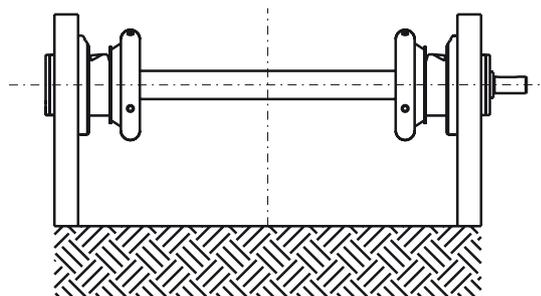
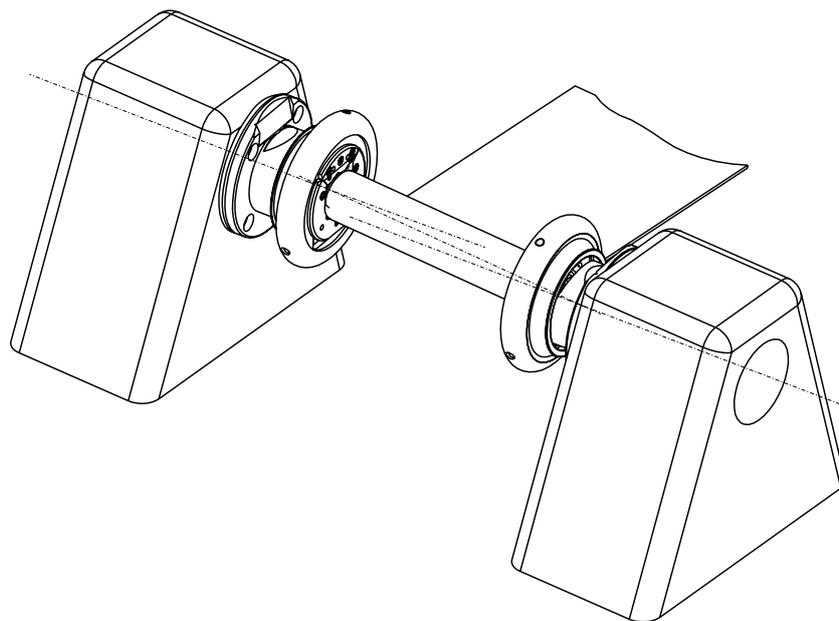
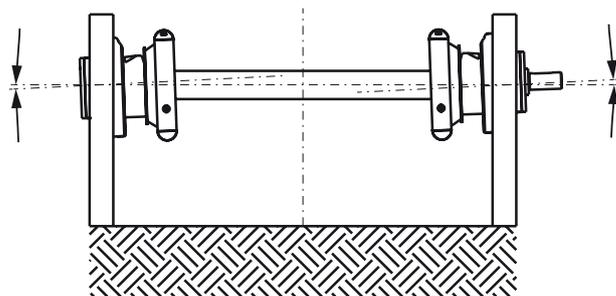


