

# Operating instructions

For responsible bodies and persons using the machine

## Pipe Cutting and Beveling Machines

### GFX 3.0

### GFX 6.6



To work safely with this machine, please read through the operating instructions in full before initial operation. Retain the operating instructions for future reference.

Machine no.

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# 1. ABOUT THESE INSTRUCTIONS

To allow quick understanding of these instructions and safe handling of the machine, all the warning messages, notes and symbols used in these instructions are presented here along with their meaning.

## 1.1 Warning messages

In these instructions, warning messages are used to warn you against the dangers of injury or material damage. Always read and observe these warning messages!



This is a warning symbol. It should warn you against dangers of injury. Follow all instructions which are identified with this safety symbol in order to avoid injuries or death.

Warning symbol	Meaning
 DANGER	Direct danger! Non-observance could result in death or critical injury. ⊙ Restrictions (if applicable). ▶ Measures to prevent danger.
 WARNING	Possible danger! Non-observance could result in serious injury. ⊙ Restrictions (if applicable). ▶ Measures to prevent danger.
 ATTENTION	Dangerous situation! ▶ Non-observance could result in minor injuries.
ATTENTION	Dangerous situation! ▶ Non-observance could result in material damage.



DANGER

Direct danger!  
Non-observance could result in death or critical injury.  
⊙ Restrictions (if applicable).  
▶ Measures to prevent danger.



WARNING

Possible danger!  
Non-observance could result in serious injury.  
⊙ Restrictions (if applicable).  
▶ Measures to prevent danger.



ATTENTION

Dangerous situation!  
▶ Non-observance could result in minor injuries.

ATTENTION

Dangerous situation!  
▶ Non-observance could result in material damage.

## 1.2 Further symbols and displays

Symbol	Meaning
IMPORTANT NOTE	Notes: Contain particularly important information for comprehension.
	Instruction: You must take notice of this symbol.
1.	Request for action in a sequence of actions: You have to do something here.
▶	Single request for action: You have to do something here.
▷	Conditional request for action: You have to do something here if the specified condition is met.





## 1.3 Abbreviations

Abbr.	Abbreviations
GFX 3.0	Pipe Cutting and Beveling Machine for tubes having up to 3" outer diameters
GFX 6.6	Pipe Cutting and Beveling Machine for tubes having up to 6.6" outer diameters

## 2. INFORMATION AND SAFETY INSTRUCTIONS FOR THE RESPONSIBLE BODY

### 2.1 Requirements for the responsible body

**Workshop/outdoor/field application:** The responsible body 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 regulations described in chap. 2 must be observed and work must be carried out with safety in mind using the prescribed protective equipment.

### 2.2 Using the machine

#### 2.2.1 Proper use

- The machine should be exclusively used for the cutting and beveling of materials and tube dimensions as specified in chap. 4.2, p. 19.
- The machine can be screwed onto the workbench.
- The machines must only be operated using the voltage levels specified on the drive identification plate and in the "technical data" (see chap. 5, p. 20).
- Only the GF10 motor (Code 790 144 382 and 790 144 383) should be used as the drive.
- The drive motor may only be used in connection with the machine.
- The machine may only be used on tubes and containers that are empty, unpressurized, do not have explosive atmospheres and are not contaminated.

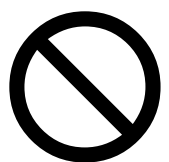


Proper use also includes the following:

- observing all safety instructions and warning messages included in these operating instructions
- carrying out all inspection and maintenance work
- sole use in the original condition with original accessories, spare parts and materials
- processing only materials set out in the operating instructions.

#### 2.2.2 Improper use

- A use other than that defined under "proper use" or a use that goes beyond this or the specified constraints shall be considered improper use due to the potential risks involved.
- The responsible body shall be solely responsible for damages that arise through improper use and the manufacturer shall assume no liability whatsoever.
- No tools should be used that have not been authorized by the manufacturer for this machine.
- The removal of safety equipment is not permitted.
- Do not misuse the machine.
- The machine is not intended for use by private consumers.
- The technical values defined for normal operation must not be exceeded.
- Do not use the machine as a drive for applications other than those listed under proper use (chap. 2.2.1).



### 2.2.3 Machine constraints

- Keep your working area clean. Disorder or unlit working areas can lead to accidents.
- The workplace can be in tube preparation, in plant construction or in the plant itself.
- A radial space requirement/freedom of movement of approx. 2 m around the machine is required for people.
- Work lighting: min. 300 lux.
- Operator age: at least 14 years old and without physical impairments.
- Operated by one person.
- Climate conditions: temperature range for machine operation:  $-15\text{ °C}$  to  $40\text{ °C}$  ( $\leq 80\%$  rel. humidity).
- Only work with the machine in dry surroundings (not in misty, rainy or stormy conditions).

### 2.2.4 Shutting down the machine

Information on the EMERGENCY STOP or the shutting down function, see chap. 9.1, p. 32.

## 2.3 Environmental protection/disposal

### 2.3.1 Chips and gear lubricant oil

Dispose of chips and used gear lubricant oil according to the regulations.

### 2.3.2 Electric tools and accessories

Discarded electric tools and accessories contain large quantities of valuable raw and synthetic materials that can be recycled. Therefore:

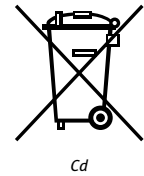
- Electrical (electronic) devices that are marked with the symbol at the side may not be disposed of with household waste in accordance with EU regulations.
- By actively using the available return and collection systems, you actively contribute to the reuse, recycling and utilization of electrical (electronic) devices.
- Used electrical (electronic) devices contain parts that must be handled selectively according to EU regulations. Separate collection and selective treatment is the basis for environment-friendly disposal and the protection of human health.
- Appliances and products that you bought from us after August 13, 2005 will be disposed of in accordance with legal standards after they have been supplied to us at no cost.
- We may refuse to accept old appliances that pose a risk to human health or safety due to contamination produced during use.
- The end user is responsible for disposing of used appliances introduced to the market before August 13, 2005. Please contact a disposal center near you for this purpose.
- **Important for Germany:** our products may not be disposed of in municipal disposal sites as they are only used for industrial purposes.



(as per RL 2002/96/EC)

### 2.3.3 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 91/157/EEC.
- 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
- **Valid 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.



## 2.4 Basic safety instructions

The machine (hereinafter referred to as the GFX 3.0 or GFX 6.6) is a state-of-the-art machine designed for safe use. The risks involved in using the machine are described in the operating instructions below. Using this machine in a way other than that described in these instructions can lead to serious physical injury and material damage.

Therefore:

- Observe warning messages at all times.
- Keep complete documentation close by the machine.
- Generally valid regulations for the prevention of accidents must be observed.
- Observe country-specific regulations, standards and guidelines.
- Always ensure that the machine is in good working order. Observe the maintenance information (chap. 10, p. 35).
- Only operate the machine if all the safety equipment such as the restart inhibitor, overload protection and chips guard are in good working order and the machine is firmly positioned. Check whether the substrate is able to take sufficient loads.
- Report any unusual machine behavior to the person responsible immediately.
- Only use the dimensions and materials specified in these instructions. Other materials should be used only after consulting with Orbitalum Tools customer service.
- Use only original tools, spare parts, 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, allow it to run to a stop and pull the mains plug.
- Do not carry the machine by the cable and do not use the machine to pull out the plug except in an emergency.
- Protect the cable from heat, oil and sharp edges (chips).
- During operation, keep hands away from the tools.
- Check that the tube is correctly clamped.
- Switch on the machine only when the tube has been clamped.
- Do not use the machine in wet surroundings. Only work in canopied surroundings.
- 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).
- 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 (shutdown, see chap. 9.1, p. 32).
- Do not use angled power plugs.



## NOTE

The recommendations concerning "Personal protective equipment" only apply to the product being described. Other requirements resulting from the ambient conditions on-site or of other products, or from combining with other products, are not taken into account. These recommendations do not in any way release the responsible body (employer) from its statutory health and safety at work obligations towards its employees.



## DANGER

**If the mains cable is damaged, live parts may cause death if touched directly!**

Fatal electric shock.

- ⊘ Keep the mains cable of the tube saw motor away from the saw blade and/or bevel cutter.
- ⊘ Do **not** let the cut-off tube piece drop in an uncontrolled manner.
- ⊘ Do **not** run the machine unattended.
- ▶ During processing, always keep an eye on the position of the mains cable.
- ▶ Secure the falling tube piece.
- ▶ Keep the machine clean. Always remove lubricant residues from the machine.



## DANGER

**Damaged insulation!**

Fatal electric shock.

- ⊘ Do **not** screw any indicators or signs to the drive motor.
- ▶ Use stickers.



## DANGER

**Metal dust can collect in the motor housing and cause loss of insulation!**

Fatal electric shock.

- ▶ Depending on the level of contamination, clean the machine at least once a day using the brush supplied.



## DANGER

**Damaged plug!**

Fatal electric shock.

- ⊘ Do **not** use adapter plugs with ground protected electrical tools.
- ▶ The machine connector plug must fit the socket.



