



**LANG**

**LANG**  
TECHNOVATION  
simple. gripping. future.



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Dear Customer,

We are proud to present you with our 2019/20 product catalog!

While replacing the 2017/18 version of the catalog, we look back on two very successful years. Success can also bring challenges. The high demand for our systems makes it necessary to produce faster and in larger quantities. In order to successfully overcome this challenge and meet the demands of our customers, we strive for continuous improvements in both production and in our infrastructure. Currently, the expansion of our production facility in Holzmaden by 3.000 m<sup>2</sup> is being planned and should be completed within the next few months.

Our company is experiencing strong growth not only internally, but also internationally. With over 40 exclusive foreign representatives and a US facility, we feel well positioned to help machining and manufacturing companies around the world optimize their manufacturing processes with our technologies. This high level of service and customer closeness would not be possible without the hard and motivated work of our partners. For this we express a big thank you.

In addition to new developments in the areas of zero-point clamping and workholding, this catalog differs from previous ones, mainly in the style the products are presented. This allows us to keep you up to date and present you with further product and service developments before the next catalog publication. Another great addition is our very first app, designed to make the catalog interactive and even more user friendly. More information about the LANG App and how to use it can be found on page 5.

We hope that you enjoy discovering new ways to positively influence your manufacturing not only for today, but also for the challenges of tomorrow.

Marianne Lang  
Geschäftsführung

Günter Lang  
Geschäftsführung

# Well prepared for future tasks



## Makro-Grip® 5-Axis-Vise – Generation 2018

New in 2018, 11 years after the initial introduction of the original 5-Axis Vise, are developments to our Makro-Grip® product line. Interaction between the clamping jaws and the vise body has been significantly improved. Along with a fresh, new look, the vise body has a reworked spindle center-piece and new chip outlet. Read all about the new features on page 82 in the chapter titled “Makro-Grip® 5-Axis Vises”.

Along with Conventional Workholding, these optimizations apply to all types of vises. Spare parts for existing vises are still available. These are listed on a double page at the end of the catalog (p. 144, 145).

## Preci-Point Collet Chuck

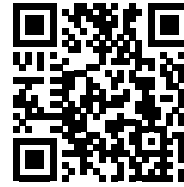
The Preci-Point collet chuck advances our offerings of Conventional Workholding. It is designed for the machining of Ø 6–34 mm round parts. To clamp material, commercially available ER 50 collets are used, eliminating the need for contour jaws, especially in small diameter ranges. Its slim design offers excellent ergonomic features and optimal accessibility during machining.





## Experience Augmented Reality live:

1



**Scan the QR Code.**

This leads you to our website [www.lang-technovation.com/app](http://www.lang-technovation.com/app) and from there to the App Store or Google Play.

2

**Install and start** the App on your device.

3

**Look for the symbols on the pages 5, 12, 15, 58, 59, 68, 69, 80, 83, 85 and 132** and scan the marked pages. Enjoy!

## Interactive catalog with the new LANG App

LANG Technovation has always been a technological leader in the industry. For metal-cutting production LANG's innovations have always been groundbreaking and have become the industry standard (stamping technology, the zero-point clamping system and the Clean·Tec cleaning fan).

We try to live up to this claim in our day-to-day work and strive to keep an eye on the trends of tomorrow. This applies not only to our manufacturing processes, but equally to the way in which our customers are allowed to gather information and learn about

new technology in a simple and understandable format (that is also exciting and interesting).

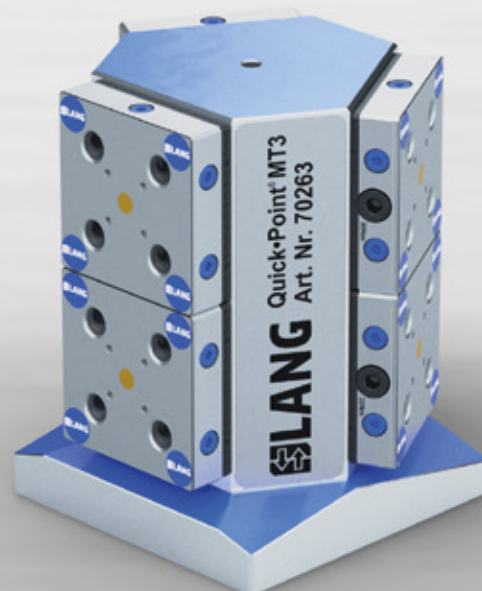
**We happily introduce to you our first App.** Among other things, this app makes it possible to experience the LANG catalog in a new dimension, Augmented Reality. On selected pages, our technologies are described more vividly and in more detail.

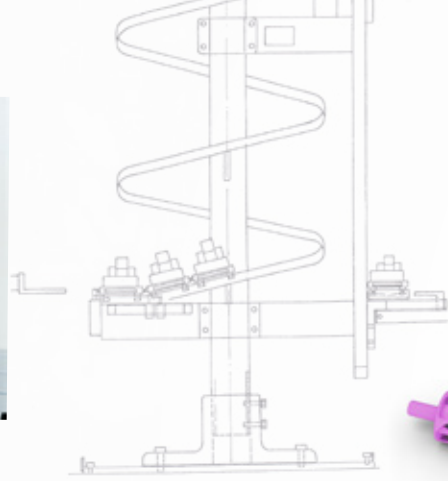
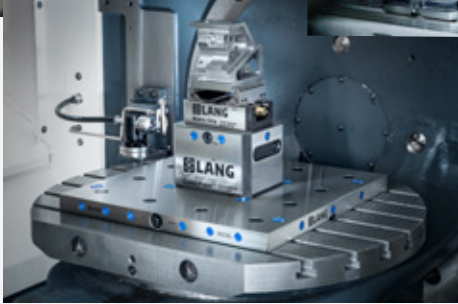
In order for the LANG catalog to become more interactive and user friendly for you, please follow the instructions on the upper right side.

### Quick·Point®

#### 3- & 4-face Tombstone 52 / 3-face Pyramid 96

Based on our Quick·Tower for horizontal machining centers, a new series of clamping towers has been added. With the addition of the 3- and 4-face Tombstone 52 and the 3-face Pyramid 96, LANG Technovation now offers multiple clamping systems for use in 5-axis machine tools. Since these clamping towers utilize the Quick·Point® Zero-Point System, the user benefits from optimized set-up times and can simultaneously use up to 8 clamping devices during machining, resulting in increased spindle run times.





CLEAN-TEC

### CONSISTENT FURTHER DEVELOPMENTS



STAMPING UNIT



VARIO-TEC

simple – clever  
innovative – pioneering  
complete – flexible



ENGINEERING



AMONGST OTHERS, SERVING THE FOLLOWING INDUSTRIES

AEROSPACE



MEDICAL ENGINEERING



AUTOMOTIVE / MOTORSPORTS



LANG Technovation

# simple. gripping. future.

We develop simple, but innovative workholding systems using our vast experience to help our customers stay **efficient** and **competitive** through **optimizing manufacturing processes** and **maximizing manufacturing capacities**.

**MORE THAN 40 OFFICIAL  
DISTRIBUTORS WORLDWIDE**

**CONTINUOUS  
GROWTH**

130 EMPLOYEES AT  
THREE DIFFERENT SITES →



**MADE IN  
GERMANY**

All from one source

# Zero-Point Clamping, Workholding and Automation

LANG was the very first workholding manufacturer to offer solutions that influenced multiple production processes. Along with offering our customers innovative clamping solutions, in order to increase production output and efficiency, LANG also set the goal of optimizing upstream and downstream processes for workpiece machining.

Today, LANG can look back on more than a decade of automated production, incorporating many years of experience into continuous process optimizations. With a perfectly coordinated, proven package of clamping technology, zero-point clamping systems, automation, and patented stamping technology, we build an atmosphere that allows our customers to remain competitive and well prepared for the challenges of the future.

## Quick·Point® Zero-Point Clamping System from page 10

The modular Quick·Point® zero-point clamping system can be retrofitted to almost any machine table, making it a perfect solution for high speed change-overs of vises, fixtures and workpieces. Whether vertical or horizontal machining, 3-, 4- or 5-axis applications, there is a model that fits your needs. Its flexibility, high positioning accuracy and reliable, durable construction make it one of the best in its class and the industry benchmark in zero-point clamping.



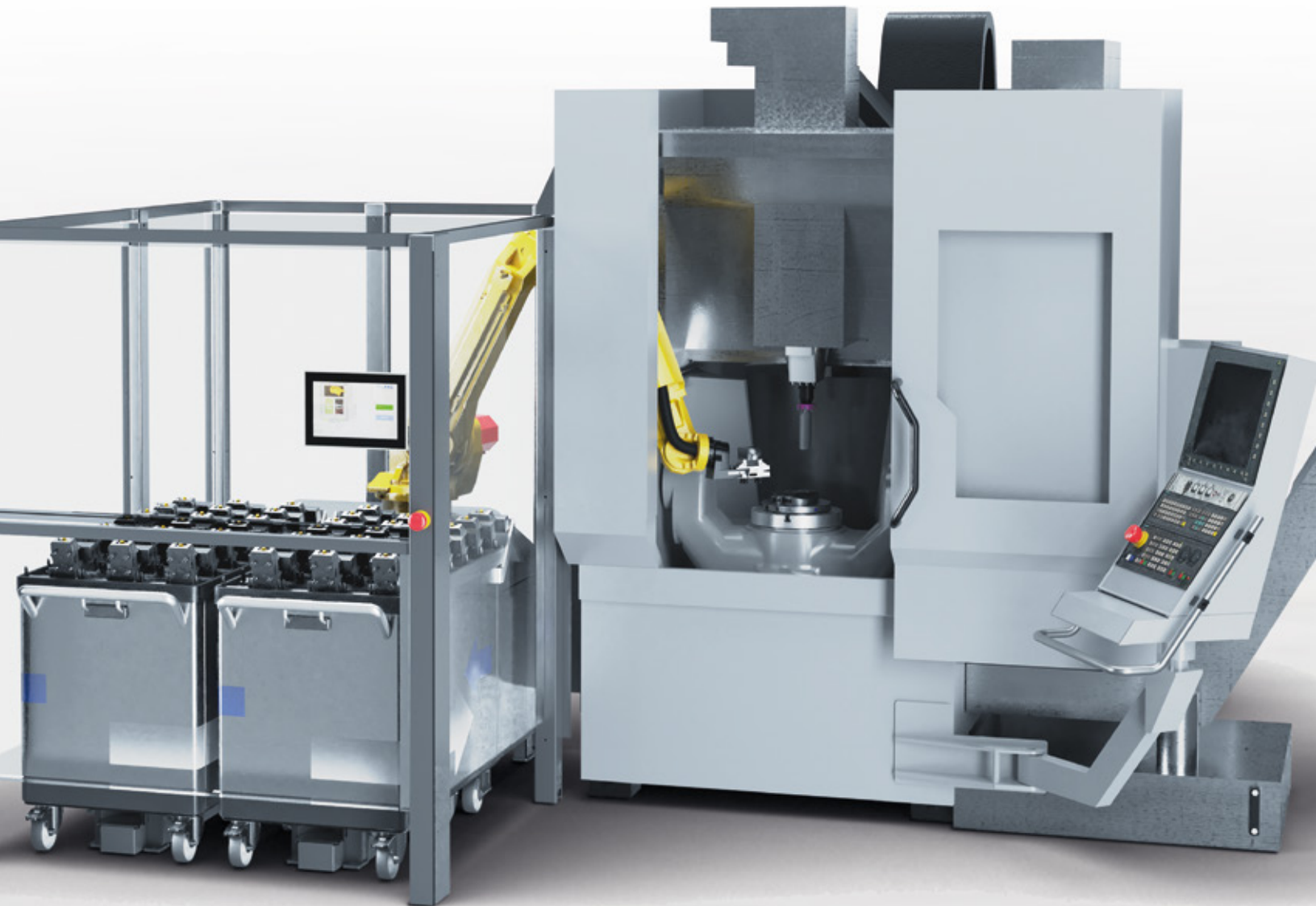
## Makro·Grip® Stamping Technology from page 62



Makro·Grip® stamping technology ensures wear-free clamping of high-tensile material via our patented form-closure technology where other, conventional clamping devices reach their limits. Clamping scenarios that require high holding power, but where the potential for workpiece deformation exists, are easily and reliably mastered with pre-stamping the workpiece. The combination of pre-stamping and the Makro·Grip® 5-Axis Vise is the best solution for 5-sided machining and has no comparable product on the market.

## Makro·Grip® Raw Part Clamping / Conventional Workholding from page 78

From raw material to finished product – A solution that fits all of your challenging clamping tasks. Where maximum accessibility is required, the compact Makro·Grip® 5-Axis Vise is your choice for 5-sided machining. From shaped to round parts. This modular clamping package is 100 % compatible with multiple clamping styles and systems.



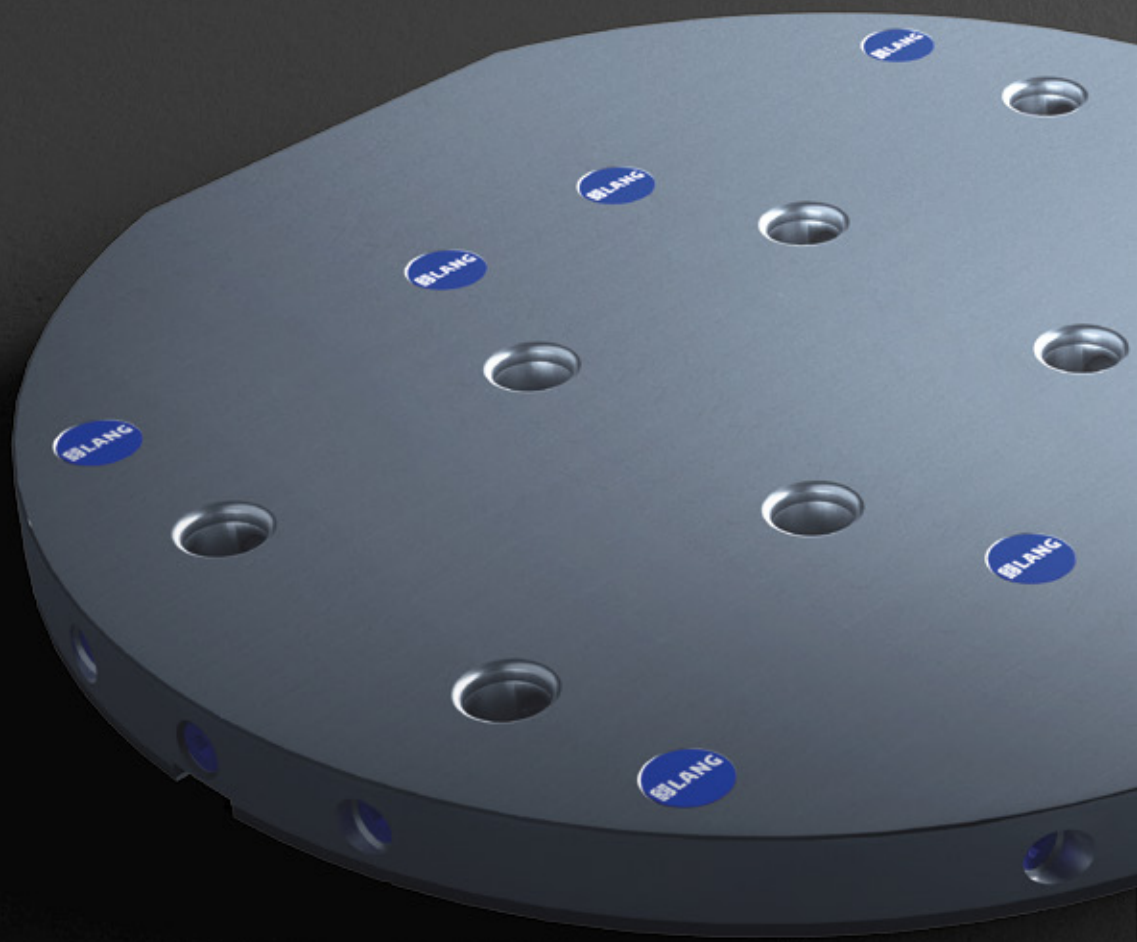
## RoboTrex Automation System

More efficiency, automatically! The innovative and patented cart system of the RoboTrex automation system creates flexibility and guarantees extended machining hours and machine tool utilization, even during unmanned evening and weekend shifts. Thanks to the offline preparation of the carts, the RoboTrex is (re-)loaded quickly and without machine tool downtime. The cart ensures maximum space utilization with the patented, angled mounting of the vises.

## Clean·Tec Cleaning Fan from page 128



Clean·Tec is the practical, time saving solution for the removal of chips and coolant from the machine table, fixtures and/or workpieces before unloading. Used like any other tool from the tool changer, the blades are opened and closed with the adjustment of the spindle rotation.



# ZERO-POINT CLAMPING SYSTEM

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# Quick·Point® Zero-Point Clamping System

As an interface between the machine table and clamping device, Quick·Point® is offered in a particularly wide range of variations. Round, rectangular or square in shape, for single or multiple clamping, two different stud sizes and spacings (52 mm and 96 mm), Quick·Point® provides a solution for every application. It can be used universally in vertical and horizontal machining centers, on 3- and 5-axis tables and 4th axis rotary and trunnion systems.

The attachment of the zero-point plate to the machine table or faceplate is done easily through prefabricated hole patterns for common groove distances, bore patterns and bolt circles to individual, customized mounting options.

## → **Reduction of the Setup Time**

High-precision exchange of clamping devices, fixtures and workpieces within seconds

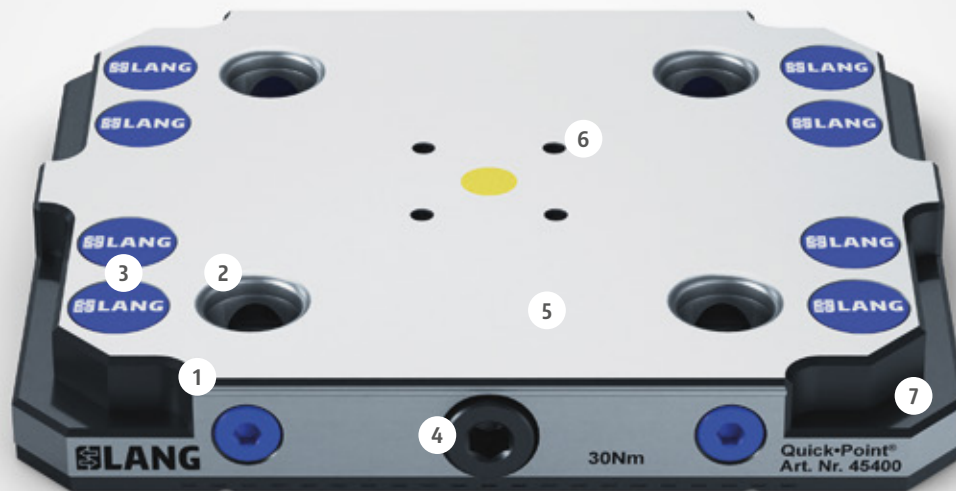
## → **Modularity**

Enormous variety of combinable zero-point plates, expandable at any time

## → **Simplicity**

Mechanical clamping via a tightening screw or quick release

# Quick-Point® Technology



- 1 With only 1.06" / 27 mm one of the lowest zero-point systems on the market
- 2 Highly precise with < 0.0002" / 0.005 mm repeat accuracy
- 3 Cover discs for mounting bores
- 4 Robust mechanical clamping with one actuation screw or Quick-Lock fastener (Quick-Point® plates for individual center bore have two actuation screws)
- 5 Rigid, compact base plate made of case-hardened and ground steel
- 6 4 × M5 threads used as positioning support for vises (added on some plates and options on others)
- 7 Clamping edge as one of a few options to mount the plate to the machine table



- 8 Ø12F5 fitting for concentric alignment, center-bore, locating keys now also available
- 9 Coolant drainage
- 10 20H7 keyways for axial alignment





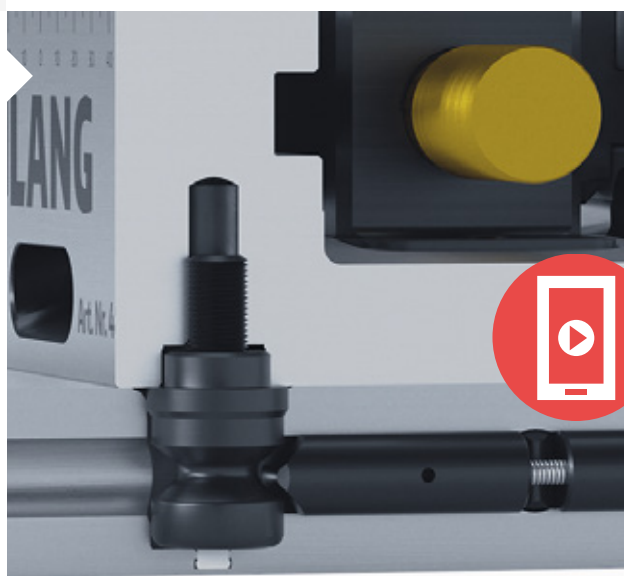
### Robust, wear-free mechanism for highest longevity

By design Quick-Point® is a purely mechanical zero-point system. A patented rod system inside the plate guarantees a repeatability of less than 0.0002" / 0.005 mm. Quick-Point® plates are actuated by one screw or Quick-Lock devices to ensure simple and easy operation.

Due to a very small number of wear-free parts the system is reliable and virtually maintenance free.

### Holding force of up to 13,227 lbs / 6.000 kg

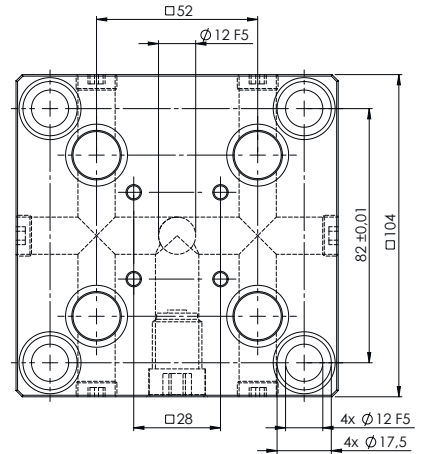
The mechanical Quick-Point® clamping concept is very simple. The picture shows a cross-section of the Quick-Point® bore where the clamping studs are pulled down by lateral clamping rods. With an actuation torque of only 30 Nm (60 Nm for 4-fold raster plate 96) a holding force of up to 3,307 lbs / 1.500 kg per clamping stud is achieved. As an example, this results in a holding force of 13,227 lbs / 6.000 kg when clamping a Makro-Grip® 5-Axis Vise 125 with 4x 20mm clamping studs. If more clamping studs are used (e.g. using your own or bigger fixtures), the holding force is increased accordingly.



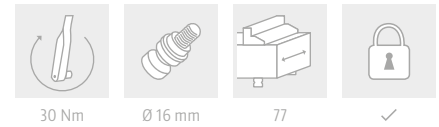
### Flexibility has no limits!

The flexible Quick-Point® zero-point clamping system qualifies for a vast number of applications in Vertical and Horizontal machining and covers almost all clamping needs on 3-/5-axis tables or 4th axis rotary and trunnion systems. The modularity of the system allows for the expansion of existing Quick-Point® fixtures at any time and guarantees fast changeovers with the highest precision. Accessories such as Quick-Lock and/or risers can upgrade the usability and functionality enormously.

# Quick·Point® Single Plates



## QUICK·POINT® 52, RASTER PLATE 4.09 × 4.09 × 1.06", WITH MOUNTING BORES

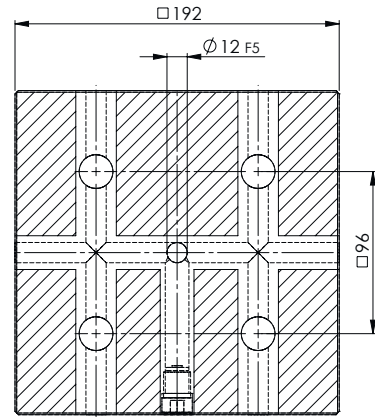


ITEM NO.	DIMENSIONS	MOUNTING BORES	WEIGHT
175600	4.09 × 4.09 × 1.06" (104 × 104 × 27 mm)	3.23 × 3.23" (82 × 82 mm)	3.97 lbs (1.8 kg)

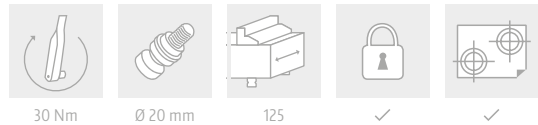
Suitable Quick-Lock: Item No. 144552 (page 54)

Suitable for Quick·Point® 3- & 4-face Tombstone mounting bore pattern (page 42 / 43)

Suitable for Quick·Tower mounting bore pattern (page 48)

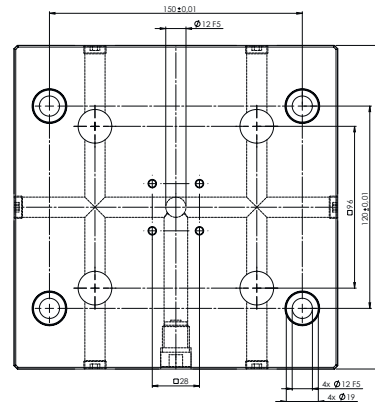


**QUICK-POINT® 96, RASTER PLATE**  
**7.56 × 7.56 × 1.06", WITHOUT MOUNTING BORES**

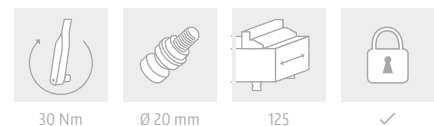


ITEM NO.	DIMENSIONS	WEIGHT
145710	7.56 × 7.56 × 1.06" (192 × 192 × 27 mm)	15.87 lbs (7.2 kg)
145004-H	Set mounting bores according to customer's request	
145002-H	Set keyways according to customer's request	

Suitable Quick-Lock: Item No. 144596 (page 54)



**QUICK-POINT® 96, RASTER PLATE**  
**7.56 × 7.56 × 1.06", WITH MOUNTING BORES**

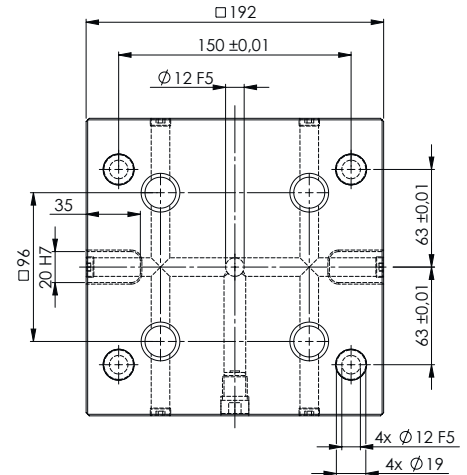


ITEM NO.	DIMENSIONS	MOUNTING BORES	WEIGHT
175710	7.56 × 7.56 × 1.06" (192 × 192 × 27 mm)	5.91 × 4.72" (150 × 120 mm)	15.43 lbs (7.0 kg)

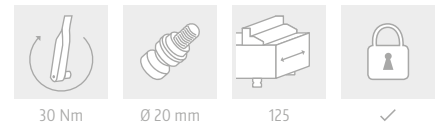
Suitable Quick-Lock: Item No. 144596 (page 54)

Suitable for Quick-Tower mounting bore pattern (page 49)

# Quick·Point® Single Plates



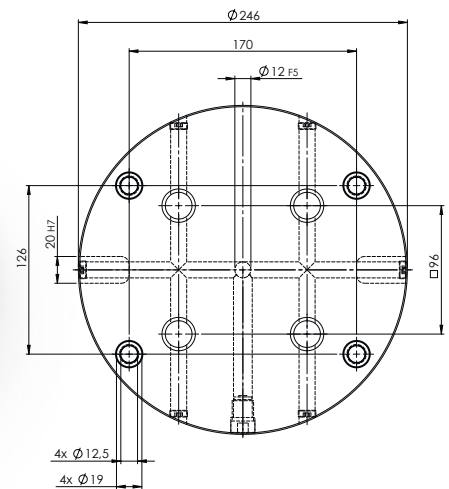
## QUICK·POINT® 96, RASTER PLATE 7.56 × 7.56 × 1.06", WITH MOUNTING BORES FOR 63 MM T-SLOT DISTANCE



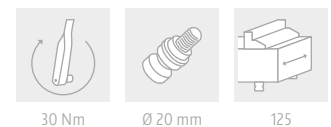
ITEM NO.	DIMENSIONS	MOUNTING BORES	WEIGHT
145763	7.56 × 7.56 × 1.06" (192 × 192 × 27 mm)	for 2.48" / 63 mm t-slot distance	15.43 lbs (7.0 kg)

Suitable Quick-Lock: Item No. 144596 (page 54)

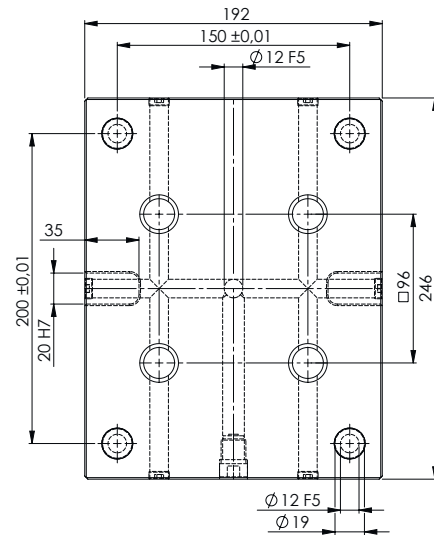
**NEW**



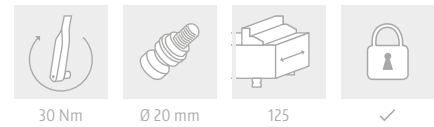
## QUICK·POINT® 96, ROUND PLATE Ø 9.69 × 1.06", WITH MOUNTING BORES FOR 63 MM T-SLOT DISTANCE



ITEM NO.	DIMENSIONS	MOUNTING BORES	WEIGHT
145863	Ø 9.69 × 1.06" (Ø 246 × 27 mm)	for 2.48" / 63 mm t-slot distance	20.50 lbs (9.3 kg)

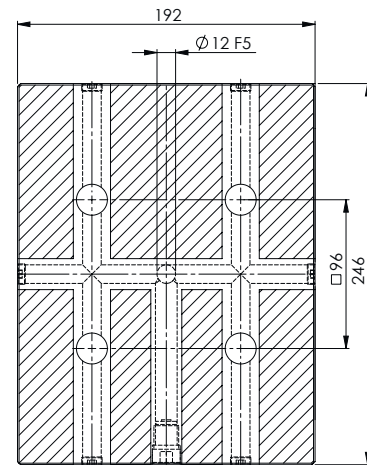


**QUICK-POINT® 96, EXTENDED RASTER PLATE**  
**9.69 × 7.56 × 1.06", WITH MOUNTING BORES FOR 100 MM T-SLOT DISTANCE**

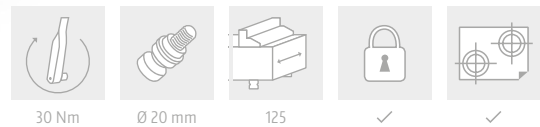


ITEM NO.	DIMENSIONS	MOUNTING BORES	WEIGHT
145715	9.69 × 7.56 × 1.06" (246 × 192 × 27 mm)	for 3.94" / 100 mm t-slot distance	20.28 lbs (9.2 kg)

Suitable Quick-Lock: Item No. 144596 (page 54)



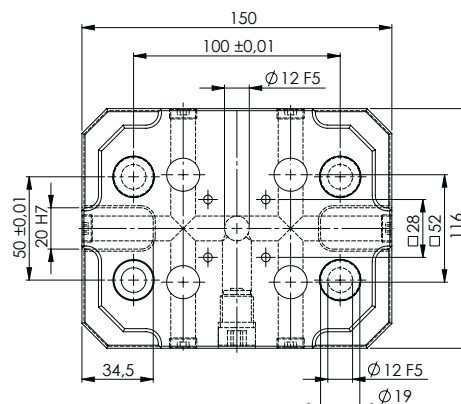
**QUICK-POINT® 96, EXTENDED RASTER PLATE**  
**9.69 × 7.56 × 1.06", WITHOUT MOUNTING BORES**



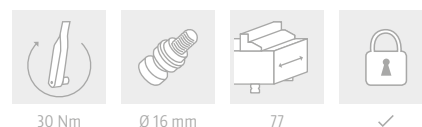
ITEM NO.	DIMENSIONS	WEIGHT
145716	9.69 × 7.56 × 1.06" (246 × 192 × 27 mm)	20.72 lbs (9.4 kg)
145004-H	Set mounting bores according to customer's request	
145002-H	Set keyways according to customer's request	

Suitable Quick-Lock: Item No. 144596 (page 54)

# Quick-Point® Single Plates

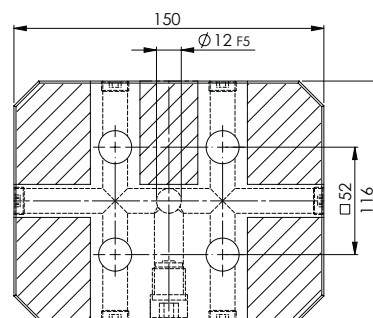


## QUICK-POINT® 52, RECTANGULAR PLATE 5.91 × 4.57 × 1.06", WITH MOUNTING BORES AND WITH CLAMPING EDGES

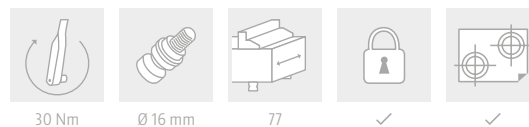


ITEM NO.	DIMENSIONS	MOUNTING BORES	WEIGHT
145150	5.91 × 4.57 × 1.06" (150 × 116 × 27 mm)	3.94 × 1.97" (100 × 50 mm)	6.39 lbs (2.9 kg)

Suitable Quick-Lock: Item No. 144552 (page 54)

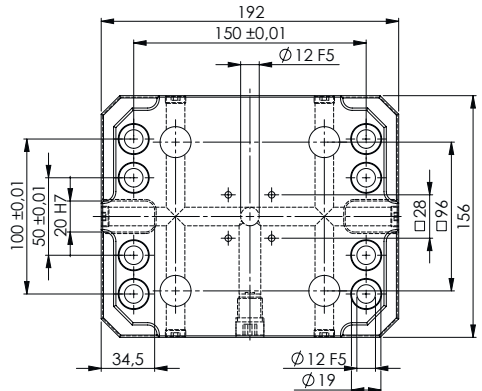


## QUICK-POINT® 52, RECTANGULAR PLATE 5.91 × 4.57 × 1.06", WITHOUT MOUNTING BORES AND WITHOUT CLAMPING EDGES

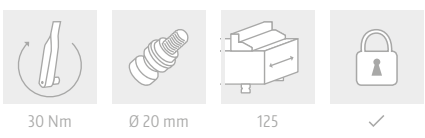


ITEM NO.	DIMENSIONS	WEIGHT
145151	5.91 × 4.57 × 1.06" (150 × 116 × 27 mm)	7.50 lbs (3.4 kg)
145004-H	Set mounting bores according to customer's request	
145002-H	Set keyways according to customer's request	

Suitable Quick-Lock: Item No. 144552 (page 54)

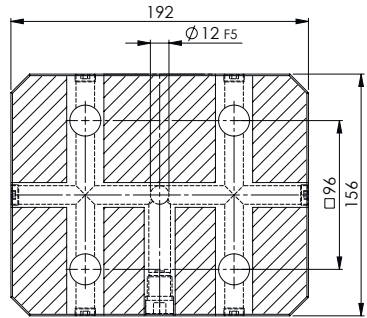


**QUICK-POINT® 96, RECTANGULAR PLATE**  
**7.56 × 6.14 × 1.06", WITH MOUNTING BORES AND CLAMPING EDGES**



ITEM NO.	DIMENSIONS	MOUNTING BORES	WEIGHT
145400	7.56 × 6.14 × 1.06" (192 × 156 × 27 mm)	5.91 × 3.94 / 1.97" (150 × 100 mm / 50 mm)	12.13 lbs (5.5 kg)

Suitable Quick-Lock: Item No. 144596 (page 54)



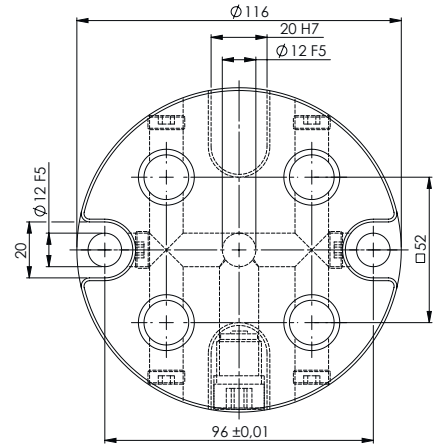
**QUICK-POINT® 96, RECTANGULAR PLATE**  
**7.56 × 6.14 × 1.06", WITHOUT MOUNTING BORES AND WITHOUT CLAMPING EDGES**



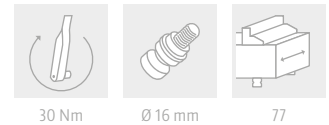
ITEM NO.	DIMENSIONS	WEIGHT
145401	7.56 × 6.14 × 1.06" (192 × 156 × 27 mm)	13.23 lbs (6.0 kg)
145004-H	Set mounting bores according to customer's request	
145002-H	Set keyways according to customer's request	

Suitable Quick-Lock: Item No. 144596 (page 54)

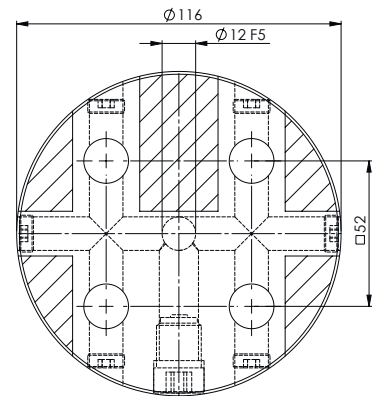
# Quick·Point® Single Plates



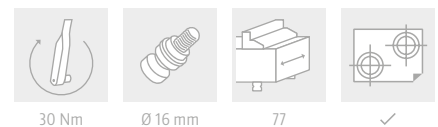
## QUICK·POINT® 52, ROUND PLATE Ø 4.57 × 1.06", WITH MOUNTING BORES



ITEM NO.	DIMENSIONS	MOUNTING BORES	WEIGHT
145750	Ø 4.57 × 1.06" (Ø 116 × 27 mm)	3.78" (96 mm) distance	4.19 lbs (1.9 kg)

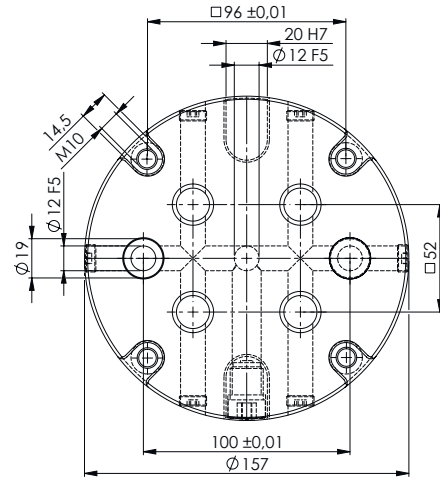


## QUICK·POINT® 52, ROUND PLATE Ø 4.57 × 1.06", WITHOUT MOUNTING BORES

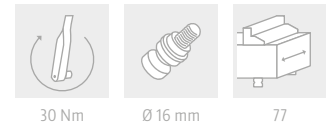


ITEM NO.	DIMENSIONS	WEIGHT
145751	Ø 4.57 × 1.06" (Ø 116 × 27 mm)	4.63 lbs (2.1 kg)
145004-H	Set mounting bores according to customer's request	
145002-H	Set keyways according to customer's request	



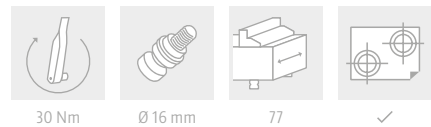
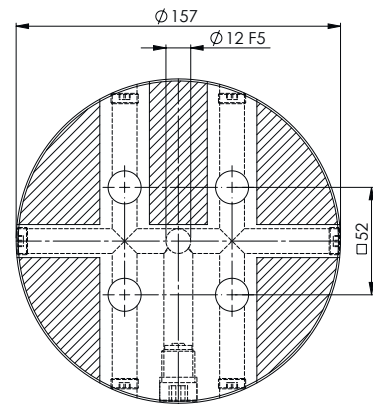


**QUICK-POINT® 52, ROUND PLATE**  
**Ø 6.18 × 1.06", WITH MOUNTING BORES AND ADAPTER BORES**



ITEM NO.	DIMENSIONS	MOUNTING BORES	WEIGHT
145900	Ø 6.18 × 1.06" (Ø 157 × 27 mm)	3.94" (100 mm) distance	7.71 lbs (3.5 kg)

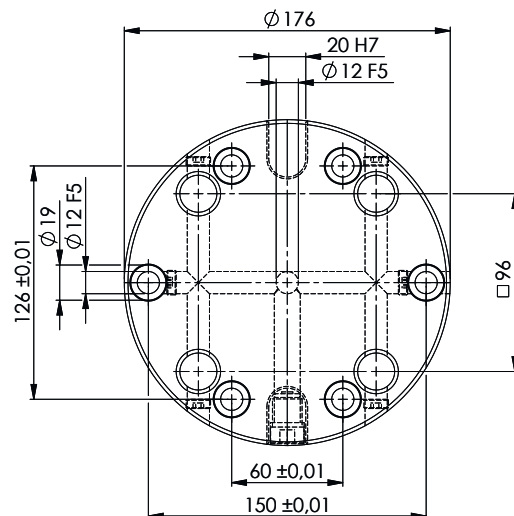
Can also be used as an adapter plate by mounting Ø 20 mm clamping studs (page 35)



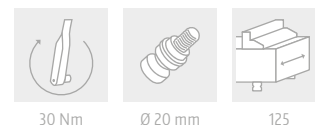
**QUICK-POINT® 52, ROUND PLATE**  
**Ø 6.18 × 1.06", WITHOUT MOUNTING BORES**

ITEM NO.	DIMENSIONS	WEIGHT
145901	Ø 6.18 × 1.06" (Ø 157 × 27 mm)	8.38 lbs (3.8 kg)
145004-H	Set mounting bores according to customer's request	
145002-H	Set keyways according to customer's request	

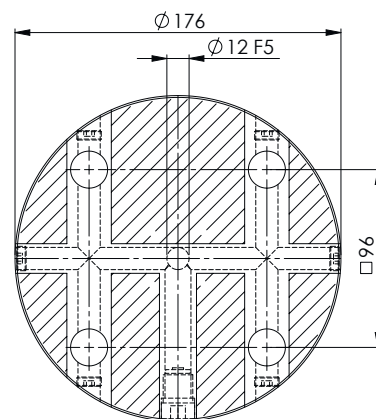
# Quick·Point® Single Plates



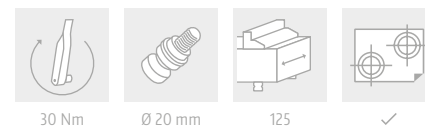
## QUICK·POINT® 96, ROUND PLATE Ø 6.93 × 1.06", WITH MOUNTING BORES FOR 63 MM T-SLOT DISTANCE



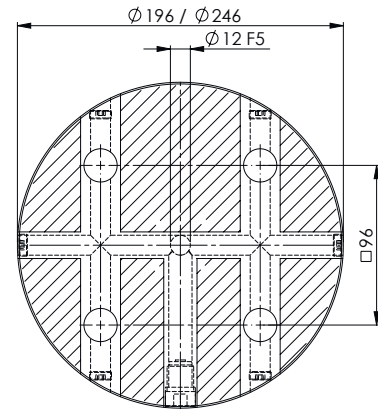
ITEM NO.	DIMENSIONS	MOUNTING BORES	WEIGHT
145800	Ø 6.93 × 1.06" (176 × 27 mm)	for 2.48" (63 mm) t-slot distance	10.36 lbs (4.7 kg)



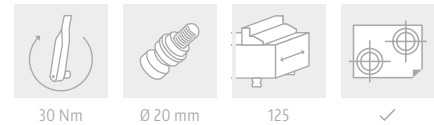
## QUICK·POINT® 96, ROUND PLATE Ø 6.93 × 1.06", WITHOUT MOUNTING BORES



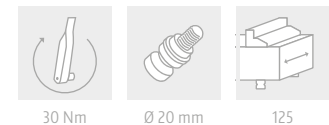
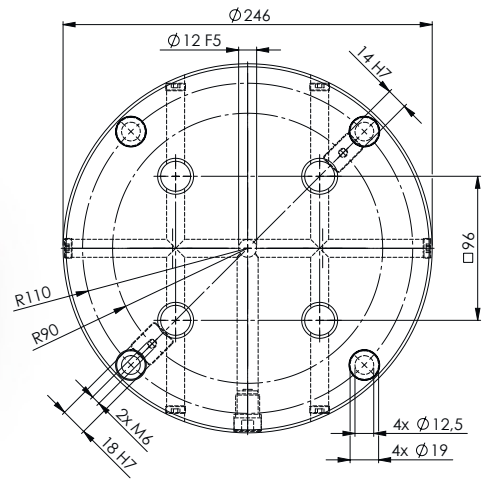
ITEM NO.	DIMENSIONS	WEIGHT
145801	Ø 6.93 × 1.06" (176 × 27 mm)	10.58 lbs (4.8 kg)
145004-H	Set mounting bores according to customer's request	
145002-H	Set keyways according to customer's request	



**QUICK-POINT® 96, ROUND PLATE**  
**Ø 7.72 / 9.69 × 1.06", WITHOUT MOUNTING BORES**



ITEM NO.	DIMENSIONS	WEIGHT
145820	Ø 7.72 × 1.06" (Ø 196 × 27 mm)	20.50 lbs (9.3 kg)
145840	Ø 9.69 × 1.06" (Ø 246 × 27 mm)	20.94 lbs (9.5 kg)
145004-H	Set mounting bores according to customer's request	
145002-H	Set keyways according to customer's request	

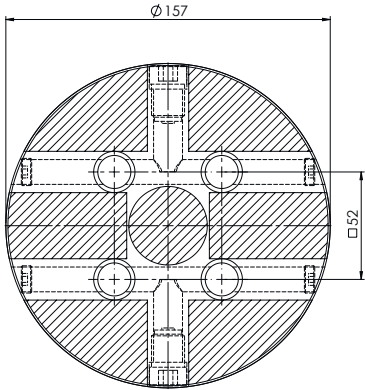


**QUICK-POINT® 96, ROUND PLATE**  
**Ø 9.69 × 1.06", WITH MOUNTING BORES FOR TABLES WITH 90° GROOVES**

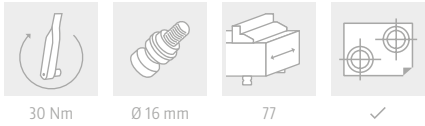
ITEM NO.	DIMENSIONS	MOUNTING BORES	WEIGHT
145890	Ø 9.69 × 1.06" (Ø 246 × 27 mm)	4 × 90° / Radius 4.33" (110 mm)	20.50 lbs (9.3 kg)

Suitable Slot Keys: Item No. 1452214 / 1452218 (page 57)

# Quick·Point® Single Plates for individual center bore

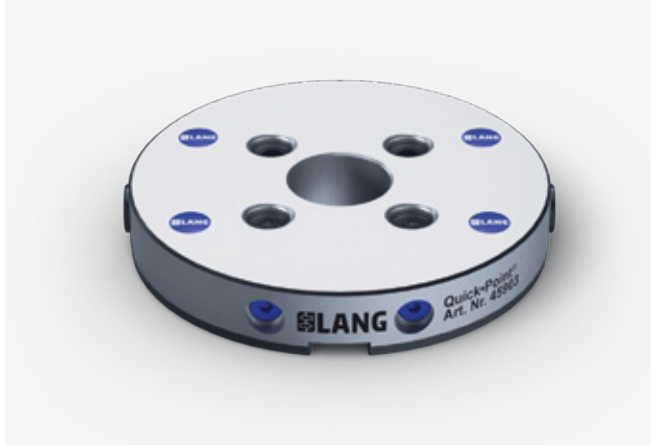


**QUICK·POINT® 52, ROUND PLATE**  
**Ø 6.18 × 1.06", WITHOUT MOUNTING BORES AND**  
**FOR INDIVIDUAL CENTER BORE**



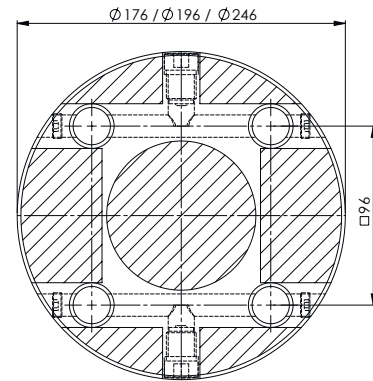
ITEM NO.	DIMENSIONS	MAX. Ø CENTER BORE	WEIGHT
145903	Ø 6.18 × 1.06" (Ø 157 × 27 mm)	1.50" (38 mm)	8.16 lbs (3.7 kg)
145004-H	Set mounting bores according to customer's request		
145002-H	Set keyways according to customer's request		
145009-H	Set center bore according to customer's request		

## Possible Modification of Quick·Point® Plate 145903

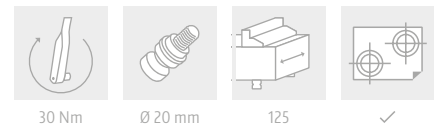


- 1 × Center bore Ø 1.50" / 38 mm
- 1 × Keyway 20H7
- 4 × Mounting bores for M8 screws, incl. step for Ø 15 mm cover disc. For machine tables with 6 × 60° grooves

A center bore with individually selectable diameter and tolerance provides the option for access to rotary joints.