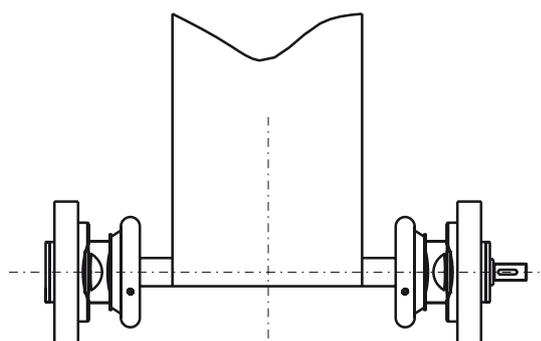
## 5.00 Assembly Instruction



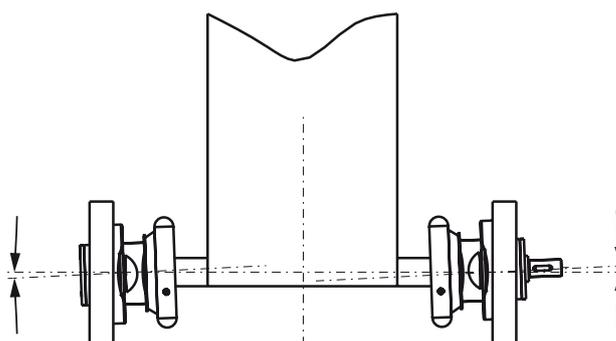
right



wrong



right



wrong

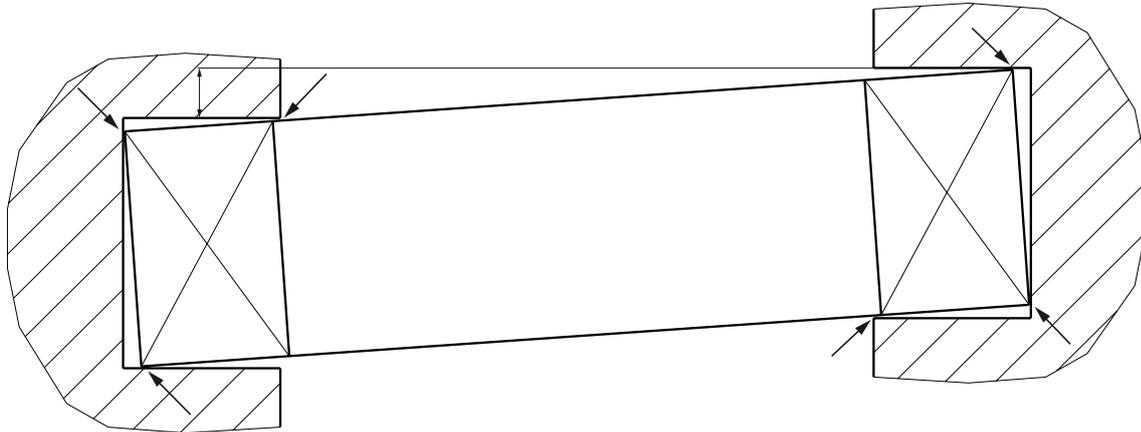
- Boschert Chucks have to be mounted in an alignment
- please make sure that the winding shafts are mounted in the same height and same distance
- No more than  $0.3^\circ$  misalignment.

- please check if the winding shaft is installed correct and in alignment
- there are cases where the winding shaft is installed correct and in alignment, but the Boschert Chucks are mounted incorrectly (no alignment), you have to expect that the square pocket of the Boschert Chuck will wear very fast.

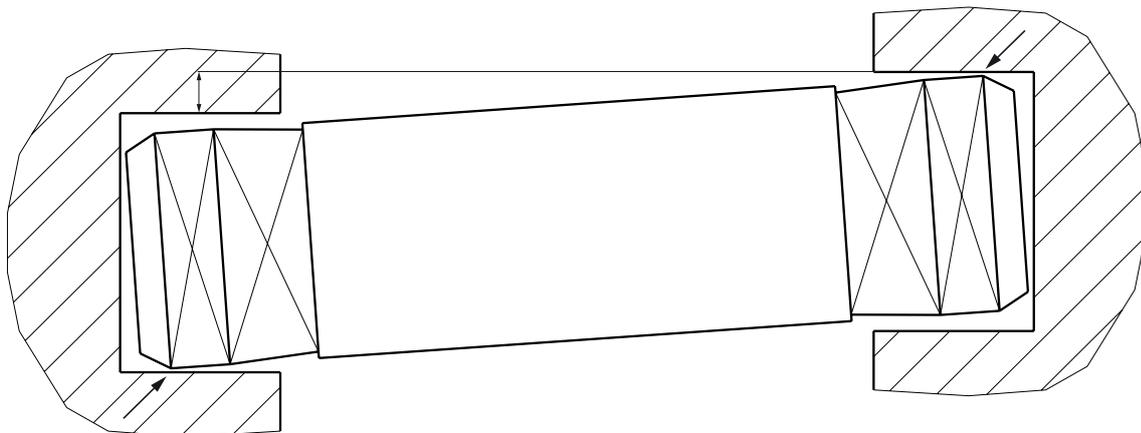
The result are vibrations of the stand or the machine.

Precise alignment of the Chucks protects against increased wear. Any misalignment will affect the life of both the Safety Chucks and the shaft ends.

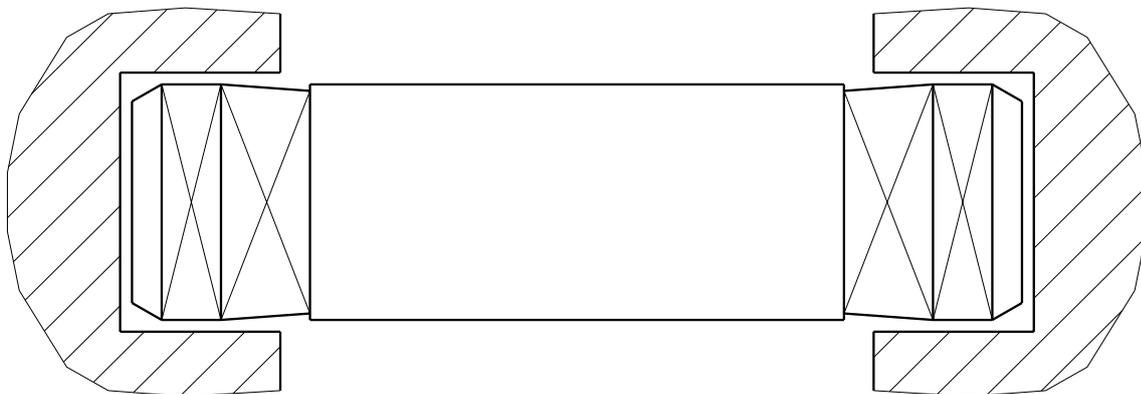
**Boschert cannot provide any warranty if the chucks are not mounted as recommended.**



