

**C16**

## Hexagonal Design C16

- Two- to Six-Finger Hollow Gripper -

### Characteristics:

- centric, linear and parallel or swiveling finger movement, can also be combined
- adjustable in finger length, amount and position.
- inside and outside gripper
- lubrication and maintenance free slide bearings
- constant hollow tube (Ø80mm)
- self-locking free
- stepless stroke adjustment with shock absorbing action, or
- object retention at blackout through gas spring
- multiple position monitoring through proximity switch, optional

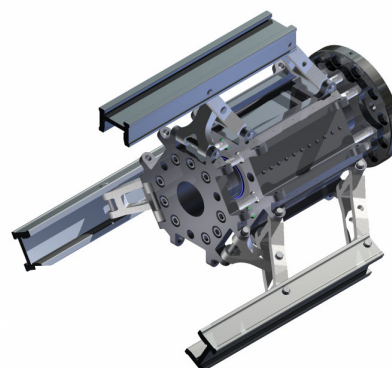


Illustration: type C116-300200-A-PNO-00

### Technical Data

Type C16		Finger Length (F)				
		0 mm	100 mm	200 mm	300 mm	400 mm
Finger Movement A (parallel open / parallel close)	Stroke [mm]	264				
	Gripping Width* [mm]	517 to 782				
	Gripping Force*** [kN]	2,5 to 44				
Finger Movement B** (parallel open / swiveling close)	Stroke [mm]	275	325	375	425	475
	Gripping Width* [mm]	507 bis 782	457 bis 782	407 bis 782	356 bis 782	306 bis 781
	Gripping Force*** [kN]	2,5 bis 40,6	2,1 bis 26	1,8 bis 19,2	1,6 bis 15,2	1,5 bis 12,6
Finger Movement C** (swiveling open / swiveling close)	Stroke [mm]	281	375	469	563	659
	Gripping Width* [mm]	281 bis 786	448 bis 823	392 bis 860	335 bis 897	276 bis 935
	Gripping Force*** [kN]	2,4 bis 39,6	2 bis 15,8	1,7 bis 9,9	1,5 bis 7,2	1,3 bis 5,6
<b>Drive</b>		pneumatic				
<b>Operating Air Pressure / Voltage</b>		3 to 6 bar				
<b>Cycle Time (undamped)</b>		3 s				
<b>Energy Consumption per Cycle</b>		ca. 27 liter (at 6 bar)				
<b>Operating Temperature</b>		-30 to +80°C				
<b>Mass</b>	Operating Unit	56 kg				
	per Finger Mechanism	max. 9 kg				
<b>Loading Capacity* per Finger with Gripping Mass and Acceleration</b>	$Mx_{max.}$	250 Nm $\Rightarrow$ ( $Fy_{max.}$ : 833 N at finger length F = 300mm)				
	$My_{max.}$	500 Nm $\Rightarrow$ ( $Fx_{max.}$ : 1.666 N at finger length F = 300mm)				
	$Mz_{max.}$	120 Nm				
	$Fz_{max.}$	10.000 N				

\* data 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



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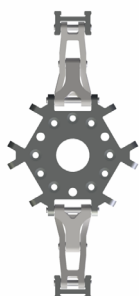


