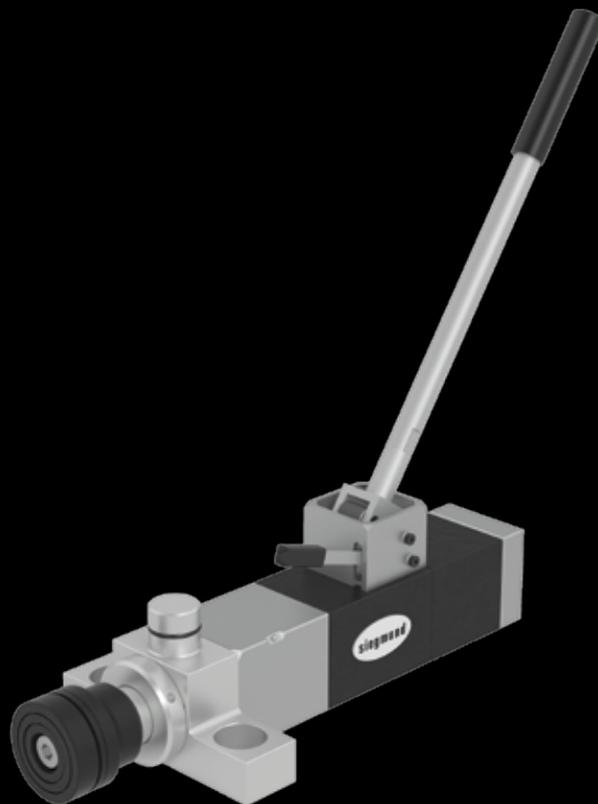
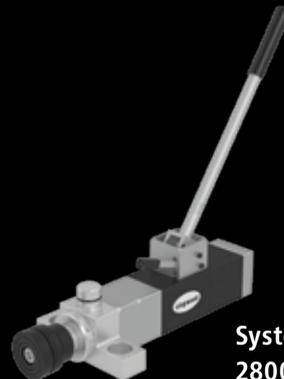


siegmund®

Table press



System 16
16002766



System 28
28004643

Online



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1. ABOUT THIS INSTRUCTIONS

The assembly and operating instructions are part of the product clamping hydraulic L12.11V5 and its versions. (Consecutively referred to as unit.)

For damages and secondary damages caused by inobservance of the assembly and operating instructions, Bernd Siegmund GmbH (consecutively referred to as manufacturer) will not assume any liabilities and warranties.

- Please pay attention to the assembly and operating instructions prior to usage of the unit.
- Please read the safety instructions!
- Keep the assembly and safety instructions during the service life of the unit safely.
- Keep the assembly and safety instructions accessible to the operating personnel.
- Pass over the assembly and operating instructions to any subsequent owner of the unit.
- Illustrations, measurements and descriptions in this instruction are noncommittal.
Subject to change without notice.

1.1. VALIDITY

This assembly and operating instructions are valid for the products shown on the cover page only. For assembling and operating of appropriate attachments, consider their assembly and operating instructions accordingly.

1.2. SYMBOLS AND MARKINGS

Structure of written warnings

 SIGNALWORD
<p>Mode and source of the hazard (Physical damage)!</p> <p>Possible effects (Optional).</p> <p>→ Procedure for damage avoidance.</p>

 INSTRUCTION
<p>Instruction text.</p> <ul style="list-style-type: none"> • Instruction list. <p>→ Procedure.</p>

Danger Levels in warning notes

WARNING LEVEL	CHANCE OF INCIDENCE	CONSEQUENCE BY INOBSERVANCE
 DANGER	Imminent Danger	Death, serious physical damage
 CAUTION	Possible Danger	Possible physical damage
 ADVICE	Possible Danger	Material damage

Other symbols and markings

SYMBOL/MARKING	MEANING
✓	Requirement
→	Action in one step
1. 2.	Action with more steps in subsequent order
•	Numeration (first level)
..., see capture xxx Page xx	Cross Reference

1.3. SYMBOLS USED ON THE UNIT

Warning and order signs according to ASR A1.3 (old/new) / DIN 4844-2 / DIN7010



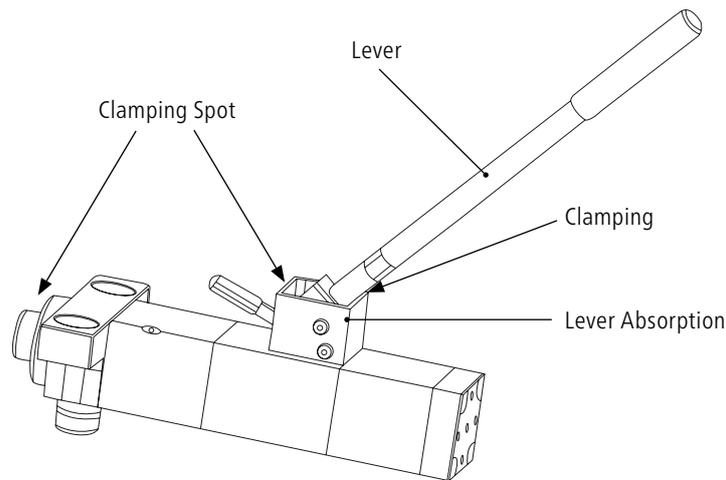
Caution of Hand Damage

→ Indication of jamming possibility during operation

Total usage 1 x (see Pic. 1):

- Clamping spot/Lever/Lever Absorption

 NOTICE
<p>→ Pay attention during usage, that all symbols are completely readable.</p> <p>→ Possible clamping spots while retracting optional accessories should be marked by the operator.</p>



Pic. 1: Instructions (Pic. Shows Version 28)

2. SAFETY INSTRUCTIONS



Pay attention to the following instructions to avoid malfunction material damages and physical damages

2.1. INTENDED USE

The intended use of the unit is the clamping of work pieces with a clamping force of max 25.000 N inside an external absorption. The unit itself is unable to absorb any radial forces.

- The unit is used in a dry internal area with normal room temperature.
- The unit is not suitable for lifting and bearing loads.
- The unit is **not** approved for EX protected areas.
- The unit is not approved for the use inside machine tools.
- The unit is designed for central power transmission of the piston rod.
Pressure holding time 30 minutes.
- Protection of work pieces (position/overhead clamping) against dropping out is not allowed inside a fixture or machine

2.2. COMMON SAFETY INSTRUCTIONS

- Keep packing material away from children. Danger of choking!
- Read this assembly and operating instructions carefully prior to initial operation.
- Secure the proper installation of the unit in the destined application prior to initial operation or maintenance work.

- Correct handling and paying attention to the assembly and operating instructions are essential for the productivity reliability and work security.
- If the unit shows damages or leakings, it should be shut down immediately.
- The maximum intended clamping force is 25 KN, it must not be exceeded. Exceedings can lead to serious damage on the unit and physical damages.
- The unit is equipped with a bursting element. While using the unit as alignment as well as while applying external forces, the bursting element will provide safety to the user.
- The manufacturer declares liability exclusion for physical and material damage caused by incorrect use of the unit.
- Alterations of the original condition of the unit or self-made repairs will result in expiration of any warranty.
- Never work below clamped loads, if additional security measures are not provided. Please regard, working below clamped loads is always dangerous even if additional security is applied.
- Do not repair the unit by yourself, repair work should be done by a qualified technician.