wrong alignment



wrong alignment



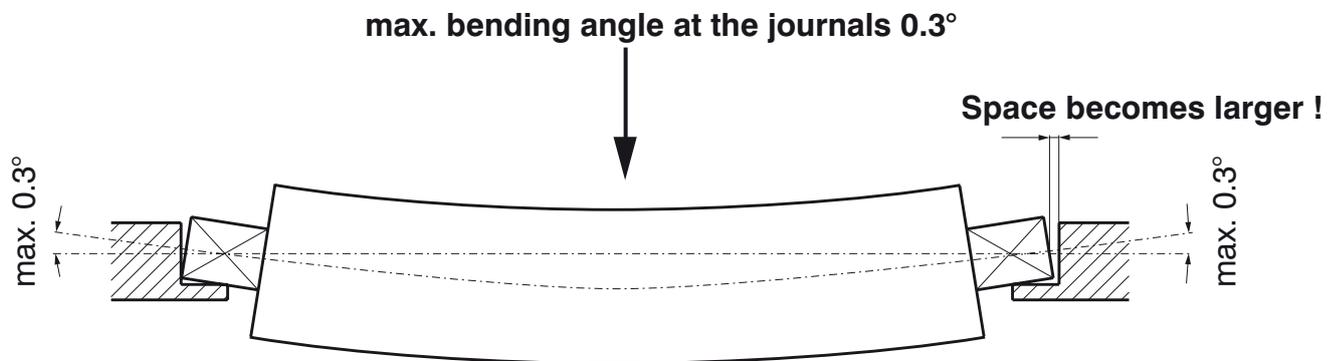
correct alignment

## Advantages of close tolerances - Selection of the winding bar

Here especially measure „x“ see page 11.00.

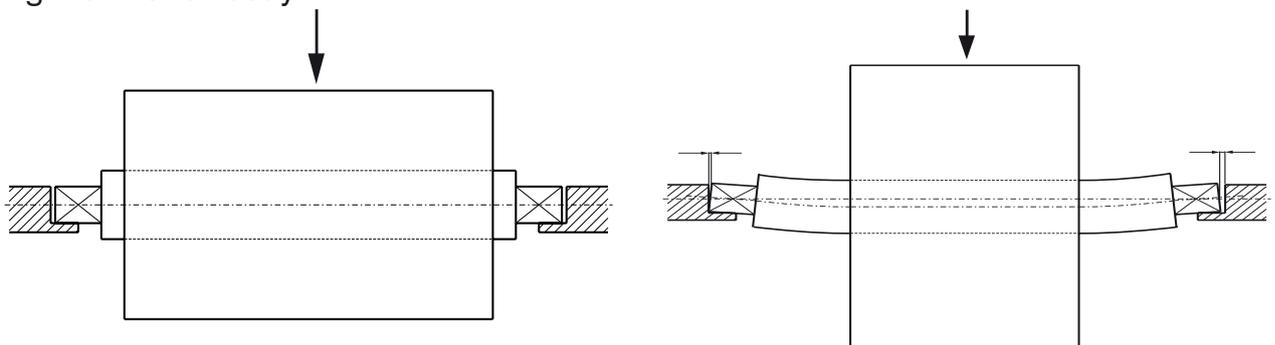
Only slight axial space between safety chuck and winding bar results in troublefree winding. On the other hand, there has to be enough space to put the winding bar in. Since the space differs from application to application, we show the main influences on examples:

### Wrong choice of winding shaft - deflection too big.



### Different roll widths on the same winding shaft

The width of a roll effects the deflection of the roll shaft. A narrow width roll on a long roll shaft is more likely to cause deflection, than a roll which is nearly the same width as the length of the roll body.



**Effect of narrow width roll on roll shaft**

## 1. Manufacturer

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Mattenstrasse 1  
D-79541 Loerrach-Hauingen  
phone-no.: +49 (0) 7621 9593 0  
Fax-no.: +49 (0) 7621 5518 4

## 2. Range of application

Boschert Safety Chucks are used to wind and unwind all different web materials. It is possible to work with Boschert Safety Chucks in temperatures between - 30 degrees and +80 degrees Celsius. For temperatures which are not in this range, you need a special permission from the manufacturer.

### 2.1 General view

Boschert Safety Chucks consist of two assembly groups:

Housing, shaft + handwheel

With help of the tilting handwheel the roll shaft can be inserted very fast.

To guarantee a safe supporting of the winding shaft, the Boschert Safety Chucks are provided with three safety-systems.

