

# Operating Instructions

Translation of original instructions

## RoboTrex Gripper

pneumatic / mechanical

**+ Interface for gripper exchange**



66801  
66900  
66930  
66950  
64850  
64801  
Item no.

Copyright:



LANG Technik GmbH  
 Albstraße 1-6  
 D-73271 Holzmaden  
 Germany

www.lang-technik.de | info@lang-technik.de  
 Sales: sales@lang-technik.de | Phone: +49 7023 9585-0  
 Automation: automation@lang-technik.de | Phone: +49 7023 9585-177



This documentation contains instructions and information that may not be reproduced, distributed, or transmitted by data processing methods in whole or in part or used for competitive purposes without authorization. Errors and omissions in the documentation are excepted. All rights to this documentation remain with LANG Technik GmbH.

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

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

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

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

General Terms and Conditions of Sale and Delivery:

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

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

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

Chapter 1 Product Description		Page
1.1	Unit	
1.2	Areas of application	
1.3	Maintenance and repair	
1.4	General data	2
Chapter 2 Technical Data		
2.1	Model 66801	3
2.2	Model 66900	4
2.3	Model 66930	5
2.4	Model 66950	6
2.5	Model 64850/64801	7
Chapter 3 Design and Function		
3.1	Assembly of the grippers	8
3.2	Use	8
3.3	Controls	9
Chapter 4 Maintenance		
4.1	Malfunctions/Error	10
Chapter 5 Warnings		
5.1	Intended Use	
5.2	Personnel Requirements	
5.3	Protective Equipment and Safety	11
Chapter 6 Decommissioning		
6.1	Disposal	12
Chapter 7 Explanation of Symbols		
7.1	Symbols	13
Chapter 8 Pneumatic connection diagrams		
8.1	Model Q52 (66930)	14
8.2	Model M52 (66900)	15
8.3	Model W52 (66950)	16
8.4	Model M96 (64801)	17
8.5	Model W96 (64850)	18
Chapter 9 Screw connection diagrams		
9.1	Model 66950	19
9.2	Model 66930	20
9.3	Model 66900	21
9.4	Model 66801	22
9.5	Model 64850	23
9.6	Model 64801	24
9.7	Interface for gripper exchange 64266	25

1.1 UNIT

The RoboTrex automation grippers are used exclusively to automate the loading and unloading process for LANG Technik clamping devices. Clamping devices with workpieces up to a maximum workpiece weight of 12kg (66801, 66900, 66930, 66950) or 25kg (64850 & 64800) can be used in the RoboTrex automation system. Heavier workpieces cannot be transported by the automation system. Unauthorized conversions and modifications to the machine are strictly prohibited for safety reasons. The operating and installation conditions prescribed in these operating instructions must be strictly observed. No third-party parts may be used on the machine, as the required safety level will not be maintained.

1.2 AREAS OF APPLICATION

All listed components are available separately, so that the advantages they offer can also be brought to third-party systems. Whether for connection to an existing robot, integration into robotic cells or rack systems, or a flexible stand-alone solution, LANG clamping systems make any automated manufacturing process more effective. RoboTrex automation grippers are exclusively designed to pick up LANG clamping devices designed for automation in a machine tool or machining center and to enable automatic clamping device changes. Any other use of the equipment is prohibited and will result in the exclusion of liability on the part of LANG Technik GmbH.

1.3 MAINTENANCE AND REPAIR

In case of damage or faults, please contact LANG Technik GmbH directly.  
 LANG Technik GmbH • Albstraße 1-6 • D-73271 Holzmaden • Phone: +49 7023 9585-0

1.4 GENERAL DATA

Designation	Item number	Dimensions Width x depth x height Specifications in mm	Weight
RoboTrex Gripper	Model 66801	138x120x136	12 kg
	Model 66900	198x120x148	12 kg
	Model 66930	169x120x148	12 kg
	Model 66950	222x165x185	15 kg
	Model 64850	330x185x232	25 kg
	Model 64801	311x185x232	25 kg
Interface for gripper exchange	64266	ø 157 x 65 mm	

2.1 MODEL 66801 (ONLY AVAILABLE AS SPARE PART)

SCOPE OF DELIVERY

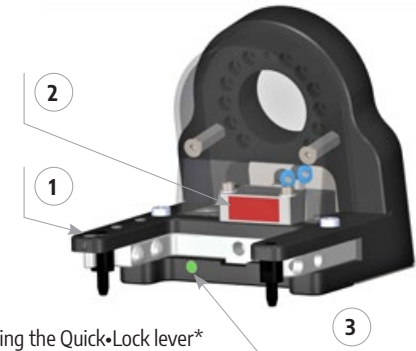
Gripper as shown

TECHNICAL DATA

Pneumatic operating pressure: 6 bar  
 Max. workpiece weight 12 kg

COMPONENTS

1. Sensor: Inductive sensor for monitoring the Quick•Lock lever\*
2. Sensor: Optical sensor for monitoring the clamping device
3. Sensor: Inductive sensor for monitoring the clamping device

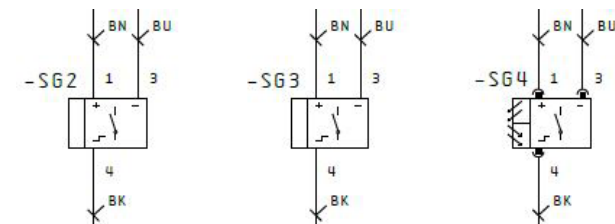


**!** \* (Quick•Lock lever = lever from the 66500 mechanical zero point clamping system with which the robot opens and clamps the zero point clamping system)

ELECTRICAL CONNECTIONS

When assembling the gripper, the connection between the gripper and the robot must be made through the electrical cables.

- Sensor 1 – Quick•Lock monitoring → Inductive sensor (wire to input) [-SG2]
- Sensor 2 – Vise monitoring → Optical sensor (wire to input) [-SG4]
- Sensor 3 – Vise monitoring → Inductive sensor (wire to input) [-SG3]  
 BN = +24V BU = 0V BK = SI



PNEUMATIC CONNECTION

Since the pneumatic connection is made by the customer, LANG Technik only provides the basic tubing. The connections are color-coded for easier installation. There is also a pneumatic connection diagram at the back of the manual.

