

# GREMOTOOL

PRÄZISIONSSPANNSYSTEME

LC-Series



GREMOTOOL  
Precision Clamping Systems

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# Overview

LC-Series

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# Product presentation

LC-Serie

The LowClamp series, with a completely closed base body, is suitable for any production process. The chips do not remain in the base body and can therefore be easily removed. In automation with a robot, for example, by simply inclining the clamp. The low design enables versatile use with low weight.



# Product presentation

## Benefits of the LC-Series

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### Clamping Force

The high clamping forces of the LC series can be influenced via the torque on the spindle. This allows workpieces made of plastic to be clamped without deformation and forged parts to be clamped securely without destroying the clamp.

### Centering precision

The design of the LC series guarantees the user precise centring of +/- 0.01 mm in the centre of the clamp.

### Accessibility

The flat silhouette of the LC series enables installation on all pallets, towers and pyramids with maximum workpiece dimensions. The symmetrical design of the clamp minimises interfering contours on both sides.

### Compact

The compact clamp fits in any machine or on any base plate. The low weight enables manual retooling.

### Low maintenance

Thanks to its compact design, the chips do not remain anywhere in the clamp. The spindle remains free of chips, which reduces maintenance to a minimum.

### Short set-up times

The LC series can be equipped with various connection options. The standard base from Gremotool is suitable for grooved tables and pallet systems. Solutions for perforated grid plates and clamping device handling can also be offered.

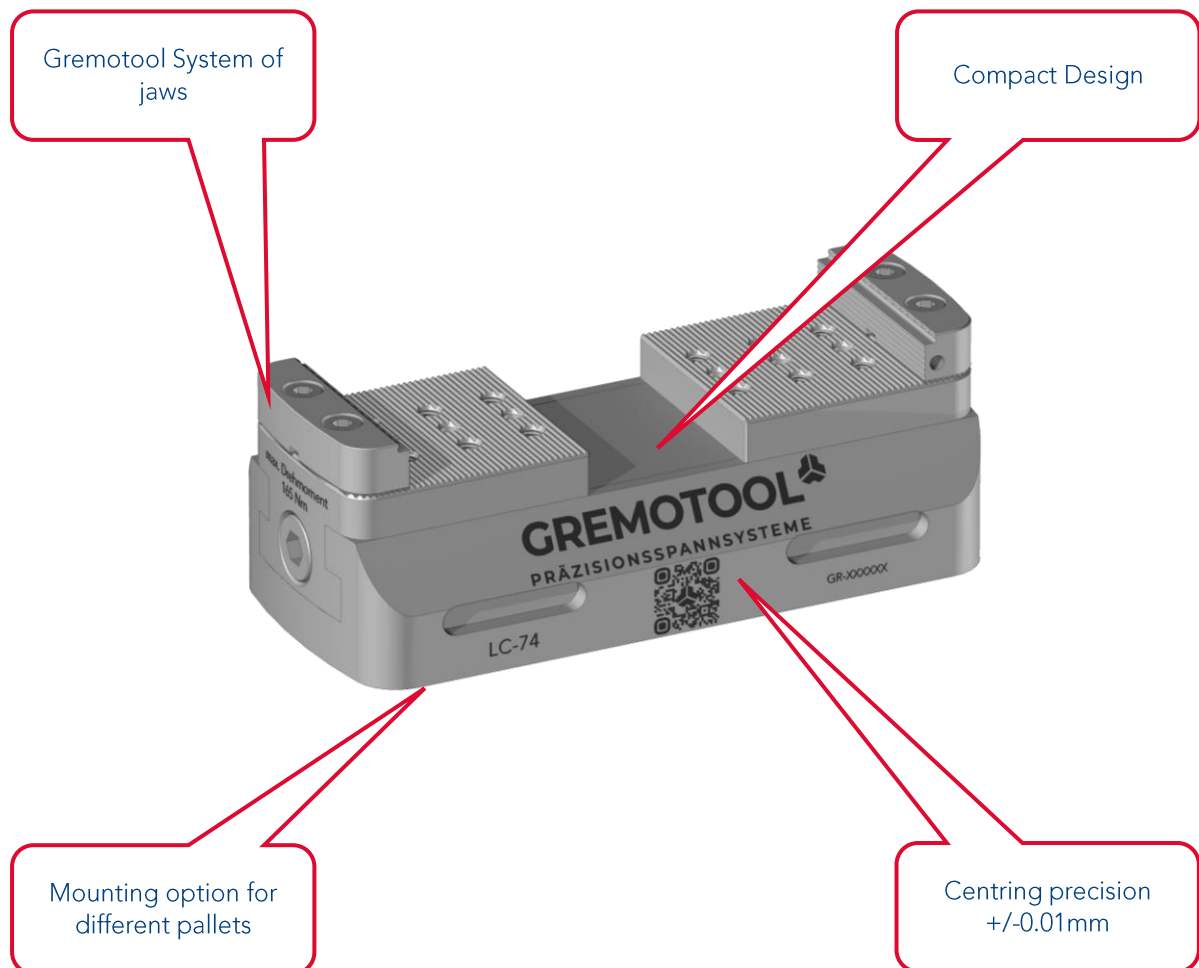
### Large range of jaws

The entire range of Gremotool jaws can be used on the LC series. From gripper jaws to soft jaws made of aluminium, no wishes remain unfulfilled when it comes to workpiece clamping requirements.

The jaws are equipped with the standardised Gremotool jaw system. This allows you to change the jaws very fast.

# Product presentation

Benefits of the LC-Series



# Overview of size options

LC-Series



# Sizing guide

LC-Series



LC-Size		LC-34	LC-40	LC-50	LC-60
Jaw width	[mm]	34	40	50	60
Clamping Force	[mm]	0-36	0-86	0-106	0-136
Support height *	[mm]	50	50	65	75
Max. Torque range	[Nm]	27.5	52	95	95
Max. Clamping Force	[kN]	8	15	25	25
Total length	[mm]	70	120	148	178
Total width	[mm]	40	52	70	100
Total height **	[mm]	41	41	56	62
Spanner width	[mm]	6	6	8	8
Mass	[kg]	1	2	4.4	6.7

\* With standard SC-gripper jaw

\*\* without jaw

# Sizing guide

LC-Series



LC-Size		LC-74	LC-100	LC-120	LC-150
Jaw width	[mm]	74	100	120	150
Clamping Force	[mm]	0-180	0-228	0-270	0-358
Support height *	[mm]	75	85	90	90
Max. Torque range	[Nm]	165	240	240	240
Max. Clamping Force	[kN]	45	65	65	65
Total length	[mm]	224	272	322	410
Total width	[mm]	100	100	120	150
Total height **	[mm]	62	73	78	78
Spanner width	[mm]	10	12	12	12
Mass	[kg]	10.3	15.6	23.9	38.5