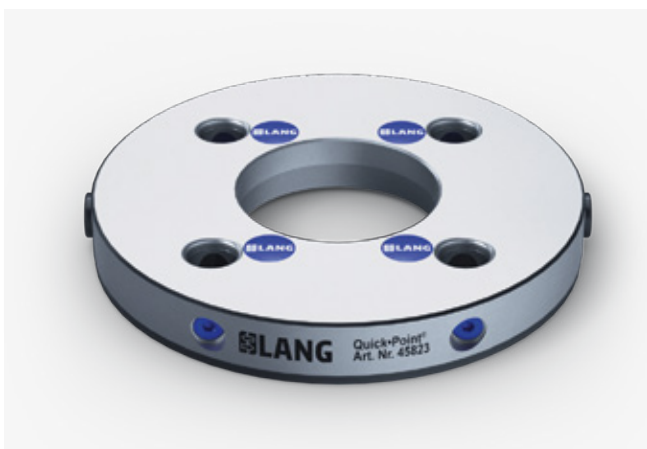


**QUICK-POINT® 96, ROUND PLATE**  
**Ø 6.93 / 7.72 / 9.69 × 1.06", WITHOUT MOUNTING BORES AND**  
**FOR INDIVIDUAL CENTER BORE**



ITEM NO.	DIMENSIONS	MAX. Ø CENTER BORE	WEIGHT
145803	Ø 6.93 × 1.06" (Ø 176 × 27 mm)	3.15" (80 mm)	10.58 lbs (4.8 kg)
145823	Ø 7.72 × 1.06" (Ø 196 × 27 mm)	3.15" (80 mm)	13.23 lbs (6.0 kg)
145843	Ø 9.69 × 1.06" (Ø 246 × 27 mm)	3.15" (80 mm)	20.94 lbs (9.5 kg)
145004-H	Set mounting bores according to customer's request		
145002-H	Set keyways according to customer's request		
145009-H	Set center bore according to customer's request		

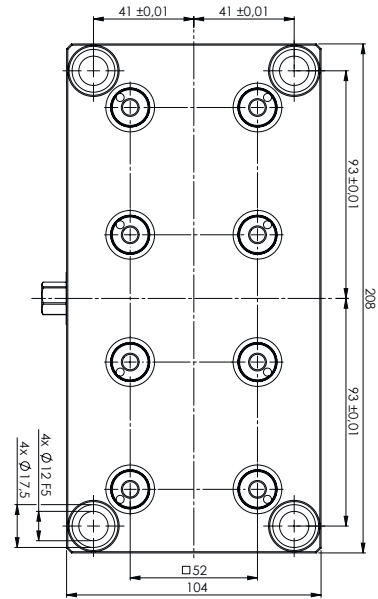
Possible Modification of Quick-Point® Plate 145823



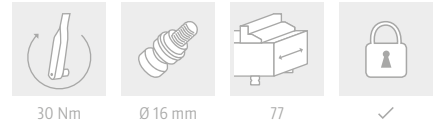
- 1 × Center bore Ø 3.15" / Ø 80 mm
- 1 × 130H6 tapered fitting
- 4 × Mounting bores for M12 screws, incl. step for Ø 20 mm cover discs. For machine tables with 6 × 60° grooves

# Quick·Point® Multi Plates

**NEW**

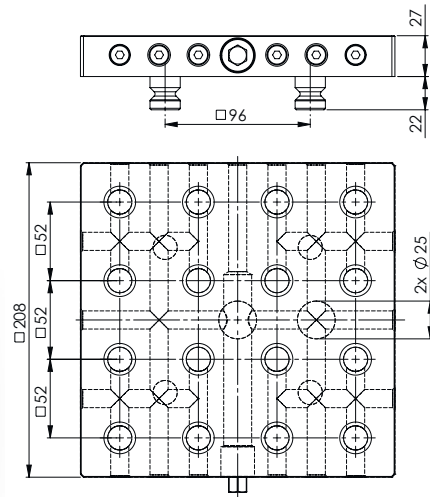


**QUICK·POINT® 52, DOUBLE RASTER PLATE**  
**8.19 × 4.09 × 1.06", WITH MOUNTING BORES**

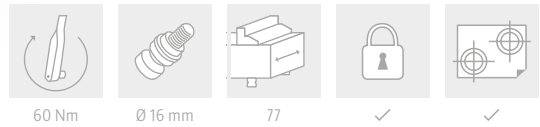


ITEM NO.	DIMENSIONS	MOUNTING BORES	WEIGHT
145621	8.19 × 104 × 1.06" (208 × 104 × 27 mm)	7.32 × 3.23" (186 × 82 mm)	8.82 lbs (4.0 kg)

Suitable Quick-Lock: Item No. 145252 (page 54)

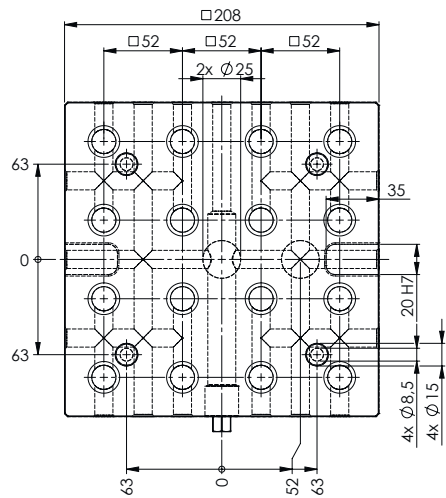


**QUICK-POINT® 52, 4-FOLD RASTER PLATE**  
**8.19 × 8.19 × 1.06", WITHOUT MOUNTING BORES**

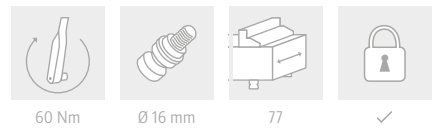


ITEM NO.	DIMENSIONS	WEIGHT
145640	8.19 × 8.19 × 1.06" (208 × 208 × 27 mm)	18.08 lbs (8.2 kg)
145004-H	Set mounting bores according to customer's request	
145002-H	Set keyways according to customer's request	

Included: 4 × Quick-Point® Clamping Studs Ø 20 mm, for adapting the plate to the Quick-Point® 96 system  
 Suitable Quick-Lock: Item No. 145452 (page 54)



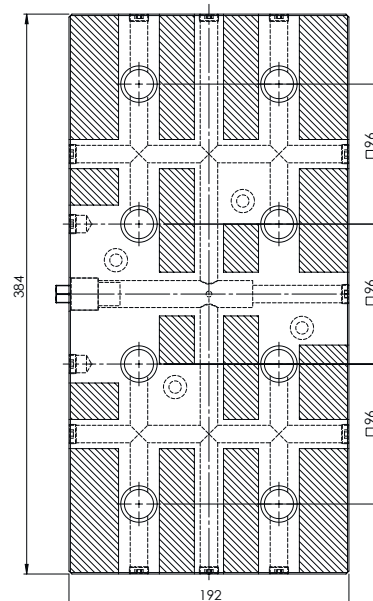
**QUICK-POINT® 52, 4-FOLD RASTER PLATE**  
**8.19 × 8.19 × 1.06", WITH MOUNTING BORES FOR 63 MM T-SLOT DISTANCE**



ITEM NO.	DIMENSIONS	MOUNTING BORES	WEIGHT
145641	8.19 × 8.19 × 1.06" (208 × 208 × 27 mm)	for 2.48" / 63 mm t-slot distance	17.64 lbs (8.0 kg)

Suitable Quick-Lock: Item No. 145452 (page 54)

# Quick·Point® Multi Plates



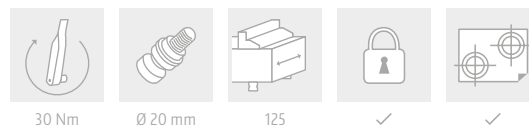
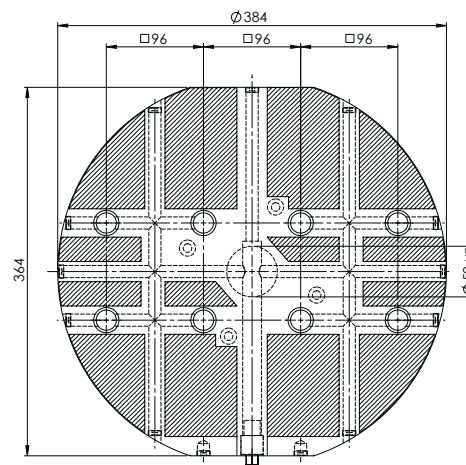
## QUICK·POINT® 96, DOUBLE RASTER PLATE 15.12 × 7.56 × 1.06", WITHOUT MOUNTING BORES



ITEM NO.	DIMENSIONS	WEIGHT
145720	15.12 × 7.56 × 1.06" (384 × 192 × 27 mm)	32.41 lbs (14.7 kg)
145004-H	Set mounting bores according to customer's request	
145002-H	Set keyways according to customer's request	

Suitable Quick-Lock: Item No. 145296 (page 54)

**NEW**



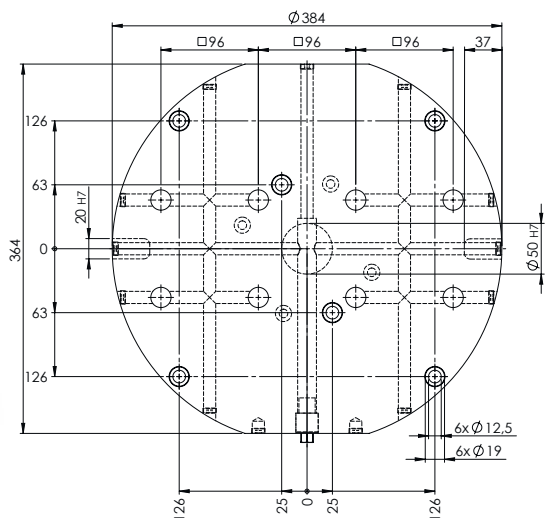
## QUICK·POINT® 96, DOUBLE RASTER PLATE, ROUND Ø 15.12 × 1.06", WITHOUT MOUNTING BORES





ITEM NO.	DIMENSIONS	WEIGHT
145962	Ø 15.12 × 1.06" (384 × 27 mm)	50.27 lbs (22.8 kg)
145004-H	Set mounting bores according to customer's request	
145002-H	Set keyways according to customer's request	

Suitable Quick-Lock: Item No. 145996 (page 54)



**NEW**



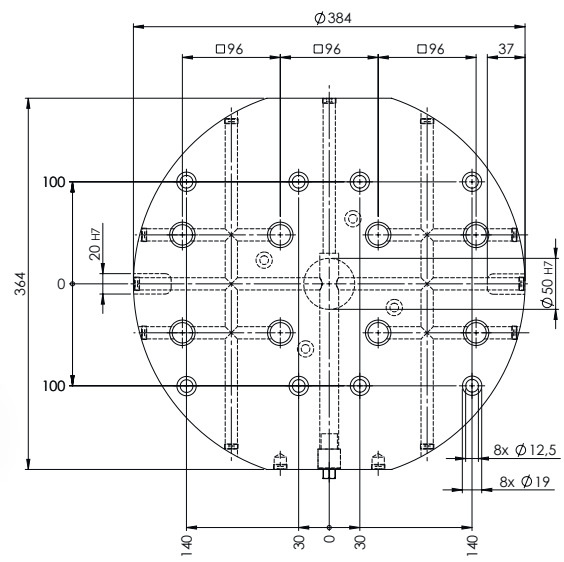
			
30 Nm	Ø 20 mm	125	✓





**QUICK-POINT® 96, DOUBLE RASTER PLATE, ROUND  
Ø 15.12 × 1.06", WITH MOUNTING BORES FOR 63 MM T-SLOT DISTANCE**

ITEM NO.	DIMENSIONS	MOUNTING BORES	WEIGHT
145963	Ø 15.12 × 1.06" (384 × 27 mm)	for 2.48" / 63 mm t-slot distance	49.38 lbs (22.4 kg)

Suitable Quick-Lock: Item No. 145996 (page 54)

**NEW**



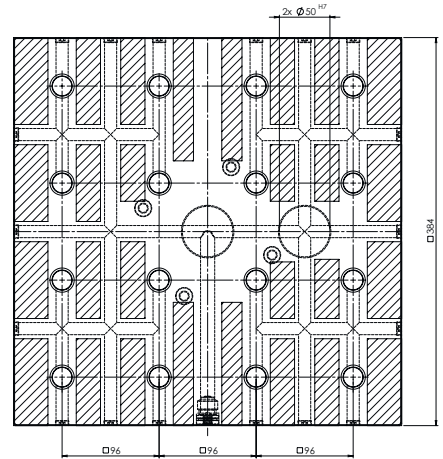
			
30 Nm	Ø 20 mm	125	✓

**QUICK-POINT® 96, DOUBLE RASTER PLATE, ROUND  
Ø 15.12 × 1.06", WITH MOUNTING BORES FOR 100 MM T-SLOT DISTANCE**

ITEM NO.	DIMENSIONS	MOUNTING BORES	WEIGHT
145964	Ø 15.12 × 1.06" (384 × 27 mm)	for 3.94" / 100 mm t-slot distance	49.38 lbs (22.4 kg)

Suitable Quick-Lock: Item No. 145996 (page 54)

# Quick·Point® Multi Plates



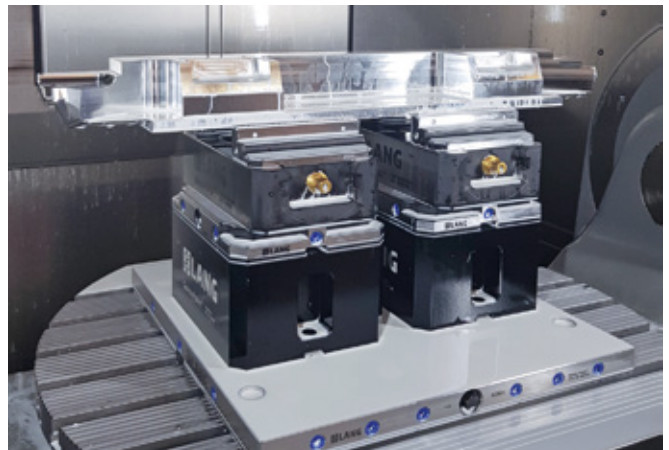
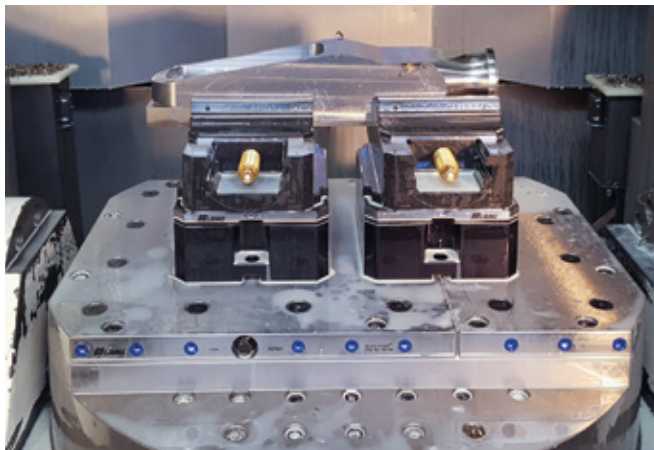
## QUICK·POINT® 96, 4-FOLD RASTER PLATE 15.12 × 15.12 × 1.06", WITHOUT MOUNTING BORES

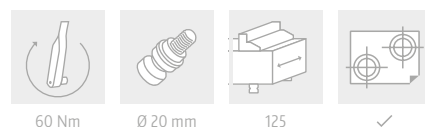
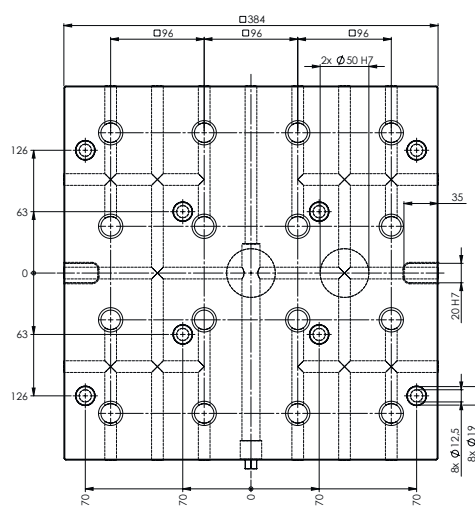


ITEM NO.	DIMENSIONS	WEIGHT
145740	15.12 × 15.12 × 1.06" (384 × 384 × 27 mm)	65.48 lbs (29.7 kg)
145004-H	Set mounting bores according to customer's request	
145002-H	Set keyways according to customer's request	

Suitable Quick-Lock: Item No. 145496 (page 54)

## Applications

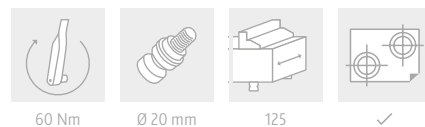
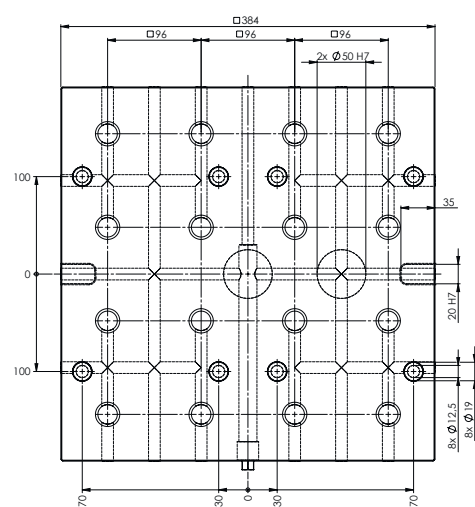




**QUICK-POINT® 96, 4-FOLD RASTER PLATE**  
**15.12 × 15.12 × 1.06", WITH MOUNTING BORES FOR 63 MM T-SLOT DISTANCE**

ITEM NO.	DIMENSIONS	MOUNTING BORES	WEIGHT
145741	15.12 × 15.12 × 1.06" (384 × 384 × 27 mm)	for 2.48" / 63 mm t-slot distance	64.37 lbs (29.2 kg)

Suitable Quick-Lock: Item No. 145496 (page 54)



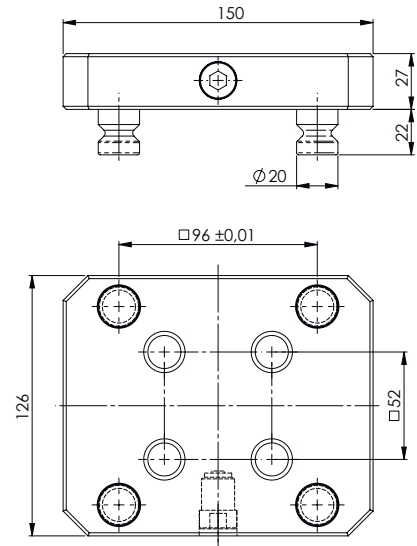
**QUICK-POINT® 96, 4-FOLD RASTER PLATE**  
**15.12 × 15.12 × 1.06", WITH MOUNTING BORES FOR 100 MM T-SLOT DISTANCE**

ITEM NO.	DIMENSIONS	MOUNTING BORES	WEIGHT
145742	15.12 × 15.12 × 1.06" (384 × 384 × 27 mm)	for 3.94" / 100 mm t-slot distance	64.37 lbs (29.2 kg)

Suitable Quick-Lock: Item No. 145496 (page 54)

# Quick·Point® Adapter Plates

Utilize the modularity of the zero-point clamping system by quickly reducing from 96 mm to 52 mm stud spacings with these adapter plates.



## QUICK·POINT® 52 ADAPTER PLATE 5.90 × 4.96 × 1.06", WITH CLAMPING STUDS Ø 20 MM

Upper interface:



30 Nm



Ø 16 mm

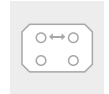


77



✓

Lower interface:

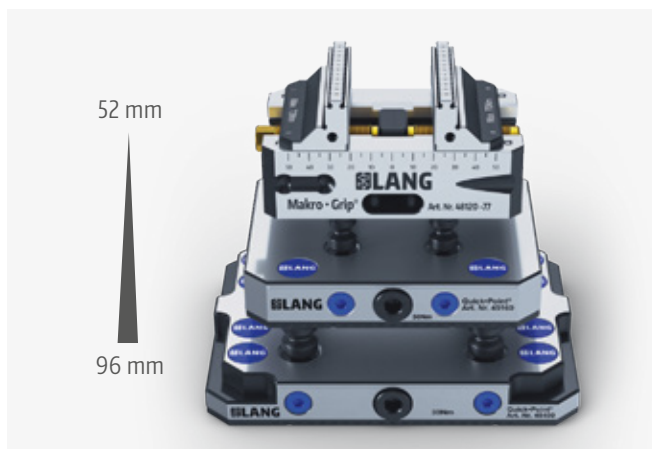


96

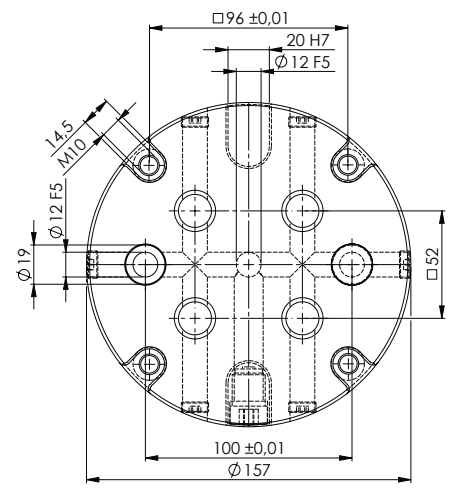
ITEM NO.	DIMENSIONS	WEIGHT
145160	5.90 × 4.96 × 1.06" (150 × 126 × 27 mm)	7.50 lbs (3.4 kg)

Suitable Quick-Lock: Item No. 144552 (page 54)

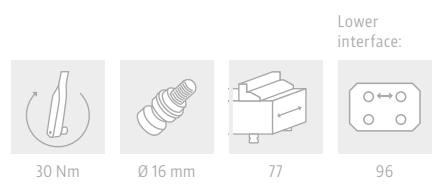
## Applications



Convert your Quick-Point® Round Plate, Item No. 145900 into an Adapter Plate



**QUICK-POINT® 52, ROUND PLATE**  
**Ø 6.18 × 1.06", WITH MOUNTING BORES AND ADAPTER BORES**

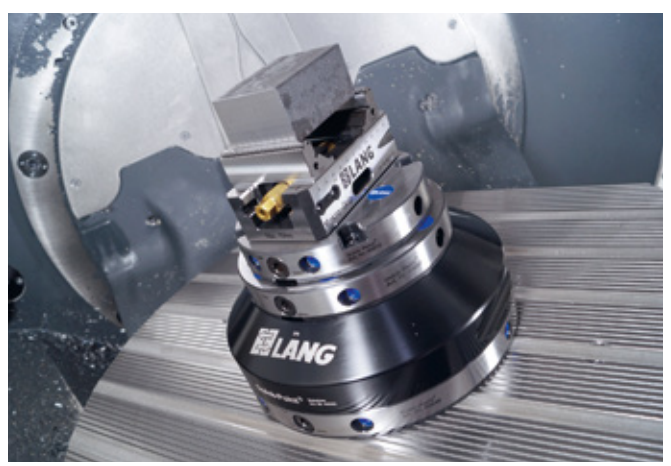
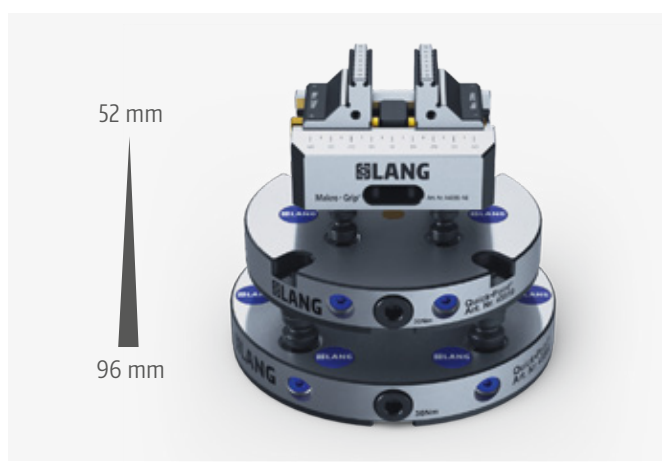


ITEM NO.	DIMENSIONS	MOUNTING BORES	WEIGHT
145900	Ø 6.18 × 1.06" (Ø 157 × 27 mm)	3.94" (100 mm) distance	7.71 lbs (3.5 kg)



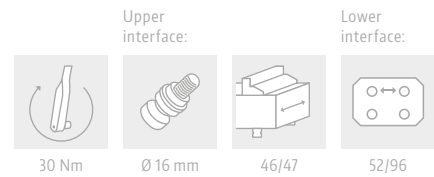
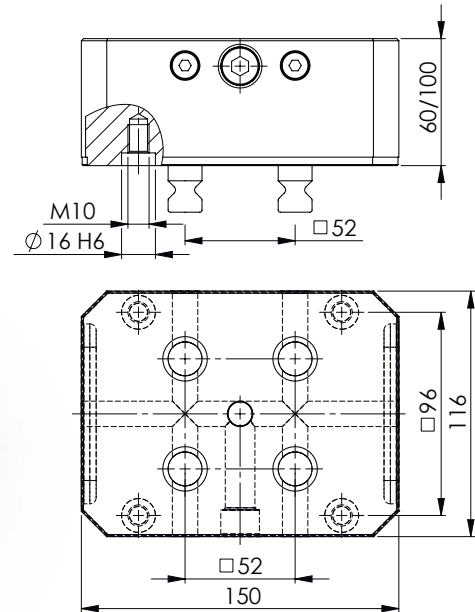
**QUICK-POINT® CLAMPING STUDS FOR INDIVIDUAL ADAPTATION**

ITEM NO.	DESCRIPTION	UNIT
145570	Ø 20 mm for 96 mm stud pitch, incl. M 10 threaded pin	4 pcs.



# Quick-Point® 5-Axis Risers

Increase accessibility to workpieces on 5-axis machine tools with these risers. With no additional interface between the solid riser and the vise, improved rigidity is provided.



## QUICK-POINT® 52, 5-AXIS RISER

ITEM NO.	DIMENSIONS	WEIGHT
145156	5.91 × 4.57 × 2.36" (150 × 116 × 60 mm)	13.45 lbs (6.1 kg)
145157	5.91 × 4.57 × 3.94" (150 × 116 × 100 mm)	22.05 lbs (10.0 kg)

Included: 4 × Quick-Point® Clamping Studs Ø 16 mm.

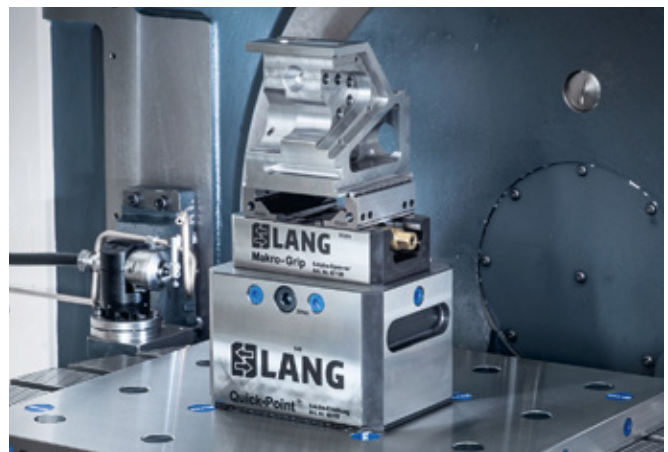
Suitable Quick-Lock: Item No. 144552 (page 54)

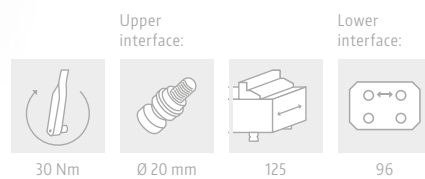
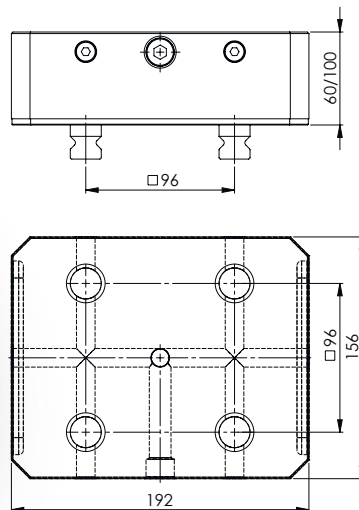
Suitable to be used as an adapter by using clamping studs Ø 20 mm for the 96 mm pattern instead of the supplied clamping studs Ø 16 mm clamping studs (page 50).

## Applications



This riser also features bores for Ø 20 mm clamping studs to use it as an adapter for the 96 mm grid system.

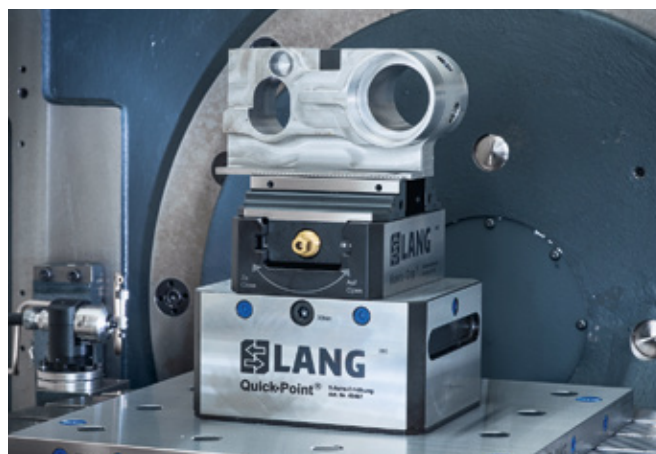
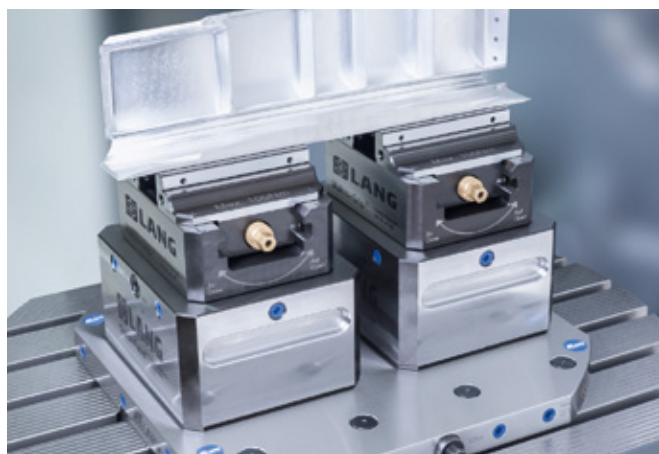




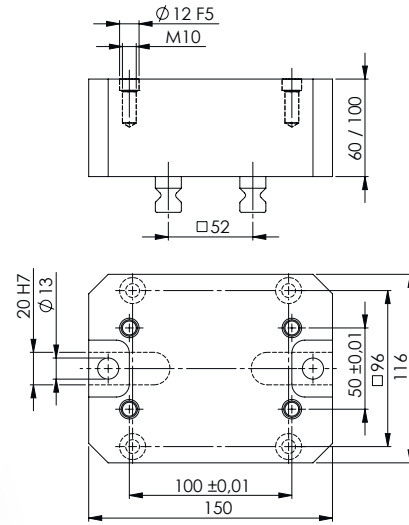
### QUICK-POINT® 96, 5-AXIS RISER

ITEM NO.	DIMENSIONS	WEIGHT
145406	7.56 × 6.14 × 2.36" (192 × 156 × 60 mm)	24.69 lbs (11.2 kg)
145407	7.56 × 6.14 × 3.94" (192 × 156 × 100 mm)	39.90 lbs (18.1 kg)

Included: 4 × Quick-Point® Clamping Studs Ø 20 mm.  
Suitable Quick-Lock: Item No. 144596 (page 54)



# Quick-Point® Risers



Lower interface:



52/96

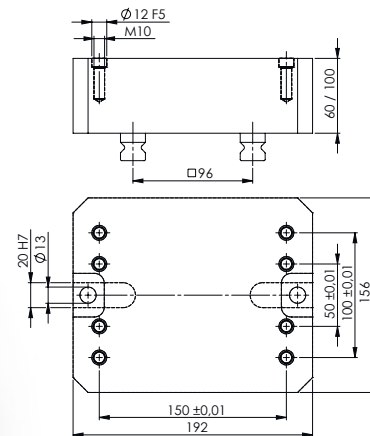
## QUICK-POINT® 52 RISER, FOR QUICK-POINT® PLATE 145150

ITEM NO.	DIMENSIONS	WEIGHT
143060	5.91 × 4.57 × 2.36" (150 × 116 × 60 mm)	5.51 lbs (2.5 kg)
143100	5.91 × 4.57 × 3.94" (150 × 116 × 100 mm)	9.26 lbs (4.2 kg)

For upper interface 145150 Quick-Point® rectangular plate is needed (page 20).

Included: 4 × Quick-Point® Clamping Studs Ø 16 mm, 4 screws M 10 + 2 bushings Ø 12 × 12 mm (Item No. 145000-09)

Suitable to be used as an adapter by using clamping studs Ø 20 mm for the 96 mm pattern instead of the supplied clamping studs Ø 16 mm clamping studs (page 50)



Lower interface:



96

## QUICK-POINT® 96 RISER, FOR QUICK-POINT® PLATE 145400

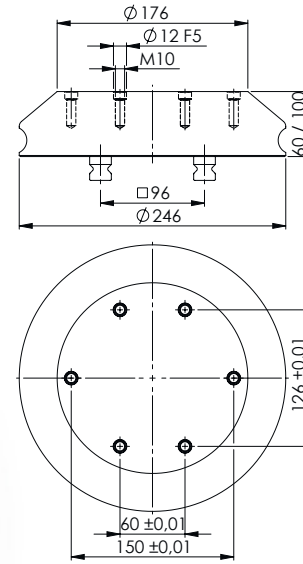
ITEM NO.	DIMENSIONS	WEIGHT
144060	7.56 × 6.14 × 2.36" (192 × 156 × 60 mm)	10.36 lbs (4.7 kg)
144100	7.56 × 6.14 × 3.94" (192 × 156 × 100 mm)	17.42 lbs (7.9 kg)

For upper interface 145400 Quick-Point® rectangular plate is needed (page 21).

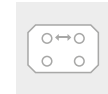
Included: 4 × Quick-Point® Clamping Studs Ø 20 mm, 4 screws M 10 + 2 bushings Ø 12 × 12 mm" (Item No. 145000-09)



Increase accessibility to workpieces on 5-axis machine tools. The coated aluminium body can either be mounted directly on the machine table or by a Quick-Point® plate. The lateral recess can be used for fixation, the alignment is done with 20H7 keyways. Alternatively it can be clamped onto zero-point clamping systems with 4 clamping studs.



Lower interface:



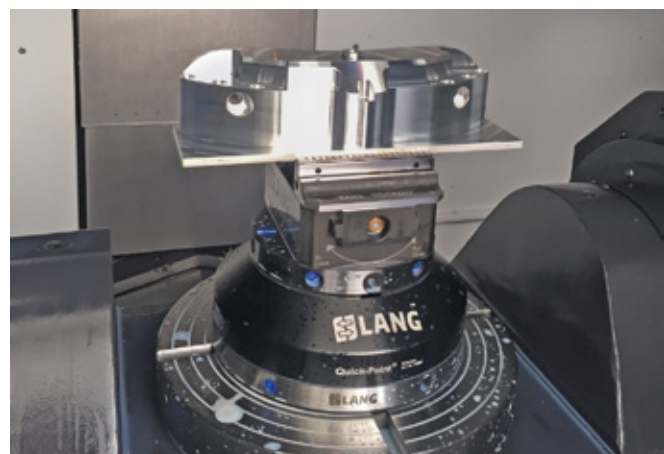
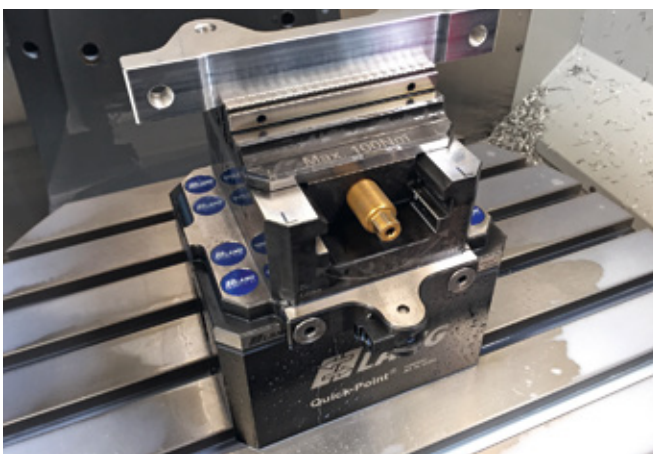
96

**QUICK-POINT® 96 RISER, ROUND, FOR QUICK-POINT® PLATE 145800**

ITEM NO.	HEIGHT	DIAMETER	WEIGHT
144006	2.36" (60 mm)	9.69"-6.93" (246-176 mm)	14.55 lbs (6.6 kg)
144010	3.94" (100 mm)	9.69"-6.93" (246-176 mm)	26.01 lbs (11.8 kg)

For upper interface 145800 Quick-Point® round plate is needed (page 24)  
 Included: 4 × Quick-Point® Clamping Studs Ø 20 mm, 6 screws M 10 + 2 bushings Ø 12 × 12 mm (Item No. 145000-09)  
 Individual mounting bores in the flange are possible.

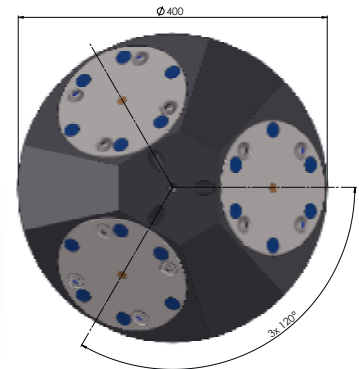
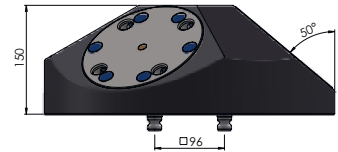
**Applications**



# Quick·Point® 3-face Pyramid

The high-strength, aluminum 3-face Pyramid with integrated Quick·Point® round plates is designed for increasing the run time of 5-axis machine tools.

**NEW**



Upper interface:



30 Nm

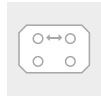


Ø 20 mm



125

Lower interface:

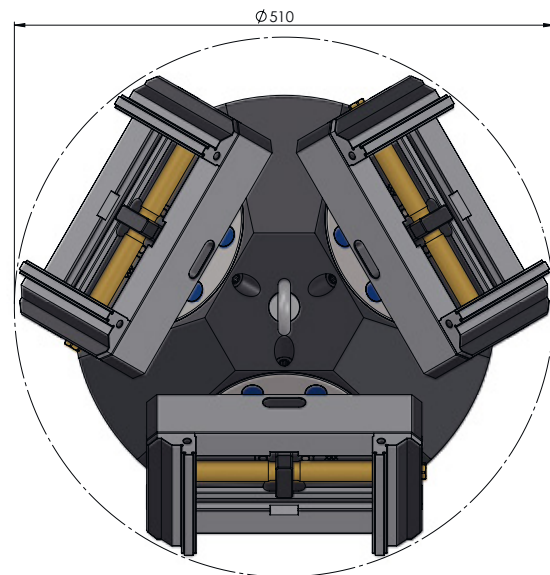
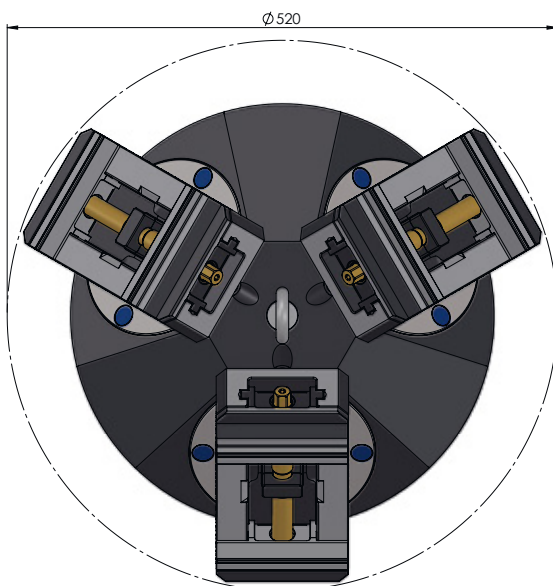


96

## QUICK·POINT® 96, 3-FACE PYRAMID

ITEM NO.	DIMENSIONS	WEIGHT
143400	Ø 15.75 × 5.91" (400 × 150 mm)	94.80 lbs (43.0 kg)

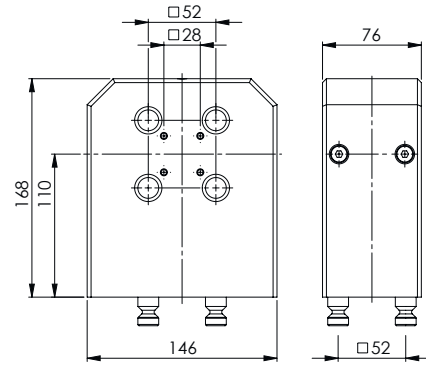
Included: 4 × clamping studs Ø 20 mm



The 3-face Pyramid can accept Makro·Grip® 5-Axis Vice 125 with a maximum length of 210 mm when mounted vertically (left), whereas the maximum length is 260 mm when mounted horizontally (right).

# Quick-Point® Twin Base

The hardened and ground Twin Base is ideal for manufacturing 5-axis parts with a 3-axis machine tool. Workpieces can be positioned  $4 \times 90^\circ$  safely and with a high repeat accuracy.



Upper interface:



30 Nm



Ø 16 mm



77

Lower interface:

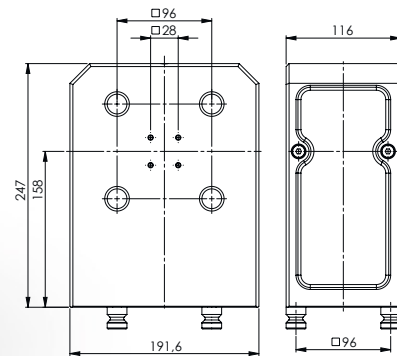


52

## QUICK-POINT® TWIN BASE 52

ITEM NO.	DIMENSIONS	WEIGHT
147220	5.75 × 2.99 × 6.61" (146 × 76 × 168 mm)	30.64 lbs (13.9 kg)

Suitable Quick-Lock: Item No. 144552 (page 54).



Upper interface:



30 Nm



Ø 20 mm



125

Lower interface:



96

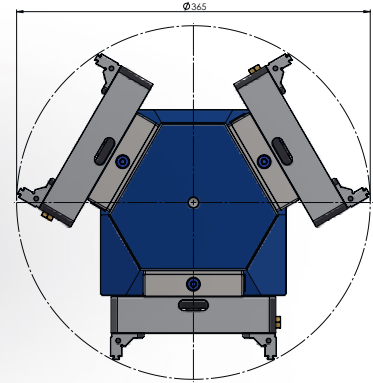
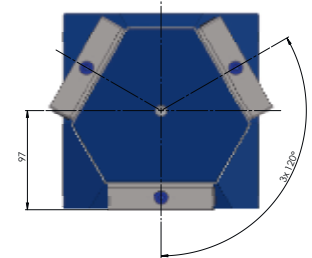
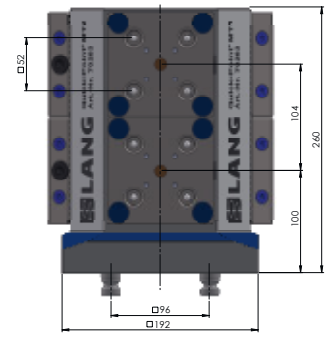
## QUICK-POINT® TWIN BASE 96

ITEM NO.	DIMENSIONS	WEIGHT
147520	7.56 × 4.57 × 9.72" (192 × 116 × 247 mm)	61.29 lbs (27.8 kg)

Suitable Quick-Lock: Item No. 144596 (page 54).

# Quick·Point® MT3 3-face Tombstone

NEW



96

The 3-face Tombstone can accept all vises with a jaw width of 1.81" and 3.03" (46 mm and 77 mm) when mounted horizontally.

