

Parallel gripper with T-slot guide

Features

1 Stroke

- 2 Hole for socket head screw
- 3 Lubricating nipple for mechanism
- 4 Removable centering sleeves
- 5 Spring-loaded trip dogs
- 6 Sensor mount
- 7 Air connection at the front (alternatively on the back and bottom)

Accessories

- **10** Universal Jaws
- 11 Proximity Switch
- 12 Cable for proximity switch
- 13 Pneumatic fittings
- 14 Pneumatic hose

The final tests ...

...have long been aced, and in several circles, declared the winner: The T-slot guide, good old traditional engineering. Rugged and dependable no matter which way you look at it. All of which are made from hard-coated aluminum and have hardened and ground T-slot steel jaws.

We offer the sizes GP406 to GP430 in up to 7 different models - with springs (for self-locking, opening and closing) and without. Except for the three smallest sizes, the standard version (without spring, large stroke, small force) is available as a hydraulic model with 30 bar operating pressure. All grippers are also available temperatureresistant up to 150°C.

All grippers are maintenance-free up to 1.5 million cycles, after which they can be regreased at the lubricating nipple between the jaws. If oil-free air is used, we recommend lubricating the cylinder with Renolit. Several attachment holes allow for added mounting convenience.

The centering sleeves on the jaws ensure a precise mounting of the tooling fingers, which is important if they are changed often. In this case, we can also supply universal jaws made of steel

and aluminum. For more details, see accessories on page 17. The pneumatic ports for opening and closing are located on the front, back and bottom. At the bottom, the ports are closed with grub screws and can be used for tubeless connections.

For part-sensing, we have something very special, indeed: Under the jaws, there are spring-actuated trip dogs, which can be adjusted precisely and infinitely with a screw. The setting can be fixed with the grub screws located on the side of the jaws. Sensor mounts are located beneath the trip dogs, allowing optimum mounting of a proximity switch.

Note:

If the gripper is used as a single-acting device, the unused port must be vented or an air filter must be installed to prevent a vacuum in the piston chamber from hindering operation.

Explanations

The following abbreviations mean;

Opening / closing by spring:

- NO = Standard design, self-locking, spring opening (long stroke, standard force)
- NC = Standard design, self-locking, spring closing (long stroke, standard force)
- **SC** = Heavy-duty design, self-locking, spring closing (short stroke, large force)
- **S0** = Heavy-duty design, self-locking, spring opening (short stroke, large force)

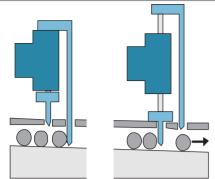
Without spring:

- N = Standard design, (long stroke, standard force)
- **S** = Heavy-duty design, (short stroke, large force)

Hydraulic Version:

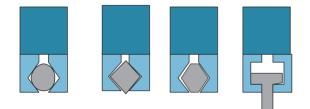
NH = Standard design, hydraulic up to 40 bar (long stroke, large force)

Application Ideas

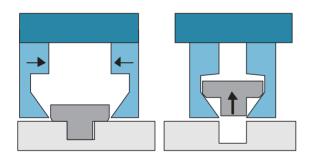


Parallel grippers can be used for separating parts. A Gripper closing - all the balls are retained B Gripper opening - one ball is released, the others are retained.

(Also see our separator).



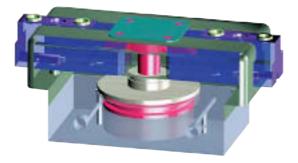
Different profiles may be gripped using prism-shaped jaws (larger holding force).

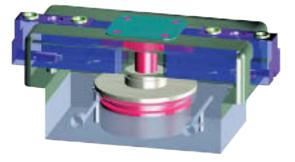


The 45P slope of the jaws allows the part to be lifted out of the hole when the gripper closes. This eliminates the need for a retraction mechanism even with the parallel grippers.

Schematic...

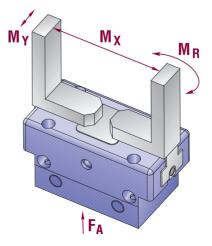
On every product page, you will find the following schematic which helps describe the max allowable forces and movements for that particular model.



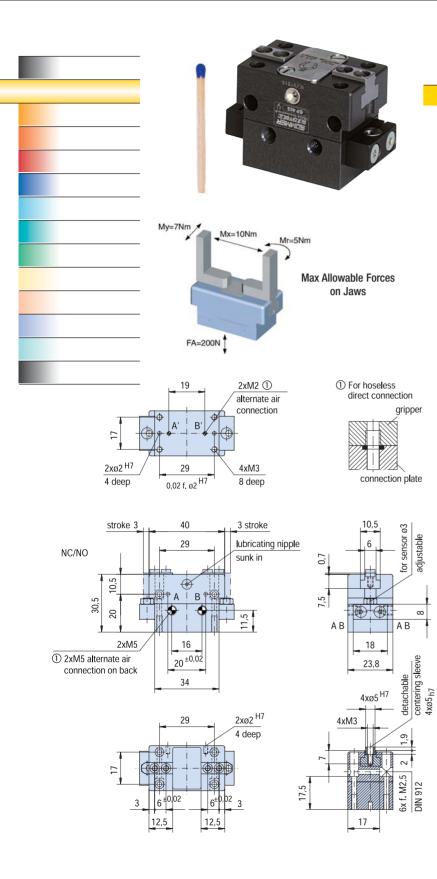


Operation

A double-acting pneumatic cylinder drives a slide (red). The guided T-slot jaws (blue) are moved linearly to open and closed positions by the slope on the slide. On the "S" version, the slopes are steeper. The translation allows more force with a shorter stroke. In the NC and SC models, a compression spring is installed at the top of the piston chamber, which can be used for self-locking and boosting power during closing or for single-acting operation. Conversely, the NO and SO models have a spring, which supports opening, installed at the bottom of the piston chamber.



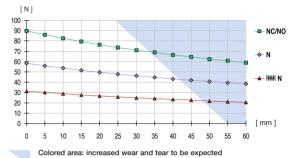
Parallel	gripper	Three-ja	w gripper	Angle g	ripper lı	nternal-hole gr	ipper	Other grippe	rs	Electric gri	ipper				
GP403	GP404	GP406	GP408	GP410	GP412	GP416	GP420	GP430	Uı	niversal jaw					



Parallel gripper with T-slot guide

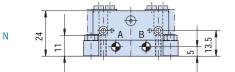
Advantages, benefits, comparisons and tips! Stacks of information all about this product are on page 17.

Gripping force as a function of jaw length



Order no.: GP403 GP403 GP403 Ν NC NO Drive: pneum. pneum. pneum Stroke per jaw [mm]: 3 3 3 Gripping force in closing and opening [N]: 58 _ Gripping force in closing [N]: 90 Gripping force in opening [N]: 90 Self-locking via: DSV1/8 Spring Spring Closing time/opening time [s]: 0,006 0,01 0,01 Repeatability ± [mm]: 0,025 0,025 0.025 Min./max. operating pressure [bar]: 3/8 5/8 5/8 Air volume per cycle [cm³]: 2 3 3 Min./max. operating temperature [°C]: 5 / 80 5 / 80 5 / 80 Temp. resistant version up to 150° C [add to part number]: T2 T2 Т2 Piston diameter [mm]: 16 16 16 Weight [kg]: 0,08 0,1 0,1

All data measured at 6 bar.



Parallel	gripper	Three-ja	aw gripper	Angle g	ripper	Internal-hole gr	ipper C)ther grippe	rs	Electric gri	pper			
GP403	GP404	GP406	GP408	GP410	GP412	GP416	GP420	GP430	Ur	niversal jaw				

with T-slot guide

Order no.:

GP404

Ν

Drive: pneum.

4

115

-

DSV1/8

0,008

0.025

3/8

3

5 / 80

T2

20

Weight [kg]: 0,13

Self-locking via:

GP404

NC

pneum.

4

-

Gripping force in closing [N]: 155

Gripping force in opening [N]:

Spring

0,012

0,025

5/8

Air volume per cycle [cm³]:

5

5 / 80

T2

20

0,17

All data measured at 6 bar

Piston diameter [mm]:

Min./max. operating pressure

Repeatability ± [mm]:

Closing time/opening time [s]:

Stroke per jaw [mm]:

GP404

NO

pneum.

4

_

155

Spring

0,012

0.025

5/8

5

5 / 80

Т2

20

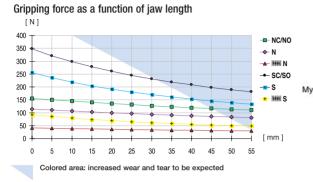
0,17

Temp. resistant version up to 150C [add to part number]

Min./max. operating temperature [°C]

Gripping force in closing and opening [N]:

Advantages, benefits, comparisons and tips! Stacks of information all about this product are on page 17.



GP404

s

pneum.

2

255

DSV1/8

0,008

0.025

3/8

3

5 / 80

Т2

20

0,13

[bar]:

GP404

SC

pneum.

2

350

Spring

0,012

0,025

5/8

5

5 / 80

T2

20

0,17

GP404

so

pneum

2

_

350

Spring

0,012

0.025

5/8

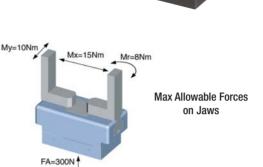
5

5 / 80

T2

20

0,17



25

35

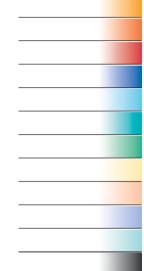
Δ R

20

2xø3^{H7}

6 deep

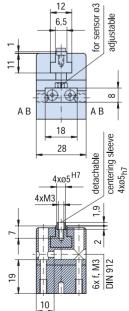
 Φ



1) for hoseless direct connection



ection plate



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e S	. 12 .

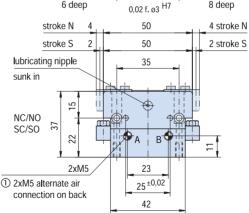
2xM3 ①

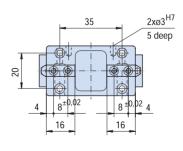
alternate air

connection

4xM4

8 deep





¢

15

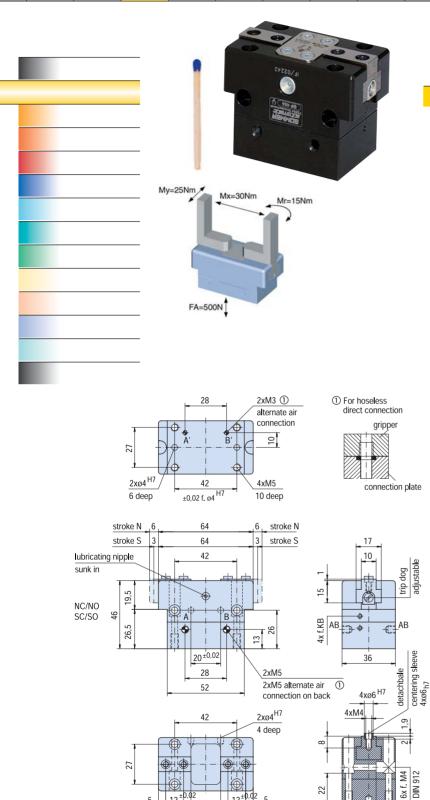
See Page 17 for Accessory list.

N/S

30

ç

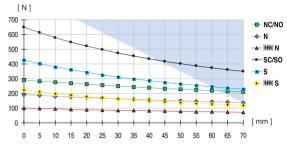
Parallel	gripper	Three-jav	w gripper	Angle g	ripper l	nternal-hole gr	ipper C	Other gripper	'S	Electric gri	ipper
GP403	GP404	GP406	GP408	GP410	GP412	GP416	GP420	GP430	U	niversal jaw	



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Gripping force as a function of jaw length

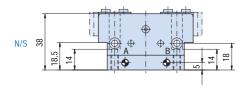


Colored area: increased wear and tear to be expected

Order no					
GP406 N	GP406 NC	GP406 NO	GP406 S	GP406 SC	GP406 SO
Drive:					
pneum.	pneum.	pneum.	pneum.	pneum.	pneum.
Stroke p	er jaw [mr	n]:			
6	6	6	3	3	3
Gripping	force in c	losing and	l opening	[N]:	
190	-	-	420	-	-
Gripping	force in c	losing [N]:			
-	290	-	-	650	-
Gripping	force in o	pening [N]:		
-	-	290	-	-	650
Self-lock	king via:				
DSV1/8	Spring	Spring	DSV1/8	Spring	Spring
Closing	time/open	ing time [s	s]:		
0,009	0,015	0,015	0,009	0,015	0,015
Repeata	bility ± [m	m]:		_	
0,025	0,025	0,025	0,025	0,025	0,025
Min./ma	x. operatin	g pressur	e [bar]:		
3/8	5/8	5/8	3/8	5/8	5/8
Air volur	ne per cyc	le [cm³]:			
7	11	11	7	11	11
	x. operatin				
5 / 80	5 / 80	5 / 80	5 / 80	5 / 80	5 / 80
Temp. re	sistant ve	rsion up to	o 150° C [a	dd to part	number]:
T2	T2	T2	T2	T2	T2
	iameter [n	nm]:			
25	25	25	25	25	25
Weight [_			
0,27	0,32	0,32	0,27	0,32	0,32

All data measured at 6 bar.

See Page 17 for Accessory list.



12[±]

22

5

22

23

,02

5

12^{±0}

Parallel	gripper	Three-ja	w gripper	Angle g	ripper	Internal-hole gr	ipper O	ther grippe	rs	Electric gri	pper			
GP403	GP404	GP406	GP408	GP410	GP412	GP416	GP420	GP430	Ur	niversal jaw				

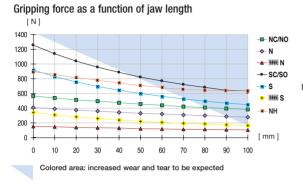
FA=900N

20

S

Parallel gripper with T-slot guide

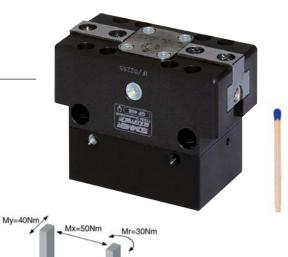
Advantages, benefits, comparisons and tips! Stacks of information all about this product are on page 17.



Order no						
GP408	GP408	GP408	GP408	GP408	GP408	GP408
N	NC	NO	GF408 S	SC	SO	NH
Drive:						
pneum.	pneum.	pneum.	pneum.	pneum.	pneum.	hydr.
Stroke p	er jaw [mr	n]:				
8	8	8	4	4	4	8
Gripping	force in c	losing and	l opening	[N]:		
400	-	-	900	-	-	920
Gripping	force in c	losing [N]				
-	560	-	-	1260	-	-
Gripping	force in o	pening [N]:			
-	-	560	-	-	1260	-
Self-loci	king via:					
DSV1/8	Spring	Spring	DSV1/8	Spring	Spring	-
Closing	time/open	ing time [s	s]:			
0,012	0,02	0,02	0,012	0,02	0,02	0,5
Repeata	bility ± [m	m]:				
0,025	0,025	0,025	0,025	0,025	0,025	0,025
Min./ma	x. operatin	g pressure	e [bar]:			
3/8	5/8	5/8	3/8	5/8	5/8	10 / 40
Air volur	ne per cyc	le [cm³]:				
18	27	27	18	27	27	-
Oil volur	ne per cyc	le [cm³]:				
-	-	-	-	-	-	8
Min./ma	x. operatin	ig tempera	ature [°C]:			
5 / 80	5 / 80	5 / 80	5 / 80	5 / 80	5 / 80	5 / 80
Temp. re	esistant ve	rsion up to	o 150° C [a	dd to part	number]:	
T2	T2	T2	T2	T2	T2	T2
Piston d	iameter [n	nm]:				
35	35	35	35	35	35	24
Weight [kg]:					
0,51	0,58	0,58	0,51	0,58	0,58	0,51

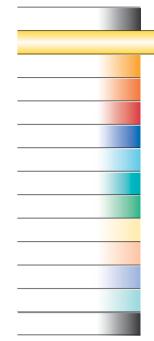
All data measured at 6 bar (hydr. 30 bar).

See Page 17 for Accessory list.



Max Allowable Forces

on Jaws



gripper side

trip dog adjustable

AB

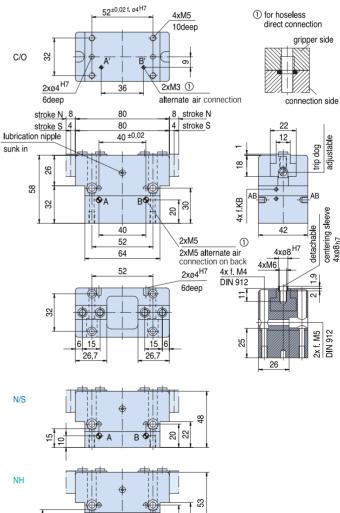
detachable

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2x f. M5 DIN 912

centering sleeve 4xø8_{h7}

€



2xM5 in rear section ①

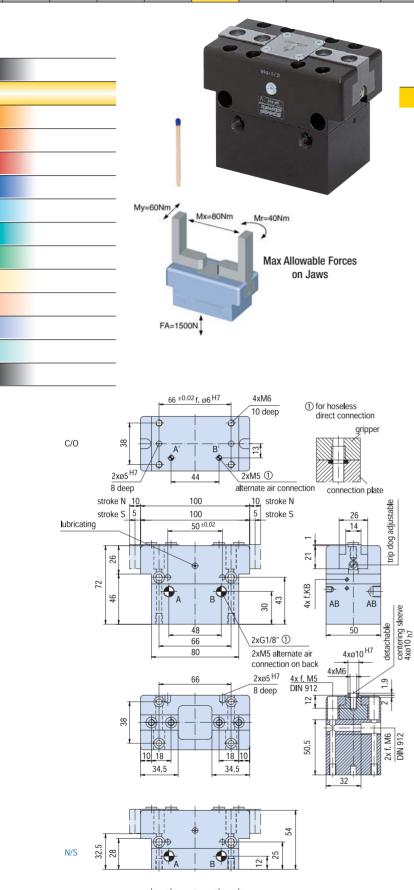
27

2xG1/8"

25

18

Paralle	gripper	Three-ja	w gripper	Angle g	ripper li	nternal-hole gr	ipper O	ther gripper	'S	Electric gri	pper	_	_	_	_	_	_
GP403	GP404	GP406	GP408	GP410	GP412	GP416	GP420	GP430	Ur	niversal jaw							



28

B

A

35,5

33

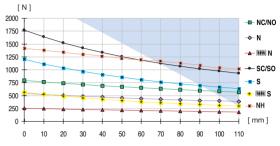
NH

Parallel gripper

with T-slot guide

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Gripping force as a function of jaw length



Colored area: increased wear and tear to be expected

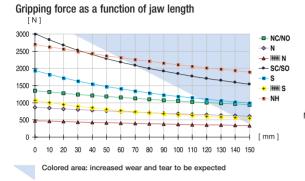
Order no	D.:					
GP410 N	GP410 NC	GP410 NO	GP410 S	GP410 SC	GP410 SO	GP410 NH
Drive:						
pneum.	pneum.	pneum.	pneum.	pneum.	pneum.	hydr.
Stroke p	er jaw [mi	n]:				
10	10	10	5	5	5	10
Gripping	force in c	losing and	l opening	[N]:		
560	-	-	1200	-	-	1450
Gripping	g force in c	losing [N]				
-	780	-	-	1760	-	-
Gripping	g force in c	pening [N]:			
-	-	780	-	-	1760	-
Self-loci	king via:					
DSV1/8	Spring	Spring	DSV1/8	Spring	Spring	-
Closing	time/open	ing time [s	i]:			
0,05	0,08	0,08	0,05	0,08	0,08	0,4
Repeata	bility ± [m	m]:				
0,025	0,025	0,025	0,025	0,025	0,025	0,025
Min./ma	x. operatir	ng pressure	e [bar]:			
3/8	5/8	5/8	3/8	5/8	5/8	10 / 40
Air volu	me per cyc	le [cm³]:				
28	52	52	28	52	52	-
Oil volur	ne per cyc	le [cm³]:				
-	-	-	-	-	-	18
Min./ma	x. operatir	ng tempera	ture [°C]:			
5 / 80	5 / 80	5 / 80	5 / 80	5 / 80	5 / 80	5 / 80
Temp. re	esistant ve	rsion up to	o 150° C [a	dd to part	number]:	
T2	T2	T2	T2	T2	T2	T2
Piston d	liameter [n	nm]:				
40	40	40	40	40	40	30
Weight [kg]:					
0,82	1	1	0,82	1	1	0,82

All data measured at 6 bar (hydr. 30 bar).

Parallel	gripper	Three-ja	w gripper	Angle g	ripper	Internal-hole gr	ipper C)ther grippe	rs	Electric gri	pper			
GP403	GP404	GP406	GP408	GP410	GP412	GP416	GP420	GP430	Ur	niversal jaw				

Parallel gripper with T-slot guide

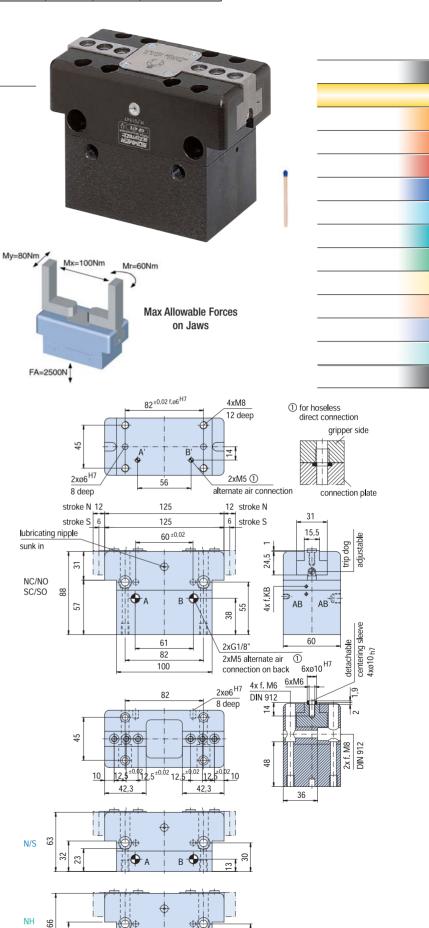
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	o.:					
GP412 N	GP412 NC	GP412 NO	GP412 S	GP412 SC	GP412 SO	GP412 NH
Drive:						
pneum.	pneum.	pneum.	pneum.	pneum.	pneum.	hydr.
Stroke p	er jaw [mr	n]:				
12	12	12	6	6	6	12
Gripping	force in c	losing and	l opening	[N]:		
900	-	-	1950	-	-	2700
Gripping	force in c	losing [N]:				
-	1400	-	-	3000	-	-
Gripping	force in o	pening [N):			
-	-	1400	-	-	3000	-
Self-lock	king via:					
DSV1/8	Spring	Spring	DSV1/8	Spring	Spring	-
Closing	time/open	ing time [s	i]:			
0,08	0,1	0,1	0,08	0,1	0,1	0,5
Repeata	bility ± [m	m]:				
0,025	0,025	0,025	0,025	0,025	0,025	0,025
Min./ma	x. operatin	g pressur	e [bar]:			
3/8	5/8	5/8	3/8	5/8	5/8	10 / 40
Air volur	ne per cyc	le [cm³]:				
55	100	100	55	100	100	-
Oil volur	ne per cyc	le [cm³]:				
-	-	-	-	-	-	34
- Min./ma	- x. operatin	- Ig tempera	- ature [°C]:	-	-	34
- Min./ma 5 / 80	- x. operatin 5 / 80	- ig tempera 5 / 80	- ature [°C]: 5 / 80	- 5 / 80	- 5 / 80	34 5 / 80
5 / 80	-	5 / 80	5 / 80			
5 / 80	5 / 80	5 / 80	5 / 80			
5 / 80 Temp. re T2	5 / 80 esistant ve	5 / 80 rsion up to T2	5 / 80 • 150° C [a	dd to part	number]:	5 / 80
5 / 80 Temp. re T2	5 / 80 esistant ve T2	5 / 80 rsion up to T2	5 / 80 • 150° C [a	dd to part	number]:	5 / 80
5 / 80 Temp. re T2 Piston d	5 / 80 esistant ve T2 iameter [m 50	5 / 80 rsion up to T2 nm]:	5 / 80 • 150° C [a T2	dd to part T2	number]: T2	5 / 80 T2

All data measured at 6 bar (hydr. 30 bar).

See Page 17 for Accessory list.



