



ROBOTREX AUTOMATION



182 RoboTrex 52 **Automation System**

192 RoboTrex 96 **Automation System**

200 Individual automation solutions

201 Makro-Grip® **Mobile Storage Unit**



**simple. flexible.
automation.**

More efficiency, automatically!

Automation systems by LANG Technik are characterised by:

SIMPLE OPERATION

SET-UP TIME SAVINGS

FLEXIBILITY

Efficiency, speed and flexibility – RoboTrex combines all these attributes and prepares your manufacturing for the future! Automation systems by LANG cover every need from single part to large-scale production. They are flexible, easy to use and offer best value for money. This makes them appealing for SME's and for those just starting out.

Benefits of the RoboTrex Automation System:



(Re-) equipping of
automation within
just a few seconds



Simple operation,
no knowledge about
robots required



Minimum
training expenses



No skilled
labour required



Works with almost
every machine tool



Single part or
large-scale production

The RoboTrex Automation System



Machine tools we have already equipped with an automation:

- | | | | |
|--------------|-----------------|----------------|-----------|
| → Alzmetall | → Fehlmann | → Kern | → Müga |
| → Awea | → Grob | → Leadwell | → OKK |
| → Bridgeport | → GMC | → Litz | → Okuma |
| → Brother | → Haas | → Makino | → Quaser |
| → Chiron | → Hedelius | → Matec | → Spinner |
| → DMG Mori | → Hermle | → Matsuura | → Stama |
| → Doosan | → Hitachi Seiki | → Mazak | → Victor |
| → Emco | → Hurco | → Mikron | → YCM |
| → Fanuc | → Huron | → Mitsui Seiki | |
| → Feeler | → Hyundai | → MT Cut | |

Faster set-up, more flexible automation

The innovative and patented automation trolley as the storage of the automation system ensures highest flexibility and machine tool utilisation, even in a mostly unmanned shift. By preparing the trolleys offline, the RoboTrex automation system can be re-equipped within a few moments without any machine downtime. Thank to the special, angled mounting of the vices, the trolley has a high storage capacity on a relatively small footprint, which is why RoboTrex can be integrated in nearly any machine shop. RoboTrex is not only suitable for batch production of homogeneous parts but can also

process single parts flexibly, by assigning a NC program to every vice position. It is also possible to deselect certain vice positions or entire rows to handle parts with excess width or height. Whether a completely new machine tool or as a retrofit to an existing one, due to the simple communication, RoboTrex fits almost every machine tool. The simple and uncomplicated operation provides an easy start in automated manufacturing. In economic terms, it offers a great value-for-money ratio and guarantees a quick return on investment.

RoboTrex 52 and 96 – head-to-head comparison



RoboTrex 52
Automation System



RoboTrex 96
Automation System

30 / 42 Vices	STORAGE CAPACITY OF TROLLEY	15 / 16 Vices
max. 4 pcs.	QTY OF TROLLEYS	max. 4 pcs.
max. 120 / 168 Vices	TOTAL STORAGE CAPACITY	60 / 64 Vices
max. 120 × 120 × 100 / max. 120 × 100 × 70 mm	WORKPIECE DIMENSIONS WITH FULLY EQUIPPED TROLLEY	max. 205 × 205 × 90 / max. 205 × 150 × 150 mm
max. 12 kg	WORKPIECE WEIGHT	max. 25 kg, optional: max. 45 kg
no	GRIPPER EXCHANGE INTERFACE	yes
mechanical or pneumatical	ACTUATION OF ZERO-POINT SYSTEM	pneumatical
from 1.70 × 2.20 m	FOOTPRINT	from 2.00 × 2.70 m
through machine door or side window	LOADING	through machine door or side window

Well thought-out and excellently proven in practice

RoboTrex offers elementary advantages with each of its components, which have an immediate and extremely profitable effect on machining processes and production sequences.