## DANGER

**Risk of danger through the use of the machine outdoors!**

Fatal electric shock.

- ⊘ Do **not** use the machine outdoors.



## DANGER

**Danger! The electrical motor can overheat with operation of less than 230 V network!**

Serious injury or death.

- ▶ Only use the machine in the specified temperature range.



## DANGER

**Grounded body!**

Fatal electric shock.

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



## DANGER

**Loose/baggy clothing, long hair or jewelry can get caught in rotating machine parts!**

Serious injury or death.

- ▶ Wear tight-fitting clothing when using the machine.
- ▶ Tie up long hair to prevent it from being caught.



## DANGER

**Defective safety components due to soiling, breakage and wear!**

The failure of safety components can cause physical injury.

- ⊘ Do **not** misuse the cable, e.g. such as using it to suspend or carry the machine.
- ▶ Replace defective safety components immediately and check them daily to ensure proper operation.
- ▶ Have an expert replace defective power cables immediately.
- ▶ Clean and perform maintenance on the machine after each use.
- ▶ Keep cables away from heat, oil, sharp edges and moving equipment parts.
- ▶ Inspect the machine daily for visible signs of damage or defects, and have them repaired by a specialist if necessary.



WARNING

**Flying parts/breaking tool!**

Diverse physical injuries and material damage.

- ⊘ Do **not** process the tube while it is loose in the vice.
- ⊘ **Never** use a damaged or deformed saw blade and/or bevel cutter.
- ⊘ In the event of tool breakage with a new tool, do **not** enter the old cut because the tool can break again.
- ▶ Clamp the tube to be cut into the vice.
- ▶ Immediately replace worn-out tools.
- ▶ Ensure that the cutting tools are correctly fitted.
- ▶ Tube dimension must be set correctly. During cutting, the saw blade must saw through the entire tube wall.
- ▶ Avoid breaking tool through low (adequate) feed force, correct dimension (see chap. 8.6, p. 29) and speed (see chap. 9.2, p. 32) settings.
- ▶ Hold on to the motor unit tightly by the handle, and guide it with low (adequate) feed force during the machining process.



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 chap. 7.1, p. 22.



WARNING

**Danger caused by vibration and unergonomic, monotonous work!**

Discomfort, tiredness and disruptions to the locomotor system.

Limited ability to react, and cramps.

- ▶ Do relaxation exercises.
- ▶ Ensure activity is varied.
- ▶ Assume an upright, fatigue-free and comfortable body position during operation.



WARNING

**Pressing the ON-OFF switch unintentionally!**

Diverse physical injuries and material damage.

- ▶ At the end of each working cycle, before transportation, changing tools, cleaning and performing any maintenance, adjustment or repair work, switch off the machine, allow it to run to a stop and pull the mains plug.



WARNING

**Dangerous laser radiation!**

The eye retina or eye vision can be impaired.




- ⊘ Do **not** look at the laser beam or view it using optical instruments.
- ⊘ Do **not** point the laser beam at other people.
- ⊘ Do **not** misuse the line laser and do not remove from the tube saw.
- ▶ Ensure that the line laser is switched off during mounting/dismantling.

**CAUTION!**

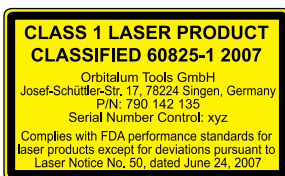
Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

## 2.5 Warning symbols

Observe all of the warnings and safety instructions affixed to the machines.  
The following labels also appear on the machine:

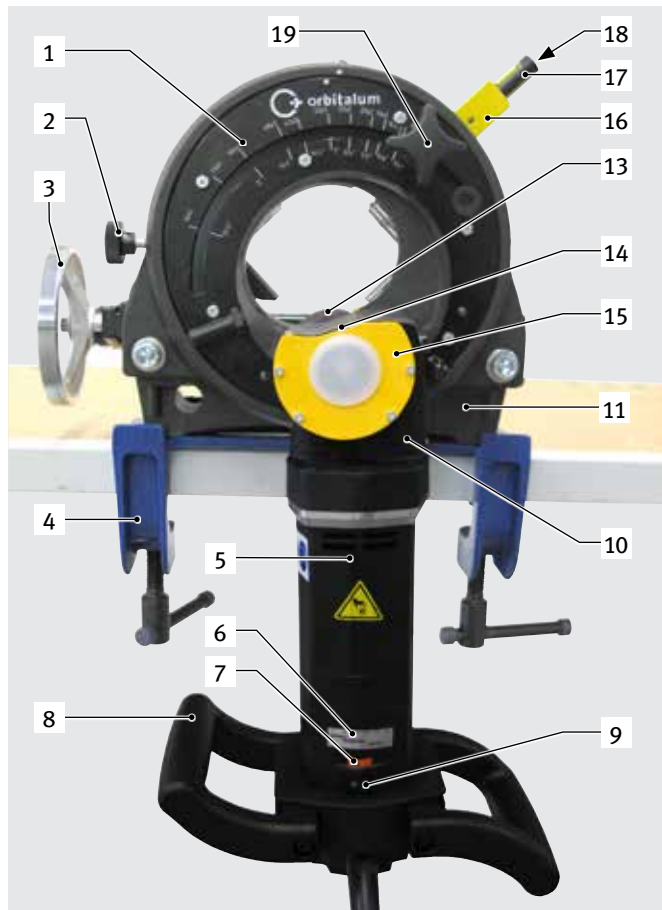
Image	Position on machine	Meaning	Code
	Motor, side	<b>INSTRUCTION:</b> Wear safety goggles in accordance with DIN EN 166, ear protection in accordance with DIN EN 352 and tight-fitting safety gloves in accordance with DIN EN 388 and EN 407. Read the operating instructions.	790 086 200
	Motor, front	<b>WARNING:</b> Danger of being injured by sharp cutting edges.	790 046 196
	Line laser	<b>WARNING:</b> Laser class I.	<u>For Laser 790 142 125 (230 V machines):</u> 790 142 288 <u>For Laser 790 142 135 (120 V machines):</u> 790 142 298*
	Holder indicut (line laser)	<b>WARNING:</b> Dangerous laser radiation.	790 142 289

\* *Warning symbol with Code 790 142 298:*



## 3. PRODUCT DESIGN

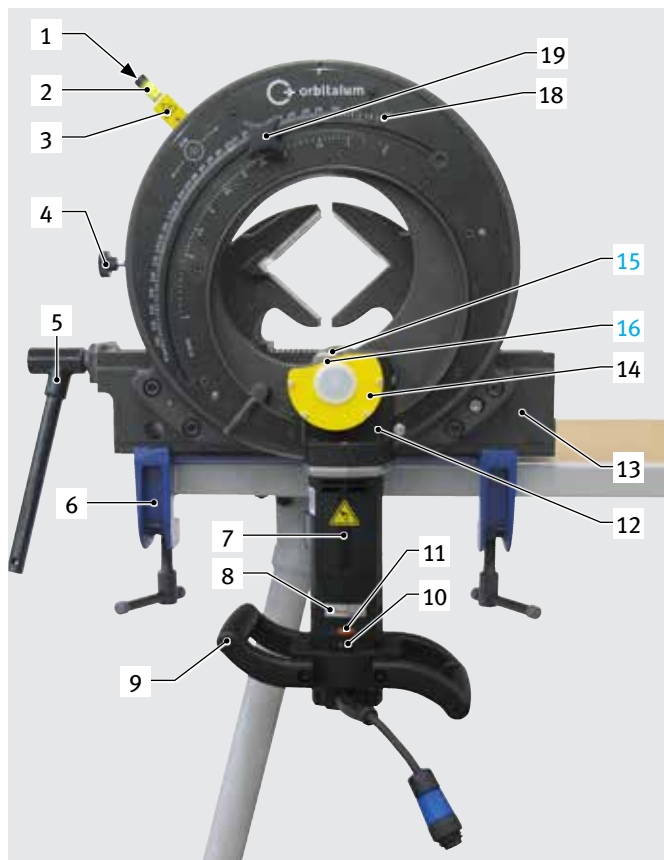
### 3.1 Pipe Cutting and Beveling Machine GFX 3.0



1. Scale for adjusting the tube dimension
2. Locking screw
3. Hand wheel for clamping jaws
4. Quick-mounting plates with screw clamps (available as an option, see chap. 3.3.2, p. 14)
5. Motor (Details, see chap. 4.1.1, p. 17)
6. Rotating-speed indicator
7. RPM regulator
8. Motor handle
9. Motor ON-OFF switch
10. Slide housing

11. Vice
12. Chips guard, can be swiveled
13. Saw blade clamping point 1
14. Saw blade clamping point 2 (for cutting elbows)
15. Chips guard
16. Holder indicut (line laser)
17. Line laser (Details, see chap. 4.1.3, p. 17)
18. ON-OFF switch line laser
19. Star knob for setting the tube dimension
20. Cast steel clamping jaws
21. Stainless steel caps

### 3.2 Pipe Cutting and Beveling Machine GFX 6.6



1. ON-OFF switch line laser
2. Line laser (Details, see chap. 4.1.3, p. 17)
3. Holder indicut (line laser)
4. Locking screw
5. Vice handle / Multifunctional wrench (Details, see chap. 4.1.6, p. 18)
6. Quick-mounting plates with screw clamps (available as an option, see chap. 3.3.2, p. 14)
7. Motor (Details, see chap. 4.1.1, p. 17)
8. Rotating-speed indicator
9. Motor handle
10. Motor ON-OFF switch

11. RPM regulator
12. Slide housing
13. Vice
14. Chips guard
15. Saw blade clamping point 1
16. Saw blade clamping point 2 (for cutting elbows)
17. Chips guard, can be swiveled
18. Scale for adjusting the tube dimension
19. Star knob for setting the tube dimension
20. Cast steel clamping jaws
21. Stainless steel caps

### 3.3 Accessories

Not included as standard.



