



Cable bridge



Structure and use guidance

The purpose of the cable bridge is to channel cables and wires up to 5cm in diameter during construction works. The cable bridge consists of two masts and a girder made up of individual parts, which is winched up and down. Any other improper use is prohibited.

General note

The cable bridge was designed in compliance with the standard DIN 1055 for wind and working loads. Most of the stress results from the wind load.

Only components in perfect status and original equipment may be used.

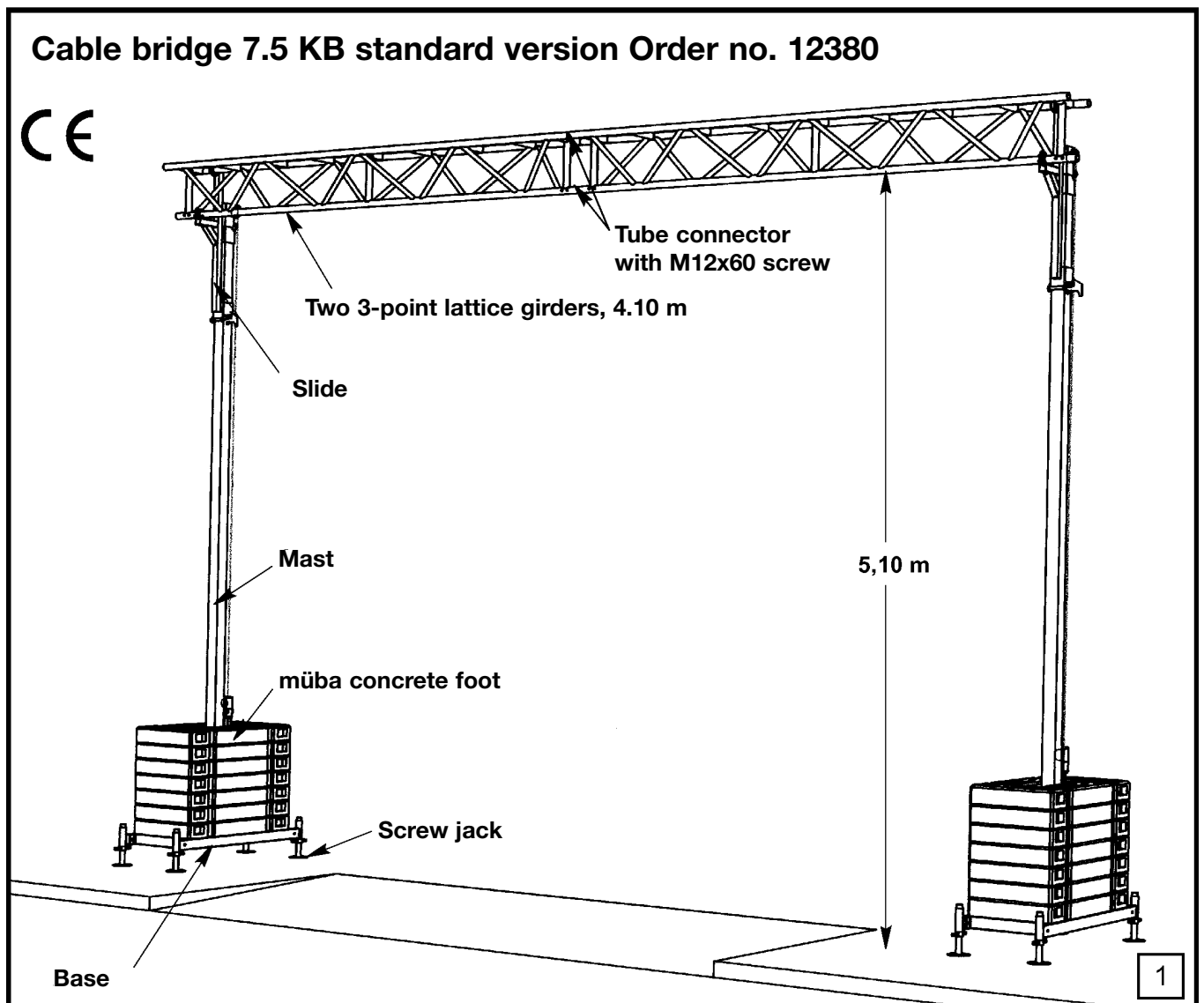
The lifting jack is to be used only according to the intended purpose.

Ice must be removed immediately. Cable bridge model 7.4 KB (art. no. 12392) with base extension and brace wires (without tarpaulin) is the only model design for snow and ice loads (see page 6).

A safety distance of at least 0.5 m must be maintained between traffic area and cable bridge.

The jack screws must not extend more than 15 cm.

The rules for the prevention of accidents are to be observed.



Use and operation

The cable bridge may only be set up in wind strengths up to 8 (wind speed < 20 m/s). The cable bridge may only be set up on a horizontally plane surface that is capable of bearing the load; masts must be set up at equal height. Load-distributing substructures (e.g. underlay timber) must be provided if the surface is not sufficiently load bearing. The masts for the cable bridge must be parallel and vertically aligned as shown in Figs. 1 and 2.

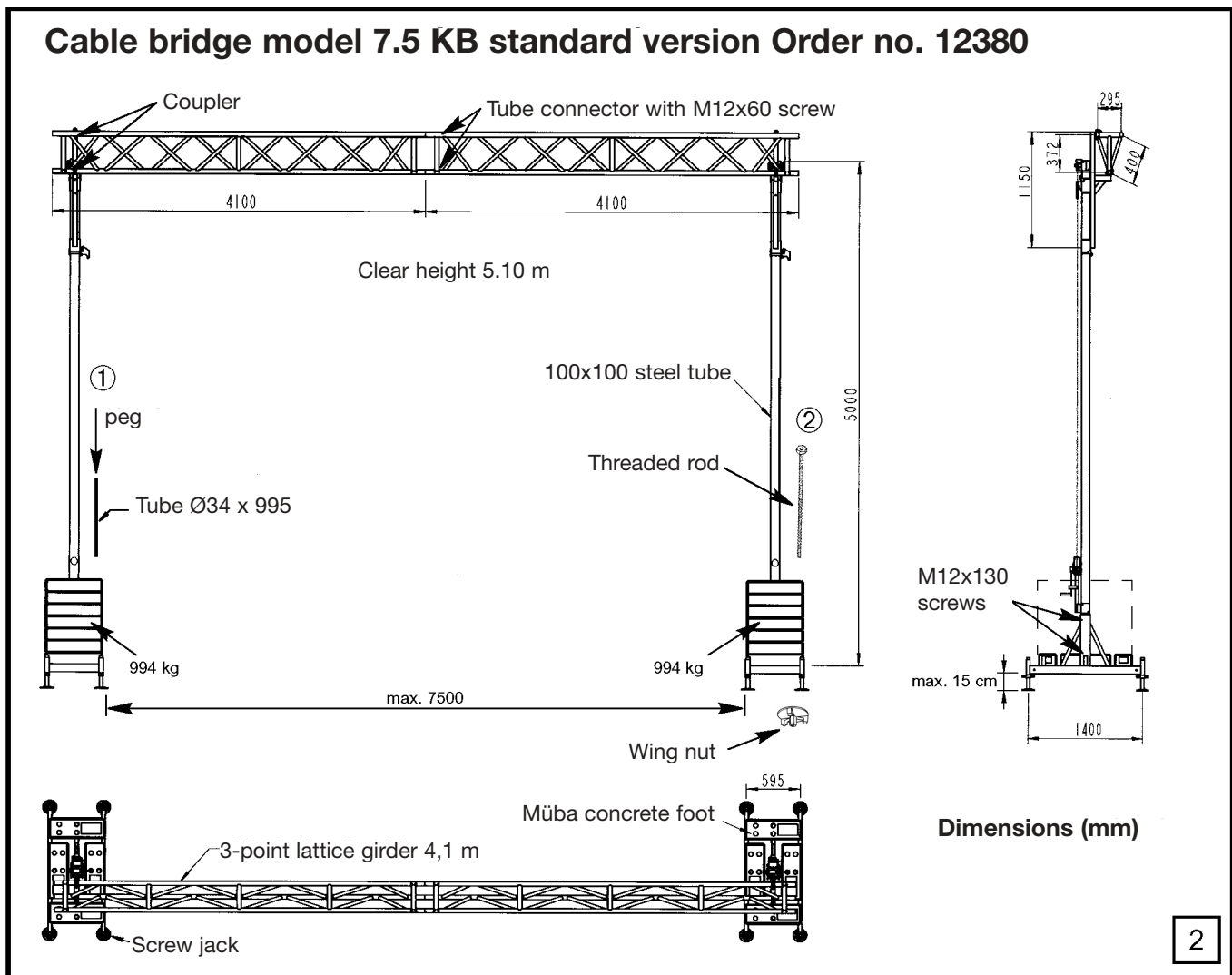
The foot must be positioned completely on 4 screw jacks or, if using base extensions, on 8 screw jacks.