\* With standard SC-gripper jaw

\*\* Without jaw

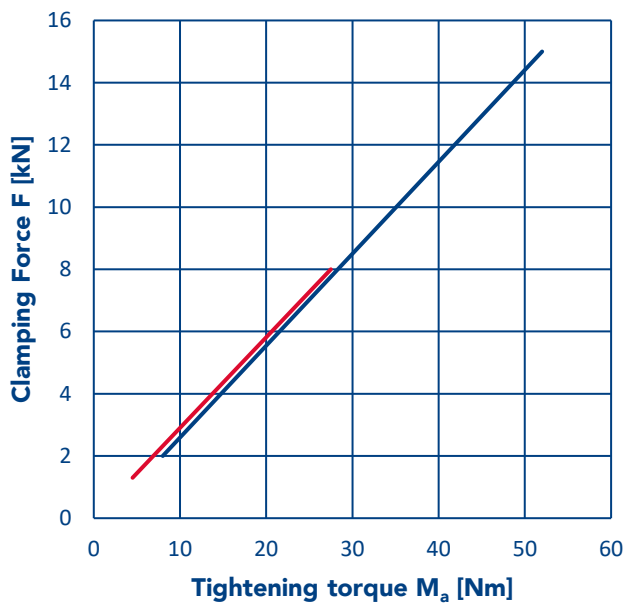


# Torque range

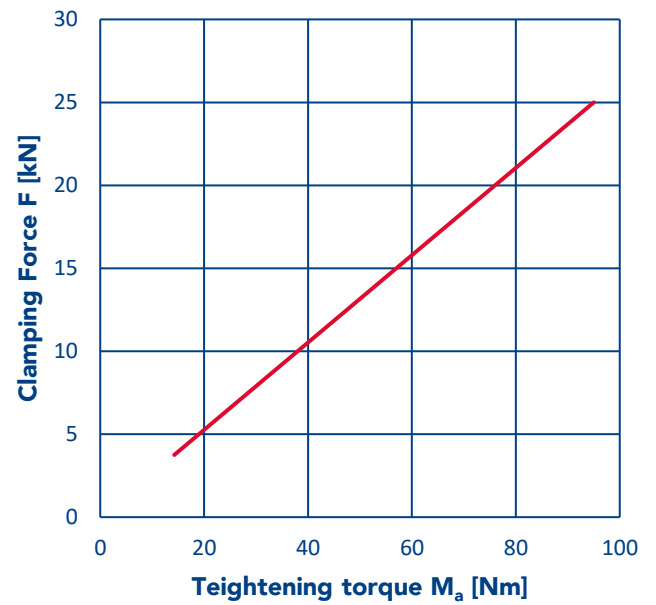
LC-Series



**LC-34 / LC-40**



**LC-50 / LC-60**



<b><math>M_a</math> max.</b>	27.5 Nm	52 Nm
<b><math>M_a</math> min.</b>	4.5 Nm	8 Nm
<b>F max.</b>	8 kN	15 kN
<b>F min.</b>	1.3 kN	2 kN

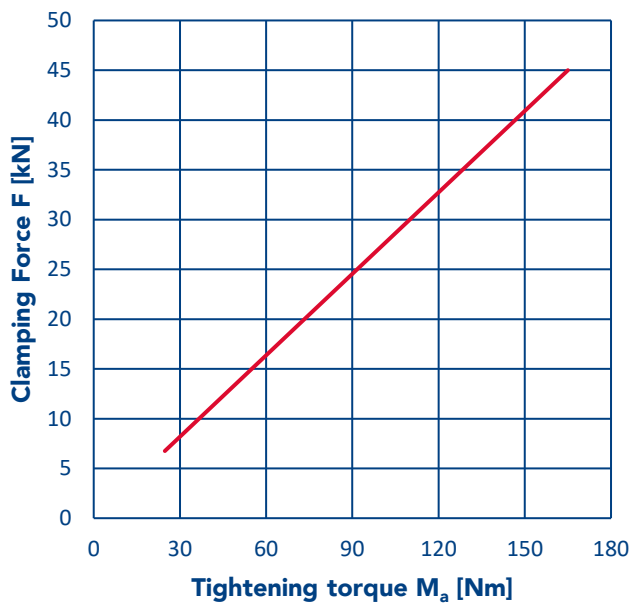
<b><math>M_a</math> max.</b>	95 Nm
<b><math>M_a</math> min.</b>	14.25 Nm
<b>F max.</b>	25 kN
<b>F min.</b>	3.75 kN

# Torque range

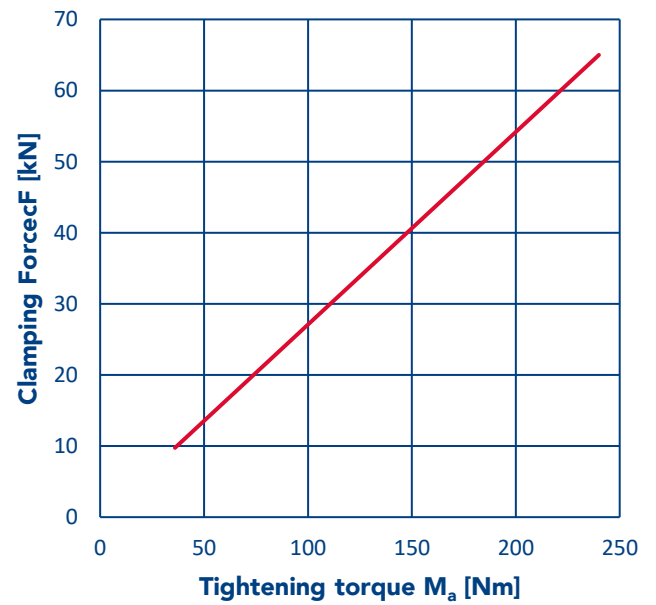
LC-Serie



## LC-74



## LC-100 / LC-120 / LC-150

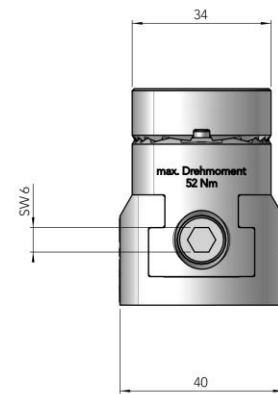
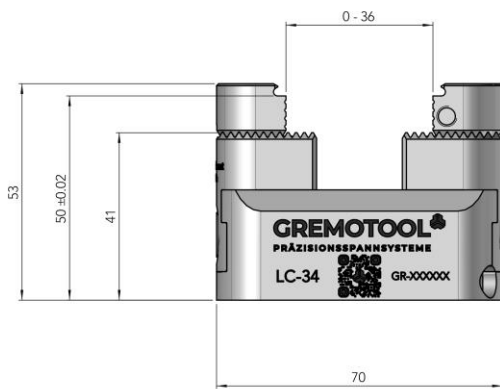
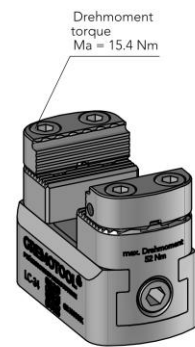
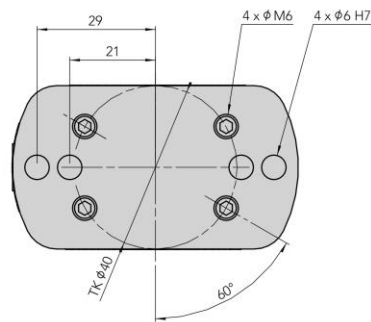