### 2.2 MODEL 66900

#### SCOPE OF DELIVERY

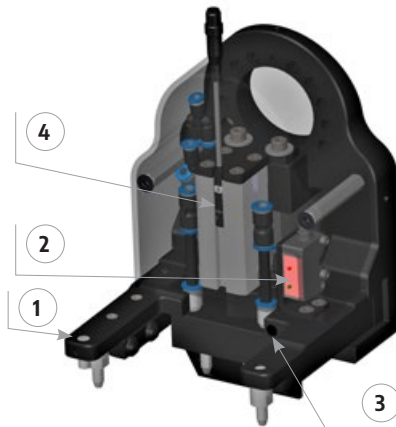
66900: Gripper unit as shown

#### TECHNICAL DATA

Pneumatic operating pressure: 6 bar  
Max. workpiece weight 9 kg

#### COMPONENTS

1. Sensor: Inductive sensor for monitoring the Quick•Lock lever
2. Sensor: Optical sensor for monitoring the clamp
3. Sensor: Inductive sensor for monitoring the clamping device
4. Sensor: Inductive sensor for monitoring the media interface (not with 66930)



#### ELECTRICAL CONNECTIONS

When assembling the gripper, the electrical cables must be used to establish the connection between the gripper and the robot.

- Sensor 1 – Quick•Lock → Inductive sensor (wire to input) [-SG6]
- Sensor 2 – Vise monitoring → Optical sensor (wire to input) [-SG4]
- Sensor 3 – Vise monitoring → Inductive sensor (wire to input) [-SG3]
- Sensor 4 – Media interface → Inductive sensor (wire to input [-SG5] BN =+24V BU = 0V BK = SI



#### PNEUMATIC CONNECTION

Since the pneumatic connection is made by the customer, LANG Technik only provides the basic tubing. The connections are color-coded for easier installation. There is also a pneumatic connection diagram at the back of the manual.

### 2.3 MODEL 66930

#### SCOPE OF DELIVERY

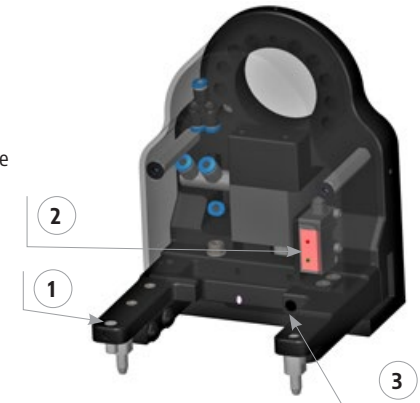
66930: Gripper unit without media interface

#### TECHNICAL DATA

Pneumatic operating pressure: 6 bar  
Max. workpiece weight 12 kg

#### COMPONENTS

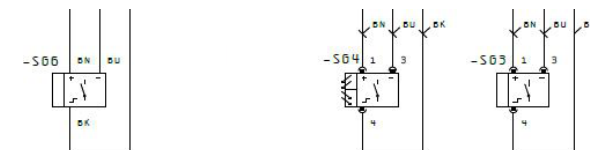
1. Sensor: Inductive sensor for monitoring the Quick•Lock lever
2. Sensor: Optical sensor for monitoring the clamping device
3. Sensor: Inductive sensor for monitoring the clamping device



#### ELECTRICAL CONNECTIONS

When assembling the gripper, the electrical cables must be used to establish the connection between the gripper and the robot.

- Sensor 1 – Quick•Lock → Inductive sensor (wire to input) [-SG6]
- Sensor 2 – Vise monitoring → Optical sensor (wire to input) [-SG4]
- Sensor 3 – Vise monitoring → Inductive sensor (wire to input) [-SG3]



#### PNEUMATIC CONNECTION

Since the pneumatic connection is made by the customer, LANG Technik only provides the basic tubing. The connections are color-coded for easier installation. There is also a pneumatic connection diagram at the back of the manual.

2.4 MODEL 66950

SCOPE OF DELIVERY

Gripper unit included  
Quick•Point® clamping studs

TECHNICAL DATA

Pneumatic operating pressure: 6 bar  
Max. workpiece weight 15 kg

COMPONENTS

1. Sensor: Inductive sensor for monitoring the Quick•Lock lever
2. Sensor: Optical sensor for monitoring the clamping device
3. Sensor: Inductive sensor for monitoring the clamping device
4. Sensor: Inductive sensor for monitoring the media interface

ELECTRICAL CONNECTIONS

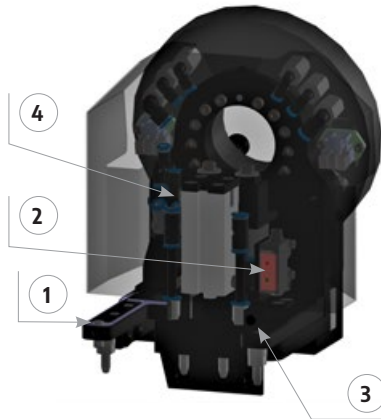
When assembling the gripper, the electrical cables must be used to establish the connection between the gripper and the robot.

- Sensor 1 – Quick•Lock → Inductive sensor (on input) [-SG6]
- Sensor 2 – Vise monitoring → Optical sensor (on input) [-SG4]
- Sensor 3 – Vise monitoring → Inductive sensor (on input) [-SG3]
- Sensor 4 – Media interface → Inductive sensor (on input) [-SG5]  
BN = +24V BU = 0V BK = SI



PNEUMATIC CONNECTION

Since the pneumatic connection is made by the customer, LANG Technik only provides the basic tubing. The connections are color-coded for easier installation. There is also a pneumatic connection diagram at the back of the manual.



2.5 64850/64801

SCOPE OF DELIVERY

64850: Gripper unit including  
Quick•Point® clamping studs for  
use with gripper change interface 64266

64800: Gripper unit

TECHNICAL DATA

Pneumatic operating pressure: 6 bar  
Max. workpiece weight 25 kg

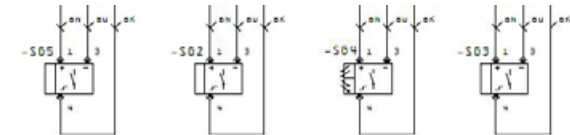
COMPONENTS

1. Sensor: Gripper closed
2. Sensor: Optical sensor for monitoring the clamping device
3. Sensor: Inductive sensor for monitoring the clamping device
4. Sensor: Inductive sensor for monitoring the media interface

ELECTRICAL CONNECTIONS

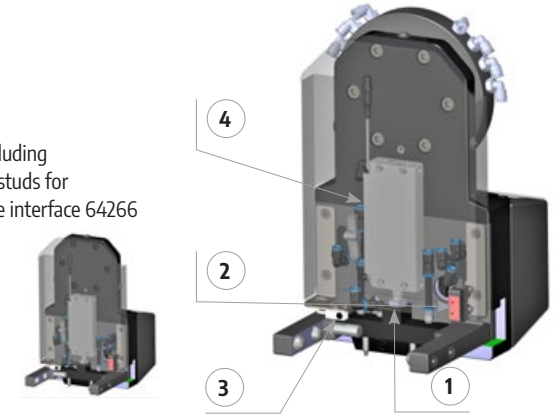
When the gripper is assembled, the electrical connection between the gripper and the robot is established by means of existing contact couplings.