Two M12x130 screws are used to bolt the mast to the foot. The girder – consisting of two or three individual 3-point lattice girders – is bolted together. 3 tube connectors and 12 M12x60 screws are needed for each girder joint.

This girder is then hitched to the slides on the masts (see Fig. 3). All plug-in and threaded connections must be checked prior to use.

The cable bridge is ready for using.

Cables of less than 5 cm diameter are laid along the girder and connected. If using several cables, lay them one after the other. Make sure no cable loops hang down and that no cables are trapped when cranking up and down. Parallel cranking raises or lowers the cable bridge.



Ballasting

Both bases are evenly distributed with ballast:

Ballasting for each mast 28 müba concrete feet per 35,5 kg = 994 kg

① A tube measuring 34 mm in diameter x 99.5 cm is inserted through the stacked concrete feet to stop them tipping over.

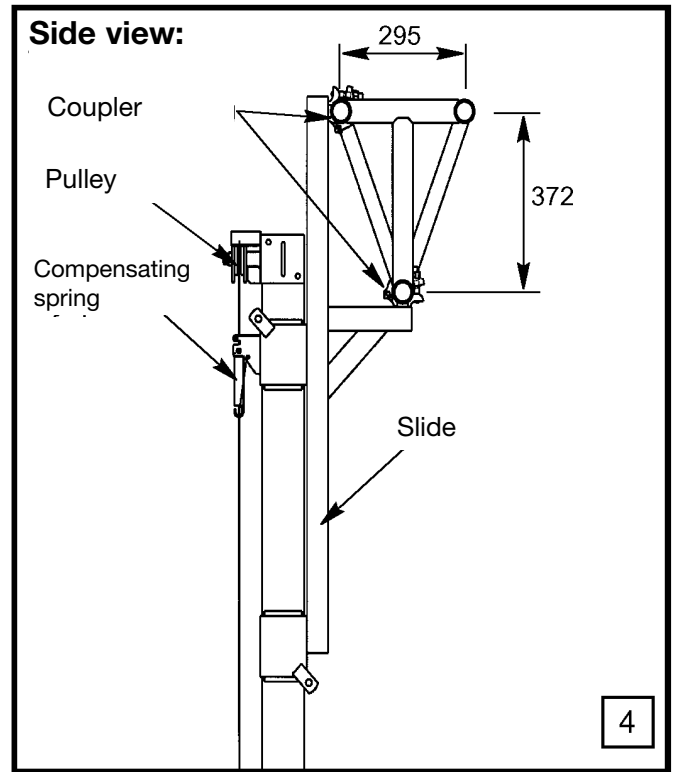
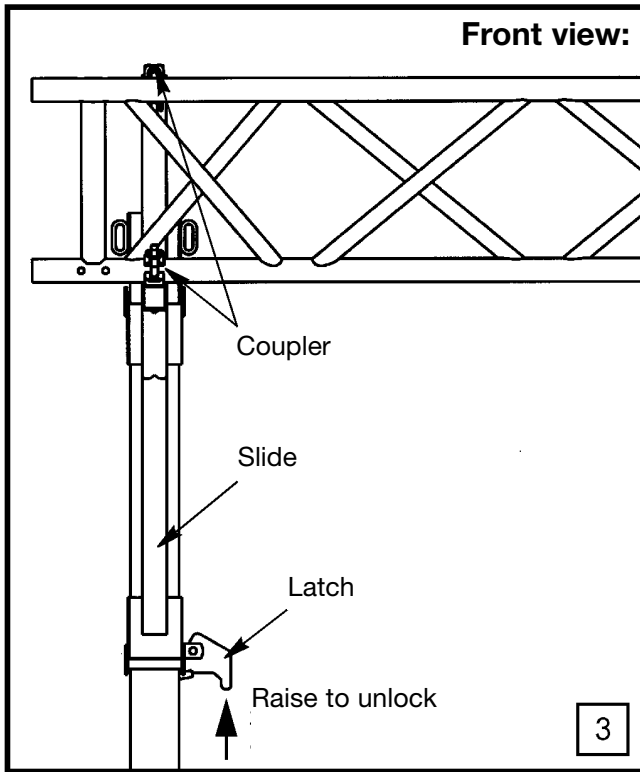
② A threaded rod can also be used to bolt down the concrete feet to prevent theft.

Line load: 164 kg

Working load: 364 kg

A girder measuring 8.20 m in length can bear a maximum line load of 20 kg/m (0.2 kN/m).

The cable overhang on both sides must, however, be considered when determining the total applied working load.



Mounting the girder

The 3-point lattice girders measuring 4.10 m each are bolted together to form one girder and hitched to the slides on the masts (Figs. 3 and 4) (tightening torque 50 Nm). Cables of less than 5 cm diameter are laid along the girder and connected. The cable bridge can then be cranked up.

Securing the cable bridge

The cable bridge is cranked up to maximum height when the latch bolt engages in the bore on the mast. To relieve the stress on the chain, lower it carefully until the latch bolt lies flush in the bore and the chain is load-free (Fig. 3). Attach the flat iron bracket to additionally secure the crank against unauthorised use (Fig. 5). The latches must first be disengaged before lowering the cable bridge (do not use force to crank it down). To do this, carefully crank up the cable bridge while releasing the latch with a rod at the same time (Fig. 3). The cable bridge can then be lowered. Keep the latch raised with the rod until the bore on the mast has been passed by.

Important:

The cable bridge must be lifted or lowered parallelly.

Assembly, dismantling and maintenance may only be performed by sufficiently trained technicians.

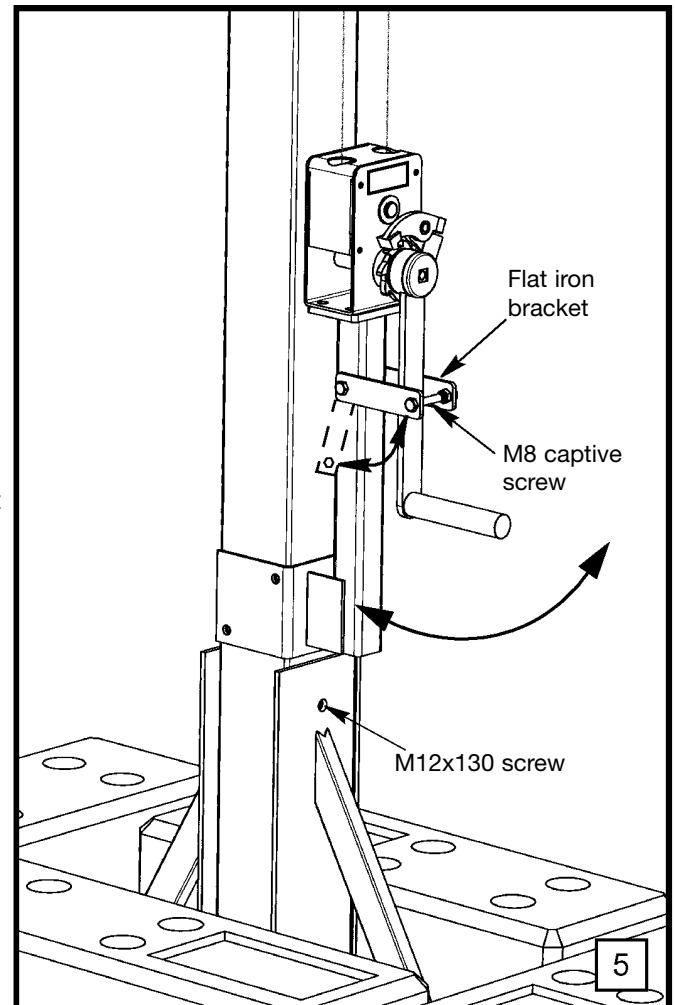
When cranking up or down, make sure nobody is beneath the girder or in the hazardous area.