WARNING

**Danger presented by using poor-quality accessories and tools not approved by Orbitalum Tools!**  
Diverse physical injuries and material damage.

► Use only original tools, spare parts, materials, and accessories from Orbitalum Tools.

#### 3.3.1 Saw blades and bevel cutters

All saw blades and bevel cutters by Orbitalum Tools are specially developed for our tube and pipe cutters to endure maximum strain and have a maximum tool life.

A selection of 4 different saw blades and bevel cutters are available for various uses:

- **Economy Range** for low and non-alloy steels and cast iron tubes
- **Performance Range** for high-alloy steels (stainless steel)
- **High-Performance Range** for high-performance materials and high-alloy steels
- **Premium Range** especially made for stainless steel applications with extra long durability



Workable tube materials	Al	Mild steel, Cu, CuNi, CuZn, CuSn	INOX, V2A, V4A, 304, 316 (L)	Ti, Duplex, Inconel
Economy	*	*		
Performance		*	*	
High-Performance		*	*	*
Premium			*	

#### 3.3.2 Quick-mounting plate with screw clamps

To quickly fit machines to workbenches.  
Ideal if changing location often.

Article	Code
Quick-mounting plates with screw clamps for GFX 3.0, RA 2, RA 21 S	<b>790 041 027</b>
Quick-mounting plates with screw clamps for GF 4, GF 6, GFX 6.6, RA 4, RA 6, RA 8, RA 41 Plus	<b>790 042 027</b>



#### 3.3.3 Tripod

Suitable for GFX 3.0, PS 4.5, PS 6.6.

Made of aluminum.

For easy mounting of PS machines directly on the tripod with no base plate.

Space saving – fast application – easy handling.

Article	Code
Tripod for GFX 3.0, PS 4.5, PS 6.6	<b>790 048 390</b>



### 3.3.4 Pipe feeder base unit and extension unit

The pipe feeder allows you to feed long and heavy pipes effortlessly and coaxially to the tube saws. Very sturdy and stable design with powder-coated frames and stainless steel rollers. The ideal addition for all Orbitalum pipe cutters (with exception of 20 AVM. RA 2, GFX 3.0, PS 4.5, PS 6.6 on request).

Advantages:

- Extremely stable and sturdy
- Fast adjustment of dimensions
- Centerline of tubes and pipes adjust easily in seconds
- Steel frame coated for maintenancefree finish
- Rollers made of stainless steel
- Extension of the Pipe Feeder possible with Extension Unit
- Saves time and money
- No contamination
- Perfect for all kinds of steel

Application range/ Technical specifications	Pipe feeder base unit	Pipe feeder extension unit
Pipe OD	16 - 325 mm 0.63" - 12.8"	16 - 325 mm 0.63" - 12.8"
Dimensions approx.	185 x 105 x 50 cm 72.8" x 41.3" x 19.7"	160 x 105 x 50 cm 62.9" x 41.3" x 19.7"
Load capacity max.	400 kg / 881.8 lbs	400 kg / 881.8 lbs
Height-adjustable mounting plate (adjusting range)	68 mm 2.68"	–

Article	Code
Pipe feeder base unit	<b>790 068 051</b>
Pipe feeder extension unit	<b>790 068 061</b>



### 3.3.5 Mobile Workstation

For the mobile site and/or workshop. The ideal addition for all Orbitalum pipe cutters (with exception of 20 AVM. RA 2, PS 4.5, PS 6.6 on request).

Technical specifications	Mobile Workstation
Dimensions (hxlxw)	91 x 115 x 43 cm 35.8" x 45.3" x 16.9"
Load capacity max.	675 kg / 1488.1 lbs

Article	Code
Mobile Workstation	<b>790 068 071</b>



### 3.3.6 Durable storage and shipping case

High quality padded blue shipping case. Particularly sturdy design.

Article	Code
Durable storage and shipping case for GFX 3.0	<b>790 144 019</b>



### 3.3.7 Saw blade lubricant GF TOP

Synthetic high-performance lubricant for cutting and beveling machines. Increases the tool life of the saw blade. Registered according to the NSF H2 food approval. The screwable brush guarantees an easy and uniform application of lubricant on the saw blade.

Article	Version	Code
Saw blade lubricant GF TOP	Tube, 180 g	<b>790 060 228</b>



### 3.3.8 Saw blade lubricant GF LUB

For cutting and beveling. Increases the tool life of the saw blade. The new ecological lubricant is the environmentally-friendly successor to ROCOL; with a new name and improved quality. GF LUB complies with the latest environmental guidelines and ecological standards. The chlorine-free GF LUB can be ordered using the same article number as the previous lubricant, ROCOL.

Article	Version	Code
Saw blade lubricant GF LUB	Tube, 160 ml	<b>790 041 016</b>



### 3.3.9 Warning symbols

Overview of warning symbols with order numbers, see chap. 2.5, p. 11.



## 4. FEATURES AND SCOPE OF APPLICATION

### 4.1 Features

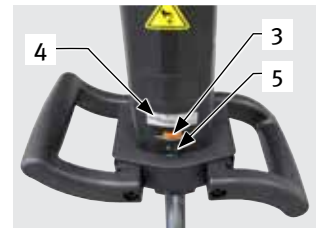
The GFX pipe cutting and beveling machines are distinguished by the following charact:

#### 4.1.1 Motor

With built-in variable cutting speed and ergonomic handles.  
Enables a safer operating position and cutting of tube elbows without alteration.

Other advantages:

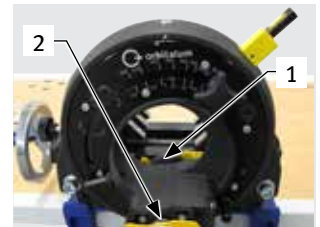
- Electronic overload protection with integrated temperature monitor and speed control.
- A restart inhibit function prevents the machine from starting in an uncontrolled way after it has been re-connected to the electric mains or after the voltage supply has been re-established following a power failure.
- High performance drive (1200 W) with adjustable speed range for cutting a selection of materials.
- Increased blade life through tachometer regulation.
- Rotating-speed indicator (3) for speed selection.
- Ergonomically positioned speed adjustment wheel (4) and ON/OFF switch (5).



#### 4.1.2 Additional saw blade clamping point for cutting tube elbows only

Which saw blade clamping point to use?

Saw blade clamping point 1	Saw blade clamping point 2
Cutting tubes	Cutting tube elbows only



#### 4.1.3 Line laser to determine cut-off point

To determine the cut-off point on the tube. Ideal for checking whether the tube is adjusted to the desired cut-off point. A red line marking (1), to determine the cut-off point, appears on the clamped tube once the red button on the line laser has been actuated. If necessary, the tube position can be corrected until the desired cut-off point is marked.



#### 4.1.4 Plug connection with quick-disconnect coupler

For easy and comfortable replacement of the power cable.

Other advantages:

- If there is a cable fracture, then the cutter motor does not have to be opened and a qualified electrician is not required to replace the flex cable.
- As the flex cable is locked away, misuse can be prevented.



#### 4.1.5 Sliding clamping jaws with stainless-steel clamping surfaces

The GFX is equipped by default with stainless-steel sliding clamping jaws and stainless-steel clamping surfaces. The 6 stainless-steel clamping surfaces are already mounted on the clamping jaws on delivery and prevent contact corrosion between the tube and the clamping jaws. Clamping shells for thin-walled tubes available upon request.



#### 4.1.6 Multifunctional wrench

Only part of the GFX 6.6. It is possible to make 3 different adjustments on the machine using this multifunctional wrench:



*Vice handle*



*Fixture for saw blade/bevel cutter*



*Fixture of the saw for quick-mounting plate*

#### 4.1.7 Other outstanding features

- Enhanced safety due to stationary tube and rotating tool.
- Self-centering vice.
- Right-angled, burr-free cutting surface and deformation-free tube cross-section.
- Production of standardized welding bevels.
- Cold machining process.
- Quick cutting process.
- Quick tool change.
- Easy assembly and little space required.
- Simultaneous cutting and beveling of thin-walled metal tubes.
- Optimized discharge of chips thanks to the design of the vice.
- Environmentally friendly.
- Long service life.
- Lightweight, so easy to handle.
- Increased productivity.
- Low and easy maintenance.

