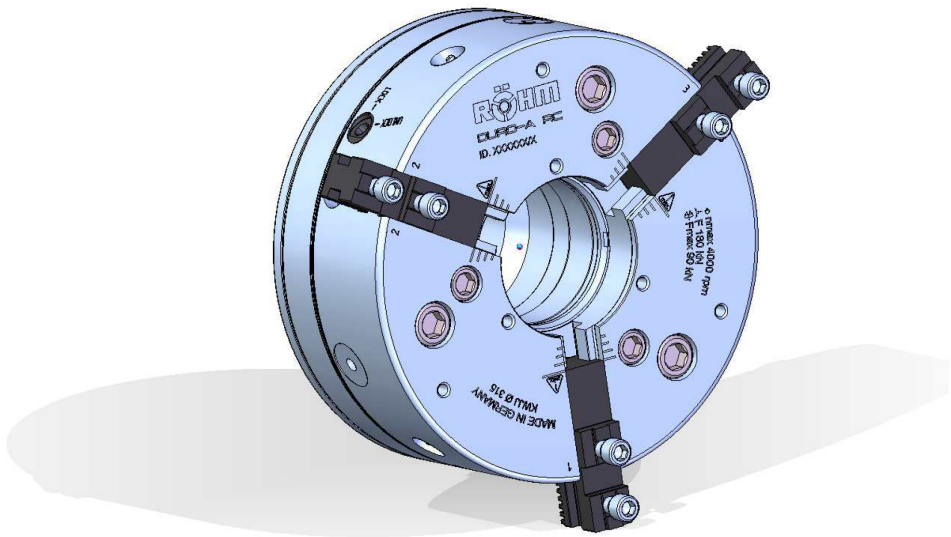


EN

## Translation of the Original Operating Manual Power chuck with quick-action jaw replacement DURO-A RC



Store for reference

Version 1.1 • 07.12.2021



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# 1 About this Operating Manual

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This Operating manual describes in detail the use, installation, assembly and maintenance of the power chuck DURO-A RC. The efficiency of the power chuck depends primarily on correct use and careful maintenance. This Operating manual serves as the leading document and is provided on delivery of the product. The personnel must have carefully read and understood the Operating manual before beginning any work. Observance of all safety instructions and instructions for use in this Operating manual is the basic prerequisite for safe work with the power chuck. In addition to the regulations listed here, the local and user-related operating instructions and the professional accident prevention regulations are to be observed.

## 1.1 Manufacturer Details

---

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## 1.2 Copyright

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This Operating manual is protected by copyright and is intended for internal purposes only.

The forwarding of the Operating manual to third parties, reproduction by any means – even in part – as well as use and/or communication of the content without the permission of RÖHM are prohibited (except for internal purposes).

Infringements will lead to claims for compensation. We reserve the right to assert further claims.

## 1.3 Conventions of Presentation

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### 1.3.1 Text Display

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To improve legibility and comprehension of the text, the following conventions were agreed:

Text type	Marking	Function
Operating instruction	1. 2., etc.	Marks a sequence of actions
	•	Marks an individual operating instruction
	➤	Marks an intermediate result of an operating instruction
	✓	End result of an operating instruction
List	▪	Marks elements of a list
	○	Marks comments within a list









Contains useful information or further information.

### 1.3.2 Display of Safety and Warning Instructions

Safety and warning instructions are marked by pictograms. The signal word and the colouring show the level of danger.

Observe the safety instructions to prevent personal injury and damage to property.

 <b>DANGER</b>	
	<p><b>Indicates an imminently dangerous situation</b> which may lead to death or permanent personal injury if not avoided.</p> <ul style="list-style-type: none"> <li>➤ List of all measures which must be taken to prevent consequences.</li> </ul>
 <b>WARNING</b>	
	<p><b>Indicates a possible danger</b> which may lead to permanent personal injury or death if not avoided.</p> <ul style="list-style-type: none"> <li>➤ List of all measures which must be taken to prevent consequences.</li> </ul>
 <b>CAUTION</b>	
	<p><b>Indicates a possible danger</b> which may lead to minor reversible injuries if not prevented.</p> <ul style="list-style-type: none"> <li>➤ List of all measures which must be taken to prevent consequences.</li> </ul>
<b>NOTICE</b>	
	<p><b>Indicates a possible danger</b> which may lead to damage to property if not avoided.</p> <ul style="list-style-type: none"> <li>➤ List of all measures which must be taken to prevent consequences.</li> </ul>

## **2 Safety**

---

Safety instructions and safety equipment serve to prevent accidents and damage when working on the power chuck. The safety information contains warnings and basic safety instructions. In addition to the safety instructions in this chapter, the following chapters contain action-related warnings. Maximum protection of personnel and the environment from dangers and trouble-free operation is only possible when all safety instructions and warnings in this operating manual are observed.



## 2.1 Intended Use

---

The power chuck DURO-A RC is used to clamp regularly and irregularly shaped workpieces. Only metal workpieces may be clamped into the power chuck DURO-A RC. Other materials are only permissible by prior arrangement with RÖHM.

To ensure safe clamping of the workpiece with the machining forces occurring, the clamped material must have adequate rigidity for the clamping force and may only be slightly compressible. The clamping force is given in the clamping force diagram (**Clamping Force-Speed Diagram [▶ 27]**).

Depending on the construction size of the power chuck DURO-A RC, the maximum permissible actuating force and speed must be observed (**Overview of Construction Sizes [▶ 22]**).

The power chuck DURO-A RC may be installed in machine tools for cutting and non-cutting processes. The power chuck DURO-A RC may be installed and used both horizontally and vertically. Stationary machining without rotation of the power chuck DURO-A RC is permitted. Locking and unlocking is only permitted with the original safety key of RÖHM.

The DURO-A RC is a power chuck with individually adjustable jaws. Only original RÖHM base jaws and original RÖHM one-piece jaws may be used. Third-party products may impair the safety of the power chuck DURO-A RC and lead to damage.

The jaws used must comply with the following specifications:

- The jaws must be designed as light as possible;
- The clamping point of the jaws must lie as close as possible to the power chuck.
- The jaws must be adapted to the size (equal or smaller), the weight (equal or lighter) and the rigidity (equal or higher) of the jaws assigned to the power chuck. If the jaws are heavier, larger or less rigid than the jaws assigned to the power chuck, the higher centrifugal force and the higher load of the power chuck must be taken into account. The necessary clamping force and maximum speed must be reduced.

The maximum permissible clamping diameter of the jaws and the limits of the jaws must be observed.

The power chuck DURO-A RC can be used for both wet and dry machining. The permissible usage and environmental conditions must be observed (**Environmental and Operational Conditions [▶ 26]**).

The power chuck DURO-A RC is only intended for commercial use.

## 2.2 Improper Use

---

If the power chuck is operated for a purpose other than the intended use as specified in this Operating manual, this is deemed to be improper use.

Any utilisation beyond the scope of the “intended use” poses risks and is not approved by RÖHM.

Improper use refers to the following:

- Use of the power chuck DURO-A RC for suspending loads;
- Use of non-OEM parts as replacement parts;
- Use of a non-OEM safety key;
- Use of defective jaws (e.g. sprockets on base jaw broken off or cracks in the jaws);
- Use of welded jaws;
- Use of the power chuck DURO-A RC in explosive atmospheres;
- Operation with the safety key inserted;
- Operation with unlocked jaws;
- Operation with modifications not approved by the manufacturer.
- Operation outside of the defined operating parameters;
- Operation with insufficient maintenance.
- Operation without safety equipment;
- Clamping of unsuitable materials (compressible materials);
- Clamping of unauthorised materials (plastics, rubber, glass, ceramic materials or other non-metals) without the approval of RÖHM;
- Clamping of regular workpieces with an asymmetric position of the jaws;
- Clamping of workpieces with the safety key inserted;
- Clamping of workpieces which are too long or too heavy (see document "RÖHM Standard RN 1391 – General Information and Guidelines for the Use of Power-Operated Clamping Devices", **Basic Principles [▶ 44]**).
- Eccentric clamping of workpieces (**Dangers due to Imbalanced Workpieces [▶ 16]**);
- Manipulation of the safety key (e.g. removal of the safety spring).



## 2.3 Obligations of the operator

### 2.3.1 General

Before all work on and with the power chuck, the operator is to ensure:

- that the operating instructions are available to the responsible personnel.
- that the responsible personnel are sufficiently qualified for their work.
  - This applies in particular to assembly, maintenance and repair.
- that the responsible personnel have read and understood the operating instructions.
  - RÖHM recommends that this be documented in a suitable form.
- that the power chuck is in perfect working order.
- that any damaged and defective parts are replaced immediately.

### 2.3.2 Rotation

 <b>DANGER</b>	
	<p><b>Danger to life by being caught on or pulled into the rotating power chuck</b></p> <p>➤ Before operating the power chuck, carry out a risk assessment/hazard assessment and implement measures derived from this for risk minimisation.</p>

- The power chuck must not be operated until a risk assessment of the entire machine with the power chuck has been carried out by the manufacturer of the machine and the use of the power chuck has been approved.

In accordance with the standard sheet VDMA 34192 (section 4.1.1), the following must be considered in particular:

- the clamping force, actuating pressure/force and/or clamping distance sufficient to maintain safe clamping of the workpiece/tool,
- devices for monitoring the clamping conditions, as well as
- protection against interference in hazardous areas of rotating clamping devices and moving clamping elements.

### 2.3.3 Installation/replacement/conversion/change

---

The product described in this Operating manual is defined as an incomplete machine in accordance with the Machinery Directive 2006-42-EC and the harmonised type C standard DIN EN 1550 (ISO 16156).

If this used, defective or serviced product is to be replaced with the same new product, no further tests are required.

If not, there may be a significant modification which is to be examined.

Any modifications to a machine, whether used or new, which may impair the protection of the legal rights or assets, e.g. by performance increases, functional changes, changes in the intended use (as by changing auxiliary, operating and input materials, conversions or changes to safety technology), must first be examined in view of their safety-relevant effects. This means that in each individual case it must be determined whether new hazards have arisen due to the modification of the (used) machine or whether an existing risk has increased. Here you can differentiate between three cases here:

- a) There is no new hazard or an increase in an existing risk so that the machine can still be regarded as safe.
- b) Although there is a new hazard or an increase in an existing risk, the existing protective measures of the machine before the modification are still sufficient so that the machine can still be regarded as safe.
- c) A new hazard or an increase in an existing risk exists and the existing protective measures are not sufficient or suitable.

Modified machines according to case 1 or 2 do not require additional protective measures. Modified machines according to case 3 must, on the other hand, be further examined by means of a risk assessment with regard to the question of whether a major modification has been made.

