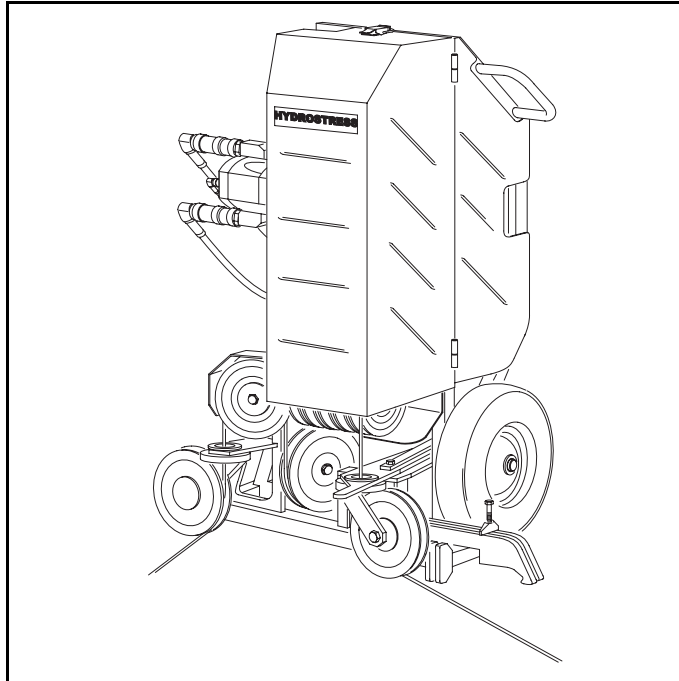


# **HYDROSTRESS**

®



## ***SB Wire Sawing System***

*Index 000*

## ***Operating Manual***

## ***Spare Parts List***

## 0.1 Introduction

---

Dear Customer

You have decided to buy a HYDROSTRESS system and have thus acquired a highly sophisticated and reliable state-of-the-art unit.

Due to our special efforts in the field of quality assurance, the SB wire sawing system is another top-of-the-range Swiss product with the following properties:

- Unprecedented power-to-weight ratio
- Reliable operation
- High mobility
- Easy handling
- Low maintenance costs

The exclusive use of genuine HYDROSTRESS spare parts ensures quality and interchangeability.

In the case of neglected or inappropriate maintenance, we refuse to accept any warranty commitment as specified in our terms of delivery.

Any repair work is to be carried out by trained specialist personnel only.

Should you need more details concerning your HYDROSTRESS system in order to keep it in perfect condition, please contact our after-sales service for further information.

We hope that you will not experience any difficulties while working with your HYDROSTRESS system.

HYDROSTRESS AG  
Management

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## 0.2 Validity of this operating manual

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This operating manual is only valid for the following system:

SB Wire Sawing System, Index 000
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## 0.3 Delimitation of the system

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This manual only describes the SB Wire Sawing System (hereafter only referred to by "SB") without connectable equipment (drives).

## 0.4 Operating instructions for connectable equipment

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Notes in this manual referring to the operation of connectable equipment are designed to increase the safety of the operating personnel. In order to operate this equipment safely, the relevant operating instructions have to be followed as well.

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# 1 Safety instructions

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## 1.1 Fundamentals

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### Qualification of operating personnel

Machining concrete is neither simple nor without risk. Material assets on the site, the machine itself and the safety of people are at stake.

The operating personnel must therefore be trained by experienced specialists. HYDROSTRESS can support you in your training.

Only specially trained and qualified personnel may carry out maintenance and repair work and any other work on the following components:

- Electrical equipment
- Hydraulic equipment

### Read the manual and inform your staff!

This operating manual contains important information on how to operate the machine safely and efficiently.

The owner of the machine must make sure that the instructions in this manual are followed by every person having anything to do with the machine, or with the respective auxiliary and operating resources.

The operating manual must be accessible on the site at all times.

### Hazards on the building site

The machine has been built in accordance with state-of-the-art standards and the recognized safety regulations. Nevertheless, its use may constitute a risk to the life and limb of the user or of third parties, or cause damage to the machine and to other property.

Pay attention to the special working conditions on the building site. Protect yourself and others within your responsibility against the many hazards!

**Noise pollution (sound level)**

Depending on the working environment, the machine can cause excessive noise during operation.

The noise can permanently damage the hearing of operating personnel and of other people nearby within a very short time.

Ear protectors must therefore always be worn during machining.

**Recognize the safety warnings!**

Pay attention to the following words, their symbols and their meaning:

Danger:



Special information to prevent personal injury

Warning:

Special information to prevent damage to the machine

Important:

Special information on how to use the machine most efficiently

**Safety clothing**

Safety clothing must always be worn when drilling, sawing, crushing or bursting concrete or stone in order to protect against the following hazards:

<b>Hazard</b>	<b>Safety clothing</b>
Falling parts:	Helmet, steel-capped (safety) shoes
Moving, sharp-edged parts:	Safety gloves
Flying pieces of concrete and stone:	Safety glasses
Flying sparks:	Safety glasses
Slipping:	Antislip shoes
Noise:	Ear protectors
Contamination of respiratory tracts:	Mask

**Materials which may be machined**

Only the following materials may be machined with HYDROSTRESS equipment:

- Reinforced concrete
- Natural stone
- Masonry

Other materials are not to be machined. Especially avoid machining:

- Wood
- Plastic
- Glass

**The following work may only be carried out with the SB:**

- The sawing of parting cuts
- Flush cutting
- Angular cuts

**Connectable devices**

Only use the machine together with the recommended connectable devices (see "Connectable devices" in this manual)

**Accident prevention regulations in your country**

Observe the general and special accident prevention regulations of the trade associations in your country!

**1.2 Inherent dangers of wire saws**

---

Dangers caused by electrical drive units and rotating pulleys are adequately described in the respective wire sawing equipment operating manuals. Other dangers must be strictly avoided by protecting the operating personnel and other persons not involved in sawing work.

**Wire cracks**

Wire cracks can be prevented by selecting large contact angles. In spite of this wire cracks can never be 100% excluded.

Therefore all the protective equipment must always be installed.

**Flung-off diamond beads**

A cracked wire can fling off a loose diamond bead if it strikes against something.

The wire normally runs at between 15 and 25 m/s, which means that a loose diamond bead could be flung off at up to 100 m/s. Suitable protective equipment must be installed to catch such diamond beads when they are flung off.

**Precautionary measures**

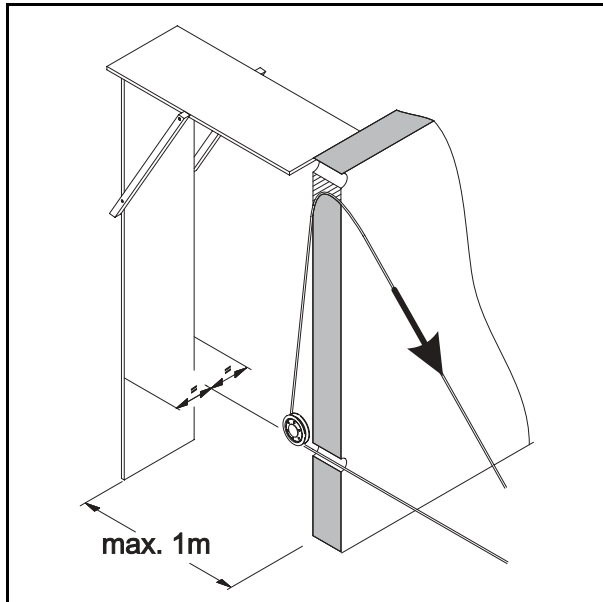
- Only use high quality diamond wire and beads
- Make sure that the operating personnel know how the wires are safely connected
- Make sure that the operating personnel know that high wire tensions can cause wire cracks

**Protective measures**

- Only use the protective measures recommended by the manufacturer
- Ensure that all zones are protected into which a flung-off diamond bead can fly
- In any case install all possible guards around the danger zone

**Protective measures could be:**

- Wood (min. 20mm)
- Sheet metal (aluminium, min. 3 mm, steel, min. 2 mm)

**The cost of safety**

Safety never comes free. The setting up of wire sawing operations must always include the setting up of all the protective equipment as described above. The time and material for these installations must be taken into account when preparing quotations for the customers.

**1.3 Intended purpose**

The intended purpose of the wire saw is the sawing of the materials described above with an 11 mm diameter diamond wire (sintered) and 10 mm (electro-plated). Any other use can lead to dangers and will exclude any possibility of liability being accepted by HYDROSTRESS / TYROLIT.

**Cut-out parts**

These can be very heavy:

Example:

A one metre square cube weighs about 2.5 tonnes.

Make sure that such parts do not fall outside the restricted zone.

**Drives and accessories**

Only use the machine with the recommended drives and their respective accessories.

## **1.4 Before starting work**

---

### **Emergency stop**

Make sure that the machine can quickly stop in the event of an emergency (see "Emergency stop" in the operating instructions for the drive being used)!

### **First aid in the event of accidents**

Find out how you can obtain fast help in the event of an accident!

### **Water, gas and electricity lines**

Make sure that any such lines, which are in the vicinity of your cut, are out of operation! Find out if the lines can safely be cut through.

### **Reinforcement steel**

Find out if all types of reinforcement steel in your cutting zone or your hole can be cut through. If necessary the cut may have to be relocated by agreement with the customer.

### **Organization of your working area**

Organize your workplace well! This will significantly reduce the risk of accidents!

### **Workplace lighting**

Make sure that your working area is well lit.

### **Safe standing area for operator and third parties**

The machine is designed for operation by one single person.

During operation third parties must stand at a safe distance from the machine.

The drive unit must be positioned such that all the control elements can be easily reached.

In particular it must be possible to stop the machine quickly and safely (see "Emergency stop" in the operating instructions for the drive being used).



**Motorized feed**

Machines with motorized feed are not automatic machines. They have to be constantly monitored during operation. An emergency stop must be possible at any time.

**Rotating and moving parts**

So that you cannot be caught up by rotating or moving parts always wear tightly-fitting clothing and a hair net if you have long hair!

**1.5 After work**

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**Pull out mains plug**

After work always pull out the mains plug of the drive being used to prevent it from being unintentionally switched on again!

**Removal of concrete and stone sections**

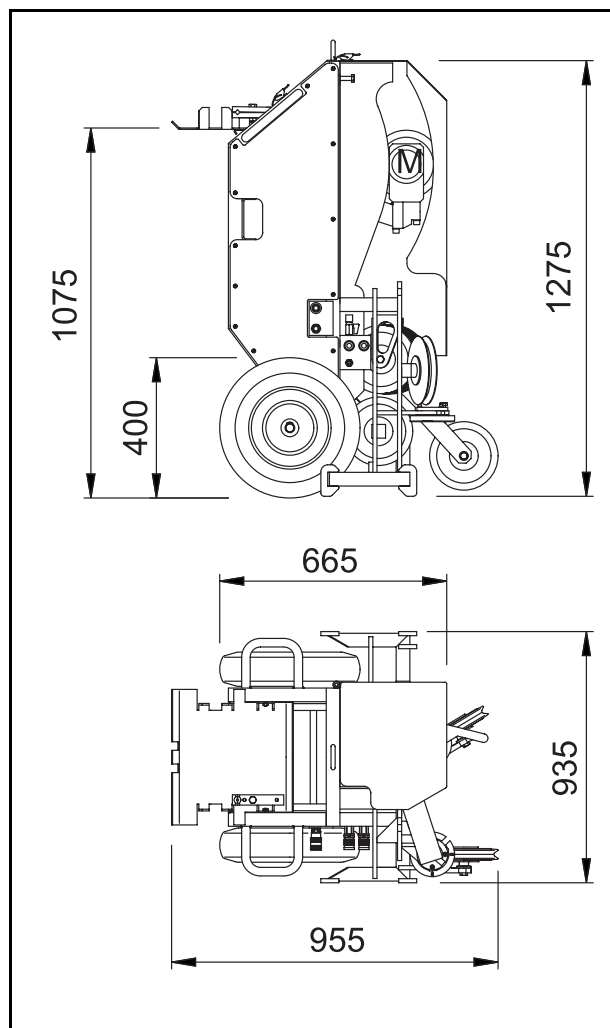
Use suitable lifting equipment for the removal of these sections in order to avoid injuries.

## 2 Technical data

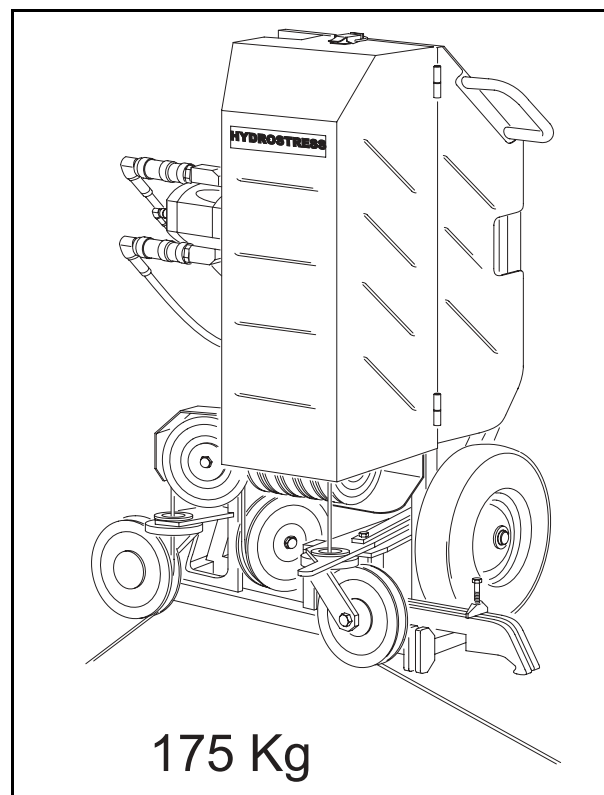
### 2.1 Possible cutting capacity

The cutting capacity of the SB, when driven by a high-performance drive unit (e.g. RD-S / RD-S RC) can be up to 3.5 m<sup>2</sup> of concrete per hour according to the amount of reinforcement steel and the aggregate materials.

### 2.2 Dimensions



### 2.3 Weight



## 2.4 Wire drive

---

### Hydraulic drive

Hydraulic motors with size 3 connections.

Absorption volumes: 20, 25 and 31 ccm.

## 2.5 Connectable drives

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All types of hydraulic drives with at least one hydraulic feed can be connected.

We recommend high-performance drives with a power of at least 20 kW to achieve the expected cutting capacity of the SB.

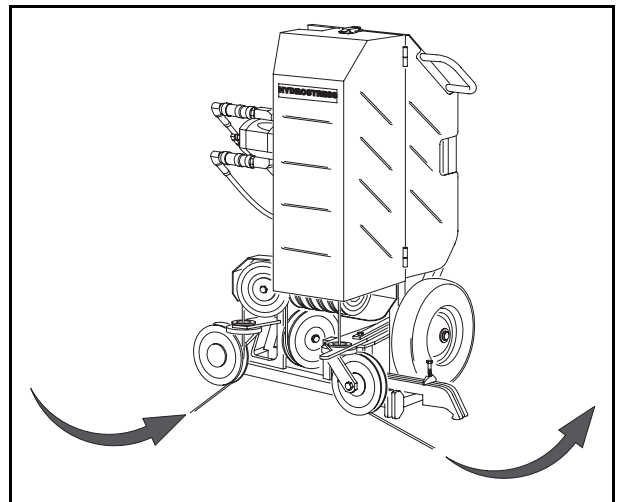
### HYDROSTRESS drives:

- CR-3
- CR-5 RC
- DK USA
- AD-S
- AD-S2
- AD-S3
- AD-S4
- AD-S4 RC
- RD
- RD-2
- RD-S
- RD-S RC

## 2.6 Wire running direction

---

The running direction of the wire is preset by the direction of movement of the hydraulic motor and the design of the drive pulley (free-running) and cannot be changed.



## 2.7 Wire cutting speed

The optimum cutting speed for standard applications is 20-25 m/s (values in bold type).

You can set the correct wire cutting speed with the correct choice of litre flow rate (with multi-stage drives) and the hydraulic motor. In this way you can achieve:

- Optimum sawing performance
- The best service life for the wire
- Less wire cracks

### Reduction in wire cutting speed

If there is a lot of steel reinforcement or if hard aggregates are found the wire cutting speed should be reduced.

### Multi-stage drive

Switch back by one stage

This causes the wire cutting speed to be reduced by 4-5 m/s.

### Exchange the hydraulic motor

With single-stage drives, the hydraulic motor can be changed (use larger motor).

This causes the wire cutting speed to be reduced by 4-5 m/s.

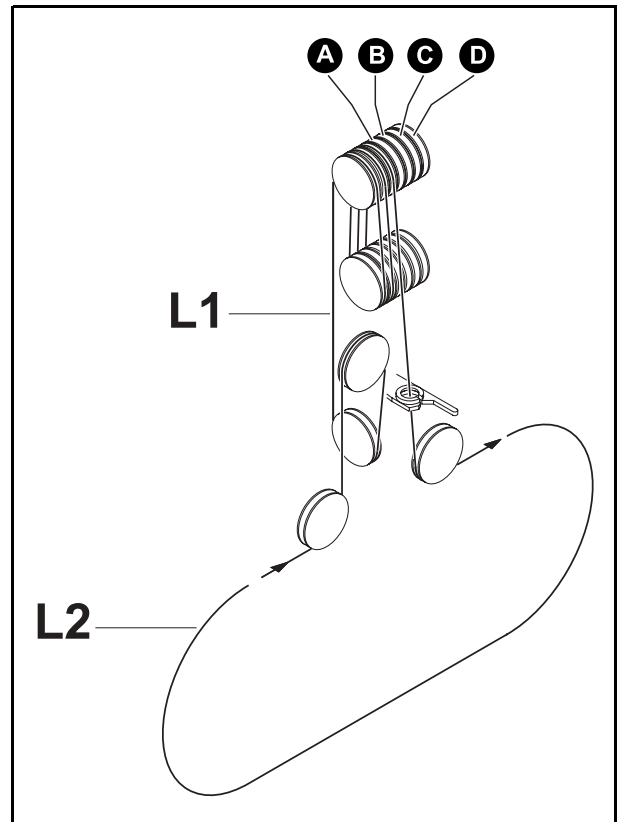
<b>Wire cutting speeds with CR-3 and CR-5 RC</b>				
Motor	Stage 1 33 l/min	Stage 2 40 l/min	Stage 3 50 l/min	Stage 4 60 l/min
20 ccm 976164	16 m/s	19 m/s	<b>24 m/s</b>	28 m/s
25 ccm 976165	12 m/s	15 m/s	19 m/s	<b>23 m/s</b>
31 ccm 976166	10 m/s	12 m/s	15 m/s	18 m/s

<b>Wire cutting speeds with AD-S4 and AD-S4 RC</b>				
Motor	Stage 1 45 l/min	Stage 2 55 l/min	Stage 3 63 l/min	Stage 4 73 l/min
20 ccm 976164	<b>21 m/s</b>	<b>26 m/s</b>	30 m/s	34 m/s
25 ccm 976165	17 m/s	<b>21 m/s</b>	<b>24 m/s</b>	28 m/s
31 ccm 976166	14 m/s	17 m/s	19 m/s	22 m/s

<b>Wire cutting speeds with RD-S and RD-S RC</b>				
Motor	Stage 1 65 l/min	Stage 2 75 l/min	Stage 3 80 l/min	Stage 4 90 l/min
20 ccm 976164	31 m/s	35 m/s	38 m/s	42 m/s
25 ccm 976165	<b>25 m/s</b>	<b>28 m/s</b>	30 m/s	34 m/s
31 ccm 976166	<b>20 m/s</b>	<b>23 m/s</b>	<b>24 m/s</b>	<b>27 m/s</b>

## 2.8 Wire lengths

The forward feed movement takes place with the drawing in of the wire into the machine. For this purpose the rocker with the driving pulleys is swivelled upwards. The wire lengths, which are thereby drawn into the machine are shown in the "Wire lengths" table.



Wire lengths				
	Storage	Rocker at bottom	+Draw-in L2 (Rocker in top position)	= Total length
L1	Without storage	5.50 m	2.00 m	(L1 + L2) = 7.50 m
L1	+ Storage A	7.50 m	+ 2.00 m = 4.00 m	(L1 + L2) = 9.50 m
L1	+ Storage B	9.50 m	+ 2.00 m = 6.00 m	(L1 + L2) = 11.50 m
L1	+ Storage C	11.50 m	+ 2.00 m = 8.00 m	(= L1 + L2) = 13.50 m
L1	+ Storage D	13.50 m	+ 2.00 m = <b>10.00 m</b>	(= L1 + L2) = <b>15.50 m</b>

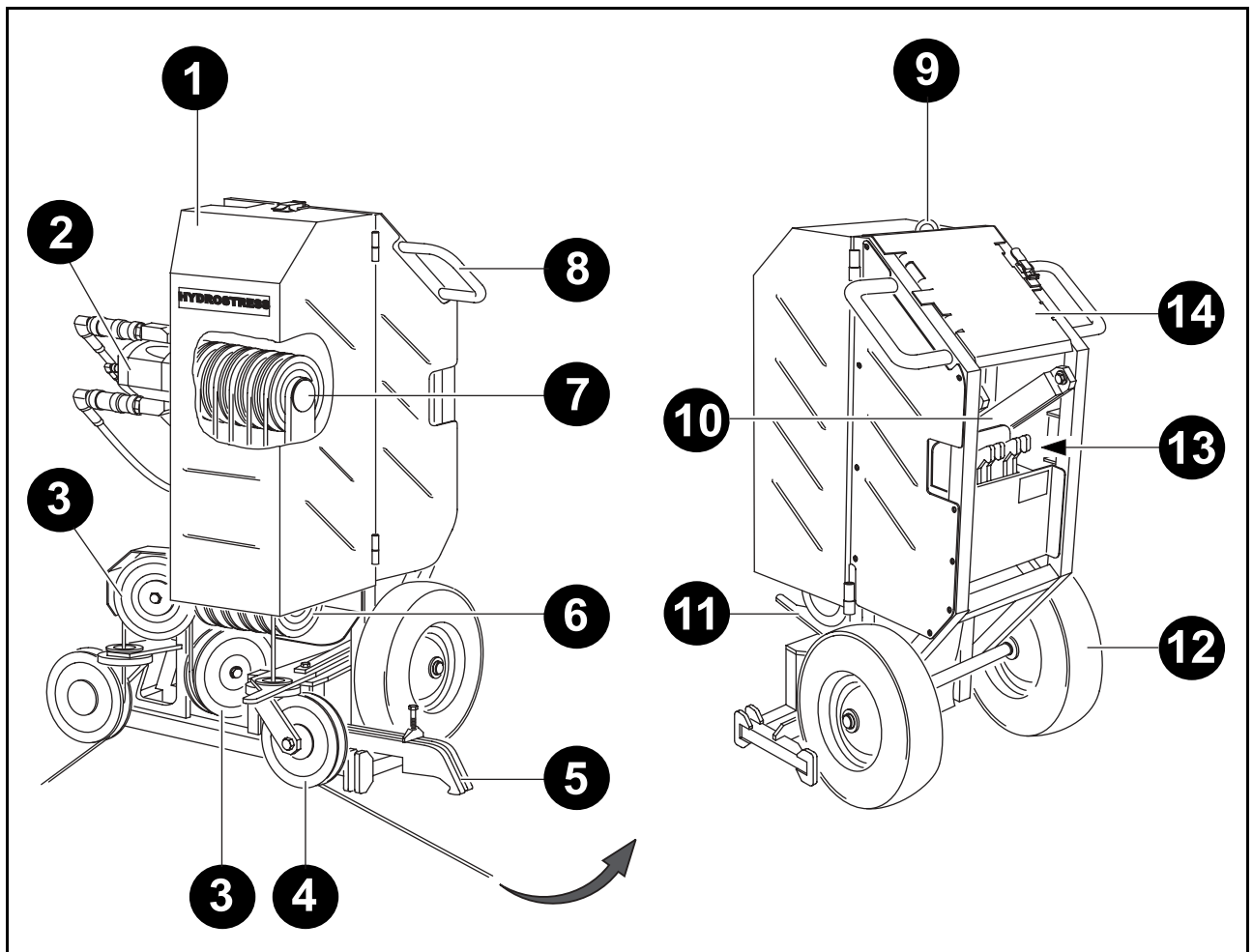
### 3 Safe and efficient operation

---

To achieve a safe and efficient operation, we recommend that you proceed as follows:

<b>Task</b>	<b>Reference</b>
Read safety instructions	See "1.2, Inherent dangers of wire saws" on Page 6
Transport machine	See "15.1, Transport" on Page 42
Set up the SB machine	See "7, Applicational advice" on Page 18
Sequence of cuts	See "7, Applicational advice" on Page 18
Establish wire lengths	See "2.8, Wire lengths" on Page 13
Connect SB	See "8, Connection of hydraulics and water" on Page 22
Connect wire	See "9.4, Connect wire" on Page 31
Insert wire	See "10.1, Insert wire, general." on Page 33
Store wire	See "11.1, Store wire, 1st step" on Page 35
Determine wire cutting speed	See "2.7, Wire cutting speed" on Page 12
Run up wire saw	See "12, Run up wire saw" on Page 36
Interrupt cut	See "12.6, Interruption of cut" on Page 38
Stop work	See "12.8, Terminate operation" on Page 38
Maintenance	See "14.1, Maintenance table" on Page 41
Putting out of operation and storage	See "15.2, Putting out of operation, storage" on Page 42

## 4 Construction

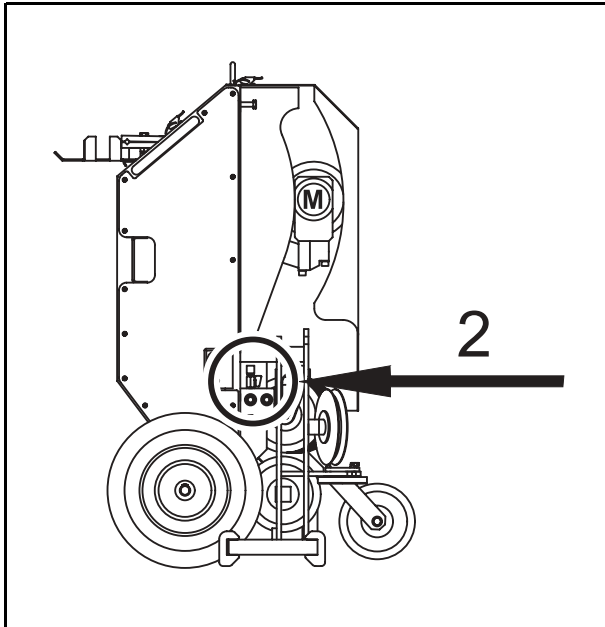


### The most important modules

- |                             |  |
|-----------------------------|--|
| 1. Protective hood          | 8. Chassis handle                      |
| 2. Drive motor              | 9. Crane hook                          |
| 3. Deflection pulley        | 10. Rocker                             |
| 4. Swivelling pulley        | 11. Pulley guide for wire storage      |
| 5. Clamping shackle         | 12. Wheel                              |
| 6. Lower deflection pulleys | 13. Storage area for clamping shackles |
| 7. Drive pulleys            | 14. Hinged working table               |

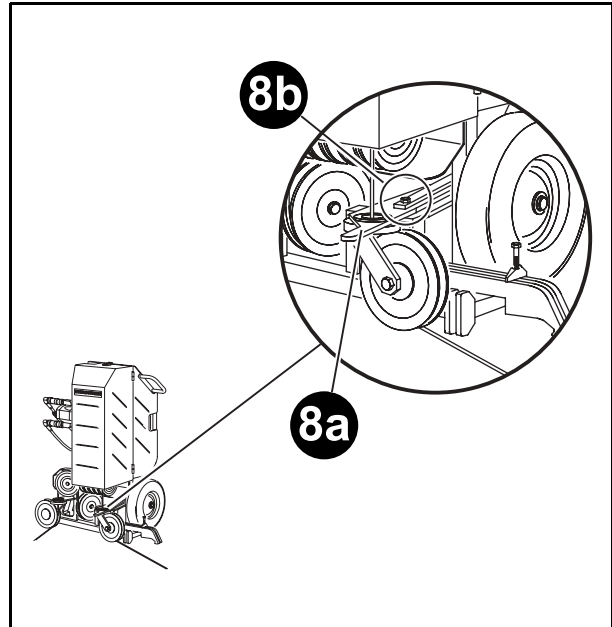
## 5 Control elements

### Water tap



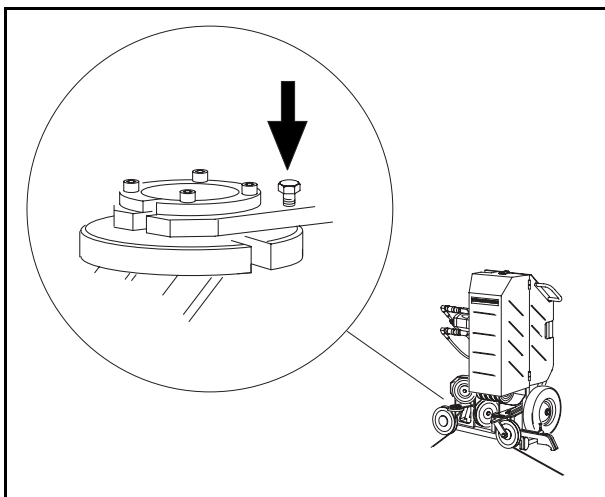
Water tap (2) for regulating the flushing of the drive pulleys

### Roller guides



The roller guide (8a) has 4 latched positions and guides the wire to the correct storage pulley.