## 4.2 Scope of application

### 4.2.1 Application range

Type of machine		GFX 3.0	GFX 6.6
Tube OD	[mm]	6.0 - 78.0	21.3 - 168.3
	[inch]	0.236 - 2.874	0.838 - 6.659
Wall thickness	[mm]	0.8 - 7.0	0.8 - 7.0
	[inch]	0.031 - 0.275	0.031 - 0.275
Tube ID min. (Saw blade Ø 63/2.248")	[mm]	0	23.0
	[inch]	0	0.905
OD range (Saw blade Ø 63/2.248")	[mm]	6.0 - 78.0	24.6 - 168.3
	[inch]	0.236 - 2.874	1.008 - 6.659
Tube ID min. (Saw blade Ø 68/2.677")	[mm]	0	18
	[inch]	0	0.708
OD range (Saw blade Ø 68/2.677")	[mm]	6.0 - 73.0	21.3 - 168.3
	[inch]	0.236 - 2.874	0.838 - 6.659
Tube ID min. (Saw blade Ø 80/3.149")	[mm]	–	6.0
	[inch]	–	0.236
OD range (Saw blade Ø 80/3.149")	[mm]	–	21.3 - 156.0
	[inch]	–	0.838 - 2.205
Tube materials		Unalloyed, low-alloy and high-alloy steel, stainless steel, non-ferrous metal, aluminum alloy, titanium alloy, composite material and plastic	

## 5. TECHNICAL SPECIFICATIONS

### 5.1 Pipe Cutting and Beveling Machines GFX

Type of machine		GFX 3.0	GFX 6.6
Dimensions (lxhwx)	[mm]	570 x 280 x 330	575 x 671 x 350
	[inch]	22.44 x 11.02 x 12.99	22.64 x 26.42 x 13.78
Weight incl. vice, without clamping shells	[kg]	28.500	74.400
	[lbs]	62.83	164.02
Power	[W]	1200	1200
Protection class	[class]	II	II
Built-in electronic variable cutting speed with restart inhibitor	[Rpm]	30 - 200	30 - 200
Versions (1-phase AC)	[V, Hz]	230 V, 50/60 Hz EU	230 V, 50/60 Hz EU
	[V, Hz]	120 V, 50/60 Hz US	120 V, 50/60 Hz US
Vibration level as per EN 50144	[m/s <sup>2</sup> ]	< 2.5	< 2.5
Sound pressure level at the workplace <sup>*)</sup>	[dB (A)]	79.7	79.7

\* The noise level was measured under normal operating conditions in accordance with EN 23741.

### 5.2 Line laser

Dimensions (l x w)	[mm]	68 x 15
	[inch]	2.7 x 0.59
Weight	[g]	30
	[lbs]	0.012
Power, total emitted	[mW]	5
	[HP]	5x10 <sup>-6</sup>
Power for classification	[μW]	< 390
Beam range	[m]	1
	[inch]	3.937
Wave length	[nm]	650
Operating voltage	[V DC]	2.8 to 4.5
Operating current	[mA]	20
Operating temperature	[°C]	-10 to 40
Storage temperature	[°C]	-40 to 80
Laser cla	[class]	1
Battery type		2 x LR44 / AG13

## 6. INITIAL OPERATION

### 6.1 Checking the parts of delivery

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

### 6.2 Included with the machine

Subject to modifications.

Pcs.	Article	GFX 3.0	GFX 6.6
1	Pipe Cutting and Beveling Machine	x	x
1	Wooden transportation crate	x	x
1	Saw blade, Code 790 ...	... 041 035	... 042 064
1	Quick-mounting plate without screw clamps*	–	x
1	Set of stainless steel caps**	x	x
1	Line laser with holder and fastening screws***	x	x
1	Tool key set	x	x
1	Tube of saw blade lubricant GF TOP (Code 790 060 228)	x	x
1	Set of operating instructions and spare parts list	x	x

\* The GFX 3.0 can be mounted directly on the workbench without a quick-mounting plate. Quick-mounting plates with screw clamps for GFX 3.0 and GFX 6.6 are available optionally.

\*\* Already mounted on the sliding clamping jaws of the GFX at delivery.

\*\*\* The line laser has to be mounted on the GFX before commissioning (mounting, see chap. 8.2, p. 26).

## 7. STORAGE AND TRANSPORT



ATTENTION

### Incorrect machine storage!

Diverse physical injuries and material damage.

- ▶ Store the machine in its original crate in a dry environment.



DANGER

### Fatal electric shock!

- ▶ Before transportation or changing the workplace, allow the machine to run to a stop and pull the mains plug.



WARNING

### During transportation, the ON/OFF switch may unintentionally be activated causing the machine to start up!

Diverse physical injuries and material damage.

- ▶ Before transportation or changing the workplace, allow the machine to run to a stop and pull the mains plug.



WARNING

### Heavy weight when transporting the tube saw!

Danger of being injured through.

- ▶ Transport tube saws over long stretches with corresponding lifting aids.

### 7.1 Transporting the machine

NOTE

- ▶ Transport the GFX in a packed state in the transport crate or on a pallet with corresponding lifting aids.

1. Pull the conveyor belt through the machine rotating body and secure with a crane (or similar lifting equipment).
2. Hold the machine at the handle and at the same time lift it out of the transport crate using the crane.
3. Use the crane to place the machine on a suitable working or mounting plate and fasten it (see chap. 8.1, p. 24).
4. Ensure that the machine stands securely.



Transport in a packed state in the transport crate or on a pallet with corresponding lifting aids (e.g. lift truck).



Lift the machine with a crane (or similar lifting equipment) out of the transport crate and supply it again.

#### 7.1.1 Supplying the machine in the transport crate

1. Pull the conveyor belt through the machine rotating body and secure with a crane (or similar lifting equipment).
2. Dismantle the machine from the working or mounting plate.
3. Hold the machine at the handle and at the same time lift it using the crane.
4. Lift the machine with the crane over the transport crate and lower it.
5. Close the transport crate with a cover.

## 8. SET-UP AND ASSEMBLY



DANGER

### Machine start-up due to unintentional pressing of the ON/OFF switch!

Fatal electric shock.

Diverse physical injuries and material damage.

- ▶ At the end of each working cycle, before transportation, changing tools, cleaning and performing any maintenance, adjustment or repair work, switch off the machine, allow it to run to a stop and pull the mains plug.



WARNING

### When switching the motor on, the tube saw may revolve around the tube automatically!

Diverse physical injuries and material damage.

- ⊘ In their home position, the saw blade and/or bevel cutter must **not** touch the tube.
- ▶ Make sure that the slide housing is in the home position when the cutting process starts.
- ▶ Clamp the tube to be cut into the vice.
- ▶ Before switching the motor on, make sure that the gap between the saw blade and the tube is sufficient, and that the tube is securely clamped in the vice.
- ▶ Place sufficient supports under the tube.



WARNING

### Flying parts/breaking tool!

Diverse physical injuries and material damage.

- ⊘ Do **not** process the tube while it is loose in the vice.
- ⊘ **Never** use a damaged or deformed saw blade and/or bevel cutter.
- ⊘ In the event of tool breakage with a new tool, do **not** enter the old cut because the tool can break again.
- ▶ Clamp the tube to be cut into the vice.
- ▶ Immediately replace worn-out tools.
- ▶ Ensure that the cutting tools are correctly fitted.
- ▶ Tube dimension must be set correctly. During cutting, the saw blade must saw through the entire tube wall.
- ▶ Avoid breaking tool through low (adequate) feed force, correct dimension (see chap. 8.6, p. 29) and speed (see chap. 9.2, p. 32) settings.
- ▶ Hold on to the motor unit tightly by the handle, and guide it with low (adequate) feed force during the machining process.



WARNING

### Flying, hot and sharp-edged chips, tube surfaces, cutting edges and tools!

Danger of injury to eyes and hands.

- ⊘ Do **not** reach into the rotating tool during working.
- ⊘ **Never** work without the saw chip guard mounted.
- ▶ Wear recommended protective clothing.
- ▶ Only remove chips with tight-fitting safety gloves (in accordance with DIN EN 388 and EN 407, see chap. 2.4, p. 8).
- ▶ Make sure the chips guard is working.

ATTENTION

### Damage to material!

- ⊘ When using a supplemental bevel cutter do **not** use the clamping disc contained in the scope of delivery of the saw.
- ⊘ **Never** use a damaged or deformed saw blade or cutter.
- ▶ The saw blade and/or bevel cutter must be free from chips and dirt.
- ▶ Only use original Orbitalum Tools saw blades and tools.
- ▶ Observe assembly instructions of saw blade guard. The labeling on the saw blade must always face the tube cutter. The teeth are now arranged in the correct direction.

## 8.1 Fitting the machine onto the workbench



**IMPORTANT**

Warning messages are used in these instructions to warn you of possible risk of death, injury or damage to property. Always read and observe these warning messages! To ensure safe setting up and mounting please read all the warning messages in chap. 2, p. 6 and chap. 8, p. 23 attentively.

