

Electric Reciprocating Saw

Type 5 1215 0070





Illustration can differ from the original

Operation and Maintenance Manual

Electric Reciprocating Saw 5 1215 0070



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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.



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

Nominal voltage	110 V ~
Power	1.2 kW
Frequency	40 – 60 Hz
Reciprocating speed	60 – 500 1/min
Stroke length	60 mm
Protection class	II
Degree of protection of enclosure	IP 20
Radio interference suppression	yes
Weight appox.	7.5 kg
Sound pressure level L _{pA} ⁽¹⁾	80 dB (A)
Sound power level L _{WA}	91 dB (A)
Vibration ⁽²⁾	3 m/s ²
Remark: Measurement acc. to DIN EN 60745	(1) Measurement uncertainty K: 3 dB (A) (2) Measurement uncertainty 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 electric reciprocating saw is designed for cutting pipes and profiles made of:

• Wood, plastic, non-ferrous metal, cast iron, steel, stainless steel and ductile iron.

It can be applied for:

· Construction, pipeline construction.

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 inadmissable area.
- Cutting self-flammable material.



Product Description

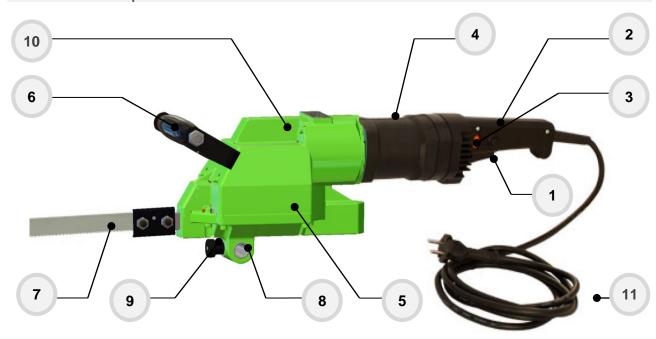


Fig. 1

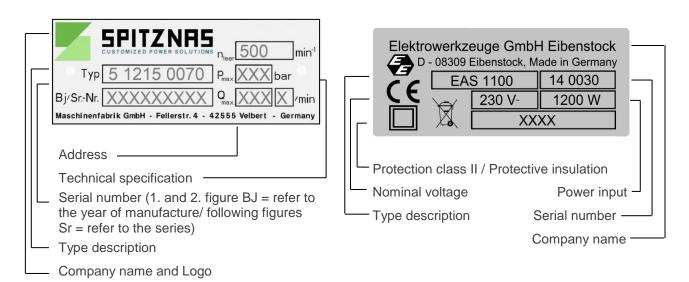
- 1 On-Off-Switch
- 2 Lock button
- 3 Adjusting wheel
- 4 Electric motor

- 5 Gear head
- 6 Handle
- 7 Saw blade
- 8 Holder for clamping device
- 9 Locking device
- 10 Holder for bow guide
- 11 Power cable

Identification

Type sign

Electric motor





Startup

Electrical connection

Check if the nominal voltage conforms with the specification on the type sign of the electric motor. +/- 5% voltage deviation is permitted. The electric reciprocating saw is designed for an operating voltage of 110 V and has the protection class II.

The reciprocating saw is used with a clamping device. The appropriate clamping device and the saw blade depend on the material of the work piece (refer to accessories on page 17). During cutting, the saw blade has to be cooled, respectively lubricated, with water, drilling emulsion, oil or cutting paste.

Mounting the saw blade

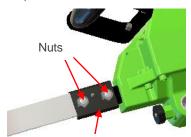


WARNING – Disconnect the machine from the power supply before mounting the saw blade.



Disconnect power!

• Equip the saw with the appropriate saw blade. For this, loosen the nuts (see fig. 2), remove pressure plate and mount the saw blade. Mount the pressure plate and fix it by tightening the nuts.



Pressure plate

Fig. 2



Important– Before cutting, make sure that no electric lines are damaged or cut. If they are energized, there is danger of electrocution.

Cutting

Follow all safety precautions.

