

# **Operating Instructions**

Translation of original operating instructions

**Grab for Prefabricated Concrete Products FTZ** 

FTZ-UNI-15



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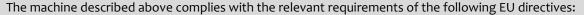
#### 1 EC-Declaration of Conformity

Description: Grab for Prefabricated Concrete Products FTZ

Type: FTZ-UNI-15
Order number: 5310.0256

Manufacturer: Probst GmbH

Gottlieb-Daimler-Straße 6 71729 Erdmannhausen, Germany info@probst-handling.com www.probst-handling.com



EC-machinery directive 2006/42/EC

The following standards and technical specifications were used:

#### **DIN EN ISO 12100**

Safety of machinery - General principles for design - Risk assessment and risk reduction (ISO 12100:2010)

# **DIN EN ISO 13857**

Safety of machinery - safety distances to prevent hazard zones being reached by upper and lower limbs (ISO 13857:2008)

# Authorized person for EC-documentation:

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hate No

Signature, information to the subscriber:

Erdmannhausen, 26.04.2019......

(M. Probst, Managing director)



#### 2 Safety

# 2.1 Safety symbols



# Danger to life!

Identifies imminent hazard. If you do not avoid the hazard, death or severe injury will result.



#### **Hazardous situation!**

Identifies a potentially hazardous situation. If you do not avoid the situation, injury or damage to property can result.



#### **Prohibition!**

Identifies imminent a prohibition. If you do not avoid the prohibition, death and severe injury, or damage to property will result.



Important information or useful hints for the usage.

# 2.2 Explanation of basic concepts

Gripping range:	specify the minimum and maximum product measurements of the gripping good, which can be gripped with this device.		
Gripping good(s):	• is the product, which will be gripped or transported.		
Opening width:	consists of the gripping range and the measure to drive over the gripping good. gripping range + measure to drive over the gripping good = opening width		
Immersion depth:	<ul> <li>is the maximum gripping height of gripping goods, conditional of the height of the gripping arms of the device.</li> </ul>		
Device:	is the description for the gripping device.		
Product dimensions:	Are the dimensions of the gripping good (e.g. length, breadth, height of the product).		
Dead weight:	is the own weight (without gripping good) of the device.		
Carrying capacity/working load limit (WLL*):	specify the maximum possible load of the device (for lifting of gripping goods).		

<sup>\*=</sup> WLL → (english:) Working Load Limit

# 2.3 Definition skilled worker / specialist

Only skilled workers or specialists are allowed to carry out the installation-, maintenance-, and repair work on this device!

Skilled workers or specialists must have for the following points (if it applies for this device), the necessary professional knowledge.

- for mechanic
- for hydraulics
- for pneumatics
- for electrics



# 2.4 Safety Marking

PROHIBITION SIGN				
Symbol	Meaning	Order-No.	Size	
	It is not allowed to stand under hanging loads. Danger to life!	2904.0210 2904.0209 2904.0204	Ø 30 mm Ø 50 mm Ø 80 mm	
- Augustian Control of the Control o	The transportation of non-rectangular goods is not allowed!	2904.0213 2904.0212 2904.0211	Ø30 mm Ø50 mm Ø80 mm	
	Do not lift any components off-centre (always in centre of gravity).	2904.0216 2904.0215 2904.0214	Ø30 mm Ø50 mm Ø80 mm	
WARNING SIGN				
Symbol	Meaning	Order-No.	Size	
	Danger of squeezing the hands.	2904.0221 2904.0220 2904.0107	30 x 30 mm 50 x 50 mm 80 x 80 mm	
REGULATORY SIG	N			
Symbol	Meaning	Order-No.	Size	
	Each operator must have read and understood the operating instructions (and all safety instructions).	2904.0665 2904.0666	Ø 30 mm Ø 50 mm	
	The manual guiding of the device is only allowed at the red handles.	2904.0227 2904.0226 2904.0225	Ø 30 mm Ø 50 mm Ø 80 mm	
OPTIONAL	Be sure that the fork sleeves are mechanically fixed (with locking screw and safety chain or rope) to the lifting device.	2904.0223 2904.0222	Ø 50 mm Ø 80 mm	



# 2.5 Personal safety requirements



Each operator must have read and understood the operating instructions (and all safety instructions). Only qualified, authorized personal is allowed to operate the device and all devices which are connected (lifting device/carrier).



