

## Sealed Needle Gripper - Type N03 -

### Characteristics:

- ideal for gripping soft or irregularly shaped products such as meat or pastries
- radial needle movement
- spring-loaded needles
- short cycle time
- completely sealed mechanics
- user defined installation position
- maintenance free up to 10 million movements
- compact and modular design
- multiple position checks through proximity switches (optional)
- number of needles and length of needle shaft customizable
- optional stripper plate for products pierced by needles (e.g. bakery products)
- customized needles available on request



Standard version with 4 needle shafts  
and 2 needles per needle shaft

### Technical Data

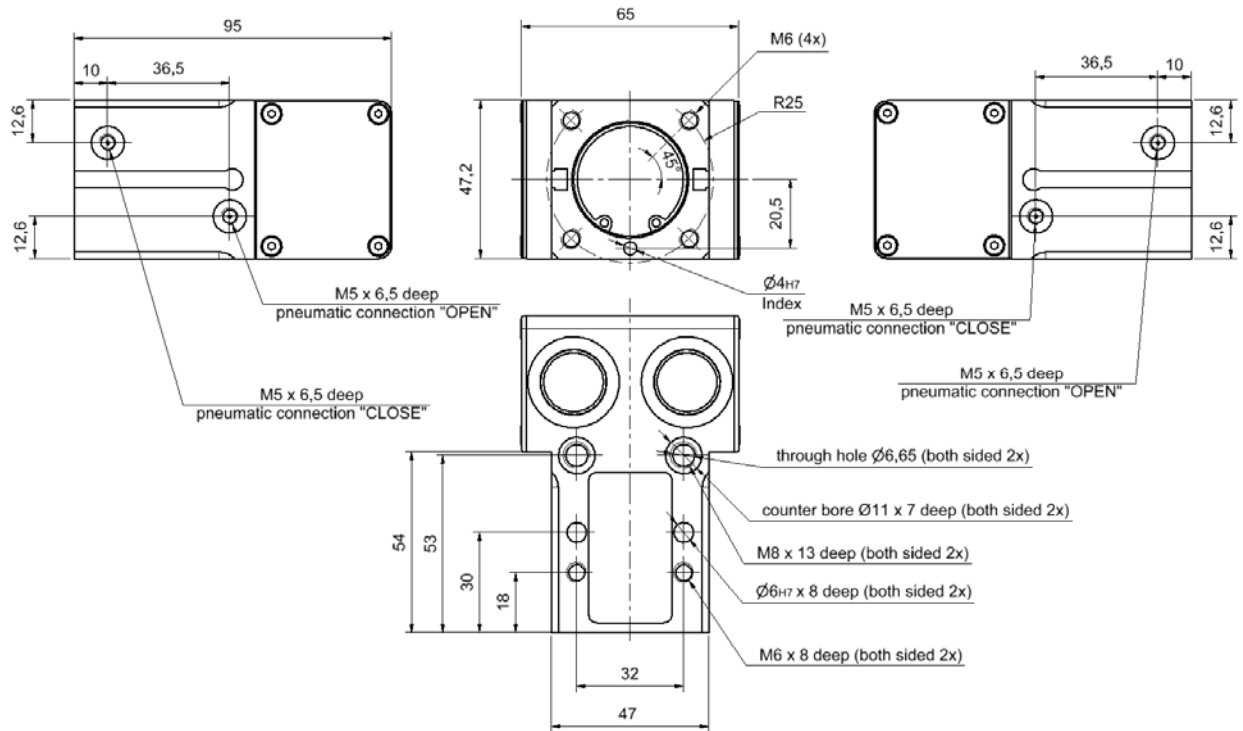
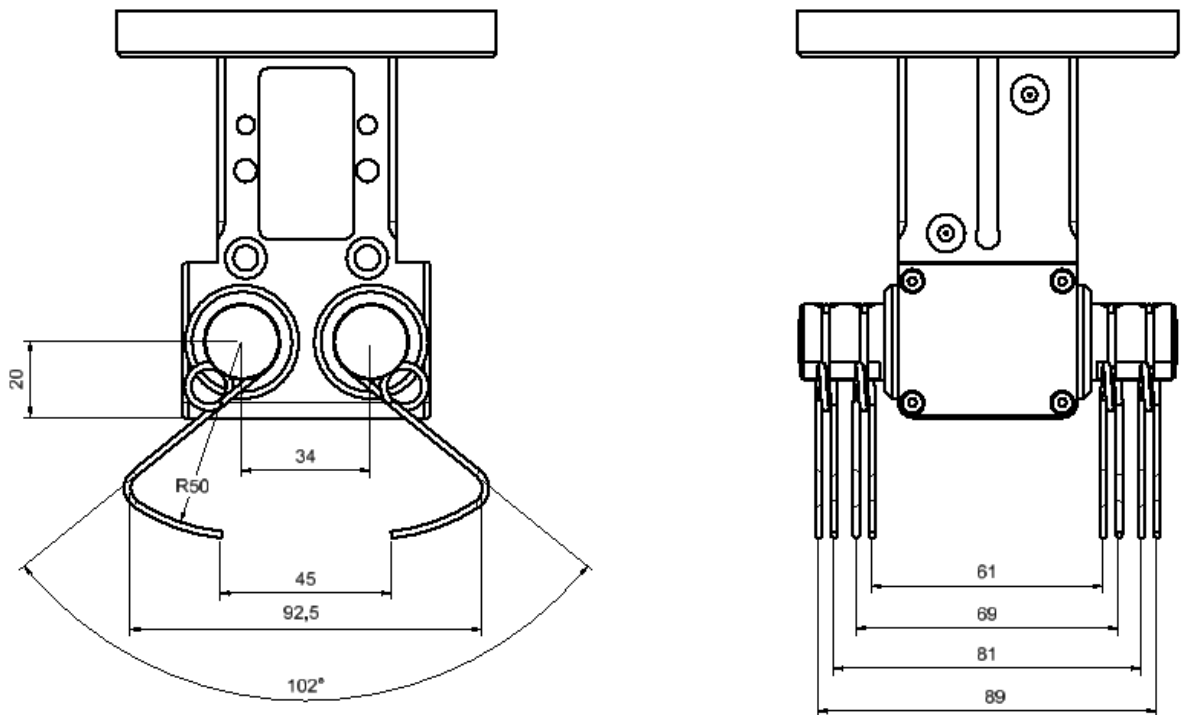
Type		N203
Drive		pneumatic
max. Grip Force (at 6 bar) *		147 N
max. Torque (at 6 bar) **		7,5 Nm
Operating Air Pressure		0,5 to 6 bar
Cycle Time	Open	0,15 s
	Close	0,15 s
Repeat Accuracy		0,1 mm
Energy Consumption per Cycle		0,1 liter (at 6 bar)
Operating Temperature		-30 to +80°C
Mass		0,8 kg
Loading Capacity* per needle shaft with Gripping Mass and Acceleration	Mx <sub>max.</sub>	10 Nm
	My <sub>max.</sub> (Gripping)	7,5 Nm
	Fz <sub>max.</sub>	1.000 N
	Mz <sub>max.</sub>	10 Nm

