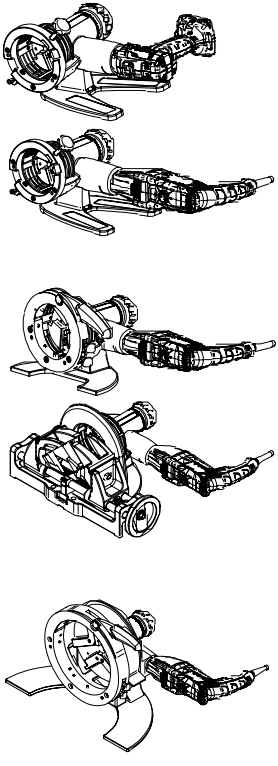
RPG 3.0 (Akku) / 4.5 (S) / 8.6

en **Tube squaring machines**

Translation of original operating instructions and spare parts list



790 038 761 REV 03 | 0425

orbitalum

An ITW Company

Table of Contents

1 About these instructions 5

1.1 Warning messages 5

1.2 Further icons and displays 5

1.3 Abbreviations 6

2 Information and safety instructions for the owner 7

2.1 Requirements for the owner-operator 7

2.2 Using the machine 7

2.2.1 Proper use 7

2.2.2 Improper use 7

2.2.3 Machine constraints 8

2.2.4 Shutting down the machine 8

2.3 Environmental protection and disposal 8

2.3.1 REACh (Registration, Evaluation, Authorization and Restriction of Chemicals) 8

2.3.2 Chips and gear lubricant 9

2.3.3 Electric tools and accessories 9

2.3.4 Return of accumulators and batteries 10

2.4 Basic safety precautions 10

2.5 Warning signs 18

3 Description 19

3.1 RPG 3.0 Electric 19

3.2 RPG 3.0 battery 21

3.3 RPG 4.5, RPG 8.6 Electric 23

3.4 RPG 4.5 S 25

3.5 Accessories 27

3.5.1 Multifunctional tool (MFW) 27

3.5.2 Tool holder (WH) for beveling and squaring 27

3.5.3 Clamping shells (optional) 28

3.5.4 Warning signs 28

4 Characteristics and range of applications 29

4.1 Characteristics 29

4.2 Scope of application 30

5 Technical specifications 31

6 Commissioning 33

6.1 Scope of delivery 33

6.2 Requirements for the connection 35

7 Storage and transport 36

7.1 Transporting the machine 36

8 Set-up and mounting 38

8.1 Mounting the multifunctional tool (MFW) and tool holder (WH) 41

8.2 Inserting/replacing the clamping shells RPG 3.0 42

8.3 Inserting/replacing the clamping shells RPG 4.5 and RPG 8.6 42

8.3.1 Inserting the lower clamping shell 42

8.3.2 Inserting the upper clamping shell 43

8.3.2.1 Replacing clamping shells 43

8.4 Clamping pipe 44

8.4.1 RPG 3.0 44

8.4.2 RPG 4.5 and RPG 8.6 45

8.4.3 RPG 4.5 S 45

8.4.4 Adjustment options with the clamping lever and adjusting bolt for offsetting tube tolerances (RPG 4.5 and RPG 8.6) 46

8.4.4.1 Shifting the adjusting bolt 47

9 Operation 48

9.1 Shutdown (including in case of emergency) 51

9.2 Setting the speed 52

9.2.1 Setting speed with RPG Electric machines 52

9.2.2 Setting speed with RPG Battery machines 54

9.3 Switching on the machine 55

9.4 Machining the pipe 55

9.5 Switching off machine 56

10 Maintenance, service and troubleshooting 57

10.1 Maintenance 57

10.2 What to do if...? – General troubleshooting 58

10.3 Servicing/Customer service 58

11 ERSATZTEILLISTE / SPARE PARTS LIST 59

11.1 RPG 3.0: Vorschub | RPG 3.0: Feed 60

11.2 RPG 3.0: Spanneinheit | RPG 3.0: Clamping unit 64

11.3 RPG 3.0: Gehäuse mit Antrieb | RPG 3.0: Main housing with drive 66
11.4 RPG 4.5 (S): Vorschub | RPG 4.5 (S): Feed 70
11.5 RPG 4.5: Spanneinheit | RPG 4.5: Clamping unit 74
11.6 RPG 4.5 (S): Gehäuse mit Antrieb | RPG 4.5 (S): Main housing with drive 78
11.7 RPG 4.5 S: Schraubstock komplett | RPG 4.5 S: Vice complete..... 82
11.8 RPG 8.6: Vorschub | RPG 8.6: Feed 84
11.9 RPG 8.6: Spanneinheit | RPG 8.6: Clamping unit 88
11.10 RPG 8.6: Gehäuse mit Antrieb | RPG 8.6: Main housing with drive 92
11.11 Ohne Abbildung | Not shown 95

12 Declaration of Conformity 96

1 About these instructions

1.1 Warning messages

The warnings used in these instructions warn you of injuries or damage to property.

Always read and observe these warnings!



This is a warning icon. It warns against dangers of injury. In order to avoid injuries or death observe the measures marked with a safety sign.

	WARNING LEVEL	MEANING
⚠	**DANGER**	Imminently hazardous situation that results in death or serious injuries if the safety measures are not observed.
⚠	**WARNING**	Potentially hazardous situation that may result in death or serious injuries if the safety measures are not observed.
⚠	**CAUTION**	Potentially hazardous situation that may result in slight injuries if the safety measures are not observed.
❗	*NOTE!*	Potentially hazardous situation that may result in material damage if the safety measures are not observed.

1.2 Further icons and displays

SYMBOL	MEANING
ℹ	Important information for comprehension.
1. 2. 3. …	Request for action in a sequence of actions: Action is required here.
►	Single request for action: Action is required here.

1.3 Abbreviations

ABBREVIATION	MEANING
RPG 3.0 (battery), RPG 4.5 or RPG 8.6	Tube squaring machine up to 3.0 inch, 4.5 inch or 8.6 inch outer diameter of the tube
RPG 4.5 S	Tube squaring machine up to 4.5 inch outer diameter of the tube with vice clamping system
MFW	Multifunctional tool
WH	Tool holder
QTC®	Quick Tool Change

2 Information and safety instructions for the owner

2.1 Requirements for the owner-operator

Workshop/outdoor/field use: The owner is responsible for safety in the danger zone around the machine, and should allow only qualified personnel to enter the zone or operate the machine in the danger zone.

Employee safety: The safety instructions described in the chapter *Information and safety instructions* of the operating instructions and the general safety instructions described in the safety regulations as well as safety-conscious work with all required safety equipment must be maintained.

2.2 Using the machine

2.2.1 Proper use

- The machine must only be used for squaring or beveling of pipes made of materials and pipe dimensions, as listed in chapter *Scope of application* of the operating instructions.
- Only use dimension-specific clamping shells by Orbitalum Tools GmbH to fixate the pipes.
- Only operate the machine within the voltages specified on the type plate of the drive (see chapter *Technical specifications* of the operating instructions).
- Only use the RPG motors code 790 038 190 to 790 038 192 as a drive for the electric variants.
- The drive motor may only be used in connection with the machine.
- The machine may only be used on empty, unpressurized pipes and tanks in a non-explosive atmosphere.

Intended use also includes:

- Observing all safety and warning information of these operating instructions and the general tube squaring machine safety information
- Complying with all inspection and maintenance work
- Using it only in its original condition with genuine accessories, spare parts and operating materials
- Processing only those materials named in the operating instructions.

2.2.2 Improper use

- Any use that differs from or goes beyond the use and stated limits specified under "Intended use" is improper due to the danger involved.

- The owner shall be responsible for any damage which results from improper use. The manufacturer accepts no liability.
- No tools should be used that have not been authorized by the manufacturer of this machine.
- Tubes of non-metal material should not be processed.
- The removal of safety devices is not permissible.
- Do not misuse the machine.
- The machine is not intended for use by private consumers.
- The machine is intended solely for commercial and industrial use.
- It is impermissible to exceed the technical values specified for normal operation.
- Do not use the machine as a drive for any applications other than that named as the intended use (see chapter *Intended use*).
- Do not clamp machine between legs.

2.2.3 Machine constraints

- Keep your working area clean. Disorder or unlit working areas can lead to accidents.
- The workplace can be in the tube preparation, in plant construction or the plant itself.
- Work lighting: min. 300 Lux.
- Operation by one person.
- Climate conditions: Temperature range for machine operation: –15 ° to 40 °C.
- Only operate the machine in dry surroundings (not in misty, rainy or stormy conditions... (< 80% rel. humidity)).

2.2.4 Shutting down the machine

EMERGENCY STOP or shutdown function descriptions, *see chapter Shutdown (including in case of emergency)*.

2.3 Environmental protection and disposal

2.3.1 REACh (Registration, Evaluation, Authorization and Restriction of Chemicals)

The regulation (EC) 1907/2006 of the European Parliaments and of the Council concerning the registration, evaluation, authorization and restriction of chemicals (REACh) regulates the production, placing on the market and use of chemical substances and the mixtures produced from these.

Our products are "products" in the sense of the REACh regulation. In accordance with Article 33 of the REACh regulation, suppliers of products must inform their customers if the supplied product contains a substance specified in the REACh SVHC candidate list exceeding 0.1 percent by mass of the object. On June 27, 2018, lead (CAS: 7439-92-1 / EINECS: 231-100-4) was included in the SVHC candidate list. This inclusion activates an obligation to inform along the chain of delivery.

We herewith inform you that individual partial components of our products contain lead in quantities exceeding 0.1 % by mass of the object as an alloy component in steel, aluminum and copper alloys as well as in solders and capacitors of electronic components. The lead content lies within the exceptions specified in the RoHS Directive.

Since lead as an alloy component is firmly bound and therefore no exposure is to be expected in the case of proper use, no additional specification of its safe use are required.

2.3.2 Chips and gear lubricant

Dispose of chips and replaced gear lubricant as prescribed.

2.3.3 Electric tools and accessories



(as per RL 2012/19/EU)

Used-up power tools and accessories contain a large amount of valuable raw materials and plastics which can be recycled. For this reason:

- Electrical and electronic devices marked with the symbol at the right may not be disposed of with household garbage as per EU directive.
- By actively using the offered return and collection systems, you are doing your part to reuse and recycle used electrical and electronic devices.
- Used electric and electronic devices contain parts which must be handled specially as per EU directives. Separate collection and selective treatment are the basis for environmentally responsible disposal and protection of human health.
- We will properly dispose of devices and machines from us purchased after August 13, 2005, if they are sent to us postage-paid.
- In the case of used devices which may represent a risk to human health or safety due to contamination during use, we have the option of refusing return.
- The user is responsible for disposing of used devices purchased before August 13, 2005. For this purpose, please contact a professional disposal company in your area.
- **Important note for Germany:** Our devices and machines may not be disposed of at communal dumps, as they are only used in the commercial sector.

2.3.4 Return of accumulators and batteries



- Accumulators and batteries that are marked with the adjacent symbol may not be disposed of with household garbage as per EU Directive 2006/66/EC.
- In the case of accumulators and batteries containing hazardous materials the chemical sign for the heavy metal contained is specified below the refuse bin: Cd = cadmium Hg = mercury Pb = lead
- **Applies for Germany:** The end consumer is obliged to return defective or used accumulators and batteries to the distributor or to the returning facilities set up to this purpose.

Cd

2.4 Basic safety precautions

The machine is a state-of-the-art accessory designed for safe use. Remaining risks are described in the following operating instructions. Use other than that described in these instructions can lead to severe personal injury and damage to property. For this reason:

- Warning information must be observed.
- Along with these operating instructions, the general warning information for electric tools (see supplement) also apply, which must always be kept.
- Store all documentation near the machine.
- Generally valid regulations for the prevention of accidents must be observed.
- Observe country-specific regulations, standards and guidelines.
- Use the machine only in perfect technical condition, otherwise have it repaired at a service point. Observe the maintenance specifications (chapter *Maintenance, service and troubleshooting* of the operating instructions).
- Only operate the machine if all protective equipment like restart inhibit and overload protection are in order and operational, the viewing window (on RPG 1.5 only) or the protective flap (on RPG 3.0, RPG 4.5, RPG 8.6 only) is closed. The machine must have a solid footing. Check whether the substrate is able to take sufficient loads. A radial space requirement/freedom of movement of approx. 1 m around the machine is required for people.
- Report deviations in operating behavior of the machine to the person in charge immediately.
- Use only the dimensions and materials listed in these instructions. Other materials may only be used after consulting with Orbitalum Tools customer service.
- Use only genuine tools, spare parts, operating materials and accessories from Orbitalum Tools.
- Repair and maintenance work on the electrical equipment may only be carried out by a qualified electrician.
- At the end of each working cycle, before transportation, changing tools, cleaning and performing any maintenance, adjustment or repair work, switch off the machine, wait until the machine/tool stops running and pull the mains plug or remove the battery.

- Do not carry the machine by its cable and do not use the cable to pull the power plug out of the socket outlet (except in case of an emergency). Protect the cable against heat, oil and sharp edges (chips).
- Do not reach into the tools while machining is being carried out.
- Ensure that the workpiece is clamped properly.
- Only switch on the machine if a pipe is clamped.
- Do not use the machine in wet surroundings. Only work in surroundings having a roof or canopy.
- In extreme conditions of use, conductive dust can settle inside the machine. For this reason and for better safety, an on-site SPE-PRCD or ground-fault circuit is required between the mains network and the machine, to be installed and tested if necessary by a professional electrician.
- When working with the machine wear safety shoes (as per EN ISO 20345 at least S1), safety goggles (as per DIN EN 166 Class 2, basic strength S), snug-fitting safety gloves (as per DIN EN 388, Class 2 resistance to abrasion, cut resistance Class 3, tear resistance Class 2, perforation resistance Class 3 and as per EN 407 at least Performance level 1 against contact heat) and hearing protection (as per DIN EN 352-4 or comparable).
- Operator age: The respectively valid country-specific laws/standards/guidelines/directives have to be followed.
- Do not use click-in socket outlets and click-in power plugs (blue CEE power plugs) for power connection, otherwise the EMERGENCY STOP does not function. The user must check whether the power plug can be pulled out of the outlet by the cable, *see chapter Shutdown (including in case of emergency) of the operating instructions*.
- Do not use angled power plugs.

DANGER



If the power cable is damaged, exposed parts can be energized with lethal voltage!

Fatal electric shock.

► Do not allow the power cable of the motor to be near the machine, especially the cutting tool (MFW).

► Do not operate machine unattended.

► Keep an eye on the power cable at all times when processing is being carried out.

► Keep machine clean and thoroughly remove lubricant residue on the machine.

DANGER



Damaged insulation!

Fatal electric shock.

► Do **not** screw signs to the drive motor.

► Use adhesive signs.

DANGER



Loss of insulation due to collection of metal dust in the motor housing!

Fatal electric shock.

► Clean the machine at least once daily with the brush supplied according to its level of soiling.

DANGER



Damaged plug.

Fatal electric shock.

► Do **not** use adapter plugs together with protectively grounded power tools.

► Connecting plugs of the machine must fit into the outlet

DANGER



Risk of danger through the use of the machine outdoors!

Fatal electric shock.

► Do **not** use the machine in wet surroundings.

DANGER



Catching of loose/long clothing, long hair or jewelry by rotating machine parts!

Severe injury or death.

► Wear tight-fitting clothing when using the machine.

► Secure long hair against being caught.

DANGER



Machine startup due to unintentionally pressing the ON/OFF button!

Fatal electric shock.

Various injuries and damage to property.

► At the end of each working cycle, before transportation, changing tools, cleaning and performing any maintenance, adjustment or repair work, switch off the machine, wait until the machine/tool stops running and pull the mains plug. In the case of battery drives remove the battery and cover the battery.

DANGER



Unexpected start up!

Severe injury or death.

► Electric drive: Before connecting the machine to the power supply the ON/OFF switch must be switched off.

► Battery drive: When connecting the battery to the motor, do not press the ON/OFF button.

DANGER



Grounded body!

Fatal electric shock.

► Avoid contact with grounded surfaces such as tubes, heating, cookers or refrigerators.

DANGER



Danger of fire from charging the battery with a wrong charger!

Severe injury or death.

► Only charge the batteries with chargers recommended by the manufacturer.

DANGER



Danger of fire from short-circuiting between the battery contacts!

Severe injury or death.

► Keep the unused battery away from paper clips, coins, keys, nails, screws or other small metal objects that may cause a bypassing of the contacts.

DANGER



Defective safety parts due to soiling and wear!

Bodily injury due to failure of safety parts.

► Do **not** misuse the cable, for example by suspending or carrying the machine by the cable.

► Replace defective safety parts immediately and check daily for proper functioning.

► Have an expert replace defective power cables immediately.

► Clean and maintain machine after every use.

► Keep cable away from heat, oil, sharp edges and moving device parts.

► Check machine daily for externally visible damage and defects and have them remedied by a professional if necessary.

WARNING



The electrical motor can overheat with operation in a 110 V network!

Severe injury or death.

► Only use the machine in the specified temperature range.

WARNING



Falling objects or tilting and bending tubes!

Irreversible crushing.

- ► Wear safety shoes (in accordance with EN ISO 20345, at least S1).
- ► Place sufficient supports under the tube.
- ► Transport the machine as shown in chapter *Transporting the machine* of the operating instructions.

WARNING



Danger from falling machine and pipe!

Irreversible crushing.

- ► Check machine condition and secure it to prevent it falling.
- ► Ensure that the machine has a solid footing and stands on a sufficiently stable substrate.
- ► Place sufficient supports under the tube.

WARNING



Fingers jammed between the clamping unit, clamping shells and tube!

Irreversible crushing.

- ► Do not place fingers between the clamping unit, clamping shells and tube.
- ► At the end of each working cycle, before transportation, changing tools, cleaning and performing any maintenance, adjustment or repair work, shut the machine down, wait until the machine/tool stops running and pull the mains plug or remove the battery and cover the battery.
- ► Always bring the viewing window (on RPG 1.5 only) or protective flap (on RPG 3.0, RPG 4.5, RPG 8.6 only) to the closed position after removing the chips.

WARNING



Danger from vibration and unergonomic, monotonous work!

Discomfort, fatigue and malfunctioning of the moving apparatus!
Limited response capability and cramps.

- ► Perform "loosening-up" exercises.
- ► Ensure a varied range of activities.
- ► Assume an upright, fatigue-free and comfortable body position during operation

WARNING



Protruding tool holder!

Hands may be crushed and the machine damaged.

- ► Tool holder with MFW must not protrude over the edge of the tool holder.
- ► Before switching on the machine ensure that sufficient distance is between the MFW and the housing.
- ► Before switching on the machine, always bring the viewing window (on RPG 1.5 only) or the protective flap (on RPG 3.0, RPG 4.5, RPG 8.6 only) to the closed position after removing the chips.

WARNING



Parts thrown off/tool breakage and rotating pipe!

Various injuries and damage to property.

- ► **No** damaged or deformed cutting tools (MFW) should be used.
- ► Firmly clamp the tube to be processed into the clamping unit.
- ► Change worn tool immediately.
- ► Ensure proper mounting of the cutting tools.
- ► Keep the clamping surface of the clamping shells free of chips and dirt.
- ► The inner diameter of the clamping shells must be identical to the outer diameter of the tube to be machined. The specific inner diameter is specified on the clamping shells. The outer diameter of the tube must be determined.
- ► Avoid tool breakage by ensuring low (measured) infeed (max. clamping thickness: 0.2 mm) and correct speed setting (see operating instructions chap. *Setting the speed*).
- ► Check that the tool holder (WH) and multifunctional tool (MFW) are seated firmly, and tighten if required.
- ► After adjusting the tool, remove the hexagon key from the working area.
- ► Before switching on the machine, always bring the viewing window (on RPG 1.5 only) or the protective flap (on RPG 3.0, RPG 4.5, RPG 8.6 only) to the closed position after removing the chips.

WARNING



Flying hot and sharp chips, pipe surfaces, cutting edges and tools!

Danger of injury to eyes and hands.