### Locking screws for the swivelling pulleys



During cutting work the locking screws on the swivelling pulleys must be tight.

During cutting work the locking screws for the roller guides (8b) must be tight.



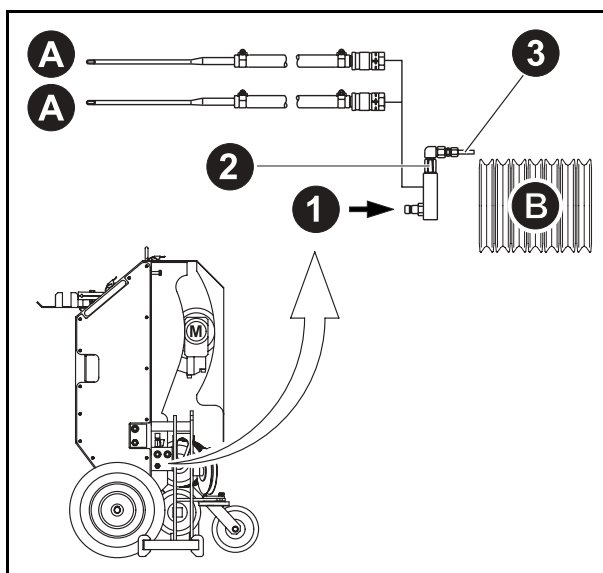
Before servicing or adjusting the SB the plug on the connected drive unit must be pulled out.



## 6 Water

Never connect the water supply hose directly onto the SB. Instead always lead it first through the drive unit in order to cool the electric motor.

### Water circuit



The water coming from the drive unit is led to the water entry nozzle (1) and from there to the individual points, which have to be cooled and flushed through.

### Water entry (1)

Connect water supply hose from drive to this point

### Water tap (2)

This regulates the water quantity for flushing the drive pulleys (B)

### Water exit to the drive pulleys (3)

Lead flexible water supply hose to the drive pulleys so that they are optimally flushed

### Water lances (A)

The water lances must be placed into the cut at the wire entry points so that the wire is optimally cooled.

### Connect water

- Pressure: Min. 1 to max. 6 bar
- Water temperature: Max. 25°C
- Ensure that the water supply is not interrupted during operation

Never close the water tap during operation.

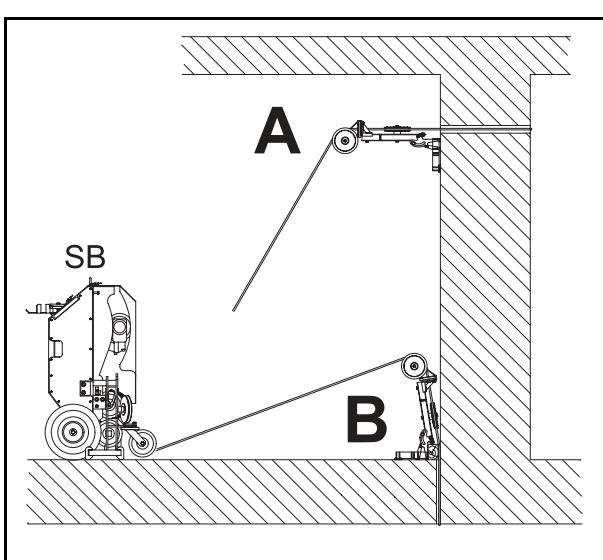
### Blow out water if there is a risk of frost

To avoid frost damage, if there is a risk of frost the whole water system must be emptied and blown out after work or before longer operating breaks. See also the operating instructions for the drive unit being used.

- Disconnect the water supply hose to the drive being used
- Disconnect both water lances (A) and blow them out
- Open water tap (2)
- Blow out the water hoses in the drive unit hose set

## 7 Applicational advice

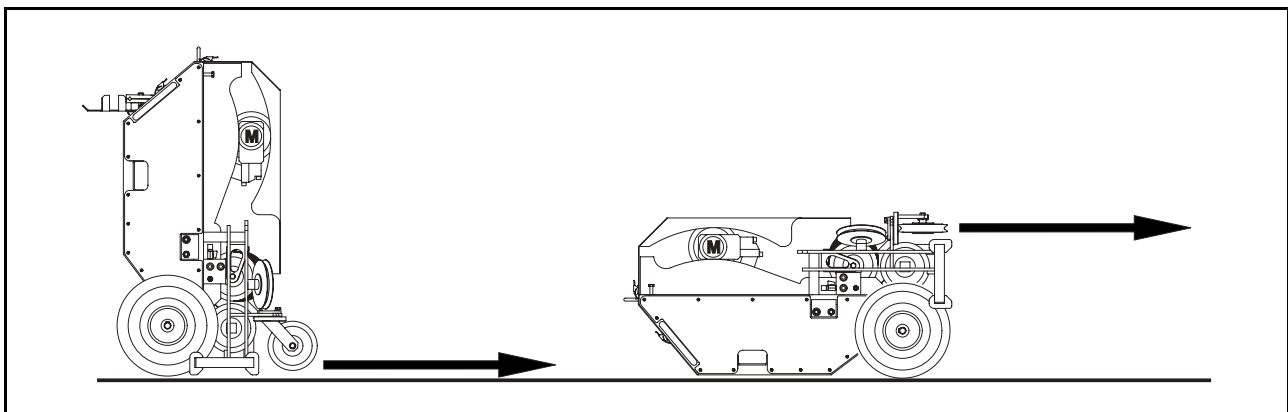
### 7.1 Setting up the SB



Usually the SB is set up at a certain distance from the structure (indirect erection), and the wire is guided into the cut with the universal trestle.

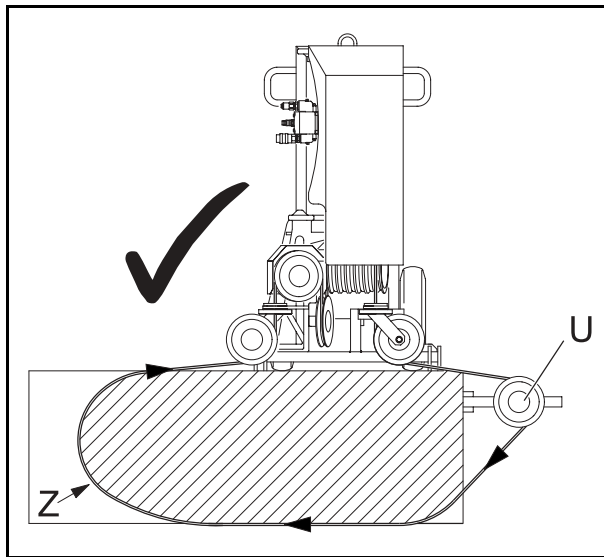
A: Horizontal cut

B: Vertical cut, flush



The SB is usually set up in a standing (vertical) position. However if the space is limited it can also be placed horizontally.

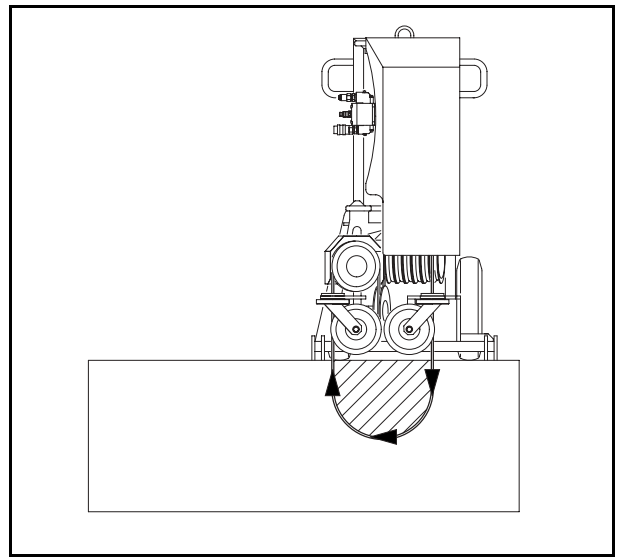
### 7.2 The correct cutting direction



The work should be carried out with the tension side (Z) of the wire since the cutting conditions are best with this method.

The wire can be guided by means of a deflection pulley (U) so that in the case of sharp edges the wire does not dig in.

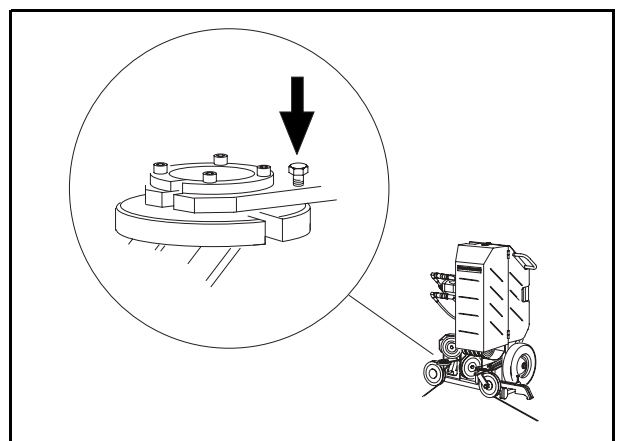
### 7.3 Finish cutting



For finish cutting of the workpiece swing in both swivelling pulleys so that:

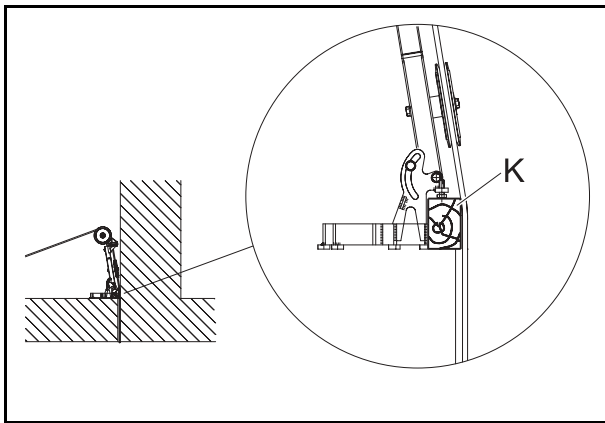
1. The wire does not saw the inside of the holding device and
2. At the end the wire is caught by the swivelling pulleys

### Locking screws on the swivelling pulleys



The swivelling pulley locking screws must be tight during cutting work.

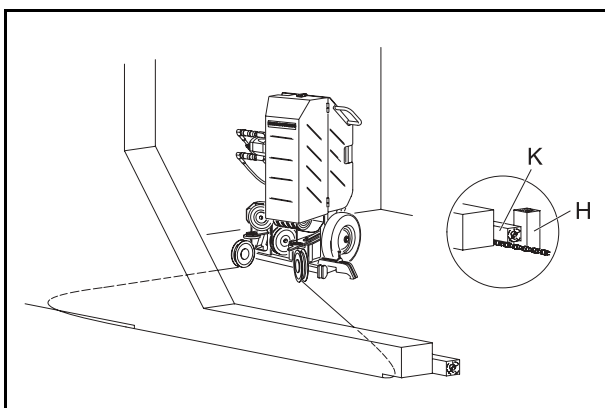
### 7.4 Flush cutting against a wall



When flush cutting against walls the following points must be borne in mind:

1. Set up SB at a suitable distance from the structure
2. With the universal trestle insert wire into the cut
3. Clamp a strip of timber (K) along the complete length in order to guide the wire flush against the wall

### 7.5 Flush cutting against the floor



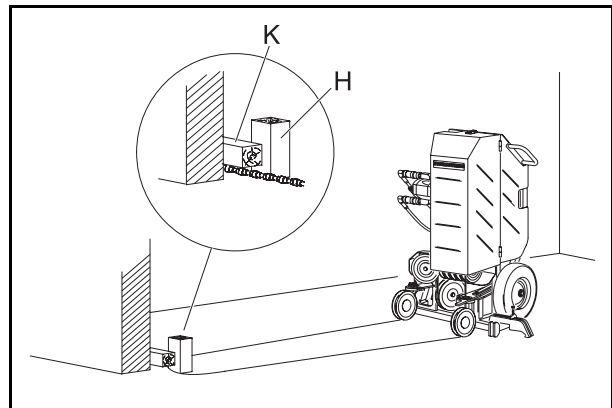
When cutting flush along the floor the following points should be observed:

1. Set up machine about 1 metre from the object
2. Guide wire and hold it right down with a wooden beam (K).



Warning: To catch the wire when it comes out of the cut a piece of wood (H) must be fixed at the exit point.

### 7.6 End of cut



During cutting the swivelling rolls must be swivelled inwards in steps more and more as the cutting proceeds until at the end of the cut they are in parallel.

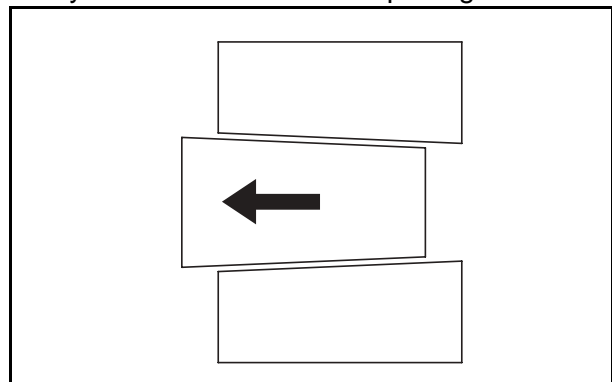


In order to swivel the swivelling pulleys inwards it is essential that the machine is stopped!

### 7.7 Establish removal direction

The removal of the sawn-out part must be possible without danger. Make sure that these parts cannot fall outside the restricted zone.

In certain cases it may be necessary to saw a tapered shape so that the sawn-out part can easily be removed from the opening.

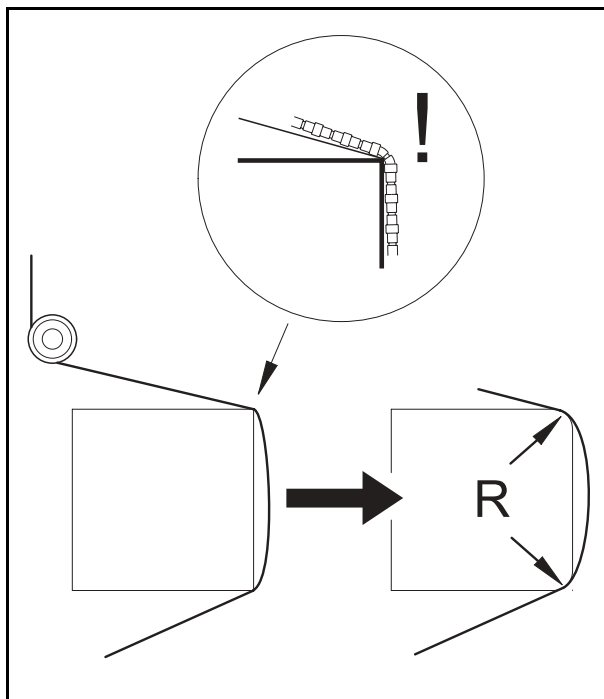


### **Take account of the structural strength of the building**

Wire sawing work must frequently be carried out under difficult conditions. The resulting loose concrete parts are very heavy. Wire sawing work must therefore be carried out in close cooperation with specialists in the structural strength of buildings.

### **7.8 Rounding off the structural body**

The wire must not be led around extremely sharp edges. Such edges must be rounded off before sawing to at least a radius of 10 cm.



### **7.9 The cutting sequence**

#### **Prevent jamming of the wire**

The last cut must be arranged so that the sawn-out part does not jam the wire.

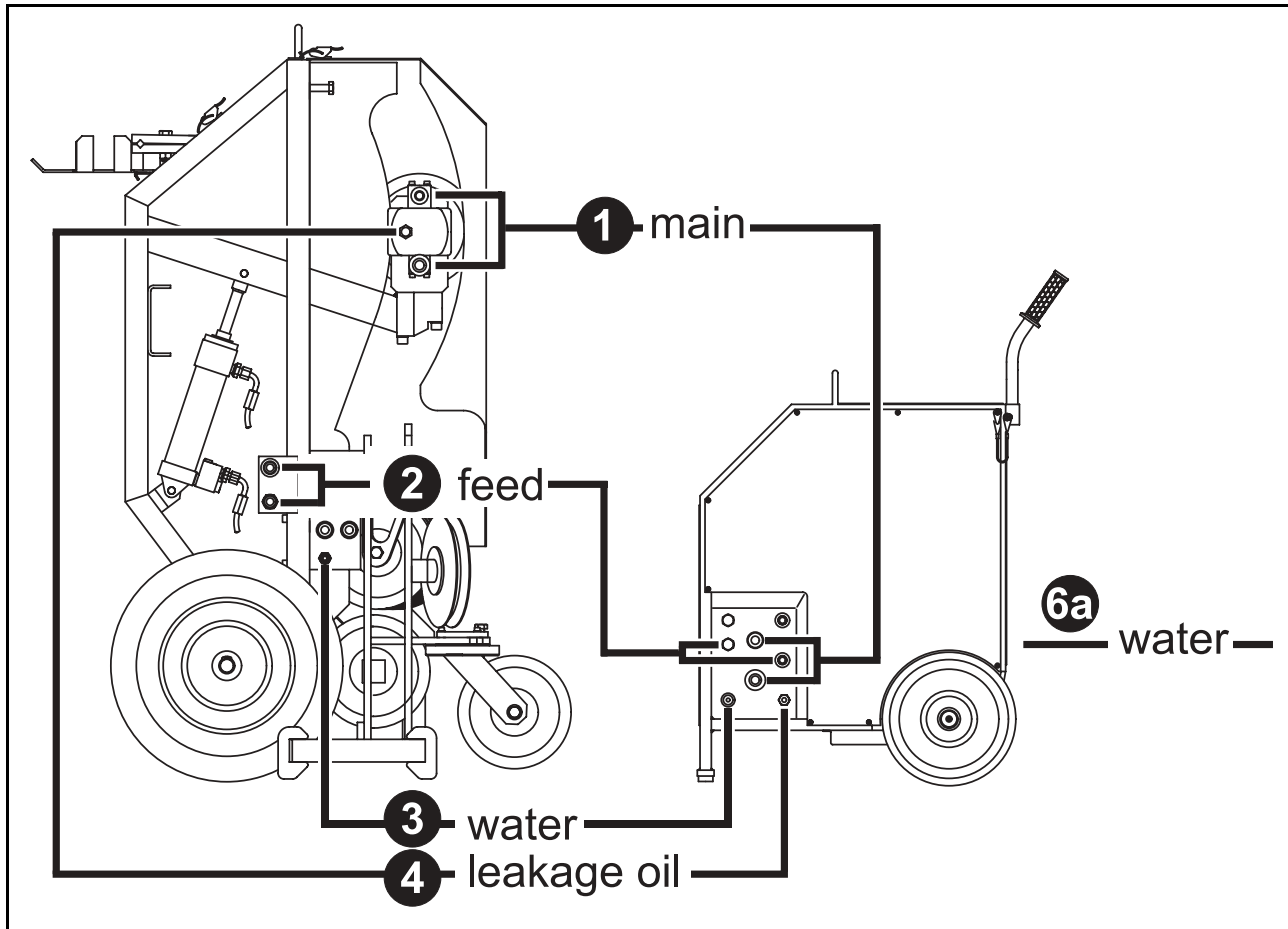
With respect to jamming of the tool (wire), wire sawing is much less trouble than sawing with a diamond saw blade, since the diamond wire constantly cuts itself free.

In spite of this however we recommend the following cutting sequence: First the lower, horizontal cut should be made because in this way the wire is least likely to become jammed, if at the end the block falls into the cut.

The following cuts are less troublesome and therefore can be made in any sequence.

## 8 Connection of hydraulics and water

### 8.1 Example of CR-5 RC



Before any work is carried out on the SB the plug on the drive - if connected - must be withdrawn.

#### Main circuit

Main circuit - feed (1)

Main circuit - return (1)

#### Feed

Feed - Feed (2)

Feed - Return (2)

#### Water drive - SB

Connecting hose - SB drive (3)

#### Main circuit

Main circuit - leakage oil (4)

#### Water (6a)

Water delivery hose to SB (6a)

Always connect the water delivery hose (6a) to the drive in order to cool the electric motor of the drive unit

**Initial commissioning**

The SB is delivered ready-to-operate. The points described under "Preparation for work" are also valid for the initial commissioning of a new machine.

**Preparation for work**

Always proceed as follows:

- Clarify the general conditions
- Make building site safe
- Establish position and sequence of drilled holes and cuts
- Carry out visual inspection
- Cover sharp-edged scuffing positions (hoses and wires)



Position yourself at a suitable distance and not in the "firing line" of the wire. If the wire breaks you are then better protected.

**Visual checks**

Check:

1. Oil level in the oil tank of the drive unit
2. Oil losses from hoses and clutches
3. Clutches and couplings for damage and contamination
4. Hoses, plugs and wires for damage

## 9 The diamond wire

---

### **Introduction**

These operating instructions describe 2 connecting elements for 2 different types of wire.

### **Wire types**

We distinguish between sintered wire of 11 mm diameter and electro-plated wire. (See page 27) SB\_0107\_e.fm.

- Only use the original TYROLIT connectors for assembly and the original TYROLIT tools, which are provided, for the fitting of these connectors
- Never kink the wire!
- If the wall thickness is less than 80 cm operate with reduced pressure to limit the wear on the beads

### **Connecting elements**

Both wires can be connected or repaired with the following connecting elements:

- Repair sleeve
- Knuckle connection

The screw connection should not be used with the SB!  
It leads to increased wire cracks!

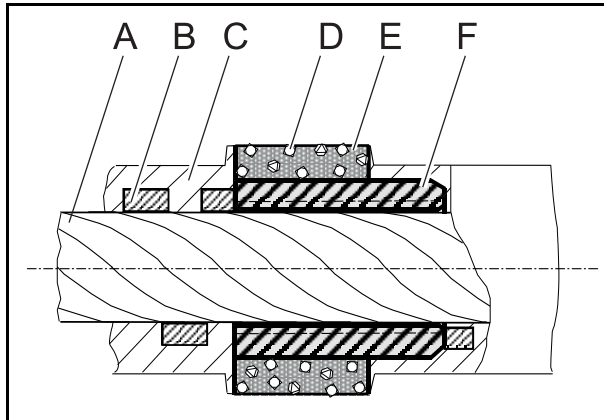
### **Storage of wire**

- After use clean the wire and always make sure it is stored dry and protected from the light



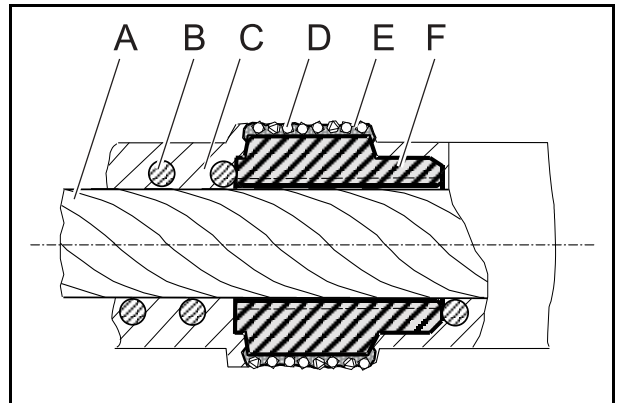
**9.1 Types of diamond wire**

**Sintered wire, 11 mm dia., longitudinal cut**



- A.) Steel wire
- B.) Steel spring (flat)
- C.) Plastic casing
- D.) Diamond crystals (multi-layered)
- E.) Sintered bonding
- F.) Steel core

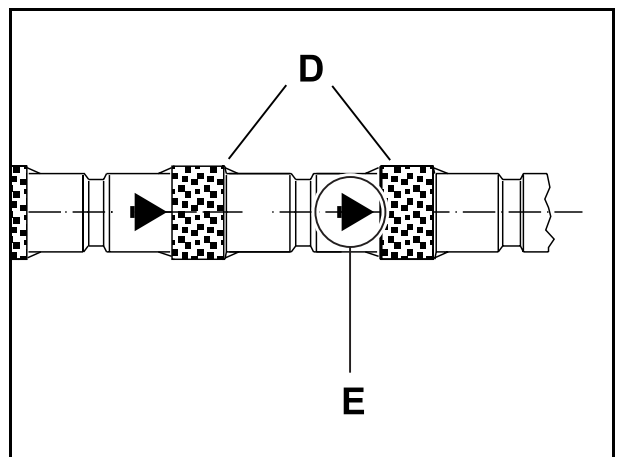
**Electro-plated wire, 10 mm dia., longitudinal cut**



- A.) Steel wire
- B.) Steel spring (round)
- C.) Plastic casing
- D.) Diamond crystals (single-layered)
- E.) Electrical bonding
- F.) Steel core

**Wire running direction**

The wire running direction is shown on all wires by an arrow behind every eighth bead.