It is forbidden to move bodies.

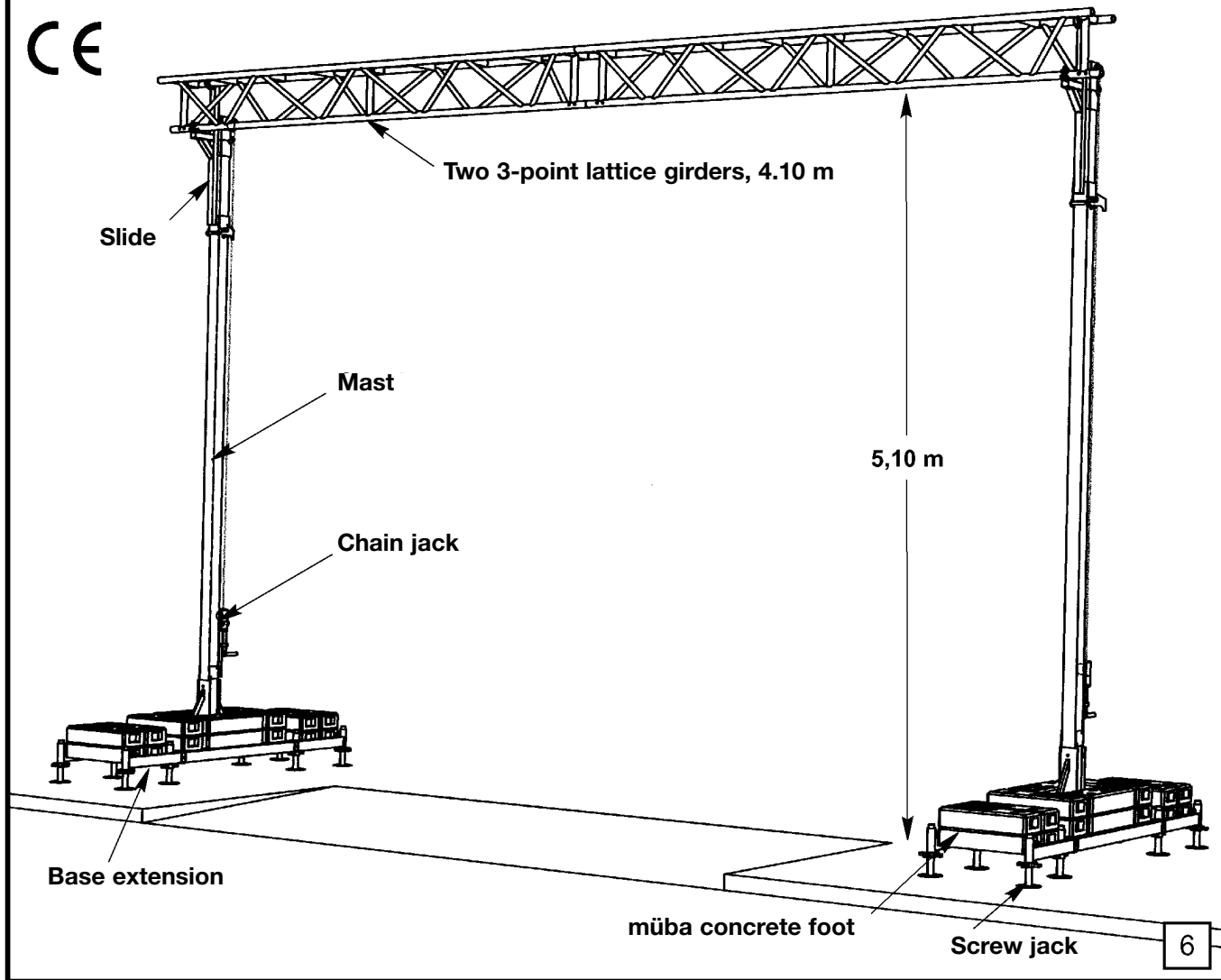
The cable bridge must be cranked up until the latch engages.

A flat iron bracket is bolted on to secure the crank against unauthorised use.

The masts must be ballasted.



Cable bridge model 7.4 KB with base extension Order no. 12393



Cable bridge model 7.4 KB with base extension

The cable bridge with base extension stands on an enlarged surface area. Two base extensions are bolted to the side of the foot, each with 2 x M12x120 screws. The entire foot then stands completely on 8 screw jacks. Cables of less than 5 cm diameter can be laid along the girder.

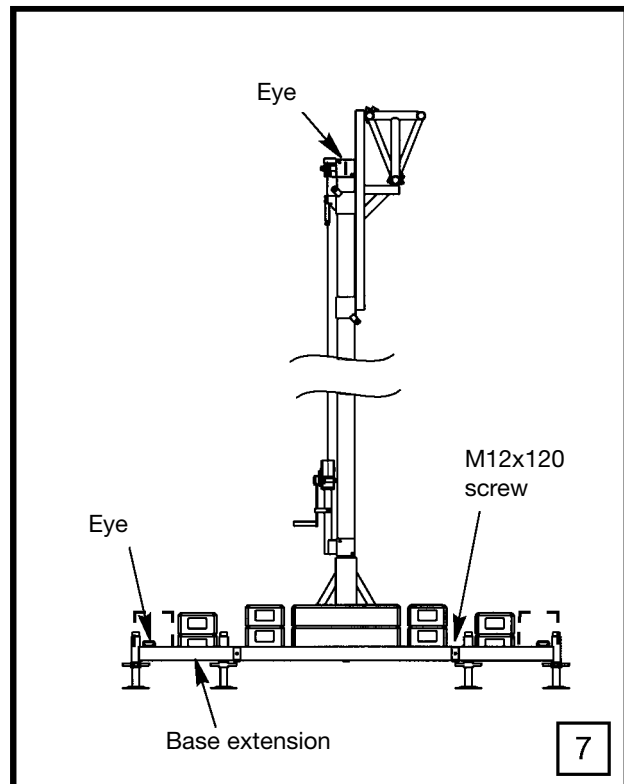
Ballasting

Both bases are evenly distributed with ballast:

