



## Modular Long Arm Gripper

### Features:

- Slim 3-finger-gripper to grasp into the corner of a box
- Gripper flange meanwhile can remain above the corner of the box  
-> This design avoids disturbing edges for robot or handling
- Internal and external gripping
- Modular structure offers maximum flexibility
- 4 different grip widths
- Various finger lengths



### Benefits:

- Large grip width at a small outer diameter
- For long gripper fingers no clamping force due to swivels
- Friction bearings maintenance- and lubrication-free

### Important Note:

- Only for suspended operation

### Available Options:

- Foldable suction arms for transposition of intermediate layers
- Multiple position request by digital signal transmitters
- Position request based on analog displacement encoder system
- Extended base unit for deeper boxes
- Amplification of gripping force for small diameters during internal gripping

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## Basic Design:

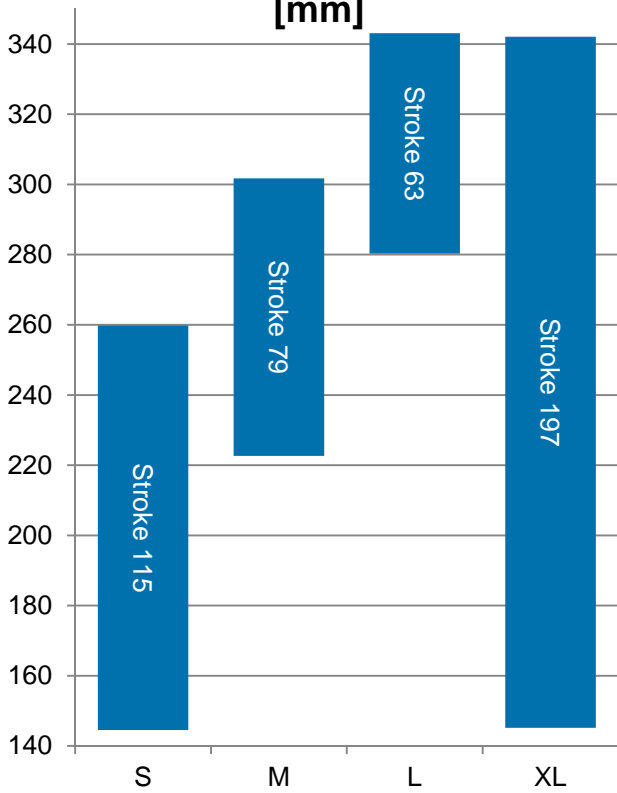


- Centric parallel finger movement, free of axial displacement
- Finger length: 0, 40, 60, 80 or 100 mm
- Fingers with fixing holes for cheeks

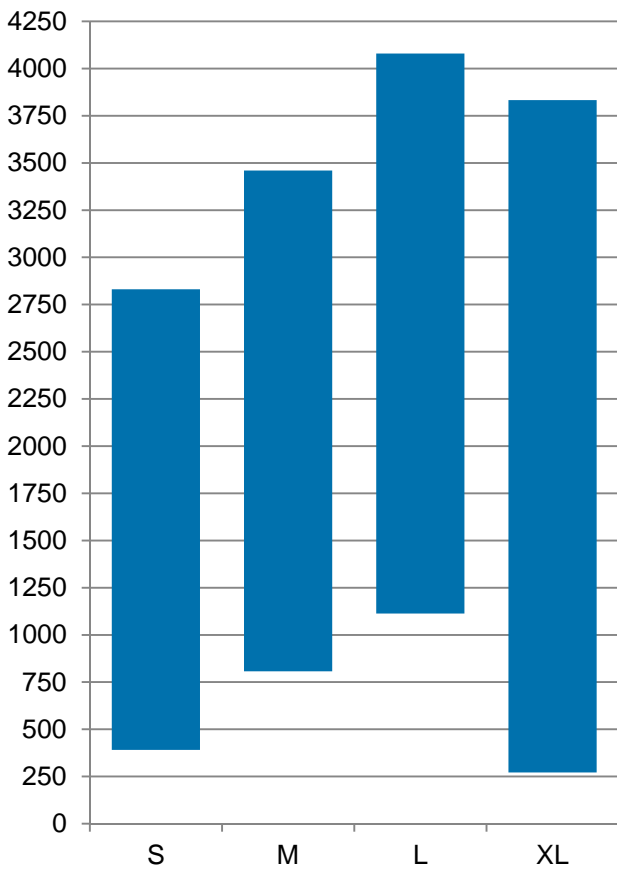
### Specification

Version	S	M	L	XL
Total Stroke [mm]	115	79	63	197
Gripping Width [mm]	145...260	223...302	280...343	145...342
Gripping Force for Closing [N]	391...2831	807...3460	1114...4080	272...3833
Gripping Force for Opening [N]	466...3370	961...4119	1326...4857	324...4563
Stroke of Drive Cylinder [mm]	60			100
Actuation	Pneumatic			
Operating Pressure [bar]	2...6			
Operating Medium	Compressed air acc. to ISO 8573-1:2010 [7:4:4] Oiled operation possible (required for further operation)			
Cycle [s]	0.5			1
Energy consumption per cycle [Normal liters at 6 bar]	1.6			2.7
Operating Temperature [°C]	-20...+80			
Mass [kg]	9.5	9.6	9.7	10.5