4

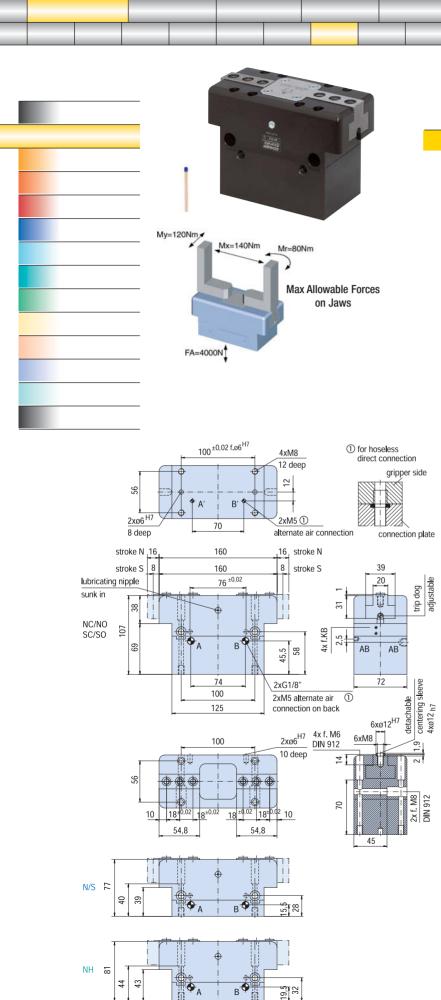
33

16

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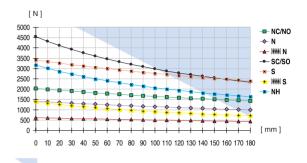
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35



with T-slot guide

Advantages, benefits, comparisons and tips! Stacks of information all about this product are on page 17.



oraci ne	o.:					
GP416 N	GP416 NC	GP416 NO	GP416 S	GP416 SC	GP416 SO	GP416 NH
Drive:						
pneum.	pneum.	pneum.	pneum.	pneum.	pneum.	hydr.
Stroke p	er jaw [mr	n]:				
16	16	16	8	8	8	16
Gripping	force in c	losing and	d opening	[N]:		
1400	-	-	3150	-	-	3350
Gripping	force in c	losing [N]	:			
-	2050	-	-	4550	-	-
Gripping	force in o	pening [N]:			
-	-	2050	-	-	4550	-
Self-loci	king via:					
DSV1/8	Spring	Spring	DSV1/8	Spring	Spring	-
Closing	time/open	ing time [s	s]:			
0,12	0,2	0,2	0,12	0,2	0,2	0,6
Repeata	bility ± [m	m]:				
0,025	0,025	0,025	0,025	0,025	0,025	0,025
Min./ma	x. operatir	ig pressur	e [bar]:			
3/8	5/8	5/8	3/8	5/8	5/8	10 / 40
Air volur	ne per cyc	le [cm³]:				
117	183	183	117	183	183	-
Oil volur	ne per cyc	le [cm³]:				
-	-	-	-	-	-	58
Min./ma	x. operatin	ig tempera	ature [°C]:			
5 / 80	5 / 80	5 / 80	5 / 80	5 / 80	5 / 80	5 / 80
Temp. re	esistant ve	rsion up to	o 150° C [a	dd to part	number]:	
Т3	Т3	Т3	Т3	Т3	Т3	Т3
Piston d	iameter [n	nm]:				
60	60	60	60	60	60	45
00						
Weight [kg]:					

All data measured at 6 bar (hydr. 30 bar).

Paralle	gripper	Three-ja	w gripper	Angle gr	ipper I	nternal-hole gr	ipper O	ther gripper	s	Electric grip	oper	
GP403	GP404	GP406	GP408	GP410	GP412	GP416	GP420	GP430	Ur	niversal jaw		

with T-slot guide

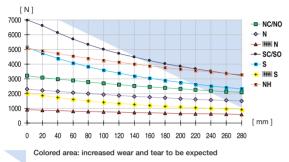
Order no.: GP420

GP420

GP420

Advantages, benefits, comparisons and tips! Stacks of information all about this product are on page 17.



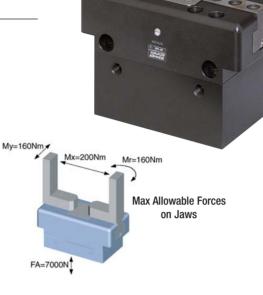


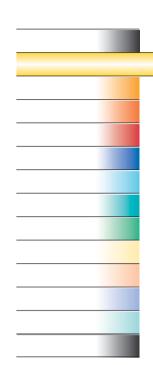
GP420

GP420

GP420

GP420





2xø10 H7 12 deep	128±0.02 f. ø10 ^{H7}	4xM12 16 deep 2xM5 ① alternate air conne	① for hoseless direct connection gripper side
stroke N 20	200	20 stroke N	oonnoonon plato
stroke S 10	200	10 stroke S	42
	100 ^{±0,02}		
lubricating nipple sunk in NC/NO		80 4x1KB 37	AB AB AB
SC/SO	A B 102 128 160	2xG1/4" 2xM5 alternate air connection on back	0 01Wx9 4 xo14h7 4 xo14h7
		bxxx8H7 4x f. M10 Dideep DIN 912 N Image: Comparison of the second	2xf. M12 25 24
NH	♣ B ♣	<u>e</u> 44	

в

∐⊕_A

38 33

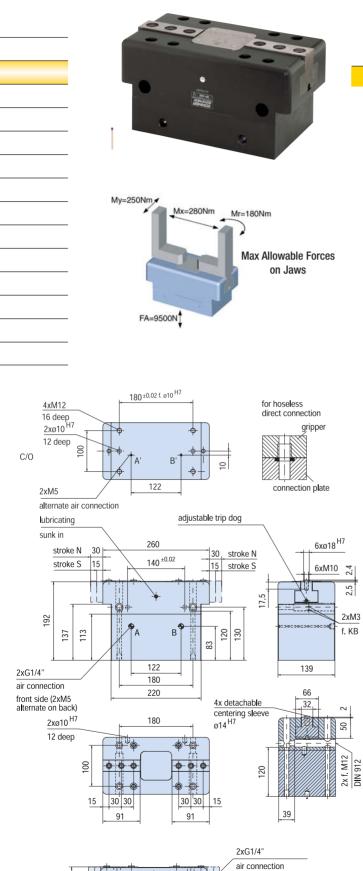
47

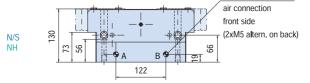
22

Ν NC NO s SC so NH Drive: pneum. pneum. pneum. pneum pneum. pneum. hydr. Stroke per jaw [mm]: 20 20 10 20 20 10 10 Gripping force in closing and opening [N]: 2300 -_ 5100 5100 . Gripping force in closing [N]: 3200 7000 ---_ -Gripping force in opening [N]: 3200 7000 _ Self-locking via: DSV1/8 Spring Spring DSV1/8 Spring Spring Closing time/opening time [s]: 0,15 0,25 0,25 0,25 0,25 0,6 0,15 Repeatability ± [mm]: 0.025 0.3 0.025 0,3 0,3 0,3 0.025 Min./max. operating pressure [bar]: 3/8 5/8 5/8 3/8 5/8 5/8 10 / 40 Air volume per cycle [cm³] 233 583 583 233 583 583 _ Oil volume per cycle [cm3]: 110 Min./max. operating temperature [°C]: 5 / 80 5 / 80 5 / 80 5 / 80 5 / 80 5 / 80 5 / 80 Temp. resistant version up to 150° C [add to part number] тз Т3 тз тз тз Т3 ТЗ Piston diameter [mm]: 80 80 80 80 80 80 55 Weight [kg]: 5,4 6,7 6,7 6,7 5,7 6,7 5,4

All data measured at 6 bar (hydr. 30 bar).

Parallel	gripper	Three-jav	w gripper	Angle g	ripper In	iternal-hole gr	ipper Ot	ther grippe	rs	Electric gri	ripper
GP403	GP404	GP406	GP408	GP410	GP412	GP416	GP420	GP430	Uni	iversal jaw	

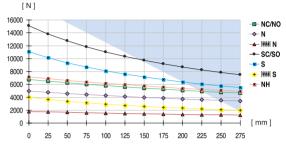




with T-slot guide

Advantages, benefits, comparisons and tips! Stacks of information all about this product are on page 17.

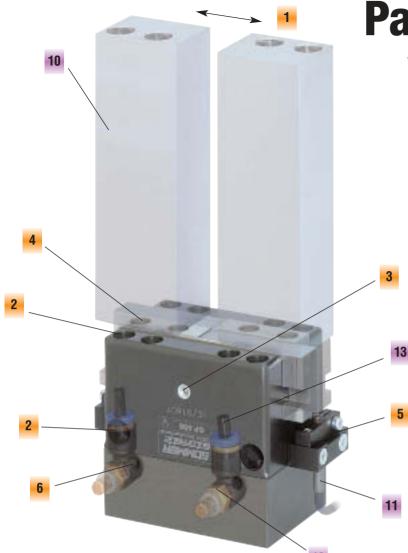
Gripping force as a function of jaw length



Colored area: increased wear and tear to be expected

Order no	Order no.:											
GP430 N	GP430 NC	GP430 NO	GP430 S	GP430 SC	GP430 SO	GP430 NH						
Drive:												
pneum.	pneum.	pneum.	pneum.	pneum.	pneum.	hydr.						
Stroke per jaw [mm]:												
30	30	30	15	15	15	30						
Gripping	g force in c	losing and	opening	[N]:								
5000	-	-	11000	-	-	7000						
Gripping	g force in c	losing [N]:										
-	6900	-	-	15000	-	-						
Gripping	g force in c	pening [N]	:									
-	-	6900	-	-	15000	-						
Self-locking via:												
DSV1/8	Spring	Spring	DSV1/8	Spring	Spring	-						
Closing time/opening time [s]:												
0,2	0,3	0,3	0,2	0,3	0,3	0,8						
Repeata	bility ± [m	m]:										
0,025	0,025	0,025	0,025	0,025	0,025	0,025						
Min./ma	x. operatir	ng pressure	e [bar]:									
3/8	5/8	5/8	3/8	5/8	5/8	10 / 40						
Air volu	me per cyc	le [cm³]:										
730	1020	1020	730	1020	1020	-						
Oil volu	ne per cyc	le [cm³]:										
-	-	-	-	-	-	230						
Min./ma	x. operatir	ng tempera	ture [°C]:									
5 / 80	5 / 80	5 / 80	5 / 80	5 / 80	5 / 80	5 / 80						
Temp. re	esistant ve	rsion up to	150° C [a	dd to part	number]:							
Т3	Т3	Т3	Т3	Т3	Т3	Т3						
Piston d	liameter [n	nm]:										
115	115	115	115	115	115	64						
Weight	kg]:											
14	18,9	18,9	14	18,9	18,9	14						

All data measured at 6 bar (hydr. 30 bar).



Parallel gripper with extended T-slot guide

Features

- 1 Stroke
- 2 Hole for cap head screw
- 3 Lubricating nipple for mechanism
- 4 Removable centering sleeves5 Sensor mount
- 5 Sensor mount
- 6 Air connection at the front and bottom

Accessories

For specific accessories see page 29

10	Universal jaws
11	Proximity switch
12	One-way valve
13	PU hose

As flat as a flounder

This T-slot series is ideal for longer gripping jaws. The guide extends through the entire length of the housing and allows a low profile due to the flat design.

All types are made of hard-anodized aluminum and have hardened and ground steel jaws with an extended T-slot guide. Starting with size GP608, we offer up to 7 different models with springs (for self-locking, opening) and without springs. These sizes are also available in a hydraulic version with an operating pressure of 30 bar. All grippers are available heat-resistant up to 150°C.

All grippers are maintenance-free up to 1.5 million cycles, after which we recommend relubrication via the lubricating nipple. If oil-free air is used, we recommend lubrication of the cylinder with Renolit. Several attachment holes allow for added mounting convenience.

The centering sleeves on the jaws ensure a precise mounting of the tooling fingers, which is important if they are changed often. For this case, we also can supply universal jaws made

of steel or aluminum. For more details, see 'Accessories".

Pneumatic ports for opening and closing are located on the front, back and bottom. At the bottom, the ports are closed with grub screws and can be used for tubeless connections. For sensing, there is a 3 mm sensor mount located beneath the jaws. The two largest sizes will accommodate our sensor mounts for various M3 hole diameters underneath each jaw. In this case, we recommend sensor mount KB 8 for proximity switch NJ 8-E2.

For more details on the proximity switch and other accessories, see the accessory pages.

Note:

If the gripper is used as a single-acting device with spring, the unused port must be vented or an air filter must be installed to prevent a vacuum in the piston chamber from hindering operation.

Explanations

Opening / closing by spring:

- NO = Standard design, self-locking, spring opening (long stroke - standard force)
- NC = Standard design, self-locking, spring closing (long stroke - standard force)
- SC = Heavy-duty design, self-locking, spring closing (short stroke - large force)
- **S0** = Heavy-duty design, self-locking, spring opening (short stroke - large force)

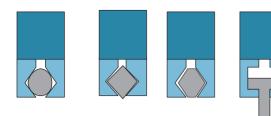
Without spring:

- N = Standard design
 - (long stroke standard force)
- **S** = Heavy-duty design (short stroke - large force)

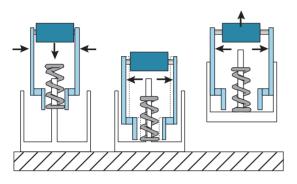
Hydraulic version:

NH = Standard design, hydraulic up to 40 bar (long stroke - large force)

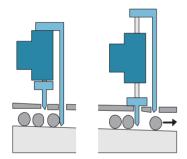
Application Ideas



Various types of work pieces can be gripped and longer gripping jaws can be installed.



For example, the longer jaws can be installed if a shock absorber assembly is fitted (above).

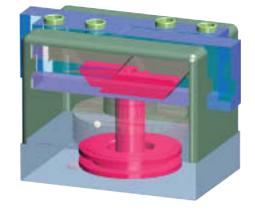


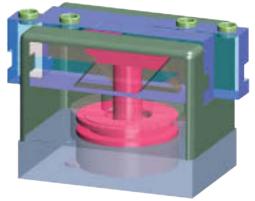
Parallel grippers can also be used for separating parts. A Gripper closing - all the balls are retained B Gripper opening - one ball is released, the others are retained.

(also see our separator)



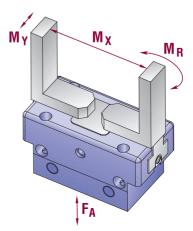
On every product page, you will find the following schematic which helps describe the max allowable forces and movements for that particular model.





Operation

A double-acting pneumatic cylinder drives a slide (red). The guided T-slot jaws (blue) are moved linearly to open and closed positions by the slope on the slide. On the "S" version, the slopes are steeper. The translation allows more force with a shorter stroke. In the NC and SC models, a compression spring is installed at the top of the piston chamber, which can be used for self-locking and boosting power during closing or for single-acting operation. Conversely, the NO and SO models have a spring installed at the bottom of the position chamber, which supports opening.



things worth knowing	GP604/GP608/GP612	
Advantages and uses		
	ship also available with grip force safety device	
 compact design and mini centrally openi high 		
Characteristics		
Function		
Drive:	double-acting pneumatic cylinder	
(depending upon model)	double-acting pneumatic cylinder with integrated spring safety device in the event of pressure loss	
Power transfer: (depending on model)	wedge and piston principle with varying transmission	
Guide:	flat guide for high moment absorption (Mx) during external and internal gripping	
Material		
Housing:	hard-anodized aluminum	
Moving parts:	nitrided steel	
Maintenance		
Recommended at:	1.5 million cycles	
Actuation: Maintenance	filtered high-pressure air (10 µm), dry or oiled	
of the mechanics:	thru integrated lubrication nipple – see owners' manual –	

Basic explanations

Terms and illustrations

Grip force safety device:	required during pressure loss for maintaining position of work piece
 pneumatic/hydraulic: 	through pressure retention
– mechanical:	through spring tension
 spring power: 	specifications based on minimum spring pre-tension
Total power:	arithmetic sum of the individual elements on the gripper jaws
Closing and opening time:	required time for the gripper jaws to cover the maximum stroke length

Model quide

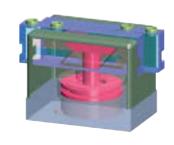
						Mechanical
GP6	. Drive	Stroke	Power	Internal gripping	External gripping	fail safe
N	pneumatic	large	normal	•	•	
NC	pneumatic	large	normal		•	•
NO	pneumatic	large	normal	•		•
NH	hydraulic	large	high	•	•	
S	pneumatic	short	high	•	•	
SC	pneumatic	short	high		•	•
<mark>S0</mark>	pneumatic	short	high	•		•

Accessories

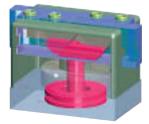
Included in purchase price: Centering sleeves

Additional accessory recommendation:

nu		
	Universal jaws	Page 33
	Inductive proximity switch	Page 428
	Inductive proximity switch bracket	Page 432
	Pneumatic fittings	Page 442
5	Tubing	Page 444
5	Control valves	Page 445
	Pressure safety valves	Page 447



. . . .



Parallel gripper Three-jaw gripper Angle gripper Internal-hole gripp	er Other grippers	Electric gripper
GP604 GP608 GP612 Universal jaw	-	
2.0		
		Parallel gripper
901U0/a		with extended T-slot
		Advantages, benefits, comparisons and tips!
		Stacks of information all about this product are
		on page 29.
		Gripping force as a function of jaw length
		[N] 350 4
My=15Nm Mx=25Nm Mr=12Nm		300 → N
		200 - SC/SO
Max Allowa	bla Foroso	
I Max Allowa on J		
		0 + + + + + + + + + + + + + + + + + + +
FA=300N		0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85
•		Colored area: increased wear and tear to be expected -
		Order no.:
		GP604 GP604 GP604 GP604 GP604 N NC NO S SC SO
		Drive:
		pneum pneum pneum pneum pneum pneum
		Stroke per jaw [mm]:
		4 4 4 2 2 2
		Gripping force in closing and opening [N]:
ar	haaalaaa	Gripping force in closing [N]:
	hoseless ect connection	- 150 340 -
connection	gripper side	Gripping force in opening [N]:
		<u>150</u> <u>340</u>
		Self-locking via: DSV1/8 Spring Spring DSV1/8 Spring Spring
	connection plate	Closing time/opening time [s]:
±0,021.03	1	0,008 0,012 0,012 0,008 0,012 0,012
stroke N 4 42 42 4 stroke N		Repeatability ± [mm]:
stroke S 2 42 2 stroke S	le le	0,025 0,025
lubricating nipple	for sensora3 adjustable	3/8 5/8 5/8 3/8 5/8
sunk in	ad for	Air volume per cycle [cm³]:
15		3 5 5 3 5 5
		Min./max. operating temperature [°C]:
SC/SO	AB	5 / 80 5 / 80 5 / 80 5 / 80 5 / 80 Temp. resistant version up to 150° C [add to part number]:
2×M5 23	18	T2 T2 T2 T2 T2 T2 T2
$\boxed{\bigcirc 2xM5 \text{ alternate air}}$	4xw5 _{h1} 4xw5 _{h1}	Piston diameter [mm]:
connection on back	12 h7 gachab	20 20 20 20 20 20 20
35 2xo ^{3H7}	4xM3 det:	Weight [kg]:
		0,16 0,18 0,18 0,18 0,18
		All data measured at 6 bar.
		See Page 29 for Accessory list.
4 8 ^{±0,02} 8 ^{±0,02} 4	12 33 11	000 1 aye 20 101 Accessoly list.
	6x f. M3 DIN 912	

N/S

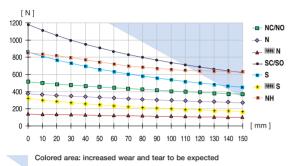
Parallel	gripper	Three-ja	w gripper	Angle	e gripper	Internal-hole gripper	Other grippers	Electric gripper	
GP604	GP608	GP612	Universa	l jaw					

22 C

Parallel gripper with extended T-slot

Advantages, benefits, comparisons and tips! Stacks of information all about this product are on page 29.

Gripping force as a function of jaw length



Order no	o.:									
GP608 N	GP608 NC	GP608 NO	GP608 S	GP608 SC	GP608 SO	GP608 NH				
Drive:										
pneum	pneum	pneum	pneum	pneum	pneum	hydr.				
Stroke p	er jaw [mi	n]:								
8	8	8	4	4	4	8				
Gripping	force in c	losing and	l opening	[N]:						
380	-	-	850	-	-	830				
Gripping	force in c	losing [N]								
-	520	-	-	1180	-	-				
Gripping	force in c	pening [N]:							
-	-	520	-	-	1180	-				
Self-loci	king via:									
DSV1/8	Spring	Spring	DSV1/8	Spring	Spring	-				
Closing time/opening time [s]:										
0,012	0,015	0,015	0,012	0,015	0,015	0,35				
Repeata	bility ± [m	m]:								
0,025	0,025	0,025	0,025	0,025	0,025	0,025				
Min./ma	x. operatir	ng pressur	e [bar]:							
3/8	5/8	5/8	3/8	5/8	5/8	10 / 40				
Air volur	ne per cyc	le [cm³]:								
18	27	27	18	18	27	-				
Oil volur	ne per cyc	le [cm³]:								
-	-	-	-	-	-	8				
Min./ma	x. operatir	ng tempera	ature [°C]:							
5 / 80	5 / 80	5 / 80	5 / 80	5 / 80	5 / 80	5 / 80				
Temp. re	esistant ve	rsion up to	o 150° C [a	dd to part	number]:					
T2	T2	T2	T2	T2	T2	T2				
Piston d	iameter [n	וm]:								
35	35	35	35	35	35	24				
Weight [kg]:									
0,53	0,58	0,58	0,53	0,58	0,58	0,56				

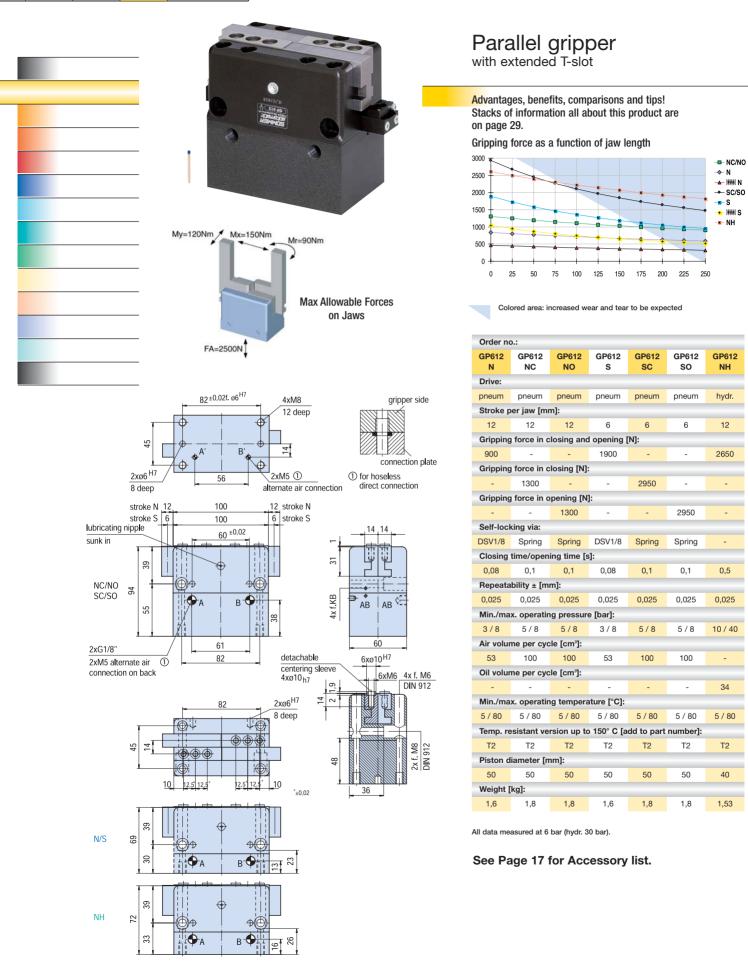
All data measured at 6 bar (hydr. 30 bar).

See Page 29 for Accessory list.

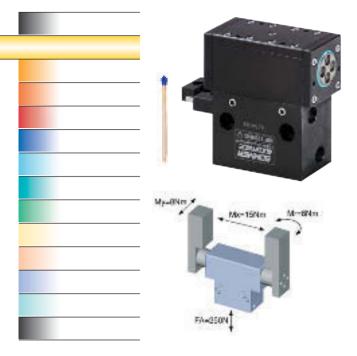
My=60Nm Mx=75Nm Mx	Ar=45Nm Max Allowable Forces on Jaws			
FA=900N	on Jaws	-		
52 ±0,02 f, 2x04 H7 6 deep stroke N 8 66 stroke S 4 66 lubricating nipple sunk in NC/NO SC/SO 2 2xM5 40 ± 40 ±	alternate air connect	connection () for hoseless direct connection () for hoseless () for hose	tion AB	
2xM5 alternate air connection on back 57 6 15±D.02	2 2xø4 ^{H7} 6 deep 4x f. N DIN 9		detachable tering sleeve 4x07 _{h7} 2 10 11 2 10 10 10 10 10 10 10 10 10 10 10 10 10	
N/S 25 32 8/N		26		

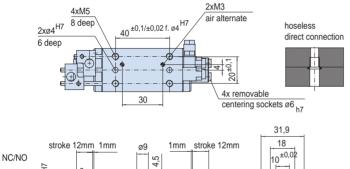
behind 2xM5

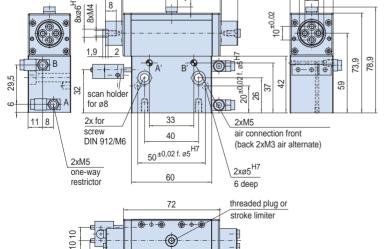
Parallel grippe		Three-jaw gripper		Angle	e gripper	Internal-hole gripper	Other grippers	Electric gripper	
GP604	GP608	GP612	Universal	l jaw					



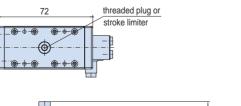
Parallel grippe		Three-jaw gripper		Angle gripper	Internal-hole gripper	Other grippers	Electric gripper	
GP1224	GP1240	GP1260	GP1280	Universal jaw				

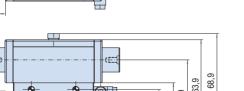






B'





16 98

ÔH

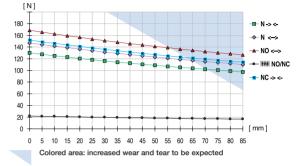
63,9

49 32 27

Parallel gripper with sealed round guide

Advantages, benefits, comparisons and tips! Stacks of information all about this product are on page 53.