- ► Do not reach into the rotating tool during working.
- ► Never work without an installed cover hood or protection.
- ► Wear recommended protective clothing, as described in chap. Basic safety precautions.
- ► At the end of each working cycle, switch off the machine, wait until the machine/tool stops running and pull the mains plug or remove the battery. Remove chips with snug-fitting safety shoes (according to DIN EN 388 and EN 407) with a suitable tool (e.g. tongs).
- ► Make sure that the protective flap is closed.

WARNING



Pressing the ON/OFF button unintentionally!

Various injuries and damage to property.

- ► At the end of each working cycle, before transportation, changing tools, cleaning and performing any maintenance, adjustment or repair work, shut the machine down, wait until the machine/tool stops running and pull the mains plug or remove the battery and cover the battery.

WARNING



Body parts can get caught between the cutting tool and the pipe!

Severe injury.

- ► **Do not** put body parts between the cutting tool and the pipe.

WARNING



Liquid leaking from the battery due to wrong use!

Various injuries and damage to property.

- ► Wash with water if touched accidentally.
- ► If liquid enters the eyes, contact a doctor.

WARNING



The MFW multifunctional tool may be damaged by wrong inserting of a tube!

Damage to tool.

- ► Before clamping the tube, ensure sufficient distance between the MFW and the tube.

CAUTION



Restarting the machine after blockage!

Various injuries and damage to property.

- ► In case of blockage, always disconnect the machine from the power supply before eliminating the problem. In the case of battery drives remove the battery.
- ► If necessary, remove tensioned parts before restarting the machine.

CAUTION



A non-right-angled tube end can damage the tool with low distance between the cutting edge and the tube end!

Damage to tool.

- ► Before switching on the machine ensure that the tool has sufficient axial distance around the complete tube circumference.
- ► Approach the rotating tool only with a low feed rate (max. 0.2 mm/ rotation).
- ► *See chap.* Maintenance, service and troubleshooting [▶ 57]

NOTICE!



The suggestions for personal safety equipment apply exclusively and specifically to the product described. Other requirements arising from ambient conditions at the location of use, other products or the link with other products are not taken into account. These suggestions do not relieve the owner (employer) of his/her legal duties regarding work-safety and health protection of employees in any way.

NOTICE!



- ► **Do not** use the locking button as this inhibits the shutdown process, *see chapt.* Shutdown (including in case of emergency) [▶ 51]

NOTICE!



If the tool chatters after machine start-up, cutting speed is too high.

- ► Reduce the speed, *see chapter* Setting the speed [▶ 52].

NOTICE!

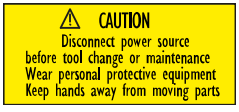


Do not operate motor in pulse setting.

2.5 Warning signs

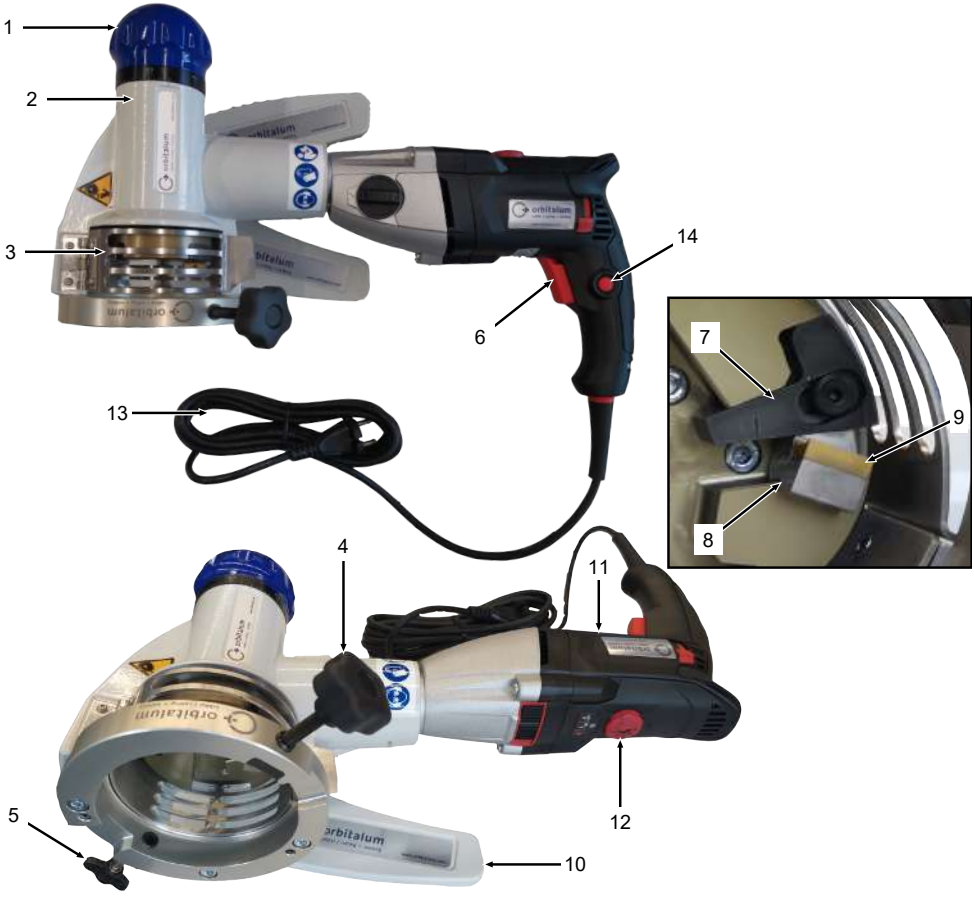
The warning signs and safety signs located on the machine must be observed.

The warning signs are part of the machine. They must not be removed or modified. Missing or illegible warning signs must be replaced immediately.

IMAGE	POSITION ON MACHINE	MEANING	CODE
	Housing, top	Warning: Danger of injury due to rotating tool.	790 046 196
	Housing, top	Rule: Wear safety goggles according to DIN EN 166, hearing protection according to DIN EN 352 and snug-fitting safety gloves according to DIN EN 388 and EN 407. Read operating instructions.	790 086 200
	Motor (only with US version 120 V)	Warning: Pull power plug before tool change or maintenance. Wear protective clothing. Keep hands away from moving parts.	790 086 199

3 Description

3.1 RPG 3.0 Electric



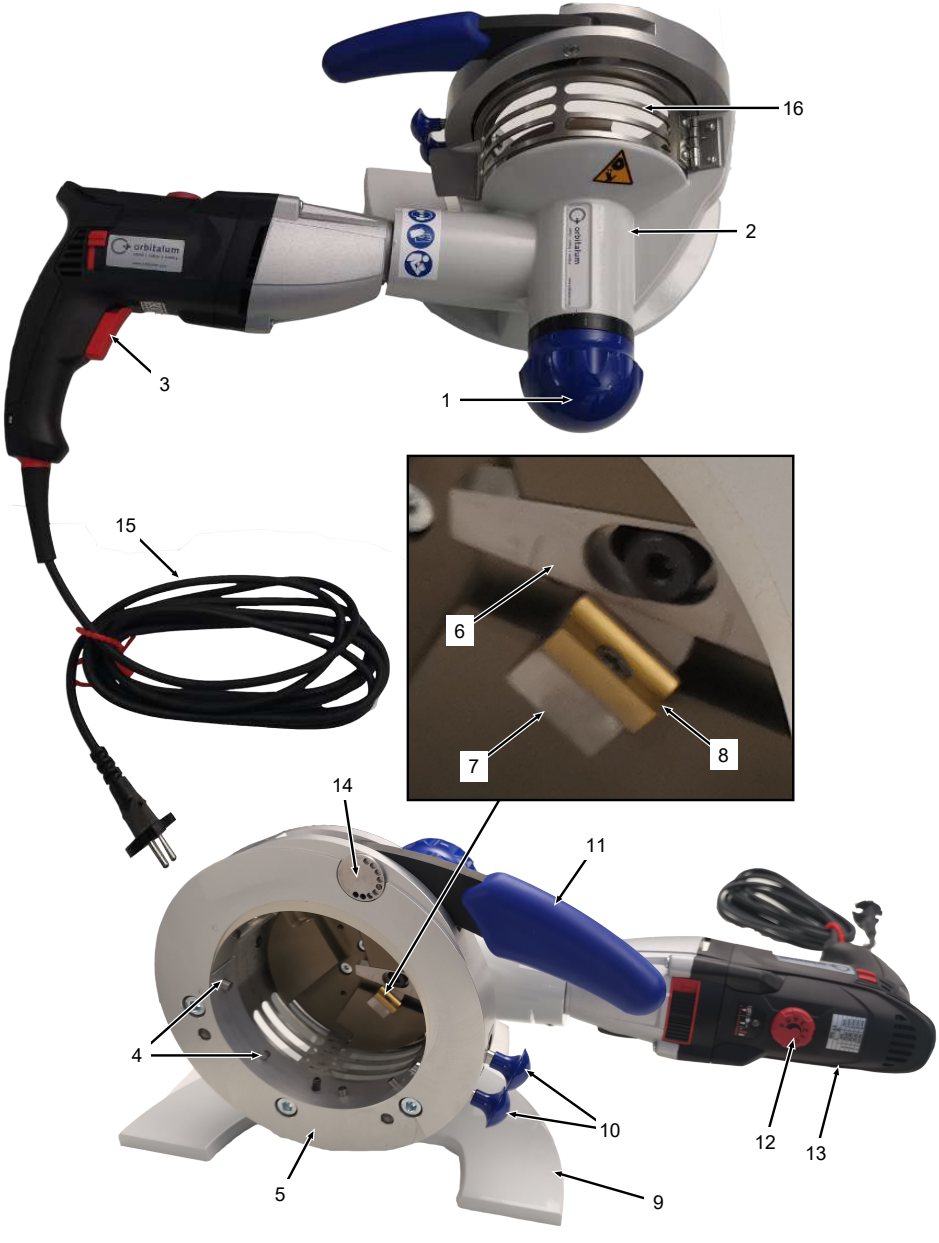
POS.	DESIGNATION
1	Infeed handle with adjustable scale
2	Enclosure
3	Protective flap with self-closing spring hinge
4	Tensioning screw
5	Clamping screw
6	ON/OFF button
7	Wedge for the holder
8	Tool holder
9	Multifunctional tool
10	Base plate
11	Drive motor
12	Adjusting wheel for speed selection
13	Cable with power plug
14	Locking screw ON/OFF button

3.2 RPG 3.0 battery



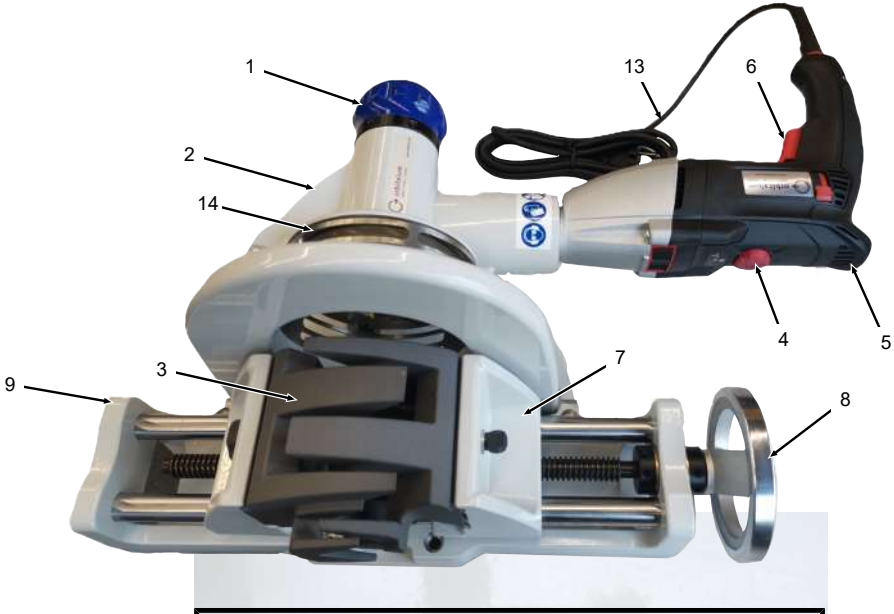
POS.	DESIGNATION
1	Infeed handle with adjustable scale
2	Enclosure
3	Protective flap with self-closing spring hinge
4	Tensioning screw
5	Clamping screw
6	ON/OFF button
7	Wedge for the holder
8	Tool holder
9	Multifunctional tool
10	Base plate
11	Battery motor
12	Exchangeable battery
13	Torque controller **NOTICE! Always operate in the drill setting!**

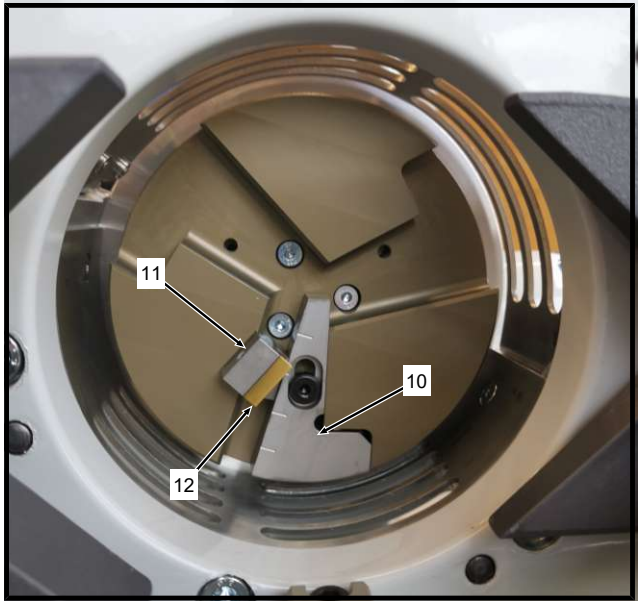
3.3 RPG 4.5, RPG 8.6 Electric



POS.	DESIGNATION
1	Infeed handle with adjustable scale
2	Enclosure
3	ON/OFF button
4	Stop pins
5	Clamping unit
6	Wedge for the holder
7	Tool holder
8	Multifunctional tool
9	Base plate
10	Mushroom handles
11	Clamping lever
12	Adjusting wheel for speed selection
13	Drive motor
14	Adjusting bolts for compensation of tube tolerances
15	Cable with power plug
16	Protective flap with self-closing spring hinge

3.4 RPG 4.5 S





POS.	DESIGNATION
1	Infeed handle with adjustable scale
2	Enclosure
3	Clamping jaws made of cast aluminum
4	Adjusting wheel for speed selection
5	Drive motor
6	ON/OFF button
7	Sliding jaws
8	Hand wheel for clamping jaws
9	Vice
10	Wedge for the holder
11	Tool holder
12	Multifunctional tool
13	Cable with power plug
14	Protective flap with self-closing spring hinge

3.5 Accessories

WARNING

Danger due to the use of inadequate accessories and tools which have not been approved by Orbitalum Tools!

Various injuries and damage to property.

► Use only genuine tools, spare parts, operating materials and accessories from Orbitalum.

NOTICE!

► Please check the outer diameter of the pipes before ordering the clamping collars. The various standards sometimes mean a standard size (particularly with pipes according to DIN 2430).

3.5.1 Multifunctional tool (MFW)

The standard scope of delivery includes 1 MFW.

With 2 cutting edges and process-specific tool wear protective coating.

Can be used with all the machines of the RPG series.



ITEM	QUANTITY	CODE
Multifunctional tool MFW-P-2	10	790 038 315
Torx screw	1	790 086 220

3.5.2 Tool holder (WH) for beveling and squaring

1 tool holder (WH) (code 790 038 320) is included with standard supply.

Fits multifunctional tool. Incl. Torx fastening screw.

Beveling with the RPG 4.5 S is not recommended.



ITEM	SQUARING	BEVELING	BEVEL ANGLE [°]	CODE
Tool holder WH12-I	x	–	–	790 038 320
Tool holder WH12-V-30°	–	x	30	790 038 329
Tool holder WH12-V-35°	–	x	35	790 038 282
Tool holder WH12-V-45°	–	x	45	790 038 280

ITEM	SQUARING	BEVELING	BEVEL ANGLE [°]	CODE
Tool holder WH12-U-20°	–	x	20	790 038 326

3.5.3 Clamping shells (optional)



Not included in scope of delivery.

Cannot be used with the RPG 4.5 S.

For deformation-free clamping of tubes.

Extremely resistant.

Ensures precise clamping of tubes and rapid clamping collar change without tool.

Please see our current product catalog for a selection of clamping collar dimensions with code numbers.

3.5.4 Warning signs

Warning signs overview with order numbers, *see chap.* Warning signs [▶ 18].

4 Characteristics and range of applications

4.1 Characteristics

The Tube Squaring Machine RPG 3.0 (battery), RPG 4.5 (S) or RPG 8.6 have the following features:

- Pipe end preparation for standard compliant weld seam
- Squaring and beveling with the RPG 3.0 (battery), RPG 4.5 and RPG 8.6. Beveling mode with the RPG 4.5 S is not recommended
- QTC® (Quick Tool Change) tool system fastener
  - Quick fastener for attaching the tool holder to the tool mounting plate
- Only one multifunctional tool required for:
  - Various pipe wall thicknesses (up to 3 mm)
  - Various pipe materials (excluding ferritic materials)
- Multifunctional tool:
  - Cutting geometry adjusted to application
  - Only one screw needed for fastening and mounting the tools
  - Tool coating TiN
  - Multicutter tool
- Machine:
  - Hand-operated
- Battery drive:
  - Revolving/removable
  - Motor with high performance and small size
  - No memory effect
  - Single cell monitoring in the battery pack
  - Electronic overload protection with integrated temperature monitoring
  - Robust battery packs with capacity display
  - Low self-discharge
  - Environmentally friendly
  - AIR COOLED technology for short charging time and long service life
- Electric drive:
  - Rotatable/detachable
  - Speed-controlled electrical motor with speed stabilization
  - Restart cutout to prevent the machine from inadvertently starting up after power is reconnected or in the event of voltage recovery after a power failure
- Quick clamping system for tubes with adjusting facility
- Quick change system for clamping shells (not with RPG 4.5 S)

- Advance:
  - Total: 15 mm
  - Per revolution: 3 mm
- Scale ring with zero position
- A cover hood or protection in combination with a chip container allows for clean operation

4.2 Scope of application

APPLICATION AREA		RPG 3.0 (BATTERY)	RPG 4.5	RPG 4.5 S	RPG 8.6
Pipe OD min. - max.	[mm]	6.0 - 77.0	12.7 - 114.3	12.7 - 114.3	50.8 - 219.1
	[inch]	0.24 - 3.0	0.5 - 4.5	0.5 - 4.5	2 - 8.6
Wall thickness max.	[mm]	3.0	3.0	3.0	3.0
	[inch]	0,118	0,118	0,118	0,118
Raw materials		High-alloyed steels (stainless steel material no. 1.40... - 1.45... according to DIN EN 10296-2:2006-02, DIN EN1312:2005-12 and DIN EN 10297-2:2006-02), unalloyed and low-alloyed steels, aluminum. Others on request.			

