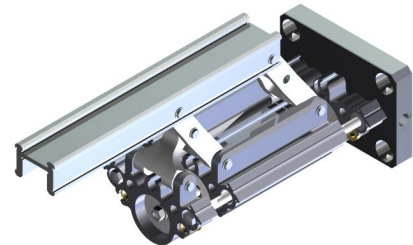


## Single Finger Gripper Module E03

- Machine Component for Customized Gripper Design -

### Characteristics:

- centric, linear and parallel or swiveling finger movement, can also be combined
- adjustable in finger length.
- lubrication and maintenance free slide bearings
- self-locking free
- stepless stroke adjustment with shock absorbing action
- user defined gripper design
- multiple position monitoring through proximity switch, optional



*Illustration: type E103-100100-A-PNO-00*

Technical Data							
Type E03			Finger Length (F)				
			0 mm	40 mm	60 mm	80 mm	100 mm
<b>Finger Movement A</b> <small>(parallel open / parallel close)</small>	Stroke [mm]		26				
	Gripping Width* [mm]		98 to 124				
	Gripping Force*** [N]		298 o 1.940				
<b>Finger Movement B**</b> <small>(parallel open / swiveling close)</small>	Stroke [mm]		29	37	42	47	50
	Gripping Width* [mm]		95 to 124	87 to 124	82 to 124	78 to 124	74 to 124
	Gripping Force*** [N]		279 to 1.734	226 to 1.010	207 to 836	191 to 712	177 to 621
<b>Finger Movement C**</b> <small>(swiveling open / swiveling close)</small>	stroke [mm]		30	46	53	61	69
	Gripping Width* [mm]		96 to 126	90 to 136	87 to 140	84 to 145	81 to 150
	Gripping Force*** [N]		274 to 1.681	208 to 633	185 to 482	167 to 390	152 to 327
<b>Drive</b>			pneumatic				
<b>Operating Air Pressure</b>			2 to 6 bar				
<b>Cycle Time (undamped)</b>			0,35 s				
<b>Energy Consumption per Cycle</b>			0,4 liter (at 6 bar)				
<b>Operating Temperature</b>			-30 to +80°C				
<b>Mass</b>	Operating Unit		640 g				
	Finger Mechanism		max. 285 g				
<b>Loading Capacity* per Finger with Gripping Mass and Acceleration</b>	Mx <sub>max.</sub>		5,5 Nm ⇒ (F <sub>y</sub> <sub>max.</sub> : 55 N at finger length F = 100mm)				
	My <sub>max.</sub>		11 Nm ⇒ (F <sub>x</sub> <sub>max.</sub> : 110 N at finger length F = 100mm)				
	Mz <sub>max.</sub>		8 Nm				
	Fz <sub>max.</sub>		250 N				

\* referring to fingers' outer edge  
 \*\* larger strokes through adjustment of gripping width and pivoting angle on request  
 \*\*\* higher gripping force always at finger position "open" (data referring to 6 bar air pressure)

\* loading capacity autonomous of gripping force



**E03**

## Quantity and Position of Gripper Modules

<b>Grundform E03</b>	<b>E103-100</b>	<b>E203-200</b>	<b>E203-210</b>
	<b>E303-300</b>	<b>E403-400</b>	<b>E403-410</b>

## Finger Movement

<b>Shape A</b> <i>(parallel open / parallel close)</i>	<b>Shape B</b> <i>(parallel open / swiveling close)</i>	<b>Shape C</b> <i>(swiveling open / swiveling close)</i>

