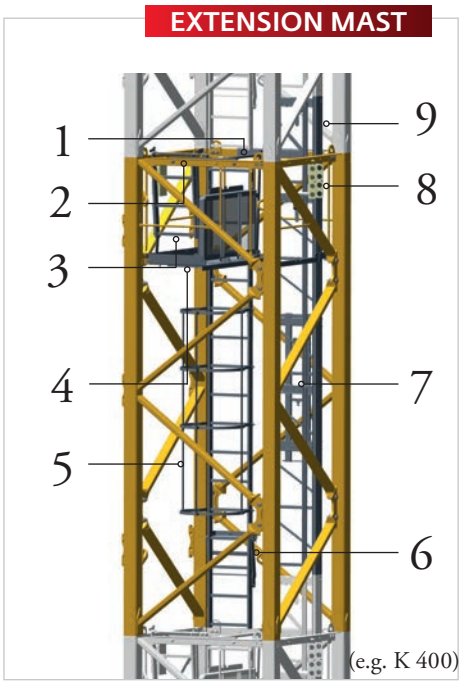
9 **ALUMINIUM STACKED RACK LADDER STRUCTURE** over the full mast height: rack-and-pinion system guaranteeing reliability and operational performance of the Cab-IN

Cab-IN EQUIPMENT FACTORY-FITTED IN THE K MASTS

-

Shorter fitting time on the job site

Mast section design



1 **GRAB RAIL**

2 **MARKING**
Commercial plate identified Cab-IN

Identification plate: indication of the part code, date of manufacture, etc.
> Monoblock mast section: 1 plate per mast section / Panel mast: 1 plate per panel

3 **UPPER MAST SHORT ACCESS LADDER** in storage position (used with Cab-IN)

4 **PLATFORM WITH A FIXED PART AND A FOLDABLE PART**
(raised position: used with Cab-IN)
- 3 platform sizes, one for each mast section (1.6 m / 2 m / 2.45 m)

5 **TWO-POSITION CAGE LADDERS**:
- vertical and inclined
- 3 lengths, one for each mast section length: 3.33 m / 5 m /10 m

6 **MOBILE SUPPORT SYSTEM**:
- the ladder position can be changed quickly and easily

7 **RACK LADDER FIXING SUPPORTS**
(positioned every 5 m over the full mast height)

8 **PIN SUPPORTS**:
- position of the pin supports allowing the crane operator lifting equipment to pass

9 **ALUMINIUM STACKED RACK LADDER STRUCTURE** over the full mast height

ARRIVAL MAST

(e.g. K 400)

1 **UPPER SECURED ACCESS HALF-ENCLOSURE**
- Area fully protecting the crane operator when waiting for the lifting equipment
- Ensure safe passage between the access platform and the crane-driver lifting equipment cab
- Protection against intrusion in the lift or on the ladders with back loops
- Enclosure assembled at 1st fitting (special packaging). It can stay fitted in the masts during inter-site transport

2 **FIXING OF ENCLOSURE** on the mast cross member and the platform

3 **CAB ACCESS LANDING**
- Enclosure with sliding door to optimize the platform area

- **All the Cab-IN mast sections are equipped at the factory, crane can be operational quickly**
- Retrofit kits available for the K mast sections already on the market (from series 30)
- New/old mast compositions possible

☞ For more information, refer to page 39

Mast section interchangeability

1. K mast generations

Main design changes

- **Generation 0**
  K 400 / K 600: 4-pin fishplates, pins supports positioned horizontally on the mast cross member, bolted grab rails, 10 m masts with double platform flight
  K 800: rectangular diagonals
- **Generation 1**
  K 410 / K 610: 10 m masts with single platform flight
- **Generation 2**
  K 420 / K 620: access with new platforms (inclined baseboards), pin supports against the members to block the passages
- **Generation 3**
  K 430 / K 630 / K 830: introduction of welded fishplates depending on the model, 10 m access with double platform flight
- **Generation 4**
  K 440 / K 640 / K 840: pin supports positioned vertically on the mast cross member, adapted to install the Cab-IN crane-operator lifting equipment, new passage obstruction system
- **Series 50**
  K 650 / K 850: high-performance reinforced mast sections with larger fishplates and pins

2. K mast substitution rules

The various design changes guarantee specific mast composition height performances; replacement of K mast sections in a mast composition must comply with the following rules:

Panel masts / monoblock mast sections

- A panel mast can replace a monoblock mast section

Mast section in a mast composition (example)	Replacement possibilities (example)
KM 447 E	K 447E

Generations

- A mast of a more recent generation can always replace a mast of an earlier generation, with no restrictions. New mast sections can be mixed with mast sections already in the fleet: the fishplating systems are identical.

