

# DPG-plus

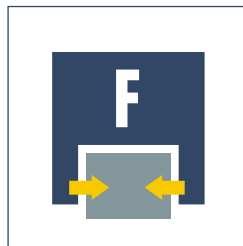
Pneumatic · 2-Finger Parallel Grippers · Sealed Grippers



**Sizes**  
50 .. 200



**Weight**  
0.25 kg .. 9.5 kg



**Gripping force**  
125 N .. 6230 N



**Stroke per finger**  
2 mm .. 25 mm



**Workpiece weight**  
0.6 kg .. 22.1 kg

## Application example



Sealed and extremely robust rotary gripping combination for use in tough environments such as foundries, grinding shops or forges

**1** DPG-plus 125 2-Finger Parallel Gripper, with fingers equipped with carbide clamping inserts

**2** SRU 35.1-180-3-4 Rotary Actuator in sealed IP67 version

## Sealed Grippers

Despite the high moment load capabilities of the base jaws, this sealed 2-finger parallel gripper conforms to the IP 67 requirements and does not permit any substances from the working environment to penetrate the interior of the unit.

### Area of application

The DPG-plus is ideally suited for the handling of rough or dirty workpieces. Its area of application extends from the loading and unloading of machines, such as in the case of sanitary blocks, grinding machines, lathes or milling machines, to handling tasks in painting plants, in powder-processing and underwater.

### Your advantages and benefits

**Robust interior multiple-tooth guidance**  
for the precise handling of all kinds of workpieces

**Wiper seal on the outer round guide**  
for permanent, secure gripper sealing

**High maximum moments**  
suitable for the use of long gripper fingers

**Sealed 2-finger parallel gripper**  
is conform to IP67 requirements despite high moment-load capabilities

**Oval piston drive design**  
for maximum gripping forces

**Mounting from two sides in three screw directions**  
for universal and flexible gripper assembly

**Air supply via hose-free direct connection or fitting connections**  
for the flexible supply of compressed air in all automation systems

**Compact dimensions**  
for minimal interfering contours in handling



## General information on the series

**Working principle**  
Wedge-hook kinematics

**Housing material**  
Aluminum alloy, hard-anodized

**Base jaw material**  
Hardened steel

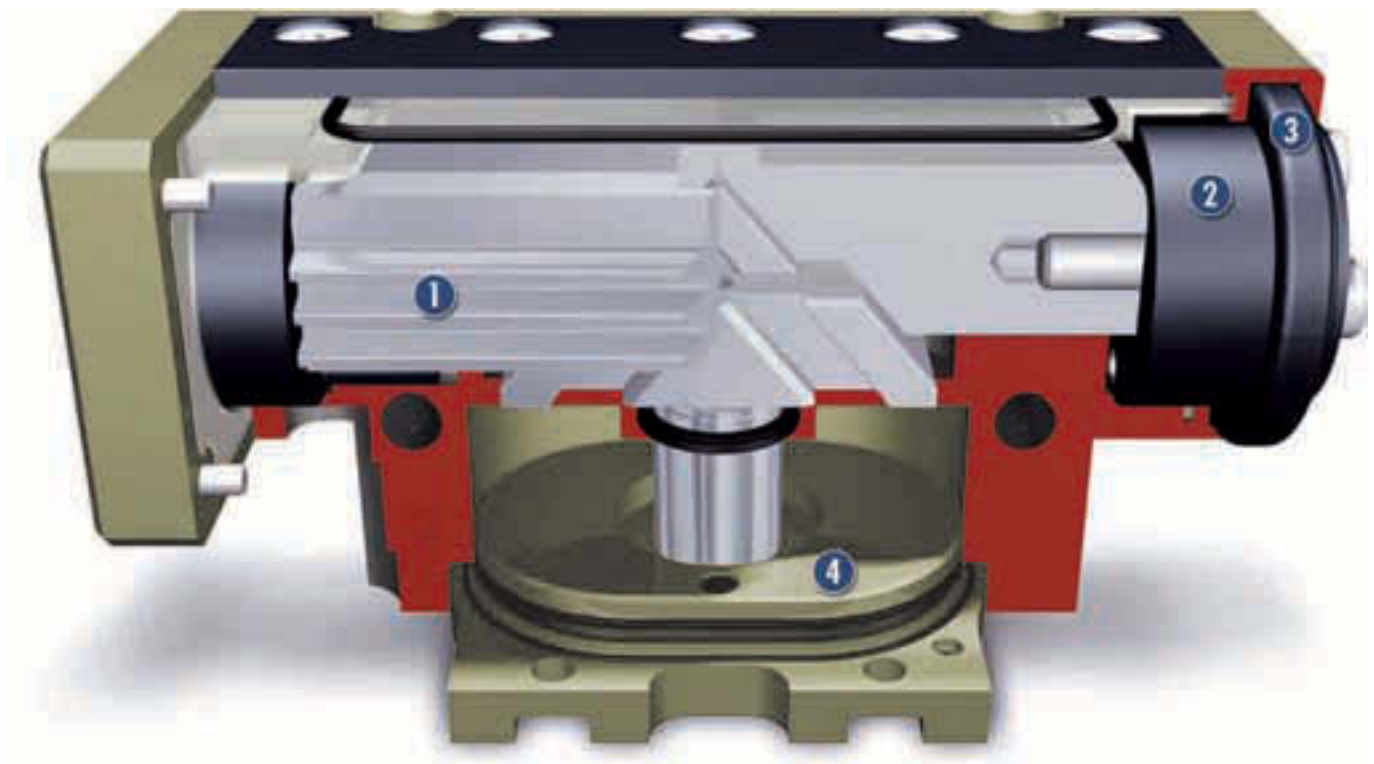
**Actuation**  
Pneumatic, with filtered compressed air (10 µm): Dry, lubricated or non-lubricated  
Pressure medium: Required quality class of compressed air according to DIN ISO 8573-1: Quality class 4