- Sensor 1 – Gripper closed → Inductive sensor (on input) [-SG2]
- Sensor 2 – Vise monitoring → Optical sensor (on input) [-SG4]
- Sensor 3 – Vise monitoring → Inductive sensor (on input) [-SG3]
- Sensor 4 – Media interface → Inductive sensor (on input) [-SG5]  
BN = +24V BU = 0V BK = SI



PNEUMATIC CONNECTION

Since the pneumatic connection is made by the customer, LANG Technik only provides the basic tubing. The connections are color-coded for easier installation. There is also a pneumatic connection diagram at the back of the manual.



### 3.1 ASSEMBLY OF GRIPPERS 66801-66900 AND 66950-64850 REQUIREMENTS

The following requirements must be met for simple and quick assembly as described here: A robot equipped by LANG Technik with a mounted gripper exchange interface.

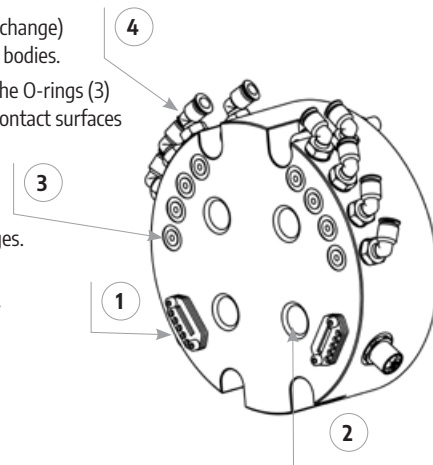
### 3.2 USE

**CAUTION**  
Improper handling or assembly may result in minor or moderate physical injury or property damage.

- During assembly, conversion and adjustment work, no power may be supplied to the machines and devices on which the work is being carried out.
- Ensure that there is no residual energy left in the system.
- If machines or equipment are not yet ready for use, this must be indicated. A sign or lock should be attached to the main switch, for example.

#### Assembly steps for models 66950 and 64850 with interface for gripper exchange, item no. 64266 no.: 64266

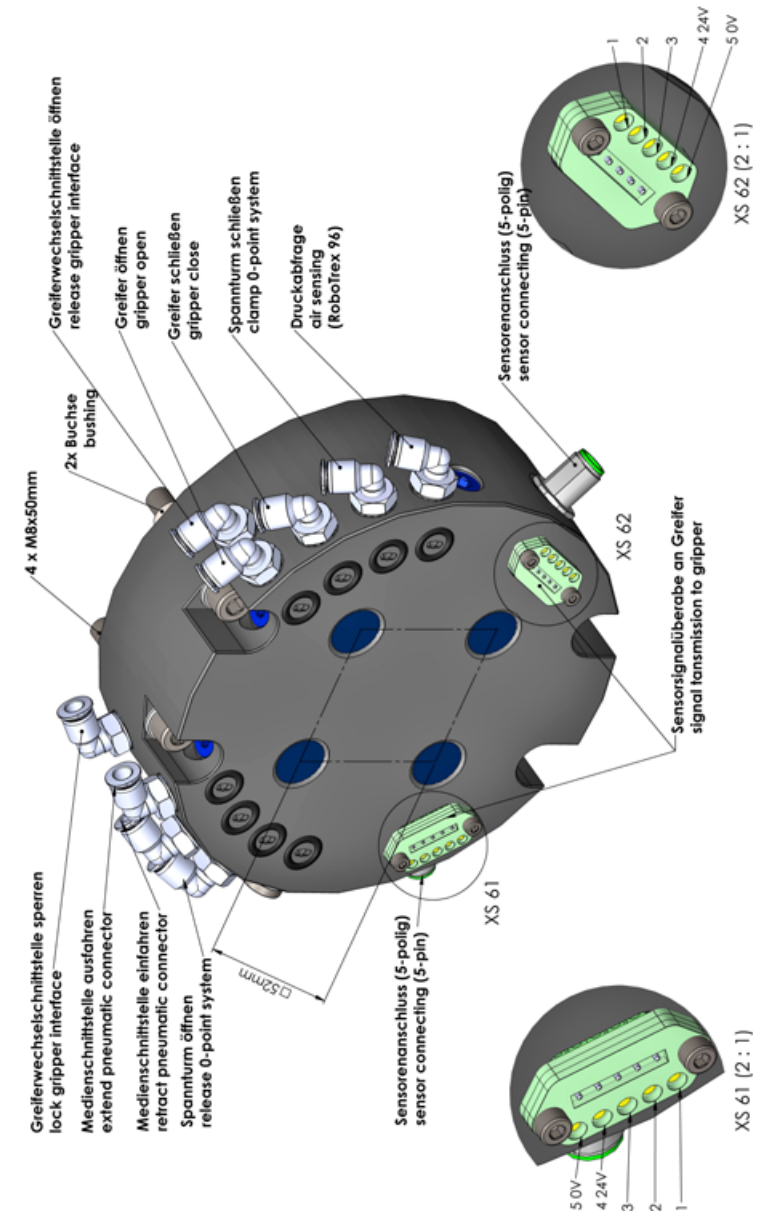
1. Ensure that both flange surfaces (gripper and the interface for gripper exchange) are clean and free of grease and foreign bodies.
2. Make sure that the sealing surfaces of the O-rings (3) are undamaged and that the electrical contact surfaces (1) are clean and intact.
3. Connect the pneumatic lines to the push-in L-fittings (4).  
For configuration, see the following pages.
4. Remove the protective plugs (2).
5. Position the gripper on the interface for gripper exchange.



#### Assembly for model 66801 and 66900

Gripper models 66801 and 66900 are fitted to the robot arm conventionally with hexagon socket screws and cylindrical pins for positioning.

### 3.3 CONTROLS



#### 4.1 MALFUNCTIONS/ERROR



The operator is obliged to shut down the machine immediately in case of malfunctions that affect safety. The machine must not be put back into operation until the malfunction has been rectified. Troubleshooting must be carried out by qualified personnel.