2.3. SECURE HANDLING

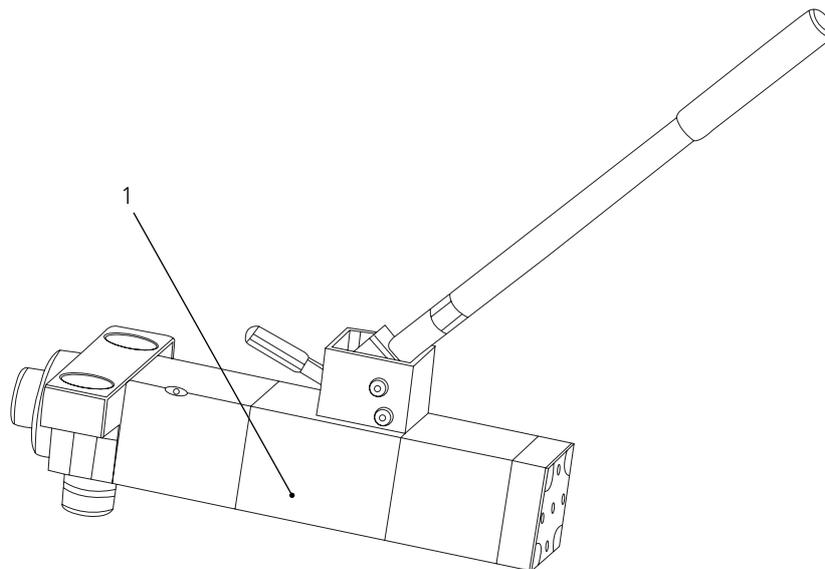
- While using the unit, please check that the piston rod is holohedral and centered effecting the used absorption and that the alignment points are secured. A outcentered stress can lead to damages on the unit and danger to individuals.
- While retracting the piston rod, the operator and other persons must stay out of the danger zone.
- Pay attention to the warning instructions of the manufacturer.
- The unit should be operated by people trained in the use of the unit only.
- Before using the unit, free your hands of all things (Tools, for instance) causing potential injuries.
- Remove possibly leaking oil immediately. Slip danger.
- Operate unit with the provided levers, hand lever and lowering lever only.
- Transport the unit in retracted condition only.
- Don't store the unit loosely, store it secure to avoid tilting and falling down.
- The Unit consists partly of moving parts. If not used properly, there may be danger of squeezing.

⚠ CAUTION

Slight risk of injury

- During transportation, don't carry the unit on the rubber grommet of the lever. It could loosen and the unit may fall down.
- Wear safety clothes and safety equipment while operating hydraulic units.
- Wear protective gloves and safety shoes while working with the unit.
- Don't stay directly over the pump handle to avoid being hit from a possible kickback of the handle. Stay sideways to the pump to keep your body out of the moving path of the handle.
- Consider the marked clamping spots (Pic. 1).

3. SCOPE OF DELIVERY



Pic. 2: Example scope of delivery Version 28
(Picture shows the unit without customer specification)

PART NO.	DESCRIPTION	QUANTITY
1	Clamping hydraulic	1
	Optional attachment parts on request	

Tab. 1: Scope of delivery and description

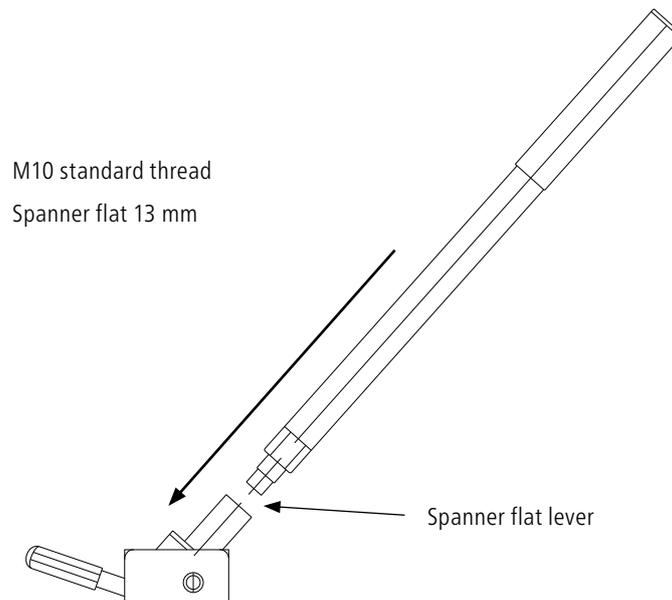
! NOTICE

Mounting absorptions are not included in the scope of delivery and should be coordinated individually with the manufacturer.

4. INSTALLATION

The lever is split in two parts for smoother handling (*Pic. 3*).

Please use the machined area of coverage on the lever to firmly screw it on to the absorption.



Pic. 3: Lever assembly

! NOTICE

- The unit is designed to apply axial thrust. The unit is not suitable for special applications with aberrant forces (Cross forces) and off center support and the manufacturer disclaims any liability.
- Pay attention to clean component parts if you are mounting and dismounting the lever repeatedly. Unclean threads may result in a higher wear and/or damage on the thread.
- Comply with the accident prevention regulations when mounting the unit.

Use strong alignments and absorptions according to the emerging forces.

For mounting absorptions, use the mounting positions shown in Picture 4 only.