- a) The spring-ball in the handwheel hold it closed during operation. It is not a lock.
- b) The housing of the chuck has a slope which prevents the handwheel opening in a wrong position.
- c) A finger-guard which is fixed on the handwheel makes access to the pinch point behind the hand wheel impossible.

### 2.2 Position of operator

During operation of the machine, the operator should stay clear of the winding shaft.

### 2.3 Noises

During operation, the Boschert Safety Chuck does not produce any noises.

### 2.4 Emissions

The Safety Chuck doesn't emit radiation, gas, exhaust or dust.

### 2.5 Electrical device

You don't need any electrical equipment to work with the chuck.

## 3. Transport

For transport a rust protection has to be applied. The chucks have to be protected against mechanical damage.

## 4. Putting into operation

### 4.1 Installation

Please fix the Boschert Safety Chucks with help of the bolt holes provided. Please be sure that the alignment is correct. No more than 0.3° misalignment. It is imperative that the handwheel can be opened in the top position (12 o'clock position).

### 4.2 Foundations

There are no special demands for the foundation.

### 4.3 Space

Please be sure that there is a good accessibility to the handwheel.

### 4.4 It is not allowed to work with the chucks in:

- bad surroundings (corundum abrasive dust)
- acid air
- acid steam
- temperatures less than - 30 degr. / more than 80 degr. Celsius

### 4.5 Safety measure

User has to make sure, that the finger-guard is fixed to the handwheel. The handwheel of the chuck has always to be opened and closed by hand.

## 5. Working with the chuck

### 5.1 Function

The only part to adjust on the Boschert Safety Chuck is the handwheel. Move the handwheel back for changing the winding shaft. The handwheel has to be closed before starting the machine. To change the winding shaft, a lifting device is recommended. While insert the shaft in the square bar please go sure that no bodily parts are between winding material and Safety chuck.

### 5.2 Equipment, modification

After modification and changing the machine, please check the function of the slope of the housing and of the spring and ball detent system.

### 5.3 Risks

A dangerous situation occurs when the material has to be changed, the chuck is not fully opened and the winding shaft is lifted up one sided. The result is a load which can destroy the Boschert Safety Chuck, through the leverage effect.



While closing the Safety Chuck please go sure that there are no bodily parts between winding material and Safety Chuck.

## 6. Servicing

To guarantee a safe work environment, following checks have to be made weekly:



- a) Is finger-guard still fixed on the handwheel
- b) Does the ball-spring-locking device keep the handwheel closed safely
- c) Check if the chamfer still works properly.

To do this, please remove the winding shaft. Turn the closed, but unloaded Safety Chuck 180°, so that the handwheel opening is at the bottom. Try to open the handwheel in this position.

Does the handwheel stop at the housing after 1-2 mm (0,0394" - 0,0787")?

If yes this is perfect.

Does the handwheel move more than 2 mm (0,0787"), the chuck has to be checked frequently, due to wear and tear.

Does the handwheel move more than 5 mm (0,1969"), the chuck has to be put out of operation instantly.

- d) Check centering seat of hinge pin
- e) Check seat of the fastening screws

By appearance of failures during above checkups, the Safety Chuck instantly has to be put out of operation and has to be repaired.

## 7. Disassembling

If it is necessary to disassemble the chuck, please note that each shaft and the corresponding handwheel are a set - and are signed with identically engraved numbers. Please take care to assemble the parts with the similar engraved numbers. A mix-up of the parts will cause an incorrect movement and stress the chucks

## 8. Spare parts

Please use only original spare parts. Boschert uses harmonized materials in proofed quality. Don't economize on quality.

## Info wearing-parts



The demand for higher speed and bigger torque led to the development of the VT-insert. All safety chucks from size 22-30 up to 80-120 can be delivered from BOSCHERT with VT-inserts (wearing-parts). Chucks size from 120-180 up to 170-230 are provided with wear plates.

### Important features of the VT-Chucks are:

- changing of VT wearing parts can be carried out in just a few minutes without removing the safety chuck from the machine. This is helpful by reducing down time.
- easy change to other square sizes by replacing the VT wearing parts in the same chuck (except 50-80 VT6).
- VT-parts can be supplied hardened by customers request or in soft condition, to protect the more expensive winding shafts.
- low stock-keeping costs of the VT-parts.
- possibility from one geometry to another (SQ. to VT6 or VT7).

The user of custom shaft ends should consider chucks with VT inserts. This will ensure a fast delivery of spare parts.

The VT-wearing parts are available from stock in most standard sizes, while, the delivery-time for shafts, especially with special shaft end, has to be arranged.

We recommend to put one or more sets of VT-wearing parts on stock to be used in case of an emergency.

Please consider that C-Chucks subsequently cannot be fitted with VT-inserts. However it is possible to convert C-Chucks to VT-Chucks by changing the shafts and handwheels.