In the event of the following electrical system malfunctions, additional action is required:

##### Short circuit:

- Remove fuse
- Have the fault in the system rectified by qualified personnel.

##### Cable fire:

The dimensions of the system wiring must be adequate to prevent cable fires. If a cable fire nevertheless occurs, proceed as follows:

- Switch off the system at the main switch
- Disconnect the power plug from the mains
- Under no circumstances should a cable fire be extinguished with water,
- extinguish only with powder or CO<sub>2</sub> extinguishers

Maintenance, repair, and servicing work may only be carried out when the machine is at a standstill. The machine must be locked out to prevent unexpected start-up.

Failure to observe the maximum workpiece weight can lead to premature wear and breakage of the gripper fingers, so that automation clamping devices cannot be gripped safely.

#### 5.1 INTENDED USE

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

#### 5.2 REQUIREMENTS OF THE OPERATING PERSONNEL

The plant operator commits to::

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

#### 5.3 PERSONAL PROTECTIVE EQUIPMENT AND PERSONAL SAFETY

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



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

For disposal, observe the country-specific disposal regulations.



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



Accessories and packaging are recycled in an environmentally friendly manner

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

## 7.1 SYMBOLS

### Please pay attention to the following warning symbols



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



*Please read and follow the technical and safety instructions*



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



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



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



*Safety footwear are part of the protective equipment*



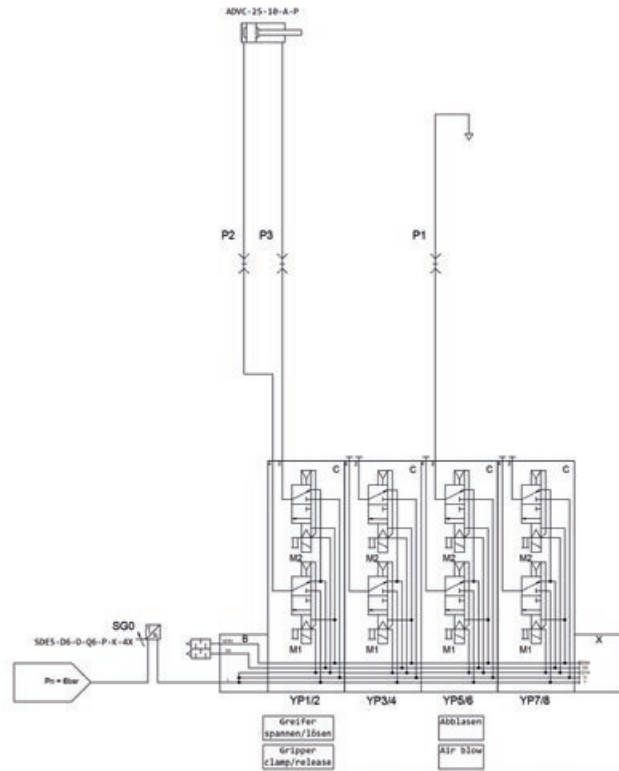
*Materials are recycled in an environmentally friendly manner*



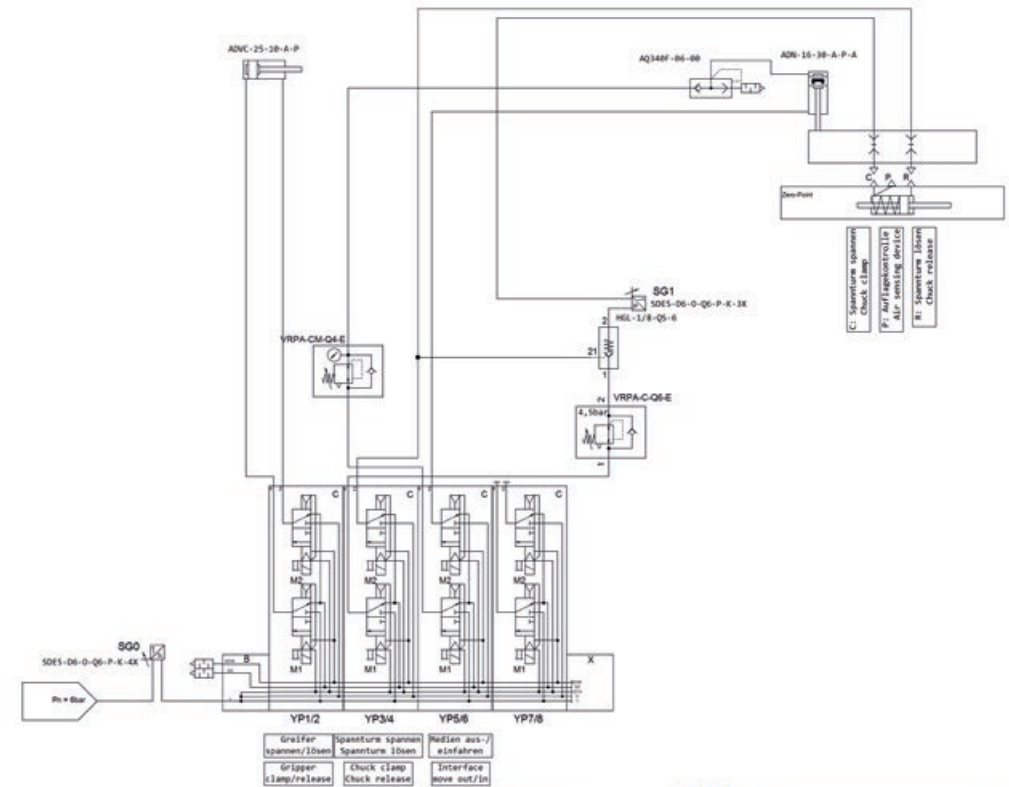
*Do not dispose of the material in household waste*