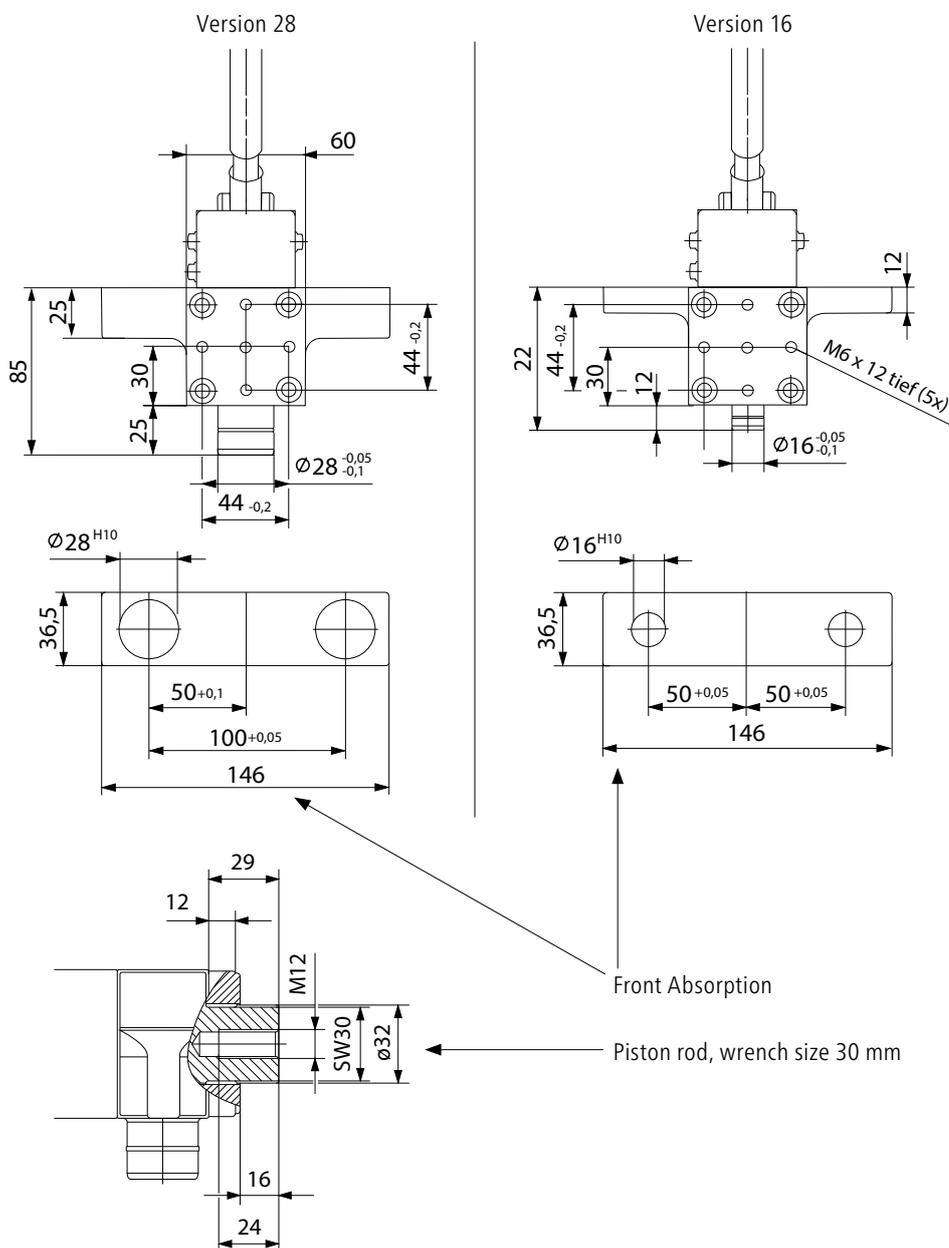
In case you need other alignment spots, please contact the manufacturer.

⚠ CAUTION

Danger of physical damage, caused by oil spillage

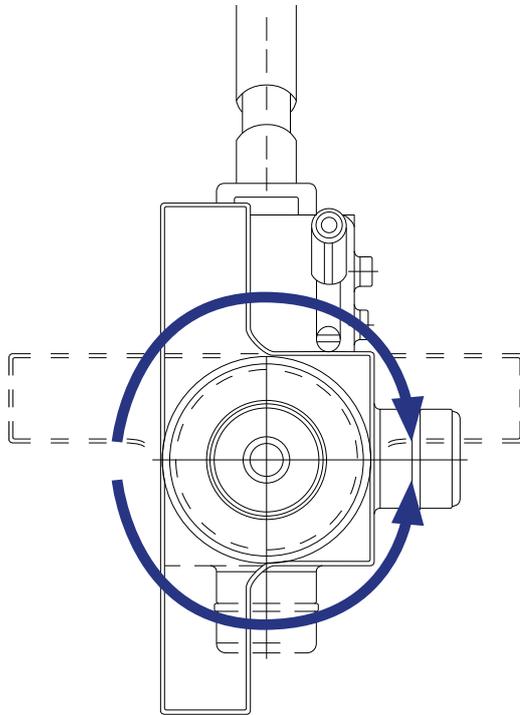
Danger of physical damage, caused by loosened lever

- Don't drill additional holes in to the unit to install additional absorptions!
- Wear safety glasses to avoid eye injuries!
- The hand lever is moving. Pay attention when mounting the unit to avoid squeezing of skin parts.
- Wear safety gloves when mounting the unit to avoid personal injuries.
- Always pay attention that the lever is screwed down firmly. A loose fitting lever is increasing the risk of physical damage.



Pic. 4: Illustrations

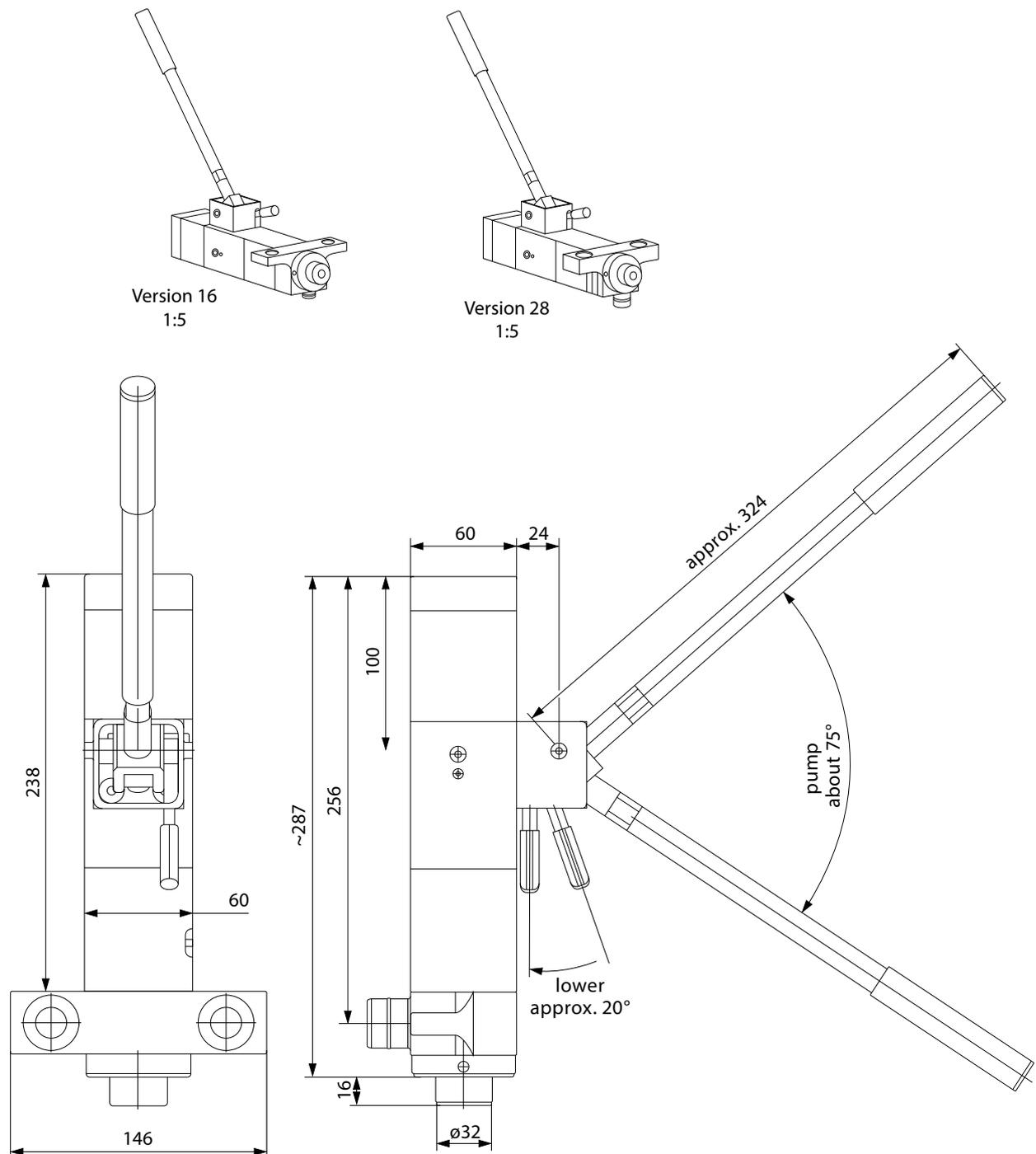
The front absorption on Version 16 and Version 28 is designed rotatable. By turning in any direction, one can switch between two different alignment positions. The alignment is locking 90° shifted.