Here, it is to be determined whether it is possible to return the modified machine to a safe condition with simple safety devices, checking whether the simple safety device eliminates the risk or at least minimises it to a sufficient extent. If this is the case, the modification can generally be regarded as not essential.

The replacement of components of the machine by identical components or components with identical function and identical safety level as well as the installation of protective devices which lead to an increase in the safety level of the machine and which do not enable any additional functions, are not regarded as significant modifications.

**NOTICE:**

However, irrespective of this, other regulations incumbent upon the employer who makes the machine available to its employees as work equipment may result in the obligation to define additional protective measures. In principle, a risk assessment must be carried out after all modifications to

machinery – not only after significant modifications. This is one of the operational health and safety obligations of the user of a machine or system as work equipment. Based on the risk assessment, measures, in particular technical measures, may be necessary in order to provide the employees with safe work equipment. It must be checked whether an adaptation of the information for the safe operation of the machines, such as operating instructions, is necessary.

## **2.4 Qualification of Operating and Specialist Personnel**

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### **Definition of “skilled worker”**

A person is designated as a skilled worker when they can assess the work assigned to them and identify possible dangers based on their specialist training, knowledge and experience. They also have knowledge of the relevant provisions. This refers only to trained specialist personnel or such personnel that the operator has found to be capable.

### **Definition of “trained/instructed person”**

A trained/instructed person is someone who has been taught about, and if necessary trained in, the tasks assigned to them and about the possible dangers of improper conduct. They have also been taught about the necessary safety equipment and protective measures. Personnel to be taught, trained, instructed or personnel undergoing general training may only work under the constant supervision of an experienced person.

## 2.5 Personal Protective Equipment and Personnel Qualification

---

When working on and with power chuck DURO-A RC, personal protective equipment must be worn. The owner is responsible for providing personal protective equipment.

- Personal protective equipment must be in perfect condition when carrying out work. Defective safety equipment is to be replaced immediately.
- Observe information on personal protective equipment posted in the working area.
- During **rotational operation** of the power chuck DURO-A RC, **no** protective gloves are to be worn! Hand protection is only to be worn during transport, assembly and maintenance and as long as the power chuck DURO-A RC is at a standstill.



Wear protective gloves



Wear safety goggles



Wear safety shoes



Wear protective clothing

Work on and with the power chuck may only be carried out by qualified operating and specialist personnel (see Qualification of Operating and Specialist Personnel).

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## 2.6 General Dangers

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When using the device there is a special potential of residual risks

- during assembly and set-up work,
- during operation and
- during maintenance and service work.

This potential risk cannot be completely eliminated considering the functional availability of the operating manual. Therefore, all individual regulations of this Operating manual are to be observed.

---

### 2.6.1 Dangers due to Flying Parts

---

During operation, the connection between the clamped workpiece and the power chuck DURO-A RC may become loose due to mechanical failure (e.g. due to defective parts) or incorrect operation (e.g. excessive speed). The workpiece may then fly out and cause serious crushing and impact injuries.

To prevent cutting and crushing injuries, ensure perfect functioning of the power chuck DURO-A RC before each operation. Also ensure that unauthorised persons cannot rotate the power chuck DURO-A RC unintentionally.

- **The maximum permissible speed is only permitted at maximum clamping force.**
- The power chuck only reaches the maximum specified clamping force total when the maximum actuation force is applied.
- The clamping force must be checked **regularly**.
- Operation is only permitted with an effective safety guard.

The maximum torque which can be transmitted by the power chuck to the workpiece depends on the technical design of the top jaws.

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### 2.6.2 Skin Irritation due to Operating Materials

---

The lubricant consists of substances which may lead to skin irritations in the event of frequent skin contact.

In order to minimise the risk of skin irritations, wear long work clothing and avoid contact with the lubricant. Also observe the safety data sheet of the lubricant and wear safety goggles and protective gloves during maintenance work when handling lubricants.

---

### 2.6.3 Eye Injuries due to Metal Chips

---

Dangerous metal chips may be produced during machining of metal. During operation or when cleaning the power chuck DURO-A RC, sharp metal chips may be stirred up and cause eye injuries and cuts.

To prevent eye injuries and cuts, wear personal protective equipment during operation and cleaning work. Cleaning with compressed air or a high-pressure cleaner is not permitted.

#### **2.6.4 Risk of Burns due to Hot Surfaces**

---

The power chuck DURO-A RC may heat up during operation.

To prevent burns, do not touch the power chuck DURO-A RC after machining and allow to cool down before carrying out assembly and maintenance work.

#### **2.6.5 Dangers due to Imbalanced Workpieces**

---

With rotating spindles, clamping of imbalanced workpieces generates a centrifugal force which affects smooth running of the power chuck DURO-A RC. The power chuck DURO-A RC has a balance quality of G 6.3 as per DIN ISO 21940. Additional risks may arise due to insufficient rotational balance. This applies in particular in the case of

- high speeds;
- when clamping asymmetrical workpieces;
- when using different top jaws or
- all asymmetries of the power chuck DURO-A RC.

Imbalanced workpieces endanger the personnel, the power chuck DURO-A RC and the machine.

In order to compensate for unwanted imbalances and to prevent resulting damage, the symmetrical mass distribution must be restored and the power chuck DURO-A RC must be dynamically balanced with the workpiece.



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### 2.6.6 Dangers due to Power Failure

An unexpected power failure during operation may lead to immediate failure of the clamping force of the power chuck. The workpiece may then fly out and cause serious crushing and impact injuries.

To prevent workpieces flying out, ensure perfect functioning of the power supply before each operation. In addition, the operator and the machine manufacturer must ensure by means of effective safety equipment that the actuating and clamping forces are maintained without interruption until the machine comes to a standstill and the workpiece remains tightly clamped.

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### 2.6.7 Danger of Crushing

The machine manufacturer and/or operator must ensure that all danger to persons due to unavoidable travel movements is excluded. For this purpose, 2-handed operation, for example, or preferably suitable safety guards can be used.

If there is a gap of **less than 25 mm** after the distance is travelled, there is generally a risk of crushing extremities. For this reason,

- the speed of movement of components moving towards each other must generally be reduced to no more than 2 m/min (specification as per DIN EN ISO 23125). This also applies to **commissioning work, set-up mode** and **service work**.
- or the workpiece loading in normal mode must be carried out either mechanically or with a ramrod in the case of clamping equipment with clamping movements.
- or the object to be clamped must be fixed with a permanently or temporarily attached workpiece holder (e.g. prism) before the movement is started.
- or, for example, in the case of cylinders and comparable moving components, the gap must be covered by a safety guard so as to be inaccessible.

## **2.6.8 Procedure in the Event of Danger and Accidents**

---

In the event of danger and accidents, it must be ensured that first aid measures can be taken immediately.

1. Shut the machine down immediately via the Emergency-Stop button.
2. Remove the person involved from the danger zone and sit or lay the person down.
3. Call a doctor.
  - Do not make any changes to the accident site.
4. Administer first aid.
  - Stop any bleeding.
  - Cool burns.
5. Report all accidents to a superior.

## **2.6.9 Risk of ejection, detachment and falling of components of the power chuck**

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### **Description of the hazard:**

In case of failure of components of the power chuck or non-compliance with specifications of the power chuck (e.g. incorrect assembly, excessive speed, excessive processing force, incorrect actuating force, insufficient maintenance, wear, exceeding the service life), parts of the power chuck can be ejected.

### **Avoiding the hazard:**

- All information in the operating manual, assembly drawing and other applicable documents on the power chuck must be observed.
- Carry out a risk assessment for the machine with the integrated power chuck and implement the derived safety measures.

## **2.7 Miscellaneous**

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### **2.7.1 Eyebolts for transporting the power chuck**

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#### **NOTICE:**

For lifting and transport of the power chuck, eyebolts in compliance with DIN 580 or similar load-bearing attachments must be used.

### **2.7.2 Modification of the power chuck**

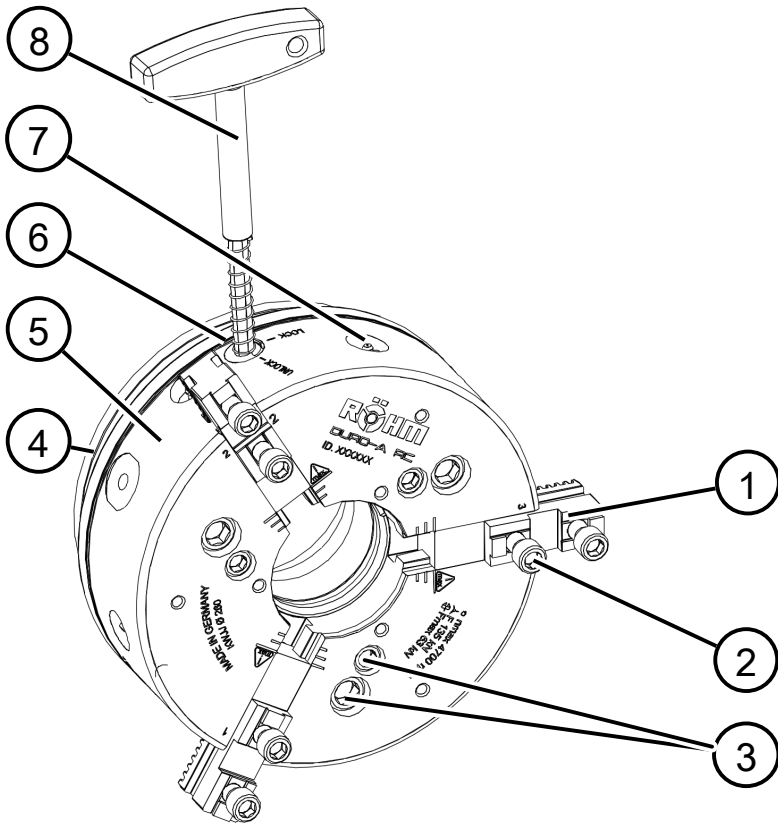
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#### **NOTICE:**

The power chuck may only be modified after written approval by RÖHM.

