Pneumatic Drive Unit

Type 5 8002 7000

Techn. Doc. No. 352

and

Accessories for Pipe Cutting Machine

Illustration can differ from the original

Operation and Maintenance Manual

Translation of the original manual
compiled: 20.04.16

580027000_BA_en_Version_02

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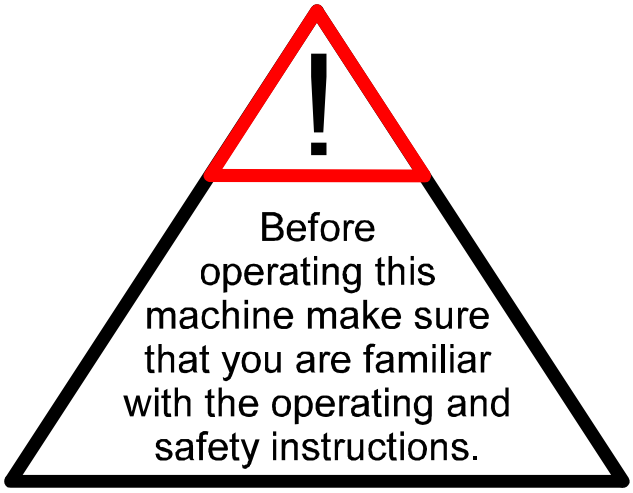

Directory

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Signal Word and Symbol Definition

The signal words and symbols used in the technical documentation (safety instructions, operating booklet, etc.) have the following meaning:

This symbol has the following meaning:

DANGER – Indicates an **immediate dang**er, which causes serious injuries to any person or even death, if not avoided.

WARNING – Indicates a **threatening danger**, which can cause serious injuries to any person or even death, if not avoided.

CAUTION – Indicates a **danger or unsafe procedure** which can cause injuries to any person or material damages, if not avoided.

NOTICE – Indicates a **potentially dangerous situation** which can cause damage to the product or its surroundings, if not avoided.

WARNING – **explosive atmosphere**
Air and flammable substances can mix and result in an explosive atmosphere. In areas exposed to explosion hazards, supplementary instructions and directives apply. Observe the safety instructions of the employer as well.

WARNING – **explosive material**
Caution should be exercised when working with explosive material or in its surrounding area.

PROHIBITION – **No naked flame, fire, or ignition source and no smoking**
Prevent from fire and explosion hazards, which can be caused by naked flame, open ignition source or by smoking.

Eating and drinking forbidden – The prohibition sign forbids the consumption of food.

REQUIREMENT – **Observe the instruction**
Ensure that the operation process is adhered to and avoid accidents and expensive break down times due to improper use of machines, devices and tools.
By using the mandatory sign you refer to the adherence of operation instructions.

This symbol has the following meaning:

NOTICE – Gives recommendations and important hints for handling the product
IMPORTANT – Indicates application advice and other particularly useful information.

REMARK:
In each case the used symbol does not replace the safety text. The text must always be read fully. In some cases other symbols will be used with the signal words.

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Technical Specification

Operating pressure	6 bar
Air consumption	2.2 m³/min
Performance	1.8 kW
Speed 1. gear	1800 ± 5% 1/ min
Speed 2. gear	350 ± 5% 1/ min
Max. cutting depth	50 mm
Cutting tool Ø	180 mm
Holder for cutting tool	22.2 mm and 30 mm
Air connection	R ½“ female
Weight (only drive unit)	13.0 kg
Sound pressure level L_{pA} (1)	98 dB (A)
Sound power level L_{WA}	106 dB (A)
Vibration (2)	< 2.5 m/s²
ATEX Classification	Ex II 2G c T6
(1)REMARK: Measurement acc. to DIN EN ISO 3744 (2)REMARK: Measurement acc. to DIN EN ISO 20643	Measurement uncertainty K: 3 dB (A) Measurement uncertainty K: 1.5 m/s²

The performance specifications are guide values only, they depend basically on the application, the working pressure and the accessories used.

Intended Use

SPITZNAS machines are designed for commercial/industrial use only.
Only trained, skilled personnel are allowed to operate the machine.

The pneumatic drive unit is assembled with the listed accessories appropriate for the application.

The operator, respectively the employer, is responsible for:

- The appropriate assembly.
- The appropriate use of the pneumatic drive unit.

Improper Use

Any use deviating from the intended use as described is considered to be improper use.

- Working without personal protection equipment.
- Using the drive unit without components.
- Using the pneumatic drive unit in an inadmissable area.

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Product Description

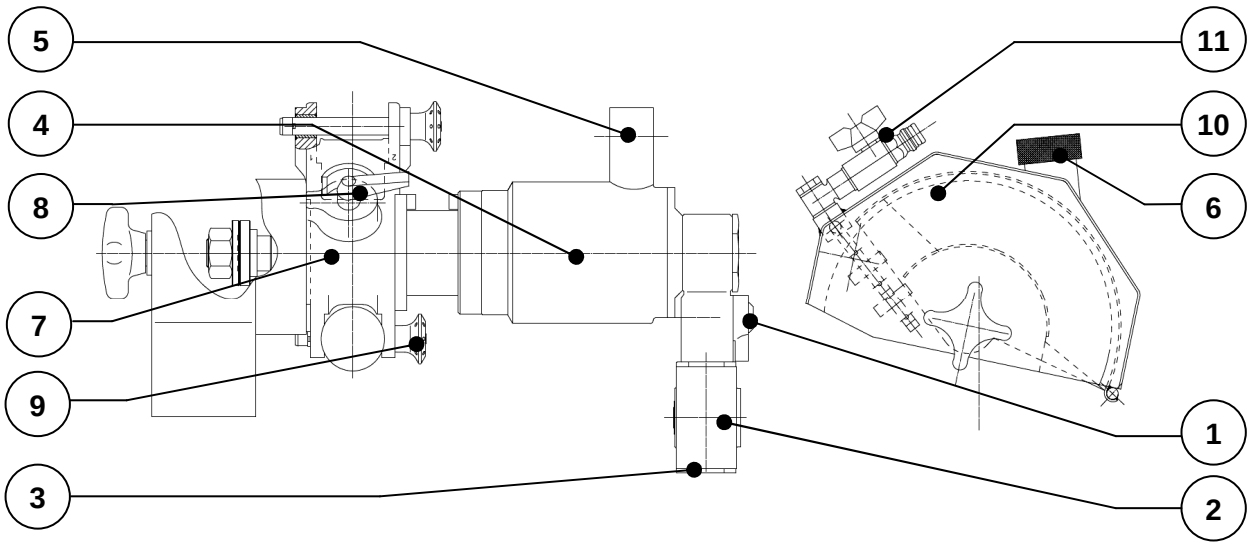

Fig. 1

1 Valve
2 Sensor block
3 Air connection
4 Pneumatic motor
5 Sound absorber
6 Adjustment device
7 Gear
8 Lever
9 Ball lock bolt
10 Guard
11 Water connection