5 Technical specifications

MACHINE MODEL		RPG 3.0	RPG 3.0 (BATTERY):
Dimensions (including drive)	[mm]	460 x 245 x 185	316 x 242 x 185
	[inch]	18.1 x 9.6 x 7.3	12.4 x 9.5 x 7.3
Total weight (without clamping shells)	[kg]	7.8	7.1
	[lbs]	17.2	15.7
Power	[W]	1100	-
	[HP]	1,475	-
Version	[V, Hz]	230 V, 50/60 Hz EU 110 V, 50/60 Hz EU 120 V, 50/60 Hz US	Charger: 230 V, 50/60 Hz EU 115 V, 60 Hz US
Exchangeable battery voltage	[V]	-	18 V
Capacity	[Ah]	-	4.0
Speed (max. idle speed)	[rpm]	8 - 52	0-30 (1st gear)
Sound pressure level at the workplace*)	[dB (A)]	Idle running approx. 83	Idle running approx. 83
Vibration level according to EN 60745	[m/s^2]	< 2.5	< 2.5

MACHINE MODEL		RPG 4.5	RPG 4.5 S	RPG 8.6
Dimensions (including drive)	[mm]	460 x 260 x 230	610 x 380 x 270	500 x 350 x 350
	[inch]	18.1 x 10.2 x 9.1	24 x 15 x 10.6	19.7 x 13.8 x 13.8
Total weight (without clamping shells)	[kg]	10.5	23.0	20.5
	[lbs]	23.2	50.7	45.2
Power	[W]	1100	1100	1100
	[HP]	1,475	1,475	1,475
Version	[V, Hz]	230 V, 50/60 Hz EU 110 V, 50/60 Hz EU 120 V, 50/60 Hz US	230 V, 50/60 Hz EU 120 V, 50/60 Hz US	230 V, 50/60 Hz EU 110 V, 50/60 Hz EU 120 V, 50/60 Hz US
Exchangeable battery voltage	[V]	-	-	-

MACHINE MODEL		RPG 4.5	RPG 4.5 S	RPG 8.6
Capacity	[Ah]	-	-	-
Speed (max. idle speed)	[rpm]	8 - 52	8 - 52	7 - 18
Sound pressure level at the workplace*)	[dB (A)]	Idle running approx. 83	Idle running approx. 83	Idle running approx. 83
Vibration level according to EN 60745	[m/s^2]	< 2.5	< 2.5	< 2.5

6 Commissioning

6.1 Scope of delivery

		RPG 3.0	RPG 3.0 BATTERY
Code	[230 V]	790 031 001	790 031 011
	[110 V]	790 031 003	-
	[120 V]	790 031 002	-
	[115 V]	-	790 031 012
Tube squaring machine	PCS.	1	1
Hard-sided transport case	PCS.	1	1
Tool holder WH (Code 790 038 320)	PCS.	1	1
Overload fuse (square nut)	PCS.	1	1
Multifunctional tool MFW (Code 790 038 314)	PCS.	1	1
Tool key	Set	1	1
RPG L operating instructions & spare parts list Download links PDF: https://www.orbitalum.com/de/download.html	PCS.	PDF	PDF
General safety information for tube squaring machines	PCS.	1	1

		RPG 4.5	RPG 4.5 S	RPG 8.6
Code	[230 V]	790 038 001	790 038 011	790 039 001
	[110 V]	790 038 003	–	790 039 003
	[120 V]	790 038 002	790 038 012	790 039 002
	[115 V]	-	-	-

		RPG 4.5	RPG 4.5 S	RPG 8.6
Tube squaring machine	PCS.	1	1	1
Hard-sided transport case	PCS.	1	1	1
Tool holder WH (Code 790 038 320)	PCS.	1	1	1
Overload fuse (square nut)	PCS.	1	1	1
Multifunctional tool MFW (Code 790 038 314)	PCS.	1	1	1
Tool key	Set	1	1	1
RPG L operating instructions & spare parts list Download links PDF: https://www.orbitalum.com/de/download.html	PCS.	PDF	PDF	PDF
General safety information for tube squaring machines	PCS.	1	1	1

We reserve the right to make changes.

- ► Check the delivery for completeness and damage caused by transport.
- ► Report any missing parts or damage caused by transport to your supplier immediately.

6.2 Requirements for the connection

The power connection must fulfill the following requirements:

- 1-phase alternating current, protection class II:
  - 230 V, 50/60 Hz
  - 110 V, 50/60 Hz
  - 120 V, 50/60 Hz
- Fusing at least 10 A
- Residual current circuit breaker

7 Storage and transport

CAUTION

Improper machine storage!

Various injuries and damage to property.

► Store the machine in its original case and in dry conditions.

DANGER

Fatal electric shock!

► Before transportation or changing the workplace, switch off the machine, wait until the machine/tool stops running and pull the mains plug. In the case of battery drives remove the battery and cover the battery.

WARNING

During transport, the ON/OFF button could be pressed inadvertently, starting up the machine!

Various injuries and damage to property.

► Before transportation or changing the workplace, switch off the machine, wait until the machine/tool stops running, pull the mains plug and set the transport lock.

► In the case of battery drives remove the battery and set the transport lock (switch lock) (center setting of the clockwise/counter-clockwise rotation). Cover the battery.

WARNING

Heavy weight when transporting the RPG!

Danger of injury due to overstraining.

► Transport the RPG with a corresponding forklift truck over longer distances.

7.1 Transporting the machine

NOTICE!

► Only transport the RPG in a packed state on a pallet with corresponding forklift truck or with 2 persons.

1. Attach a compliant lifting aid to the machine (see the figure at the bottom right).
2. Lift the machine and position it directly onto the workbench (or into the transport box).
3. Ensure that the machine stands securely.
4. Transport the machine only with ON/OFF button locked. To do this bring the right/left switch pictured below to the center position. The ON/OFF button is locked in the center position to prevent an unintended startup.



Transport in a packed state on a pallet and with a corresponding forklift truck (e.g. lift truck).



Remove the machine from the packaging and replace again.



Electric variant (RPG 3.0):

► *Set the switch (1) to the center position to lock the ON/OFF button*



Battery variant (RPG 3.0):

► *Set the switch (2) to the center position to lock the ON/OFF button*

8 Set-up and mounting

NOTICE!		**Because setup, assembly and operation with the tube squaring machine variants are mostly identical, the diagrams in this chapter show work steps only with examples of the RPG 4.5 and RPG 4.5 S machines.**
DANGER		**Machine startup due to unintentionally pressing the ON/OFF button!** Fatal electric shock. Various injuries and damage to property. ► At the end of each working cycle, before transportation, changing tools, cleaning and performing any maintenance, adjustment or repair work, switch off the machine, wait until the machine/tool stops running and pull the mains plug. In the case of battery drives remove the battery and cover the battery.
WARNING		**Protruding tool holder!** Hands may be crushed and the machine damaged. ► Tool holder with MFW must not protrude over the edge of the tool holder. ► Before switching on the machine ensure that sufficient distance is between the MFW and the housing. ► After removing the chips and before switching on the machine, close the viewing window (on RPG 1.5 only) or make sure that the protective flap is closed (on RPG 3.0, RPG 4.5, RPG 8.6 only).
WARNING		**Danger from falling machine and pipe!** Irreversible crushing. ► Check machine condition and secure it to prevent it falling. ► Ensure that the machine has a solid footing and stands on a sufficiently stable substrate. ► Place sufficient supports under the tube.

WARNING



Fingers jammed between the clamping unit, clamping shells and tube!

Irreversible crushing.

- ► Do not place fingers between the clamping unit, clamping shells and tube.
- ► At the end of each working cycle, before transportation, changing tools, cleaning and performing any maintenance, adjustment or repair work, shut the machine down, wait until the machine/tool stops running and pull the mains plug or remove the battery and cover the battery.
- ► Always bring the viewing window (on RPG 1.5 only) or protective flap (on RPG 3.0, RPG 4.5, RPG 8.6 only) to the closed position after removing the chips.

WARNING



Parts thrown off/tool breakage and rotating pipe!

Various injuries and damage to property.

- ► No damaged or deformed cutting tools (MFW) should be used.
- ► Firmly clamp the tube to be processed into the clamping unit.
- ► Change worn tool immediately.
- ► Ensure proper mounting of the cutting tools.
- ► Keep the clamping surface of the clamping shells free of chips and dirt.
- ► The inner diameter of the clamping shells must be identical to the outer diameter of the tube to be machined. The specific inner diameter is specified on the clamping shells. The outer diameter of the tube must be determined.
- ► Avoid tool breakage by ensuring low (measured) infeed (max. clamping thickness: 0.2 mm) and correct speed setting (see chap. *Setting the speed*).
- ► Check that the tool holder (WH) and multifunctional tool (MFW) are seated firmly, and tighten if required.
- ► After adjusting the tool, remove the hexagon key from the working area.

WARNING



Flying hot and sharp chips, pipe surfaces, cutting edges and tools!

Danger of injury to eyes and hands.

- ► Do not reach into the rotating tool during working.
- ► Never work without an installed cover hood or protection.
- ► Wear recommended protective clothing, as described in chap. Basic safety precautions.
- ► At the end of each working cycle, switch off the machine, wait until the machine/tool stops running and pull the mains plug or remove the battery. Remove chips with snug-fitting safety shoes (according to DIN EN 388 and EN 407) with a suitable tool (e.g. tongs).
- ► Make sure that the protective flap is closed.

WARNING



The MFW multifunctional tool may be damaged by wrong inserting of a tube!

Damage to tool.

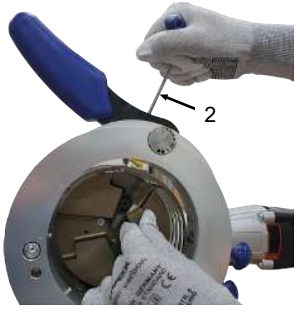
- ► Before clamping the tube, ensure sufficient distance between the MFW and the tube.

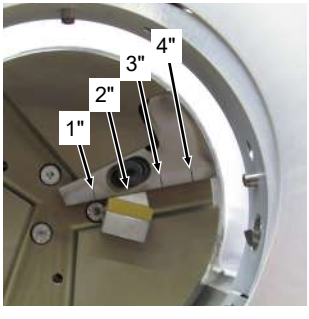
8.1 Mounting the multifunctional tool (MFW) and tool holder (WH)

1. Screw the MFW onto the tool holder using a Torx screwdriver (1).
2. Insert the tool holder with mounted MFW laterally into the dovetail guideway and position it.
3. Press the tool holder against the bearing surface of the tool mounting plate and, at the same time, tighten the screw using the Allan key (2).
4. Remove the hexagon key (2) from working area.

NOTICE!		**To make the setting procedure easier for the RPG 3.0 machine, there are 3 visual markings for 1", 2", and 3" pipes. For the RPG 4.5 (S) machine, 4 visual markings (for 1", 2", 3", and 4" pipes) are fixed on the tool mounting plate (see figure below). For the RPG 8.6, 5 visual markings are available for 4", 5", 6", 7", and 8" pipes.**





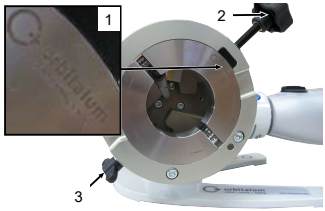


8.2 Inserting/replacing the clamping shells RPG 3.0

NOTICE!

The clamping shell is applied correctly when it has locked in. If the clamping shell does not lock in, you can readjust by rotating the clamping shell slightly.

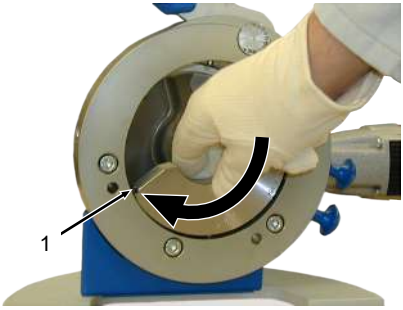
1. Select clamping shells in accordance with the pipe diameter.
2. Unscrew the clamping screw.
3. Compress the clamping shell slightly and insert it into the housing.
4. The Orbitalum logo (1) on the clamping shell must correspond with the clamping screw (2) (see figure).
5. Tighten the clamping screw (3).
6. Remove the clamping shells takes place in reverse order.



8.3 Inserting/replacing the clamping shells RPG 4.5 and RPG 8.6

8.3.1 Inserting the lower clamping shell

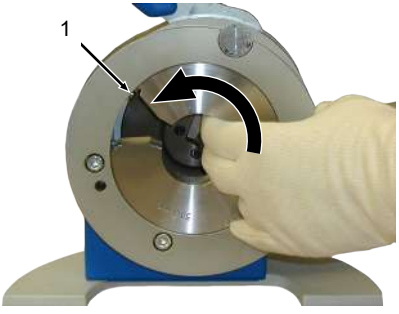
1. Select clamping shells in accordance with the pipe diameter.
2. Move the clamping lever to the open-position.
3. Place the lower clamping shell at the stop pin (1).
4. Swivel the clamping shell around the stop pin in the direction of the arrow until the mushroom handle locks into place.





8.3.2 Inserting the upper clamping shell

1. Place the upper clamping shell at the stop pin (1).
2. Swivel the clamping shell around the stop pin in the direction of the arrow until the mushroom handle locks into place.





8.3.2.1 Replacing clamping shells

1. To replace the clamping shells, pull on the mushroom handles.
2. Remove the clamping shells at the top and at the bottom.

8.4 Clamping pipe

WARNING

Parts thrown off/tool breakage and rotating pipe!

Various injuries and damage to property.

- ► No damaged or deformed cutting tools (MFW) should be used.
- ► Firmly clamp the tube to be processed into the clamping unit.
- ► Change worn tool immediately.
- ► Ensure proper mounting of the cutting tools.
- ► Keep the clamping surface of the clamping shells free of chips and dirt.
- ► The inner diameter of the clamping shells must be identical to the outer diameter of the tube to be machined. The specific inner diameter is specified on the clamping shells. The outer diameter of the tube must be determined.
- ► Avoid tool breakage by ensuring low (measured) infeed (max. clamping thickness: 0.2 mm) and correct speed setting (see chap. *Setting the speed*).
- ► Check that the tool holder (WH) and multifunctional tool (MFW) are seated firmly, and tighten if required.
- ► After adjusting the tool, remove the hexagon key from the working area.

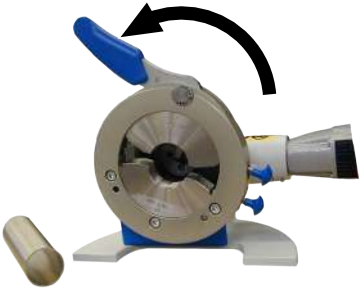
8.4.1 RPG 3.0

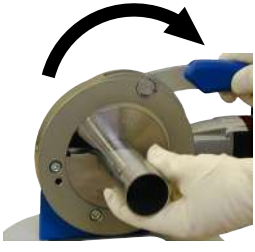
1. Loosen the clamping screw so that the clamping shell is completely open.
2. Insert the pipe with distance to the tool and support the pipe, if required.
3. Clamp the pipe by means of the clamping screw.
4. Check that the pipe is fixated properly.
5. To loosen the pipe from the machine open the clamping screw.



8.4.2 RPG 4.5 and RPG 8.6

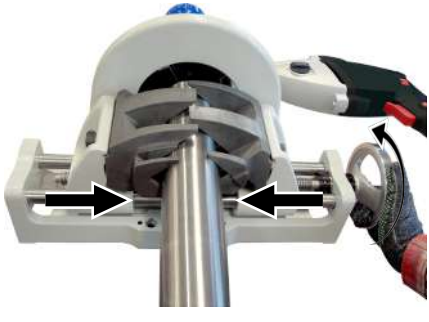
1. Open the clamping shells by shifting the clamping lever.
2. Insert the pipe with distance to the tool and support the pipe, if required.
3. Clamp the pipe by means of the clamping lever.
4. Check that the pipe is fixated properly.
5. The tube can now be machined.
6. To release the tube from the machine, move the clamping lever to open it.





8.4.3 RPG 4.5 S

1. Open the clamping jaws of the vice by turning the handwheel.
2. Insert the tube with distance to the tool.
3. Clamp the tube via the clamping jaw handwheel.
4. Check pipe for firm seating.
5. The tube can now be machined.



► Keep the clamping surface of the clamping jaws free of chips and dirt.

► To release the tube from the machine, turn the handwheel to open the vice.

8.4.4 Adjustment options with the clamping lever and adjusting bolt for offsetting tube tolerances (RPG 4.5 and RPG 8.6)

The RPG provides the option of offsetting tube tolerances (deviations from nominal size) by means of an adjusting bolt (adjusting wheel) on the clamping lever. The adjusting bolt has 3 visible marks; the factory's setting or neutral position is marked by a •.

Example:

A tube with an outer diameter of 51 mm is to be processed with the clamping shell set of 50.8 mm. As a consequence, it is not possible to move the clamping lever right up to the stop. Therefore, the adjusting bolt has to be set in the + direction.
The tube is now properly clamped.

All adjustment options are shown in the following table:

ADJUSTMENT OPTIONS	TUBE IS THE EXACT NOMINAL SIZE	TUBE SMALLER THAN THE NOMINAL SIZE	TUBE LARGER THAN THE NOMINAL SIZE
Position of clamping lever	The adjustment of the clamping lever is correct.	The clamping lever sits on the clamping frame (tube not clamped).	It is not possible to turn the clamping lever.
Readjustment required in the direction of:	●	−	+
Result (position of adjusting bolt)			

8.4.4.1 Shifting the adjusting bolt

1. Loosen the clamping lever and, if necessary, remove the tube.
2. Loosen the hexagon socket screw of the adjusting bolt using the Allan key.
3. Turn the adjusting bolt in the + or – direction.
4. Allow the pin to engage in the adjusting bolt and re-tighten the hexagon socket screw.
5. The tube can now be clamped in.





9 Operation

DANGER



Machine startup due to unintentionally pressing the ON/OFF button!

Fatal electric shock.

Various injuries and damage to property.

► At the end of each working cycle, before transportation, changing tools, cleaning and performing any maintenance, adjustment or repair work, switch off the machine, wait until the machine/tool stops running and pull the mains plug. In the case of battery drives remove the battery and cover the battery.

DANGER



Unexpected start up!

Severe injury or death.

► Electric drive: Before connecting the machine to the power supply the ON/OFF switch must be switched off.

► Battery drive: When connecting the battery to the motor, do not press the ON/OFF button.

DANGER



Catching of loose/long clothing, long hair or jewelry by rotating machine parts!

Severe injury or death.

► Wear tight-fitting clothing when using the machine.

► Secure long hair against being caught.

WARNING



Danger from falling machine and pipe!

Irreversible crushing.

► Check machine condition and secure it to prevent it falling.

► Ensure that the machine has a solid footing and stands on a sufficiently stable substrate.

► Place sufficient supports under the tube.

WARNING



Parts thrown off/tool breakage and rotating pipe!

Various injuries and damage to property.

- ► **No** damaged or deformed cutting tools (MFW) should be used.
- ► Firmly clamp the tube to be processed into the clamping unit.
- ► Change worn tool immediately.
- ► Ensure proper mounting of the cutting tools.
- ► Keep the clamping surface of the clamping shells free of chips and dirt.
- ► The inner diameter of the clamping shells must be identical to the outer diameter of the tube to be machined. The specific inner diameter is specified on the clamping shells. The outer diameter of the tube must be determined.
- ► Avoid tool breakage by ensuring low (measured) infeed (max. clamping thickness: 0.2 mm) and correct speed setting (see operating instructions chap. *Setting the speed*).
- ► Check that the tool holder (WH) and multifunctional tool (MFW) are seated firmly, and tighten if required.
- ► After adjusting the tool, remove the hexagon key from the working area.
- ► Before switching on the machine, always bring the viewing window (on RPG 1.5 only) or the protective flap (on RPG 3.0, RPG 4.5, RPG 8.6 only) to the closed position after removing the chips.

WARNING



Fingers jammed between the clamping unit, clamping shells and tube!

Irreversible crushing.

- ► Do not place fingers between the clamping unit, clamping shells and tube.
- ► At the end of each working cycle, before transportation, changing tools, cleaning and performing any maintenance, adjustment or repair work, shut the machine down, wait until the machine/tool stops running and pull the mains plug or remove the battery and cover the battery.
- ► Always bring the viewing window (on RPG 1.5 only) or protective flap (on RPG 3.0, RPG 4.5, RPG 8.6 only) to the closed position after removing the chips.

WARNING



Body parts can get caught between the cutting tool and the pipe!

Severe injury.

► **Do not** put body parts between the cutting tool and the pipe.

WARNING



Flying hot and sharp chips, pipe surfaces, cutting edges and tools!

Danger of injury to eyes and hands.

► Do not reach into the rotating tool during working.

► Never work without an installed cover hood or protection.

► Wear recommended protective clothing, as described in chap. Basic safety precautions.

► At the end of each working cycle, switch off the machine, wait until the machine/tool stops running and pull the mains plug or remove the battery. Remove chips with snug-fitting safety shoes (according to DIN EN 388 and EN 407) with a suitable tool (e.g. tongs).