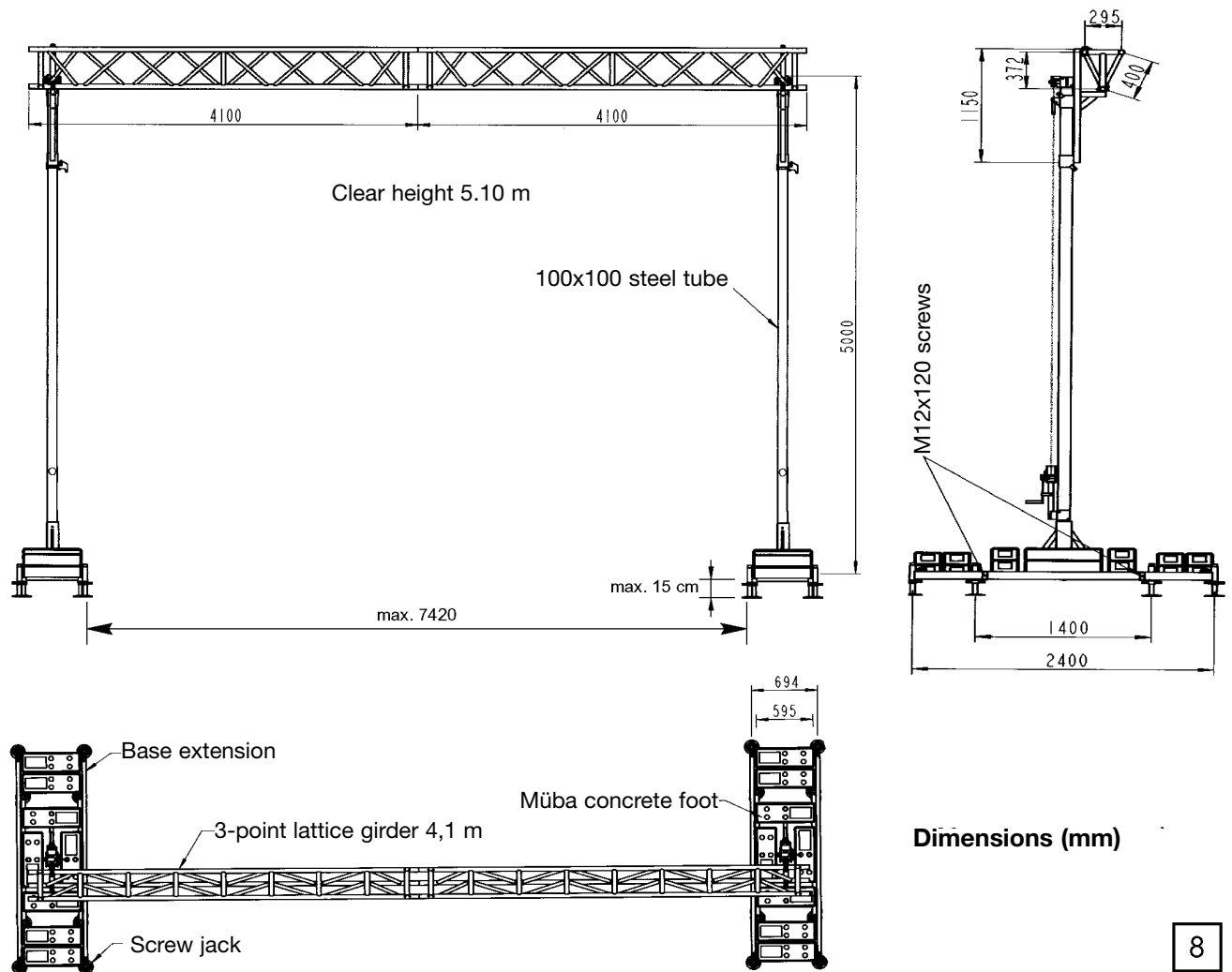
Ballasting for each mast: 16 müba concrete foot per 35,5 kg = 568 kg

Line load: 164 kg Working load: 364 kg

A girder measuring 8.20 m in length can bear a maximum line load of 20 kg/m (0.2 kN/m). The cable overhang on both sides must, however, be considered when determining the total applied working load.



Cable bridge model 7.4 KB with base extension Order no. 12393
Structure without brace wires



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Important:

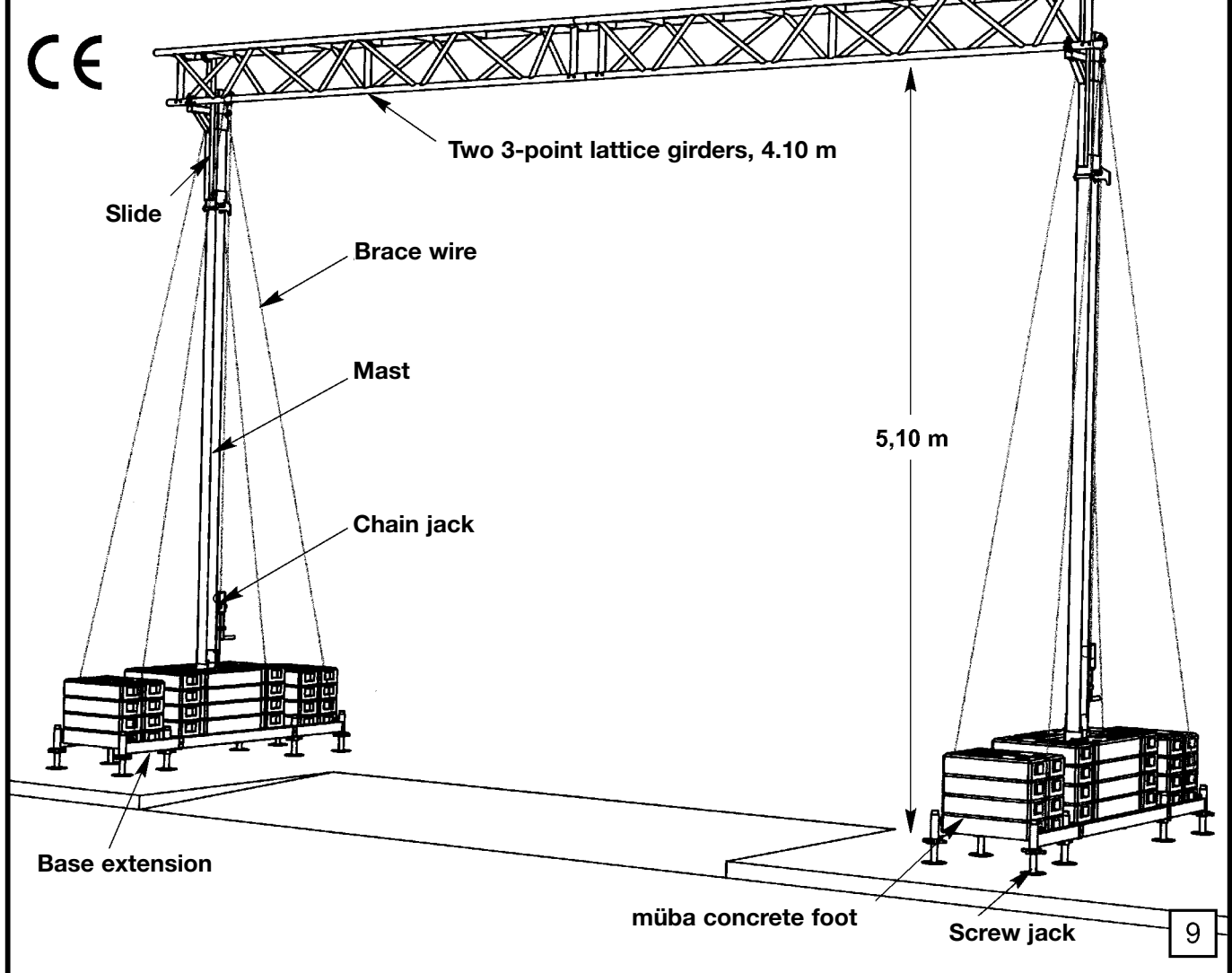
The cable bridge must be lifted or lowered parallelly (see figs. 4 and 5, page 3).

Once the cable bridge is cranked up to maximum height, the latch engages in the bore on each mast (page 3). Bolting on a flat iron bracket additionally secures the crank against unauthorised use (page 5).

The masts must be ballasted.