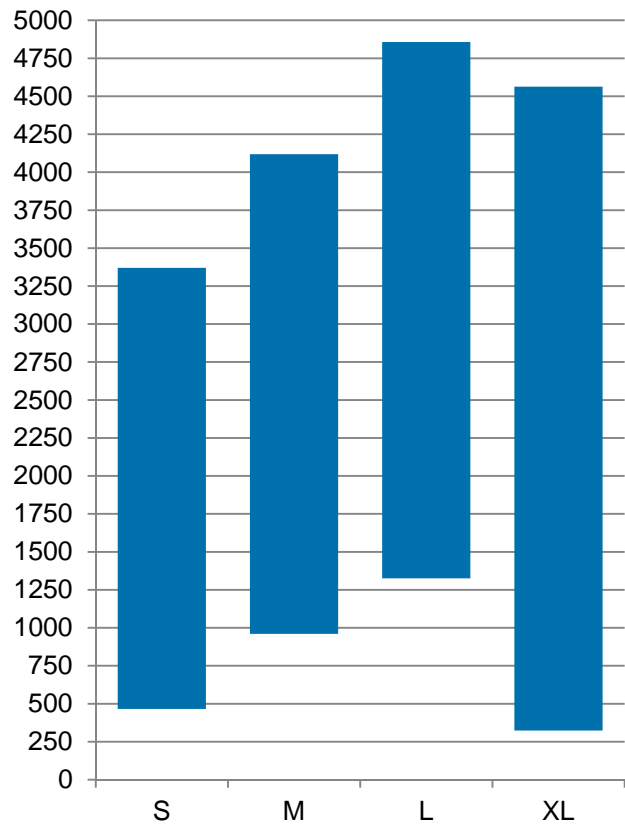
**Gripping width (external)  
[mm]**



**Theor. gripping force [N] at  
6 bar ext. gripping (closing)**

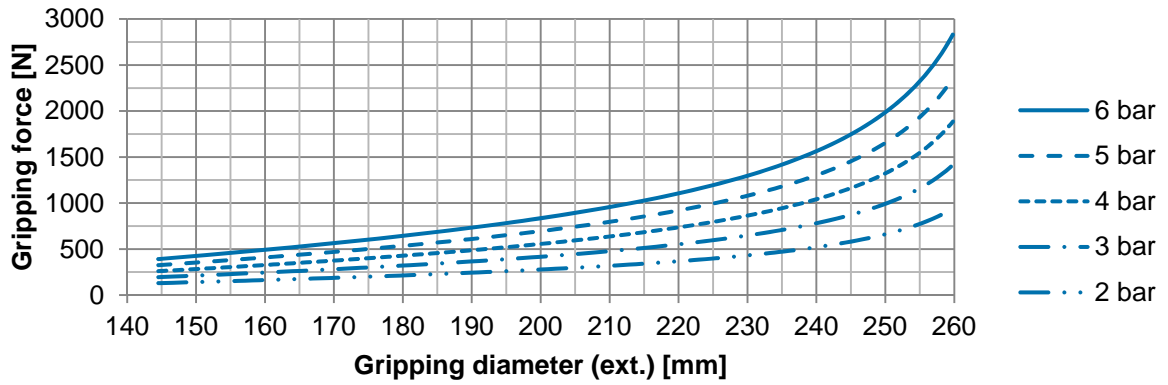


**Theor. gripping force [N] at  
6 bar internal gripping  
(opening)**

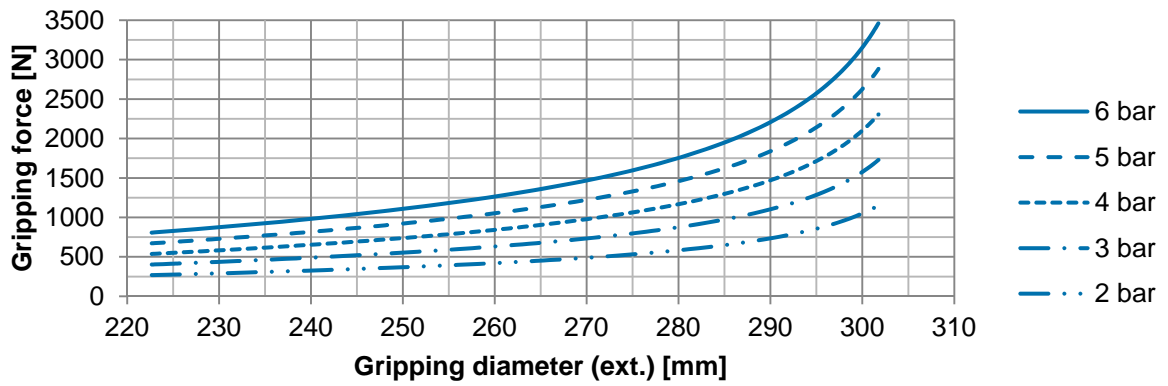