- D.) Diamond beads
- E.) Directional arrow (wire running direction)

## 9.2 Preparation of wire ends

---

### Working steps for both types of wire

1. Cut wire with cutting wheel (one bead is always lost), (see Page 29) SB\_0107\_e.fm
2. Pull off steel spring (with side cutter)
3. Cut plastic casing neatly from steel wire (with sack knife)

The steel wire must be absolutely free from plastic residues before pressing. Otherwise the wire could be torn from the pressing unit.



Caution: Risk of cutting with knife! Carry out cutting movements so that no injuries can occur!

- For cutting the wire only use an angle grinder with a 1.6 mm cutting wheel

Cutting wheel 38647

Cutting with other tools is not recommended since the wire ends may not be sufficiently accurate and may be cut at an angle.

## 9.3 Avoiding out-of-round wear

---

### Twist wire

To avoid out-of-round wear on the diamond beads, both types of wire should be twisted in an anticlockwise direction before connection.

Knuckle connection:	Twist inwards after pressing
Repair sleeve:	Twist inwards before pressing

In the case of short wire contact lengths special care is necessary since with such applications the wire can very easily wear out-of-round.  
Do not apply too strong a tensile force to the wire!

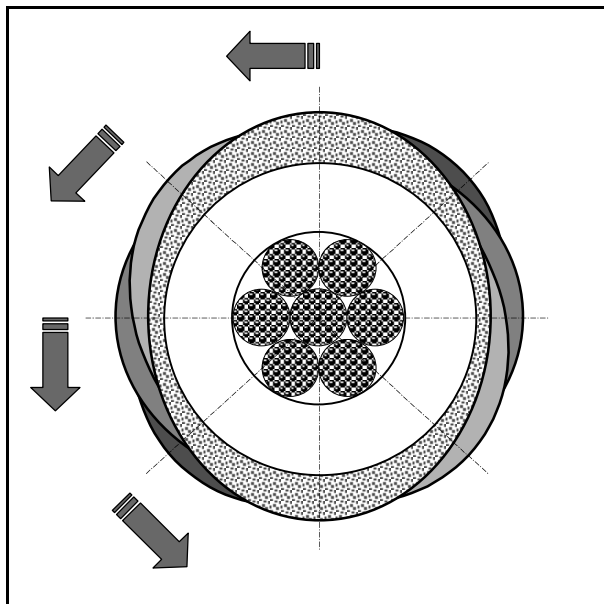
**Prevent flat wear (sintered and electro-plated wires)**

- To prevent flat running of the wire
- To reduce flat wear on the wire

To achieve a stable roundness of the wire during operation the wire should be frequently and systematically twisted in an anticlockwise direction. This will cause a constant change in the position of the individual diamond beads with respect to one another. This is mainly important during lengthy cutting operations.

**Twisting direction**

Twisting must always be done in the anti-clockwise direction since otherwise the wire strands of the steel wire would be unwound.



**Sintered wire**

When first used a sintered wire must be twisted about 1 - 1.5 times per metre length in an anticlockwise direction.

<b>Sintered wire: Twisting at the start of work</b>	
Length of wire	Total twists
5 metres	5 - 7 x twists
7.5 metres	8 - 11 x twists
10 metres	10 - 15 x twists
15 metres	15 - 22 x twists

To ensure uniform wear on the wire beads, change the twists of the wire often by about + or - 30%, but never under 1 x per metre of wire. Changing of the twists should take place after every cut.

<b>Advanced operation, Example: 10 m sintered wire</b>	
After 1 <sup>st</sup> cut	+ 3 x twists
After 2 <sup>nd</sup> cut	+ 3 x twists
After 3 <sup>rd</sup> cut	Loosen x 3
After 4 <sup>th</sup> cut	+ 3 x twists
After 5 <sup>th</sup> cut	Loosen x 3, etc.

**Electro-plated wire**

When first used an electro-plated wire must be twisted about 0.5 times per metre length in an anticlockwise direction.

<b>Electro-plated wire: Twisting at the start of work</b>	
Length of wire	Total twists
5 metres	2-3 turns
7.5 metres	4 turns
10 metres	5 turns
15 metres	8 turns

To ensure uniform wear on the wire beads, change the twists on the wire often, but never under 1 x and never more than 1.5 times per metre of wire.

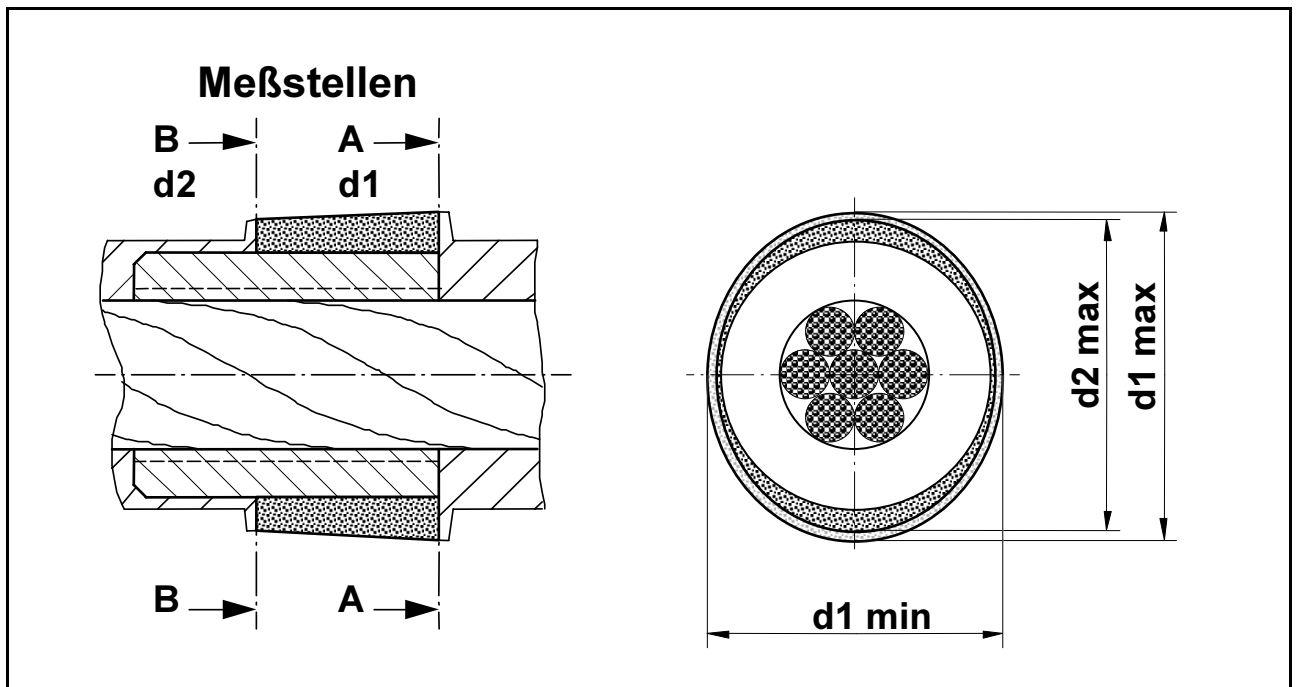
Changing of the twists should take place after every cut.

<b>Advanced operation, Example: 10 m electro-plated wire</b>	
After 1 <sup>st</sup> cut	+ 3 x twists
After 2 <sup>nd</sup> cut	+ 3 x twists
After 3 <sup>rd</sup> cut	Loosen x 3
After 4 <sup>th</sup> cut	+ 3 x twists
After 5 <sup>th</sup> cut	Loosen x 3, etc.

When flat running starts the number of twists should be changed significantly if possible, e.g. 2 to 4 or even more.

### Measurement of wire wear

To be able to assess whether the wire is running round it should be measured periodically (e.g. every 2 hours).



Thereby both the conical shape (left-hand picture) and the out-of-roundness (right-hand picture) should be established. Deviations in the dimensions should be a maximum of 0.2 mm.

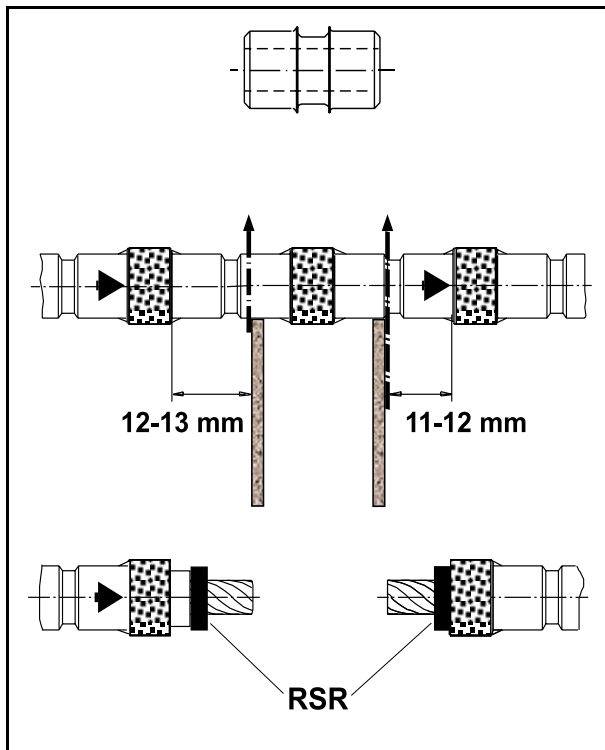
In addition the cutting pressure must be reduced, particularly in the case of small wire contact lengths.

### Measures to prevent flat-running wire

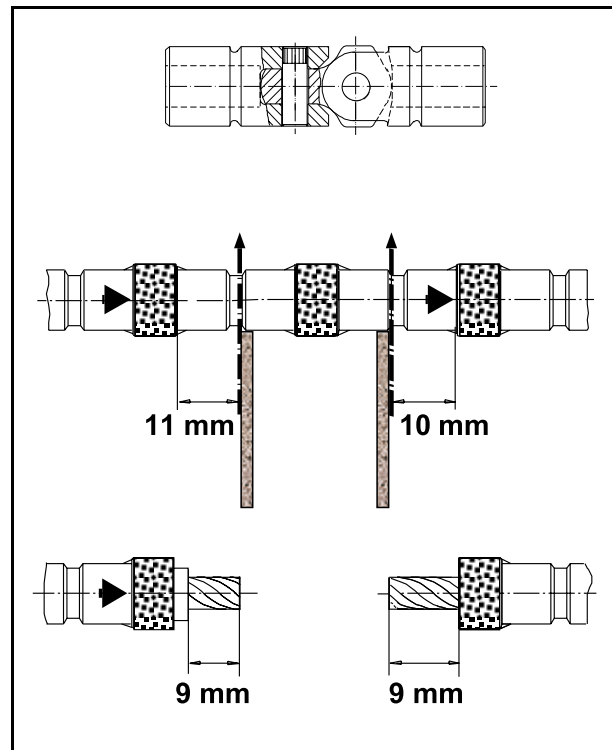
If it is found that the wire has been running flat or out-of-round it is essential to react immediately.

Immediately twist the wire inwards more strongly so that during cutting the beads are increasingly led into the concrete spirally. This forced winding makes the beads round again.

**Cut wire for repair sleeve**



**Cut wire for knuckle connection**



Before mounting the repair sleeve a rubber ring must be pushed on (RSR) so that the flexibility is maintained at the connecting point.

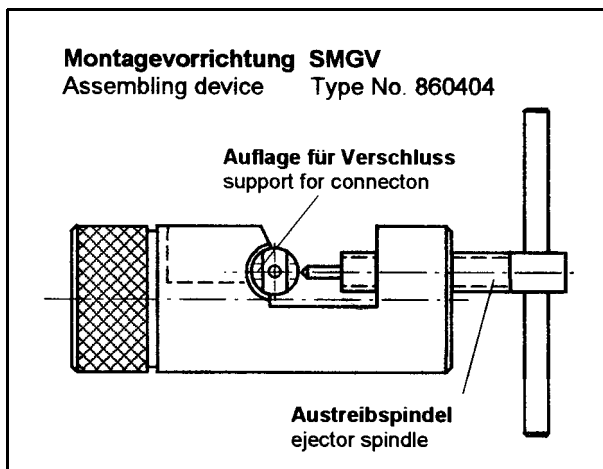
Cut wire so that the knuckle connection rests directly on the beads to the right and left.

**Tools**

To connect or repair the wire you need:

Repair sleeve	DSZU-01114-94	600045
	or	
Knuckle connection	DSZU-01114-95	724036
Replacement pins for knuckle connection	DSZU-01114-98	724037
Pressing clamp HT 80		117984
Cutting wheel 1.6mm		38647
Angle grinder		
Knife		
Side cutter		
Assembling and riveting device for knuckle connection	860404	

**Assembly device for knuckle connection**



**Explanation and function:**

**Opening the wire:**

Place wire with closed knuckle connection into the device and align it centrally. Carefully drive out the spindle with the pin.

**9.4 Connect wire**

---

**Electrically-bonded wire**

This wire does not change its diameter as it wears.

Therefore when connecting various worn wires together it is unnecessary to take account of the diameter.

**Sintered wire**

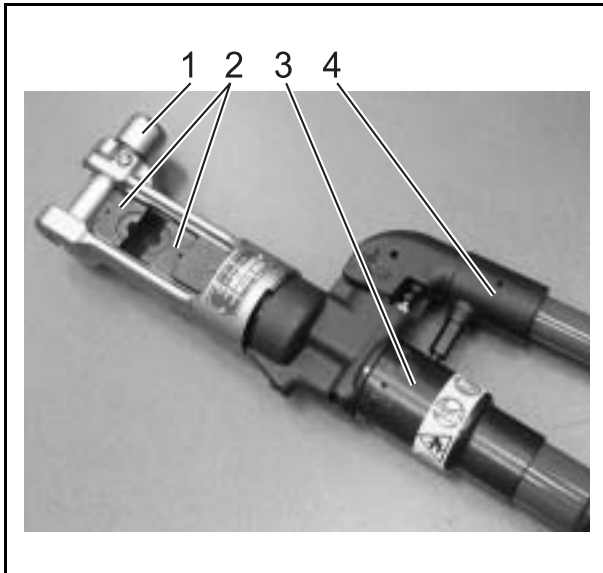
In the event of wear different diameters may arise since the diameter changes.

Therefore when connecting various worn wires together it is necessary to take account of the diameter.

Never connect wires of different diameters: The maximum difference between diameters should be 0.2 mm.

**Operation of pressing clamp**

Warning: Ensure that the 8 tonne press is used.  
The 5 tonne press is not strong enough for this task!



1. Connecting pin
2. Pressing jaws
3. Resetting and safety sleeve
4. Pressing lever

**Insert pressing jaws**

- Open connecting pin (1) and slide in the pressing jaws (2)
- Insert connecting pin (1)

**Press connectors**

- Place sleeve right on the end of the wire and place in pressing clamp
- Turn resetting and safety sleeve (3) to release pressing lever (4)
- Operate press lever (4) several times until you hear a "click", repeat 3 times
- Turn resetting and safety sleeve (3) so that the piston travels back with the lower pressing jaw



## 10 Insert wire

### 10.1 Insert wire, general.



Before any work is carried out on the SB the plug on the drive - if connected - must be withdrawn.

The wire can be inserted into the machine open (unpressed) or closed (pressed).

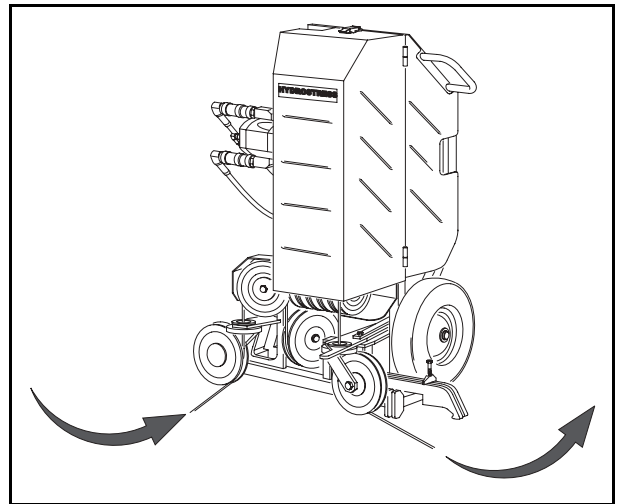
Note the running direction of the wire. This is always shown by an arrow on the wire.

If the running direction arrow can no longer be seen on a worn wire, the small diameter of the conically-worn beads must be aligned to the front.

Do not change the running direction of the wire (by inserting the wire in the opposite direction), since this would cause increased wear.

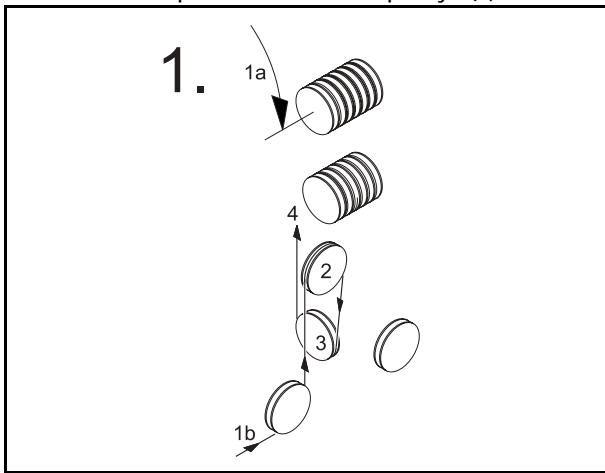
### Wire running direction

The wire running direction is prespecified by the running direction of the hydraulic motor and the design of the drive pulley (free-running) and cannot be changed.



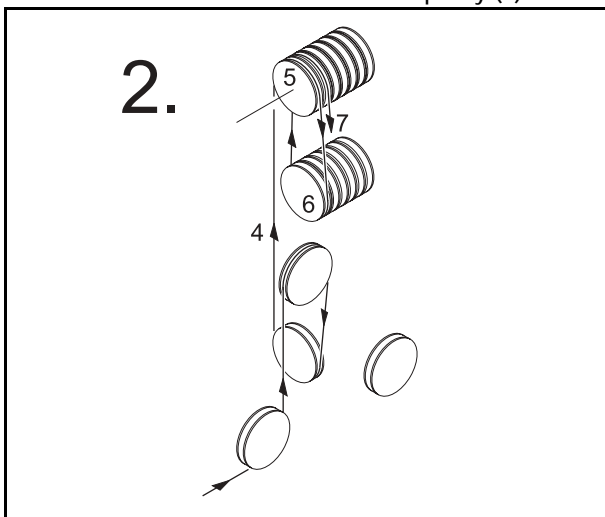
**10.2 Insert wire, 1<sup>st</sup> step**

1. Move rocker together with drive pulleys downwards (1a)
2. Insert wire in running direction over the left-hand swivelling pulley (1b)
3. Place wire around upper deflection pulley (2)
4. Place wire around lower deflection pulley (3)
5. Guide wire upwards to the drive pulleys (4)



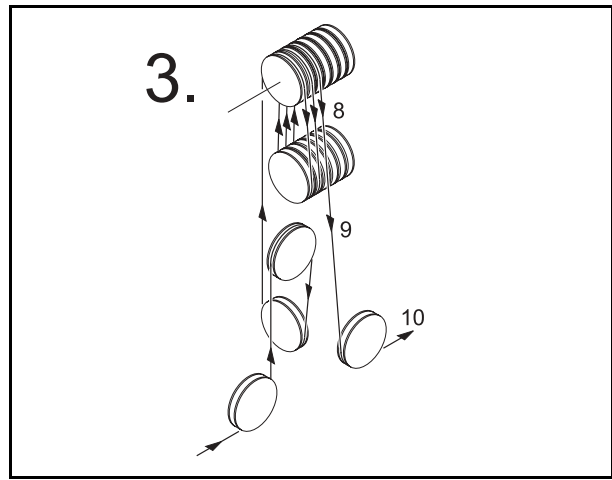
**10.3 Insert wire, 2<sup>nd</sup> step**

1. Place wire around the first drive pulley (5)
2. Place wire around the first deflection pulley (6)
3. Place wire around the second drive pulley (7)



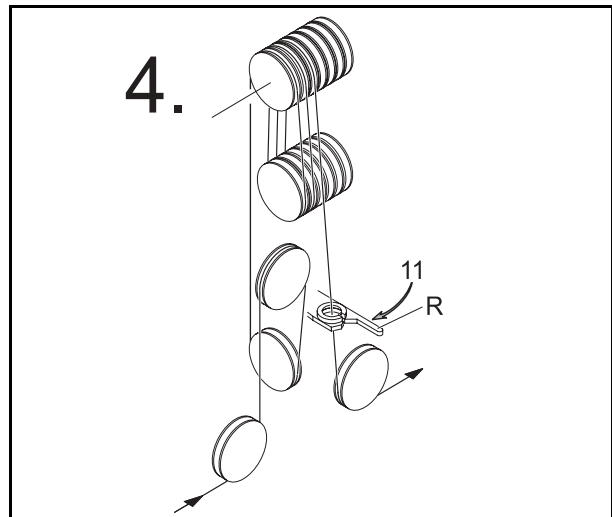
**10.4 Insert wire, 3<sup>rd</sup> step**

1. Place wire 3 times around pulleys (8)
2. After third drive pulley guide wire directly downwards towards the right hand deflection pulley (9)
3. Guide wire outwards with right-hand deflection pulley (10)



**10.5 Insert wire, 4<sup>th</sup> step**

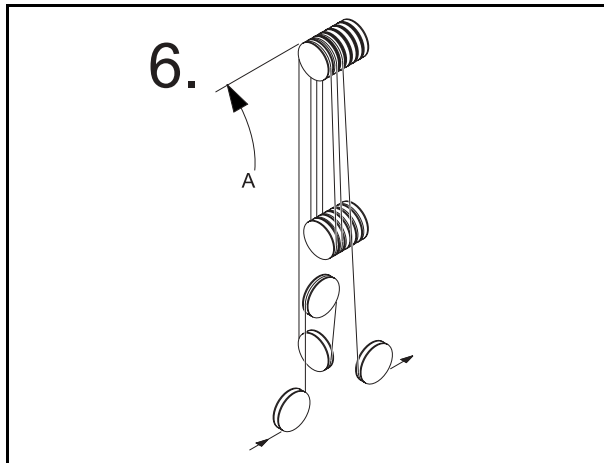
1. Latch roller guide (R) for the first storage stage into the final position on the left (11)



## 11 Store wire

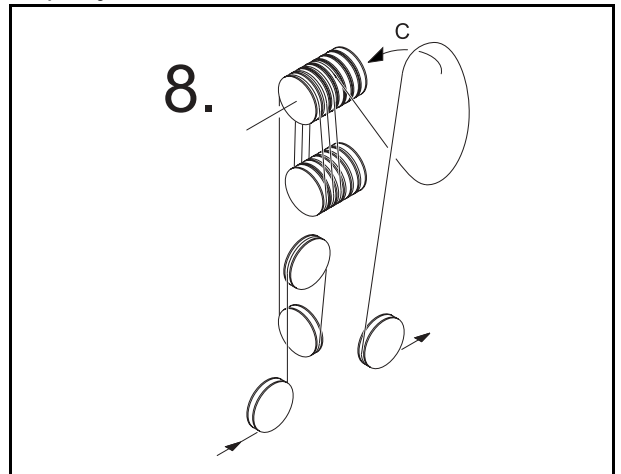
### 11.1 Store wire, 1<sup>st</sup> step

1. If the rocker with the drive pulleys has moved to the upper stop (A), first of all move it away
2. After moving away the wire shut down the machine



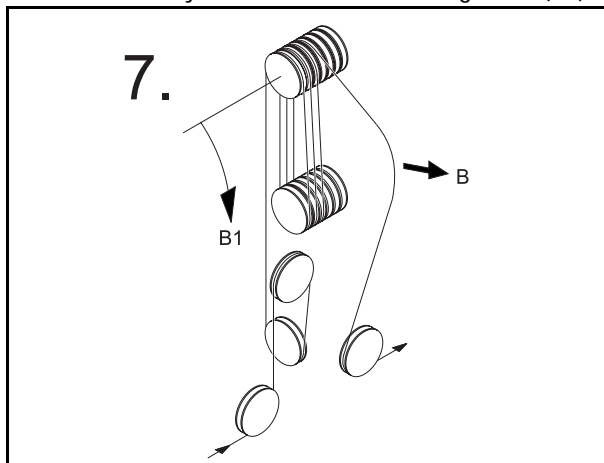
### 11.3 Store wire, 3<sup>rd</sup> step

1. Cross over wire in anticlockwise direction (C)
2. Place upper part of loop over the next free drive pulley
3. Place lower part of loop over the next free deflecting pulley



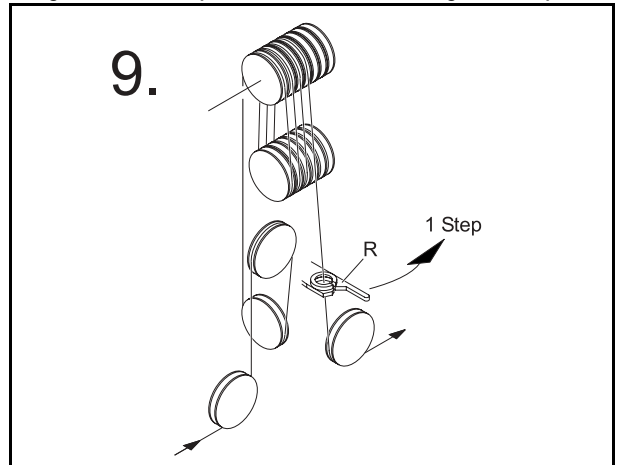
### 11.2 Store wire, 2<sup>nd</sup> step

1. Pull wire by hand from the machine (B). In doing this the rocker together with the drive pulleys is pulled downwards by the effect of the travelling block (B1).



### 11.4 Store wire, 4<sup>th</sup> step

1. For each further wire storage step place the roller guide (R) one position further to the right (1 Step)



## 12 Run up wire saw

---

To achieve a safe and efficient operation, we recommend that you proceed as follows:



Before any work is carried out on the SB the plug on the drive - if connected - must be withdrawn.