### Note at VT2 and VT7 Chucks:

max. weight = 0.8 x catalogue value  
max. torque = 0.7 x catalogue value

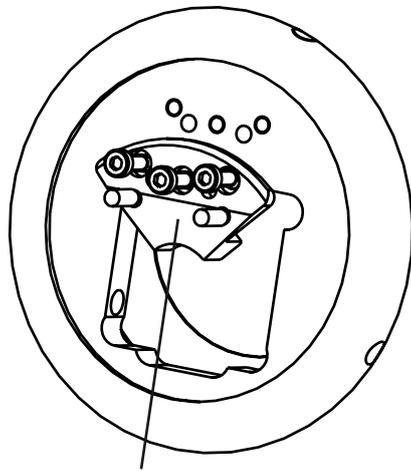
# Maintenance inspection suggestions

For maintenance and repair of Boschert Safety Chucks please check the following items:

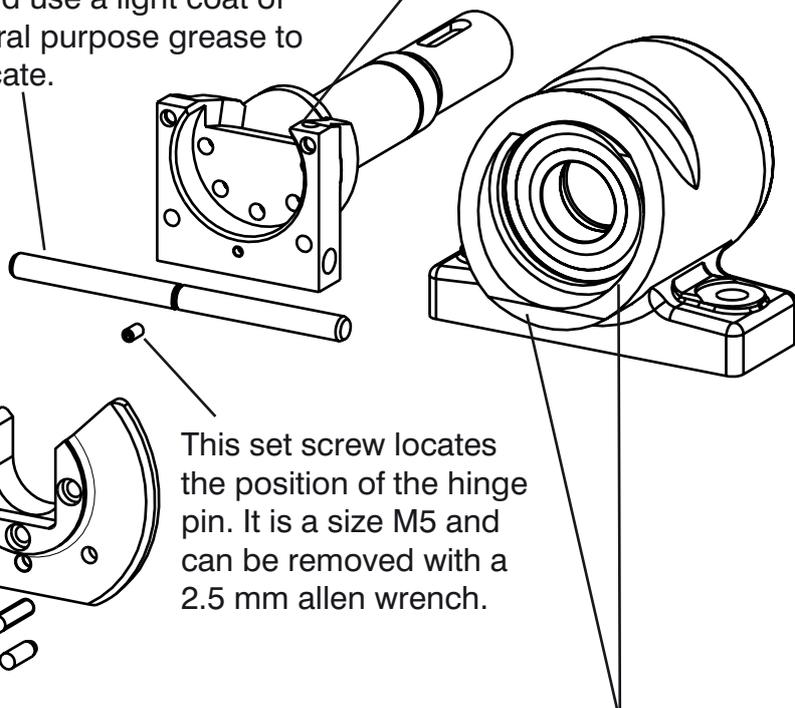


Fingerguard is securely fixed to the handwheel and not worn

Check to see that the detent in the shoulder of the seat opening is concentric, not deformed or elongated



After inspection, or when replacing the hinge pin, you should use a light coat of general purpose grease to lubricate.



Replacable insert are matched and have the same identification number stamped on the backside of the top piece and the bottom piece.

This set screw locates the position of the hinge pin. It is a size M5 and can be removed with a 2.5 mm allen wrench.

Use new screws and pins when installing a new replaceable insert.

The bottom of the housing is located 1-1.5 mm behind the hand wheel. Check to see that the housing is not worn at this location.

**Manual Safety Chucks have to be closed by hand !**

Top- and bottom part of the VT-inserts are identically marked. Please take care of this when changing the VT-inserts.

Boschert Safety Chucks are a safe technical equipment and are manufactured with accuracy and precision.

Boschert Safety Chucks can be in service for years if they are handled with care and if they are maintained continuously.

Boschert Safety Chucks are safety-proofed by the institution for statutory accident insurance and prevention in the printing and paper processing industry.

Incorrect use can release a high risk of accident.

Does the handwheel tumble during operation? This is a clear sign that the handwheel tries to open in the lower position.