**Special Movement through combining shapes are possible upon request!**

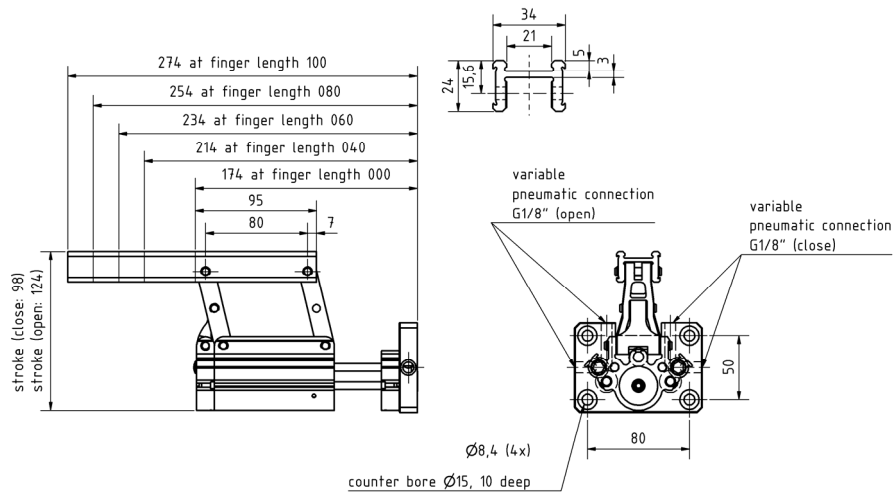


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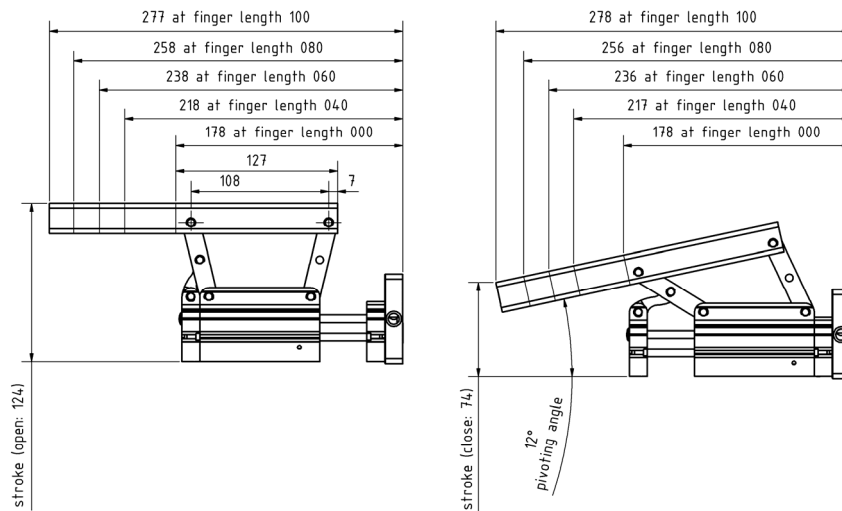
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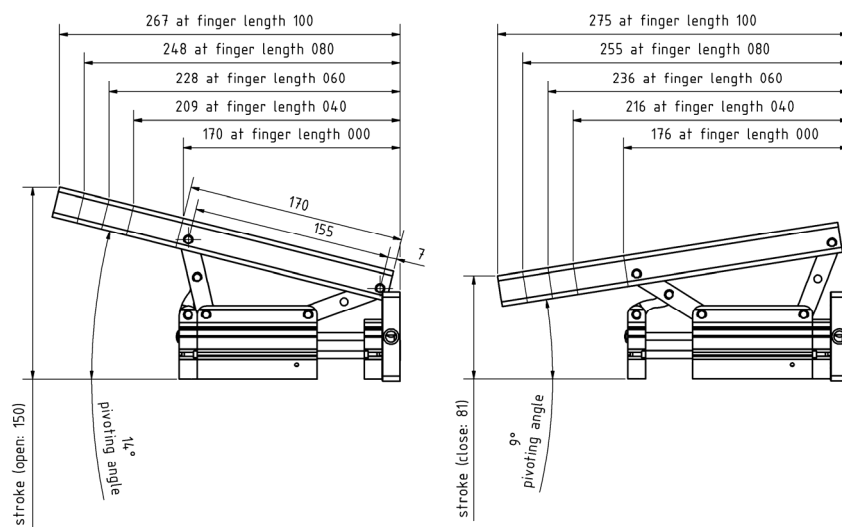
### Finger Movement A