Mast section in a mast composition (examples)	Replacement possibilities (examples)
K(MT) 437 A	K(MT) 447 A
K(MT) 639 A	K(MT) 649 A
K800/KR60	K80/KR60-2

K800 mast sections (500 m/t cranes)
For crane models MDT 5xx, MD 5xx (excluding MD 509), MD 6xx, and MR 6xx, it is strictly prohibited to replace 4 generation masts with 3 generation masts.
4 generation masts must always be used for the K(RMT)849 mast composition.

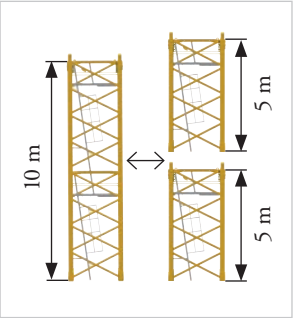
Strong mast sections / weak mast sections

- A mast with a higher strength rating can replace a lower-strength mast.

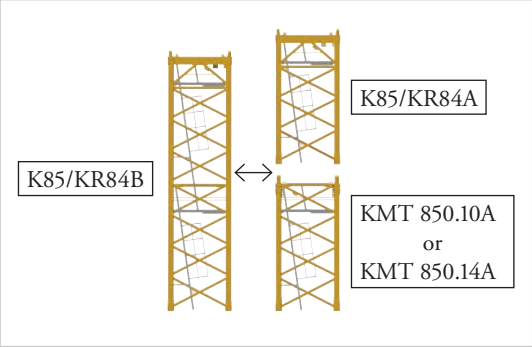
Mast section in a mast composition (example)	Replacement possibilities (example)
K(MT) 447 A	K(MT) 449 A

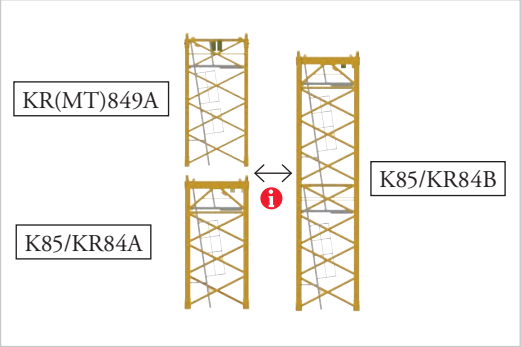
Length of mast sections

- A mast of type B or E can be replaced by two type A masts (with an equal or higher strength rating) or vice versa.



- A K85/KR84B mast section can be replaced by one KMT850.10A or .14A + one K85/KR84A
- One K85/KR84A + one KR(MT)849A mast sections cannot be replaced without a design check or systematically by one K85/KR84B.



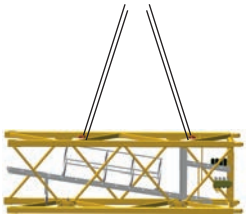


The rules stated above apply:
- to standard mast sections
- to Cab-IN mast sections.

1. Handling

Slinging points defined on all K mast sections (monoblock, panel, connecting), all lengths, all sections: secured handling

- Horizontal handling: loading/unloading the mast sections on/from the trucks, moving the mast sections on the storage yards, etc.



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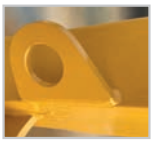


4 slinging eyes welded to the mast columns

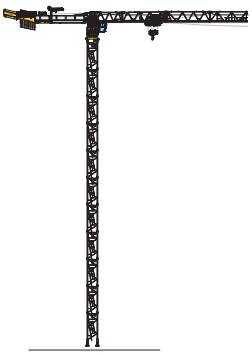
- Vertical handling: positioning the mast sections to produce the mast composition