► Make sure that the protective flap is closed.

CAUTION



Restarting the machine after blockage!

Various injuries and damage to property.

► In case of blockage, always disconnect the machine from the power supply before eliminating the problem. In the case of battery drives remove the battery.

► If necessary, remove tensioned parts before restarting the machine.

CAUTION



A non-right-angled tube end can damage the tool with low distance between the cutting edge and the tube end!

Damage to tool.

► Before switching on the machine ensure that the tool has sufficient axial distance around the complete tube circumference.

► Approach the rotating tool only with a low feed rate (max. 0.2 mm/rotation).

► *See chap.* Maintenance, service and troubleshooting [▸ 57]

9.1 Shutdown (including in case of emergency)

WARNING

EMERGENCY STOP function not available by unplugging the power plug!

Various injuries and damage to property.

- ► **Do not** use angled power plugs.
- ► **Do not** use click-in socket outlets and click-in power plugs (blue CEE power plugs) for power connection, otherwise the EMERGENCY STOP does not function. The user must check whether the power plug can be pulled out of the outlet by the cable.
- ► Only use genuine spare parts from Orbitalum Tools.
- ► Ensure free access to the power plug.
- ► Remove from the danger zone until the machine stops.
- ► A radial space requirement/freedom of movement of approx. 2 m around the machine is required for people.

In order to be able to stop the machine (including in an emergency), carry out respective step and immediately remove from danger zone until the machine comes to a halt:

With the Electric variant:

If the locking button (1) is not activated:

► Release the ON/OFF button (2) (also for battery).

If the locking button (1) is activated:

► Press and release the ON/OFF button (2)

If the ON/OFF button (2) does not function:

► Unplug the power plug, or leave the danger zone as quickly as possible and then unplug the power plug.



RPG Electric

With the battery variant:

► Release the ON/OFF button (3).



RPG Battery

9.2 Setting the speed

The RPG motors have 2 gear steps. It is recommended to only work with gear step 1.

NOTICE!

The higher the cutting speed, the higher the attrition of the multi-functional tool.

9.2.1 Setting speed with RPG Electric machines

NOTICE!

The machining behavior can be influenced by the speed.

► Do not operate motor in pulse setting.

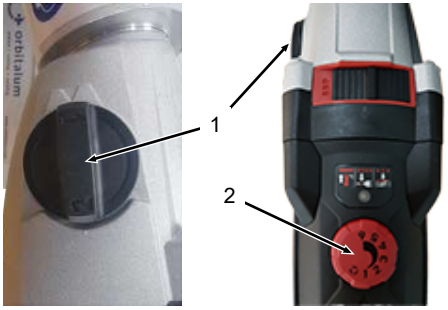
With the RPG Electric machines the gear step is preset via the RPM regulator (1).
Depending on the tube outer diameter, the setting wheel (2) can be used for fine adjustments:

Increasing the speed:

► Increase speed via setting wheel (2).

Decreasing the speed:

► Reduce speed via setting wheel (2).



GUIDE VALUES FOR SPEED (N)	PIPE OUTER Ø OD		ADJUSTING WHEEL FOR SPEED SELECTION
Machine model	[mm]	[inch]	[level]
RPG 3.0 / RPG 4.5 (S)	25.4	1.0	4
RPG 3.0 / RPG 4.5 (S)	38.1	1.5	3
RPG 3.0 / RPG 4.5 (S)	50.8	2.0	3
RPG 3.0 / RPG 4.5 (S)	63.5	2.5	2
RPG 3.0 / RPG 4.5 (S)	77.0	3.0	2
RPG 4.5 (S)	88.9	3.5	1
RPG 4.5 (S)	101.6	4.0	1
RPG 4.5 (S)	114.3	4.5	1

GUIDE VALUES FOR SPEED (N)	PIPE OUTER Ø OD		ADJUSTING WHEEL FOR SPEED SELECTION
RPG 8.6	50.8	2.0	5
RPG 8.6	101.6	4.0	4
RPG 8.6	114.3	4.5	4
RPG 8.6	141.3	5.6	3
RPG 8.6	152.4	6.0	3
RPG 8.6	168.3	6.6	3
RPG 8.6	219.1	8.6	2

9.2.2 Setting speed with RPG Battery machines

With the RPG Battery machines the speed level is finely set via the speed controller (1).

NOTICE!

The deeper the ON/OFF button is pressed, the higher the speed.

The machining behavior can be influenced by the speed.

When processing pipes, the speed can be reduced or influenced and can be adjusted with the ON/OFF button.

The larger the tube diameter the lower the speed must be set, to gain optimal cutting conditions.

Adjusting the speed:

► Using ON/OFF button (1).



Increasing the speed:

► Press ON/OFF button (1) deeper.

Decreasing the speed:

► Release ON/OFF button (1).

NOTICE!

The battery drives have a torque pre-selection.

► Only work at maximum torque (max. Nm)!



9.3 Switching on the machine

1. Connect the RPG (for information on the connection requirements, *see chap.* Requirements for the connection [▶ 35]).
2. Make sure that the protective flap is closed.
3. Check the pipe for firm seating.
4. Press the ON/OFF button.

⇨ The machine starts.

NOTICE!		► **Do not** use the locking button as this inhibits the shutdown process, *see chapt.* Shutdown (including in case of emergency) [▶ 51]

NOTICE!		**If the tool chatters after machine start-up, cutting speed is too high.** ► Reduce the speed, *see chapter* Setting the speed [▶ 52].

NOTICE!		**Do not operate motor in pulse setting.**

9.4 Machining the pipe

WARNING		**Flying hot and sharp chips, pipe surfaces, cutting edges and tools!** Danger of injury to eyes and hands. ► Do not reach into the rotating tool during working. ► Never work without an installed cover hood or protection. ► Wear recommended protective clothing, as described in chap. Basic safety precautions. ► At the end of each working cycle, switch off the machine, wait until the machine/tool stops running and pull the mains plug or remove the battery. Remove chips with snug-fitting safety shoes (according to DIN EN 388 and EN 407) with a suitable tool (e.g. tongs). ► Make sure that the protective flap is closed.

NOTICE!

During machining, do not exceed a machining thickness of 0.2 mm. In the event of exceeding, the

overload protection

(adapter on RPG 4.5 (S)/RPG 8.6 Code 790 038 126. On RPG 3.0 (battery)

adapter code 790 031 305) can be secured.

► Troubleshooting, *see chap.* Maintenance, service and troubleshooting [▸ 57].

► Move the tool towards the pipe by means of the infeed handle until the tool touches the pipe.

If the tool cutting edge is cutting on the entire circumference of the pipe:

► Continue to guide the tool applying pressure evenly.

NOTICE!

The scale ring can be set to zero in accordance with the marking on the housing. Each scale line means 0.05 mm infeed.

9.5 Switching off machine

1. Release the ON/OFF button (1).
   ⇨ The machine stops.
2. Disconnect the mains plug from power source/remove the battery from battery drive
3. Release the tube from the machine (*see chapter* Clamping pipe [▸ 44]).
4. After each processing, open the protective flap and remove chips from the housing using a suitable tool (tongs).
5. After removing the chips, make sure that the protective flap is closed.



ON/OFF button electric variant



ON/OFF button battery variant

10 Maintenance, service and troubleshooting

NOTICE!



Some of the tasks named are heavily dependent on use and ambient conditions. The stated cycles are minimum values. In individual cases, different maintenance cycles are possible. To ensure machine safety, have the maintenance performed annually by authorized service points with VDE testing. Should the machine not function as described above, it must also be sent to an authorized service point.

DANGER



Risk of death from electric shock!

Non-compliance can result in death or severe injury.

► At the end of each working cycle, before transportation, changing tools, cleaning and performing any maintenance, adjustment or repair work, switch off the machine, wait until the machine/tool stops running and pull the mains plug. In the case of battery drives remove the battery and cover the battery.

DANGER



Electrical hazards from improperly assembled electrical system!

Fatal electric shock.

► At the end of each working cycle, before transportation, changing tools, cleaning and performing any maintenance, adjustment or repair work, switch off the machine, wait until the machine/tool stops running and pull the mains plug. In the case of battery drives remove the battery and cover the battery.

► Repair and maintenance work on the electrical equipment may only be carried out by a qualified electrician.

► Check components for damage, e.g. cables, plugs

10.1 Maintenance

TIME FRAME	ACTIVITY
Before beginning work	Clean the machine and remove chips, if required. Check pipe clamping, if the pipe is already mounted to the machine.
During every cleaning process	Clean clamping shells and tool holders for MFW.
At every tool change	Clean the tool holder and multifunctional tool. Remove soiling from the contact surface of the tool holder.

10.2 What to do if...? – General troubleshooting

MALFUNCTION	POSSIBLE CAUSE	REMEDY
Tool (MFW) hooks in during machining.	Feed too large.	Dismantle the tool holder and take the pipe out of the machine. Remove chippings by means of a side cutter and file down the recess. Feed carefully during the next machining.
	MFW or WH loose.	Tighten the MFW or WH.
Tool tends to chatter.	Speed too high.	Reduce the speed (*see chap.* Setting the speed [▶ 52]*).*
Strong tendency to chatter.	Axial or radial play in the components.	Check the machine for radial play.
	MFW loose.	Check that the multifunctional tool (MFW) is seated firmly.
The processed pipe is coarse or its burr is too great.	MFW blunt.	Replace MFW.

10.3 Servicing/Customer service

The following data are required to order spare parts:

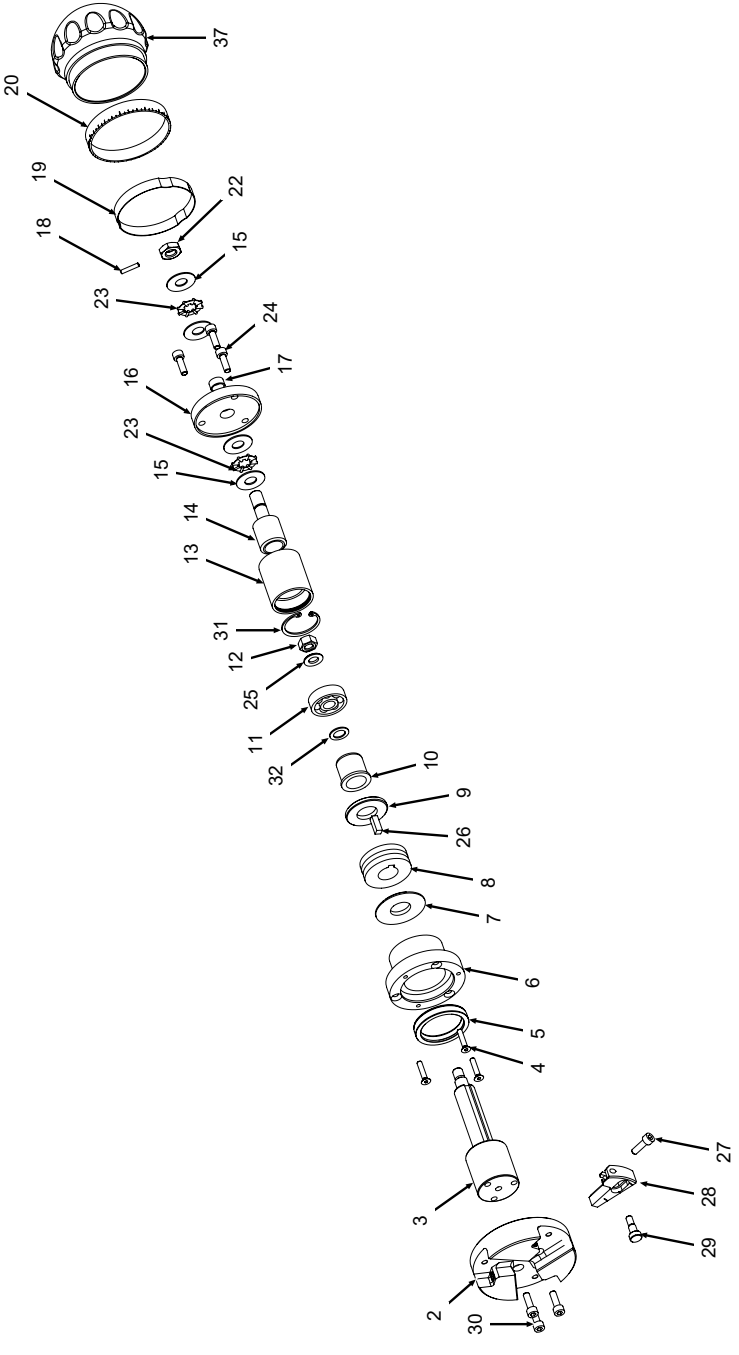
- Machine model: (example: RPG 3.0 (battery))
- Machine No.: See type plate

► For ordering spare parts, see the spare part list.

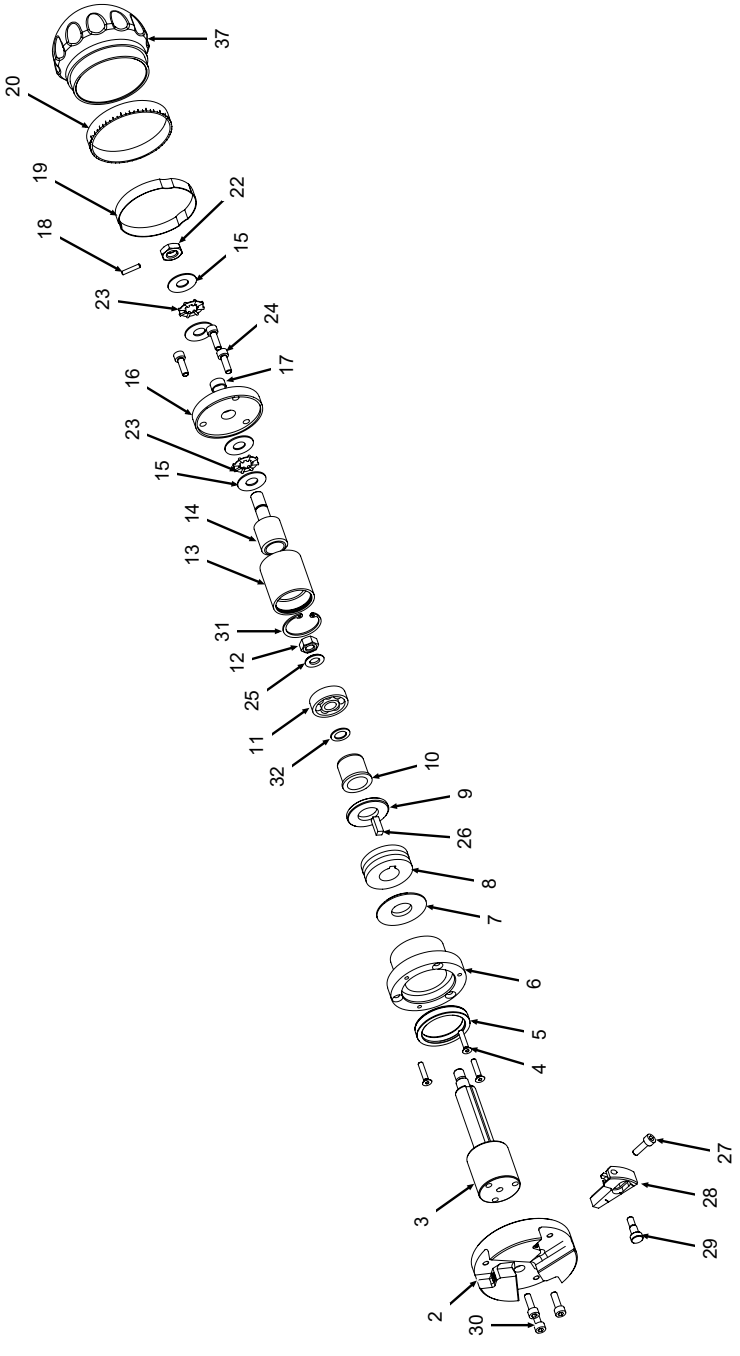
► Contact your local branch directly in order to eliminate problematic situations.

11 ERSATZTEILLISTE / SPARE PARTS LIST

11.1 RPG 3.0: Vorschub | RPG 3.0: Feed

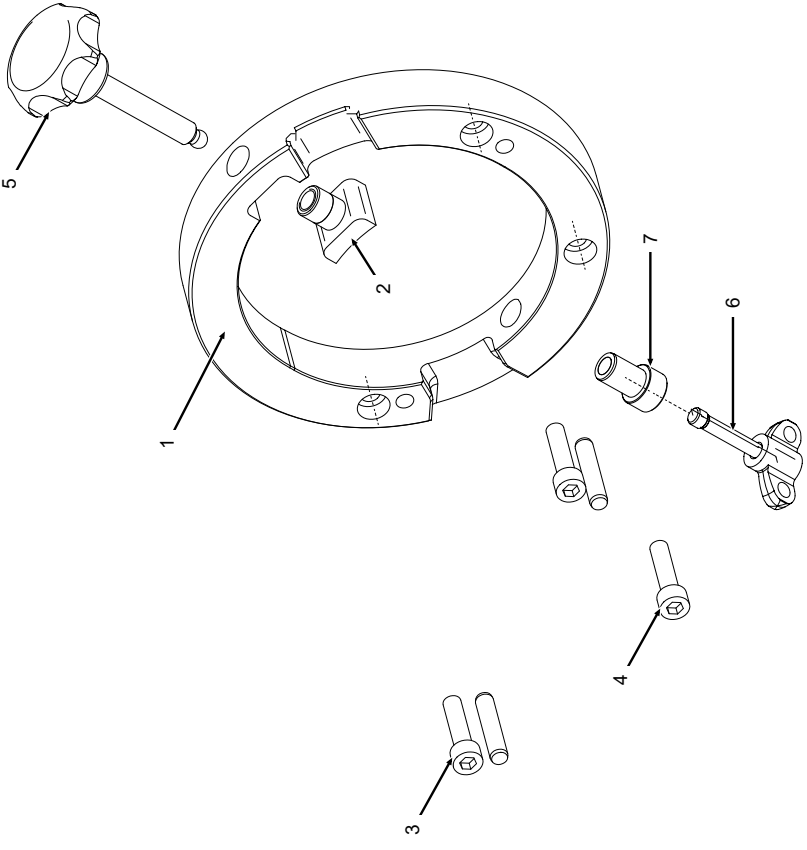


POS. NO.	CODE PART NO.	STK. QTY.	BEZEICHNUNG DESCRIPTION	POS. NO.	CODE PART NO.	STK. QTY.	BEZEICHNUNG DESCRIPTION
2	790 031 302	1	Aufnahme Retainer	12	501 607 312	1	Sechskantmutter ISO10511-M8-05-ZN Hexagon nut ISO10511-M8-05-ZN
3	790 031 112	1	Vorschubwelle Feed shaft	13	790 031 120	1	Gewindebuchse Threaded bushing
4	302 305 119	3	Senkschraube DIN7991-M4x20-8.8-ZN Countersunk screw DIN7991-M4x20-8.8-ZN	14	790 038 122	1	Vorschubspindel Feed spindle
5	790 038 141	1	Radialwellendichtring 45x35x7 Radial shaft seal 45x35x7	15	790 038 136	4	Axialscheibe DIN5405-AS1024-INA Axial washer DIN5405-AS1024-INA
6	790 038 108	1	Bundbuchse Flange bushing	16	790 038 124	1	Endscheibe End plate
7	790 038 114	1	Distanzscheibe 42/36x3.27 Spacer 42/36x3.27	17	790 038 142	1	Gleitlager (IHG) Slide bearing (IHG)
8	790 041 400	1	Schneckenwelle und Rad Worm shaft and wheel	18	566 958 077	1	Spannstift ISO13337-3x16-ST Dowel pin ISO13337-3x16-ST
9	790 038 116	1	Distanzscheibe 26/17.2x3.72 Spacer 26/17.2x3.72	19	790 038 150	1	Bremsring Brake ring
10	790 038 110	1	Gleitlagerbuchse Slide bearing bushing	20	790 038 148	1	Skalaring Scale ring
11	610 802 010	1	Rillenkugellager DIN625-6200-2RS1 Grooved ball bearing DIN625-6200-2RS1	22	500 505 413	1	Sechskantmutter ISO4035-M10x1.0-05-ZN Hexagon nut ISO4035-M10x1.0-05-ZN


