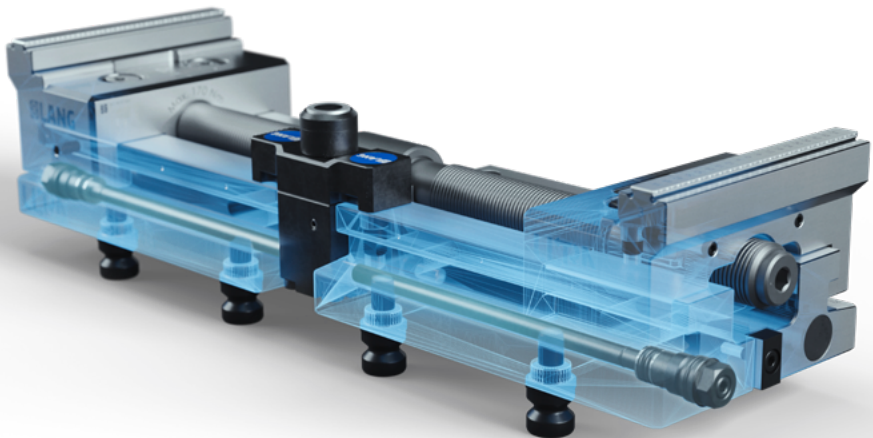


# Operating Instructions

Translation of original instructions

## Makro·Grip® Ultra (410 S) Mechanical Screw Jack



Item no.  
82586

Copyright:



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Modifications to the product: In the event of modifications to the product by the customer, the warranty is void. No modifications may be made to the product without the manufacturer's approval.

Only use original spare parts. In the case of externally supplied parts, there is no guarantee that they have been designed and manufactured to withstand the stresses applied or to meet safety requirements.

The manufacturer provides a full warranty only and exclusively for the spare parts ordered from it.

The manufacturer is committed to improving its products. It reserves the right to make changes. This does not imply any obligation to make retrospective adjustments to the products already delivered.

General Terms and Conditions of Sale and Delivery:

Our General Terms and Conditions of Sale and Delivery shall apply as a matter of principle. These are available to the plant operator at the latest when the contract is concluded.

Warranty and liability claims for personal injury and property damage are excluded if they are caused by one or more of the following:

- Improper use
- Improper installation, commissioning, operation, or maintenance
- Operating the product in a defective state
- Inadequate monitoring of parts subject to wear and tear
- Failure to follow the instructions in the documentation
- Catastrophic events due to foreign bodies or force majeure

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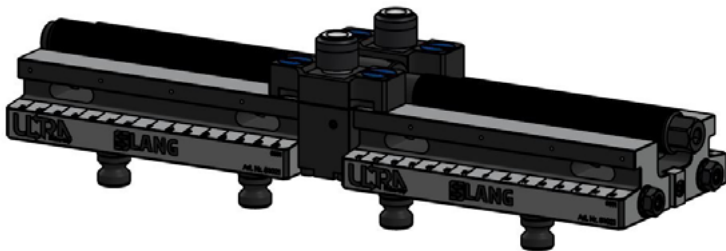
## 1.1 UNIT

The mechanical screw jack is an accessory item for extending the Makro•Grip® Ultra clamping system. Workpieces that are susceptible to deformation, thin-walled and/or have high surface roughness and dimensional accuracy requirements are a major challenge.

The purpose of the mechanical screw jack is to have a positive impact on the quality of the part being machined and to ensure maximum process reliability. The primary objective is to keep vibration and deformation to a minimum during the milling/drilling process.

## 1.2 AREAS OF APPLICATION

The screw jack has been designed for the Makro•Grip® Ultra basic set height "S". In use, this is attached to the base body of the clamping system. Up to two supports can be attached per basic set.



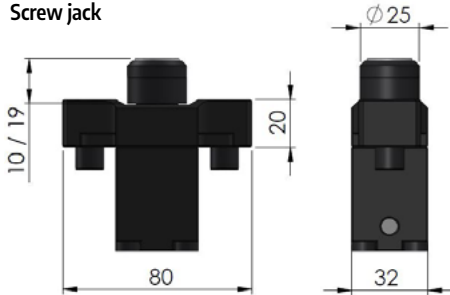
## 1.3 ACCESSORIES

The mechanical screw jack is sold as a complete set and therefore fits all base set lengths of height "S" (410 S / 610 S / 810 S) and the support heights of clamping jaws 81483 / 81485 / 81440 + 81450.