**Warranty**  
24 months

**Scope of delivery**  
Centering sleeves, O-rings for direct connection, assembly and operating manual with manufacturer's declaration

**Gripping force safety device**  
with either mechanical gripping force safety device or SDV-P pressure maintenance valve

## Sectional diagram



**1** Inner base jaw  
(multiple-tooth guidance)  
for heavy moment loads

**2** Outer base jaw (round)  
providing a sealable, round surface

**3** Wiper seal  
for permanent, secure gripper sealing

**4** Oval piston with rod and wedge  
hook  
for power generation and transmission

## Function description

The piston is moved up or down by means of compressed air. The angled active surfaces of the wedge hook produce a synchronized, parallel jaw movement.

## Options and special information

Please note that an additional hose for bleeding or purging the air is essential for the gripper, i.e. it requires three hoses in total. See the assembly and operating manual for more detailed information.

### Version with higher grip forces

When higher gripping forces are required

### Accessories

SCHUNK accessories – the suitable complement for the highest level of functionality, reliability and controlled production of all automation modules.

Centering sleeves



Fittings



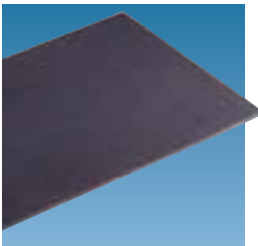
MMS magnetic switch



Quentes plastic inserts



HKI gripper pads



SDV-P pressure maintenance valves



W/WK/KV/GK sensor cables



V sensor distributors



① For the exact size of the required accessories, availability of this size and the designation and ID, please refer to the additional views at the end of the size in question. You can find more detailed information on our accessory range in the "Accessories" catalog section.

### General information on the series

#### Gripping force

is the arithmetic total of the gripping force applied to each base jaw at distance P (see illustration), measured from the upper edge of the gripper.

#### Finger length

is measured from the upper edge of the gripper housing in the direction of the main axis.

#### Repeat accuracy

is defined as the spread of the limit position after 100 consecutive strokes.

#### Workpiece weight

The recommended workpiece weight is calculated for a force-type connection with a coefficient of friction of 0.1 and a safety factor of 2 against slippage of the workpiece on acceleration due to gravity g. Considerably heavier workpiece weights are permitted with form-fit gripping.

#### Closing and opening times

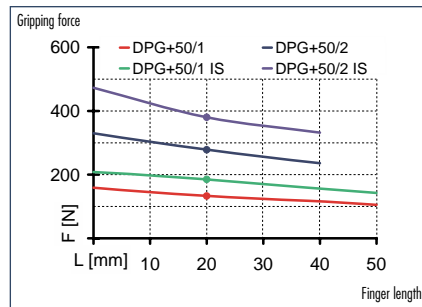
Closing and opening times are purely the times that the base jaws or fingers are in motion. Valve switching times, hose filling times or PLC reaction times are not included in the above times and must be taken into consideration when determining cycle times.