Gripping force as a function of jaw length



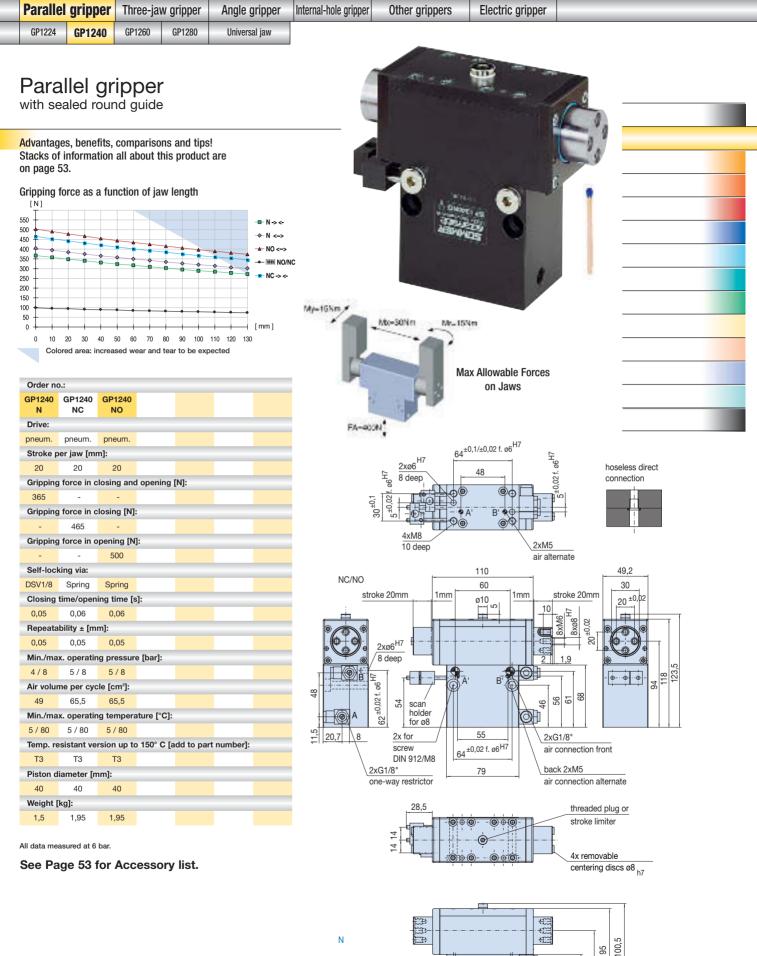
Order no	o.:					
GP1224 N	GP1224 NC	GP1224 NO				
Drive:						
pneum.	pneum.	pneum.				
Stroke p	er jaw [mr	n]:				
12	12	12				
Gripping	force in c	losing and	l opening	[N]:		
130	-	-				
Gripping	force in c	losing [N]				
-	155	-				
Gripping	force in o	pening [N]:			
-	-	170				
Self-lock	king via:					_
DSV1/8	Spring	Spring				
Closing	time/open	ing time [s	s]:			_
0,04	0,05	0,05				
Repeata	bility ± [m	m]:				_
0,05	0,05	0,05				
Min./ma	x. operatin	ng pressur	e [bar]:			_
4 / 8	5/8	5/8				
Air volur	ne per cyc	le [cm³]:				_
12	17,5	17,5				
	x. operatin		ature [°C]:			
5 / 80	5 / 80	5 / 80				
-			o 150° C [a	dd to part	number]:	
Т3	T3	Т3				
	iameter [n	-				
25	25	25				
Weight [
0,48	0,55	0,55				

All data measured at 6 bar.

See Page 53 for Accessory list.

25

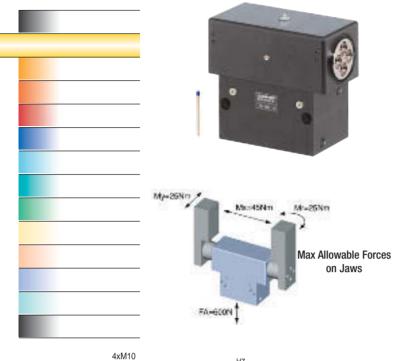
77

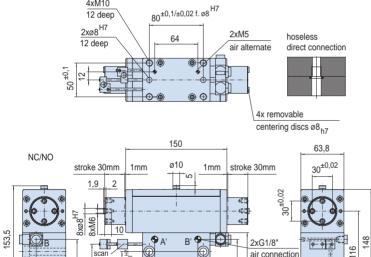


R'

©∄¤

Parallel	gripper	Three-jaw gripper		Angle gripper	Internal-hole gripper	Other grippers	Electric gripper	
GP1224	GP1240	GP1260	GP1280	Universal jaw				





20 24

Ν

25 67

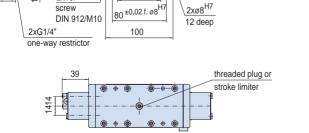
10

holder for ø8

2x for

screw

±0,02 f.



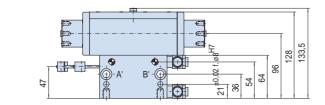
64

air connection ₹ 8 front (back

air alternate)

2xM5,

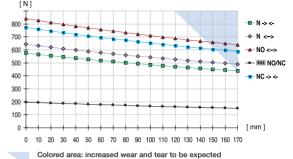
O



Parallel gripper with sealed round guide

Advantages, benefits, comparisons and tips! Stacks of information all about this product are on page 53.

Gripping force as a function of jaw length



Order no	D.:					
GP1260 N	GP1260 NC	GP1260 NO				
Drive:						
pneum.	pneum.	pneum.				
Stroke p	oer jaw [mr	n]:				
30	30	30				
Gripping	g force in c	losing and	l opening	[N]:		
580	-	-				
Gripping	g force in c	losing [N]				
-	780	-				
Gripping	g force in o	pening [N]:			
-	-	830				
Self-loci	king via:					
DSV1/8	Spring	Spring				
Closing	time/open	ing time [s	s]:			
0,08	0,1	0,1				
Repeata	bility ± [m	m]:				
0,05	0,05	0,05				
Min./ma	x. operatin	g pressure	e [bar]:			
4 / 8	5/8	5/8				
Air volu	me per cyc	le [cm³]:				
115	145	145				
Min./ma	x. operatin	ig tempera	ature [°C]:			
5 / 80	5 / 80	5 / 80				
Temp. re	esistant ve	rsion up to	o 150° C [a	dd to part	number]:	
Т3	Т3	Т3				
Piston d	liameter [n	nm]:				
50	50	50				
Weight [kg]:					
3,9	4,3	4,3				

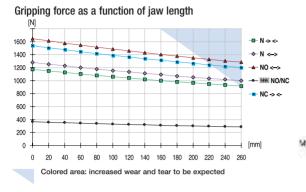
All data measured at 6 bar.

Parallel	Parallel gripper Three-jaw grippe		w gripper	Angle gripper	Internal-hole gripper	Other grippers	Electric gripper	
GP1224	GP1240	GP1260	GP1280	Universal jaw				

44

Parallel gripper with sealed round guide

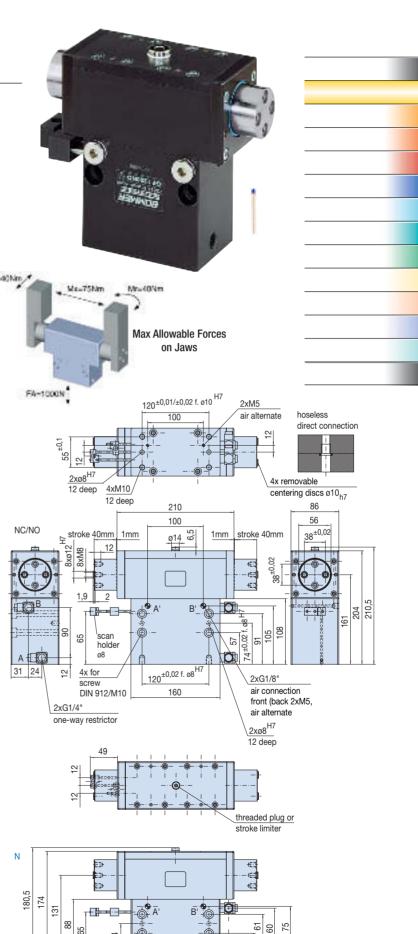
Advantages, benefits, comparisons and tips! Stacks of information all about this product are on page 53.



Order no	o.:					
GP1280 N	GP1280 NC	GP1280 NO				
Drive:						
pneum.	pneum.	pneum.				
Stroke p	er jaw [mi	n]:				
40	40	40				
Gripping	force in c	losing and	l opening	[N]:		
1160	-	-				
Gripping	force in c	losing [N]				
-	1550	-				
Gripping	force in c	pening [N]:			
-	-	1550				
Self-loci	king via:					
DSV1/8	Spring	Spring				
Closing	time/open	ing time [s	i]:			
0,15	0,2	0,2				
Repeata	bility ± [m	m]:				
0,05	0,05	0,05				
Min./ma	x. operatir	ng pressur	e [bar]:			
4 / 8	5/8	5/8				
Air volu	ne per cyc	le [cm³]:				
300	380	380				
Min./ma	x. operatir	ng tempera	ture [°C]:			
5 / 80	5 / 80	5 / 80				
Temp. re	esistant ve	rsion up to	o 150° C [a	dd to part	number]:	
Т3	Т3	Т3				
Piston d	iameter [n	nm]:				
70	70	70				
Weight [kg]:					
10,5	10,5	10,5				

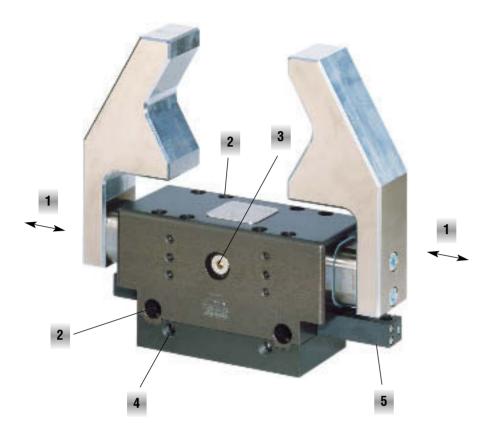
All data measured at 6 bar

See Page 53 for Accessory list.



27 O

Parallel gripper with sealed 4-sided guides



Features

- 1 Stroke
- 2 Hole for socket head screw
- 3 Access for lubricating the mechanism
- **4** Air connection at the front, rear and
- bottom5 Proximity switch bracket

The dirtiest job is no problem...

for this gripper. It is watertight, no matter if under a coolant shower, in the water or in a fine dust environment. This series is made of hard-anodized aluminum and is equipped with hardened, ground steel jaws. The grippers are available with or without a spring for selflocking or boosting power. Except for the 3 smallest sizes, each is available in a hydraulic version with 30 bar operating pressure. All grippers are also available heat-resistant up to 150° C.

A plug, which can be opened for lubrication, is fitted between the jaws on all grippers. All grippers are maintenance-free up to 1.5 million cycles. The air connections are located on the front, rear and bottom. The bottom ports are closed with grub screws and can be used for tubeless connections.

This series has a multitude of attachment holes for added mounting convenience. The centering sleeves on the jaws ensure a precise mounting of the jaws, which is important if jaws are changed often. In this case, we also offer universal jaws made of steel or aluminum with preinstalled cams. Sensing of the open or closed position is done with two supplied trip dogs installed on the jaws. The best position for the trip dogs is shown in the illustration for each universal jaw. Please refer to the accessory section. Mounts for a 8 mm proximity switch are installed under the jaws. We recommend the "NJ 8-E2".

For more details on proximity switches, universal jaws and other accessories, see the accessory pages.

Note:

The pressure equalization of the sealed mechanism is by means of a connection with the piston chamber, which prevents pump effects.The sealed jaws, when opened, act as an additional piston. For internal gripping, the operating pressure must be reduced as specified.

Explanations

The following abbreviations mean:

Opening / closing by spring:

- NO = Standard design, self-locking, spring opening (long stroke - standard force)
- NC = Standard design, self-locking, spring closing (long stroke - standard force)

Without spring:

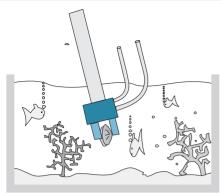
N = Standard design (long stroke - standard force)

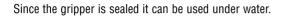
Hydraulic version:

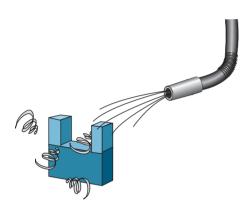
NH = Standard design

hydraulic up to 40 bar (long stroke - large force)

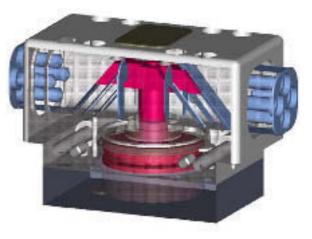
Application Ideas

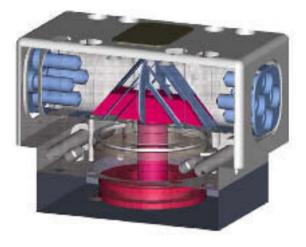






The GP1800 series grippers are protected against dirt, swarf and fluids such as coolants and are ideal for foundry and grinding applications.



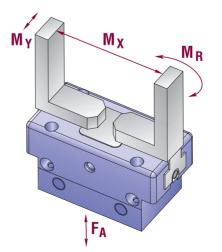


Operation

A double-acting pneumatic cylinder drives a slide (red). The force guided T-slot jaws (blue) are moved linearly to open and closed positions by the slope on the slide. A seal and a wiper (beige) around the jaws prevent the ingress of dirt and water. The protection against rotation provides high guiding stability.

Schematic...

On every product page, you will find the following schematic which helps describe the max allowable forces and movements for that particular model.



things worth knowing	GP1803 up to GP183	M	
Advantages and uses sealed gripper with pr device compact design	ecise round guide also available with grip force safety		
	sing ideal for dirty envi stallation position tiple air connection possibilities ▶ position sensing possible through inductive proximity switch	ironments!	-
Characteristics			
Function			
Drive: (depending upon model)	double-acting pneumatic cylinder double-acting pneumatic cylinder with integrated spring as mechanical safety device in the event of pressure loss	_	
Power transfer: (depending on model)	wedge and piston principle		
Guide: Material	sealed 4-sided guide (for use in a very dirty environment)	_	
Housing:	hard-anodized aluminum		
Functional parts:	nitrided steel		
Maintenance			
Recommended at: Actuation:	1.5 million cycles filtered high-pressure air (10 μ m), dry or oiled		485
Maintenance of the mechanics:	thru integrated lock screw – see owners' manual	A Combination of	Advantag
Basic explanations		A combination c A combination c Sealed four-sided guide Sealed four-sided com	ide
Terms and illustratior	15	A Consider side	ers moment
Grip force safety device: – pneumatic/hydraulic: – mechanical:	required during pressure loss for maintaining position of work piece through pressure retention (one-way valve required DSV 1/8) through spring-tension	A Combination sealed four-sided group with rounded corrigion for stability under loads	_{or high n} . ing against dirt an
- spring power:	Specifications based on minimum spring pre-tension	10205 prior sea	
Total power:	arithmetic sum of the individual elements on the gripper jaws	super	
Closing and opening times:	required time for the gripper jaws to cover the maximum stroke len	fluids	

Model gu	uide					Mechanical
GP 8	Drive	Stroke	Power	Internal gripping	External gripping	fail safe
N	pneumatic	large	normal	•	•	
NC	pneumatic	large	normal		•	•
NO	pneumatic	large	normal	•		•
NH	hydraulic	large	high	•	•	

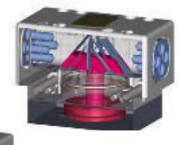
Accessories

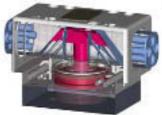
Included in purchase price:

- **Centering sleeves**
- Inductive proximity switch bracket

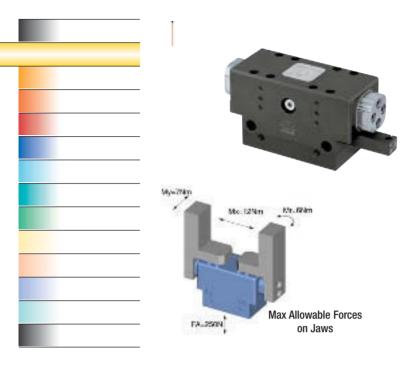
Additional accessory recommendation:

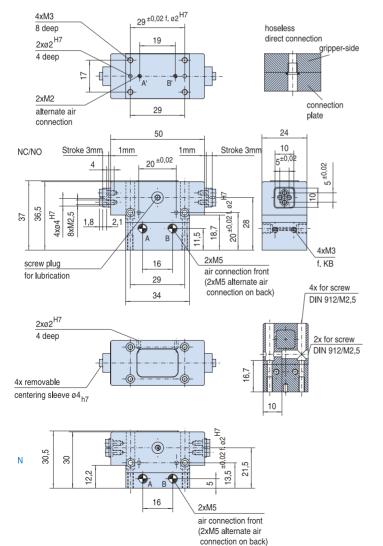
Universal jaws	Page 45
Inductive proximity switch	Page 428
Pneumatic fittings	Page 442
Tubing	Page 444
Control valves	Page 445
Pressure safety valves	Page 447





Parallel gripper		Three-jaw gripper		Angle gripper		nternal-hole gripper		Other grippers		Electric gr	ripper
GP1803	GP1804	GP1806	GP1808	GP1810	GP1812	GP1816	GP1820	GP1830	Uni	versal Jaw	

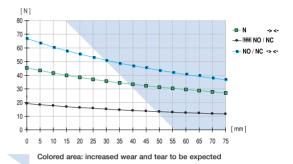




Parallel gripper with sealed 4-sided guide

Advantages, benefits, comparisons and tips! Stacks of information all about this product are on page 35.

Gripping force as a function of jaw length



Order no	o.:					
GP1803 N	GP1803 NC	GP1803 NO				
Drive:						
pneum.	pneum.	pneum.				
Stroke p	er jaw [mi	n]:				
3	3	3				
Gripping	force in c	losing [N]				
45	68	-				
Gripping	force in c	pening [N]:			
48	-	70				
Self-loci	king via:					
DSV1/8	Spring	Spring				
Closing	time/open	ing time [s]:			
0,02	0,03	0,03				
Repeata	bility ± [m	m]:				
0,05	0,05	0,05				
Min./ma	x. operatir	ng pressur	e for closi	ng [bar]:		
4 / 8	4 / 8	5/8				
Min./ma	x. operatir	ng pressure	e for open	ing [bar]:		
4 / 4	5/8	4 / 4				
Air volu	ne per cyc	:le [cm³]:				
2	4	4				
Min./ma	x. operatir	ng tempera	ture [°C]:			
5 / 80	5 / 80	5 / 80				
Temp. re	esistant ve	rsion up to	o 150° C [a	dd to part	number]:	
Т3	Т3	Т3				
Piston d	iameter [n	nm]:				
16	16	16				
Weight [kg]:					
0,13	0,15	0,15				

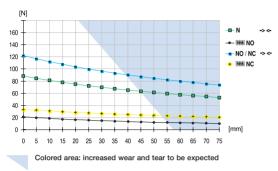
All data measured at 6 bar.

Parallel	gripper	Three-jav	w gripper	Angle g	ripper	Internal-hole gr	ipper O ^r	ther gripper	rs	Electric gri	ipper			
GP1803	GP1804	GP1806	GP1808	GP1810	GP1812	GP1816	GP1820	GP1830	Uni	iversal Jaw				

Parallel gripper with sealed 4-sided guide

Advantages, benefits, comparisons and tips! Stacks of information all about this product are on page 35.

Gripping force as a function of jaw length

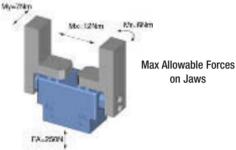


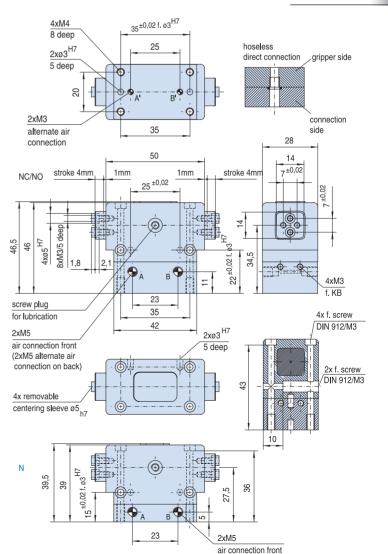
Order no	o.:					
GP1804 N	GP1804 NC	GP1804 NO				
Drive:						
pneum.	pneum.	pneum.				
Stroke p	er jaw [mi	n]:				
4	4	4				
Gripping	force in c	losing [N]:				
90	122	-				
Gripping	force in c	pening [N]):			
115	-	150				
Self-loci	king via:					
DSV1/8	Spring	Spring				
Closing	time/open	ing time [s	i]:			
0,03	0,04	0,04				
Repeata	bility ± [m	m]:				
0,05	0,05	0,05				
Min./ma	x. operatir	ng pressure	e for closi	ng [bar]:		
4 / 8	4 / 8	5/8				
Min./ma	x. operatir	ng pressure	e for open	ing [bar]:		
4/4	5/8	4/4				
Air volu	ne per cyc	le [cm³]:				
4	5	5				
Min./ma	x. operatir	ng tempera	ture [°C]:			
5 / 80	5 / 80	5 / 80				
Temp. re	esistant ve	rsion up to	o 150° C [a	dd to part	number]:	
Т3	Т3	Т3				
Piston d	iameter [n	nm]:				
20	20	20				
Weight [kg]:					
0,16	0,18	0,18				

All data measured at 6 bar.

See Page 35 for Accessory list.

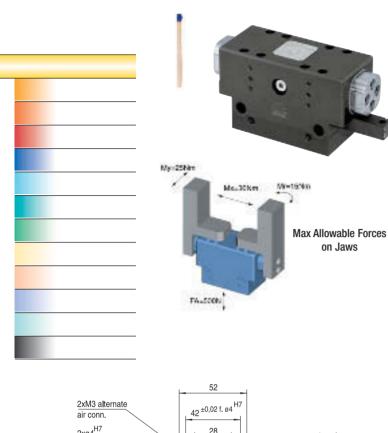


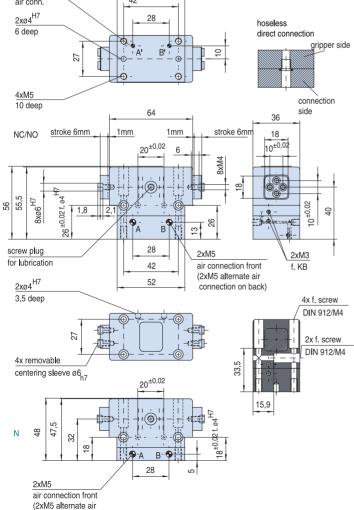




(2xM5 alternate air connection on back)

Parallel	gripper	Three-ja	w gripper	Angle g	ripper I	nternal-hole gr	ipper ()ther grippe	rs	Electric gr	ipper				
GP1803	GP1804	GP1806	GP1808	GP1810	GP1812	GP1816	GP1820	GP1830	Uni	iversal Jaw					



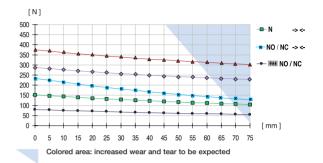


connection on back)

Parallel gripper with sealed 4-sided guide

Advantages, benefits, comparisons and tips! Stacks of information all about this product are on page 35.

Gripping force as a function of jaw length

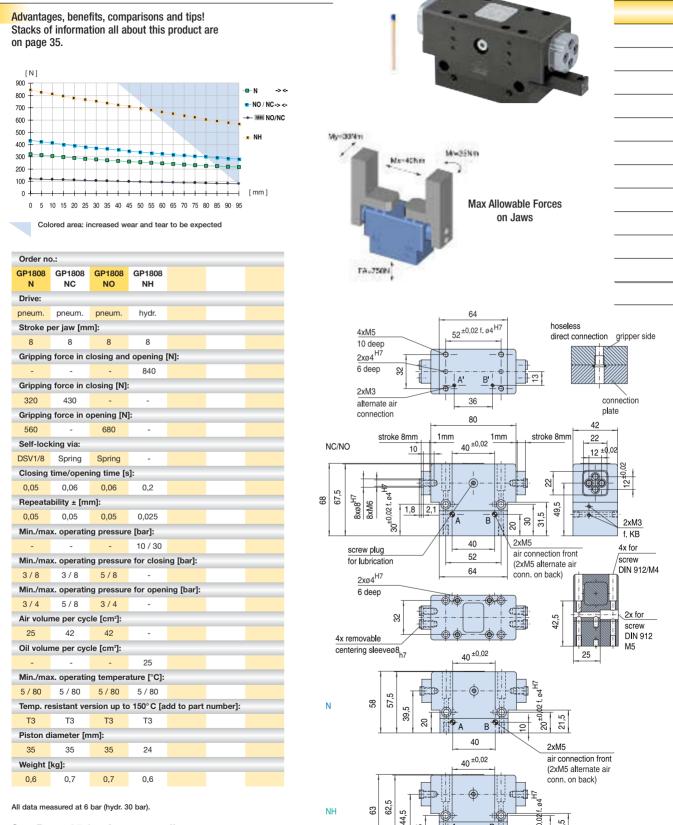


Order no	o.:					
GP1806 N	GP1806 NC	GP1806 NO				
Drive:						
pneum.	pneum.	pneum.				
Stroke p	er jaw [mi	n]:				
6	6	6				
Gripping	force in c	losing [N]				
150	235	-				
Gripping	force in c	pening [N]:			
285	-	375				
Self-lock	king via:					
DSV1/8	Spring	Spring				
Closing	time/open	ing time [s	s]:			
0,04	0,05	0,05				
Repeata	bility ± [m	m]:				
0,05	0,05	0,05				
Min./ma	x. operatir	ng pressur	e for closir	ng [bar]:		
4 / 8	4 / 8	5/8				
Min./ma	x. operatir	ng pressur	e for open	ing [bar]:		
4/4	5/8	4/4				
Air volur	ne per cyc	ele [cm³]:				
12	17	17				
Min./ma	x. operatir	ng tempera	ture [°C]:			
5 / 80	5 / 80	5 / 80				
Temp. re	sistant ve	rsion up to	o 150° C [a	dd to part	number]:	
Т3	Т3	Т3				
Piston d	iameter [n	nm]:				
25	25	25				
Weight [kg]:					
0,4	0,6	0,6				

All data measured at 6 bar.