THE AUTOMATION SYSTEM

- Simple retrofitting as front or side loading on existing or new machine
- Communication with the machine via M-function
- Minimal training required, fast commissioning
- Delivery in ready-to-use, pre-programmed state
- No robot knowledge required, also suitable for unskilled personnel
- Simple, intuitive operation via touch pad

THE ROBOT / GRIPPER

- Proven Fanuc robot quality
- One gripper for all types of workpieces
- No adjustments necessary for different types of workpieces
- Automatic loading/unloading takes place independently of the milled contour
- No additional programming effort for different components
- With gripper exchange interface for RoboTrex 96



THE AUTOMATION TROLLEY

- Flexible, offline preparation of the storage medium
- Direct set-up, retooling on the automation trolley
- No machine downtimes during trolley exchange
- Flexible order management, from single-part to large-scale production
- High storage capacity on a small footprint
- Immediate access to entire storage medium
- Interchangeable and therefore usable in other RoboTrex systems at any time



The Vice

- Vice and pallet in one
- No additional interfaces for highest stability and manufacturing accuracy
- High space saving in the automation system and machine tool due to compact design
- Highest process reliability thanks to stamping technology
- Vices can be used in other machines at any time
- High repeat accuracy and reproducibility of the clamping situation thanks to defined clamping

THE ZERO-POINT CLAMPING SYSTEM

- Mechanical or pneumatic operation
- No additional utilities required within the machine
- Low-maintenance, wear-free components
- Repeat accuracy < 0.005 mm
- Can also be used without automation system for manual production



New categorisation: Grippers and automation zero-point devices



RoboTrex 52



RoboTrex 96



RoboTrex 96 – the flexible 2-in-1 solution



The gripper exchange interface, a new standard feature of RoboTrex 96, is a zero-point adaptation on the robot arm which ensures even more options and flexibility when it comes to the variety of processable part sizes. The new interface allows switching between different gripper sizes and thus using both, RoboTrex 96 and 52 trolleys

(and all associated components) in the same system. This makes RoboTrex 96 a flexible 2-in-1 solution that can not only handle bigger and heavier parts up to 25 kg (or 45 kg), but also smaller parts in larger lot sizes efficiently.

RoboTrex 52 Automation System



ROBOTREX 52 AUTOMATION SYSTEM

ITEM NO.	BASIC EQUIPMENT
66000	Complete robotic automation system incl. enclosure, trolley entry system and 1 automation trolley

Applications



Image: JH Maschinenbau



Image: PJK Feinmechanik GmbH



Image: Vedos Verspanende Techniek B.V.



Image: Qualiturn Products Ltd.



Image: HEL Performance Products Ltd.



Image: ASEDO GmbH & Co.KG

RoboTrex 52 Automation Trolley



ROBOTREX 52, AUTOMATION TROLLEY

ITEM NO.	STORAGE CAPACITY	MAX. PART SIZE (WHEN FULLY LOADED)	WEIGHT
66030	30	120 × 120 × 100 mm	167 kg
66042	42	120 × 100 × 70 mm	170 kg

Maximum load capacity of trolley: 500 kg

Batch production or individual program assignment for single parts

Flexible job management

Besides the rather conventional processing of identical parts per trolley, the RoboTrex automation system offers further possibilities, which enables a flexible job management for a diverse range of parts. From the deselection of certain vice positions or rows – in order to process parts with excess width or height – to a very individual single part production by assigning a NC program to each vice position – everything is imaginable.



Start and stop mark

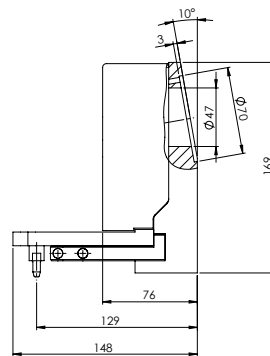
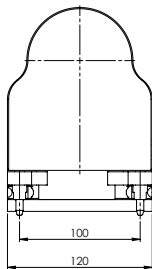


Deselection of vice positions



Individual program assignment

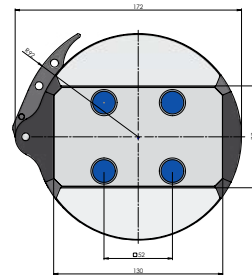
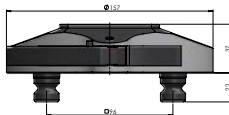
RoboTrex 52 Grippers and Zero-Point Devices



GRIPPER 52, MECHANICAL

ITEM NO.	VERSION	ACTUATION	FITS ITEM NO.
66930	new	mechanical	66500
66801	old	mechanical	66500

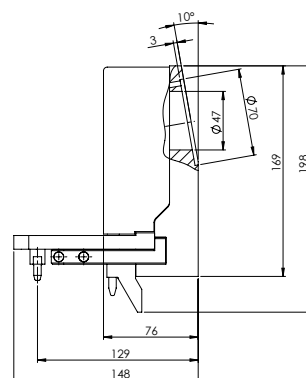
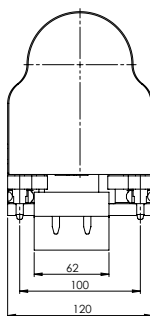
Max. workpiece weight: 12 kg.
Note: The drawings refer to the new gripper version, Item No. 66930.