# DPG-plus 50

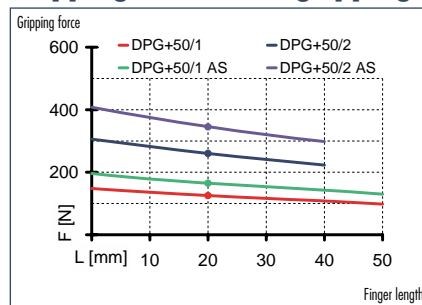
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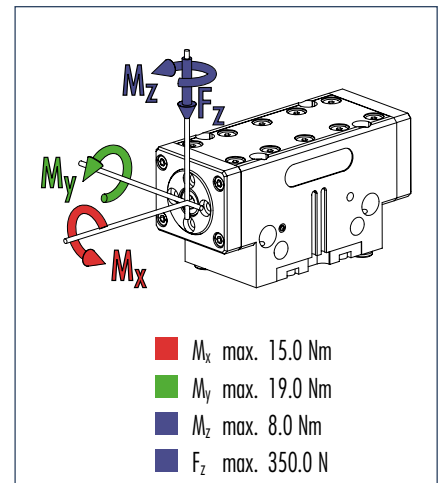
## Gripping force, I.D. gripping



## Gripping force, O.D. gripping



## Finger load



① Moments and forces apply per base jaw and may occur simultaneously.  $M_y$  may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

