

# Pneumatic Rotary Hammer Drill

## Type 2 2404 0030

Techn. Doc. No. 252



Illustration can differ from the original

# Operation and Maintenance Manual

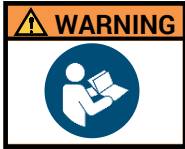
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## Signal Word and Symbol Definition

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



**WARNING – Read the operation and maintenance manual**

It is imperative to familiarize with this operation and maintenance manual and its safety instructions before starting your SPITZNAS machine. Stick to the operating processes and avoid accidents due to improper use of the machine.



This symbol has the following meaning:

**DANGER** – Indicates an **immediate danger**, 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.



**NOTICE** – Gives recommendations and important hints for handling the product


**IMPORTANT** – Indicates application advice and other particularly useful information.

This symbol has the following meaning:

**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.

## Technical Specification

Operating pressure	6 bar	90 psi
Power	0.5 kW	0.675 hp
Free speed	625 1/min	625 rpm
Speed under load	440 1/min	440 rpm
Percussion under load	3000 blows/min	-
Percussion energy	2 J	-
Air consumption	0.6 m <sup>3</sup> /min	21 cfm
Air connection	NPT ½" female	-
Exhaust connection	R 3/8" female	-
Water connection Gardena	R ¼" male	-
Shank	SDS Plus	-
Drilling capacity in concrete	Ø 5-28 mm	0.19685 – 1.102 inches dia.
Drilling capacity in concrete of medium hardness	Ø 12 mm= 34 cm <sup>3</sup> /min = 300 mm/min	0.4728 dia. = 2.0853 cu. in = 11.82 inches/ min
Optimum drilling capacity	Ø 12-20 mm	0.472-0.787 inches dia.
Drilling in steel with quick-release chuck	Ø 5-13 mm	0.19685–0.5118 inches dia.
Drilling in wood with quick-release chuck	Ø 5-30 mm	0.19685–1.1811 inches dia.
Weight	6.3 kg	13.9 lbs
Dimensions, L x H x W	410 x 240 x 100 mm	16.14x9.45x3.94 inches
Sound pressure level L <sub>pA</sub> <sup>(1)</sup>	93 db(A)	
Sound power level L <sub>WA</sub>	102 db(A)	
Vibration <sup>(2)</sup>	4.5 m/s <sup>2</sup>	
ATEX Classification	 II 2G Ex h IIB T6 Gb	
<sup>(1)</sup> Remark: Measurement acc. to DIN EN ISO 15744	Measurement uncertainty K: 3 dB (A)	
<sup>(2)</sup> Remark: Measurement acc. to DIN EN ISO 28927-5	Measurement uncertainty K: 1.5 m/s <sup>2</sup>	

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 industrial use only.**

Only trained, skilled personnel are allowed to operate the machine.

The hammer drill serves for hammer drilling into:

- concrete, stone and masonry  
and for drilling into:
- Wood, plastic, non-ferrous metal, cast iron, steel and stainless steel.

It can be used for:

- Construction industry (building, rebuilding and renovation), workshop, chemical industry / refineries, nuclear industry and underwater.

## Improper Use

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

- Working without personal protection equipment.
- Using the machine in an inadmissible area.
- Drilling self-flammable material.