\* Total force at the needle points in completely closed position

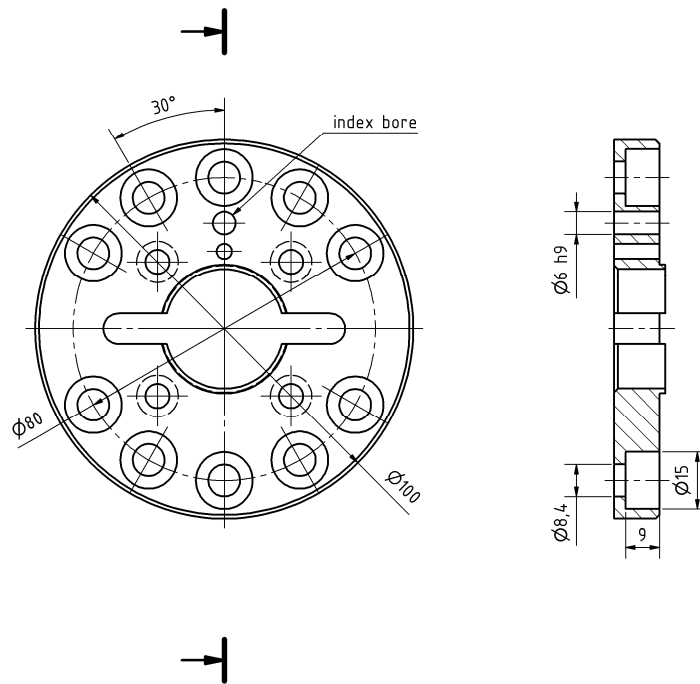
\*\* In completely closed position

By using the given torque M [Nm], the required air pressure  $p_{req}$  can be calculated with the following formula when the needles are closed:

$$0,5 \text{ bar} \leq p = \frac{M}{1,25} \frac{\text{bar}}{\text{Nm}} \leq 6 \text{ bar}$$