Parallel	gripper	Three-jav	w gripper	Angle gi	ripper Ir	ternal-hole gr	ipper Ot	ther grippe	ſS	Electric gri	ipper			
GP1803	GP1804	GP1806	GP1808	GP1810	GP1812	GP1816	GP1820	GP1830	Uni	versal Jaw				

with sealed 4-sided guide



See Page 35 for Accessory list.

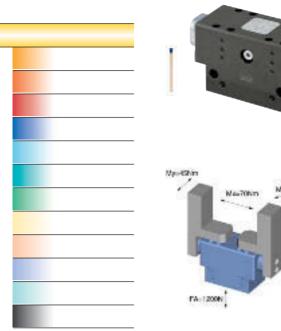
25

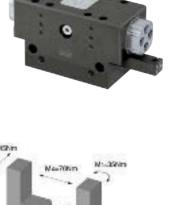
40

26,5 o f

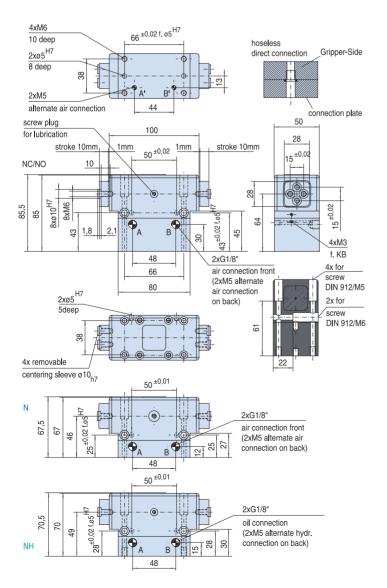
> 2xG1/8 oil connection front (back 2xM5 alt. conn.)

Parallel	gripper	Three-ja	w gripper	Angle g	ripper I	Internal-hole gr	ipper (Other grippe	rs	Electric gr	ipper				
GP1803	GP1804	GP1806	GP1808	GP1810	GP1812	GP1816	GP1820	GP1830	Un	iversal Jaw					





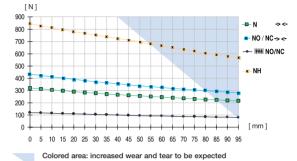
Max Allowable Forces on Jaws



Parallel gripper with sealed 4-sided guide

Advantages, benefits, comparisons and tips! Stacks of information all about this product are on page 35.





0						
Order no		0.04040	004040			
GP1810 N	GP1810 NC	GP1810 NO	GP1810 NH			
Drive:						
pneum.	pneum.	pneum.	hydr.			
Stroke p	er jaw [mr	n]:				
10	10	10	10			
Gripping	force in c	losing and	opening	[N]:		
-	-	-	1360			
Gripping	force in c	losing [N]:				
420	640	-	-			
Gripping	force in o	pening [N]	:			
840	-	1040	-			
Self-lock	king via:					
DSV1/8	Spring	Spring	-			
Closing	time/open	ing time [s]:			
0,06	0,08	0,08	0,2			
Repeata	bility ± [m	m]:				
0,05	0,05	0,05	0,025			
Min./ma	x. operatin	ng pressure	e [bar]:			
-	-	-	10 / 30			
Min./ma	x. operatin	ng pressure	e for closir	ng [bar]:		
4 / 8	4 / 8	5/8	-			
Min./ma	x. operatin	ng pressure	e for open	ing [bar]:		
4/4	5/8	4/4	-			
Air volur	ne per cyc	le [cm³]:				
42	72	72	-			
Oil volur	ne per cyc	le [cm³]:				
-	-	-	28			
Min./ma	x. operatin	ng tempera	ture [°C]:			
5 / 80	5 / 80	5 / 80	5 / 80			
Temp. re	sistant ve	rsion up to	150° C [a	dd to part	number]:	
Т3	Т3	Т3	Т3			
Piston d	iameter [n	nm]:				
40	40	40	30			
Weight [kg]:					
0,9	1,1	1,1	0,9			

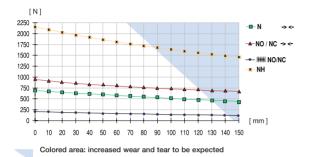
All data measured at 6 bar (hydr. 30 bar).

Parallel	gripper	Three-jav	v gripper	Angle g	ripper	Internal-hole gr	ipper O	ther grippe	rs	Electric gri	pper			
GP1803	GP1804	GP1806	GP1808	GP1810	GP1812	GP1816	GP1820	GP1830	Uni	iversal Jaw				

Parallel gripper with sealed 4-sided guide

Advantages, benefits, comparisons and tips! Stacks of information all about this product are on page 35.

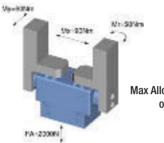
Gripping force as a function of jaw length

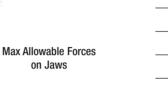


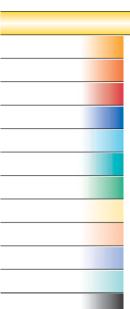
Order no	o.:					
GP1812 N	GP1812 NC	GP1812 NO	GP1812 NH			
Drive:						
pneum.	pneum.	pneum.	hydr.			
Stroke p	er jaw [mr	n]:				
12	12	12	12			
Gripping	force in c	losing and	opening	[N]:		
690	-	-	2150			
Gripping	force in c	losing [N]:				
-	960	-	-			
Gripping	force in o	pening [N]	:			
-	-	960	-			
Self-loci	king via:					
DSV1/8	Spring	Spring	-			
Closing	time/open	ing time [s]:			
0,07	0,09	0,09	0,2			
Repeata	bility ± [m	m]:				
0,05	0,05	0,05	0,05			
Min./ma	x. operatin	ng pressure	e [bar]:			
4 / 8	5/8	5/8	10 / 30			
Air volur	ne per cyc	le [cm³]:				
72	133	133	-			
Oil volur	ne per cyc	le [cm³]:				
-	-	-	50			
Min./ma	x. operatin	ig tempera	ture [°C]:			
5 / 80	5 / 80	5 / 80	5 / 80			
Temp. re	sistant ve	rsion up to	150° C [a	dd to part	number]:	
Т3	Т3	Т3	Т3			
Piston d	iameter [n	nm]:				
50	50	50	40			
Weight [kg]:					
1,6	2	2	1,7			

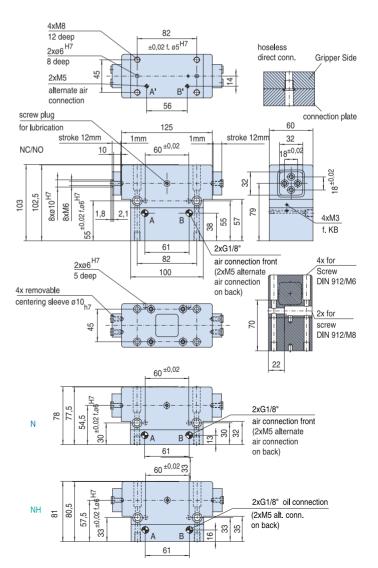
All data measured at 6 bar (hydr. 30 bar).



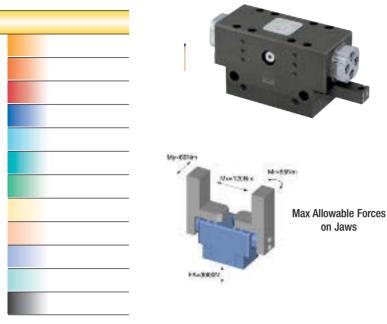


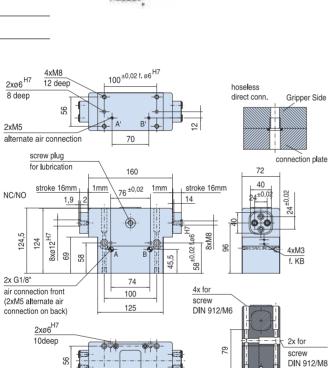


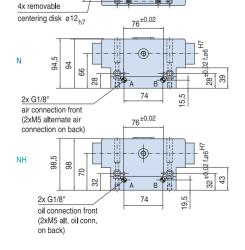




Parallel	gripper	Three-ja	w gripper	Angle g	ripper I	Internal-hole gr	ipper	Other grippe	rs	Electric gr	ipper				
GP1803	GP1804	GP1806	GP1808	GP1810	GP1812	GP1816	GP1820	GP1830	Un	iversal Jaw					



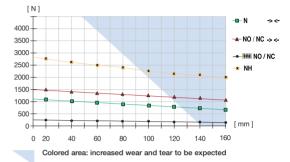




Parallel gripper with sealed 4-sided guide

Advantages, benefits, comparisons and tips! Stacks of information all about this product are on page 35.

Gripping force as a function of jaw length



Order no	o.:					
GP1816 N	GP1816 NC	GP1816 NO	GP1816 NH			
Drive:						
pneum.	pneum.	pneum.	hydr.			
Stroke p	er jaw [mi	n]:				
16	16	16	16			
Gripping	force in c	losing and	lopening	[N]:		
1150	-	-	2750			
Gripping	force in c	losing [N]:				
-	1550	-	-			
Gripping	force in c	pening [N]]:			
-	-	1550	-			
Self-lock	king via:					
DSV1/8	Spring	Spring	-			
Closing	time/open	ing time [s]:			
0,1	0,15	0,15	0,3			
Repeata	bility ± [m	m]:				
0,05	0,05	0,05	0,05			
Min./ma	x. operatir	ng pressure	e [bar]:			
4 / 8	5/8	5/8	10 / 30			
Air volur	ne per cyc	le [cm³]:				
150	267	267	-			
Oil volur	ne per cyc	le [cm³]:				
-	-	-	100			
Min./ma	x. operatir	ng tempera	ture [°C]:			
5 / 80	5 / 80	5 / 80	5 / 80			
Temp. re	sistant ve	rsion up to	o 150° C [a	dd to part	number]:	
Т3	Т3	Т3	Т3			
Piston d	iameter [n	nm]:				
63	63	63	45			
Weight [kg]:					
3,1	3,7	3,7	3,1			

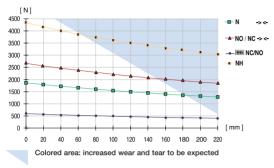
All data measured at 6 bar (hydr. 30 bar).

Parallel	gripper	Three-jaw	gripper	Angle g	ripper	Internal-hole gr	ipper O	ther gripper	'S	Electric gri	pper			
GP1803	GP1804	GP1806	GP1808	GP1810	GP1812	GP1816	GP1820	GP1830	Ur	niversal jaw				

Parallel gripper with sealed 4-sided guide

Advantages, benefits, comparisons and tips! Stacks of information all about this product are on page 35.

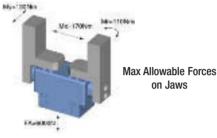
Gripping force as a function of jaw length

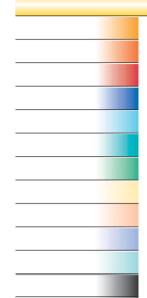


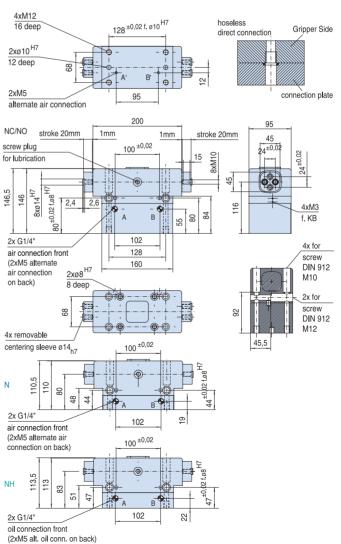
Order no.:												
GP1820 N	GP1820 NC	GP1820 NO	GP1820 NH									
Drive:												
pneum.	pneum.	pneum.	hydr.									
Stroke per jaw [mm]:												
20	20	20	20									
Gripping force in closing and opening [N]:												
1880	-	-	4380									
Gripping force in closing [N]:												
-	2630	-	-									
Gripping	force in c	pening [N]]:									
-	-	2630	-									
Self-lock	king via:											
DSV1/8	Spring	Spring	-									
Closing	time/open	ing time [s	i]:									
0,2	0,3	0,3	0,5									
Repeata	bility ± [m	m]:										
0,05	0,05	0,05	0,05									
Min./ma	x. operatir	g pressure	e [bar]:									
4 / 8	5/8	5 / 8	10 / 30									
Air volur	ne per cyc	le [cm³]:										
300	650	650	-									
Oil volur	ne per cyc	le [cm³]:										
-	-	-	100									
Min./ma	x. operatir	ig tempera	ture [°C]:									
5 / 80	5 / 80	5 / 80	5 / 80									
Temp. resistant version up to 150° C [add to part number]:												
Т3	Т3	Т3	Т3									
Piston d	iameter [n	nm]:										
80	80	80	55									
Weight [kg]:											
6	7,3	7,3	6,2									

All data measured at 6 bar (hydr. 30 bar).

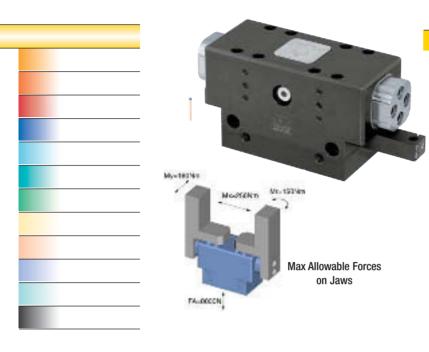


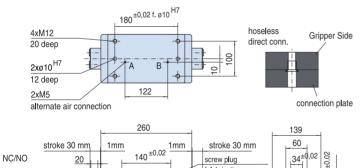


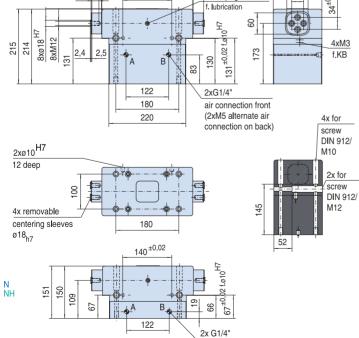




Parallel gripper		er Three-jaw gripper		Angle gripper		Internal-hole gripper		Other grippers		s	Electric gripper					
GP1803	GP1804	GP1806	GP1808	GP1810	GP1812	GP1816	GP182	20 GP	P1830	Univ	versal Jaw					





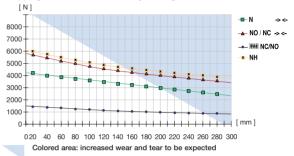


air / oil connection front (2xM5, alt. conn. on back)

Parallel gripper with sealed 4-sided guide

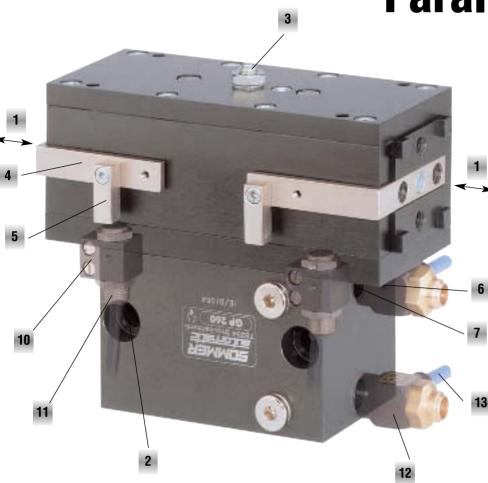
Advantages, benefits, comparisons and tips! Stacks of information all about this product are on page 35.

Gripping force as a function of jaw length



Order no P1830	GP1830	GP1830	GP1830						
N	NC	NO	NH						
Drive:									
pneum.	pneum.	pneum.	hydr.						
Stroke p	er jaw [mr	n]:							
30	30	30	30						
Gripping	force in c	losing and	l opening	[N]:					
4100	-	-	6200						
Gripping	force in c	losing [N]:							
-	5750	-	-						
Gripping	force in o	pening [N]]:						
-	-	5750	-						
Self-lock	king via:								
DSV1/8	Spring	Spring	-						
Closing	time/open	ing time [s	s]:						
0,3	0,4	0,4	0,6						
Repeata	bility ± [m	m]:							
0,05	0,05	0,05	0,05						
Min./ma	x. operatin	g pressure	e [bar]:						
4/8	5/8	5/8	10 / 30						
Air volur	ne per cyc	le [cm³]:							
730	1020	1020	-		ľ				
Oil volur	ne per cyc	le [cm³]:							
-	-	-	230		ľ				
Min./ma	x. operatin	g tempera	ture [°C]:						
5 / 80	5 / 80	5 / 80	5 / 80		ľ				
Temp. resistant version up to 150° C [add to part number]:									
T3	Т3	Т3	- T3						
Piston d	iameter [n	ım]:							
115	115	115	64						
Weight [kg]:								
16	22	22	17						

All data measured at 6 bar (hydr. 30 bar).



Square, practical, good...

...this gripper series has self-centering jaws and is protected against rotation. The gripper's opening stroke can be reduced with the strokelimiting screw on top of the gripper. After the adjustment, this screw can also be shortened to be flush with the top and glued (tip: for further adjustments, make a slot in the screw).

The jaws and housing components are also made of hard-anodized aluminum, thus providing very good sliding characteristics with a high surface hardness. The lateral venting hole allows pressure equalization and it should therefore be left open. An air filter should be installed if the surrounding air is dusty. If the gripper is used in moist areas or briefly immersed in water, the vent hole should be fitted with a hose which should extend above the water line (see example on next page). This ensures venting in every situation.

The jaws are mounted on the side. The trip dogs are located on the front of the gripper and can extend over a mounting screwed into the gripper jaws. These provide sensing for the open and closed positions. The M3 threaded holes underneath the trip dogs can be used to attach sensor mounts for proximity switches of sizes Ø 6.5 to 12 mm. (For more details see "Accessories".)

The air connections are on the front and side; at the front they are factory-plugged. Two builtin springs are provided to ensure self-locking and boosting power when gripping. If the gripper is to be used for spreading, the spring should be removed. The spreading force is then about 5% greater than the specified closing forces. The "S" version has a steeper slide slope, which reduces the stroke while increasing the gripping force.

Note:

Our GP1200 series, which will soon supersede this series, is suited for rugged service in a grinding dust medium. It is nearly identical, but it features round jaws and better sealing. More information can be found on the following pages.

Parallel gripper with square guide

Features

- 1 Stroke
- 2 Hole for socket head screw
- 3 Stroke-limiting screw
- 4 Switching bracket
- 5 Trip dog
- 6 Vent hole
- 7 Air connection at the front, bottom and side

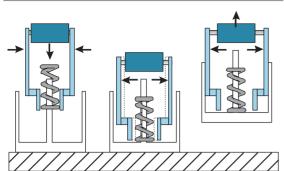
Accessories

- **10** Sensor mount
- 11 Proximity switch
- 12 One-way valve
- 13 PU hose

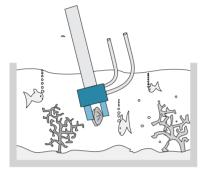
Explanations

S = Heavy-duty design (short stroke - large force)

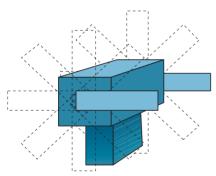
Application Ideas



Longer jaws may be fitted to this gripper, for example as part of a shock absorber assembly (above).



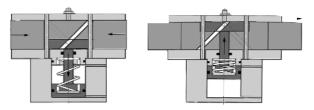
The gripper can be immersed in water for a short time. For pressure equalization in the mechanism, a venting hose must be lead out of the water (cf. venting hole).



The square guide allows the jaws to be mounted in different positions.

Schematic...

On every product page, you will find the following schematic which helps describe the max allowable forces and movements for that particular model.

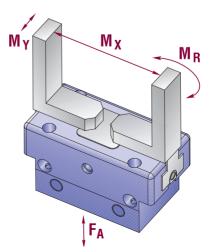


Operation

(patented)

A double-acting pneumatic cylinder drives a slide. The force-guided jaws are moved in parallel to the open and closed position by the slope of the slide. The jaws are guided over the entire length of the housing and secured against rotation by the square design. Two compression springs support the closing force and provide self-locking. On the "S" version, the slope of the slide is steeper, which reduces the stroke while increasing the gripping force.





Parallel gripper with sealed square guide _____

things worth knowing

Advantages and uses

... large adjustable stroke with compact design ... integrated mechanical grip force safety device... ideal for the addition of long gripping jaws ...

centrally opening and closing

... optimal guide relationship! ...

Highlight

- high-precision
 - any desired installation position

> position sensing possible through inductive proximity switch

Characteristics

Function	
Drive:	double-acting pneumatic cylinder
(depending upon model)	double-acting pneumatic cylinder with integrated spring as safety device
	in the event of pressure loss
Power transfer:	wedge and piston principle
(depending upon model)	
Guides:	flat guide for high momenta absorption (Mx) during external and internal gripping
Material	
Housing:	hard-anodized aluminum
Gripper jaws:	hard-anodized aluminum
Moving parts:	nitrided steel and nonferrous metal (Rg7)
Maintenance	
Recommended at:	1.5 million cycles
Condition:	filtered high-pressure air (10 μ m), dry or oiled
Maintenance	
of the mechanics:	thru stroke adjustment screw – see owners' manual –

Basic explanations

Terms and illustrations

Grip force safety device:	required during pressure loss for maintaining position of work piece
– pneumatic:	through pressure retention (one-way valve required DSV 1/8)
– mechanical:	through spring pre-tension
 spring power: 	specifications based on minimum spring pre-tension
Total power:	arithmetic sum of the individual elements on the gripper jaws
Closing and opening times:	required time for the gripper jaws to cover the maximum stroke length

Models						Mechanical fail
GP2	Drive	Stroke	Power	Internal gripping	External gripping	safe
N	pneumatic	large	normal		•	•
S	pneumatic	short	high		•	•
N/99	pneumatic	large	normal	•	•	
S/99	pneumatic	short	high	•	•	

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Accessories

Accessory recommendation: Inductive proximity switch Inductive proximity switch bracket Pneumatic fittings

- Tubing
- Control valves
- Pressure safety valves





Parallel gripper	Three-jaw	v gripper	Angle gripper	Internal-hole gripper	Other grippers	Electr	ric grippe	r	_			
GP224 GP240	GP260	GP280		•								
						Para with se	allel (ealed s	gripp quare)er guide			
		Ny=BNn	Ment Skin	Mr-dham		Stacks o on page	yes, bene f informat 47. force as a	tion all al	out this	product		
			S	Max Allowable Force on Jaws	es	Col	10 15 20 2 lored area: ir				70 75 80 85 ected	;
		Fa	-2501			Order n		00004	0.0004			
						GP224	GP224 S	GP224 /99	GP224 S/99			
						Drive:						
						pneum.	pneum.	pneum.	pneum.			
						Stroke p	oer jaw [mr	n]:				
						12	6	12	6			
				40		Gripping	g force in c			N]:		
						-	-	160	335			
			⊳⊤ੀੈ				g force in c	losing [N]:				
			-+ 19 	»+-)+-≈		170	335	-	-			
			└─┤/╋				king via:	D01/1/0	D01/4/0		_	
		a a H7	ø5 ^{H7} _ 20 ^{±0,02}	² 4xM5		Spring	Spring	DSV1/8	DSV1/8			
M6 -		2xø3 ^{H7} 8 deep	7 deep	- 8 deep		0,12	time/open 0,12	0,1	0,1			
12 deep	M6	· sti	roke 12	68 12 stro	ke		ability ± [m		0,1			
		4,2	2	<u>−</u> 4−		0,05	0,05	0,05	0,05			
							ax. operatin					
		19,5 27,9	\ H _€ \	\oplus	<u></u>	5/8	5/8	5/8	5/8		_	
<u>1</u>		19,5 27,9			10H7		me per cyc					
					I	12	12	12	12			
· · · · · · · · · · · · · · · · · · ·		4	₩ ₩ ₩ ₩ ₩ ₩	A _ +			ax. operatin					
÷		8		⊕ [⊕] 2x f. N		5 / 80	5 / 80	5 / 80	5 / 80			
		ы н	7 deep	B DIN 91			esistant ve			dd to part	t number]:	
7,5		<u> </u>		-+	<u>م</u>	T3	Т3	T3	T3			
	<u>ø15^{H7}</u> 25	2xG1/8"	- 44,;		M5 T	Piston c	diameter [m	ım]:				
-	32	air		40 _ and	ernate	25	25	25	25			
					nnection	Weight	[kg]:					
						0,3	0,3	0,3	0,3			
		stro	oke 6	68 6 s	troke							
					_	All data me	easured at 6	bar.				
						See Pa	ano 47 f	or Acc	accorv	liet		

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GP224S

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B

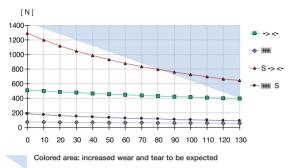
See Page 47 for Accessory list.

Parallel	gripper	Three-jav	w gripper	Angle gripper	Internal-hole gripper	Other grippers	Electric gripper	
GP224	GP240	GP260	GP280					
							E	

Parallel gripper with sealed square guide

Advantages, benefits, comparisons and tips! Stacks of information all about this product are on page 47.