## QUICK·POINT® MT3, 3-FACE TOMBSTONE

ITEM NO.	DIMENSIONS	MAX. QTY OF RASTER PLATES	WEIGHT
170263	7.56 × 7.56 × 10.24" (192 × 192 × 260 mm)	6 × 175600 or 3 × 145621	98.77 lbs (44.8 kg)

Included: 4 × Quick·Point® Clamping Studs Ø 20 mm

## Suitable Quick·Point® Plates for both Tombstones:



### QUICK·POINT® 52 RASTER PLATE, 4.09 × 4.09 × 1.06"

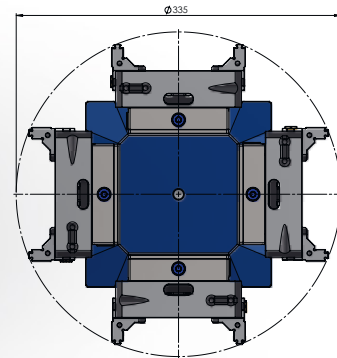
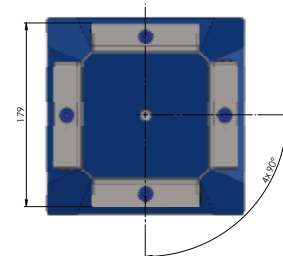
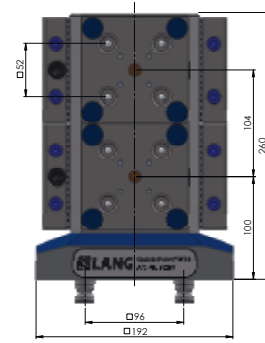
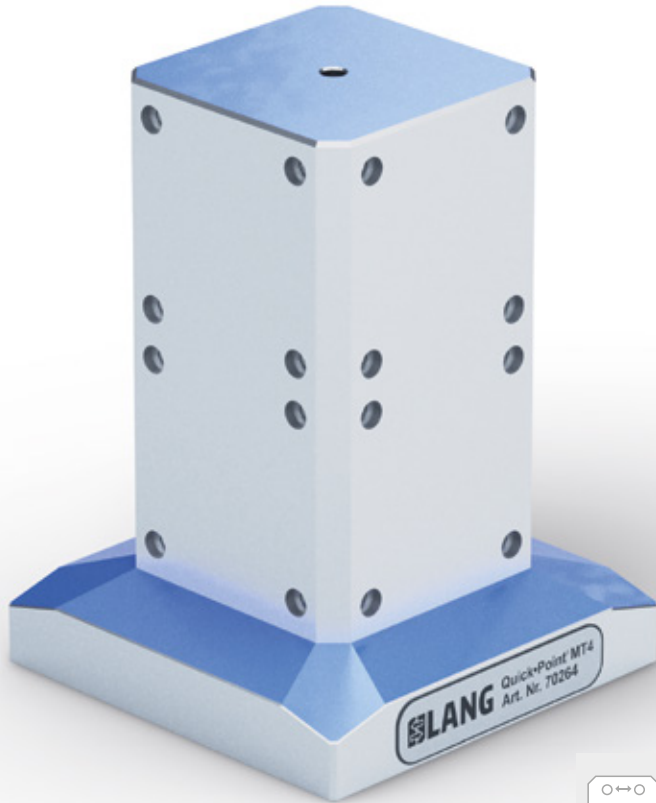
30 Nm	Ø 16 mm	77	✓

ITEM NO.	DIMENSIONS	MOUNTING BORES	WEIGHT
175600	4.09 × 4.09 × 1.06" (104 × 104 × 27 mm)	3.23 × 3.23" (82 × 82 mm)	3.97 lbs (1.8 kg)

Drawing on page 16.

# Quick-Point® MT4 4-face Tombstone

NEW



96

The 4-face Tombstone can accept vises (jaw width 1.81" and 3.03" / 46 and 77 mm) with a max. base length of 5.12" (130 mm) when mounted horizontally.

## QUICK-POINT® MT4, 4-FACE TOMBSTONE





ITEM NO.	DIMENSIONS	MAX. QTY OF RASTER PLATES	WEIGHT
170264	7.56 × 7.56 × 10.24" (192 × 192 × 260 mm)	8 × 175600 or 4 × 145621	83.11 lbs (37.7 kg)

Included: 4 × clamping studs Ø 20 mm

## Suitable Quick-Point® Plates for both Tombstones:



### QUICK-POINT® 52 DOUBLE RASTER PLATE, 8.19 × 4.09 × 1.06"

-  30 Nm
-  Ø 16 mm
-  77
-  ✓

ITEM NO.	DIMENSIONS	MOUNTING BORES	WEIGHT
145621	8.19 × 4.09 × 1.06" (208 × 104 × 27 mm)	7.32 × 3.23" (185 × 82 mm)	8.82 lbs (4.0 kg)

Drawing on page 28.

ZERO-POINT  
CLAMPING SYSTEM

MAKRO-GRIP®  
STAMPING TECHNOLOGY

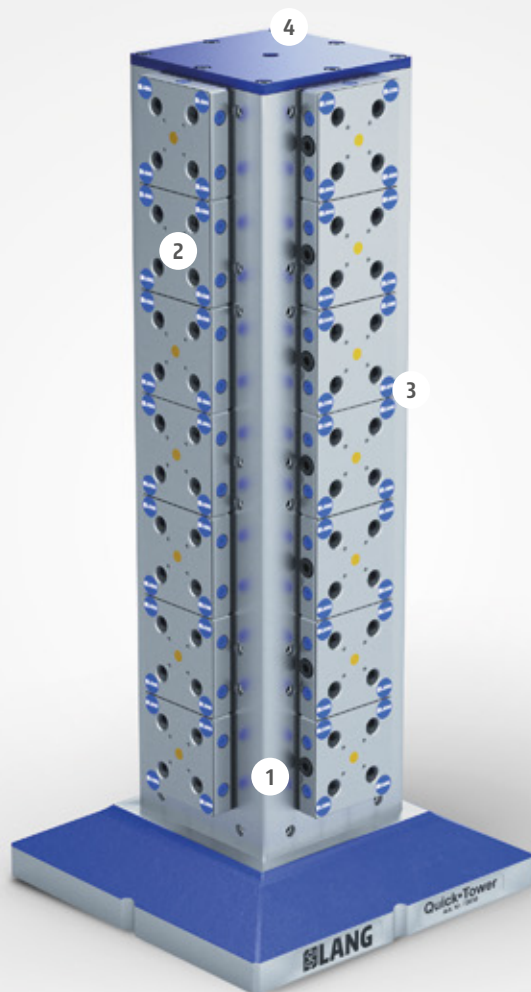
MAKRO-GRIP® 5-AXIS VISES

CONVENTIONAL WORKHOLDING

CLEANING FAN

AUTOMATION

# Quick·Tower – The zero-point clamping system for horizontal machining centers

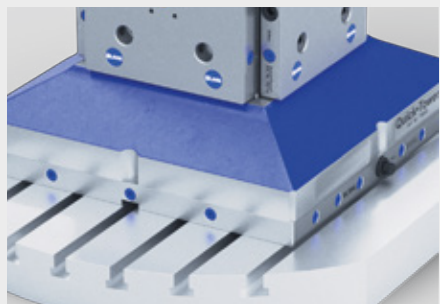


- 1 Stable and sturdy cast body with a plane parallelism of  $\pm 0.02 \text{ mm} / 0.0008''$
- 2 Up to  $28 \times$  Quick·Point® Raster Plates 52 and  $16 \times$  Quick·Point® Raster Plates 96 can be mounted depending on the size of the Quick·Tower
- 3 Continuous zero-point grid on all four faces
- 4 Included in delivery: Eye bolt for transport via crane
- 5 Equipped with  $12 \times$  Quick·Point® clamping studs  $\varnothing 20 \text{ mm}$

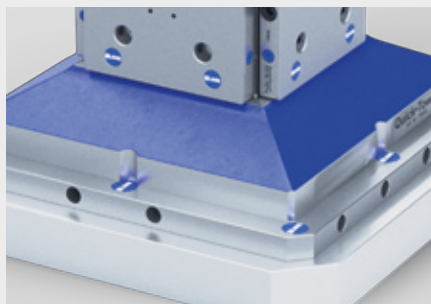


## Mounting options

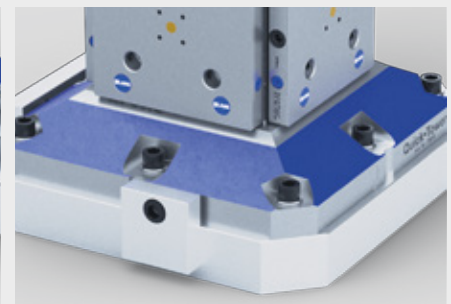
For mounting the Quick·Tower onto the machine tool table there are three possibilities:



Mounted to the Quick·Point® system (e.g. 4-fold Raster Plate 96)

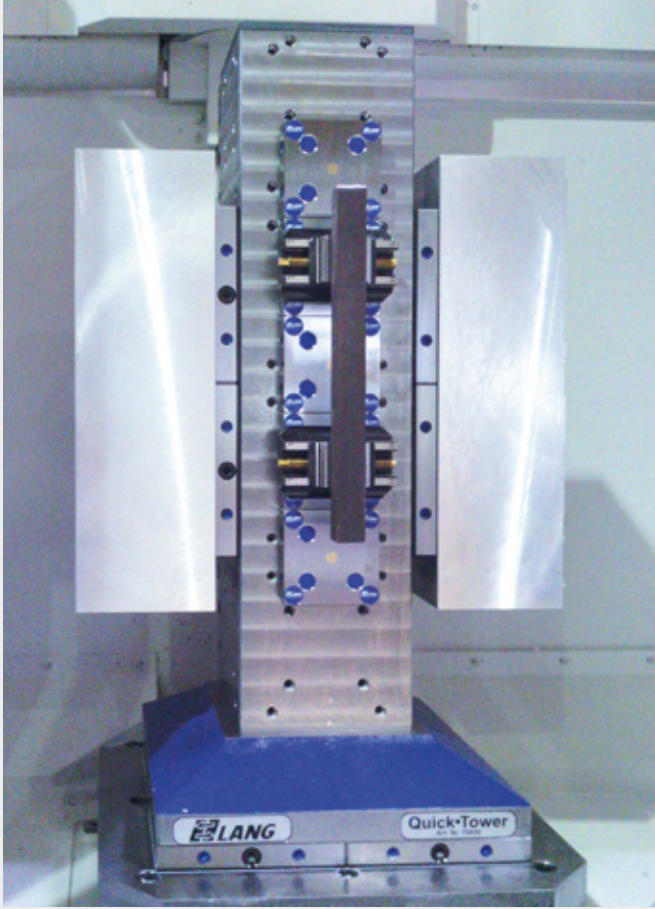
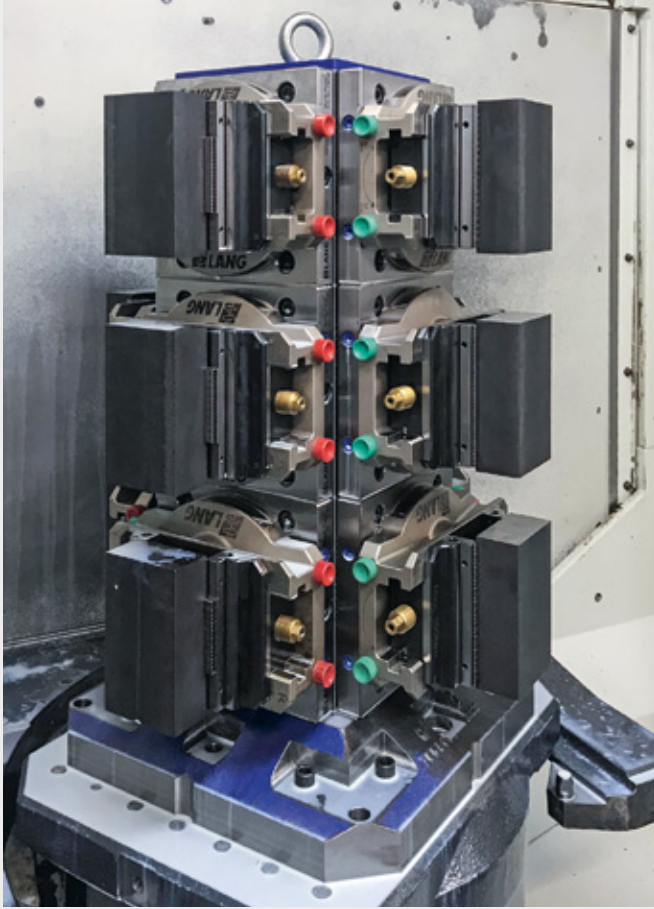
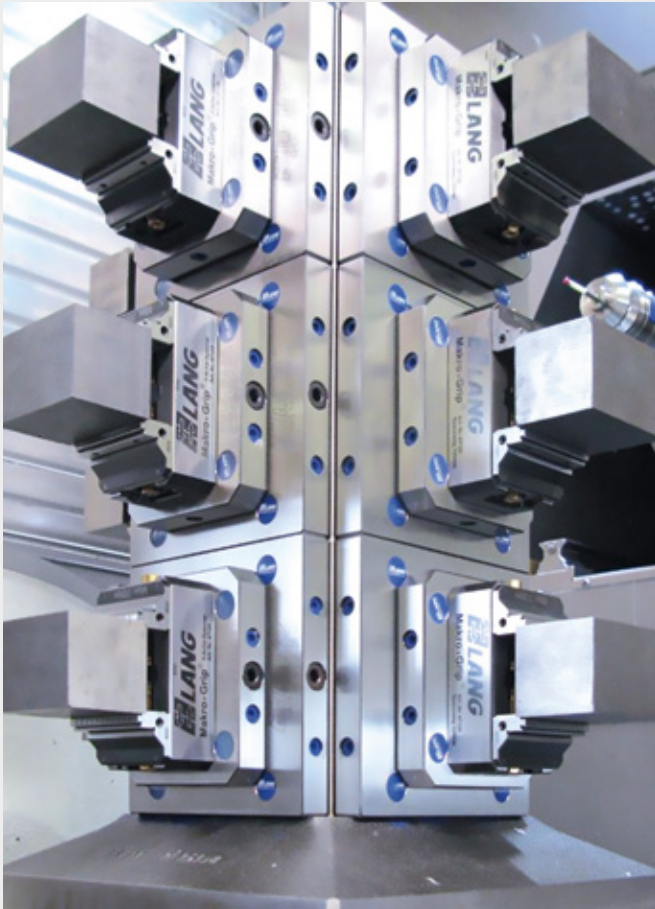


Mounted to the Quick·Tower Universal Base Plate (see page 47)



Mounted directly to the machine table with custom bores (price upon request!)

# Applications



ZERO-POINT  
CLAMPING SYSTEM

MAKRO-GRIP®  
STAMPING TECHNOLOGY

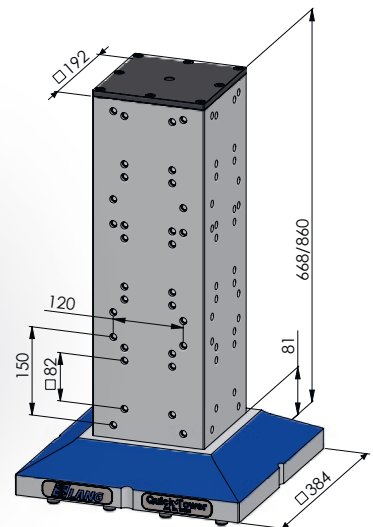
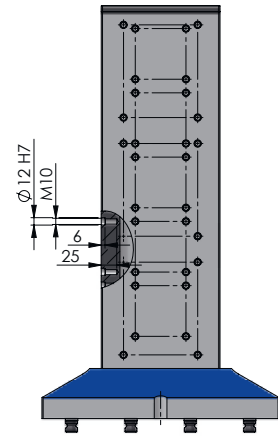
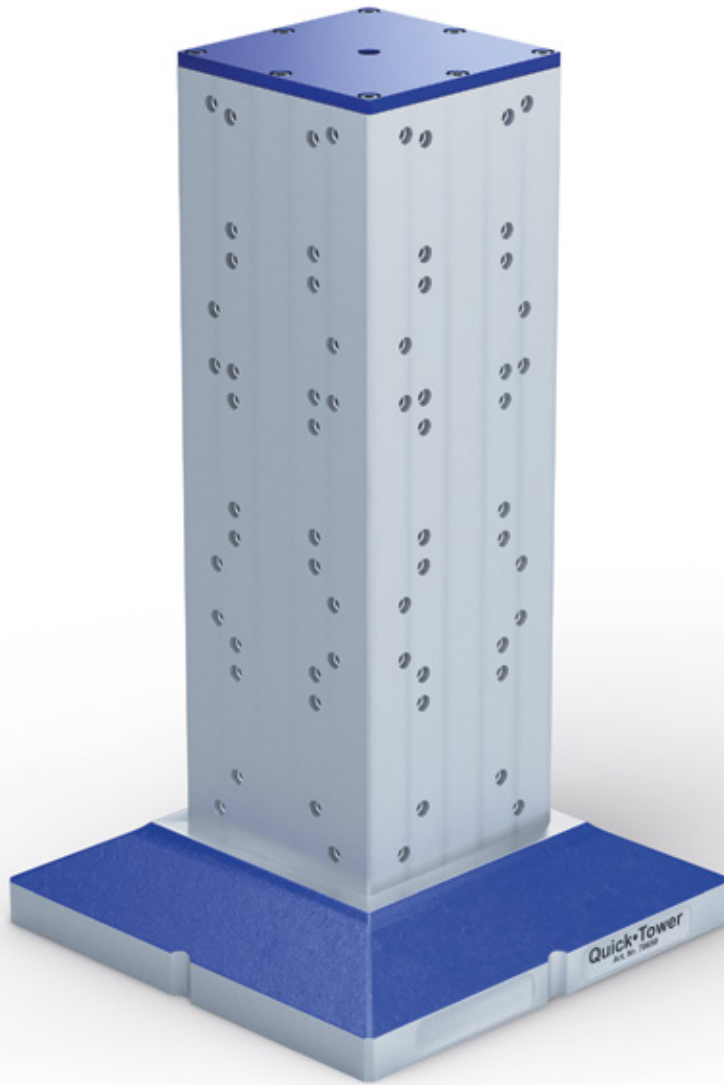
MAKRO-GRIP® 5-AXIS VISES

CONVENTIONAL WORKHOLDING

CLEANING FAN

AUTOMATION

# Quick·Tower Base Body



Raster of  $5.91 \times 4.72''$  ( $150 \times 120$  mm) is designed to mount Quick·Point® plates 175710.

Raster of  $3.23 \times 3.23''$  ( $82 \times 82$  mm) is designed to mount Quick·Point® plates 175600.

## QUICK·TOWER BASE BODY

ITEM NO.	BODY DIMENSIONS	BASE DIMENSIONS	TOTAL HEIGHT	WEIGHT
170650	7.56 × 7.56" (192 × 192 mm)	15.12 × 15.12" (384 × 384 mm)	26.30" (668 mm)	352.74 lbs (160 kg)
170850	7.56 × 7.56" (192 × 192 mm)	15.12 × 15.12" (384 × 384 mm)	33.86" (860 mm)	440.92 lbs (200 kg)

If you prefer to fix the tombstone directly onto the machine tool table/pallet using its threads or slots just ask for an individual quotation.



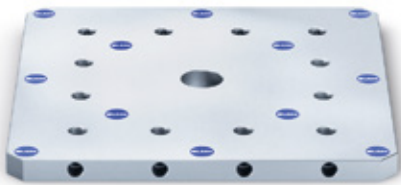
# Quick-Tower Universal Base Plate



## QUICK-TOWER UNIVERSAL BASE PLATE, THROUGH BORE Ø 50H7, WITHOUT MOUNTING BORES

ITEM NO.	DIMENSIONS	MOUNTING BORES	WEIGHT
170005	15.59 × 15.59 × 1.06" (396 × 396 × 27 mm)	-	71.65 lbs (32.5 kg)
170006	Set mounting bores according to customer's request		

Drawing to be found on our website [www.lang-technovation.com](http://www.lang-technovation.com)



## QUICK-TOWER UNIVERSAL BASE PLATE, THROUGH BORE Ø 50H7, WITH MOUNTING BORES

ITEM NO.	DIMENSIONS	MOUNTING BORES	WEIGHT
170008	17.56 × 17.56 × 1.06" (446 × 446 × 27 mm)	12 × M 16, 7.87" (200 mm) distance	87.08 lbs (39.5 kg)

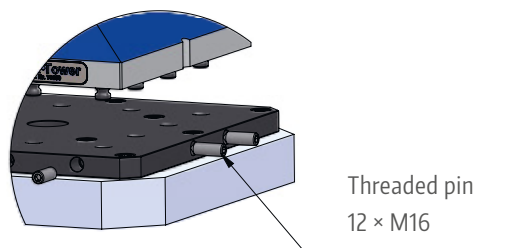
Drawing to be found on our website [www.lang-technovation.com](http://www.lang-technovation.com)

## Utilization and mounting:

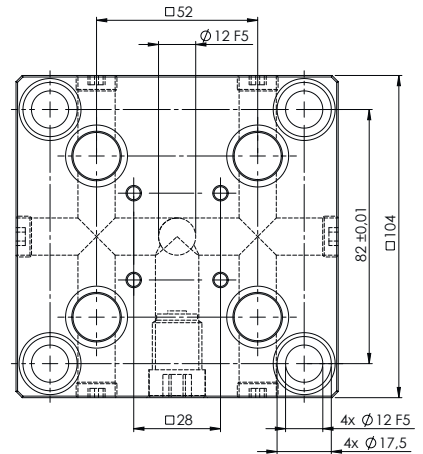
These sub-plates act as an interface between the machine table and the Quick-Tower. This allows the utilization of one standard Quick-Tower in different machine tools and/or on different pallets.

The sub-plate can be aligned concentrically using the plate's Ø 50H7 through bore and the table's/pallet's center bore accordingly. The axial alignment can be done by probing the outer faces or adding keyways for T-slot keys. The base plate is mounted to the table/pallet with DIN EN ISO 4762 cylinder screws.

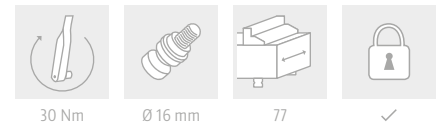
The fixation of the Quick-Tower is done with 12 × M16 threaded pins that are located in the four lateral faces of the base plate. These pins fix the Quick-Tower into position strongly with Quick-Point® clamping studs.



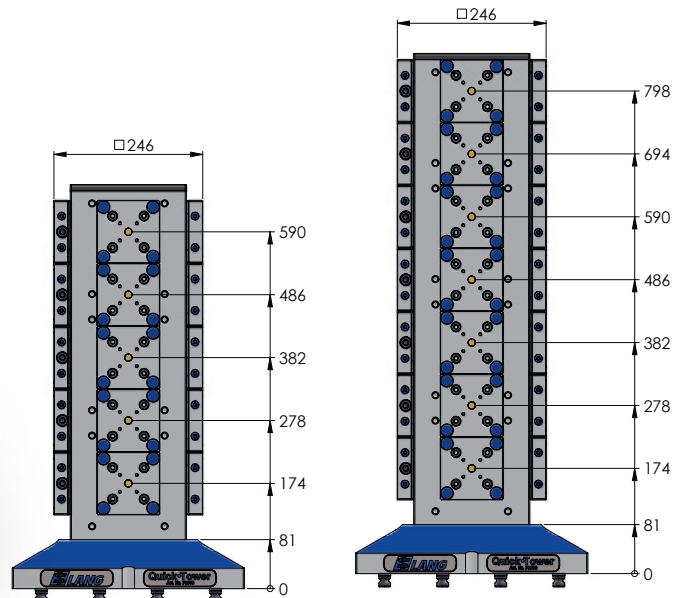
# Quick·Tower Raster Plates



## QUICK·TOWER 52, RASTER PLATE 4.09 × 4.09 × 1.06", WITH MOUNTING BORES

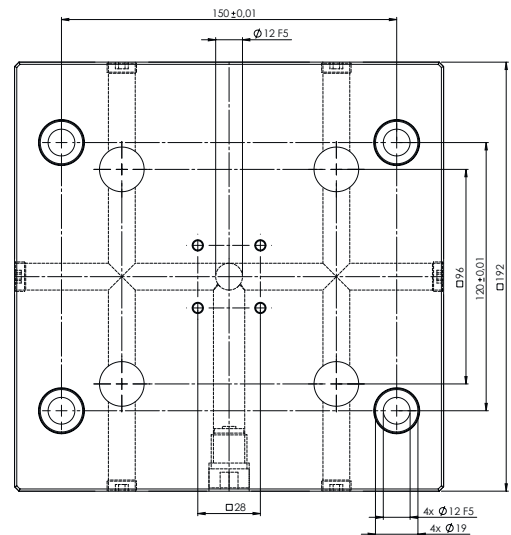


ITEM NO.	DIMENSIONS	MOUNTING BORES	WEIGHT
175600	4.09 × 4.09 × 1.06" (104 × 104 × 27 mm)	3.23 × 3.23" (82 × 82 mm)	3.97 lbs (1.8 kg)

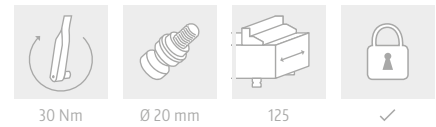


Tower 170650, height 668 mm,  
max. 5 pallets on each face.

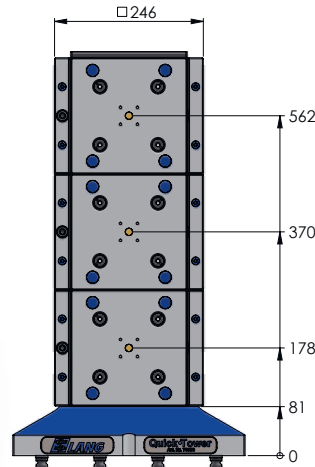
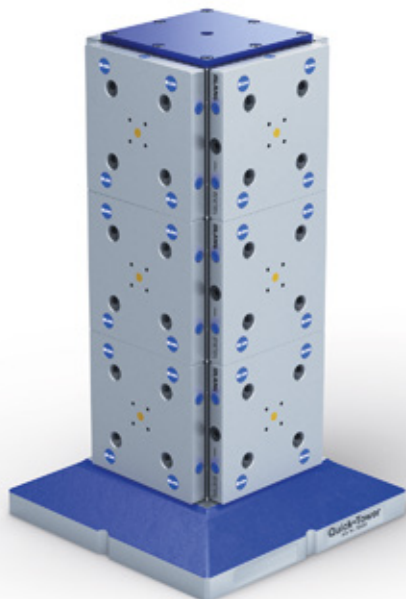
Tower 170850, height 860 mm,  
max. 7 pallets on each face.



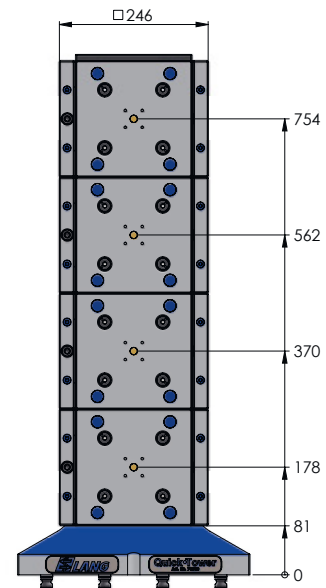
**QUICK-TOWER 96, RASTER PLATE**  
**7.56 × 7.56 × 1.06", WITH MOUNTING BORES**



ITEM NO.	DIMENSIONS	MOUNTING BORES	WEIGHT
175710	7.56 × 7.56 × 1.06" (192 × 192 × 27 mm)	5.91 × 4.72" (150 × 120 mm)	15.43 lbs (7.0 kg)



Tower 170650, height 668 mm,  
 max. 3 pallets on each face.



Tower 170850, height 860 mm,  
 max. 4 pallets on each face.

# Quick·Point® Clamping Studs

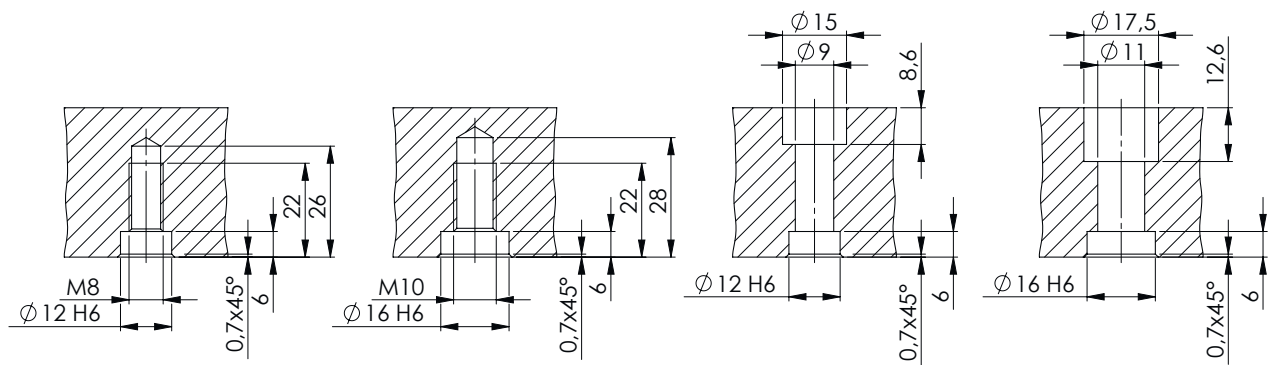
For individual adaptation of fixtures, workpieces or existing vises onto our Quick·Point® zero-point clamping system.



## QUICK·POINT® CLAMPING STUDS FOR INDIVIDUAL ADAPTATION

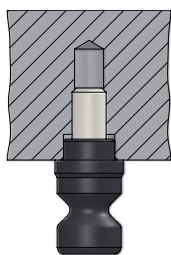
ITEM NO.	DESCRIPTION	UNIT
145270	Ø 16 mm for 52 mm spacing, incl. M8 × 1.25 threaded pin	1 set (4 pcs.)
145570	Ø 20 mm for 96 mm spacing, incl. M10 × 1.5 threaded pin	1 set (4 pcs.)

How it works:

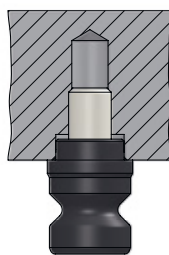


with threaded pins

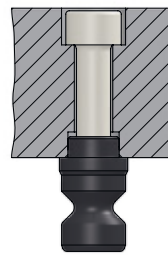
with screws



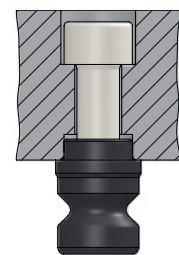
52



96

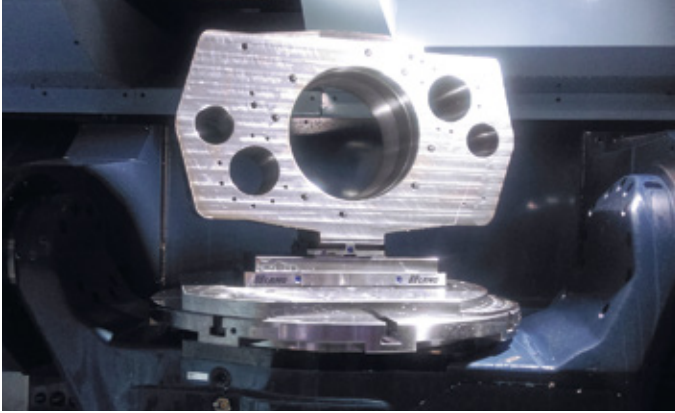


52



96

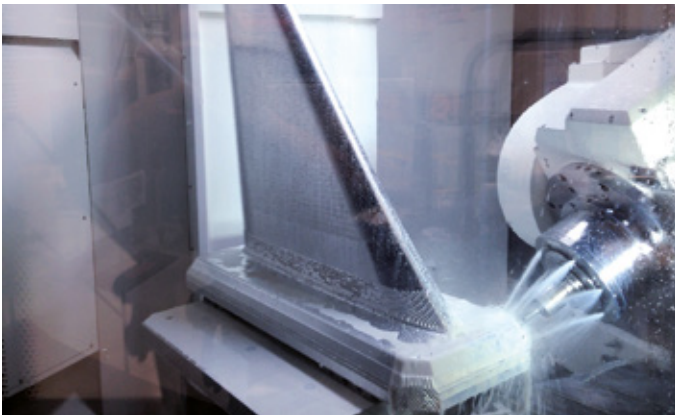
## Applications:



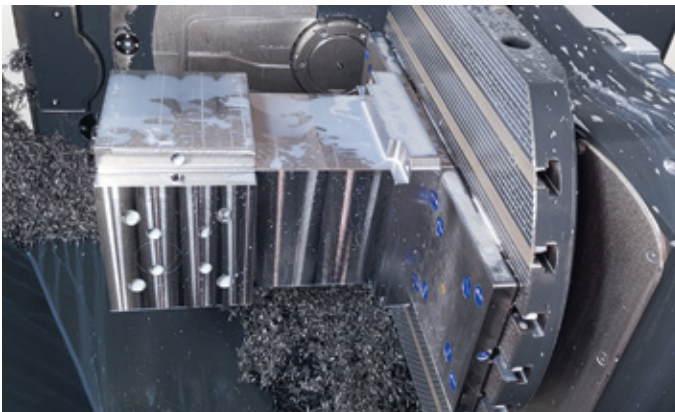
The studs need to be positioned in a 52 mm / 96 mm ( $\pm 0.01$  mm) spacing for clamping workpieces straight onto the Quick-Point® plates.



The workpiece is clamped securely, without a vise, directly into the zero-point system.



Aluminium part (weight: 1.315 kg, dimensions: 1.067 × 406 × 1.016 mm) clamped with 16 clamping studs.



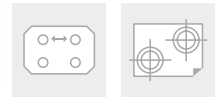
Not only highly precise but also extremely rigid: workpiece with 440.93 lbs (200 kg) and 19.69" (500 mm) height. Clamped with just 4 studs in a single Quick-Point® plate.

# Quick·Point® Support Plates

Support plates made of non-hardened steel – for individual adaptation of fixtures and other devices.



Lower interface:



52

## QUICK·POINT® 52, SUPPORT PLATES

ITEM NO.	DIMENSIONS	WEIGHT
145275	3.78 × 3.78 × 1.06" (96 × 96 × 27 mm)	4.41 lbs (2.0 kg)
145277	6.14 × 6.14 × 1.06" (156 × 156 × 27 mm)	11.46 lbs (5.2 kg)

Included: 4 × clamping studs Ø 16 mm



Lower interface:



96

## QUICK·POINT® 96, SUPPORT PLATES

ITEM NO.	DIMENSIONS	WEIGHT
145575	6.14 × 6.14 × 1.06" (156 × 156 × 27 mm)	11.68 lbs (5.3 kg)
145577	7.56 × 7.56 × 1.06" (192 × 192 × 27 mm)	18.30 lbs (8.3 kg)

Included: 4 × clamping studs Ø 20 mm

# Quick-Point® Spacer Studs

Spacer studs allow for through holes in material which is clamped directly in the zero-point system. It also improves accessibility when machining edges and angles.

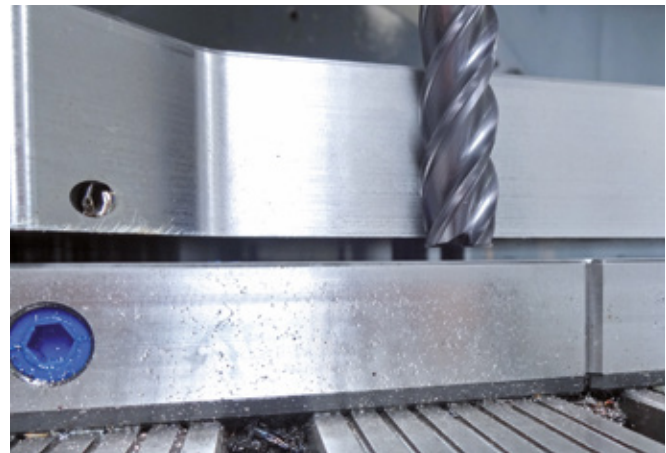


## QUICK-POINT® SPACER STUDS

ITEM NO.	DESCRIPTION	SPACER HEIGHT	UNIT
145270-10	Ø 16 mm for 52 mm spacing	0.39" / 10 mm (Ø 0.94" / 24 mm)	1 Set (4 pcs.)
145570-10	Ø 20 mm for 96 mm spacing	0.39" / 10 mm (Ø 1.10" / 28 mm)	1 Set (4 pcs.)

Quick-Point® Spacer Studs are installed using the same technique shown "with threaded pins" on page 50.

## Applications



# Quick·Point® Quick-Lock Fast actuation system

Mechanical and quick fastener, compatible with all rectangular and squared Quick·Point® plates. Also compatible with the Quick·Point® 96 2-fold Plate, round. With the Quick-Lock, we provide a clamping lever and washers to adjust clamping force as needed.



## QUICK·POINT® QUICK-LOCK 52

ITEM NO.	DESCRIPTION	FOR ITEM NO.	WEIGHT
144552	Quick-Lock for Quick·Point® 52 Single-Plates, Twin Base 52, Apator Plate, 5-Axis Riser 52	175600 / 145150 / 145151 / 147220 / 145160 / 145156 / 145157	0.66 lbs (0,3 kg)
145252	Quick-Lock for Quick·Point® 52, Double Raster Plate	145621	1.76 lbs (0,8 kg) <span style="background-color: #0056b3; color: white; padding: 2px;">NEW</span>
145452	Quick-Lock for Quick·Point® 52, 4-fold Raster Plate	145640 / 145641	1.98 lbs (0,9 kg)

## QUICK·POINT® QUICK-LOCK 96

ITEM NO.	DESCRIPTION	FOR ITEM NO.	WEIGHT
144596	Quick-Lock for Quick·Point® 96 Single-Plates, Twin Base 96, Apator Plate, 5-Axis Riser 96	145710 / 145763 / 145715 / 145716 / 145400 / 145401 / 147520 / 145406 / 145407	0.88 lbs (0,4 kg)
145296	Quick-Lock for Quick·Point® 96, Double Raster Plate	145720	1.98 lbs (0,9 kg)
145996	Quick-Lock for Quick·Point® 96, Double Raster Plates, round	145962 / 145963 / 145964	1.98 lbs (0,9 kg) <span style="background-color: #0056b3; color: white; padding: 2px;">NEW</span>
145496	Quick-Lock for Quick·Point® 96, 4-fold Raster Plates	145740 / 145741 / 145742	2.20 lbs (1 kg)



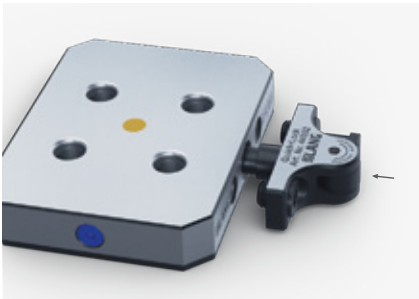
# Installation instructions

Within just a few seconds the Quick-Lock fast actuation system is mounted to a Quick-Point® Plate. With a 180° motion of the lever the Quick-Lock clamps and releases the vise.



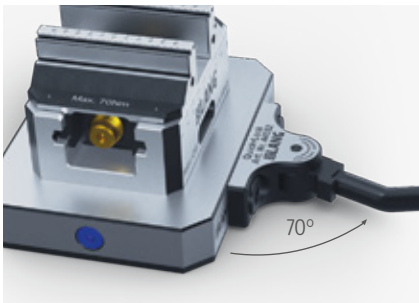
### Removal of the Quick-Point® actuation screw:

Remove actuation screw and the two plastic covers and keep them safe. With multi fold plates you also have to remove the actuation bolt. During the whole installation process the Quick-Point® plate does not have to be removed from the machine table if already mounted.



### Installation of the Quick-Lock fastener:

Insert the Quick-Lock pressure bolt into the actuation screw channel and tighten the two screws.

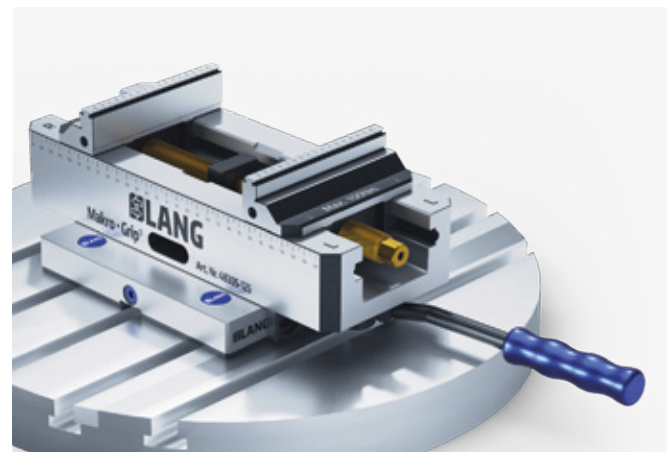
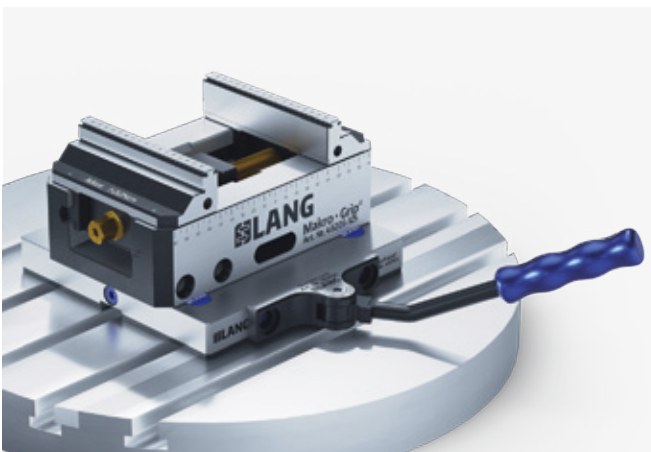


### Checking the clamping forces:

Insert the clamping lever into the clamping element of the Quick-Lock fastener. Move the clamping lever in a 180° motion from right to left until you feel resistance. If the remaining angle is more/less than 70°, the clamping force needs to be adjusted by adding/removing washers.

## Quick-Lock utilization

The clamping lever equipped with a rotation lock can be used both horizontally and vertically. For vises and fixtures protruding from the Quick-Point® plate, the lever is used horizontally (right picture).





## QUICK-POINT® COVER DISCS, PLASTIC

ITEM NO.	DIAMETER	UNIT
145008-15	Ø 15 mm	1 set (4 pcs.)
145008-20	Ø 20 mm	1 set (4 pcs.)
145008-27	Ø 27 mm	1 set (4 pcs.)

Heat-resistant, fiberglass reinforced cover discs for protecting the mounting screws against material pollution.



## QUICK-POINT® COVER PLUGS, PLASTIC

ITEM NO.	DESCRIPTION	UNIT
145052-20	Ø 16 mm for 52 mm grid system	1 set (4 pcs.)
145096-20	Ø 20 mm for 96 mm grid system	1 set (4 pcs.)

Cover plugs made of plastic for the protection of the stud holes when not in use. For multi fold plates steel plugs (see below) are necessary.



## QUICK-POINT® COVER PLUGS, STEEL

ITEM NO.	DESCRIPTION	UNIT
145052-30	Ø 16 mm for 52 mm grid system	1 set (4 pcs.)
145096-30	Ø 20 mm for 96 mm grid system	1 set (4 pcs.)

Cover plugs made of steel spread the increased clamping force of multi raster plates evenly and protect stud holes not in use. They can be removed from plates with the Cover Plug Remover.



## QUICK-POINT® COVER PLUG REMOVER

ITEM NO.	DESCRIPTION
145000-30	Grip with magnet

Comfortable grip with magnet for removing steel plugs from the Quick-Point® plates.



## QUICK-POINT® HANDLE BAR, ALUMINIUM

ITEM NO.	DESCRIPTION
146081	Aluminium handle bar

This handle bar facilitates the handling of Quick-Point® devices when setting up and dismantling. As with usual LANG clamping devices, the handle bar is clamped with two Quick-Point® 96 clamping studs in the zero-point system and is thereby especially suited for the transportation of heavier Quick-Point® systems.

## SLOT KEYS, LOOSE, DIN 6323, FOR AXIAL ALIGNMENT OF QUICK-POINT® PLATES



ITEM NO.	SIZE	UNIT
1452014	0.79 to 0.55 (20 × 14 mm)	1 pc.
1452018	0.79 to 0.71" (20 × 18 mm)	1 pc.

To make the assembly and alignment of Quick-Point® plates as easy as possible, we offer slot keys for the plates' 20H7 keyways matching your table's t-slots (14 or 18 mm).

**Attention: Keys not suitable for Item No. 145800 / 145890!**

NEW

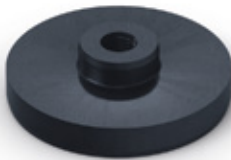


## SLOT KEYS FOR AXIAL ALIGNMENT OF QUICK-POINT® ROUND PLATE, ITEM NO. 145890 (PAGE 25)

ITEM NO.	DIMENSIONS	UNIT
1452214	0.55 × 0.87" (14 × 22 mm)	1 pc.
1452218	0.71 × 0.87" (18 × 22 mm)	1 pc.

For the alignment of Quick-Point® Round Plate, Item No. 145890, which has 14 & 18H7 grooves in the bottom we offer these keys. Grooves and keys are equipped with a M6 thread, suitable for screws DIM 84 or DIN 912, M6 × 16.

NEW

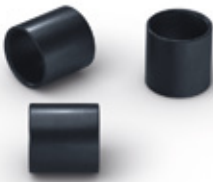


## CENTERING STUDS FOR CONCENTRIC ALIGNMENT OF QUICK-POINT® PLATES

ITEM NO.	SIZE	UNIT
1451230	0.47 to 1.18" (12 × 30 mm)	1 pc.
1451232	0.47 to 1.26" (12 × 32 mm)	1 pc.
1451250	0.47 to 1.97" (12 × 50 mm)	1 pc.
1452530	0.98 to 1.18" (25 × 30 mm)	1 pc.
1452532	0.98 to 1.26" (30 × 32 mm)	1 pc.
1452550	0.98 to 1.97" (25 × 50 mm)	1 pc.
1455030	1.97 to 1.18" (50 × 30 mm)	1 pc.
1455032	1.97 to 1.26" (50 × 32 mm)	1 pc.
1455050	1.97 to 1.97" (50 × 50 mm)	1 pc.

For the concentric alignment of Quick-Point® plates via fitting bores in the bottom (Ø 0.47", Ø 0.98", Ø 1.97") we offer centering studs for the most common machine table holes (Ø 1.18", Ø 1.26", Ø 1.97").

## BUSHINGS FOR THE ALIGNMENT OF VISES AND ZERO-POINT PLATES

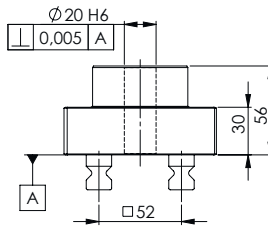


ITEM NO.	DIMENSIONS	FOR SCREW SIZE	UNIT
145000-09	Ø 0,47 × 0,47" (Ø 12 × 12 mm)	M 10	1 pc.