Mount the GFX; either::

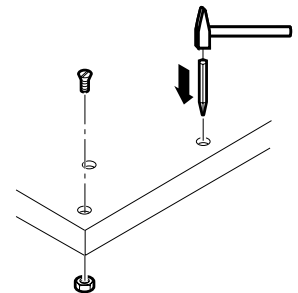
- directly on the workbench without a quick-mounting plate (see chap. 8.1.1, p. 24) or
- on the workbench with a quick-mounting plate with screw clamps (see chap. 8.1.2, p. 24) or
- on the workbench with a quick-mounting plate without screw clamps (see chap. 8.1.3, p. 25).

In addition, mounting of the GFX saws on the tripod (see chap. 3.3.3, p. 14), on the pipe feeder (chap. 3.3.4, p. 15) or on the mobile workstation (chap. 3.3.5, p. 15) is possible (all available optionally).

### 8.1.1 Mounting directly on the workbench without quick-mounting plate

Only possible with the GFX 3.0.

1. Mark and punch the bolt holes on the workbench. Use the GFX 3.0 as a template.
2. Drill  $\varnothing$  13 mm (0.5") holes.
3. Fit the GFX 3.0 with the provided countersunk onto the workbench.



### 8.1.2 Mounting on the workbench with quick-mounting plate with screw clamps

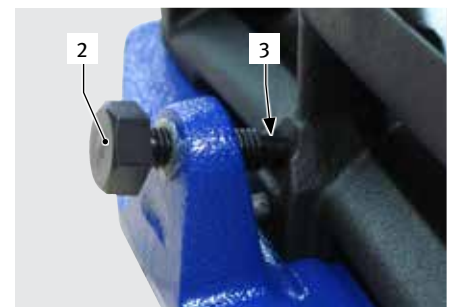
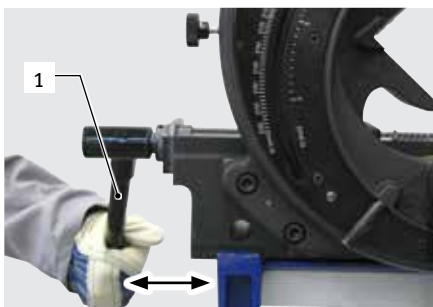
Possible with all the machines of the GFX series.

Quick-mounting plates with screw clamps are not included in the scope of delivery of the GFX series and can be retrofitted (see "Accessories", chap. 3.3.2, p. 14).

**NOTE**

At the GFX 6.6 the quick-mounting plate has to be mounted directly on the left-hand workbench edge, so that the vice handle (1) at the side of the GFX 6.6 can be turned in its full radius with sufficient distance to the workbench edge.

1. Fit the quick-mounting plate with the screw clamps onto the workbench.
2. Guide the tube cutter sideways onto the fitted quick-mounting plate.
3. Tighten the hexagon screw (2) so that it lies firmly on the retainer at the vice of the saw (3).



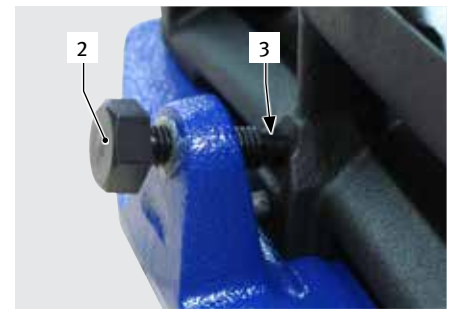
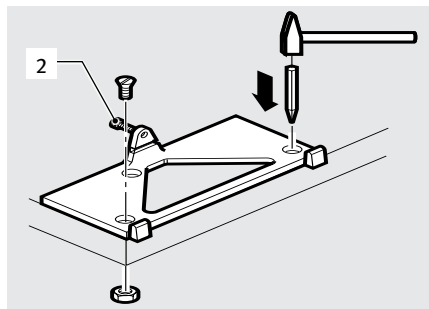
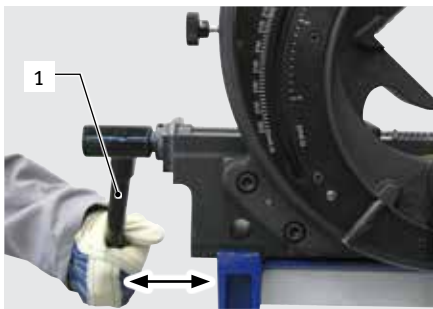


### 8.1.3 Mounting on the workbench with quick-mounting plate without screw clamps

Only possible with the GFX 6.6.

**NOTE** At the GFX 6.6 the quick-mounting plate has to be mounted directly on the left-hand workbench edge, so that the vice handle (1) at the side of the GFX 6.6 can be turned in its full radius with sufficient distance to the workbench edge.

1. Mark and punch the bolt holes on the workbench. Use the quick-mounting plate as a template.
2. Drill  $\varnothing$  13 mm (0.5") holes.
3. Fasten the quick-mounting plate with screws.
4. Guide the GFX 6.6 sideways onto the fitted quick-mounting plate.
5. Tighten the hexagon screw (2) so that it lies firmly on the retainer at the vice of the saw (3).



## 8.2 Mounting the line laser



### IMPORTANT

Warning messages are used in these instructions to warn you of possible risk of death, injury or damage to property. Always read and observe these warning messages! To ensure safe setting up and mounting please read all the warning messages in chap. 2, p. 6 and chap. 8, p. 23 attentively.

### NOTE

The line laser is supplied separately with the machine and has to be mounted on the GFX before commissioning.



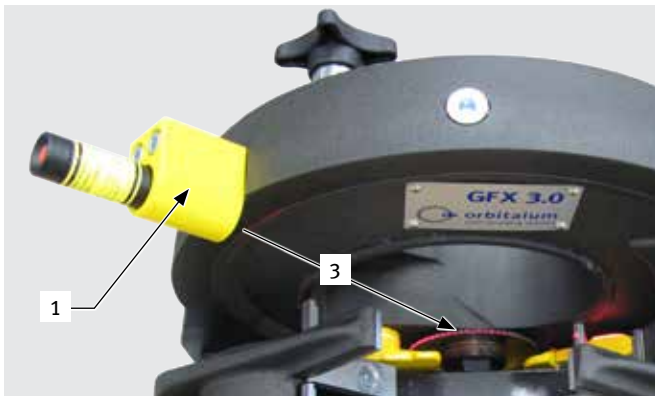
### WARNING

#### Dangerous laser radiation!

The eye retina or eye vision can be impaired.

► Ensure that the line laser is switched off during mounting/dismantling.

1. Place the line laser on the intended location surface (1) on the housing.
2. Tighten the line laser lightly with 2 hexagon socket head screws (2) so that it can still be aligned.
3. Switch on the line laser and align it so that the line laser beam lies flush with the saw blade (3).
4. Tighten the 2 hexagon socket head screws (2) and switch the line laser off again.



## 8.3 Changing the batteries of the line laser



### WARNING

It is not allowed to open, modify or to remove protective covers or housings except for line laser battery change.



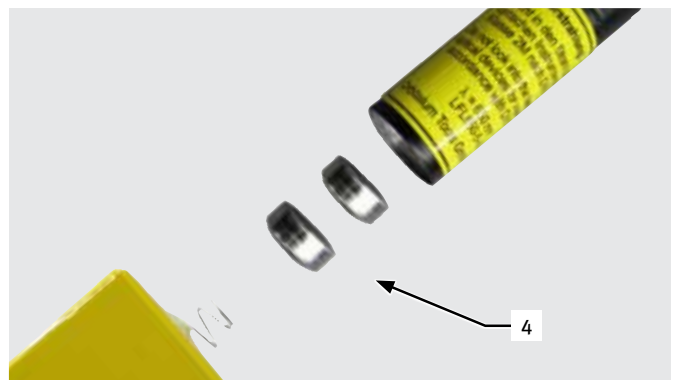
### WARNING

#### Dangerous laser radiation!

The eye retina or eye vision can be impaired.

► Ensure that the line laser is switched off when replacing the battery.

1. Unscrew the line laser and replace the batteries (4) (Pack with 10 button cells, 1.5 V = Code 790 142 124).
2. Screw the parts of the line laser again.



## 8.4 Saw blade clamping point 1: Fitting the saw blade/bevel cutter



### IMPORTANT

Warning messages are used in these instructions to warn you of possible risk of death, injury or damage to property. Always read and observe these warning messages! To ensure safe setting up and mounting please read all the warning messages in chap. 2, p. 6 and chap. 8, p. 23 attentively.



### WARNING

#### Hot components!

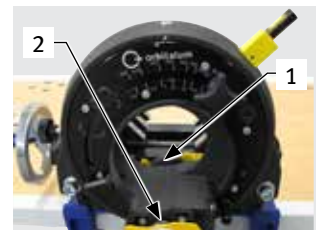
Danger of injury to hands.

- ▶ Wear suitable safety gloves when replacing the saw blade (in accordance with DIN EN 388 and EN 407, see chap. 2.4, p. 8).
- ▶ Lay down the tools and fastening parts rapidly.