>

4 slinging eyes welded to the mast columns and to the connecting bars

► **Excellent balancing of the mast sections: precise and quick positioning**

2. Crane tower



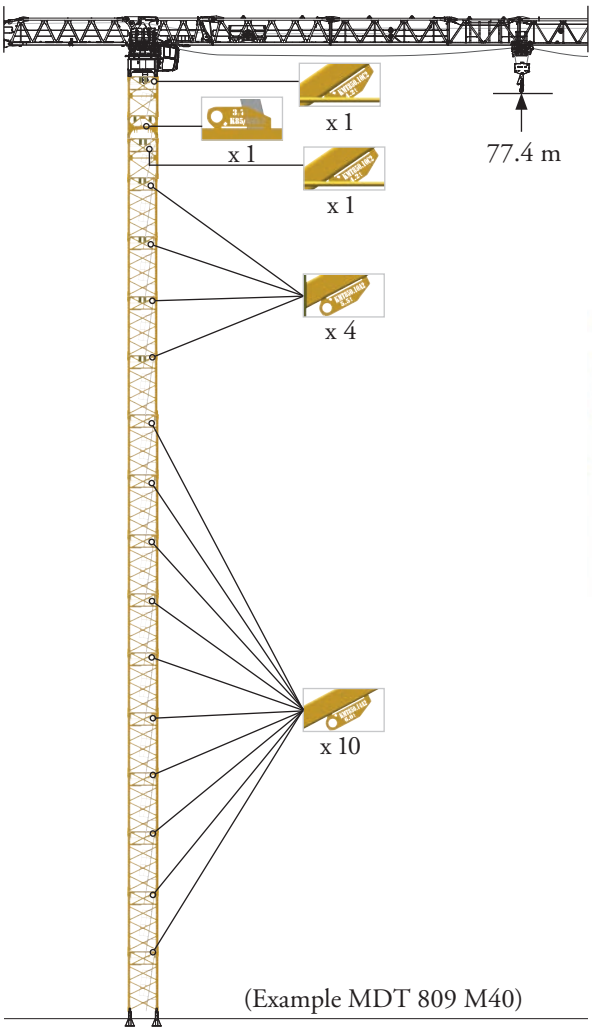
The crane tower of a GME (top slewing crane) consists of the assembly of several mast sections whose number and type vary depending on the required hook height.

To obtain the mast composition for a given crane, refer to the Technical Manual of each crane (legal documentation), the Reactions database (Manitowoc Direct access required) or contact the Lift Solutions Department for special projects.
The complete mast section takes up the following forces:

- vertical, due to the weight of the slewing crane part and the load
- bending (traction/compression in the columns) due to the load and the wind
- torsional, due to slewing

- Quick identification of the mast sections

  The commercial plate on each mast section is used to identify the mast sections quickly and ensure that they are stacked in the correct order, in accordance with the mast composition



(Example MDT 809 M40)

Full commercial name of the mast section

(Weight of mast section)

MDT 809 M40 - P854A 2.45m - FEM1.001 - 80m

POTAIN

Mast Composition

Composition de pylône • Mastzusammensetzung • Componentes del mástil • Composição de coluna • Composizione del pilone • Samenstelling van de kraantoren • Krantårnsammensetning • Maston kokoonpano • Mastsammansättning • Состав башни • 塔身组成

(m)	P+	KM85010C	K850K850	KM85010C	KM85010A	KM85014A	Base
77,4	✓	1	1	1	4	10	P854A
75,7	✓	1	1	2	6	7	P854A
74,0	✓	1	1	0	9	5	P854A
72,4	✓	1	1	1	10	3	P854A
70,7	✓	1	1	2	11	1	P854A
69,0	✓	1	1	0	13	0	P854A

*

* Column titles limited to 8 characters

(Extract from MDT 809 M40 manuals)

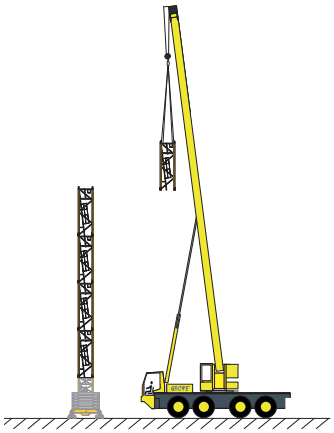
Optimum mast composition to reach the maximum hook height of 77.4 m
(P 854, 80 m jib, FEM 1.001):
- 10 mast sections KMT 850.14A
- 4 mast sections KMT 850.10A
- 1 mast section KMT 850.10C
- 1 mast section K85/K85
- 1 mast section KMT 850.10C

- Fishplating the mast sections (see page 10)

  ∨ Insertion of pins from the access platforms: fitters in stable position, easier access to the pins