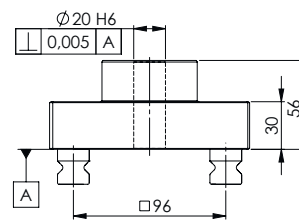
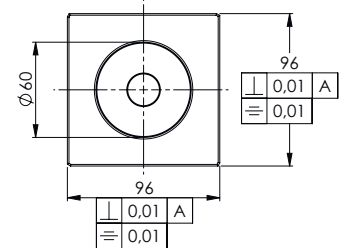
Item No. 145000-09 is suitable for aligning Quick-Point® plates on aluminum risers, Quick-Tower tombstones and other, select applications.

# Quick-Point® Gauging Pallet

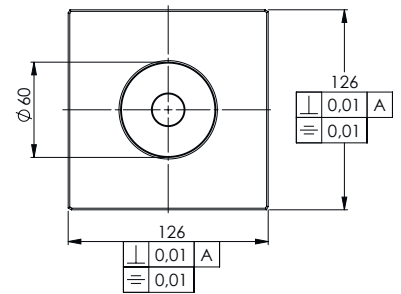
Jig-ground gauging pallet for a quick and precise alignment of Quick-Point® plates.  
Recommended especially for rotary tables or chucks.



Quick-Point® Gauging Pallet 52



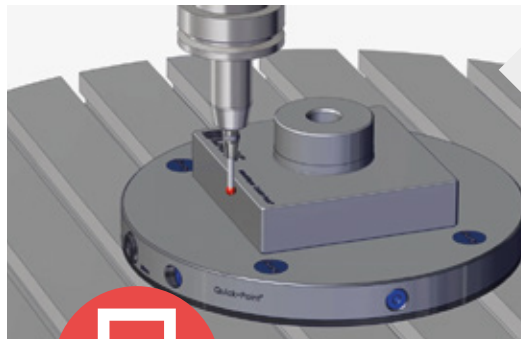
Quick-Point® Gauging Pallet 96



## QUICK-POINT® GAUGING PALLET

ITEM NO.	FOR	DIMENSIONS	MEASURING LENGTH	WEIGHT
144252	Quick-Point® 52	3.78 × 3.78 × 2.20" (96 × 96 × 55 mm)	3.74" / 95 mm per side	5.73 lbs (2.6 kg)
144296	Quick-Point® 96	4.96 × 4.96 × 2.20" (126 × 126 × 55)	4.92" / 125 mm per side	9.26 lbs (4.2 kg)

Positional tolerance 0.001" (0.025 mm)



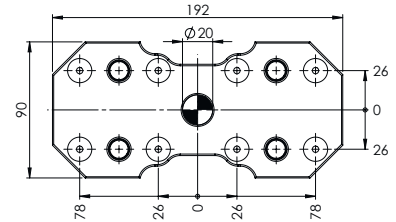
### How it works:

After clamping the gauging pallet in a Quick-Point® plate, the axial alignment of the Quick-Point® plate is done by probing the jig-ground sides of the gauging pallet. For a concentric alignment the inner diameter of the gauging pallet can be used.

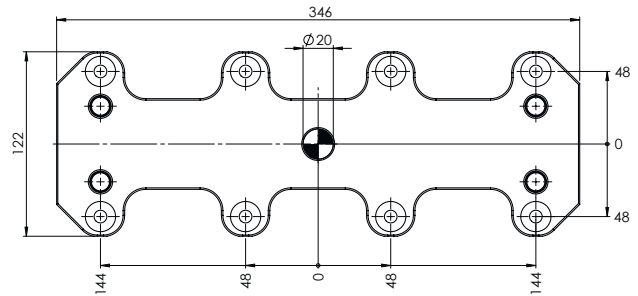
Watch the video for a complete instruction or download the manual from our website!

# Quick-Point® Alignment Gauge

For easy and quick assembly of the Quick-Point® Raster Plates we recommend using the alignment gauge. The precise alignment and dimensional accuracy of the plates is guaranteed.



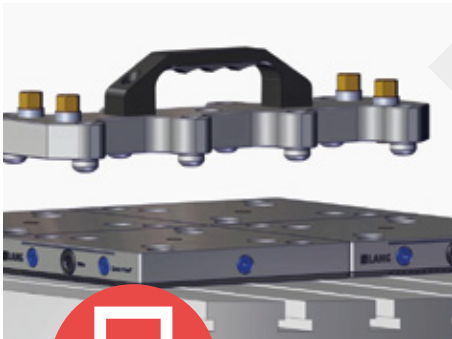
Alignment Gauge 52



Alignment Gauge 96

## ALIGNMENT GAUGE FOR QUICK-POINT® RASTER PLATES

ITEM NO.	DESCRIPTION	WEIGHT
144152	Alignment gauge 52	7.50 lbs (3.4 kg)
144196	Alignment gauge 96	14.33 lbs (6.5 kg)



### How it works:

The Quick-Point® Alignment Gauge guarantees an accurate alignment of two or more Raster Plates positioned next to each other. This ensures that vises and fixtures can be clamped across two different plates. After the first plate is placed on the table, aligned with a probe and the screws fixed, the alignment gauge is applied on the neighboring plates and the outer accessible fixing screws can be tightened.

Watch the video for a complete instruction or download the manual from our website!

## Set mounting bores

All of our Quick·Point® plates with a predefined mounting bore pattern are also available without such. The case-hardened zero-point plates (57 HRC, 0.7 mm deep) can be drilled according to the t-slots of the machine table. We offer this as a service.

The drawings of the Quick·Point® plates without mounting bores in this catalog show hatched areas. These areas can be used

for mounting bores. On rare occasions mounting bores can even be set through rod channels. If this might be required for your application please ask your local LANG contact person.

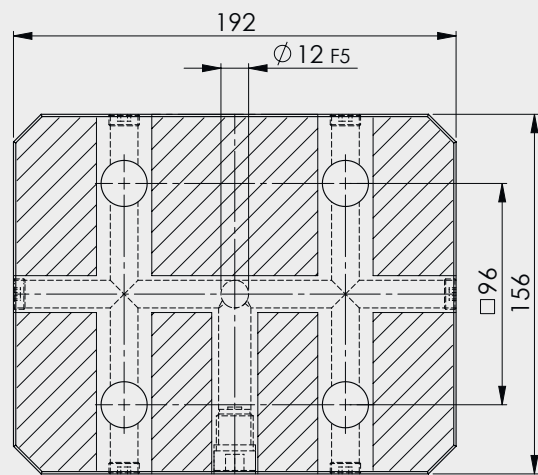
All drawings and models are available on our website <http://www.lang-technovation.com/en/download/download.html>.



Quick·Point® plate with predefined mounting bores.



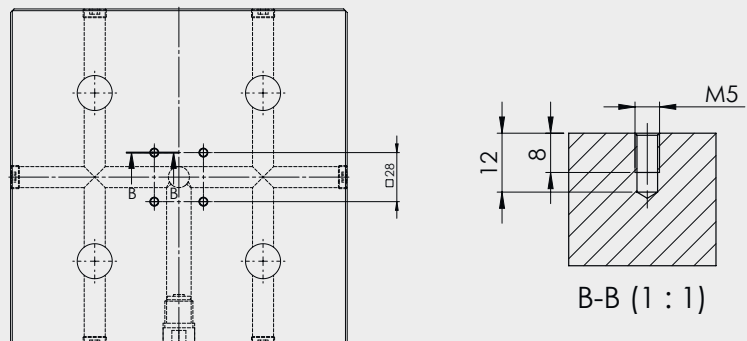
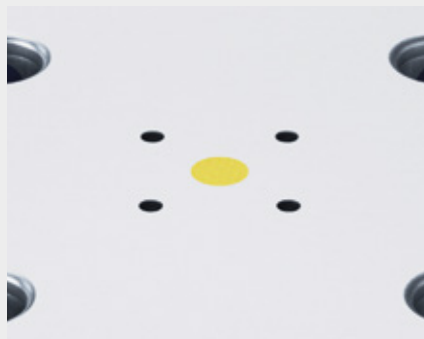
Same Quick·Point® plate without mounting bores. These can be installed by LANG or the customer.



## M5 Index bores

Inserting a threaded pin or screw ensures that LANG clamping devices (with an equivalent recess on the bottom) are always positioned in the correct way on the zero-point plate.

By default index bores are included in following plates:  
Item No. 145150, 145400, 175600, 175710, 147220 and 147520.

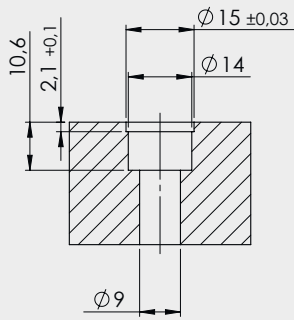


## Covering mounting bores

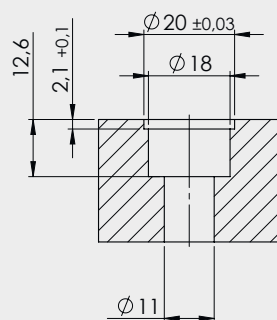


Quick-Point® plate with plastic cover discs.

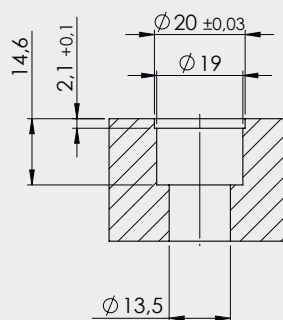
Mounting bores in Quick-Point® plates, either predefined or customized by LANG, have a 2.1 mm step. Plastic discs can be inserted and act as covers to prevent swarf or chips from clogging these bores, which are available in three different sizes (see page 56).



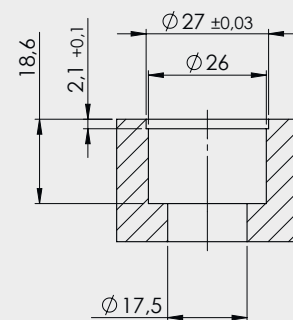
**M8**



**M10**



**M12**

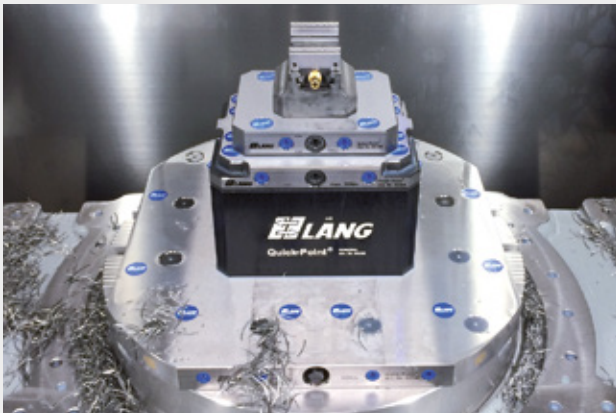


**M16**

## Custom corner radius for Quick-Point® raster / multi-fold plates

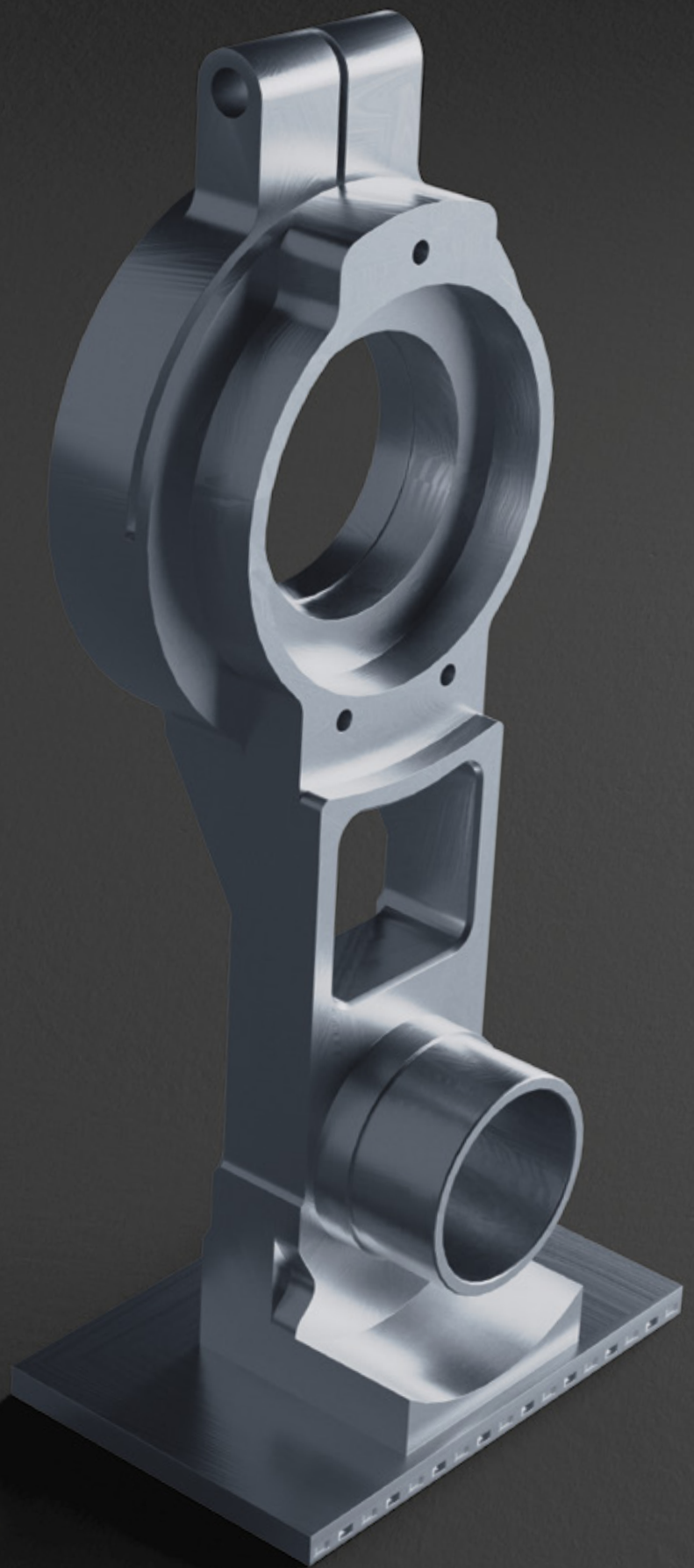
Upon request, we can adjust the zero-point system (multi raster or individual raster plates in a row) to round tables of the machine

tool by cutting off the corners. A clean solution that avoids in most cases a protrusion of the zero-point plates to the machine table.



### CUSTOM CORNER RADIUS FOR QUICK-POINT® RASTER / MULTI-FOLD PLATES

ITEM NO.	DESCRIPTION
145005-H	Custom Corner Radius





# **MAKRO·GRIP®**

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# **STAMPING**

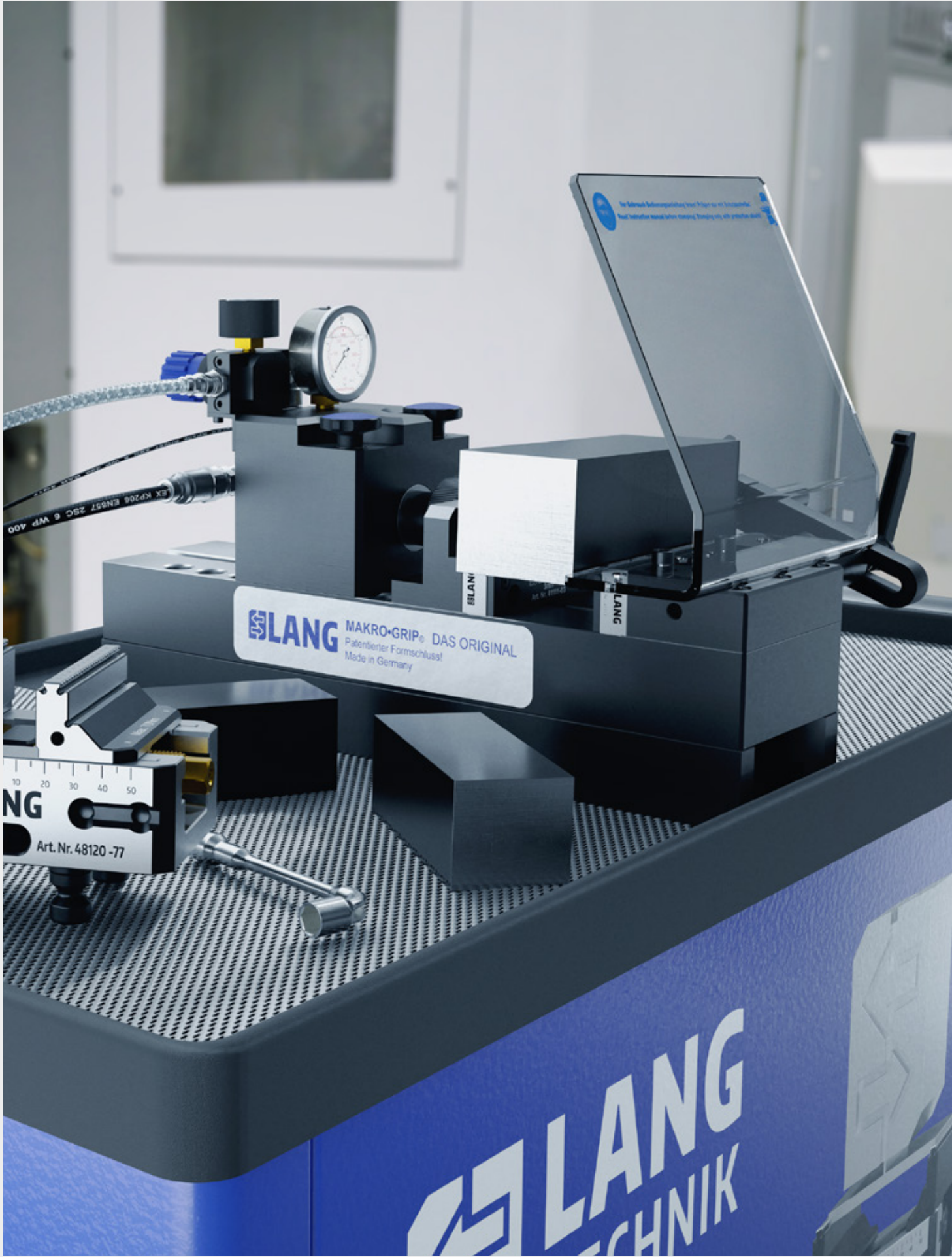
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# **TECHNOLOGY**

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- 64 Makro·Grip® Stamping Technology**
  - 72** Stamping Unit for the workbench
  - 73** Stamping Unit on cart
  - 76** Stamping Unit Center Marking Tool  
and Gauging Blocks
  - 77** Stamping Jaws



**LANG** MAKRO-GRIP® DAS ORIGINAL  
Patentierter Formschluss!  
Made in Germany

**LANG**  
Art. Nr. 48120-77

**LANG**  
TECHNIK



# Makro·Grip® Stamping Technology

Form-Closure Technology refers to a technology in which the workpiece to be clamped (up to 45 HRC) is pre-stamped with a defined contour under high stamping pressure (up to 20 t) outside of the machine tool, before it is clamped in the clamping device.

In combination with Makro·Grip® 5-axis clamping devices, our Form-Closure Technology guarantees the highest holding forces, accessibility and process reliability available in 5-sided machining.

## → External Pre-Stamping

The stamping operation is performed offline.  
No machine tool is required for the workpiece preparation.

## → Form-Closure Technology

Form-Closure Clamping offers high holding forces with low clamping pressure.

## → Material Savings

Minimum clamping edge requirements equals less material removal during subsequent operations.

## The patented Form-Closure Technology by LANG

Unique Form-Closure Technology makes LANG clamping the very best in 5-axis machining. Form-Closure fit guarantees maximum holding power with minimal clamping forces. The external pre-stamping of the workpiece favors a variety of factors that have a positive effect on process reliability and cost-effective production.

Pre-Stamping Technology allows even high tensile strength materials to be held reliably and without wear in the Makro·Grip® 5-axis vise. Workpiece blanks are prepared with a contour at an external stamping station under high pressure and ready for the workpiece clamping device. The application of force to the workpiece happens before the actual clamping process in the vise, limiting the function of the 5-axis vise to simply holding the workpiece. In this aspect, the stamping technique differs fundamentally from the clamping philosophies of other manufacturers. Conventional vises must fulfill a double function with their serrated jaws (1. indent the material, 2. hold the workpiece). They are only able to build up a maximum approximate pressure of 4–6 tons. Penetrating the workpiece becomes a challenge, especially with harder materials. To ensure the workpiece is penetrated correctly, the holding teeth of the serrated jaws must be sharp which entails an increased susceptibility to wear, and thus negatively effects the clamping quality. For soft, distortion-prone materials, holding teeth also tend to lose holding power as they can work themselves free of the workpiece during machining forces.

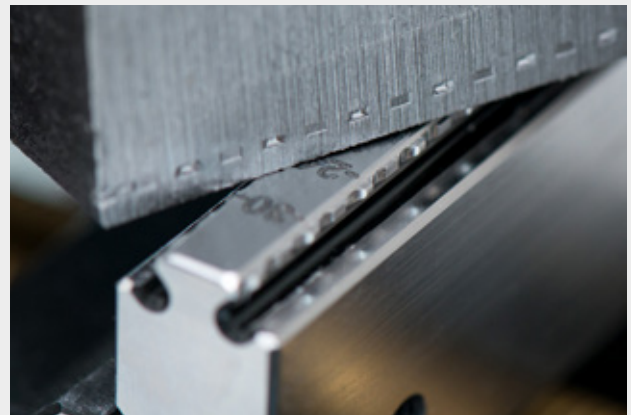
On the other hand, stamping technology builds up to 20 tons of hydraulic pressure during external pre-stamping and ensures problem free preparation, even with hard materials of up to 1,500 N / mm<sup>2</sup> tensile strength. After pre-stamping, only low clamping pressure is required to hold the workpiece in the 5-axis vise allowing its design to be very compact and eliminate wear on the clamping teeth. The contour shape (truncated pyramids) and low clamping pressure don't allow the clamping teeth to seat deeper into the workpiece, always providing a defined stop.

The use of stamping technology pays off where conventional machine vises reach their limits in terms of material hardness. Despite the low clamping pressure and compact design, the resulting clamping forces of a workpiece in the 5-axis vise are actually higher the harder and more resistant the material is (up to 45 HRC, non-brittle).

On the following pages, you will read everything you need to know about the Makro·Grip® stamping technology and how pre-stamping affects 5-face machining with the Makro·Grip® 5-axis vise.



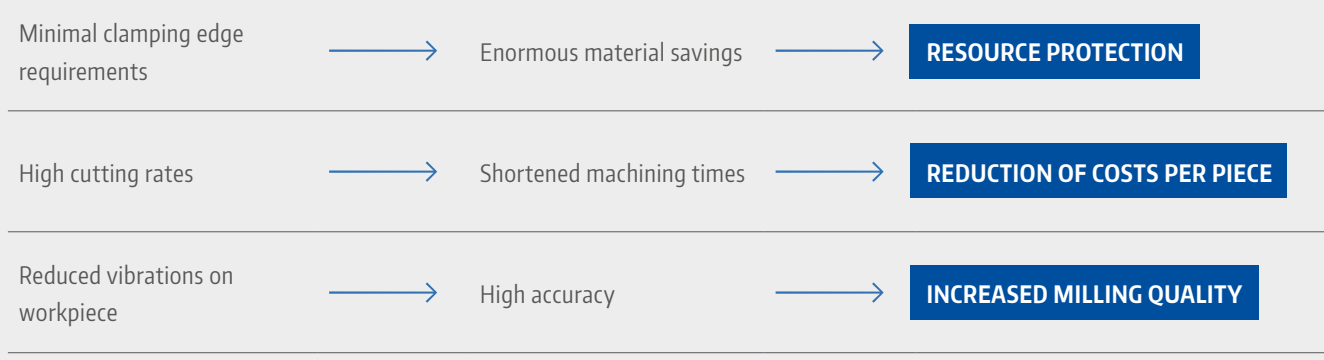
Holding teeth of a conventional vise + indentation in workpiece



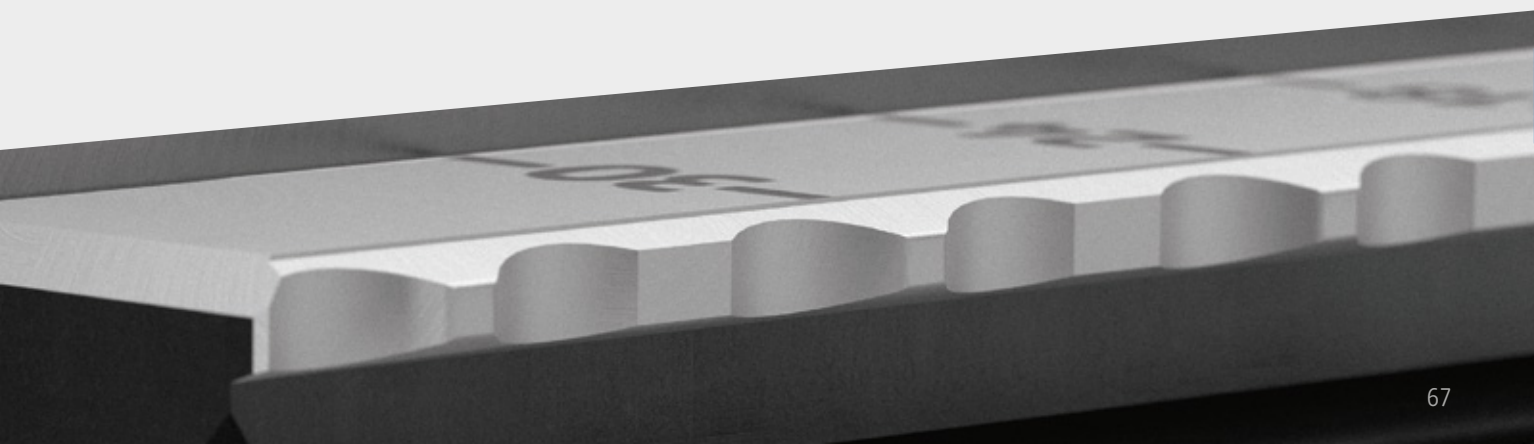
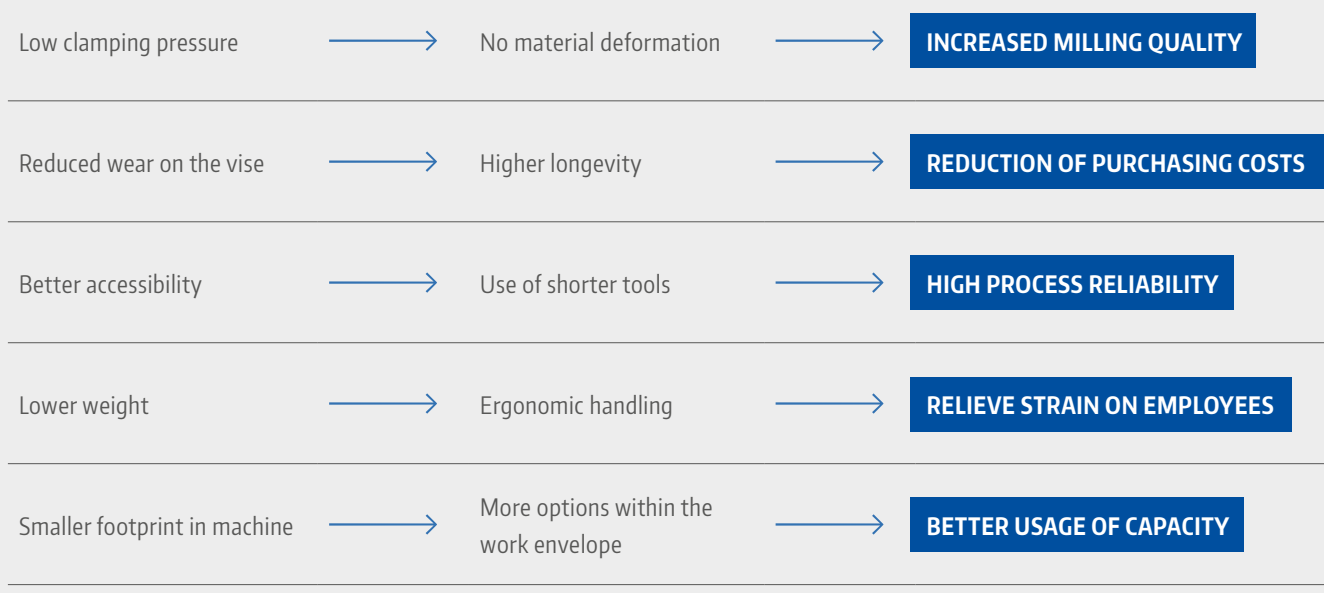
Holding teeth of a Makro·Grip® 5-Axis Vise + stamping contour in workpiece

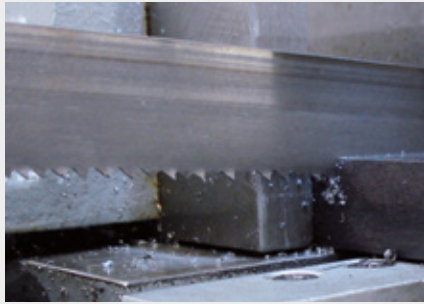


Thanks to exceptional holding power the form-closure technology has many benefits:



Low clamping pressure in the compact 5-Axis Vise results in:





**1 – Sawing**



**2 – Stamping**



**3 – Clamping**

## 5 seconds that revolutionize your machining processes!

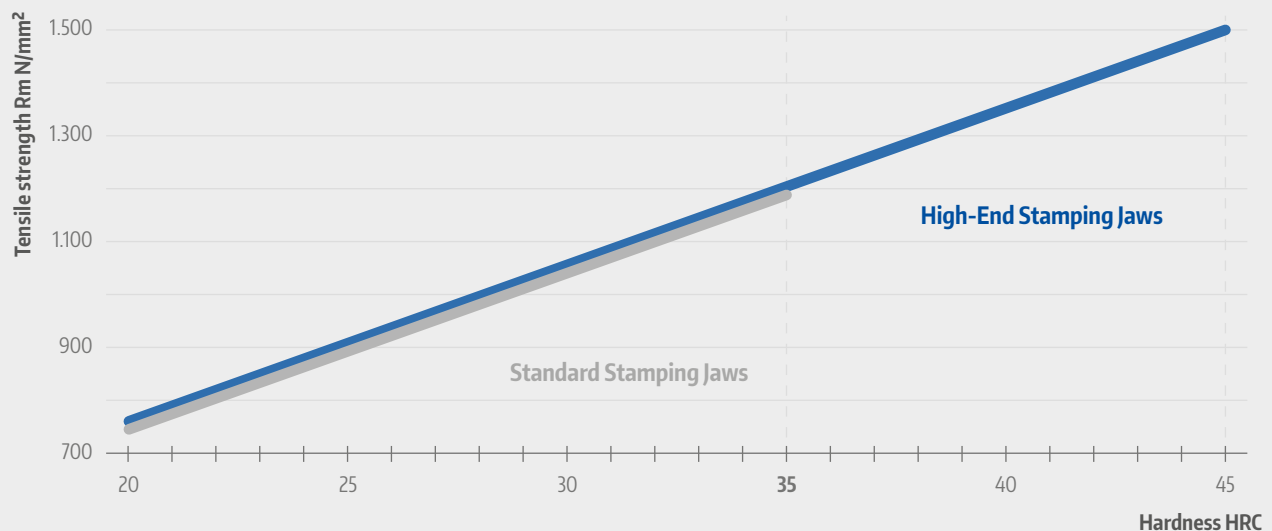
The workpiece is stamped directly on the saw cut or cinder layer of the blank. Additional preparatory work is generally not necessary. Stamping is realized within less than 5 seconds. The form-fit

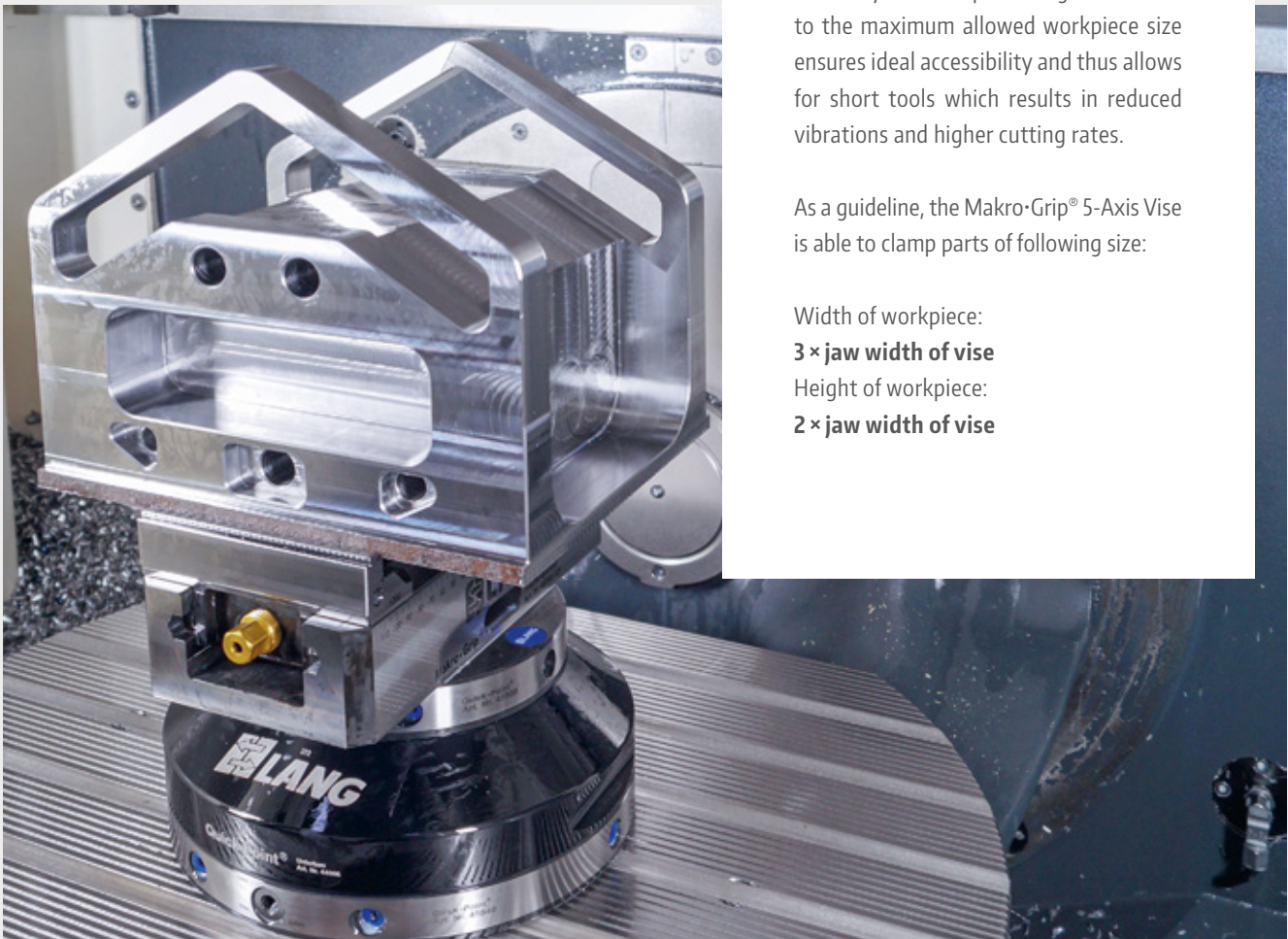
between the stamping contour in the workpiece (truncated pyramid indents) and the holding teeth of the 5-Axis Vise allows for an accurate repeatability even without endstops.

## A reliable wear-free clamping process for high-tensile materials

The stamping unit adds the form-closure contour to the workpiece with up to 20 tons of hydraulic pressure. This allows you to clamp even high-tensile materials up to 1.500 N/mm<sup>2</sup> tensile strength reliably and virtually wear-free. Different material hardness requires

different stamping jaws to extend longevity and guarantee safe clamping. Our standard jaws allow you to stamp workpieces up to 35 HRC while high-tensile materials up to 45 HRC require High-End stamping jaws.





## Machining with Form-Closure Technology Before ↔ After



Stamping Technology allows the Makro-Grip® 5-Axis Vise to clamp workpieces which substantially exceed its volume. Despite a clamping depth of only 3mm the Makro-Grip® Stamping Technology guarantees highest process reliability. The compact design in relation to the maximum allowed workpiece size ensures ideal accessibility and thus allows for short tools which results in reduced vibrations and higher cutting rates.

As a guideline, the Makro-Grip® 5-Axis Vise is able to clamp parts of following size:

- Width of workpiece:  
**3 × jaw width of vise**
- Height of workpiece:  
**2 × jaw width of vise**

# Setting the Stamping Depth and Pressure Correctly

The large number of alloys makes it difficult to make an exact statement about the stamping pressure to be set. The two main parameters are workpiece width and material. In general, we recommend always starting with a low stamping pressure and slowly increasing it until the desired stamping depth in the workpiece is achieved.

For the material type 1.7131 (16MnCr5) we have made a measurement in this regard and set rough guide values for setting the stamping pressure.

Material type 1.7131 (16MnCr5)

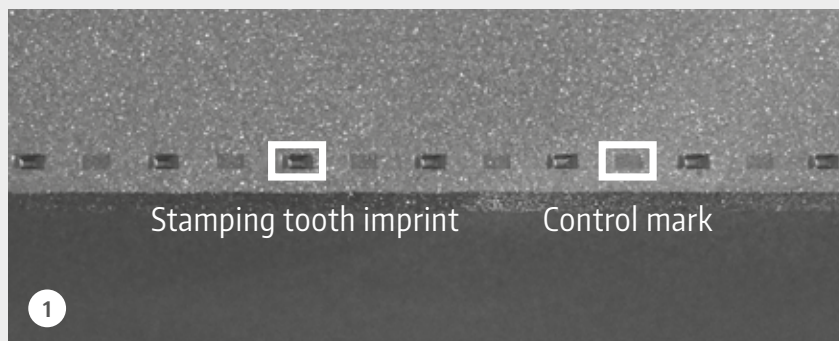
MATERIAL WIDTH	STAMPING PRESSURE
76 mm	100 bar
126 mm	140 bar

**Please note: Depending on the surface quality, the required inlet pressure may deviate from these values. Therefore, carry out a test stamping and check the stamping contour with a visual inspection before each stamping series.**

## Stamping tooth imprint with correct stamping

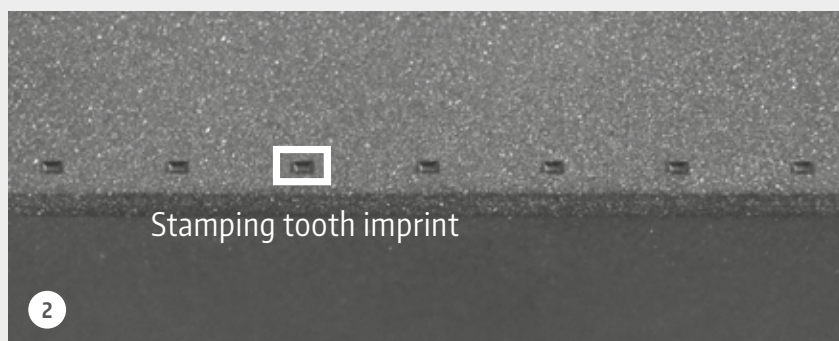
The visual inspection gives the user reliable feedback as to whether the inlet pressure has been selected correctly or whether readjustment is required. Depending on the material hardness, there are two different stamping tooth imprints. Soft material needs a bit

more "holding surface" due to the higher toughness. Therefore, it must be stamped in such a way that control marks between the stamping tooth imprints are visible. With harder materials, it is not necessary to stamp as deeply because of the higher resistance.



### 1 Material < 35 HRC with Standard stamping jaws

The stamping contour with alternating stamping tooth imprints and control marks is clearly visible. The depth of the control marks should be about 0.1 mm. The depth of the imprints should be about 0.25 mm.



### 2 Materials > 35 HRC with High-End stamping jaws

For material with a hardness between 35 and 45 HRC, the control marks must not be visible. The depth of the imprints is about 0.15 mm.

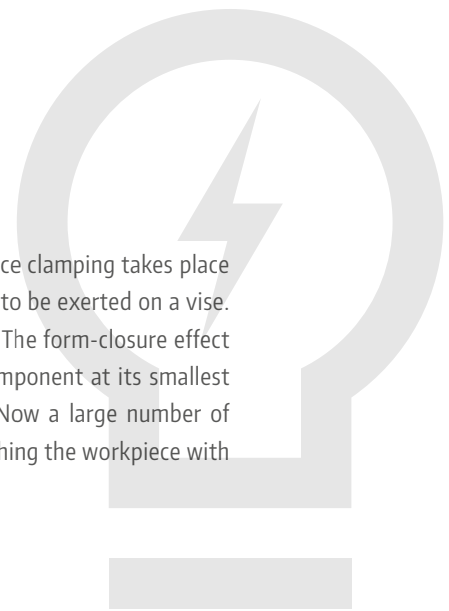




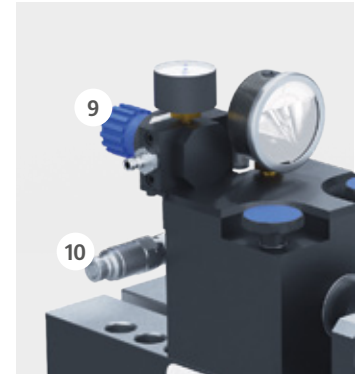
## Tip for your benefit:

### Using a side-milling cutter for finishing parts in one operation

By pre-stamping a workpiece, the force application of the workpiece clamping takes place outside the machine. This significantly reduces the clamping force to be exerted on a vise. A small, compact vise is sufficient to clamp oversized workpieces. The form-closure effect created by pre-stamping makes it possible to safely pick up a component at its smallest cross-section and clamp it edgewise and for ideal accessibility. Now a large number of components can be machined in one clamping process before finishing the workpiece with a side-milling cutter.



# Makro·Grip® Stamping Unit



Rear view

- 1 Operated pneumatically by hand or foot
- 2 Pneumatic-hydraulic power multiplier with visible oil-level display
- 3 Makrolon protection shield
- 4 Easily readable hydraulic pressure gauge
- 5 Quick adjustment of stamping with for different part sizes
- 6 Robust steel hydraulic housing with integrated T-slot key
- 7 Scaled endstop for quick positioning of blanks
- 8 Stamping jaws for all materials up to 35 HRC / 45 HRC
- 9 Convenient adjustment of the stamping pressure
- 10 Quick connection system consisting of quick connector and quick connector socket

## MAKRO·GRIP® STAMPING UNIT FOR WORKBENCHES

ITEM NO.	TYPE	MAX. STAMPING RANGE	TYPE OF STAMPING JAWS	WEIGHT
141200	Standard	9.65" (245 mm)	Standard stamping jaws for materials up to 35 HRC	167.55 lbs (76 kg)
141350	Extended	13.98" (355 mm)	Standard stamping jaws for materials up to 35 HRC	185.19 lbs (84 kg)
141200-HE	Standard	9.65" (245 mm)	High-End stamping jaws for materials up to 45 HRC	167.55 lbs (76 kg)
141350-HE	Extended	13.98" (355 mm)	High-End stamping jaws for materials up to 45 HRC	185.19 lbs (84 kg)

- Scope of delivery:
- Stamping vise
  - Stamping jaws with parallels, 3 mm
  - Pneumatic-hydraulic power multiplier (1 – 360 bar)
  - Gauging blocks for measuring wear of stamping teeth
  - Scaled workpiece endstop
  - Protection shield
  - 90 degree fitting

# Mobile cart with Makro-Grip® Stamping Unit, Standard



- 1 Makro-Grip® Standard Stamping Unit with a stamping range up to 9.65"
- 2 T-slot plate can be retrofitted
- 3 Practical, rigid cart for a flexible and mobile use
- 4 Broad space on the plastic tray that can be used for preparing vises or for depositing tools, etc.

## MOBILE CART WITH MAKRO-GRIP® STAMPING UNIT, STANDARD

ITEM NO.	TYPE	MAX. STAMPING RANGE	TYPE OF STAMPING JAWS	WEIGHT
141521	Standard	9.65" (245 mm)	Standard stamping jaws for material up to 35 HRC	462.97 lbs (210 kg)
141521-HE	Standard	9.65" (245 mm)	High-End stamping jaws for material up to 45 HRC	462.97 lbs (210 kg)

- Scope of delivery:
- Stamping vise
  - Stamping jaws with parallels, 3 mm
  - Workshop cart
  - Protection shield
  - Pneumatic-hydraulic power multiplier (1-360 bar)
  - Gauging blocks for measuring wear of stamping teeth
  - Scaled workpiece endstop
  - 90 degree fitting

# Mobile cart with Makro·Grip® Stamping Unit, extended, on T-slot plate



- 1 Large stamping range up to 13.98"
- 2 Practical, rigid cart for a flexible and mobile use
- 3 T-slot plate included allowing a second stamping unit to be retrofitted easily with marking bores or T-slot

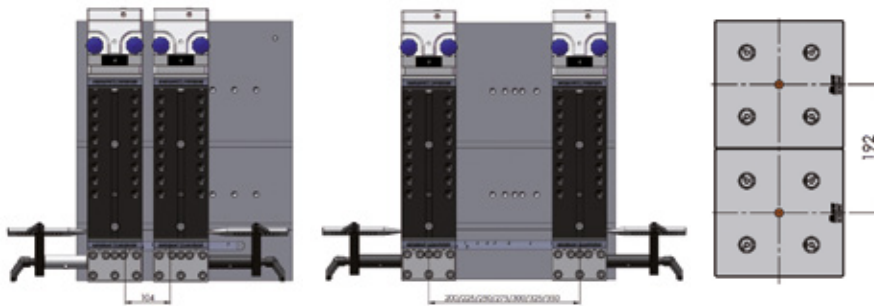
## MOBILE CART WITH MAKRO·GRIP® STAMPING UNIT, EXTENDED, ON T-SLOT PLATE

ITEM NO.	TYPE	MAX. STAMPING RANGE	TYPE OF STAMPING JAWS	WEIGHT
141400	Extended	13.98" (355 mm)	Standard stamping jaws for material up to 35 HRC	661.39 lbs (300 kg)
141400-HE	Extended	13.98" (355 mm)	High-End stamping jaws for material up to 45 HRC	661.39 lbs (300 kg)
141140	Additional extended stamping vise for dual stamping	13.98" (355 mm)	Standard stamping jaws for material up to 35 HRC	110.23 lbs (50 kg)
141140-HE	Additional extended stamping vise for dual stamping	13.98" (355 mm)	High-End stamping jaws for material up to 45 HRC	110.23 lbs (50 kg)

Scope of delivery Item No. 141400 und 141400-HE:

- Stamping vise
- T-slot plate 596 × 496 mm
- Stamping jaws with parallels, 3mm
- Pneumatic-hydraulic power multiplier (1-360 bar)
- Workshop cart
- Gauging blocks for measuring wear of stamping teeth
- Scaled workpiece endstop
- Protection shield
- 90 degree fitting

# Mobile cart with Makro-Grip® Dual Stamping Unit, extended, on T-slot plate



The dual stamping unit is ideal for preparing long parts with two stamping vises simultaneously and clamping these stamped parts accordingly in two 5-Axis Vises on the machine table.