The manual guiding is only allowed for devices with handles.

#### 2.6 Protective equipment

The protective equipment must consist, according to the safety regulations of the following parts:

- Protective clothing
- Safety gloves
- Safety shoes

# 2.7 Accident prevention



- The workplace has to be covered for unauthorized persons, especially children.
- Take care in case of thunderstorm!



- The workplace must be sufficiently illuminated.
- Take care with handling wet, dirty and not solidified components.



The working with the device in case of atmospheric editions under 3° C(37,5° F) is forbidden! Because the goods could be fall down caused by dampness or freezing.

#### 2.8 Function Control

# 2.8.1 General



- Before every usage of the device check the functions and the working condition.
- Maintenance and lubrication are only permitted when device is shut down!



- Do not use the device, until all faults which can cause safety hazards are removed.
- If there are any cracks, splits or damaged parts on any parts of the device, **immediately** stop using it.



- The operating instructions must be available at the workplace every time.
- Do not remove the type plate of the machine.
- Unrecognisable information signs (such as regulatory or prohibition signs) must be replaced.



# 2.9 Safety procedures

#### 2.9.1 General



- The use of the device is only permitted in proximity to the ground.
   Do not swing it over people heads.
- The stay under lifted load is forbidden. Danger to Life!



The manual guiding of the device is only allowed at the handles.



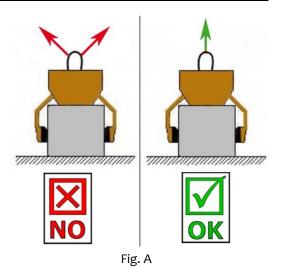
- While using the device the stay of persons in the working area is forbidden. Except it is indispensable, caused of the way of using the device, e.g. if the device must be leaded by hand.
- The jerky lifting and lowering of the device with and without load. e.g. caused through driving fast with the lifting equipment/carrier over uneven grounds is **forbidden**. Because the gripping good could **fall down**. Unchecked movements of the device.



- Do not lift any components off-centre (always in centre of gravity), because that could fall down.
- The device should not be opened if the opening path of the gripping arm is blocked by a resistance (e.g. other concrete blocks or the like)!
- The operator is not allowed to leave the control unit as long as the device loaded with load. The load must always be in the range of vision of the operator.
- Never exceed the carrying capacity/working load limit (WLL) and the nominal width/gripping range of the device.



- Do not pull out stuck or tightened loads with the device.
- Never pull or drag loads sideways. Otherwise parts of the device could be damaged. (see Fig. A →)



#### 2.9.2 Carrier / Lifting device



- The used carrier/lifting device (e.g. excavator) have to be in good, safe working condition.
- Only authorized and qualified persons are allowed to operate the carrier/lifting device.
- The operator of the carrier/lifting device must have all the necessary qualifications.



Never exceed the maximum allowable carrying capacity/working load limit (WLL) of the carrier/lifting device and the lifting gear.



#### 3 General

#### 3.1 Authorized use

The device (FTZ-UNI-15) is universal usable for gripping and moving customary prefabricated concrete products, with clean gripping surface; like steps, kerbs (also natural kerbs), as well as "Kassler Bord" (Bus- and Train-profil-stones) and so on. Connected with lifting equipment e.g. a excavator or a crane.



<u>ATTENTION:</u> The use of this device is only permitted in proximity to the ground (→ chapter "Safety at work").



**Only** stone elements with parallel and plane surface are allowed to be picked-up and handled. Because the gripping good could **fall down**.



#### **NOT ALLOWED ACTIVITIES:**

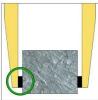
**Unauthorized alterations** of the device and the use of any self-made additional equipment could cause danger and are therefore **forbidden!** 

**Never exceed** the **carrying capacity/working load limit** (WLL) and the **nominal width/gripping range** of the device.