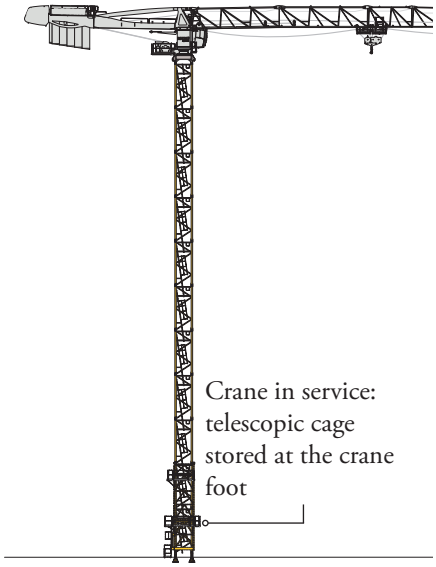
< Mast cross member and obstruction bars act as railing for platforms

- Fitting modes



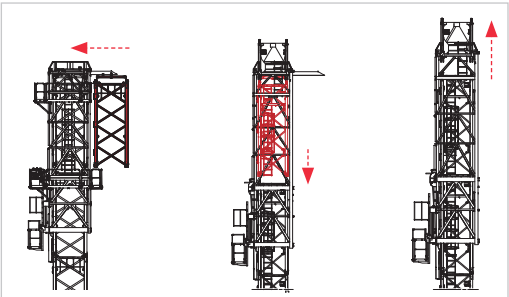
Mobile crane

- Only one auxiliary handling equipment required to fit the crane completely: crane tower and slewing crane part
- Mast composition possible with all types of mast section (3.33 m, 5 m, **10 m**, telescoping and non-telescoping mast sections)



Telescopic cage

- Telescopic cage permanently fitted on the masts: possibility of increasing the crane tower height above the free-standing height as the job site height increases: adaptation of the hook height
- Mast composition possible with **mast sections equipped with lugs**



Telescoping sequences

☞ For more information, refer to page 39

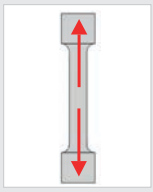
Climbing sequences

Potain internal expertise laboratories perform checks upon reception of the steels, from the mast section manufacturing process up to application of the finish paint.

1. Steel quality expertise

Samples taken from the material: a check is carried out to ensure that the mechanical characteristics of the material comply with the specifications defined by Potain

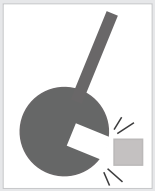
Checking the mechanical properties of the steels



Traction test

1 steel test specimen subjected to force using a traction machine:

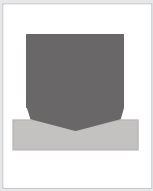
- Checking the tensile strength of the material to ensure proper operating performance
- Comparing the results obtained with the material certificate



Resilience test

3 steel test specimens subjected to shock using a pendulum impact tester:

- Measuring the energy consumed by the sample: capacity of the material to withstand a shock
- Performing the test at different temperatures: 0 °C, -20 °C, or even -40 °C



Hardness test

- Checking the conformity of the heat and thermo-chemical treatment: higher surface hardness
- Measuring the hardness under bead after welding

Micrographic analysis

Polishing a sample to obtain an almost mirror-finish surface, then applying an acid to reveal its structure

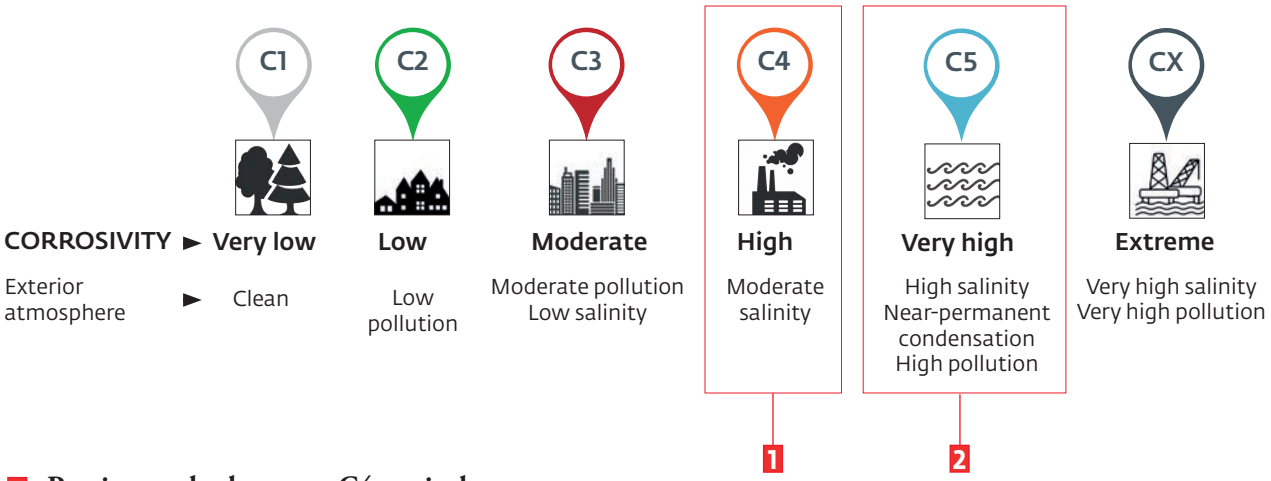
- Checking a heat treatment
- Checking the coating thickness
- Indication regarding the internal soundness of the material