Only use saw blade clamping point 1 **to cut and bevel tubes**. If you want to cutting tube elbows, use saw blade clamping point 2 (see chap. 8.5, p. 28).

### NOTE

Saw blades/bevel cutters can only be fitted or replaced if **no** tube is clamped in the vice. If necessary, remove the tube before fitting the saw blade.

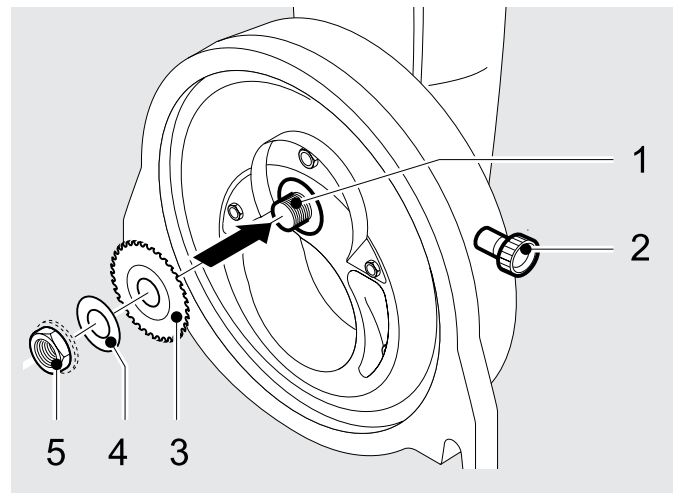


### 8.4.1 Inserting the saw blade

1. Turn the tube cutter clockwise and upwards by 180°.
2. Tighten the locking screw (2).
3. Loosen the nut (5) clockwise (left-hand thread).
4. Clean the saw blade shaft (1) and vicinity with a brush.
5. Place the saw blade (3) and clamping disc (4) onto the shaft (1).

**IMPORTANT** Put the saw blade onto the shaft so that the inscription points to the machine. The toothing then points in the right direction.

6. Tighten nut (5) counterclockwise (left-hand thread).
7. Loosen the locking screw (2).
8. Turn the tube cutter clockwise and downwards to its home position.



### 8.4.2 Inserting the saw blade/bevel cutter combination or a bevel cutter



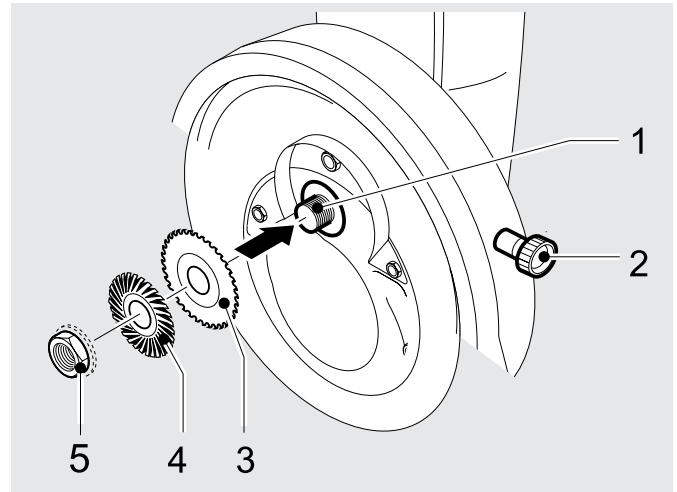
#### Flying parts/breaking tool!

**ATTENTION** Do **not** use the clamping disc (4) when using saw blade/bevel cutter combinations or bevel cutters!

1. Turn the tube cutter clockwise and upwards by 180°.
2. Tighten the locking screw (2).
3. Loosen the nut (5) clockwise (left-hand thread).
4. Clean the saw blade shaft (1) and vicinity with a brush.
5. Place the saw blade/bevel cutter combination (3) or bevel cutter (4) onto the shaft (1).

**IMPORTANT** Put the saw blade/bevel cutter combination or bevel cutter onto the shaft so that the inscription points to the machine. The toothing then points in the right direction.

6. Tighten nut (5) counterclockwise (left-hand thread).
7. Loosen the locking screw (2).
8. Turn the tube cutter clockwise and downwards to its home position.



### 8.5 Saw blade clamping point 2: Fitting the saw blade



**IMPORTANT**

Warning messages are used in these instructions to warn you of possible risk of death, injury or damage to property. Always read and observe these warning messages! To ensure safe setting up and mounting please read all the warning messages in chap. 2, p. 6 and chap. 8, p. 23 attentively.

Only use saw blade clamping point 2 **to cutting tube elbows**. If you want to cut or bevel tubes, use saw blade clamping point 1 (see chap. 8.4, p. 27).

**NOTE**

Saw blades can only be fitted or replaced if **no** tube is clamped in the vice. If necessary, remove the tube before fitting the saw blade.



### 8.5.1 Inserting the saw blade

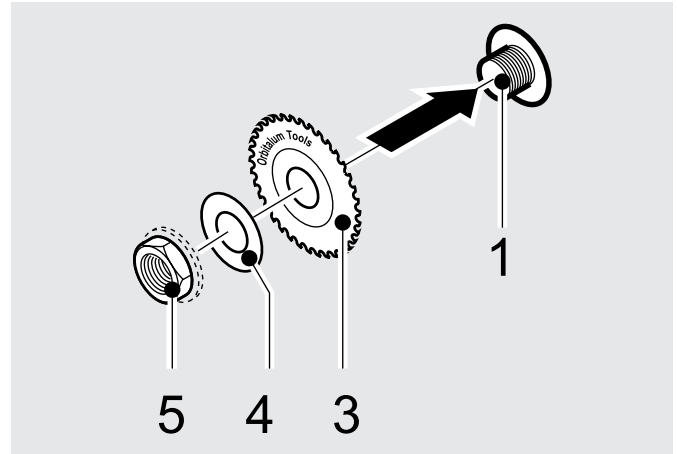
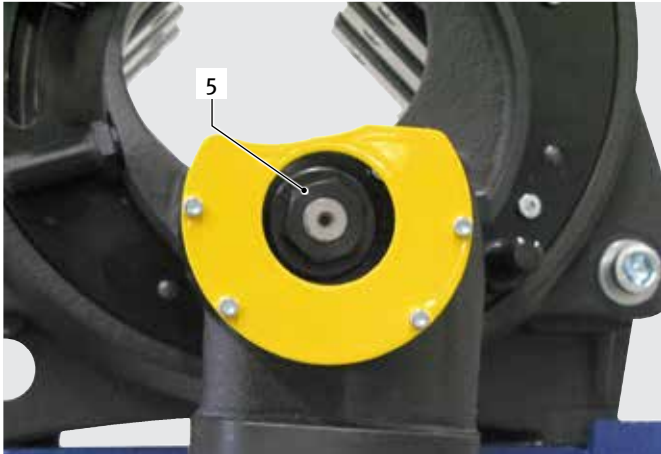
1. Loosen the nut (5) counterclockwise.
2. Clean the saw blade shaft (1) and vicinity.
3. Place the saw blade (3) and clamping disc (4) onto the shaft (1).

---

**IMPORTANT** Put the saw blade onto the shaft so that the inscription points to the clamping disc and nut. The toothing then points in the right direction.

---

4. Tighten nut (5) clockwise.



### 8.6 Adjusting the tube dimension



**IMPORTANT**

Warning messages are used in these instructions to warn you of possible risk of death, injury or damage to property. Always read and observe these warning messages! To ensure safe setting up and mounting please read all the warning messages in chap. 2, p. 6 and chap. 8, p. 23 attentively.

**NOTE**

► The steps for adjusting the tube dimension are identical for both saw blade clamping points.

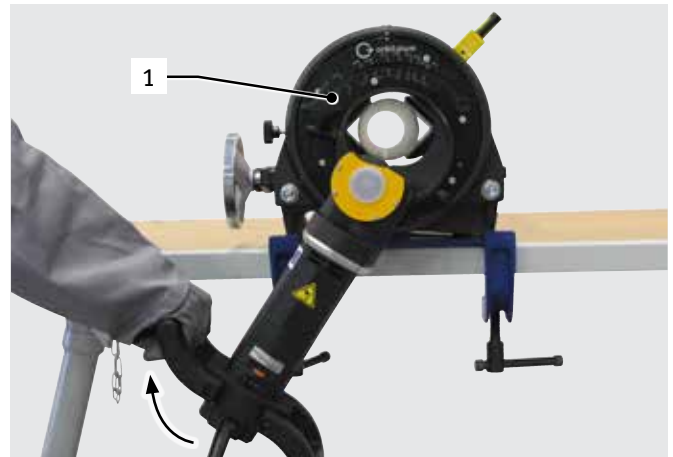
#### 8.6.1 Setting the tube dimension with a scale

1. Loosen the star knob (1).
2. Select the tube dimension on the scale (2).
3. Slide the star knob (1) in the direction of the arrow to the desired tube dimension.
4. Tighten the star knob (1).