## Technical data

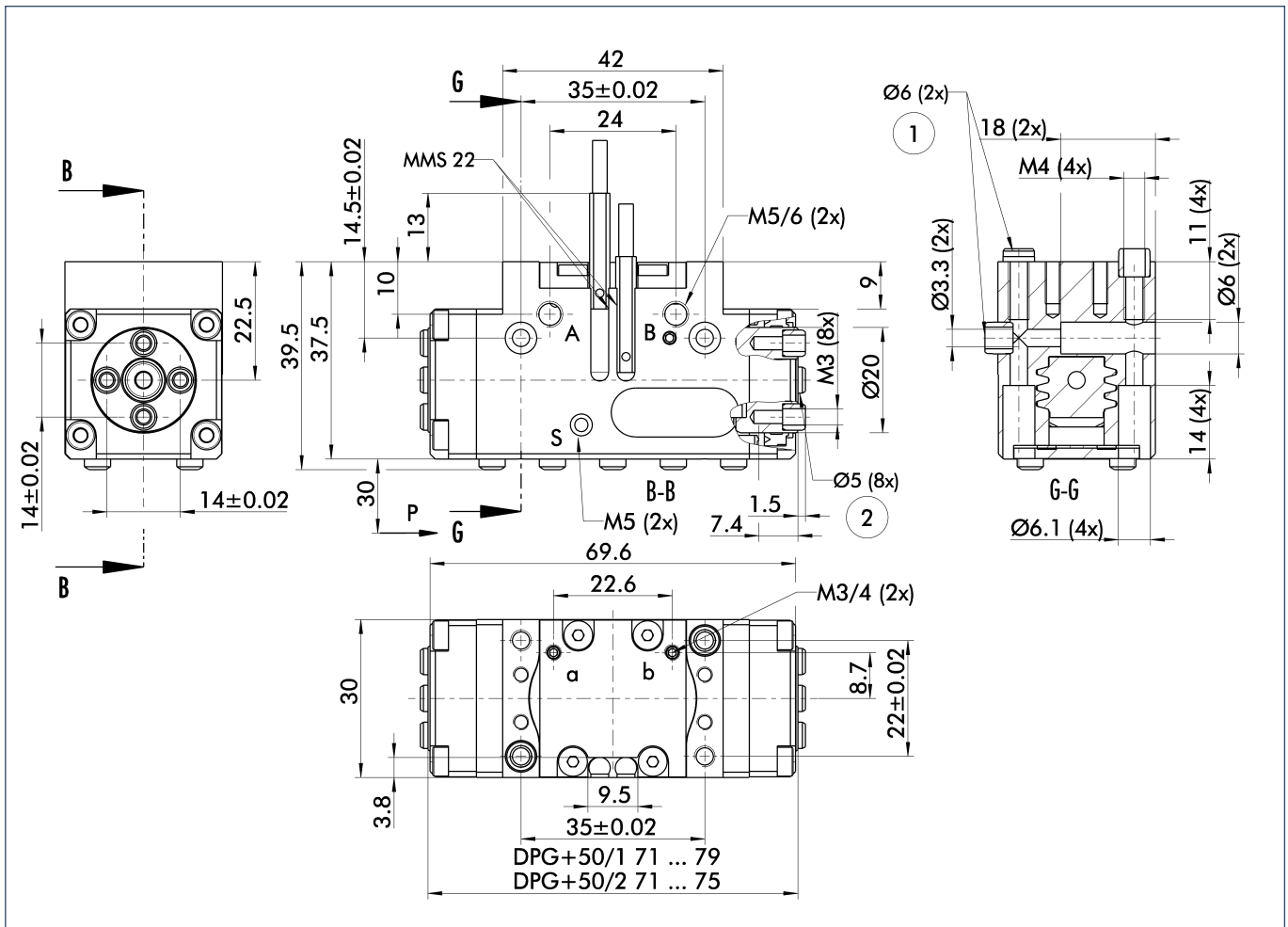
Description		DPG-plus 50-1	DPG-plus 50-2	DPG-plus 50-1 AS	DPG-plus 50-2 AS	DPG-plus 50-1 IS	DPG-plus 50-2 IS
ID		0304301	0304302	0304303	0304304	0304305	0304306
Stroke per jaw	[mm]	4.0	2.0	4.0	2.0	4.0	2.0
Closing force	[N]	125.0	260.0	165.0	345.0		
Opening force	[N]	130.0	275.0			185.0	380.0
Min. spring force	[N]			40.0	85.0	40.0	85.0
Weight	[kg]	0.25	0.25	0.3	0.3	0.3	0.3
Recommended workpiece weight	[kg]	0.6	1.3	0.6	1.3	0.6	1.3
Air consumption per double stroke	[cm <sup>3</sup> ]	5.0	5.0	12.0	12.0	12.0	12.0
Minimum pressure	[bar]	2.5	2.5	4.0	4.0	4.0	4.0
Maximum pressure	[bar]	8.0	8.0	6.5	6.5	6.5	6.5
Nominal operating pressure	[bar]	6.0	6.0	6.0	6.0	6.0	6.0
Closing time	[s]	0.03	0.03	0.03	0.03	0.05	0.05
Opening time	[s]	0.03	0.03	0.05	0.05	0.03	0.03
Max. permitted finger length	[mm]	50.0	40.0	50.0	40.0	50.0	40.0
Max. permitted weight per finger	[kg]	0.15	0.15	0.15	0.15	0.15	0.15
IP rating		67	67	67	67	67	67
Min. ambient temperature	[°C]	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0
Max. ambient temperature	[°C]	90.0	90.0	90.0	90.0	90.0	90.0
Repeat accuracy	[mm]	0.01	0.01	0.01	0.01	0.01	0.01

### OPTIONS and their characteristics

KVZ for increased grip force	ID	0304307
Description		DPG-plus 50-1-KVZ
Closing force	[N]	225.0
Opening force	[N]	235.0
Weight	[kg]	0.29
Maximum pressure	[bar]	6.0
Air consumption per double stroke	[cm <sup>3</sup> ]	10.0
Max. permitted finger length	[mm]	40.0

① Please note that an additional hose for ventilation or purging the air is essential for the gripper, i.e. it requires three hoses in total. See the assembly and operating manual for more detailed information.

### Main views

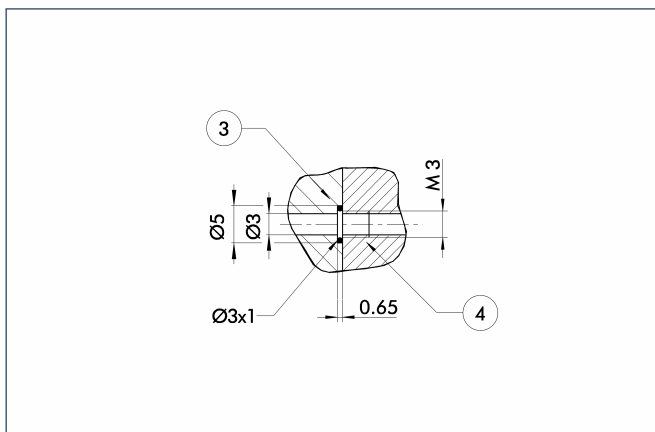


For finger connection, we recommend only using two of the four centering bores for each finger. The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

① The SDV-P pressure maintenance valve can also be used (see "Accessories" catalog section) for I.D. or O.D. gripping as an alternative or in addition to the spring-loaded, mechanical gripping force safety device.