ZERO-POINT DEVICE 52, MECHANICAL

ITEM NO.	ACTUATION	FITS ITEM NO.
66500	mechanical	66930 / 66801

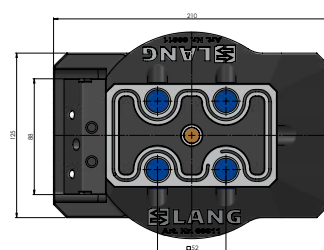
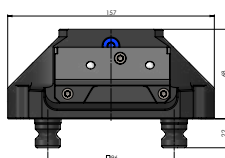
Included in delivery: Zero-point device, clamping lever for manual operation, aluminium handle bar



GRIPPER 52, PNEUMATIC

ITEM NO.	ACTUATION	FITS ITEM NO.
66900	pneumatic	66600

Max. workpiece weight: 12 kg.



ZERO-POINT DEVICE 52, PNEUMATIC

ITEM NO.	ACTUATION	FITS ITEM NO.
66600	pneumatic	66900 / 66950

Included in delivery: Zero-point device, adapter for manual operation + bracket, aluminium handle bar

Makro·Grip® Night King



MAKRO·GRIP® NIGHT KING, JAW WIDTH 77 MM



52



Ø 16 mm



max. 70 Nm



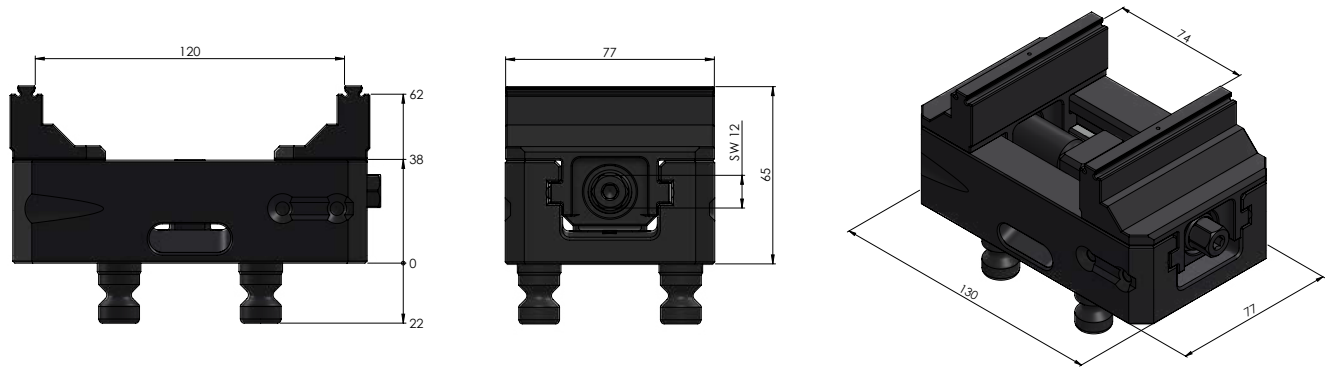
max. 14.000 N

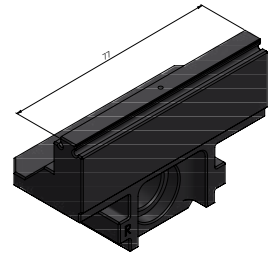
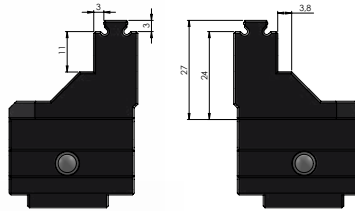