Identification

Type sign

Identification of the technical documentation number

Serial number (1. u. 2. figure refer to the year of manufacture/ following figures refer to the series)

Type description

Company name and address

Explanation of ATEX Identification

Specification

Specification for prevention from explosion (ATEX)

Machine group II
Explosive atmospheres
e. g. Industry

Category 2
High level of safety

Ex-Atmosphere G
Gas, vapor and mist

Explosion protection c
Constructional safety

Temperature class T
Surface temperature limit

450℃	T1
300℃	T2
200℃	T3
135℃	T4
100℃	T5
85℃	T6

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Installation

Requirements to the air supply

The pneumatic drive unit works optimally at an operating pressure of 6 bar, measured at the air inlet. The distance from the air supply to the pneumatic drive unit should not be longer than 5 m.

We recommend installing an oiler or a maintenance unit upstream the machine for compressed air preparation. Acid and resin-free lubricating oil, like SAE 5W - SAE 10W should be used for proper functioning of the pneumatic drive unit. Attention! Do not use viscous oil.

An antifreeze lubricant, e.g.**:**

- “BP-Energol AX 10”,
- “Kilfrost” ,
- or “Kompranol N74”

should be used in winter and if the compressed air is very moist.

The supplied compressed air has to be free of:

- foreign particles,
- humidity.

Pay attention that all hoses:

- have a cross section being large enough,
- do not have any restrictions or buckles,
- are designed for a minimum operating pressure of 6 bar,
- are replaced regularly at preventative maintenance,
- have an oil resistant inner surface and an abrasion-resistant outer surface,
- are proved and specified to be non-conductive when being used next to electric conductors.

Always use hoses, lubricating oil and antifreeze lubricants, which meet the local safety requirements for use in areas exposed to explosion hazards.

Connecting the air supply to the pneumatic drive unit
Remove the locking cap from the connection at the air inlet, if necessary.
Connect the pneumatic hose (not contained in the scope of delivery).

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Startup

Follow the steps 1-10 for ensuring the successful assembly of the pneumatic drive unit together with its components.

1. Assemble the chain links including the tightener and adjust this guide chain on the pipe to be cut (see fig. 1.1 and 1.2)
   - Arrange the guide chain around the pipe at a distance of approx.142 mm from the intended cut. Screw tight and adjust the chain with a single-head wrench AF10 (see fig. 1.3 –1.4).


Fig. 1.1


Fig. 1.2


Fig. 1.3

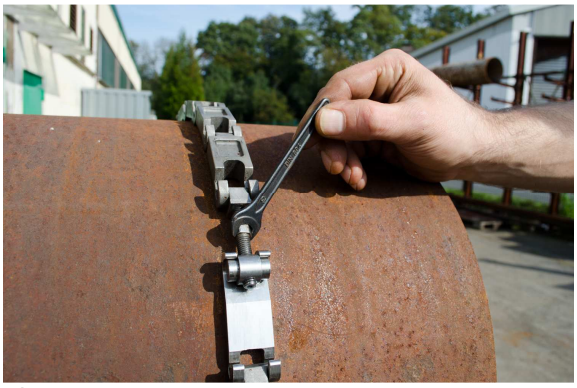
Fig. 1.4

2. Position the guide carriage at the pipe as shown in the figure 2.1 and 2.2 (cutting point is at the side of the narrow wheels).

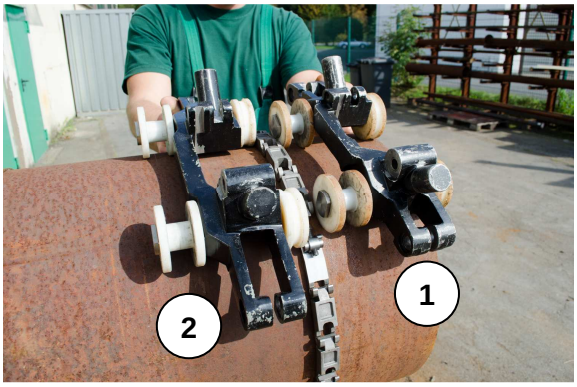

Fig. 2.1


Fig. 2.2

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3. When using the small guide carriage (1) (see fig. 2.1), please use the small chain tensioner (1) (see fig. 3.1 and 3.4). When using the large guide carriage (2) (see fig. 2.1), please use the large chain tensioner (2) (see fig. 3.1 and 3.5).

   - Fit the chain tensioner into the recess provided for this purpose (see fig. 3.2 resp. fig. 3.3). Put the tensioning chain around the pipe and adjust it to the guide carriage (see fig. 3.4 - 3.6). Tighten the chain tensioner until the guide carriage can hardly be moved (see fig. 3.2 respectively fig. 3.7).