## Theor. gripping force ext. gripping (closing)

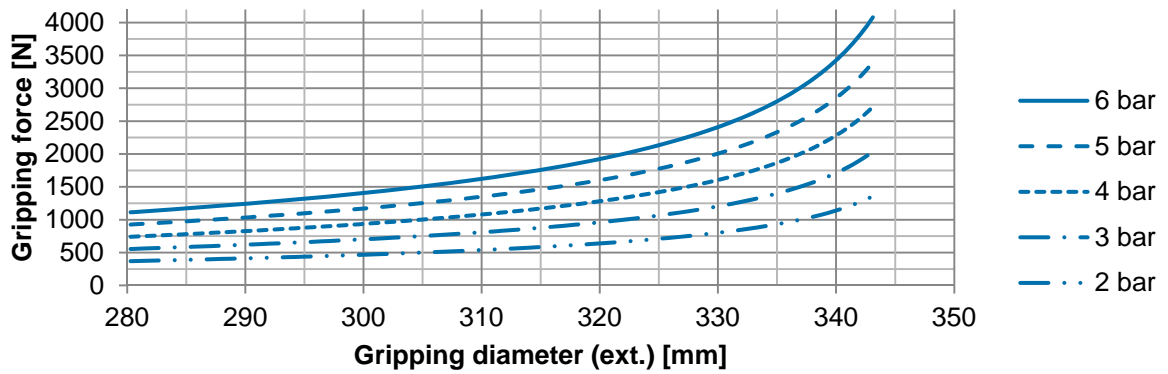
S



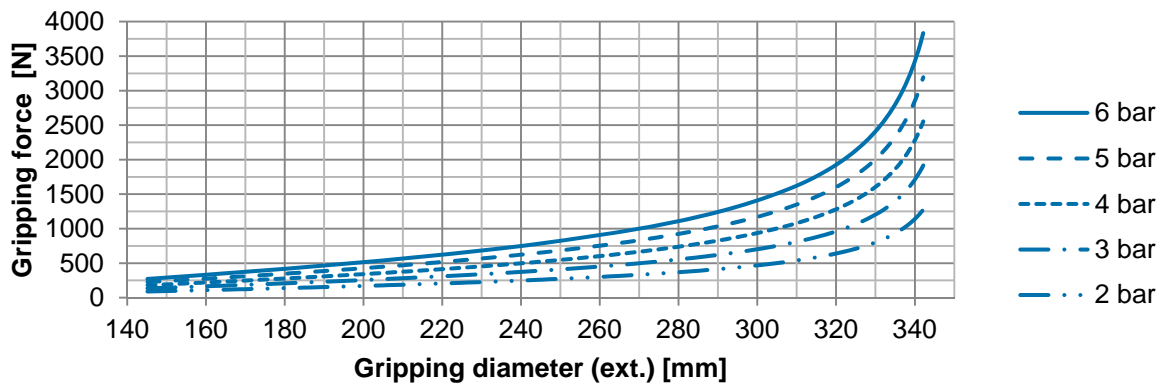
M



L

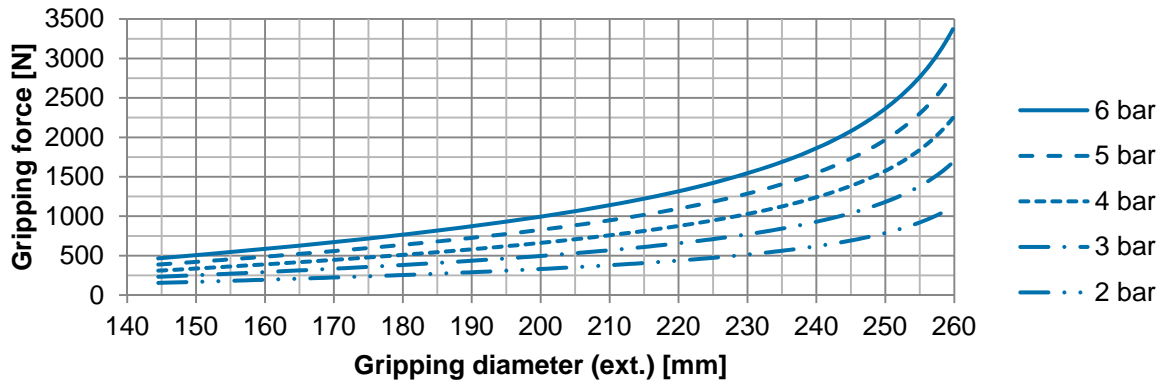


XL

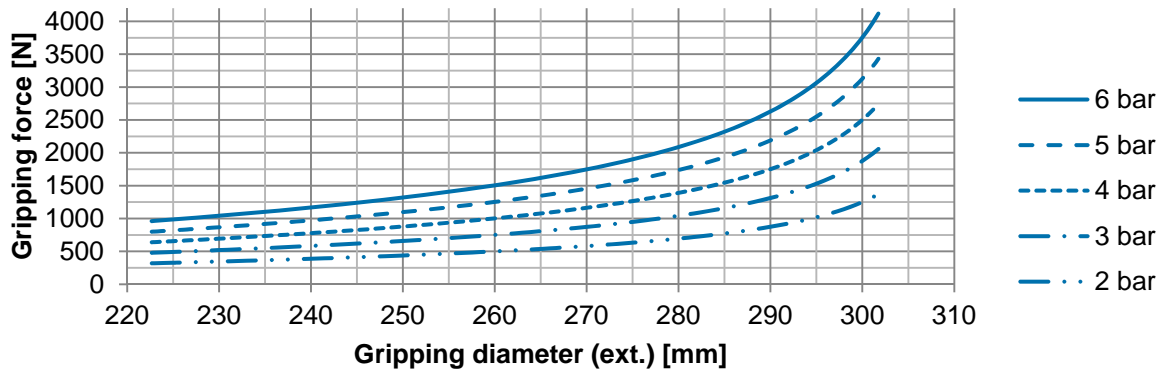


## theor. gripping force int. gripping (opening)

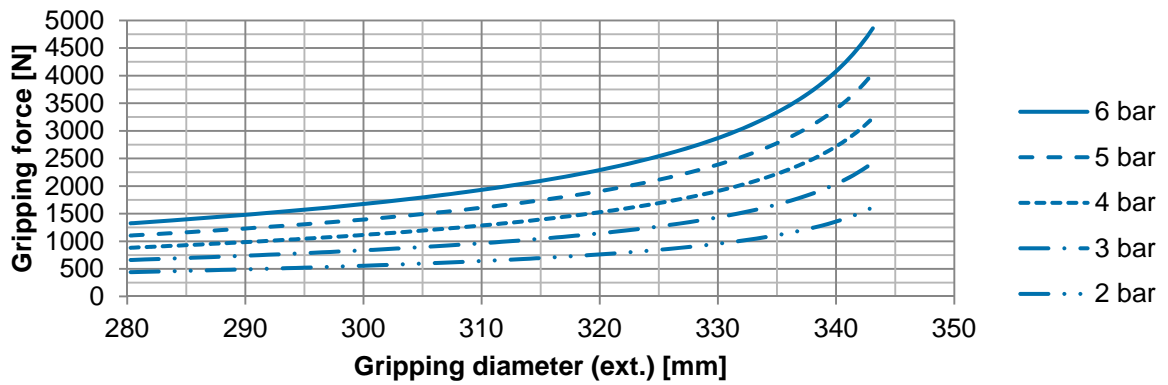
S



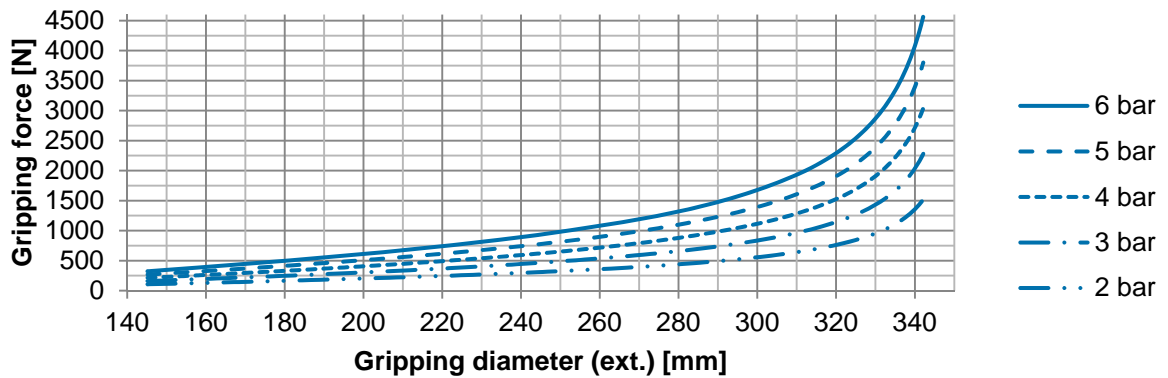