<b><math>M_a</math> max.</b>	165 Nm
<b><math>M_a</math> min.</b>	24.75 Nm
<b>F max.</b>	45 kN
<b>F min.</b>	6.75 kN

<b><math>M_a</math> max.</b>	240 Nm
<b><math>M_a</math> min.</b>	36 Nm
<b>F max.</b>	65 kN
<b>F min.</b>	9.75 kN

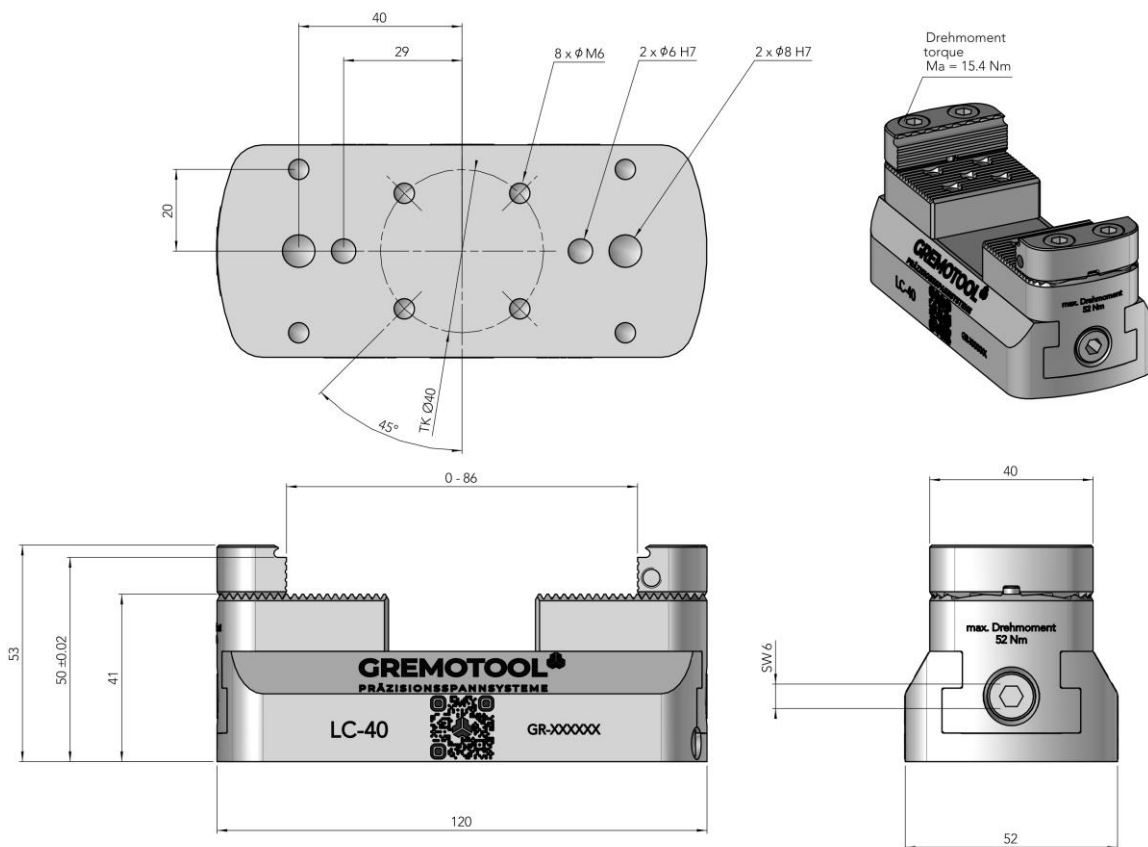
# Dimension

LC-34



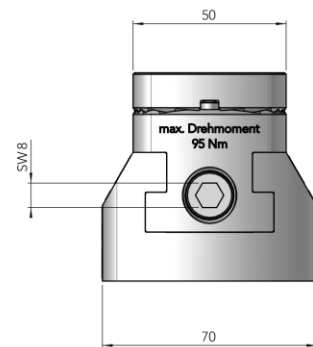
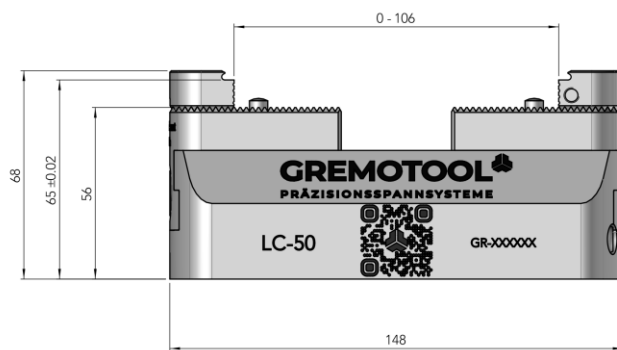
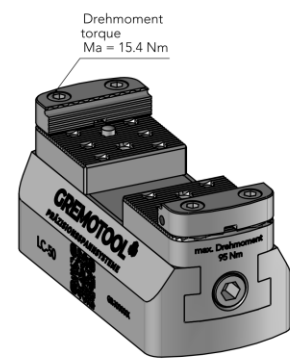
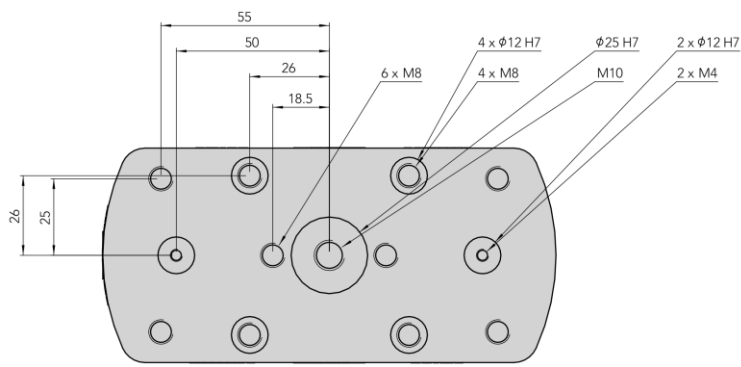
# Dimension