Gripping force as a function of jaw length

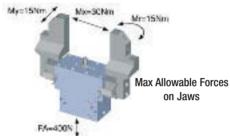


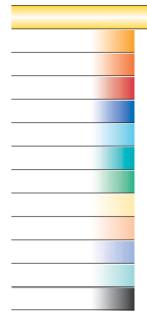
Order no	o.:					
GP240	GP240 S	GP240 /99	GP240 S/99			
Drive:						
pneum.	pneum.	pneum.	pneum.			
Stroke p	er jaw [mi	n]:				
20	8	20	8			
Gripping	force in c	losing and	d opening	[N]:		
-	-	435	1105			
Gripping	force in c	losing [N]	:			
510	1290	-	-			
Self-loci	king via:					
Spring	Spring	DSV1/8	DSV1/8			
Closing	time/open	ing time [s	5]:			
0,15	0,15	0,12	0,12			
Repeata	bility ± [m	m]:				
0,05	0,05	0,05	0,05			
Min./ma	x. operatir	ng pressur	e [bar]:			
5/8	5/8	5/8	5/8			
Air volu	ne per cyc	le [cm³]:				
49	49	49	49			
Min./ma	x. operatir	ng tempera	ature [°C]:			
5 / 80	5 / 80	5 / 80	5 / 80			
Temp. re	esistant ve	rsion up to	o 150° C [a	dd to part	number]:	
Т3	Т3	Т3	Т3			
Piston d	iameter [n	nm]:				
40	40	40	40			
Weight [kg]:					
1,16	1,16	1,16	1,16			

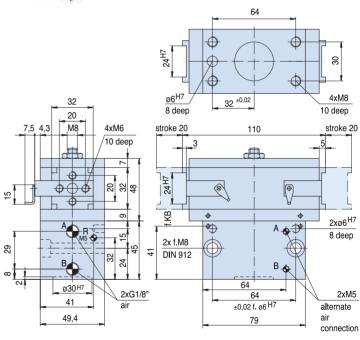
All data measured at 6 bar.

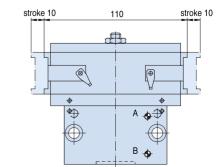
See Page 47 for Accessory list.











GP240S

Parallel gripper	Three-jaw grip	oper Angle gripper	Internal-hole gripper	Other grippers	Electr	ic grippe	r	_	_	_	
GP224 GP240	GP260 GP2	280									
	_				Para with se	allel (ealed s	grip _{quare})er guide			
	_	•			Stacks of on page	f informa 47.	tion all a		product are	9	
	_		21 2-			force as a	a functio	n of jaw le	ength		
	-				[N] 2400 2000 1600		* * *			-	■
		-455km	M-254m			•••	•••			• • •	⊷ IMM S mm]
		1	Max Allowable on Jaws						10 120 130 140 to be expecte		
	_	FA-GOON			Order no	o.:					
		6 Sec. 194			GP260	GP260 S	GP260 /99	GP260 S/99			
		-	80		Drive:						
					pneum.	pneum.	pneum.	pneum.			
		⊾ ⊢ ⊕	\land $\forall \Box$			er jaw [mr				_	
	GP260			20	30	10	30	10			
				L L		force in c		l opening [l	N]:		
		ø8 ^{H7}		4xM10	-	-	665	2120			
		12 deep40 ±	=0,02			force in c	iosing [N]			-	
44		1° 19	-	12 deep	800 Salf laal	2480	-	-			
30					Self-lock			D0\/1/0		-	
	4xM8	stroke 30	160	stroke 30	Spring	Spring	DSV1/8	DSV1/8			
	/ 12 deep	3	<u>п</u> -	5		time/open					
					0,2	0,2	0,15	0,15			
	- I +		ĺ			bility ± [m		0.05			
	64 43	90 H1	∖ i ₽ +		0,05	0,05	0,05	0,05			
		r' *		<u> </u>		x. operatin					
	<u></u>	¥ ¥ ₩ ¥ 33	*		5/8	5/8	5/8	5/8			
	Ř I		A	2x f. M10		ne per cyc 115		115			
4	ο 6 φ <u>1</u> 2 -	ଚ୍ଚ _{2xø8} н7		DIN 912	115 Min /ma	x. operatin	115 a tempera	115			
🖌	<u>+</u> 8	2100	i ĀV	DIN 312	win./ma	. operadin	ig tempera	ine [.c];			

5 / 80

ТЗ

50

Weight [kg]: 2,9

5 / 80

ТЗ

50

2,9

All data measured at 6 bar.

Piston diameter [mm]:

5 / 80

тз

50

2,9

See Page 47 for Accessory list.

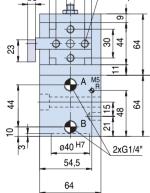
5 / 80

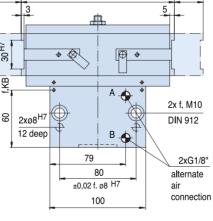
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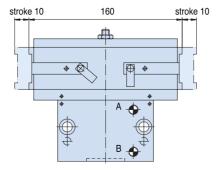
50

2,9

Temp. resistant version up to 150° C [add to part number]:







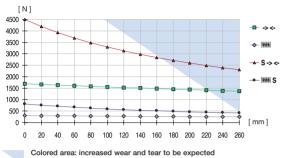
GP260S

Parallel gripper		Three-jaw gripper		Angle gripper	Internal-hole gripper	Other grippers	Electric gripper	
GP224 GP240 GP260 GP280		GP280						

Parallel gripper with sealed square guide

Advantages, benefits, comparisons and tips! Stacks of information all about this product are on page 47.





Order no	D.:					
GP280	GP280 S	GP280 /99	GP280 S/99			
Drive:						
pneum.	pneum.	pneum.	pneum.			
Stroke p	er jaw [mi	n]:				
40	15	40	15			
Gripping	g force in c	losing and	lopening	[N]:		
-	-	1390	3690			
Gripping	g force in c	losing [N]				
1690	4500	-	-			
Self-loc	king via:					
Spring	Spring	DSV1/8	DSV1/8			
Closing	time/open	ing time [s	i]:			
0,25	0,25	0,2	0,2			
Repeata	bility ± [m	m]:				
0,05	0,05	0,05	0,05			
Min./ma	x. operatir	ng pressure	e [bar]:			
5 / 10	5 / 10	5 / 10	5 / 10			
Air volu	me per cyc	le [cm³]:				
300	300	300	300			
Min./ma	x. operatir	ng tempera	ture [°C]:			
5 / 80	5 / 80	5 / 80	5 / 80			
Temp. re	esistant ve	rsion up to	o 150° C [a	dd to part	number]:	
Т3	Т3	Т3	Т3			
Piston d	liameter [n	nm]:				
70	70	70	70			
Weight	kg]:					
8,28	8,28	8,28	8,28			

64

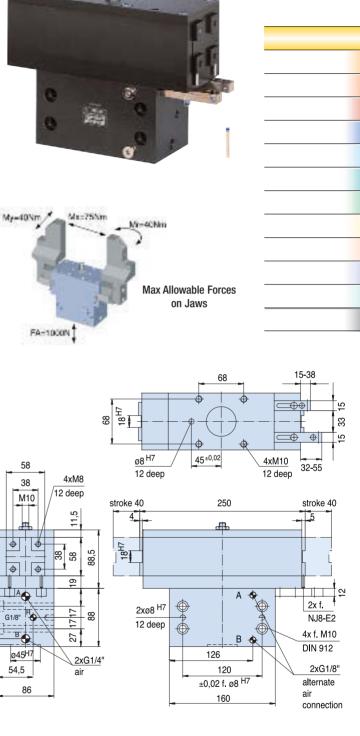
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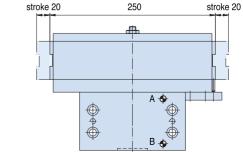
6

GP280S

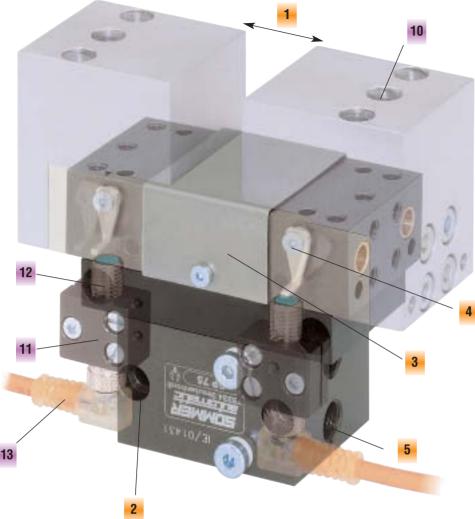
All data measured at 6 bar.

See Page 47 for Accessory list.





Parallel gripper with roller slide



Features

1 Stroke

2 Hole for socket head screw

3 Cover plate

- 4 Trip dog
- 5 Air connection at the front and rear

Accessories

- 10 Universal jaws
- 11 Sensor mount
- 12 Proximity switch, plug-in
- **13** Cable, plug-in

One of our first designs...

... but still moving as robustly as ever. The jaws are forced in and out with rollers. The jaws run on two guide pins and the jaw position can be sensed by the trip dogs fitted to the front of the gripper. Threaded M3 holes underneath the trip dogs are used for attaching sensor mounts for proximity switches. The switches are available in sizes ø 3 to 12 mm - refer to our accessory page.

Numerous pinning, centering and attachment holes allow good mounting options. All grippers are double-acting and have air connections on both the front and the side (except GP12 and GP30). Universal aluminum jaws are available for the entire series (see "Accessories"). The "S class", fitted with an additional spring for self-locking in the closed position, is available for the GP45 and GP75 types. With the GP100, the spring is standard.

The GP100S also features a steeper slide, which produces a larger gripping force and

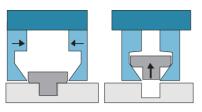
mechanical self-locking over the last 1.2 mm (see diagram with GP100S).

The smaller grippers (GP12, GP19 and GP30) have a slightly different design to achieve greater clamping force. The slides are built in reverse so that during clamping the slide surface area is active as opposed to just the annular piston for the larger grippers.

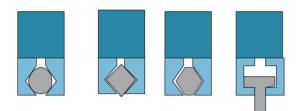
Note:

For higher loads, we have a nearly identical gripper series with more rugged ball-guided jaws in our program. The description for this series (GP103, GP104, GP105, etc.) follows directly after the GP100.

Application Ideas



Different profiles may be gripped using a prism. The 45P slope of the jaws allows the part to be lifted out of the hole when the gripper closes. This eliminates the need for a return stroke even with parallel grippers.

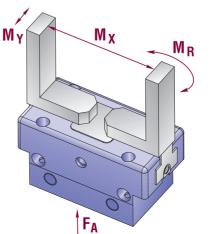


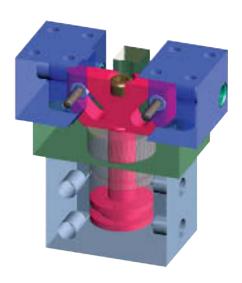
Different profiles may be gripped using a prism.

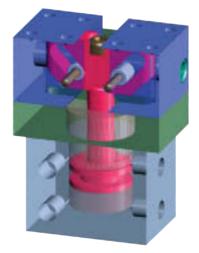


Schematic...

On every product page, you will find the following schematic which helps describe the max allowable forces and movements for that particular model.







Operation

A double-acting pneumatic cylinder drives a slide (red). The force-guided jaws (blue) are moved concentrically to the opened and closed positions with rollers moving through the slides.

Parall	GP12 up to GP100	
things worth knowing		
Advantages and uses conceived for simple grip economic with high reliab	ping tasks proven design ility and long service life	
		_
Characteristics		
Function		
Drive (depending upon model) Power transfer: Guide:	double-acting pneumatic cylinder double-acting pneumatic cylinder with mechanical safety device in case of pressure loss wedge principle with roller slide round guide with slide bearing	_
Material		
Housing: Moving parts:	hard-anodized aluminum hardened steel and nonferrous metal	
Maintenance Recommended at: Actuation: Maintenance of the mechanics:	1.5 million cycles filtered high-pressure air (10 μ m), dry or oiled – see owners' manual –	_
Basic explanations		
Terms and illustrations		

Grip force safety device:	required during pressure loss for maintaining position of workpiece
– pneumatic:	through pressure retention (one-way valve required DSV 1/8)
– mechanical:	through spring pre-tension
Total power:	arithmetic sum of the individual elements on the gripper jaws
Closing and opening times:	required time for the gripper jaws to cover the maximum stroke length

Models						
GP	Drive	Stroke power	Internal gripping	External gripping	Mechanical fail safe	
12	pneumatic	large	•	•		
19	pneumatic	large	•	•		
30	pneumatic	large	•	•		
45	pneumatic	large	•	•		
45S	pneumatic	large		•	•	
75	pneumatic	large	•	•		
75S	pneumatic	large		•	•	
100	pneumatic	large		•	•	
100/99	pneumatic	large	•	•		
100S	pneumatic	large	•	•		

Accessories

8.4

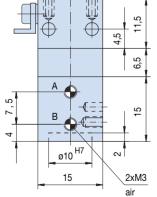
Accessory recommendation:

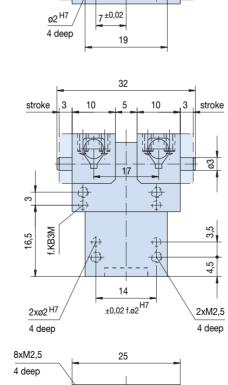
Universal jaws	Page 66
Inductive proximity switch	Page 428
Bracket for inductive proximity switch	Page 432
Pneumatic fittings	Page 442
Tubing	Page 444
Control valves	Page 445
Pressure safety valves	Page 447

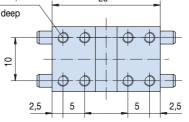




Parallel	gripper	Three-jaw	v gripper	Angle gr	ripper l	nternal-hole gripper	Other grippers	Electric gripper
GP12	GP19	GP30	GP45	GP75	GP100	Universal jaw		
								Parallel gripper
								Parallel gripper with roller slide
					-			
				100	6 4	7		Advantages, benefits, comparisons and tips!
				a.		/		Stacks of information all about this product are on page 59.
				20		S)		
					- 1	2 V		Gripping force as a function of jaw length
				0	. 1			[N] 10,0 T
				0	\$101138	6		9,0
				1		1000		
				- U	Service of the servic	1		6,0
		My	-0,15Nni.#	-	Mr-0	15Nm		1.0
			1	Mx=0.15	Nm			0,0 + + + + + + + + + + + + + + + + + +
								0 2 4 6 8 10 12 14 16 18 20
			- 1	Pro-	Mox	llowable Forces		Colored area: increased wear and tear to be expected
					IVIAX P	on Jaws		
				- 3	r	on ouro		Order no.:
								GP12
			FA-1	t	20)			Drive:
			TRAT I	+	ŀ	14	4xM2,5	pneum.
							4 deep	Stroke per jaw [mm]:
								3
				f				Gripping force in closing [N]:
				10	+++	×	· <u> </u>	8,4
				1		✐╱┥		Gripping force in opening [N]:
					2Н7	7 ±0,02	I	Self-locking via:
					deep			DSV1/8
				4 (ueep	19		Closing time/opening time [s]:
					1	I		0,02
						22		Repeatability ± [mm]:
					-	32		0,05
				stroke	3 10	5 10	3 stroke	Min./max. operating pressure [bar]:
				-				3/8
	<u>n Cult</u>		4					Air volume per cycle [cm ³]:
-			11,5			*		
			,† ∓	-	$\square \neg \downarrow$		B3	Min./max. operating temperature [°C]:







All data measured at 6 bar.

Piston diameter [mm]:

Temp. resistant version up to 150° C [add to part number]:

5 / 80

T2

10

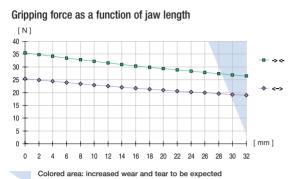
0,037

Weight [kg]:

Parallel gripper Three-ja		w gripper	Angle g	ripper	Internal-hole gripper	Other grippers	Electric gripper		
GP12	GP19	GP30	GP45	GP75	GP100	Universal jaw			

Parallel gripper with roller slide

Advantages, benefits, comparisons and tips! Stacks of information all about this product are on page 59.



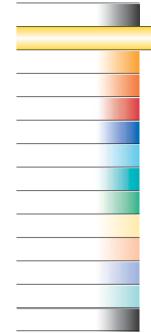
Order no.: GP19 Drive: pneum. Stroke per jaw [mm]: 4 Gripping force in closing [N]: 36 Gripping force in opening [N]: 26 Self-locking via: DSV1/8 Closing time/opening time [s]: 0,02 Repeatability ± [mm]: 0,05 Min./max. operating pressure [bar]: 3/8 Air volume per cycle [cm³]: Min./max. operating temperature [°C]: 5 / 80 Temp. resistant version up to 150° C [add to part number]: T2 Piston diameter [mm]: 14 Weight [kg]: 0,097

All data measured at 6 bar.

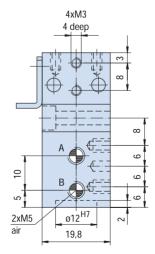
See Page 59 for Accessory list.

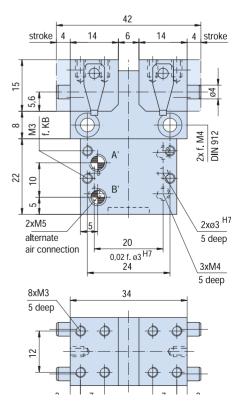


My=0.8Nm Mc=0.0Nm Mr=0.8Nm Max Allowable Forces on Jaws FA-40N

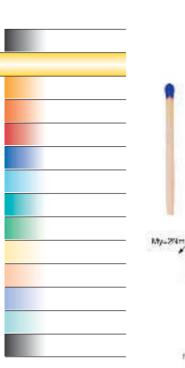


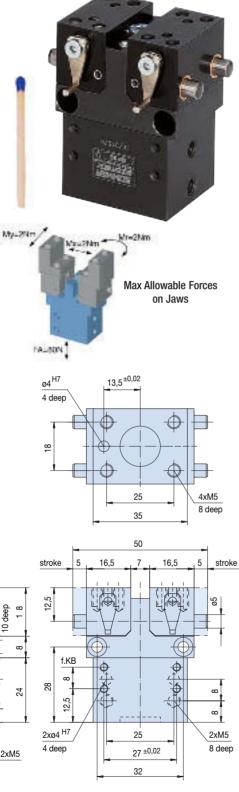
<u>ø</u>3 ^{H7} 11 ±0,02 3xM4 4 deep 8 deep 13 12 20 28

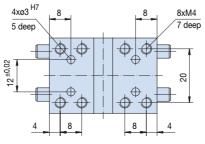




Parallel gripper		Three-jaw gripper		Angle gripper Int		Internal-hole gripper	Other grippers	Electric gripper	
GP12	GP19	GP30	GP45	GP75	GP100	Universal jaw			



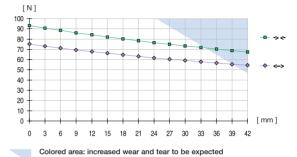




Parallel gripper with roller slide

Advantages, benefits, comparisons and tips! Stacks of information all about this product are on page 59.

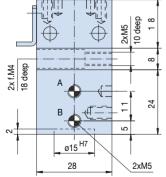
Gripping force as a function of jaw length



Order no.: GP30 Drive: pneum. Stroke per jaw [mm]: 5 Gripping force in closing [N]: 94 Gripping force in opening [N]: 76 Self-locking via: DSV1/8 Closing time/opening time [s]: 0,02 Repeatability ± [mm]: 0,05 Min./max. operating pressure [bar]: 3/8 Air volume per cycle [cm³]: 0,3 Min./max. operating temperature [°C]: 5 / 80 Temp. resistant version up to 150° C [add to part number]: T2 Piston diameter [mm]: 20 Weight [kg]: 0,18

All data measured at 6 bar.

See Page 59 for Accessory list.



Parallel gripper		Three-jaw gripper		Angle gripper		Internal-hole gripper	Other grippers	Electric gripper	
GP12	GP19	GP30	GP45	GP75	GP100	Universal jaw			

My-4Nm,

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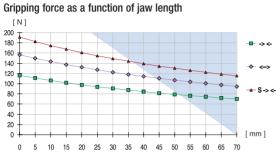
13,5

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Parallel gripper with roller slide

Advantages, benefits, comparisons and tips! Stacks of information all about this product are on page 59.



Colored area: increased wear and tear to be expected

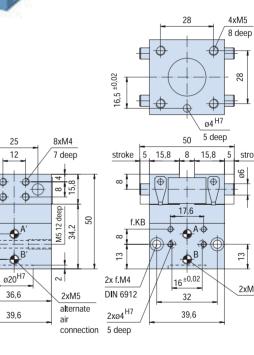
Oudenses						
Order no						
GP45	GP45 S					
Drive:						
pneum.	pneum					
Stroke p	er jaw [mi	m]:				
5	5					
Gripping	force in c	losing [N]				
118	190					
Gripping	force in c	pening [N]:			
155	-					
Self-lock	king via					
DSV1/8	Spring					
Closing	time/open	ing time [s	s]:			
0,03	0,04					
Repeata	bility ± [m	m]:				
0,05	0,05					
Min./max	x. operatir	ng pressur	e [bar]:			
3/8	5/8					
Air volun	ne per cyc	le [cm³]:				
4	8					
Min./max	x. operatir	ng tempera	ature [°C]:			
5 / 80	5 / 80					
Temp. re	sistant ve	rsion up to	o 150° C [a	dd to part	number]:	
T2	T2					
Piston di	iameter [n	nm]:				
25	25					
Weight [kg]:					
0,26	0,31					

All data measured at 6 bar.

See Page 59 for Accessory list.



on Jaws



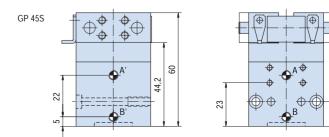
28

stroke <u>8</u>0

13

2xM5

13



Parallel gripper		Three-jaw gripper		Angle gripper		Internal-hole gripper	Other grippers	Electric gripper	
GP12	GP19	GP30	GP45	GP75	GP100	Universal jaw			

My-4Nm,

FA-TOUN

 ϕ^{\clubsuit}

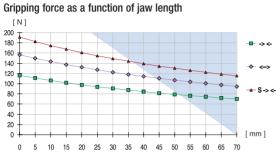
13,5

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Parallel gripper with roller slide

Advantages, benefits, comparisons and tips! Stacks of information all about this product are on page 59.



Colored area: increased wear and tear to be expected

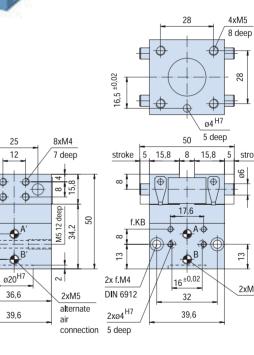
Oudenses						
Order no						
GP45	GP45 S					
Drive:						
pneum.	pneum					
Stroke p	er jaw [mi	m]:				
5	5					
Gripping	force in c	losing [N]				
118	190					
Gripping	force in c	pening [N]:			
155	-					
Self-lock	king via					
DSV1/8	Spring					
Closing	time/open	ing time [s	s]:			
0,03	0,04					
Repeata	bility ± [m	m]:				
0,05	0,05					
Min./max	x. operatir	ng pressur	e [bar]:			
3/8	5/8					
Air volun	ne per cyc	le [cm³]:				
4	8					
Min./max	x. operatir	ng tempera	ature [°C]:			
5 / 80	5 / 80					
Temp. re	sistant ve	rsion up to	o 150° C [a	dd to part	number]:	
T2	T2					
Piston di	iameter [n	nm]:				
25	25					
Weight [kg]:					
0,26	0,31					

All data measured at 6 bar.

See Page 59 for Accessory list.



on Jaws



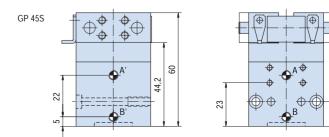
28

stroke <u>8</u>0

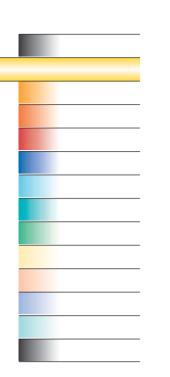
13

2xM5

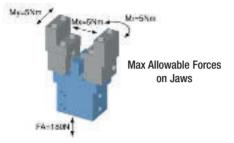
13

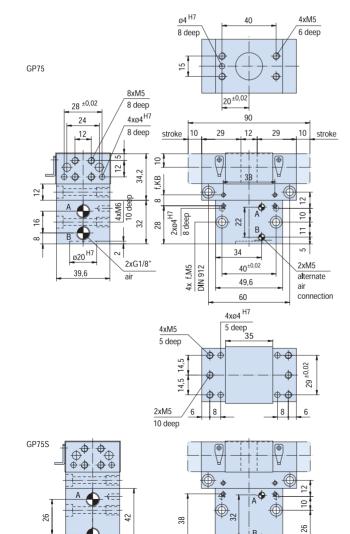


_	Parallel gripper		Three-jaw gripper		Angle gripper		nternal-hole gripper	Other grippers	Electric gripper	
	GP12	GP19	GP30	GP45	GP75	GP100	Universal jaw			







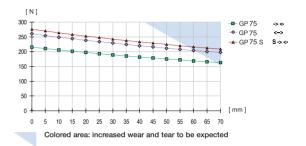


B

Parallel gripper with roller slide

Advantages, benefits, comparisons and tips! Stacks of information all about this product are on page 59.

Gripping force as a function of jaw length



GP75	GP75					
	S					
Drive:						
pneum.	pneum.					
Stroke p	er jaw [mi	n]:				
10	10					
Gripping	force in c	losing [N]				
220	275					
Gripping	force in c	pening [N]:			
260	-					
Self-lock	king via:					
DSV1/8	Spring					
Closing	time/open	ing time [s	s]:			
0,03	0,04					
Repeata	bility ± [m	m]:				
0,05	0,05					
Min./ma	x. operatir	g pressure	e [bar]:			
3/8	5/8					
Air volur	ne per cyc	le [cm³]:				
13	19					
Min./ma	x. operatir	ig tempera	ture [°C]:			
5 / 80	5 / 80					
Temp. re	sistant ve	rsion up to	o 150° C [a	dd to part	number]:	
T2	T2					
Piston d	iameter [n	nm]:				
30	30					
Weight [kg]:					
0,492	0,55					

All data measured at 6 bar.

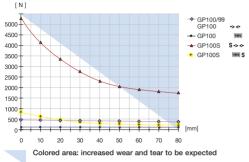
See Page 59 for Accessory list.