M



L

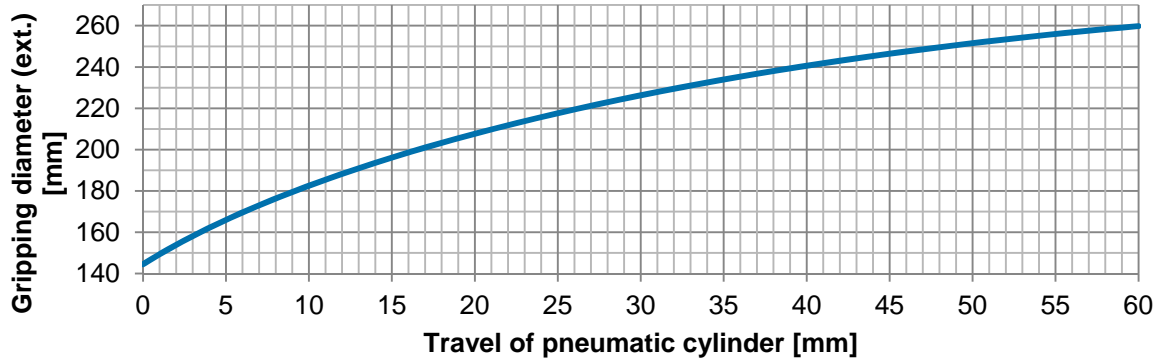


XL

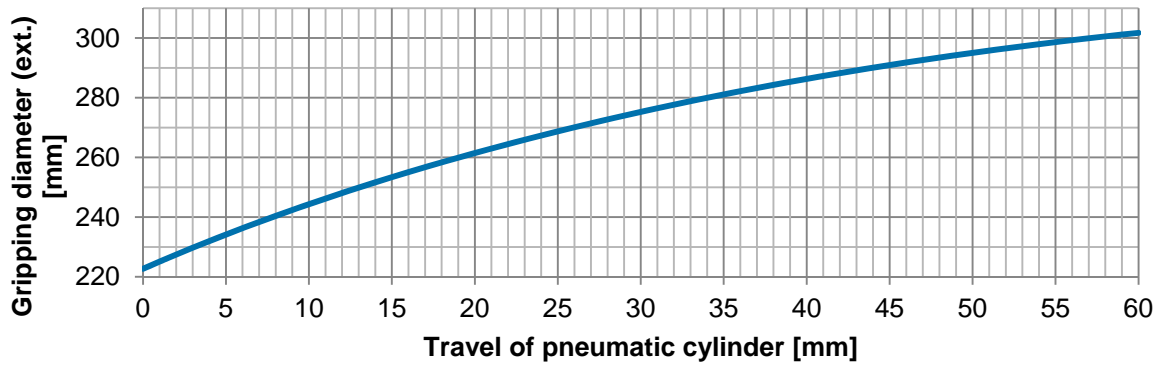


## Gripping diameter (ext.) <-> Cylinder travel

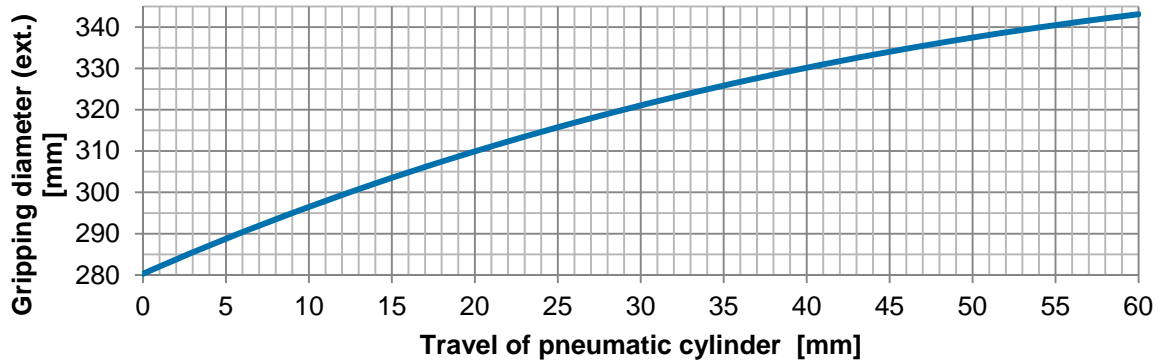
S



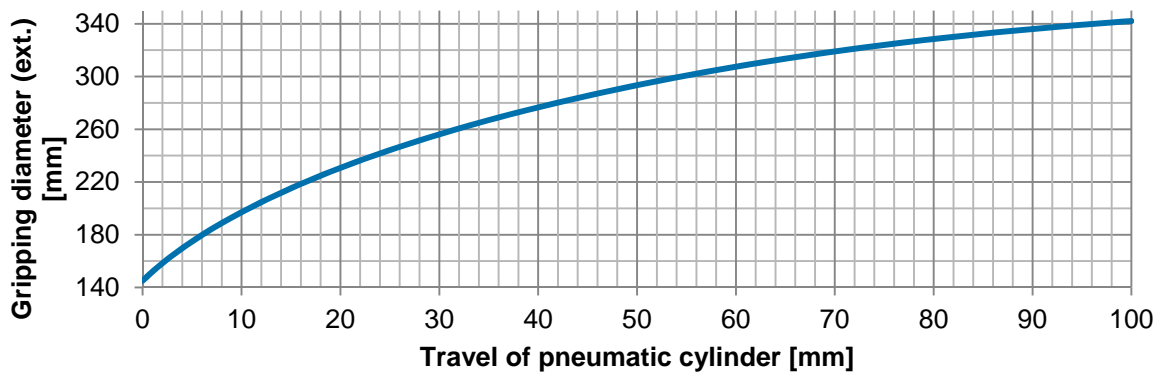
M



L

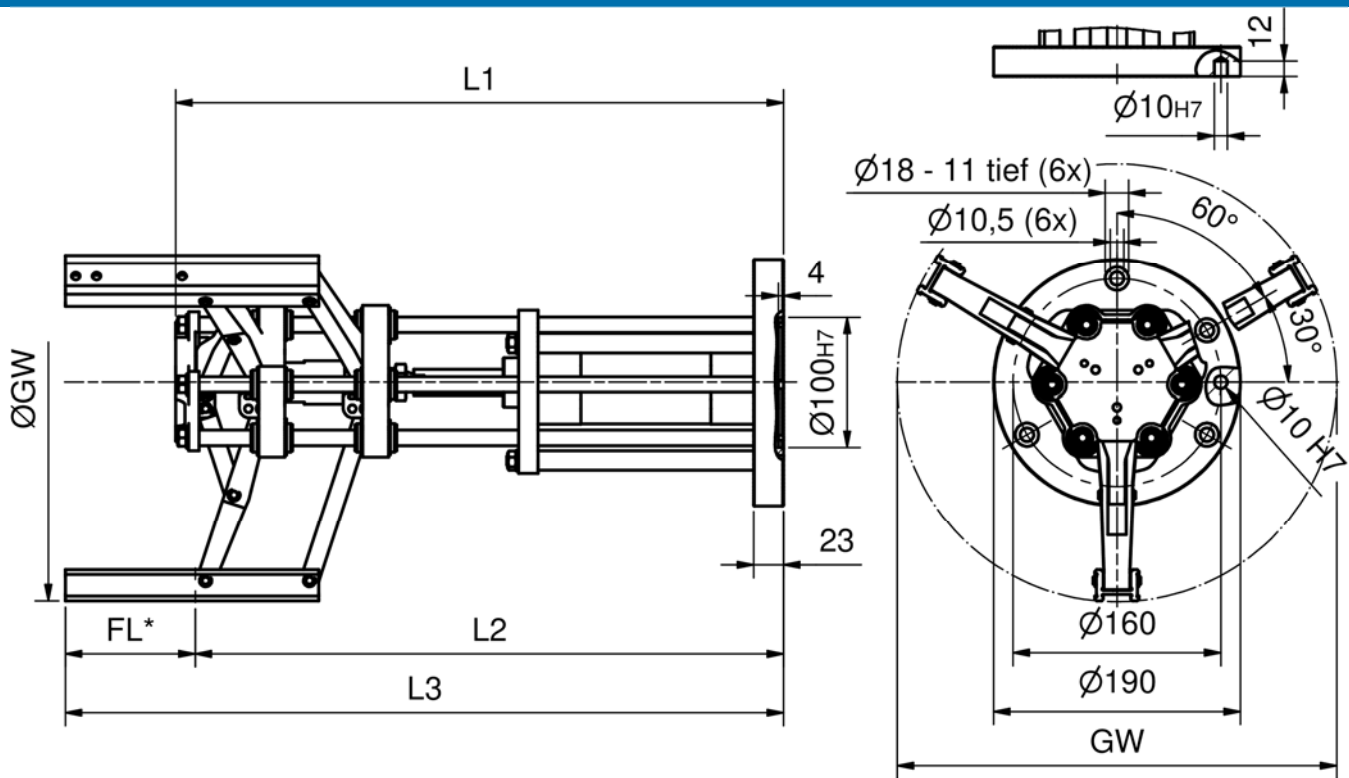


XL

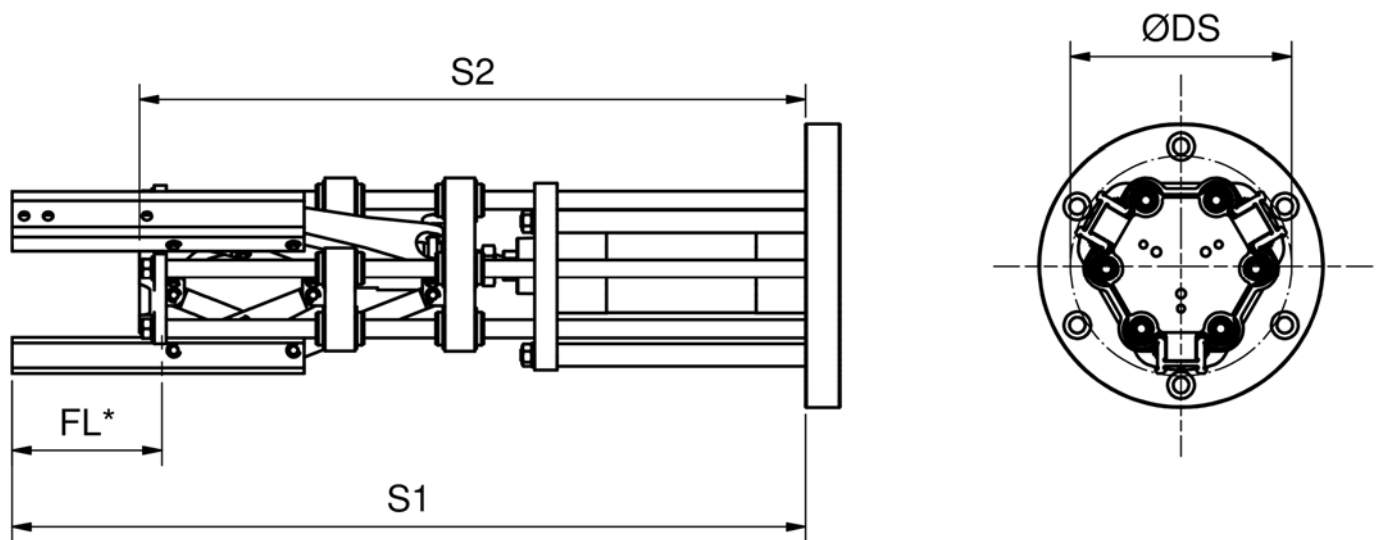