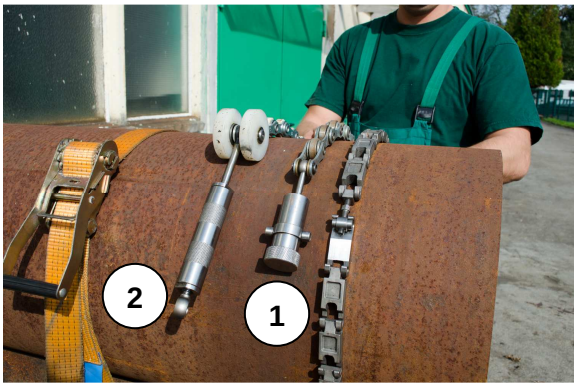

Fig. 3.1

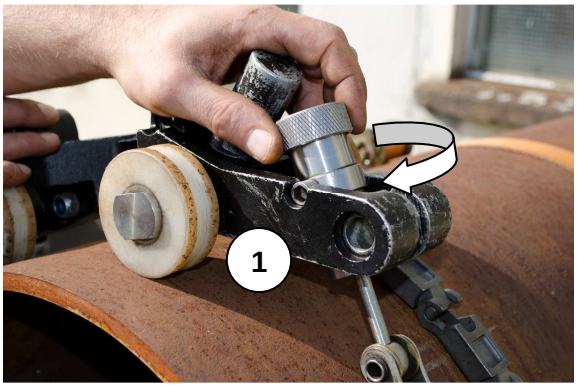

Fig. 3.2

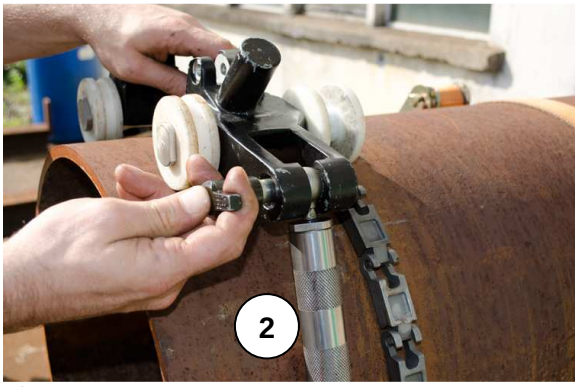

Fig. 3.3

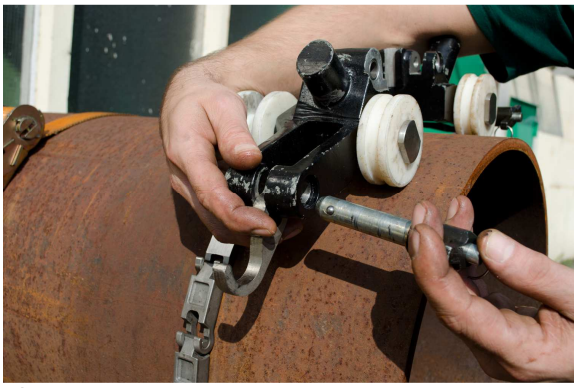
Fig. 3.4

   - For larger pipe diameters, it is necessary to use a second guide carriage with an additional tensioning chain (see fig. 3.8).

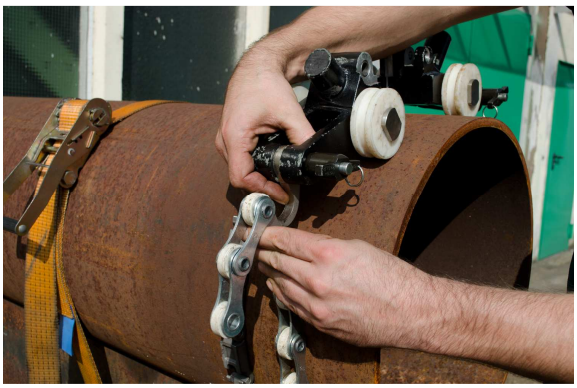
Fig. 3.5


Fig. 3.6

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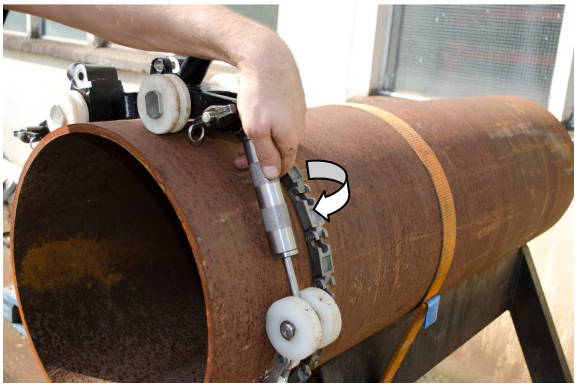

Fig. 3.7

Fig. 3.8

4. Put the drive unit onto the guide carriage and fix it with the ball lock bolt ∅ 12 mm (see fig. 4.1 respectively fig. 4.2).

   - Swing up the drive unit and screw the adapter (see fig. 4.3) on the shaft. Tighten the adapter with the single head wrench AF 17 and 24.Then fix your appropriate cutting tool by using the single-head wrench AF 24 and 30 (see fig. 4.4, 4.5 and 4.6).

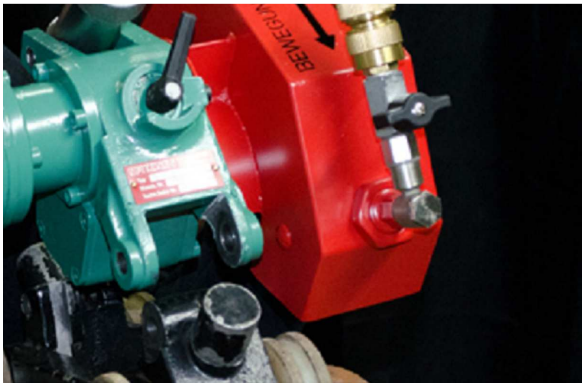

Fig. 4.1

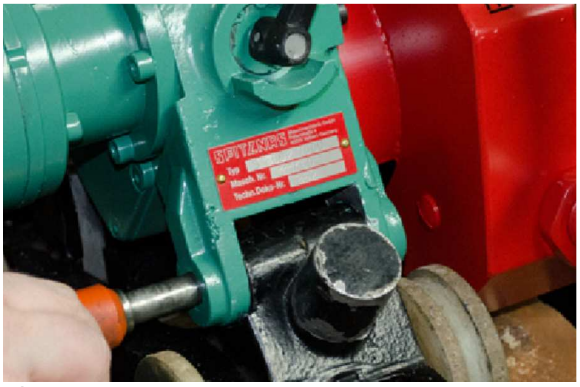

Fig. 4.2

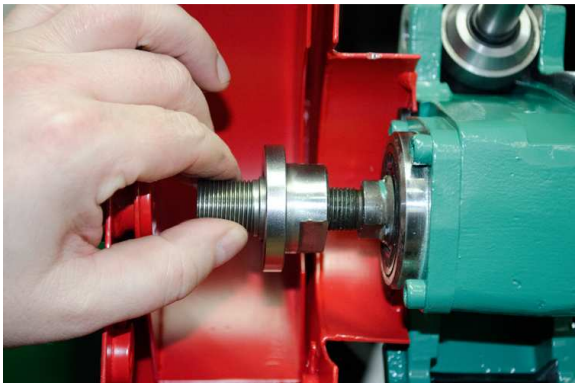

Fig. 4.3

Fig. 4.4

   - The shaft has a left-hand thread. (You need a single-head wrench AF 24 and 30 for changing the cutting tool).