**C16**

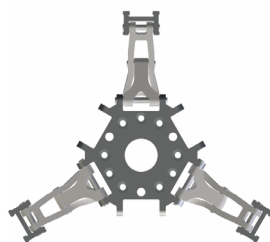
## Quantity and Position of Fingers



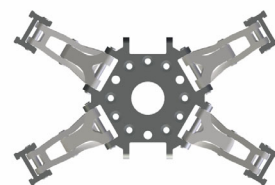
**Basic Shape C16**



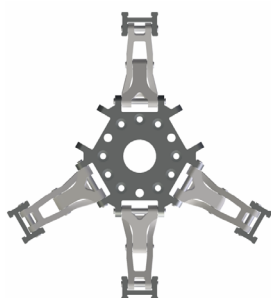
**C116-200**



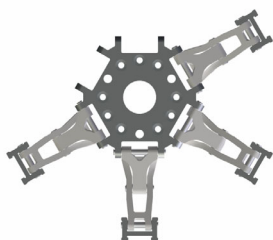
**C116-300**



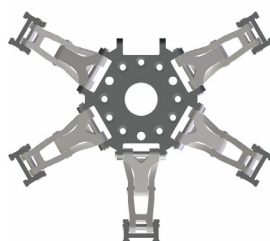
**C116-400**



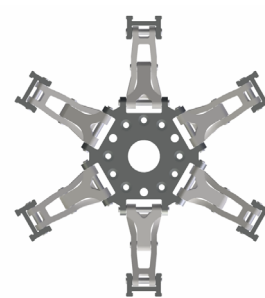
**C116-410**



**C116-420**



**C116-500**

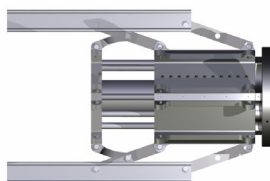
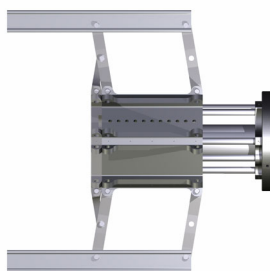


**C116-600**

## Finger Movement

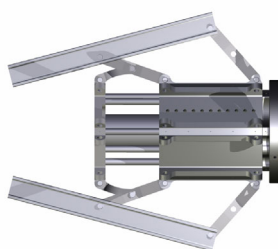
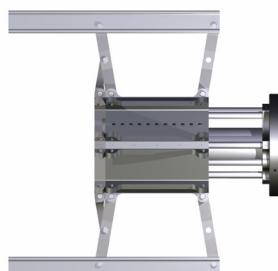
### Shape A

*(parallel open / parallel close)*



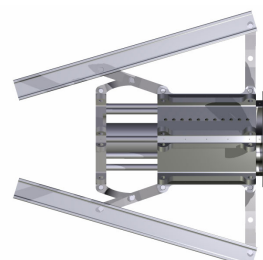
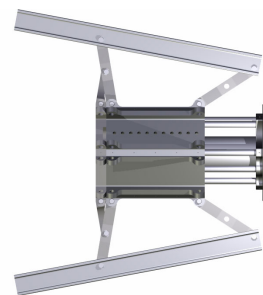
### Shape B

*(parallel open / swiveling close)*



### Shape C

*(swiveling open / swiveling close)*



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



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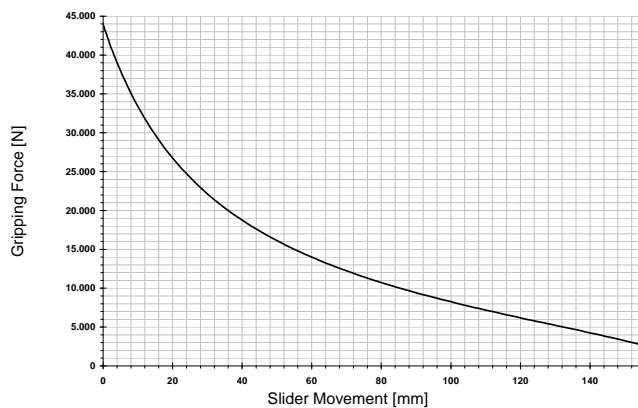
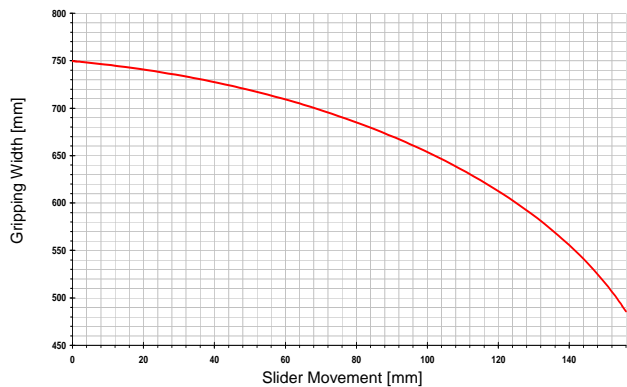
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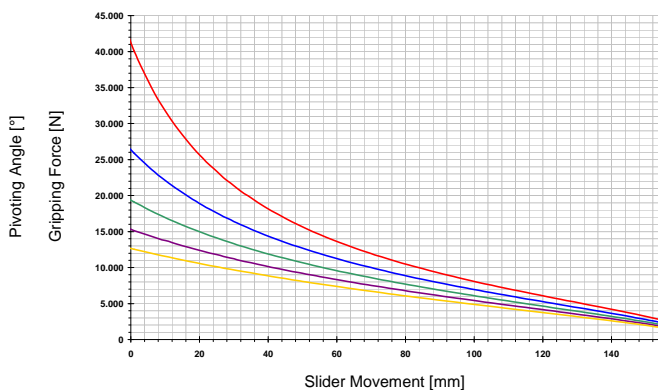
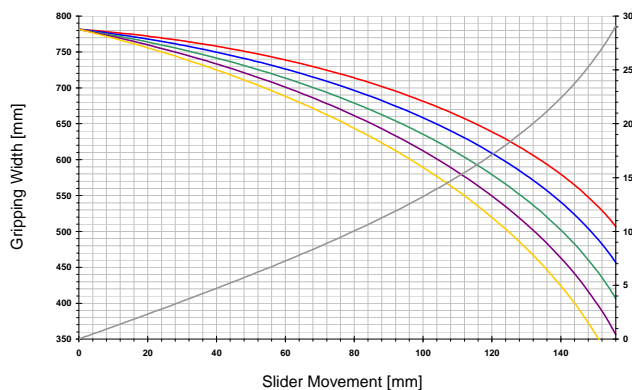