## Dimensions



## Minimum interfering diameter in closed state

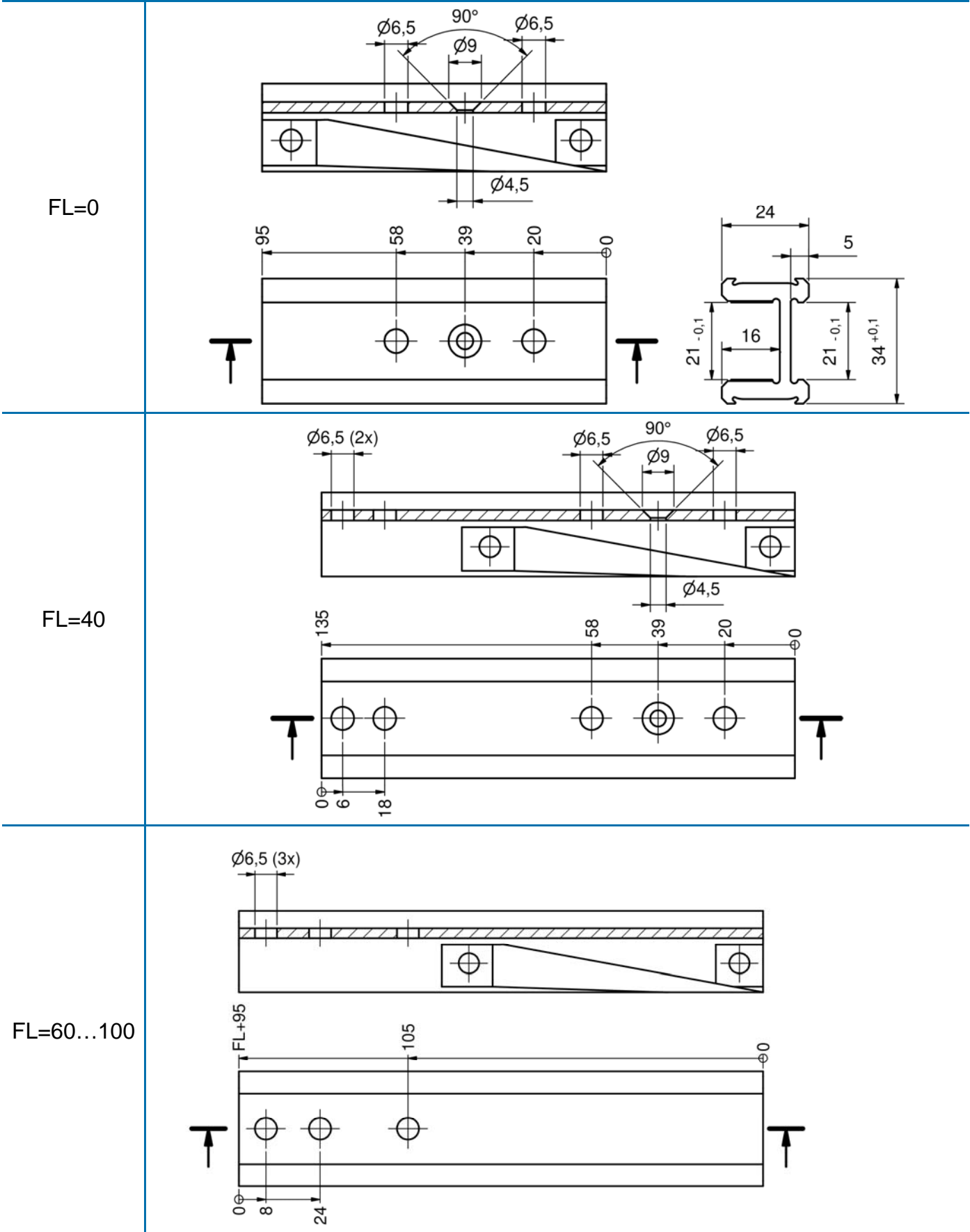


\*) Finger length

## Dimensions Gripper

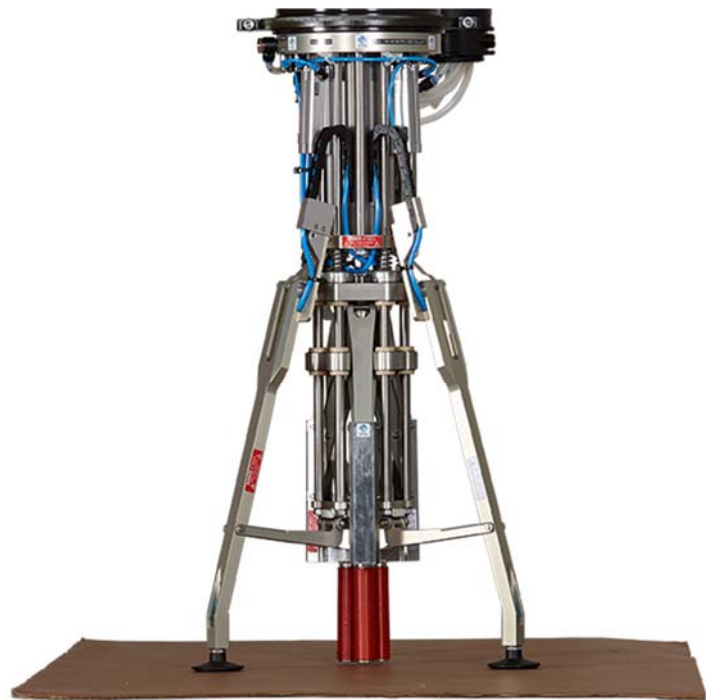
Version	GW	L1	L2	L3	ØDS	S1	S2
S	145...260	468	453	L2+FL	148	430+FL	445
M	223...302				225		
L	280...343				282		
XL	145...342	550	535		148	512+FL	527