_	Parallel gripper		Three-jaw gripper		Angle gripper		Internal-hole gripper	Other grippers	Electric gripper	
	GP12	GP19	GP30	GP45	GP75	GP100	Universal jaw			

Parallel gripper with roller slide

Advantages, benefits, comparisons and tips! Stacks of information all about this product are on page 59.

Gripping force as a function of jaw length



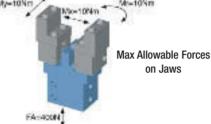
Order no	D.:					
GP100	GP100 /99	GP100 S				
Drive:						
pneum.	pneum.	pneum.				
Stroke p	er jaw [mi	n]:				
13	13	8				
Gripping	g force in c	losing [N]	*:			
450	-	5250				
Gripping	g force in c	pening [N]:			
-	450	-				
Self-loc	king via:					
Spring	-	Spring				
Closing	time/open	ing time [s	s]:			
0,05	0,04	0,05				
Repeata	bility ± [m	m]:				
0,05	0,05	0,05				
Min./ma	x. operatir	ng pressur	e [bar]:			
4 / 8	4 / 8	4 / 8				
Air volu	me per cyc	le [cm³]:				
30	30	30				
Min./ma	x. operatir	ng tempera	ature [°C]:			
5 / 80	5 / 80	5 / 80				
Temp. re	esistant ve	rsion up to	o 150° C [a	dd to part	number]:	
Т3	Т3	Т3				
Piston d	liameter [n	nm]:				
40	40	40				
Weight	kg]:					
1,4	1,4	1,4				

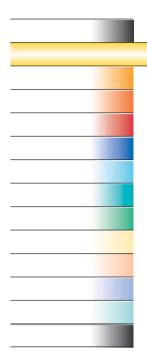
All data measured at 6 bar.

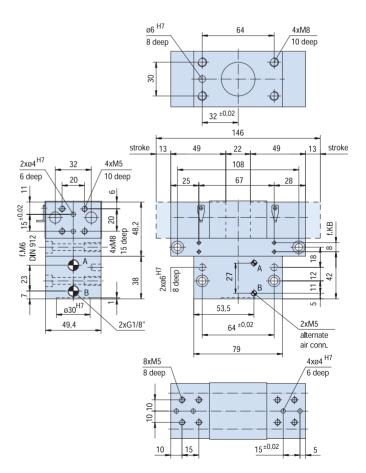
See Page 59 for Accessory list.

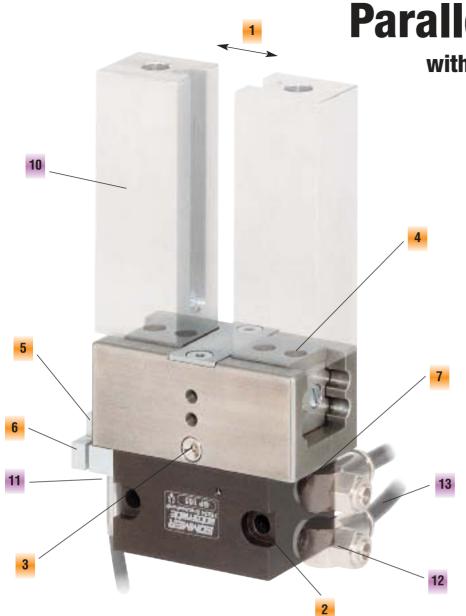
* only in last 1.2 mm of stroke











Parallel gripper with ball bearing guide

Features

- 1 Hub
- 2 Hole for socket screw
- 3 Lubricating nipple for mechanism
- 4 Removable centering sleeves
- 5 Trip dog
- 6 Sensor mount7 Air connection at the front

Accessories

- 10 Universal jaws
- **11** Proximity switch
- 12 One-way valve
- 13 PU hose

Designed for longer fingers!

It certainly does not need to be explained, for every mechanical engineer realizes the advantages of a ball guide. Long gripping fingers no longer jam, with forces effective right up to the tips of the fingers.

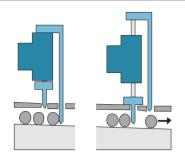
This series is nearly identical to the proven GP series with roller slides. The cylinders are made of hard-anodized aluminum, jaws and upper housing of hardened steel. The hardened steel jaws move in ball guides on both ends and they have a very high guiding stability. All grippers are also available as temperature resistant up to 150PC.

The grippers need no servicing up to 1.5 million operations, after which we recommend regreasing at the lubricating nipple between the jaws. The centering sleeves on the gripper jaws allow precise mounting of the jaws, which is important if the jaws have to be changed often.

In this case, we offer universal jaws made of steel or aluminum. More details can be found in "Accessories". The grippers are all doubleacting and have air connections at the front, side and bottom of the gripper. The connections at the bottom and front are closed with grub screws and can be used for hoseless type connections.

The trip dogs mounted on the side of the jaws are used for sensing. The sensor mounts underneath can be used to attach proximity switches. On GP103 and GP104 grippers, the sensor mounts have a diameter of 4 mm, on GP105, 6.5 mm; and the next larger sizes are provided with M8 mounting holes.

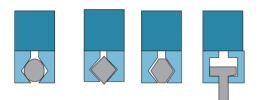
Application Ideas



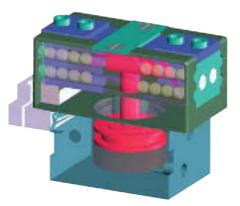
This diagram shows how parts can be separated using parallel grippers. When the jaws close, the balls are secured. When the jaws open, one ball is released while the other remains secured.

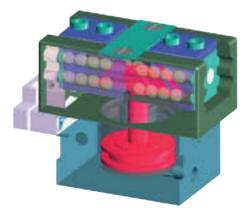
Further applications:

- removal and feeding of machine tools
- for centering parts
- for palletization (moving, loading), etc.



The good guiding characteristics of this series allows a wide range of work pieces.





Operation

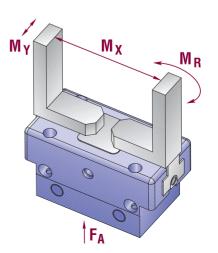
(patented)

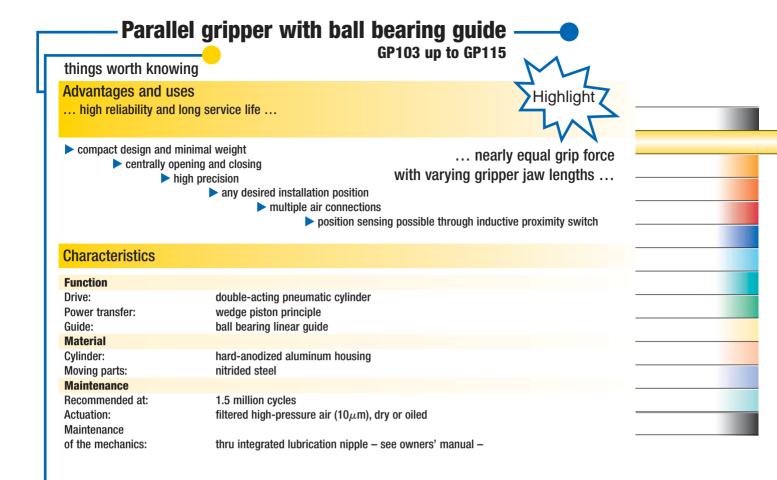
A double-acting pneumatic cylinder drives a wedge slide (red). The force-guided jaws (blue) are moved in parallel to the open and closed position by the slope of the slide. The jaws are guided by four ball bearings each in the housing. Centering sleeves are provided for precise mounting of the jaws.



Schematic...

On every product page, you will find the following schematic which helps describe the max allowable forces and movements for that particular model.





Basic explanations

Terms and illustrations

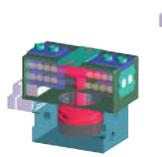
Grip force safety device: – pneumatic: Total power: Closing and opening times: required during pressure loss for maintaining position of workpiece through pressure retention (one-way valve required DSV 1/8) arithmetic sum of the individual elements on the gripper jaws required time for the gripper jaws to cover the maximum stroke length

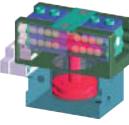
Accessories

Included with purchase:

- Centering sleeves
- Bracket for inductive proximity switch

Accessory recommendation:	
Universal jaws	Page 73
Inductive proximity switch	Page 428
Pneumatic fittings	Page 442
Tubing	Page 444
Control valves	Page 445
Pressure safety valves	Page 447



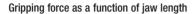


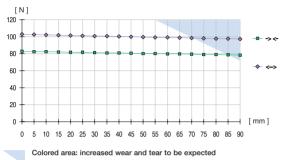
Parallel gripper Three-jaw gripper	Angle gripper Internal-hole gripper Other grippe	ers Electric gripper
GP103 GP104 GP105 GP110	GP115 Universal jaw	
		Parallel gripper
		Parallel gripper with ball bearing guide
	and	
		Advantages, benefits, comparisons and tips!
		Stacks of information all about this product are on page 67.
		Gripping force as a function of jaw length
	93htm	[N]
	- ALERT	
My=0,5Nm	Mc=0.5Nm Mr=0.5Nm	5 [mm]
		0 5 10 15 20 25 30 35 40 45 50 55
		Colored area: increased wear and tear to be expected
		Order no.: GP103
		Drive:
FA	sont	pneum.
		Stroke per jaw [mm]:
clamping block for	17,4 2xM2 alternate air ①	3 Gripping force in closing [N]:
inductive switch ø4		21
		Gripping force in opening [N]:
		Self-locking via:
		DSV1/8 Closing time/opening time [s]:
2xø2 3 de		0,02
10 Lubricati	ing nipple	Repeatability ± [mm]:
4xø4 ^{H7} flush		Min./max. operating pressure [bar]:
removable 4xM2,5	34	3/8
centering socket	0.5	Air volume per cycle [cm ³]:
		Min./max. operating temperature [°C]:
2x f. M2,5 DIN 7984		5 / 80 Temp. resistant version up to 150° C [add to part number]:
		T2
		Piston diameter [mm]:
9 M3		Weight [kg]:
$2\times M3$	2xM2 ①	0,095
3 deep		All data measured at 6 bar.
 for hoseless direct connection 		
gripper		
connection plate	2,3	
trip dogs	5 ±0,02 5 ±0,02	
	stroke 9,6 9,6 3 stroke	

_	Parallel gripper		Three-jaw gripper		Angle gripper		Internal-hole gr	per Other grippers	Electric gripper	
	GP103	GP104	GP105	GP110	GP115	Unive	rsal jaw			

Parallel gripper with ball bearing guide

Advantages, benefits, comparisons and tips! Stacks of information all about this product are on page 67.

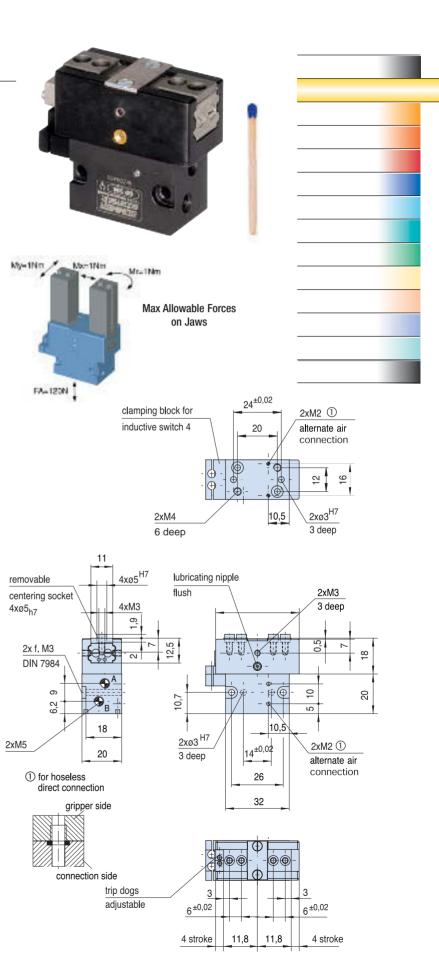




GP104 Image: Section of the section	Order no	D.:					
pneum. Image: Stroke per jaw [mm]: Image: Stroke per jaw [mm]: Image: Stroke per jaw [mm]: 4 Image: Stroke per jaw [mm]: Image: Stroke per jaw [mm]: Image: Stroke per jaw [mm]: 84 Image: Stroke per jaw [mm]: Image: Stroke per jaw [mm]: Image: Stroke per jaw [mm]: 104 Image: Stroke per jaw [mm]: Image: Stroke per jaw [mm]: Image: Stroke per jaw [mm]: 104 Image: Stroke per jaw [mm]: Image: Stroke per jaw [mm]: Image: Stroke per jaw [mm]: 105 Image: Stroke per jaw [mm]: Image: Stroke per jaw [mm]: Image: Stroke per jaw [mm]: 109 Image: Stroke per jaw [mm]: Image: Stroke per jaw [mm]: Image: Stroke per jaw [mm]: 11 Image: Stroke per jaw [mm]: Image: Stroke per jaw [mm]: Image: Stroke per jaw [mm]: 12 Image: Stroke per jaw [mm]: Image: Stroke per jaw [mm]: Image: Stroke per jaw [mm]: 12 Image: Stroke per jaw [mm]: Image: Stroke per jaw [mm]: Image: Stroke per jaw [mm]: 16 Image: Stroke per jaw [mm]: Image: Stroke per jaw [mm]: Image: Stroke per jaw [mm]:	GP104						
pneum. Image: Stroke per jaw [mm]: Image: Stroke per jaw [mm]: Image: Stroke per jaw [mm]: 4 Image: Stroke per jaw [mm]: Image: Stroke per jaw [mm]: Image: Stroke per jaw [mm]: 84 Image: Stroke per jaw [mm]: Image: Stroke per jaw [mm]: Image: Stroke per jaw [mm]: 104 Image: Stroke per jaw [mm]: Image: Stroke per jaw [mm]: Image: Stroke per jaw [mm]: 104 Image: Stroke per jaw [mm]: Image: Stroke per jaw [mm]: Image: Stroke per jaw [mm]: 105 Image: Stroke per jaw [mm]: Image: Stroke per jaw [mm]: Image: Stroke per jaw [mm]: 109 Image: Stroke per jaw [mm]: Image: Stroke per jaw [mm]: Image: Stroke per jaw [mm]: 11 Image: Stroke per jaw [mm]: Image: Stroke per jaw [mm]: Image: Stroke per jaw [mm]: 12 Image: Stroke per jaw [mm]: Image: Stroke per jaw [mm]: Image: Stroke per jaw [mm]: 12 Image: Stroke per jaw [mm]: Image: Stroke per jaw [mm]: Image: Stroke per jaw [mm]: 16 Image: Stroke per jaw [mm]: Image: Stroke per jaw [mm]: Image: Stroke per jaw [mm]:							
Stroke per jaw [mm]: 4 4 6 Gripping force in closing [N]: 3 84 6 Gripping force in opening [N]: 1 104 6 Self-locking via: 6 DSV1/8 6 Closing time/opening time [s]: 6 0,02 6 Repeatability ± [mm]: 6 0,05 6 Min./max. operating pressure [bar]: 6 3 / 8 6 Air volume per cycle [cm²]: 6 2 6 Min./max. operating temperature [°C]: 5 5 / 80 6 Temp. resistant version up to 150° C [atd to part number]: T2 6 Piston diameter [mm]: 6 16 6	Drive:						
4 a a a Gripping force in closing [N]: a a 84 a a a Gripping force in opening [N]: a a a 104 a a a a Self-locking via: b a a a DSV1/8 a a a a Glosing time/opening time [s]: a a a a 0,02 a a a a a Nin./max. operating pressure [bar]: a a a a 3 / 8 a a a a a Air volume per cycle [cm²]: a a a a a 14 a	pneum.						
Gripping force in closing [N]: 84 84 6 Gripping force in opening [N]: 104 104 6 Self-locking via: 5 DSV1/8 6 Closing time/opening time [s]: 6 0,02 6 Repeatability ± [mm]: 6 0,05 6 Min./max. operating pressure [bar]: 6 3 / 8 6 Min./max. operating temperature [°C]: 5 5 / 80 6 Temp. resistant version up to 150° C [atd to part number]: T2 6 Piston diameter [mm]: 6 16 6 6	Stroke p	er jaw [mi	n]:				
84 a a a Gripping force in opening [N]: 104 a a 104 a a a a Self-locking via: DSV1/8 a a a DSV1/8 a a a a a 0,02 a <td>4</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	4						
Gripping force in opening [N]: 104 104 Self-locking via: DSV1/8 Closing time/opening time [s]: 0,02 0,02 Repeatability ± [mm]: 0,05 0,05 Min./max. operating pressure [bar]: 3 / 8 Air volume per cycle [cm ²]: 2 Min./max. operating temperature [°C]: 5 / 80 Temp. resistant version up to 150° C [atd to part number]: T2 Piston diameter [mm]: 16	Gripping	force in c	losing [N]				
104 Self-locking via: DSV1/8 Image: Self-locking via: DSV1/8 Image: Self-locking via: 0.02 Image: Self-locking via: 0.03 Image: Self-locking via: 0.05 Image: Self-locking via: 0.05 Image: Self-locking via: 0.05 Image: Self-locking via: 3 / 8 Image: Self-locking via: Air volume per cycle [cm ²]: Image: Self-locking via: 2 Image: Self-locking via: 4 Image: Self-locking via: 2 Image: Self-locking via: 3 / 8 Image: Self-locking via: 2 Image: Self-locking via: 3 / 8 Image: Self-locking via: 3 / 8 Image: Self-locking via: 3 / 8 Image: Self-locking via: 5 / 80 I	84						
Self-locking via:	Gripping	g force in c	pening [N]:			
DSV1/8 Image: Signa in the formation of the f	104						
Closing time/opening time [s]: 0,02 Repeatability ± [mm]: 0,05 Min./max. operating pressure [bar]: 3 / 8 Air volume per cycle [cm ³]: 2 Min./max. operating temperature [°C]: 5 / 80 Temp. resistant version up to 150° C [add to part number]: T2 Piston diameter [mm]: 16	Self-loc	king via:					
0,02 Repeatability ± [mm]: 0,05 Min./max. operating pressure [bar]: 3 / 8 Air volume per cycle [cm²]: 2 Min./max. operating temperature [°C]: 5 / 80 Temp. resistant version up to 150° C [add to part number]: T2 Piston diameter [mm]: 16	DSV1/8						
Repeatability ± [mm]: 0,05 Min./max. operating pressure [bar]: 3 / 8 Air volume per cycle [cm²]: 2 Min./max. operating temperature [°C]: 5 / 80 Temp. resistant version up to 150° C [add to part number]: T2 Piston diameter [mm]: 16	Closing	time/open	ing time [s	s]:			
0,05 Image: Constraint of the second s	0,02						
Min./max. operating pressure [bar]: 3 / 8 Air volume per cycle [cm²]: 2 Min./max. operating temperature [°C]: 5 / 80 Temp. resistant version up to 150° C [add to part number]: T2 Piston diameter [mm]: 16	Repeata	bility ± [m	m]:				
3 / 8 Air volume per cycle [cm²]: 2 Min./max. operating temperature [°C]: 5 / 80 Temp. resistant version up to 150° C [add to part number]: T2 Piston diameter [mm]: 16	0,05						
Air volume per cycle [cm ²]: 2 Min./max. operating temperature [°C]: 5 / 80 Temp. resistant version up to 150° C [add to part number]: T2 Piston diameter [mm]: 16	Min./ma	x. operatir	ng pressure	e [bar]:			
2 An and the set of the s	3/8						
Min./max. operating temperature [°C]: 5 / 80 Temp. resistant version up to 150° C [add to part number]: T2 Piston diameter [mm]: 16	Air volu	me per cyc	le [cm³]:				
5 / 80 Image: Second	2						
Temp. resistant version up to 150° C [add to part number]: T2 Piston diameter [mm]: 16	Min./ma	x. operatir	ng tempera	ature [°C]:			
T2 Piston diameter [mm]: 16	5 / 80						
Piston diameter [mm]: 16	Temp. re	esistant ve	rsion up to	o 150° C [a	dd to part	number]:	
16	T2						
	Piston d	liameter [n	nm]:				
Weight [kg]:	16						
	Weight	kg]:					
0,139	0,139						

All data measured at 6 bar.

See Page 67 for Accessory list.



Parallel gripper Three-jaw	gripper Angle gripper Internal-hole gripper	r Other grippers Electric gripper
GP103 GP104 GP105	GP110 GP115 Universal jaw	
		Parallel gripper
10 C		with ball bearing guide
		Advantages, benefits, comparisons and tips! Stacks of information all about this product are
		on page 67.
		Gripping force as a function of jaw length
	a star a	[N] 250 I
		150
		100
M	W=2Nm Mx=2Nm M=2Nm	50
		0 + + + + + + + + + + + + + + + + + + +
	Max Allowable Forc	Colored area: increased wear and tear to be expected
	on Jaws	
		Order no.: GP105
		Drive:
	FA-180N	pneum.
		Stroke per jaw [mm]: 2xM2 5
	nping block $27^{\pm 0.02}$	air alternate ① Gripping force in closing [N]:
		2xø4 H7 210 / 4deep Gripping force in opening [N]:
	2xM5 6deep	Self-locking via:
		Closing time/opening time [s]:
removable 16	13	0,03 Repeatability ± [mm]:
centering socket 4xø5 _{h7}	4xø5 ^{H7} flush	2xM3 0,05
	4xM3 52	3deep Min./max. operating pressure [bar]: 3/8
		Air volume per cycle [cm ³]:
		۲۰ Min./max. operating temperature [°C]:
2x f. M4 DIN 7984		5 / 80
		Temp. resistant version up to 150° C [add to part number]:
B B		Piston diameter [mm]:
10_4	2x03 ^{H7}	Weight [kg]:
2xM5	3deep	2xM2 ① 0,313
28	33	alternate air connection All data measured at 6 bar.
 for hoseless direct connection 	40	See Page 67 for Accessory list.
gripper side		
connetion side		_
trip docks adjustable	8 ±0,02	8 ±0,02
aujustable		
	5 stroke 14,8 14,8	<u>5 stroke</u>

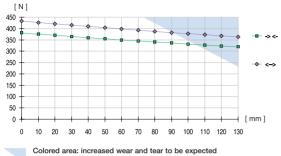
Parallel gripper		Three-jaw gripper		Angle gripper		Internal-hole grippe	r Other grippers	Electric gripper	
GP103	GP104	GP105	05 GP110 GP115 Universal ji		ersal jaw				

Parallel gripper

with ball bearing guide

Advantages, benefits, comparisons and tips! Stacks of information all about this product are on page 67.

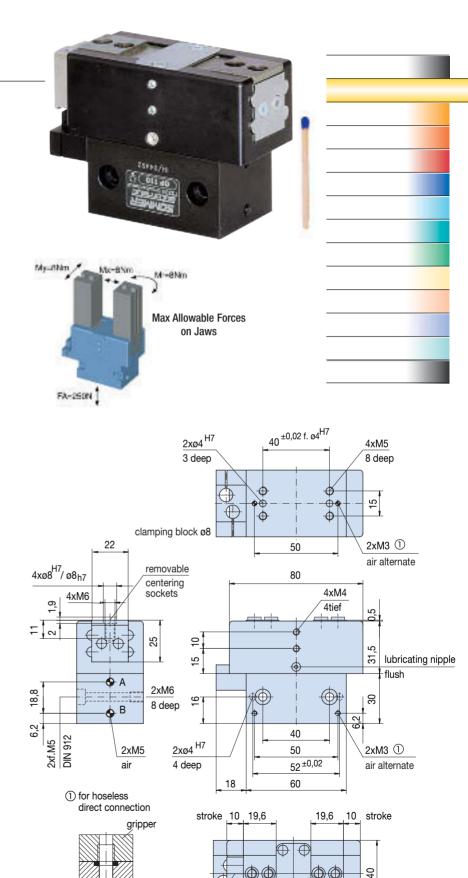
Gripping force as a function of jaw length



Order no.: GP110 Drive pneum. Stroke per jaw [mm]: 10 Gripping force in closing [N]: 380 Gripping force in opening [N]: 430 Self-locking via: DSV1/8 Closing time/opening time [s]: 0,04 Repeatability ± [mm]: 0,05 Min./max. operating pressure [bar]: 3/8 Air volume per cycle [cm³]: 17 Min./max. operating temperature [°C]: 5 / 80 Temp. resistant version up to 150° C [add to part number]: T2 Piston diameter [mm]: 30 Weight [kg]: 0,9

All data measured at 6 bar.

See Page 67 for Accessory list.



 \oplus \oplus

10^{±0,02} 5

10^{±0,02}

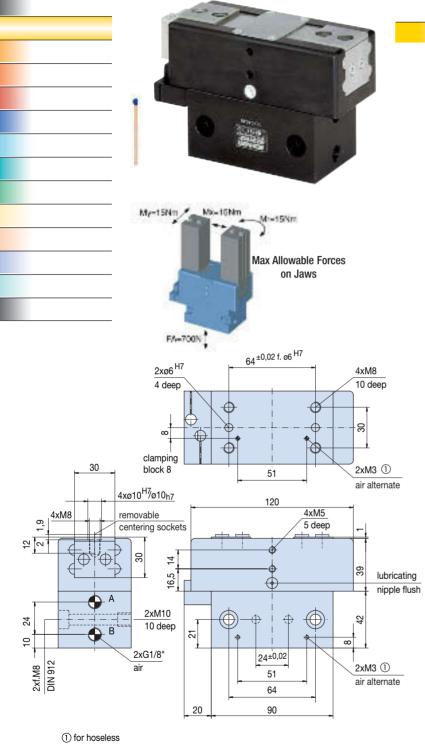
5

connection plate

trip dogs

adjustable

_	Parallel gripper		Three-jaw gripper		Angle g	ripper Interr	nal-hole gripper	Other grippers	Electric gripper	
	GP103	GP104	GP105	GP110	GP115	Universal jav	w			

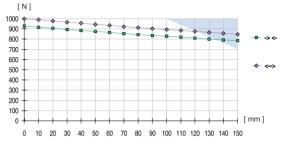


direct connection gripper stroke _15 28,9 28,9 15_ stroke Φ \oplus 54 connection plate Æ \oplus Ð 8_15^{±0,02} trip dogs 15^{±0,02} 8 adjustable

Parallel gripper with ball bearing guide

Advantages, benefits, comparisons and tips! Stacks of information all about this product are on page 67.