#### All unauthorized transports with the device are strictly prohibited:

- The transport of people and animals.
- The gripping and transporting of other loads and materials than described in this operating instruction.
- Never suspend any goods with ropes, chains or similar at the device.
- Gripping of gripping goods with packaging foil, because they could fall down.
- The gripping of gripping goods with treated surfaces (such as painting/varnish, coating or the like), because they could fall down. Treated surfaces lead to a reduction in the coefficient of friction between the grippers and the gripping good.
- The gripping and transporting of non-rectangular and round gripping goods, because they could fall down (see figure to the right). →
- Transportation of material with "feet", "bellies" and "blind spacers".











- The device is only designed for the use specified in this documentation.
- Every other use is not authorized and is forbidden!
- All relevant safety regulations, corresponding legal regulations, especially regulations of the declaration of conformity, and additional local health and safety regulations have to be observed.



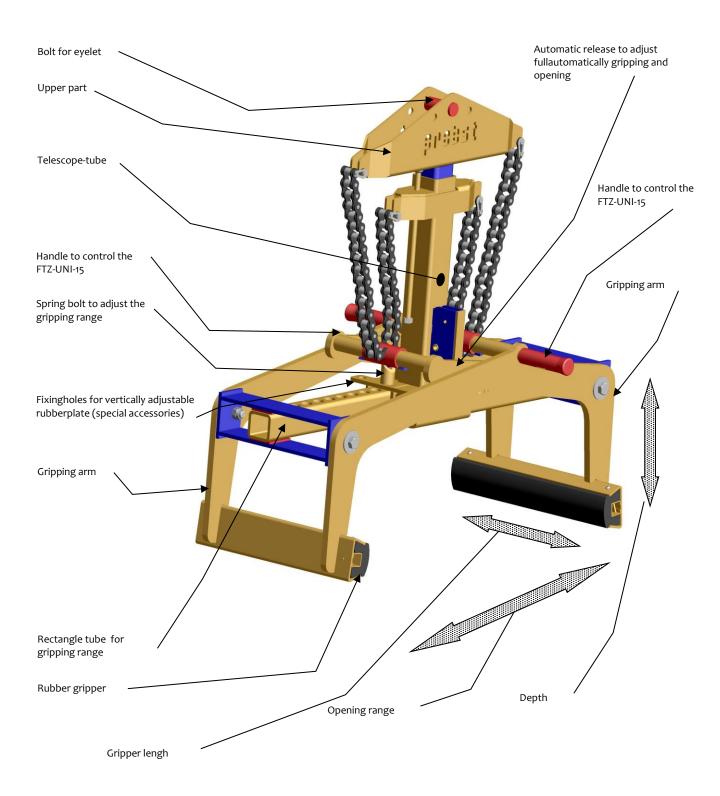
Prior to every operation the user **must** ensure that:

• The equipment is suited to the intended operation, the functioning and the working condition of the equipment is examined, and the load is suitable to be handled.

Any doubts about instructions should be raised with the manufacturer prior to use.



# 3.2 Survey and construction



# 3.3 Technical data

The exact technical data (carrying capacity (WLL), dead weight, etc.) are listed on the type plate/data sheet.



#### 4 Installation

#### 4.1 Mechanical connection

Use only original accessories, in case of doubt consult the manufacturer.



Take care that the **carrying capacity** / **working load** limit (WLL) of the lifting device/carrier is **not exceeded**, through the load of the device, the attaching devices (turning device, fork sleeves etc.) and the additional load of the gripping goods!

Gripping devices **always** have to be **gimballed**, so they can swing freely in any position.



In **no case** it is allowed to mount gripping devices with lifting devices/carriers in a **rigid way!**Break of the suspension may occur within short time. Death, severe injuries and material damage can result!

#### 4.1.1 Lifting eye / Suspension bolt

• The device is equipped with a lifting eye / suspension bolt and can be mounted on various carrier / lifting devices.



Take care that the lifting eye / suspension bolt is safely joined with the lifting tackle (e.g. crane hook, belt) and cannot slide down.

### 4.1.2 Load hooks and slings



The device is attached to the carrier/lifting device with a load hook or a suitable sling.

Ensure that the single chains strands are not twisted or knotted.

Attaching the device to the lifting device/carrier, take care that all local safety regulation is observed.

# 4.1.3 Rotators (optional)



When using rotators, a free-wheel throttle valve must be installed.