✓

ITEM NO.	BASE LENGTH	JAW WIDTH	CLAMPING RANGE	WEIGHT
68120-77	130 mm	77 mm	0 – 120 mm	2.9 kg

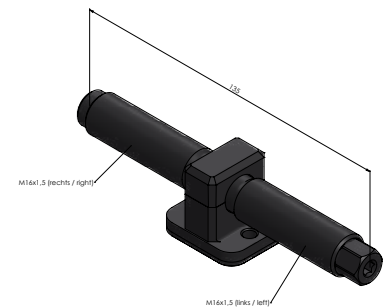
*sold as a set of 10





SPARE JAWS FOR MAKRO-GRIP® NIGHT KING

ITEM NO.	FOR	WEIGHT	QTY
68077-7720	68120-77	1.1 kg	1 pair



SPINDLE + CENTRE PIECE FOR MAKRO-GRIP® NIGHT KING

ITEM NO.	FOR	SPINDLE LENGTH (+Ø)	WEIGHT
6877135	68120-77	135 mm / Ø 16 mm	0.3 kg

Applications



Makro·Grip® 5-Axis Vice 77



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



52



Ø 16 mm



max. 70 Nm



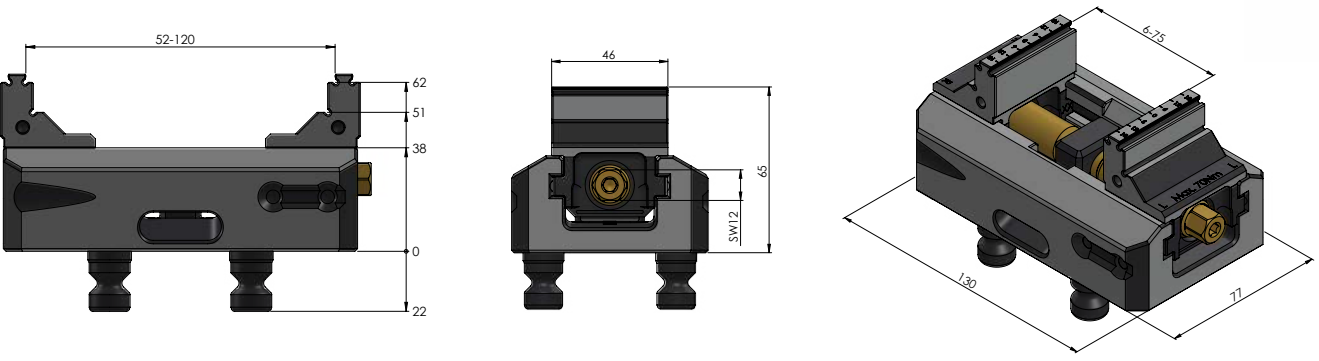
max. 14.000 N



± 0,02 mm

ITEM NO.	BASE LENGTH	CLAMPING RANGE	WEIGHT
48120-46	130 mm	0 – 120 mm	2.5 kg

Spare jaws and accessories can be found on p. 101/102 and p. 108/109.



Makro·Grip® 5-Axis Vice 77

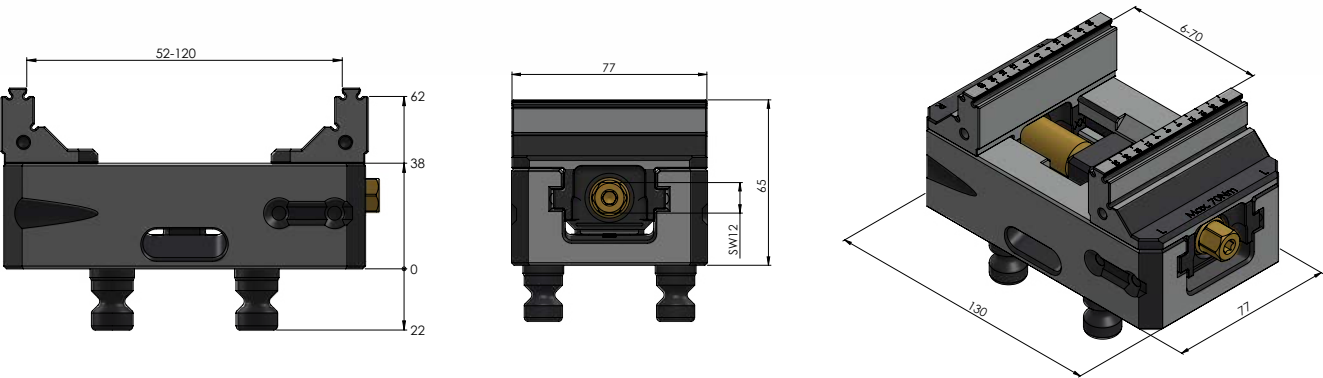


**MAKRO·GRIP® 5-AXIS VICE 77,
JAW WIDTH 77 MM**

52
 Ø 16 mm
 max. 70 Nm
 max. 14.000 N
 ± 0,02 mm

ITEM NO.	BASE LENGTH	CLAMPING RANGE	WEIGHT
48120-77	130 mm	0 – 120 mm	2.9 kg

Spare Jaws and accessories can be found on p. 101/102 and p. 108/109.



