

Hydraulic Rotary Hammer Drill

Type 2 2426 0010

Techn. Doc. No. 262



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:



This symbol has 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 the machine. Stick to the operating processes and avoid accidents due to improper use of the machine.

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 – hot surface

Risk of burns when touching the surfaces having this warning sign!



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.

Technical Specification

Operating pressure	80 – 140 bar
Power	1.2 kW
Free speed	500 +/- 50 1/min
Speed under load	450 +/- 50 1/min
Percussion under load	3400 blows/min
Percussion energy	2 J
Volume flow	15- 25 l/ min
Drilling capacity in concrete	Ø 5-28 mm
Drilling capacity in concrete of medium hardness	Ø 12 mm= 34 cm ³ /min = 300 mm/min
Optimum drilling capacity	Ø 12-20 mm
Drilling in steel with quick-release chuck	Ø 5-13 mm
Drilling in wood with quick-release chuck	Ø 5-30 mm
Hydraulic connection machine	SAE PORT No. 8 (3/4 x 16 UNF – 2 B)
Hydraulic connection hose set	Flat-Star A250-OM/OF-1/2"BSP
Hydraulic fluid	Hydraulic oil
Hydraulic circuit	Open circuit
Oil filtering	ISO purity degree 20/18/13
Temperature of oil	- 34 °C to + 82 °C
Viscosity of oil	> 13 centistokes
Water connection ball valve	R 1/4"
Shank	SDS Plus
Dimensions, L x H x W	460 x 260 x 102 mm
Weight (without hoses)	8.2 kg
Sound pressure level L _{PA} ⁽¹⁾	92 dB(A)
Sound power level L _{WA}	101 dB(A)
Vibration ⁽²⁾	4.5 m/s ²
ATEX Classification	II 2G c T5
⁽¹⁾ Remark: Measurement acc. to DIN EN ISO 15744	Messunsicherheit K: 3 dB (A)
⁽²⁾ Remark: Measurement acc. to DIN EN ISO 28927-5	Messunsicherheit K: 1.5 m/s ²

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 when rotary drilling only, into:
- Steel, stainless steel, non-ferrous metal, cast iron, wood and plastic