LC-40



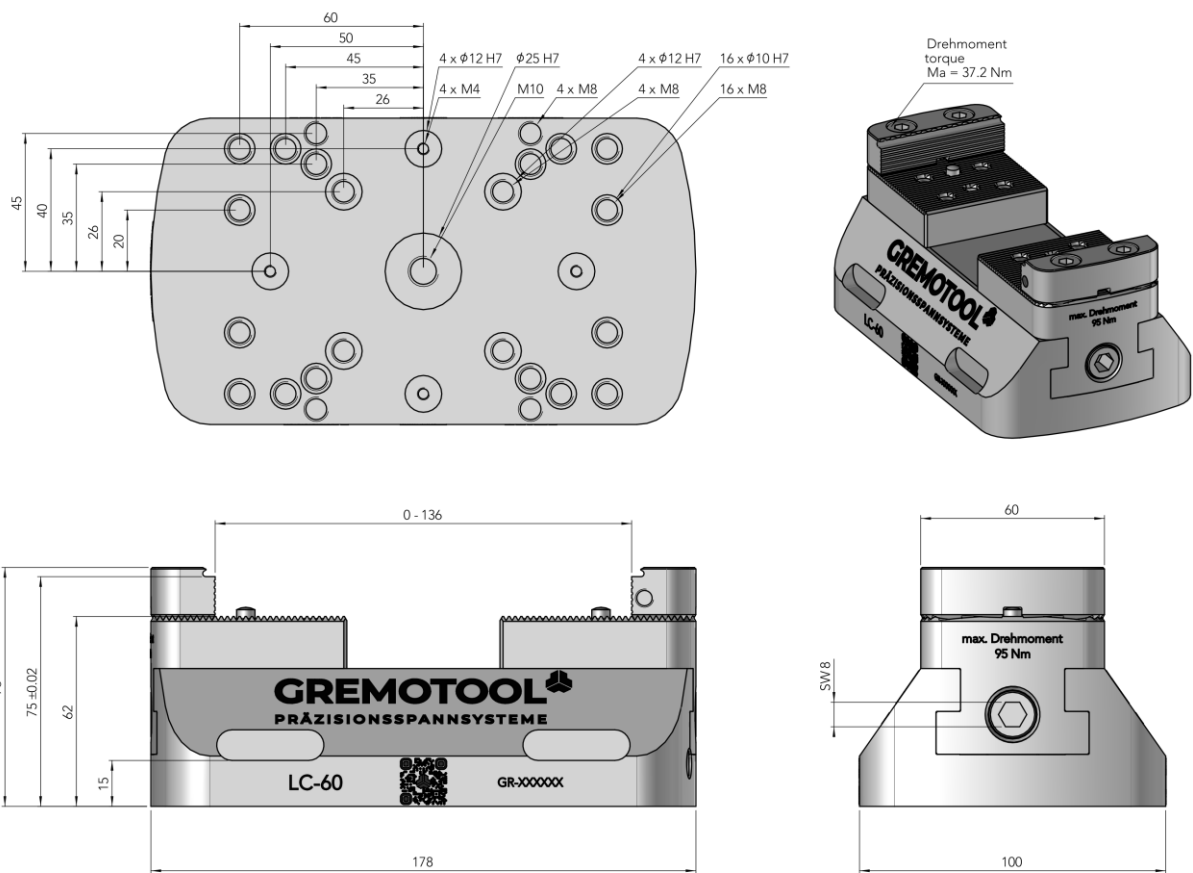
# Dimension

LC-50



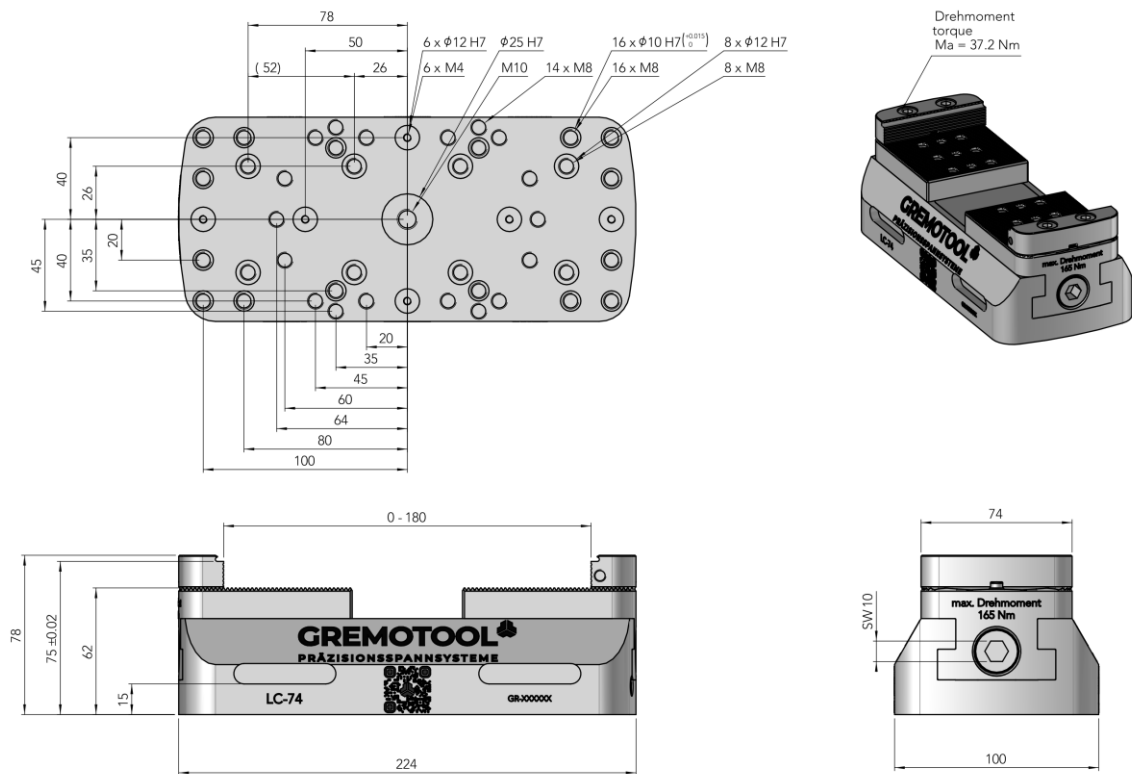
# Dimension

LC-60



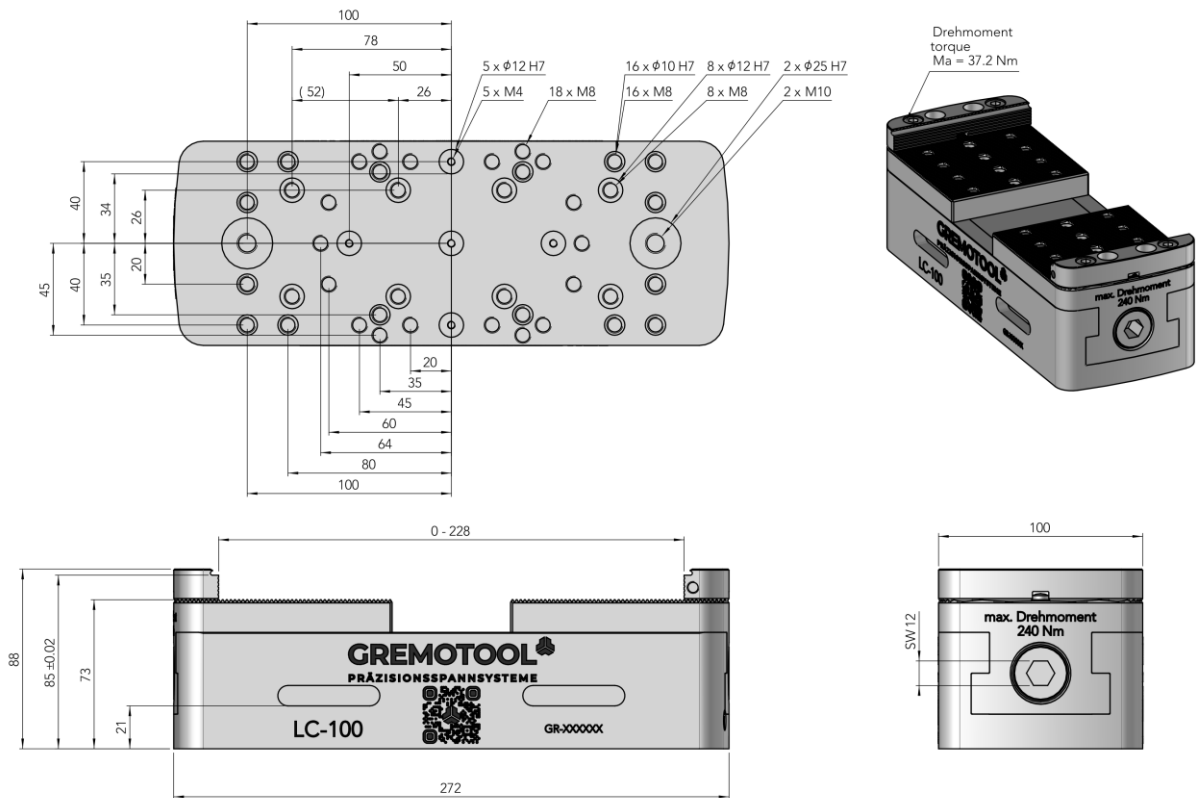
# Dimension

LC-74



# Dimension

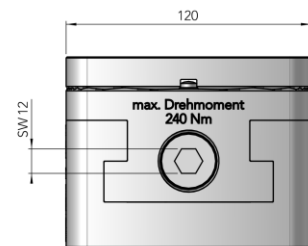
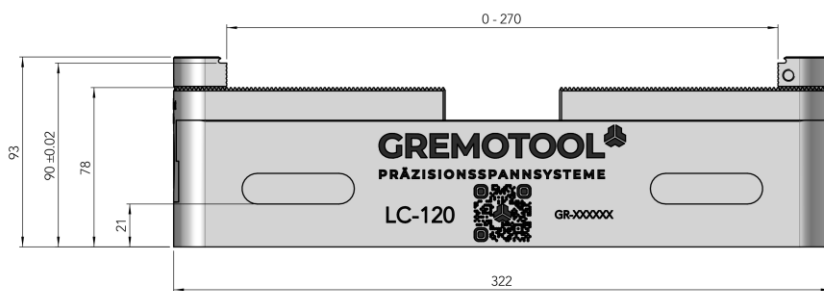
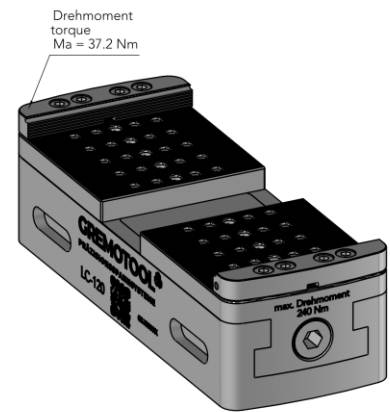
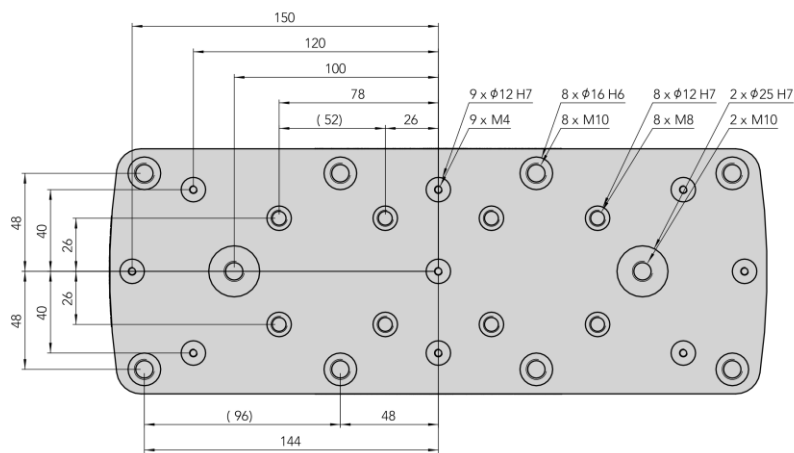
LC-100





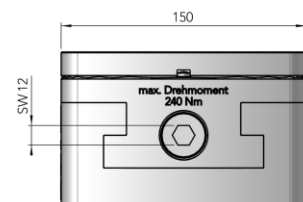