**Product Description**

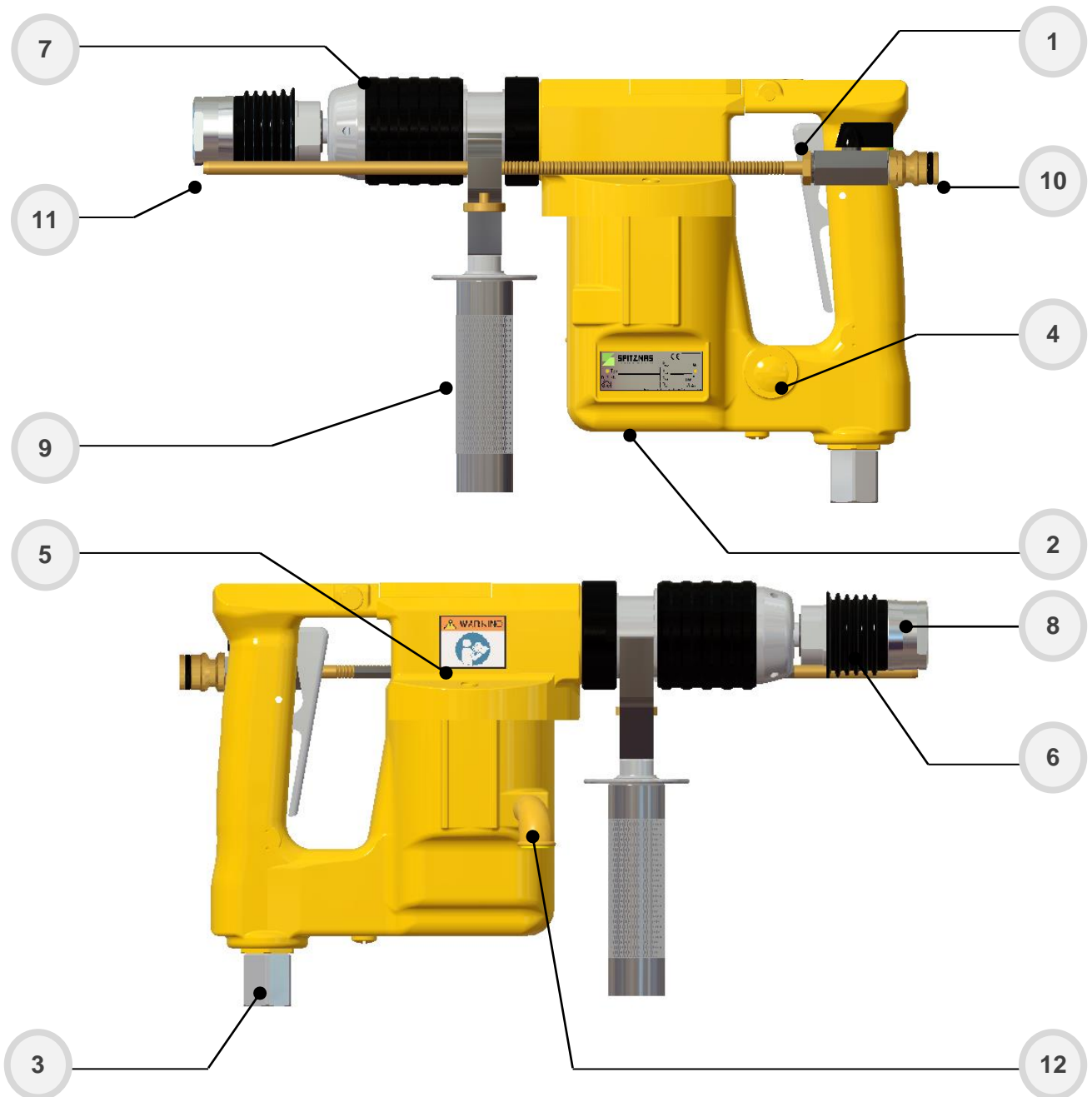


Fig. 1

- 1 Valve trigger
- 2 Motor housing
- 3 Air connection
- 4 Oil plug

- 5 Gear housing
- 6 Adjusting sleeve
- 7 Sliding sleeve
- 8 Shank

- 9 Second Handle
- 10 Flush connection Gardena R 1/4" male
- 11 Depth gauge
- 12 Exhaust connection

Sliding clutch for prevention of overload and accidents, gear capsuled in a dustproof way, lubrication centralized and permanent, rotatable second handle with water cooling and drilling depth gauge.

## Identification

Type sign

Explanation of ATEX Identification

CE specification

Address \_\_\_\_\_

Technical specification \_\_\_\_\_

ATEX Identification \_\_\_\_\_

Serial number (1. and 2. figure BJ = refer to the year of manufacture/ following figures Sr = refer to the series) \_\_\_\_\_

Type description \_\_\_\_\_

Company name and Logo \_\_\_\_\_

**Specification**  
acc. to 2014/34/EU



**Machine group II**  
Explosive atmospheres  
e. g. Industry

**Category 2**  
Very high level of safety  
High level of safety  
Normal level of safety

**Ex-Atmosphere G**  
Gas, vapor and mist

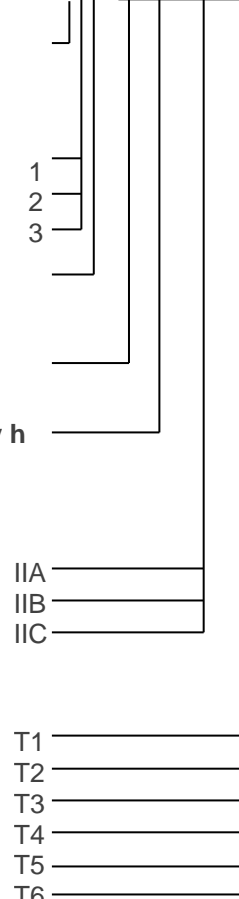
**Marking according to standard - Ex-Symbol**