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

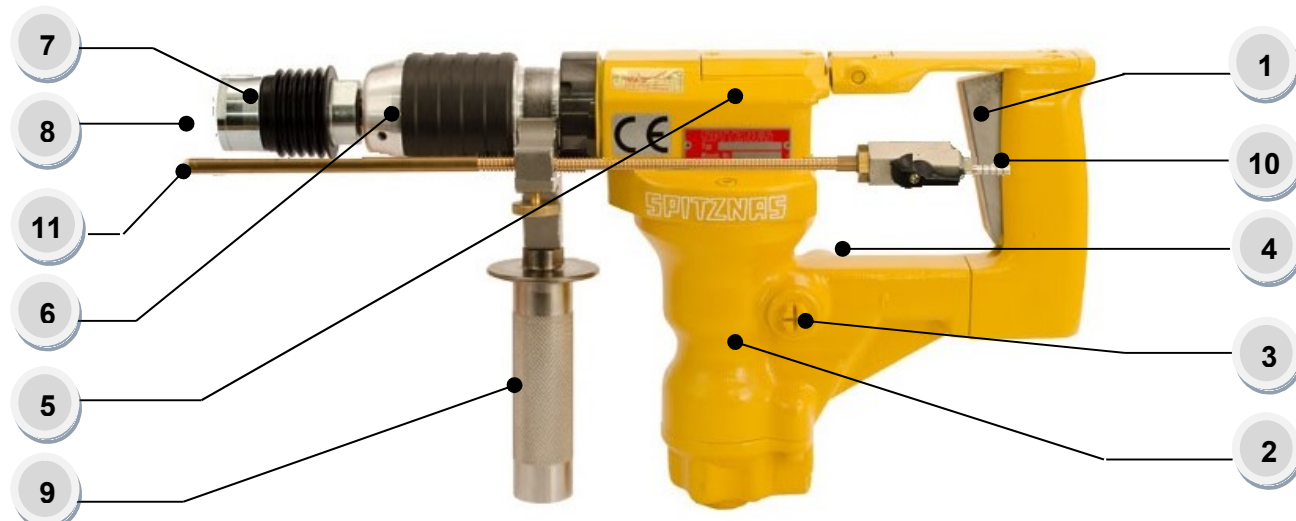


Fig. 1

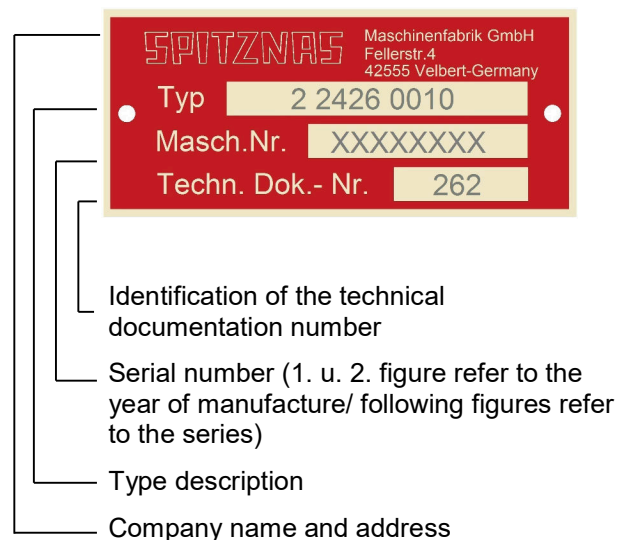
- 1 Valve trigger
- 2 Motor housing
- 3 Hydraulic connection (P)
- 4 Hydraulic connection (T)
- 5 Gear housing
- 6 Adjusting sleeve

- 7 Sliding sleeve
- 8 Shank
- 9 Second Handle
- 10 Flush connection
- 11 Depth gauge

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



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°C

300°C

200°C

135°C

100°C

85°C



- T1
- T2
- T3
- T4
- T5
- T6

Installation

Hydraulic system requirements

The following is required for an optimum performance of the hydraulic rotary hammer drill:

- Provide a volume flow of 15 to 25 l/min at an operating pressure of 80 – 140 bar.
- The system should not have more than 17 bar back pressure.
- The hydraulic system should have sufficient heat rejection capacity to limit the maximum oil temperature to 60° C at the maximum expected ambient temperature.

It is recommended:

- That filter elements are sized for a volume flow of at least 114 lpm for cold temperature startup and for maximum dirt holding capacity.
- The hydraulic system should have a minimum of 10 to 25 micron of full-flow filtration.

Connecting the hydraulic supply to the hydraulic rotary hammer drill

The machine is designed for an open circuit.

Check:

- The circuit type (open circuit or closed circuit), before connecting the machine.
- That all hose couplings are clean, before connecting the hoses.
- That there are no signs of leakage.
- That the machine is clean and dry.
- That all assembly parts and fixing elements are firmly fixed, respectively tight.

The recommended hose size is from 12 mm to 16 mm for the inner diameter and between 15 and 30 m for the length. Always connect the return hose first and disconnect it at last (see fig. 2).