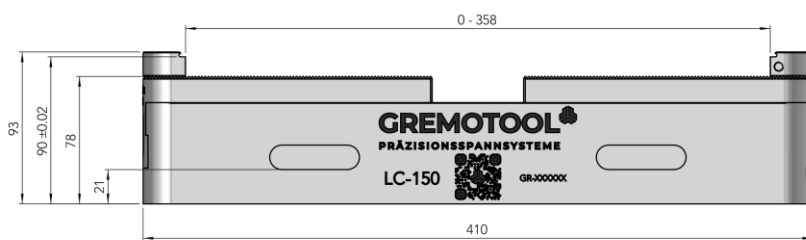
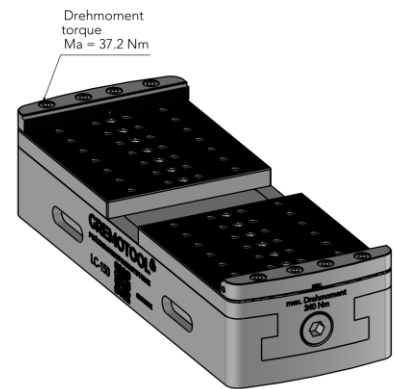
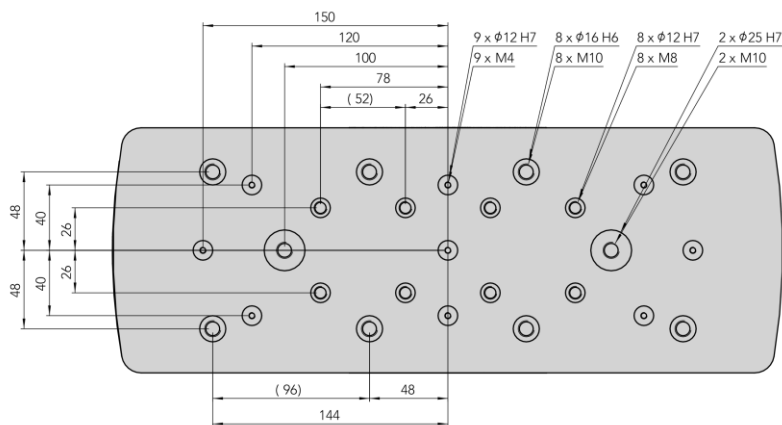
# Dimension

LC-120



# Dimension

LC-150



# Applications

## Zero-point clamping system

The basic bodies of the LC series make it possible to use many of the common pallet systems. For this purpose, only 2 fitting holes are required to align the LC correctly on the pallet.