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Fig. 4.5

Fig. 4.6

- Swing the drive unit into its original position and fix it with the second ball lock bolt ∅ 10 mm. Shut the guard. (see fig. 4.7 and 4.8).

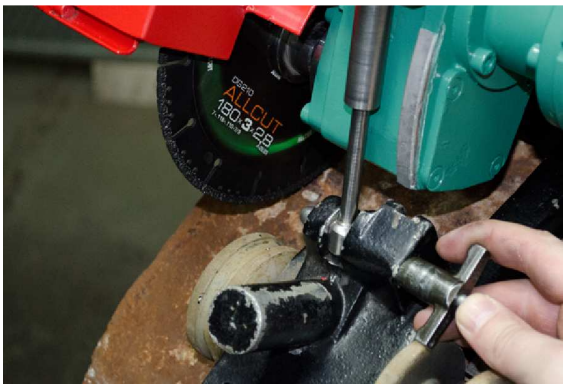

Fig. 4.7

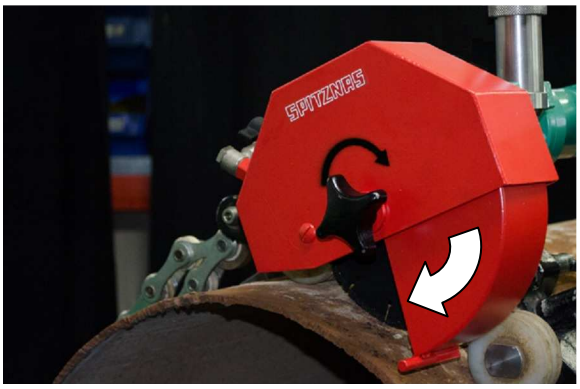

Fig. 4.8

5. Adjust the gear according to the required application (see Abb. 5.1 bzw. Abb. 5.2).
   - Gear 1: for cutting
   - Gear 2: for bevelling

   Changing gears is done when the machine is stopped. Turn the shaft with the single head wrench AF 17 and put the lever into the required position (disconnect machine from pneumatic line before).

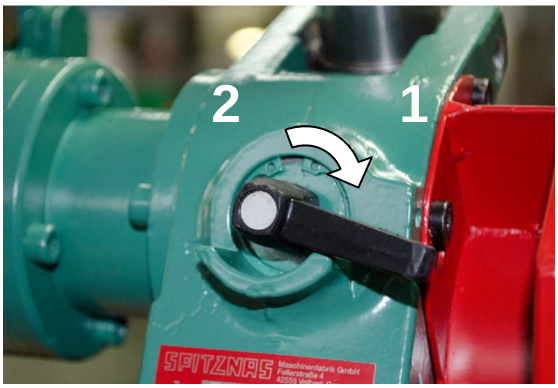

Fig. 5.1

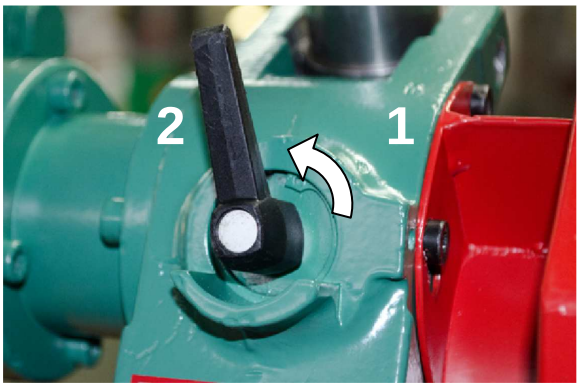

Fig. 5.2

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6. Connect the compressed air and the cooling water supply (see fig. 6.1 respectively fig. 6.2).

Fig. 6.1

Fig. 6.2

7. Place the feeding pipe (see fig. 7.1). Start the machine (see fig. 7.2):
   Actuate the valve and press the sensor button.
   (The way is open only after actuating the sensor button. When the valve is closed, the sensor closes as well. When the valve is opened again, the sensor has to be pressed again too.)


Fig. 7.1

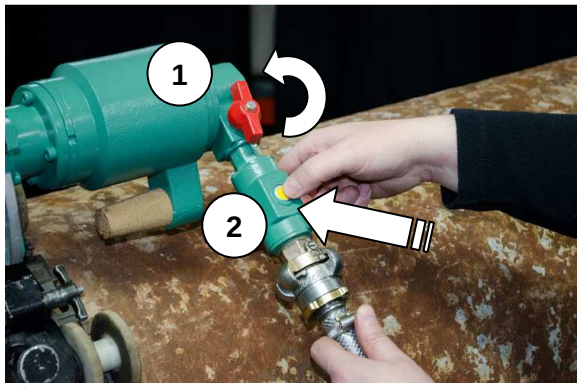

Fig. 7.2

8. Hold the feeding pipe tight in one hand, while adjusting with the other hand the cutting depth with the adjustment device. (see fig. 8.1).

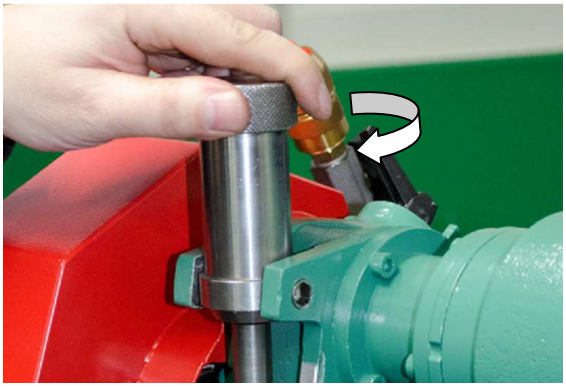
Fig. 8.1

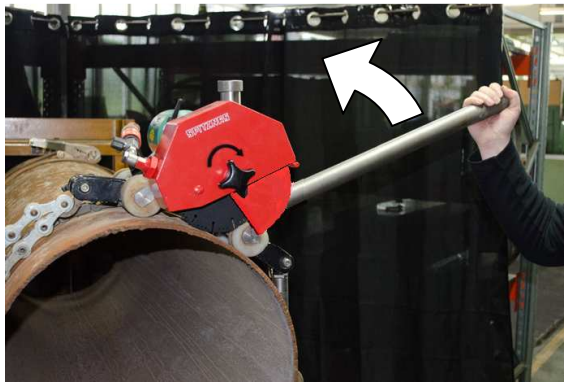
Fig. 9.1

9. Guide the machine around the pipe contrary to the rotating direction of the cutting tool by using the feeding pipe (see fig. 9.1).