Gripping force as a function of jaw length

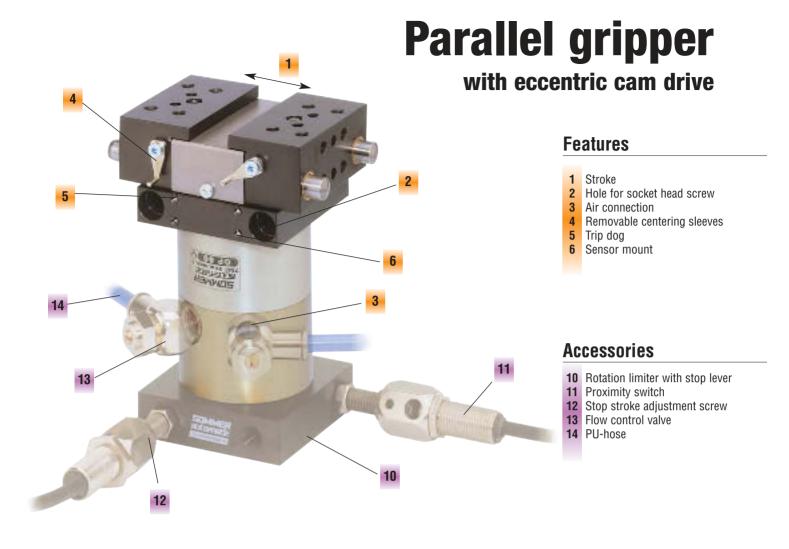


Colored area: increased wear and tear to be expected

Order no	o.:					
GP115						
Drive:		_				
pneum.						
Stroke p	er jaw [mi	m]:				
15						
Gripping	g force in c	losing [N]				
930						
Gripping	g force in c	pening [N]:			
1000						
Self-loci	king via:					
DSV1/8						
Closing	time/open	ing time [s	s]:			
0,04						
Repeata	bility ± [m	m]:				
0,05						
Min./ma	x. operatir	ng pressur	e [bar]:			
3/8						
Air volu	me per cyc	le [cm³]:				
57						
Min./ma	x. operatir	ng tempera	ature [°C]:			
5 / 80						
Temp. re	esistant ve	rsion up to	o 150° C [a	dd to part	number]:	
Т3						
Piston d	liameter [n	n m]:				
45						
Weight [kg]:					
2,1						

All data measured at 6 bar.

See Page 67 for Accessory list.



One of our originals...

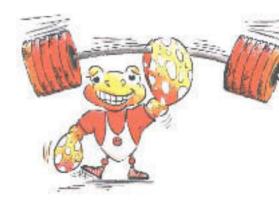
.. but still in the race. Its self-locking is still insurmountable. It is driven by a pneumatic, double-acting rotary vane actuator. A double eccentric cam converts the rotary movement into a parallel displacement. The cam is attached to both jaws and is extended or retracted by the rotary movement. The gripper is mechanically self-locking at both the fully closed and fully opened positions (see diagram).

At these points, the gripper also achieves its greatest force. With this type of gripper, the sensor trip dogs are located on the front. Threaded M3 holes underneath the trip dogs are for attaching sensor mounts for proximity switches.

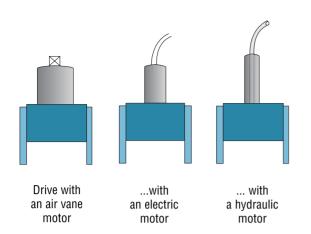
Depending upon the size of the gripper, the switches are available in sizes from 6.5 to 12 mm. Monitoring and simultaneous stroke adjustment can be accomplished with a rotation limiter mounted on the back of the rotor. The rotation limiter is adjusted by means of threaded stops.

The air connections are located on the front of all cam-actuated grippers. On the GP78 and GP80, these can also be located at the bottom on the rotor. The cam-actuated grippers can also be hydraulically operated under certain conditions - up to 12 bar operating pressure.

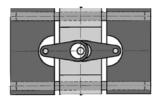
This gripper series is characterized by mechanical self-locking in the opened and closed condition.

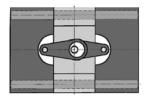


Application Ideas



Various types of drives can be mounted on the back of the grippers, for example, an electric motor or a hydraulic cylinder. There are no internal stops on the mechanism, thus, the gripper can be opened and closed by just rotating the drive shaft continuously.

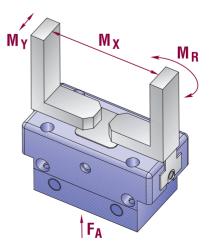


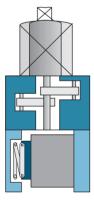


Operation

A double-acting rotary vane actuator turns a double eccentric cam, which is attached to the jaws by means of a rocker arm. This motion causes the jaws to move linearly to the opened and closed positions. The jaws run centrally in parallel on two guide pins. At the end of the stroke, the gripper is mechanically self-locking.







Note: On parts with dimensional tolerances and different sizes, one jaw should be spring-loaded. This ensures mechanical self-locking at the end of the stroke when the cam is either fully extended or fully retracted.

Schematic...

On every product page, you will find the following schematic which helps describe the max allowable forces and movements for that particular model.

Parallel gripper with eccentric cam

GP78/GP80/GP88

Things worth knowing

Advantages and uses

- ... high grip force ... grip force safety devices at the end position ...
- ... highly efficient due to long service life and high reliability ...
- centrally opening and closing

... opened and closed with mechanical self-lock!...

Highlight

- any desired installation position
 - > position sensing possible through inductive proximity switch

Characteristics

Function

Drive: Power transfer: Guide:	pneumatic vane-type cylinders thru double eccentric cam with connecting rod round guide with slide bearing
Material	
Housing: Moving parts:	hard-anodized aluminum steel and nonferrous metal (Rg7)
Maintenance	
Recommended at: Actuation: Maintenance	1.5 million cycles filtered high-pressure air (10 μ m), dry or oiled
of the mechanics:	– see owners' manual –

Basic explanations

Terms and illustrations

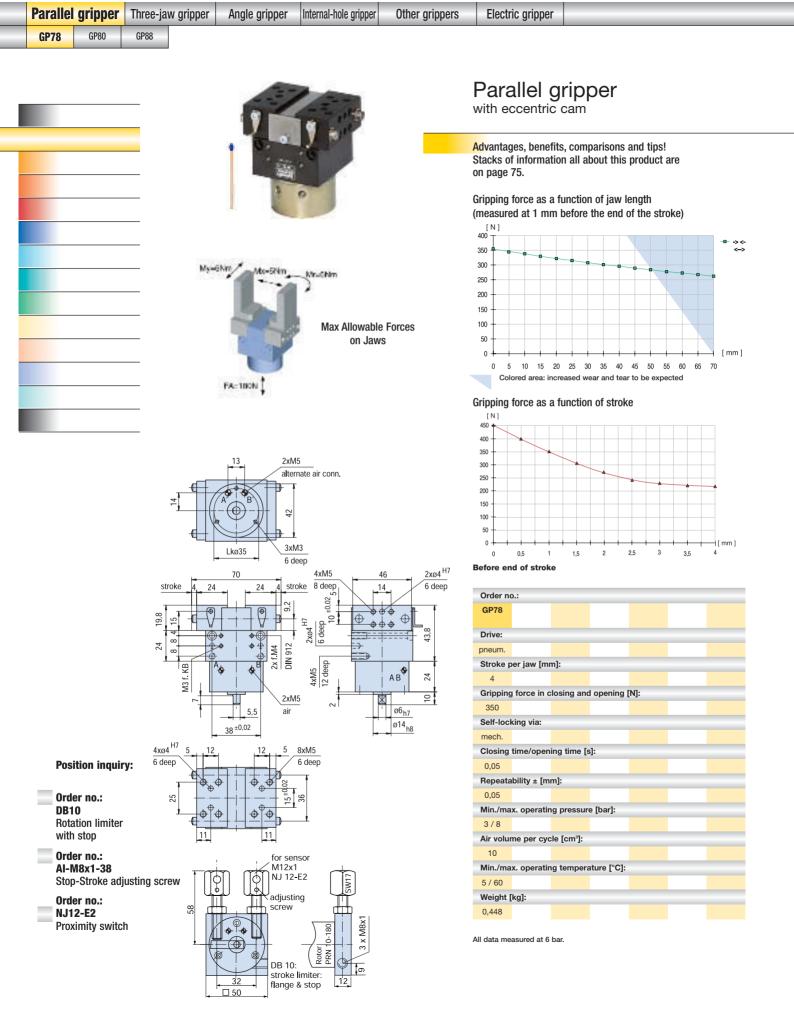
Grip force safety device:required during pressure loss for maintaining position of workpiece- pneumatic:through pressure retention (one-way valve required (DSV1/8)Total power:arithmetic sum of the individual elements on the gripper jawsClosing and opening times:required time for the gripper jaws to cover the maximum stroke length

Accessories

Accessory recommendation:

Inductive proximity switch	Page 428
Bracket for inductive proximity switch	Page 432
Pneumatic fittings	Page 442
Tubing	Page 444
Control valves	Page 445
Pressure safety valves	Page 447





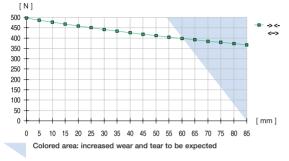
Parallel	gripper	Three-ja	w gripper	Angle gripper	Internal-hole gripper	Other grippers	Electric gripper	
GP78	GP80	GP88						

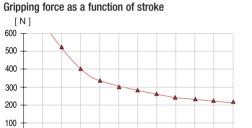
Parallel gripper

with eccentric cam

Advantages, benefits, comparisons and tips! Stacks of information all about this product are on page 75.

Gripping force as a function of jaw length (measured at 1 mm before the end of the stroke)





2,5 3 3,5 4

4,5 5 5,5

[mm]



0,5 1

1,5 2

0

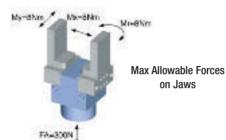
0

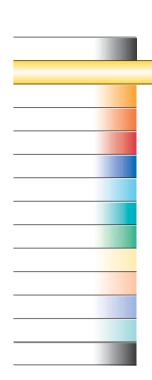
Order no.: GP80 Drive: pneum. Stroke per jaw [mm]: 6 Gripping force in closing and opening [N]: 500 Self-locking via: mech Closing time/opening time [s]: 0,06 Repeatability ± [mm]: 0,05 Min./max. operating pressure [bar]: 3/8 Air volume per cycle [cm³]: 27 Min./max. operating temperature [°C]: 5 / 60 Weight [kg]: 0,828

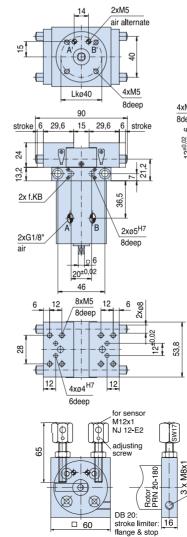
All data measured at 6 bar.

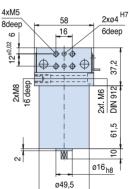
See Page 75 for Accessory list.







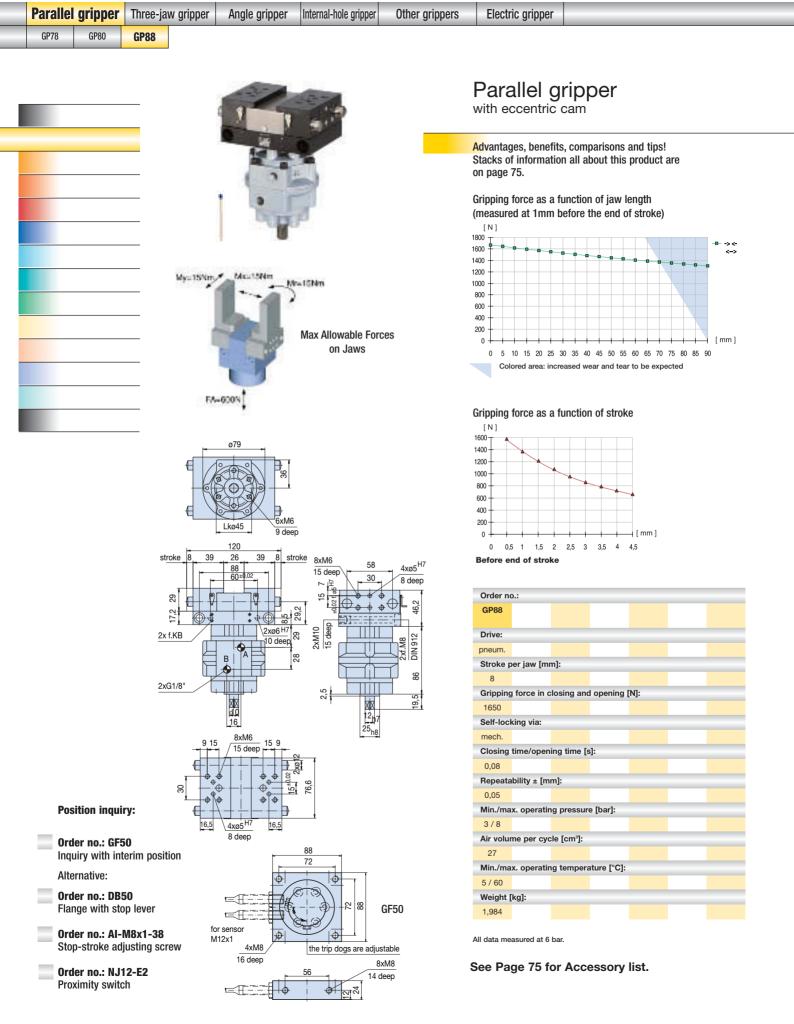




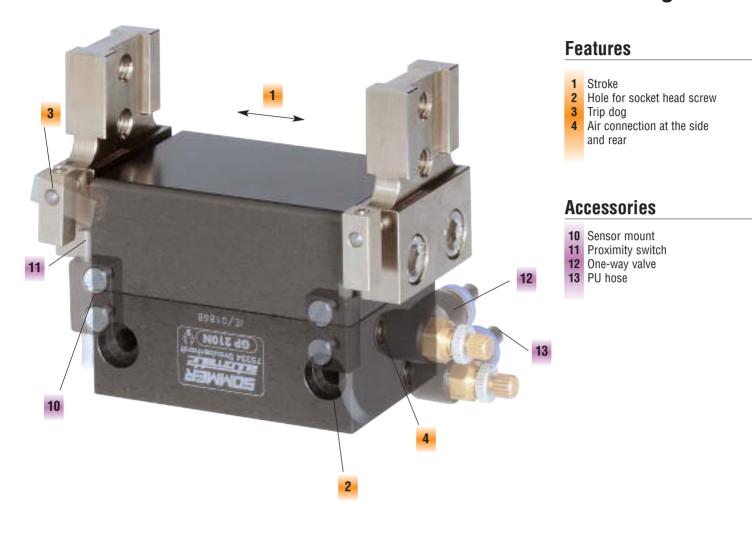
Position inquiry:

- Order no.: DB20 Rotation limiter with stop
- Order no.: AI-M8x1-38 Stop-Stroke adjusting screw

Order no.: NJ12-E2 Proximity switch



Parallel gripper with sealed and rust-resistant guide



This gripper series...

... is resistant and impervious to dirt, swarf and water. The radial slide mounted on the piston runs along the bevel of the two guide pins, which are attached to the gripper jaws. These are moved inward or outward, depending on how the gripper is actuated.

This allows objects to be gripped symmetrically. The gripper jaws are secured against rotation by the two guide pins. The guide pin housing is made of hard-coated aluminum, which allows the guide pins to slide easily.

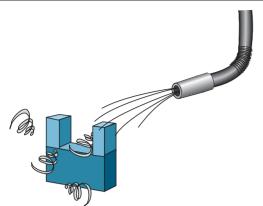
The gripper is also rust-resistant, with all steel parts nickel-plated. Here too, the adjustable trip dogs are located on the jaws. The sensor mounts for proximity switches can be installed in the M3 threaded holes beneath the trip dogs.

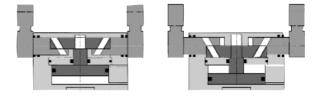
The proximity switches are available in sizes ranging from ø 3 - 6.5 mm, depending on the size of the gripper. Ample holes for pins, centering discs and screws are provided for convenient mounting. The air connections are located on the side of the gripper. The GP210 has factory-plugged air connections at the back.

For this series, we also offer suitable universal jaws, which may be reworked for certain applications. For more details, see our accessories section. The jaws of this series are screwed on and pinned from he top.



Application Ideas





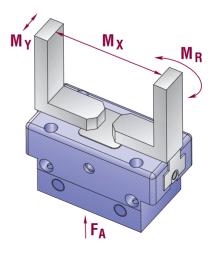
The gripper is protected against dirt, swarf and many liquids such as coolants, etc.

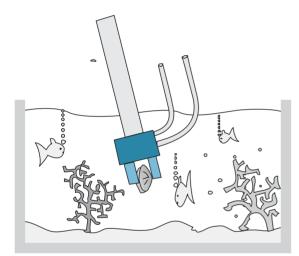


(patents granted)

A double-acting pneumatic cylinder drives a slide. The force-guided jaws are moved in parallel to the open and closed position by the slope of the slide. The jaws are secured against rotation with two sealed guide shafts.







The gripper can also be used under water.

Schematic...

On every product page you will find the following schematic which helps describe the max allowable forces and movements for that particular model.

Parallel gripper sealed and rust-resistant ——

GP206/GP210

Highlight

things worth knowing

Advantages and uses

- ... sealed gripper with precise round guide ... stainless compact construction with low weight ...
- centrally opening and closing
 - any desired installation position
- … protected from dirt, shavings, and liquids! …
- multiple air connection possibilities

> position sensing possible through inductive proximity switch

Characteristics

Function	
Drive:	double-acting pneumatic cylinder
Power transfer:	wedge piston principle
Guide:	sealed round guide
Material	
Housing:	hard-anodized aluminum
Gripper jaws:	steel, nickel-plated
Guide rods:	steel, nickel-plated
Moving parts:	nitrided steel
Maintenance	
Recommended at:	1.5 million cycles
Actuation:	filtered high-pressure air (10 μ m), dry or oiled
Maintenance of the mechanics:	– see owners' manual –

Basic explanations

Terms and illustrations

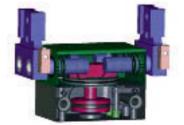
Grip force safety device:required during pressure loss for maintaining position of work piece- pneumatic:through pressure retention (one way valve required DSV 1/8)Total power:arithmetic sum of the individual elements on the gripper jawsClosing and opening times:required time for the gripper jaws to cover the maximum stroke length

Accessories

Accessory recommendation:

Inductive proximity switch	Page 428
Bracket for inductive proximity switch	Page 432
Pneumatic fittings	Page 442
Tubing	Page 444
Control valves	Page 445
Pressure safety valves	Page 447





Parallel gripper	Three-jaw gripper	Angle gripper	Internal-hole gripper	Other grippers	Electric gripper
GP206 GP210			· · · ·		
	_	2	+		Parallel gripper sealed and rust-resistant
	- 1		100		Advantages, benefits, comparisons and tips! Stacks of information all about this product are on page 79. Gripping force as a function of jaw length
		0	OF E		
	My-2Nm	Maurine	Mr=2Nm		0 5 10 15 20 25 30 35 40 45 50 55 60 65 70
	- 1)		Colored area: increased wear and tear to be expected
	- 4		Max Allowable Forc on Jaws	es	Order no.:
	- 4				GP206 N Drive:
	FA	-EON			pneum.
					Stroke per jaw [mm]:
					Gripping force in closing [N]:
		2xø4 ^{H7}	22 ^{±0,02}	xM4	Gripping force in opening [N]:
		3 deep		deep	155 Self-locking via:
				A	DSV1/8 Closing time/opening time [s]:
				16	0,03
					Repeatability ± [mm]:
		-	38		Min./max. operating pressure [bar]:
2xø4,1	14	stroke 3mm	28,2 stro	oke 3mm	3 / 8 Air volume per cycle [cm³]:
	10 ^{H7}				4
		č j			Min./max. operating temperature [°C]:
A		M3 f. clamping block		4 4	Temp. resistant version up to 150° C [add to part number]:
23		earline and the second		1	T3 Piston diameter [mm]:
15		₩ ₩ ₩		23	16
<u>*</u>			•	39	Weight [kg]: 0,12
9		∞ ↓ ↓ ↓			All data measured at 6 bar.
2		10 12			See Page 79 for Accessory list.
1 2xM5	24,6	2xø4 ^{H7} 3 deep	22 32 ^{±0,02}	f.M4 DIN 7984	
			47		

	Parallel	gripper	Three-jaw gripper	Angle gripper	Internal-hole gripper	Other grippers	Electric gripper		
_	GP206	GP210						•	
	Paral sealed a	lel gr and rust-	ipper resistant				1		
			comparisons and tips		-		and the second second	1	
	Stacks of in on page 79		all about this product	are	0	1		-	
	Gripping for [N] 500 T	rce as a fui	nction of jaw length				c	0 5 -	
	450 4 00 3 50 3 00 1 250 1					0			
	200 150 100 50							_	
	0 + +	10 15 20 2	1 15 30 35 40 45 50 59	5 60 65 70					
	Colore	ed area: increa	sed wear and tear to be exp	pected					
	Order no.:				My-BNm	Ma-0Nm	r-6Nm		
	GP210								
	N Drive:				1				
	pneum.					102	Max Allowable Fo	orces	
	Stroke per	jaw [mm]:				2	on Jaws		
	5				100				
		orce in closir	ng [N]:		FA:	200N			
	280 Gripping fo	orce in openi							
	465	bice in open	ing [in].						
	Self-lockin	ıg via:							
	DSV1/8								
		ne/opening t	ime [s]:				2xø5 H7	48 ^{±0,02}	4xM5
	0,04	lity ± [mm]:					6 deep		5 deep
	0,05	nty ± [mm].						A',	A
		operating pr	essure [bar]:				- 58		
	3/8						~	B	
		per cycle [c	:m³]:				<u> </u>		₩
	33 Min /max	operating to	mperature [°C]:					48	2xM5
	5 / 80	operating te							alternate
		stant version	up to 150° C [add to par	rt number]:	<u>2xM6</u>	24	stroke 5		9,6 5 stroke
	Т3				\backslash	14 ^{H7}	,	5,6 5	5,6
		meter [mm]:					O		
	25 Weight [kg	1:							
	0,415	11.				Ľ ŧĹ, ľ			
	All data measu	ured at 6 bar.			2x f. M5 DIN 7984	6 deep			M3 f. KB
	See Page	e 79 for /	Accessory list.				27 34 11 7,5		2,1 45
					<u>2xM5</u>	12 12 18 39,4	T	2xø15 ^{H7} 48 60	
								4	-

Parallel gripper with center thru hole

Features

1 Stroke

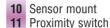
2

3

- Hole for camera, sensor or cylinder
- Trip dog

4 Air connection at the front, bottom and side)

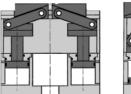
Accessories



_

Operation

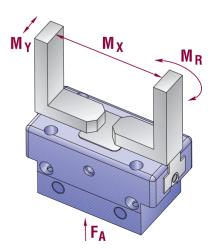
Two double-acting pneumatic cylinders move the jaws in parallel to the open and closed positions. The jaws are synchronized by a sliding joint and guided firmly in a slot in the housing.



19	R

Schematic...

On every product page, you will find the following schematic which helps describe the max allowable forces and movements for that particular model.



A Smart Fellow...

10

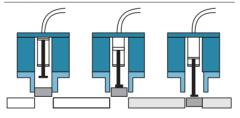
11

... among grippers - with a clear vision. A camera, other sensor equipment or a cylinder can be installed in the center, where it is protected against external disturbing edges. No more tangled cables around the gripper since they emanate from the center.

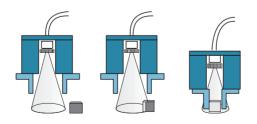
Air connections for opening and closing can be attached to ports on the back or side. The gripper is double-acting and has two cylinders, which are arranged off-center. Both cylinders are linked to each other pneumatically so that only one connection each for A and B are required.

The lever slides attached to the cylinders are also guided in the slide plates at the top so that both cylinders are aligned with each other. The jaws are guided in a T-slot. The sliding parts are made of hard-anodized aluminum, which provides a high surface hardness and good sliding characteristics. As on nearly all gripper models, adjustable trip dogs are mounted on the jaws. The M3 holes underneath the dogs are for attaching sensor mount "KB 12". Proximity switch "NJ 12-E2" fits here for sensing the open and closed positions. More details are in the accessories section.

Applications Ideas



By installing a cylinder in the center of the gripper, several work steps can be carried out simultaneously. For example, in the diagram above a part is being pressed after being laid in a die.



With a sensor or a camera fitted in the center of the gripper, it is possible to sense parts directly while being protected against external damage.

