

# Operating Instructions

Original Instructions

## Hydraulic screw jack Hydro•Sup



Item number

81586

81515

81523

Copyright:



**LANG**  
TECHNIK

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Product modifications: Modifications to the product by the customer void the warranty. No modifications may be made to the product without the manufacturer's consent.

Use only original spare parts. There is no guarantee that parts sourced from third parties are designed and produced to withstand the intended use and safety requirements. The manufacturer provides full warranty coverage only and exclusively for spare parts ordered from him.

The manufacturer is continually working to improve his products and reserves the right to make modifications to them. The manufacturer is therefore under no obligation to make subsequent modifications to products already delivered.

General Terms and Conditions of Sale and Delivery:

Our General Terms and Conditions of Sale and Delivery generally apply. These terms and conditions are available to the operator upon the signing of the contract.

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

- Improper use
- Incorrect installation, commissioning, operation and maintenance
- Operation of the product when it is defective
- Inadequate monitoring of parts that are subject to wear
- Failure to follow the instructions in the documentation
- Catastrophic events caused by external influences or force majeure

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## 1.1 UNIT

The hydraulic screw jack, hereinafter referred to as Hydro•Sup, is a product by LANG Technik GmbH that can be used in combination with other LANG products. Workpieces that are susceptible to deformation, thin-walled and/or have high surface roughness and dimensional accuracy requirements pose a major challenge to clamp.

The purpose behind using the Hydro•Sup is to improve the quality of the part to be machined as well as to ensure process reliability. The main objective is to minimize vibration and deformation during the milling/drilling process.

## 1.2 AREAS OF APPLICATION

The Hydro•Sup was originally developed for the Makro•Grip® Ultra clamping system. Since this clamping system often involves clamping larger components (approx. 400 mm – 800 mm), and vibration problems occur more frequently in these clamping ranges in particular, the support heights of the Hydro•Sup have been adapted to the Makro•Grip® Ultra system (version S, M and L). However, the Hydro•Sup can still be combined with all other standard LANG products that are based on the 86 mm resting height.

## 1.3 ACCESSORIES

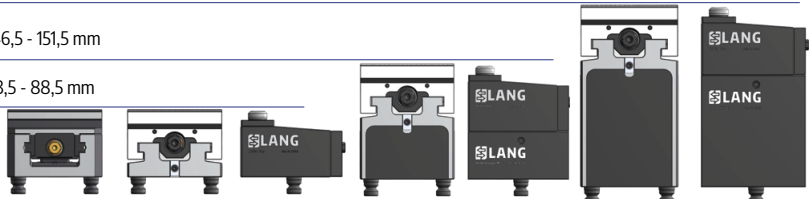
There is only one version of the Hydro•Sup.  
However, it is possible to increase the supporting range using spacers.

Resting height

226,5 - 231,5 mm

146,5 - 151,5 mm

83,5 - 88,5 mm



Makro•Grip® 12S  
5-axis vise

Makro•Grip® Ultra  
clamping device  
size „S“

Hydro•Sup

Makro•Grip® Ultra  
clamping device  
size „M“

Hydro•Sup +  
spacer for system  
height M

Makro•Grip® Ultra  
clamping device  
size „L“

Hydro•Sup +  
spacer for system  
height L

## 2.1 GENERAL DATA

Description	Item number	Dimensions width x depth x height	Weight
Hydro•Sup	8 15 8 6	134 x 45 x 85 mm	approx. 3 kg
Hydro•Sup Spacer system M	8 15 15	134 x 45 x 63 mm	approx. 6 kg
Hydro•Sup Spacer system L	8 15 23	134 x 45 x 143 mm	approx. 10 kg

## 2.2 MATERIAL

Item	Material
General components	Steel, rubber (NBR), plastic (TPU), oil

## 2.3 SCOPE OF SUPPLY

The scope of supply includes only the items you ordered.  
The base units in the Makro•Grip® product line are individual products that are sold separately.  
The products cannot be purchased as a set.