RoboTrex 96 Automation System



ROBOTREX 96 AUTOMATION SYSTEM

ITEM NO.	BASIC EQUIPMENT
64000	Complete robotic automation system incl. enclosure, trolley entry system and 1 automation trolley

Applications



Image: Somic-Haag



Image: Lindauer DORNIER GmbH



Image: Waibel GmbH



Image: Schleifner & Stocker GmbH



Image: Beer Zerspanungstechnik GmbH

RoboTrex 96 Automation Trolley

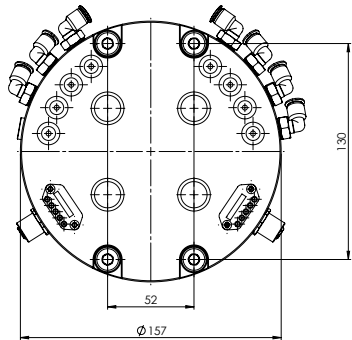
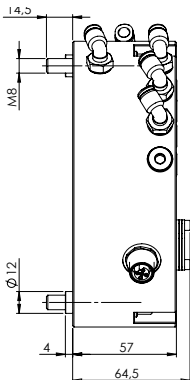
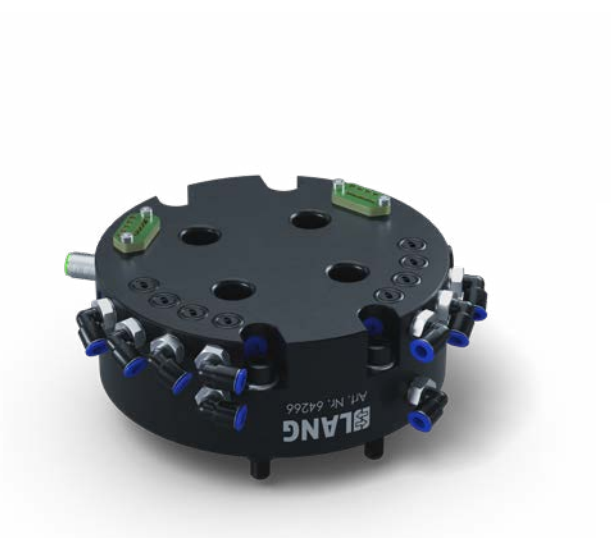


ROBOTREX 96, AUTOMATION TROLLEY

ITEM NO.	STORAGE CAPACITY	MAX. PART SIZE (WHEN FULLY LOADED)	WEIGHT
64015	15	205 × 205 × 90 mm	178 kg
64016	16	205 × 150 × 150 mm	174 kg