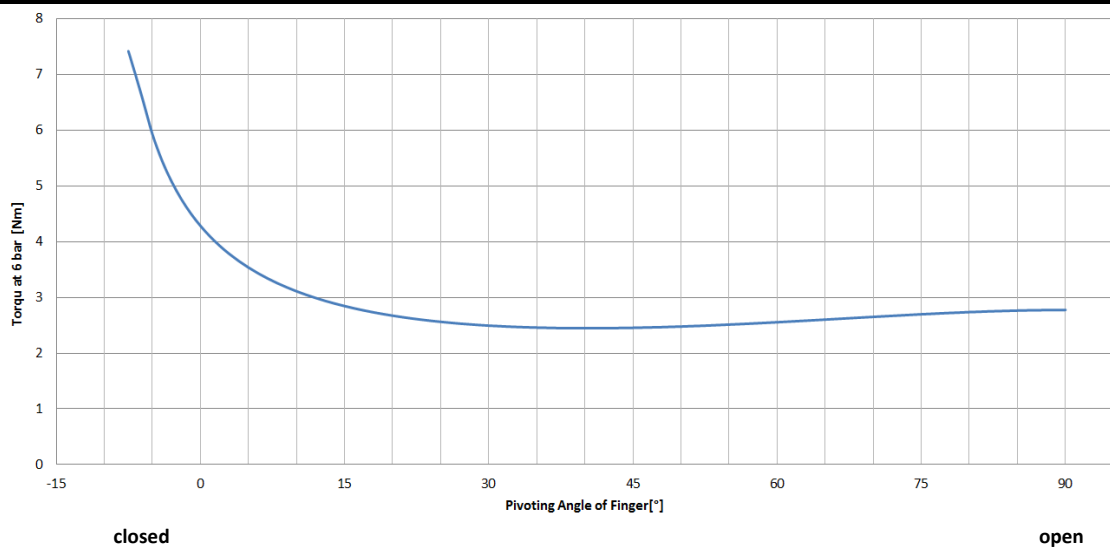
**Type N03 (Body)**

**Type N203 (Standard Needles)**


## Flange



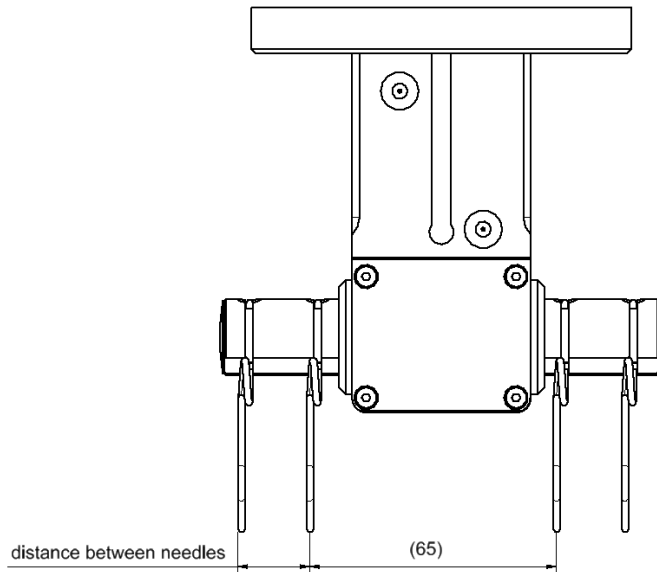
Used to mount the gripper to a robot

## Diagram

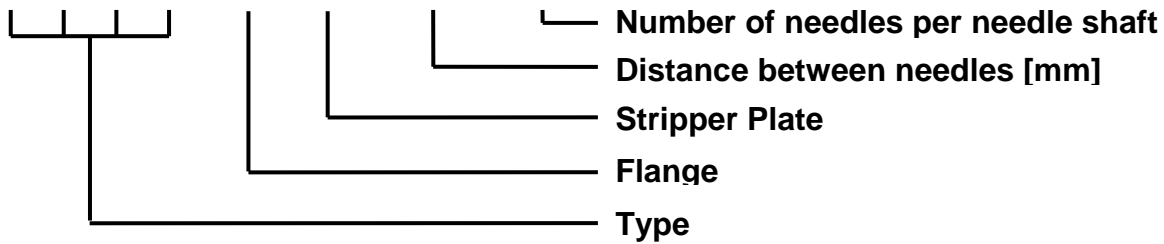
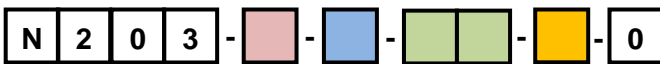


Torque curve also available in mirrored version on request.

### Needle Position



### Order Number



Distance between needles	
distance	ident [mm]
min. lenght	0 5
max. lenght (2 needles/shaft)	9 5

Number of needles / shaft	
number	ident
min. number	1
max. number	10

Flange	
style	ident
with flange	N
without flange	O

Stripper Plate	
style	ident
with stripping plate	A
Without stripping plate	O