### Finger Movement B

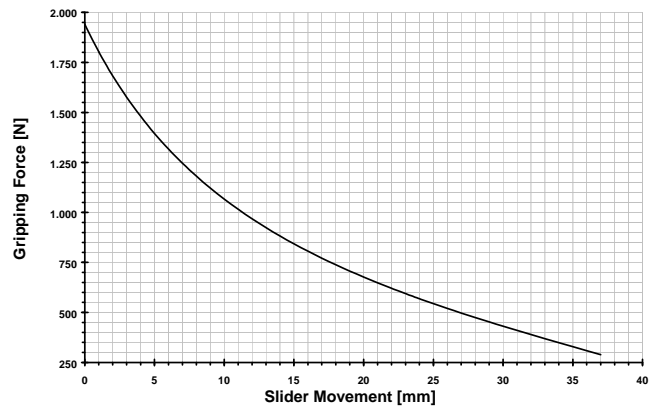
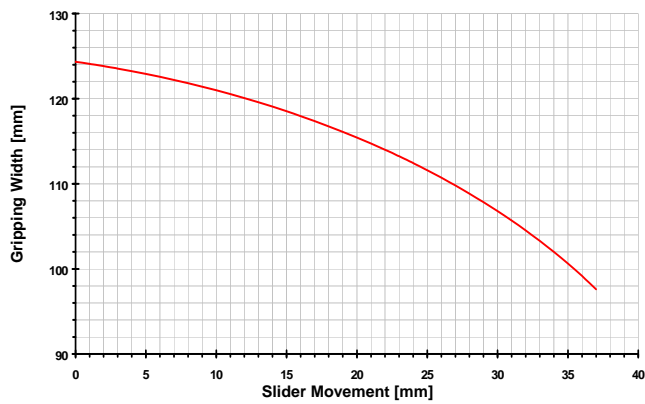


### Finger Movement C

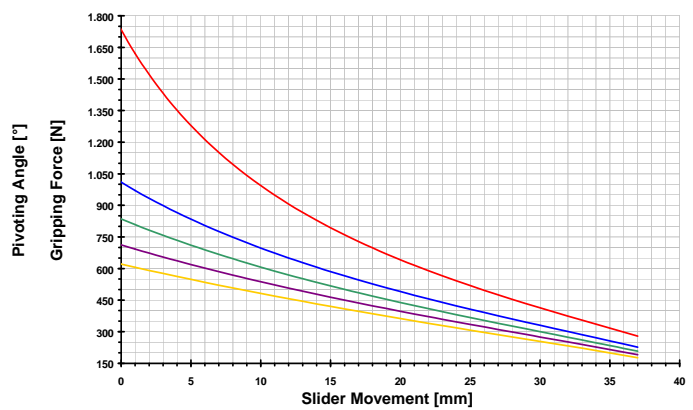
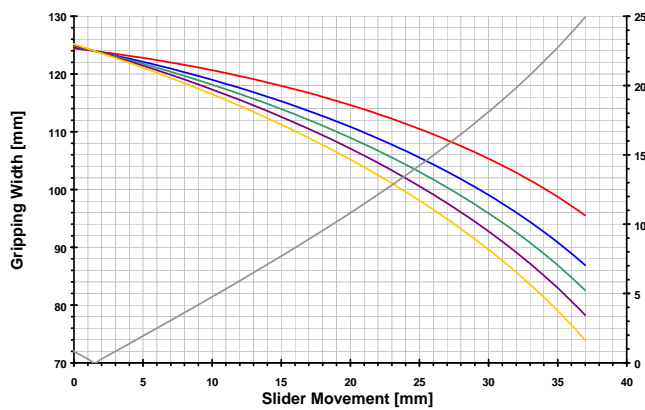


## Force- and Gripping-Width-Diagram

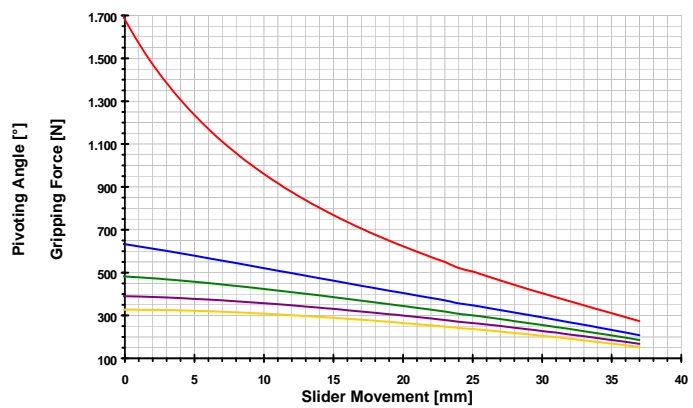
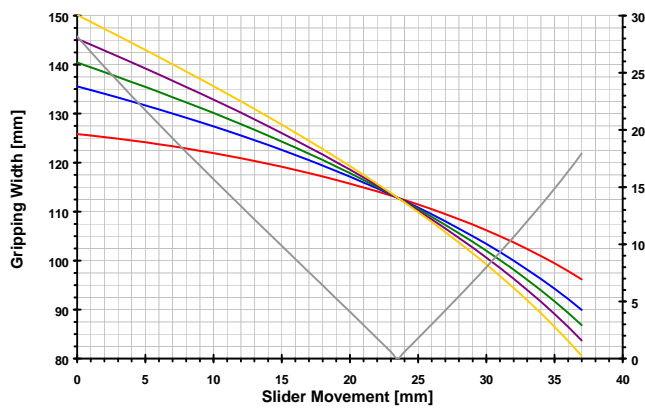
### Finger Movement A