The distance of the two units can be adjusted individually using the T-slots or marking bores, in order to match the distance of Quick-Point® pitch and thus the position of the Makro-Grip®'s holding teeth.

## MOBILE CART WITH MAKRO-GRIP® DUAL STAMPING UNIT, EXTENDED, ON T-SLOT PLATE

ITEM NO.	TYPE	MAX. STAMPING RANGE	TYPE OF STAMPING JAWS	WEIGHT
141402	Extended	2 × 13.98" (2 × 355 mm)	Standard stamping jaws for material up to 35 HRC	771.62 lbs (350 kg)
141402-HE	Extended	2 × 13.98" (2 × 355 mm)	High-End stamping jaws for material up to 45 HRC	771.62 lbs (350 kg)

- Scope of delivery:
- 2 stamping vises
  - T-slot plate 596 × 496 mm
  - 2 pairs of stamping jaws with parallels, 3 mm
  - Pneumatic-hydraulic power multiplier (1-360 bar)
  - Workshop cart
  - Gauging blocks for measuring wear of stamping teeth
  - 2 scaled workpiece endstop
  - 2 protection shield
  - 90 degree fitting

# Center Marking Tool for Stamping Unit

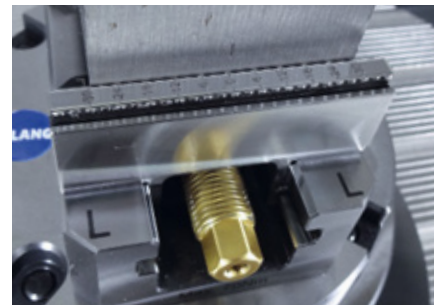
The center marking tool plunges a notch above the stamping contour at the center of the part.  
This marking allows the exact and centric positioning of parts in Makro-Grip® 5-Axis Vises without any endstops.



## CENTER MARKING TOOL

ITEM NO.	DESCRIPTION	UNIT
141010	Center marking tool	1 pc.
141010-01	Spare marking stud	1 pc.

The center marking tool will be mounted to the moveable jaw of the stamping unit with two M6 × 14 screws (included).



# Gauging Blocks for measuring wear of Stamping Jaws



## GAUGING BLOCKS FOR MEASURING WEAR OF STAMPING JAWS

ITEM NO.	UNIT
141020	1 set (3 pcs.)

Creating trust! Always the same clamping quality. To ensure consistent holding power in the clamping device, it is necessary to check the wear of the stamping teeth regularly.



Position one gauging block with slots on each side of the stamping jaws. Tighten the jaws by hand only, do not actuate the switch!



Make sure that the stamping teeth are placed in the grooves of the gauging blocks.



When the indicator block fits between the stamping contour, the jaws need to be sent in for reconditioning.

# Stamping Jaws – Standard and High-End version



## STANDARD STAMPING JAWS WITH PARALLELS

ITEM NO.	FOR MATERIAL	CLAMPING DEPTH OF WORKPIECE	UNIT
141111	up to 35 HRC	3 mm	1 pair

Standard stamping jaws for all materials up to 35 HRC.



## HIGH-END STAMPING JAWS WITH PARALLELS

ITEM NO.	FOR MATERIAL	CLAMPING DEPTH OF WORKPIECE	UNIT
141112	up to 45 HRC	3 mm	1 pair

Standard stamping jaws for all materials up to 45 HRC.

## Reconditioning Stamping Jaws



## RECONDITIONING STAMPING JAWS

ITEM NO.	VERSION	UNIT
141111-01	Standard stamping jaws	1 pair
141112-01	High-End stamping jaws	1 pair

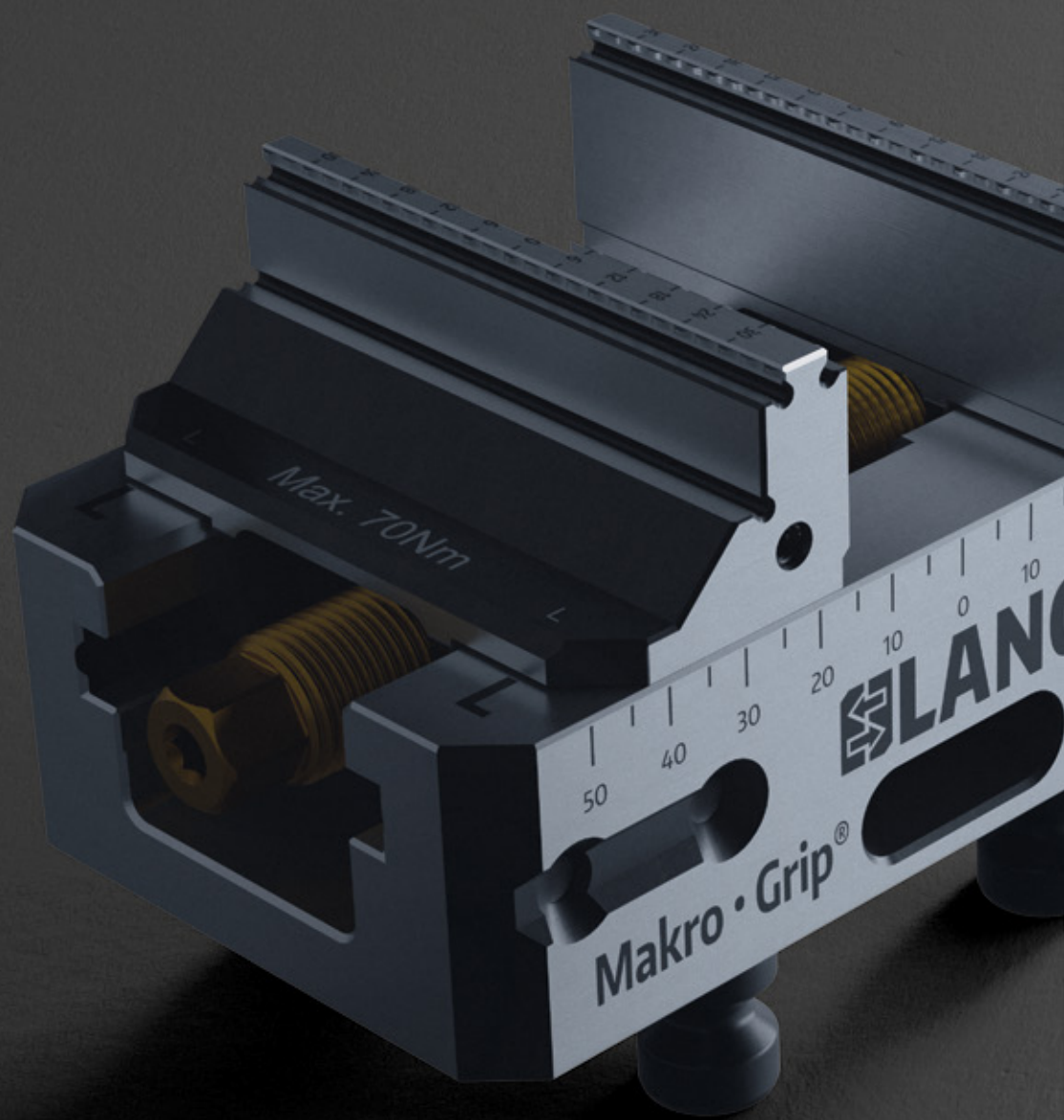
When the stamping teeth are worn out the jaws can be reconditioned up to 6 times per pair. The original thickness of a stamping jaw is 18 mm. With every reconditioning process the thickness is reduced by 0.5 mm until it has reached 15 mm (measured at the highest stamping tooth tip). If a stamping tooth is broken off (more than the regular 0.5 mm per reconditioning) the total amount of possible reconditioning processes is reduced accordingly.

**Note for dual stamping:** With every reconditioning process we generally supply shims. The thickness of these shims is determined by the remaining thickness of the stamping jaw. Thickness of stamping jaw and shim will always amount to 18 mm. This guarantees that stamping jaws which have been reconditioned at different intervals can be used together, applying the same pressure on the workpiece.

### Tip for your benefit:

In order to bridge the time of the reconditioning process we suggest keeping a second pair of stamping jaws in reserve!





Max. 70Nm

50 40 30 20 10 0 10

LANC

Makro · Grip®



# MAKRO·GRIP®

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# 5-AXIS VISES / RAW

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# PART CLAMPING

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98 Makro-Grip® Dual-Clamping Vise

100 Retrofitting kit for 5-Axis Vise







# Makro·Grip® 5-Axis Vise

External pre-stamping enables a workpiece to be held reliably in the Makro·Grip® 5-Axis Vise with low clamping pressure. Deformation and distortion of the material during clamping are therefore excluded and wear on the clamping device is reduced to a minimum.

Its compact design and the use of Form-Closure Technology make the 5-Axis Vise ideal for 5-sided machining.

## → Accessibility

Compact design for the use of short tools

## → Holding Force

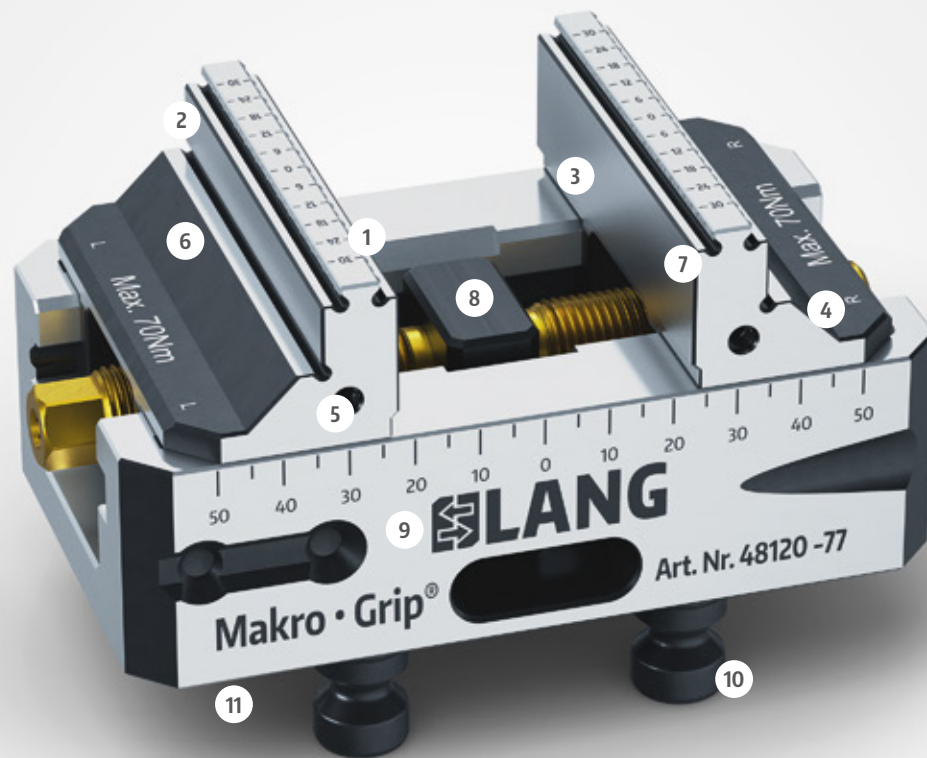
Highest holding forces at lowest actuation torque due to form-closure clamping

## → Handling

Lightweight construction for ergonomic setup

# Makro·Grip® Technology

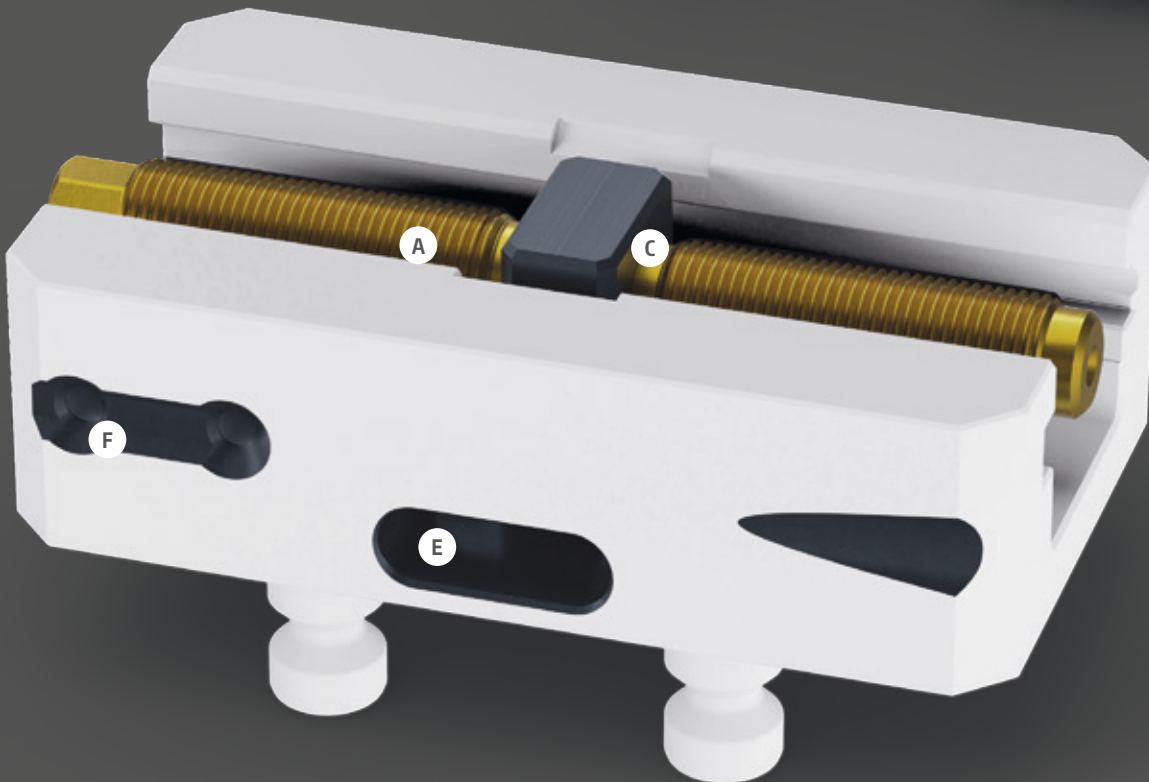
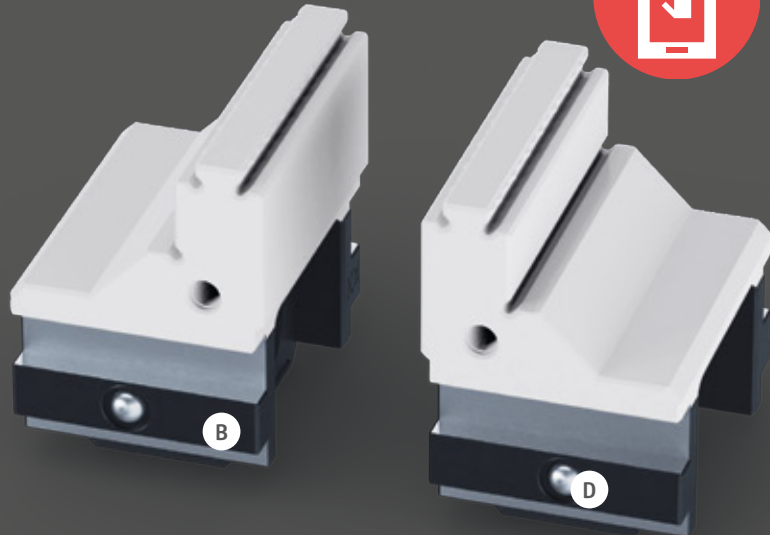
Compact and unmatched holding power for the 5-face-machining of blanks and unfinished parts



- 1 Makro·Grip® jaws with double-sided holding teeth contour (same toothing for all types of vises)
- 2 Additional clamping support for non-stamped parts
- 3 Special Tungsten-Carbide Coating can be applied on the plain clamping surfaces in order to increase friction when clamping non-stamped parts
- 4 Clamping jaws milled from solid case-hardened for maximum stability
- 5 Thread for mounting an endstop
- 6 The patented reversible jaws are changed over within one minute. A larger clamping range is achieved and interferences are eliminated
- 7 Clamping edge requirement of 3 mm guarantees ideal accessibility for tools and enormous material savings
- 8 Centering accuracy  $\pm 0.02$  mm
- 9 Rigid and sturdy base for great longevity. All LANG jaw types within the size group can be mounted to this base
- 10 Integrated with clamping studs for precise clamping in the Quick·Point® zero-point clamping system
- 11 Additional bores/threads can be drilled in the bottom of the base body to adapt the Makro·Grip® 5-Axis Vise to other zero-point systems

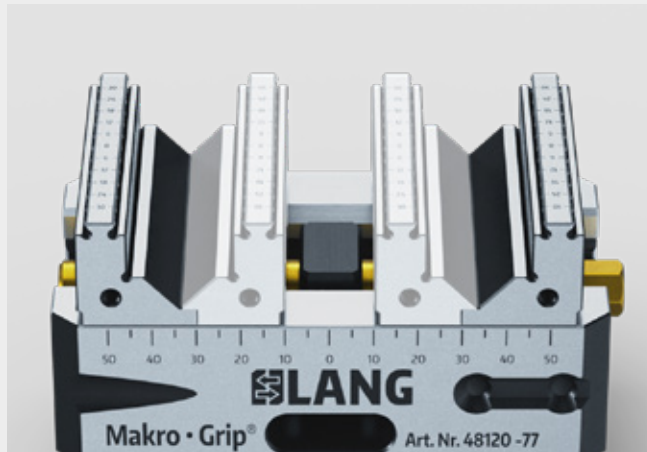
## All improvements at a glance:

- A** 5-Axis Vise with 46 mm jaws now has a larger spindle diameter and thread pitch for an increased actuation torque and holding force
- B** Optimized jaw guide geometry for an increased stiffness
- C** Encapsulated center piece for less debris sensitivity



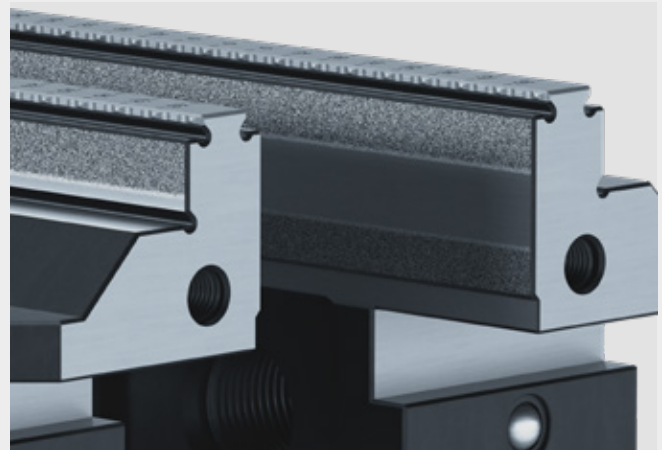
- D** Better parallelism due to spring loaded jaw guide
- E** Lateral swarf/coolant drain in the base body
- F** Gripper grooves for robots

## Reversible Jaws



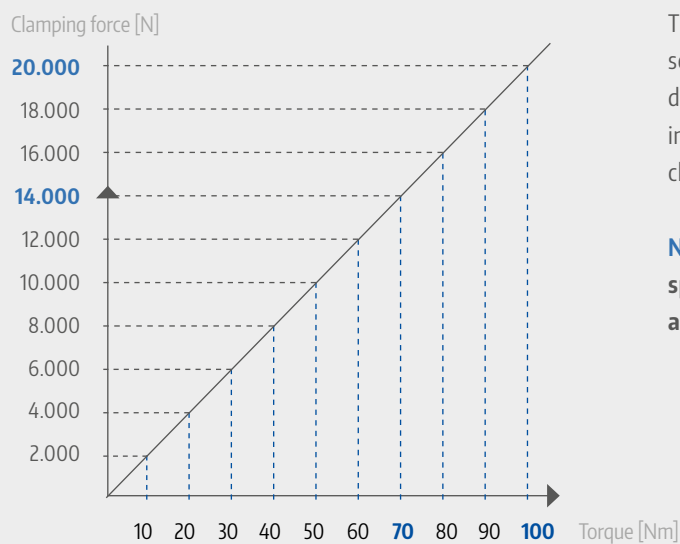
The patented reversible jaws are changed over within one minute. A larger clamping range is achieved and interferences are eliminated.

## Tungsten Carbide Coating



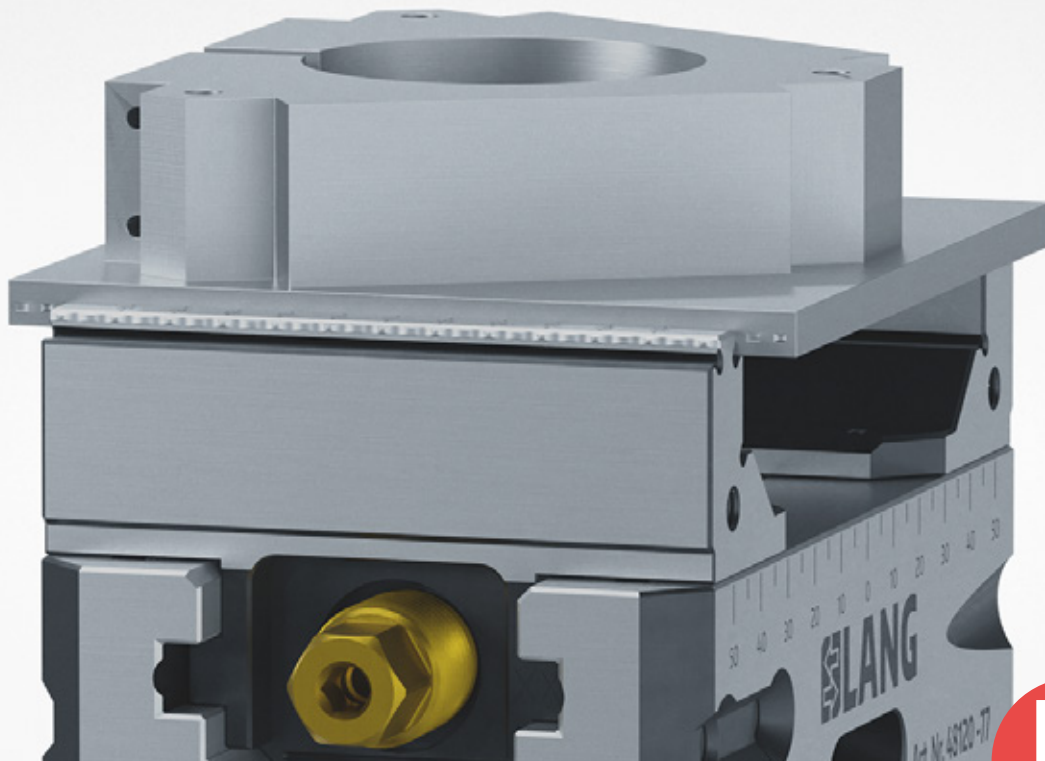
A special Tungsten-Carbide Coating can be applied on the plain clamping surfaces of the Makro-Grip® jaws in order to double the friction force when clamping non-stamped parts.

## Form-closure technology



Thanks to the Form-Closure Technology, workpieces can be securely clamped with low clamping pressure. Deformation and distortion of the material while clamping and releasing is impossible! This diagram highlights the relation between the clamping pressure and the resulting clamping force.

**New! All 5-Axis Vises with 46 mm jaws now have a larger spindle diameter (Ø 16 mm) and thread pitch for an increased actuation torque and holding force!**



### Tip for your benefit:

## Maximum efficiency with low resource investment

A fitting solution for any challenging clamping task – with only one vise base. Just like with the Quick-Point® zero-point clamping system, modularity and flexibility are key to LANG workholding. All vise types use the same base in different lengths and jaw widths. This guarantees that all jaw types (Makro-Grip®, Avanti, Profilo, Vario-Tec) are interchangeable and compatible to each other.

Where using a side-milling cutter for finishing parts in one operation is not suitable, a vise with an additional set of jaws might still be sufficient to finish a part completely (e.g. Makro-Grip® 5-Axis Vise + Avanti Base & Top Jaws). You do not necessarily have to invest in two vises.

The interchangeability of the jaws allows you to build a flexible vise fleet regardless of the vise type you start with. Additional jaws can be added at a later time according to demand and application.

Another benefit: Opposed to most conventional vises, whose top jaws are often mounted to the jaw guide, the Makro-Grip® jaws are milled from solid, which results in enormous stability advantages.

# Makro·Grip® 5-Axis Vise 77

**NEW**

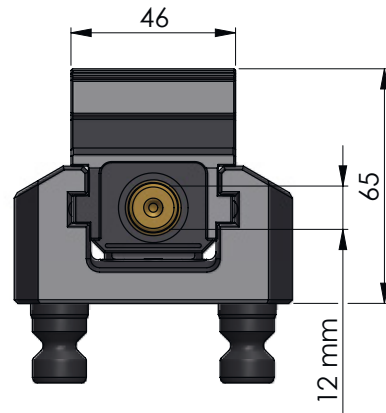
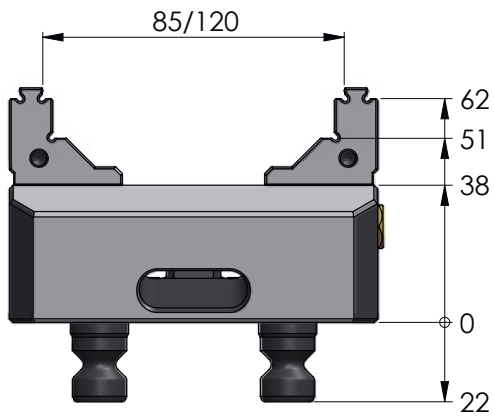
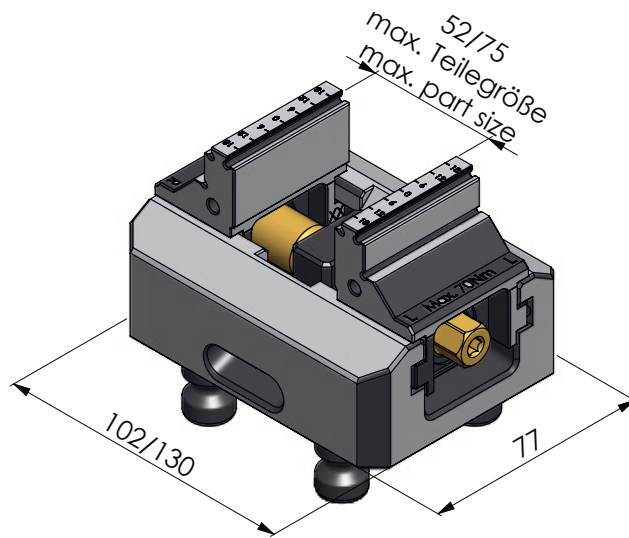
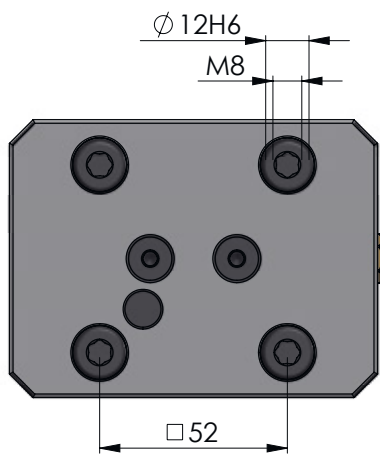


## MAKRO·GRIP® 5-AXIS VISE 77, JAW WIDTH 46 MM

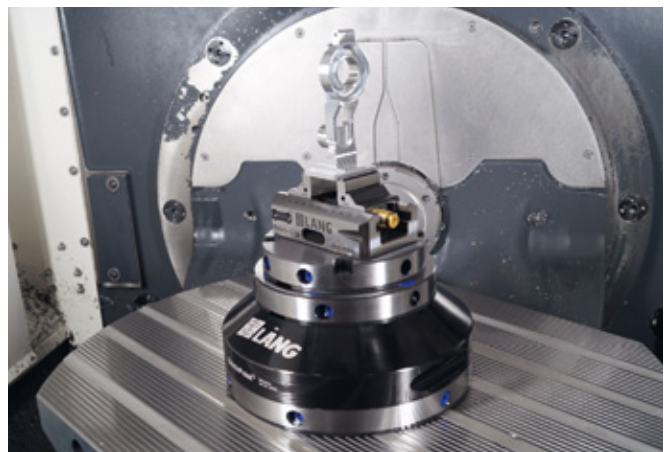
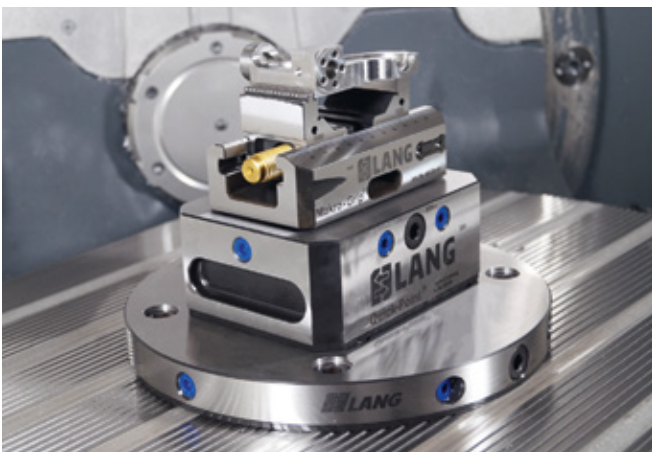


ITEM NO.	BASE LENGTH	CLAMPING RANGE	WEIGHT
148085-46	4.02" (102 mm)	0-3.35" (85 mm)	4.63 lbs (2.1 kg)
148120-46	5.12" (130 mm)	0-4.72" (120 mm)	5.51 lbs (2.5 kg)

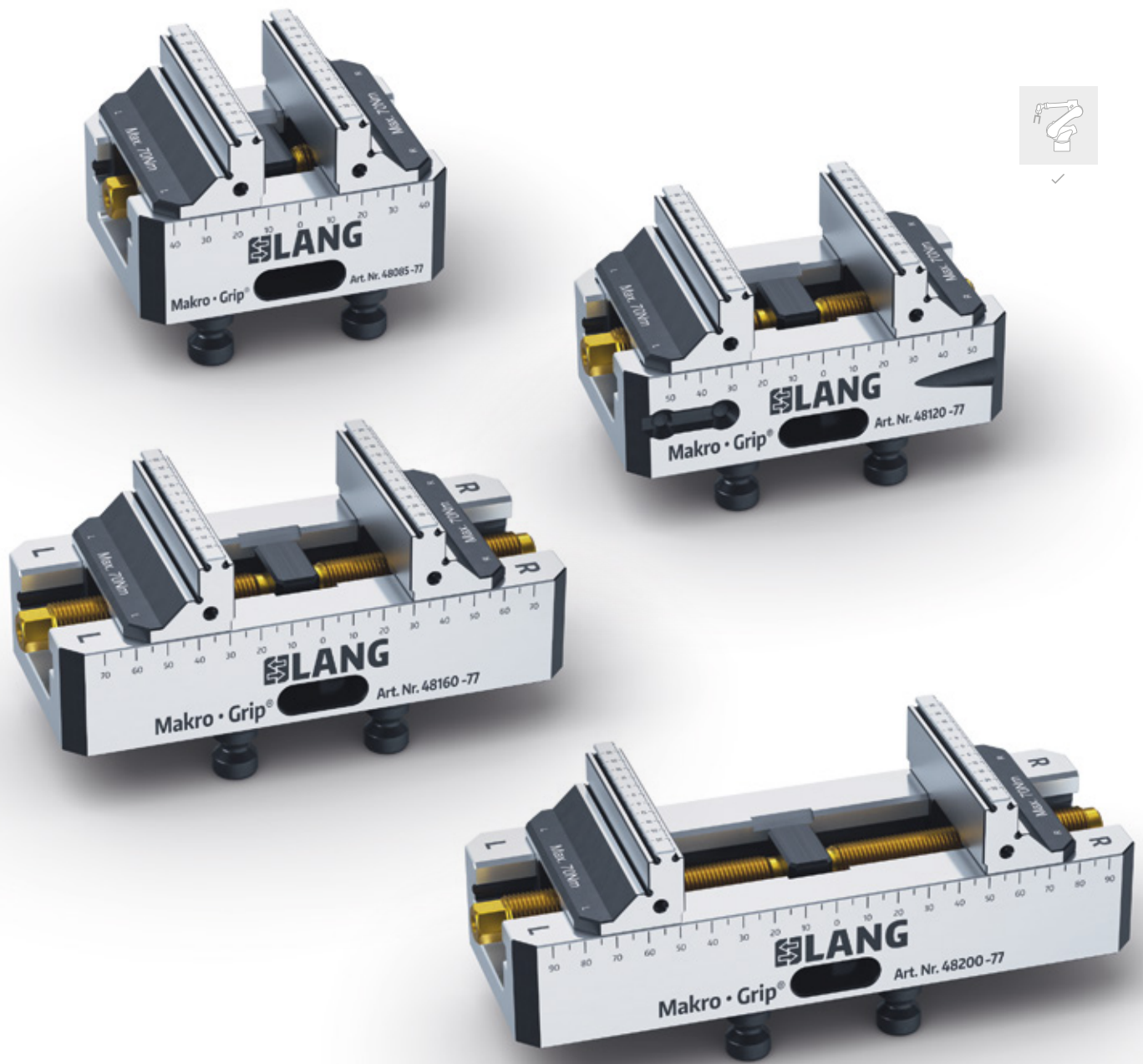




## Applications



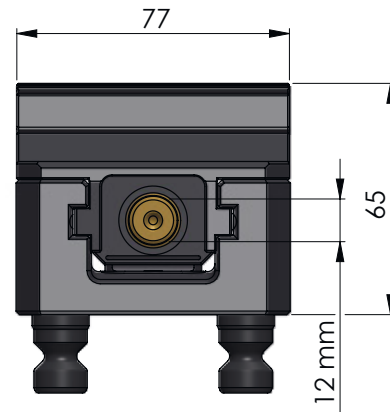
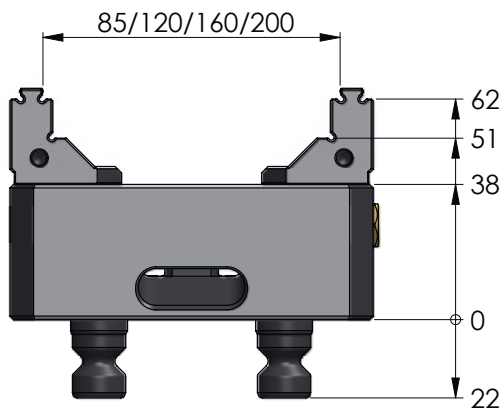
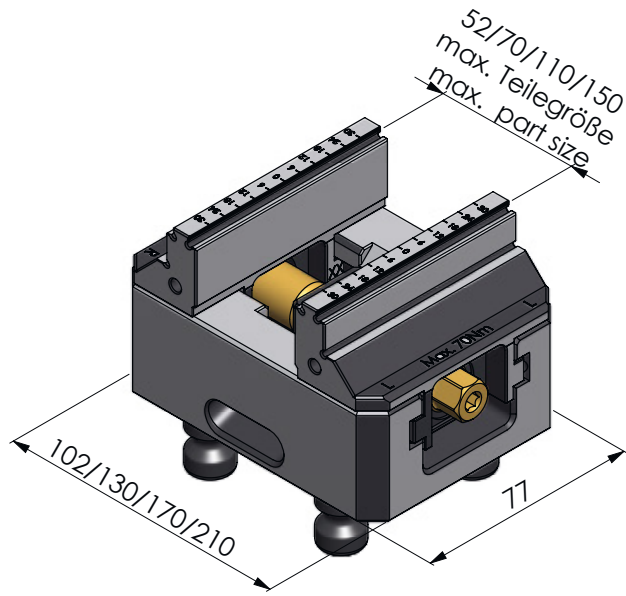
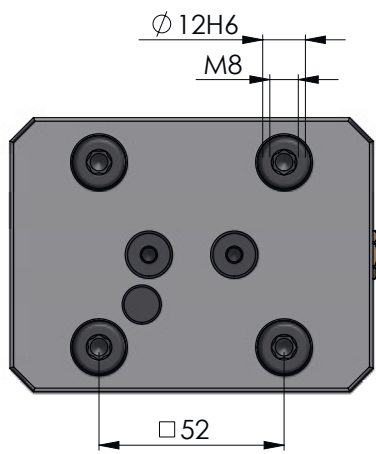
# Makro·Grip® 5-Axis Vise 77



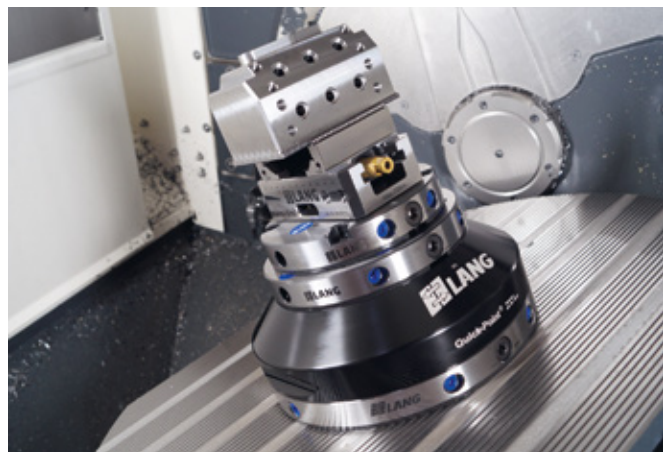
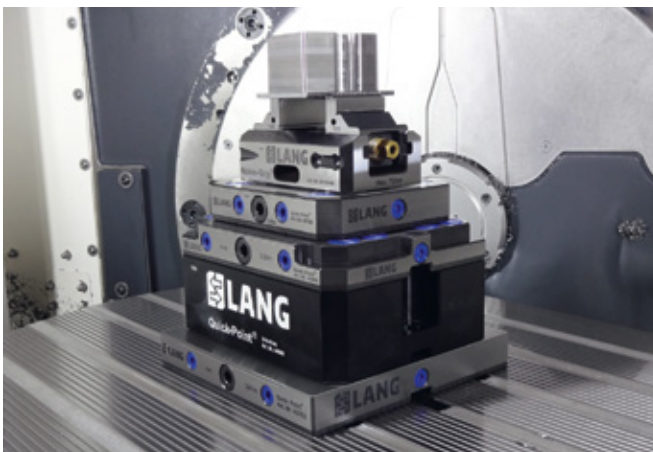
## MAKRO·GRIP® 5-AXIS VISE 77, JAW WIDTH 77 MM



ITEM NO.	BASE LENGTH	CLAMPING RANGE	WEIGHT	COMPARABLE PREVIOUS VERSION
148085-77	4.02" (102 mm)	0–3.35" (85 mm)	5.07 lbs (2.3 kg)	147085
148120-77	5.12" (130 mm)	0–4.72" (120 mm)	6.39 lbs (2.9 kg)	147120
148160-77	6.69" (170 mm)	0–6.30" (160 mm)	7.72 lbs (3.5 kg)	147160
148200-77	8.27" (210 mm)	0–7.87" (200 mm)	9.26 lbs (4.2 kg)	147200



## Applications



# Makro-Grip® 5-Axis Vise 77

## Available Clamping Jaws



### SPARE JAWS FOR MAKRO-GRIP® 5-AXIS VISE 77

ITEM NO.	FOR	WEIGHT	UNIT
148085-4620	148085-46	1.10 lbs (0.5 kg)	1 pair
148077-4620	148120-46	1.10 lbs (0.5 kg)	1 pair
148085-7720	148085-77	1.54 lbs (0.7 kg)	1 pair
148077-7720	148120-77 / 148160-77 / 148200-77	1.54 lbs (0.7 kg)	1 pair

**NEW**



### SPARE JAWS WITHOUT HOLDING TEETH, FOR MAKRO-GRIP® 5-AXIS VISE 77

ITEM NO.	FOR	WEIGHT	UNIT
148085-4622	148085-46	1.10 lbs (0.5 kg)	1 pair
148077-4622	148120-46	1.10 lbs (0.5 kg)	1 pair
148085-7722	148085-77	1.54 lbs (0.7 kg)	1 pair
148077-7722	148120-77 / 148160-77 / 148200-77	1.54 lbs (0.7 kg)	1 pair



### AVANTI BASE JAWS FOR MAKRO-GRIP® 5-AXIS VISE 77

ITEM NO.	FOR	WEIGHT	UNIT
144771-46	148085-46 / 148120-46	1.32 lbs (0.6 kg)	1 pair
144771-77	148120-77 / 148160-77 / 148200-77	3.09 lbs (1.4 kg)	1 pair

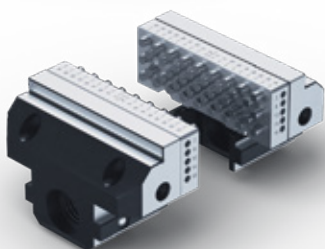
Even though the base jaw changed the previous add-on jaws still fit and refer (page 113)



### PROFILO BASE JAWS FOR MAKRO-GRIP® 5-AXIS VISE 77

ITEM NO.	FOR	WEIGHT	UNIT
149077	all Makro-Grip® 77, jaw width 77 mm	3.53 lbs (1.6 kg)	1 pair

Even though the base jaw changed the previous add-on jaws still fit and refer (page 119)



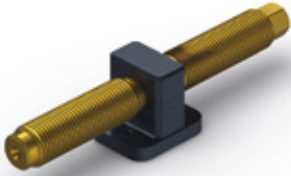
### VARIO-TEC JAWS FOR MAKRO-GRIP® 5-AXIS VISE 77

ITEM NO.	FOR	WEIGHT	UNIT
142018-77	148120-77 / 148160-77 / 148200-77	2.65 lbs (1.2 kg)	1 Set (2 pin jaws + 2 carrier jaws)

Spare jaws and parts are still available for previous vise versions (page 144/145)

# Makro·Grip® 5-Axis Vise 77

## Spare Parts and Accessories



### SPARE SPINDLE + CENTER PIECE FOR MAKRO·GRIP® 5-AXIS VISE 77

ITEM NO.	FOR	SPINDLE LENGTH	WEIGHT
14877100	148085-46 / 148085-77	3.94" (100 mm)	0.44 lbs (0.2 kg)
14877135	148120-46 / 148120-77	5.31" (135 mm)	0.66 lbs (0.3 kg)
14877175	148160-77	6.89" (175 mm)	0.88 lbs (0.4 kg)
14877215	148200-77	8.45" (215 mm)	0.88 lbs (0.4 kg)

Threaded spindle with low-wear TIN coating with internal hexagon (size 5) and external hexagon (size 12).

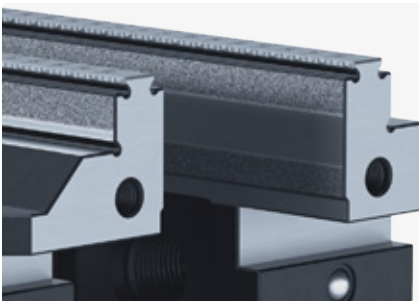


### CORDLESS DRILL ATTACHMENT

ITEM NO.	FOR	SIZE
147005	Internal Hexagon	0.19" (5 mm)

The cordless drill attachment is used to achieve centering accuracy of the jaws easier when exchanging them, especially with longer vise bases. You will also speed-up the exchange or reversal of jaws by using the cordless drill attachment.

## Service



### TUNGSTEN-CARBIDE-COATING FOR MAKRO·GRIP® JAWS

ITEM NO.	JAW WIDTH	QUANTITY
145046-17	46 mm	per pair
145077-17	77 mm	per pair

A special Tungsten-Carbide-Coating can be applied on the jaws' planar surfaces in order to intensify the friction when clamping non-stamped workpieces.

(Attention: Included in price is only the coating, not the jaws.)