In order to prevent a sudden speedup and stopping the rotational movements, as this may **damage** the device within a short time.



# 4.1.4 Fork sleeves (optional)

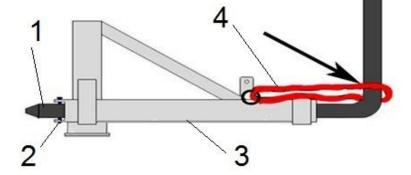
To establish a mechanical connection between the fork lift truck and the fork sleeves you have to put the forks into the fork sleeves and fix it with the locking bolt or with a chain/rope, connected to the eyelet on the fork sleeves and the lift frame.



It is definitely necessary to establish this connection. Otherwise the device could slide form the forks. **DANGER OF ACCIDENTS!** 



- 1 Fork (of fork lift truck)
- 2 locking bolt
- 3 Fork sleeve
- 4 Chain/rope





# 5 Adjustments

# 5.1 Adjustment of the gripping range

Before the product can be lifted and transported, the gripping range has to be adjusted to the dimensions of the product.



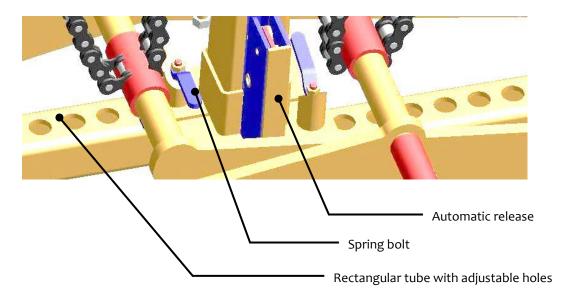
- The adjustment of the gripping range may <u>never</u> take place on both sides at the same time. Always adjust the gripping range first to the one and then on the other side.
- Pull the spring bolt upwards, rotate around 180° and lock in position (in nick).
- Move the rectangular tube, until the gripping range is approx. 5 cm larger than the product.
- Pull the spring bolt upwards again and rotate around 180°.
- Move the rectangular tube so long until the spring bolt engages in one of the holes.
- The adjustment of the gripping range has to follow general **symmetrical**.

  That means, it must be used in each case the same adjustable hole with both rectangular tubes.



Caution while adjusting of the gripping range. There is a danger of injuring the hands!
Use safety gloves. ->





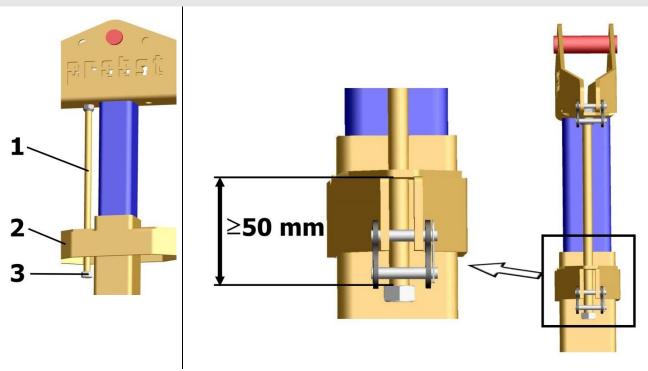


# 5.2 Adjustment of the threaded rod



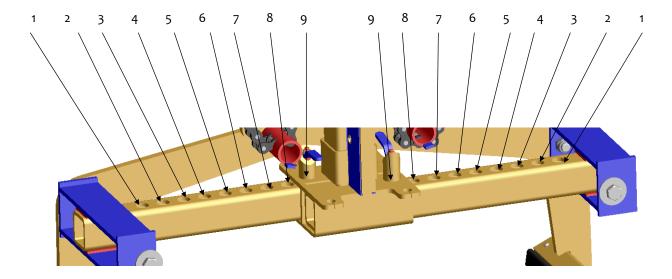
The gripping range has always to be adjusted in the right way (see adjustment of the gripping range). Otherwise it cannot be guaranteed that the tension force is sufficient for a safe gripping and there is a danger that the load could fall down.

When adjusting the gripping range, the following needs to be observed for safety reasons: The lower bolt nut (3) on the threaded rod (1) must not drive on block during the gripping action (lifting of a gripping good). That means, a **minimum distance of 50 mm** between the bolt nut (3) and the bottom part (2) has to be maintained, otherwise the buffer of the tension force is too low.