Cable bridge model 7.4 KB with base extension Order no. 12392

Structure with brace wires



Cable bridge model 7.4 KB with base extension and brace wires

Ballasting:

Both bases are evenly distributed with ballast:

Ballasting for each mast 32 müba concrete feet per 35,5 kg = 1136 kg

Line load: 410 kg

Working load: 910 kg

A girder measuring 8.20 m in length can bear a maximum line load of 50 kg/m (0.5 kN/m). The cable overhang on both sides must, however, be considered when determining the total applied working load.

Snow loads:

Cable bridge model 7.4 KB with base extension and brace wires (art. no. 12392) is designed for use under snow loads.

According to DIN 1055-5, the snow load is dependent on the location of use and the snow zone.

These conditions must be examined on a case by case basis. The surface area per running meter of cable bridge applicable when calculating snow loads is $A' = 0,048m + 0,295m \sim 0,35 \text{ m}^2/\text{fm}$

In the example shown here, model 7.4 KB with base extension and brace wires, the bearable snow load in an assumed snow load zone III and location of 400 m above sea level decreases by 0.35 kN/m to:

$$P_{\text{per}} = 0,50\text{kN/m} - 0,35\text{kN/m} = 0,15 \text{ kN/m}$$

This equates to a snow load of 1kN/m₂. If snow loads are not likely, this model of girder can be fully covered with tarpaulins (see page 8).

Execution of the cable bridge with base extension and brace wires

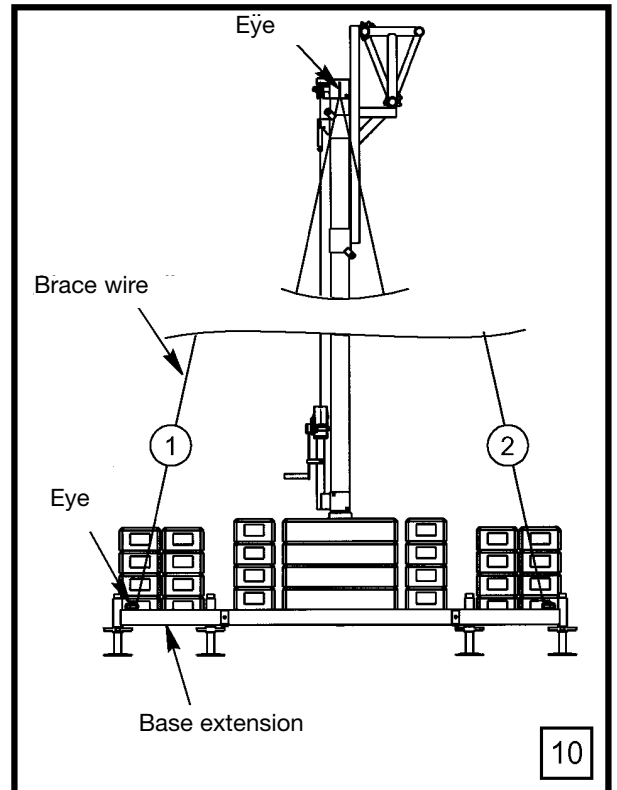
The brace wires (consisting of wire with turnbuckle and chain) are attached to the eyes at the top of the masts using quick-acting chain fasteners. They must be attached before the masts are erected.

The brace wires initially hang loosely down from the mast.

Mounting with brace wires

Four brace wires ① + ② are attached to the eyes at the top of the mast on both sides (Figs. 10 and 11).

Two brace wires ① are bolted to the eyes on the base extension (on the side of the chain jack), but not yet tensioned. Once the mast has been erected and the girder assembled, the cable bridge is cranked up in parallel. Finally, the remaining brace wires ② are also attached to the eyes on the base extension, and all wires are evenly tensioned. When tensioning the wires, make sure the masts remain perpendicular. The masts bear the load, even without brace wires. The brace wires are only needed to cope with wind loads. The brace wires must be evenly, but only lightly, tensioned by hand.



Ballasting

Both bases are evenly distributed with ballast:

Ballasting for each mast:

32 müba concrete feet per 35,5 kg = 1136 kg

Line load: 410 kg Working load: 910 kg

A girder measuring 8.20 m in length can bear a maximum line load of 50 kg/m (0.5 kN/m). The cable overhang on both sides must, however, be considered when determining the total applied working load.

Important:

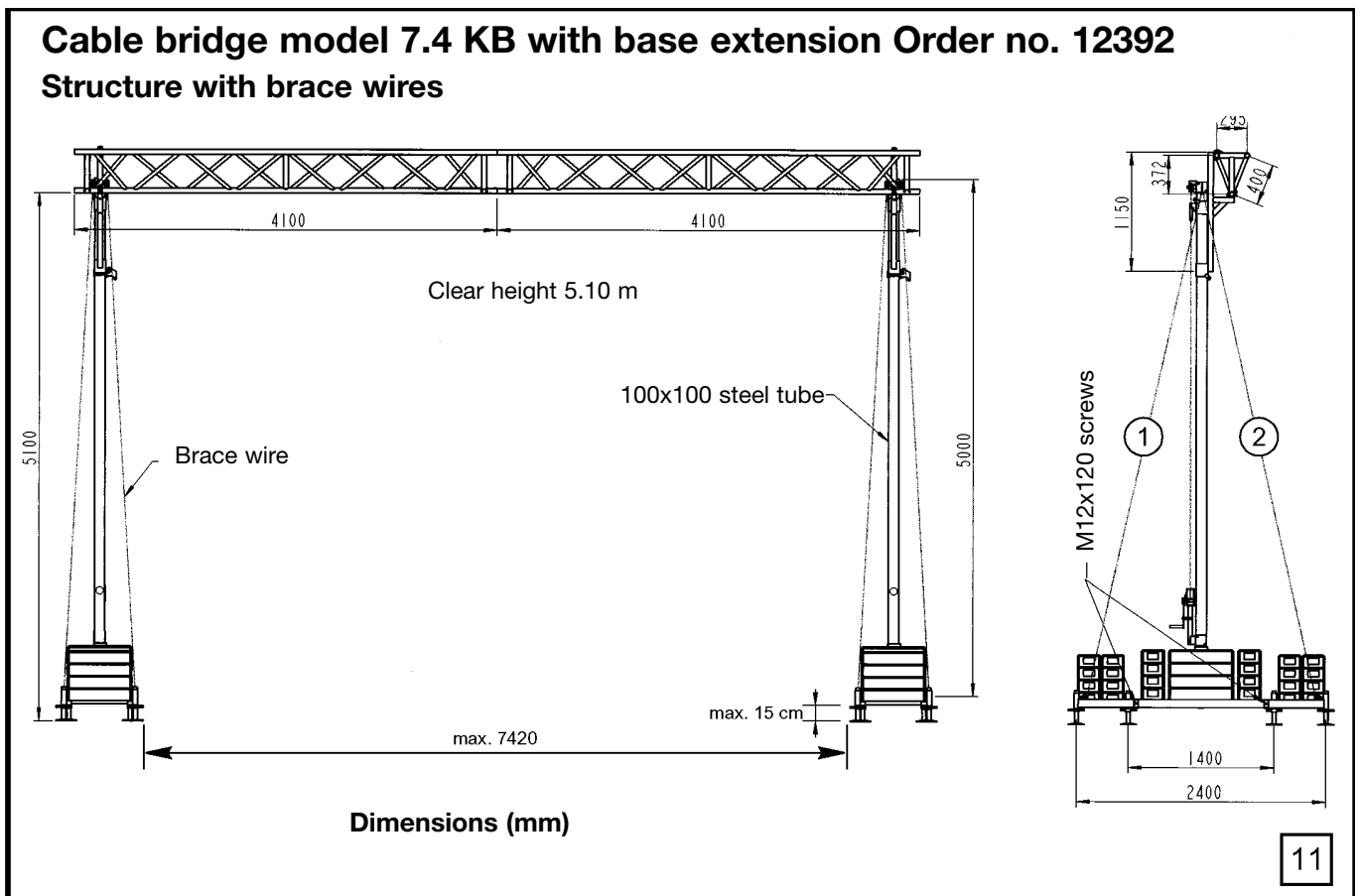
The cable bridge must be lifted or lowered parallelly (see figs. 4 and 5, page 3).