When using clamping devices:

- Slide the saw onto the bearing bolt of the clamping device and fix it with the locking device 9 (ref. to fig. 7).
- Install the correct saw blade, see "Mounting the saw blade".
- Connect the machine to the power supply.
- Having prepared the saw like this (see fig. 6), you may start working.
- Actuate the on-off-switch.(see fig.3)
- Start cutting.
- Cool sufficiently the saw blade.

Useful tips: see to fig. 5



Start / Stop

The integrated full-wave electronics ensure a soft start, a pre-adjusted speed via the adjusting wheel in the handle and prevents from overload.

Short-time operation

Start:

Press on-off-switch.

Stop

Release on-off-switch.

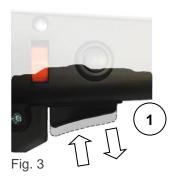
Continuous operation

Start:

Press on-off-switch and arrest lock knob 2 while keeping the switch pressed.

Stop

Press on-off-switch again and release it.







Electronic speed control system

The saw is equipped with electronics, which realise the following functions: Infinitely variable speed adjustment with control speed.

The adjusting wheel for the pre-adjustment of the required speed is at the handle (fig. 4).







Abb. 4

Position **7** ⇒ fast



Thermal overload protection

Please note that the cooling of the motor is not so good in continuous operation at low speed. Therefore the machine can possibly switch-off to prevent from overheating.

If the machine is directly switched off and on, a start delay ensures the required break for the idleness of the motor.

The integrated temperature monitoring protects the machine against thermal overload and stops the motor in such a case. It is only after some cooling time that the machine can be restarted.

The stop of the machine caused by overload protection is no failure! After an adequate time it is possible to continue working!



Steel wire Use of sticky tape Profile Use of wedge

with

without







prevents from splicing

prevents from pinching

Fig. 5

Fixing example

Reciprocating saw with clamping device 5 1208 9990 (see accessories)



Pull the locking device and slide the saw onto the bearing bolt of the clamping device until the locking device snaps into place.



Fig. 6

Fig. 7

After finishing the sawing work

- Switch off the machine.
- Switch off power supply and disconnect power.
- Take saw out of the device.
- · Clean saw and retainer seat.
- Inspect machine for damages.



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 in accordance with state-of-the-art technology and the recognized safety rules and 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 conditionLife 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	Equip the machine with designated saw blade	unknown	The machine is equipped with inappropriate tools	unknown
Operation	Machine runs with actuated switch	Machine runs without intended actuation	unknown	unknown
	Machine moves the saw blade	Machine does not move the saw blade	unknown	unknown
Maintenance	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 <u>not</u> designed for the use in areas exposed to explosion hazards as well. The generation of heat and —eventually- sparks is characteristic for cutting certain material. Observe the following:

- Valid local explosion protection directives.
- Technical specification of the machine.
- Markings on the machine.



- 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 electrical voltage



WARNING – Danger to life due to electric shock!

Before using the machine (e.g. installation, replacement of accessories, before removing covers, prior to longer periods of non-use, maintenance, etc.) de-energize the machine. Never pull at the cable. Touch the power cable at the plug.

The specified nominal voltage and the power (according to the type sign and the sticker on the machine) must not be exceeded.

- Connect the machine only with a correctly earthed plug connection.
- Keep energized lines off the moving machine parts.
- Never start the machine, if the ventilation slots are clogged. Pay attention that the ventilation slots are not clogged by lint, dust or fibres.
- Do not work on energised components and devices.

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.

Additionally, observe the following:

- Operate the machine only after having carefully read the operation manual.
- If the machine shows any signs of abnormal operation and performance, work must be stopped instantly and the machine has to be serviced or repaired.
- Do not employ the reciprocating saw by excessive force.
- Before using the machine, all parts or protective devices should be carefully checked to make sure they are working correctly and fulfil the designated function.
- If the power cable is damaged or cut during operation, do not touch it, but disconnect power instantly! Never operate the machine with a defective power cable.
- The machine must not be humid and it must not be operated in humid environment.
- Operate the machine in the open by an earth-leakage circuit breaker with max. 30 mA.
- Prior to each use, check the machine, the cable and the plug. Defects may only be repaired by qualified personnel. Plug in the machine only when the main switch is off.
- Pull the power plug and check that the main switch is off, if you leave the machine uncontrolled, e.g. during mounting and dismounting work, during voltage drop, when mounting accessories.
- Switch the machine off, if it stops for any reason. By doing so, you avoid unintentional starting in uncontrolled condition.
- Do not operate the machine, when a part of the housing is defective, respectively when switches, lines or plugs are defective.
- Always lead the power cable, respectively the extension cable, backwards away from the machine.