# 5.3 Gripping ranges



Adjustment of the gripping area through the positions of the adjustable holes (symmetrical):	Possible gripping areas for gripping goods (product dimension):			
Pos.1 (right) + Pos.1 (left)	from ~ 0 to ~ 80 mm			
Pos.2 (right) + Pos.2 (left)	from ~80 to ~160 mm			
Pos.3 (right) + Pos.3 (left)	from ~160 to ~270 mm			
Pos.4 (right) + Pos.4 (left)	from ~270 to ~350 mm			
Pos.5 (right) + Pos.5 (left)	from ~350 to ~430 mm			
Pos.6 (right) + Pos.6 (left)	from ~430 to ~500 mm			
Pos.7 (right) + Pos.7 (left)	from ~500 to ~570 mm			
Pos.8 (right) + Pos.8 (left)	from ~570 to ~640 mm			
Pos.9 (right) + Pos.9 (left)	from ~640 to ~730 mm			

# 6 Operation

# 6.1 Operating for devices with automatic release

- The device is connected to the lifting equipment/carrier (e.g. excavator).
- Before lifting the device, the gripping range has to be adjusted.
- The device is placed over the product, set down, the device closes round the product and it can be lifted.
- Set down on the ground again, the device opens automatically, the automatic release locks it into position so that the device can be lifted without closing up.
- Placed over the next product, the automatic release disengages itself and the product can be lifted. The device therefore is a ONE-MAN-MACHINE.



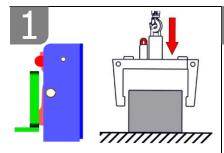
Shut-down the device without lifting equipment/carrier only on even ground. The gripping arms must be opened enough, to ensure a secure standing of the device. Otherwise there is a danger of overturning!



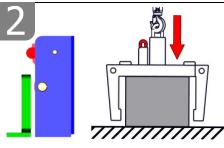
#### 6.2 Picture of the automatic release

The device is equipped with an automatic release, that means the OPENING and CLOSING of the gripping arms results through the set down and lifting of the device.

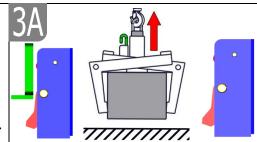
#### Pictures of the positions of the automatic release:



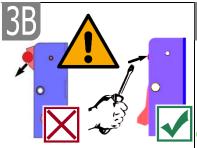
- Device is lifted through the lifting equipment/carrier
- Gripping arms are opened



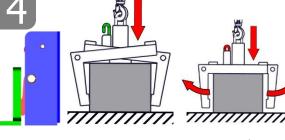
- Device is set up on the gripping good
- Gripping arms are opened



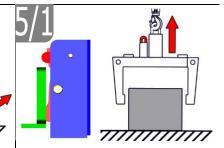
- Device is lifted through the lifting equipment/carrier
- Gripping good is clamped and can be transported to the destination



•With faulty switching, the change-over switch must be pushed back manually (e.g. with a screwdriver) 1)



- Device is set down with the gripping good (on the ground)
- · Gripping arms are opening



- Device is lifted through the lifting equipment/carrier
- Gripping arms are opened (laydown position of the device on the ground)



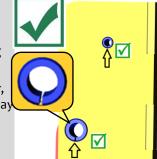
1) Otherwise there may be faulty switching and when setting down the load this can cause deformation or damage of the automatic release!

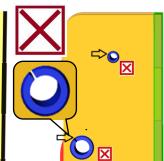
The jerky lifting and lowering of the device with and without load. e.g. caused through driving fast with the lifting equipment/carrier over uneven grounds is **forbidden** 



When replacing a defective automatic release, it is essential to ensure that the slots of the two clamping pins **always** point downwards.

The position of the slots **must not be** above or center, otherwise there is a risk that the automatic release may jam when switching!







#### 7 Maintenance and care

#### 7.1 Maintenance



To ensure the correct function, safety and service life of the device the following points must be executed in the maintenance interval.

Used **only original spare parts**, otherwise the warranty expires.