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10. For bevelling:
    - Disconnect machine from pneumatic line.
    - Remove the adapter for the blade. (see fig.10.1).
    - Mount the bevelling tools complete with the adapter (see fig.10.2 – fig. 10.4).
    - Change to gear 2 (see fig.10.5).
    - Proceed as specified from point 6 onwards.

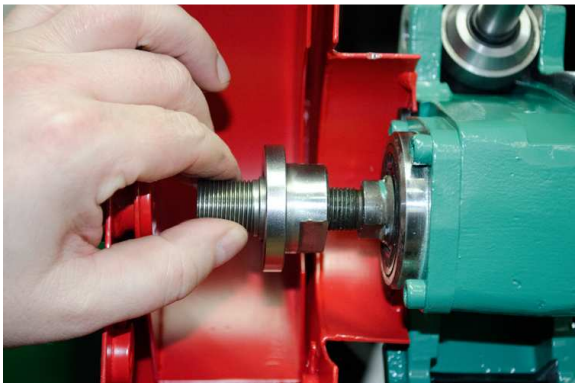
Fig. 10.1

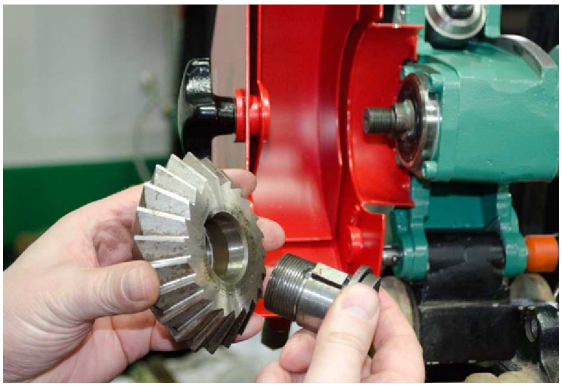
Fig. 10.2


Fig. 10.3

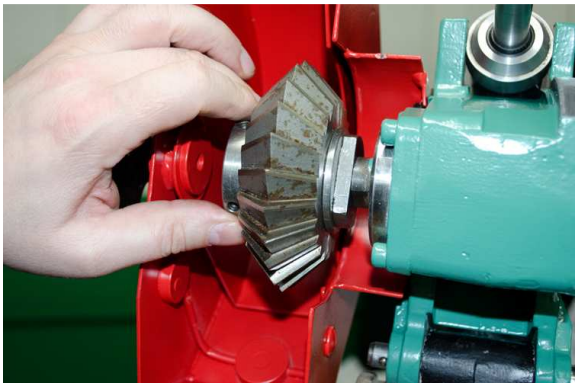
Fig. 10.4

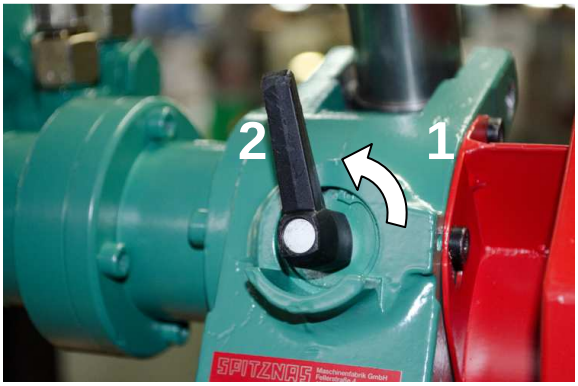

Fig. 10.5

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Basic Safety Instructions

Read operation instructions/safety instructions!
Before working on or with the tool, read the safety instructions and follow the instructions during operation.

Do not modify the machine or the machine tools and accessories after receipt. Any constructive changes or modifications need the manufacturer`s acceptance and have to be in compliance with the safety instructions. Use the machine only for its determination. Consider the technical data of the equipment and the ambient temperatures. Pay attention to labels, restrictions of use and special instruction notes on the machine tools and the machine itself. Check regularly that the type plate and symbols on the machine are legible. If necessary, contact the manufacturer to replace them. Only operators with technical knowledge, trained by authorized responsible technical personnel, may install, adjust, operate, transport and store the machine.

Employer's Obligations

Generally, the employer is responsible for the faultless condition/operation of the machine and the adherence to the safety regulations. The machine is designed and manufactured according to the technical safety regulations. However, using it, there is still a risk of accidents to the operator or third parties or damage to the machine or other objects. All current regulations and specifications, which apply to the site of operation in regards to accident prevention, installation of electrical and mechanical systems as well as radio interference must be considered.

IMPORTANT - The employer must make sure that…

- risk assessment is carried out for the specific risks, which can occur due to any operation of the machine,
- the function of the safety equipment is regularly checked,
- the safety symbols and safety notes on the machine/ device and the operating instruction booklet are considered,
- the safety instructions and the operating instruction booklet are available completely and in legible condition on site with the machine.

The employer is obliged to allow personnel to work on the machine only, who:

- Are familiar with the basic work environment safety rules and accident preventing regulations. Also, those persons must have been instructed in the correct use of the machine,
- have read and understood the safety and warning notes in the operating instruction booklet as well as all the other documentation pertaining to the machine,
- have been tested at regular intervals in regards to their safety-conscious operation.

Safety-conscious working
Additionally to the safety instructions in this manual and the intended use, the following safety regulations have to be considered:

- Accident prevention instructions, safety and operation regulations,
- explosion protection directives,
- safety regulations for the operation with hazardous material,
- effective norms and laws.

Operator's Obligations

All persons who are assigned to work with the machine are obligated to:

- Pay always attention to the basic safety and accident preventing regulations,
- read always and follow the safety and warning notes in the operating instruction booklet.

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Explanation of Symbols for Protective Equipment and for Accident Prevention

Use protective clothes – Protective clothes are necessary for diverse applications, e.g. protection against chemicals, heat and cold. Provide appropriate protective clothes to your staff and identify this requirement by convincing signage.

Use head protection – Keep staff and visitors from head injury. Provide enough safety helmets and identify the obligation for using safety helmets by appropriate mandatory signs.

Use eye protection – whether goggles, laser safety goggles or etc. – identify areas where eye protection has to be used, by appropriate mandatory signs.

Use ear protection – Capsule hearing protectors or hearing protectors have to be used for ear protection, depending on the sound intensity at the work place. Provide appropriate ear protection and identify the obligation for using ear protection by appropriate mandatory signs.