Once the cable bridge is cranked up to maximum height, the latch engages in the bore on each mast (Fig. 3).

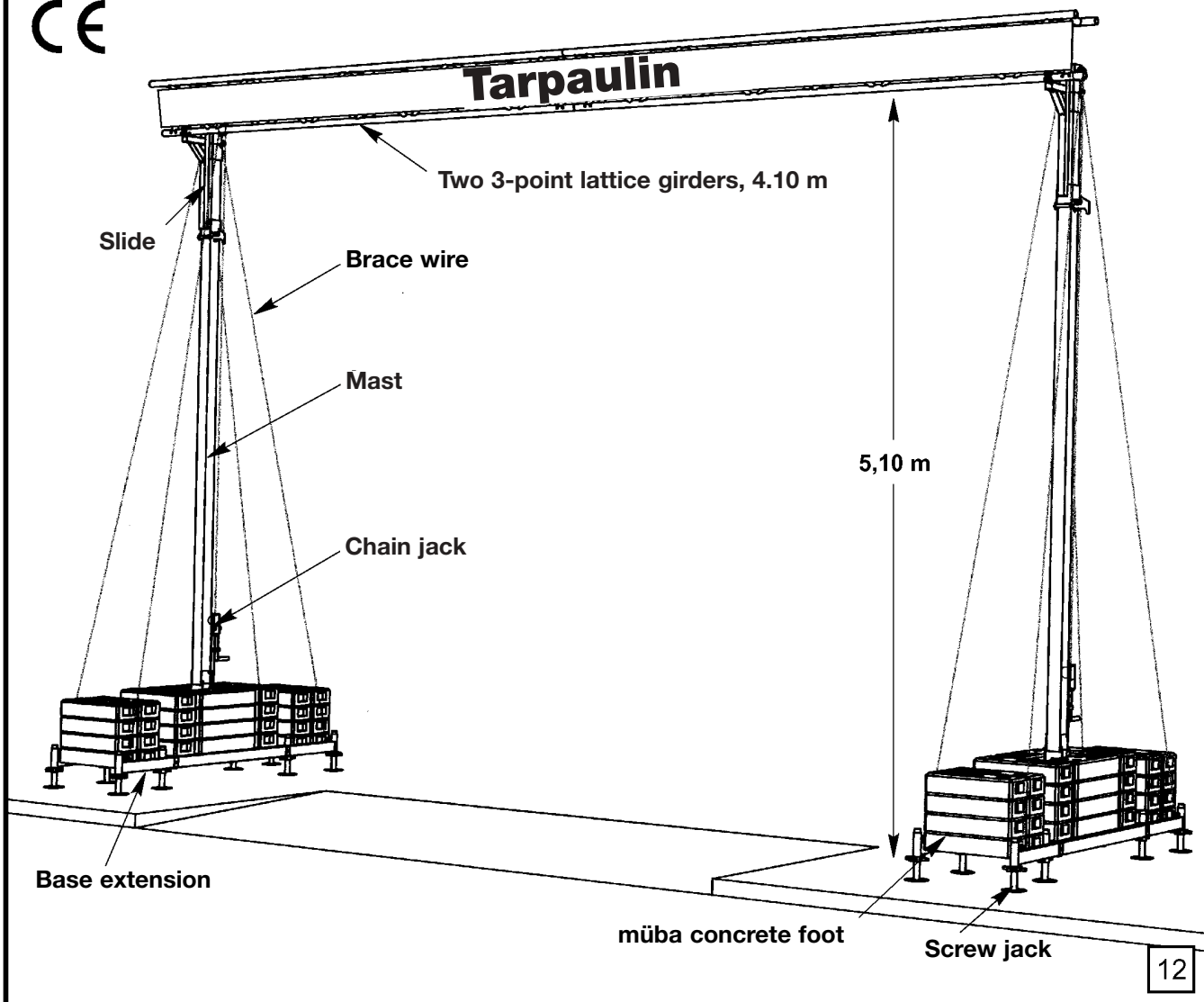
Bolting on a flat iron bracket additionally secures the crank against unauthorised use (Fig. 5).

Both bases must be ballasted all over.

The brace wires must be evenly, but only lightly, tensioned by hand.



Cable bridge model 7.4 KB with base extension Order no. 12392
Structure with brace wires and tarpaulin



Cable bridge model 7.4 KB with tarpaulin

The girder can also be covered with a tarpaulin if the cable bridge has base extensions and brace wires. The fastening of the tarpaulin must ensure it cannot come loose, even in a storm.

Ballasting:

Both bases are evenly distributed with ballast:

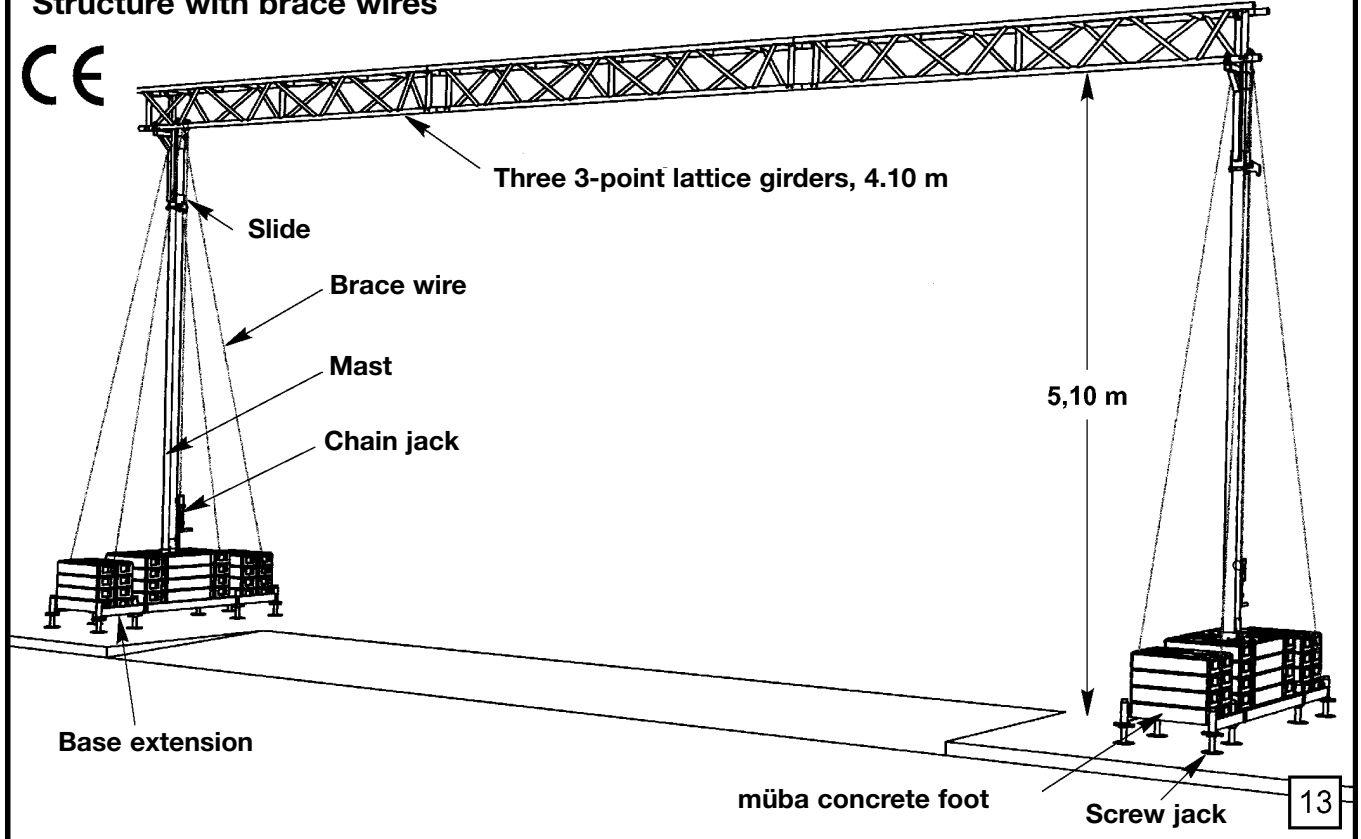
Ballasting for each mast 32 müba concrete foot
 per 35,5 kg = 1136 kg

Line load: 410 kg Working load: 910 kg

A girder measuring 8.20 m in length can bear a maximum line load of 50 kg/m (0.5 kN/m). The cable overhang on both sides must, however, be considered when determining the total applied working load.