All operations may only be made in closed state of the device!
For all operations you have to make sure, that the device will not close unintended. **Danger of injury!** 

#### 7.1.1 Mechanical

SERVICE INTERVAL	Maintenance work		
First inspection after 25 operating hours  • Control and tighten all screws and connections.  (The implementation is only allowed by an expert).			
All 50 operating hours	Tighten all screws and connections (take care that the tightening torques according to the property class of the screws are observed).		
	<ul> <li>Check all existing safety elements (such as linchpins) for perfect function and replace defective safety elements. → 1)</li> </ul>		
	<ul> <li>Check all joints, bolts, guidance's and gears for correct function, if necessary adjust or replace it.</li> </ul>		
	Check all grippers (if available) for signs of wear.		
	Grease all slidings (if available) when the device is in opened position with a spatula.		
	Grease all grease nipples (if available) with a grease gun.		
Minimum 1x per year (at rough conditions shorten the interval)	Check of all the suspension parts, bolts and straps. Check for corrosion and safety by an expert.		
	1)		

# **AUTOMATIC-RELEASE**



**Never** grease or oil the automatic-release!

Clean with high-pressure cleaner when the automatic-release is dirty.



# 7.2 Trouble shooting

ERROR	CAUSE	REPAIR
The clamping-power is not big enough, the load is slipping out		
(optional)	The grippers are worn	Replace the grippers
(optional)	The maximum load is exceed	Reduce the weight of. the load
(Adjustment of the gripping range) (optional)	The actual opening width is not correct	Adjust the gripping range according to the load you want to transport
(Property of material)	The surface of the material is dirty or the material is not suitable / allowed for this device.	Check the surface of the material or ask the manufacturer, if you the material is allowed for this device.
Unbalanced load		
	The device is not loaded symmetrically	Adjust the position of the load
(Adjustment of the gripping range) (optional)	The adjustment of the gripping range is not symmetrical.	Correct the adjustment of the gripping range
Automatic release does not work		
		Clean automatic release with high pressure-cleaner
mechanical (optional)	Automatic release does not work	Correct faulty switching (→ see chapter "Picture of the automatic release")
		Change the inset of the automatic release

#### 7.3 Repairs



Only persons with the appropriate knowledge and ability are allowed to repair the device. Before the device is used again, it has to be checked by an expert.

# 7.4 Safety procedures

- It is the contractor's responsibility to ensure that the device is checked by an expert in periods of
  max. 1 year and all recognized errors are removed (→ see DGUV regulation 1-54 and DGUV norm 100-500).
- The corresponding legal regulations and the regulations of the declaration of conformity must be observed!
- The expert inspection can also be done by the manufacturer Probst GmbH. Contact us at: <a href="mailto:service@probst-handling.com">service@probst-handling.com</a>
- We recommend affixing the inspection sticker ""Sachkundigenprüfung / Expert inspection" in a clearly visible place (order no.: 2904.0056+Tüv sticker with year number) after the inspection has been done.







#### The check by an expert must be proved!

Device	Year	Date	Expert	Company

#### 7.5 Hints to the type plate



Type, serial-number and production year are very important for the identification of your device. If you need information to spare-parts, warranty or other specific details please refer to this information.

The maximum carrying capacity/working load limit (WLL) is the maximum load which can be handled with the device. **Do not exceed** this carrying capacity/working load limit (WLL).

If you use the device in combination with other lifting equipment (Crane, chain hoist, forklift truck, excavator) consider the deadweight of the device.



#### Example:

# 7.6 Hints to the renting/leasing of PROBST devices



With every renting/leasing of PROBST devices the original operating instructions must be included unconditionally (in deviation of the users country's language, the respective translations of the original operating instructions must be delivered additionally)!