**Ignition protection category h**  
Code letter h for all non-electrical equipment

**Explosion group IIB**  
e.g. Methane, Propane  
e.g. Ethylene, Town gas  
e.g. Hydrogene, Acetylene

**Temperature class T**  
Surface limit temperature  
450°C  
300°C  
200°C  
135°C  
100°C  
85°C

**Equipment Protection Level**  
Group II EPL Gb



Category 2 (usable in category 3 as well) Explosion group IIB usable in explosion group IIA as well.

## Scope of Delivery

Check, if the scope of delivery is complete:

- 1 Operation and Maintenance Manual
- 1 Pneumatic Rotary Hammer Drill

Included and supplied machine accessories: 1 carrying case, 1 protective cap

## Installation

### Requirements to the air supply

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

We recommend installing an oiler or a maintenance unit upstream the machine for compressed air preparation. Use acid and resin-free lubricating oil, like SAE 5W - SAE 10W, for proper functioning of the pneumatic rotary hammer drill. Attention! Do not use viscous oil.

Use an antifreeze lubricant, e.g.:

- “Kilfrost” ,
- or “Kompranol N74” 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 kinks,
- 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 rotary hammer drill

Remove the locking cap from the air connection 3. Connect the pneumatic hose (not contained in the scope of delivery).



Fig. 2



## Startup

### Consider the following bevor using the machine:

Open oil plug 4 and fill up with pneumatic oil (9 9902 0220) (see fig. 3).  
The maximum quantity of oil is 75 cm<sup>3</sup> (4.6 cu.in.).

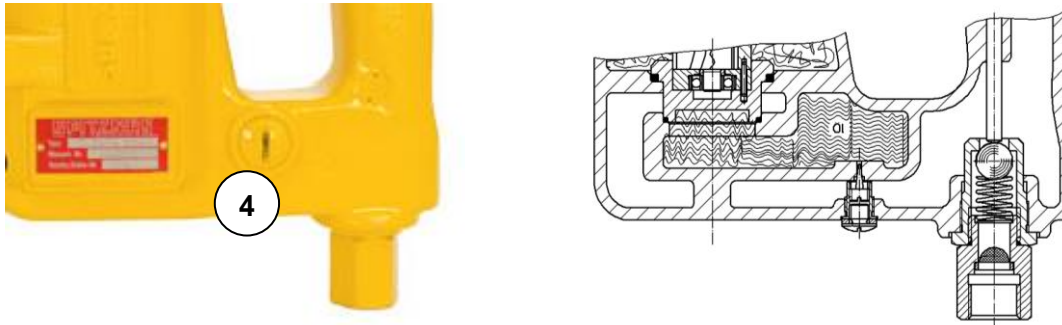


Fig. 3

### Hammer drilling

Fig. 4.1: Pull back the adjusting sleeve and lock it in clockwise direction.



Fig. 4.1

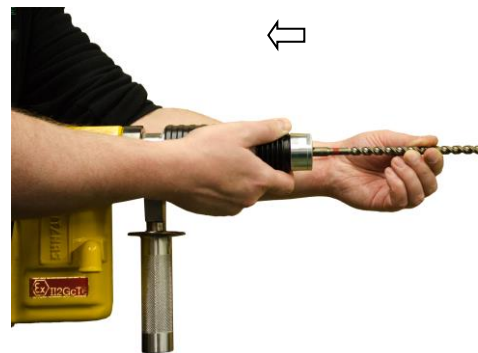


Fig. 4.2

Fig. 4.2: Pull back the sliding sleeve and insert the drill. Turn until the sliding sleeve returns into the initial position. Press the machine against the work surface before switching it on, otherwise the tool will not hammer. If the drill sticks in the hole, withdraw and reinsert it several times when drilling.

Do not exert undue pressure on the machine - this will not increase its performance. Just position the bit and guide it into the hole. For hammer drilling do not use any quick-release chuck. (see fig. 4.4 and 4.5).

Fig. 4.3: When starting to drill in brittle material (tiles, etc.): Unlock the adjusting sleeve. Hold and continue to drill the hole, then switch off the machine briefly and relock the adjusting sleeve.



Fig. 4.3



Fig. 4.4



### Drilling only

Fig. 4.4: Unlock the adjusting sleeve. It is possible to use a quick-release chuck at this setting.