### Finger Movement B



### Finger Movement C



— 0 mm   
 — 40 mm   
 — 60 mm   
 — 80 mm   
 — 100 mm   
 — Pivoting Angle

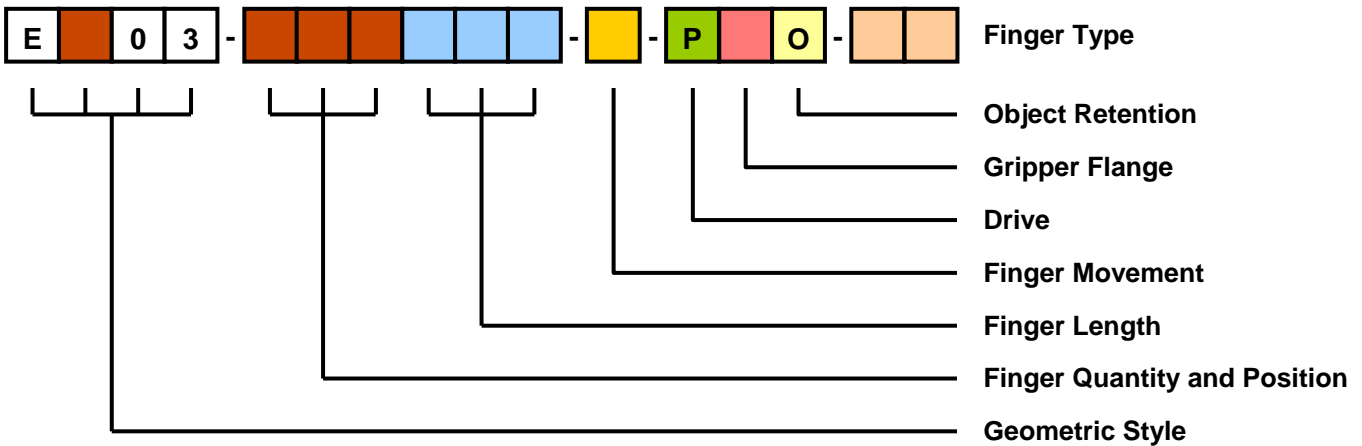


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## Order Number



### Geometric Style

View Table "Quantity and Position of Finger Modules"

Finger Length		
	Length (F)	Ident.
<b>Standard</b>	0 mm	<b>000</b>
	40 mm	<b>040</b>
	60 mm	<b>060</b>
	80 mm	<b>080</b>
	100 mm	<b>100</b>
	Special Length	<b>Declaration in mm</b>

Finger Movement	
Style	Ident.
parallel open	<b>A</b>
parallel close	
parallel open	<b>B</b>
swiveling close	
swiveling open	<b>C</b>
swiveling close	
Combination of Finger Movement Styles*	<b>K</b>

\* on request

Drive	
Style	Ident.
pneumatic	<b>P</b>

Object Retention at Blackout	
Style	Ident.
Without Object Retention	<b>O</b>

Gripper Flange	
Style	Ident.
Standard Flange	<b>N</b>
Customized Flange*	<b>S</b>