**Clamping Device:** 1x LC-34  
**Zero-point clamping System:** ITS-50  
 (on request)



**Clamping Device:** 1x LC-60  
**Zero-point clamping System:** ITS-148  
 (on request)



**Clamping Device:** 2x LC-74  
**Zero-point clamping System:** UPC-320

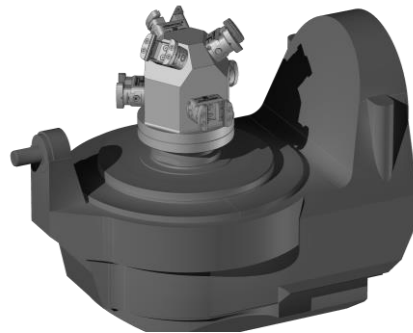


**Clamping Device:** 2x LC-150  
**Zero-point clamping System:** Delphin-448

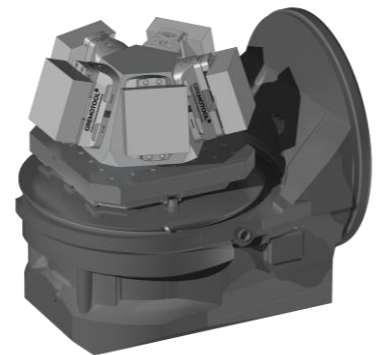
# Applications

## Fixture

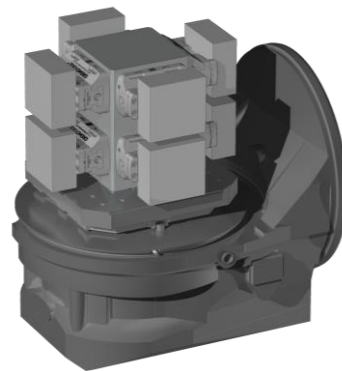
To achieve maximum flexibility and running time on the processing machines, you can use the LC series on pyramids, towers, or prisms. The elevated design and the large selection of jaws allows to maximise machine capacity.



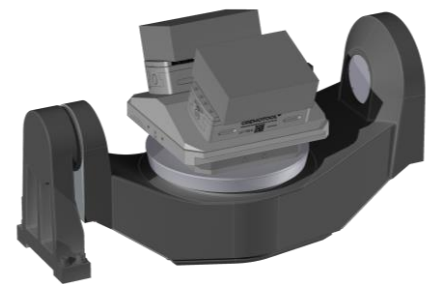
**Clamping Device:** 6x LC-34  
**Fixture:** Igel-«Hedgehogs»



**Clamping Device:** 5x LC-60  
**Fixture:** Pyramid



**Clamping Device:** 8x LC-60  
**Fixture:** Tower

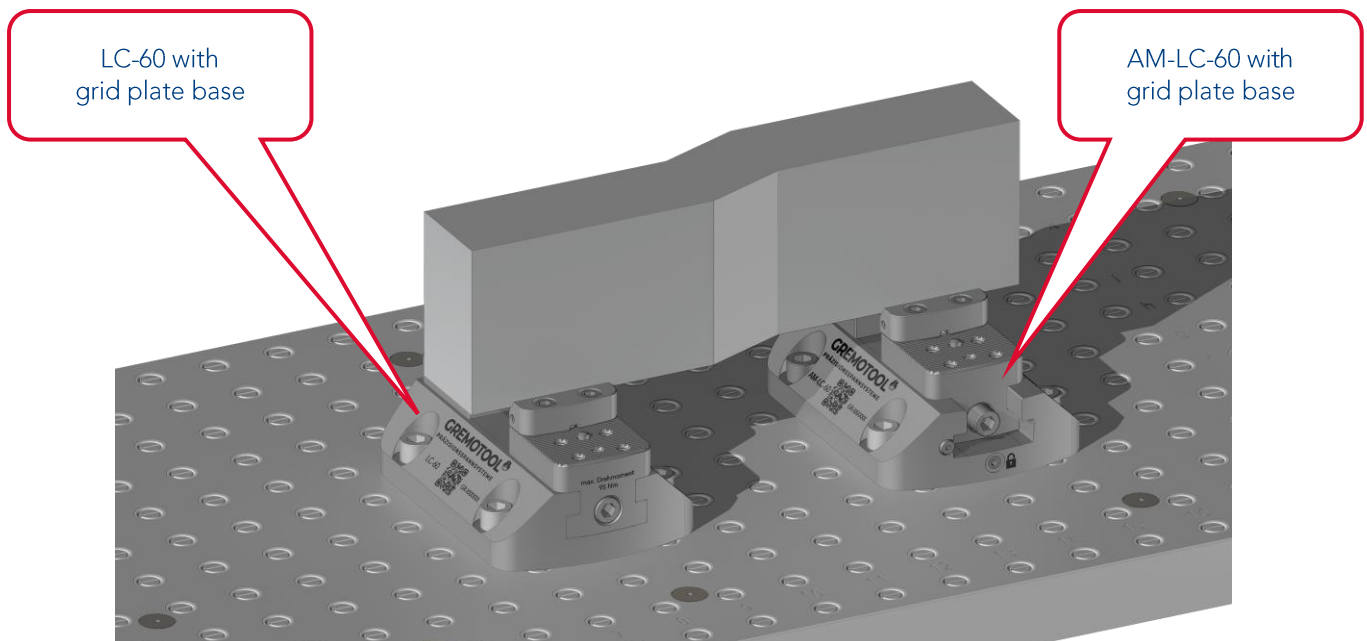


**Clamping Device:** 2x LC-150k  
**Fixture:** Prism

# Self-adjusting

## AM-LC-series

The requirements for clamping devices have become increasingly complex with the growing possibilities of production technology. Some workpieces are machined from all sides in one clamping operation and then cut off. Other workpieces have attributes that do not allow a second centric clamping or must not be damaged by it. These examples and also long structural components can warp due to clamping or material removal. For these workpieces, Gremotool has further developed the AM-LC series to meet customer requirements.



### Self-adjusting

Self-adjusting means that the workpiece can be clamped at any position on the clamping device and then the entire unit is fixed in place. This makes it possible to fix long workpieces without distortion or workpieces with asymmetrical clamping surfaces. No pendulum or mould jaws are required to hold the workpieces securely.

### Advantages AM-LC-series

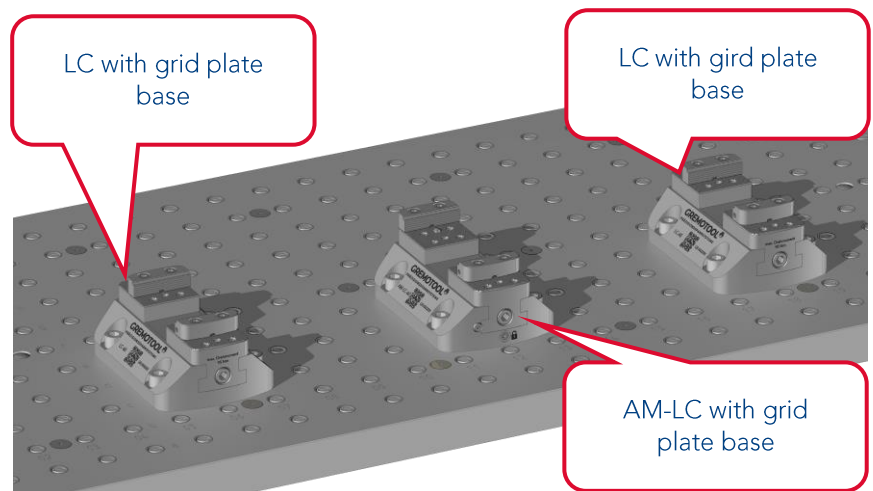
The AM-LC series has the same dimensions and clamping force as the LC series. For each size of the LC series, there is a corresponding vise from the AM series. Thanks to the identical dimensions, the centrally clamping clamping devices can be used safely on the same workpiece with the AM-LC variant without any special modifications.