Depending on the clamping application, the mechanical screw jack can be supplemented by a hydraulic one, the Hydro•Sup (Art. 81586). The hydraulic screw jack can be attached outside the base body in the 96 mm grid of the Quick•Point® plate.

## 2.1 DIMENSIONS

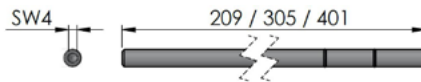
Screw jack



Clamping screw



Actuating rod



Designation	Item number	Stroke (mm)	Clamping range	Weight (kg)
Mechanical screw jack (set)	82586	5	80* - 410/610/810	1,2

\*Because of the center mounting of the screw jack, the minimum clamping range increases to 80 mm (clamped in the tothing). Without mechanical screw jack, the minimum clamping range is 40 mm.

## 2.2 MATERIAL

Item	Material
General components	Steel, rubber (NBR), plastic (PA)

### 2.3 SCOPE OF DELIVERY



The set includes the following components:

Item	Designation	Design	Item no.
1	Mechanical screw jack		82586-140
2	Clamping screw		82586-110
3	Actuating rod	L=209	82586-14
4	Actuating rod	L=305	82586-16
5	Actuating rod	L=401	82586-18
6	Pendulum support	M12 H=10	KT1001948
7	Pendulum support	M12 H=19	KT1002720

### 2.4 MAINTENANCE AND REPAIR

If the clamping capacity of the actuating rod decreases, both O-rings (8x3 NBR70) must be replaced. In case of damage or faults, please contact LANG Technik GmbH directly.

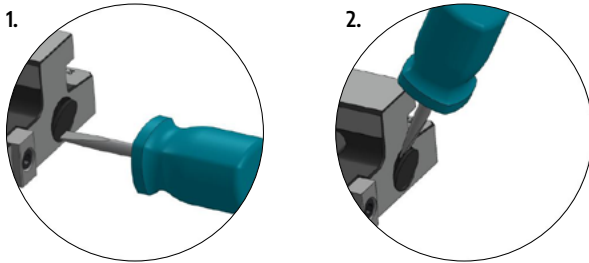
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### 3.1 ASSEMBLY

❶

Prepare the base bodies of your Makro•Grip® Ultra clamping system for mounting of the support by removing the plastic covers that are no longer required.

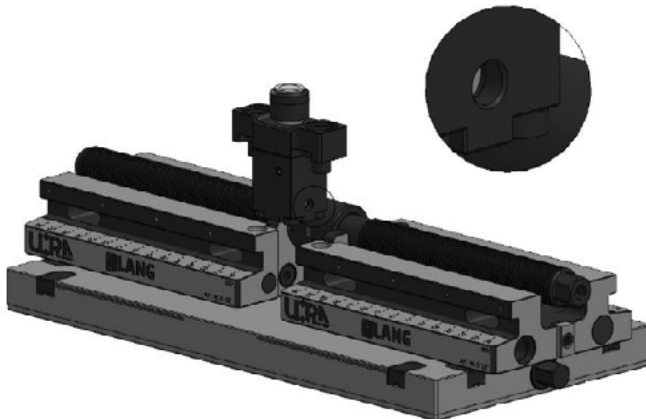
To do this, carefully push in the plastic covers on the side with a screwdriver and lever them out.



The covers only need to be removed in the positions where the support will be located subsequently. (Pay attention to operator side)

❷

Clamp / attach the Makro•Grip® Ultra clamping system to your Quick•Point® plates / base plates. Insert the screw jack into the base bodies of the clamping system with the open bore facing the operator side.



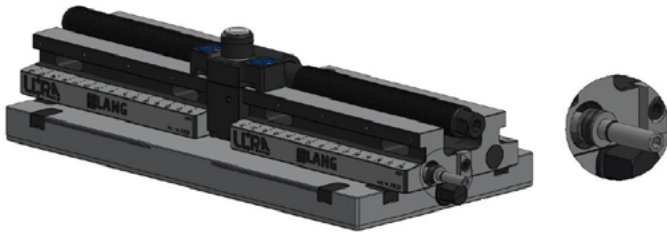
3

Take the actuating rod required for your setup and place the clamping elements on the actuating rod between the two O-rings in the following order.  
Shim – O-ring – O-ring – Shim



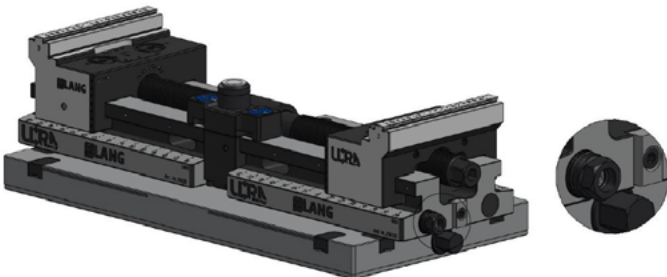
4

Now push the actuating rod together with the clamping elements into the channel of the base body and screw them loosely into the support.