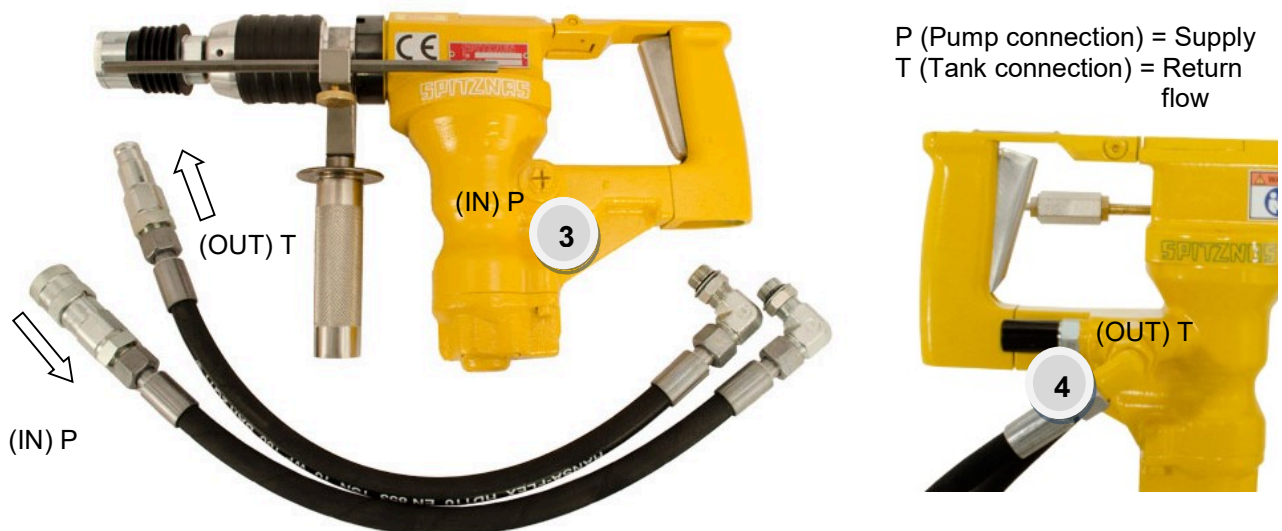


Fig. 2

Startup

Hammer drilling

Fig. 3.1: Pull back the adjusting sleeve and lock it in clockwise direction.

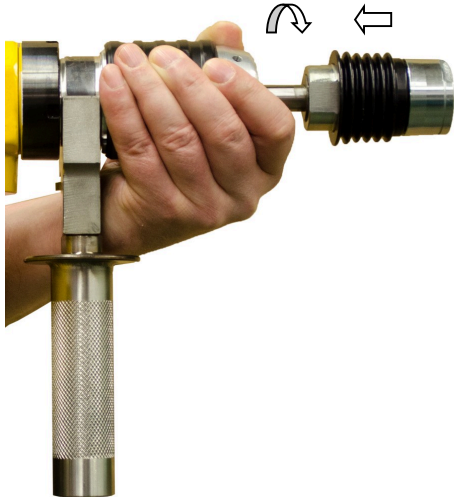


Fig. 3.1

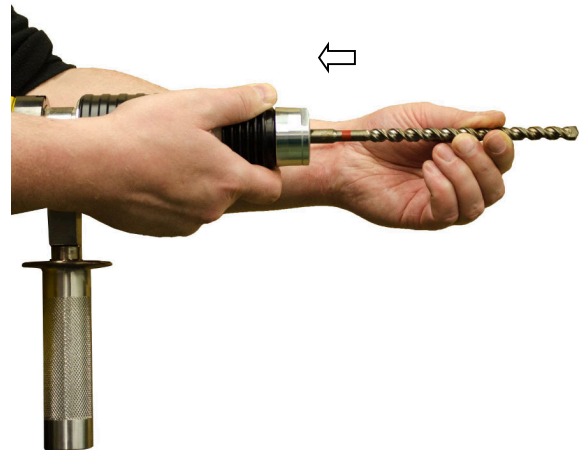


Fig. 3.2

Fig. 3.2: 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. 3.4 and 3.5).

Fig. 3.3: 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.

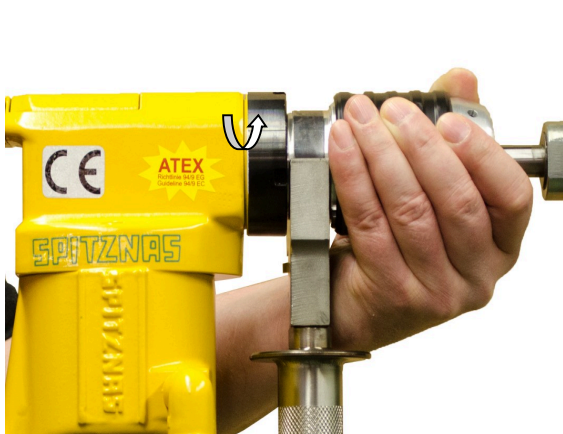


Fig. 3.3

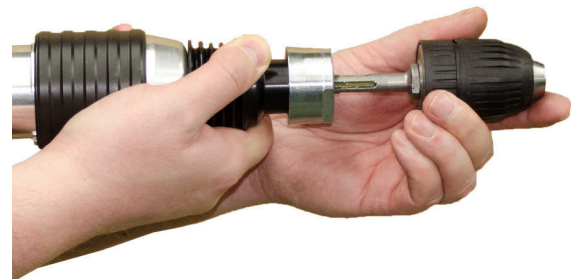


Fig. 3.4

Rotary drilling only

Fig. 3.4: 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.3.5).



Fig. 3.5



Fig. 3.6

Drilling in explosive surrounding

Fig. 3.6: 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 .