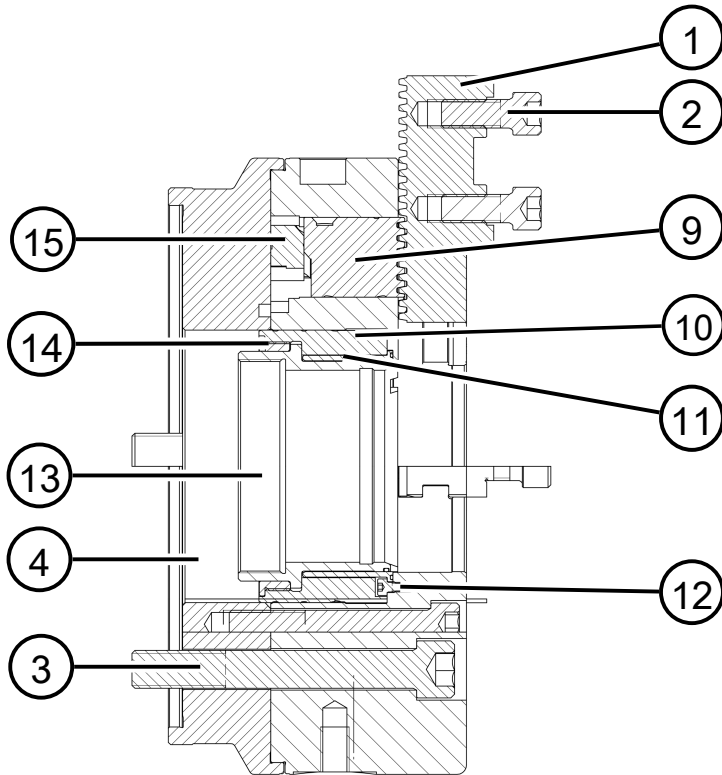
### 3 Product Description

#### 3.1 About this Power Chuck



1	Base jaw	5	Basic body
2	Jaw fixing screw	6	Turning bolt
3	Chuck fixing screw	7	Lubricating nipple
4	Flange	8	Safety key

### Cross-section



1	Base jaw	3	Chuck fixing screw
2	Jaw fixing screw	4	Flange
9	Wedge bar	13	Threaded ring
10	Piston	14	Stop disk
11	Protective bushing	15	Pusher
12	Bushing holding screws		

The DURO-A RC is a power chuck with 3 adjustable jaws (1), which is used to clamp regularly and irregularly shaped workpieces.

It is only possible to assemble and disassemble the jaws (1) when the wedge bar (9) is unlocked. The wedge bar (9) is locked and unlocked via the safety key (8) included in the delivery. The jaws (1) are inserted individually and can be locked and unlocked independently of each other.

The power chuck is attached to the machine spindle via a cylindrical holder on the machine spindle. In the case of conical holders, an intermediate disk is required, unless a chuck from series KK holders is used. The actuating force is generated via a clamping cylinder (electric, hydraulic or pneumatic).

The power chuck consists of a basic body, piston (10), wedge bars (9), driver, pusher (15), stop disk (14), flange (4), pressure spring, threaded ring (13), bolt and conical lubricating nipple (7).

The piston is connected to the draw tube of the clamping cylinder via a threaded ring (13). The piston is connected via an angled bar and a groove with three wedge bars (9). Due to the axial movement of the piston, the wedge bars (9) are moved and the attached jaws (1) carry out a radial stroke.

## 3.2 Technical Specifications

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### 3.2.1 Overview of Construction Sizes

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With centring edge

ID no.:	185025	185026	185029	185032
Size/outer Ø	180	180	215	260
Jaw stroke	6.8	6.8	7	8
Chuck height	93.9	93.9	103.4	119.7
Connection dimension	ZA 140	ZA 170	ZA 170	ZA 170
Piston stroke	23	23	27	32
Pass	53	53	66	81
Connection thread	M60x1.5	M60x1.5	M75x1.5	M90x1.5
Max. actuating force	32	32	47	63
Max. total clamping force	64	64	100	135
Max. speed	6300	6300	6000	4700
Moment of inertia [kg*m <sup>2</sup> ]	0.063	0.07	0.148	0.35
Weight without jaws	14.2	15.2	22.8	37.4

ID no.:	185033	185036	185037	185040	185041
Size/outer Ø	260	315	315	400	400
Jaw stroke	8	8	8	9.3	9.3
Chuck height	119.7	127.7	127.7	136.2	136.2
Connection dimension	ZA 220	ZA220	ZA 300	ZA 300	ZA 380
Piston stroke	32	32	32	34	34
Pass	81	104	104	128	128
Connection thread	M90x1.5	M110x2	M110x2	M138x2	M138x2
Max. actuating force	63	90	90	120	120
Max. total clamping force	135	180	180	240	240
Max. speed	4700	4000	4000	3500	3500
Moment of inertia [kg*m <sup>2</sup> ]	0.36	0.85	0.92	2.37	2.5
Weight without jaws	38.1	61.2	63.3	106	110

With short taper

ID no.:	185027	185028	185030	185031	185034
Size/outer Ø	180	180	215	215	260
Jaw stroke	6.8	6.8	7	7	8
Chuck height	111.7	112.7	124.3	126.3	141
Connection dimension	KK 5	KK 6	KK 6	KK8	KK 6
Piston stroke	23	23	27	27	32
Pass	53	53	66	66	81
Connection thread	M60x1.5	M60x1.5	M75x1.5	M75x1.5	M90x1.5
Max. actuating force	32	32	47	47	63
Max. total clamping force	64	64	100	100	135
Max. speed	6300	6300	6000	6000	4700
Moment of inertia [kg*m <sup>2</sup> ]	0.071	0.083	0.165	0.183	0.37
Weight without jaws	15.9	17.5	25.9	27.7	41



ID no.:	185035	185038	185039	185042	185043
Size/outer Ø	260	315	315	400	400
Jaw stroke	8	8	8	9.3	9.3
Chuck height	143	153.7	155.7	159.7	160.7
Connection dimension	KK 8	KK 8	KK 11	KK 11	KK 15
Piston stroke	32	32	32	34	34
Pass	81	104	104	128	128
Connection thread	M90x1.5	M110x2	M110x2	M138x2	M138x2
Max. actuating force	63	90	90	120	120
Max. total clamping force	135	180	180	240	240
Max. speed	4700	4000	4000	3500	3500
Moment of inertia [kg*m <sup>2</sup> ]	0.36	0.94	0.94	2.23	2.23
Weight without jaws	40.5	69.3	66	117	116

### 3.2.2 Environmental and Operational Conditions

---

The power chuck is designed for the following environmental and operating conditions:

Ambient medium	Air, non-corrosive/non-aggressive fluids and gases
Place of use	Interior
Vibration speeds	< 5 mm/s as per DIN ISO 10816-3
Relative humidity (at +40 °C)	< 100 % Use in very humid conditions leads to faster corrosion and may shorten the useful life
Potentially explosive environments	No
Ambient temperature at the place of operation	+5 °C to +60 °C
Ambient temperature for storage	+5 °C to +60 °C
Dry and wet machining	Wet machining permitted with cooling lubricants permitted

Pollution of the machine's surroundings caused by the machine itself is permitted. However, perfect operation of the power chuck must be ensured and checked regularly. With each jaw and tool change, the power chuck must be cleaned of coarse dirt with a broom or brush. Cleaning with compressed air is not permitted.

### 3.2.3 Permissible Operating Materials

---

The following grease is authorised for the power chuck DURO-A RC:

- RÖHM grease F 80

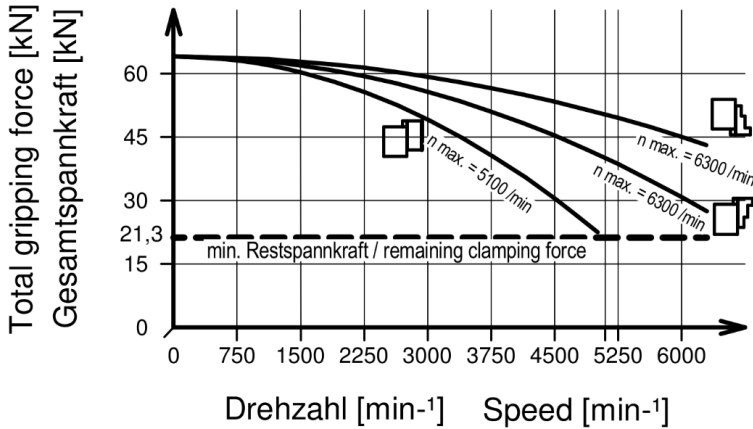



If a different lubricant to the one specified is used, the clamping force may be reduced considerably.


### 3.2.4 Clamping Force-Speed Diagram


The reduction in clamping force is experimentally determined with the jaw assigned to the power chuck. It is largely independent of the initial clamping force at a speed = 0.

#### Total clamping force kN – speed rpm DURO-A RC 180

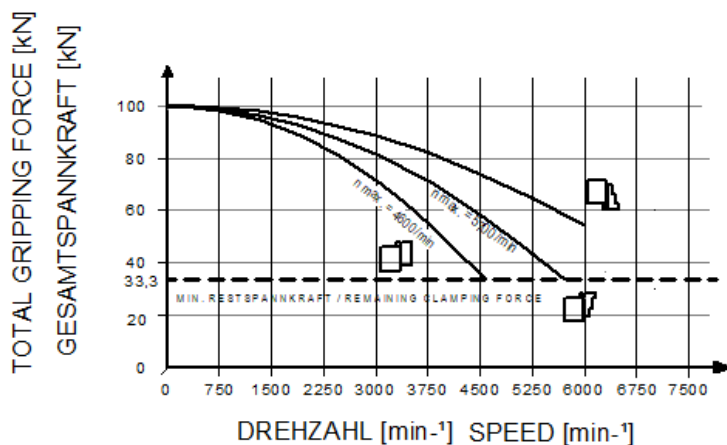



 Blockbacke / soft top jaw Id. 94008  
 $m = 0,62 \text{ kg}$ ;  $s = 0,082 \text{ m}$


 Umkehrbacke / rev. top jaw Id. 94012  
 $m = 0,4 \text{ kg}$ ;  $s = 0,070 \text{ m}$


 Umkehrbacke / rev. top jaw Id. 94012  
 $m = 0,4 \text{ kg}$ ;  $s = 0,040 \text{ m}$

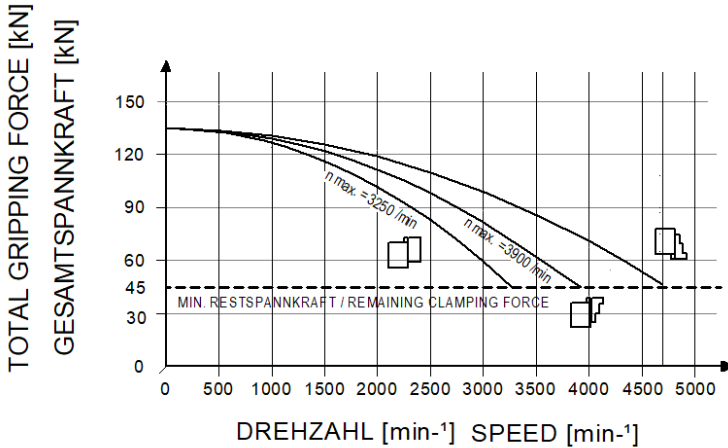
### Total clamping force kN – speed rpm DURO-A RC 215