Pic. 5: Illustration

4.1. STRUCTURAL REQUIREMENTS

- Prior to installation, make sure that the installation measurements and installation conditions are matching the components of the unit.
- Mount the unit only to the intended absorptions of the unit (Pic. 4).
- Use sufficient dimensioned clamping bolts.
- The clamping bolts must be fitted with clearance in to the absorptions of the unit.
- Don't apply additional forces to the unit during the installation.
- Construction dimensions see Pic. 6.
- When designing the complete system, consider the EN 1005-3.
- Require the appropriate installation drawing from the manufacturer prior to installation of you customized unit.



Pic. 6: Construction Dimensions

4.2. OPERATING

Operate the unit with the hand grip of the pump lever and with the down lever.

- While operating the unit, wear safety gloves.
- Utilize the complete support area and length of the pump lever to avoid ergonomic unfavorable positions. (Lever coating).
- Both levers are spring recessed, don't let them snatch.

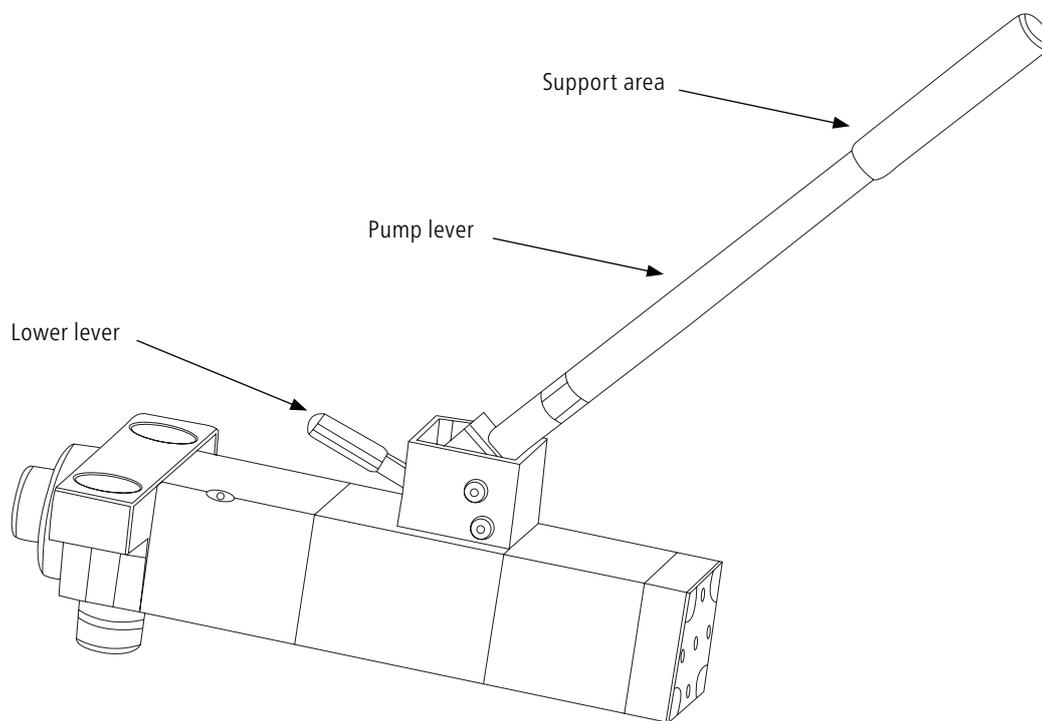
⚠ CAUTION

Obstructions during extending and lowering can lead to squeezing!

→ Prior to operating the operating lever, make sure no obstructions are blocking the travelling distance.

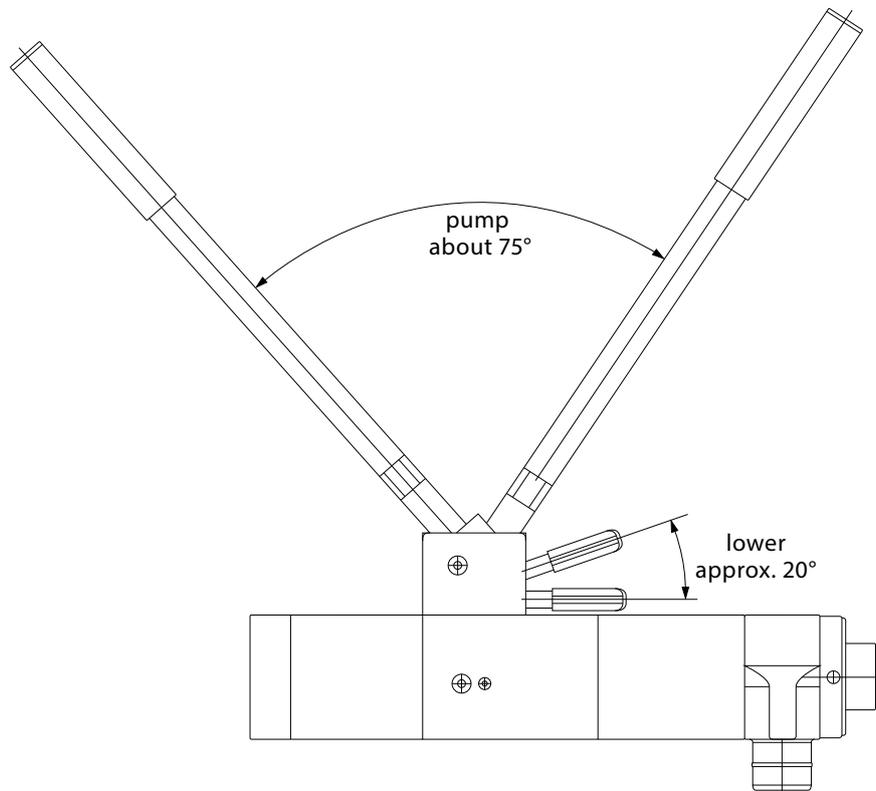
! NOTICE

Pay attention to clean and dry operating elements while operating the unit.