### 8.6.2 Setting the tube dimension without a scale

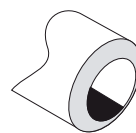
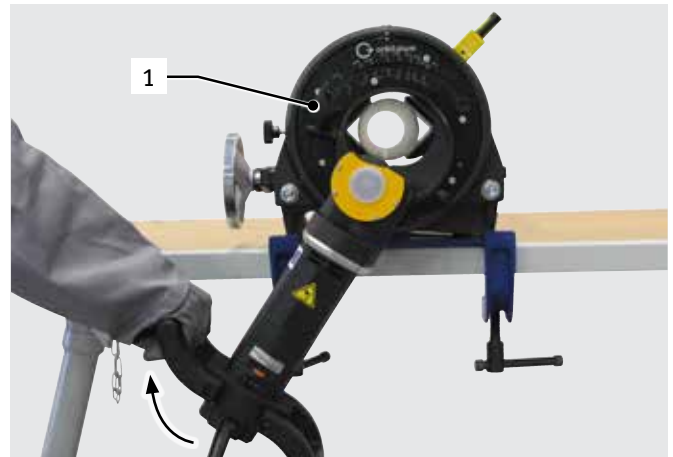
1. Place the tube in the vice.
2. Slide the tube forwards until it is close to the saw blade.
3. Clamp the tube in the vice.
4. Loosen the star knob (1) and set to the greatest possible dimension. Do not tighten.
5. Raise the motor of the tube cutter in the direction of the arrow as if to saw until the teeth of the saw blade protrude approx. 1.5 mm/0.059 inch (approx. height of saw blade teeth) into the center of the tube.
6. Tighten the star knob (1).
7. Turn the tube saw back to the home position.



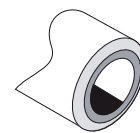
### 8.6.3 Setting the tube dimension when using an additional cutter

Steel tubes with a wall thickness of 7 mm (0.276 inch) can be simultaneously cut and beveled.

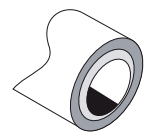
1. Place the tube in the vice.
2. Slide the tube forwards until it is close to the additional cutter.
3. Clamp the tube in the vice.
4. Loosen the star knob (1) and set to the greatest possible dimension. Do not tighten.
5. Pull the motor of the tube saw upward in the arrow direction as for sawing until the bevel cutter covers the tube wall.
6. Tighten the star knob (1).
7. Turn the tube saw back to the home position.
8. Perform a test bevel and check the bevel (see chap. 9, p. 31).



Bevel OK



Move the star knob (1)  
slightly to the right



Move the star knob (1)  
slightly to the left

## 9. OPERATION



DANGER

### Machine start-up due to unintentional pressing of the ON/OFF switch!

Fatal electric shock.

Diverse physical injuries and material damage.

- ▶ At the end of each working cycle, before transportation, changing tools, cleaning and performing any maintenance, adjustment or repair work, switch off the machine, allow it to run to a stop and pull the mains plug.



DANGER

### When the slide housing is rotating, excess lubricant can get into the motor unit!

Fatal electric shock.

- ▶ Remove excess lubricant from the machine after every step.



DANGER

### Unexpected start-up!

Serious injury or death.

- ▶ Before connecting the machine to the power supply, check the on/off switch is switched off.



DANGER

### Loose/baggy clothing, long hair or jewelry can get caught in rotating machine parts!

Serious injury or death.

- ▶ Wear tight-fitting clothing when using the machine.
- ▶ Tie up long hair to prevent it from being caught.



WARNING

### Flying parts/breaking tool!

Diverse physical injuries and material damage.

- ⊘ Do **not** process the tube while it is loose in the vice.
- ⊘ **Never** use a damaged or deformed saw blade and/or bevel cutter.
- ⊘ In the event of tool breakage with a new tool, do **not** enter the old cut because the tool can break again.
- ▶ Clamp the tube to be cut into the vice.
- ▶ Immediately replace worn-out tools.
- ▶ Ensure that the cutting tools are correctly fitted.
- ▶ Tube dimension must be set correctly. During cutting, the saw blade must saw through the entire tube wall.
- ▶ Avoid breaking tool through low (adequate) feed force, correct dimension (see chap. 8.6, p. 29) and speed (see chap. 9.2, p. 32) settings.
- ▶ Hold on to the motor unit tightly by the handle, and guide it with low (adequate) feed force during the machining process.



WARNING

### Risk of machine and tube falling!

Irreversible crushing.

- ▶ Check the machine's position and secure it so it cannot fall.
- ▶ Place sufficient supports under the tube.



WARNING

### Trapped fingers between the vice/clamping shell and tube!

Irreversible crushing.

- ⊘ Do **not** insert fingers between the vice/clamping shell and tube.



WARNING

### Body parts can fit between the cutting tools and the tube!

Serious injury.

- ⊘ Do **not** place body parts between the cutting tools and the tube.



WARNING

### Flying, hot and sharp-edged chips, tube surfaces, cutting edges and tools!

Danger of injury to eyes and hands.

- ⊘ Do not reach into the rotating tool during working.
- ⊘ **Never** work without the saw chip guard mounted.
- ▶ Wear recommended protective clothing.
- ▶ Only remove chips with tight-fitting safety gloves (in accordance with DIN EN 388 and EN 407, see chap. 2.4, p. 8).
- ▶ Make sure the chips guard is working.



ATTENTION

**Restarting the machine following blockage!**

Diverse physical injuries and material damage.

- ▶ In the event of a blockage, always disconnect the machine from the power supply before clearing it.
- ▶ If necessary, remove any tensioned parts before restarting the machine.



ATTENTION

**Vapors when working with lubricants!**

Damage to lungs, skin and the environment

- ▶ Only use original lubricant recommended by Orbitalum Tools.

## 9.1 Shutting down (even in an emergency)



IMPORTANT

Warning messages are used in these instructions to warn you of possible risk of death, injury or damage to property. Always read and observe these warning messages! To ensure safe operation please read all the warning messages in chap. 2, p. 6 and chap. 8, p. 23 attentively.



WARNING

**EMERGENCY STOP function not available by unplugging the power plug!**

Diverse physical injuries and material damage.

- ⊘ 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 original Orbitalum Tools parts.
- ▶ Ensure free access to the power plug.

To be able to stop the machine (also in case of emergency), perform the corresponding steps and immediately remove from the danger area, until the machine comes to a stop:

- ▶ Activate by switching the ON/OFF toggle switch (1).

If the ON/OFF toggle switch (1) fails to work:

- ▶ Remove the plug from the socket or vacate the danger zone as quickly as possible and then unplug the power plug.



## 9.2 Selecting the speed levels



IMPORTANT

Warning messages are used in these instructions to warn you of possible risk of death, injury or damage to property. Always read and observe these warning messages! To ensure safe operation please read all the warning messages in chap. 2, p. 6 and chap. 8, p. 23 attentively.

Pipe material	Controller setting (2)	Spindle speed (rpm)
High-alloy/high-quality steel	1 - 3	30 - 98
Low-alloy/high-quality steels	3 - 5	98 - 166
Construction steel	5 - 6	166 - 200



IMPORTANT Select a low speed for large tube diameters and wall thicknesses.



### 9.3 Cutting tubes



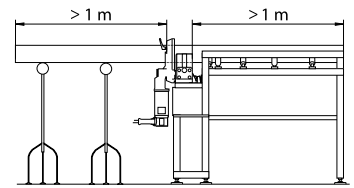
**IMPORTANT**

Warning messages are used in these instructions to warn you of possible risk of death, injury or damage to property. Always read and observe these warning messages! To ensure safe operation please read all the warning messages in chap. 2, p. 6 and chap. 8, p. 23 attentively.

1. Fit saw blade and/or bevel cutter (saw blade clamping point 1, see chap. 8.4, p. 27; saw blade clamping point 2 for cutting tube elbows see chap. 8.5, p. 28).
2. Adjust the bevel cutter to the tube dimension (see chap. 8.6, p. 29).
3. Connect tube cutter to power supply.
4. Place the tube in the vice (2).

**NOTE**

It is advisable to support pipes whose length exceeds 1 m with a pipe support or a pipe feeder or extension unit (chap. 3.3.4, p. 15).



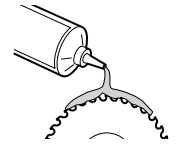
**IMPORTANT**

For the GFX 6.6: Pull off the vice handle from the spindle before the slide housing starts rotating.

5. Slide the pipe forward in the vice until the desired pipe length is reached, mark the cutting point on the pipe by means of the line laser (1).
6. Tighten the pipe firmly in the vice using the handwheel (3) at the GFX 3.0 or using the vice handle at the GFX 6.6.
7. Switch the saw motor on at the ON/OFF switch (4).