MAST SECTION K 600
–
Welding the tubes to the columns
(Moulins factory, France)

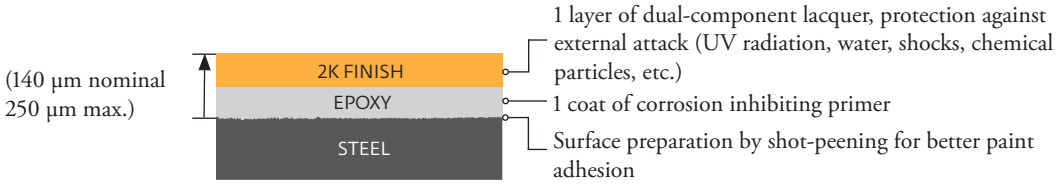
Internal training and follow-up of Potain welders:
- annual qualification test
- integration session for each new welder

2. Paint quality expertise (structural elements)

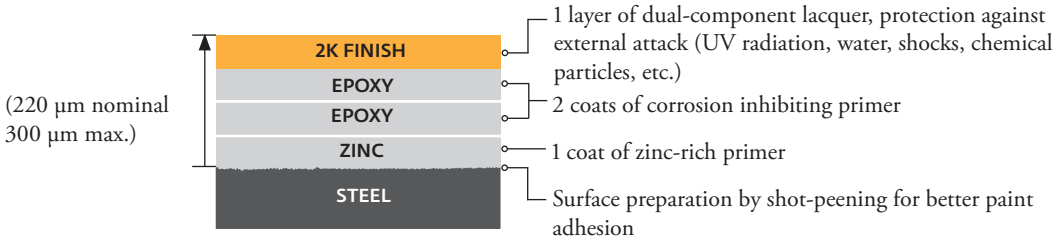
ISO STANDARD 12944: CORROSION PROTECTION OF STEEL STRUCTURES BY PROTECTIVE PAINT SYSTEMS



1 Potain standard system: C4 equivalence



2 Potain reinforced system*: C5 equivalence



* Categories C5-M (moderate durability) / C5-H (high durability) / C5-VH (very high durability), with in particular careful surface preparation (grinding of sharp edges, etc.): studies processed in IPC with the Lift Solutions Department

Anti-corrosion tests, UV resistance and material resistance

- **Resistance to salt spray**: corrosion resistance measurement: 1000 h for system C4 / 2000 h for system C5
- **Immersion and condensation**: measurement of resistance to water (> 240 h) and high humidity (> 480 h)
- **QUV tests**: measurement of resistance to strong UV light radiation (> 400 h)
- **Shocks**: measurement of resistance to shocks (direct shocks of 1 kg from a distance > 50 cm)
- **Bending**: measurement of paint elasticity under torsional stress
- **Hardness**: measurement of the paint surface (Persoz pendulum device)
- **Measurement of** paint thicknesses

- **Colorimetry**

  A wide range of colors to meet customer expectations.