Parallel gripper with center thru hole. **GP325** things worth knowing Advantages and uses Highlight ... large center bore ... mechanical self-locking in the end position (close) high reliability and long service life ideal for the integration of a centrally closing sensor or camera! ... any desired installation position > position sensing possible through inductive proximity switch **Characteristics** Function two synchronized, double-acting pneumatic cylinders Drive: Power transfer: piston and toggle linkage flat guide for high moment absorption on all sides Guide: **Material** hard-anodized aluminum Housing: hard-anodized aluminum Gripper jaws: Moving parts: nitrided steel and nonferrous metal (Rg7) Maintenance Recommended at: 1.5 million cycles Actuation: filtered high-pressure air (10 μ m), dry or oiled Maintenance

– see owners' manual –

Basic explanations

of the mechanics:

Terms and illustrations

Grip force safety device:	required during pressure loss for maintaining position of workpiece
– pneumatic:	through pressure retention (one-way valve required DSV 1/8)
– mechanical:	through toggle linkage during external gripping
Total power:	arithmetic sum of the individual elements on the gripper jaws
Closing and opening times:	required time for the gripper jaws to cover the maximum stroke length

Accessories

Accessory recommendation:

Inductive proximity switch	Page 428
Bracket for inductive proximity switch	Page 432
Pneumatic fittings	Page 442
Tubing	Page 444
Control valves	Page 445
Pressure safety valves	Page 447





Parallel gripper Three	ee-jaw gripper Angle gripper	Internal-hole gripper	Other grippers	Electric gripper
GP325				
	1			
	and the	and the second s		Parallel gripper with thru hole
	1 Para			with thru hole
	1000		A .	
	- NO.			Advantages, benefits, comparisons and tips!
	200			Stacks of information all about this product are on page 83.
			2	ui page 63.
		The second second		Gripping force as a function of jaw length
		-		[N]
	1. A			
	and the second s			
		- 1		
				50
	an part of an and	10 100 m		0 + + + + + + + + + + + + + + + + + + +
	My-20Nm Mx-25Nm	-Mr-1CNIT		0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 Colored area: increased wear and tear to be expected
		1.6		
	2-0	Max Allowable For	ces	Order no.:
	E STATE	on Jaws		GP325
	10 Mar 1			Drive:
				pneum.
	FA-400N			Stroke per jaw [mm]:
				12,5
				Gripping force in closing [N]:
	80			Gripping force in opening [N]:
	8xM5 9,6deep	4x f.M4 33 DIN 912		250
				Self-locking via:
				Closing time/opening time [s]:
		+		0,15
	B	B		Repeatability ± [mm]:
				0,05
	2xø3 ^{H7}	- 2x2xM5		Min./max. operating pressure [bar]:
	11,6deep	air		Air volume per cycle [cm³]:
6x6 30	stroke 12,5 36 4	stroke 3612,5		20
				Min./max. operating temperature [°C]:
15 5.8		6,8		Temp. resistant version up to 150° C [add to part number]:
		+ + +		T3
- 30 -		 ◆ ↓ ↓		Piston diameter [mm]:
				2 x 25 Weight [kg]:
		+		0,98
45.6		34		
A	12'6	1,6		All data measured at 6 bar.
24	2x2xM5 Ø18 ^{H7}	4xM5		See Page 83 for Accessory list.
50	alternate air 86	10deep		
	4xø4 ^{H7} _12_12_6_6_1	12_12_ 12xM4		
	5deep	5,5deep		
	□ • · • • • • • • • • • •			
	<u> </u>	12 ^{±0,02}		
	100	⊨== ^{₽2}		
	-			

Parallel gripper with curved cam disk **GP500** things worth knowing Advantages and uses Highlight ... large stroke, combined with strong grip force ... the robust one! ... centrally opening and closing ... curve controlled ... any desired installation position position sensing possible through inductive proximity switch cam **Characteristics** Function pneumatic vane-type cylinders Drive: Power transfer: cam disk **Material** hard-anodized aluminum and nicke-plated steel Housing: nitrided steel Moving parts: Maintenance Recommended at: 1.5 million cycles Actuation: filtered high-pressure air (10 μ m), dry or oiled Maintenance of the mechanics: - see owners' manual -

Basic explanations

Terms and illustrations	
Grip force safety device:	required during pressure loss for maintaining position of workpiece
– pneumatic:	through pressure retention (one way valve required DSV 1/8)
Total power:	arithmetic sum of the individual elements on the gripper jaws
Closing and opening times:	required time for the gripper jaws to cover the maximum stroke length

Models					
GP	Drive	Stroke	Power	Internal gripping	External gripping
500	pneumatic	large		•	•
500S	pneumatic	large	high		•

Accessories

Accessory recommendation:

Inductive proximity switch
 Bracket for inductive proximity switch
 Page 428
 Page 432
 Page 442
 Tubing
 Page 444
 Control valves
 Pressure safety valves
 Page 447

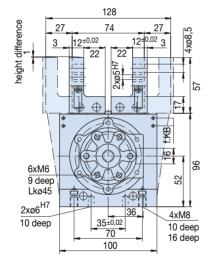


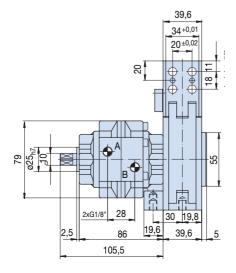


Parallel	gripper	Three-jaw gripper	Angle gripper	Internal-hole gripper	Other grippers	Electric gripper	
GP500							





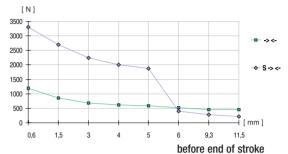




Parallel gripper

Advantages, benefits, comparisons and tips! Stacks of information all about this product are on page 85.

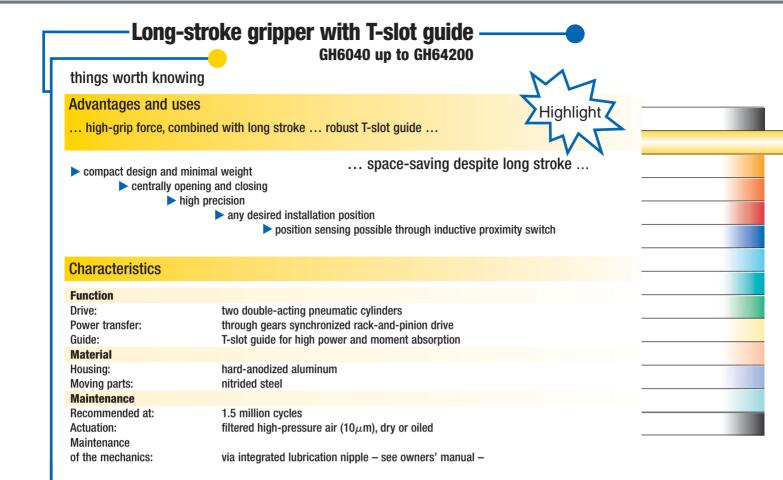
Gripping force as a function of stroke



Order no	D.:				
GP500	GP500				
	S				
Drive:					
pneum.	pneum.				
Stroke p	oer jaw [mr	n]:			
27	25				
Gripping	g force in c	losing [N]			
1200	3300				
Self-loci	king via:				
mech.	mech.				
Closing	time/open	ing time [s	s]:		
0,3	0,3				
Repeata	bility ± [m	m]:			
0,1	0,1				
Min./ma	x. operatin	ng pressur	e [bar]:		
4 / 8	4 / 8				
Air volur	me per cyc	ele [cm³]:			
72	85				
Min./ma	x. operatin	ng tempera	ature [°C]:		
5 / 80	5 / 80				
Weight [kg]:				
3,2	3,2				

All data measured at 6 bar.

See Page 85 for Accessory list.



Basic explanations

Terms and illustrations

Grip force safety device:	required during pressure loss for maintaining position of workpiece
– pneumatic:	through pressure retention (one-way valve required DSV 1/8)
Total power:	arithmetic sum of the individual elements on the gripper jaws
Closing and opening times:	required time for the gripper jaws to cover the maximum stroke length

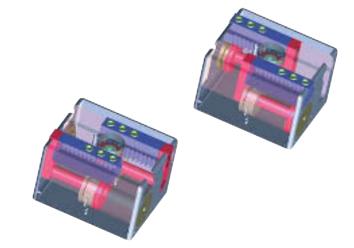
Accessories

Included with purchase:

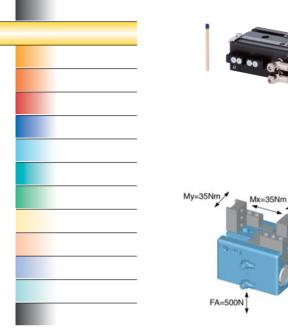
- Centering sleeves
- Bracket for inductive proximity switch

Accessory recommendation: Page 92 Universal jaws Inductive proximity switch Page 428 Pneumatic fittings Page 442 Tubing Page 444 Control valves Page 445 Page 447

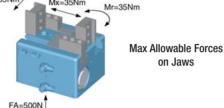


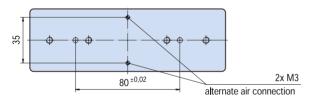


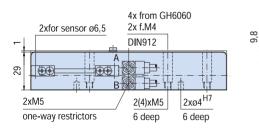
Parallel gripper		Three-jaw gripper		Angle gripper		nternal-hole gripper		Other grippers		Electric gripper				
GH6040	GH6060	GH6080	GH6140	GH6160	GH6180	GH6240	GH6460	GH64100	GH6210	GH6460	GH	64100	Universal jaw	

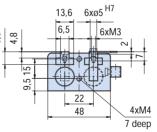


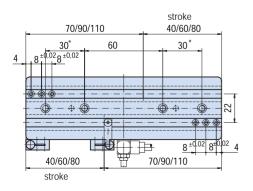










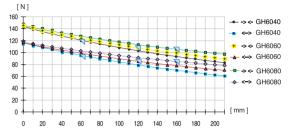


* from GH 6060 on

Long-stroke gripper with T-slot guide

Advantages, benefits, comparisons and tips! Stacks of information all about this product are on page 87.

Gripping force as a function of jaw length



Colored area: increased wear and tear to be expected

Order no	D.:									
GH6040	GH6060	GH6080								
Drive:										
pneum.	pneum.	pneum.								
Stroke per jaw [mm]:										
40	60	80								
Gripping	g force in c	losing [N]								
145	145	145								
Gripping	g force in c	pening [N]:							
115	115	115								
Self-loc	king via:									
DSV1/8	DSV1/8	DSV1/8								
Closing	time/open	ing time [s	i]:							
0,3	0,35	0,4								
Repeata	bility ± [m	m]:								
0,05	0,05	0,05								
Min./ma	x. operatir	ng pressur	e [bar]:							
4 / 10	4 / 10	4 / 10								
Air volu	ne per cyc	le [cm³]:								
20	30	40								
Min./ma	x. operatir	ng tempera	ture [°C]:							
5 / 80	5 / 80	5 / 80								
Temp. re	esistant ve	rsion up to	o 150° C [a	dd to part	number]:					
Т3	Т3	Т3								
Piston d	liameter [n	nm]:								
14	14	14								
Weight	kg]:									
0,45	0,59	0,75								

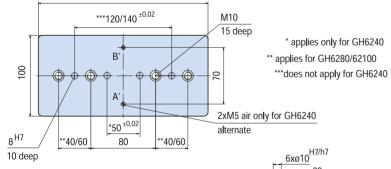
All data measured at 6 bar.

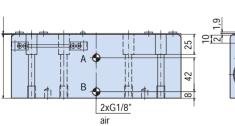
See Page 87 for Accessory list.

Parallel gripper		Three-ja	w gripper	Angle g	ripper	Internal-hole gr	ipper O	ther grippe	rs	Ele	ctric grippe	er		
GH6040	GH6060	GH6080	GH6140	GH6160	GH6180	GH6240	GH6260	GH6280	GH62	100	GH6460	GH64100	Universal jaw	

My=80Nm Mx=125Nm Mr=100Nm Max Allowable Forces on Jaws

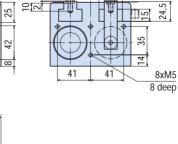
L





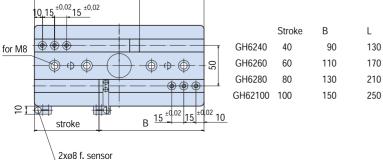
В

79



29 6xM6

16

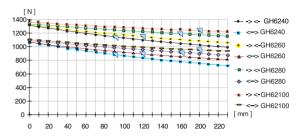


stroke

Long-stroke gripper with T-slot guide

Advantages, benefits, comparisons and tips! Stacks of information all about this product are on page 87.

Gripping force as a function of jaw length



Colored area: increased wear and tear to be expected

Order no	D.:					
GH6240	GH6260	GH6280	GH62100			
Drive:						
pneum.	pneum.	pneum.	pneum.			
Stroke p	oer jaw [mi	n]:				
40	60	80	100			
Gripping	g force in c	losing [N]	:			
1060	1060	1060	1080			
Gripping	g force in c	pening [N]:			
1275	1275	1275	1320			
Self-loc	king via:					
DSV1/8	DSV1/8	DSV1/8	DSV1/8			
Closing	time/open	ing time [s	s]:			
0,4	0,5	0,5	0,65			
Repeata	bility ± [m	m]:				
0,05	0,05	0,05	0,05			
Min./ma	x. operatir	ng pressur	e [bar]:			
4 / 10	4 / 10	4 / 10				
Air volu	me per cyc	:le [cm³]:				
185	275	370	460			
Min./ma	x. operatir	ng tempera	ature [°C]:			
5 / 80	5 / 80	5 / 80	5 / 80			
Temp. re	esistant ve	rsion up to	o 150° C [a	dd to part	number]:	
Т3	Т3	Т3	Т3			
Piston d	liameter [n	nm]:				
40	40	40	40			
Weight	kg]:					
3,5	4,1	4,8	5,8			

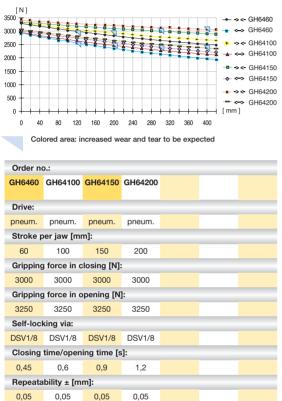
All data measured at 6 bar.

Parallel	gripper	Three-ja	w gripper	Angle g	ripper	Internal-hole gr	ipper	Other gripp	ers	Ele	ectric gripp	er			
GH6040	GH6060	GH6080	GH6140	GH6160	GH6180	GH6240	GH6460	GH64100	GH62	2100	GH6460	GH64100	GH64150	GH64200	

Long-stroke gripper with T-slot guide

Advantages, benefits, comparisons and tips! Stacks of information all about this product are on page 87.

Gripping force as a function of jaw length



DSV1/8	DSV1/8	DSV1/8	DSV1/8							
Closing	Closing time/opening time [s]:									
0,45	0,6	0,9	1,2							
Repeata	Repeatability ± [mm]:									
0,05	0,05	0,05	0,05							
Min./ma	Min./max. operating pressure [bar]:									
4 / 10	4 / 10	4 / 10	4 / 10							
Air volur	Air volume per cycle [cm ³]:									
400	683	1060	1380							
Min./ma	x. operatir	ig tempera	ture. [°C]:							
5/80	5/80	5/80	5/80							
Temp. re	Temp. resistant version up to 150° C [add to part number]:									
Т3	Т3	Т3	Т3							
Piston d	Piston diameter [mm]:									
63	63	63	63							
Weight [Weight [kg]:									

All data measured at 6 bar

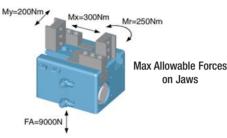
14.12

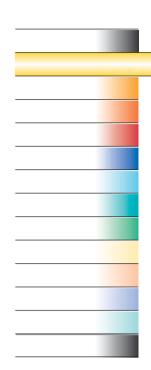
10.8

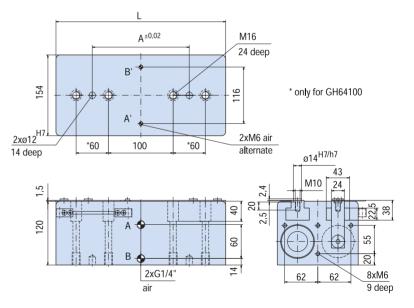
Dimensi	Dimension A [mm]:								
140	160	260	260						
Dimension B [mm]:									
125	165	215	265						
Dimension L [mm]:									
185	265	365	465						

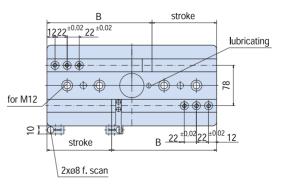
by request by request



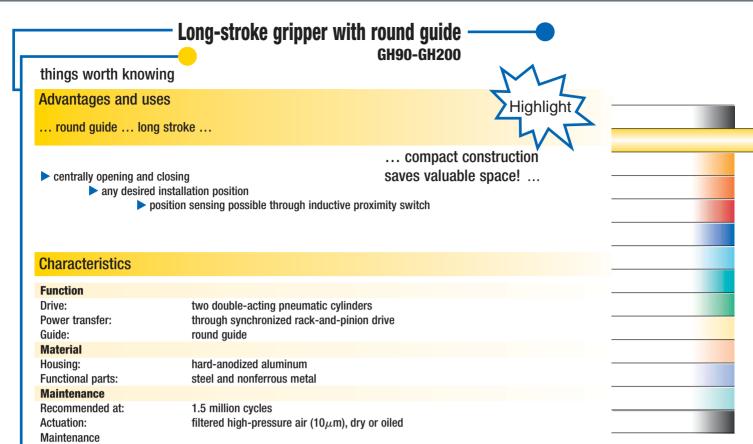








See Page 87 for Accessory list.



– see owners' manual –

Basic explanations

of the mechanics:

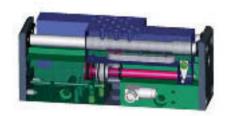
Terms and illustrations

Grip force safety device: – pneumatic: Total power: Closing and opening times: required during pressure loss for maintaining position of workpiece through pressure retention (one-way valve required DSV 1/8) arithmetic sum of the individual elements on the gripper jaws required time for the gripper jaws to cover the maximum stroke length

Accessories

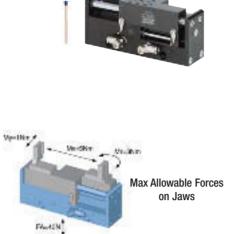
Accessory recommendation:

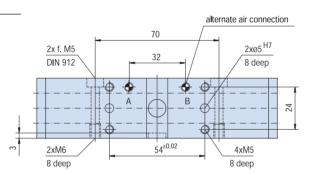
Universal jaws	Page 98
Inductive proximity switch	Page 428
Bracket for inductive proximity switch	Page 432
Pneumatic fittings	Page 442
Tubing	Page 444
Control valves	Page 445
Pressure safety valves	Page 447

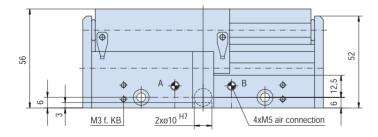


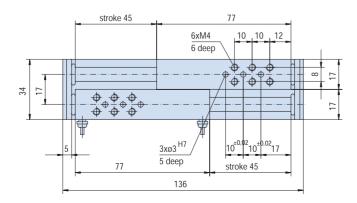


Parallel	gripper	Three-jaw gripper		Angle gripper	Internal-hole gripper	Other grippers	Electric gripper	
GH90	GH100	GH150	GH200	Universal jaw				





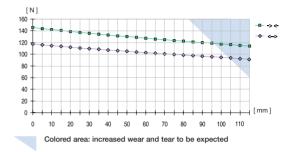




Long-stroke gripper with round guide

Advantages, benefits, comparisons and tips! Stacks of information all about this product are on page 95.

Gripping force as a function of jaw length



Order no	o.:							
GH90								
Drive:								
pneum.								
Stroke per jaw [mm]:								
45								
Gripping	force in c	losing [N]:						
115								
Gripping	force in o	pening [N]	:					
140								
Self-loci	king via:							
DSV1/8								
Closing	time/open	ing time [s]:					
0,25								
Repeatability ± [mm]:								
0,1								
Min./ma	x. operatin	g pressure	e [bar]:					
4 / 10								
Air volur	ne per cyc	le [cm³]:						
22								
Min./ma	x. operatin	ig tempera	ture [°C]:					
5 / 80								
Temp. re	esistant ve	rsion up to	150° C [a	dd to part	number]:			
Т3								
Piston d	iameter [n	nm]:						
14								
Weight [kg]:							
0,7								

All data measured at 6 bar.

See Page 95 for Accessory list.

Paralle	l grippe	r Three	jaw gripper	Angle gripper	Internal-hole gripper	Other grippers	Electric gripper		
GH90	GH100	GH150	GH200	Universal jaw					
Long with rou	g-stro	oke g	ripper					1	_
Adventer	o honofi		oono ond tin			- n 🔎			
	informati		sons and tips t this produc						_
Gripping fo	orce as a	function of	jaw length						
300 700 700 700 700 700 700 700	red area: inc : GH150	GH200 Cheeman	100 110 120 130 -		Uy-oa-Stiller My-aaf-afiles (SH Wy-aaf-afiles (SH Wy-aaf-afiles (SH	Us and Mis-calmSKim (C	HISSI North Charles Ch	H150(
Gripping	force in op								
800	800	800			50/75	/100 176/226/	/276 50/75/100)	49,4 17,8 3,5
Self-locki					stro	ke M3 f. KB tr	rip dogs stroke] [
		DSV1/8							<u>6,7</u>
0,3	me/openin 0,35	g time [s]: 0,4			30,7		• _ · · · · · · · · · · · · · · · · · ·		
	ility ± [mm						*	75,4	č tr
0,5	0,5	0,5			64	┥ ┥			
		pressure [b	arl:		*				
4 / 7	4 / 7	4 / 7				2xG1/ air	/8" 33	2xø5 ^{H7}	20 00
	e per cycle				L.I 10		11,6	4xM6	20 0
125	187	250							34
		temperatur	• [°C]:			\ trip dogs		ŀ	-
5 / 80		5 / 80							
			0° C [add to pa	rt number]:		8xM6 2xø20	0 ^{H7} 4xø6 ^{H7} 8		
T3	T3	ТЗ				9 deep	0 ^{H7} 4xø6 ^{H7} 80 9 deep ≈		
	ameter [mn				Ŧ				
32	32	32			40				

1

70

200/250/300

니는

All data measured at 6 bar.

3,0

Weight [kg]:

2,7

-

See Page 95 for Accessory list.

3,9

Heavy-duty long-stroke gripper with linear guide -

GH7665/GH76100

Highlight

things worth knowing

Advantages and uses

... high-grip force, combined with long stroke ... linear guide for high moment absorption ... economic with high reliability and long service life ...

centrally opening and closing

high precision

... ideal for large moments

any desired installation position

and loads! > position sensing possible through inductive proximity switch

with wiper on bearing

Characteristics

Function	
Drive:	two double-acting pneumatic cylinders
Power transfer:	through synchronized rack-and-pinion drive
Guide:	linear guide
Material	
Housing:	hard-anodized aluminum
Moving parts:	nitrided steel
Maintenance	
Recommended at:	1.5 million cycles
Actuation:	filtered high-pressure air (10 μ m), dry or oiled
Maintenance	
of the mechanics:	via integrated lubrication nipple – see owners' manual –

Basic explanations

Terms and illustrations

arithmetic sum of the individual elements on the grab jaws prehensile
required during pressure loss for maintaining position of work piece
through pressure retention
required time for the grab jaws to cover the maximum stroke length

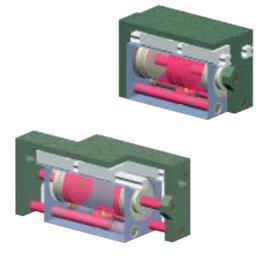
Accessories

Included with purchase:

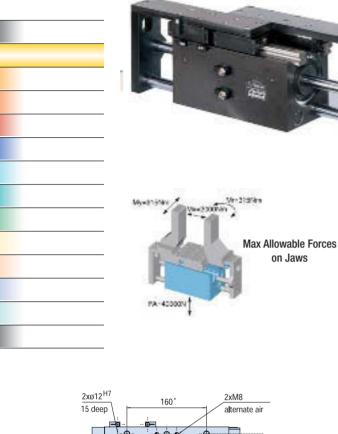
Bracket for inductive proximity switch

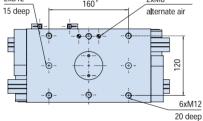
Accessory recommendation:

Inductive proximity switch	Page 428
Pneumatic fittings	Page 442
Tubing	Page 444
Control valves	Page 445
Pressure safety valves	Page 447



Paralle	gripper	Three-jaw gripper	Angle gripper	Internal-hole gripper	Other grippers	Electric gripper	
GH7665	GH76100						

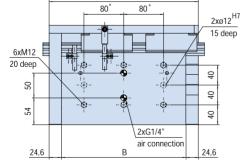


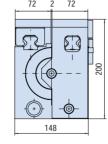


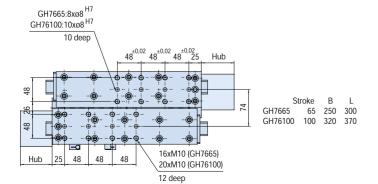


* for ø12 H7

±0,02



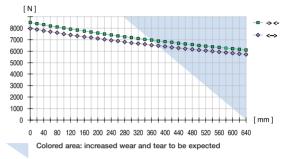




Heavy-duty long-stroke gripper with linear guide

Advantages, benefits, comparisons and tips! Stacks of information all about this product are on page 99.

Gripping force as a function of jaw length



Order no.:									
GH7665	GH76100								
Drive:									
pneum.	pneum.								
Stroke per jaw [mm]:									
65	100								
Gripping force in closing [N]:									
8000	8000								
Gripping force in opening [N]:									
8500	8500								
Self-locking via:									
DSV1/8	DSV1/8								
Closing time/opening time [s]:									
0,6	0,7								
Repeatability ± [mm]:									
0,05	0,05								
Min./ma	x. operatin	g pressure	e [bar]:						
3/8	3/8								
Air volu	me per cyc	le [cm³]:							
900	1500								
Min./ma	x. operatin	ig tempera	ture [°C]:						
5 / 80	5 / 80								
Temp. resistant version up to 150° C [add to part number]:									
T5	T5								
Piston diameter [mm]:									
100	100								
Weight [kg]:									
30,9	35,2								

All data measured at 6 bar.

See Page 99 for Accessory list.