Cold weather operation

If the rotary hammer drill has to be used during cold weather, pre-heat the hydraulic fluid at low motor speed. If the normally recommended fluids are used, the fluid temperature should be 10 °C (82 centistokes) or more, before operating the machine. Too high viscosity damages the hydraulic motor (the hydraulic system).

Underwater Use

Before underwater operation

Ensure that:

- All hydraulic hoses are properly connected.
- The machine is tested for leakage and for the functioning of all parts.

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 order 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 in 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 the designated drill bit	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	Regular cleaning	Breakdown of the machine	unknown	unknown
Hazard notes regarding the hydraulic powerpack: refer to the manufacturer				

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.



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 Hydraulic



WARNING – Hydraulic 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 hydraulic equipment.

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

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

The maximum operating 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 hydraulic hose at yourself or anyone else. Do not carry or pull the machine at the hydraulic hose.

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.

- 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 material 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 hydraulic equipment.

Hydraulic 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



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, hydraulic machines need little maintenance. If these rules are followed, the machine will have the expected durability and high reliability. Service life and performance of the machines are decisively determined by:

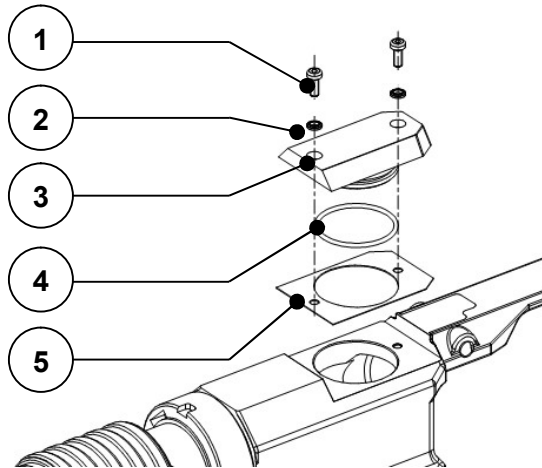
- The purity degree of the hydraulic oil
- The lubrication conditions and maintenance
- The **regular control of the hydraulic filter/ the hydraulic fluid**, as well as the **regular checking of the machine with regards to external damages**.

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 hydraulic rotary hammer drill once a year at the manufacturer, as well as a regular maintenance of the hammer mechanism.
Follow the procedure:

- Loosen the socket head screws item 1 and remove the cover item 3 (see fig. 4).
- Spray all moving parts with multi-oil-spray: Spitznas order no.: 9 9902 0120 (oder similar).
- Replace all sealings item 2, 4 and 5, re-assemble the cover and tighten the screws.



Item	Qty.	Order number	Description
1	2	9 1112 2020	Socket head screw
2	2	9 1908 1950	Sealing U shape
3	1	2 2404 4090	Cover
4	1	9 1901 3500	O-Ring
5	1	2 2404 4190	Sealing

Fig. 4

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.

NOTICE – Always connect the loose ends of the hoses with each other, if possible.

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 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,
- hydraulic fluid,
- 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 hydraulic supply Defective hydraulic hoses or quick couplings	Connect and open the hydraulic line Replace hydraulic hoses or quick couplings
b	Machine keeps on running after releasing the safety lever control	Hydraulic hoses inverted	Connect hydraulic hoses correctly
c	Low speed	Too little operating pressure Too small hose diameter Too little volume flow Too high back pressure	Increase operating pressure Choose larger hose diameter Increase volume flow Reduce back pressure
d	Speed too high	Too high operating pressure Too high volume flow	Adjust to max. operating pressure (see technical specification) Reduce volume flow
e	Hydraulic fluid leaking	Wrong hydraulic fluid Damaged sealings	Use appropriate hydraulic fluid Ensure sufficient cooling Replace sealings
g	Other problems		Contact authorized expert company

We ask you to send the machine to the supplier, if necessary.

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 defective 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.

Scope of Delivery

Check, if the scope of delivery is complete:

1 Operation and Maintenance Manual
1 Hydraulic Rotary Hammer Drill

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

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: Hydraulic Rotary Hammer Drill
Model: **2 2426 0010**

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 T5).

Applied harmonized norms are:

DIN EN ISO 12100
DIN EN ISO 11148-5
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 2237/14 at the following office:

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

Name of the authorized person for documentation: Mr. Simon Witt
Address of the authorized person for documentation: see manufacturer's address
42555 Velbert, 24.02.17



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