 BLOCKBACKE / SOFT TOP JAW ID.94009  
m = 0,605 kg; s = 0,102 m

 UMKEHRBACKE / REV. TOP JAW ID. 94013  
m = 0,292 kg; s = 0,098 m

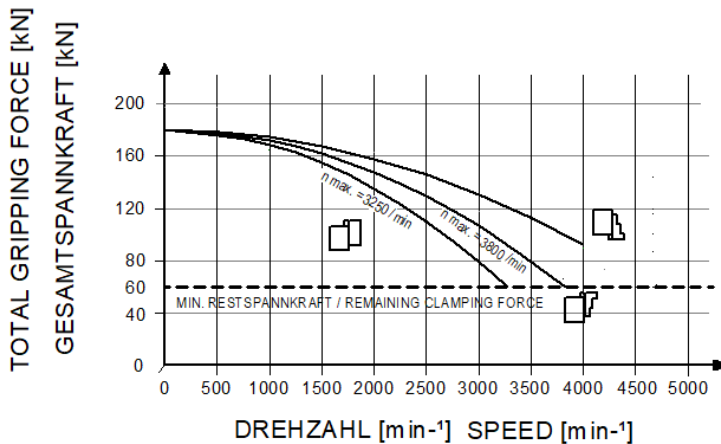
 UMKEHRBACKE / REV. TOP JAW ID. 94013  
m = 0,292 kg; s = 0,060 m

**Total clamping force kN – speed rpm DURO-A RC 260**


BLOCKBACKE / SOFT TOP JAW ID.94010  
 m = 1,210 kg; s = 0,137 m

UMKEHRBACKE / REV. TOP JAW ID. 94014  
 m = 0,779 kg; s = 0,124 m

UMKEHRBACKE / REV.TOP JAW ID. 94014  
 m = 0,779 kg; s = 0,085 m

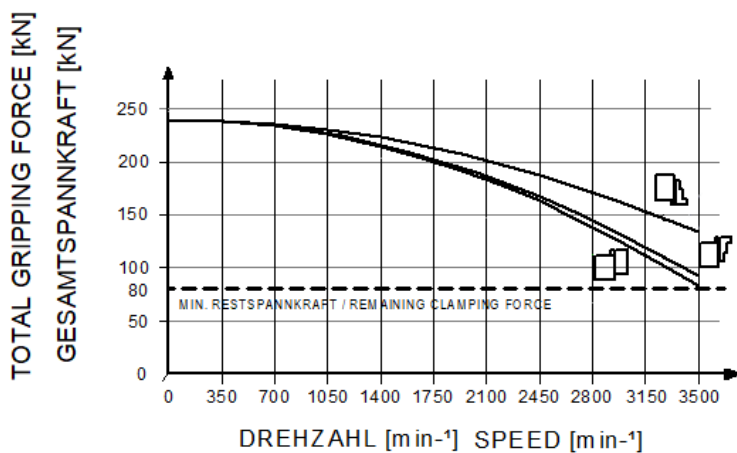
**Total clamping force kN – speed rpm DURO-A RC 315**



BLOCKBACKE / SOFT TOP JAW ID. 94010  
 m = 1,210 kg; s = 0,160 m


UMKEHRBACKE / REV. TOP JAW ID. 94014  
 m = 0,779 kg; s = 0,146 m


UMKEHRBACKE / REV.TOP JAW ID. 94014  
 m = 0,779 kg; s = 0,098 m

**Total clamping force kN – speed rpm DURO-A RC 400**




 BLOCKBACKE / SOFT TOP JAW ID. 94011  
 m = 1,700 kg; s = 0,186 m


 UMKEHRBACKE / REV. TOP JAW ID. 94015  
 m = 1,100 kg; s = 0,175 m


 UMKEHRBACKE / REV. TOP JAW ID. 94015  
 m = 1,100 kg; s = 0,125 m

## 4 Transport

<b>WARNING</b>	
	<p><b>Crushing injuries in the event of unsecured transport of the power chuck.</b></p> <p>Falling of the power chuck.</p> <ul style="list-style-type: none"> <li>➤ Use suitable hoisting gear and slings.</li> <li>➤ Wear personal protective equipment.</li> <li>➤ Do not remain under suspended loads.</li> </ul>

### 4.1 Personal Protective Equipment and Personnel Qualification

When working on and with power chuck DURO-A RC, personal protective equipment must be worn. The owner is responsible for providing personal protective equipment.

- Personal protective equipment must be in perfect condition when carrying out work. Defective safety equipment is to be replaced immediately.
- Observe information on personal protective equipment posted in the working area.
- During **rotational operation** of the power chuck DURO-A RC, **no** protective gloves are to be worn! Hand protection is only to be worn during transport, assembly and maintenance and as long as the power chuck DURO-A RC is at a standstill.



Wear protective gloves



Wear safety goggles



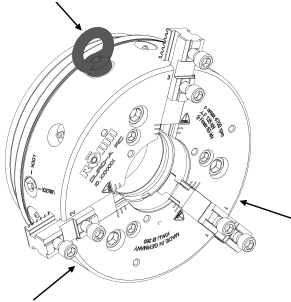
Wear safety shoes



Wear protective clothing

Work on and with the power chuck may only be carried out by qualified operating and specialist personnel (see Qualification of Operating and Specialist Personnel).

## 4.2 Tapped Holes for Transport Purposes



Size of chuck	Size of tapped holes for transport purposes
180	M6
215	M8
260, 315, 400	M12



## 5 Assembly

### ⚠ WARNING



**Injuries due to insufficient securing on assembly, incorrect tightening torque of the screws.**

Crushing due to falling of the power chuck.

- Use tapped holes for transport purposes.
- Observe tightening torque of the screws.
- Wear personal protective equipment.

### ⚠ WARNING



**Crushing injuries and cuts due to start-up of the machine during set-up work.**

Flying parts may cause serious injuries.

- Disconnect the power supply before assembly.
- Protect the machine against being re-started.
- Wear personal protective equipment.

### 5.1 Personal Protective Equipment and Personnel Qualification

When working on and with power chuck DURO-A RC, personal protective equipment must be worn. The owner is responsible for providing personal protective equipment.

- Personal protective equipment must be in perfect condition when carrying out work. Defective safety equipment is to be replaced immediately.
- Observe information on personal protective equipment posted in the working area.
- During **rotational operation** of the power chuck DURO-A RC, **no** protective gloves are to be worn! Hand protection is only to be worn during transport, assembly and maintenance and as long as the power chuck DURO-A RC is at a standstill.



Wear protective gloves



Wear safety goggles



Wear safety shoes



Wear protective clothing

Work on and with the power chuck may only be carried out by qualified operating and specialist personnel (see Qualification of Operating and Specialist Personnel).

## 5.2 Assembly on Intermediate Disk

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Assembly of an intermediate disk is only necessary with conical holders.

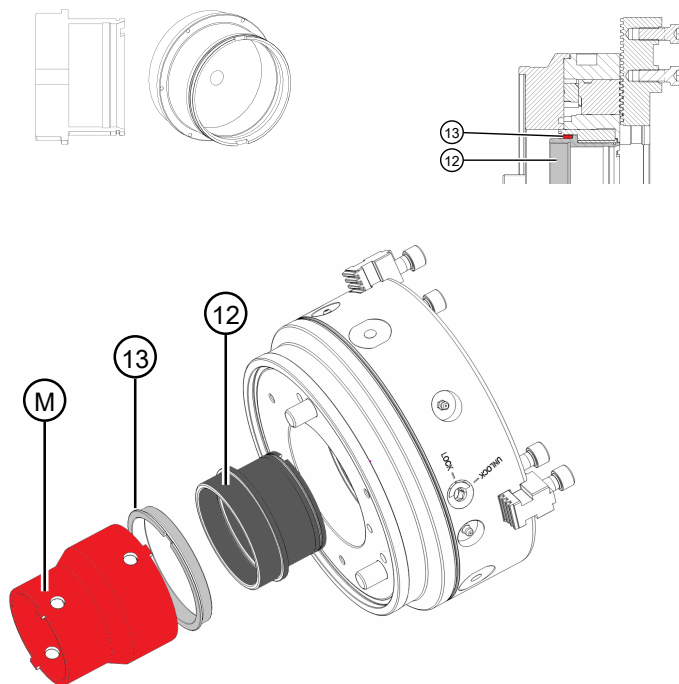
- Intermediate disk cleaned.
  - power chuck cleaned.
1. Mount the power chuck on the intermediate disk in the correct position.
  2. Fix the intermediate disk to the power chuck with the fixing screws.
  3. Check radial and axial run-out of the power chuck on the check collar and align if necessary.
  4. Check the jaw stroke with the capacitive proximity switch and re-adjust if necessary.
  5. Check the device for correct operation.
  6. Tighten the fixing screws with the correct tightening torque (**Checking the Tightness of Screw Connections [▶ 63]**).
- ✓ The intermediate disk is assembled.

### 5.3 Disassembly / assembly threaded ring / adapter

Generally, a special threaded ring/adapter will be necessary for most machine tools to connect the available draw connection.

Variations of the threaded rings/adapters:

a) With collar

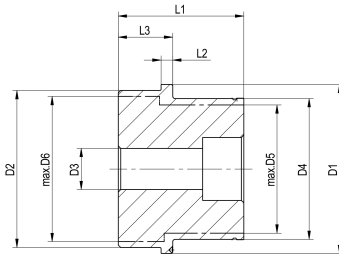


1. Unscrew the stop disk (13) from the piston (4) with the mounting wrench provided (M).
2. Take out the threaded ring (12).
3. Insert the special threaded ring/adapter with collar for the corresponding draw connection (machine) into the piston.
4. Screw in the stop disk (13) (glued in with **Loctite 222**, see assembly drawing) using the mounting wrench (M).
5. Carry out assembly as described in Chapter **Assembly on Machine Spindle** [▶ 38].



It must be possible to turn the threaded ring/adapter.