<b>Task</b>	<b>Reference</b>
Read safety instructions	See "1.2, Inherent dangers of chain saws" on Page 6
Pull wire through by hand	See "12.1, Pull wire through by hand" on Page 37
Switch on drive unit	See "12.2, Switch on drive unit" on Page 37
Preset the feed	See "12.3, Presetting the feed" on Page 37
Set up water	See "6, Water" on Page 17
Let wire run	See "12.4, Letting the wire run" on Page 37
Operation	See "12.5, Operation" on Page 38
Interruption of cut	See "12.6, Interruption of cut" on Page 38
End of cut	See "12.7, End of cut" on Page 38
Terminate operation	See "12.8, Terminate operation" on Page 38

## 12.1 Pull wire through by hand

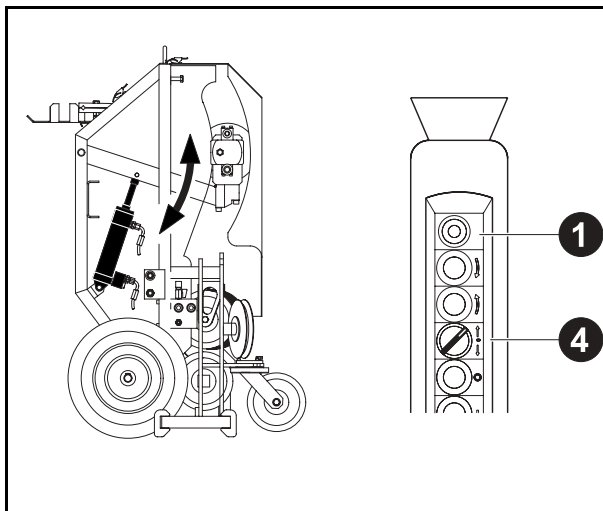
- Before starting the wire saw pull the wire by hand over the building object

If the wire cannot be pulled over the building object by hand it will also not be able to start up with the machine!

## 12.2 Switch on drive unit

- See the operating instructions for the drive unit being used.

## 12.3 Presetting the feed

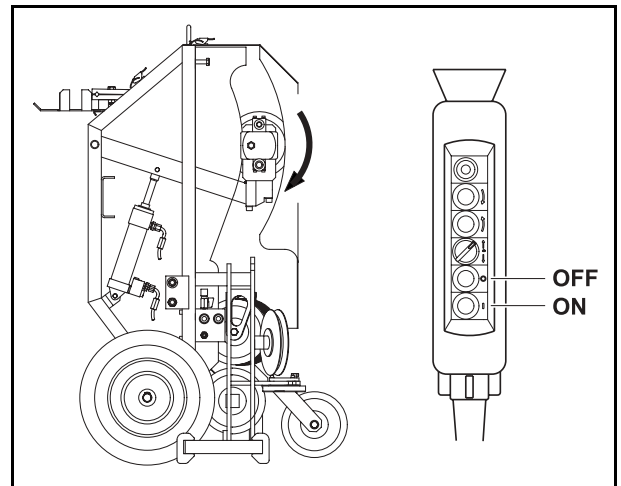


Before first switching it on, the wire must be tensioned by means of the feed as follows:

1. Not too loose. Otherwise the wire will not start to run or it could even jump off the pulleys.
  2. Not too tight. Otherwise the wire could dig into and bind in the corners of the structural body.
- Set selection switch (4) to anticlockwise
  - Preset feed pressure to 30 bar with rotary controller (1)

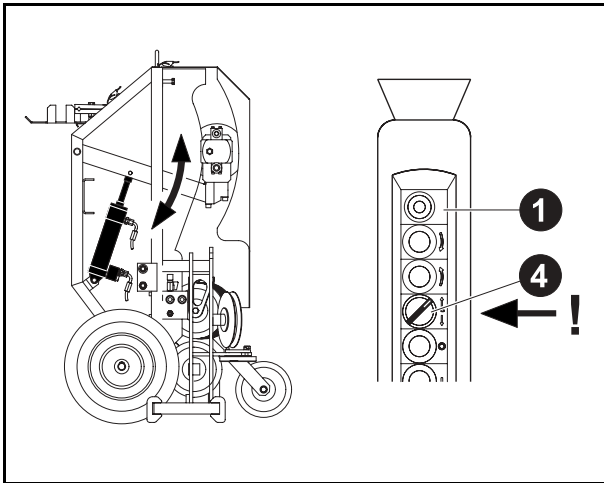
## 12.4 Letting the wire run

- Press the "ON" pulsing button on the remote controller



If the wire does not start to run immediately switch off the machine again, search for the reason why the wire is not moving and rectify it.  
(See Page 38: Rectifying faults)

## 12.5 Operation



- Do not change the position of the selection switch (4) again!
- Regulate feed pressure with rotary controller (1)

## 12.6 Interruption of cut

To achieve easier starting up of the wire in the existing cut at a later stage, the cut should be "freed" by operating the wire for a few moments.

- Let the wire run in the cut without any feed until the main pressure has reduced by about 20-40 bar.
- Once the wire runs with significantly less main pressure, switch it off and also turn off the water.

## 12.7 End of cut

- At the end of the cut move out of the cut with reduced feed pressure to ensure trouble-free capturing of the wire on the swivelling pulleys.
- Once the wire has been captured by the swivelling pulleys, switch off the wire and turn off the water.

## 12.8 Terminate operation

- Close off and disconnect water supply
- Withdraw mains plug
- Uncouple hydraulic hose and wind it up
- Uncouple water hose and wind it up
- Disconnect cable and wind it up

### 13 Rectifying faults

Proceed systematically when searching for the cause of a fault. Also you should use the operating instructions for the drive unit being used. If you cannot find the fault or rectify the problem just call our Customer Services.



Before rectifying the fault disconnect the SB from the mains!

Before calling us however please note the following points:

- We can help you better the more precisely you can describe the fault
- Keep the operating instructions to hand

Fault	Possible cause	Rectification
Wire worn flat on one side	Wire has not been twisted - or not twisted enough  The operation was carried out on reinforcement steel with too much feed pressure  Too small a contact surface between wire and building object	Twist wire or increase number of twists  Work on steel with less feed pressure  Insert deflection pulley
Wire cannot be started	Wire tension too high  Wire has too many contact points with structural object  Drive rims worn  Corners of building object are too sharp edged	Correctly tension wire and/or slightly reduce tension during starting  Mount deflection pulley  Replace drive rims  Round-off corners
Wire cracked	Wire pressing (connecting) incorrectly carried out  False wire connector (screwed connector)  Loose steel or stones in building object	Improve wire pressing system  Only use knuckle connector or repair sleeves  Cut must be relocated / insert deflection pulley

<b>Fault</b>	<b>Possible cause</b>	<b>Rectification</b>
Wire "polished"	Too high a wire cutting speed Strong reinforcement or hard aggregates Too great a contact surface between wire and building object, or pressing force or feed too small	Adapt wire cutting speed Adapt wire cutting speed Increase feeding force / insert deflection pulley
Wire has too much wear	Too little water in the cut Strong steel reinforcement Incorrect wire cutting speed	Align water lance better / increase water pressure Rectification not possible Adapt wire cutting speed
Feed not constant	Defective clamping cylinder Strong steel reinforcement	Replace clamping cylinder Rectification not possible
Decaying of clamping cylinder when feed set to zero	Retaining valve defective	Replace retaining valve
Drive motor has no power	Defective drive motor Drive defective	Check / replace defective motor Check drive see operating instructions for drive unit in use
Shaft seal defective on drive motor	Plug connectors not correctly connected Defective drive motor	Check plug connectors and then replace shaft sealing ring Replace drive motor
Rim on deflection pulley worn at one position	Deflection pulley bearing defective Deflection pulley touching chassis and jamming	Replace bearing and rim Establish cause and replace defective part
Play in the deflection pulley bearing	Defective bearing / worn ball-bearing	Replace ball bearing and seals
Wire vibrates strongly	Drive or deflection pulley rims are jamming the wire (worn rims) Too much tension on wire Too high a wire cutting speed Cut carried out with slack side of wire	Replace rims Reduce feed pressure Adapt wire cutting speed Carry out cutting only with tension side. Only cut with slack side in the event of poor access to the building object
Straight cut not possible	Deformed swivel pulley holder	Replace swivel pulley holder
Play in bearing on drive shaft	Defective ball bearing	Replace ball bearing



## 14 Maintenance

### 14.1 Maintenance table

Carry out the following maintenance work within the given intervals so that the following are guaranteed:



Before maintenance work disconnect the SB from the mains!

- User safety
- Optimum performance
- Ready-for-use at any time

Maintenance interval	Tasks	Remarks
If there is a risk of frost at the end of work	Drain water and blow out lines	See operating instructions for the drive unit used
After every cut	Check flattening of wire	If unevenly worn change twists
Daily	Check rims on drive and deflection pulleys	Replace rims if worn
	Check bearings on drive and deflection pulleys	If worn replace drive and deflection pulleys
	Check clamping cylinder for oil loss	In the event of oil loss or defects seal or replace cylinder
Every 200 operating hours	Major service	To be carried out by HYDROSTRESS or an authorized representative

### 14.2 Repairs

Components other than those described in the maintenance section may only be exchanged by personnel who have been trained by HYDROSTRESS.

## 15 Transport, putting out of operation, storage and disposal

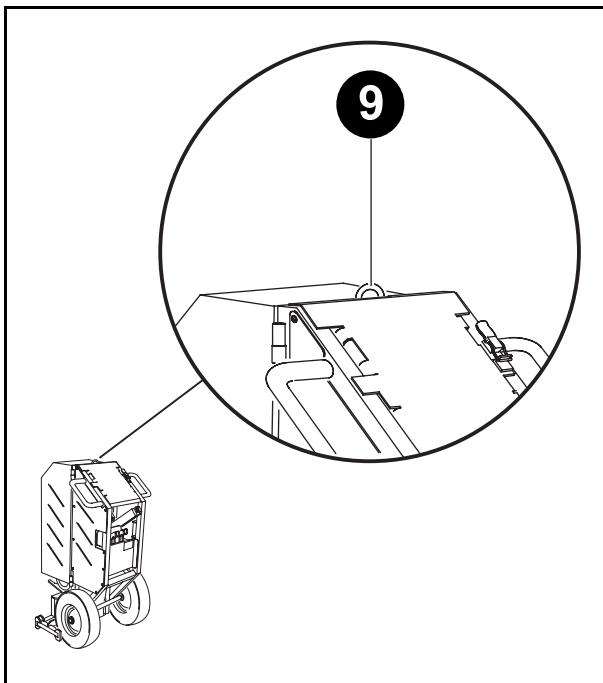
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### 15.1 Transport

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The SB wire saw is a high-quality technical system. Protect it from transport damage:

- Do not place parts over or on the SB
- Only lift the machine with the crane hook (12)



### 15.2 Putting out of operation, storage

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If the SB is not to be used for a longer time, do the following:

- After work rinse it off immediately with water
- Blow water from all hoses and lines (frost danger in winter)
- Store in a cool place
- Lightly oil bright parts

### Storage of wire

- After work rinse it off immediately with water
- Store in a dry place protected from the light

### 15.3 Disposal

---

The SB consists of the following materials:

- Aluminium casting
- Aluminium rolled products
- Steel
- Rubber
- Plastic

Find out about the disposal regulations in your country.

## 16 Accessories, spare parts lists

### 16.1 Accessories delivered together with the SB

#### Hydraulic motors, size 3

Motor complete S 25 ccm/FD	976165
Fast-change set, FZ motors, size 3	976133

### 16.2 Accessories which can be ordered

#### Hydraulic motors, size 3

Motor complete S 20 ccm/FD	976164
Motor complete S 25 ccm/FD	976165
Motor complete S 31 ccm/FD	976166

Leakage oil hose, 8m FIRG	974066
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#### Connectors

Repair sleeve	DSZU-01114-94	600045
Knuckle connector	DSZU-01114-95	724036
Replacement pin for knuckle connector	DSZU-01114-98	724037

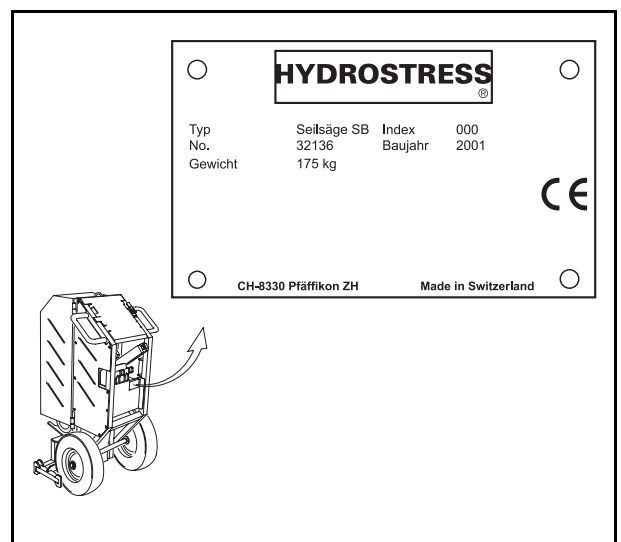
#### Pressing clamp HT80

Pressing clamp HT80	117984
Pressing clamp insert for HT80	578301

#### Assembling and riveting device

Assembling and riveting device for the knuckle connector	860404
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### 16.3 Spare parts lists, ordering details



When you order spare parts we require the following details:

- Machine type, according to rating plate (SB)
- Machine number, according to rating plate (e.g. 32136)
- Machine index, according to rating plate (e.g. 000)
- Spare part number according to spare parts list (e.g. 08W7-73648-02)

For orders, queries and information please make contact with the responsible subsidiary.

# Sicherheitsvorschriften und Hinweise für Seilsägearbeiten



## Achtung

**Das Arbeiten mit HYDROSTRESS Seilsägesystemen ist mit Gefahren verbunden.**

**Beachten Sie beim Arbeiten mit HYDROSTRESS Seilsägesystemen alle Sicherheitsvorschriften und Hinweise.**

**Nichtbeachten der Sicherheitsvorschriften und Hinweisen bei Seilsägearbeiten kann zu schweren Körperverletzungen oder zum Tod führen.**

## 1. Sicherheitsvorschriften und Hinweise allgemein

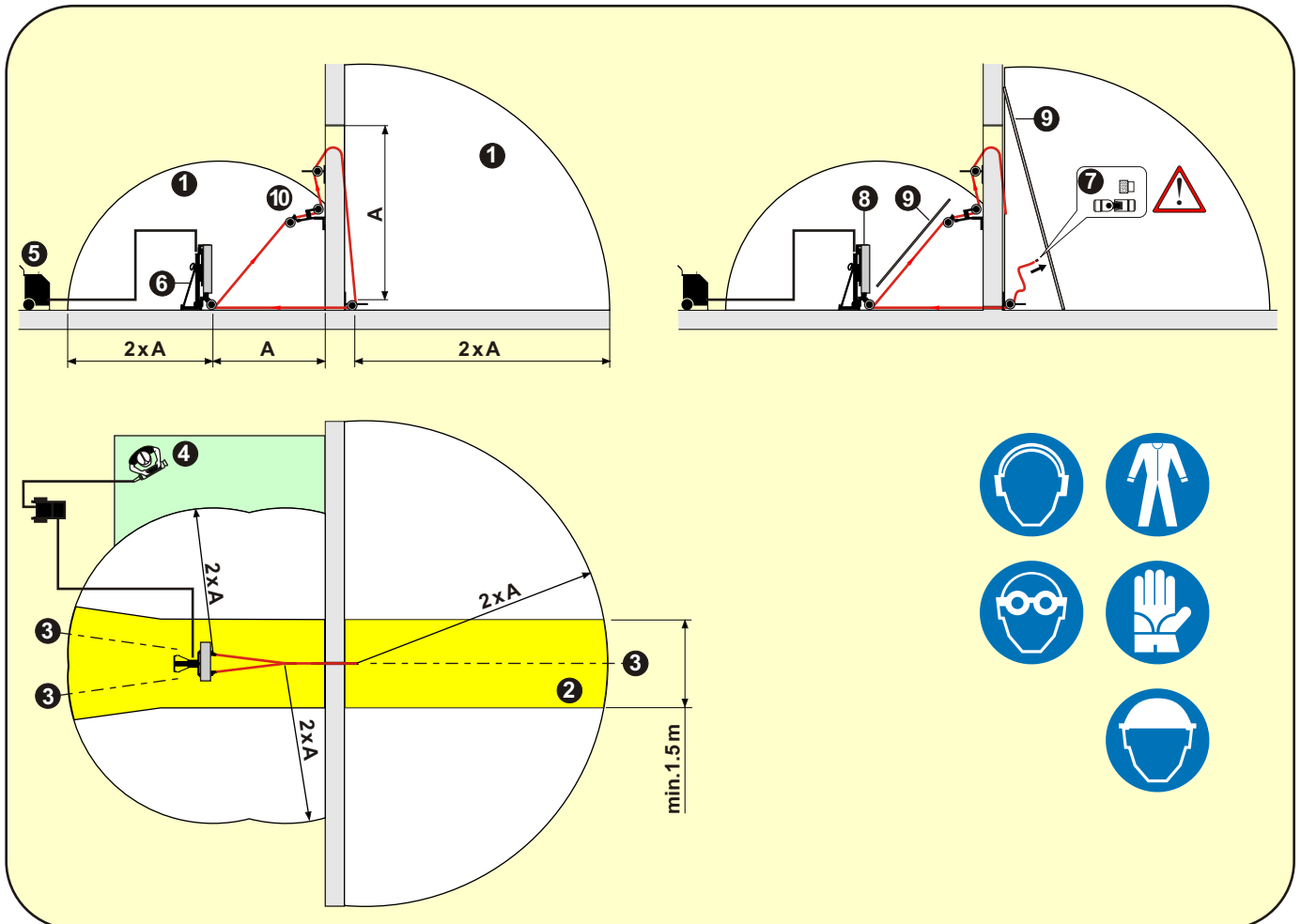
- 1.1 Die Sägearbeiten müssen von der Bauleitung genehmigt werden. Sägearbeiten an Gebäuden und anderen Strukturen können die Statik beeinflussen, insbesondere beim Trennen von Armierungseisen und Trägerelementen. Im weiteren muss der Bohr- und Sägebereich frei sein von aktiven Gas-, Wasserstrom oder sonstigen Leitungen.
- 1.2 Verwenden Sie das HYDROSTRESS Sägesystem und die Zubehörteile nicht ohne vorher in dessen Anwendung geschult worden zu sein. Die Einschulung erfolgt durch einen HYDROSTRESS Spezialisten.
- 1.3 Lesen Sie die Betriebsanleitung der einzelnen Maschinentypen, sie enthalten wichtige Hinweise, damit Sie die Systeme sicher und wirtschaftlich betreiben können. Die Betriebsanleitungen sind stets mit den Maschinen mitzuführen. Beachten Sie die vorgeschriebenen Befestigungs- und Sicherheitselemente.
- 1.4 Tragen Sie geeignete Arbeitskleidung. Tragen Sie keine weite Kleidung oder Schmuck, welche von beweglichen Teilen erfasst werden können. Tragen Sie Helm, Gehörschutz, Schutzbrille, Arbeitshandschuhe, Sicherheitsschuhe sowie bei langen Haaren ein Haarnetz. Bei Arbeiten in geschlossenen Räumen ist eine Atemschutzmaske zu tragen.
- 1.5 Vermeiden Sie beim Tragen schwerer Antriebsmodule oder sonstiger Maschinenteile eine Körperhaltung mit krummem Rücken (gebogene Wirbelsäule). Achten Sie auf sicheren Stand und halten Sie jederzeit das Gleichgewicht, speziell bei der Verwendung von Leitern oder Gerüsten.
- 1.6 Anwender und Drittpersonen dürfen sich grundsätzlich NICHT im Gefahrenbereich von am Kran schwebenden Lasten aufhalten.
- 1.7 Beim Sägen werden oft Betonblöcke mit mehreren Tonnen Gewicht freigesägt. Absicherung und Transport für die freigeschnittenen Betonblöcke nach der allgemeinen Regeln der Baukunst planen und durchführen. Sichern Sie geschnittene Öffnungen ab.
- 1.8 HYDROSTRESS Bohr- und Sägesysteme dürfen ohne Sondermassnahmen NICHT in explosionsgefährdeten Räumen eingesetzt werden!

**Nationale Vorschriften und Gesetze sind zu berücksichtigen.**

## 2. Sicherheitsvorschriften und Hinweise für HYDROSTRESS Seilsägesysteme

- 2.1 Genügend freie Platzverhältnisse für ungefährliches Arbeiten schaffen. Seilsäge direkt oder so nahe wie möglich an das zu schneidende Objekt montieren, so dass die freien Seillängen vermieden oder auf das Minimum verkürzt werden können.
- 2.2 Sperren Sie den Gefahrenbereich (Bild 1/2/3 Pos.1) sichtbar so ab, dass während des Sägens keine Person den Gefahrenbereich betreten kann.
- 2.3 Beim Arbeiten mit Seilsägen besteht die Gefahr von Seilrissen. Bei Seilrissen kann der Effekt des Peitschenschlages mit der Ausladung der freien Seillänge auftreten. Peitschenschläge können schwere Körpverletzungen verursachen. Deshalb muss der nachstehend definierte Sicherheitsabstand zwingend eingehalten werden.  
Beim Sägen muss der Anwender sowie auch Drittpersonen einen **Sicherheitsabstand** rund um die Seilsäge einhalten, welcher einem Radius von mind. **2x** der **freien Seillänge** entspricht !  
(Siehe Bild 1 / Direkt Montage Bild 2 / Bodenschnitt Bild 3)!
- 2.4 Der vorderseitige, darunterliegende und rückseitige Sägebereich sowie der eventuelle Bohrbereich ist so abzusichern, dass Personen oder Einrichtungen durch herabfallende Teile oder Sägeschlamm nicht verletzt oder beschädigt werden können. Freigeschnittene Bohrkern und Betonklötze gegen Herunterfallen sichern.
- 2.5 Vor Sägebeginn sind in jedem Falle die vorgeschriebenen Kontrollen durchzuführen.
- Kontrollieren Sie das ganze System, Antriebsmodule, Elektrokabel und Hydraulikschläuche vor dem Gebrauch auf Beschädigungen und bestimmungsgemässe Funktion.
  - Prüfen Sie insbesondere Verschleisssteile wie Diamantseil-Antriebsrollen, Umlenkrollen, Diamantseil und Verschluss.
  - Kontrollieren Sie sämtliche Seilschutzvorrichtungen.
  - Überprüfen Sie, ob sämtliche Teile richtig montiert und alle anderen Bedingungen, die den gefahrenlosen Betrieb des Gerätes ermöglichen, erfüllt sind. Lassen Sie Mängel durch den HYDROSTRESS Spezialisten oder den HYDROSTRESS Service beheben.
  - Kontrollieren Sie sämtliche Schrauben an der Schutzvorrichtung welche sich durch Vibrationen lösen könnten.
- 2.6 Für die Befestigung der Universal- und der Einzelrollenböcke sind Metallbefestigungselemente der Grösse M12 zu verwenden. Eine sichere dem Untergrund angepasste und sich nicht lösende Befestigung muss gewährleistet sein.  
Bei unhomogenen Mauerwerken empfehlen wir Durchgangsbohrungen mit Gewindestangen M16 und Spannmutter.
- 2.7 Nur HYDROSTRESS Spannspindelbefestigung oder Befestigungsschrauben der Mindestqualität 8.8 nach ISO einsetzen.
- 2.8 NIE ohne Seilsschutzvorrichtungen arbeiten (Bild 1 Pos.9, Bild 2+3 Pos.6)! Diese Vorrichtungen verhindern beim Reißen des Diamantseiles ein unkontrolliertes Wegfliegen von Segmenten und Verschlüssen (Bild 1/2/3 Pos.7).  
Halten Sie sich grundsätzlich NIE in der Fluchtachse (Bild 1 Pos.3) des laufenden Diamantseiles auf (Gefahrenbereich Seilflucht Bild 1 Pos.2 beachten)!
- 2.9 Es ist verboten, während dem Sägebetrieb am Sägesystem zu hantieren ( z.B Wasserspritzdüsen neu auf das laufende Diamantseil einzurichten). **IMMER ZUERST DIE SEILSÄGE ABSTELLEN !**
- 2.10 Reparaturen an elektrischen und mechanischen Teilen dürfen nur von einer dazu autorisierten Fachkraft durchgeführt werden.
- 2.11 Trennen Sie bei Nichtgebrauch das Elektroverlängerungskabel vom Stromnetz. Beim Transport, vor Kontrollen im Antriebsaggregat und bei der Wartung. Versichern Sie sich, dass bei einem Diamantseilwechsel, oder bei Änderung der Seilrollenposition das Aggregat ausgeschaltet ist. Zusätzlich muss der NOT-AUS aktiviert sein.