# Force- and Gripping-Width-Diagram

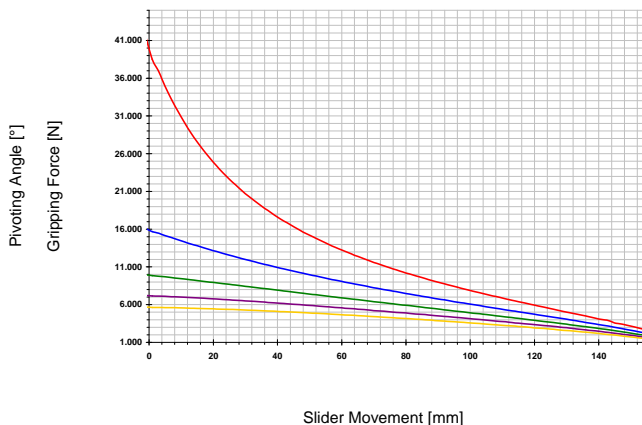
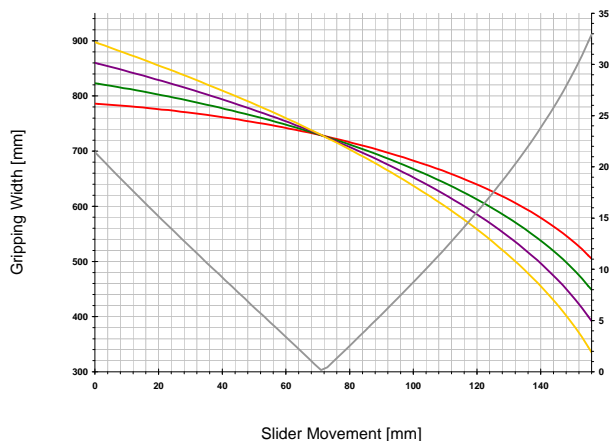
## Finger Movement A



## Finger Movement B



## Finger Movement C



— 0 mm    
 — 50 mm    
 — 100 mm    
 — 200 mm    
 — 300 mm    
 — Pivoting Angle



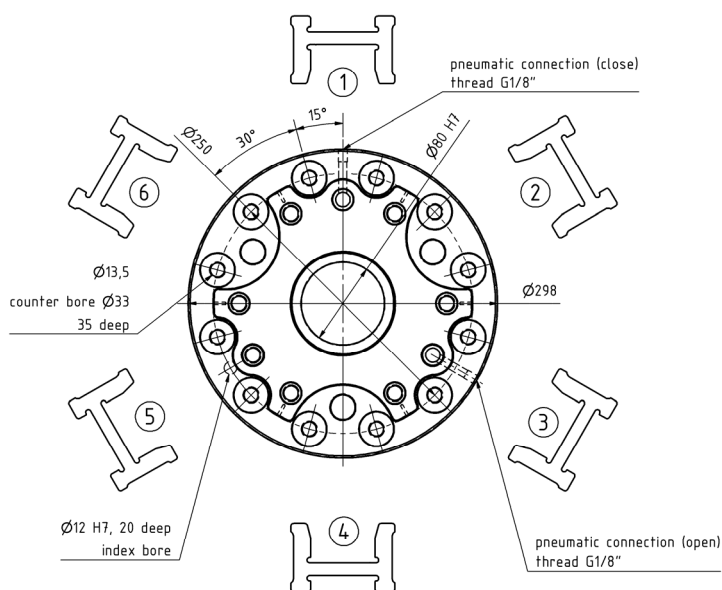
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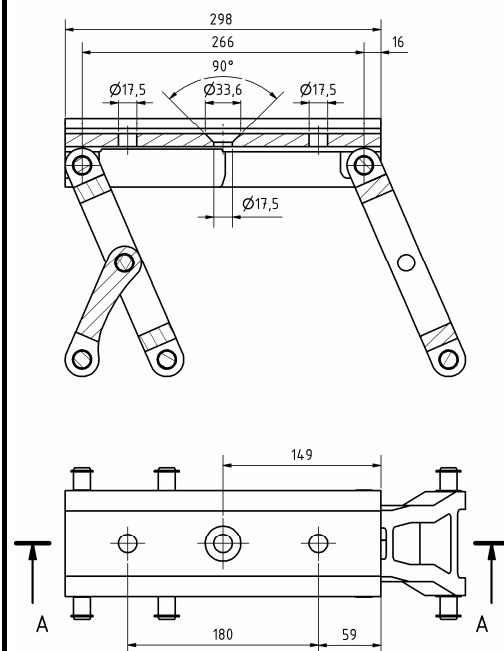