For this purpose, RÖHM offers neutral threaded rings:

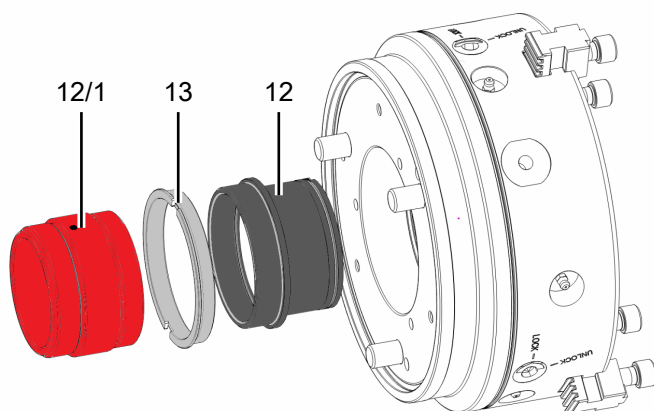
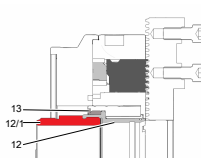
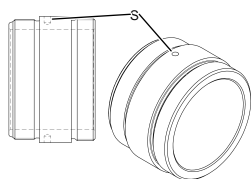


Designation	Size	180	215	260	315	400
ID no.		185044	185045	185046	185047	185048
D1		69.9	85.9	102.9	127.5	161.9
D2		64.9	80.9	96.9	119.9	149.9
D3		17.0	17.0	21.0	25.0	25.0
D4		58.5	72	89	112	136
D5 max		53	67	81	104	128
D6 max		60	75	90	110	138
L1		51.9	59.2	64.0	69.5	71.5
L2		4.8	4.6	4.7	5.5	8.0
L3		22.5	25.6	23.5	28.5	28.5
Max. thread size x depth		M60 x 19	M75 x 19	M90 x 20	M110 x 25	M138 x 25



The operator or manufacturer is fully responsible for the design of the threaded ring. RÖHM assigns this responsibility to the operator or manufacturer of the threaded ring.

b) With thread:



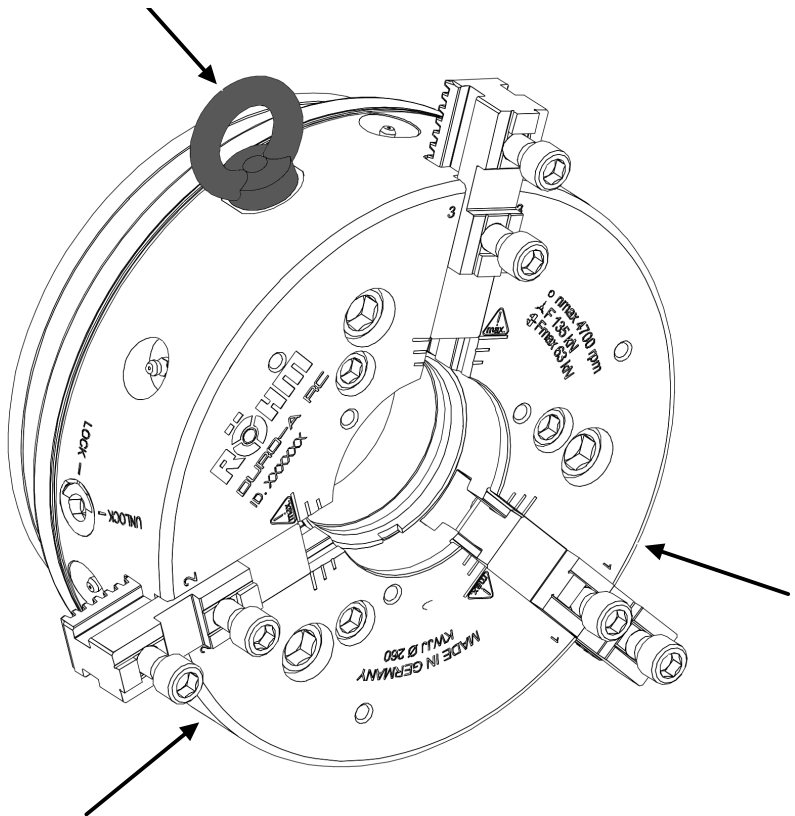
1. Insert the special threaded ring/adapter with thread (12/1) for the corresponding draw connection (machine) into the threaded ring (12) and tighten.
  - A groove, flat or borehole is usually fitted on the circumference (S) to hold it.
2. Carry out assembly as described in Chapter **Assembly on Machine Spindle** [▶ 38].

Alternatively:

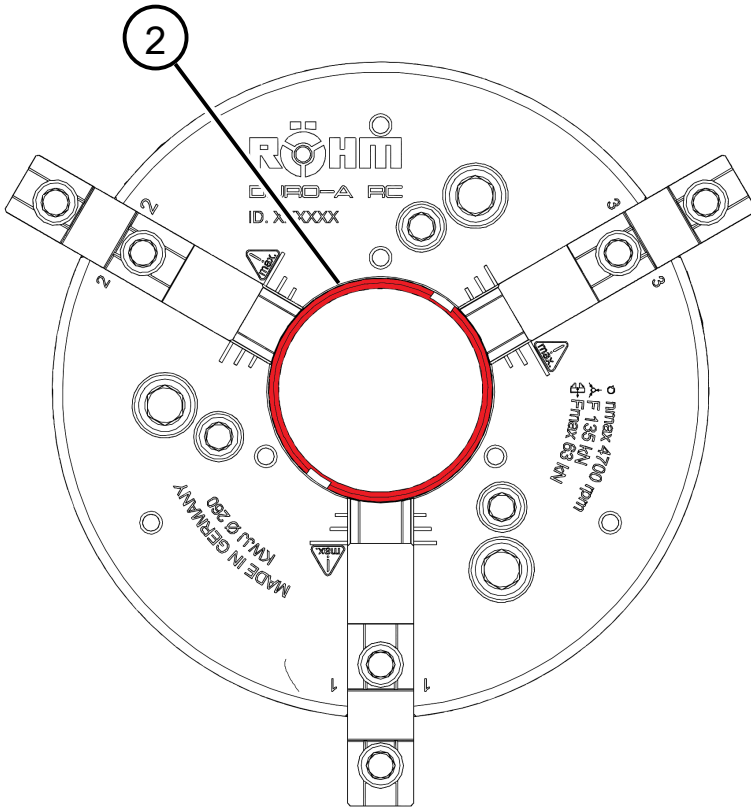
1. Previously mount the special threaded ring/adapter with thread (12/1) for the corresponding draw connection (machine) onto the draw tube.
2. Carry out assembly as described in Chapter **Assembly on Machine Spindle** [▶ 38].

## 5.4 Assembly on Machine Spindle

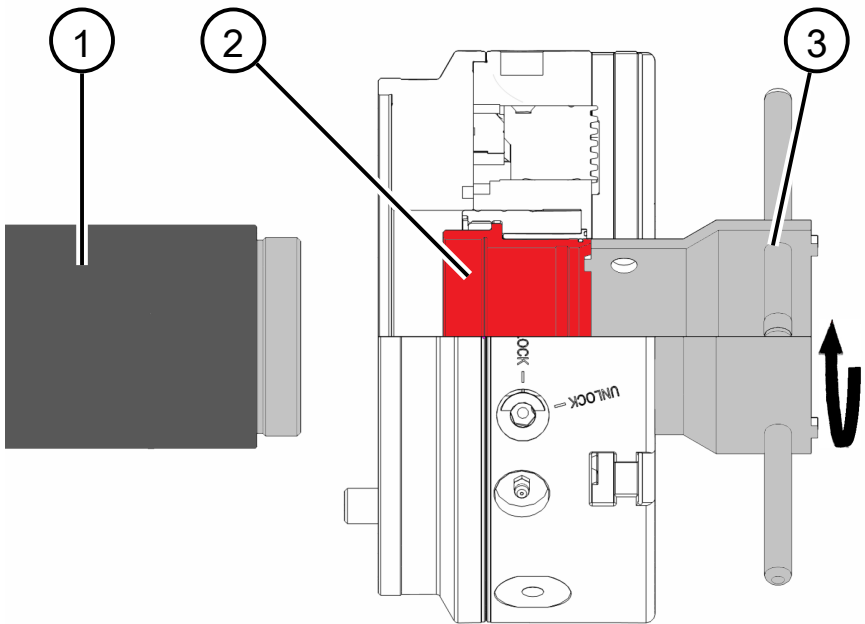
- The machine is switched off and protected against being switched on again.
  - The machine spindle or intermediate disk is clean.
  - The cylinder or intermediate disk has been checked for radial and axial run-out.
1. Move the draw tube into the front position.
  2. Move the piston of the power chuck to the rear position.
  3. Screw the eyebolt into the power chuck.



4. Correctly attach the load-bearing equipment to the eyebolt.
5. Position the power chuck on the machine spindle.

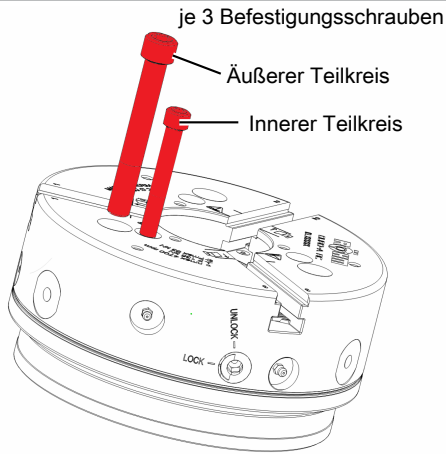


6. Screw the threaded ring (2) of the power chuck onto the draw tube (1) as far as it will go using the assembly tool (3) provided.
  - It must be easy to turn the threaded ring (2). Otherwise, readjust the height of the crane.






7. Move the draw tube back and screw the power chuck onto the machine spindle with three chuck holding screws (provisionally 5 Nm).





8. Remove the load-bearing equipment from the eyebolt and the eyebolt from the power chuck.
9. Check the radial and axial run-out of the power chuck on the check collar and align if necessary.
10. Check the jaw stroke with the capacitive proximity switch and re-adjust if necessary.
11. Check for correct operation, see **Checking the Device for Correct Operation [▶ 59]**.
12. Depending on the design of the spindle holder, the chuck is screwed to the spindle on the inner or outer pitch circle. The other pitch circle is used for the connection between the body and the chuck flange.
13. Tighten the three chuck holding screws on the machine spindle with the permissible tightening torque (**Checking the Tightness of Screw Connections [▶ 63]**).
  - ✓ power chuck is mounted on the machine spindle.

## 6 Operation

<b>⚠ CAUTION</b>	
	<p><b>Danger of crushing when clamping the power chuck.</b> Trapping of fingers.</p> <ul style="list-style-type: none"> <li>➤ Do not hold fingers between the workpiece and the top jaws or between the top jaws when clamping the power chuck.</li> </ul>
<b>⚠ CAUTION</b>	
	<p><b>Risk of burns due to hot surfaces.</b> Burns on hands.</p> <ul style="list-style-type: none"> <li>➤ Do not touch the power chuck when in operation.</li> <li>➤ Allow the power chuck to cool down before carrying out necessary work.</li> <li>➤ Wear personal protective equipment.</li> </ul>
<b>⚠ CAUTION</b>	
	<p><b>Skin irritations due to contact with lubricants.</b> Lubricants may cause irritations in the event of contact with the skin.</p> <ul style="list-style-type: none"> <li>➤ When handling the power chuck, wear safety goggles, long work clothes and gloves.</li> <li>➤ Avoid skin contact with lubricants.</li> </ul>

## 6.1 Personal Protective Equipment and Personnel Qualification

When working on and with power chuck DURO-A RC, personal protective equipment must be worn. The owner is responsible for providing personal protective equipment.