37
20
19
22
18
15
23
24
17
16
23
15
14
13
31
12
25
11
32
10
9
26
8
7
6
5
4
3
27
28
29
2
30

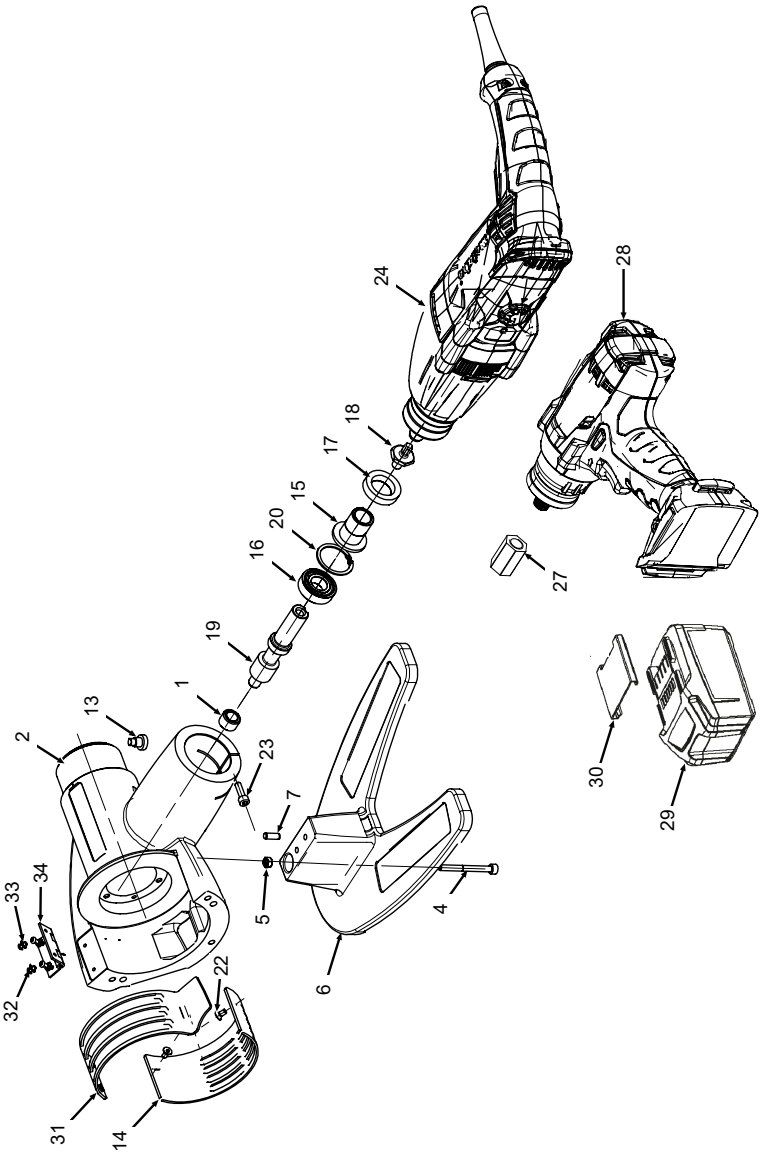
POS. NO.	CODE PART NO.	STK. QTY.	BEZEICHNUNG DESCRIPTION	POS. NO.	CODE PART NO.	STK. QTY.	BEZEICHNUNG DESCRIPTION
23	790 038 138	2	Axialnadelkranz DIN5405-AXK1024-INA Axial needle cage DIN5405-AXK1024-INA	37	790 038 140	1	Zustellgriff mit Griffmulden Feed grip with recessed grips
24	305 505 166	1	Zylinderschraube ISO4762-M5x16-8.8-ZN Cylinder screw ISO4762-M5x16-8.8-ZN				
25	542 500 312	1	Scheibe ISO7090-8-200HV Washer ISO7090-8-200HV				
26	790 038 118	1	Passfeder DIN6885B5x5x14.85 Fitting key DIN6885 B5x5x14.85				
27	305 505 166	1	Zylinderschraube ISO4762-M5x16-8.8-ZN Cylinder screw ISO4762-M5x16-8.8-ZN				
28	790 031 304	1	Keil Wedge				
29	790 038 310	1	Passschulterschraube BOSSARD Shoulder screw BOSSARD				
30	305 505 166	3	Zylinderschraube ISO4762-M5x16-8.8-ZN Cylinder screw ISO4762-M5x16-8.8-ZN				
31	554 058 330	1	Sicherungsring DIN472-30x1.2 Circlip DIN472-30x1.2				
32	554 308 010	1	Passscheibe DIN988-10x16x1.0 Adjusting washer DIN988-10x16x1.0				

11.2 RPG 3.0: Spanneinheit | RPG 3.0: Clamping unit

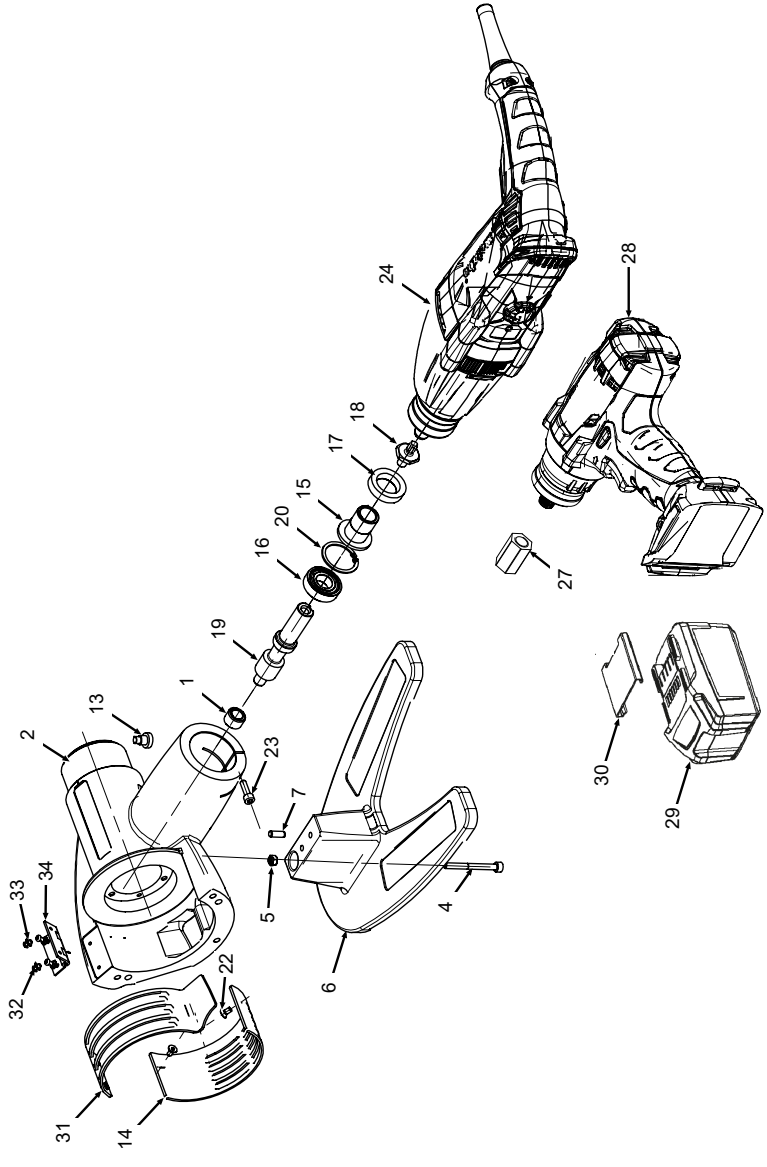


POS. NO.	CODE PART NO.	STK. QTY.	BEZEICHNUNG DESCRIPTION
1	790 031 202	1	Spannrahmen Clamping frame
2	790 031 204	1	Gewindeeinsatz Threaded insert
3	565 800 424	2	Zylinderstift ISO2338-6M6x30-ST Cylinder pin ISO2338-6M6x30-ST
4	305 505 222	3	Zylinderschraube ISO4762-M6x25-8.8-ZN cylinder screw ISO4762-M6x25-8.8-ZN
5	790 030 168	1	Spanngriff (lang) NG, kpl. Clamping grip (long) NG, cpl.
6	790 030 165	1	Spannschalenarretierung, lang, kpl. Clamping shell locking, long, cpl.
7	790 031 206	1	Buchse Bushing

11.3 RPG 3.0: Gehäuse mit Antrieb | RPG 3.0: Main housing with drive

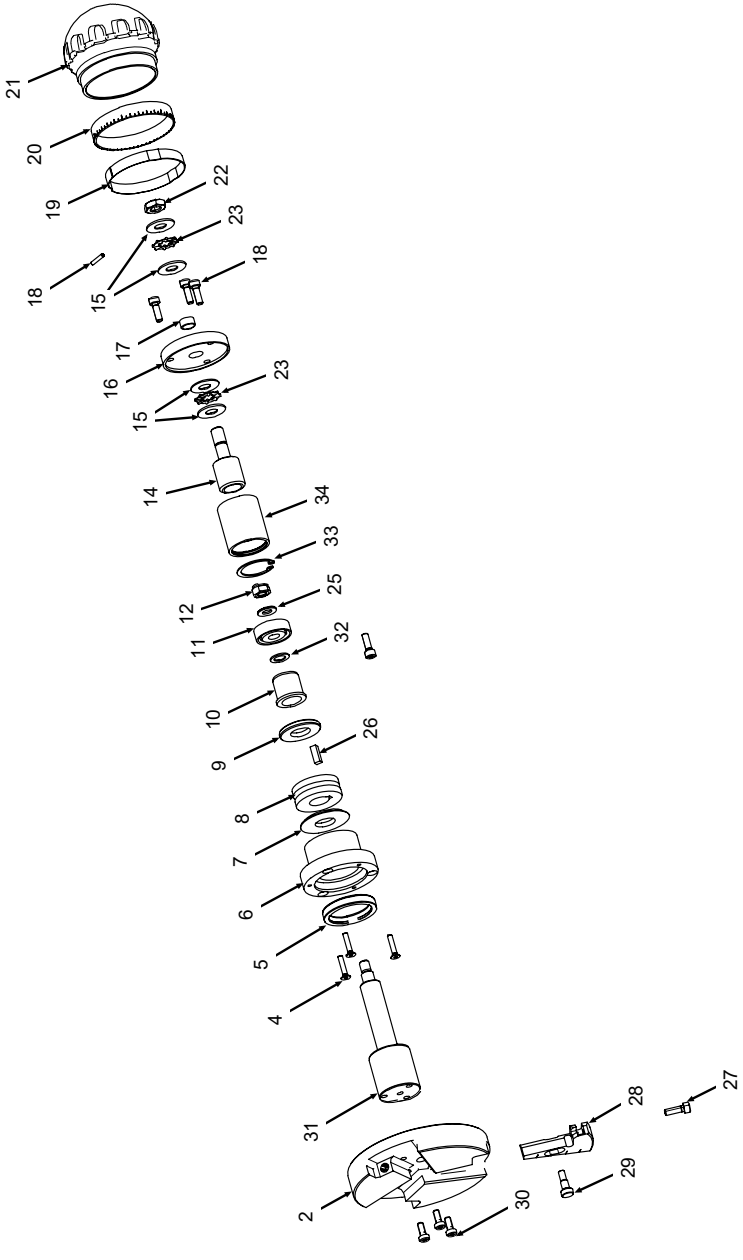


POS. NO.	CODE PART NO.	STK. QTY.	BEZEICHNUNG DESCRIPTION	POS. NO.	CODE PART NO.	STK. QTY.	BEZEICHNUNG DESCRIPTION
1	790 041 190	1	Lagerbuchse 10x16x11 Bearing bush 10x16x11	17	790 038 144	1	Radialwellendichtring 20x32x7 Radial shaft seal 20x32x7
2	790 031 702	1	Gehäuse V2 Housing V2	18	790 031 305	1	Adapter Adapter
4	305 601 182	1	Zylinderschraube ISO4762-M5x50/22-8.8-ZN Cylinder screw ISO4762-M5x50/22-8.8-ZN	19	790 041 180	1	Schneckenwelle Worm shaft
5	501 607 310	1	Sechskantmutter ISO10511-M5-05-ZN Hexagon nut ISO10511-M5-05-ZN	20	554 058 332	1	Sicherungsring DIN472-32x1.2 Circlip DIN472-32x1.2
6	790 037 145	1	Grundplatte Base plate	22	302 302 112	3	Senkschraube DIN7991-M4x8-8.8 Countersunk screw DIN7991-M4x8-8.8
7	565 808 315	1	Zylinderstift ISO8734-5M6x14-ST Cylinder pin ISO8734-5M6x14-ST	23	305 505 166	1	Zylinderschraube ISO4762-M5x16-8.8-ZN Cylinder screw ISO4762-M5x16-8.8-ZN
13	790 038 128	1	Anschlagbolzen (Nacharbeit) Limit stop bolt (rework)	24	790 038 190	1	RPG Motor, 230 V, 50/60 Hz EU RPG motor, 230 V, 50/60 Hz EU
14	790 031 704	1	Schutz, fest, V2 Protection, fixed V2		790 038 191		RPG Motor, 120 V, 50/60 Hz US RPG motor, 120 V, 50/60 Hz US
15	790 038 134	1	Distanzhülse Spacer sleeve		790 038 192		RPG Motor, 110 V, 50/60 Hz GB RPG motor, 110 V, 50/60 Hz GB
16	610 310 015	1	Rillenkugellager DIN625-6002-2Z Grooved ball bearing DIN625-6002-2Z	27	790 031 130	1	Adapter Akku Adapter cordless

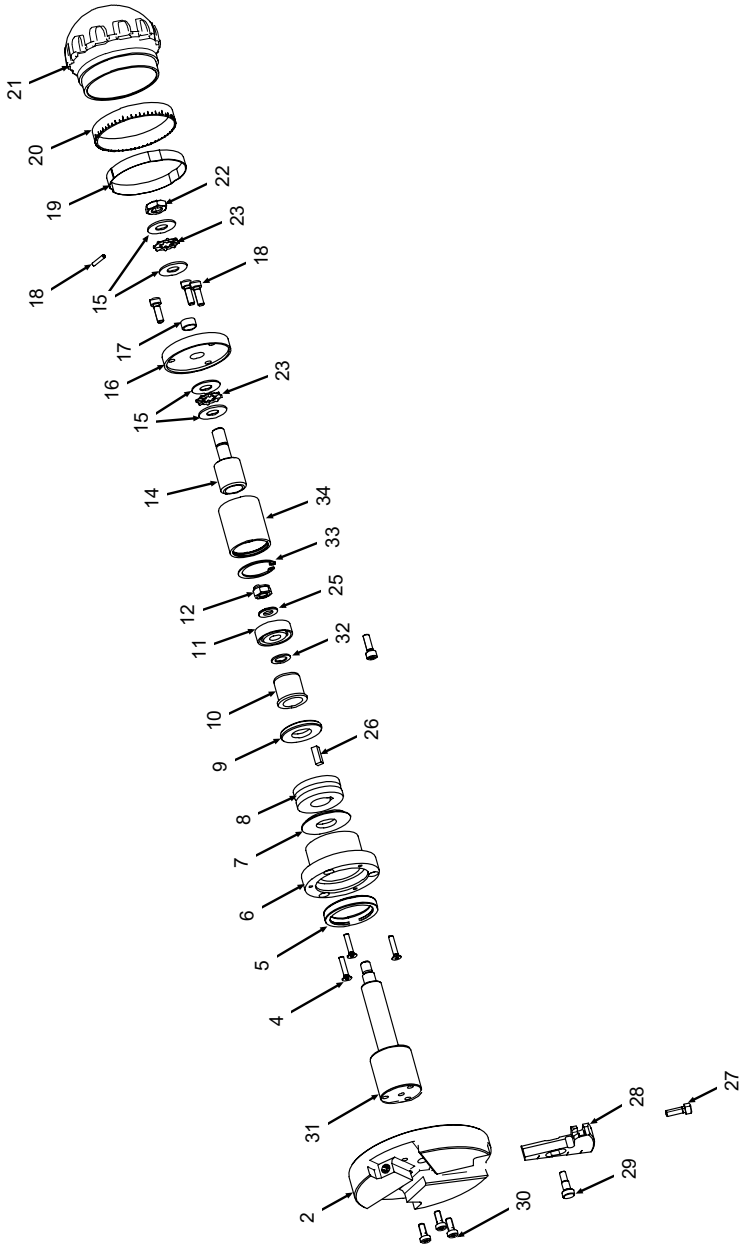

1
2
4
5
6
7
13
14
15
16
17
18
19
20
22
23
24
27
28
29
30
31
32
33
34

POS. NO.	CODE PART NO.	STK. QTY.	BEZEICHNUNG DESCRIPTION
28	790 037 530	1	Akkumotor inkl. Ladegerät und 2 Akkus (230 V) EU Cordless motor+charger+2 batteries (230 V) EU
	790 037 531		Akkumotor inkl. Ladegerät und 2 Akkus (120 V) US Cordless motor+charger+2 batteries (120 V) US
29	790 037 488	1	Akku-Pack 4.0 Ah Battery 4.0 Ah
30	790 038 235	1	Kappe Akku Cap battery
31	790 031 705	1	Schutz, beweglich V2 Protection, movable V2
32	307 001 104	4	Linsenschraube ISO7380-M3x6-A2-TX Oval-head screw ISO7380-M3x6-A2-TX
33	542 500 325	4	Scheibe DIN125-ISO7089-d3.2-A2 Washer DIN125-ISO7089-d3.2-A2
34	790 038 707	1	Scharnier Hinge
Ohne Abbildung | Without illustration			
	790 037 533	1	Akku-Ladegerät EU Battery charger EU
	790 037 534		Akku-Ladegerät US Battery charger US