Cable bridge model 11.5 KB with base extension Order no. 12391

Structure with brace wires



Cable bridge model KB 11.5 with base extension and brace wires

Ballasting:

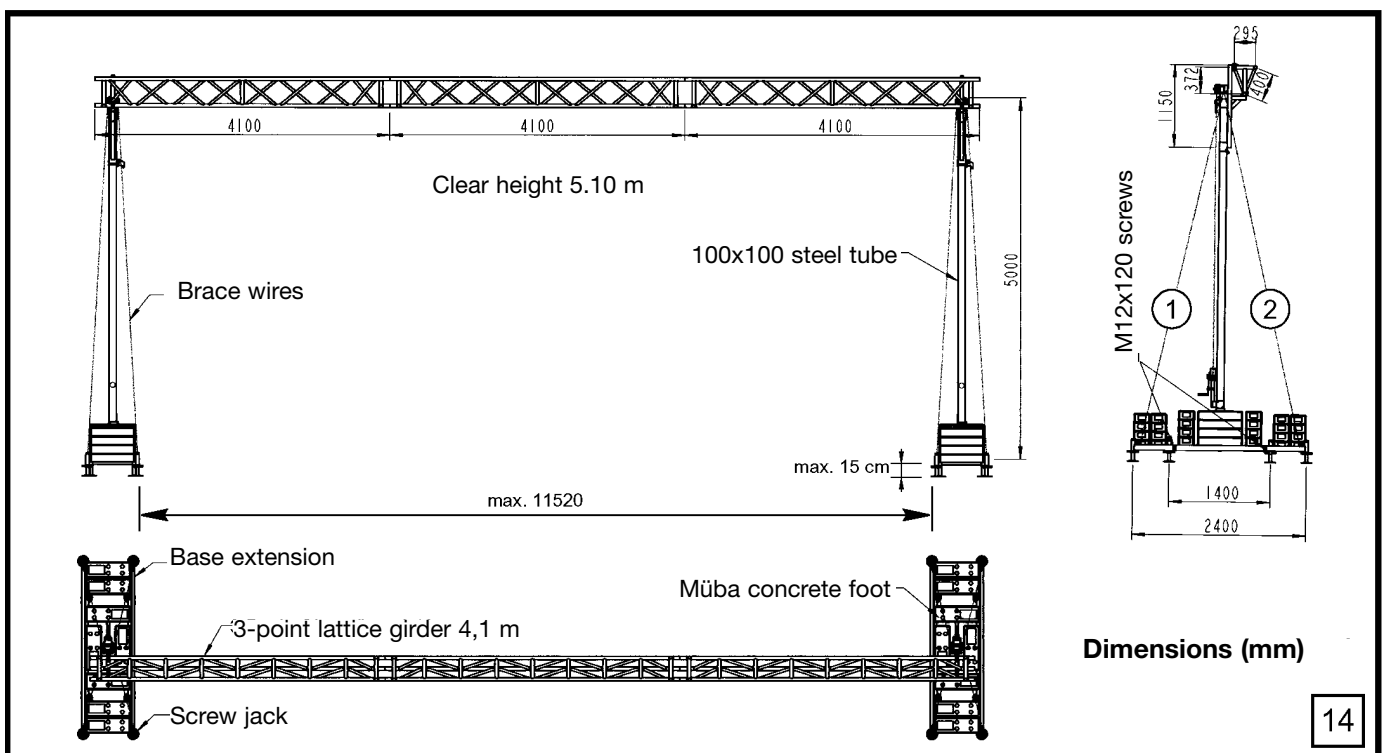
Both bases are evenly distributed with ballast:

Ballasting for each mast: 32 müba concrete feet per 35,5 kg = 1136 kg

Line load: 246 kg

Working load: 446 kg

A girder measuring 12.30 m in length can bear a maximum line load of 20 kg/m (0.2 kN/m). The cable overhang on both sides must, however, be considered when determining the total applied working load.



KW 320 chain jack

The KW 320 chain jack is a hand-operated winch for raising and lowering loads. The load actuated brake holds the load securely if the crank is released.

The KW 320 chain jack may only be used in perfect condition. Any necessary repairs must be reported immediately and/or performed by suitably trained technicians.

Compliance with the following accident prevention regulations must be assured:

VBG 8 Winches, lifting and towing equipment

VBG 9a Load carrying equipment used with hoists

Prior to each use:

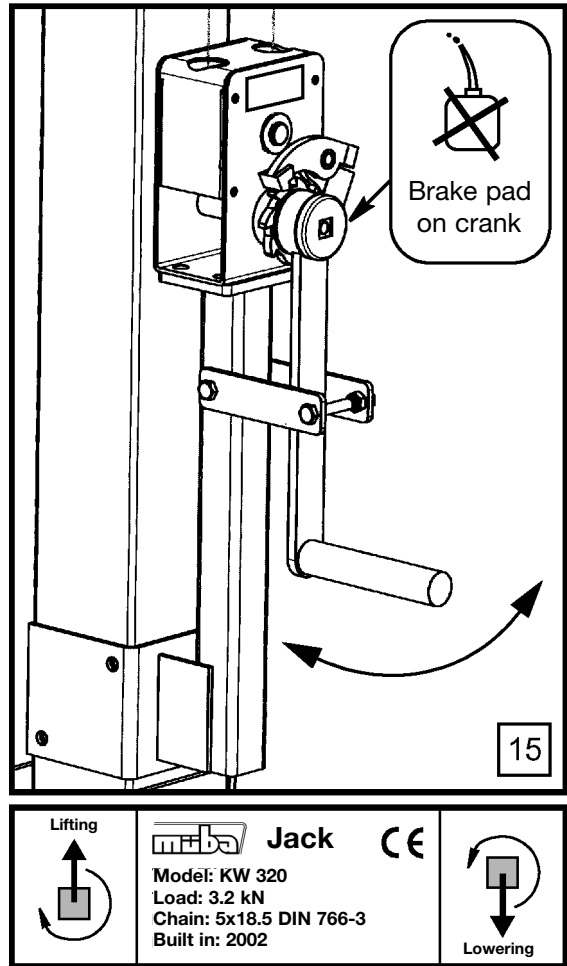
- Visually inspect the cable bridge, especially the chain jack and chain
- Make sure the gears and bearing points are sufficiently lubricated
- Check the jack and crank are functioning; replace any defective parts

Annual inspection:

- Check all parts of the chain jack for wear; replace any defective parts
- Lubricate the gears and bearings with machine grease