Quick-release chuck: Spitznas order no.: 9 2902 0200

Adapter SDS-plus for quick-release chuck: Spitznas order no.: 9 2902 0210

(9 2902 0200 and 9 2902 0210 not contained in the scope of delivery.)

Standard spiral drills can be used with the quick-release chuck. (see fig.4.5).



Fig. 4.5



Fig. 4.6

### Drilling in explosive surrounding

Fig. 4.6: The drill must be water cooled to avoid sparks. Water connection at the ball valve.

### Placing the machine into the carrying case

Make sure the adjusting sleeve is locked at the setting „rotary hammer drilling“.

### Side handle

this can be turned through 360° and locked in any desired position.

### Depth gauge

Press unlock button, adjust depth gauge and release button .

## Underwater Use

### Before underwater operation

Ensure that:

- The exhaust hose is connected and fixed at the supply hose,
- the exhaust hose is long enough to protrude above the water. In case of a short exhaust hose (in the water) a reverse valve is used, so that water cannot get into the machine when plunging with the machine,
- the machine is tested for leakage and for the functioning of all parts (drilling, blowing, valves, etc.).

Notice: Keep in mind that 10 meter water depth corresponds to 1 bar.

When working in greater depths match the diameter of the supply and exhaust hose appropriately.

### After underwater operation

- Clean and dry the machine with compressed air.
- Spray all moving parts with multi-oil-spray: Spitznas reference no. 9 9902 0120 (or similar).

## 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.

**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 injuries 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 machine in an inoperable condition	Drop of the machine	Transport of the machine in an operable condition	unknown
Startup	Equipment of the machine with designated drill bits	unknown	Equipment of the machine with grinding pins or other tools	unknown
Operation	Machine works only with actuated valve  Machine moves the drill bit	Machine runs without intended actuation  Machine blocks	Valve is blocked in actuated condition  unknown	unknown
Maintenance	Operation at a service unit  Regular cleaning	Breakdown of the machine	unknown	unknown

## 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 machine is designed for the use in areas exposed to explosion hazards as well. The generation of heat and –eventually- sparks at the drilling point is characteristic for drilling certain material. Therefore the drilling point has to be cooled continuously.

Consider the following:

- Valid local explosion protection directives.
- Technical specification of the machine.
- Markings on the machine.
- Avoid the generation of sparks.
- When operating the machine, do not push or beat against other material and hold the machine firmly and safely by hand.
- 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.
- All dust deposits in and on the machine have to be removed regularly.
- Consider that there must be no flammable dusts at the place where the machine is operated.



Ensure adequate lighting.

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

## 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.

**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 valve while doing so. Never remove a pressurized pneumatic hose. Always switch the power supply off first and then depressurize the machine.

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 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 consider the following:

- Operate the machine only after having carefully read the operation manual.
- Use appropriate drill bits.
- The work place has to be secured according to the instructions, in order to avoid injury due to flying particles.
- The machine is for hand-held operation only.
- Consider the producer's specification when selecting the drill bit.
- Check the secure fixing of the drill chuck and the drill bit before starting work.
- If the machine blocks, then higher reaction torques can occur. Blocking can be caused by: overload, tilting of the drill bit in the work piece or when penetrating the material. Do not let the drill bit rumble on the work piece, as this increases the vibration. When drilling through-holes, reduce the contact pressure shortly before the drill bit penetrates the material (for thin work pieces there is the risk that the drill hitches and lifts the work piece.)
- It is possible that the drill bit keeps on running after the machine has been switched off. Wait until it stops and deposit the hand-held machine in a secure position.
- Never stop the drill chuck or the drill bit by hand.

## 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.

## 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.
- Use stands and/or weight balancers, if possible.
- When using a support (e.g. stand) make sure the machine is securely fixed. If no support is used, hold the machine with light but safe grip in order to support the tool's reaction torque. The tighter the grip the greater the risk of vibrations.
- Mount the machine as described in the operating instruction booklet in order to avoid unusually 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.

### Safety Instructions for Prevention of Projectile Hazards



**Wear impact-resistant safety goggles** – This refers to the operator, as well as to 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.

- Check all parts for damages before using the machine.
- 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.



**CAUTION** – Injury due to carelessness!

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 from 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!

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



**WARNING** – Explosion hazard!

When operating the machine in areas exposed to explosion hazards, use only accessories, respectively devices, which are ATEX approved and specified.