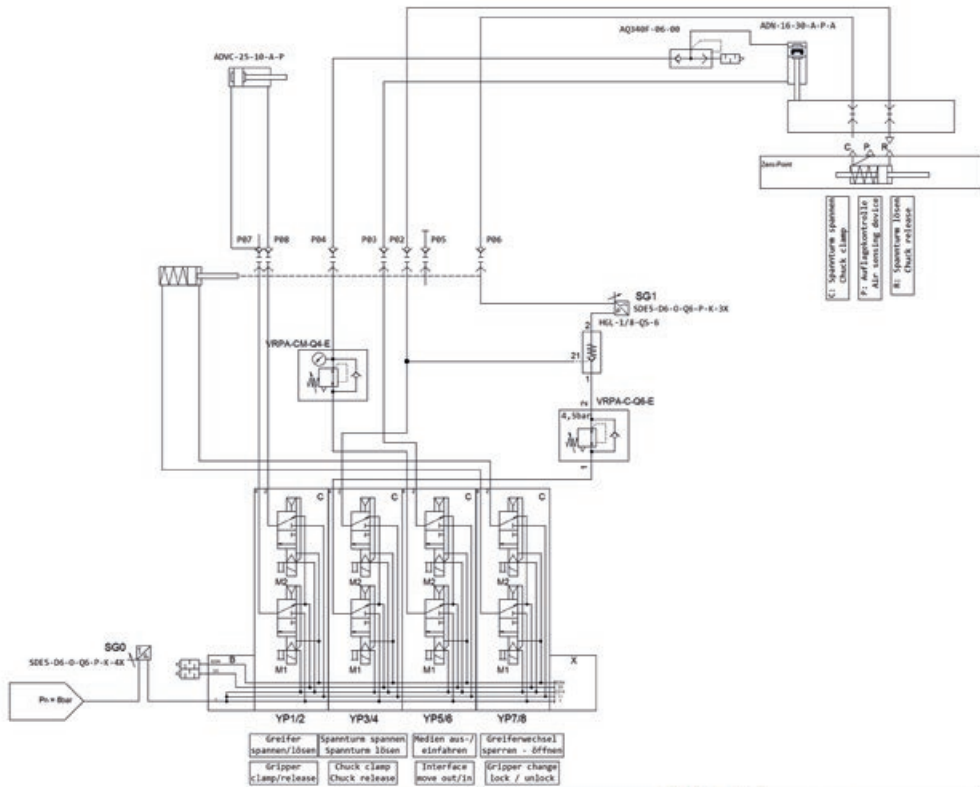
8.1 MODEL Q52 (66930)



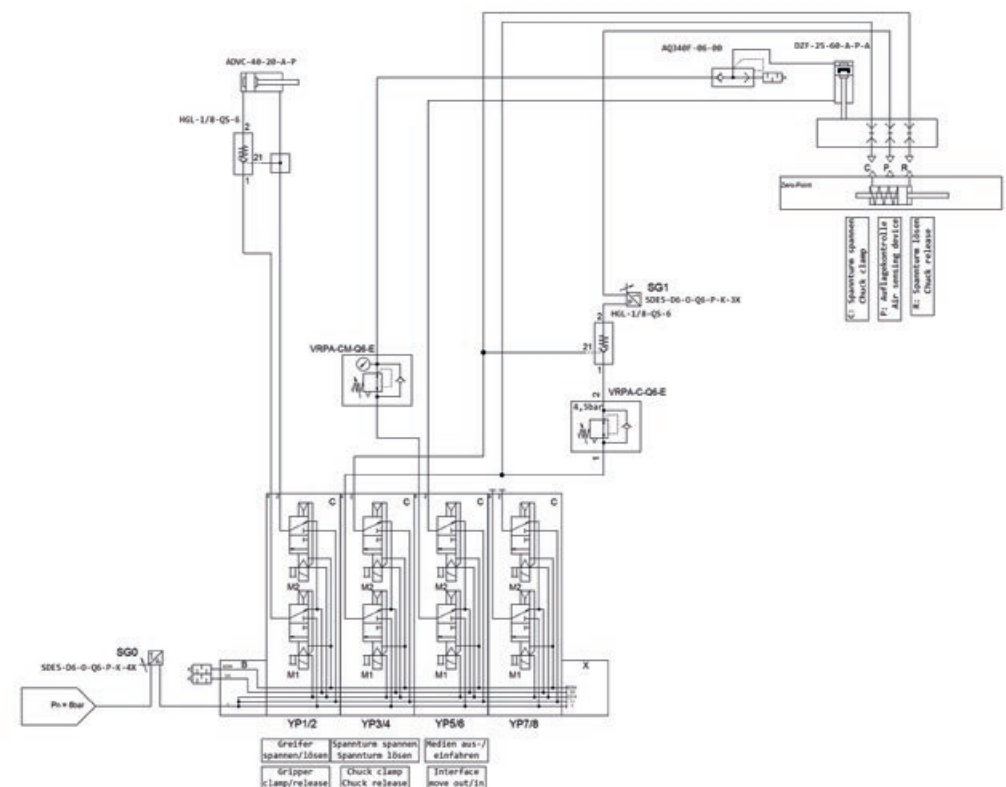
8.2 MODEL M52 (66900)



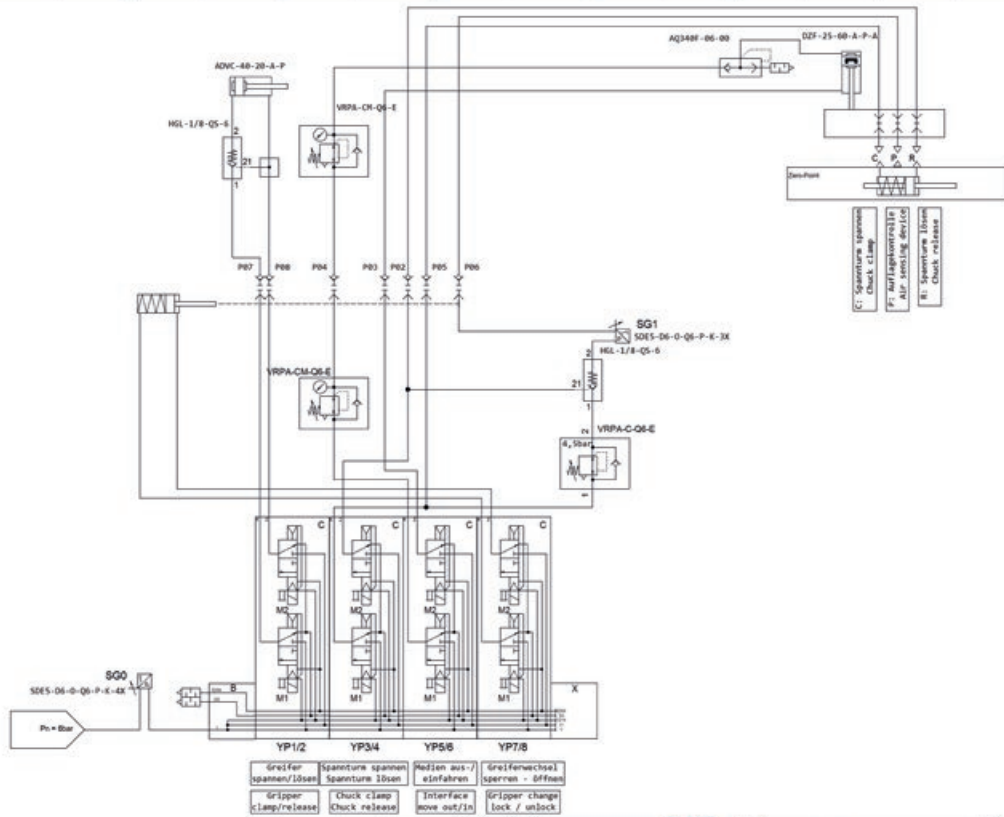
8.3 MODEL W52 (66950)