# Self-adjusting

## Application example

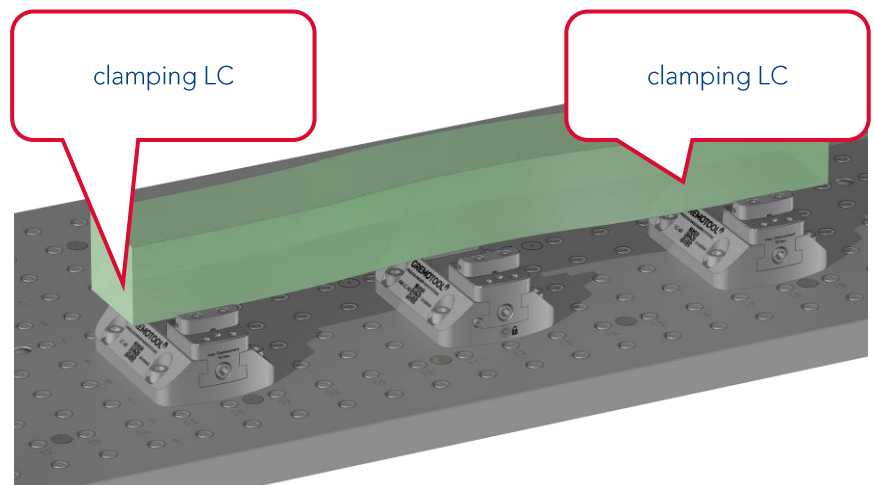
### 1. set up vice

The clamping devices are mounted on the table of the machine tool. The two centric LCs are placed on the outside of the width of the workpiece. The self-adjusting modules are then placed in the centre. The jaws are adjusted to the dimensions of the workpiece.



### 2. clamping centrally

The workpiece is inserted into the clamping fixture. The outer LC centre clamps are placed against the workpiece first and then the specified clamping torque is applied.

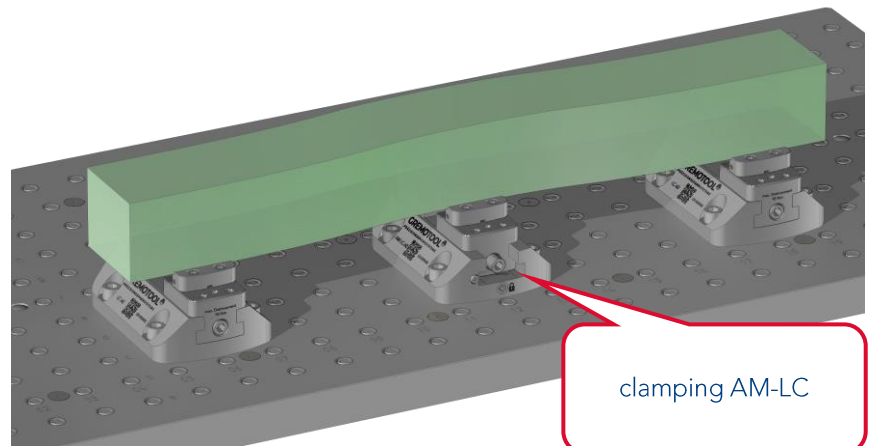


# Self-adjusting

## Application example

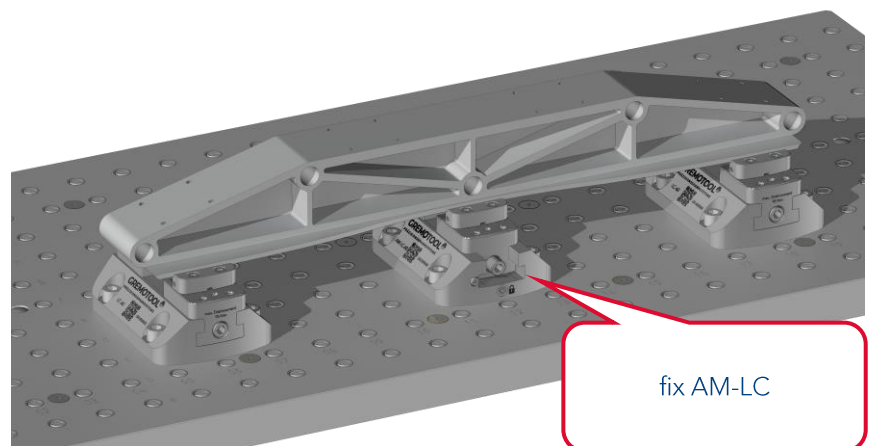
### 3. clamping self-adjusting module

The workpiece is now fixed by the outer clamping devices. To further improve the clamping stability, the self-adjusting modules now stabilise the workpiece in the centre. The clamping position of the AM-LC adapts to the workpiece during clamping and subsequent application of the same torque.



### 4. fix self-adjusting module

As the position of the AM-LC is not necessarily in the centre, they must be fixed in place to ensure stable tension. To do this, the fixing screw is tightened to the specified torque. Nothing further stands in the way of distortion-free production.



# Self-adjusting

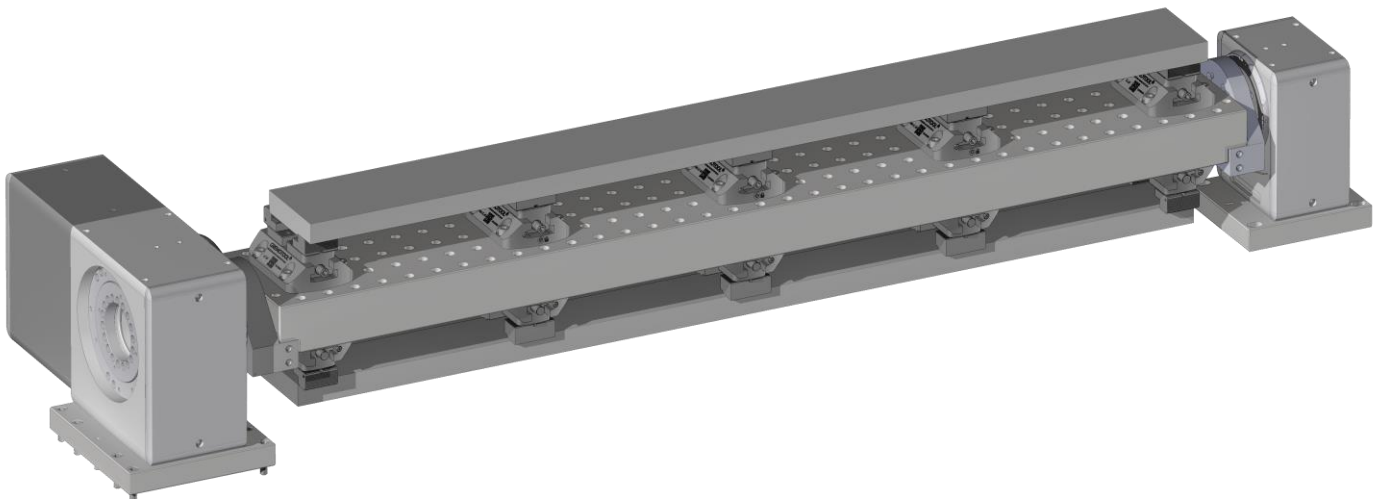
Application example

## successful application

- rotary table with clamping bridge and counter bearing on 3-axis vertical machining centre
- 2 pcs LC-60 with grid plate base per clamping bridge side
- 3 pcs AM-LC-60 with grid plate base per clamping bridge side