Pic. 7: Operating

4.3. CLAMPING HYDRAULIC, EXTENDING AND RETRACTING



Pic. 8: Functional area of the pump lever and lowering lever

4.3.1. EXTENDING

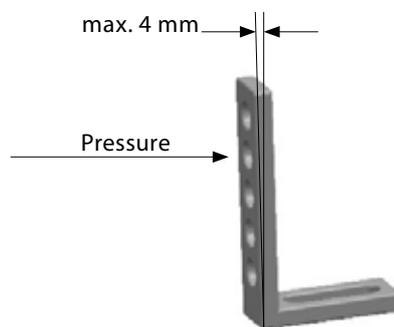
1. Push the pump lever in regular working speed up to the stopper in pumping direction.
Max. 75° (Pic. 8)
The piston rod executes a stroke movement. According to the travelled angle area, it will lead to the max. stroke or proportionate smaller.
The possible pump area is limited by a stopper. Quit pumping on arriving at the stopper.
The pump lever is repressed by spring force in to the initial position. Relieve the lever.
The pumping chamber will be filled anew. The unit is ready for a new stroke movement.
According to the travelled angle area in the back movement the following possible stroke movement will be up to the maximum stroke, or respectively shorter.
2. Ending the pump movement will result in ending the stroke drive. The position of the piston rod will not change.

3. With reaching the upper stop position, no additional pressure will build up. The force on the pump lever stays unchanged. The piston rod may move a little over the end position and will then lower just about 2 mm. This is a normal operating condition.

! NOTICE

Depending on pressure and stroke, the actuating force during pumping will change. Adapt your working speed to the necessary power and your physical condition.

The unit is in any position (360°) applicable, utilizing the complete stroke length.



Should an angle or construction part on which you put pressure with the table press bend more than 4 mm please stop putting on pressure.

4.3.2.RETRACTING

When actuating the lowering lever, the unit will retract by spring return without actuation force.

! CAUTION

Physical damage trough sliding or squeezing danger

- Squeezing danger: While lowering, the piston rod will retract to the stopper. Your hand and/or parts of your skin may be squeezed in.

1. Retracting and release of the work piece will be activated by pushing the lowering lever (Pic. 5). There will be a release valve opened and the oil flows from the pressure chamber back to the tank room. The unit lowers while the piston rod reverses.
2. When you release the lowering lever and turn the lever back, the lowering movement will stop. The release of the lowering lever is activated by an integrated spring. The lowering movement will end immediately, the piston rod stays in its current position.

Retracting is also position independent possible.

 **CAUTION**

Obstructions during extending and lowering can lead to squeezing!

Squeezing danger: During lowering the piston rod will accelerate by applied forces.
High force and high speed can develop.

5. TROUBLESHOOTING

DISTURBANCE	CAUSE	SOLUTION
Short-term pressure build up only	Over travel of the overflow	Operator tries to create tension with far extended piston rod.
	Max. stroke reached	The overflow is over traveled during pressure build up. This results in an immediate pressure loss. The piston rod travels the length of the excess to the overflow back, about 2 mm.
Pressure will not build up	Safety valve is responding	Ensure intended use!
	Hydraulic unit polluted	Keep the lowering valve open and try pumping several times. Repeat this procedure several times. Pumping jerkily with open and closed lowering valve. Produce strong internal oil flow to flush pollutants of the valve seating. Repeat this procedure several times.
Unit does not hold the pressure	Drain valve not fully closed	Check drain valve if contamination prevents complete closing.

FEHLER	URSACHE	LÖSUNG
Unit does not keep Pressure	Hydraulic system may be polluted	Pumping jerkily with open and closed lowering valve. Produce strong internal oil flow to flush pollutants of the valve seating. Repeat this procedure several times.
	Temperature fluctuations	The unit is a closed system which is acting to temperature fluctuations because of its tightness. While cooling down (overnight, par example) the clamping pressure may change. The work piece may loosen! This is not a default of the unit! Keep the surrounding temperature constant.
Piston rod is bucking, hardly retracting	Attachment parts may be too heavy	The spring force is strongest at maximum stroke and declines at reduced stroke accordingly. Reduce the weight of the attachments.
	Polluted piston rod	Clean the piston rod.
Piston rod does not extend	Safety valve is responding	Maximum clamping pressure reached
	No stroke without load	Bursting element responding See chapter 5.1

5.1. SAFETY VERSUS OVERLOAD

The unit is fitted with two systems safeguarding overload caused by excessive hydraulic pressure.

SYSTEM 1

Pressure safety with pressure control valve (DBV)

The pressure control valve secures the unit against excessive pressure, which is applied from the operator with the hand grip. The DBV opens and prevents an excessive hydraulic pressure inside the unit.

The DBV is closing automatically responding to relevant lower pressure. The unit stays functional.

SYSTEM 2

Pressure safety with bursting element

Bursting elements are pressure protections which secure pressure leading systems against dangerous excess pressure. It occurs in bursting of a bursting disc, which is consisting of metal foil.

In case of the acting of an external force to the piston rod, by example an additional hydraulic, an excessive distortion of the work piece, the pressure safety will be destroyed.

The bursting disc is responding to a force of 36000 N axial to the piston rod. The piston rod retracts according to the effecting load completely and **stays functional**.

For replacement, please contact your distributor.

CAUTION

Manipulation on the safety valve!

- The unit is on the side of the piston rod and on the pump piston side secured against over loading through a safety valve. Manipulation may lead to damages on the unit and/or physical damages to people.

6. MAINTENANCE AND REVISION

6.1. MAINTENANCE

The unit is basically maintenance free.

CAUTION

When leaking fluids, there is an increased fire hazard and an increased danger of slipping!

- Check the unit leak tightness prior to each utilization.
- By noticing abnormalities, don't utilize the unit and contact your distributor.

- Check the unit about damages and defects.
- Don't use a damaged product.
- Check the optical condition of the coating and the existing of the operating elements.

! NOTICE

Damage of the unit through self-repair!

- Contact your distributor in case of repair.
- Order spare parts through you distributor only.
- Retain a specialist, trained on this unit.

! DANGER

Pre stressed spring!

Injuries caused by the pre stressed spring unit.

- Never open the unit without appropriate protection!

! NOTICE

This hydraulic unit is a closed system, there is no additional maintenance required.

- The unit doesn't possess an oil filling screw.
- The oil level cannot be checked .

- Do not open any screw on the unit for checking or refilling oil.

6.2. REVISION

Replacement of the seals

! NOTICE

- Because of the aging effect of the seal material, the seals should be replaced every 6 years.
- Contact your distributor.

6.3. FIRE PROTECTION

Hydraulic fluids are predominantly inflammable. In case of leaking of the unit and contact of the fluid to open fire or hot surfaces it can ignite.