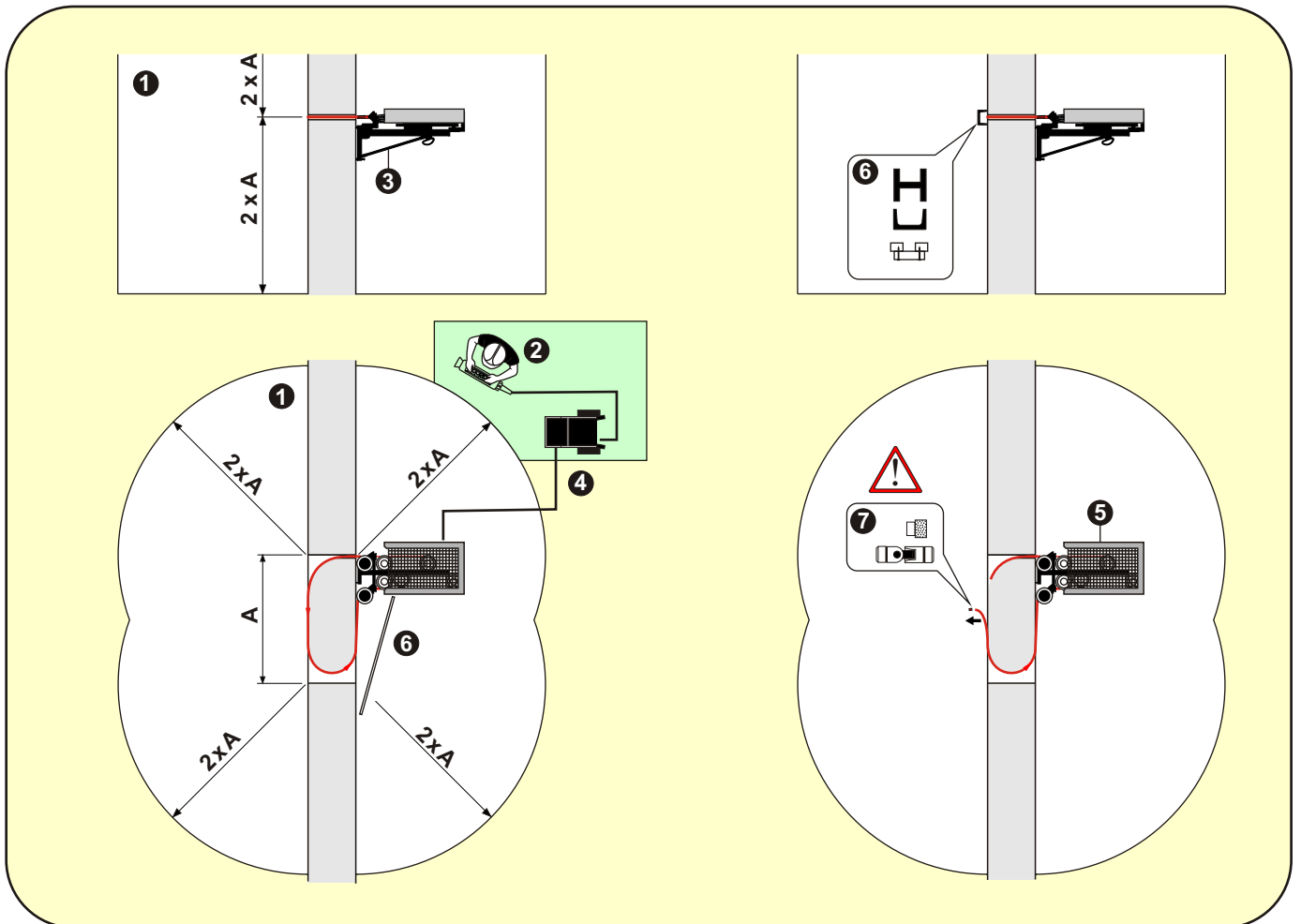
# Gefahren- und Arbeitsbereiche



**Bild 1** Gefahrenbereich

- A** Längste freie Seillänge
- 1** Gefahrenbereich
- 2** Gefahrenbereich Seilflucht
- 3** Seilfluchtachsen
- 4** Empfohlener Arbeitsbereich
- 5** Antriebsaggregat
- 6** Seilsäge
- 7** Seilsegment / Seilverschluss
- 8** Schutzvorrichtung Seilsäge
- 9** Schutzvorrichtung freie Seillänge
- 10** Umlenkrollen

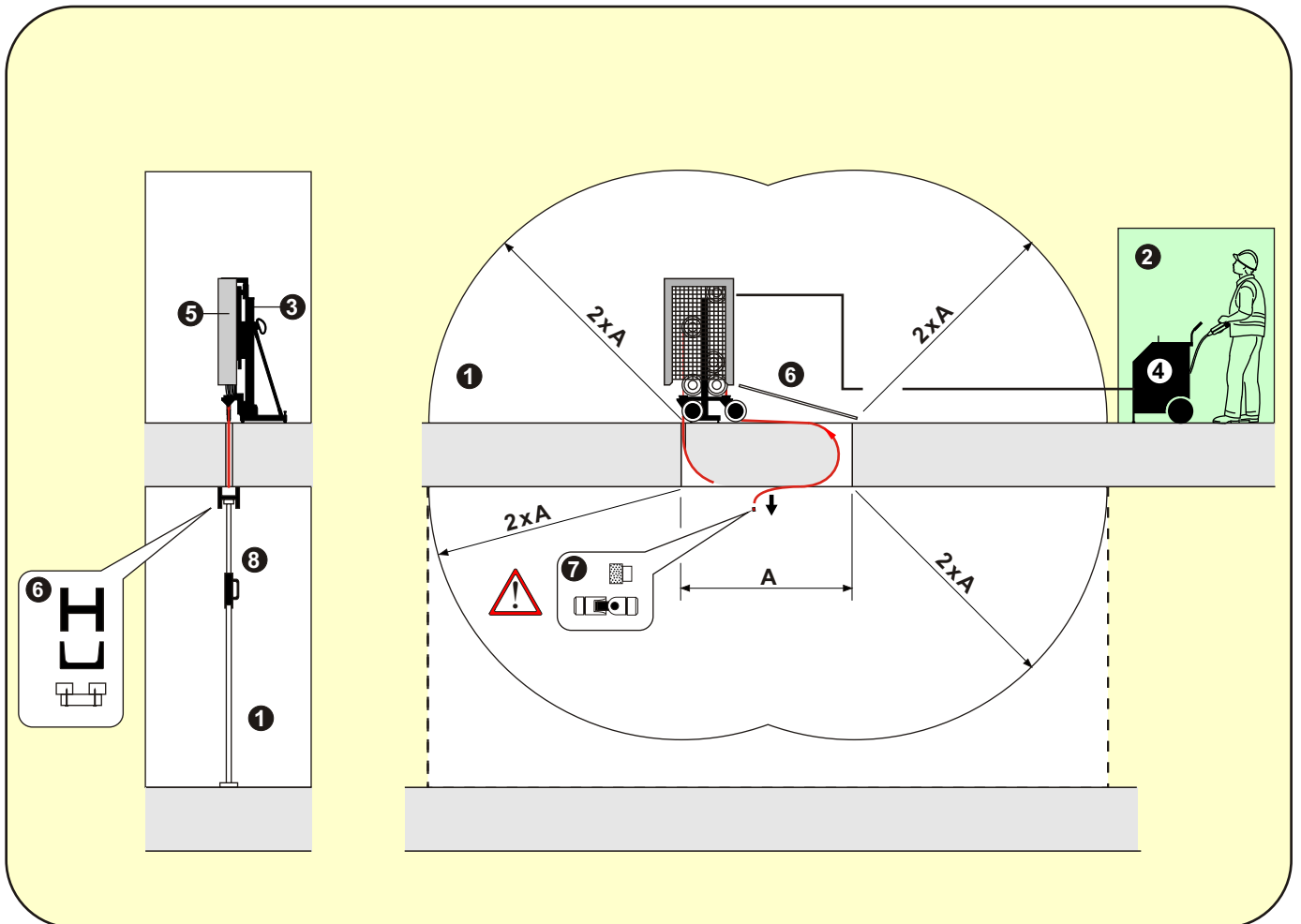
# Gefahren- und Arbeitsbereiche bei Direktmontage der Seilsäge



**Bild 2** Gefahrenbereich bei Direktmontage

- A** Längste freie Seillänge
- 1** Gefahrenbereich
- 2** Empfohlener Arbeitsbereich
- 3** Seilsäge
- 4** Antriebsaggregat
- 5** Schutzvorrichtung Seilsäge
- 6** Schutzvorrichtung freie Seillänge (z.B. U-Profil / H-Profil / Holzkanal)
- 7** Seilsegment / Seilverschluss

# Gefahren- und Arbeitsbereiche beim Bodenschnitt



**Bild 3** Gefahrenbereich beim Bodenschnitt

- A** Längste freie Seillänge
- 1** Gefahrenbereich
- 2** Empfohlener Arbeitsbereich
- 3** Seilsäge
- 4** Antriebsaggregat
- 5** Schutzvorrichtung Seilsäge
- 6** Schutzvorrichtung freie Seillänge (z.B. U-Profil/H-Profil/Holzkanal)
- 7** Seilsegment / Seilverschluss
- 8** Befestigung Schutzvorrichtung



# Safety instructions and advice on working with wire saws



## Please note

**Working with HYDROSTRESS wire saw systems carries certain risks.**

**When using HYDROSTRESS wire saw systems, please observe all the safety instructions and advice.**

**Failure to heed the safety instructions and advice when working with wire saws can result in serious physical injury or death.**

## 1. General safety instructions and advice

- 1.1 Sawing operations must be approved by the site supervisor. Sawing operations on buildings and other structures may affect the statics, especially when cutting through steel reinforcing rods and girder elements. The drilling and sawing area must also be free of any active gas and water pipes and electricity or other cables.
- 1.2 You must not use the HYDROSTRESS saw system and its accessories without prior training in how to use it. This training is given by HYDROSTRESS specialists.
- 1.3 Read the operating instructions for the individual types of machine. They contain important information on how to operate the systems safely and economically. The operating instructions should always be kept with the machines. Take note of the prescribed anchoring and safety elements.
- 1.4 Wear suitable work clothing. Do not wear any wide garments or jewellery that could get caught in the moving parts. Wear a helmet, ear defenders, safety glasses, work gloves, safety footwear and a hairnet if you have long hair. A breathing mask should be worn if working in enclosed spaces.
- 1.5 When carrying heavy drive units or other machine parts, adopt the correct posture do not bend your back, ensure a safe standing position and always keep your balance, especially when using ladders or scaffolding.
- 1.6 Operators and third persons must NOT remain in the hazardous area of loads suspended from cranes.
- 1.7 During sawing, concrete blocks weighing several tonnes are often sawn free. Plan and execute securing and transportation of these blocks in accordance with general construction regulations. Secure cut openings.
- 1.8 HYDROSTRESS drilling and sawing systems must NOT be used in areas where there is a risk of explosion without taking special precautions!

**National regulations and laws must be taken into account.**

## 2. Safety instructions and advice for HYDROSTRESS wire saw systems

- 2.1 Create sufficient free space for safe working. Mount the wire saw directly on or as close as possible to the object to be cut, so that free wire lengths can be avoided or reduced to a minimum.
- 2.2 Block off the hazardous area (Fig. 1 / 2 / 3 No. 1) visibly so that no-one can enter the hazardous area during sawing.
- 2.3 When working with wire saws there is a risk of the wire splitting, possibly triggering a whiplash effect with the free length of wire. Such whiplash effects can cause serious physical injury. For this reason the safety distance stipulated below must be maintained.  
During sawing, the operator and any third persons must maintain a safety distance around the wire saw equivalent to a radius of at least 2x the free wire length.  
(See Fig. 1 / Direct mounting Fig. 2 / Ground-level cut Fig. 3)
- 2.4 The areas to the front and rear of the sawing operation and the area beneath it, together with any drilling area, are to be secured so that persons cannot be injured or equipment damaged by falling parts or by sawing slurry. Secure drilling cores and concrete blocks that have been cut free to prevent them from falling.
- 2.5 Before sawing operations commence, the prescribed checks must always be carried out.
  - Check the entire system, drive units, electric cables and hydraulic hoses prior to use for any damage and to ensure that they function properly.
  - Check wearing parts in particular, such as diamond wire drive pulleys, deflection pulleys, diamond wire and connector.
  - Check all the wire guards.
  - Check that all components are correctly fitted and that all other conditions facilitating safe working of the machine are fulfilled. Have any faults rectified by the HYDROSTRESS specialist or HYDROSTRESS service department.
  - Check all screws on the guard that could work loose due to vibrations.
- 2.6 Metal anchoring elements, size M12, should be used to anchor the universal and single roller brackets. A secure anchoring that is suited to the substratum and will not come loose must be guaranteed. In the case of inhomogeneous brickwork, we recommend drilling through holes using threaded M16 rods and adjusting nuts.
- 2.7 Only use a HYDROSTRESS tension spindle fixing point or anchoring screws of a minimum quality of 8.8 according to ISO.
- 2.8 NEVER work without wire guards (Fig. 1 No. 9, Fig. 2+3 No. 6)! These guards prevent segments and connectors from flying off in an uncontrolled manner if the diamond wire breaks (Fig. 1 / 2 / 3 No. 7). NEVER stand in the axis of alignment (Fig. 1 No. 3) of the running diamond wire (take note of the hazardous wire alignment area, Fig. 1 No. 2).
- 2.9 Handling the saw system while sawing is in progress (e.g. repositioning water spray jets onto running diamond wire) is prohibited. **ALWAYS TURN THE WIRE SAW OFF FIRST!**
- 2.10 Repairs to electrical and mechanical parts should only be undertaken by a qualified, authorized technician.
- 2.11 When the saw is not in use, or when moving it, checking the drive unit or during maintenance work, disconnect the electric cable from the mains power. Ensure that the unit is switched off when changing the diamond wire or changing the position of the wire pulleys. The EMERGENCY STOP switch must also be activated.

# Hazardous areas and working areas

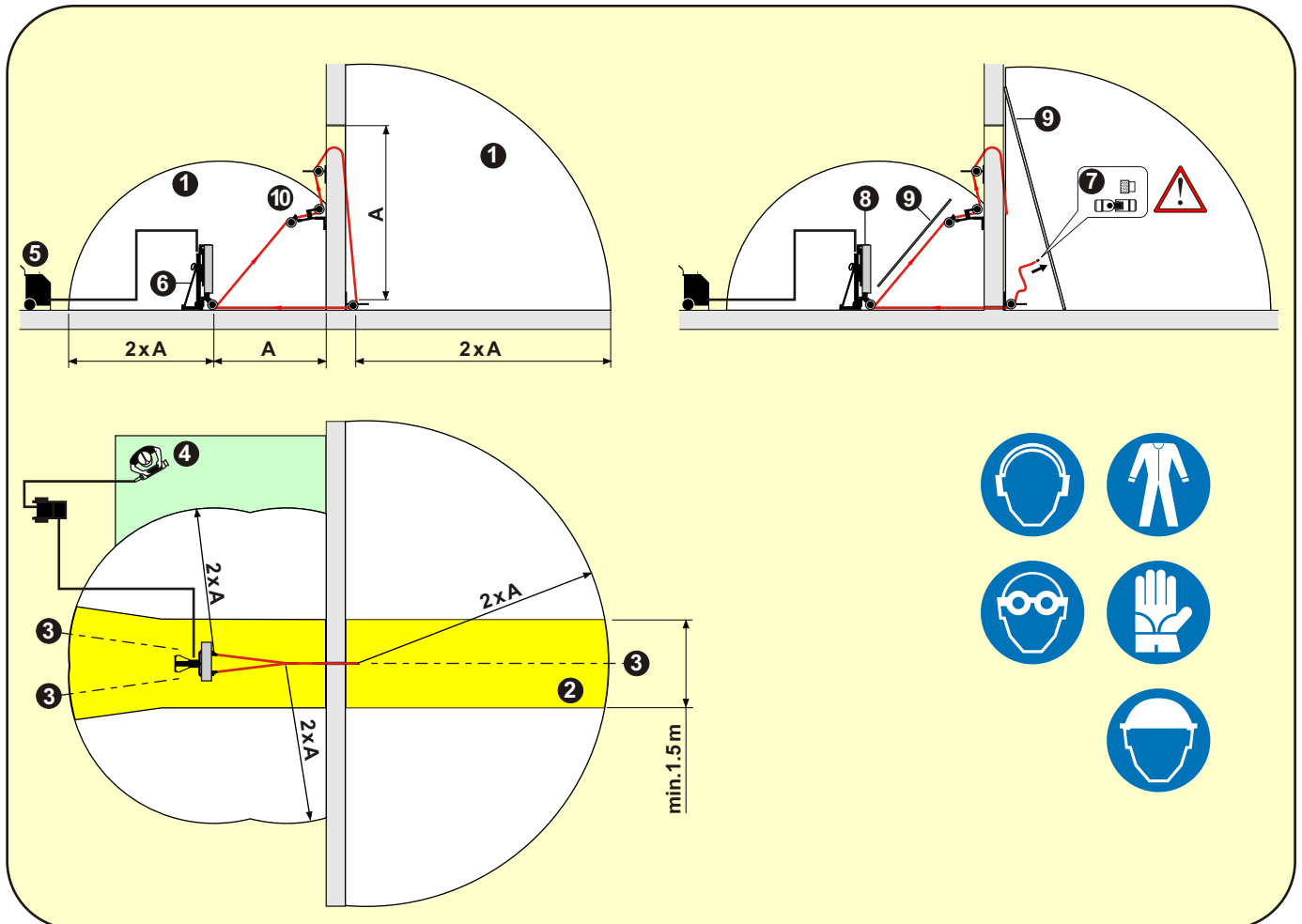


Fig. 1 Hazardous area

- A** Longest free wire length
- 1** Hazardous area
- 2** Hazardous area, wire alignment
- 3** Wire alignment axes
- 4** Recommended working area
- 5** Drive unit
- 6** Wire saw
- 7** Wire segment / wire connector
- 8** Guard, wire saw
- 9** Guard, free wire length
- 10** Deflection pulleys

# Hazardous areas and working areas when the wire saw is directly mounted

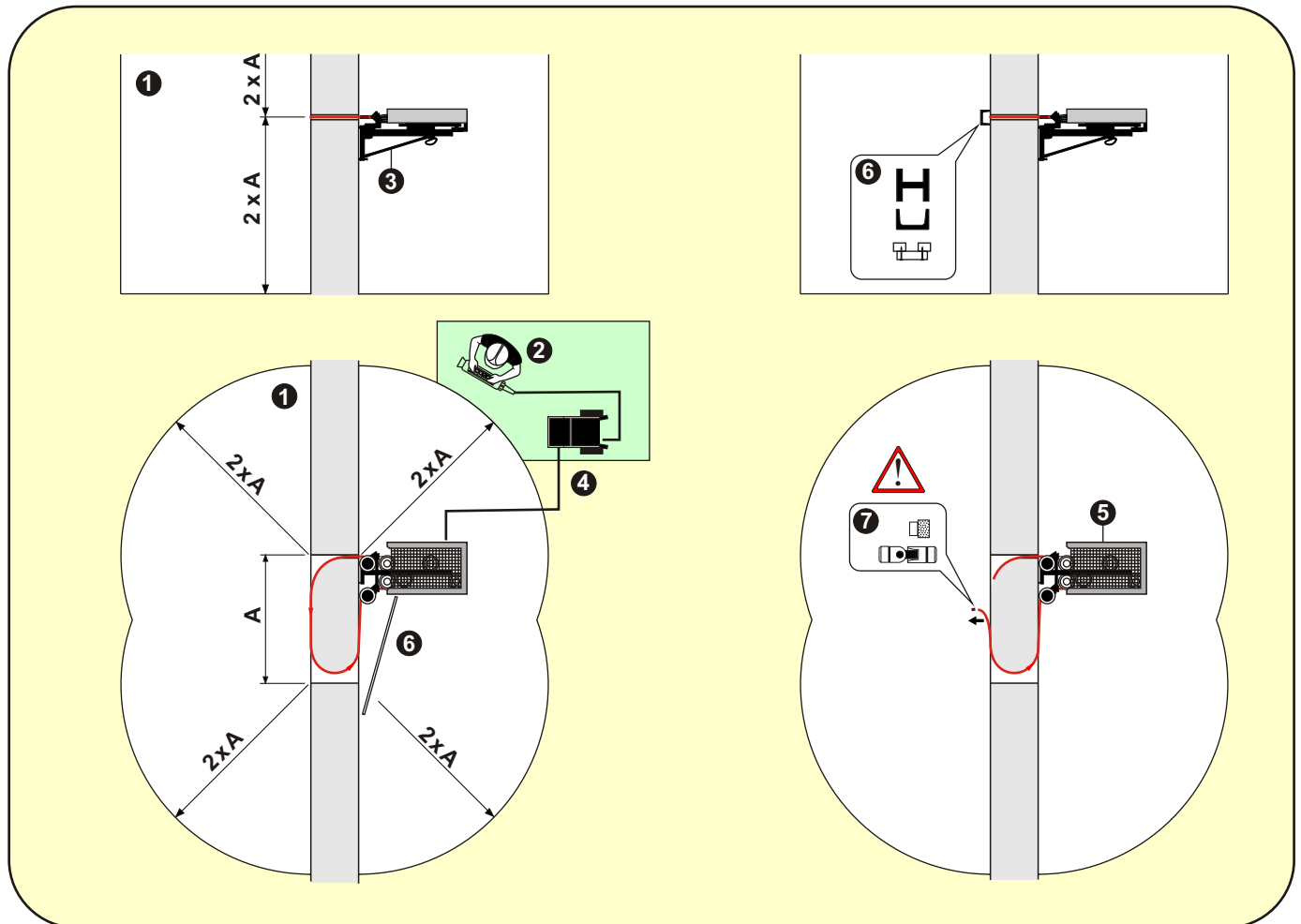


Fig. 2 Hazardous area in the case of direct mounting

- A** Longest free wire length
- 1** Hazardous area
- 2** Recommended working area
- 3** Wire saw
- 4** Drive unit
- 5** Guard, wire saw
- 6** Guard, free wire length (e.g. Channel / H-section / wood channel) wire segment / wire connector
- 7** Wire segment / wire connector

# Hazardous areas and working areas in ground-level cutting

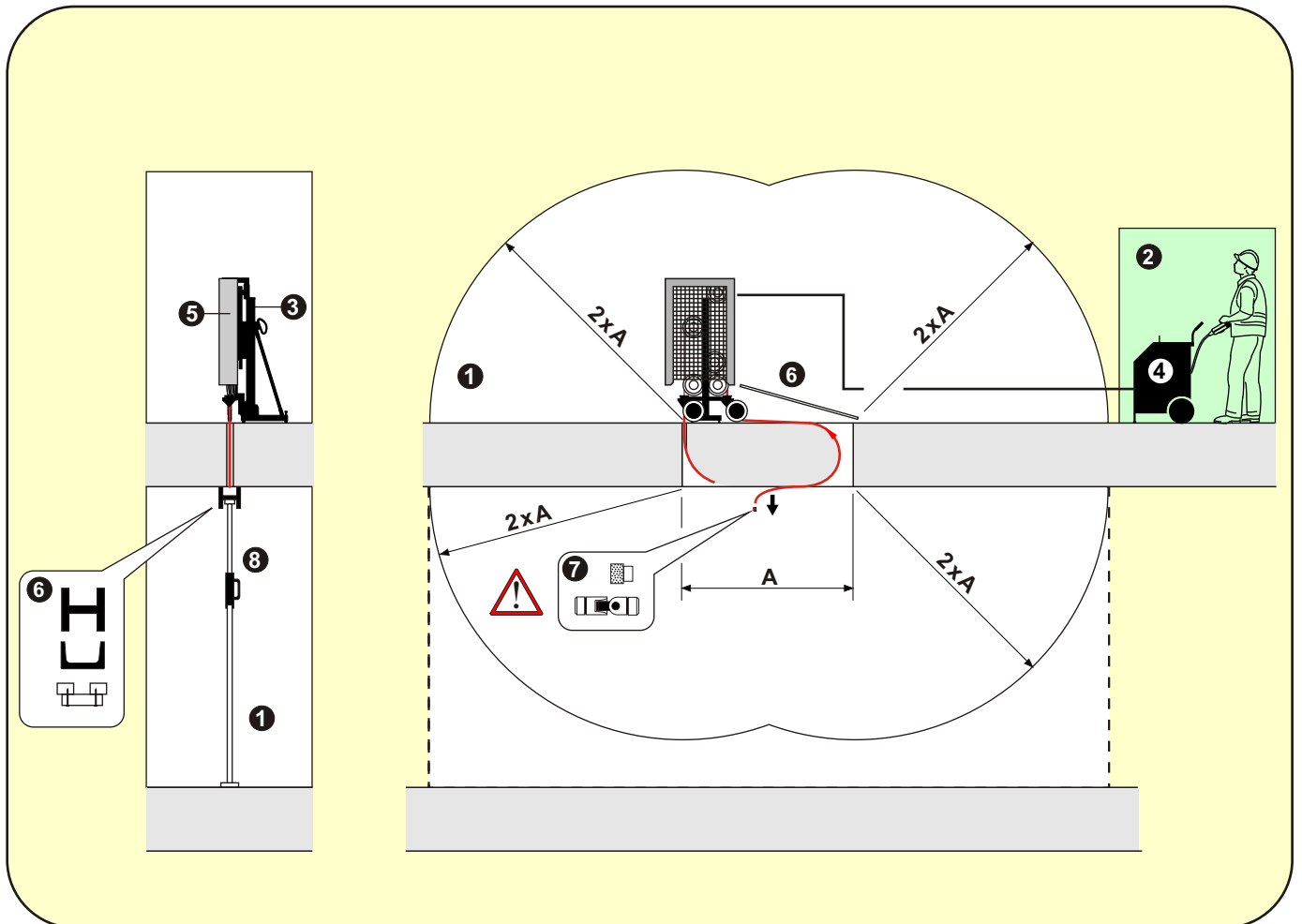
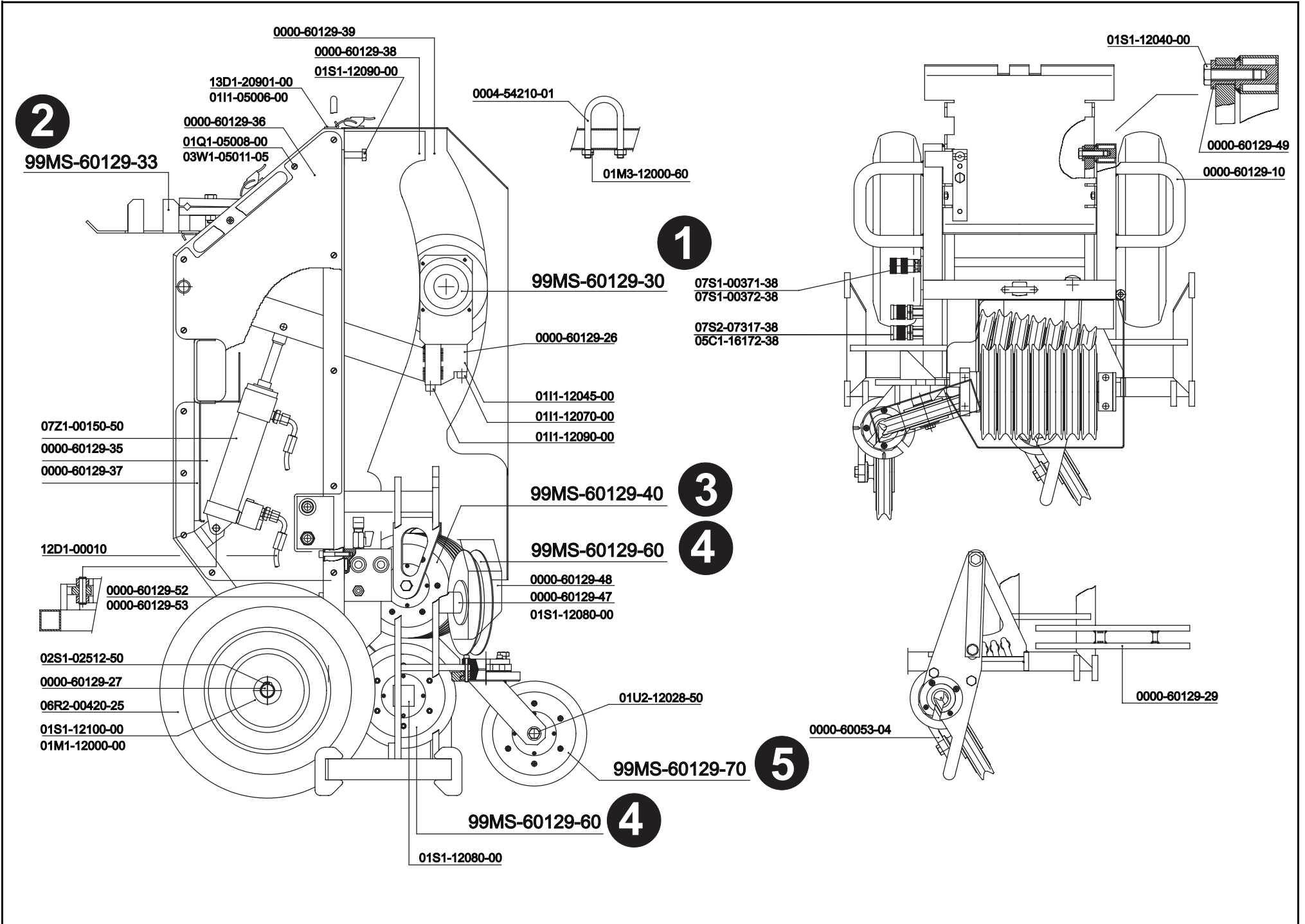
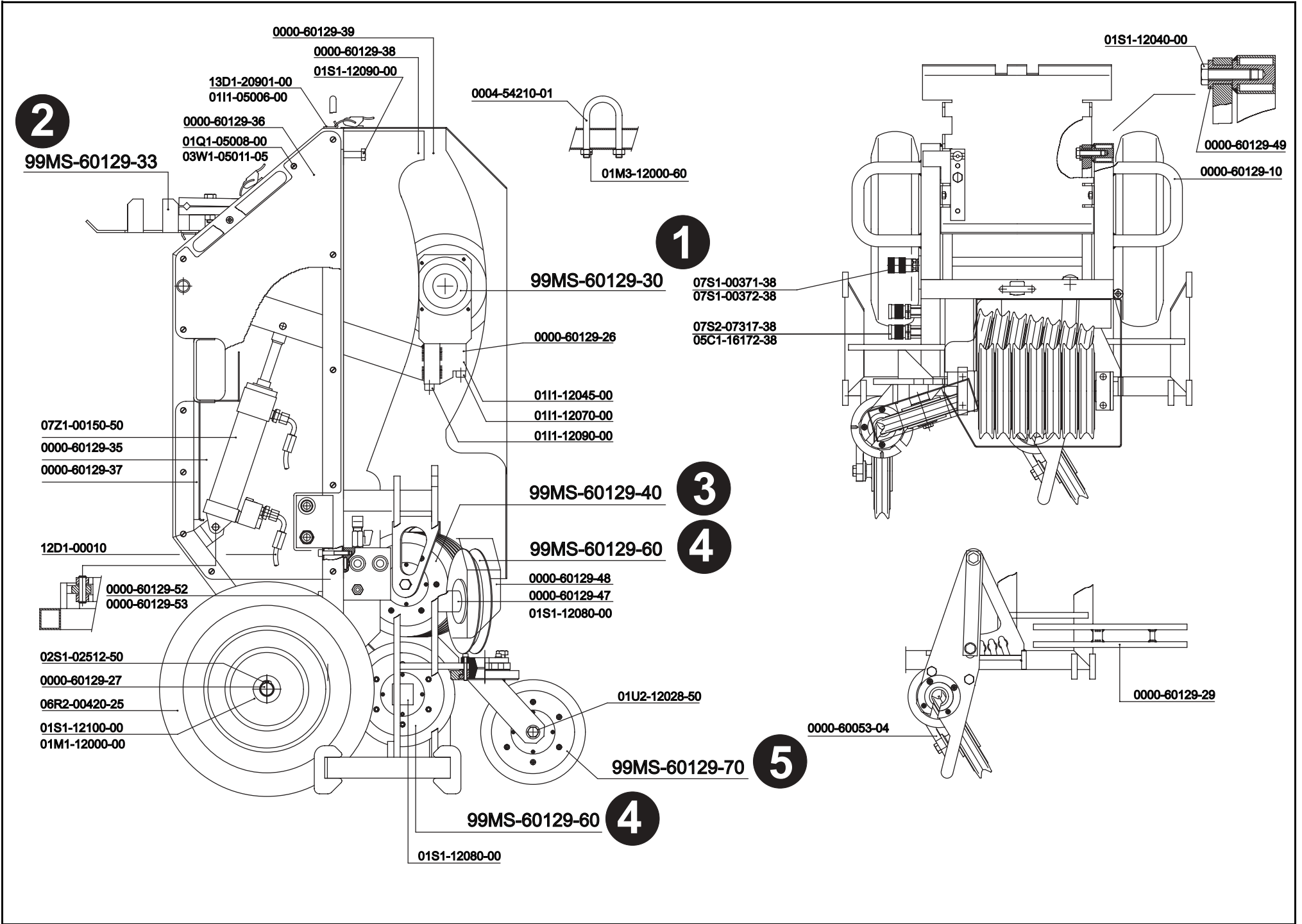