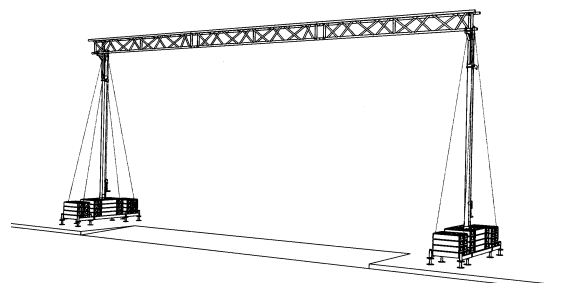
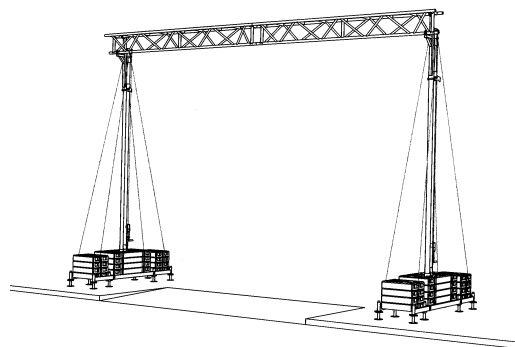
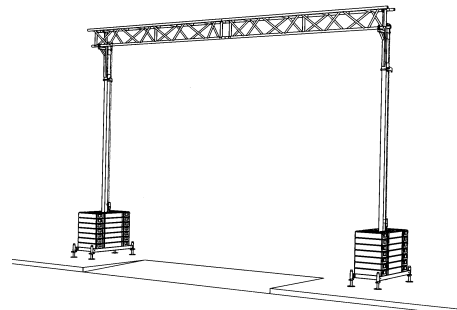
Do not lubricate the brake pads on the crank!

- BGV D 8 § 23 stipulates inspection of the KW 320 chain jack on the cable bridge by a qualified expert. The contractor is responsible for ensuring this inspection is documented.



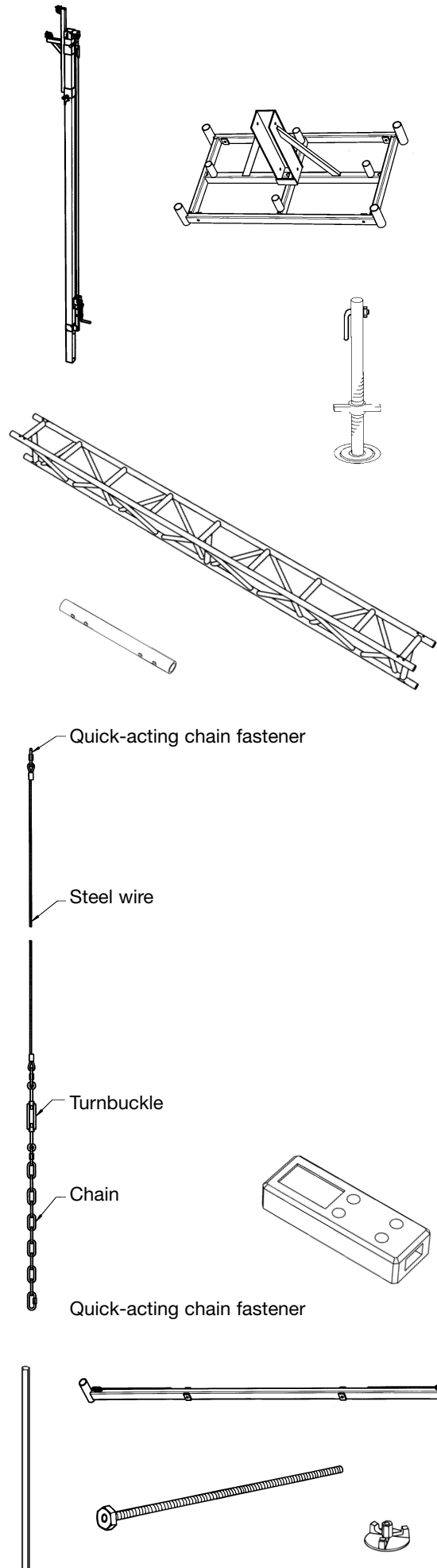
Components:

Name:	Poids :	Order no.:
Cable bridge model 7,5 exécution standard complete without ballast	305,0 kg	12380
Cable bridge model 7,4 with base extension complete without ballast	378,0 kg	12393
with base extension and brace wires complete without ballast	392,0 kg	12392
Cable bridge model Typ 11,5 with base extension complete without ballast	422,0 kg	12391



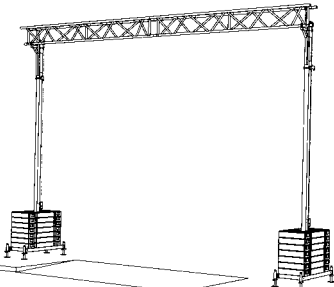
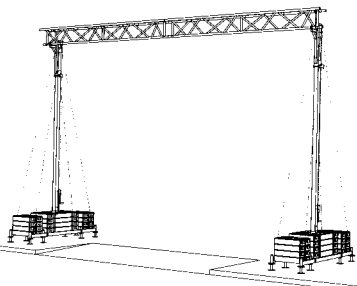
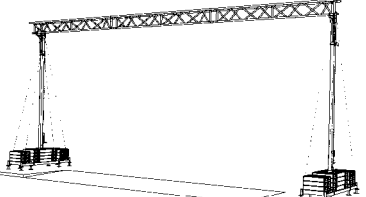


Components:

Name:	Poids :	Order no. :
Mast from steel	71.8 kg	12381
Base	36,5 kg	12382
Screw jack Ø 38x350 mm for cable bridge with toggle screw	2,35 kg	12389
3-point lattice girder 4,10 m Aluminium	27,3 kg	12383
Tube connector	0,9 kg	12384
Brace wire 5,05 m	1,7 kg	12388
Concrete foot	35,5 kg	29320
Base extension with screw M12x120	13,5 kg	12387
Tube Ø 34x995	1,35 kg	12386
Threaded rod Ø 15x600	2,0 kg	10840
Threaded rod Ø 15x900	2,5 kg	10850
Wing nut DW15, Ø 70	0,55 kg	10860



Technical data:

	<h1>Cable bridge</h1>			
	Model	Ballast for each mast in kg	Load carrying capacity	Special features
<p>Cable bridge model 7.5 KB</p> 	<p>order. no 12380 Standard model</p>	<p>994 kg equivalent to 28 Müba concrete feet</p>	<p>Total working load 164 kg evenly distributed line load</p>	<p>none</p>
<p>Cable bridge model 7.4 KB with base extension</p> 	<p>order. no 12393 without brace wires</p>	<p>568 kg equivalent to 16 Müba concrete feet</p>	<p>Total working load 164 kg evenly distributed line load</p>	<p>none</p>
	<p>order. no 12392 with brace wires (see pages 6 - 8 for detailed information)</p>	<p>1136 kg equivalent to 32 Müba concrete feet</p>	<p>Total working load 410 kg evenly distributed line load</p>	<p>designed for tarpaulins or snow loads</p>
<p>Cable bridge model 11.5 KB</p> 	<p>order. no 12391 with brace wires</p>	<p>1136 kg equivalent to 32 Müba concrete feet</p>	<p>Total working load 246 kg evenly distributed line load</p>	<p>none</p>

Important notes:

The cable bridge may only be set up in wind strengths up to 8 (wind speed < 20 m/s).
 The jack screws must not extend more than 15 cm.
 Ballast must be evenly distributed on both feet.
 The cable bridge must be lifted or lowered in parallel.
 Once raised, the red latch bolts must lock onto the mast.
 When mounting the brace wires, make sure they are evenly, but only lightly, tensioned by hand.
 Working loads may only be applied as evenly distributed line loads over the full length of the girder;
 calculation of the working load must include the cable overhang on both sides.

Technical subject to change 05.12.14

Müller + Baum Baugerätefabrik GmbH & Co. KG

Birkenweg 52 · 59846 Sundern/Hachen · P.O. Box 2045 · 59837 Sundern/Hachen

Tel. +49 (0) 2935/801-0 · Fax. +49 (0) 2935/801-42 · www.mueba.de · E-mail: service@mueba.de