Make sure that initial fire can be extinguished with a suitable extinguishing agent.

- Suitable extinguishing agent: Foam, extinguishing powder, carbon dioxide, sand, water fog
- Non suitable extinguishing agent (safety reason): Waterjet

7. DISPOSAL

Disposal of the hydraulic and oil

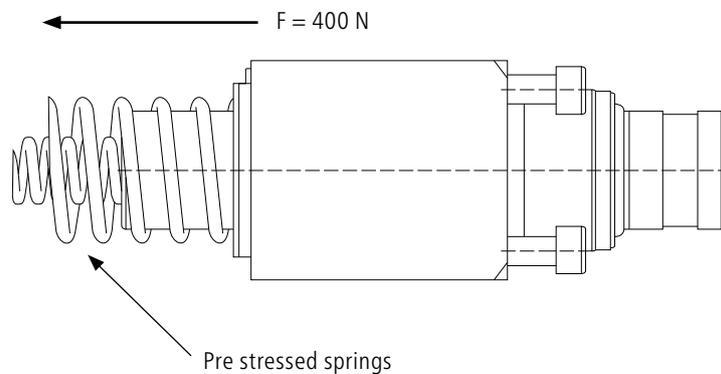
Packaging material should be conveyed to an environment friendly recycling.

DANGER

Pre stressed spring!

Injuries caused by the pre stressed spring unit.

- Open the unit only if appropriate safety measures are applied to the construction elements.
- Retract the piston rod to reduce oil pressure and spring tension.



Pic. 9: Disassembling

- Wear safety clothing and protection equipment while working with hydraulic devices (safety gloves, eye protection).
- Regard the accident prevention regulations while disassemble the unit.

NOTICE

- When opening the unit, oil is leaking. Please collect the oil in a suitable container.
- Recycle used hydraulic oil environment friendly !
- National regulations about environment protection and work safety are regulating the disposal of oil and the handling of used oil. Pay attention to those regulations!

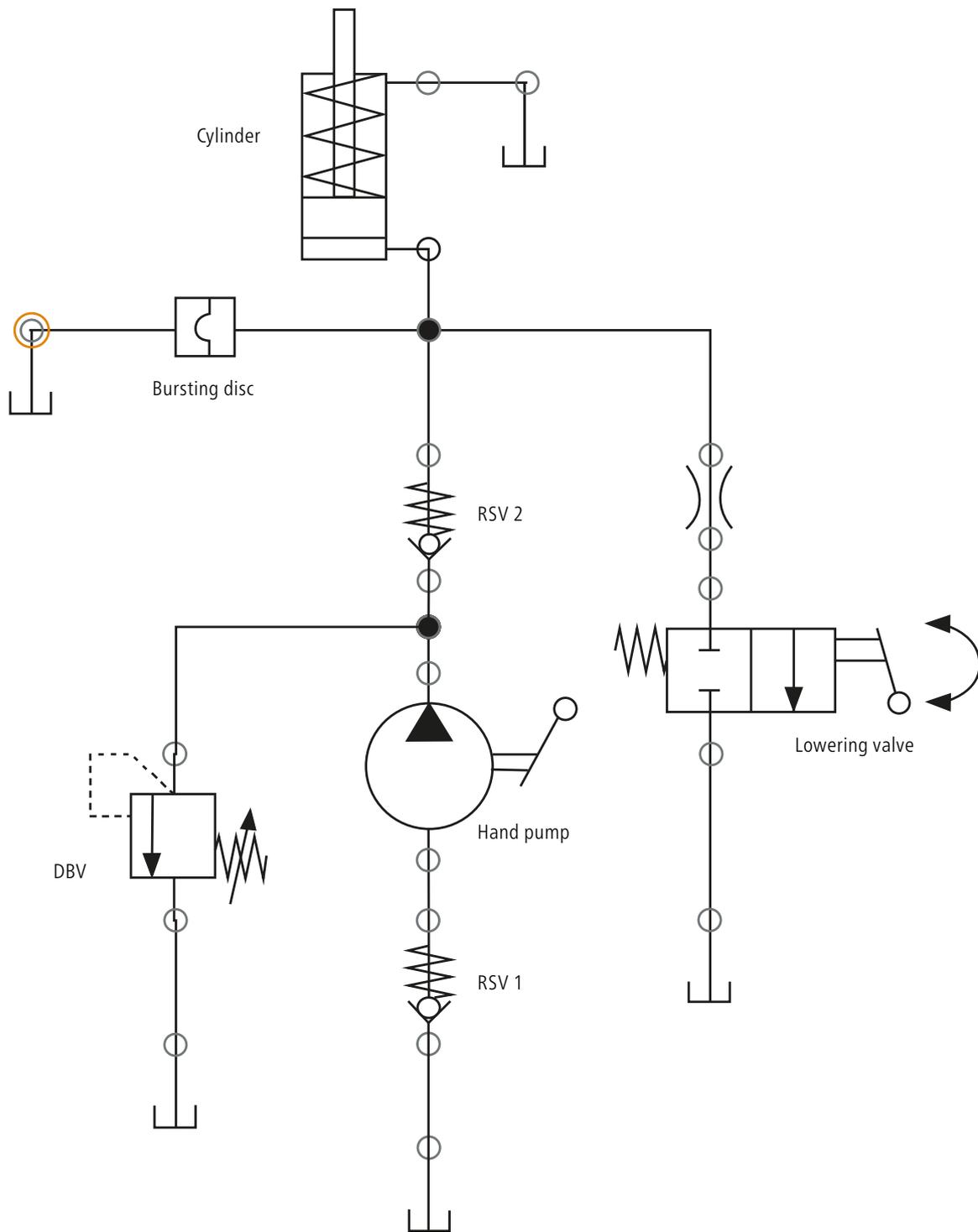
- The unit consists of different materials which can be homogeneous separated:
 - Aluminium
 - Steel, galvanized
 - Steel, untreated
 - Elastomer
 - Plastics
 - Oil

8. TECHNICAL DATA

CLAMPING HYDRAULIC	VALUE
Maximum stroke	60 mm
Weight of the unit	5,78 kg
Maximum clamping force	25 kN
Holding time (clamping force)	Min. 30 Min under constant temperature
Max. allowed operating pressure	315 bar
Quantity pump strokes to reach stroke 60 mm	~ 14
Hub per pump stroke	~ 4,6 mm
Max. pump force	~ 336 N
Retraction force	Max. ~ 100 N Min. ~ 60 N
Lowering	Lowering lever
Coating	Steel: galvanized Aluminum parts: anodized
Oil volume and oil	165 ml Hydraulic oil HLP-D DIN 51524-2 ISO VG 22
Purity	Oil purity according EN ISO 4413 nach ISO 4406 15/17/11
Installation position	Optional
Application area	+5°C to +40°C

Tab. 2: Technical Data (Subject to change)