5

Tighten the clamping screw loosely and fix the clamping jaws in the required position

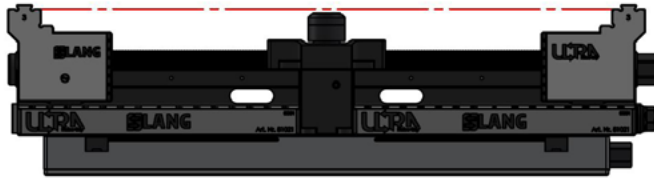




### 3.2 Use

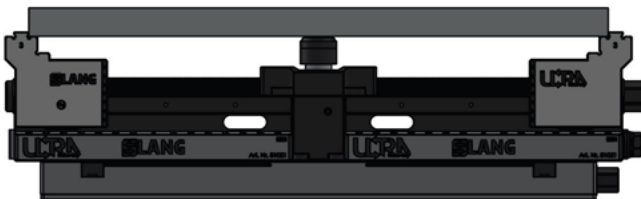
❶

Make sure that the pendulum support is below the support surface of the workpiece to be clamped by lowering the pendulum support with the clamping screw loosened, which is done by unscrewing the actuating rod.



❷

Clamp the workpiece in the Makro-Grip® Ultra clamping system and move the pendulum support gently against the workpiece by screwing in the actuating rod. Take care not to deform thin-walled workpieces. You can check this with a dial gauge if necessary.



❸

Clamp the actuating rod by hand-tightening the clamping screw.

❹

After machining the workpiece, loosen the clamping screw again and lower the pendulum support slightly.

#### 4.1 MALFUNCTIONS/ERROR



If the actuating rod is overtightened, the part to be machined can be forced out of the clamping jaws. Care should be taken to ensure that the support is only fitted lightly to the component to be machined. To ensure friction-free use, make sure that all dirt has been removed during assembly and the components are lightly oiled.

## 5 WARNINGS

#### 5.1 INTENDED USE

The plant operator is obliged to use the product properly, with due care and under appropriate conditions. No liability or claim for refund will be accepted following improper use.

#### 5.2 REQUIREMENTS OF THE OPERATING PERSONNEL

The plant operator commits to::

- only to allow trained, adult specialists (specialization in metal), e.g. CNC mill operators, to work with the product.
- to define the responsibilities of personnel for installation, commissioning, operation, maintenance, and repair clearly.
- only to allow trainees to work with the product under the supervision of an experienced specialist (metal specialist) or a CNC mill operator.

#### 5.3 PERSONAL PROTECTIVE EQUIPMENT AND PERSONAL SAFETY

- Personal protective equipment must be worn in accordance with the guidelines and regulations of the professional association and the company (work clothing, non-slip safety shoes, gloves, hair net, etc.). Check with your employer's safety officer.



## 6.1 DISPOSAL ACCORDING TO DIRECTIVE (EU) 2018/851

For disposal, observe the country-specific disposal regulations.



LANG Technik products do not belong in household waste.  
Failure to comply is an offense.



Accessories and packaging are recycled in an environmentally friendly manner

Product	Material	Disposal
Housing, screws, nuts etc.	Metal	Separation of materials Recycling by melting down
Protective screen	Plastic	Recycling
Hoses	Rubber, PVC, steel	Separation of materials Recycling
PE films	Plastic	Recycling
Packaging material	Pallet wood	Recycling
Hydraulic oil	Mineral oil	According to local regulations

## 7.1 SYMBOLS

## Please pay attention to the following warning symbols



*Read all the operating instructions carefully before commissioning for the first time and keep it in a safe place for future use*



*Please read and follow the technical and safety instructions*



*The use of protective gloves made of tough, resistant material is recommended*



*A helmet and safety goggles are recommended for personal safety*



*To reduce the risk of eye injuries, wearing protective goggles as specified in EN 166 is recommended*



*Safety footwear are part of the protective equipment*



*Materials are recycled in an environmentally friendly manner*



*Do not dispose of the material in household waste*



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