11.4 RPG 4.5 (S): Vorschub | RPG 4.5 (S): Feed

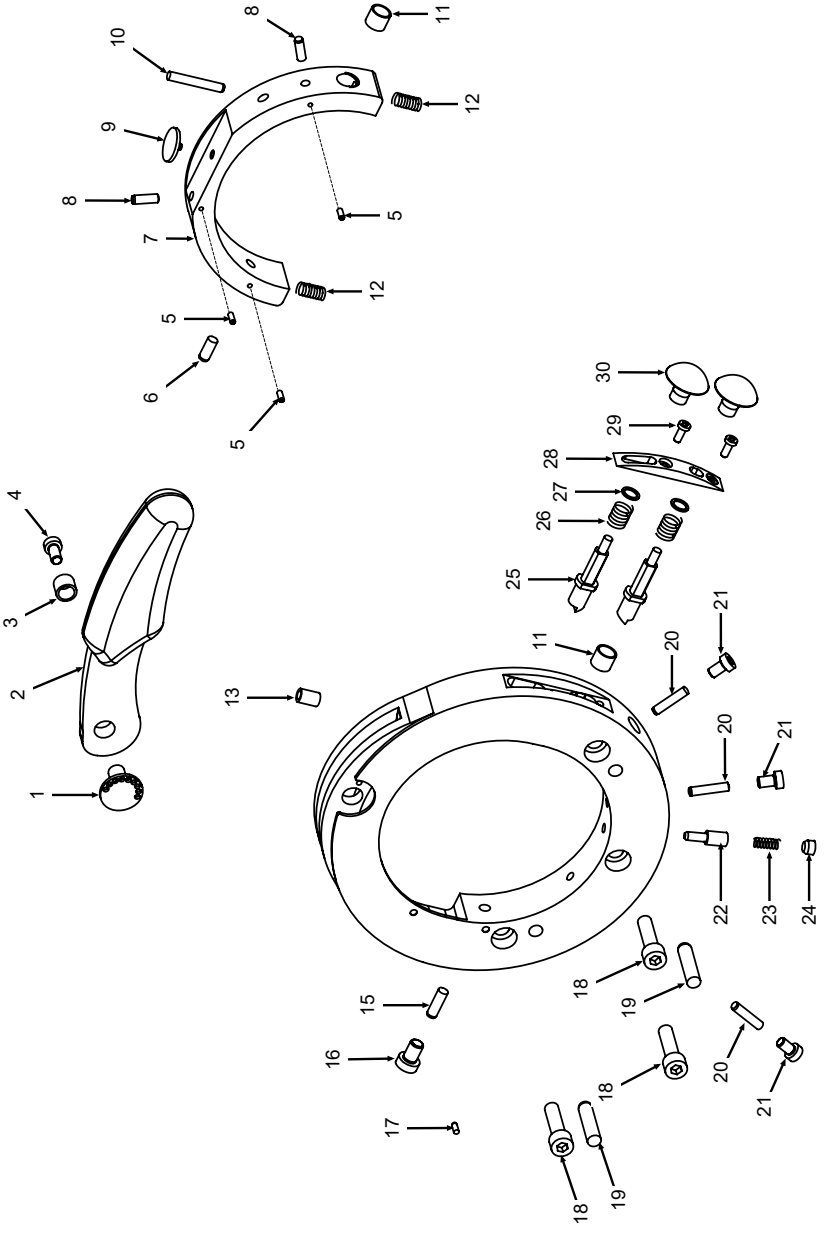


POS. NO.	CODE PART NO.	STK. QTY.	BEZEICHNUNG DESCRIPTION	POS. NO.	CODE PART NO.	STK. QTY.	BEZEICHNUNG DESCRIPTION
2	790 038 302	1	Aufnahme Retainer	12	501 607 312	1	Sechskantmutter ISO10511-M8-05-ZN Hexagon nut ISO10511-M8-05-ZN
4	302 305 119	3	Senkschraube DIN7991-M4x20-8.8-ZN Countersunk screw DIN7991-M4x20-8.8-ZN	13	790 038 120	1	Gewindebuchse Threaded bushing
5	790 038 141	1	Radialwellendichtring 45x35x7 Radial shaft seal 45x35x7	14	790 038 122	1	Vorschubspindel Feed spindle
6	790 038 108	1	Bundbuchse Flange bushing	15	790 038 136	5	Axialscheibe DIN5405-AS1024-INA Axial washer DIN5405-AS1024-INA
7	790 038 114	1	Distanzscheibe 42/36x3.27 Spacer 42/36x3.27	16	790 038 124	1	Endscheibe End plate
8	790 041 400	1	Schneckenwelle und Rad Worm shaft and wheel	17	790 038 142	1	Gleitlager (IHG) Slide bearing (IHG)
9	790 038 116	1	Distanzscheibe 26/17.2x3.72 Spacer 26/17.2x3.72	18	566 958 077	1	Spannstift ISO13337-3x16-ST Dowel pin ISO13337-3x16-ST
10	790 038 110	1	Gleitlagerbuchse Slide bearing bushing	19	790 038 150	1	Bremsring Brake ring
11	610 802 010	1	Rillenkugellager DIN625-6200-2RS1 Grooved ball bearing DIN625-6200-2RS1				

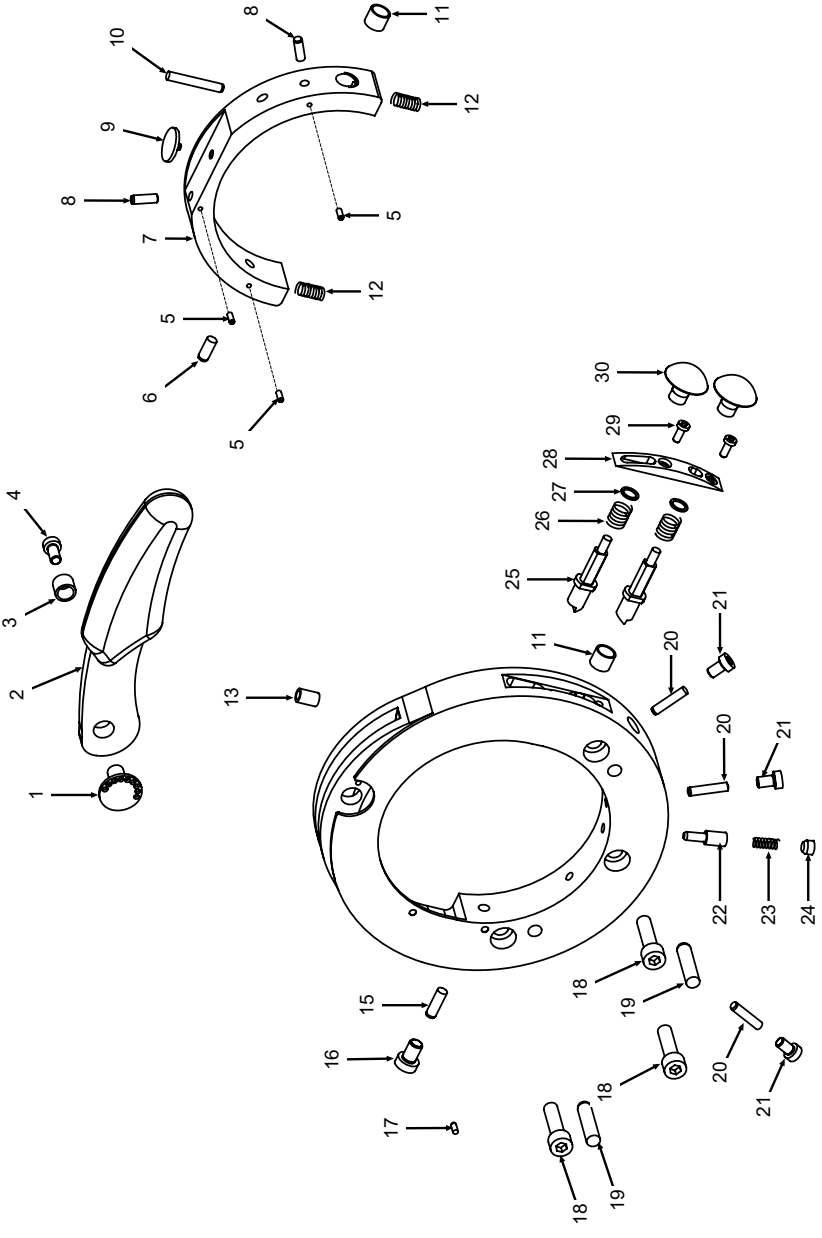

21
20
19
22
23
18
18
15
17
16
15
23
14
34
33
12
25
11
32
10
9
26
8
7
6
5
4
31
28
27
29
2
30

POS. NO.	CODE PART NO.	STK. QTY.	BEZEICHNUNG DESCRIPTION	POS. NO.	CODE PART NO.	STK. QTY.	BEZEICHNUNG DESCRIPTION
20	790 038 148	1	Skalaring Scale ring	30	305 805 164	3	Zylinderschraube DIN7984-M5x12-8.8-ZN Cylinder screw DIN7984-M5x12-8.8-ZN
21	790 038 140	1	Zustellgriff mit Griffmulden Feed grip with recessed grips	31	790 031 112	1	Vorschubwelle Feed shaft
22	500 505 413	1	Sechskantmutter ISO4035-M10x1.0-05-ZN Hexagon nut ISO4035-M10x1.0-05-ZN	32	554 308 010	1	Passscheibe DIN988 10x16x1.0 Adjusting washer DIN988-10x16x1.0
23	790 038 138	2	Axialnadelkranz DIN5405-AXK1024-INA Axial needle cage DIN5405-AXK1024-INA	33	554 058 330	1	Sicherungsring DIN472-30x1.2 Circlip DIN472-30x1.2
24	305 505 166	3	Zylinderschraube ISO4762-M5x16-8.8-ZN Cylinder screw ISO4762-M5x16-8.8-ZN	34	790 031 120	1	Gewindebuchse Threaded bushing
25	542 500 312	1	Scheibe ISO7090-8-200HV Washer ISO7090-8-200HV				
26	790 038 118	1	Passfeder DIN6885B5x5x14.85 Fitting key DIN6885 B5x5x14.85				
27	305 505 166	1	Zylinderschraube ISO4762-M5x16-8.8-ZN Cylinder screw ISO4762-M5x16-8.8-ZN				
28	790 038 304	1	Keil zu Aufnahme Wege for retainer				
29	790 038 310	1	Passschulterschraube BOSSARD Shoulder screw BOSSARD				

11.5 RPG 4.5: Spanneinheit | RPG 4.5: Clamping unit

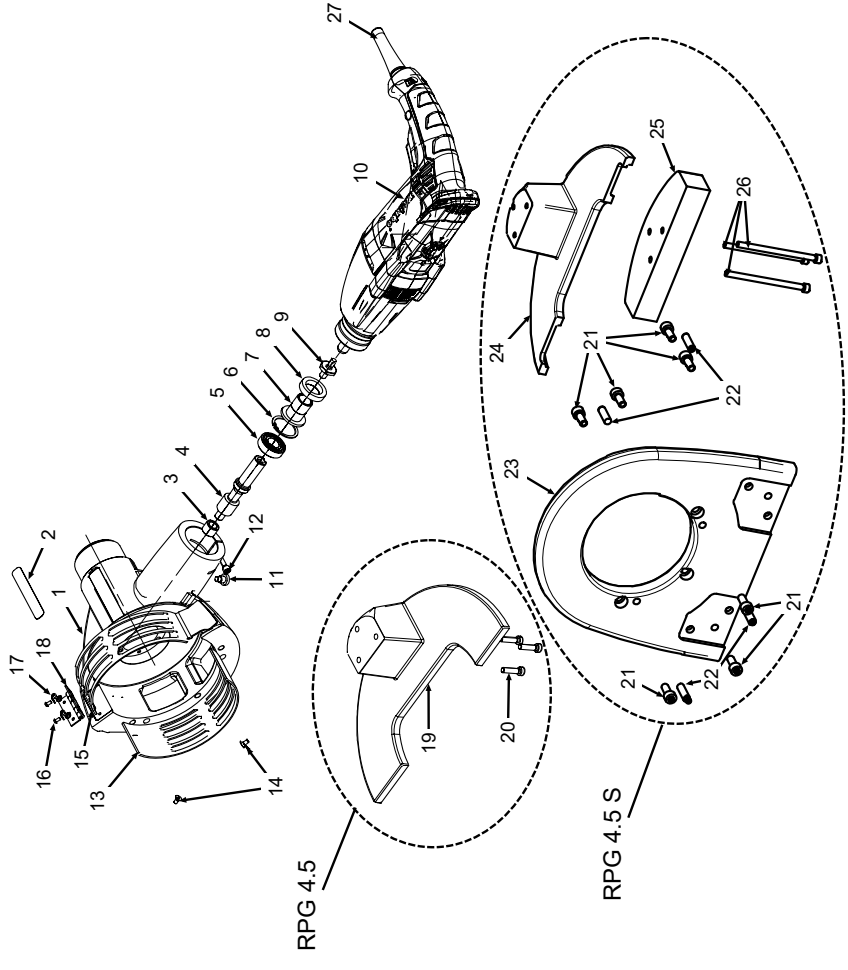


POS. NO.	CODE PART NO.	STK. QTY.	BEZEICHNUNG DESCRIPTION	POS. NO.	CODE PART NO.	STK. QTY.	BEZEICHNUNG DESCRIPTION
1	790 038 214	1	Exzenterbolzen Eccentric bolt	11	790 038 225	2	Gleitlagerbuchse 10x12x10 Slide bearing bushing 10x12x10
2	790 038 208	1	Exzenterhebel, kpl. Eccentric lever, cpl.	12	790 038 222	2	Spannschalenhalter, Druckfeder Clamping shell holder, pressure spring
3	790 038 224	1	Gleitlagerbuchse zu Exzenterhebel Slide bearing bushing f. eccentric lever	13	790 038 234	1	Gleitlagerbuchse Slide bearing bushing
4	305 805 214	1	Zylinderschraube DIN7984-M6x12-8.8-ZN Cylinder screw DIN7984-M6x12-8.8-ZN	14	790 038 202	1	Spannrahmen Clamping frame
5	445 005 072	3	Gewindestift DIN913-M3x8-45H-ZN Grub screw DIN913-M3x8-45H-ZN	15	565 808 419	1	Zylinderstift ISO8734-6x20-A-ST Cylinder pin ISO8734-6x20-A-ST
6	565 808 417	1	Zylinderstift ISO8734-6x16-A-ST Cylinder pin ISO8734-6x16-A-ST	16	305 805 264	1	Zylinderschraube DIN7984-M8x12-8.8-ZN Cylinder screw DIN7984-M8x12-8.8-ZN
7	790 038 204	1	Spannschalenhalter, oben Clamping shell holder, top	17	565 808 212	1	Zylinderstift ISO8734-3x8-A-ST Cylinder pin ISO8734-3x8-A-ST
8	565 808 317	2	Zylinderstift ISO8734-5x16-A-ST Cylinder pin ISO8734-5x16-A-ST	18	305 505 276	3	Zylinderschraube ISO4762-M8x35-8.8-ZN Cylinder screw ISO4762-M8x35-8.8-ZN
9	790 038 206	1	Druckbolzen Pressure bolt	19	565 808 527	2	Zylinderstift ISO8734-8x35-A-ST Cylinder pin ISO8734-8x35-A-ST
10	565 800 326	1	Zylinderstift DIN7979-5H6x36 Cylinder pin DIN7979-5H6x36	20	565 808 321	3	Zylinderstift ISO8734-5x24-A-ST Cylinder pin ISO8734-5x24-A-ST

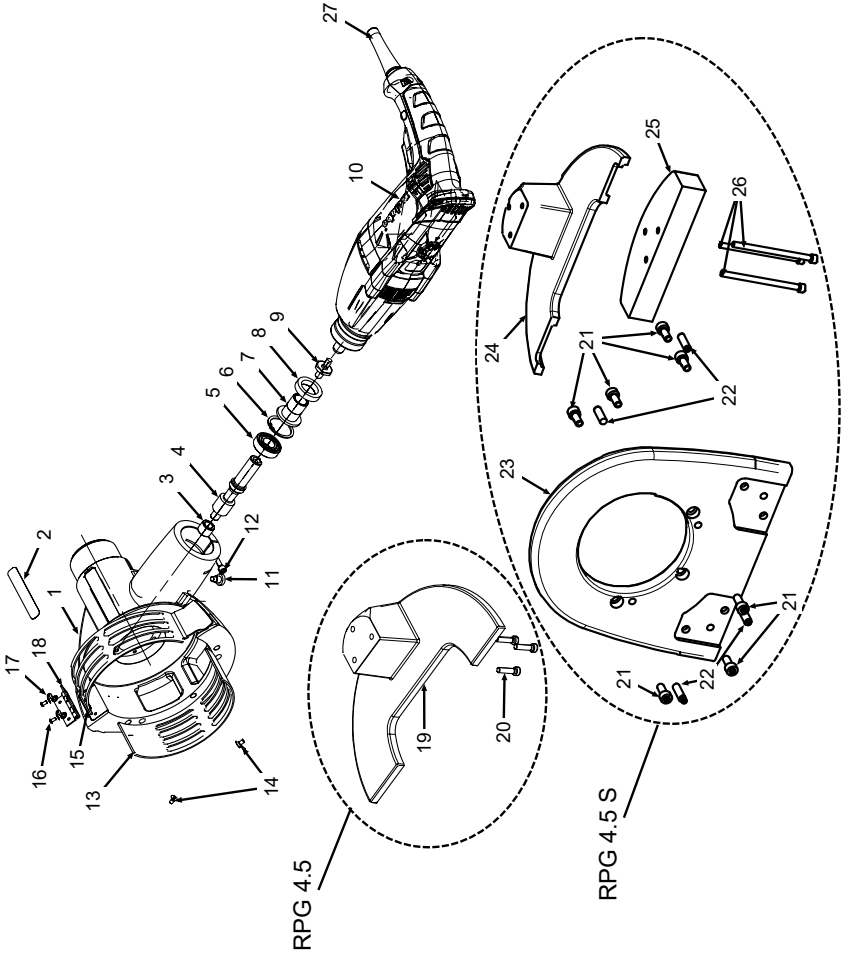

1
2
3
4
5
6
7
8
9
10
11
12
13
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30

POS. NO.	CODE PART NO.	STK. QTY.	BEZEICHNUNG DESCRIPTION
21	305 805 213	3	Zylinderschraube DIN7984-M6x10-8.8-ZN Cylinder screw DIN7984-M6x10-8.8-ZN
22	790 038 228	1	Auswerfer Ejector
23	790 038 231	1	Auswerfer, Druckfeder Ejector, pressure spring
24	790 038 230	1	Verschlussbolzen Locking bolt
25	790 038 218	2	Einrastbolzen Snap bolt
26	790 038 221	2	Einrastbolzen, Druckfeder Snap bolt, pressure spring
27	790 038 226	2	Scheibe 10.7x8.1x0.8 Washer 10.7x8.1x0.8
28	790 038 216	1	Einrastbolzenhalter Snap bolt holder
29	305 805 113	2	Zylinderschraube DIN7984-M4x10-8.8-ZN Cylinder screw DIN7984-M4x10-8.8-ZN
30	790 038 220	2	Pilzgriff Unlock grip

11.6 RPG 4.5 (S): Gehäuse mit Antrieb | RPG 4.5 (S): Main housing with drive

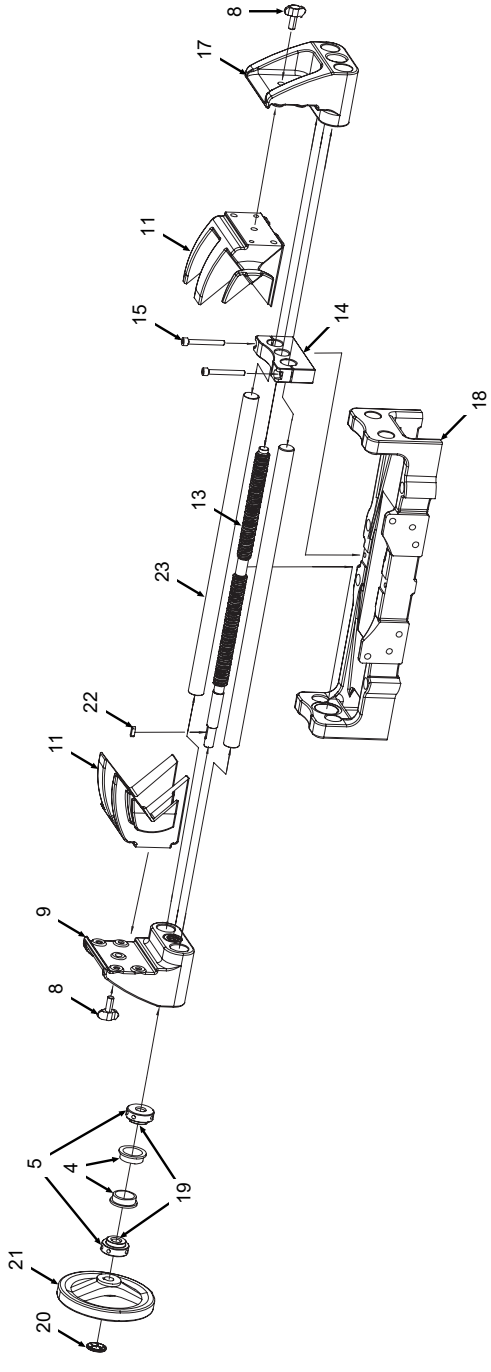


POS. NO.	CODE PART NO.	STK. QTY.	BEZEICHNUNG DESCRIPTION
1	790 038 702	1	Gehäuse V2 Housing V2
2	790 041 355	1	Schild 74x13 PVC Label 74x13 PVC
3	790 041 190	1	Lagerbuchse 10x16x11 Bearing bush 10x16x11
4	790 041 180	1	Schneckenwelle und Rad Worm shaft and wheel
5	610 310 015	1	Rillenkugellager DIN625-6002-2Z Grooved ball bearing DIN625-6002-2Z
6	554 058 332	1	Sicherungsring DIN472-32x1.2 Circlip DIN472-32x1.2
7	790 038 134	1	Distanzhülse Spacer sleeve
8	790 038 144	1	Radialwellendichtring 20x32x7 Radial shaft seal 20x32x7
9	790 038 126	1	Adapter Adapter
10	790 038 190	1	RPG Motor, 230 V, 50/60 Hz EU RPG motor, 230 V, 50/60 Hz EU
	790 038 191	1	RPG Motor, 120 V, 50/60 Hz US RPG motor, 120 V, 50/60 Hz US
	790 038 192	1	RPG Motor, 110 V, 50/60 Hz GB RPG motor, 110 V, 50/60 Hz GB
11	790 038 128	1	Anschlagbolzen (Nacharbeit) Limit stop bolt (rework)
12	305 505 166	1	Zylinderschraube ISO4762-M5x16-8.8-ZN Cylinder screw ISO4762-M5x16-8.8-ZN
13	790 038 704	1	Schutz, fest V2 Protection, fixed V2
14	302 302 112	2	Senkschraube DIN7991 M4x8 Countersunk screw DIN7991 M4x8
15	790 038 705	1	Schutz, beweglich V2 Protection, movable V2
16	307 001 104	4	Linsenschraube ISO7380-M3x6-A2-TX Oval-head screw ISO7380-M3x6-A2-TX
17	542 500 325	4	Scheibe DIN125-ISO7089-d3.2-A2 Washer DIN125-ISO7089-d3.2-A2