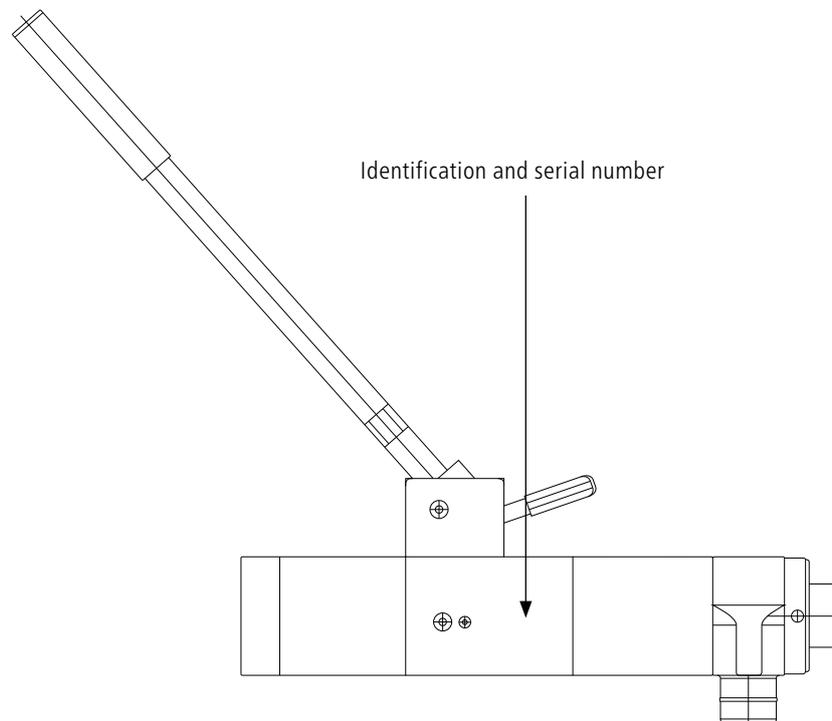
8.1. HYDRAULIC CIRCUIT PLAN



Pic. 10: Hydraulic circuit plan

8.2. TYPE PLATE

Position of the type plate



Pic. 11: Position of the type plate

The type plate is mounted to the basic body or directly inscribed respectively.
The serial number and the product identification is located on the type plate.

! NOTICE

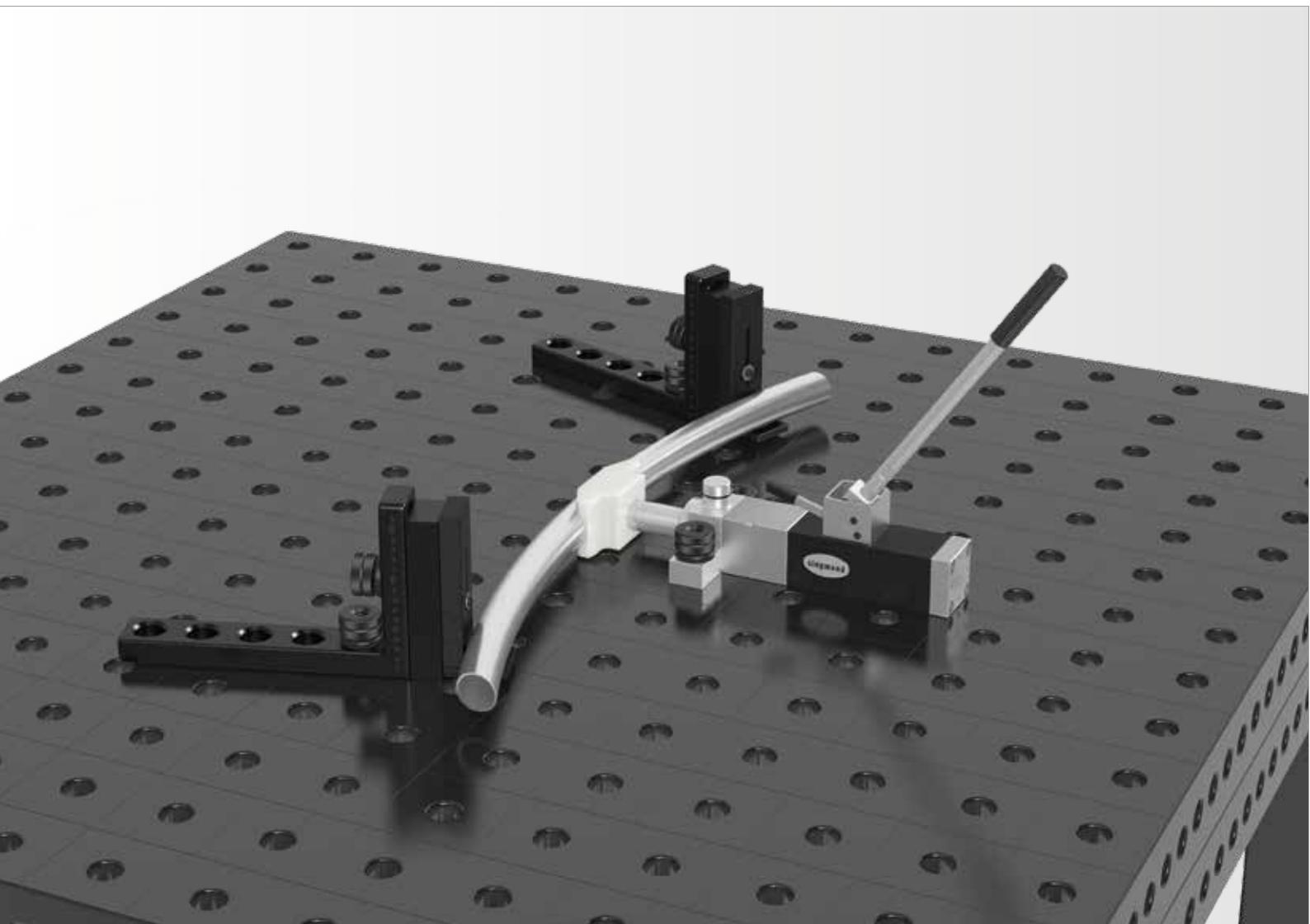
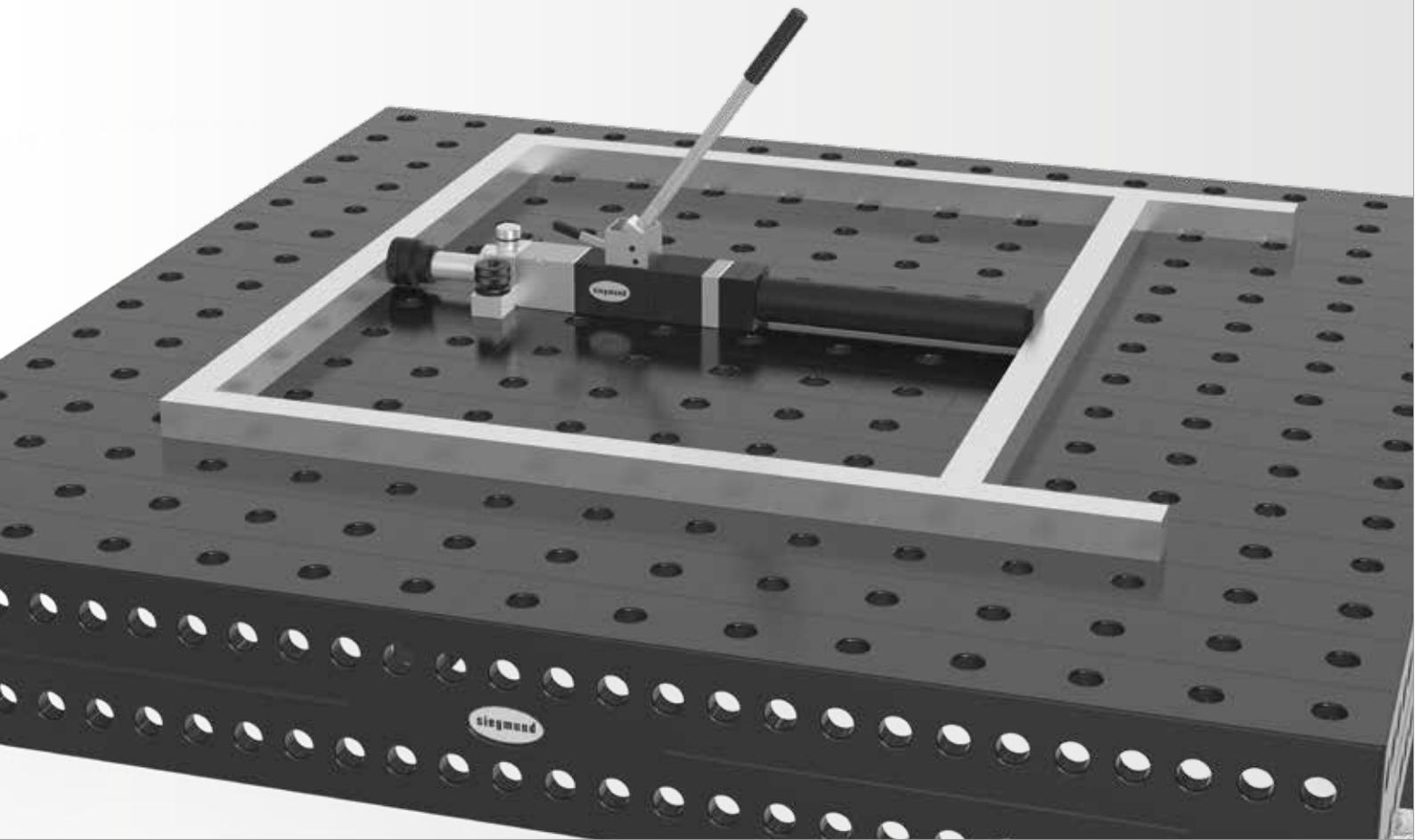
→ Please refer to those date when contacting your distributor.