Maximum load capacity of trolley: 500 kg

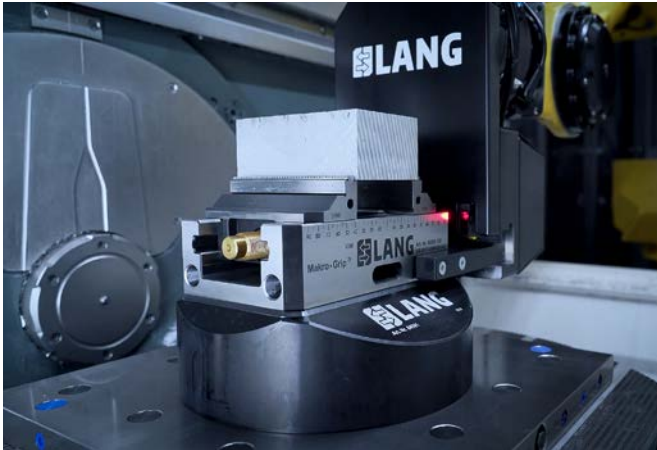
RoboTrex 96 Gripper Exchange Interface



GRIPPER EXCHANGE INTERFACE

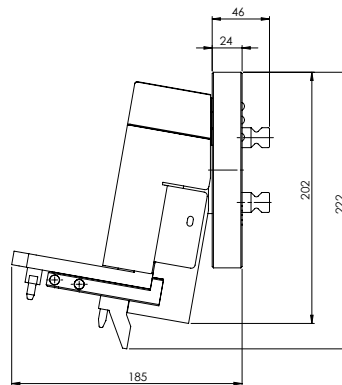
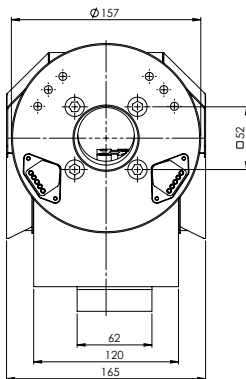
ITEM NO.	FITS ITEM NO.
64266	66950 / 64850

Applications



The gripper exchange interface, which is standard on RoboTrex 96, allows you to change between different gripper sizes and thus use different vice sizes in the same automation system. As a single component, the gripper exchange interface can also be used in third-party automation systems to take advantage of the benefits of LANG workholding technology and to switch flexibly between different system sizes.

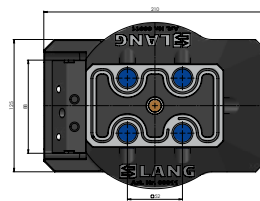
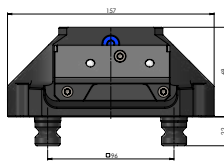
RoboTrex 96 Grippers and Zero-Point Devices



GRIPPER 52, PNEUMATIC

ITEM NO.	ACTUATION	FITS ITEM NO.
66950	pneumatic	66600

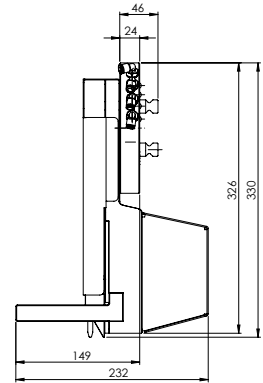
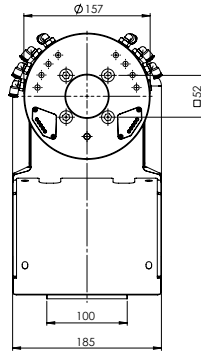
Max. workpiece weight: 15 kg.
This gripper type allows using RoboTrex 52 components in the RoboTrex 96 automation system.



ZERO-POINT DEVICE 52, PNEUMATIC

ITEM NO.	ACTUATION	FITS ITEM NO.
66600	pneumatic	66900 / 66950

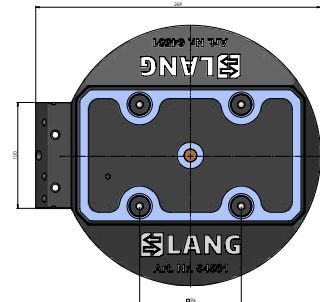
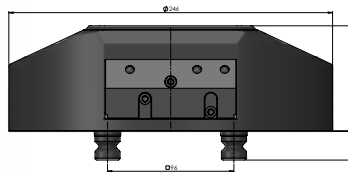
Included in delivery: zero-point device, adapter for manual operation + bracket, aluminium handle.
Also suitable for RoboTrex 96!



GRIPPER 96, PNEUMATIC

ITEM NO.	ACTUATION	FITS ITEM NO.
64850	pneumatic	64500

Max. workpiece weight: 25 kg.



ZERO-POINT DEVICE 96, PNEUMATIC

ITEM NO.	ACTUATION	FITS ITEM NO.
64500	pneumatic	64850

Included in delivery: zero-point device, adapter for manual operation + bracket, aluminium handle.