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, therefore observe the following hints:

- 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 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.

Safety Instructions for Prevention of Transport Hazards



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

- Separate the machine form any external energy source before transportation. Check that the machine is undamaged and in proper condition.
- Never carry the machine at the power cable.



Disconnect power!



Wear worker's protective shoes!



Service and Maintenance

Basic Safety Instructions:

WARNING - Danger to life due to electric shock!



Maintenance and repair work on electric equipment.

Observe legal regulations. Take precautions for persons and environment.



Additionally observe the following:

- Disconnect power supply 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.



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

Due to its design, the electric machine needs only little care and maintenance. But the following has to be considered:

- Always keep the electric machine and the ventilation slots clean.
- Do not allow foreign objects to enter the inside of the electric machine during operation.
- In case of a machine failure, have the repair carried out only by an authorized expert company.

Repairs have to be executed only by qualified staff. After each repair the machine must be checked by a certified electrician.

Electric Reciprocating Saw 5 1215 0070



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 (100 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.

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 machines. Retrofits or modifications of the machine can affect the protection. Therefore, they need the manufacturer's acceptance.

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 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
а	Maschine does not work	Machine not connected Power cable defective Plug defective	Connect machine Repair by skilled personnel
b	Low reciprocating speed	Adjusting wheel for speed is at minimum	Adjust to maximum
С	Gear makes loud noise	Bearings or pinions are worn out or broken.	Contact authorized expert company
d	Strong vibration during cutting.	Wrong saw blade selected Feed rate too high Dull saw blade	Use appropriate saw blade Reduce feed rate Replace saw blade
е	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 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.

Scope of Delivery

Check, if the scope of delivery is complete:

1 Operation and maintenance manual, 1 Electric reciprocating saw, accessories, if applicable

Accessories

Clamping devices for reciprocating saws

Overview: Accessories for pipe clamping

Reference no.	Description	Pipes
		up to Ø
		in mm
5 1207 9910	Clamp	150
5 1207 9930	Clamp with bow guide	325
5 1202 9960	Clamp	325
5 1207 9970	Bow guide	325
5 1207 8930	Clamp with bow guide	530
5 1202 8940	Clamp	530
5 1207 8910	Bow guide	530
5 1208 9990	Automatic power feed clamp (spring cylinder)	530
5 1201 9010	Extension chain (0,5 m) complete with bolt	250
5 1201 9030	Extension chain (1,0 m) complete with bolt	325
5 1201 9020	Extension chain (2,0 m) complete with bolt	600
5 1212 9970	Bow guide	600

Overview: Accessories for profile clamping

Reference no.	Description
5 1202 8970	Clamp for profiles up to 290 mm with screw lever, bearing bolt and adjustable abutment
5 1207 9940	Clamp for profiles up to 340 mm with screw lever, bearing bolt and adjustable abutment



Declaration of conformity

as defined in the European Union Machine Directive 2006/42/EC for usable machines

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

Description: Electric Reciprocating Saw

Model: 5 1215 0070

in the version supplied by us, complies with the EMV-EU-Directive 2014/30/EU, EU-Directive 2011/65/EU and European Union Machine Directive 2006/42/EC.

Applied harmonized norms are:

DIN EN ISO 12100 DIN EN 60745-1 DIN EN 60745-2-11 DIN EN 55014-1 DIN EN 55014-2 DIN EN 61000-3-2 DIN EN-61000-3-3

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



Maschinenfabrik GmbH Fellerstraße 4, 42555 Velbert Germany Tel.: +49 2052 605 0 Fax: +49 2052 605 29 E-Mail: spitznas@spitzn

E-Mail: spitznas@spitznas.de www.spitznas.de

Tools for the Specialist