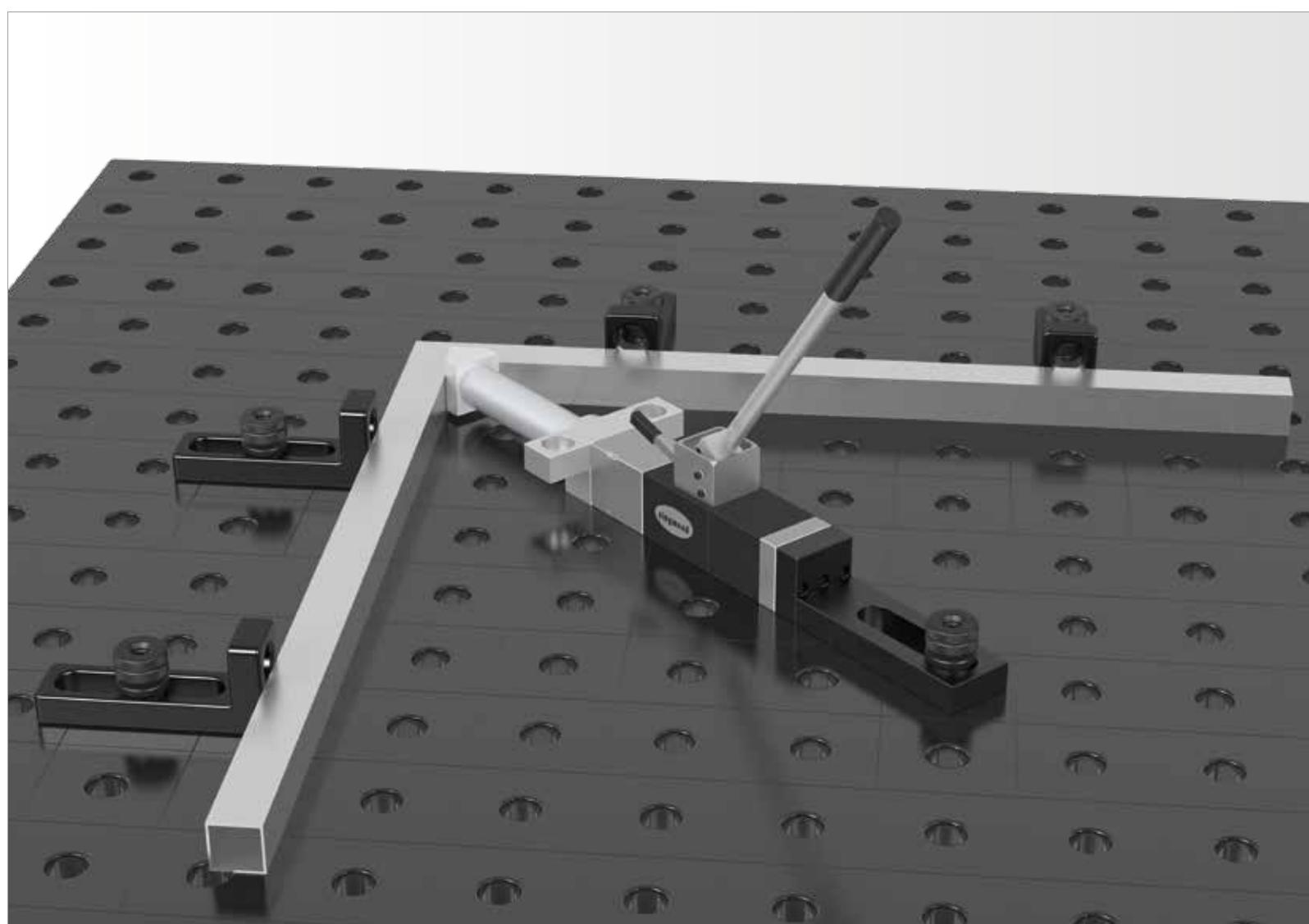
9. WARRANTY

- The manufacturer grants 2 years of warranty of the unit after the date of purchase.
- Please contact your distributor should there be any problems.

10. INSTALLATION EXPLANATION

See catalog





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