**IMPORTANT**

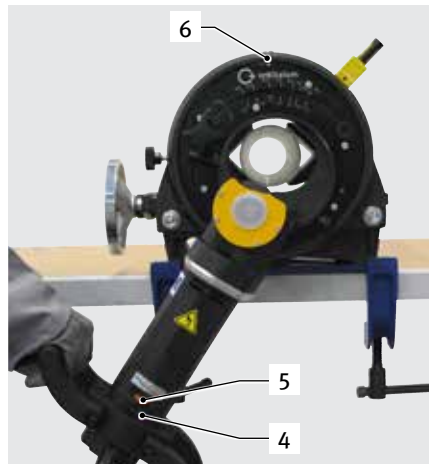
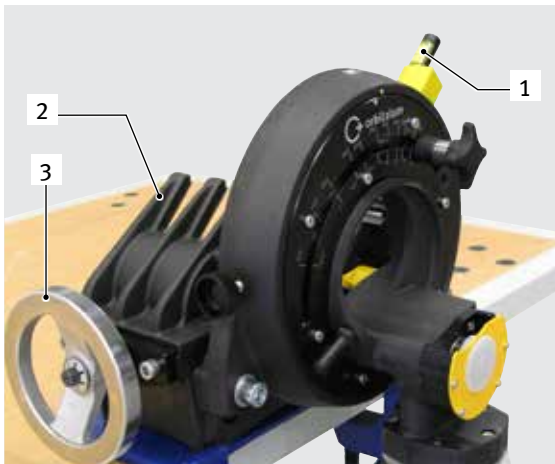
Apply saw blade lubricant to teeth of saw blade. Repeat lubrication **every 3 cuts**. Only use saw blade lubricant/paste (no oils) from Orbitalum Tools (e.g. GF LUB or GF TOP). Keep the machine clean. Always remove lubricant residues from the machine.



8. Set the desired speed level using the speed regulator (5) (for standard values, see chap. 9.2, p. 32).
9. Carefully turn the tube cutter in a clockwise direction until the tube wall has been pierced through.
10. Continue turning rapidly until the tube has been cut off and the marks (6) are aligned on the slide housing and body.
11. Turn the tube cutter back to its home position.
12. Switch the saw motor off again at the ON/OFF switch (4).

**NOTE**

For continuous operation: After cutting loosen the hexagon nut on the bevel cutter to avoid damage caused by tension.



## 9.4 Beveling pipes

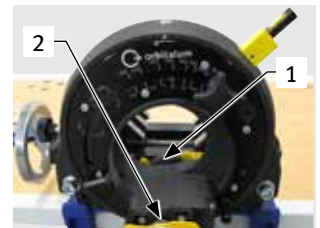
The necessary work steps for beveling pipes are identical to chap. 9.3, p. 33.

## 9.5 Cutting and beveling pipe simultaneously

The necessary work steps for simultaneously cutting and beveling are identical to chap. 9.3, p. 33. The pipe cutter however must revolve much slower around the pipe than when cutting, since two tools are being used at the same time.

## 9.6 Cutting tube elbows

Pipe elbows are cut at saw blade clamping point 2 (saw blade assembly, see chap. 8.5, p. 28). The necessary work steps for cutting tube elbows are identical to chap. 9.3, p. 33.



# 10. SERVICING, MAINTENANCE, TROUBLESHOOTING

**NOTE** Some of the work mentioned depends a great deal on the use and on the ambient conditions. The cycles specified are minimum specifications. In individual cases, differing maintenance cycles are possible. To ensure the safety of the machine, perform maintenance annually using an authorized service center with VDE testing. If the machine does not function as previously described, the machine must also be sent into an authorized service center.



**DANGER**

### Danger of death by electric shock!

Non-observance could result in death or serious 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, allow it to run to a stop and pull the mains plug.



**DANGER**

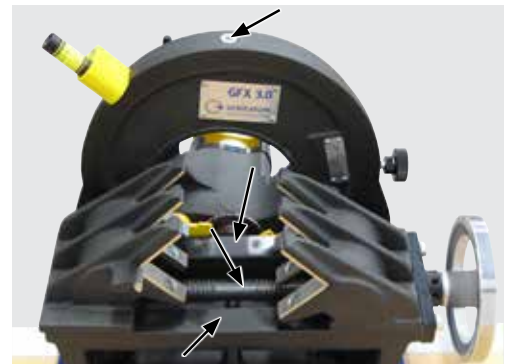
### Risk of electric shock due to poor electrics!

Fatal electric shock.

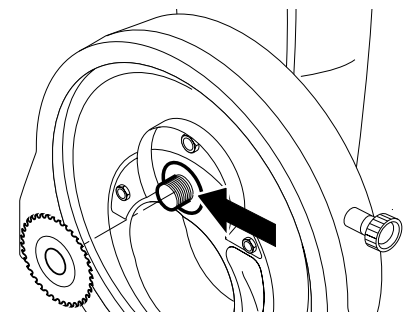
- ▶ At the end of each working cycle, before transportation, changing tools, cleaning and performing any maintenance, adjustment or repair work, switch off the machine, allow it to run to a stop and pull the mains plug.
- ▶ Repair and maintenance work on the electrical equipment may only be carried out by a qualified electrician.

## 10.1 Maintenance

Time/Interval	Activity
Weekly	<ul style="list-style-type: none"> <li>▶ Remove the saw blade and use the brush to remove any saw chips.</li> <li>▶ Lubricate the 4 points indicated by the arrows (use only thin-bodied oil, <b>no grease</b>).</li> </ul>



When cleaning and when changing tools	<ul style="list-style-type: none"> <li>⊗ Do <b>not</b> use compressed air to clean the area at the end of the shaft (marked with an arrow) as the rotary shaft seal may otherwise be damaged by chips.</li> <li>▶ Use a cloth or brush to clean the end of the shaft.</li> </ul>
---------------------------------------	--



### 10.1.1 Line laser

- ▶ Own maintenance work on the laser is not permitted.
- ▶ The laser is to be returned to the factory for any maintenance or repair work that may be required.
- ▶ It is not allowed to open, modify or to remove protective covers or housings except for battery change.

## 10.2 What to do if ...? – General trouble shooting

Problem	Possible cause	Remedy
The tube cutter will not turn.	The locking screw is tight.	▶ Loosen the locking screw.
	Incorrect tube dimension.	▶ Set the tube dimension correctly.
The saw blade is not cutting and is slipping through.	The nut on the saw blade shaft is not tight enough.	▶ Tighten the nut.
The saw blade is not cutting.	The saw blade has been inserted the wrong way round.	▶ Insert the saw blade so that the labeling on the saw blade faces the tube cutter.
The tube is not cut concentrically.	The tube cutter has been incorrectly flanged. The flange surfaces are contaminated.	▶ Remove the tube cutter, clean the fixing parts and flange surfaces, reflare the saw.
The tube is not cut.	Pipe dimension not correctly set.	▶ Adjust the bevel cutter to the tube dimension (see chap. 8.6, p. 29).
	The clamping lever is not tightened.	▶ Tighten the clamping lever.
The motor does not start.	The auto startup inhibitor is active because the ON switch is locked.	▶ Release the locking button and press the ON switch again.

## 10.3 Servicing/customer service

For ordering spare parts, refer to the separate spare parts list.

For troubleshooting, please contact the branch responsible directly.

Please indicate the following details:

- Type of machine: Pipe Cutting and Beveling Machine **GFX 3.0** or **GFX 6.6**
- Machine no. (*see type plate*)

# 11. EG DECLARATION OF CONFORMITY



EG-Konformitätserklärung  
Declaration of conformity  
Dichiarazione di conformità  
Déclaration de conformité  
Declaración de conformidad

Orbitalum Tools GmbH  
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Fax: +49 (0) 77 31 792-524

According to machine guideline 2006/42/EG (MaschR) and the EMC Directive 2004/108/EC.

Die Bauart der Maschine:  
The following product:  
Il seguente prodotto:  
Le produit suivant:  
El producto siguiente:

**GFX 3.0 Pipe Cutting and Beveling Machine\***

**GFX 6.6 Pipe Cutting and Beveling Machine\***

Seriennummer:  
Series number:  
Numero di serie:  
Nombre de série:  
Número de serie:

Baujahr / Year / Anno / Année / Año:

ist entwickelt, konstruiert and gefertigt in Übereinstimmung mit folgenden EG-Richtlinien:  
was designed, constructed and manufactured in accordance with the following EC guidelines:  
è stata progettato costruito e commercializzato in osservanza delle seguenti Direttive:  
a été dessiné, produit et commercialisé selon les Directives suivantes:  
ha sido proyectado construido y comercializado bajo observación de las siguientes Directivas:

**Maschinen-Richtlinie (2006/42/EG)**

**EMV-Richtlinie (2004/108/EG)**

**Niederspannungsrichtlinie (2006/95/EG)  
2000/14/EG**

Folgende harmonisierte Normen sind angewandt:  
The following harmonized norms have been applied:  
Le seguenti norme armonizzate ove applicabili:  
Les normes suivantes harmonisées où applicables:  
Las siguientes normas armonizadas han sido aplicadas:

**EN 60745-1:2010**

**EN ISO 12100:2010**

**EN 61029-1:2010**

\* including all accessories of Orbitalum Tools, e.g. the tube feeder base and extension units, the mobile workstation, etc.

Authorised to compile the technical file is Mr. Gerd Riegraf, Orbitalum Tools GmbH, D-78224 Singen.

Singen, 22.01.2010

Markus Tamm  
Managing Director

Hasan Caglar  
Business Unit Manager Orbital Cutting





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