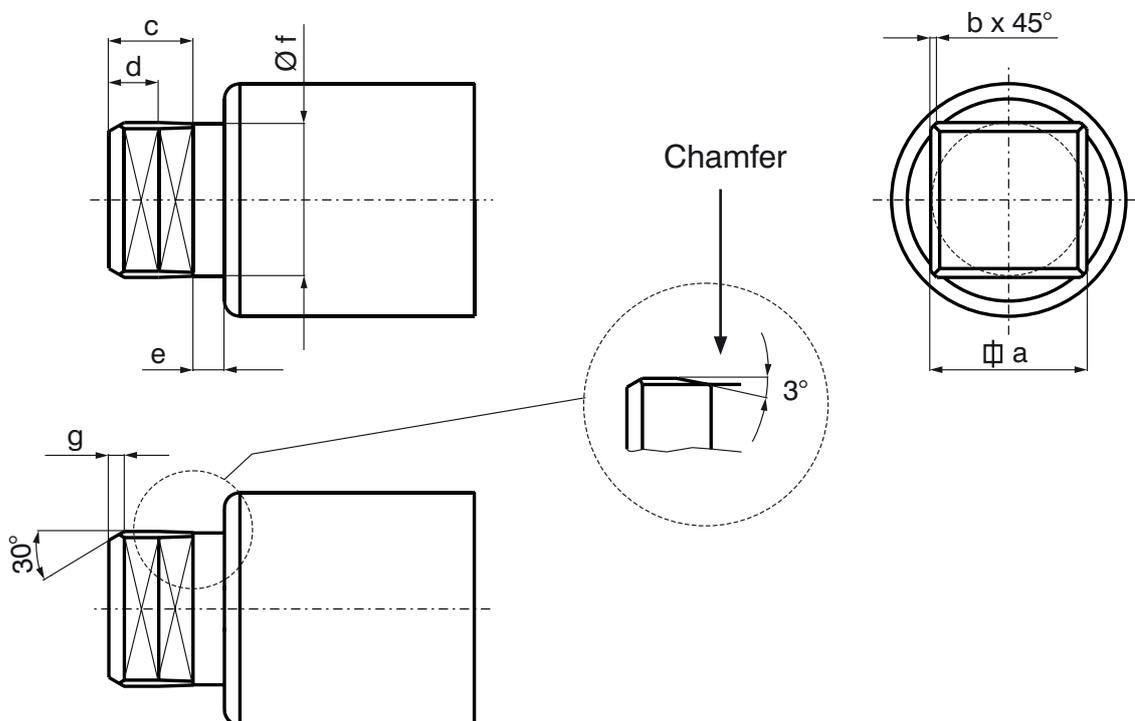
This will cause that the chamfer to be damaged and the winding beam will fall out of the Safety Chuck.

The Safety Chuck has instantly to be changed.

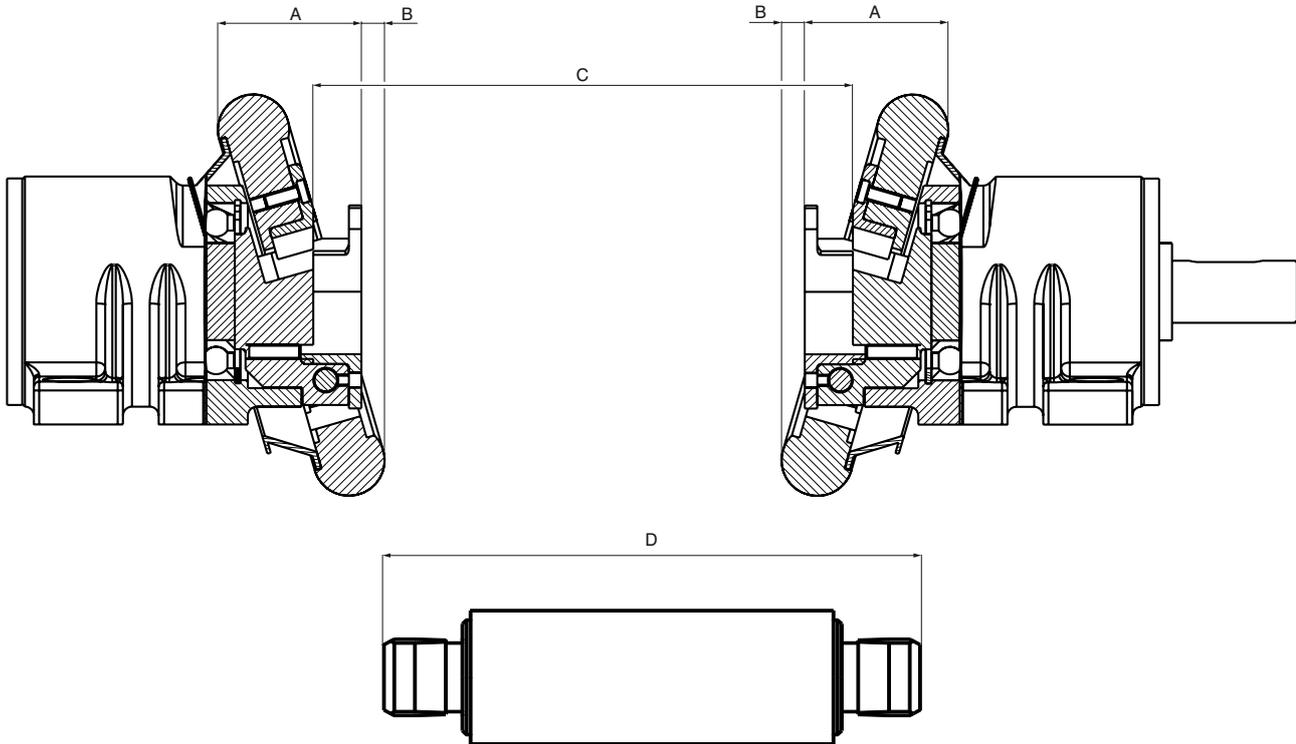
That which causes the handwheel to open has to be analyzed and eliminated.