# Makro·Grip® 5-Axis Vise 125

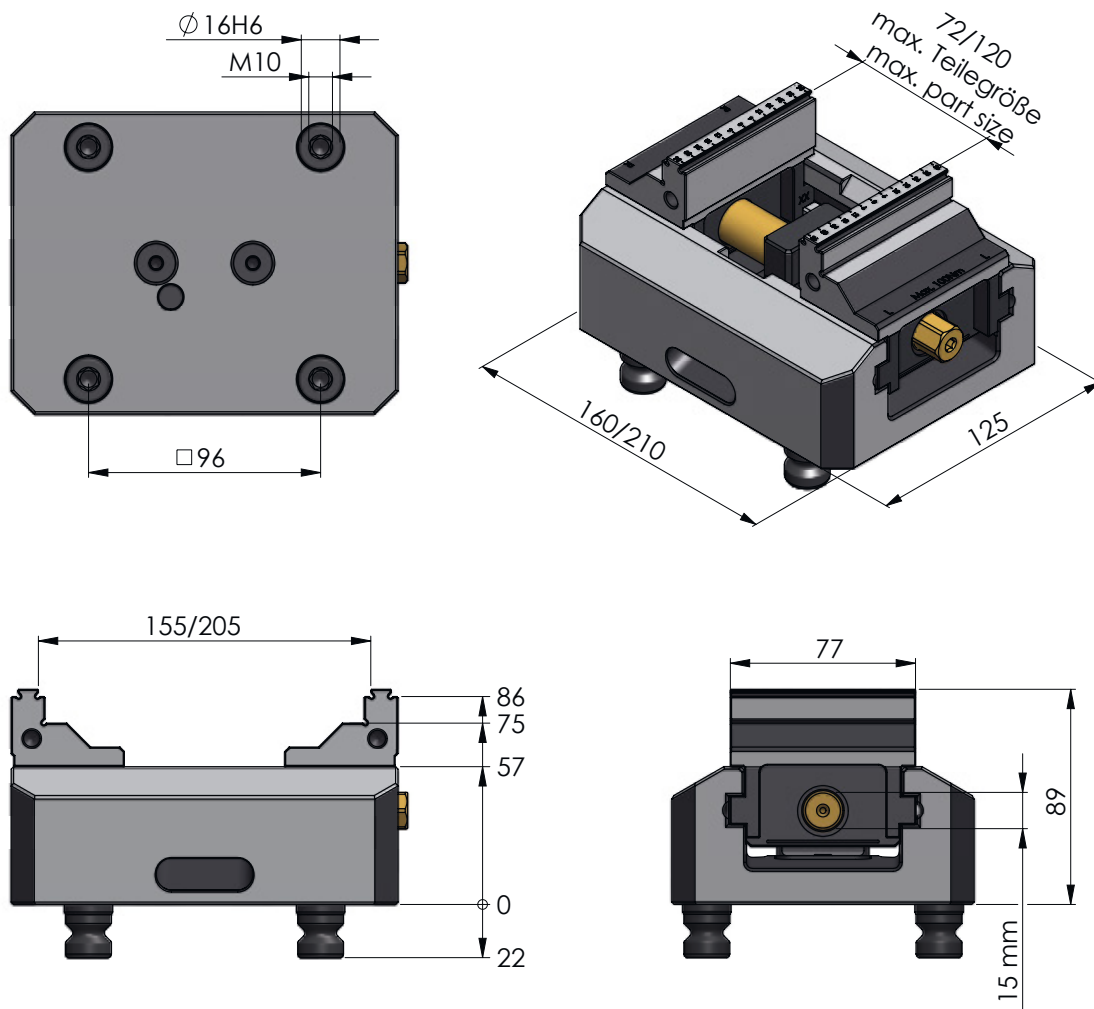
**NEW**



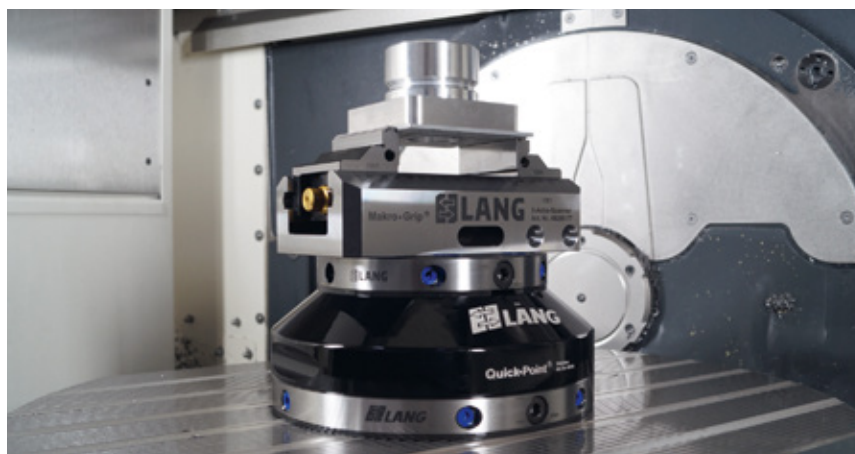
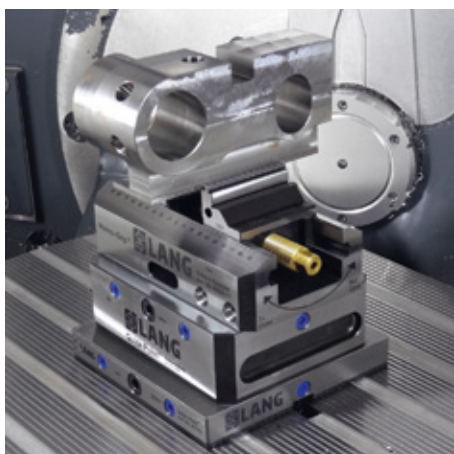
## MAKRO·GRIP® 5-AXIS VISE 125, JAW WIDTH 77 MM



ITEM NO.	BASE LENGTH	CLAMPING RANGE	WEIGHT
148155-77	6.30" (160 mm)	0-6.10" (150 mm)	16.31 lbs (7,4 kg)
148205-77	8.27" (210 mm)	0-8.07" (205 mm)	20.06 lbs (9,1 kg)



## Applications



# Makro·Grip® 5-Axis Vise 125

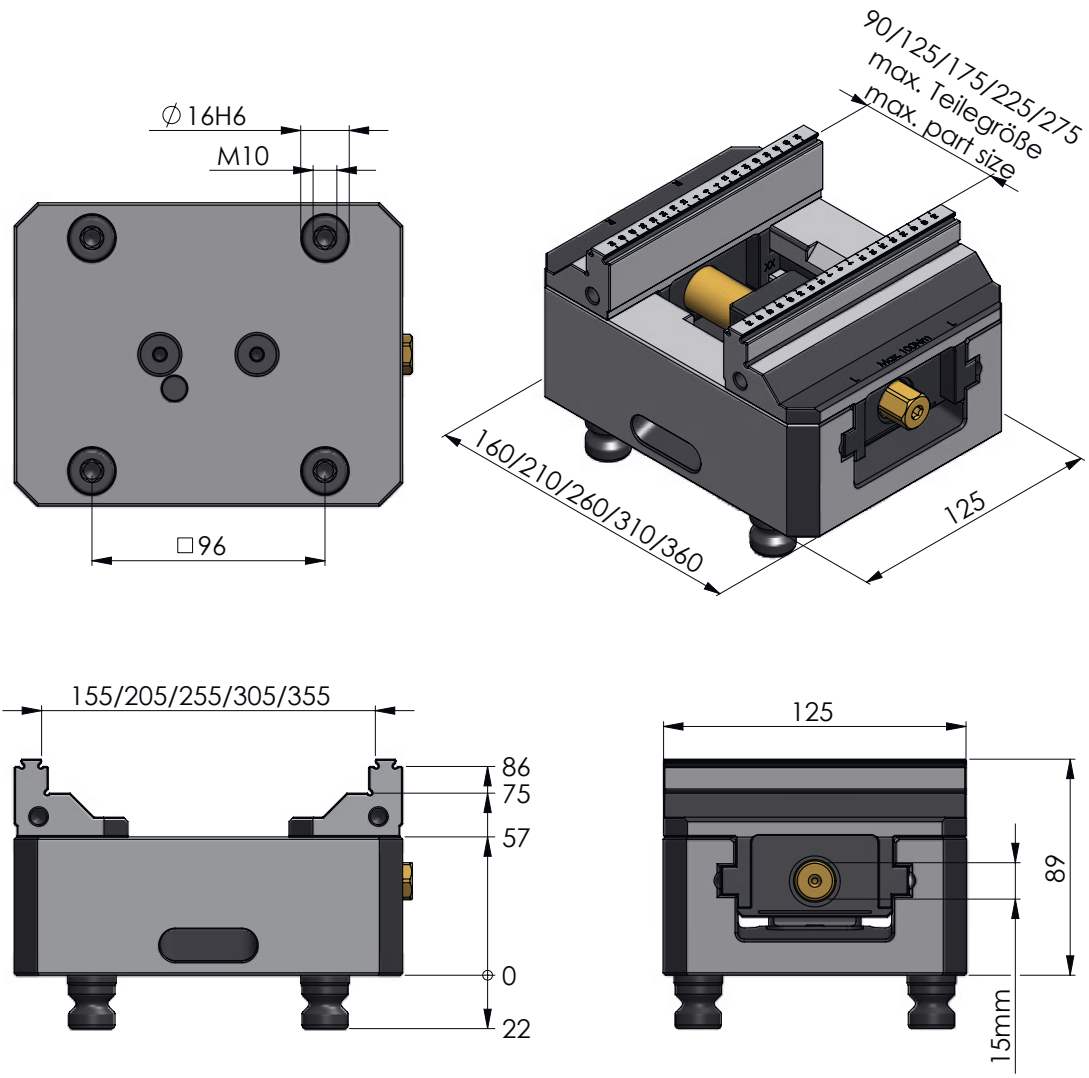


## MAKRO·GRIP® 5-AXIS VISE 125, JAW WIDTH 125 MM

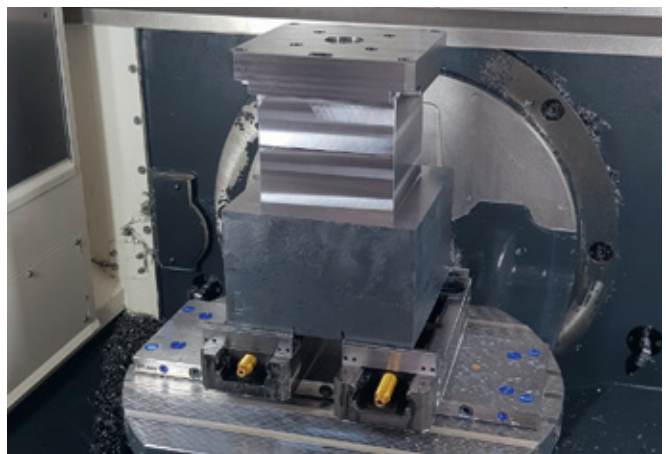
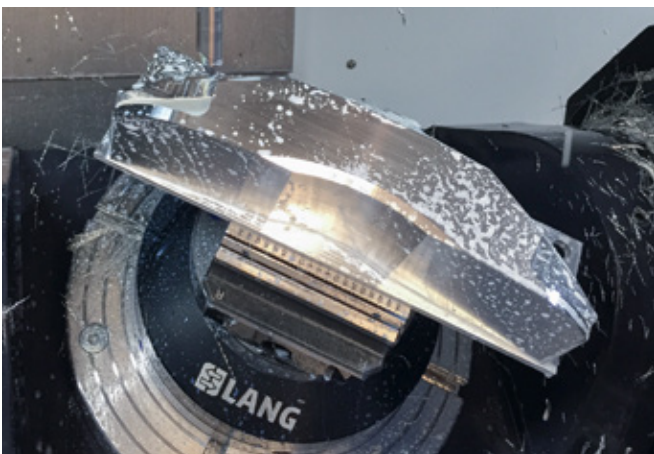


ITEM NO.	BASE LENGTH	CLAMPING RANGE	WEIGHT	COMPARABLE PREVIOUS VERSION
148155-125	6.30" (160 mm)	0–6.10" (155 mm)	18.52 lbs (8.4 kg)	147155
148205-125	8.27" (210 mm)	0–8.07" (205 mm)	22.49 lbs (10.2 kg)	147205
148255-125	10.24" (260 mm)	0–10.34" (255 mm)	26.68 lbs (12.1 kg)	147255
148305-125	12.20" (310 mm)	0–12.01" (305 mm)	30.86 lbs (14.0 kg)	147305
148355-125	14.17" (360 mm)	0–13.98" (355 mm)	35.05 lbs (15.9 kg)	147355





## Applications



# Makro-Grip® 5-Axis Vise 125

## Available Clamping Jaws



### SPARE JAWS FOR MAKRO-GRIP® 5-AXIS VISE 125

ITEM NO.	FOR	WEIGHT	UNIT
148125-7720	all Makro-Grip® 125, jaw width 125 mm	4.41 lbs (2.0 kg)	1 pair
148125-2520	all Makro-Grip® 125, jaw width 125 mm	5.73 lbs (2.6 kg)	1 pair

**NEW**



### SPARE JAWS WITHOUT HOLDING TEETH, FOR MAKRO-GRIP® 5-AXIS VISE 125

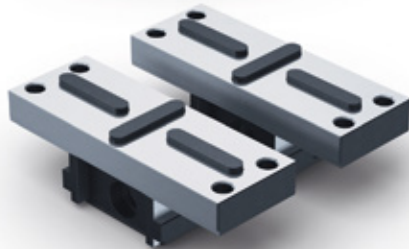
ITEM NO.	FOR	WEIGHT	UNIT
148125-7722	all Makro-Grip® 125, jaw width 77 mm	4.41 lbs (2.0 kg)	1 pair
148125-2522	all Makro-Grip® 125, jaw width 125 mm	5.73 lbs (2.6 kg)	1 pair



### AVANTI BASE JAWS FOR MAKRO-GRIP® 5-AXIS VISE 125

ITEM NO.	FOR	WEIGHT	UNIT
144251-125	all Makro-Grip® 125, jaw width 125 mm	8.16 lbs (3.7 kg)	1 pair

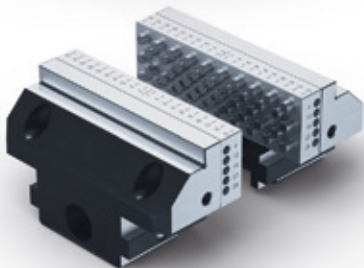
Even though the base jaw changed the previous add-on jaws still fit and refer (page 115)



### PROFILO BASE JAWS FOR MAKRO-GRIP® 5-AXIS VISE 125

ITEM NO.	FOR	WEIGHT	UNIT
149125	all Makro-Grip® 125, jaw width 125 mm	9.48 lbs (4.3 kg)	1 pair

Even though the base jaw changed the previous add-on jaws still fit and refer (page 121)



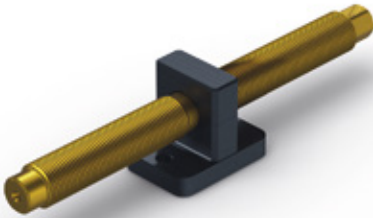
### VARIO-TEC JAWS FOR MAKRO-GRIP® 5-AXIS VISE 125

ITEM NO.	FOR	WEIGHT	UNIT
142018-125	all Makro-Grip® 125, jaw width 125 mm	10.36 lbs (4.7 kg)	1 Set (2 pin jaws + 2 carrier jaws)

Spare jaws and parts are still available for previous vise versions (page 144/145)

# Makro·Grip® 5-Axis Vise 125

## Spare Parts and Accessories



### SPARE SPINDLE + CENTER PIECE FOR MAKRO·GRIP® 5-AXIS VISE 125

ITEM NO.	FOR	SPINDLE LENGTH	WEIGHT
14825164	148155-77 / 148155-125	6.46" (164 mm)	1.54 lbs (0.7 kg)
14825214	148205-77 / 148205-125	8.43" (214 mm)	1.54 lbs (0.8 kg)
14825264	148255-125	10.39" (264 mm)	1.98 lbs (0.9 kg)
14825314	148305-125	12.36" (314 mm)	2.20 lbs (1.0 kg)
14825364	148355-125	14.33" (364 mm)	2.43 lbs (1.1 kg)

Threaded spindle with low-wear TIN coating with internal hexagon (size 5) and external hexagon (size 15)

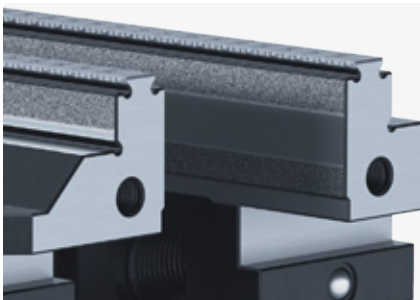


### CORDLESS DRILL ATTACHMENT

ITEM NO.	FOR	SIZE
147005	Internal Hexagon	5 mm

The cordless drill attachment is used to achieve centering accuracy of the jaws easier when exchanging them, especially with longer vise bases. You will also speed-up the exchange or reversal of jaws by using the cordless drill attachment.

## Service



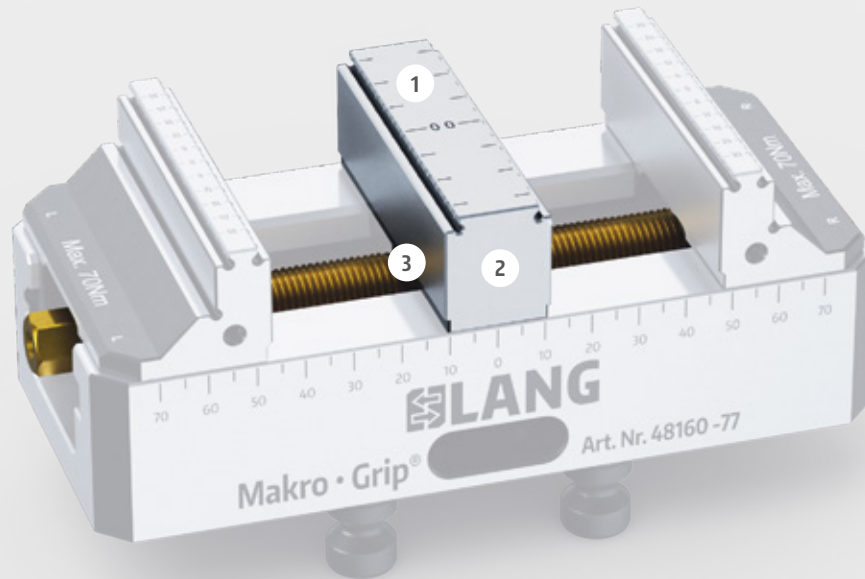
### TUNGSTEN-CARBIDE-COATING FOR MAKRO·GRIP® JAWS

ITEM NO.	JAW WIDTH	QUANTITY
145077-17	77 mm	per pair
145125-17	125 mm	per pair

A special Tungsten-Carbide-Coating can be applied on the jaws' planar surfaces in order to intensify the friction when clamping non-stamped workpieces.

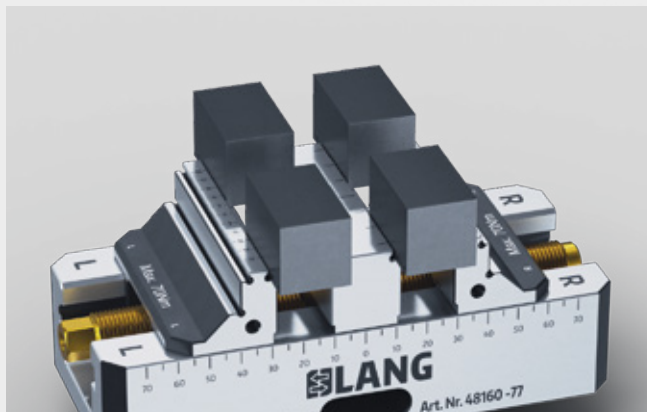
(Attention: Included in price is only the coating, not the jaws.)

# Makro·Grip® Dual Clamping Vise – Retrofitting Kit for 5-Axis Vises



Please read all about the Makro·Grip® 5-Axis Vise's features on page 82.

- 1 Scope of delivery: Center jaw with double-sided holding tooth contour and threaded spindle
- 2 Different widths of center jaw
- 3 The center piece design allows you to clamp workpieces with up to 2 mm variance in length (cutting tolerance)

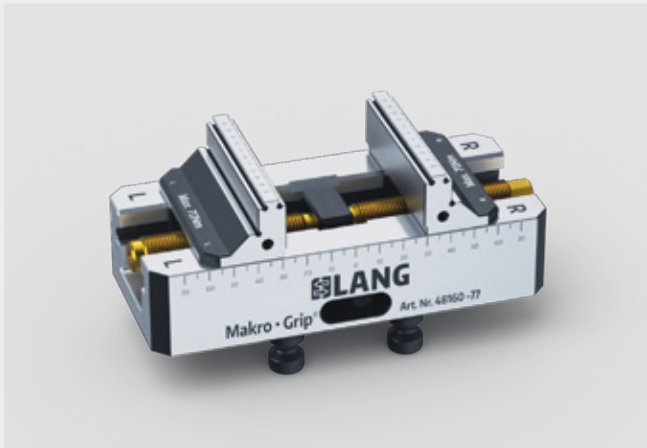


Depending on the part size the operator might be able to clamp 4 parts in one vise at the same time and thus increase spindle run times.

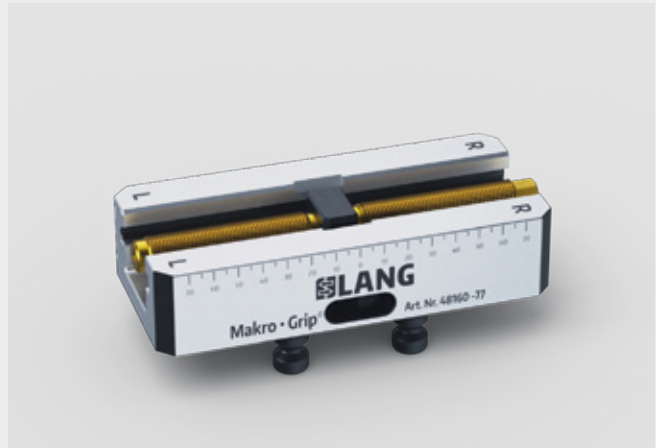


The center jaw can now also be mounted to the Makro·Grip® 5-Axis Vise for the use in an automation system! This significantly increases the capacity of an automation system.

# Transform your Makro-Grip® 5-Axis Vise into a Dual Clamping Vise



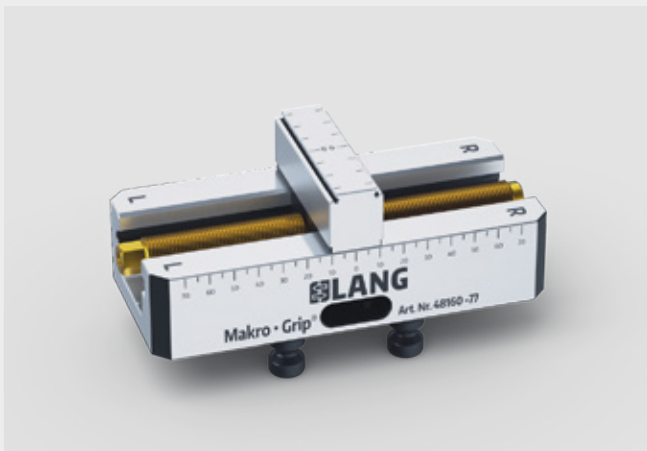
Unscrew the Makro-Grip® jaws from the base using a hexagon wrench (internal 5 mm).



Flip base and remove the two screws.



Remove spindle and center piece.



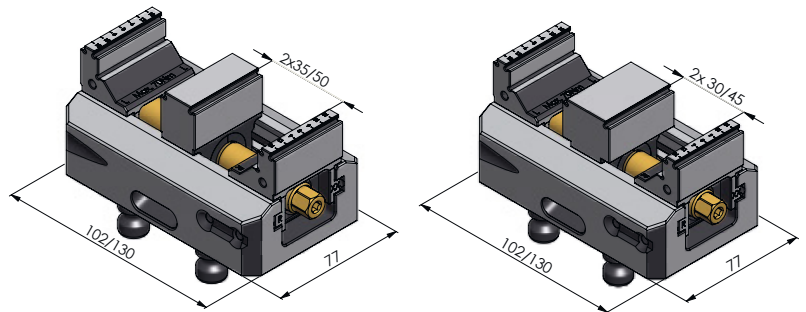
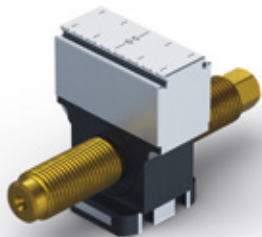
Insert center jaw and spindle and tighten the screws on the bottom side.



Assemble the Makro-Grip® jaws back onto the base. You are now able to use your Makro-Grip® 5-Axis Vise as as dual vise.

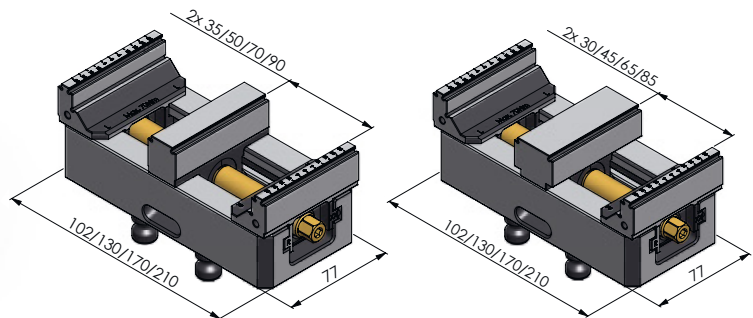
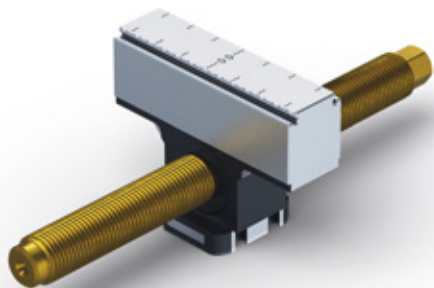
# Makro·Grip® 5-Axis Vise 77

## Center Jaw and Spindle



### CENTER JAW AND SPINDLE FOR MAKRO·GRIP® 5-AXIS VISE 77, JAW WIDTH 46 MM

ITEM NO.	FOR MAKRO·GRIP®	CENTER JAW WIDTH	SPINDLE LENGTH	CLAMPING RANGE
148085-TG4617	148085-46	0.67" (17 mm)	3.94" (100 mm)	2 × 1.38" (2 × 35 mm)
148085-TG4627	148085-46	1.06" (27 mm)	3.94" (100 mm)	2 × 1.18" (2 × 30 mm)
148120-TG4617	148120-46	0.67" (17 mm)	5.31" (135 mm)	2 × 1.97" (2 × 50 mm)
148120-TG4627	148120-46	1.06" (27 mm)	5.31" (135 mm)	2 × 1.77" (2 × 45 mm)



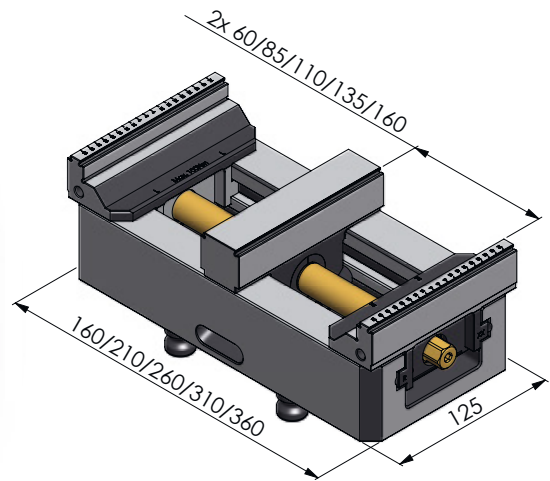
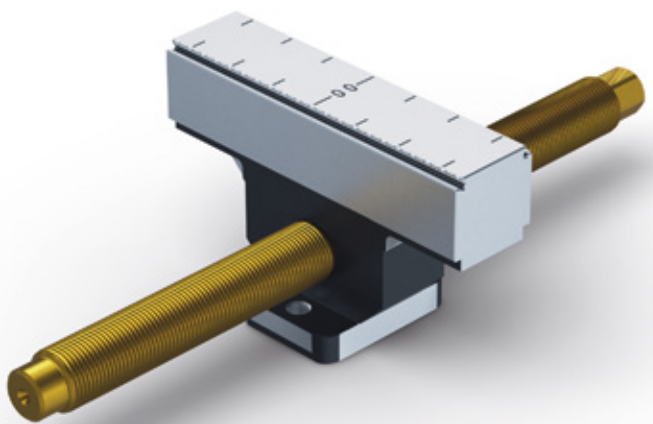
### CENTER JAW AND SPINDLE FOR MAKRO·GRIP® 5-AXIS VISE 77, JAW WIDTH 77 MM

ITEM NO.	FOR MAKRO·GRIP®	CENTER JAW WIDTH	SPINDLE LENGTH	CLAMPING RANGE
148085-TG7717	148085-77	0.67" (17 mm)	3.94" (100 mm)	2 × 1.38" (2 × 35 mm)
148085-TG7727	148085-77	1.06" (27 mm)	3.94" (100 mm)	2 × 1.18" (2 × 30 mm)
148120-TG7717	148120-77	0.67" (17 mm)	5.31" (135 mm)	2 × 1.97" (2 × 50 mm)
148120-TG7727	148120-77	1.06" (27 mm)	5.31" (135 mm)	2 × 1.77" (2 × 45 mm)
148160-TG7717	148160-77	0.67" (17 mm)	6.89" (175 mm)	2 × 2.76" (2 × 70 mm)
148160-TG7727	148160-77	1.06" (27 mm)	6.89" (175 mm)	2 × 2.56" (2 × 65 mm)
148200-TG7717	148200-77	0.67" (17 mm)	8.46" (215 mm)	2 × 3.54" (2 × 90 mm)
148200-TG7727	148200-77	1.06" (27 mm)	8.46" (215 mm)	2 × 3.35" (2 × 85 mm)

Center jaws are still available for previous versions (page 145).

# Makro·Grip® 5-Axis Vise 125

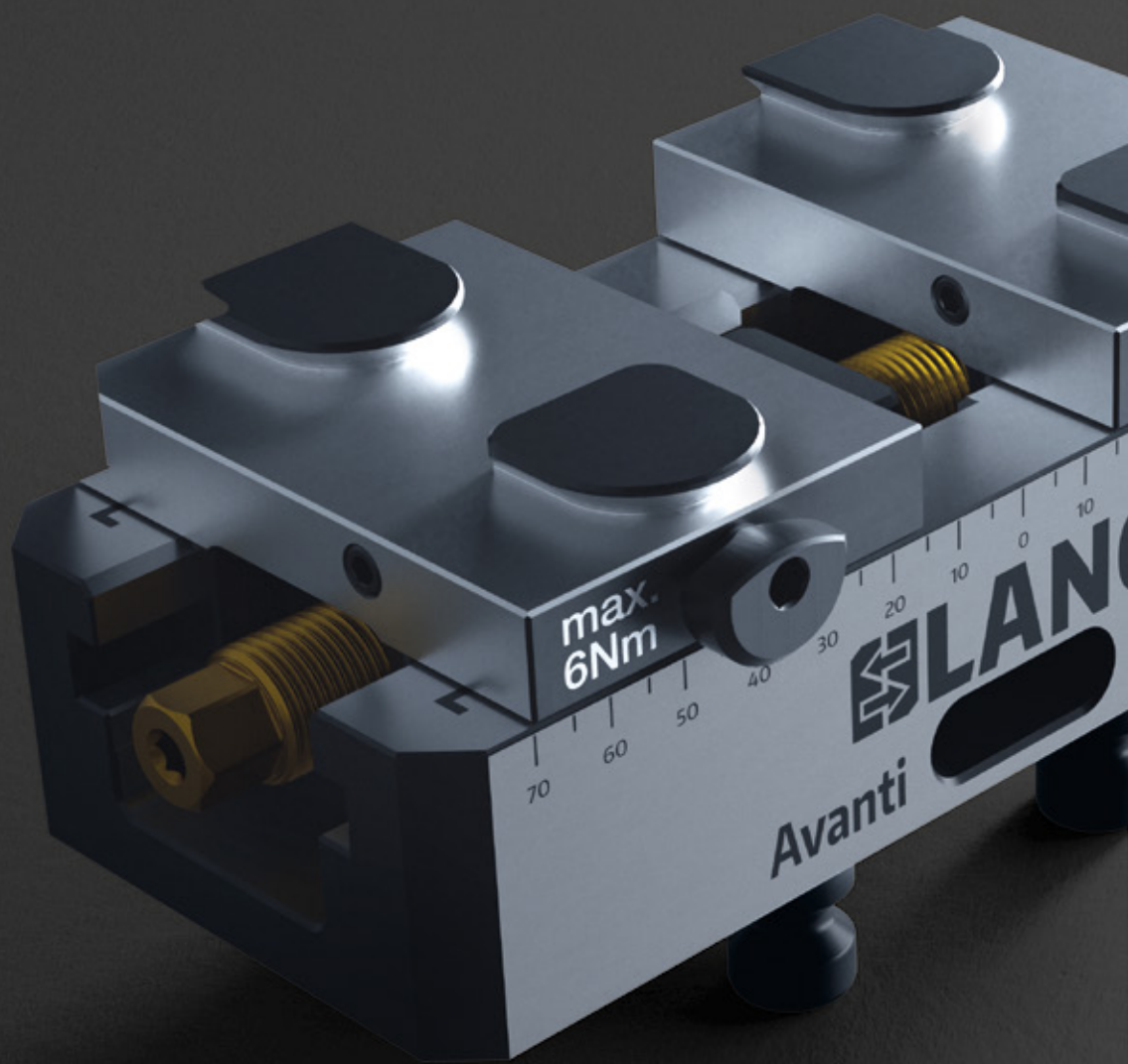
## Center Jaw and Spindle



### CENTER JAW AND SPINDLE FOR MAKRO·GRIP® 5-AXIS VISE 125, JAW WIDTH 125 MM

ITEM NO.	FOR MAKRO·GRIP	CENTER JAW WIDTH	SPINDLE LENGTH	CLAMPING RANGE
148155-TG2527	148155-125	1.06" (27 mm)	6.46" (164 mm)	2 × 2.36" (2 × 60 mm)
148205-TG2527	148205-125	1.06" (27 mm)	8.43" (214 mm)	2 × 3.35" (2 × 85 mm)
148255-TG2527	148255-125	1.06" (27 mm)	10.39" (264 mm)	2 × 4.33" (2 × 110 mm)
148305-TG2527	148305-125	1.06" (27 mm)	12.36" (314 mm)	2 × 5.31" (2 × 135 mm)
148355-TG2527	148355-125	1.06" (27 mm)	14.33" (364 mm)	2 × 6.30" (2 × 160 mm)

Center jaws are still available for previous versions (page 145).





# CONVENTIONAL WORKHOLDING

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118 Profilo 77

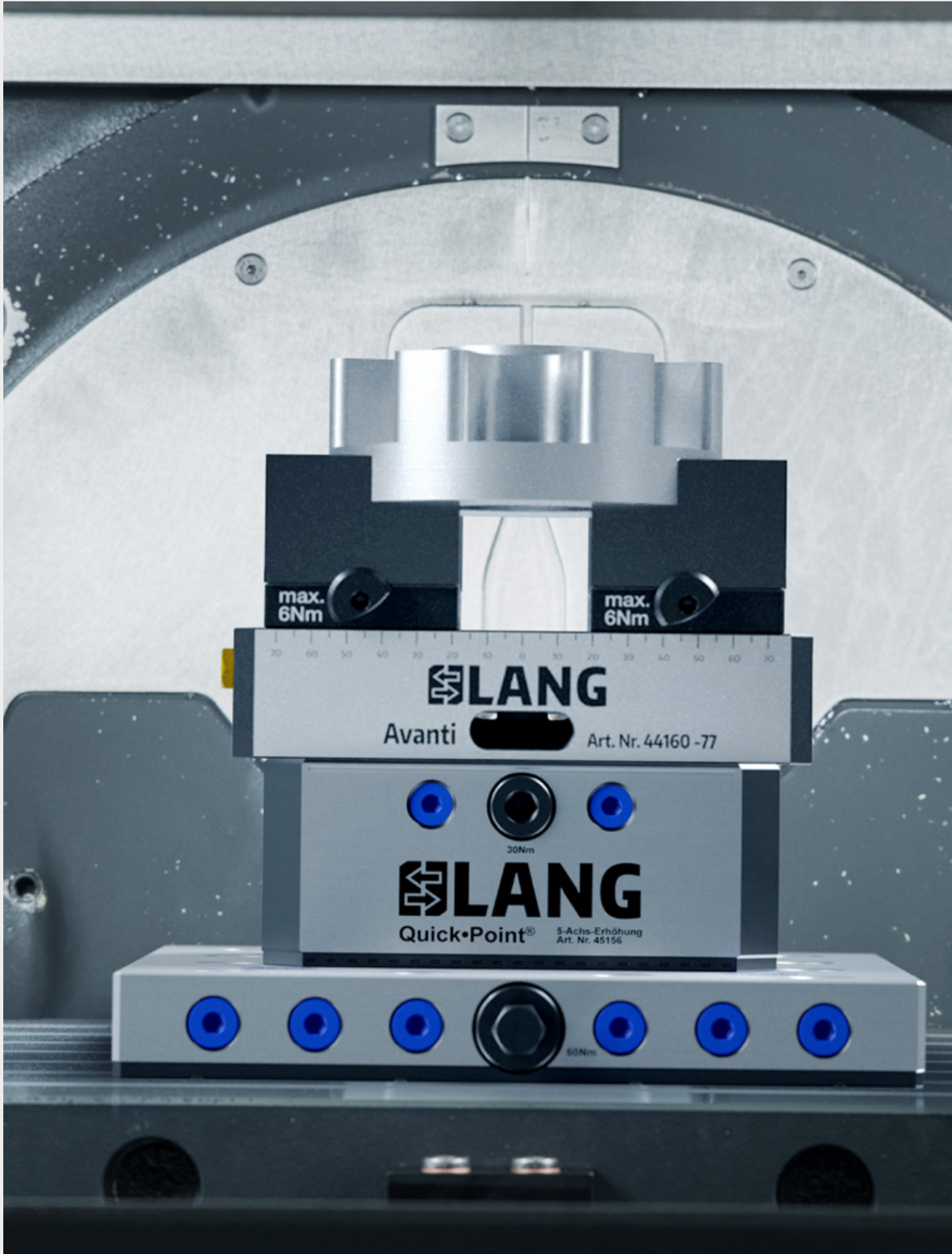
120 Profilo 125

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124 Vario·Tec 77

126 Vario·Tec 125





max.  
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70 60 50 40 30 20 10 0 10 20 30 40 50 60 70

**LANG**

Avanti

Art. Nr. 44160 -77

30Nm

**LANG**

Quick•Point®

5-Achs-Erhöhung  
Art. Nr. 45156

60Nm

# Conventional Workholding

While the strengths of Makro-Grip stamping technology with its 5-Axis Vises are mainly seen in the processing of unmachined parts, clamping devices of the “Conventional Workholding” category offer multitude options for smooth clamping of round or shaped components. All “Conventional Workholding” vise components use the same base body as the Makro-Grip® 5-Axis Vise; are compatible and interchangeable. Different jaw types of “Conventional Workholding” are perfectly suited for the demanding machining of the 6th side and expand clamping possibilities in order to completely machine a workpiece.

## → Flexibility

One vise body for all jaw types

## → Versatility

Suitable for almost any clamping task in milling

## → Setup Time Reduction

Fast jaw change over a variety of clamping configurations

# Preci-Point Collet Chuck

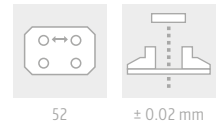
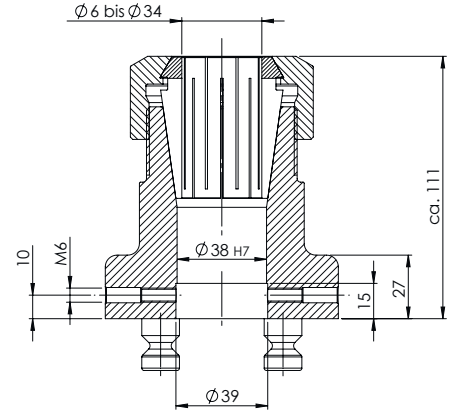
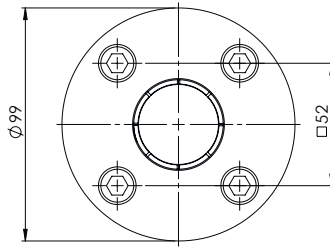
The new collet chuck with ideal accessibility for milling round parts

NEW



- 1 Commercial collet ER 50 for  $\varnothing$  6 – 34 mm
- 2 M6 tapped hole to use an endstop
- 3 Robust, case-hardened and coated base body
- 4 Integrated with  $\varnothing$  16 mm clamping studs for precise clamping in the Quick-Point® 52 zero-point clamping system

# Preci-Point Collet Chuck



## PRECI-POINT COLLET CHUCK

ITEM NO.	DIMENSIONS	WEIGHT	UNIT
141052	Ø 3.90 × 4.37" (Ø 99 × 111 mm)	6.61 lbs (3.0 kg)	1 pc.

Included: Quick-Point® clamping studs Ø 16 mm and scwcap.

# Clamping Wrench for ER 50

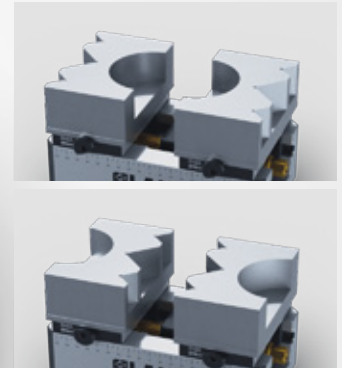
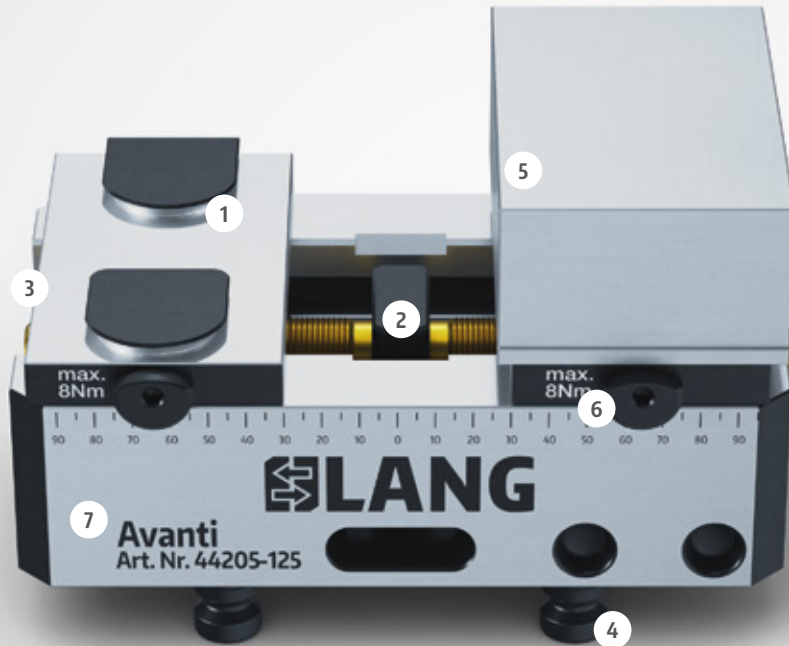


## PRECI-POINT CLAMPING WRENCH

ITEM NO.	WEIGHT
141052-03	1.50 lbs (0.7 kg)

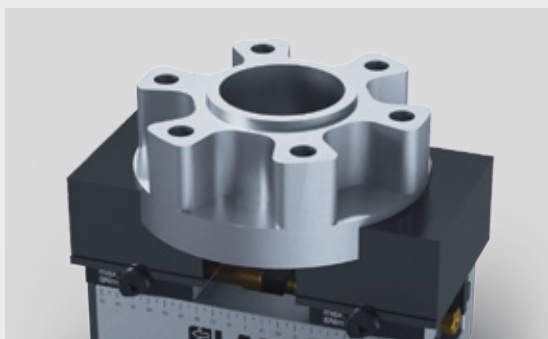
# Avanti Technology

The universal vise with great handling characteristics and unbeatable add-on jaw prices!



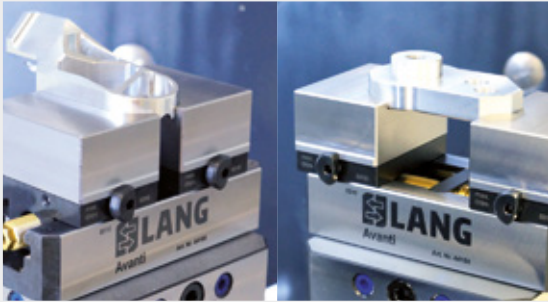
Large-volume steel or aluminum add-on jaw allows contours to be added on both sides of the jaws to use it for two different clamping applications.

- 1 Precise positioning of jaws thanks to patented clamping interface
- 2 Centering accuracy  $\pm 0.02$  mm
- 3 Double guided jaws
- 4 Integrated with clamping studs for precise clamping in the Quick-Point® zero-point clamping system
- 5 Add-on jaws available in steel or aluminium
- 6 Changing the jaws rapidly with only one screw (internal hexagon 5 mm)
- 7 Rigid and sturdy base – but still lightweight and handy



If the maximum clamping range of the collet chuck ( $\varnothing 34$  mm) is not enough, the Avanti vise is a great choice to clamp round stock with a larger diameter. There is also a chance to customize add-on jaws with more height through our customizing department (see page 136).

# Avanti Quick Jaw Exchange System applications



Independent from the alignment of the workpiece a great variety of profiles can be clamped for best accessibility with the patented quick jaw exchange system. By adding contours on both sides of the jaws and through their maximum usable volume add-on jaws can be used twice.

## How to prepare add-on jaws:

In order to get the best results when machining with the Avanti we recommend you simulate the future clamping setup as accurately as possible.

We suggest clamping a precision block at maximum torque between the top jaws while machining the workpiece contour into the add-on jaws.



## Tip for your benefit:

### Avanti adapter jaw to use own clamping fixtures

As an interface for customized clamping fixtures such as prisms, a special Avanti adapter jaw can be offered and manufactured upon request, making the system even more versatile.

An individual borehole pattern (e.g. tapped holes or fittings) enables the simple assembly of your clamping fixture. Combine the benefits of the Avanti quick jaw exchange system with your own fixtures!

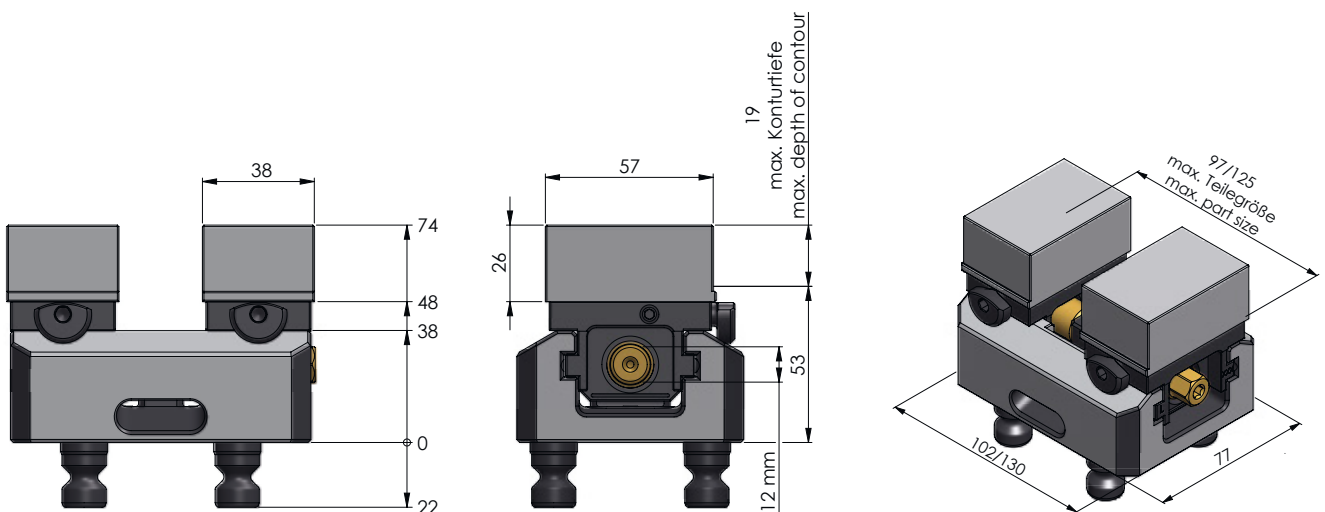
# Avanti 77



## AVANTI 77, JAW WIDTH 46 MM

ITEM NO.	BASE LENGTH	MAX. CLAMPING RANGE	WEIGHT	COMPARABLE PREVIOUS VERSION
144085-46	4.02" (102 mm)	0-3.82" (97 mm)	4.85 lbs (2.2 kg)	144065
144120-46*	5.12" (130 mm)	0-4.92" (125 mm)	5.73 lbs (2.6 kg)	144105

\*automatable



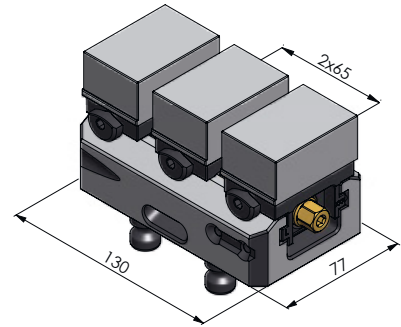
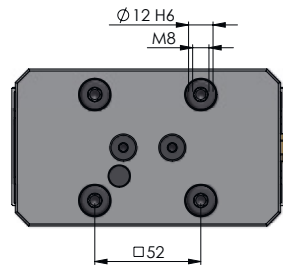
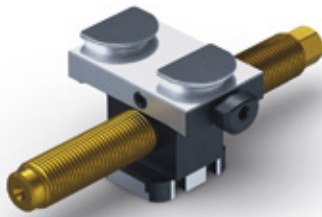




### AVANTI 77 BASE JAWS, JAW WIDTH 46 MM

ITEM NO.	DIMENSIONS	WEIGHT	UNIT	COMPARABLE PREVIOUS VERSION
144771-46	2.16 × 1.42" (55 × 36 mm)	1.32 lbs (0.6 kg)	1 pair	144461

**NEW**



### CENTER BASE JAW + SPINDLE FOR AVANTI 77, JAW WIDTH 46 MM

ITEM NO.	SPINDLE LENGTH (+Ø)	FOR AVANTI	WEIGHT	UNIT
144120-TG46	5.31" (Ø 0.63") / 175 mm (Ø 16 mm)	144120-46	1.10 lbs (0.5 kg)	1 pc.