\* on request

Finger Type	
Style	Ident.
Without Bore	<b>00</b>
With Bore	<b>01</b>



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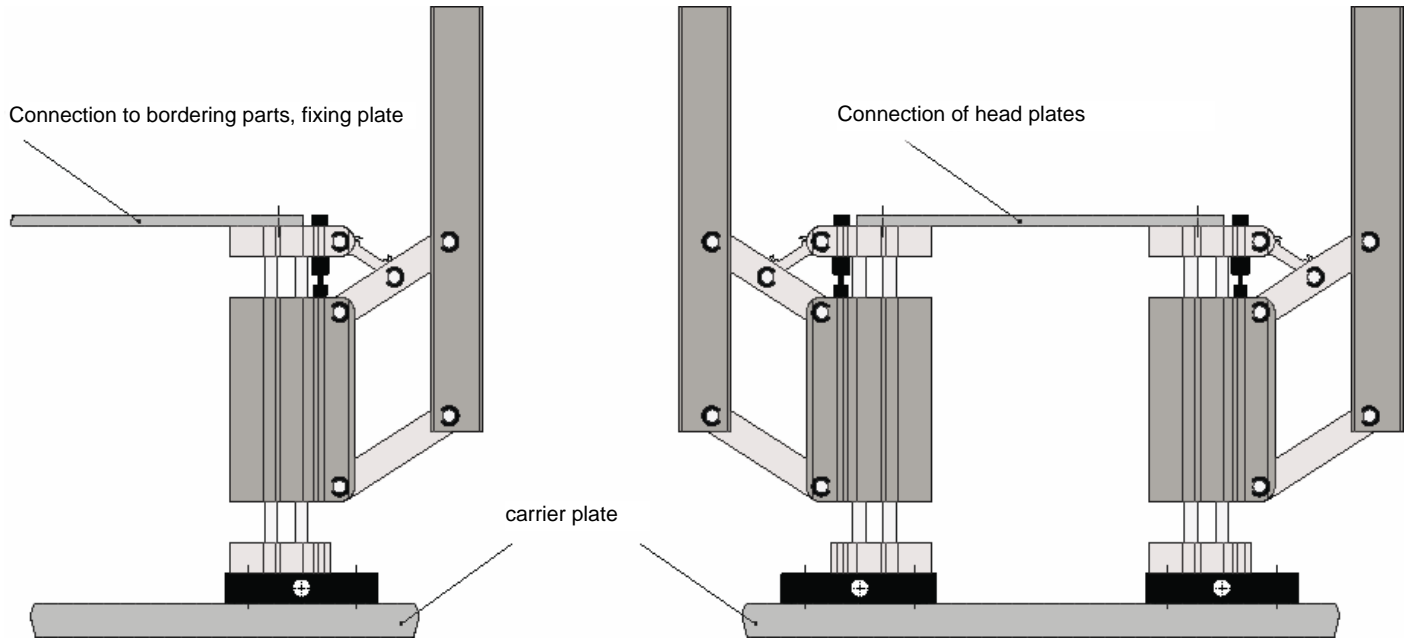
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## Customization with the Gripper Module

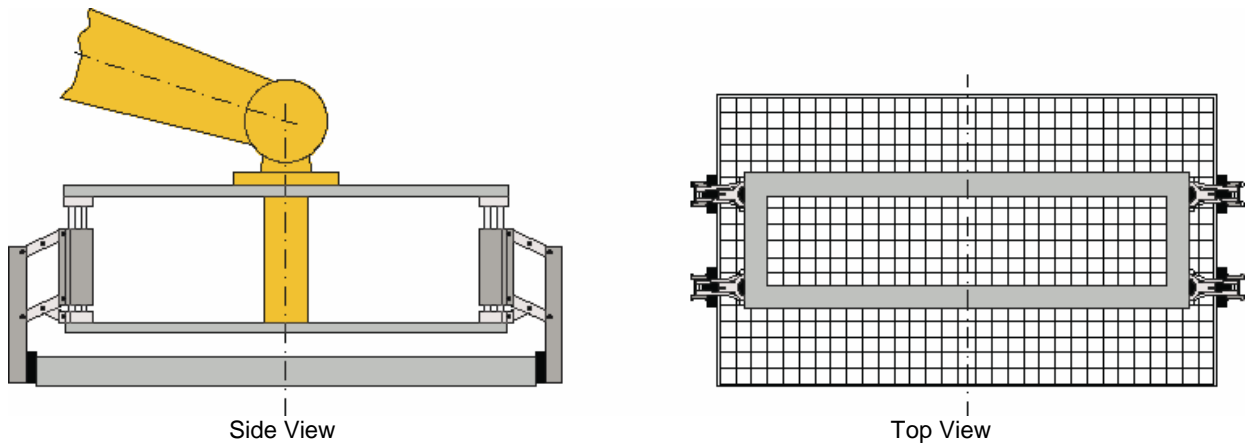
Customized grippers with user defined geometric shapes and finger quantity can be designed and manufactured by simply assembling gripper modules on a suitable carrier (frame). To ensure proper function of the special gripper every head plate needs to be fixed to enable relative movement towards the carrier (right picture). Extra stability in case of large or one-finger grippers is ensured by connecting the fixing plate with the carrier plate.



## Example of Use

In the usage example steel gratings are handled by a gripper designed with four gripper modules and a carrier frame (see illustration)

By using finger movement B (parallel open / swiveling close) the gripper is able to parallelly plunge into a mesh of the steel grating, by closing the gripper a behind engaged finger position guarantees a safe handling.



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