## Dimensions Finger



## Option Suction Arms [-SG]:

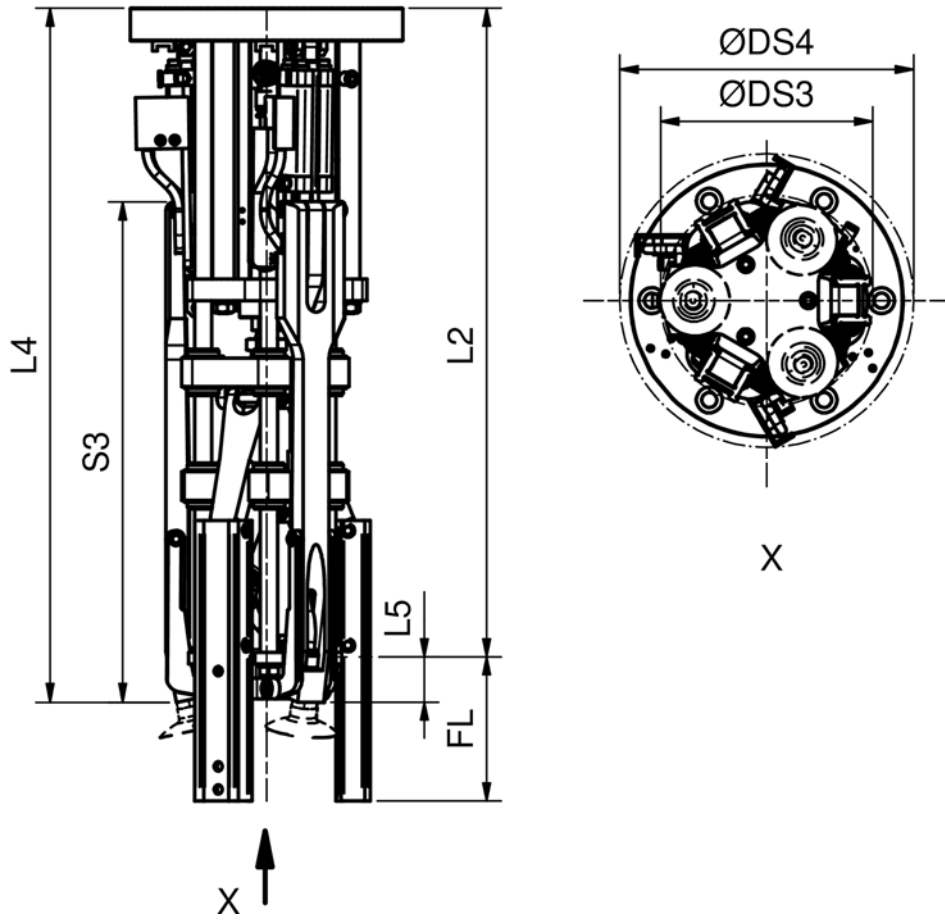
- Folding suction arms mounted at the gripper may be used for transposition of intermediate layers during piling up and depiling of objects.
- Arms are folded and unfolded pneumatically.
- Suction head and vacuum generator not included.



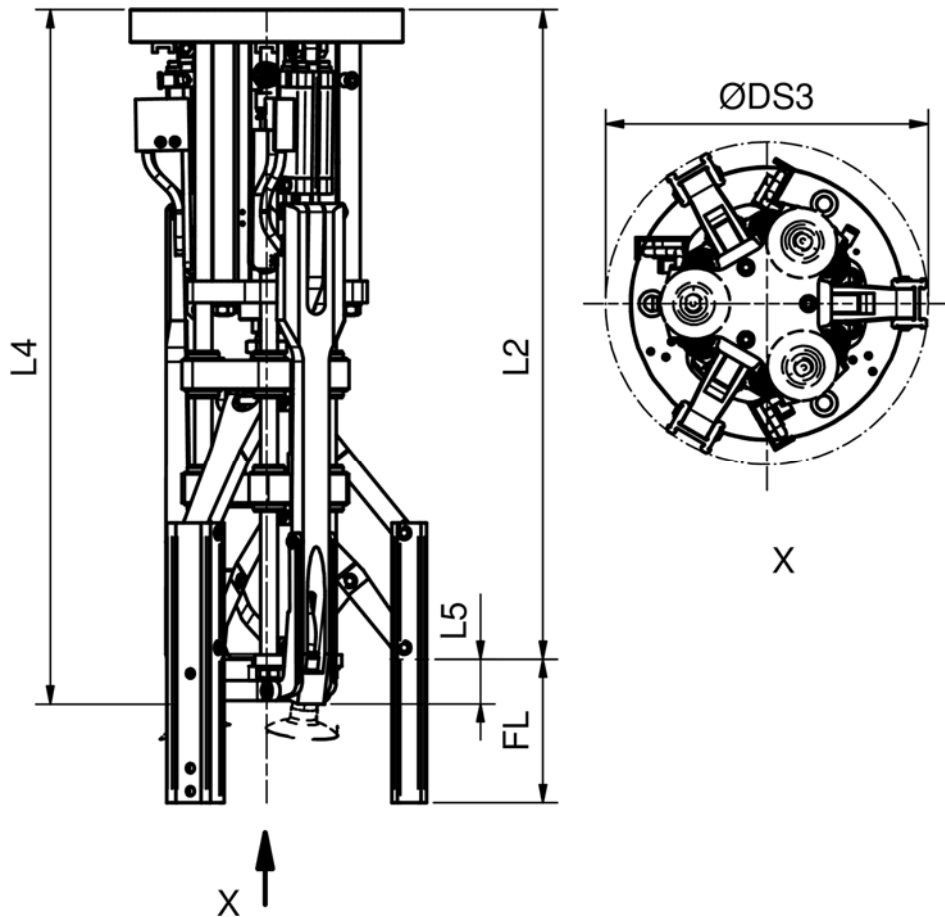
### Specification of Suction Arms

Version	S	M	L	XL
Number of suction arms		3		
Admissible mass of intermediate layer [kg]		3.0		
Actuation		Pneumatic		
Operating pressure of folding cylinder [bar]		4...6		
Operating medium		Compressed air acc. to ISO 8573-1:2010 [7:4:4] Oiled operation possible (required for further operation)		
Connection thread for suction head		G1/4" IG		
Max. Ø of suction head [mm]		53		
Cycle time for folding [s]		1		
Energy consumption per cycle [Normal liters at 6 bar]		0.6		
Operating temperature [°C]		-20...+80		
Additional mass [kg]		2.7		3.0