**Finger Position Referring to Grippers Flange**



**Front View**

**Standard – Bore - Plan**



**Only for Finger Length F = 0mm**

Finger Quantity	Position						Ident.
	1	2	3	4	5	6	
2	X			X			200
			X			X	201
		X			X		202
3	X		X		X		300
		X		X		X	301
4	X		X	X		X	400
	X	X		X	X		401
		X	X		X	X	402
	X		X	X	X		410
	X		X		X	X	411
		X	X	X		X	412
	X	X	X		X		413
	X	X		X		X	414
		X		X	X	X	415

Finger Quantity	Position						Ident.
	1	2	3	4	5	6	
4	X	X	X	X			420
		X	X	X	X		421
			X	X	X	X	422
	X			X	X	X	423
	X	X			X	X	424
5	X	X	X		X		425
		X	X	X	X	X	500
	X	X		X	X	X	501
	X		X	X	X	X	502
	X	X	X		X	X	503
	X	X	X	X		X	504
	X	X	X	X	X		505
	X	X	X	X	X	X	600

Standard Style



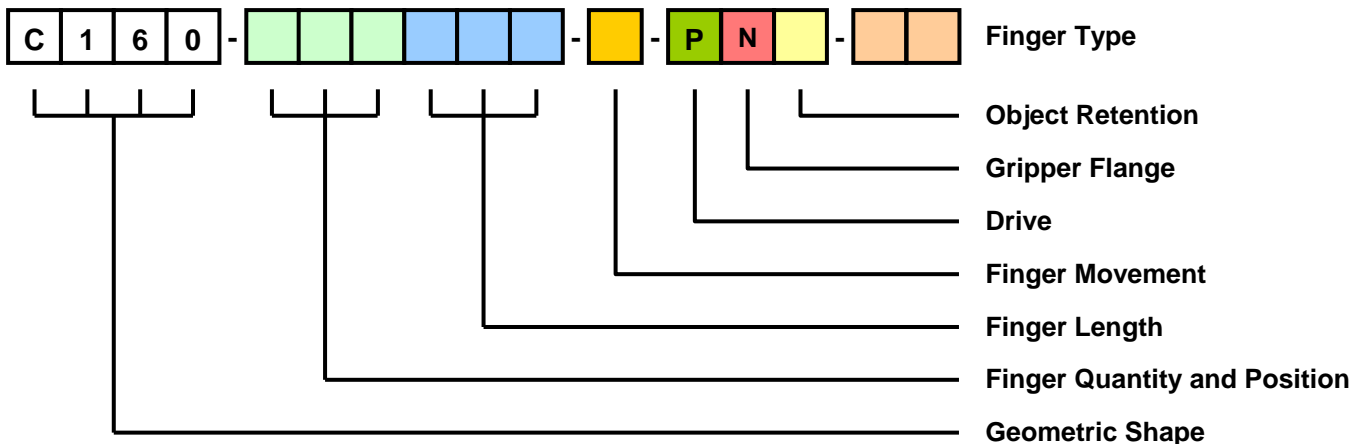
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**Order Number**



Finger Quantity and Position
View table on previous Page

Finger Length		
	Length (F)	Ident.
Standard	0 mm	<b>000</b>
	100 mm	<b>100</b>
	200 mm	<b>200</b>
	300 mm	<b>300</b>
	400 mm	<b>400</b>
	Special Length	<b>Declaration in mm</b>

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

\* on request

Gripper Flange	
Style	Ident.
Normal	<b>N</b>

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

Object Retention at Blackout	
Style	Ident.
Without Object Retention	<b>O</b>
Retention "Finger Closing"	<b>Z</b>
Retention "Finger Opening"	<b>A</b>

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



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