Use foot protection – Foot injury by vehicles, objects, hot material or hazardous substances can be avoided by appropriate protective shoes. Equip your staff with appropriate protective shoes and identify those requirements properly.

Use hand protection – Identify convincingly the safety requirement „Use hand protection“ by a gloves sign, respectively a gloves symbol.

Use respiratory protection – Ensure that the specified protection equipment is available and that it is used. Identify by mandatory signs, where and when respiratory masks are required.

Danger Zones

Operational condition --- Life phase	Normal function	Malfunction	Improper use	Expected use
Transport	Transport of the drive unit in an inoperable condition	Drop of the drive unit	Transport in an operable condition	unknown
Startup	Assembling of the pipe cutting machine including accessories	unknown	Equipment without/ with other components; Equipment with grinding tools made of bonded abrasives and other tools	unknown
Operation	Drive unit only works with actuated valve and pressed sensor button Drive unit moves the tool	Drive unit runs without intended actuation Tool blocks	Sensor block was removed unknown	unknown
Maintenance	Operation at a service unit Regular cleaning	Breakdown of the drive unit	unknown	unknown

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Safety Instructions for Prevention of Workplace Hazards

WARNING – The following applies unless otherwise stated in the machine's operating instructions booklet: The machine is not insulated to protect against an electrical power surge.

CAUTION – risk of injury!
Hands may be crushed, seized or otherwise injured.
Keep your hands away from areas which are marked with this symbol.

CAUTION – risk of injury!
Remove all sources of danger which could lead to slipping, tripping or falling (e.g. slippery surface, hoses, cables).
Keep the work area clean and tidy.

PROHIBITION – Eating, drinking and smoking are forbidden during operation.

WARNING – Explosion hazard!

Operate the machine only according to the intended use.
The drive unit is designed for the use in areas exposed to explosion hazards as well.
The generation of heat and –eventually- sparks at the cutting point is characteristic for cutting certain material. Therefore the cutting point has to be rinsed, respectively cooled, continuously with water.
Additionally observe the following:

- Valid local explosion protection directives.
- Technical specification of the drive unit.
- Markings on the drive unit.
- Avoid the generation of sparks, respectively flying sparks.
- When operating the machine, do not push or beat against other material and mount it tightly and securely.
- Do not slide the machine over the ground.
- If heat generation exceeds the specified surface temperature, the machine has to be stopped instantly. It may be re-started only after having eliminated the cause for the fault.

- The work area and the other close working areas should always be protected from sparks.
- Flammable and explosible material has to be removed from the work area before starting work. Among others, this relates to dust deposits, cardboard, packing material, textile, wood and wooden splints, but also flammable fluids and gas.

Ensure adequate lighting.

Be extra careful in unfamiliar surroundings. There is a risk of hidden hazards such as electric lines or other supply lines. When operating the machine make sure that no electrical cables, gas pipes or similar could be damaged. Use suitable and personal protective equipment.

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Safety Instructions for Prevention of Hazards caused by Compressed Air

WARNING – Compressed air can cause severe injury. Before working on the tools (e.g. installation, changing accessories or machine tools, prior to a long standstill, maintenance, etc.) depressurize pneumatic equipment (close valve and depressurize pneumatic hose).

CAUTION – Risk of injury by whipping pneumatic hose.
Check pneumatic hoses, connection components and fittings regularly for any damages and proper fixture.

When connecting / disconnecting the machine to / from the pneumatic supply, please pay attention not to actuate the start lever while doing so.
Never remove a pressurized pneumatic hose.
Always switch the power supply off first and then depressurize the machine by pressing the valve latch.

The maximum operating pressure (flow pressure) according to the technical specification must not be exceeded.
A pressure regulator should be installed, which regulates the pressure before it reaches the machine.
Never direct a pneumatic hose at yourself or anyone else. Never clean your clothes with compressed air.

Direct cold air away from your hands. Do not pull or carry the machine by the pneumatic hose. When using claw couplings make sure that they are fitted with a suitable lock mechanism (e. g. lock pin) and a safety chain.

Safety Instructions for Prevention of Hazards caused by the Use of Cutting Tools

WARNING – Risk of injury by damaged, improperly clamped or mounted cutting tools. Only use undamaged cutting tools and mount them carefully.

Correct selection of cutting tools
Observe the following:

- Thoroughly read the specifications of the cutting tool manufacturer - if available, the specifications on the sticker or the cutting tool itself- and ensure the cutting tool is appropriate for the application and has the correct dimensions.
- The maximum shaft speed of the drive unit 5 8002 7000 must definitely not exceed the speed specified and recommended by the manufacturer on the sticker or the maximum speed eventually specified on the cutting tool itself.
- Application limitations and other instructions of the cutting tool manufacturer, which are specified on the cutting tool itself or are contained in the documents attached to it.

Recommendation: If possible, make a test cut outside the explosive area before starting the work. This enables you to better assess the risk.

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Safety Instructions for Prevention of Operating Hazards

Before starting work make sure that the hands are protected against:
impacts, crushing, hits, cuts, abrasions and heat.

The operating and maintenance personnel must be physically able to handle the bulk, the weight, the power and/or the torque of the machine. Do not use the machine if you have taken any medication or drugs, after drinking alcohol or with any other constraints on your vision, reaction time or judgment. Work in the best possible position so that you can react with both hands to any normal or unexpected movements of the machine.

Maintain a balanced body position and secure footing in order to avoid improper strain and to be able to support the reaction torque of the machine.

If you cannot safely support the reaction torque of the machine, use a torque reaction bar (e.g. linear stand, telescopic arm, holding fixture/ holder-on, support grip). Additionally observe the following:

- Operate the machine only after having carefully read the operation manual.
- The safety instructions for prevention of operating hazards have been met.
- Ensure proper fixing of the machine to the pipe, before connecting the machine to the compressed air supply.
- Make sure that the cutting tool is properly attached to the machine prior to connecting.
- Never use damaged or dull cutting tools.
- Wear protective clothes (goggles, gloves, hearing protection, shirt with long sleeves).
- Do not touch the cutting tool any more, after having connected the machine to the compressed air supply.
- In explosive areas ensure connection and functioning of the water cooling before cutting the steel pipe. The machine must be stopped instantly, if there is a malfunction of the water supply.
- Adjust the splash protection of the guard only when the machine is stopped.
- Consider the rotating direction of the cutting tool (specified on the protective guard).
- Consider the feeding direction of the machine (specified on the top of the protective guard).