Fig. 3 Hazardous area in ground-level cutting

- A** Longest free wire length
- 1** Hazardous area
- 2** Recommended working area
- 3** Wire saw
- 4** Drive unit
- 5** Guard, wire saw
- 6** Guard, free wire length (e.g. Channel / H-section / wood channel) wire segment / wire connector
- 7** Wire segment / wire connector
- 8** Attachment of guard

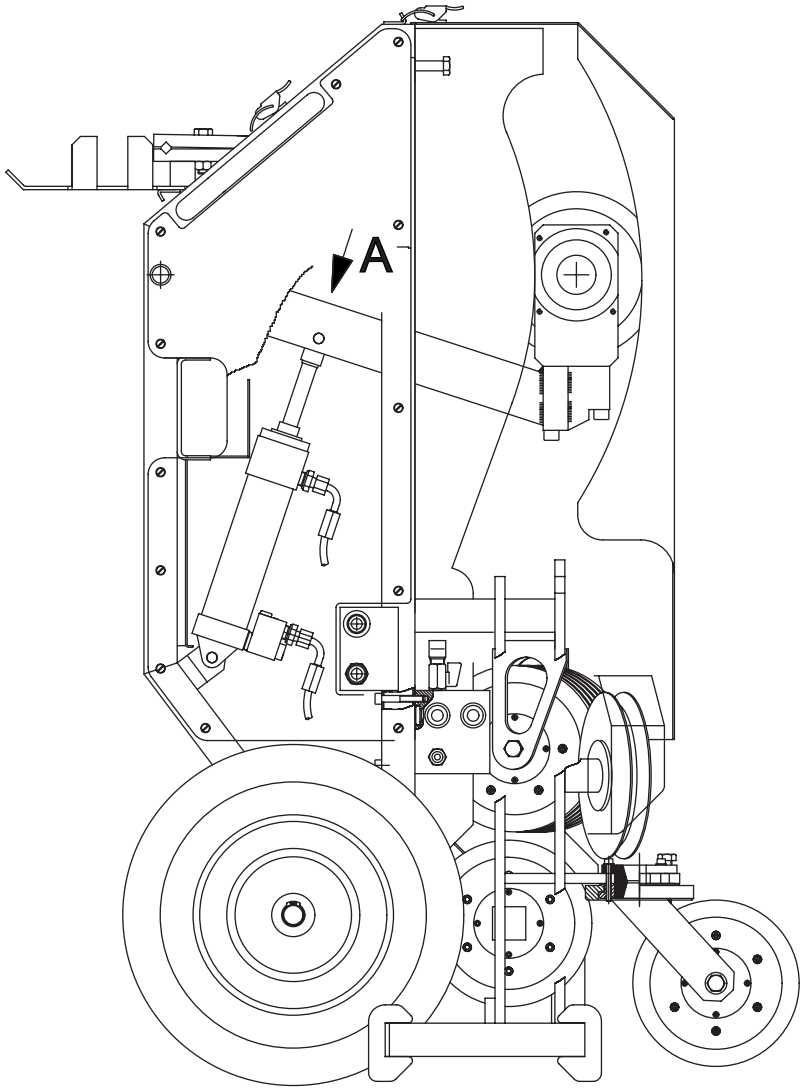


		Seilsäge SB	Seilsäge SBS	Seilsäge SB	Seilsäge SB	
99MS-60129-30	961927	Antriebseinheit	Antriebseinheit	Antriebseinheit	Antriebseinheit	No. 1
99MS-60129-33	961928	Werktisch	Werktisch	Werktisch	Werktisch	No. 2
99MS-60129-40	961935	Umlenkrolleneinheit	Umlenkrolleneinheit	Umlenkrolleneinheit	Umlenkrolleneinheit	No. 3
99MS-60129-60	961902	Umlenkrolle 200 mit Loch	Umlenkrolle 200 m. L.	Umlenkrolle 200 mit Loch	Umlenkrolle 200 mit Loch	No. 4
99MS-60129-70	961901	Umlenkrolle 200	Umlenkrolle 200	Umlenkrolle 200	Umlenkrolle 200	No. 5
0000-60053-04	977114	Schwenkhalter	Swivelling support	SUPPORT ORIENTABLE	BRACCIO RUOTA GIREVOLE SK	2
0000-60129-10	961914	Chassis	Chassis	Chassis	Chassis	1
0000-60129-26	961923	Wippe	Wippe	Wippe	Wippe	1
0000-60129-27	961924	Achse	Achse	Achse	Achse	1
0000-60129-29	961926	Klammer	Klammer	Klammer	Klammer	2
0000-60129-35	961930	Seitenblech li	Seitenblech li	Seitenblech li	Seitenblech li	1
0000-60129-36	961931	Seitenblech re	Seitenblech re	Seitenblech re	Seitenblech re	1
0000-60129-37	961932	Verschalung hinten	Verschalung hinten	Verschalung hinten	Verschalung hinten	1
0000-60129-38	961933	Mittelblech	Mittelblech	Mittelblech	Mittelblech	1
0000-60129-39	961934	Haube	Haube	Haube	Haube	1
0000-60129-47	961945	Distanzstück	Distanzstück	Distanzstück	Distanzstück	2
0000-60129-48	961954	Rollenabdeckung	Rollenabdeckung	Rollenabdeckung	Rollenabdeckung	1
0000-60129-49	961957	Büchse	Büchse	Büchse	Büchse	2
0000-60129-52	962504	Blech	Blech	Blech	Blech	1
0000-60129-53	962503	Schutzlappen	Schutzlappen	Schutzlappen	Schutzlappen	1
0002-54457-01	975923	HS-Typenschild gross <b>NOT SHOWN</b>	HS-serial plate large <b>NOT S.</b>	HS-Typenschild gross <b>NOT SHOWN</b>	HS-Typenschild gross <b>NOT SHOWN</b>	1
0004-54210-01	971605	Aufhängebügel	Mounting frame	Aufhängebügel	Aufhängebügel	1
0111-12045-00	971781	Inbus-Schraube M12x 45	Socket screw M12x 45	Inbus-Schraube M12x 45	Inbus-Schraube M12x 45	2
0111-12070-00	971784	Inbus-Schraube M12x 70	Socket screw M12x 70	Vis CHC M12x70	VITE BRUGOLA M12X70	1
0111-12090-00	971786	Inbus-Schraube M12x 90	Socket screw M12x 90	Inbus-Schraube M12x 90	Inbus-Schraube M12x 90	1
0116-05008-23	971834	Inb-Schr.extr.n.Kopf M5x8	Allen screw M5x8	VIS CHC tête plate M5x8	VITE BRUGOLA M5X8 BASSA	8
01M1-12000-00	971849	Mutter 6Kt. M12	Hexagon nut	Ecrou 6 pans M12	DADO M12	4
01M3-12000-60	979309	Stop-Mutter M12 nied.Form	stop-nut M12 thin head	Stop-Mutter M12 nied.Form	Stop-Mutter M12 nied.Form	2
01Q1-05012-00	971880	Pan-Head-Schr. M5x12	Panhead screw	Vis à tête plate M5x12	Pan-Head-Schr. M5x12	45
01S1-12040-00	979337	6kt-Schraube M12x40	hex.-screw M12x40	6kt-Schraube M12x40	6kt-Schraube M12x40	2





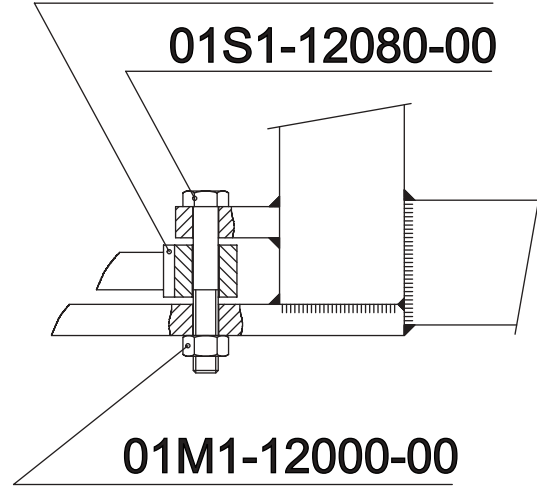
		<b>Seilsäge SB</b>	<b>Seilsäge SB</b>	<b>Seilsäge SB</b>	<b>Seilsäge SB</b>	
01S1-12080-00	971924	6kt-Schraube M12x80	Hexagonal screw	6kt-Schraube M12x80	VITE M12x80	3
01S1-12090-00	971925	6kt-Schraube M12x90	hex.-screw M12x90	VIS H M12X90	6kt-Schraube M12x90	1
01S1-12100-00	979341	6kt-Schraube M12x100	hex.-screw M12x100	Vis 6 pans M12x100	VITE M12x100	2
01U2-12028-50	971964	U-Scheibe M12 13/24/2,5	Washer	U-Scheibe M12 13/24/2,5	U-Scheibe M12 13/24/2,5	2
02L2-00040-08	971986	Kerbnagel 4x8 <b>NOT SHOWN</b>	Wedge nail <b>NOT SHOWN</b>	Kerbnagel 4x8 <b>NOT SHOWN</b>	VITE M4x8 X LIVELLA <b>NOT SHOWN</b>	4
02S1-02512-50	971996	Seegering Welle Dm 25	seeger ring shaft dia 25	CIRCLIPS ARBRE DIAMETRE 2	SEEGER DM 25 DZ/FZ	2
03W1-05011-05	972105	Federscheibe gewellt M 5	Spring disk, ribbed M 5	Federscheibe gewellt M 5	Federscheibe gewellt M 5	45
05C1-16172-38	972187	KUPFERDICHTUNG "	copper seal G 3/8"	Kupferdichtung G 3/8"	Kupferdichtung G 3/8"	3
06R2-00420-25	977204	Luftrad 420/100/25	Fan 420/100/25	Luftrad 420/100/25	Luftrad 420/100/25	2
07S1-00371-38	979703	FF Kupplung 3/8 Zoll	CouplinG 3/8"	FF COUPLEUR 3/8"	RACCORDO BRUNING FEMM. 3/8	1
07S1-00372-38	979707	Nippel 3/8 Zoll	Nipple 3/9	Coupleur 3/8"	RACCORDO BRUNING MASCH.3/8	1
07S2-07317-38	979716	Steckkuppl. 3/8A WR017 R	coupler 3/8A WR017 R	Steckkuppl. 3/8A WR017 R	Steckkuppl. 3/8A WR017 R	2
07Z1-00150-50	972838	Hydraulikzylinder 3L	Hydraulic cylinder 3L	Hydraulikzylinder 3L	Hydraulikzylinder 3L	1
12D1-00010	974924	Schlauch Nr. 010	Hose No. 010	FLEXIBLE N°010	TUBO NR. 010	2
13D1-20901-00	961979	Spannverschluss	Spannverschluss	Spannverschluss	Spannverschluss	2
XXKL-00000-02	976087	HS-Signet 280/60 <b>NOT SHOWN</b>	HS-Signet 280/60 <b>NOT S.</b>	HS-Signet 280/60 <b>NOT SHOWN</b>	ADESIVO GRANDE <b>NOT SHOWN</b>	1
XXKL-00000-11	964466	2 Kleber Wasserhahn <b>NOT SHOWN</b>	2 adh. f. water tap <b>NOT S.</b>	2 Kleber Wasserhahn <b>NOT SHOWN</b>	2 Kleber Wasserhahn <b>NOT SHOWN</b>	1



# Ansicht A

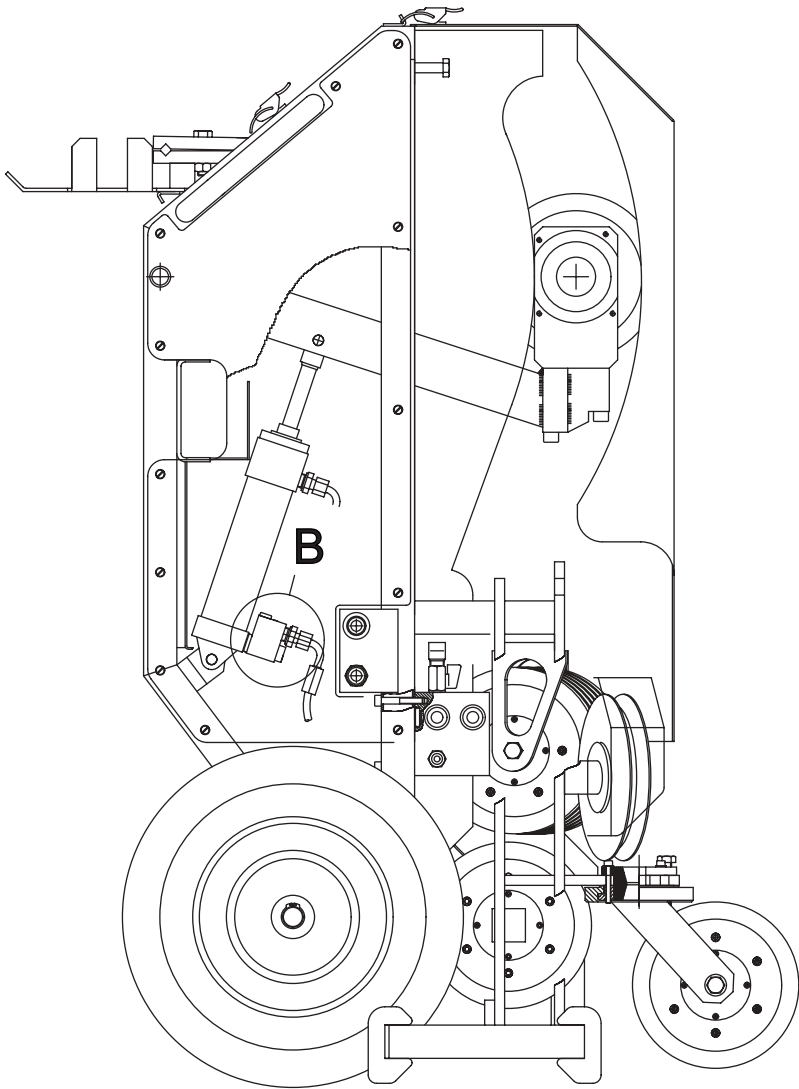
0000-60129-28

01S1-12080-00



01M1-12000-00

		<b>Ansicht A</b>	<b>view A</b>	<b>vue A</b>	<b>veduta A</b>	
0000-60129-28	961925	Zylinder-Kopfstück	Zylinder-Kopfstück	Zylinder-Kopfstück	Zylinder-Kopfstück	1
01M1-12000-00	971849	Mutter 6Kt. M12	Hexagon nut	Ecrou 6 pans M12	DADO M12	4
01S1-12080-00	971924	6kt-Schraube M12x80	Hexagonal screw	6kt-Schraube M12x80	VITE M12x80	3

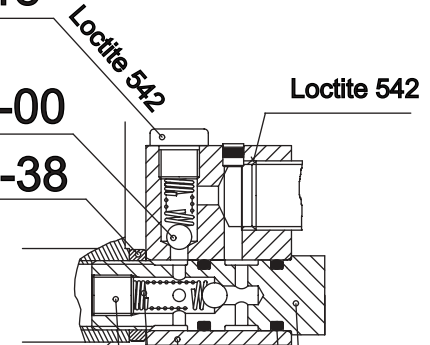


# Ansicht B

08V1-89331-18

04B1-06350-00

08D1-80321-38



0001-52118-01

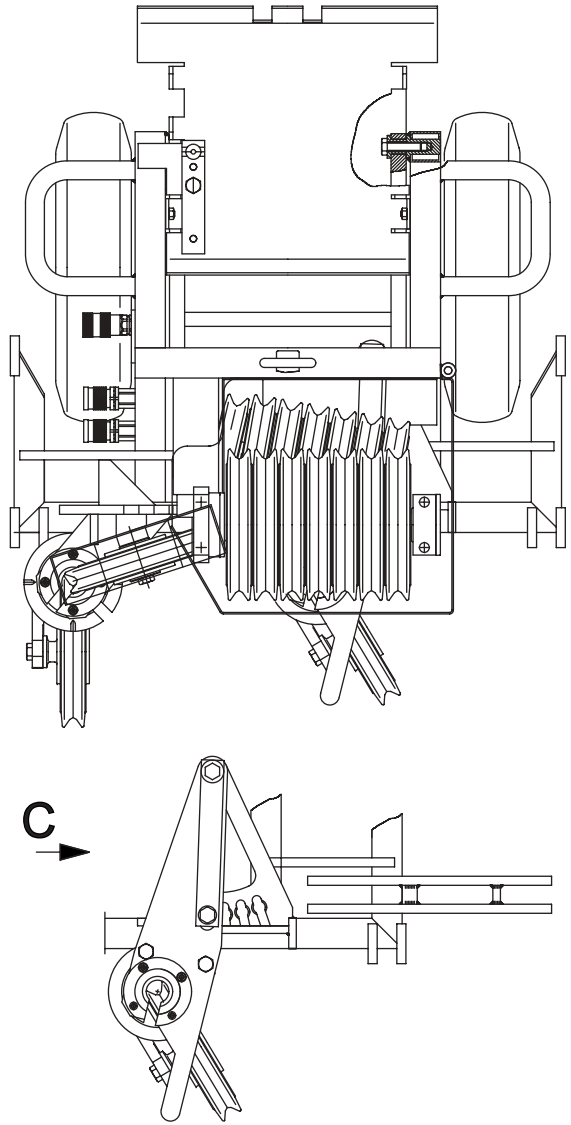
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0001-52118-03

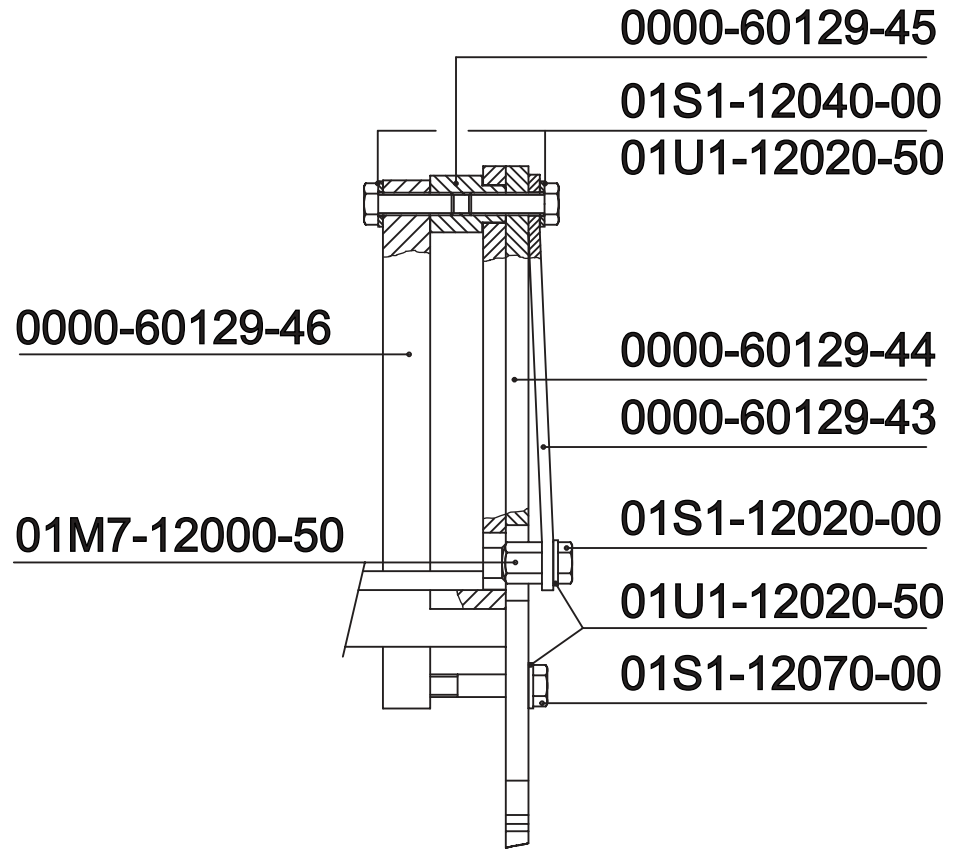
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0001-52118-02

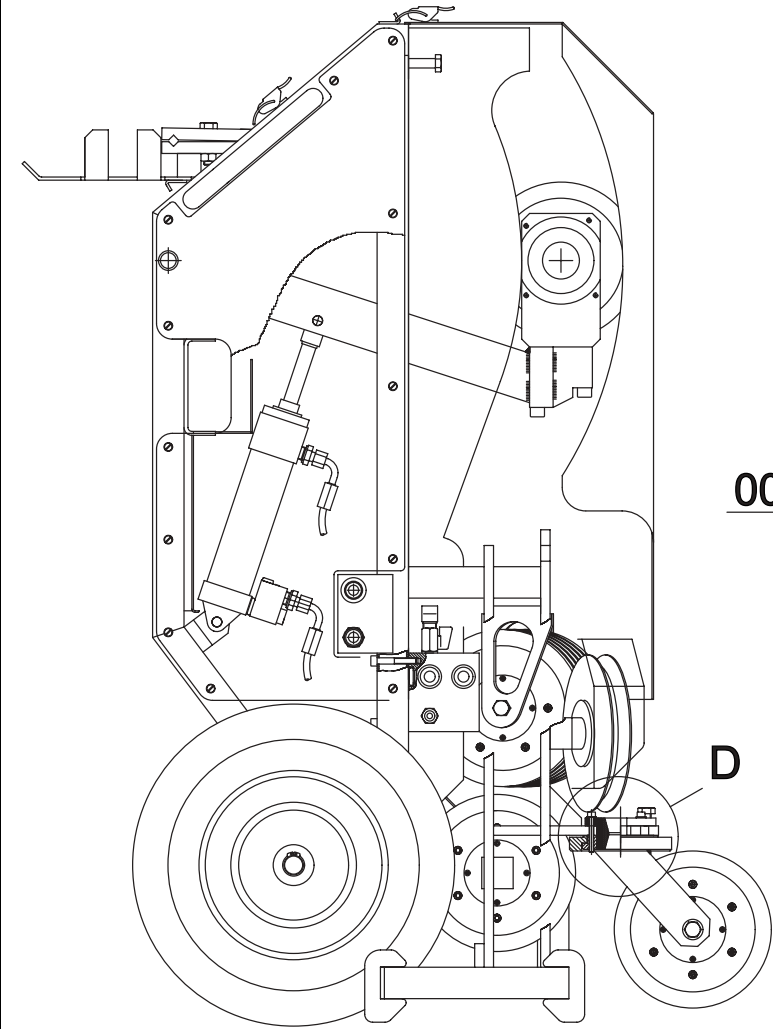
		<b>Ansicht B</b>	<b>view B</b>	<b>vue B</b>	<b>veduta B</b>	
0001-52118-01	970494	Spez.Hohlschraube BC/BL-S	spec. holl. screw BC/BL-S	Vis creuse BC/BL-S	VITE CAVA AVANZ. BC/BL-S	1
0001-52118-02	974564	Düse BL/BC/AL	Venturi tube	Duse BL/BC/AL	GRANO BL/BC/AL M10X8	1
0001-52118-03	970495	Ventilkörper BC/BL-S/AL	valve body BC/BL-S/AL	Ventilkörper BC/BL-S/AL	VALVOLA AVANZAMENTO BC/BY	1
03D1-11215-00	972080	Druckfeder Dm6,3x0,8x23	pressure spring	RESSORT CLAPET HCCB4	MOLLA SFERICA AVANZ. BC	2
04B1-06350-00	972115	Kugel Dm 6,35 1/4 INCH.	ball dia 6.35 1/4 Inch	BILLE DM 6,35 1/4 INCH.	SFERA DIAM. 6,35 CR/3	2
05O1-00120-25	972223	O-RING 12x2,5 N 70	O-Ring 12x2,5 N 70	O-RING 12X2	O-Ring 12x2,5 N70 BC	2
08D1-80321-38	972861	Dichtkantenring G 3/8"	Seal Edge ring G 3/8"	Joint prismatique 3/8" G	ANELLO TENUTA METAL.3/8"	1
08V1-89331-18	972978	Verschlusschr. 1/8-zyl.	screw plug 1/8-cyl.	BOUCHON FILETE 1/8	Verschlusschr. 1/8-zyl.	1