## workpiece

- stainless steel 160 x 40 x 500 up to 1800 mm
- precise workpieces machined without warping are removed





# Accessories

## Jaws

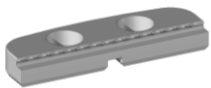
Pair of standard SC-gripper jaws is supplied with each LC, so, you are already able to clamp parts at no additional costs.

Width of jaws [mm]		34	40	50	60	74	100	120	150
<b>SC-gripper jaw flat</b>	<b>Nr. 837110</b>	X	X	X	X	X	X	X	X
<b>SC-gripper jaw</b>	<b>Nr. 837150</b>	X	X	X	X	X	X	X	X
<b>Standard gripper jaw</b>	<b>Nr. 837250</b>	X	X	X	X	X	X	X	X
<b>Height gripper jaw</b>	<b>Nr. 837300</b>	X	X	X	X	X	X	X	X
<b>Combi jaw</b>	<b>Nr. 837350</b>	X	X	X	X	X	X	X	X
<b>Automation gripper jaw</b>	<b>Nr. 837380</b>	X	X	X	X	X	X	X	X
<b>Automation step jaw</b>	<b>Nr. 837400</b>	X	X	X	X	X	X	X	X
<b>Step jaw flat</b>	<b>Nr. 837410</b>	X	X	X	X	X	X	X	X
<b>Standard step jaw</b>	<b>Nr. 837450</b>	X	X	X	X	X	X	X	X
<b>Prism jaw</b>	<b>Nr. 837500</b>	X	X	X	X	X	X	X	X
<b>Soft jaw Aluminium</b>	<b>Nr. 837702</b>	X	X	X	X	X	X	X	X
<b>Soft jaw Steel</b>	<b>Nr. 837703</b>	X	X	X	X	X	X	X	X

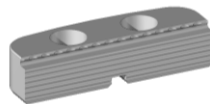
For the exact data of the jaws, please check the jaw catalogue.

# Accessories

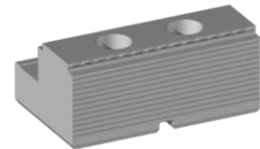
## Jaws



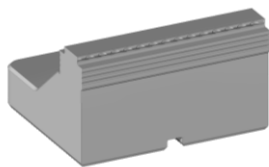
**Nr. 837110**



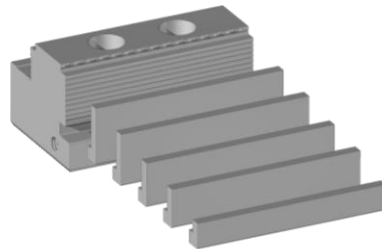
**Nr. 837150**



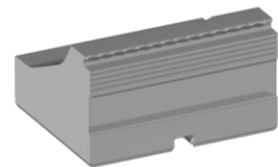
**Nr. 837250**



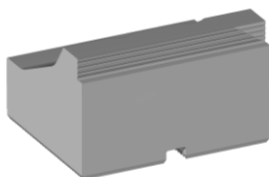
**Nr. 837300**



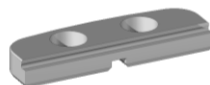
**Nr. 837350**



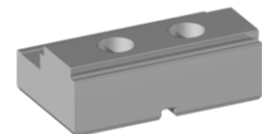
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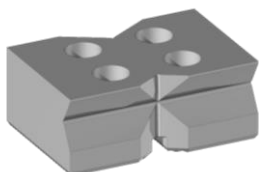
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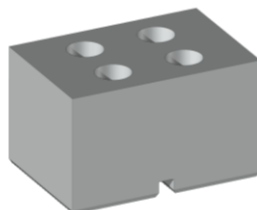
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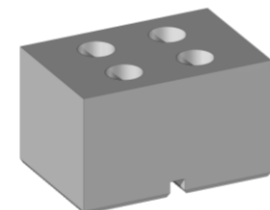
**Nr. 837450**



**Nr. 837500**



**Nr. 837702**



**Nr. 837703**

# Accessories

## Automation Solutions

The LC series can be included in any automation solution. From workpiece handling to clamping device handling to pallet handling, you are best recommended with the LC series.

### Pallets from +GF+ / System 3R (number of possible devices)

LC-Size	LC-34	LC-40	LC-50	LC-60	LC-74	LC-100	LC-120	LC-150
<b>GPS 70</b>	1	1						
<b>Macro</b>	1	1,2						
<b>Macro Magnum</b>	1,2,3	1	1					
<b>GPS 120</b>	1,2							
<b>GPS 240</b>			1	1,2	1,2	1,2		
<b>Dynafix 280</b>				1,2,3	1,2,3	1,2		
<b>Dynafix 350</b>				1,2,3,4,6	1,2,3,4,6	1,2,3	1,2	
<b>Delphin 398</b>				1,2,3,4,6	1,2,3,4,6	1,2,3	1,2,3	1,2
<b>Delphin 448</b>				1,2,3,4,6	1,2,3,4,6	1,2,3	1,2,3	1,2

# Accessories

## Automation Solutions

### Pallets from Erowa (number of possible devices)

LC-Size	LC-34	LC-40	LC-50	LC-60	LC-74	LC-100	LC-120	LC-150
<b>ITS 50</b>	1							
<b>ITS 70</b>	1	1						
<b>ITS 148</b>	1	1	1					
<b>VPC 52 / 96</b>	1,2	1,2	1	1	1	1	1	1
<b>UPC 320</b>				1,2,3	1,2,3	1,2,3	1,2	
<b>MTS 400</b>				1,2,3,4,6	1,2,3,4,6	1,2,3	1,2,3	1,2

Further manufacturers can be requested directly at Gremotool.

### Device handling

The LC series can be changed directly on zero-point Systems. For this purpose, the respective suitable drawing for the zero-point system will be integrated in the LC Serie. The clamping process can be carried out manually or by a suitable robot.

### Direct clamping

The LC series can be equipped with straightening-elements for the table slot. This allows the user to fix the centre clamp quick and correctly on the slot table.

If the milling table has a hole grid, the straightening elements can be selected on the base of this table. Thanks to the fits, the position is completely determined when fixing. These accessories can be requested and obtained by Gremotool.



## Imprint

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apply, which can be accessed at  
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