- Personal protective equipment must be in perfect condition when carrying out work. Defective safety equipment is to be replaced immediately.
- Observe information on personal protective equipment posted in the working area.
- During **rotational operation** of the power chuck DURO-A RC, **no** protective gloves are to be worn! Hand protection is only to be worn during transport, assembly and maintenance and as long as the power chuck DURO-A RC is at a standstill.



Wear protective gloves



Wear safety goggles



Wear safety shoes



Wear protective clothing

Work on and with the power chuck may only be carried out by qualified operating and specialist personnel (see Qualification of Operating and Specialist Personnel).

## 6.2 Basic Principles

The procedure for determining the clamping force and speed is given in the document "**RÖHM Standard RN 1391 - General Information and Guidelines for the Use of Power-Operated Clamping Devices**".

This document can either be requested from RÖHM or viewed/downloaded at [www.roehm.biz/en/services/operating-instructions/](http://www.roehm.biz/en/services/operating-instructions/) → General free of charge.

The actual clamping force must be checked regularly. See **Checking the Device for Correct Operation [▶ 59]**.

The following values apply specifically to the power chuck DURO-A RC and are required for calculation in accordance with the RöhM Norm 1391:

Chuck size	180	215	260	315	400
Centrifugal force $M_{cGB}$ per base jaw [mkg]	0.016	0.0314	0.074	0.128	0.168



The values in the table apply per jaw, i.e. the individual value must be multiplied by the number of jaws in the chuck.

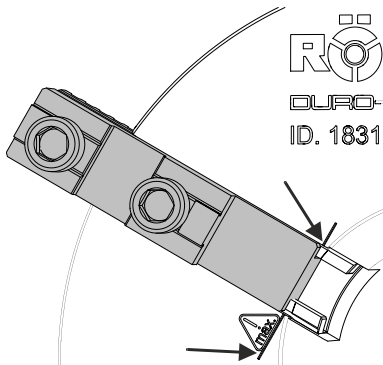
## 6.3 Inserting Jaws

<b>NOTICE</b>	
	<p><b>Actuation of the piston (10) if a turning bolt (7) is set to UN-LOCK.</b></p> <p>Damage to the power chuck.</p> <ul style="list-style-type: none"> <li>➤ Only activate the piston (10) of the power chuck when the turning bolts (7) are set to LOCK or if no safety key (8) is inserted.</li> </ul>

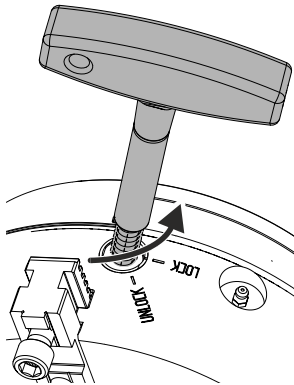
The jaws of the power chuck are inserted and unlocked individually. Repeat the following instructions for each jaw.

- power chuck cleaned.
  - Guide lubricated with a brush.
  - Jaws are intact.
1. Move piston into the front position.
  2. Insert the safety key into the relevant turning bolt until the pressure point is reached.
  3. To unlock the wedge bar, turn the safety key clockwise to UNLOCK.





2. To lock the jaw, turn the safety key counter-clockwise to LOCK.



3. Remove the safety key.
  - The safety key cannot be removed as long as the jaw is not safely locked.
4. Repeat for all jaws.
  - ✓ The jaws are inserted.

## 6.4 Adjusting Jaws

**NOTICE**

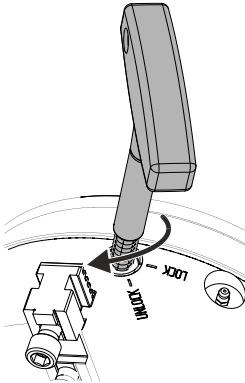

**Actuation of the piston (10) if a turning bolt (7) is set to UN-LOCK.**

Damage to the power chuck.

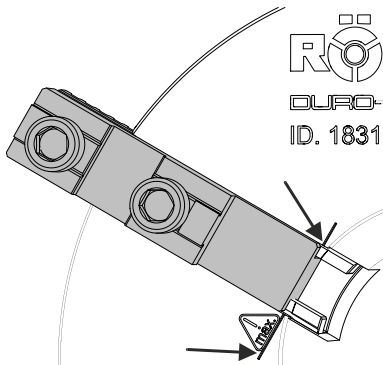
- Only activate the piston (10) of the power chuck when the turning bolts (7) are set to LOCK or if no safety key (8) is inserted.

The jaws of the power chuck are adjusted and unlocked individually. Repeat the following instructions for each jaw.

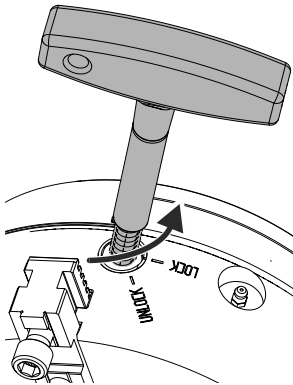
1. Move piston into the front position.
2. Insert the safety key into the relevant turning bolt until the pressure point is reached.
3. To unlock the jaw, turn the safety key clockwise to UNLOCK.
  - The wedge bar moves in.
  - The jaw is unlocked.



4. Move the jaw to the required position until the spring bolt perceptibly locks.
5. Do **not** move the jaw for the minimum position so far that the sprockets of the wedge bar becomes visible.
  - **The jaws must not be positioned beyond the marking.**



6. To lock the jaw, turn the safety key counter-clockwise to LOCK.



7. Remove the safety key.
  - The safety key cannot be removed as long as the jaw is not safely locked.
8. Repeat for all jaws and place in the same position.
  - ✓ The jaws are adjusted.



## 6.5 Replacing Jaws

### NOTICE



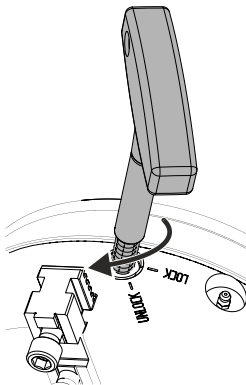
**Actuation of the piston (10) if a turning bolt (7) is set to UN-LOCK.**

Damage to the power chuck.

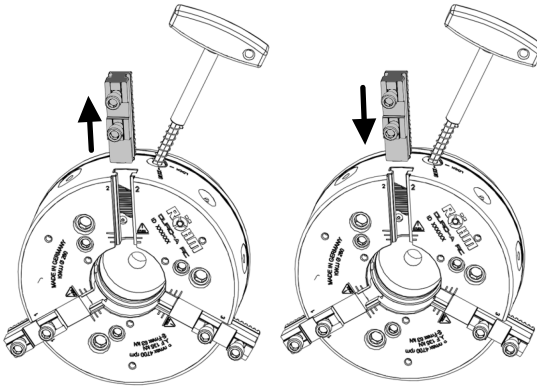
- Only activate the piston (10) of the power chuck when the turning bolts (7) are set to LOCK or if no safety key (8) is inserted.

The jaws of the power chuck are replaced and unlocked individually. Repeat the following instructions for each jaw.

- For each jaw change, the guide must be lubricated with a brush.
  - Jaws are intact.
1. Move piston into the front position.
  2. Insert the safety key into the relevant turning bolt until the pressure point is reached.
  3. To unlock the jaw, turn the safety key clockwise to UNLOCK.
    - The wedge bar moves in.
    - The jaw is unlocked.

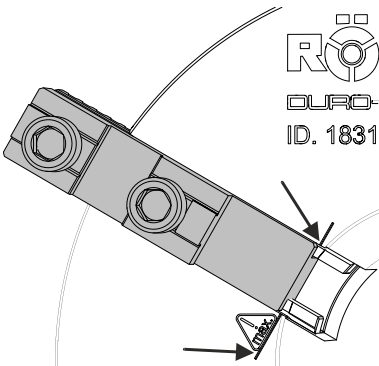


4. Pull the jaw out of the guide.
5. Lubricate the guide with a brush.

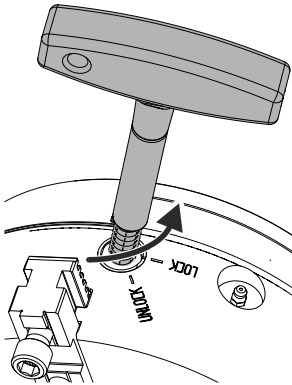


6. Insert the new jaw into the guide of the wedge bar. Observe the labelling of the jaws and wedge bars (jaw 1 in wedge bar 1, jaw 2 in wedge bar 2, jaw 3 in wedge bar 3).
7. Push the jaw into the required position until the spring bolt perceptibly locks into the tooth space.

➤ **The jaws must not be positioned beyond the marking.**



8. To lock the jaw, turn the safety key counter-clockwise to LOCK.

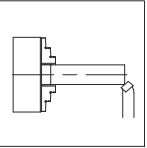
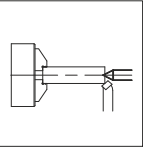
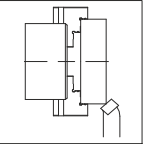
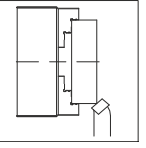
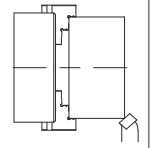
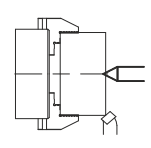
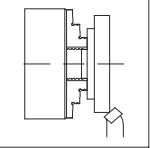
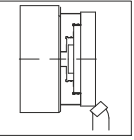
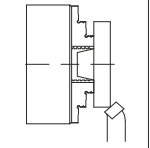
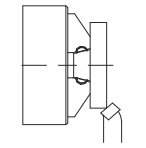


9. Remove the safety key.
  - The safety key cannot be removed as long as the jaw is not safely locked.
10. Repeat for all jaws.
  - ✓ The jaws are replaced.


## 6.6 Clamping the Workpiece

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1. Fully open the power chuck.
  - The jaws move to the outermost position.
2. Position the workpiece.
3. Close the power chuck.
  - The jaws fix the workpiece.
  - ✓ The workpiece is clamped.