Safety Instructions for Prevention of Entanglement Hazards

CAUTION – Loose clothing, personal jewellery (e.g. necklace), scarves/ ties, long hair or gloves can get caught up in the machine tool or accessories and thus cause severe injuries (lack of breath by throttling, abrasions, skin injuries and/ or cuts and lacerations).

Wear suitable, close fitting work clothing!
Wear a hair net, if you have long hair. When handling the machine, jewellery, necklaces, etc. have to be removed or are forbidden, respectively.

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Safety Instructions for Prevention of Noise Hazards

Always wear hearing protection – This refers to the operator, as well as to any other person within the vicinity of the machine. Observe the instructions of the employer and of the professional association.

During operation high noise levels can cause permanent hearing problems such as tinnitus (ringing, buzzing, whistling or humming in the ears), hardness of hearing or even deafness.

- Before starting work, ensure that the provided, respectively the factory-made, sound absorbers are mounted and in proper condition.
- If possible, use sound absorbing material, in order to avoid ringing noise at the work pieces.

Safety Instructions for Prevention of Vibration Hazards

Vibrations can cause damage of nerves and blood vasculares in hands and arms.

- Wear warm clothing and keep your hands warm and dry when working in cold conditions. Exercise hands and fingers regularly.
- Pay attention to fix properly the machine.
- Guide the machine with light but secure grip.
  The tighter the grip the greater the risk of vibrations.
- Mount the machine as described in the operating instruction booklet in order to avoid high vibrations.
- Stop work immediately, if you feel any numbness, tingling, pain or whitening of fingers or hands. Inform the employer and consult a doctor.

Safety Instructions for Prevention of Dust and Fume Hazards

Wear respiratory protection - Use respiratory protection as instructed by your employer and as required by occupational health and safety regulations. Potentially generated or disturbed dust and fumes in the working environment or from using the machine can cause illness (e.g. cancer, birth defects, asthma and/ or dermatitis).

- Carry out risk assessment regarding dust and fume hazards and implement appropriate measures.
- Keep the working place clean.
- Keep in mind that working in certain materials may create dust and fumes causing a potentially explosive atmosphere.

Remark: Some types of metal may have toxic coatings.
Please pay particular attention to avoid skin contact and breathing in, when working with those materials.
Always use a protective mask. Ask your material supplier about special safety instructions and stick to them.

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Safety Instructions for Prevention of Projectile Hazards

Wear impact-resistant safety goggles – This refers to the operator, as well as for the persons within the vicinity of the machine. Assess and determine the grade of protection required depending on the individual case. The risks to others should also be assessed at this time.

On overhead work, wear a safety helmet. If a work piece, accessories, inserted tools, or the tool itself breaks, there is danger from high velocity projectiles.

- Before using the machine check all parts for damages.
- Replace damaged parts immediately.
- When working on brittle material make sure that you are protected against harmful splinters.

Safety Instructions for Prevention of Accessory Hazards

Use only machine tools, accessories and consumables, which are recommended by the manufacturer. Make sure choosing the correct size and the correct type. Use only accessories, which are in proper condition and do not touch them during operation.

WARNING – Injury due to carelessness!

ATTENTION – If the machine is fixed to suspension equipment make sure that it is secure. Never hang the machine onto the supply line.

- Separate the machine form any external energy source before changing the machine tool or any accessory.
- Avoid direct contact with the machine tool during and after use as it can be hot or sharp.
- Wear protective gloves when changing a tool or an accessory!

Defective/ inappropriate gloves can lead to injury. Wear only proper hand protection, adapted to the work place requirements.

WARNING – Explosion hazard!

When operating the pneumatic drive unit in areas exposed to explosion hazards, use only accessories, respectively devices, which are ATEX approved and specified.
Use low-sparking accessories.

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Safety Instructions for Prevention of Transport Hazards

CAUTION – Improper Transport, danger of life due to parts falling down! Damage of the machine!

- Never carry the machine at the supply line.

ATTENTION – Separate the machine from any external energy source before transportation. Check that the machine is undamaged and in proper condition.

Wear worker's protective shoes!

Service and Maintenance

Basic Safety Instructions:

WARNING – Maintenance and repair work on pneumatic equipment.
Compressed air can cause severe injury. Observe legal regulations. Take precautions for persons and environment.

Additionally, observe the following:

- Secure the machine against unintentional starting and let the machine cool down to the ambient temperature
- Protection against tipping, tumbling or falling down when assembling/ disassembling the machine/parts.

CAUTION – Skin exposure to hazardous dusts may cause severe dermatitis. Dust at the work place can be raised during the maintenance procedure and can be inhaled.
Clean the machine and the work place before maintenance work.

WARNING – Danger of explosion! Generation of sparks during maintenance work!

Consider local safety regulations. Avoid use of force when disassembling and assembling the machine. Always do maintenance work outside hazardous medium.

PROHIBITION - Eating, drinking and smoking are forbidden during maintenance and repair work

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NOTICE – Use only original SPITZNAS service tools, in order to avoid damages. Check the adherence to the technical specifications according to the operation manual after each maintenance work.

Use only **genuine spare parts**. Otherwise you risk a decrease in machine performance and an increase in maintenance work.

IMPORTANT – There is no warranty for damages and liability is disclaimed, if **non-original spare parts** are used.

Maintenance Instruction
Generally, pneumatic machines need less maintenance. If the following rules are followed, the machine will have the expected durability and high reliability. Service life and performance of the machines are decisively determined by:

- The air purity
- The lubrication conditions and maintenance
- The **regular control of the compressed air filter**, as well as the **regular checking of the machine with regards to external damages.**

Inspection and maintenance can be done by the operator.

Disassembly and re-assembly of the machine have to be executed only by qualified staff. Incorrect assembly can cause a risk of accident for the operator and damage at the machine.

Additionally to the measures described before, it is a must to check the grease in the gear and to fill it up or replace it, if necessary.
The correct quantity of grease (25 g) is very important with regard to good lubrication and low warming.

Grease: SPITZNAS reference number 9 9902 0130 (400 g); 9 9902 0250 (100 g)

After completing maintenance and repair work and before restarting production make sure that…

- all materials, tools and other equipment which are required for maintenance or repairs have been removed from the work area of the machine,
- any fluid leaks have been removed,
- all safety devices on the machine have proper function,
- fixtures of screw connections are tight,
- removed covers, screens or filters were reinstalled.

The employer ensures that all maintenance, inspection and assembly work is done by authorized and qualified experts, who have been appropriately advised by studying the operation manual.