Makro·Grip® 5-Axis Vice 125



**MAKRO·GRIP® 5-AXIS VICE 125,
JAW WIDTH 77 MM**



96



Ø 20 mm



max. 100 Nm



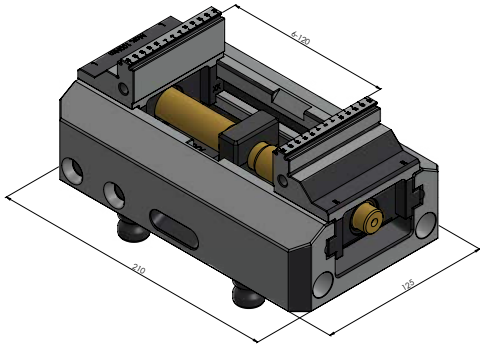
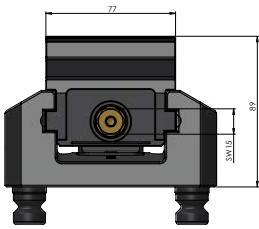
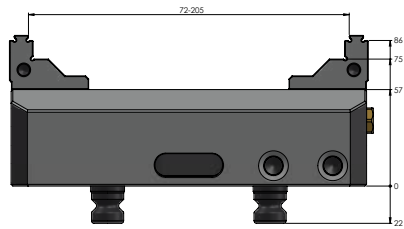
max. 20.000 N



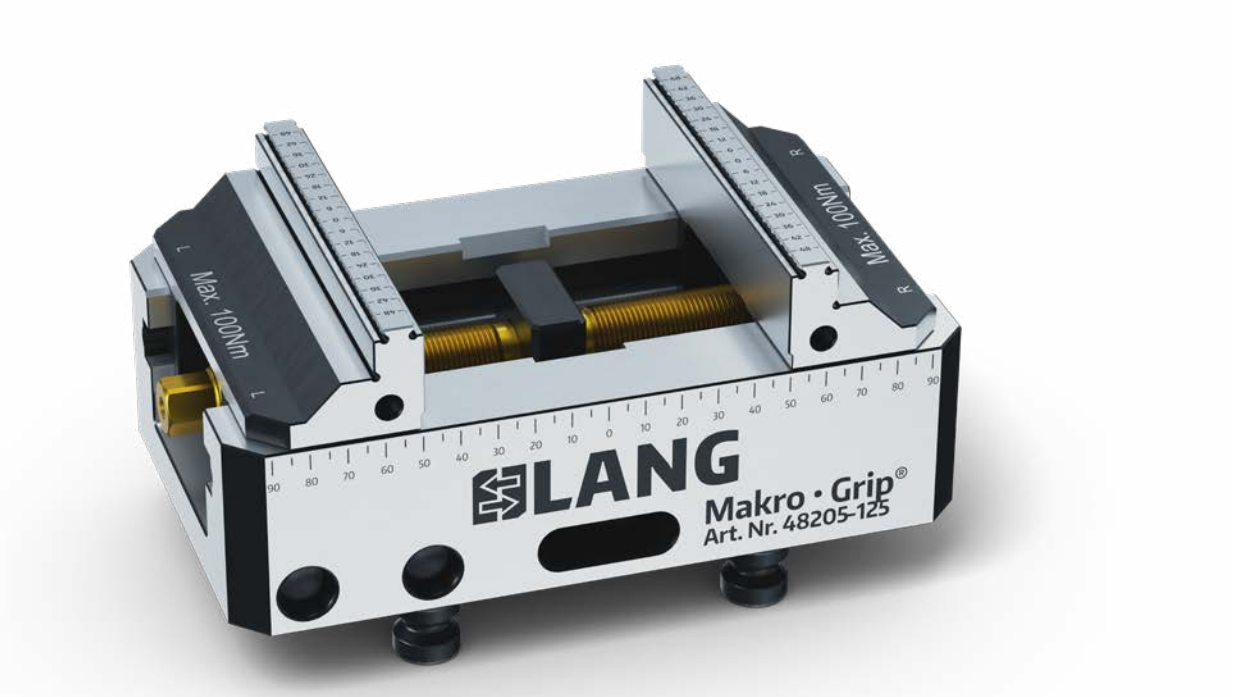
± 0,02 mm

ITEM NO.	BASE LENGTH	CLAMPING RANGE	WEIGHT
48205-77	210 mm	0 – 205 mm	9.1 kg

Spare jaws and accessories can be found on p. 106 – 109.