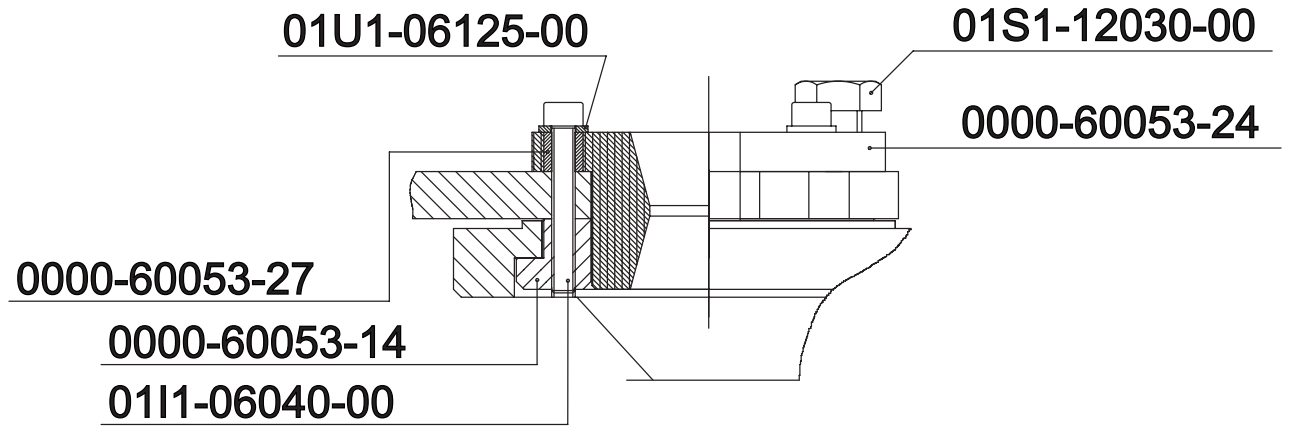
# Ansicht C



		<b>Ansicht C</b>	<b>view C</b>	<b>vue C</b>	<b>veduta C</b>	
0000-60129-43	961940	Federblech	Federblech	Federblech	Federblech	1
0000-60129-44	961941	Rasthebel	Rasthebel	Rasthebel	Rasthebel	1
0000-60129-45	961943	Distanzgeber	Distanzgeber	Distanzgeber	Distanzgeber	1
0000-60129-46	961944	Befestigungsstahl	Befestigungsstahl	Befestigungsstahl	Befestigungsstahl	1
01M7-12000-50	971868	Hut-Mutter 6kt. M12	Hexagonal nut M12	ECROU M12	DADO CHIUSO M12 B4-B6	1
01S1-12020-00	971914	6kt-Schraube M12x20	hex.-screw M12x20	6kt-Schraube M12x20	VITE M12x20 T.E.	1
01S1-12040-00	979337	6kt-Schraube M12x40	hex.-screw M12x40	6kt-Schraube M12x40	6kt-Schraube M12x40	2
01S1-12070-00	971922	6kt-Schraube M12x70	hex.-screw M12x70	Vis CHC M12x70	VITE M12x70	1
01U1-12020-50	979354	U-Scheibe M12	Washer M12	Rondelle M12	RONDELLA M12	20
01M7-12000-50	971868	Hut-Mutter 6kt. M12	Hexagonal nut M12	ECROU M12	DADO CHIUSO M12 B4-B6	1

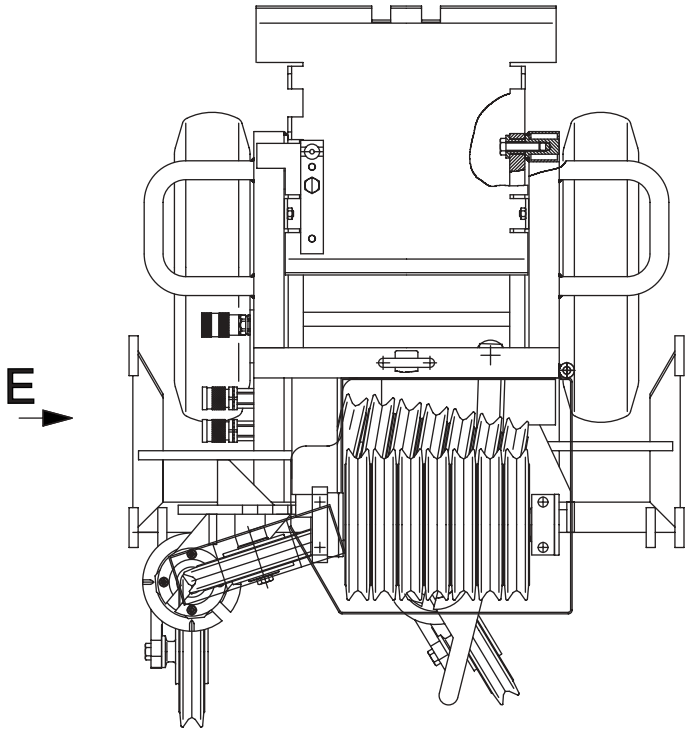


# Ansicht D



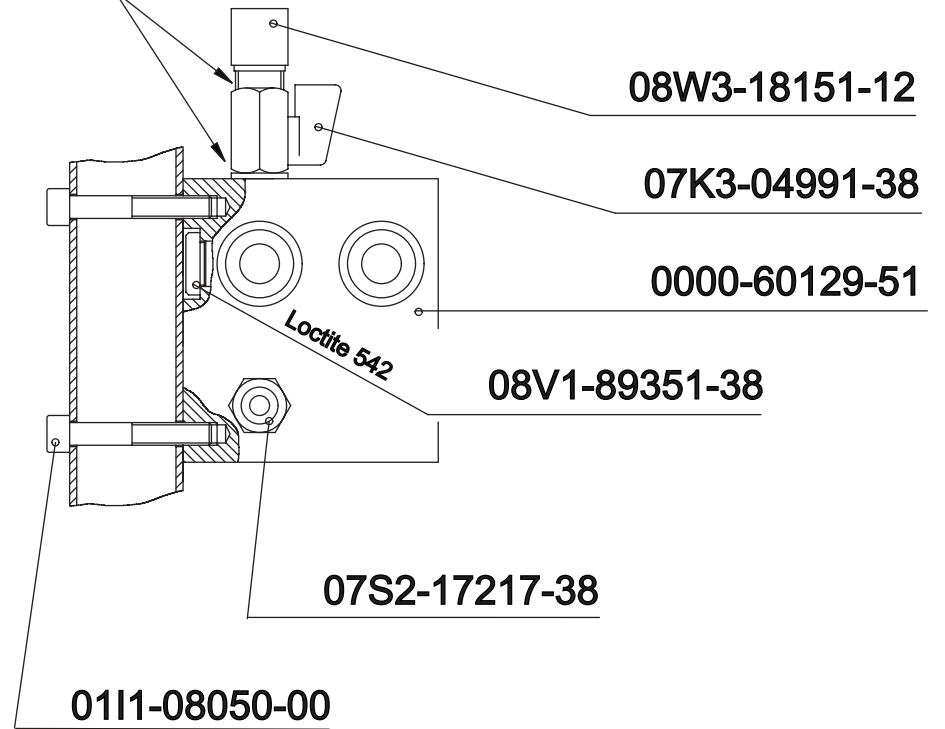


		<b>Ansicht D</b>	<b>view D</b>	<b>vue D</b>	<b>veduta D</b>	
0000-60053-14	977120	Ring	Ring	ANNEAU	ANELLO ROTAZIONE RUOTA SK	2
0000-60053-24	977954	Schutzbüchse	Protector sleeve	Douille de protection	Schutzbüchse	2
0000-60053-27	977956	Hülse	Sleeve	Hülse	Hülse	8
01I1-06040-00	971715	Inbus-Schraube M 6x 40	Allen screw	Vis CHC M6x40	VITE BRUGOLA M6X40	8
01S1-12030-00	971916	6kt-Schraube M12x30	Hexagonal screw	Vis 6 pans M12x30	VITE M12x30	2
01U1-06125-00	979352	U-Scheibe Dm 6.4x12.5x1.6	washer dia 6.4x12.5x1.6	U-Scheibe Dm 6.4x12.5x1.6	U-Scheibe Dm 6.4x12.5x1.6	8

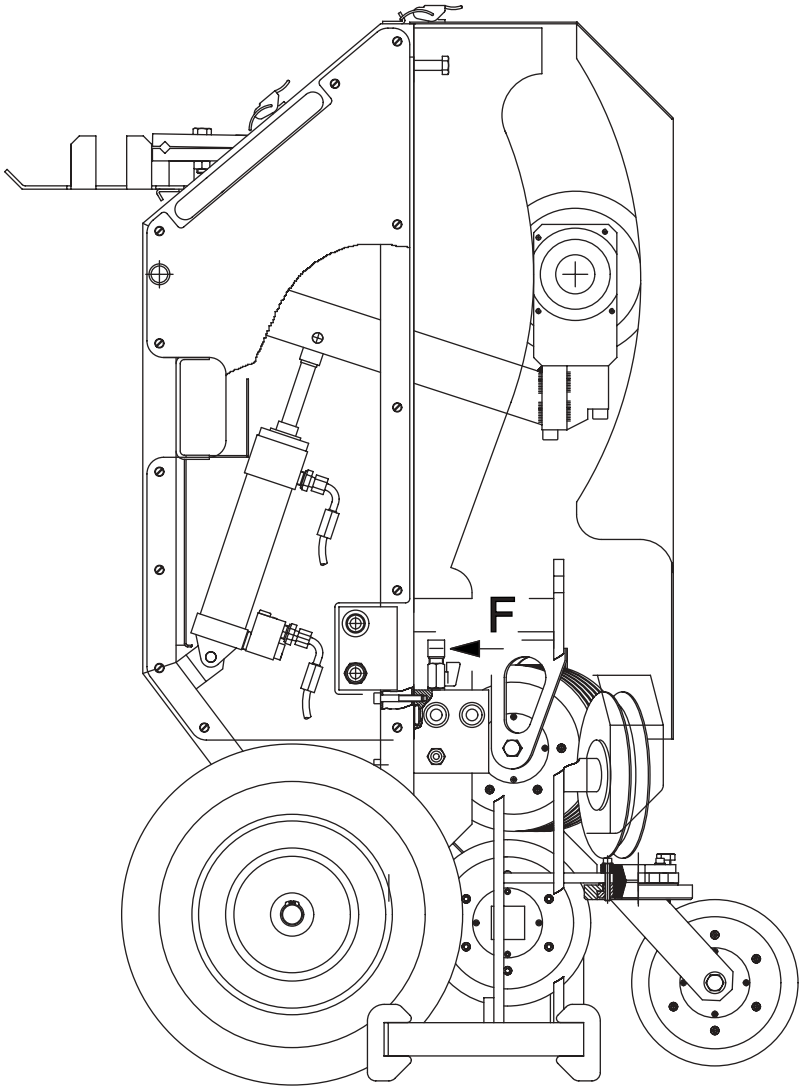


# Ansicht E

Loctite 542



		<b>Ansicht E</b>	<b>view E</b>	<b>vue E</b>	<b>veduta E</b>	
0000-60129-51	962108	Wasserblock	Wasserblock	Wasserblock	Wasserblock	1
0111-08050-00	971745	Inbus-Schraube M 8 x 50	Socket screw M 8x 50	Vis CHC M8x50	VITE BRUGOLA M8X50	2
07K3-04991-38	961666	Kugelhahn 3/8"/a	Kugelhahn 3/8"/a	Kugelhahn 3/8"/a	Kugelhahn 3/8"/a	1
07S2-17217-38	972795	Stecknippel 3/8 A 1-WR017	nipple 3/8 A 1-WR017	Stecknippel 3/8 A 1-WR017	Stecknippel 3/8 A 1-WR017	1
08V1-89351-38	972980	Verschlusschr. 3/8"-zyl.	Locking screw G 3/8"	Verschlusschr. 3/8"-zyl.	Verschlusschr. 3/8"-zyl.	1
08W3-18151-12	972998	Winkelverschr. 3/8NPT-12L	elbow union 3/8NPT-12L	Winkelverschr. 3/8NPT-12L	Winkelverschr. 3/8NPT-12L	1

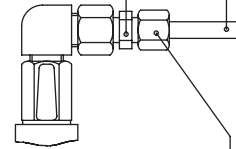


# Ansicht F

**0801-00080-10**

50mm

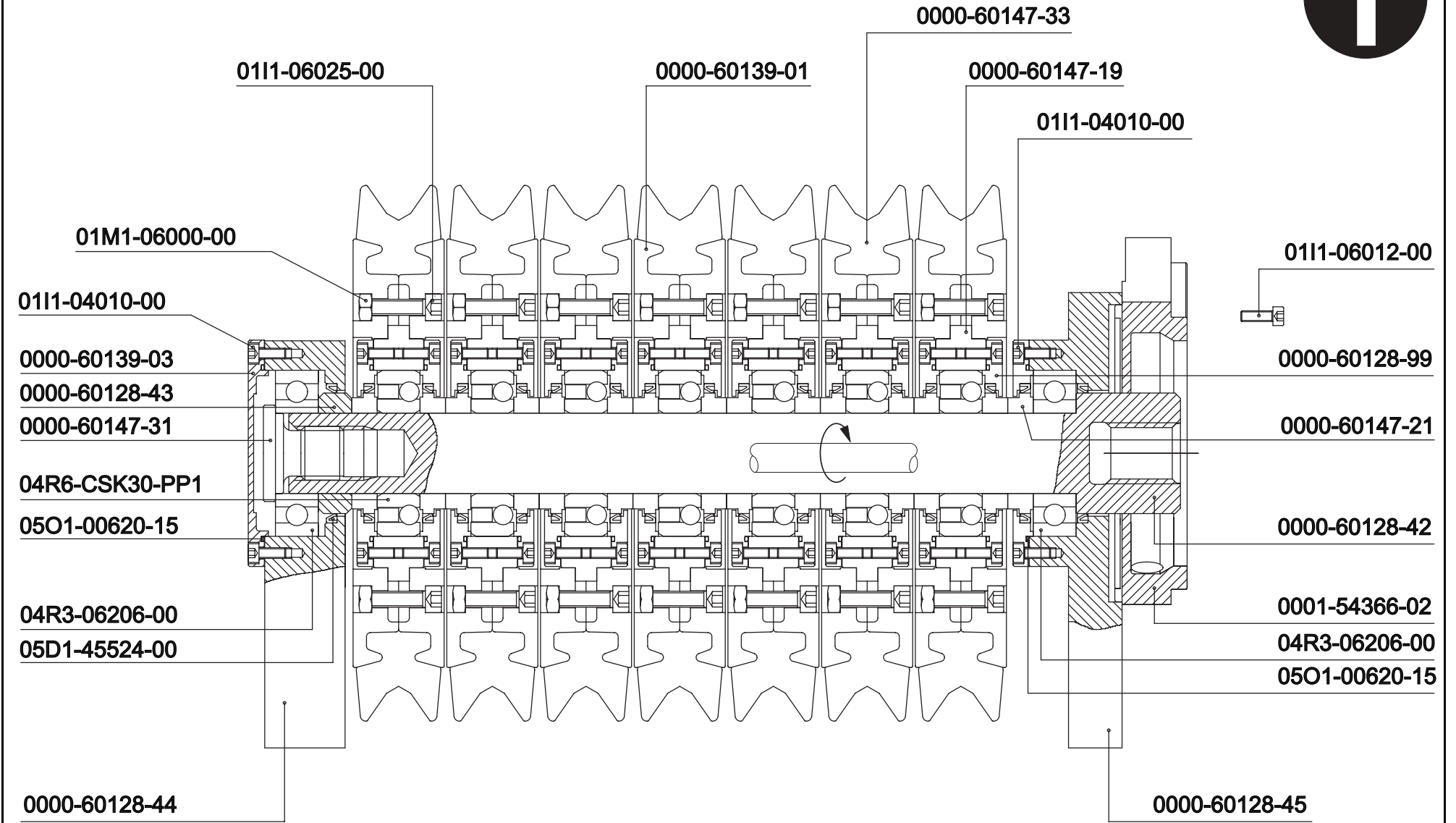
**08R1-48161-08**



**08B1-04051-08**

**08C1-07052-08**

		<b>Ansicht F</b>	<b>view F</b>	<b>vue F</b>	<b>veduta F</b>	
08B1-04051-08	972843	Ueberwurfmutter 08 L	union nut 08 L	Ueberwurfmutter 08 L	Ueberwurfmutter 08 L	4
08C1-07052-08	972853	Schneidring Rohr 08	Olive ring, pipe 08	Schneidring Rohr 08	Schneidring Rohr 08	4
08O1-00080-10	972928	Hydraulikrohr Dm 8x1	Hydraulic tube dia 8x1	Hydraulikrohr Dm 8x1	Hydraulikrohr Dm 8x1	0,05
08R1-48161-08	972950	Red.Einsatz Rohr 12-08 L	Red.insert pipe 12-08 L	Red.Einsatz Rohr 12-08 L	Red.Einsatz Rohr 12-08 L	1



<b>99MS-60129-30</b>	<b>961927</b>	<b>Antriebseinheit</b>	<b>Antriebseinheit</b>	<b>Antriebseinheit</b>	<b>Antriebseinheit</b>	<b>1</b>
0000-60128-42	960708	Antriebswelle	Antriebswelle	Antriebswelle	Antriebswelle	1
0000-60128-43	960718	Distanzring	Distanzring	Distanzring	Distanzring	1
0000-60128-44	960719	Lagerschild Loslager	Lagerschild Loslager	Lagerschild Loslager	Lagerschild Loslager	1
0000-60128-45	960720	Lagerschild Festlager	Lagerschild Festlager	Lagerschild Festlager	Lagerschild Festlager	1
0000-60128-99	961286	Deckel hinten	Deckel hinten	Deckel hinten	Deckel hinten	15
0000-60139-01	964209	Felge	Rim	Jante	FLANGIA	14
0000-60139-03	964218	Deckel vorn	cover front	Couvercle avant	COPERCHIO	1
0000-60147-19	965658	Rollenlager SK-B	Rollenlager SK-B	Rollenlager SK-B	Rollenlager SK-B	7
0000-60147-21	965659	Dichtring SK-B	Dichtring SK-B	Dichtring SK-B	Dichtring SK-B	15
0000-60147-31	960596	Schraube	0-EINZELTEIL	0-EINZELTEIL	0-EINZELTEIL	1
0000-60147-33	960575	Antr.Bandage 200 schwarz	Lining for pulleys d=200	Bandage p. poulies d=200	GOMMA PULEGGIA TRAZ. SK-B	7
0001-54366-02	975878	Aufnahmeplatte FZ/RZ Gr2+3	fflange FZ/RZ	BRIDE DE MOTEUR FZ/RZ	FLANGIA FISSAG. MOTORE F	1
0111-04010-00	971678	Inbus-Schraube M 4x 10	Socket screw M 4x 10	Inbus-Schraube M 4x 10	Inbus-Schraube M 4x 10	64
0111-06012-00	971704	Inbus-Schraube M 6x 12	Allen screw	Vis CHC M6x12	VITE BRUGOLA M6X12 TENSIO	4
0111-06025-00	971711	Inbus-Schraube M 6x 25	Allen screw	Vis CHC M6x25	VITE BRUGOLA M6X25	56
01M1-06000-00	979307	Mutter 6 kt. M6x0.8d	nut hex. M6x0.8d	Mutter 6 kt. M6x0.8d	DADO M6	56
04R3-06206-00	972153	Rillen-Kugellag. 6206-2RS	DDeep groove ballbearing	ROULEMENT A BILLES 6206-2	CUSCINETTO 6206 2RS1	2
04R6-CSK30-PP1	960597	Freilauf CSK 30 ohne Keil	1 Free-wheel. 30 excl. key	1 Freilauf CSK 30 ohne Keil	1 Freilauf CSK 30 ohne Keil	7
05D1-45524-00	969143	Dichtring Dm 45x52x4	Sealing ring dia 45x52x4	Joint Dm 45x52x4	ANELLO TENUTA 45X52X4 DZ/	17
05O1-00620-15	964355	O-Ring Dm 62x1.5	O-Ring dia 62x1.5	O-Ring Dm 62x1.5	O-RING DM 62x1.5	16

1a

07S1-00802-34

08D1-80301-14

14D3-78244-14

07S1-00801-34

08D1-80361-34

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01I1-08050-00

0501-00300-25

01I1-08025-00

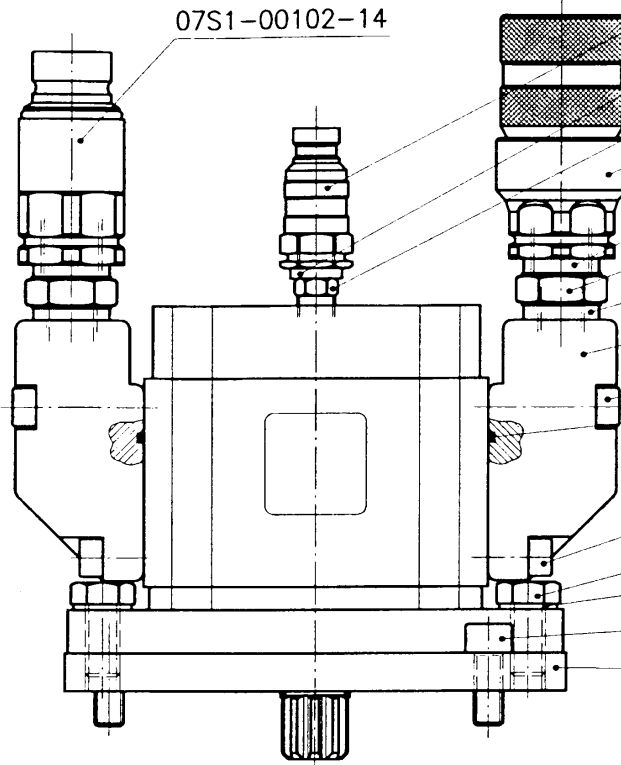
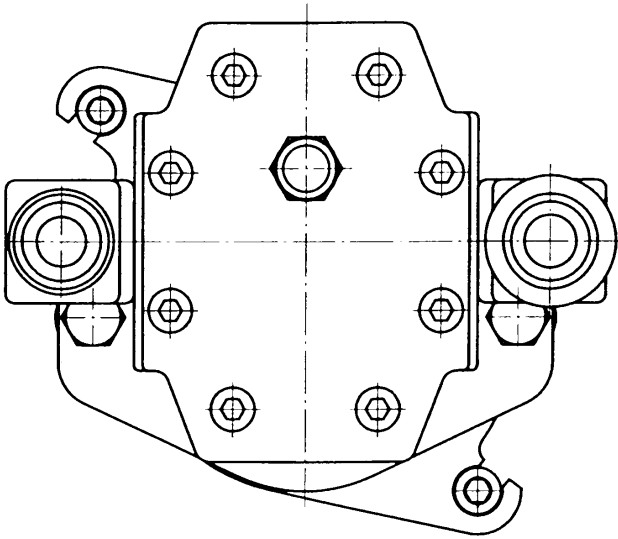
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01U1-12020-50