  - STANDARD COLORS

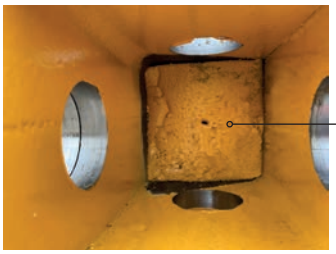
  POTAIN 92 YELLOW standard (registered color)

  MANITOWOC US RED standard

  - CUSTOMIZED COLORS according to RAL color charts (or PANTONE exceptionally)

K mast - 1.6 m section	Price code: OP191
Telescoping - 1.6 m section	Price code: OP171
K mast - 2 m section	Price code: OP192
Telescoping - 2 m section	Price code: OP172
K mast - 2.45 m or 2.5 m sections	Price code: OP193
Telescoping - 2.45 m section	Price code: OP173

- **Anti-corrosion blocks**



Foam block placed inside the mast section columns: less corrosion

> Anti-corrosion blocks available as Spare Parts

K 400 masts - 1.6 m section

STANDARD MAST SECTIONS

Designation	Price code	Pin diameter (Standard and Tirax)		Length	Weight	Mast section design	
		Lower	Upper				
K 447C	**MC144**	50/49 mm		3.33 m	1360 kg	Removable (panels)	Telescoping with lugs
K 447A	**MC140**	50/49 mm		5 m	1850 kg	Removable (panels)	Telescoping with lugs
KMT 447A	**MC142**	50/49 mm		5 m	1745 kg	Monoblock	Telescoping with lugs
K 449A*	**MC145**	50/49 mm		5 m	2230 kg	Removable (panels)	Telescoping with lugs
KMT 449A*	**MC147**	50/49 mm		5 m	2130 kg	Monoblock	Telescoping with lugs
K 447E	**ML131**	50/49 mm		10 m	3390 kg	Removable (panels)	Stacking with no lugs
KM 447E	**ML135**	50/49 mm		10 m	3215 kg	Monoblock	Stacking with no lugs
KM 449E*	**ML138**	50/49 mm		10 m	3830 kg	Monoblock	Stacking with no lugs

***: reinforced mast sections**

CONNECTING MASTS / TELESCOPING MASTS

Designation	Price code	Pin diameter (Standard and Tirax)		Length	Weight	Mast section design	
		Lower	Upper				
K40/K40-2	**MT030**	50/49 mm		2 m	1330 kg	Monoblock	Telescoping section
(K40/L20-2)	**(MR051)**	(50/49 mm)	(50 mm)	(2.7 m)	(2100 kg)	(Monoblock)	(Connecting and telescoping mast)

K 600 masts - 2 m section

STANDARD MAST SECTIONS

Designation	Price code	Pin diameter (Standard and Tirax)		Length	Weight	Mast section design	
		Lower	Upper				
K 649C	**MC176**	60/59 mm		3.33 m	1985 kg	Removable (panels)	Telescoping with lugs
KMT 649C	**MC178**	60/59 mm		3.33 m	2060 kg	Monoblock	Telescoping with lugs
KRMT 649C	**MC177**	60/59 mm		3.33 m	2450 kg	Monoblock	Telescoping with lugs
K 649A	**MC170**	60/59 mm		5 m	2805 kg	Removable (panels)	Telescoping with lugs
KR 649A	**MC174**	60/59 mm		5 m	3250 kg	Removable (panels)	Telescoping with lugs
KMT 649A	**MC172**	60/59 mm		5 m	2570 kg	Monoblock	Telescoping with lugs
KRMT 649A	**MC175**	60/59 mm		5 m	3050 kg	Monoblock	Telescoping with lugs
K 649B	**ML160**	60/59 mm		10 m	5290 kg	Removable (panels)	Stacking with lugs
KM 649E	**ML162**	60/59 mm		10 m	4850 kg	Monoblock	Stacking with no lugs

CONNECTING MASTS / TELESCOPING MASTS

Designation	Price code	Pin diameter (Standard and Tirax)		Length	Weight	Mast section design	
		Lower	Upper				
K60/K40-2	**MR052**	60/59 mm	50/49 mm	2 m	2640 kg	Monoblock	Connecting mast and telescoping mast section
K60/K60-2	**MT031**	60/59 mm		2 m	1930 kg	Monoblock	Telescoping section

K 650 masts - 2 m section

STANDARD MAST SECTIONS

Designation	Pin diameter (Standard and Tirax)		Length	Weight	Mast section design	
	Lower	Upper				
KRMT 650.10C	80/79 mm		3.33 m	3975 kg	Monoblock	Telescoping with lugs
KRMT 650.10A	80/79 mm		5 m	5120 kg	Monoblock	Telescoping with lugs

CONNECTING MASTS / TELESCOPING MASTS

Designation	Pin diameter (Standard and Tirax)		Length	Weight	Mast section design	
	Lower	Upper				
K65/KR64-2	80/79 mm	60/59 mm	2 m	2840 kg	Monoblock	Connecting mast and telescoping mast section
K650/K849	80/79 mm	60/59 mm	2.1 m	4890 kg	Monoblock	Connecting mast and telescoping mast section