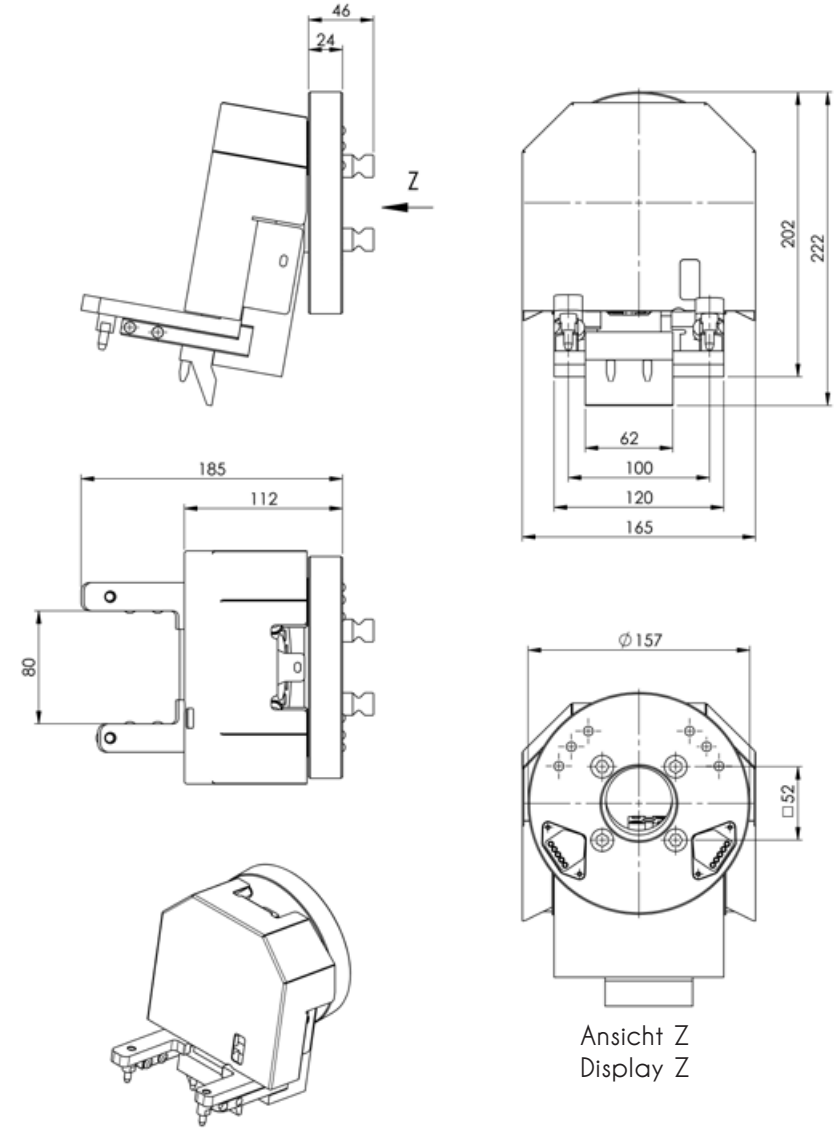
8.4 MODEL M96 (64801)



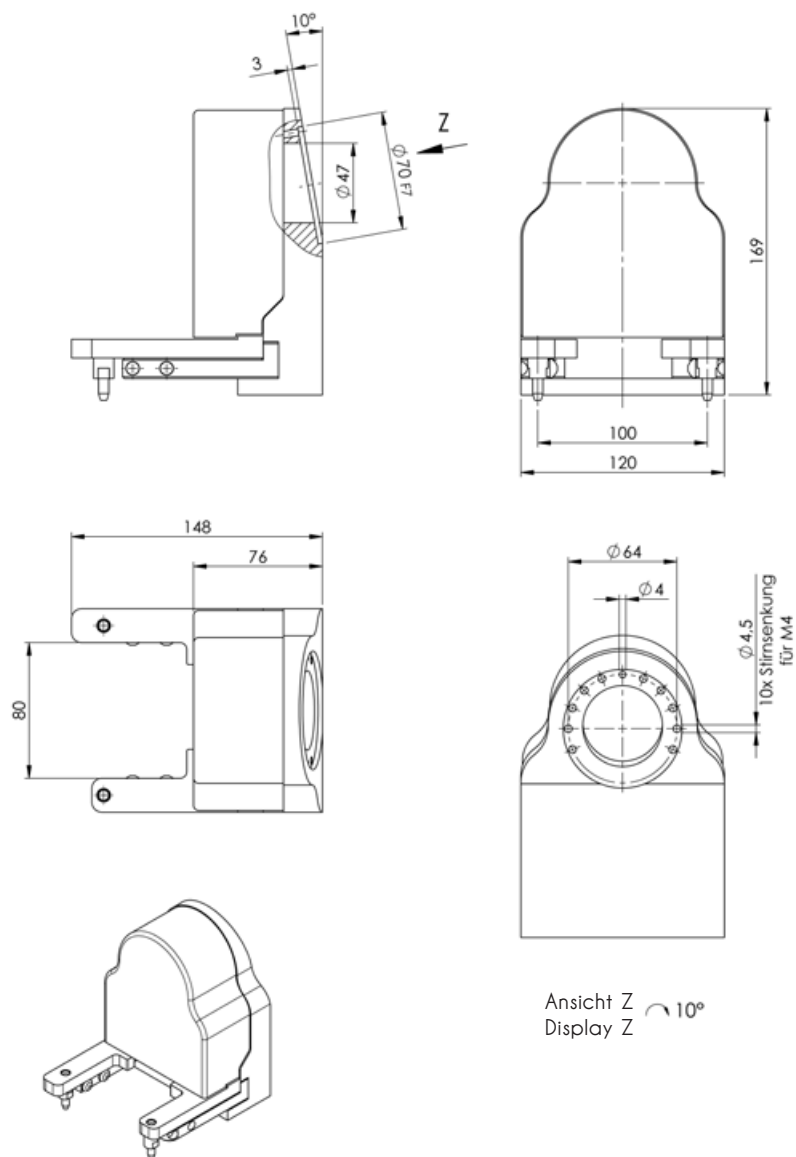
8.5 MODEL W96 (64850)