01I1-10025-00

0000-60037-04

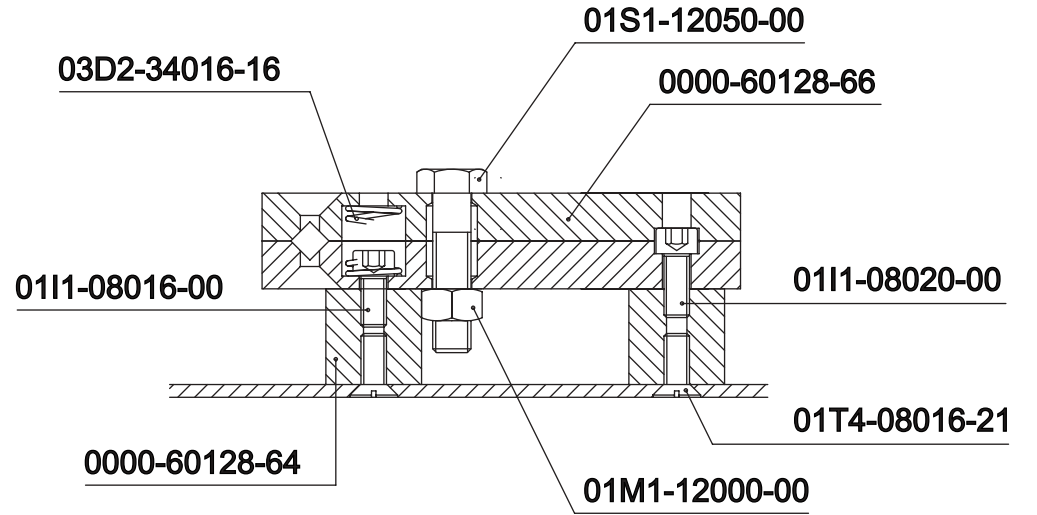
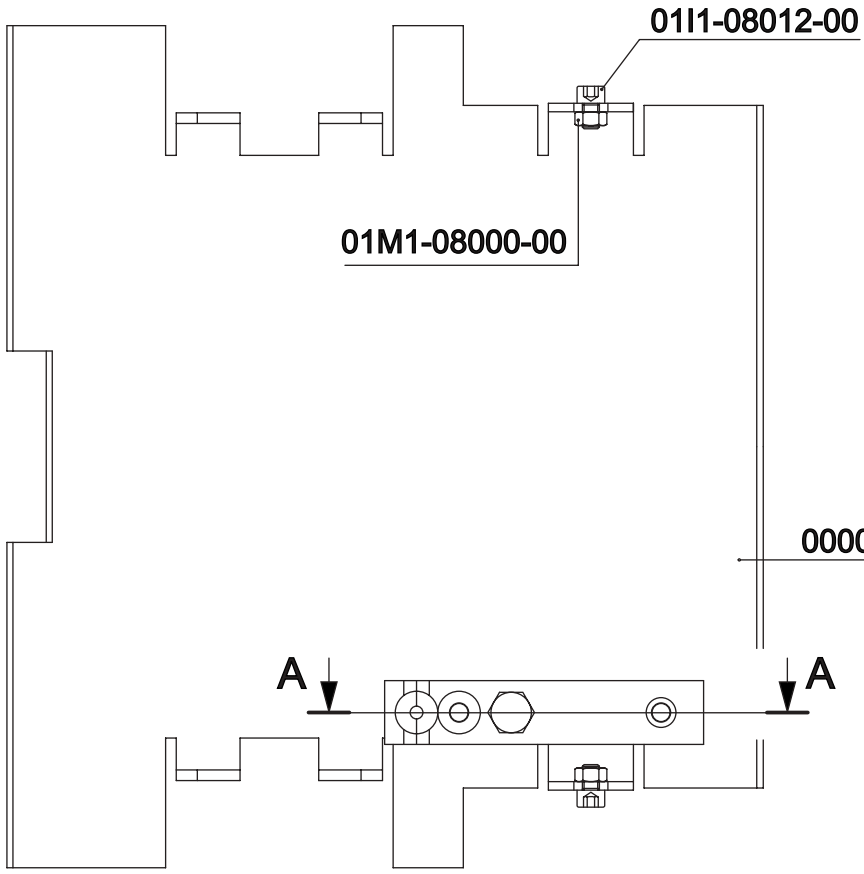
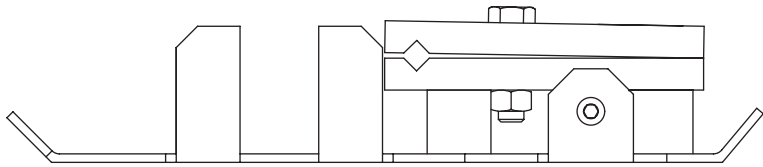
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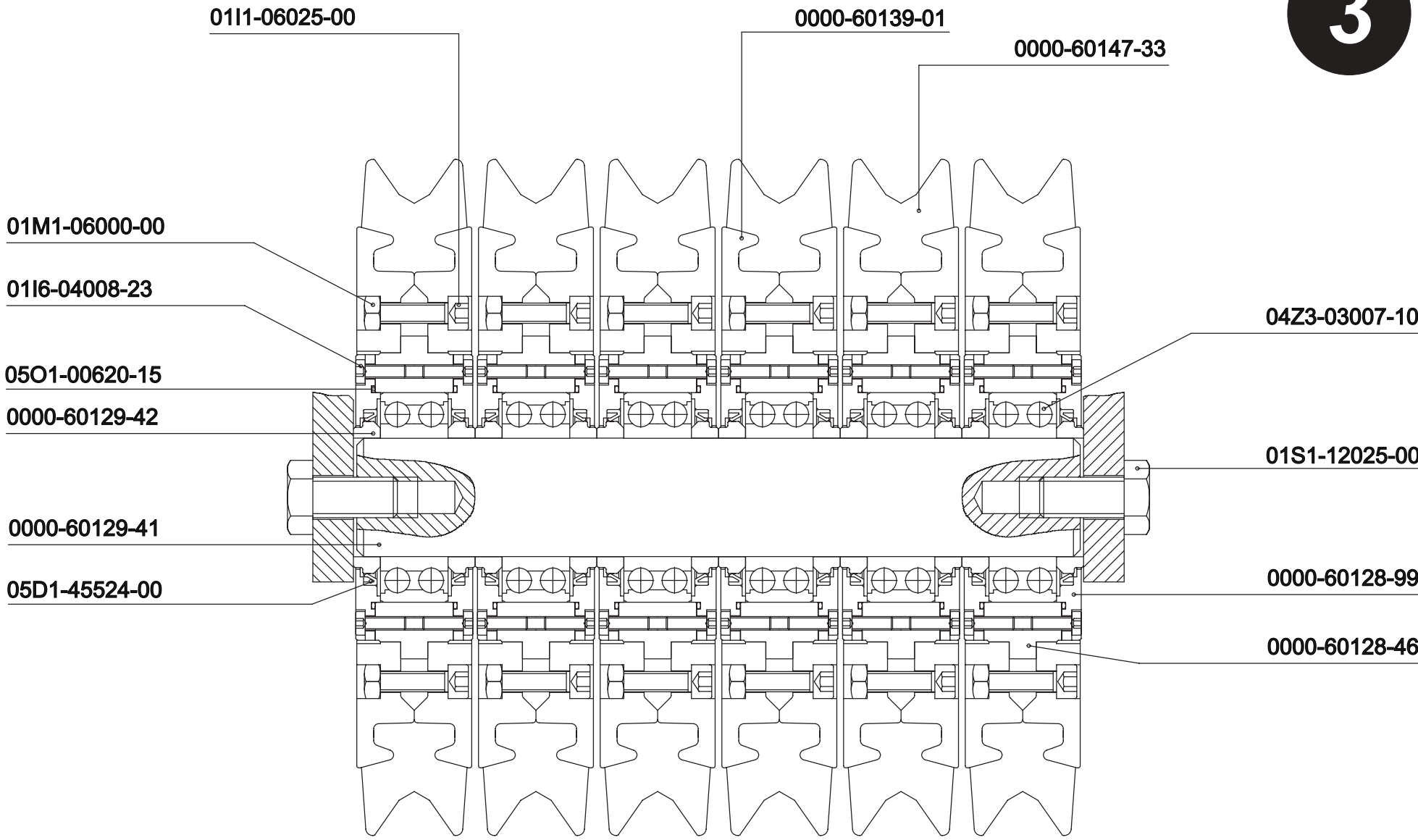
		<b>Hydraulikmotor Grösse 3</b>	<b>Hydraulikmotor Gr 3</b>	<b>Hydraulikmotor Grösse 3</b>	<b>Hydraulikmotor Grösse 3</b>	
99MM-34008-020	976164	Motor komplett S 20 ccm/FD	Motor komplett S 20 ccm/FD	Motor komplett S 20 ccm/FD	Motor komplett S 20 ccm/FD	
99MM-34008-025	976165	Motor komplett S 25 ccm/FD	Motor komplett S 25 ccm/FD	Motor komplett S 25 ccm/FD	Motor komplett S 25 ccm/FD	
99MM-34008-031	976166	Motor komplett S 31 ccm/FD	Motor komplett S 31 ccm/FD	Motor komplett S 31 ccm/FD	Motor komplett S 31 ccm/FD	
07M2-33208-020	972623	Hydraulikmotor S 20ccm	Hydraulic motor S 20ccm	Hydraulikmotor S 20ccm	Hydraulikmotor S 20ccm	
07M2-33208-025	972624	Hydraulikmotor S 25ccm	Hydraulikmotor S 25ccm	Hydraulikmotor S 25ccm	Hydraulikmotor S 25ccm	
07M2-33208-031	972625	Hydraulikmotor S 31ccm	Hydraulikmotor S 31ccm	Hydraulikmotor S 31ccm	Hydraulikmotor S 31ccm	
0000-60037-04	977850	Motorplatte Gr.3	MotorPlate Gr.3	Motorplatte Gr.3	Motorplatte Gr.3	1
0001-53246-06	970883	Motorwinkel RZ	Motor bracket RZ	COUDE MOTEUR H.P.I.	FLANGIA RACC. MOTORE GR.3	2
0111-08025-00	979284	Inbus-Schraube M8 x 25	Socket screw M 8x 25	Vis CHC M8x25	VITE M 8x 25	4
0111-08050-00	971745	Inbus-Schraube M 8 x 50	Socket screw M 8x 50	Vis CHC M8x50	VITE BRUGOLA M8X50	4
0111-10025-00	971764	Inbus-Schraube M10x 25	Socket screw M10x 25	Vis CHC M10x25	Inbus-Schraube M10x 25	2
01S1-12025-00	971915	6kt-Schraube M12x25	hex.-screw M12x25	6kt-Schraube M12x25	6kt-Schraube M12x25	2
01U1-12020-50	979354	U-Scheibe M12	Washer M12	Rondelle M12	RONDELLA M12	2
05O1-00300-25	972248	O-Ring 30x2,5 N 70	O-ring d.30x2,5 N 70	O-Ring 30x2,5 N 70	O-RING 30x2,5 N 70	2
07S1-00102-14	972775	Leckoelanschluss 1/4 Zoll	Nipple	COUPLEUR 1/4 MALE N° 102	RACC.IDR.MA X RIFLUSSO CE	1
07S1-00801-34	975969	Kupplung FD Mut. 3/4 Zoll	Coupling 3/4" FD	Kupplung FD Mut. 3/4 Zoll	Kupplung FD Mut. 3/4 Zoll	1
07S1-00802-34	975971	Nippel FD VAT. 3/4 Zoll	Nipple 3/4" FD	Coupleur 3/4" FD mâle	Nippel FD Vat. 3/4 Zoll	1
08D1-80301-14	972860	Dichtkantenring G 1/4	Seal Edge ring G 1/4	Joint prismatique G 1/4	ANELLO TENUTA METAL. 1/4"	1
08D1-80361-34	972863	Dichtkantenring G 3/4	Seal Edge ring G 3/4	Dichtkantenring G 3/4	DISTANZIALE 3/4	4
14D3-78244-14	980278	Festanschl. G1/4 -3/8 NPT	fix. conn. G1/4 -3/8 NPT	Raccord. G1/4 -3/8 NPT	Festanschl. G1/4 -3/8 NPT	1
14D4-90163-34	977526	Doppelstutzen G3/4-G3/4	dual connector G3/4-G3/4	Doppelstutzen G3/4-G3/4	NIPPLES MASCHIO 3/4"-3/4"	2

# Schnitt A-A

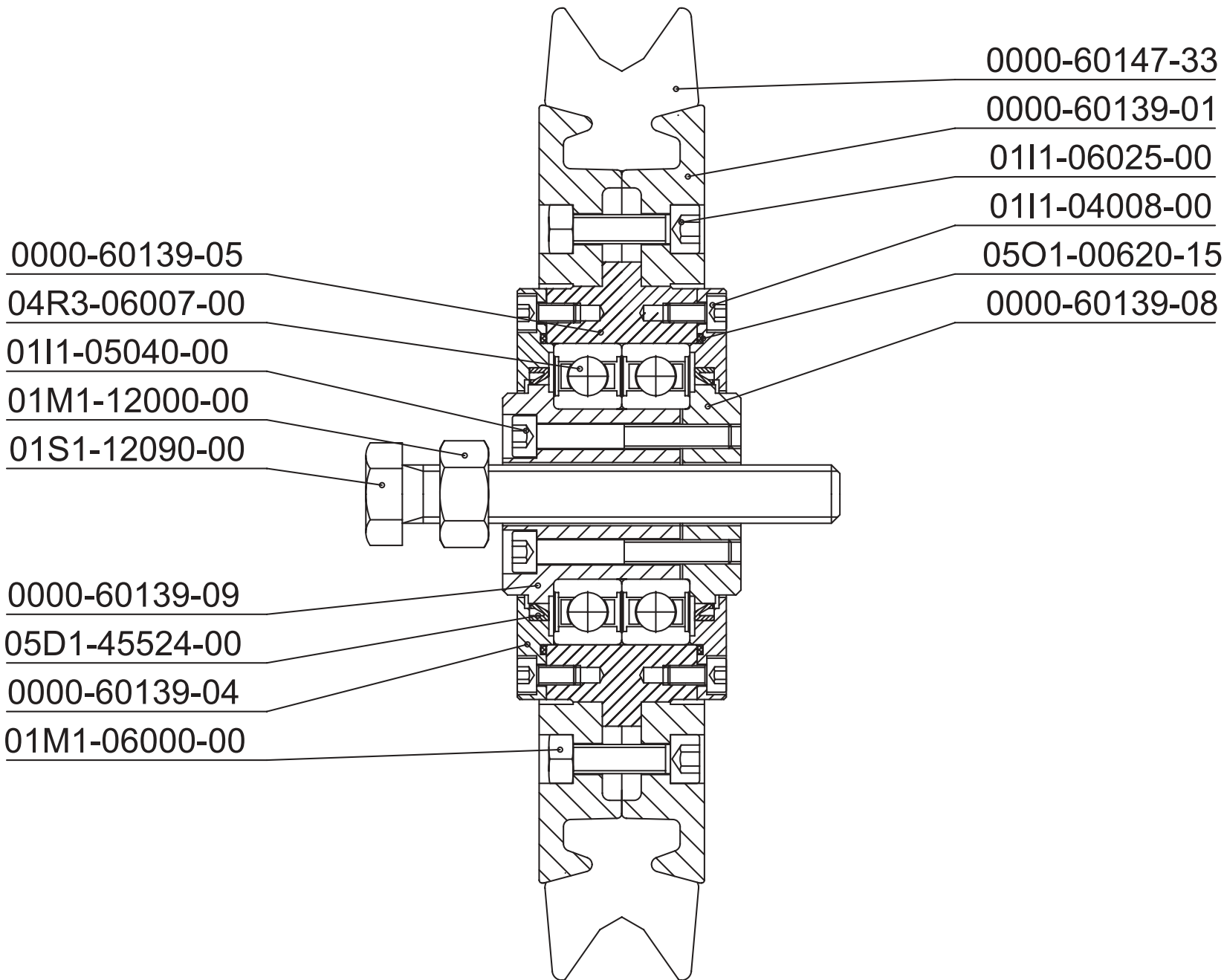


99MS-60129-33	961928	Werktisch	Werktisch	Werktisch	Werktisch	
0000-60128-64	960738	Distanzstück	Distanzstück	Distanzstück	Distanzstück	2
0000-60128-66	960740	Seil-Klemmleiste	Seil-Klemmleiste	Seil-Klemmleiste	Seil-Klemmleiste	2
0000-60129-34	961929	Zangenblech	Zangenblech	Zangenblech	Zangenblech	1
01I1-08012-00	971729	Inbus-Schraube M 8x 12	Socket screw M 8x 12	Inbus-Schraube M 8x 12	VITE M 8x 12	2
01I1-08016-00	971731	Inbus-Schraube M 8x 16	Socket screw M 8x 16	VIS CHC M 8X16 95	VITE BRUGOLA M8X16	1
01I1-08020-00	979283	Inbus-Schraube M 8 x 20	Allen screw M8 x 20	Vis CHC M 8 x 20	VITE M 8 x 20	1
01M1-08000-00	971847	Mutter 6kt. M8x0,8d	Nut hexagonal	ECROU 6 PANS M8X0,8D	DADO M8	2
01M1-12000-00	971849	Mutter 6Kt. M12	Hexagon nut	Ecrou 6 pans M12	DADO M12	1
01S1-12050-00	971919	6kt-Schraube M12x50	hex.-screw M12x50	6kt-Schraube M12x50	6kt-Schraube M12x50	1
01T4-08016-21	969127	Senkkopfschraube M8x16	Senkkopfschraube M8x16	Senkkopfschraube M8x16	Senkkopfschraube M8x16	1
03D2-34016-16	961947	Druckfeder 16 x 1.6 x 34	Druckfeder 16 x 1.6 x 34	Druckfeder 16 x 1.6 x 34	Druckfeder 16 x 1.6 x 34	1

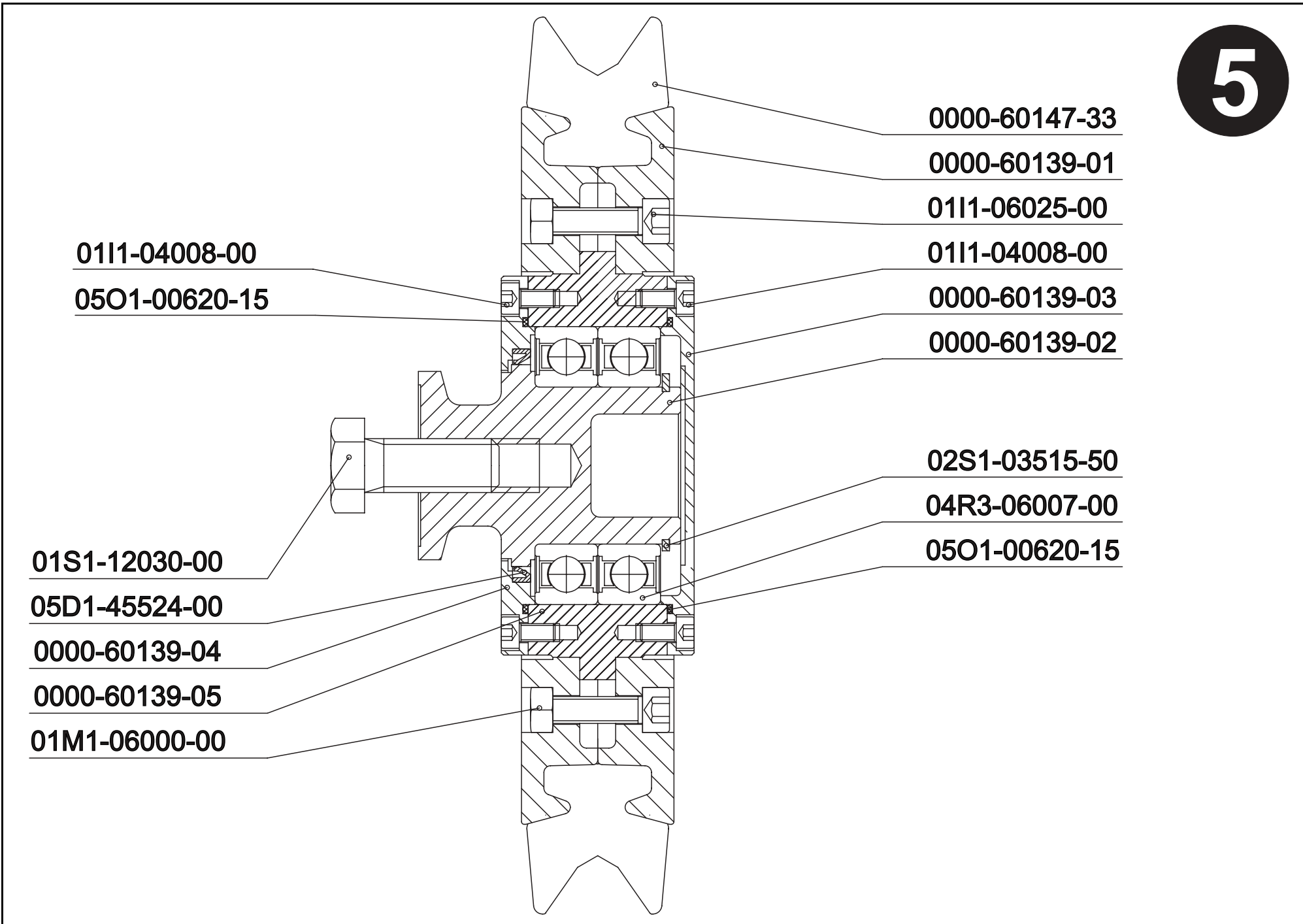
3



<b>99MS-60129-40</b>	<b>961935</b>	<b>Umlenkrolleneinheit</b>	<b>Umlenkrolleneinheit</b>	<b>Umlenkrolleneinheit</b>	<b>Umlenkrolleneinheit</b>	<b>1</b>
0000-60147-33	960575	Antr.Bandage 200 schwarz	Lining for pulleys d=200	Bandage p. poulies d=200	GOMMA PULEGGIA TRAZ. SK-B	6
0000-60139-01	964209	Felge	Rim	Jante	FLANGIA	12
04Z3-03007-10	979505	Rill.-Kugell. 3007-2RS	ball bear. 3007-2RS RR	Rill.-Kugell. 3007-2RS	Rill.-Kugell. 3007-2RS	6
0000-60128-46	960721	Lagerbüchse	Lagerbüchse	Lagerbüchse	Lagerbüchse	6
0000-60128-99	961286	Deckel hinten	Deckel hinten	Deckel hinten	Deckel hinten	12
0000-60129-42	961939	Dichtring	Dichtring	Dichtring	Dichtring	12
0000-60129-41	961938	Umlenkrollenachse	Umlenkrollenachse	Umlenkrollenachse	Umlenkrollenachse	1
05D1-45524-00	969143	Dichtring Dm 45x52x4	Sealing ring dia 45x52x4	Joint Dm 45x52x4	ANELLO TENUTA 45X52X4 DZ/	12
05O1-00620-15	964355	O-Ring Dm 62x1.5	O-Ring dia 62x1.5	O-Ring Dm 62x1.5	O-RING DM 62x1.5	12
01S1-12025-00	971915	6kt-Schraube M12x25	hex.-screw M12x25	6kt-Schraube M12x25	6kt-Schraube M12x25	2
01I1-06025-00	971711	Inbus-Schraube M 6x 25	Allen screw	Vis CHC M6x25	VITE BRUGOLA M6X25	48
01M1-06000-00	979307	Mutter 6 kt. M6x0.8d	nut hex. M6x0.8d	Mutter 6 kt. M6x0.8d	DADO M6	48
01I6-04008-23	971833	Inb-Schr.extr.n.Kopf M4x8	all.screwextr.flhd M4x8	Inb-Schr.extr.n.Kopf M4x8	Inb-Schr.extr.n.Kopf M4x8	48



99MS-60129-60	961902	Umlenkrolle 200 mit Loch	Umlenkrolle 200	Umlenkrolle 200 mit Loch	Umlenkrolle 200 mit Loch	2
0000-60139-01	964209	Felge	Rim	Jante	FLANGIA	2
0000-60139-04	964212	Deckel hinten	Cover rear	Couvercle arrière	FLANGIA	2
0000-60139-05	964213	Lagerbüchse	Bearing sleeve	Douille de roulement	FLANGIA INTERMEDIA	1
0000-60139-08	965860	Halteflansch	Halteflansch	Halteflansch	Halteflansch	1
0000-60139-09	965859	Lagerbolzen	Lagerbolzen	Lagerbolzen	Lagerbolzen	1
0000-60147-33	960575	Antr.Bandage 200 schwarz	Lining for pulleys d=200	Bandage p. poulies d=200	GOMMA PULEGGIA TRAZ. SK-B	1
01I1-04008-00	971677	Inbus-Schraube M 4 x 8	Socket screw M 4x 8	Inbus-Schraube M 4x 8	VITE M 4x 8	8
01I1-05040-00	971697	Inbus-Schraube M 5x 40	Socket screw M 5x 40	Inbus-Schraube M 5x 40	Inbus-Schraube M 5x 40	4
01I1-06025-00	971711	Inbus-Schraube M 6x 25	Allen screw	Vis CHC M6x25	VITE BRUGOLA M6X25	8
01M1-06000-00	979307	Mutter 6 kt. M6x0.8d	nut hex. M6x0.8d	Mutter 6 kt. M6x0.8d	DADO M6	8
01M1-12000-00	971849	Mutter 6Kt. M12	Hexagon nut	Ecrou 6 pans M12	DADO M12	1
01S1-12090-00	971925	6kt-Schraube M12x90	hex.-screw M12x90	VIS H M12X90	6kt-Schraube M12x90	1
04R3-06007-00	972149	Rillenkugellager 6007-2RS	Ball Bearing 6007-2RS	ROULEMENT A BILLES 6007 R	CUSCINETTO 6007-2RS	2
05D1-45524-00	969143	Dichtring Dm 45x52x4	Sealing ring dia 45x52x4	Joint Dm 45x52x4	ANELLO TENUTA 45X52X4 DZ/	2
05O1-00620-15	964355	O-Ring Dm 62x1.5	O-Ring dia 62x1.5	O-Ring Dm 62x1.5	O-RING DM 62x1.5	2





99MS-60129-70	961901	Umlenkrolle 200	Umlenkrolle 200	Umlenkrolle 200	Umlenkrolle 200	2
0000-60139-01	964209	Felge	Rim	Jante	FLANGIA	2
0000-60139-02	964210	Bolzen	Bolt	Axe	MOZZO	1
0000-60139-03	964218	Deckel vorn	cover front	Couvercle avant	COPERCHIO	1
0000-60139-04	964212	Deckel hinten	Cover rear	Couvercle arrière	FLANGIA	1
0000-60139-05	964213	Lagerbüchse	Bearing sleeve	Douille de roulement	FLANGIA INTERMEDIA	1
0000-60147-33	960575	Antr.Bandage 200 schwarz	Lining for pulleys d=200	Bandage p. poulies d=200	GOMMA PULEGGIA TRAZ. SK-B	1
01I1-04008-00	971677	Inbus-Schraube M 4 x 8	Socket screw M 4x 8	Inbus-Schraube M 4x 8	VITE M 4x 8	8
01I1-06025-00	971711	Inbus-Schraube M 6x 25	Allen screw	Vis CHC M6x25	VITE BRUGOLA M6X25	8
01M1-06000-00	979307	Mutter 6 kt. M6x0.8d	nut hex. M6x0.8d	Mutter 6 kt. M6x0.8d	DADO M6	8
01S1-12030-00	971916	6kt-Schraube M12x30	Hexagonal screw	Vis 6 pans M12x30	VITE M12x30	1
01S1-12055-00	979338	6kt-Schraube M12x55	hex.-screw M12x55	6kt-Schraube M12x55	VITE M12x55 mezzo filet.	1
01S1-12070-00	971922	6kt-Schraube M12x70	hex.-screw M12x70	Vis CHC M12x70	VITE M12x70	1
02S1-03515-50	972000	Seegerring Welle Dm 35	CIRCLIP	CIRCLIPS EXTERIEUR DIAM.3	SEEGER DM 35	1
04R3-06007-00	972149	Rillenkugellager 6007-2RS	Ball Bearing 6007-2RS	ROULEMENT A BILLES	CUSCINETTO 6007-2RS	2
05D1-45524-00	969143	Dichtring Dm 45x52x4	Sealing ring dia 45x52x4	Joint Dm 45x52x4	ANELLO TENUTA 45X52X4	1
05O1-00620-15	964355	O-Ring Dm 62x1.5	O-Ring dia 62x1.5	O-Ring Dm 62x1.5	O-RING DM 62x1.5	2