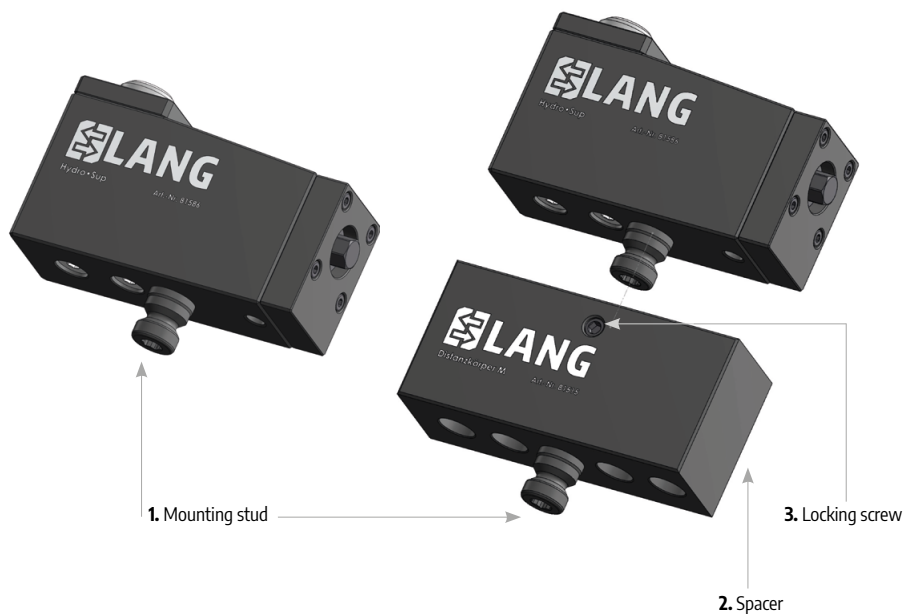
The spacers in system height M and L are also available for purchase and are not included in the Hydro•Sup scope of supply.

## 2.4 MAINTENANCE AND REPAIR

Please contact LANG Technik GmbH directly if any item is damaged or malfunctioning.  
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### 3.1 ASSEMBLY

The Hydro•Sup is mounted based on the LANG Technik zero-point system. The clamping stud (pos. 1) is placed in its intended mounting hole in the zero-point plate. The two spacers also offer the ability to insert the stud in five different locations (25 mm spacing). For increased support height, the Hydro•Sup needs to be inserted into the mounting hole on the top of the spacers and secured with the locking screw. (26 Nm)



- 1. The mounting stud is placed in the intended mounting hole.
- 2. Two different spacer versions/heights are available.  
System M spacer  
System L spacer
- 3. The integrated locking screw is used to connect and secure the two parts together. (26 Nm)



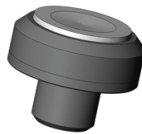
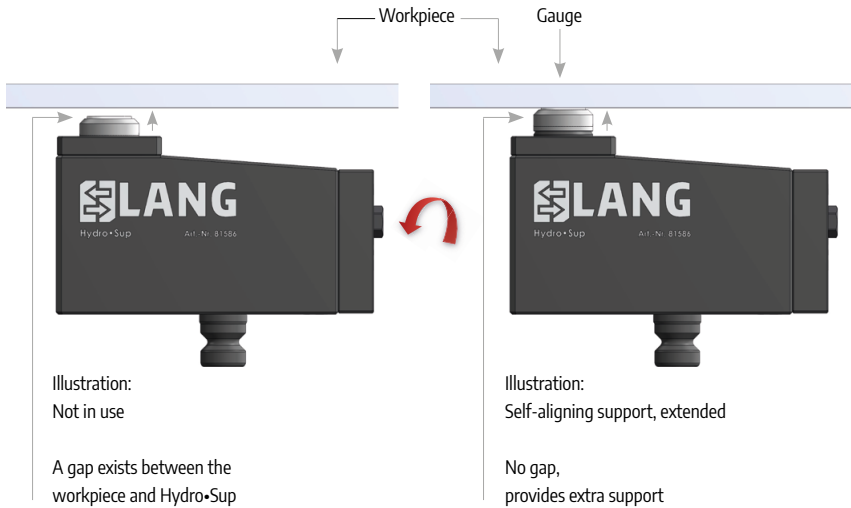
Use only a torque wrench designated and suitable for this purpose. The Hydro•Sup and the spacers may only be used when secured in place.