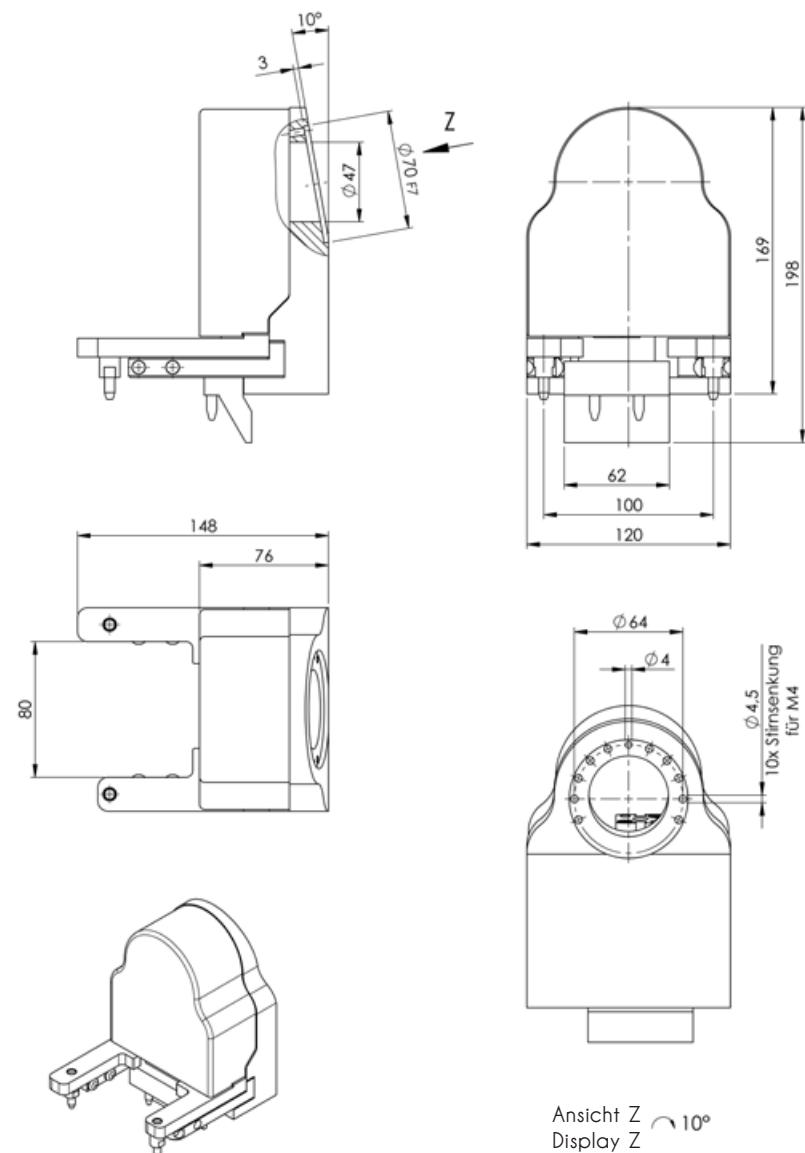
9.1 DIAGRAM 1: MODEL 66950



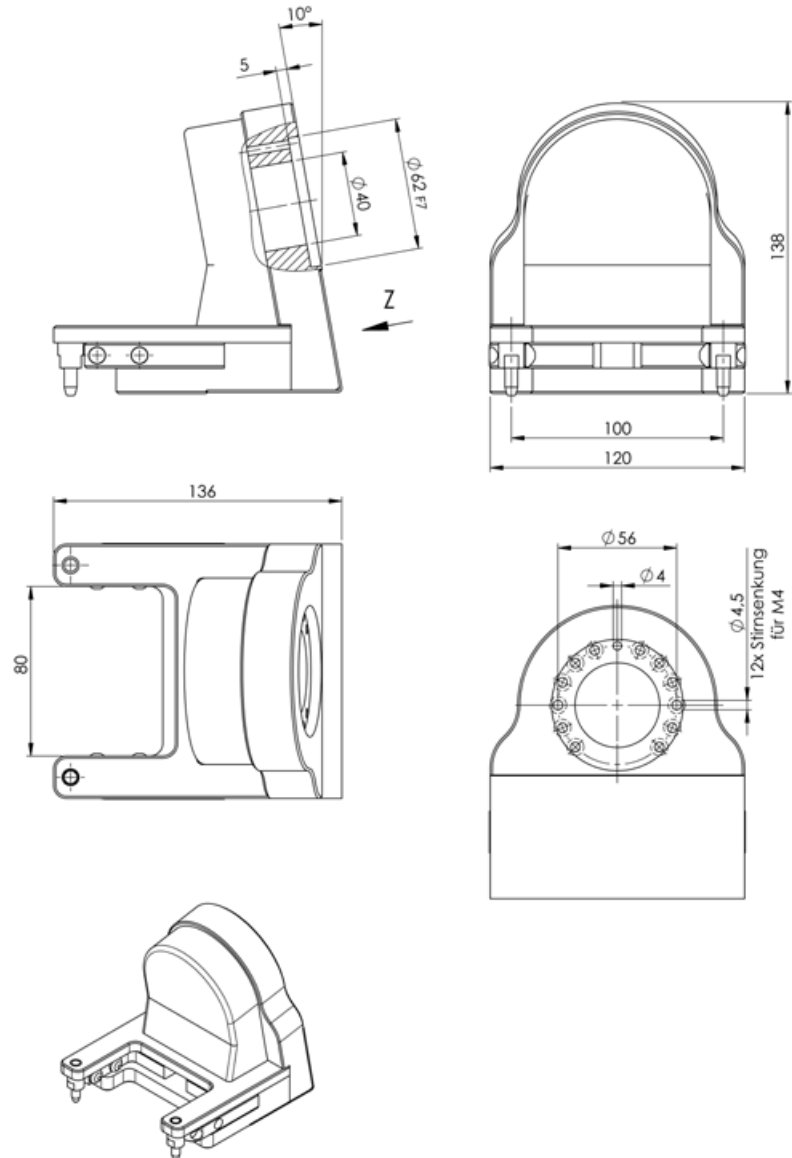
## 9.2 DIAGRAM 2: MODEL 66930



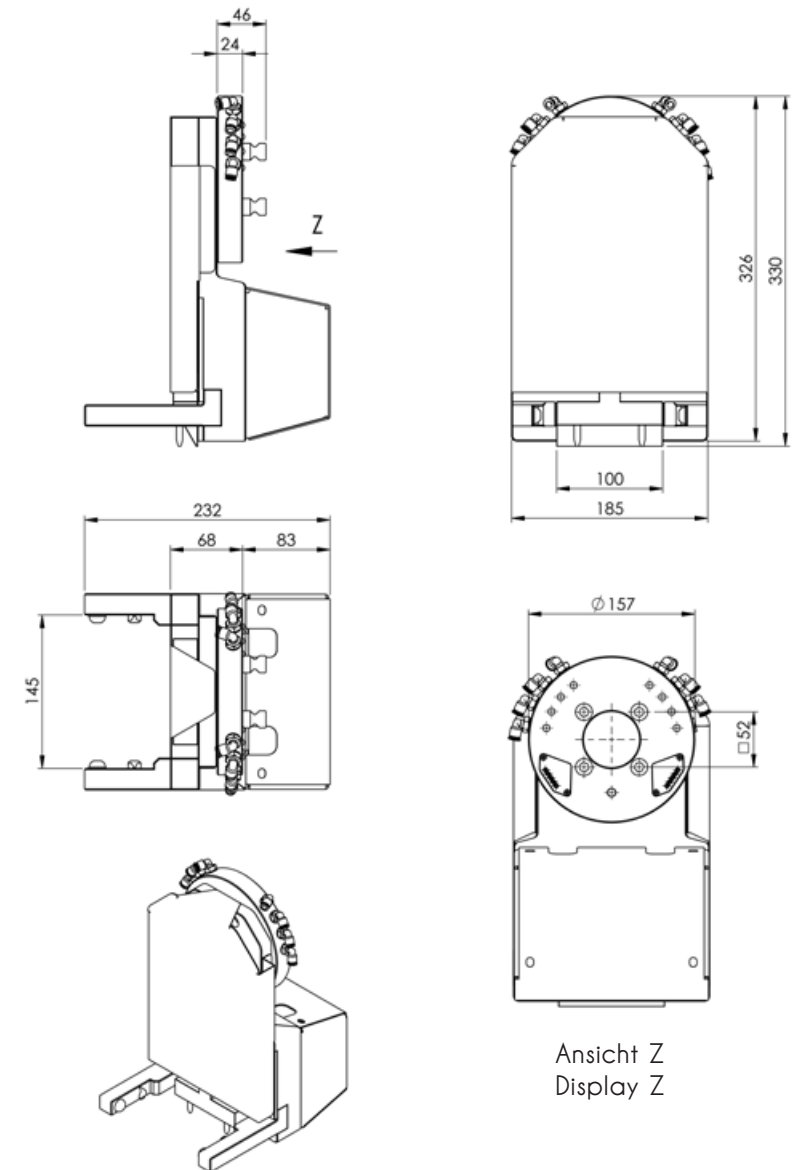