### AVANTI 46 ADD-ON JAWS, SOFT

ITEM NO.	MATERIAL	DIMENSIONS	WEIGHT	UNIT
144468-26	Steel (16MnCr5)	2.24 × 1.50 × 1.02" (57 × 38 × 26 mm)	1.32 lbs (0.6 kg)	1 pc.
144469-26	Aluminium (F50)	2.24 × 1.50 × 1.02" (57 × 38 × 26 mm)	0.44 lbs (0.2 kg)	1 pc.

Add-on jaws fit the new base jaw version and also the previous one.

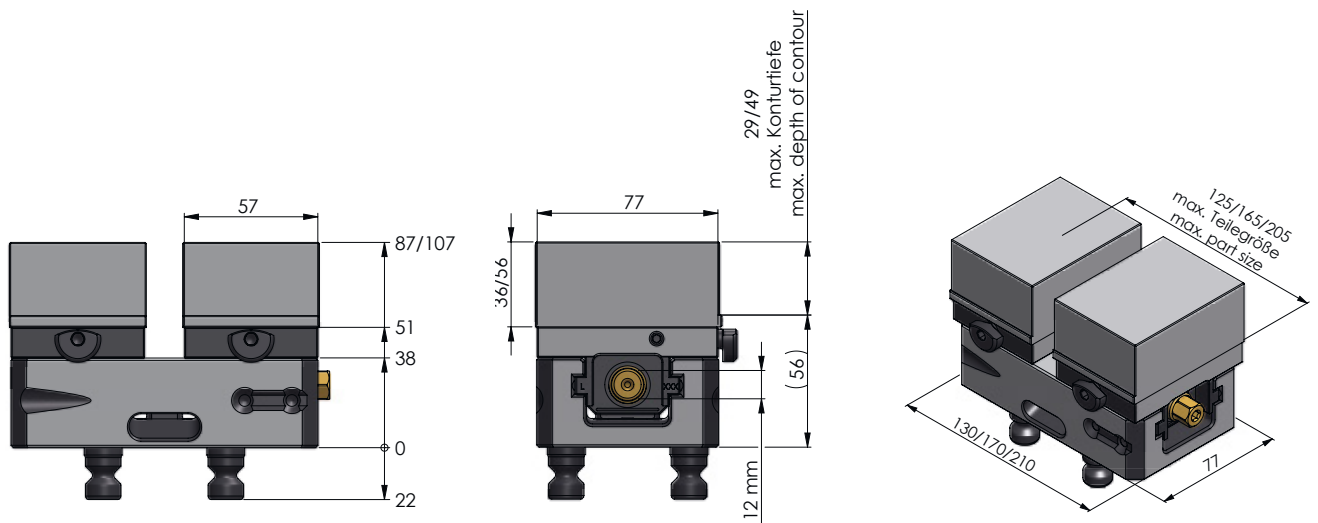
# Avanti 77

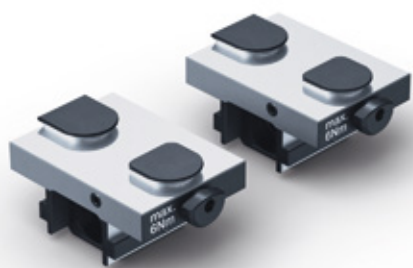


## AVANTI 77, JAW WIDTH 77 MM

ITEM NO.	BASE LENGTH	MAX. CLAMPING RANGE	WEIGHT	COMPARABLE PREVIOUS VERSION
144120-77*	5.12" (130 mm)	0-4.92" (125 mm)	7.72 lbs (3.50 kg)	144120
144160-77	6.69" (170 mm)	0-6.50" (165 mm)	9.26 lbs (4.2 kg)	144160
144200-77	8.27" (210 mm)	0-8.07" (205 mm)	10.58 lbs (4.8 kg)	144200

\*automatable

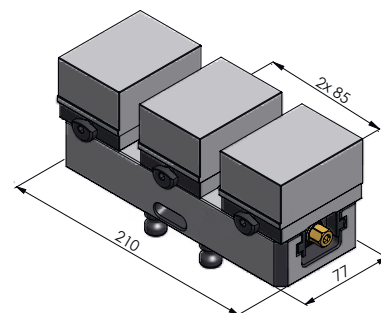
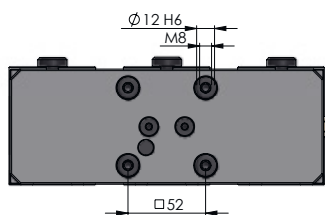
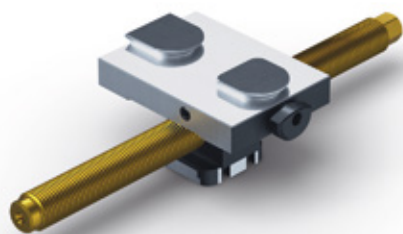




### AVANTI 77 BASE JAWS, JAW WIDTH 77 MM

ITEM NO.	DIMENSIONS	WEIGHT	UNIT	COMPARABLE PREVIOUS VERSION
144771-77	3.03 × 2.24" (77 × 57mm)	3.09 lbs (1.4 kg)	1 pair	144771

**NEW**



### CENTER BASE JAW + SPINDLE FOR AVANTI 77, JAW WIDTH 77 MM

ITEM NO.	SPINDLE LENGTH (+Ø)	FOR AVANTI	WEIGHT	UNIT
144200-TG77	8.46" (Ø 0.63") / 215 mm (Ø 16 mm)	144200-77	1.98 lbs (0.9 kg)	1 pc.

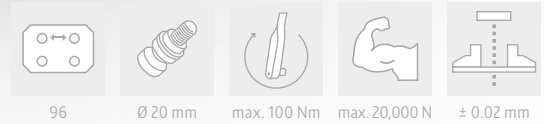
### AVANTI 77 ADD-ON JAWS, SOFT



ITEM NO.	MATERIAL	DIMENSIONS	WEIGHT	UNIT
144778-36	Steel (16MnCr5)	3.07 × 2.28 × 1.42" (78 × 58 × 36 mm)	1.32 lbs (0.6 kg)	1 pc.
144779-36	Aluminium (F50)	3.07 × 2.28 × 1.42" (78 × 58 × 36 mm)	0.44 lbs (0.2 kg)	1 pc.
144778-56	Steel (16MnCr5)	3.07 × 2.28 × 2.20" (78 × 58 × 56 mm)	1.98 lbs (0.9 kg)	1 pc.
144779-56	Aluminium (F50)	3.07 × 2.28 × 2.20" (78 × 58 × 56 mm)	0.66 lbs (0.3 kg)	1 pc.

Add-on jaws fit the new base jaw version and also the previous one.

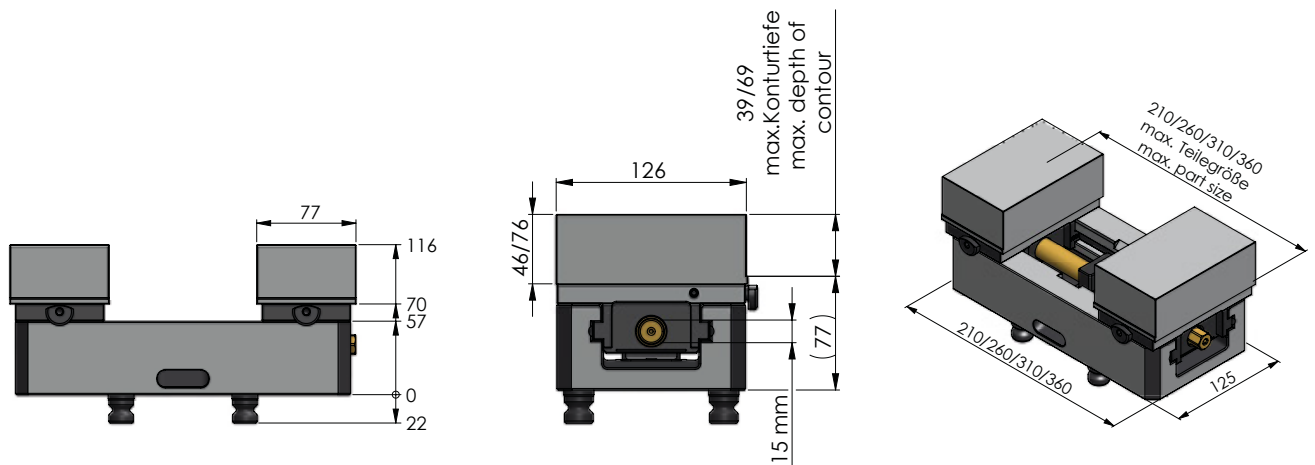
# Avanti 125



## AVANTI 125, JAW WIDTH 125 MM

ITEM NO.	BASE LENGTH	MAX. CLAMPING RANGE	WEIGHT	COMPARABLE PREVIOUS VERSION
144205-125*	8.27" (210 mm)	0-8.27" (210 mm)	24.91 lbs (11.3 kg)	144205
144255-125	10.24" (260 mm)	0-10.24" (260 mm)	29.10 lbs (13.2 kg)	144255
144305-125	12.20" (310 mm)	0-12.20" (310 mm)	33.29 lbs (15.1 kg)	144305
144355-125	14.17" (360 mm)	0-14.17" (360 mm)	37.26 lbs (16.9 kg)	144355

\*automatable

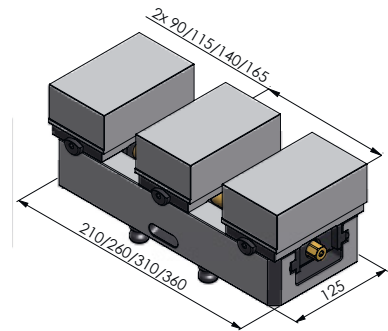
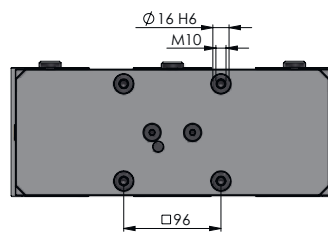
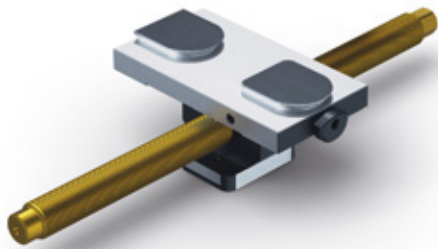




### AVANTI 125 BASE JAWS

ITEM NO.	DIMENSIONS	WEIGHT	UNIT	COMPARABLE PREVIOUS VERSION
144251-125	4.92 × 2.72" (125 × 69 mm)	8.16 lbs (3.7 kg)	1 pair	144251

**NEW**



### CENTER BASE JAW + SPINDLE FOR AVANTI 125

ITEM NO.	SPINDLE LENGTH (+Ø)	FOR AVANTI	WEIGHT	UNIT
144255-TG125	10.39" (Ø 0.79") / 264 mm (Ø 20 mm)	144255-125	4.62 lbs (2.1 kg)	1 pc.
144305-TG125	12.36" (Ø 0.79") / 314 mm (Ø 20 mm)	144305-125	4.85 lbs (2.2 kg)	1 pc.
144355-TG125	14.33" (Ø 0.79") / 364 mm (Ø 20 mm)	144355-125	5.07 lbs (2.3 kg)	1 pc.

### AVANTI 77 ADD-ON JAWS, SOFT

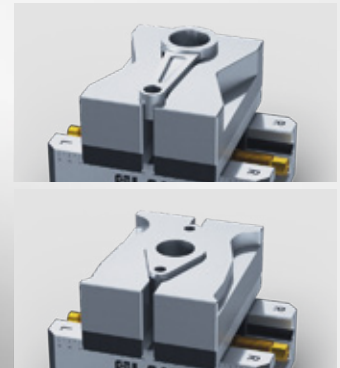
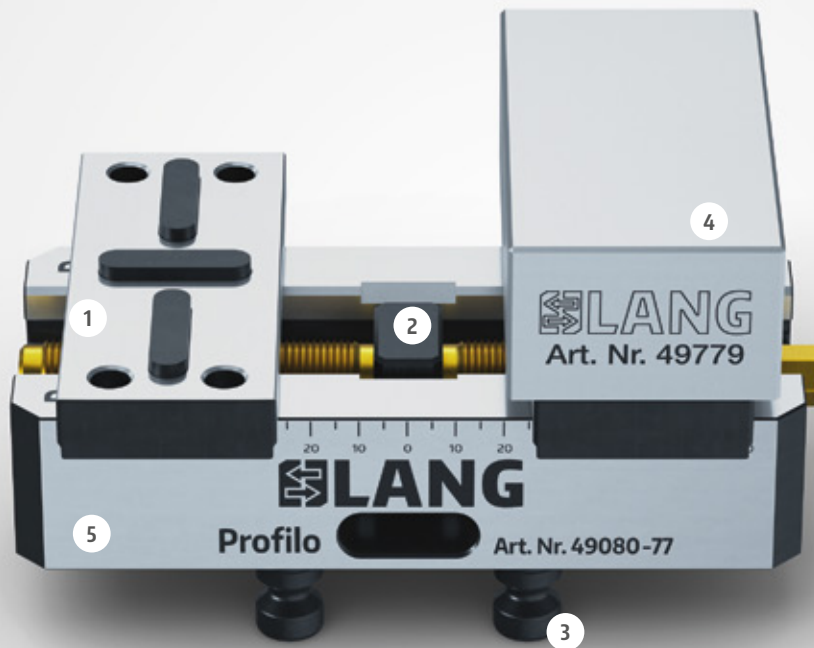


ITEM NO.	MATERIAL	DIMENSIONS	WEIGHT	UNIT
144258-46	Steel (16MnCr5)	4.96 × 3.03 × 1.81" (126 × 77 × 46 mm)	7.28 lbs (3.3 kg)	1 pc.
144259-46	Aluminium (F50)	4.96 × 3.03 × 1.81" (126 × 77 × 46 mm)	2.4 lbs (1.1 kg)	1 pc.
144258-76	Steel (16MnCr5)	4.96 × 3.03 × 2.99" (126 × 77 × 76 mm)	12.13 lbs (5.5 kg)	1 pc.
144259-76	Aluminium (F50)	4.96 × 3.03 × 2.99" (126 × 77 × 76 mm)	3.97 lbs (1.8 kg)	1 pc.

Add-on jaws fit the new base jaw version and also the previous one.

# Profilo Technology

Your clamping system for all shaped parts



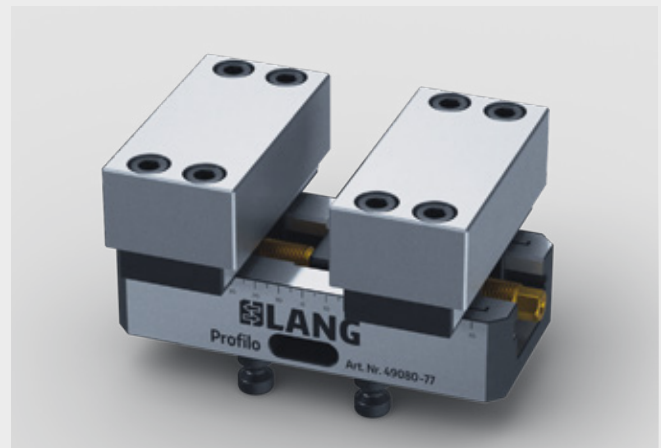
Large-volume steel or aluminium add-on jaw allows contours to be added on both sides of the jaws to use it for two different clamping applications.

- 1 Case-hardened, double guided base jaws with keyways
- 2 Centering accuracy  $\pm 0.02$  mm
- 3 Integrated with clamping studs for precise clamping in the Quick-Point® zero-point clamping system
- 4 Add-on jaws available in steel or aluminium
- 5 Rigid and sturdy base – but still lightweight and handy

## Mounting options



Soft add-on jaws mounted from beneath with 4 screws.

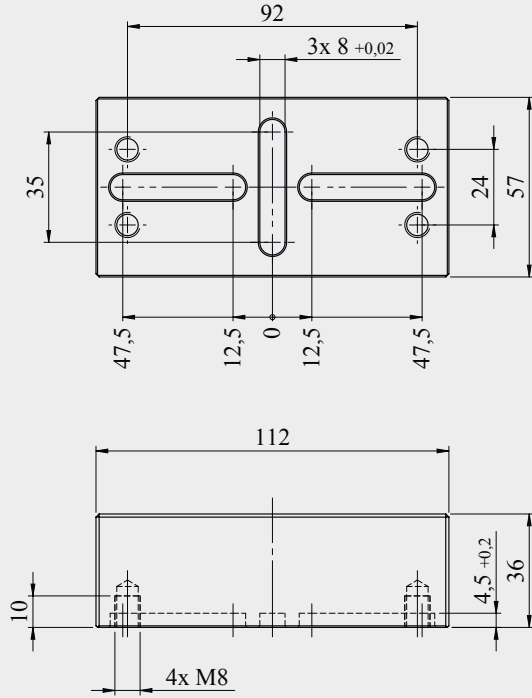


Thanks to threads in the base jaws, add-on jaws can also be mounted from the top for better accessibility towards the screws.

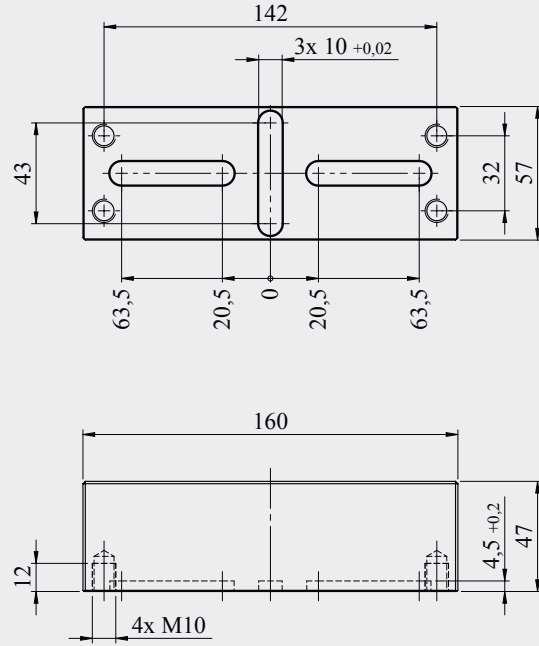
# Self-made Profilo add-on jaws

The versatile Profilo system allows you to manufacture your own, customized add-on jaws for your LANG vise. The drawings below show you how to machine your jaws. The drawings and 3D models can also be downloaded from our website [www.lang-technovation.com](http://www.lang-technovation.com).

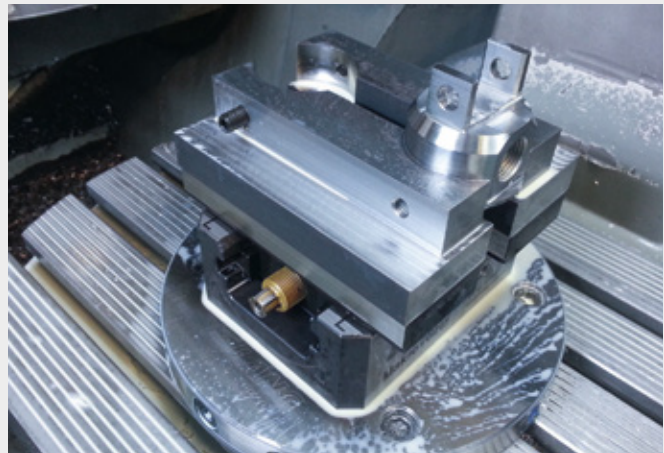
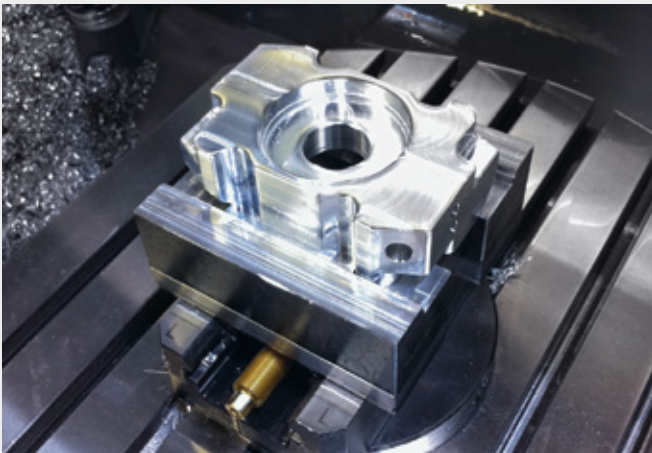
**Profilo 77:**



**Profilo 125:**



## Applications

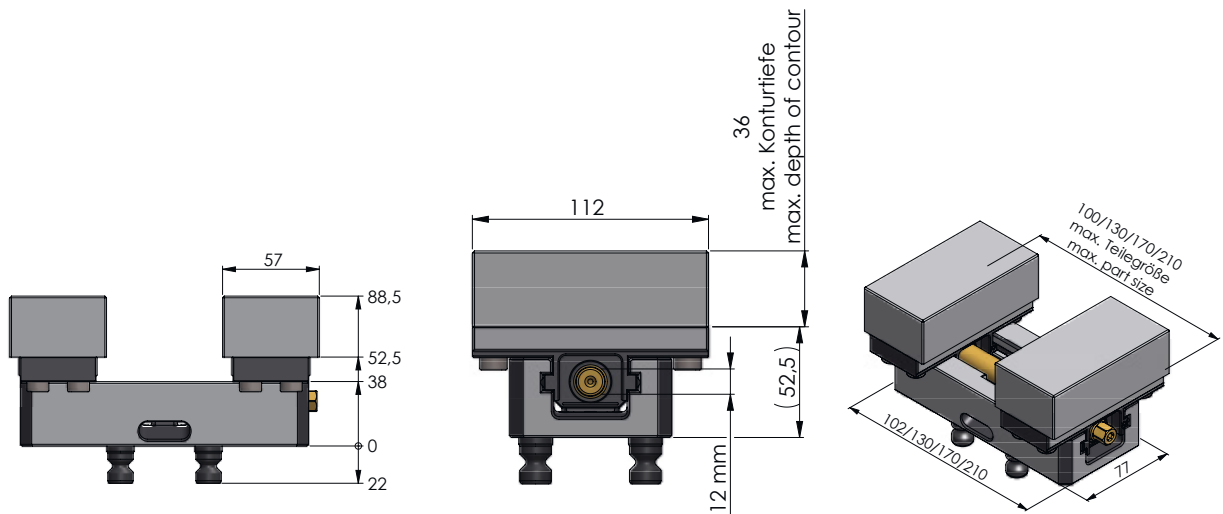


# Profilo 77



## PROFILO 77 WITH BASE JAWS 4.41 × 1.81"

ITEM NO.	BASE LENGTH	MAX. CLAMPING RANGE	WEIGHT	COMPARABLE PREVIOUS VERSION
149010-77	4.02" (102 mm)	0-3.94" (100 mm)	7.05 lbs (3.2 kg)	149010
149040-77	5.12" (130 mm)	0-5.12" (130 mm)	7.94 lbs (3.6 kg)	149040
149080-77	6.69" (170 mm)	0-6.69" (170 mm)	9.50 lbs (4.3 kg)	149080
149120-77	8.27" (210 mm)	0-8.27" (210 mm)	11.02 lbs (5.0 kg)	149120

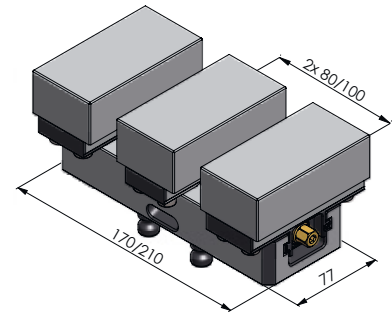
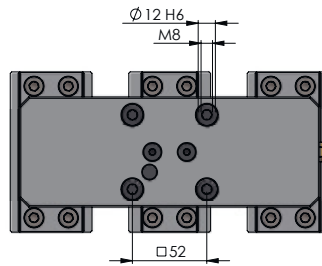






### PROFILO 77 BASE JAWS

ITEM NO.	DIMENSIONS	WEIGHT	UNIT	COMPARABLE PREVIOUS VERSION
149077	4.41×1.81" (112×46 mm)	3.53 lbs (1.6 kg)	1 pair	149771



### CENTER BASE JAW 112 × 46 MM + SPINDLE FOR PROFILO 77

ITEM NO.	SPINDLE LENGTH (+Ø)	FOR PROFILO	WEIGHT	UNIT	COMPARABLE PREVIOUS VERSION
149080-TG77	6.89" (Ø 0.63") / 175 mm (Ø 16 mm)	149080-77	1.98 lbs (0.9 kg)	1 pc.	149080-TG
149120-TG77	8.46" (Ø 0.63") / 215 mm (Ø 16 mm)	149120-77	2.20 lbs (1.0 kg)	1 pc.	149120-TG

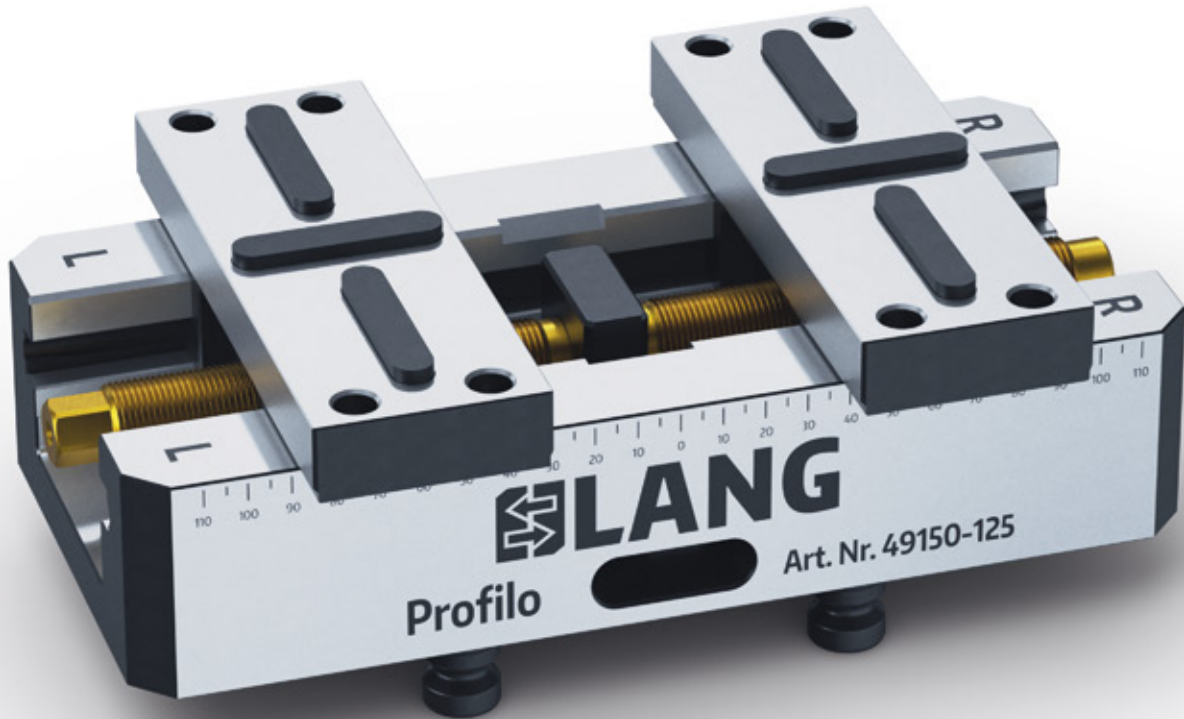


### PROFILO 77 ADD-ON JAWS, SOFT

ITEM NO.	MATERIAL	DIMENSIONS	WEIGHT	UNIT
49778	Steel (16MnCr5)	4.41×2.24×1.42" (112×57×36 mm)	3.97 lbs (1.8 kg)	1 pc.
49779	Aluminium (F50)	4.41×2.24×1.42" (112×57×36 mm)	1.54 lbs (0.7 kg)	1 pc.

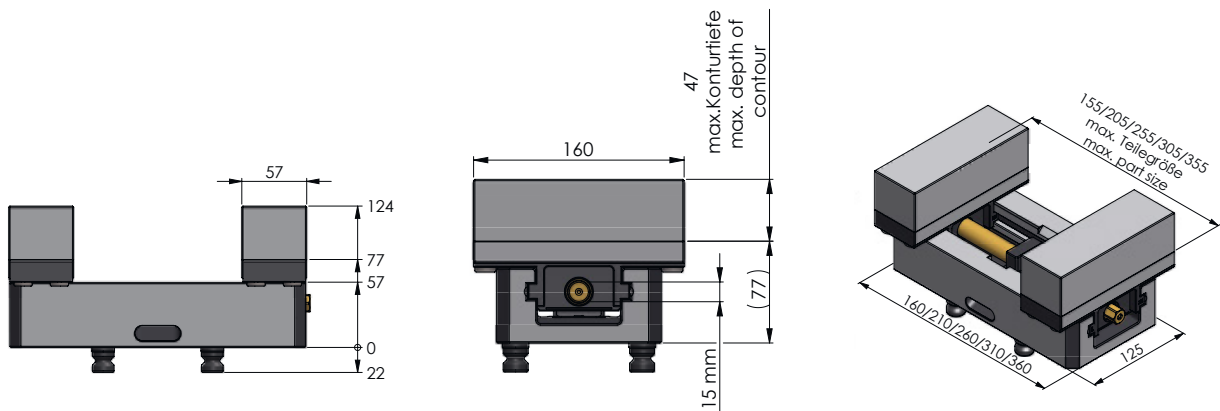
Add-on jaws fit the new base jaw version and also the previous one.

# Profilo 125



## PROFILO 125 WITH BASE JAWS 6.30 × 2.24"

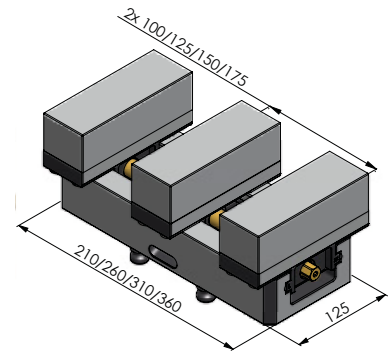
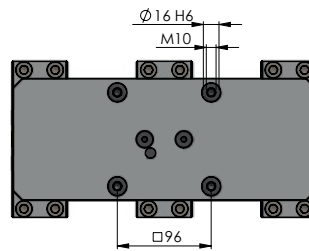
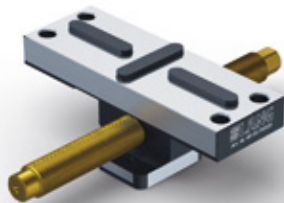
ITEM NO.	BASE LENGTH	MAX. CLAMPING RANGE	WEIGHT	COMPARABLE PREVIOUS VERSION
149050-125	6.30" (160 mm)	0-6.10" (155 mm)	22.23 lbs (10.1 kg)	149050
149100-125	8.27" (210 mm)	0-8.07" (205 mm)	26.24 lbs (11.9 kg)	149100
149150-125	10.24" (260 mm)	0-10.04" (255 mm)	30.42 lbs (13.8 kg)	149150
149200-125	12.20" (310 mm)	0-12.01" (305 mm)	34.61 lbs (15.7 kg)	149200
149250-125	14.17" (360 mm)	0-13.98" (355 mm)	38.58 lbs (17.5 kg)	149250





### PROFILO 125 BASE JAWS

ITEM NO.	DIMENSIONS	WEIGHT	UNIT	COMPARABLE PREVIOUS VERSION
149125	6.30 × 2.24" (160 × 57 mm)	9.48 lbs (4.8 kg)	1 pair	149251



### CENTER BASE JAW 160 × 57 MM + SPINDLE FOR PROFILO 125

ITEM NO.	SPINDLE LENGTH (+Ø)	FOR PROFILO	WEIGHT	UNIT	COMPARABLE PREVIOUS VERSION
149100-TG125	8.43" (Ø 0.79") / 214 mm (Ø 20 mm)	149100-125	5.51 lbs (2.5 kg)	1 pc.	149100-TG
149150-TG125	10.39" (Ø 0.79") / 264 mm (Ø 20 mm)	149150-125	5.73 lbs (2.6 kg)	1 pc.	149150-TG
149200-TG125	12.36" (Ø 0.79") / 314 mm (Ø 20 mm)	149200-125	5.95 lbs (2.7 kg)	1 pc.	149200-TG
149250-TG125	14.33" (Ø 0.79") / 364 mm (Ø 20 mm)	149250-125	6.39 lbs (2.9 kg)	1 pc.	149250-TG



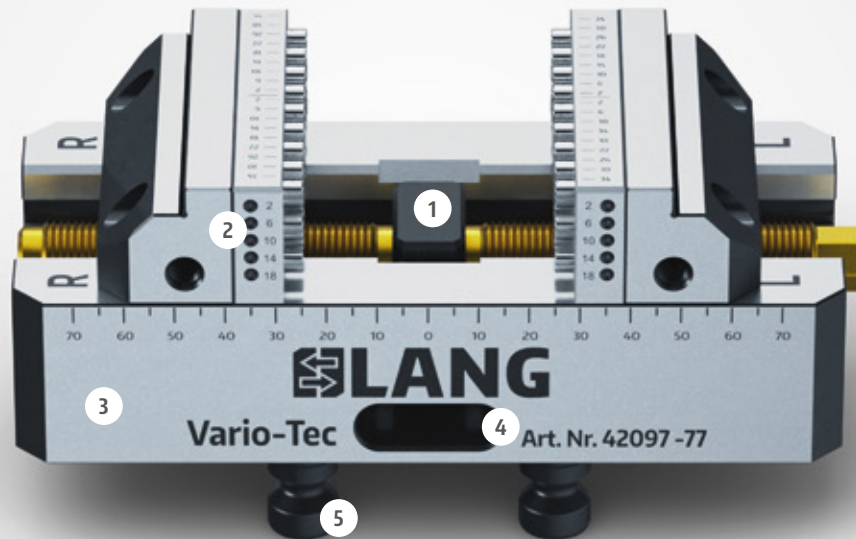
### PROFILO 125 ADD-ON JAWS, SOFT

ITEM NO.	MATERIAL	DIMENSIONS	WEIGHT	UNIT
149258	Steel (16MnCr5)	6.30 × 2.24 × 1.85" (160 × 57 × 47 mm)	7.28 lbs (3.3 kg)	1 pc.
149259	Aluminium (F50)	6.30 × 2.24 × 1.85" (160 × 57 × 47 mm)	2.65 lb (1.2 kg)	1 pc.

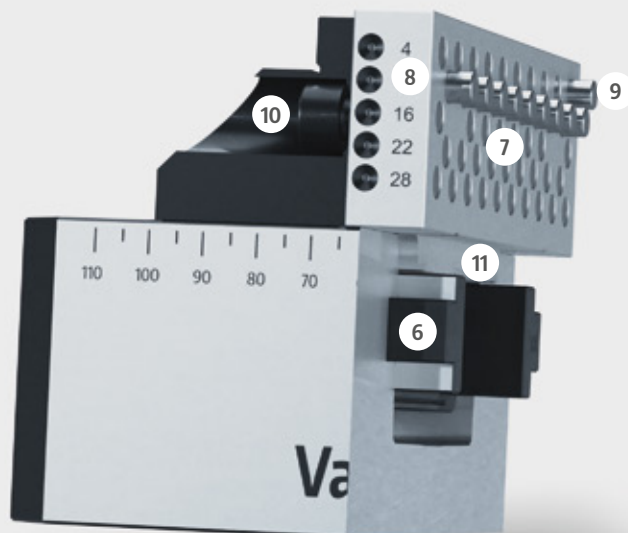
Add-on jaws fit the new base jaw version and also the previous one.

# Vario-Tec Technology

The convenient and versatile clamping solution for (semi-)finished parts.



- 1 Centering accuracy  $\pm 0.02$  mm
- 2 Channels for blowing out pins
- 3 Rigid and sturdy base for great longevity
- 4 Lateral swarf/coolant drain in the base body
- 5 Integrated with clamping studs for precise clamping in the Quick-Point® zero-point clamping system



- 6 Double guided jaws
- 7 Positioning accuracy of pins  $\pm 0.01$  mm
- 8 Pins are blown out row by row with compressed air
- 9 Support and resting possibilities. Parallels are not needed
- 10 Jaws are sealed up front and mounted from behind through the carrier jaw. No swarf clogging possible!
- 11 Pin jaws are guided in the base for a highly accurate location to one another.

# Applications



Pins not needed are simply pushed back by hand. The remaining pins act as a support and resting system. Parallels and additional endstops which affect accessibility in a negative way are not needed.



Resting a workpiece on only two pins ensures great freedom to machine until close to the edge of the workpiece and inner surfaces of the clamping pin jaws.

## Maintenance recommendation



In order to keep up the proper function of the system the pins should be blown out when not needed to prevent jamming caused by the coolant. Furthermore we recommend applying a multi-purpose oil on the pins occasionally.

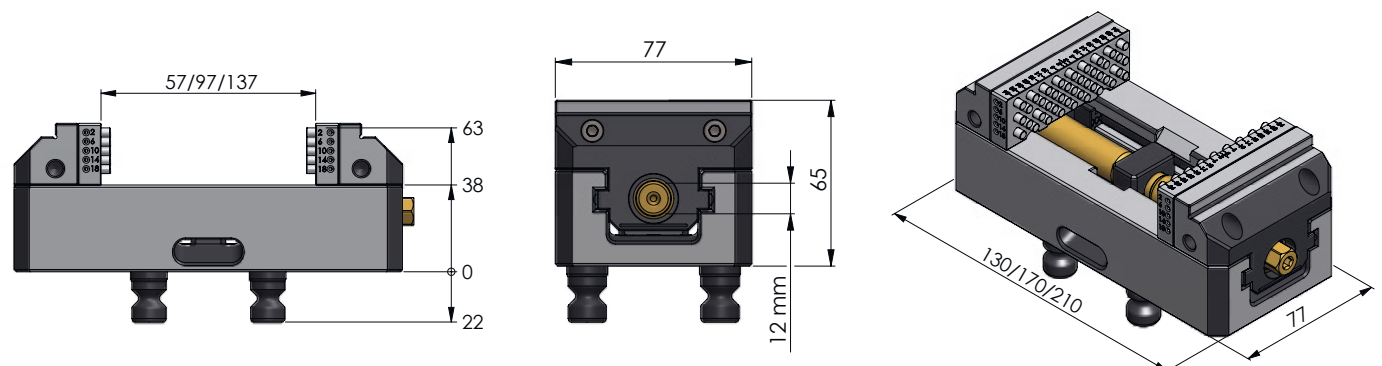
# Vario-Tec 77

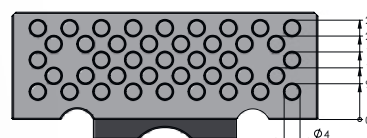
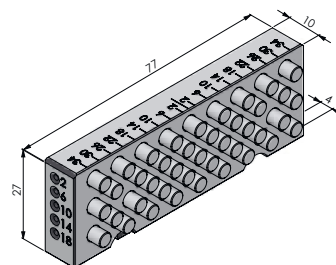
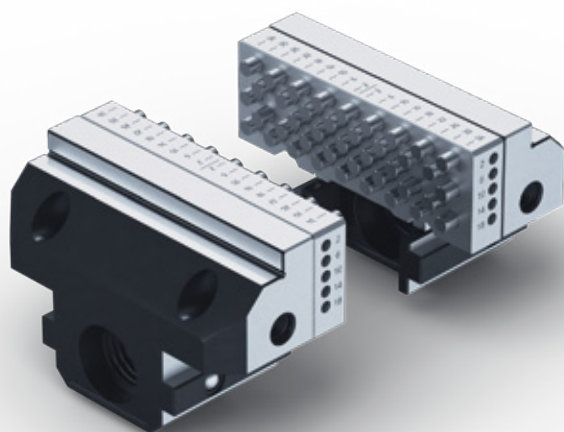


## VARIO-TEC 77

ITEM NO.	BASE LENGTH	MAX. CLAMPING RANGE	WEIGHT	COMPARABLE PREVIOUS VERSION
142057-77*	5.12" (130 mm)	0-2.17" (55 mm)	7.27 lbs (3.2 kg)	142057
142097-77	6.69" (170 mm)	0-3.74" (95 mm)	8.82 lbs (4.0 kg)	142097
142137-77	8.27" (210 mm)	0-5.31" (135 mm)	10.14 lbs (4.6 kg)	142137

\*automatable





The jaws are fixed with screws from behind (2 × M6, distance of 1.89" / 48 mm), so they are sealed up front. Hence swarf clogging has no chance!

### VARIO•TEC 77 SPARE JAWS

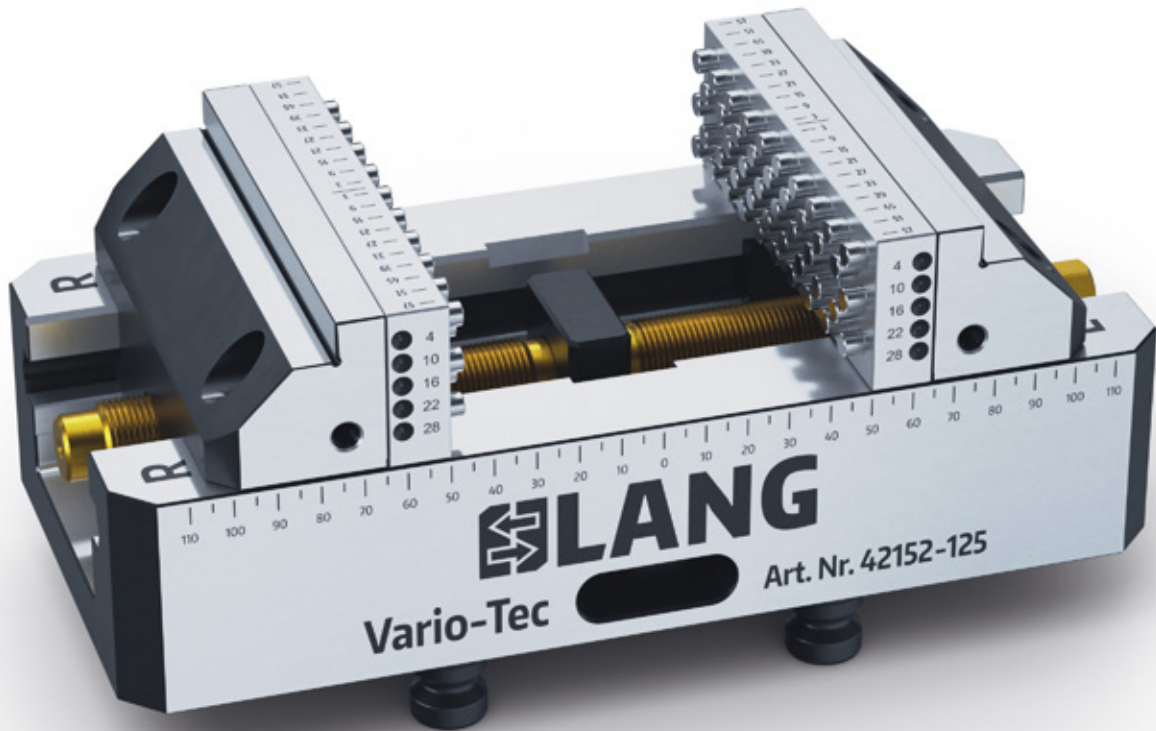
ITEM NO.	DESCRIPTION	UNIT	COMPARABLE PREVIOUS VERSION
142018-77	Vario-Tec 77 Spare Jaws	1 set (2 pin jaws + 2 carrier jaws)	142077

### ACCESSORIES VARIO•TEC 77



ITEM NO.	DESCRIPTION	UNIT
120000	Spare pins Ø 0.16" (4 mm)	5 pcs.
1200009	O-Rings Ø 0.08 × 0.06" (2 × 1.5 mm) for Spare Pins Ø 0.16" (4 mm)	100 pcs.

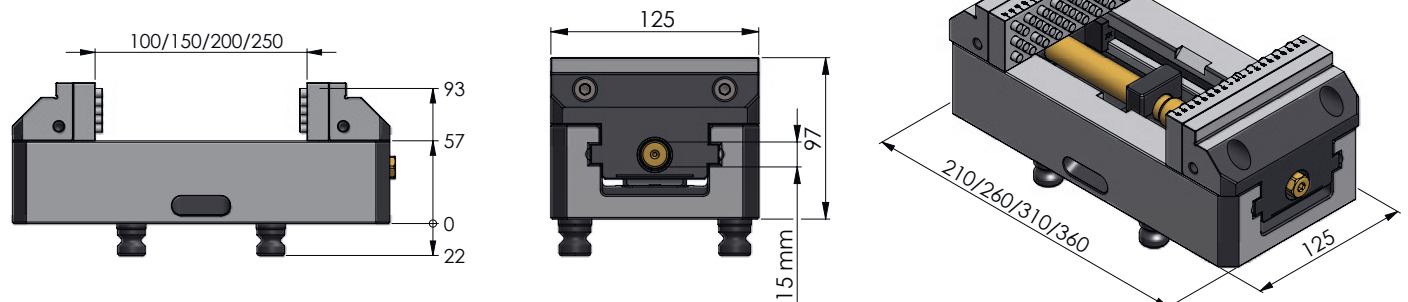
# Vario·Tec 125



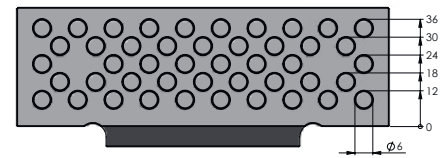
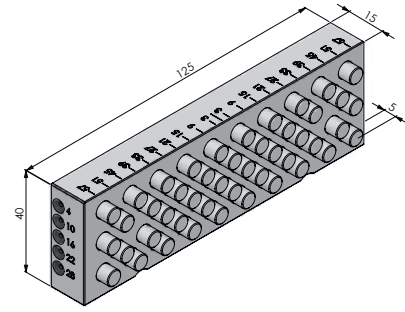
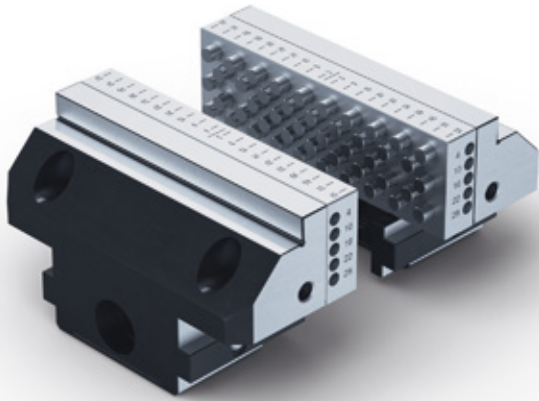
## VARIO-TEC 125

ITEM NO.	BASE LENGTH	MAX. CLAMPING RANGE	WEIGHT	COMPARABLE PREVIOUS VERSION
142102-125*	8.27" (210 mm)	0-3.94" (100 mm)	27.12 lbs (12.3 kg)	142102
142152-125	10.24" (260 mm)	0-5.91" (150 mm)	31.31 lbs (14.2 kg)	142152
142202-125	12.20" (310 mm)	0-7.87" (200 mm)	35.27 lbs (16.0 kg)	142202
142252-125	14.17" (360 mm)	0-9.84" (250 mm)	39.46 lbs (17.9 kg)	142252

\*automatable







The jaws are fixed with screws from behind ( $2 \times M8$ , distance of 3.31" / 84 mm), so they are sealed up front. Hence swarf clogging has no chance!