1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
RPG 4.5
RPG 4.5 S

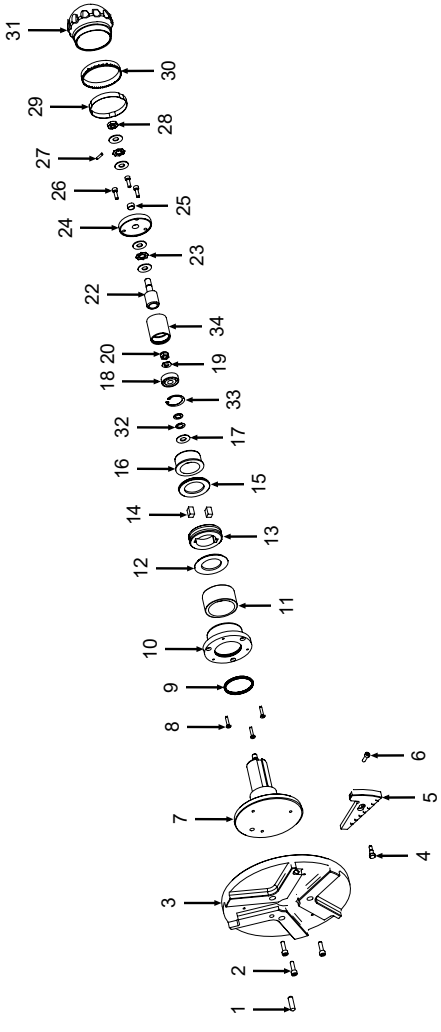
POS. NO.	CODE PART NO.	STK. QTY.	BEZEICHNUNG DESCRIPTION	POS. NO.	CODE PART NO.	STK. QTY.	BEZEICHNUNG DESCRIPTION
18	790 038 707	1	Scharnier Hinge	-	790 038 089	4 m	Kabel mit Stecker 230 V, 4 m Cable with plug 230 V, 4 m
19	790 038 154	1	Grundplatte Base plate				
20	305 805 219	3	Zylinderschraube DIN7984-M6x25-8.8-ZN Cylinder screw DIN7984-M6x25-8.8-ZN				
21	305 505 269	7	Zylinderschraube ISO4762-M8x20-8.8-ZN Cylinder screw ISO4762-M8x20-8.8-ZN				
22	565 808 524	4	Zylinderstift ISO8734-8x30-A-ST Cylinder pin ISO8734-8x30-A-ST				
23	790 038 172	1	Flansch Flange				
24	790 038 160	1	Grundplatte Base plate				
25	790 038 174	1	Grundplattenfuß Base plate foot				
26	305 601 252	3	Zylinderschraube ISO4762-M6x100 Cylinder screw ISO4762-M6x100				
27	790 048 225	1	SBE 1100 Plus Kabelschutzschlauch SBE 1100 Plus cable protective hose				

11.7 RPG 4.5 S: Schraubstock komplett | RPG 4.5 S: Vice complete

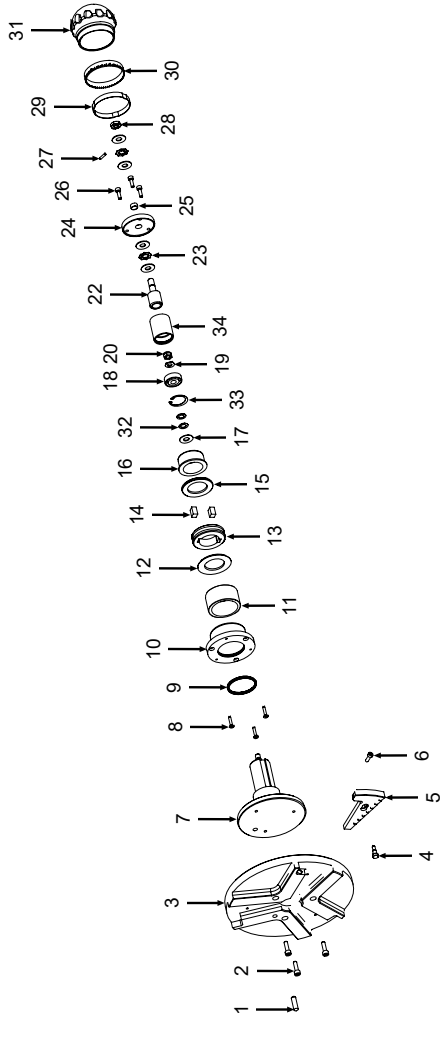


POS. NO.	CODE PART NO.	STK. QTY.	BEZEICHNUNG DESCRIPTION	POS. NO.	CODE PART NO.	STK. QTY.	BEZEICHNUNG DESCRIPTION
4	790 048 128	2	Bundbuchse Flange bushing	19	445 201 213	2	Gewindestift DIN915-M6x10-45H Grub screw DIN915-M6x10-45H
5	790 048 127	2	Stellring Adjusting ring	20	790 048 251	1	Sicherungsscheibe STARLOCK D12 (399417) Lock washer STARLOCK D12 (399417)
8	PS 4.5: 790 048 323	2	Flügelschraube M8x20 Wing screw M8x20	21	790 048 252	1	Handrad GN-322-125-K12-A Handwheel GN-322-125-K12-A
9	790 048 300	1	Gleitbacke PS 4.5, links Slide jaw PS 4.5, left-hand	22	565 000 116	1	Passfeder DIN6885-A4x4x14 Fitting key DIN6885-A4x4x14
11	790 048 380	1	Spannbackenpaar PS 4.5 Clamping jaws PS 4.5, pair	23	790 049 320	2	Führungswelle Guide shaft
13	790 048 350	1	Trapezgewindespindel TR18x4 Trapezoidal thread spindle TR18x4				
14	790 048 314	1	Lagerblock PS Bearing block PS				
15	305 501 232	2	Zylinderschraube ISO4762-M6x50-8.8 Cylinder screw ISO4762-M6x50-8.8				
17	790 048 305	1	Gleitbacke PS 4.5, rechts Slide jaw PS 4.5, right-hand				
18	790 048 302	1	Schraubstockgehäuse Vice housing				

11.8 RPG 8.6: Vorschub | RPG 8.6: Feed



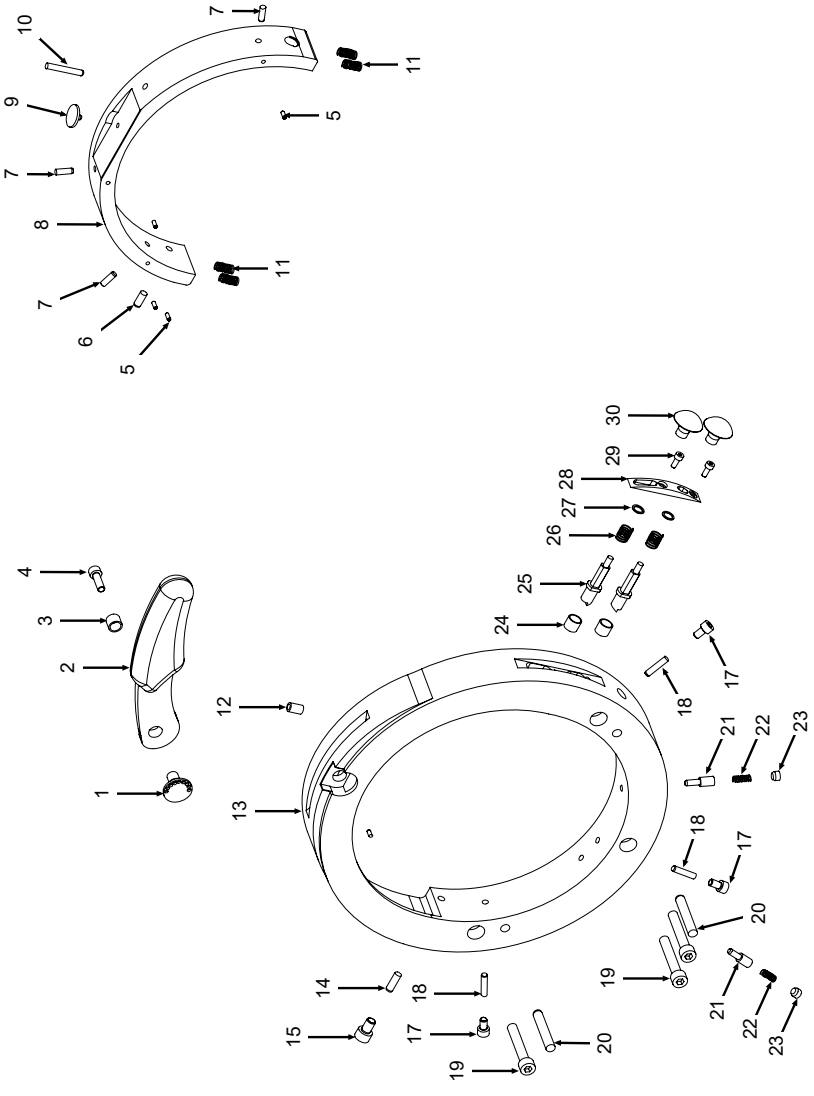
POS. NO.	CODE PART NO.	STK. QTY.	BEZEICHNUNG DESCRIPTION	POS. NO.	CODE PART NO.	STK. QTY.	BEZEICHNUNG DESCRIPTION
1	565 808 524	1	Zylinderstift ISO8734-8x30-A-ST Cylindrical pin 8x30	11	790 039 119	1	Nadellager NK47/30 Needle bearing NK47/30
2	305 501 219	3	Zylinderschraube DIN4762-M6x20-8.8 Cylindrical screw DIN4762-M6x20-8.8	12	790 039 114	1	Distanzscheibe 59/35.2x3.27 Spacer 59/35.2x3.27
3	790 039 302	1	Werkzeugaufnahme Werkzeugaufnahme	13	790 039 181	1	Schneckenrad Z=35 Worm wheel Z=35
4	790 038 310	1	Passschulterschraube BOSSARD Shoulder screw BOSSARD	14	790 039 118	2	Passfeder DIN 6885, Form B, Maße 10x8x14 Fitting key DIN 6885, Form B, 10x8x14
5	790 039 304	1	Keil zu Aufnahme Keil zu Aufnahme	15	790 039 116	1	Distanzscheibe 50/35.2x3.72 Spacer 50/35.2x3.72
6	305 505 166	1	Zylinderschraube ISO4762-M5x16-8.8-ZN Cylinder screw ISO4762-M5x16-8.8-ZN	16	790 039 110	1	Gleitlagerbuchse Slide bearing bushing
7	790 039 112	1	Vorschubwelle Feed shaft	17	790 038 136	5	Axialscheibe DIN5405-AS1024-INA Axial washer DIN5405-AS1024-INA
8	302 305 119	3	Senkschraube DIN7991-M4x20-8.8-ZN Countersunk screw DIN7991-M4x20-8.8-ZN	18	610 802 010	1	Rillenkugellager DIN625-6200-2RS1 Grooved ball bearing DIN625-6200-2RS1
9	790 039 120	1	Quadring 47.29x2.62x2.62 Quad ring 47.29x2.62x2.62	19	542 500 312	1	Scheibe ISO7090-8-200HV Washer ISO7090-8-200HV
10	790 039 108	1	Bundbuchse Flange bushing	20	501 607 312	1	Sechskantmutter ISO10511-M8-05-ZN Hexagon nut ISO10511-M8-05-ZN



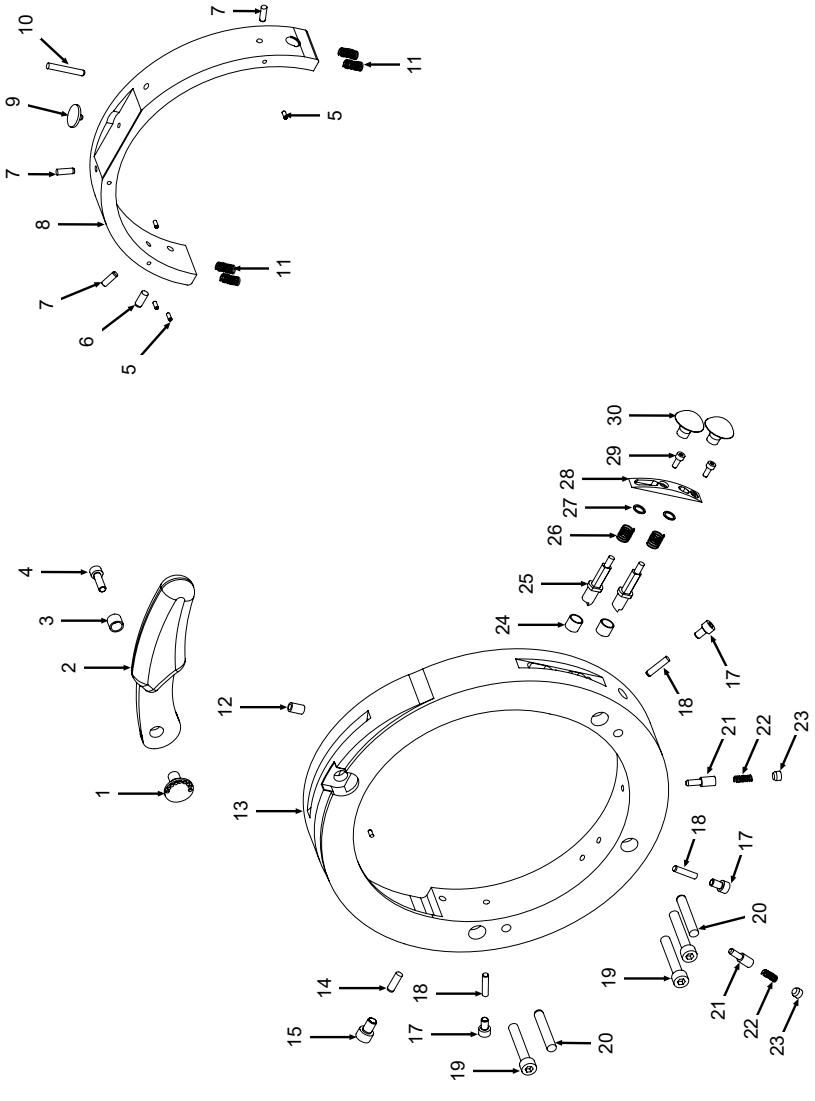
POS. NO.	CODE PART NO.	STK. QTY.	BEZEICHNUNG DESCRIPTION
22	790 038 122	1	Vorschubspindel Feed spindle
30	790 038 148	1	Skalaring Scale ring

POS. NO.	CODE PART NO.	STK. QTY.	BEZEICHNUNG DESCRIPTION	POS. NO.	CODE PART NO.	STK. QTY.	BEZEICHNUNG DESCRIPTION
23	790 038 138	2	Axialnadelkranz DIN5405-AXK1024-INA Axial needle cage DIN5405-AXK1024-INA	31	790 038 140	1	Zustellgriff mit Griffmulden Feed grip with recessed grips
24	790 038 124	1	Endscheibe End plate	32	554 308 010	2	Passscheibe DIN988 10x16x1.0 Adjusting washer DIN988-10x16x1.0
25	790 038 142	1	Gleitlager (IHG) Slide bearing (IHG)	33	554 058 330	1	Sicherungsring DIN472-30x1.2 Adjusting washer DIN988-10x16x1.0
26	305 505 166	3	Zylinderschraube ISO4762-M5x16-8.8-ZN Cylinder screw ISO4762-M5x16-8.8-ZN	34	790 031 120	1	Gewindebuchse Threaded bushing
27	566 958 077	1	Spannstift ISO13337-3x16-ST Dowel pin ISO13337-3x16-ST				
28	500 505 413	1	Sechskantmutter ISO4035-M10x1.0-05-ZN Hexagon nut ISO4035-M10x1.0-05-ZN				
29	790 038 150	1	Bremsring Brake ring				