Incorrect	Correct
<p>Clamping length too short, projection length too long</p> 	<p>Additional support with centre or bezel</p> 
<p>Clamping <math>\varnothing</math> too large</p> 	<p>Insert larger chuck</p> 
<p>Workpiece too heavy and jaw step too short</p> 	<p>Support with centre or jaw step extended</p> 
<p>Clamping <math>\varnothing</math> too small</p> 	<p>Clamping on largest possible clamping <math>\varnothing</math></p> 
<p>Workpieces with cast iron or forged tapers</p> 	<p>Clamping with self-seating inserts</p> 

## 7 Cleaning the Device

<b>⚠ CAUTION</b>	
	<p><b>Skin irritations due to contact with lubricants.</b></p> <p>Lubricants may cause irritations in the event of contact with the skin.</p> <ul style="list-style-type: none"> <li>➤ When handling the power chuck, wear safety goggles, long work clothes and gloves.</li> <li>➤ Avoid skin contact with lubricants.</li> </ul>

The power chuck must be cleaned with a broom or brush before each assembly and every time a jaw and workpiece is replaced.

Cleaning with compressed air or a high-pressure cleaner is not permitted.

### 7.1 Personal Protective Equipment and Personnel Qualification

When working on and with the Kraftspannfutter DURO-A RC, personal protective equipment must be worn. The owner is responsible for providing personal protective equipment.

- Personal protective equipment must be in perfect condition when carrying out work. Defective safety equipment is to be replaced immediately.
- Observe information on personal protective equipment posted in the working area.
- During **rotational operation** of the Kraftspannfutters DURO-A RC, **no** protective gloves are to be worn! Hand protection is only to be worn during transport, assembly and maintenance and as long as the Kraftspannfutter DURO-A RC is at a standstill.



Wear protective gloves



Wear safety goggles



Wear safety shoes

Work on and with the Kraftspannfutter may only be carried out by qualified operating and specialist personnel (see Qualification of Operating and Specialist Personnel).

## 8 Maintenance

Activity	Interval (hours of operation or after incident)
Check the power chuck for deformations, signs of wear, corrosion, leaks and loose parts (screws, components, plugs) (visual inspection)	1500 h or at least 1 x per quarter, more often if necessary
Lubricate conical lubricating nipples	24 h or once daily, more often if necessary
Lubricating the jaws	50 h or 3x weekly, more often if necessary
Clamping force measurement	6000 h or once a year, more often if necessary.
Visually inspect wear parts	Weekly.
Check the tightness of screw connections	Weekly.
Visually inspect jaw screws	Weekly.
Replace jaw screws	Annually.
Inspection of the power chuck	Annually.

### CAUTION



#### **Skin irritations due to contact with lubricants.**

Lubricants may cause irritations in the event of contact with the skin.

- When handling the power chuck, wear safety goggles, long work clothes and gloves.
- Avoid skin contact with lubricants.

#### **Visual inspection**

**Regular visual inspection is described in the following:**

Activity	Interval
Clean the power chucks	12 h or 1x weekly, more often if necessary
Check the clamping jaws for damage and excessive wear	12 h or 1x weekly, more often if necessary

Recommendation, preventive maintenance:

Activity	Interval
Disassemble, clean, replace any worn or defective parts	6000 h or once a year.

## 8.1 Personal Protective Equipment and Personnel Qualification

When working on and with power chuck DURO-A RC, personal protective equipment must be worn. The owner is responsible for providing personal protective equipment.

- Personal protective equipment must be in perfect condition when carrying out work. Defective safety equipment is to be replaced immediately.
- Observe information on personal protective equipment posted in the working area.
- During **rotational operation** of the power chuck DURO-A RC, **no** protective gloves are to be worn! Hand protection is only to be worn during transport, assembly and maintenance and as long as the power chuck DURO-A RC is at a standstill.



Wear protective gloves



Wear safety goggles



Wear safety shoes



Wear protective clothing

Work on and with the power chuck may only be carried out by qualified operating and specialist personnel (see Qualification of Operating and Specialist Personnel).

## 8.2 Maintenance Work

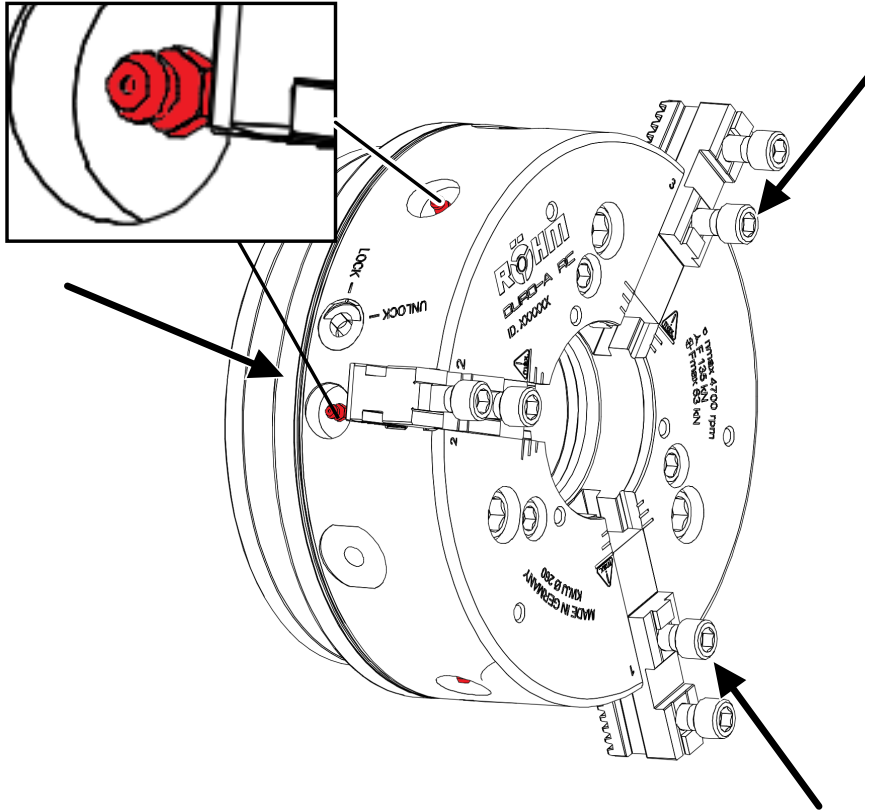
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### 8.2.1 Lubricating Conical Lubricating Nipples

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Construction size	Quantity of grease [strokes per lubricating nipple]
180	2
215	2
260	2
315	3
400	4
Recommended grease gun	ID no.:
RÖHM lubrication gun	329093
Recommended RöhM grease F 80	ID no.:
0.1 kg	630869
0.25 kg	304345
0.5 kg	308555
1.0 kg	028975
5 kg	318310
25 kg	658047

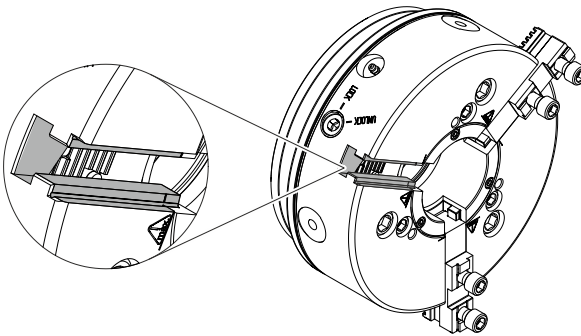




1. Press Röhms grease 80 into the conical lubricating nipple with the grease gun (for grease quantity, see table).
2. Move through the complete stroke 3-5 times.
  - The grease is distributed.
  - After 400 clamping cycles, move through the complete stroke again at least twice.
  - ✓ The power chuck is lubricated.

## 8.2.2 Lubricating Jaw Guides

Recommended RöhM grease F 80	ID no.:
0.1 kg	630869
0.25 kg	304345
0.5 kg	308555
1.0 kg	028975
5 kg	318310
25 kg	658047



1. Lubricate the jaw guides with RöhM grease 80 using a brush.
2. Move through the complete stroke several times.
  - The grease is distributed.
  - After 400 clamping cycles, move through the complete stroke again at least twice.
  - ✓ The jaw guides are lubricated.

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### 8.2.3 Checking the Device for Correct Operation

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Correct operation of the power chuck must be checked during commissioning after assembly and in the course of maintenance work.

#### 8.2.3.1 Checking Jaw Stroke

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1. Insert base and top jaws, see **Inserting Jaws [▶ 44]**.
2. Move the clamping cylinder once into the front and rear position. Measure the jaw stroke of the base and top jaws and compare with the table (**Overview of Construction Sizes [▶ 22]**).
  - The jaw stroke must correspond with the value given in the table (**Overview of Construction Sizes [▶ 22]**).

In the event of faults, the two end positions and the piston stroke of the clamping cylinder must be checked.

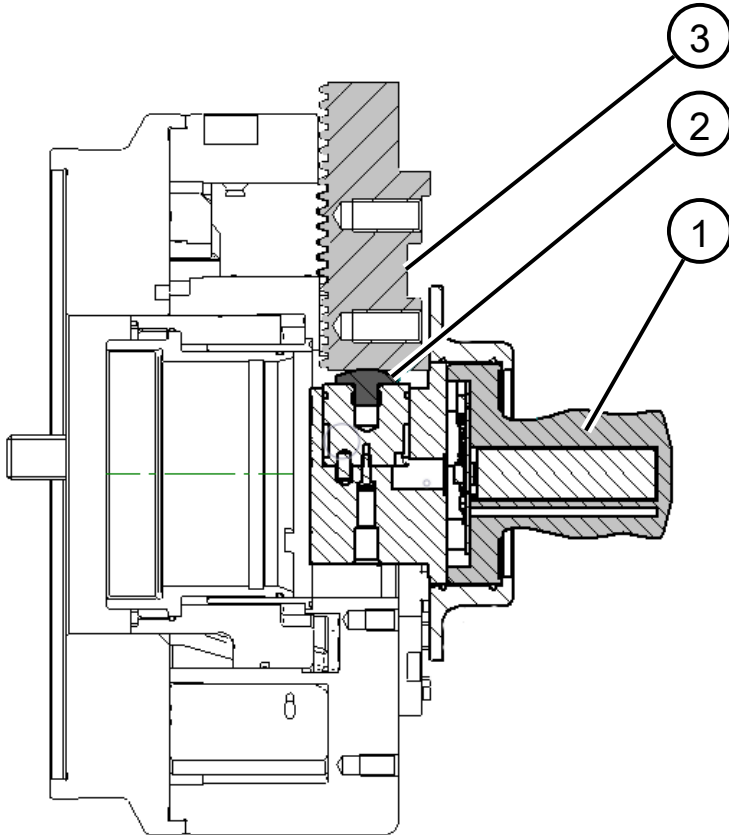
#### 8.2.3.2 Checking Clamping Cylinder End Position

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1. Measure the end positions of the clamping cylinder with the installed power chuck.
2. Compare the measured dimensions with the recorded dimensions (Assembly on Machine Spindle) without installed power chuck.
  - In each end position, the clamping cylinder must have at least 1 mm stroke reserve.