### Safety Instructions for Prevention of Transport Hazards



**ATTENTION** – Improper Transport, injury due to parts falling down!  
Damage of the machine!

- Separate the machine from any external energy source before transportation.  
Check that the machine is undamaged and in proper condition.
- Never carry the machine at the supply line.



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 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 present at the work place could be disturbed during the maintenance procedure and inhaled. Clean machine and work place before maintenance work.



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

Observe local safety regulations. Avoid use of force when disassembling and assembling the machine. Always do maintenance work outside areas which are not exposed to explosion hazards.



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



**NOTICE** – Use only original SPITZNAS spare parts, in order to avoid damages. Otherwise you risk a decrease in machine performance and an increase in maintenance work. Check the adherence to the technical specifications according to the operation manual after each 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 little maintenance. If the following rules are observed, the machine will have the expected long life-time 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**.

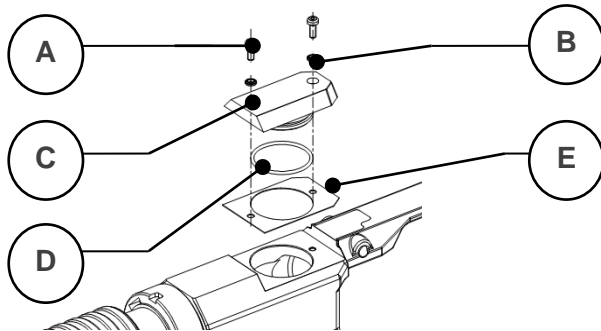
Disassembly and re-assembly of the machine have to be executed by qualified staff only. Incorrect assembly can lead to danger of accident for the operator and to defects on the machine. Additionally to the measures described before, it is a must to check the grease in the gear and to fill it up or replace it, if necessary. The correct quantity of grease (20 g) is very important with regard to good lubrication and low warming.

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

Furthermore we recommend a general overhaul of your pneumatic rotary hammer drill once a year at the manufacturer, as well as the regular maintenance.

Follow the procedure:

- Loosen the socket head screws item A and remove the cover item C (see fig. 5).
- Spray all moving parts with multi-oil-spray: Spitznas order no.: 9 9902 0120 (oder similar).
- Replace all sealings item B, D and E, re-assemble the cover and tighten the screws.



Item	Qty.	Order number	Description
A	2	9 1112 2020	Socket head screw
B	2	9 1908 1950	Sealing U shape
C	1	2 2404 4090	Cover
D	1	9 1901 3500	O-Ring
E	1	2 2404 4190	Sealing

Fig. 5

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.

## 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 of machine and 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 of environmentally hazardous greasing, cooling or cleaning agents in order to avoid environmental contamination.

## 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 and their causes:

	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 too low Hose diameter too small Too little quantity of air	Increase operating pressure Choose larger hose diameter Increase quantity of air
c	Gear makes strong noise		Contact authorized expert company
d	Other problems		Contact authorized expert company

If necessary, we ask you to send the machine to the supplier.

## 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.


## Declaration of conformity

as defined in the Machine Directive 2006/42/EC, according to Annex II 1. A

We,  
SPITZNAS Maschinenfabrik GmbH, declare with the sole responsibility  
that the following product in the version supplied by us

Description: Pneumatic Rotary Hammer Drill

Type: **2 2404 0030**

meets the fundamental requirements of the EC Machine Directive 2006/42/EC.  
Furthermore we declare the conformity of the product as defined by the EU-Directive 2014/34/EU  
with the specification:  II 2G Ex h IIB T6 Gb

According to section 13 (1) b) ii) of the Directive 2014/34/EU the technical documentation is  
deposited under reference No. 557/Ex-Ab 2234/14 at the following office:

TÜV Rheinland Industrie Service GmbH  
Am Grauen Stein, 51105 Köln  
(Notified body number 0035  
with the identification of the scope of Directive 2014/34/EU)

Applied harmonized norms are:

EN ISO 12100: 2010	Safety of machinery - General principles for design Risk assessment and risk reduction
EN ISO 11148-5: 2011	Hand-held non-electric power tools Safety requirements - Part 5: Rotary percussive drills
EN IEC 60079-0: 2018	Explosive atmospheres - Part 0: Equipment General requirements
EN ISO 80079-36: 2016	Explosive atmospheres - Part 36: Non-electrical equipment for explosive atmospheres - Basic method and requirements
EN ISO 80079-37: 2016	Explosive atmospheres - Part 37: Non-electrical equipment for explosive atmospheres - Non-electrical type of protection constructional safety "c", control of ignition sources "b", liquid immersion "k"

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



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