## Fingers and Suction Arms (Versions S & XL)



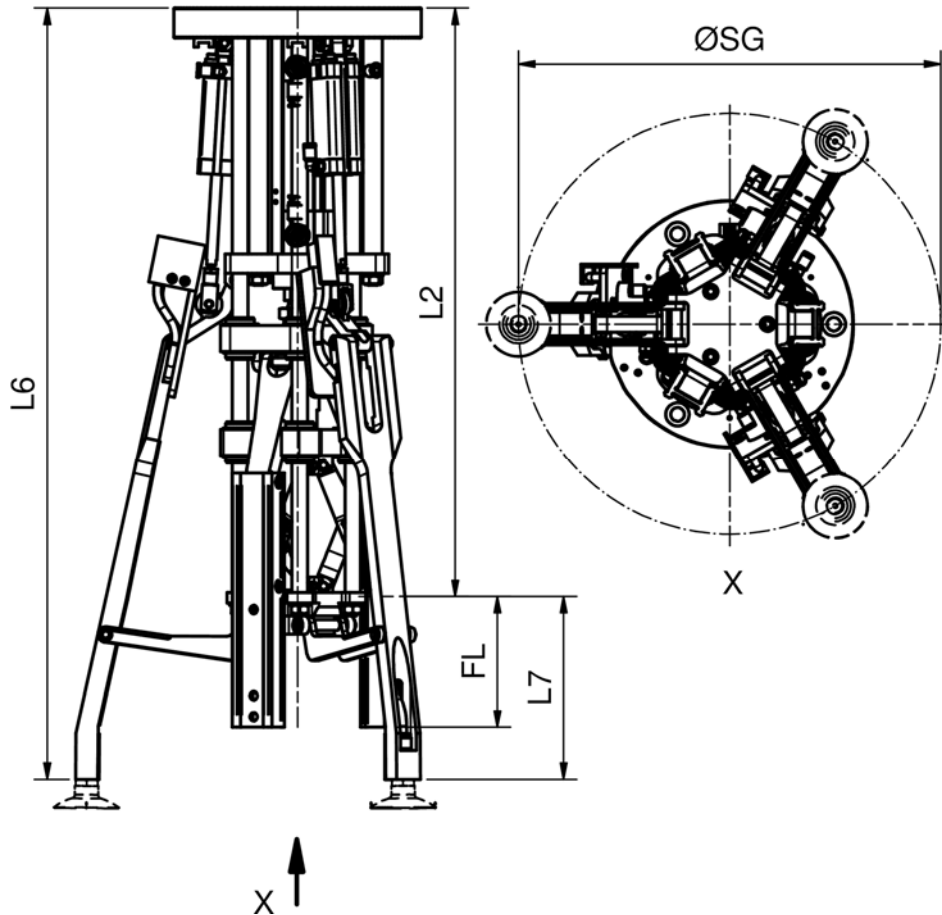
## Fingers and Suction Arms (Versions M & L)



# Modular Long Arm Gripper



Suction Arm Unfolded  
(All Versions)



## Dimensions together with suction arms

Version	L4	L5	ØDS3	S3*)	ØDS4	L6	L7	ØSG
S	484	31	148	349	205	593	140	324
M			225	-	-			
L			282	-	-			
XL	565	30	148	400	208	690	155	341

\*) S3: Length, for which ØDS3 is valid

## Option Amplification of Gripping Force [-GKV]:

Option 'Amplification of Gripping Force', proves to be useful for internal gripping of components with small diameters. While retracting the gripper, a certain portion of the cylinder force remains conserved in the springs, afterwards supporting the pneumatic cylinder during opening phase.

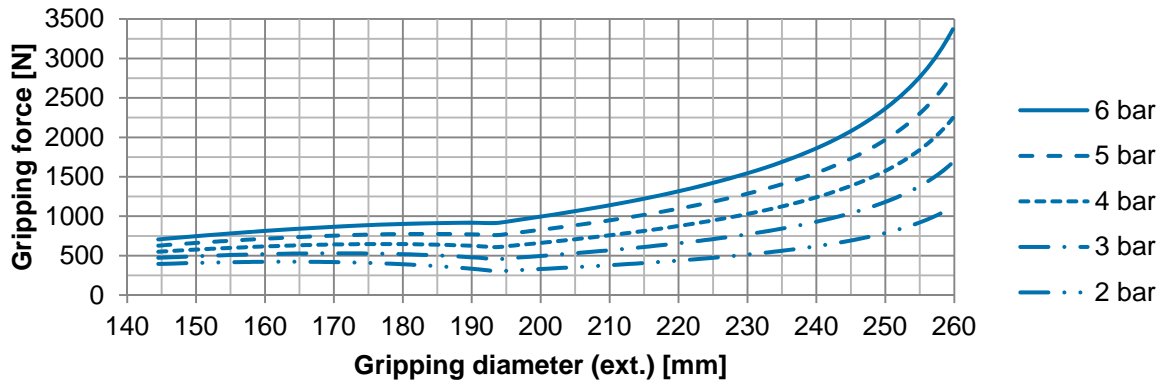


### Specification with Amplification Option

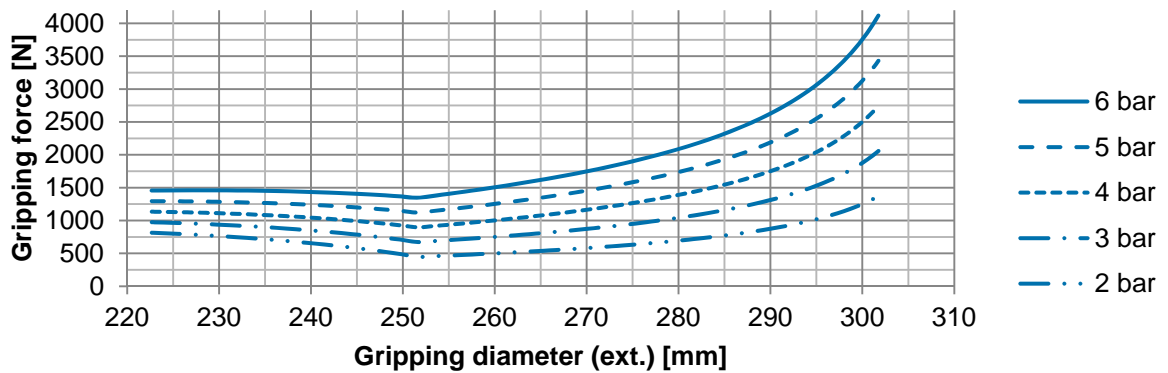
Version	S	M	L	XL
Gripping force closing [N]	391...2831	807...3460	1114...4080	272...3833
Gripping force opening [N]	706...3370	1347...4119	1724...4857	491...4563
Stroke of drive cylinder [mm]	60			100
Actuation	Pneumatic			
Operating pressure closing [bar]	4...6			
Operating pressure opening [bar]	2...6			
Operating medium without [-WM]	Compressed air acc. to ISO 8573-1:2010 [7:4:4] Oiled operation possible (required for further operation)			
Operating medium together with [-WM]	Compressed air acc. to ISO 8573-1:2010 [6:4:4] Oiled operation <b>not</b> possible Pressure dew point 10°C below env./med.			