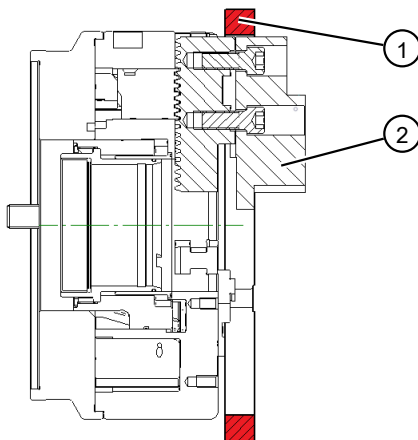
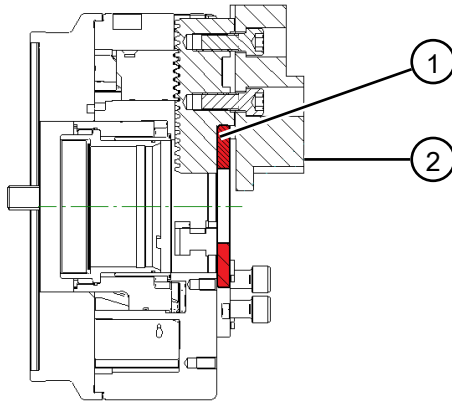
### 8.2.3.3 Checking the clamping force

- The clamping force should be checked at regular intervals with a suitable clamping force measuring device (1). The figure shows a way in which the clamping force can be checked with the base jaw (3).



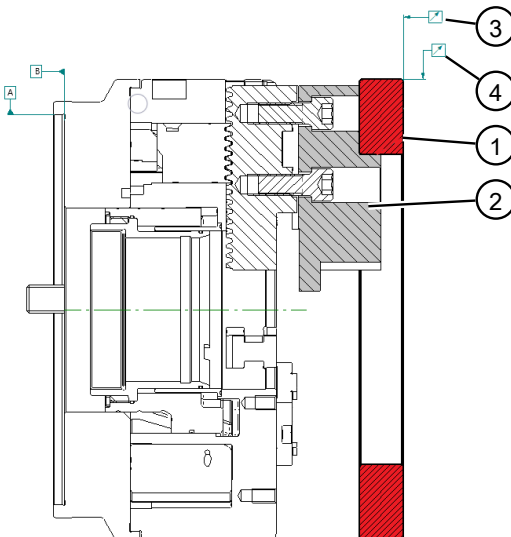
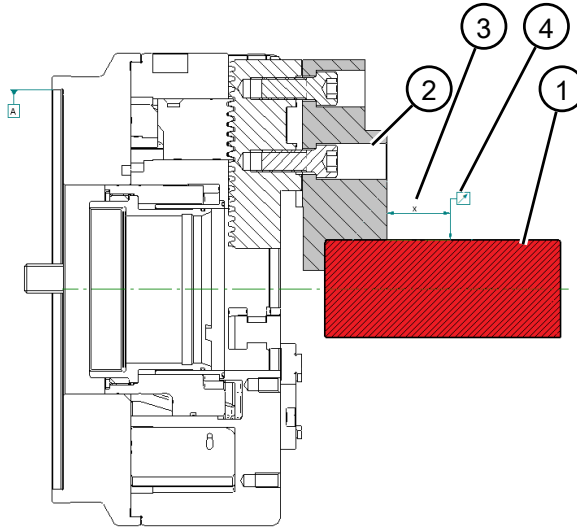
### 8.2.3.4 Unscrewing the clamping jaws

In order to achieve exact concentricity, it is necessary to unscrew the clamping jaws (2). To do this, they must be pressurised. It is recommended to use a suitable turning ring (1) or disk for the appropriate turning  $\varnothing$  to unscrew the clamping jaws (2). Always ensure secure clamping. A distinction is made between external clamping (top picture) and internal clamping (bottom picture). Depending on the clamping contour and clamping possibilities, the turning ring (1) or disk can be clamped either in the base jaw or in the clamping jaw. For this purpose, work should be carried out with a clamping force of  $F_{max}/3$ . Please also pay attention to the max. permissible speed when using the reduced clamping force. This value may be reduced.



### 8.2.3.5 Checking the concentricity

- When setting up the clamping set (2), the concentricity (4) should be checked. One possibility is shown in the figure (1), at the top for external clamping and at the bottom for internal clamping.



## 8.2.4 Checking the Tightness of Screw Connections

If screws are replaced or undone, incorrect replacement or incorrect attachment may lead to dangers for persons and objects. For this reason, for all holding screws, the tightening torque recommended by the manufacturer of the screw must be applied in accordance with the screw grade.

For **cylinder head screws** of the conventional sizes M3 – M24 and strength classes 8.8, 10.9 and 12.9, the following tightening torque table applies:

### Tightening torque in Nm

Strength class	M3	M4	M5	M6	M8	M10	M12	M14	M16	M18	M20	M22	M24
8.8	1.27	3.0	5.9	10.1	24.6	48	84	133	206	295	415	567	714
10.9	1.79	4.6	8.6	14.9	36.1	71	123	195	302	421	592	807	1,017
12.9	2.14	5.1	10	17.4	42.2	83	144	229	354	492	692	945	1,190



The table values do **not** apply to tightening torques expressly specified elsewhere!

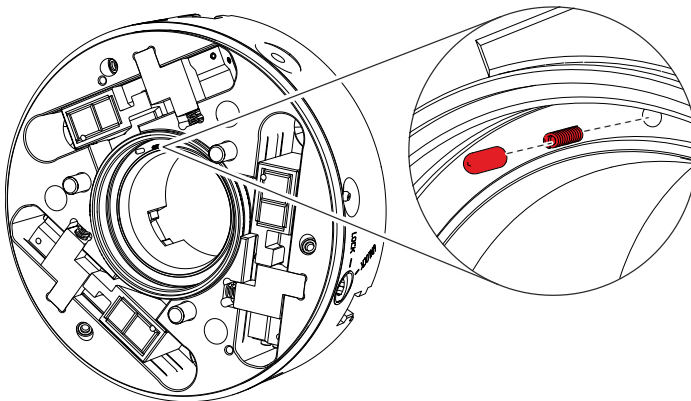
When replacing the original screws, the strength class specified by the manufacturer is to be observed. In the case of mounting screws for clamping devices, clamping inserts, top jaws, rigid stops, pre-clamped covers, equalising weights and comparable elements, strength class 12.9 is always to be used.

## 8.2.5 Inspection of the Power Chuck

For inspection, the power chuck must be completely dismantled, cleaned and re-assembled. Worn or damaged components must be replaced during the inspection.

### Removal and dismantling of the power chuck

1. Move the piston of the power chuck into the front position.
2. Remove jaws (1-3) from the guides (**Replacing Jaws** [▶ 49]).
3. Screw the eyebolt into the power chuck.
4. Correctly attach the load-bearing equipment to the eyebolt.
5. Unscrew the threaded ring of the power chuck from the draw tube with the assembly tool provided.
6. Undo the three chuck holding screws.
7. Turn the power chuck over with a crane and set it down at the cleaning area.
8. Unscrew eyebolt.
9. Undo the holding screws from the flange.
10. Remove the flange with the installed pressure pieces facing to the rear. (Use the draw-off threads to do this.)
11. Remove the threaded ring and the stop disk out of the power chuck from the rear of the chuck. (**Disassembly / assembly threaded ring / adapter** [▶ 35]) Observe the bolt with the spring, as it can fall out of the power chuck due to the spring force.



12. Remove the bolt and pressure spring from the power chuck.
13. Remove the pusher with the pressure spring.



14. Remove wedge bars (1-3) with the driver from the power chuck from behind.
15. Remove the jaw retaining pin (1-3) from the power chuck.
16. Pull the piston out of the power chuck from behind.
17. Remove the O-ring from the threaded ring.
18. Remove the cylindrical pin and turn the turning bolt outwards.
19. Unscrew the conical lubricating nipple from the power chuck.
  - The power chuck is dismantled.

### **Replacement of wear parts**

1. Check the dismantled power chuck for wear and damage.
2. Replace worn and damaged parts with OEM replacement parts.
  - ✓ Wear parts are replaced.

### **Thorough cleaning of the power chuck**

- Thoroughly clean the dismantled power chuck with a broom, brush or cleaning cloth and remove grease residues, dirt and abrasion.
  - ✓ The power chuck is clean.

Cleaning with compressed air or a high-pressure cleaner is not permitted.

### **Assembly of the power chuck**

The power chuck is assembled in reverse order.

## 9 Storage

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If the power chuck is not in use, the power chuck is to be stored in a dry, protected place in accordance with the storage temperature (**Environmental and Operational Conditions** [[▶ 26](#)]).




In the case of longer storage (one year or more), the power chuck must be cleaned and lubricated before assembly.

## 10 Troubleshooting

Fault	Possible cause	Measure
The safety key cannot be removed.	The jaws are not inter-meshed in the wedge bar.	Check jaw position and correct if necessary.
The safety key cannot be turned.	Piston not in front position.	Move piston completely forwards. The adapter may be too short.
The power chuck runs with an imbalance.	The jaws are not in the same position. Unbalanced workpiece clamped.	Check jaw position and correct if necessary. Measure the distance of the jaws to the outer Ø. Balance workpiece or reduce speed.
The tensile force is not reached.	The cylinder is set incorrectly.	Check settings and correct if necessary.
The jaws cannot be replaced.	The wedge bar (12) is dirty.	Clean the wedge bar (12) as far as possible. Contact the service department of RÖHM.
	The draw bar is broken.	Replace draw bar. Contact the service department of RÖHM.
The workpiece cannot be inserted.	The workpiece diameter is greater than the clamping diameter of the power chuck.	Use suitable top jaws or power chuck.

## 11 Disposal

<b>NOTICE</b>	
	<p><b>Operating materials are hazardous waste!</b></p> <p>Incorrect disposal may lead to serious damage to the environment.</p> <ul style="list-style-type: none"> <li>➤ Used operating materials must be disposed of in accordance with the valid regulations and the applicable local provisions. Obtain relevant information from the authorities.</li> </ul>

After final disassembly, the materials must be disposed of in an environmentally way in accordance with the valid regulations.

- Metal

Metals must be recycled. Disposal must be carried out in accordance with the applicable regulations and local regulations.

- Plastics

They must be disposed of in accordance with the valid regulations and the applicable local provisions. Obtain relevant information from the authorities.

- Rubber (e.g. O-rings)

They must be disposed of in accordance with the valid regulations and the applicable local provisions. Obtain relevant information from the authorities.

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**12**    **Notes**

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