### Possible source of fault

1. The journal was not made per our specification. There is no chamfer on the journal.



## 2. Axial wear on the winding shaft is too big (max. 1 mm).



	A	B	$x=(C-D)$	$y=(C-D)$
<b>Mini</b>	38	8	0.5	1
<b>19-25</b>	54	9	0.5	1
<b>22-30</b>	61	8	0.5	1
<b>30-40</b>	73	13	0.5	1
<b>40-50</b>	81	13	0.5	1
<b>50-80</b>	106	16	0.5	1
<b>80-120</b>	145	18	0.5	1
<b>120-180</b>	175	24	1	2
<b>170-230</b>	230	18	1	2

$x$  = min. clearance  
 $y$  = max. clearance

### What to do when the axial wear is too big:

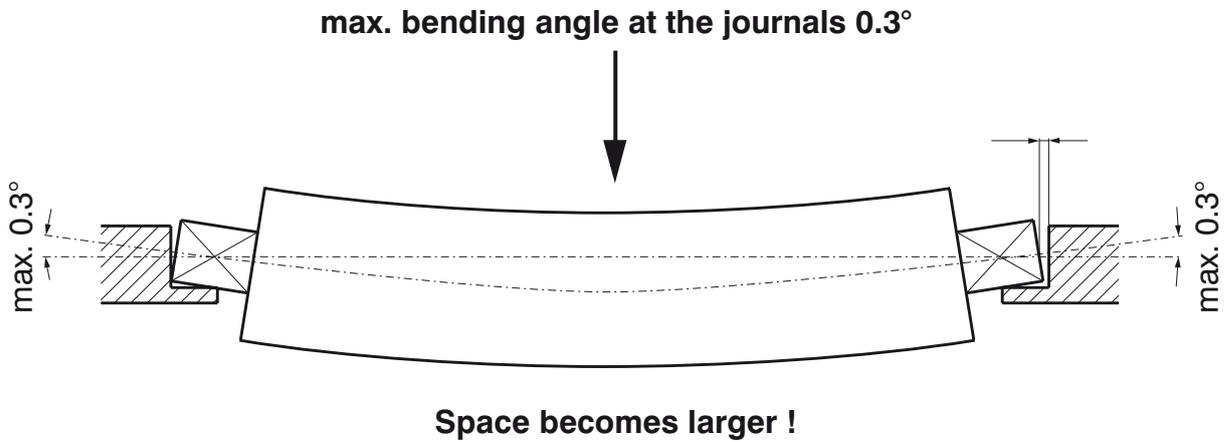
#### On flange chucks:

Place spacer washers between fixing flange and machine frame.

#### On foot mounted chucks:

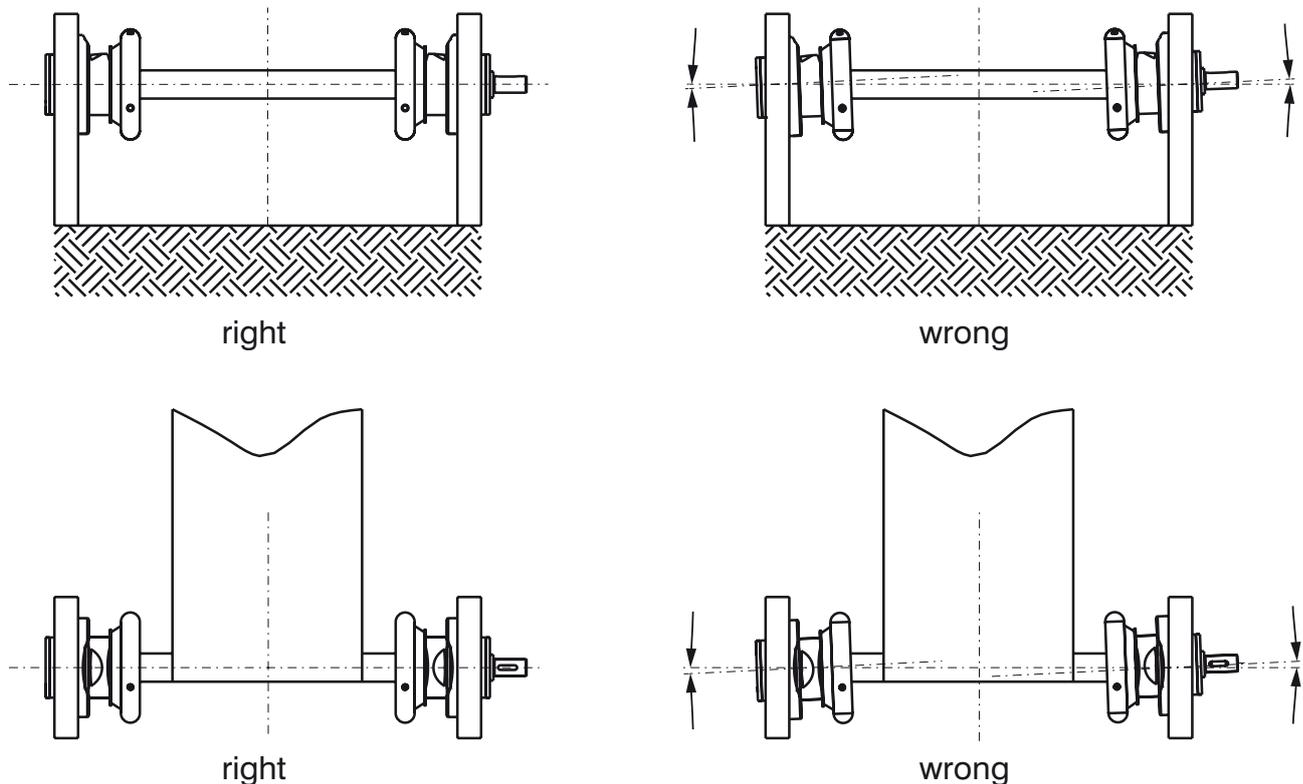
Loosen the fixing screws and modify the clearance of the chucks.