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Disassembly- Re-assembly

Maintenance and repair
Disassembly and re-assembly should be done according to the exploded views, respectively the sectional drawings (see repair instruction). All work regarding disassembly and re-assembly, have to be executed by SPITZNAS or skilled staff only.

DANGER – Working with the machine without appropriate preparation and disregarding of instructions. Shut down the machine properly and let it cool down to the ambient temperature.

NOTICE – Special instructions apply for the repair of explosion-proof machines.
Retrofits or modifications of the machine need the manufacturer's acceptance.

The explosion-proof machine is designed in the type of protection „c" constructive safety.

All work executed on the machine, influencing the explosion protection, e. g. repairs with mechanical machining, require an approval of an authorized expert or have to be done by the manufacturer. The internal structure must remain unmodified.

Storage

Unused machines and machine tools should be kept in a dry, closed room.
Keep them free from damaging influences such as damp, frost or large temperature fluctuations as well as mechanical damage. Always store the machine in a way that important machine instructions, e. g. on stickers and signs, are legible.

Disposal

Dispose worn out/defective machine tools according the local/national regulations. Fully disassemble the machine for the necessary disposal. Separate materials according to local environmental specifications. Dispose environmentally hazardous greasing, cooling or cleaning agents in order to avoid environmental contamination.

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Environmental Regulations

When working on or with the equipment, it is imperative to observe all legal requirements in regards to waste-disposal and proper recycling.
In particular during installation, repair and maintenance work, water damaging agents, such as

- lubricating grease and oil,
- coolant,
- solvent containing cleaning agents

must not leak into the ground or reach the sewage system.
These materials must be stored, transported, contained and disposed of in suitable containers!

Troubleshooting

The following table shows possible problems:

	Problem	Cause	Remedy
a	Machine does not start	Not connected to compressed air	Connect and open the supply line
b	Machine is rotating too slowly	Operating pressure is too low Cross section of hose to small Too little air flow	Increase the operating pressure Use a hose with larger cross section Increase the air flow
c	Gear makes loud noises		Contact authorized expert company
d	Other problems		Contact authorized expert company

Warranty and Liability

Unless otherwise specified, our „General Sales Terms" apply. Warranty and liability claims in regards to persons or equipment damages are invalid, if one or more of the following causes apply:

- Improper use of the machine,
- improper assembly, startup, operation or maintenance of the machine,
- operation of the machine with defect safety devices or improperly fixed or non-functioning safety and protection devices,
- not considering of the instructions in the operating instruction booklet concerning transport, storage, assembly, startup, operation, maintenance and setting up of the machine,
- independent structural alterations or settings on the machine beyond the intended purpose,
- inadequate supervision of wear parts,
- improperly carried out repairs, inspections or maintenance,
- catastrophic cases due to foreign objects, acts of god or other reasons which are beyond our control.

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Scope of Delivery

Check, if the scope of delivery is complete:
1 Operation and Maintenance Manual
1 Pneumatic Drive Unit
1 Individual Accessories

Accessories

Depending on the pipe diameter the following components are required:

Component selection							
Pipe-∅ (mm)	Guide carriage		Chain tensioner		Tensioning chain	Drive unit	Guide chain
300 - 400	1 x 5 8010 8090	(1)	1 x 5 8003 8300	(1)		5 8002 7000	5 8002 8760
400 - 800	1 x 5 8010 8100	(2)	1 x 5 8002 8400	(2)	1 x 5 8002 8710	5 8002 7000	5 8002 8780
	1 x 5 8010 8090	(1)					
600 - 1000	2 x 5 8010 8100	(2)	2 x 5 8002 8400	(2)		5 8002 7000	5 8002 8810
400 - 1400	1 x 5 8010 8090	(1)	2 x 5 8002 8400	(2)	1 x 5 8002 8710	5 8002 7000	5 8002 8820
	2 x 5 8010 8100	(2)					
400 - 1600	2 x 5 8010 8090	(1)	2 x 5 8002 8400	(2)	2 x 5 8002 8710	5 8002 7000	5 8002 8830
	2 x 5 8010 8100	(2)					
(1) small			(2) large				
Cutting tools			The cutting tool has to be appropriate for the pipe diameter. It should be carefully selected by the operator.				

On request, the components can be compiled individually for specific pipe diameters.

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Recommendation
Select from the following table the cutting tool appropriate to the application of the drive unit.
When using the drive unit in explosive areas, cool, respectively rinse, the cutting area continuously with water.

Cutting		
Material of the work piece	**Blades**	**Order number**
Cast iron, ductile iron, cement, concrete, clay and GFK of more than 4 mm		9 2503 0100
Steel, PE, PVC, non-ferrous metal of more than 4 mm		9 2503 0120

Bevelling			
Material of the work piece	**Bevelling tool**		**Order number**
Steel, PE, PVC, non-ferrous metal of more than 4 mm		Bevelling cutter 45°d=100 60°d=100 90°d=100	 9 2530 7040 9 2530 7060 9 2530 7090

More accessories		**Order number**	
		Carrier box	5 8002 9300
		Tool set	5 8002 9200

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Declaration of conformity

as defined in the European Union Machine Directive 2006/42/EC and in the
EU-ATEX-Directive 2014/34/EU for usable machines

We, the company
SPITZNAS Maschinenfabrik GmbH, Fellerstraße 4, 42555 Velbert–Langenberg,
declare that the following product

Description:	Pneumatic Drive Unit
Model:	**5 8002 7000**

in the version supplied by us, complies with the European Union Machine Directive 2006/42/EC and the EU-Directive 2014/34/EU (ATEX – group II, category 2, G c T6).

Applied harmonized norms are:

DIN EN ISO 12100
DIN EN 1127-1
DIN EN 13463-1
DIN EN 13463-5

According to section 13 (1) b) ii) of the Directive 2014/34/EU the technical documentation is deposited under reference No. 557/Ex-Ab 2242/14 at the following office:

TÜV Rheinland Industrie Service GmbH
Moltkeplatz 1, 45138 Essen
(Registration No. 0035
for the scope of
the Directive 2014/34/EU)

Requirement for the operation of this pneumatic drive unit is that the pneumatic drive unit is only used with components, which correspond to the regulations of the EC- and the EU-Directives, the harmonised standards, the European standards or the relevant national security standards.

Name of the authorized person for documentation: Mr. Simon Witt
Address of the authorized person for documentation: see manufacturer's address

42555 Velbert, 20.04.16

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