## 3.2 USE

The workpiece is first inserted into the respective clamping system and clamped. The tightening screw located on the front side of the Hydro•Sup is then tightened by hand so that the self-aligning support lies flush against the workpiece from below.



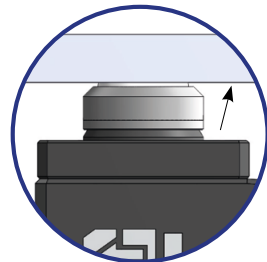
**Caution:** Tightening with too much torque can push the workpiece out of the clamping fixture. If necessary, place a gauge against the workpiece to check from above.



Self-aligning support to level uneven surfaces (M12 thread)

**LANG TECHNIK NOTE**

The travel is limited to 5 mm.



#### 4.1 MALFUNCTIONS/ERRORS



To ensure trouble-free operation, regular cleaning of the elements is necessary. Likewise, if the product is not working correctly, it is possible that this is due to defective seals and a loss of oil as a result. This can lead to failure to maintain the clamping pressure and restriction of the piston operating range.

## 5 WARNINGS

#### 5.1 INTENDED USE

The operating company is responsible for using the product as intended, with caution and under the appropriate conditions. In the event of improper use, no liability shall be assumed by the manufacturer, nor shall any refund be provided.

#### 5.2 PERSONNEL REQUIREMENTS

Operating company responsibilities:

- Only trained personnel with the relevant background knowledge (specializing in metal), e.g. CNC operators, are authorized to work with the product.
- Personnel responsibilities with regard to installation, commissioning, operation, maintenance and repair must be clearly defined.
- Trainees may work with the product only when supervised by an experienced professional (specializing in metal) or by a CNC operator.

#### 5.3 PERSONAL PROTECTIVE EQUIPMENT AND SAFETY OF PERSONNEL

- Personal protective equipment (work clothes and non-slip safety footwear, gloves, hair net, etc.) must be worn as specified in the guidelines and regulations of the employer's liability association and the operating company. Obtain information from your employer's safety officer.





## 6.1 DISPOSAL AS SPECIFIED IN EU DIRECTIVE 2018/851

Comply with country-specific disposal regulations when disposing of equipment.



LANG Technik products are not considered household waste.  
Failure to comply with disposal requirements is a regulatory offense.



Accessories and packaging are recycled in an environmentally friendly manner.

Product	Material	Disposal
Housing, screws, nuts, etc.	Metal	Separation of materials Recycle by melting down
Protective shield	Plastic	Recycle
Hoses	Rubber, PVC, steel	Separation of materials Recycle
PE film	Plastic	Recycle
Packing material	Pallet wood	Recycle
Hydraulic oil	Mineral oil	As per local regulations

## 7.1 SYMBOLS

Please pay attention to the following warning symbols	
	<i>Read all the operating instructions carefully before commissioning for the first time and keep it in a safe place for future use</i>
	<i>Please read and follow the technical and safety instructions</i>
	<i>Direction indicator, correct rotation</i>
	<i>The use of protective gloves made of tough, resistant material is recommended</i>
	<i>A helmet and safety goggles are recommended for personal safety</i>
	<i>To reduce the risk of eye injuries, wearing protective goggles as specified in EN 166 is recommended</i>
	<i>Safety footwear are part of the protective equipment</i>
	<i>Materials are recycled in an environmentally friendly manner</i>
	<i>Do not dispose of the material in household waste</i>



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