### 3. Deflection of the winding shaft is bigger than specified ( max. 0.3°).



### 4. Weight and torque are bigger than the max. value.

### 5. Wrong alignment



Reasons are an incorrect assembly or a weak machine frame.

We are always available to help with the analysis of errors.

Error description	Possible faults
It is difficult to open and close the hand wheel	<ul style="list-style-type: none"> <li>- The journal was not made to specification as shown on catalogue page 2.10</li> <li>- The journal tolerance is incorrect</li> <li>- There is no chamfer on the ends of the roll shaft</li> <li>- Bent hinge pin</li> <li>- The Safety Chucks are not in alignment</li> <li>- The roll shaft is deflecting and bending up in the seat of the Safety Chuck. The seats of the Safety Chucks have been rounded by wear and the roll shaft journals are cocked in the seats causing binding.</li> </ul>
Unloaded roll shaft is difficult to rotate when in the Safety Chucks	<ul style="list-style-type: none"> <li>- The journal tolerance is incorrect</li> <li>- The Safety Chucks are not in alignment</li> <li>- The roll shaft journals are out of alignment with each other</li> </ul>
The roll shaft is difficult to install or remove from the Safety Chucks. The roll shaft is stuck in the seat of the Safety Chucks	<ul style="list-style-type: none"> <li>- The journal tolerance is incorrect</li> <li>- The Safety Chucks are not in alignment</li> <li>- Not enough tolerance between the overall length of the roll shaft and the distance between the Safety Chuck</li> <li>- The seats of the Safety Chucks have been rounded by wear and the roll shaft journals are cocked in the seats causing binding</li> </ul>
The journal is worn. The seat of the Safety Chuck is worn.	<ul style="list-style-type: none"> <li>- Excessive weight and/or excessive torque</li> <li>- Limitations to VT2 insert not complied with</li> <li>- Overload of the chuck</li> <li>- The hardness of the journal and the hardness of the seat of the Safety Chuck are not compatible</li> <li>- The Safety Chucks are not in alignment</li> </ul>

# Trouble shooting

Error description	Possible faults
Noisy operation	<ul style="list-style-type: none"> <li>- The mounting surfaces for the Safety Chucks are not level or are misaligned</li> <li>- The roll shaft journal is falling inside the seat of the Safety Chuck</li> <li>- There is tramp material caught between the hand wheel and the housing</li> </ul>
Empty Safety Chucks are difficult to rotate by hand	<ul style="list-style-type: none"> <li>- The ball bearings are worn out</li> <li>- A drive or brake is engaged on Safety Chucks</li> <li>- The hinge pin is bent inside the hand wheel (see page 5.04 item 5.3)</li> </ul>
<p>The handwheel opens during operation. There is black powder around the housing. There is a groove in the back side of the handwheel. The bottom of housing, at the front side, has been worn away</p> <p><b>Warning:</b> This is a dangerous situation. The roll shaft can now fall out.</p>	<ul style="list-style-type: none"> <li>- no undercut of the journal</li> <li>- axial wear too big</li> <li>- deflection of the winding shaft too big</li> <li>- too much weight or torque</li> <li>- wrong alignment</li> <li>- weight or torque reduction has not been considered at VT2</li> </ul>