> K 650 mast sections are available as Spare Parts

K 800 and K 850 masts - 2.45 m section

STANDARD MAST SECTIONS

Designation	Price code	Pin diameter (Standard and Tirax)		Length	Weight	Mast section design	
		Lower	Upper				
KRMT 849C	**MC211**	60/59 mm		3.33 m	3205 kg	Monoblock	Telescoping with lugs
KMT 850.10C	**MC207**	80/79 mm		3.33 m	4230 kg	Monoblock	Telescoping with lugs
K 849A	**MC200**	60/59 mm		5 m	3400 kg	Removable (panels)	Telescoping with lugs
KR 849A	**MC208**	60/59 mm		5 m	4290 kg	Removable (panels)	Telescoping with lugs
KMT 849A	**MC320**	60/59 mm		5 m	3150 kg	Monoblock	Telescoping with lugs
KRMT 849A	**MC209**	60/59 mm		5 m	4090 kg	Monoblock	Telescoping with lugs
KMT 850.10A	**MC206**	80/79 mm		5 m	5450 kg	Monoblock	Telescoping with lugs
KMT 850.14A	**MC205**	80/79 mm		5 m	5990 kg	Monoblock	Telescoping with lugs
KM 850.10B	**ML180**	80/79 mm		10 m	10070 kg	Monoblock	Stacking with lugs
KM 850.14B	**ML181**	80/79 mm		10 m	11190 kg	Monoblock	Stacking with lugs

CONNECTING MASTS / TELESCOPING MASTS

Designation	Price code	Pin diameter (Standard and Tirax)		Length	Weight	Mast section design	
		Lower	Upper				
K85/K85-2	**MT032**	80/79 mm		1.9 m	3600 kg	Monoblock	Telescoping section
K84/K84-2	**MT036**	60/59 mm		2 m	3050 kg	Monoblock	Telescoping section
K80/KR60-2	**MR030**	60/59 mm	60/59 mm	2 m	4015 kg	Monoblock	Connecting mast and telescoping mast section
K85/KR84A2	**MR033**	80/79 mm	60/59 mm	5 m	5550 kg	Monoblock	Connecting section
K85/KR84B2	**MR031**	80/79 mm	60/59 mm	10 m	9635 kg	Monoblock	Connecting section

K 400 masts - 1.6 m section (Cab-IN)

	Designation	Price code	Pin diameter (Standard and Tirax)		Length	Weight	Mast section design	
			Lower	Upper				
Basic masts	KMT 449A*	MB100	50/49 mm		5 m	2595 kg	Monoblock	Telescoping with lugs
	KM 447E	MB110	50/49 mm		10 m	3765 kg	Monoblock	Stacking with no lugs
	KM 449E*	MB101	50/49 mm		10 m	4380 kg	Monoblock	Stacking with no lugs
Extension masts	K 447C	ME105	50/49 mm		3.33 m	1420 kg	Removable (panels)	Telescoping with lugs
	K 447A	ME100	50/49 mm		5 m	1935 kg	Removable (panels)	Telescoping with lugs
	KMT 447A	ME101	50/49 mm		5 m	1830 kg	Monoblock	Telescoping with lugs
	K 449A*	ME106	50/49 mm		5 m	2315 kg	Removable (panels)	Telescoping with lugs
	KMT 449A*	ME107	50/49 mm		5 m	2215 kg	Monoblock	Telescoping with lugs
	K 447E	ME103	50/49 mm		10 m	3560 kg	Removable (panels)	Stacking with lugs
	KM 447E	ME104	50/49 mm		10 m	3385 kg	Monoblock	Stacking with no lugs
	KM 449E*	ME108	50/49 mm		10 m	4000 kg	Monoblock	Stacking with no lugs

*: reinforced mast sections

K 600 masts - 2 m section (Cab-IN)