## theor. gripping force int. gripping (opening) with amplification

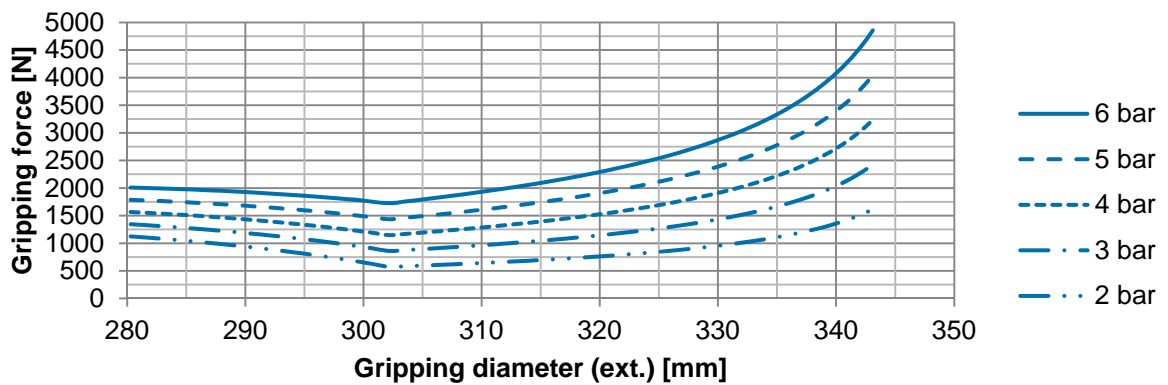
S



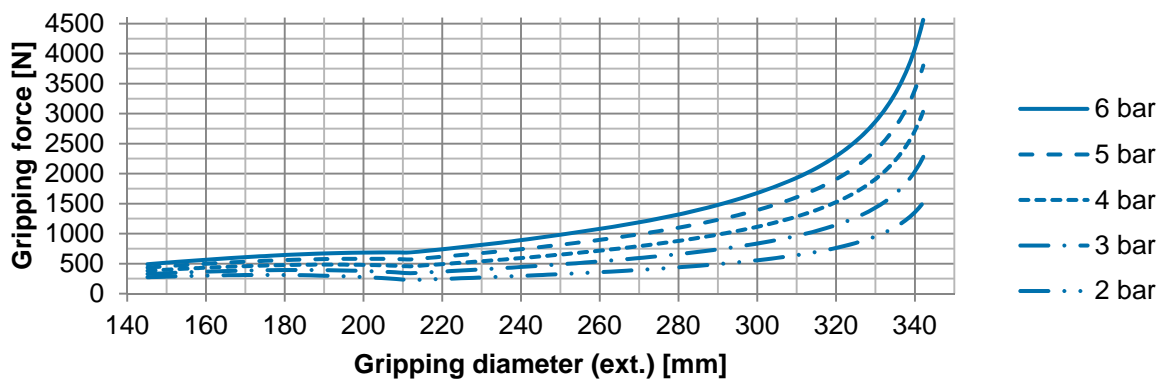
M



L



XL



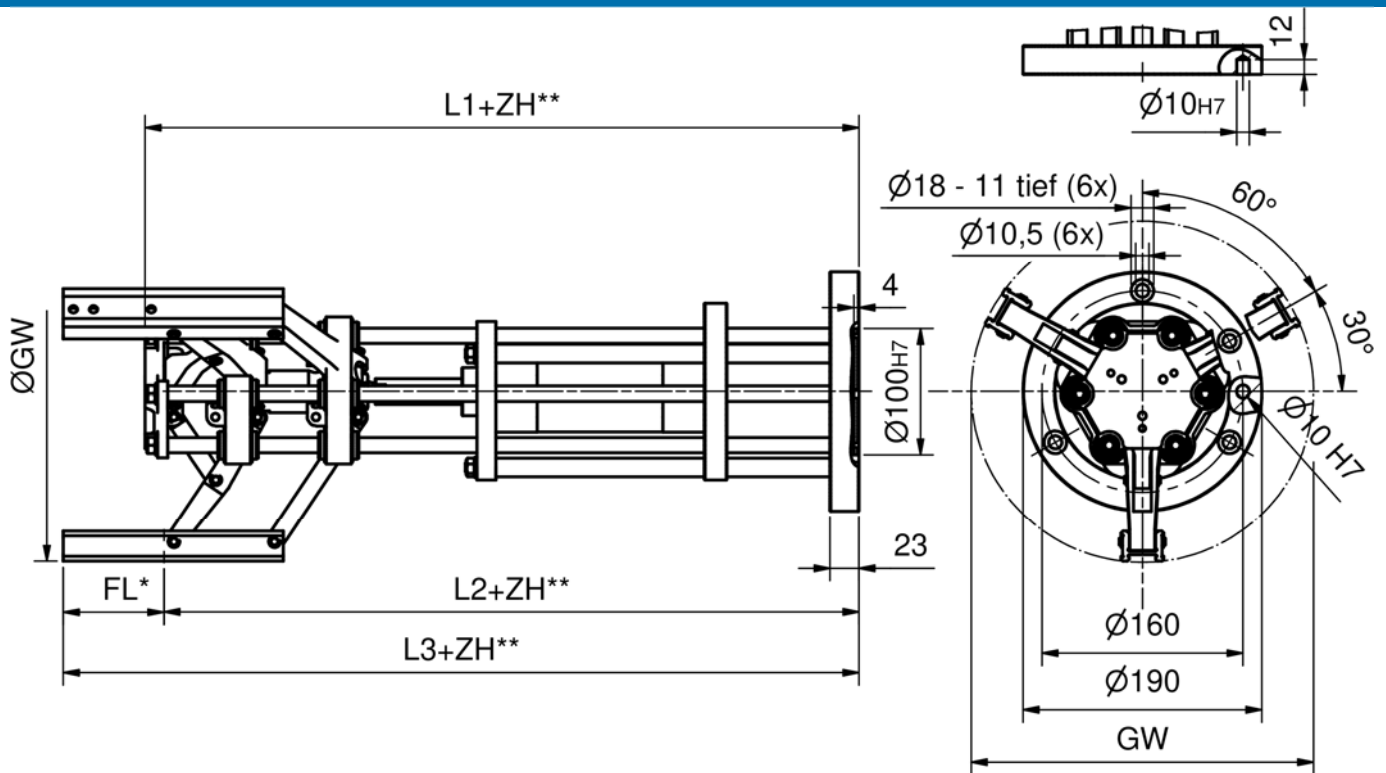
### Option Extension of Basic Unit [-ZHxxx]:



- Integration of an additional cage increases the total length of the gripper.
- This option is used to gain access to deeper boxes.
- Extensions:
  - By 100 mm (-ZH100)
  - By 200 mm (-ZH200)
  - Other lengths upon request



## Dimensions



\*) Finger length

\*\*) Extension of basic unit

## Dimensions of Gripper with Extension

Version	GW	L1	L2	L3
S	145...260	468	453	L2+FL
M	223...302			
L	280...343			
XL	145...342	550	535	

## Option Displacement Encoder System [-WM]:

- Integration of a displacement encoder system within the drive cylinder enables the gripping width to be controlled while grasping the component in question; or standstill of the gripper can be detected.
- By means of pneumatic positioning systems (e.g. of Festo company) access to intermediate positions becomes possible.
- Analog output signal: 0...10 V or 4...20 mA

Specification				
Version	S	M	L	XL
Actuation	Pneumatic			
Operating pressure [bar]	2...6			
Operating medium	Compressed air acc. to ISO 8573-1:2010 [6:4:4] Oiled operation <b>not</b> possible Pressure dew point 10°C below env./med.			
Mass of gripper [kg]	9.7	9.8	9.9	10.7

# Modular Long Arm Gripper



Order Code			
	<b>I105-300aaa-A-b-PNO-cc-ddeeffggggg</b>		
I105	Long arm gripper with piston diameter 50 mm		
300	Number of fingers	300	3 fingers
aaa	Length of fingers [mm]	000, 040, 060, 080, 100	
A	Motion of fingers	A	parallel
b	Version: Gripping width and force	S, M, L, XL	
cc	Fixing holes for cheeks in fingers	00	w/o holes
		01	with holes
dd	Displacement encoder system		w/o
		-WM	with
ee	Suction Arms		w/o
		-SG	with
ff	Amplification of gripping force for internal gripping at small gripping width		w/o
		-GKV	with
ggggg	Extension of basic unit		w/o
		-ZH100	+100 mm
		-ZH200	+200 mm



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