# **Proof of maintenance**

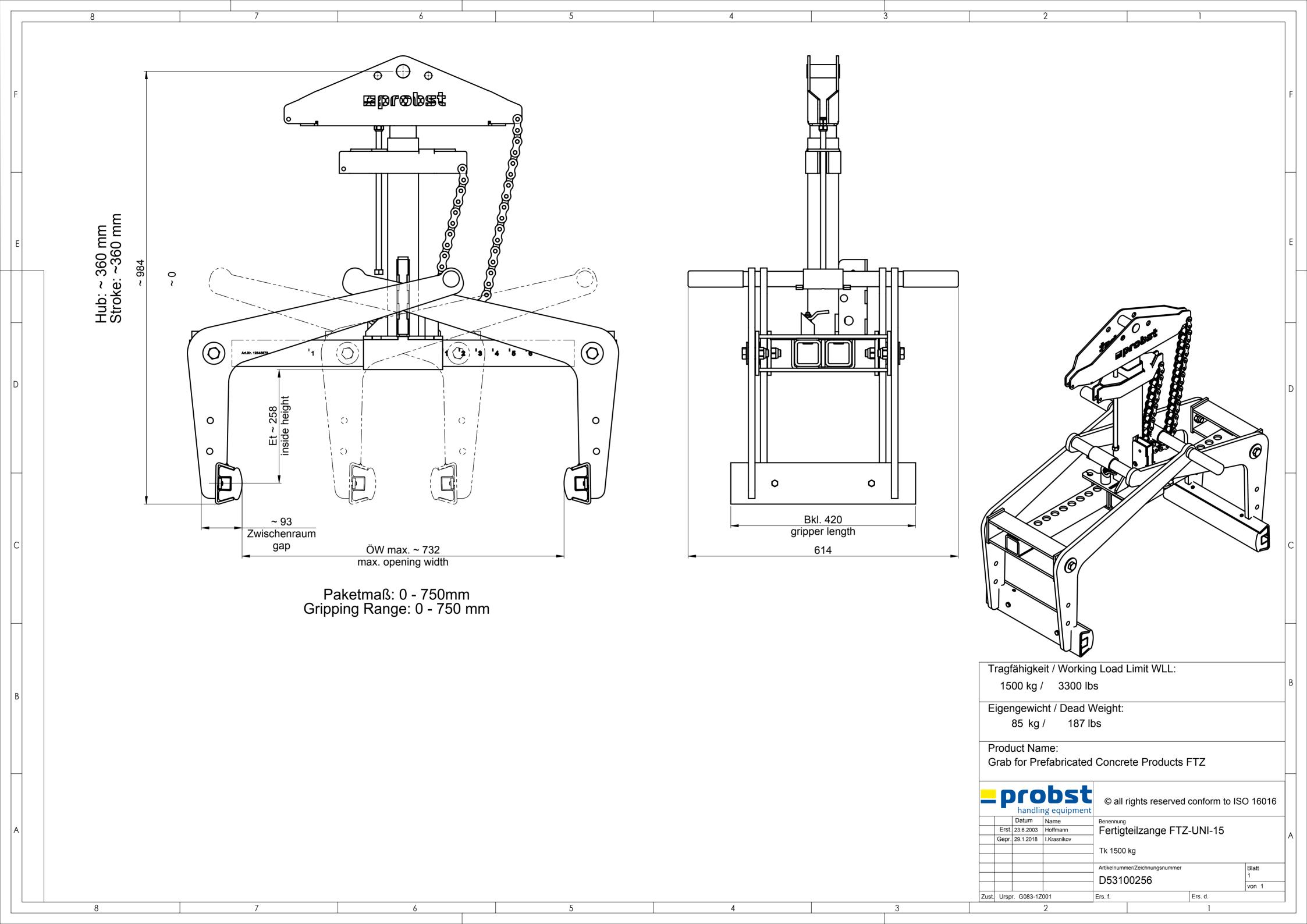


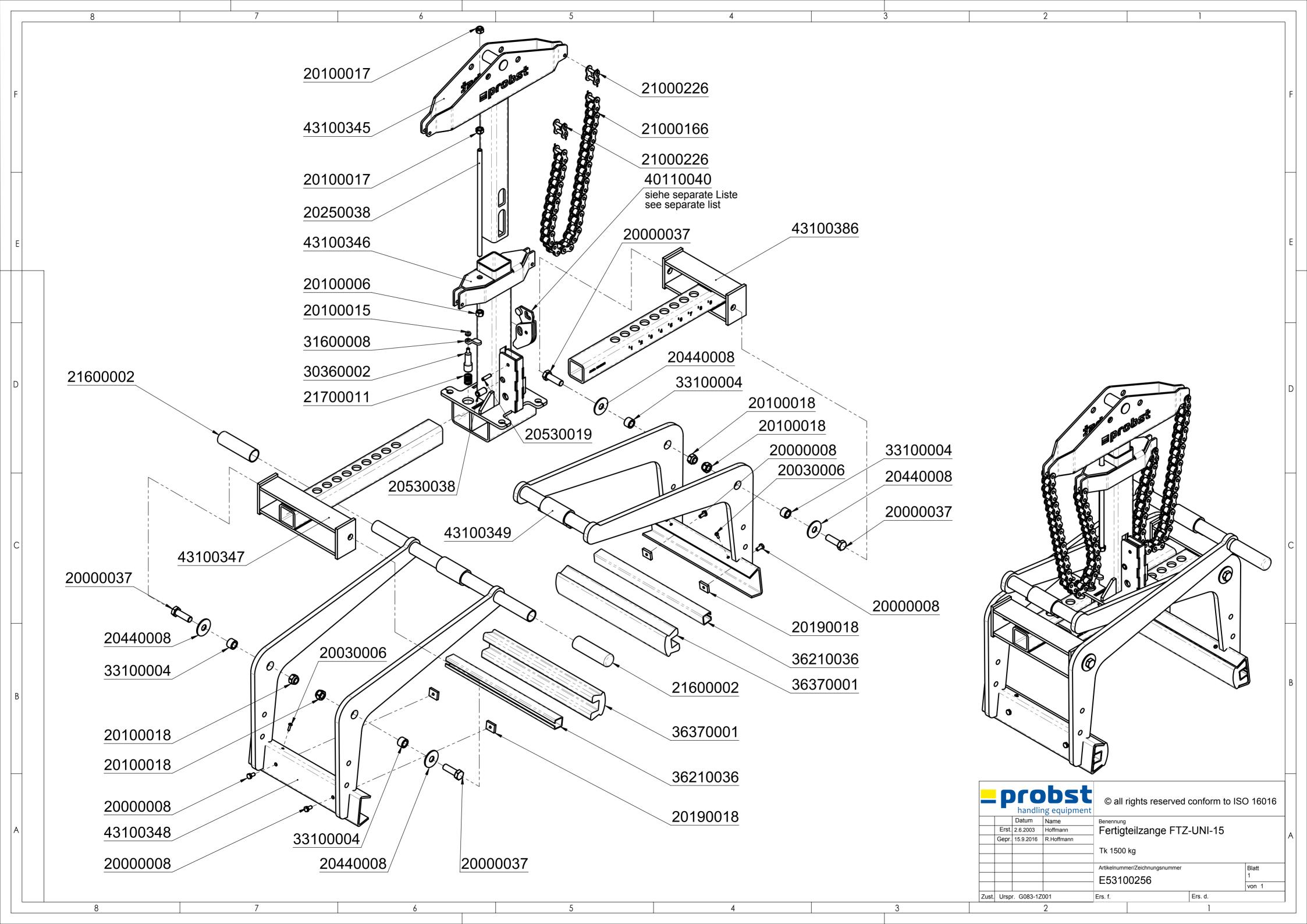
1) via e-mail to service@probst-handling.com / via fax or post

Warranty claim for this machine only apply for performance of the mandatory maintenance works (by an authorised specialist workshop)! After each completed performance of a maintenance interval the included form must be fill out, stamped, signed and send back to us immediately <sup>1)</sup>.

Operator:					
Device type	e:	Article -No.:	»:		
Device-No.:		Year of make: _	2:		
First inspe	ction after 25 operating hours				
Date:	Maintenance work:		Inspection by	company:	
			Company stamp		
			Name	Signature	
All 50 oper	rating hours				
Date:	Maintenance work:		Inspection by	company:	
			Company stamp		
			Name	Signature	
			Company stamp		
			Name	Signature	
			Commany stamon		
			Company stamp		
			N	Circustum.	
			Name	Signature	
	1x per year				
Date:	Maintenance work:		Inspection by	company:	
			Company stamp		
			Name	Signature	
			Companystama		
			Company stamp		

Signature





# A53100256 FTZ-UNI-15





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