	Designation	Price code	Pin diameter (Standard and Tirax)		Length	Weight	Mast section design	
			Lower	Upper				
Basic masts	KMT 649A	MB102	60/59 mm		5 m	3365 kg	Monoblock	Telescoping with lugs
	KRMT 649A	MB103	60/59 mm		5 m	3765 kg	Monoblock	Telescoping with lugs
	KM 649E	MB104	60/59 mm		10 m	6050 kg	Monoblock	Stacking with no lugs
Extension masts	K 649C	ME114	60/59 mm		3.33 m	2045 kg	Removable (panels)	Telescoping with lugs
	KMT 649C	ME132	60/59 mm		3.33 m	2170 kg	Monoblock	Telescoping with lugs
	KRMT 649C	ME117	60/59 mm		3.33 m	2560 kg	Monoblock	Telescoping with lugs
	K 649A	ME110	60/59 mm		5 m	3085 kg	Removable (panels)	Telescoping with lugs
	KR 649A	ME115	60/59 mm		5 m	3335 kg	Removable (panels)	Telescoping with lugs
	KMT 649A	ME111	60/59 mm		5 m	2985 kg	Monoblock	Telescoping with lugs
	KRMT 649A	ME116	60/59 mm		5 m	3385 kg	Monoblock	Telescoping with lugs
	K 649B	ME112	60/59 mm		10 m	5460 kg	Removable (panels)	Telescoping with lugs
	KM 649E	ME113	60/59 mm		10 m	5670 kg	Monoblock	Stacking with no lugs

K 800 and K 850 masts - 2.45 m section (Cab-IN)

	Designation	Price code	Pin diameter (Standard and Tirax)		Length	Weight	Mast section design	
			Lower	Upper				
Basic masts	KRMT 849A	MB105	60/59 mm		5 m	4555 kg	Monoblock	Telescoping with lugs
	KMT 850.10A	MB107	80/79 mm		5 m	5915 kg	Monoblock	Telescoping with lugs
	KMT 850.14A	MB109	80/79 mm		5 m	6455 kg	Monoblock	Telescoping with lugs
	KM 850.10B	MB106	80/79 mm		10 m	10620 kg	Monoblock	Stacking with lugs
	KM850.14B	MB108	80/79 mm		10 m	11740 kg	Monoblock	Stacking with lugs
Extension masts	KRMT 849C	ME123	60/59 mm		3.33 m	3265 kg	Monoblock	Telescoping with lugs
	KMT 850.10C	ME126	80/79 mm		3.33 m	4290 kg	Monoblock	Telescoping with lugs
	K 849A	ME119	60/59 mm		5 m	3485 kg	Removable (panels)	Telescoping with lugs
	KR 849A	ME120	60/59 mm		5 m	4375 kg	Removable (panels)	Telescoping with lugs
	KMT 849A	ME133	60/59 mm		5 m	3280 kg	Monoblock	Telescoping with lugs
	KRMT 849A	ME121	60/59 mm		5 m	4175 kg	Monoblock	Telescoping with lugs
	KMT 850.10A	ME124	80/79 mm		5 m	5535 kg	Monoblock	Telescoping with lugs
	KMT 850.14A	ME130	80/79 mm		5 m	6075 kg	Monoblock	Telescoping with lugs
	KM 850.10B	ME125	80/79 mm		10 m	10240 kg	Monoblock	Stacking with lugs
	KM 850.14B	ME129	80/79 mm		10 m	11360 kg	Monoblock	Stacking with lugs
	K80/KR60-2	ME118	60/59 mm		2 m	4200 kg	Monoblock	Connecting mast and telescoping mast section
	K85/KR84A2	ME127	80/79 mm	60/59 mm	5 m	5680 kg	Monoblock	Connecting section
	K85/KR84B2	ME128	80/79 mm	60/59 mm	10 m	10420 kg	Monoblock	Connecting section

All information material supplementing this Guide Produit is available online:

FLASH PRODUIT / GUIDE PRODUIT (private access, Manitowoc Direct)

► MASTS:

- Monoblock mast section KMT 849 A
  02FP 194 2021 03 KMT849A - New mast section
- Reinforced mast sections KM 850.14 B and KMT 850 14A
  02FP 176 2018 07 New mast sections KM850.14B KMT850.14A
- K Masts - New Generation
  02FP 173 2017 03 K masts - New generation
- Type K connecting and telescoping mast sections
  02FP 192 2020 10 connecting telescoping mast sections K
- K84/K84 - Telescoping mast
  02FP 184 2020 05 Telescoping mast K84/K84-2
- Telescopic cages
  02GP_631_2019_04_Telescoping T41-T61-T851

► Cab-IN:

- Internal mast operator lift
  02GP_629_2019_04_Cab-IN
  02GP_629b_2021_09_Cab-IN

Notes

Notes

Notes

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