11.9 RPG 8.6: Spanneinheit | RPG 8.6: Clamping unit

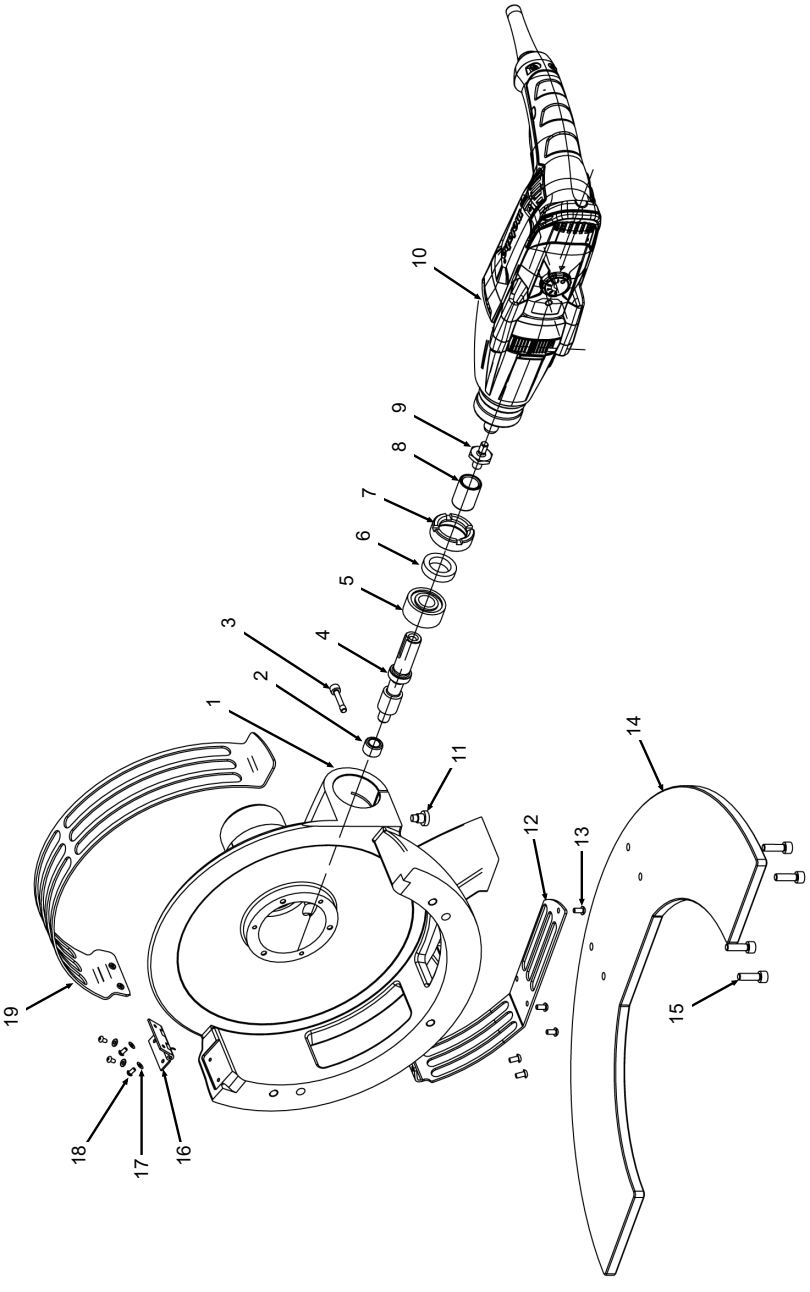


POS. NO.	CODE PART NO.	STK. QTY.	BEZEICHNUNG DESCRIPTION	POS. NO.	CODE PART NO.	STK. QTY.	BEZEICHNUNG DESCRIPTION
1	790 038 214	1	Exzenterbolzen Eccentric bolt	11	790 038 222	4	Spannschalenhalter, Druckfeder Clamping shell holder, pressure spring
2	790 038 208	1	Exzenterhebel, kpl. Eccentric lever, cpl.	12	790 038 234	1	Gleitlagerbuchse Slide bearing bushing
3	790 038 224	1	Gleitlagerbuchse zu Exzenterhebel Slide bearing bushing f. eccentric lever	13	790 039 202	1	Spannrahmen Clamping frame
4	305 501 219	1	Zylinderschraube M6x20 Cylindrical screw M6x20	14	565 808 419	1	Zylinderstift ISO8734-6x20-A-ST Cylinder pin ISO8734-6x20-A-ST
5	445 005 072	4	Gewindestift DIN913-M3x8-45H-ZN Grub screw DIN913-M3x8-45H-ZN	15	305 805 264	1	Zylinderschraube DIN7984-M8x12-8.8-ZN Cylinder screw DIN7984-M8x12-8.8-ZN
6	565 808 417	1	Zylinderstift ISO8734-6x16-A-ST Cylinder pin ISO8734-6x16-A-ST	16	565 808 212	1	Zylinderstift ISO8734-3x8-A-ST Cylinder pin ISO8734-3x8-A-ST
7	565 808 317	3	Zylinderstift ISO8734-5x16-A-ST Cylinder pin ISO8734-5x16-A-ST	17	305 805 213	3	Zylinderschraube DIN7984-M6x10-8.8-ZN Cylinder screw DIN7984-M6x10-8.8-ZN
8	790 039 204	1	Halbschalenhalter Clamping shell holder	18	565 808 321	3	Zylinderstift ISO8734-5x24-A-ST Cylinder pin ISO8734-5x24-A-ST
9	790 038 206	1	Druckbolzen Pressure bolt	19	305 602 282	3	Zylinderschraube ISO4762-M8x50-A2 Cylinder screw ISO4762-M8x50-A2
10	565 800 326	1	Zylinderstift DIN7979-5H6x36 Cylinder pin DIN7979-5H6x36	20	565 800 532	2	Zylinderstift ISO2338-8M6x50-ST Cylinder pin ISO2338-8M6x50-ST

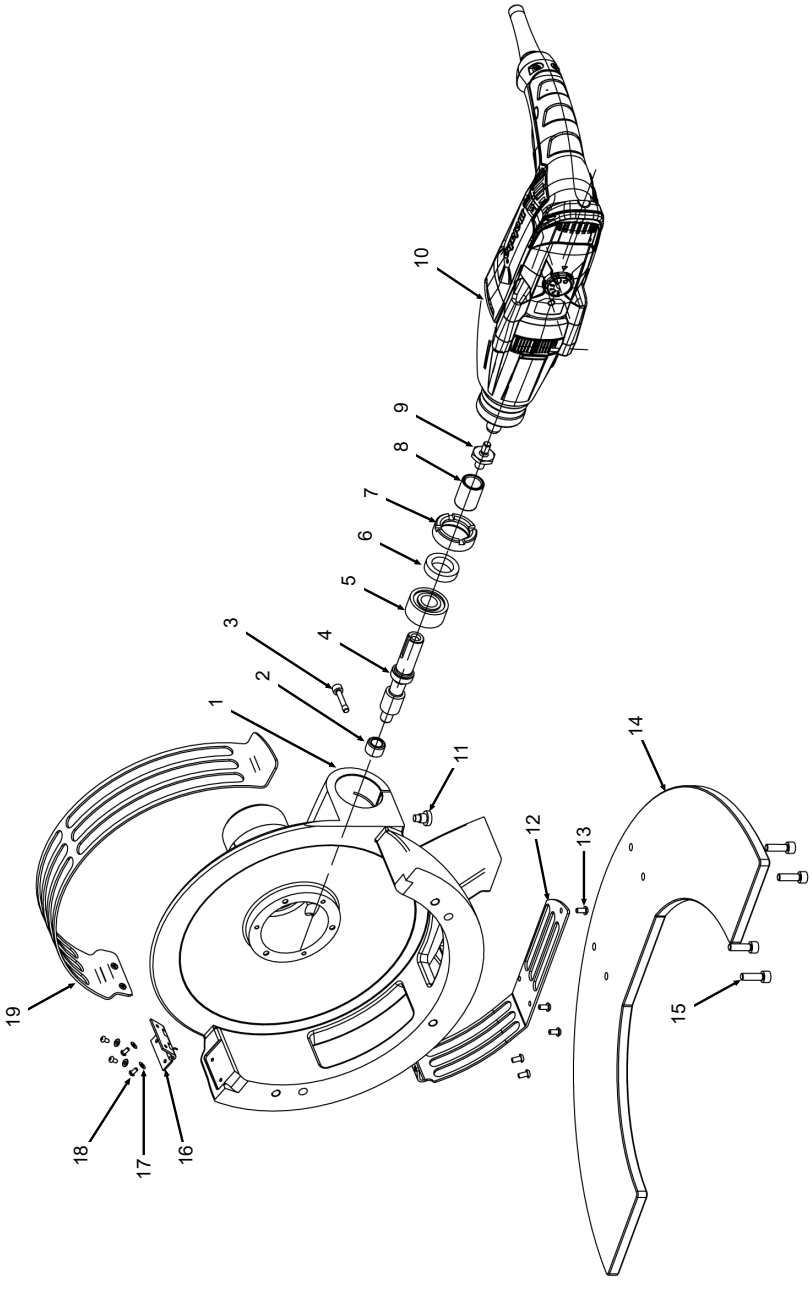

10
7
11
9
5
7
8
11
7
6
5
30
29
28
27
26
25
24
4
3
2
1
12
13
18
17
21
22
23
18
17
20
19
14
18
15
17
20
19
21
22
23

POS. NO.	CODE PART NO.	STK. QTY.	BEZEICHNUNG DESCRIPTION	POS. NO.	CODE PART NO.	STK. QTY.	BEZEICHNUNG DESCRIPTION
21	790 038 228	2	Auswerfer Ejector	30	790 038 220	2	Pilzgriff Unlock grip
22	790 038 231	2	Auswerfer, Druckfeder Ejector, pressure spring				
23	790 038 230	2	Verschlussbolzen Locking bolt				
24	790 038 225	2	Gleitlagerbuchse 10x12x10 Slide bearing bushing 10x12x10				
25	790 038 218	2	Einrastbolzen Snap bolt				
26	790 038 221	2	Einrastbolzen, Druckfeder Snap bolt, pressure spring				
27	790 038 226	2	Scheibe 10.7x8.1x0.8 Washer 10.7x8.1x0.8				
28	790 038 216	1	Einrastbolzenhalter Snap bolt holder				
29	305 805 113	2	Zylinderschraube DIN7984-M4x10-8.8-ZN Cylinder screw DIN7984-M4x10-8.8-ZN				

11.10 RPG 8.6: Gehäuse mit Antrieb | RPG 8.6: Main housing with drive



POS. NO.	CODE PART NO.	STK. QTY.	BEZEICHNUNG DESCRIPTION	POS. NO.	CODE PART NO.	STK. QTY.	BEZEICHNUNG DESCRIPTION
1	790 039 702	1	Gehäuse Housing	10	790 038 190	1	RPG Motor, 230 V, 50/60 Hz EU RPG motor, 230 V, 50/60 Hz EU
2	790 041 190	1	Lagerbuchse 10x16x11 Bearing bush 10x16x11		790 038 191	1	RPG Motor, 120 V, 50/60 Hz US RPG motor, 120 V, 50/60 Hz US
3	305 505 172	1	Zylinderschraube ISO4762-M5x25-8.8-ZN Cylinder screw ISO4762-M5x25-8.8-ZN		790 038 192	1	RPG Motor, 110 V, 50/60 Hz GB RPG motor, 110 V, 50/60 Hz GB
4	790 039 180	1	Schneckenwelle Worm shaft	11	790 038 128	1	Anschlagbolzen (Nacharbeit) Limit stop bolt (rework)
5	612 032 015	1	Schrägkugellager DIN6283202-A-Norm.-SKF Angular ball b. DIN6283202-A-Norm-SKF	12	790 039 704	1	Schutz, fest V2 Protection, fixed V2
6	624 541 201	1	Wellendichtring DIN3760-A20x30x7 Shaft seal DIN3760-A20x30x7	13	307 001 111	5	Linsenschraube ISO7380-M4x8-A2 Oval-head screw ISO7380-M4x8-A2
7	790 048 246	1	Gewindering M38x1.5 Threaded ring M38x1.5	14	790 039 104	1	Grundplatte Base plate
8	790 048 244	1	Hülse Sleeve	15	305 501 219	4	Zylinderschraube ISO4762-M6x20-8.8 Cylinder screw ISO4762-M6x20-8.8
9	790 038 126	1	Adapter Adapter	16	790 038 707	1	Scharnier Hinge


1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19

POS. NO.	CODE PART NO.	STK. QTY.	BEZEICHNUNG DESCRIPTION
17	542 500 325	4	Scheibe DIN125-ISO7089-d3.2-A2 Washer DIN125-ISO7089-d3.2-A2
18	307 001 104	4	Linsenschraube ISO7380-M3x6-A2-TX Oval-head screw ISO7380-M3x6-A2-TX
19	790 039 705	1	Schutz, beweglich V2 Protection, movable V2

11.11 Ohne Abbildung | Not shown

POS. NO.	CODE PART NO.	STK. QTY.	BEZEICHNUNG DESCRIPTION
–	790 982 099	1	Sechskantschlüssel m. Quergriff SW 4x150 Hexagon wrench w. cross-handle SW 4x150
–	790 086 219	1	Schraubendreher TORX T15 Screwdriver TORX T15
–	790 038 080	1	Koffer mit Einlage RPG 4.5 Case with inlay RPG 4.5
–	790 039 080	1	Koffer mit Einlage RPG 8.6 Case with inlay RPG 8.6

12 Declaration of Conformity

ORIGINAL

de EG-Konformitätserklärung
en EC Declaration of conformity
fr CE Déclaration de conformité
it CE Dichiarazione di conformità
es CE Declaración de conformidad
nl EG-conformiteitsverklaring
cz ES Prohlášení o shodě
sk EÚ Prehlásenie o zhode
pl Deklaracja zgodności WE

Orbitalum Tools GmbH
Josef-Schüttler-Straße 17
78224 Singen, Deutschland
Tel. +49 (0) 77 31 792-0

Maschine und Typ (inklusive optional erhältlichen Zubehörartikeln von Orbitalum): / Machinery and type (including optionally available accessories from Orbitalum): / Machine et type (y compris accessoires Orbitalum disponibles en option): / Macchina e tipo (inclusi gli articoli accessori acquistabili opzionalmente da Orbitalum): / Máquina y tipo (incluidos los artículos de accesorios de Orbitalum disponibles opcionalmente): / Machine en type (inclusief optioneel verkrijgbare accessoires van Orbitalum): / Stroj a typ stroje (včetně volitelného příslušenství firmy Orbitalum): / Stroj a typ (vrátane voliteľne dostupného príslušenstva od Orbitalum): / Maszyna i typ (wraz z opcjonalnie dostępnymi akcesoriami firmy Orbitalum):

Rohrplanmaschinen
- **RPG 3.0**
- **RPG 3.0 Akku**
- **RPG 4.5**
- **RPG 4.5 S**
- **RPG 8.6**

Seriennummer: / Series number: / Nombre de série: / Numero di serie: / Número de serie: /
Serienummer: / Sériové číslo: / Sériové číslo / :Numer seryjny

Baujahr: / Year: / Année: / Anno: / Año: / Bouwjaar: / Rok výroby: / Rok výroby:

Hiermit bestätigen wir, dass die genannte Maschine entsprechend den nachfolgend aufgeführten Richtlinien gefertigt und geprüft worden ist: / Herewith our confirmation that the named machine has been manufactured and tested in accordance with the following standards: / Par la présente, nous déclarons que la machine citée ci-dessus a été fabriquée et testée en conformité aux directives: / Con la presente confermiamo che la macchina sopra specificata è stata costruita e controllata conformemente alle direttive qui di seguito elencate: / Por la presente confirmamos que la máquina mencionada ha sido fabricada y comprobada de acuerdo con las directivas especificadas a continuación: / Hiermee bevestigen wij, dat de vermelde machine in overeenstemming met de hieronder vermelde richtlijnen is gefabriceerd en gecontroleerd: / Tímto potvrzujeme, že uvedený stroj byl vyroben a testován v souladu s níže uvedenými směrnicemi: / Týmto potvrdzujeme, že uvedený stroj bol zhotovený a odskúšaný podľa nižšie uvedených smerníc: / Niniejszym potwierdzamy, że powyższa maszyna została wyprodukowana i przetestowana zgodnie z wymienionymi poniżej wytycznymi:

- **Maschinen-Richtlinie 2006/42/EG**
- **EMV-Richtlinie 2014/30/EU**
- **RoHS-Richtlinie 2011/65/EU**

Folgende harmonisierte Normen sind angewandt: / The following harmonized norms have been applied: / Les normes suivantes harmonisées où applicables: / Le seguenti norme armonizzate ove applicabili: / Las siguientes normas armonizadas han sido aplicadas: / Onderstaande geharmoniseerde normen zijn toegepast: / Jsou použity následující harmonizované normy: / Boli aplikované tieto harmonizované normy: / Stosowane są następujące normy zharmonizowane:

- **EN ISO 12100:2011-03**
- **EN ISO 62841-1:2016-07**

Bevollmächtigt für die Zusammenstellung der technischen Unterlagen: / Authorised to compile the technical file: / Autorisé à compiler la documentation technique: / Incaricato della redazione della documentazione tecnica: / Autorizado para la elaboración de la documentación técnica: / Gemachtigde voor het samenstellen van het technisch dossier: / Osoba zplnomocněná k sestavení technické dokumentace: / Splnomocnenec pre zostavenie technických podkladov: / Uprawniony do sporządzania dokumentacji technicznej:

Gerd Riegraf
Orbitalum Tools GmbH
D-78224 Singen

Bestätigt durch: / Confirmed by: / Confirmé par: /
Confermato da: / Confirmado por: / Bevestigd door: / Potvrdil: / Potvrdil: / Bestätigt durch:

Singen, 22.06.2023:

Jürgen Jäckle - Product Compliance Manager

ORIGINAL

de **UKCA-Konformitätserklärung**
en **UKCA Declaration of conformity**

Orbitalum Tools GmbH
Josef-Schüttler-Straße 17
78224 Singen, Deutschland
Tel. +49 (0) 77 31 792-0

Maschine und Typ (inklusive optional erhältlichen Zubehörartikeln von Orbitalum): / Machinery and type (including optionally available accessories from Orbitalum):

Rohrplanmaschinen:
- **RPG 3.0**
- **RPG 3.0 Akku**
- **RPG 4.5**
- **RPG 4.5 S**
- **RPG 8.6**

Seriennummer: / Series number:

Baujahr: / Year:

Hiermit bestätigen wir, dass die genannte Maschine entsprechend den nachfolgend aufgeführten Richtlinien gefertigt und geprüft worden ist: / Herewith our confirmation that the named machine has been manufactured and tested in accordance with the following regulations:

- **S.I. 2008/1597 Supply of Machinery (Safety)**
- **S.I. 2016/1091 Electromagnetic Compatibility**
- **S.I. 2012/3032 Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment**

Schutzziele folgender Richtlinien werden eingehalten: / Protection goals of the following guidelines are observerd:

- **S.I. 2016/1101 Electrical Equipment (Safety)**

Folgende harmonisierte Normen sind angewandt: / The following harmonized standards have been applied:

- **EN ISO 12100:2010**
- **EN ISO 62841-1:201607**

Bevollmächtigt für die Zusammenstellung der technischen Unterlagen: / Authorised to compile the technical file:

Bestätigt durch: / Confirmed by:

Singen, 11.08.2023:

Jürgen Jäckle - Product Compliance Manager

Notizen

Notizen

Orbitalum Tools GmbH offers global customers the best in the field of pipe cutting and beveling as well as orbital welding technology from a single source.

worldwide | sales + service

NORTH AMERICA

USA

Orbitalum North America
Headquarters
281 Lies Rd E
Carol Stream, IL 60188
USA
Tel. +1 847 484 9100
24-Hour Emergency Response:
Tel. +1 847 484 9100

Northeast US
Orbitalum - New Jersey
1001 Lower Landing Road, Suite 208
Blackwood, New Jersey 08012
USA
Tel. +1 856 579 8747
24-Hour Emergency Response:
Mob. +1 609 414 21638

PACIFIC NORTHWEST US
Orbitalum - Oregon
2056 NE Aloclek Drive, Suite 314
Hillsboro, Oregon 97124
USA
Tel. +1 503 941 9270
24-Hour Emergency Response:
Mob. +1 971 777 2603

Southeast US
Orbitalum - South Carolina
171 Johns Road, Unit A
Greer, South Carolina 29650
USA
Tel. +1 864 655 4771
24-Hour Emergency Response:
Mob. +1 470 806 6663

SOUTHWEST US
Orbitalum - Arizona
Customer Support Center
3106 W Thomas Road, Suite 1117
Phoenix, AZ 85017
USA
Tel. +1 602 540 0813
24-Hour Emergency Response:
Tel. +1 805 433 3270

SOUTHWEST US
Orbitalum - Arizona
Customer Support Center
3106 W Thomas Road, Suite 1117
Phoenix, AZ 85017
USA
Tel. +1 602 540 0813
24-Hour Emergency Response:
Tel. +1 805 433 3270

CANADA

Wachs Canada Ltd - East
Eastern Canada Sales,
Service & Rental Center
1250 Journey's End Circle, Unit 5
Newmarket, Ontario L3Y 0B9
Canada
Tel. +1 905 830 8888
Toll Free: 888 785 2000
24-Hour Emergency Response:
Mob. +1 647 278 0537

Wachs Canada Ltd - West
Western Canada Sales, Service & Rental Center
5411 82 Ave NW
Edmonton, Alberta T6B 2J6
Canada
Tel. +1 780 469 6402
Toll Free: 800 661 4235
24-Hour Emergency Response:
Mob. +1 847 537 8800

EUROPE

GERMANY

Orbitalum Tools GmbH
Josef-Schuettler-Str. 17
78224 Singen
Germany
Tel. +49 (0) 77 31 - 792 0

MIDDLE EAST

UNITED ARAB EMIRATES

ITW Welding Middle East
S3 A2SR10, Jebel Ali Free Zone, Dubai
United Arab Emirates
Phone: [+971] [0] 42559194
Mobile: [+971] 547904400

ASIA

CHINA

Orbitalum Tools GmbH
189 Huayuan Road
Kunshan, Jiangsu Province
China
Mob. +86 (0) 183 5165 7838
Tel. +86 (0) 512 5016 7816

INDIA

ITW India Pvt. Ltd
Plot No.28/22, D-2 Block
Near KSB Chowk
MIDC, Chinchwad
Pune - 411019
Maharashtra - India
Mob. +91 (0) 91 00 99 45 78

SINGAPORE

Orbitalum
23 Tagore Lane #04-06/07
Tagore 23 Warehouse
787601
Singapore

orbitalum

An ITW Company