Makro·Grip® 5-Axis Vice 125



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

96

Ø 20 mm

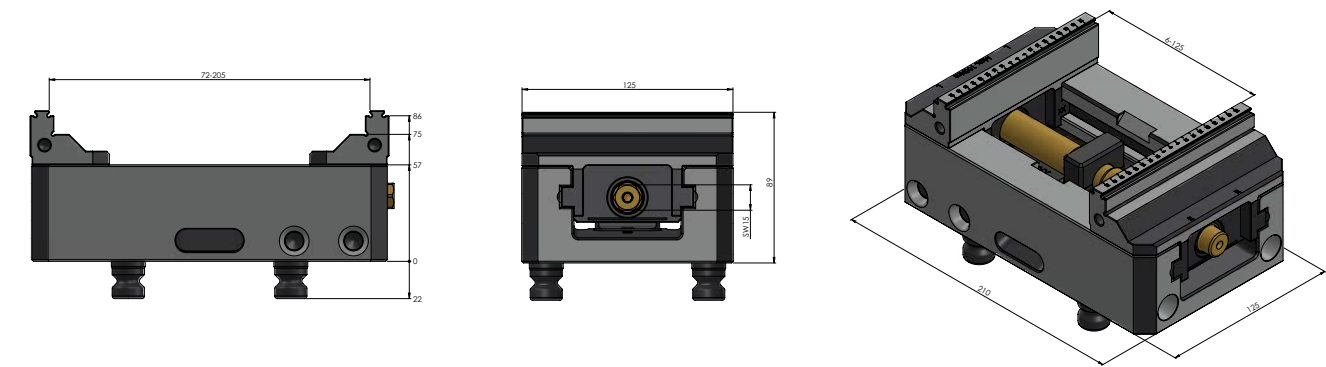
max. 100 Nm

max. 20.000 N

± 0,02 mm

ITEM NO.	BASE LENGTH	CLAMPING RANGE	WEIGHT
48205-125	210 mm	0 – 205 mm	10.2 kg

Spare Jaws and accessories can be found on p. 106 – 109.



Other components for individual automation solutions



All essential RoboTrex components are also available as individual components in order to be used with conventional automation systems. Whether it's a connection to an existing robotic system, an integration in robot cells or shelf systems or a flexible in-house solution, LANG clamping systems make every automated manufacturing process more efficient.

From the various vice versions and automation trolleys to the automation window, all of these components are listed in the table below. Grippers and zero-point devices can be found on the previous pages and are not listed hereafter.

CENTRING VICES:	ITEM NO.
Makro-Grip® 5-Axis-Vice 77, jaw width 46 mm	48120-46
Makro-Grip® 5-Axis-Vice 77, jaw width 77 mm	48120-77
Makro-Grip® 77 Night King, Quantity 10 – 30	68120-77
Makro-Grip® 77 Night King, Quantity 40 – 60	68120-77
Makro-Grip® 77 Night King, Quantity 70 – 90	68120-77
Makro-Grip® 77 Night King, Quantity from 100	68120-77
Makro-Grip® 5-Axis-Vice 125, jaw width 77 mm	48205-77
Makro-Grip® 5-Axis-Vice 125, jaw width 125 mm	48205-125
AUTOMATION TROLLEYS AND POSITIONING BOLTS:	ITEM NO.
RoboTrex 52 Automation Trolley, 30 parts	66030
RoboTrex 52 Automation Trolley, 42 parts	66042
Positioning Bolt for RoboTrex 52 Automation Trolley	66087
RoboTrex 96 Automation Trolley, 15 parts	64015
RoboTrex 96 Automation Trolley, 16 parts	64016
Positioning Bolt for RoboTrex 96 Automation Trolley	64086
Automation Trolley with special alignment	99996
MISCELLANEOUS:	ITEM NO.
RoboTrex 96 Gripper, no gripper exchange option	64801
Trolley Entry System for RoboTrex 52 and 96	66120
Automation Window for RoboTrex 52 and 96	66750

Makro·Grip® Mobile Storage Unit

Space saving stocking solution for vices and fixtures



- 1 Space to hold up to 60 devices (30 devices on each side)
- 2 Convenient handle for pushing and pulling the unit
- 3 Non-corrosive galvanised sheet steel
- 4 Powder coated coolant collecting tray with integrated drain screw
- 5 Both Quick·Point® spacings 52 and 96 mm integrated

MAKRO·GRIP® MOBILE STORAGE UNIT

ITEM NO.	STORAGE CAPACITY	DIMENSIONS	WEIGHT
61060	max. 60 clamping devices	1.200 × 800 × 1.500 mm	160 kg