## 9.3 DIAGRAM 3: MODEL 66900



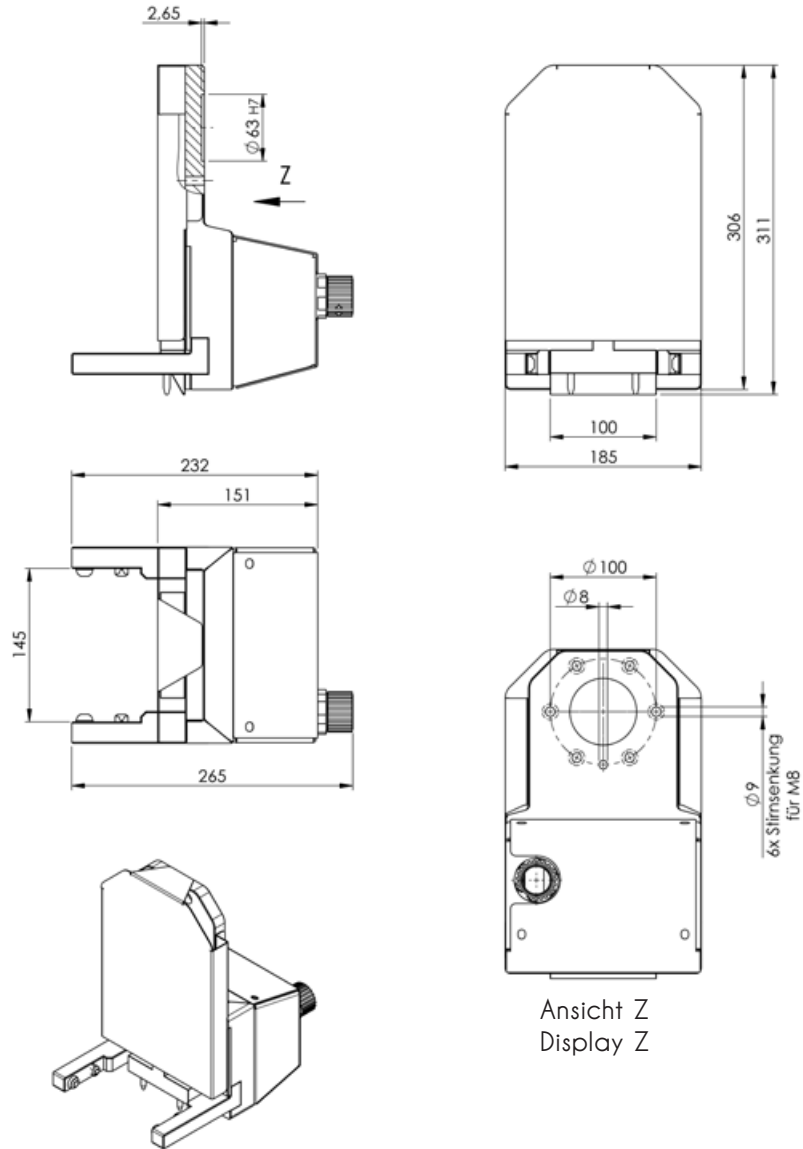
9.4 DIAGRAM 3: MODEL 66801



9.5 DIAGRAM 3: MODEL 64850



9.6 DIAGRAM 3: MODEL 64801



9.7 INTERFACE FOR GRIPPER CHANGE 64266