## VARIO•TEC 77 SPARE JAWS

ITEM NO.	DESCRIPTION	UNIT	COMPARABLE PREVIOUS VERSION
142018-125	Vario-Tec 125 Spare Jaws	1 set (2 pin jaws + 2 carrier jaws)	142125

## ACCESSORIES VARIO•TEC 125



ITEM NO.	DESCRIPTION	UNIT
120001	Spare pins $\phi 0.24"$ (6 mm)	5 pcs.
1200010	O-Rings $\phi 0.14 \times 0.08"$ (3.5 $\times$ 2 mm) for Spare Pins $\phi 0.24"$ (6 mm)	100 pcs.



www.lang-technical.de  
www.lang-technical.com

Automation from one source



www.lang-technical.de  
www.lang-technical.com

Support: +49 7023 9885-0 (world-wide) / +1 252 445 9880 (USA only)  
Warning: Only to be used in enclosed machines!

30200 (shank: Ø 20 mm)  
34250 (shank: Ø 3/4")

RPM:  
5.000 - 8.000

**LANG**

Support: +49 7023 9885-0 (world-wide) / +1 252 445 9880 (USA only)  
Warning: Only to be used in enclosed machines!

ORIGIN  
- C

# CLEANING FAN

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132 Clean·Tec Cleaning Fan



AUTOMATION

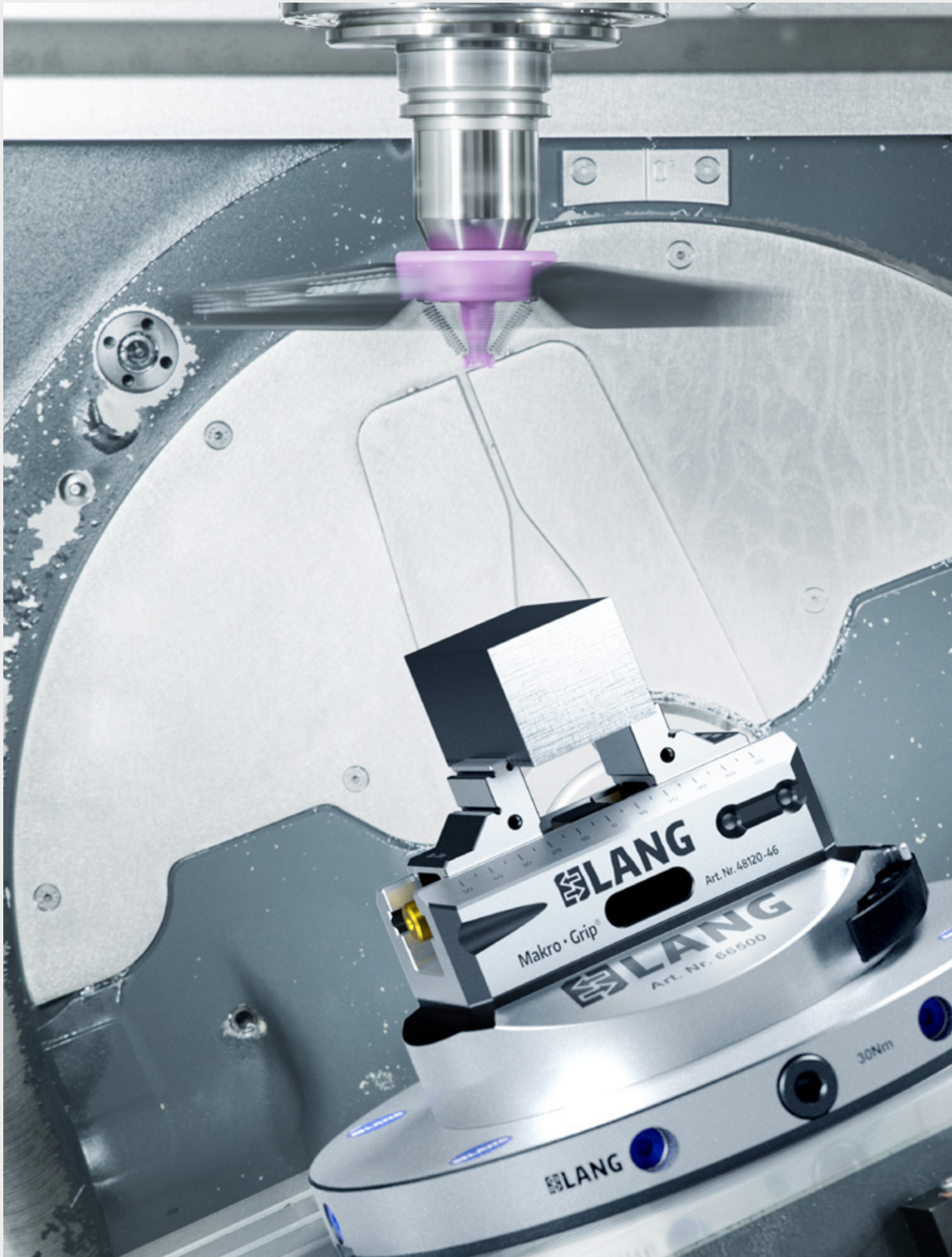
CLEANING FAN

CONVENTIONAL WORKHOLDING

MAKRO-GRIP® 5-AXIS VISES

MAKRO-GRIP®  
STAMPING TECHNOLOGY

ZERO-POINT  
CLAMPING SYSTEM





# Clean·Tec Cleaning Fan

The Clean·Tec chip removal fan cleans the machine interior after machining processes, removing chips and coolant without the operator having to open the machine tool door. As a final step in the machining process, the fan is called up via the machine program and selected from the tool magazine. Its blades are opened and closed by controlling the speed of the machine tool spindle.

## → Cleanliness

No swarf and coolant outside the machine tool

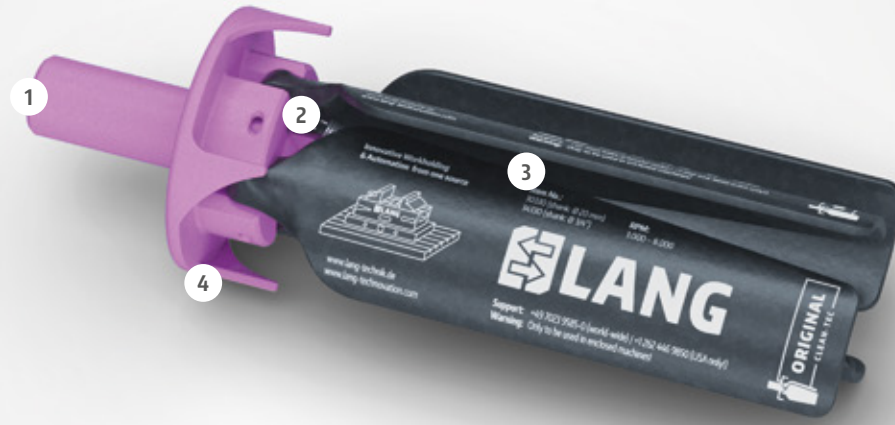
## → Energy Savings

Expensive compressed air not needed

## → Unmanned Cleaning

Especially essential in the automated production

Save expensive compressed air – use Clean·Tec



- 1 Fiberglass compound body with steel center core. Can be clamped in every common shank  $\varnothing$  20 mm or 3/4"
- 2 Rigid retaining spring for the secure folding of blades after the cleaning process
- 3 Strong and wear-resistant carbon fiber wings for best durability – even with tough chipping
- 4 Slim design for space-saving storage in the tool magazine



**WITH EVERY CLEAN·TEC  
FAN SOLD, 2 EUROS WILL  
BE DONATED TO THE  
"HERZ FÜR KINDER"-  
FOUNDATION.**

Learn more on page 135



The Clean·Tec wings open and close automatically by switching the machine tool spindle on and off.

# Use recommendations

## Acceleration

Turn clockwise to clean the parts. By rotating the spindle the wings will open. We recommend to accelerate in 2 stages:

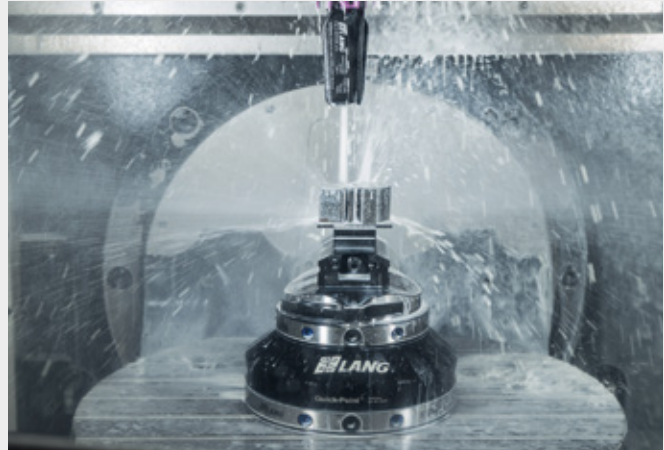
1. Accelerate to 2,000 RPM
2. Accelerate to the operating RPM

(Clean-Tec works efficiently at 4,000 RPM already!)



## Motion

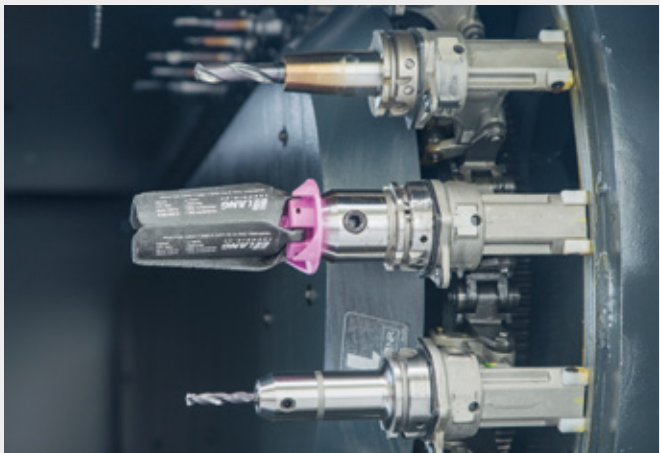
Move the rotating fan with a distance of **100 – 150 mm (4 – 6")** above the workpiece and apply a feed rate of **3 – 10 m/min (150 – 400 inches per minute)**. Then return to the tool change position.



The design of Clean-Tec allows you to wash workpieces and fixtures using coolant – **with the machine spindle turned off and the Clean-Tec blades folded!** – This enhances the cleaning effect and makes perfect sense if pockets and bores are commonly packed with swarf and chips.

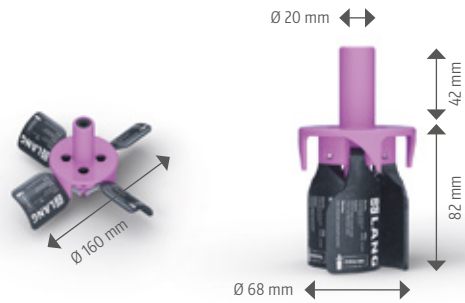


For smooth processes in automated, unmanned production Clean-Tec is a must-have! It is ideal for cleaning workpieces, fixtures and the machine table prior to an automatic unloading.



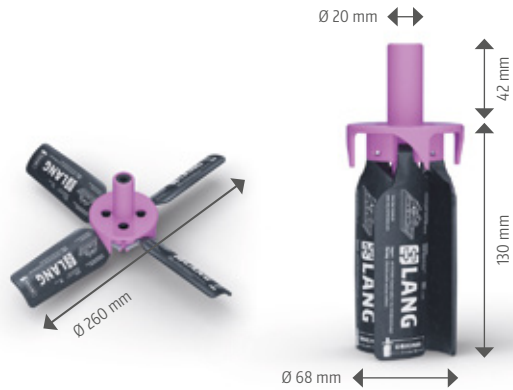
The Clean-Tec cleaning fan is stored just like a common tool in the tool magazine and selected automatically via a CNC program. Thanks to its compact design (only  $\varnothing 68$  mm) tool pockets neighboring the Clean-Tec's storage place can be equipped with other tools and don't have to be left empty.

# Clean·Tec Cleaning Fan



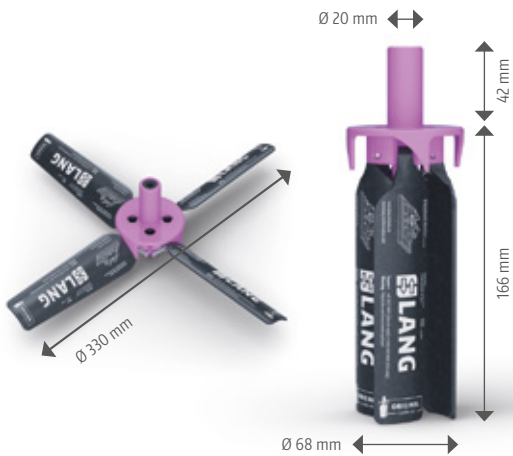
## CLEAN·TEC 160

ITEM NO.	SHANK Ø	Ø WITH OPEN WINGS	RPM RANGE
130160	20 mm	6.30" / 160 mm	6,000–12,000 rpm
134160	3/4"	6.30" / 160 mm	6,000–12,000 rpm



## CLEAN·TEC 260

ITEM NO.	SHANK Ø	Ø WITH OPEN WINGS	RPM RANGE
130260	20 mm	10.24" / 260 mm	5,000–8,000 rpm
134260	3/4"	10.24" / 260 mm	5,000–8,000 rpm



## CLEAN·TEC 330

ITEM NO.	SHANK Ø	Ø WITH OPEN WINGS	RPM RANGE
130330	20 mm	12.99" / 330 mm	3,000–8,000 rpm
134330	3/4"	12.99" / 330 mm	3,000–8,000 rpm



## SPARE PART KIT, 4 PCS. FIBERGLASS WINGS AND SPRINGS

ITEM NO.	FOR
130164	130160 / 134160
130264	130260 / 134260
130334	130330 / 134330



# LANG Technik supports Bild hilft e.V. “Ein Herz für Kinder”



As a family owned company, we think in generations. For this reason, we have for years supported different projects that sponsor and strengthen our next generations. One of those is the Bild hilft e.V. “Ein Herz für Kinder” campaign founded by the Axel Springer Verlag 40 years ago. For the last four years we've donated 2 € with every Clean·Tec fan sold. Up to this date, we've collected more than 50.000 € for children in need.

Bild hilft e.V. “Ein Herz für Kinder” is an internationally active aid organization founded in 1978 by Axel Springer. Since its foundation it has raised more than 315 million Euro. Funding priority is Germany, but projects all over the world are supported. For example, “Ein Herz für Kinder” supports children's hospitals, kindergartens, soup kitchens, schools and families. The aid organization also ensures life-saving surgeries and therapies for children who are seriously ill and cannot be treated sufficiently in their home country. Additionally, “Ein Herz für Kinder” provides immediate help in war and disaster zones.

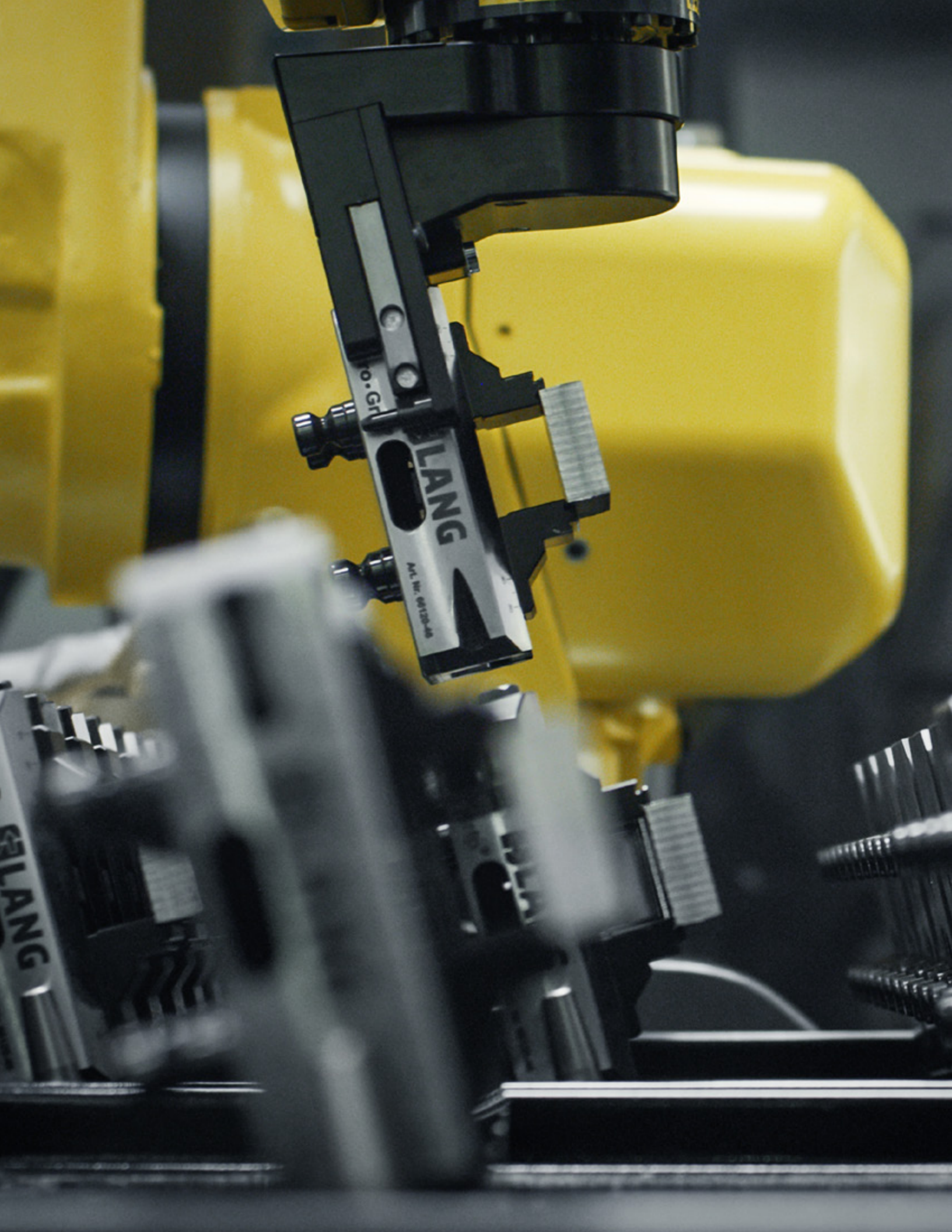
→ Find out more about the aid organization and current projects:  
[www.ehfk.de](http://www.ehfk.de).



With every Clean·Tec fan sold,  
2 Euros will be donated to the  
BILD hilft e.V. “Ein Herz für  
Kinder” foundation.

**Further organization and associations which are regularly supported by LANG Technik are for example:**

- Madeleine-Schickedanz-Kinderkrebs-Stiftung
- Zukunft für Kinder - Förderverein Kinder- u. Jugendheim Neuhausen e.V.
- Helfer vor Ort - First Responder - DRK Weilheim



o. Gr.

LANG

ApL Nr. 00120-08

LANG

# AUTOMATION

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ZERO-POINT  
CLAMPING SYSTEM

MAKRO-GRIP®  
STAMPING TECHNOLOGY

MAKRO-GRIP® 5-AXIS VISES

CONVENTIONAL WORKHOLDING

CLEANING FAN

AUTOMATION

# Machine tools Automation

## Automatically more efficiency

### The necessity of automated manufacturing

In recent years, many manufacturing companies have increased their degree of automation to assist with increasing competition, cost pressures and the current shortage of skilled labor. In order to increase machining hours and spindle run times, a reasonable degree of automation appears to be mandatory.

Automation systems by Lang Technovation will cover every need from single part to large-scale production. They can be retrofitted to almost any machining center. A simple, uncomplicated operation and a quick return on investment make our systems appealing, especially to smaller companies or those just starting out in automated manufacturing.

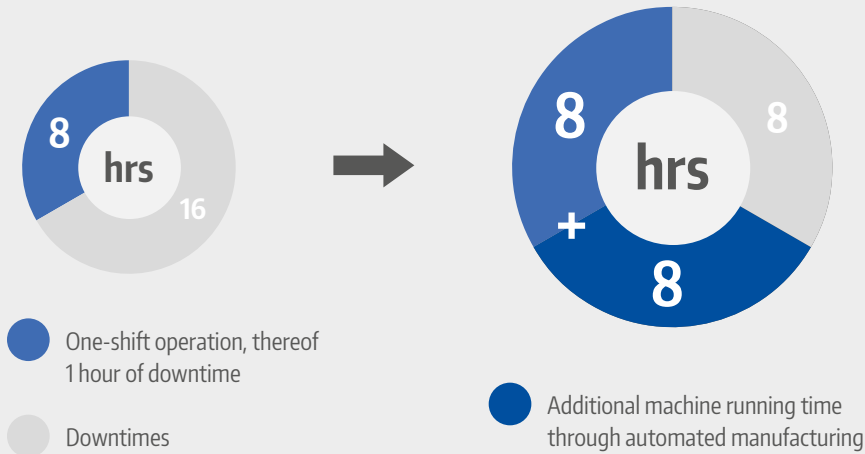
#### Reduce costs – Increase productivity

LANG Technovation offers solutions to automatically (un-)load machine tools with vises.

- ✓ You increase machining hours and your output dramatically
- ✓ You relieve employees and upgrade their jobs at the same time
- ✓ You can produce virtually unmanned

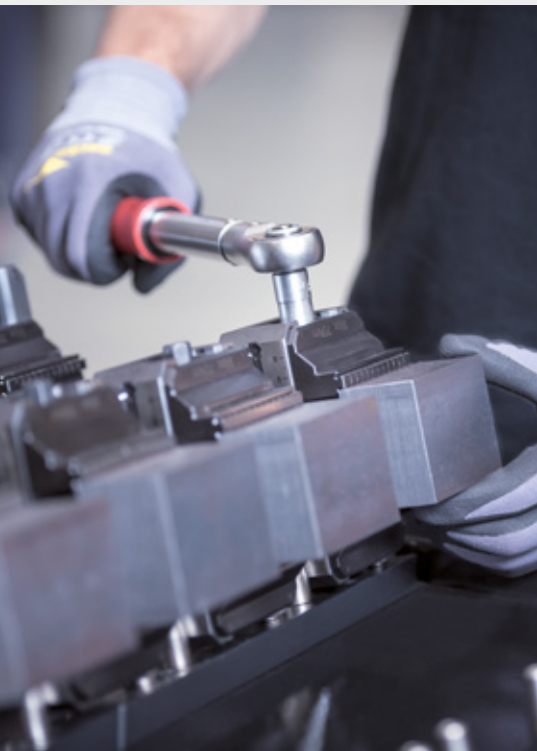
#### Quick return on investment

Expansion of a one-shift operation: Maximization of manufacturing capacities and modernization of processes



# LANG offers automation components for individual customized automation solutions

LANG Technovation provides a unique automation concept; offering the strengths of LANG's proven Robo-Trex system, but also keeping options open to realize customized, application specific solutions through the cooperation of a local integrator. The innovative and patented trolley system of the Robo-Trex automation system creates flexibility and guarantees extended machining hours and machine tool utilization, even during unmanned evening and weekend shifts. Thanks to the offline preparation of the trolleys, the automation system is (re-)loaded quickly and without machine tool downtime. The trolley ensures maximum space utilization with the patented, angled mounting of the Makro-Grip® vises. The simple, intuitive, user friendly control reduces training requirements to a minimum. Knowledge about robots is not necessary. The Robo-Trex system relies on proven Fanuc quality. The robot's compact design fits perfectly into the overall concept. The Fanuc robot arrives in a ready-to-operate and preprogrammed state, simplifying and reducing the amount of training that is necessary. Ask for more information!



## Tip for your benefit:

### Stamping Technology in automated production

Form-Closure Technology, created by pre-stamping a workpiece, ensures you will hold a workpiece with constant and consistent quality and with high process reliability. Two factors, which are particularly essential for automated production:

#### 1. Wear-free clamping with the Makro-Grip® 5-Axis Vise:

The application of force to the workpiece takes place during pre-stamping. As a result, the 5-Axis Vise does not have to penetrate the work-piece during the clamping process, but only holds it in a form-fitting manner with very low actuation force.

#### 2. The tooth contour of the Makro-Grip® 5-Axis Vise:

Competitors clamping devices with sharp holding teeth tend to wear rather quickly, especially when clamping high-tensile material. As a consequence, holding forces diminish, ultimately leading to vibration. Makro-Grip® stamping teeth take the shape of truncated pyramids and cannot seat deeper into the workpiece. They offer a defined, consistent end stop making highly repeatable insertion of the work-piece possible.

This high level of process reliability allows machine capacities to be easily relocated. The main part of the workpiece machining or the first setup can take place unmanned in a second or third shift. With the additional time available, tools and machines do not have to be stressed to their maximum capacity, which means that they can produce in a resource-saving manner, having positive effects on safety. By shifting the main cutting to unmanned shifts, the range of tasks for the machine operator also change. Additional capacities are free, in which the operators time can be used even more efficiently.

# The Automation Cart

Center piece of the system



In the true sense of the word, the automation carts are simply mobile storage units. The special feature of this is the patented, angled positioning of the vises. It ensures maximum space utilization on a small footprint. Great accessibility to the vise allows set up and changeover right on the cart. This can take place anywhere, off-line. Thanks to the integrated entry system, if an automation cart is pre-loaded, the automation system can be equipped within seconds by simply exchanging carts.

An automation cart with finished workpieces can be removed or replaced at any time during the operating mode. Machine down-times are reduced to a minimum and an “endless loop” in production processing is possible.

Interchangeable, automation carts are automatically recognized by the automation system. They can be used on different automation systems, increasing the flexibility of your production process. If an automation cart is deactivated, it simply remains within the system during operation, no additional space needs to be freed.

On request, the automation carts can be retrofit with special equipment. The maximum possible number of vises depends on the desired workpiece size. If needed, each cart can be assigned to a specific machine program.

# The Zero-Point System

Versatile operation

Like all Quick-Point® products, the automation zero point plate also impresses with a repeatability of < 0.005 mm and a simple design and operation. The zero-point clamping system can be controlled in three ways:

- Manually by the robot
- Pneumatically by the machine tool
- Pneumatically by an external interface

Due to its low overall height, it is possible to automate mounted 5-axis tables. For optimized accessibility in 5-face machining, new in the product range is a special riser. The automation zero-point plates are equipped with Ø 20 mm clamping studs and are therefore compatible with any Quick-Point® plate with 96 mm stud spacing.

[Drawing and models can be downloaded from our website.](#)



# The Clamping Device

Highest holding forces

Compact 5-Axis Vises along with Makro-Grip® stamping technology offers ideal conditions for automated production (see page 5). The workpiece is held with Form-Closure Technology in the 5-Axis Vise at low actuation force without material deformation or wear on the clamping device, ensuring maximum process reliability. Due to its lateral gripping grooves, the vise is taken directly by the robot from the automation cart; no additional pallets are necessary and space is saved.

Information about Makro-Grip® 5-Axis Vises on p. 82



**Makro-Grip® 5-Axis Vise 77,**

Base length 130 mm, jaw width 46 mm  
Clamping range 0–120 mm  
More information on p. 86



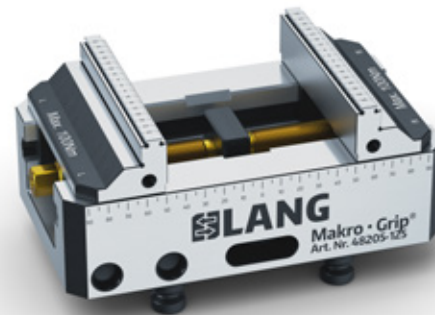
**Makro-Grip® 5-Axis Vise 77,**

Base length 130 mm, jaw width 77 mm  
Clamping range 0–120 mm  
More information on p. 88



**Makro-Grip® 5-Axis Vise 125,**

Base length 210 mm, jaw width 77 mm  
Clamping range 0–205 mm  
More information on p. 92



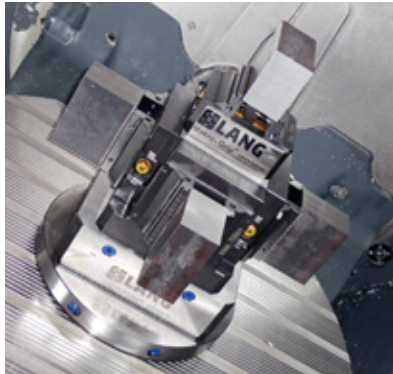
**Makro-Grip® 5-Axis Vise 125,**

Base length 210 mm, jaw width 125 mm  
Clamping range 0–205 mm  
More information on p. 94

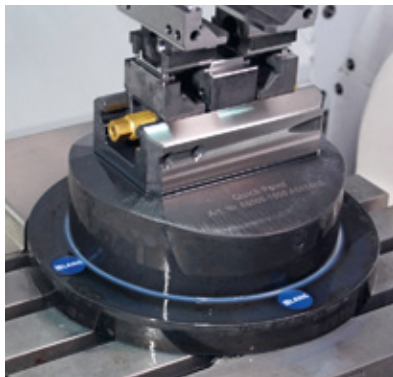
# Individual clamping solutions

Our department for custom-made products

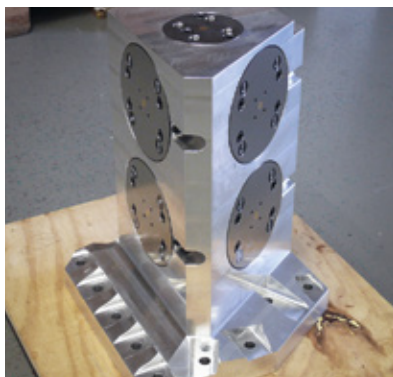
To achieve high machine utilization and thus offer you a very attractive return on investment, our production facilities in Holzmaden utilize modern production methods and concepts enabling us to efficiently produce large lot sizes of our standardized products. Another goal of ours is to tailor our proven products to your production requirements. For this reason, a separate department was founded 2 years ago, located in Neuhausen, Germany, our former headquarters. It specifically handles individual clamping solutions based around the LANG product range and offers customized, completed solutions for your application. From consultation, concept, construction, up to production – together, with you we develop a custom-made solution. Below you will find just a sample of projects that have been realized so far.



- Product:** Makro-Grip®
- What is special?** Integrated guides in the clamping cube and a Makro-Grip® 5-Axis Vise on top.
- Application:** Multi-clamping system for 5-axis machine tools.
- 

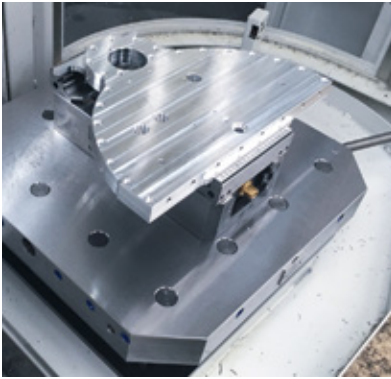


- Product:** Quick-Point®
- What is special?** Pneumatic Quick-Point® 52 plate Ø 157 / 230 mm × 80 mm
- Application:** Pneumatic Quick-Point® plate for a Makino DA 300 machine tool equipped with Robo-Trex automation. The clamping tower facilitates clamping, releasing and is operated by the machine's media interface.
- 



- Product:** Quick-Point® Quick-Tower
- What is special?** 3-face Tombstone made of aluminium, total height 520 mm, equipped with 6 × 145801 and 1 × 145751.
- Application:** This tower is used for manufacturing aerospace parts in a Mori-Seiki horizontal machining center.





**Product:** Quick-Point®

**What is special?** Support pallet 400 × 400 × 49 mm

**Application:** Automation support pallet for a Hermle C42 machining center with a robotic automation system. Parts with a dimension of 275 × 300 × 40 mm are being produced during unmanned night shifts. The integrated Quick-Point® system keeps the pallet's total height at only 49 mm.

## Experience the future live!

Our technical center – Your advantage in "know-how"



### Visit us!

If you have a special need for clamping technology or automation systems, or if you just want to find out more about our products, we would be delighted to welcome you to Hartland, Wisconsin!

Steadily growing demands on companies and employees make it necessary to continue their education in professional life. In our technical center, we offer a variety of courses and seminars on the topics of production optimization, set-up time reduction and automation.

Our technical center has enough room for individual or group training and features well-equipped machinery with the latest fixtures and workholding from Lang Technovation, creating the best conditions for experiencing the entire LANG product range up close. Customers, sales partners and schools are always welcome at our facility.

We are close to I94 and State Highway's 16 and 83. We are only 30 minutes from Mitchell International Airport in Milwaukee, WI.

# Spare Parts for former vise versions

On this double page you find all spare parts for your existing vises (versions until September 2018).



## MAKRO-GRIP® AUTOMATION VISE

146160	Makro-Grip® 77 Automation Vise
146205	Makro-Grip® 125 Automation Vise

Available for all existing Eco-Compact 10, Eco-Compact 20, Eco-Tower 60



## MAKRO-GRIP® AUTOMATION DUAL-CLAMPING VISE

146200	Makro-Grip® Automation Dual-Clamping Vise
146200-TG17	Retrofitting Kit (Center Jaw 17 mm + Spindle Ø 16 mm, length 215 mm)
146200-TG27	Retrofitting Kit (Center Jaw 27 mm + Spindle Ø 16 mm, length 215 mm)

Available for all existing Eco-Compact 10, Eco-Compact 20, Eco-Tower 60



## QUICK-POINT® AUTOMATION SUPPORT PALLET

165190	Quick-Point® Automation Support Pallet Ø 178 × 24 mm
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Available for further purchase for existing automation systems Eco-Compact 10, Eco-Compact 20, Eco-Tower 60.

## AVANTI

### BASE JAWS

144461	Avanti 46 Base Jaws
144771	Avanti 77 Base Jaws
144251	Avanti 125 Base Jaws

## PROFILO

### BASE JAWS

149771	Profilo 77 Base Jaws
149251	Profilo 125 Base Jaws

### CENTER BASE JAW + SPINDLE

149080-TG	Center Base Jaw 77 + Spindle Ø 16 mm, length 175 mm
149120-TG	Center Base Jaw 77 + Spindle Ø 16 mm, length 215 mm
149100-TG	Center Base Jaw 125 + Spindle Ø 20 mm, length 215 mm
149150-TG	Center Base Jaw 125 + Spindle Ø 20 mm, length 265 mm
149200-TG	Center Base Jaw 125 + Spindle Ø 20 mm, length 315 mm
149250-TG	Center Base Jaw 125 + Spindle Ø 20 mm, length 365 mm

## VARIO-TEC

### SPARE JAW SET

142077	Vario-Tec 77 Spare Jaw Set (2 pin jaws + 2 carrier jaws)
142125	Vario-Tec 125 Spare Jaw Set (2 pin jaws + 2 carrier jaws)



## 5-AXIS VISE



### SPARE JAWS

Makro-Grip® 46	147046-20	Spare Jaws Makro-Grip® 46
Makro-Grip® 77	147077-20	Spare Jaws Makro-Grip® 77
	147085-20	Spare Jaws Makro-Grip® 77, Item No. 147085
Makro-Grip® 125	147125-20	Spare Jaws Makro-Grip® 125

### CENTER PIECE + SPINDLE

Makro-Grip® 46	14046082	Center Piece + Spindle Ø 12 mm, length 82mm
	14046122	Center Piece + Spindle Ø 12 mm, length 122 mm
	14046162	Center Piece + Spindle Ø 12 mm, length 162 mm
Makro-Grip® 77	14077102	Center Piece + Spindle Ø 16 mm, length 102,5 mm
	14077135	Center Piece + Spindle Ø 16 mm, length 135 mm
	14077175	Center Piece + Spindle Ø 16 mm, length 175 mm
	14077215	Center Piece + Spindle Ø 16 mm, length 215 mm
Makro-Grip® 125	14025165	Center Piece + Spindle Ø 20 mm, length 165 mm
	14025215	Center Piece + Spindle Ø 20 mm, length 215 mm
	14025265	Center Piece + Spindle Ø 20 mm, length 265 mm
	14025315	Center Piece + Spindle Ø 20 mm, length 315 mm
	14025365	Center Piece + Spindle Ø 20 mm, length 465 mm

### CENTER JAW + SPINDLE FOR DUAL CLAMPING

Makro-Grip® 46	147065-TG	Center Jaw + Spindle Ø 12 mm, length 82 mm	
	147105-TG	Center Jaw + Spindle Ø 12 mm, length 122 mm	
	147145-TG	Center Jaw + Spindle Ø 12 mm, length 162 mm	
Makro-Grip® 77	147085-TG17	Center Jaw 17 mm + Spindle Ø 16 mm, length 102,5 mm	
	147085-TG27	Center Jaw 27 mm + Spindle Ø 16 mm, length 102,5 mm	
	147120-TG17	Center Jaw 17 mm + Spindle Ø 16 mm, length 135 mm	
	147120-TG27	Center Jaw 27 mm + Spindle Ø 16 mm, length 135 mm	
	147160-TG17	Center Jaw 17 mm + Spindle Ø 16 mm, length 175 mm	
	147160-TG27	Center Jaw 27 mm + Spindle Ø 16 mm, length 175 mm	
	147200-TG17	Center Jaw 17 mm + Spindle Ø 16 mm, length 215 mm	
	147200-TG27	Center Jaw 27 mm + Spindle Ø 16 mm, length 215 mm	
	Makro-Grip® 125	147155-TG17	Center Jaw 17 mm + Spindle Ø 20 mm, length 165 mm
		147155-TG27	Center Jaw 27 mm + Spindle Ø 20 mm, length 165 mm
147205-TG17		Center Jaw 17 mm + Spindle Ø 20 mm, length 215 mm	
147205-TG27		Center Jaw 27 mm + Spindle Ø 20 mm, length 215 mm	
147255-TG17		Center Jaw 17 mm + Spindle Ø 20 mm, length 265 mm	
147255-TG27		Center Jaw 27 mm + Spindle Ø 20 mm, length 265 mm	
147305-TG17		Center Jaw 17 mm + Spindle Ø 20 mm, length 315 mm	
147305-TG27		Center Jaw 27 mm + Spindle Ø 20 mm, length 315 mm	
Makro-Grip® 125	147355-TG17	Center Jaw 17 mm + Spindle Ø 20 mm, length 365 mm	
	147355-TG27	Center Jaw 27 mm + Spindle Ø 20 mm, length 365 mm	

### SPINDLE COVERS

Makro-Grip® 46	147046-80	Spindle Covers, Makro-Grip® 46, foam, set of 10
Makro-Grip® 77	147077-70	Spindle Covers, Makro-Grip® 77, plastic, set of 10
	147077-80	Spindle Covers, Makro-Grip® 77, foam, set of 10
Makro-Grip® 125	147125-70	Spindle Covers, Makro-Grip® 125, plastic, set of 10
	147125-80	Spindle Covers, Makro-Grip® 125, foam, set of 10

# Product Finder

ITEM NO.	DESCRIPTION	PAGE	ITEM NO.	DESCRIPTION	PAGE
misc.	Centering studs for alignment of Quick-Point® Plates	57	144258-76	Avanti Add-on Jaw 125, steel, height 2.99"	115
120000	Spare Pins Ø 0.16", for Vario-Tec 77	125	144259-46	Avanti Add-on Jaw 125, aluminium, height 1.81"	115
1200009	O-Rings Ø 0.08 × 0.06", for Spare Pins Ø 0.16 mm	125	144259-76	Avanti Add-on Jaw 125, aluminium, height 2.99"	115
1200010	O-Rings Ø 0.14 × 0.08", for Spare Pins Ø 0.24 mm	127	144296	Quick-Point® 96 Gauging Pallet	58
120001	Spare Pins Ø 0.24", for Vario-Tec 125	127	144305-125	Avanti 125, jaw width 125, length 12.20"	114
130160	Clean-Tec 160	134	144305-TG125	Avanti Center Base Jaw 125 + Spindle length 12.36"	115
130164	Spare Part Kit for Clean-Tec 160	134	144355-125	Avanti 125, jaw width 125, length 14.17"	114
130260	Clean-Tec 260	134	144355-TG125	Avanti Center Base Jaw 125 + Spindle length 14.33"	115
130264	Spare Part Kit for Clean-Tec 260	134	144468-26	Avanti Add-on Jaw 46, steel, height 1.02"	111
130330	Clean-Tec 330	134	144469-26	Avanti Add-on Jaw 46, aluminium, height 1.02"	111
130334	Spare Part Kit for Clean-Tec 330	134	144552	Quick-Point® Quick-Lock 52	54
134160	Clean-Tec 160, 3/4"	134	144596	Quick-Point® Quick-Lock 96	54
134260	Clean-Tec 260, 3/4"	134	144771-46	Base Jaws Avanti, jaw width 46	111
134330	Clean-Tec 330, 3/4"	134	144771-77	Base Jaws Avanti, jaw width 77	113
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141010-01	Spare Marking Stud for Center Marking Tool	76	144778-56	Avanti Add-on Jaw 77, steel, height 2.20"	113
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141112-01	Stamping Jaws, High-End, Reconditioning	77	145004-H	Set mounting bores according to customer's request	misc.
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141200	Stamping Unit, Standard, with Standard Stamping Jaws	72	145008-20	Quick-Point® Cover Discs, Ø 20 mm / 0.79"	56
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141402	Mobile Cart with Dual Stamping Unit, on T-Slot Plate	75	145096-30	Quick-Point® 96 Cover Plugs, steel	56
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141521-HE	Stamping Unit on Mobile Cart, with High-End Stamping Jaws	73	145156	Quick-Point® 52, 5-Axis Riser, 5.91 × 4.57 × 2.36"	36
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142097-77	Vario-Tec 77, length 6.69"	124	1452018	Slot key, loose (DIN 6323) for alignment of Quick-Point® Plates, 0.79 to 0.71"	57
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142137-77	Vario-Tec 77, length 8.27"	124	1452218	Slot key for alignment of Quick-Point® Plates, 0.71 × 0.87"	57
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142202-125	Vario-Tec 125, length 12.20"	126	125270	Quick-Point® 52 Clamping Studs, Ø 16 mm	50
142252-125	Vario-Tec 125, length 14.17"	126	145270-10	Quick-Point® 52 Spacer Studs, Ø 16 mm	53
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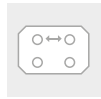
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148077-7720	Spare Jaws for Makro-Grip® 5-Axis Vise 77, jaw width 77	90
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148085-4622	Spare Jaws w/o holding teeth, for Makro-Grip® 77, jaw width 46 (148085-46)	90
148085-77	Makro-Grip® 5-Axis Vise 77, jaw width 77, length 4.02"	88
148085-7720	Spare Jaws for Makro-Grip® 5-Axis Vise 77, jaw width 77 (148085-77)	90
148085-7722	Spare Jaws w/o holding teeth, for Makro-Grip® 77, jaw width 77 (148085-46)	90
148085-TG4617	Center Jaw 46 (0.67") + Spindle length 3.94"	100
148085-TG4627	Center Jaw 46 (1.06") + Spindle length 3.94"	100
148085-TG7717	Center Jaw 77 (0.67") + Spindle length 3.94"	100
148085-TG7727	Center Jaw 77 (1.06") + Spindle length 3.94"	100
148120-46	Makro-Grip® 5-Axis Vise 77, jaw width 46, length 5.12"	86
148120-77	Makro-Grip® 5-Axis Vise 77, jaw width 77, length 5.12"	88
148120-TG4617	Center Jaw 46 (0.67") + Spindle length 5.31"	100
148120-TG4627	Center Jaw 46 (1.06") + Spindle length 5.31"	100
148120-TG7717	Center Jaw 77 (0.67") + Spindle length 5.31"	100
148120-TG7727	Center Jaw 77 (1.06") + Spindle length 5.31"	100
148125-2520	Spare Jaws for Makro-Grip® 5-Axis Vise 125, jaw width 125	96
148125-2522	Spare Jaws w/o holding teeth, for Makro-Grip® 125, jaw width 125	96
148125-7720	Spare Jaws for Makro-Grip® 5-Axis Vise 125, jaw width 77	96
148125-7722	Spare Jaws w/o holding teeth, for Makro-Grip® 125, jaw width 77	96
148155-77	Makro-Grip® 5-Axis Vise 125, jaw width 77, length 6.30"	92
148155-125	Makro-Grip® 5-Axis Vise 125, jaw width 125, length 6.30"	94
148155-TG2527	Center Jaw 125 (1.06") + Spindle length 6.46"	101
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148160-TG7717	Center Jaw 77 (0.67") + Spindle length 6.89"	101
148160-TG7727	Center Jaw 77 (1.06") + Spindle length 6.89"	101
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148200-TG7717	Center Jaw 77 (0.67") + Spindle length 8.47"	100
148200-TG7727	Center Jaw 77 (1.06") + Spindle length 8.47"	100
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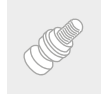
# Icon Description

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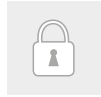
To simplify specifications we use these icons to highlight technical information and the compatibility of the products:

**Grid system:**

Zero-point spacing

**Clamping stud size:**

Diameter of the clamping studs

**Quick-Lock:**

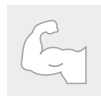
The fast actuation system can be attached

**Vise size:**

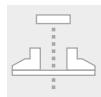
Width of vise

**Torque:**

Maximum allowed torque

**Clamping force:**

Clamping force at maximum torque

**Centering accuracy:**

Centering tolerance of vises

**Mounting bores:**

Individual mounting bores and keyways are possible

**Automatable:**

Automation interface included

The following symbols signalize that on the respective catalog page an interactive content can be called up with the **LANG App**:



**Video**



**Slideshow**



**Interactive Model**



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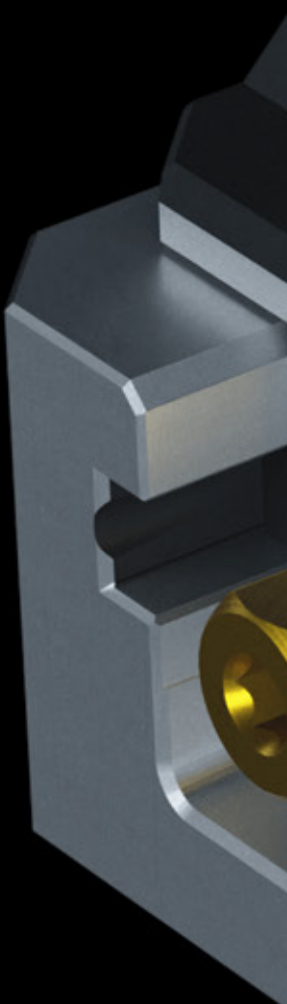
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