- A,a Main/direct connection, gripper opening
- B,b Main/direct connection, gripper closing
- S,s Ventilation hole or air purge connection
- ① Gripper connection
- ② Finger connection

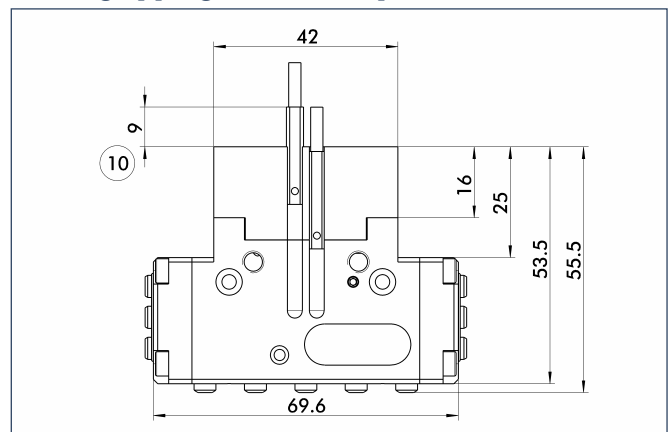
### Hoseless direct connection



- ③ Adapter
- ④ Gripper

The direct connection is used for supplying compressed air to the gripper without vulnerable hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

### AS/IS gripping force safety device



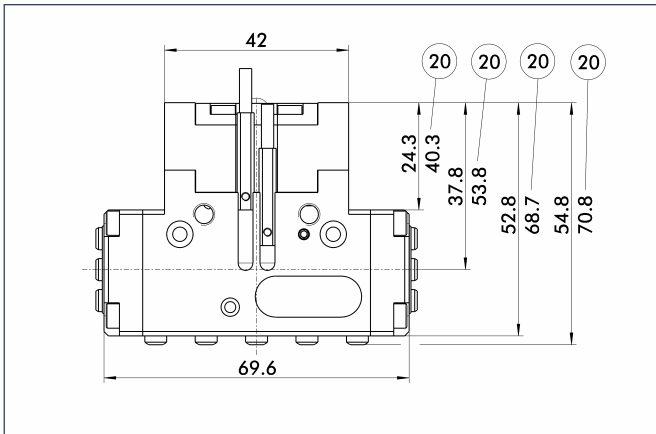
- ⑩ Projection only with AS version

The mechanical gripping force safety device ensures a minimum gripping force even if there is a drop in pressure. This acts as closing force in the AS version, and as opening force in the IS version. In addition, the gripping force safety device can also be employed as a gripping force booster or for single-acting gripping.

# DPG-plus 50

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## KVZ for increased grip force



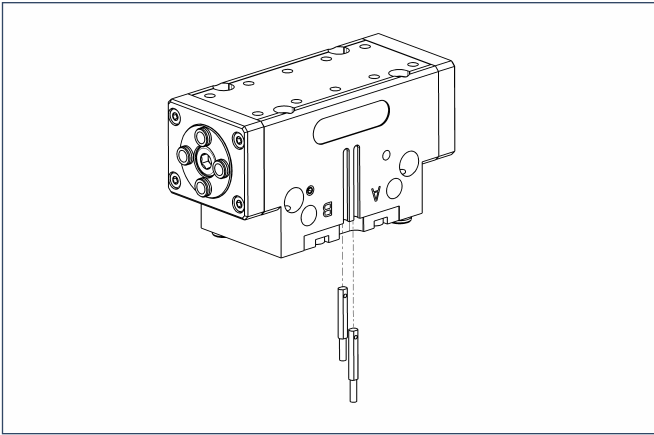
⑳ With AS/IS version

The KVZ grip force cylinder increases the gripping forces during opening and closing. A second, in series-connected piston also increases the force on the wedge hook. The full gripping force shown in the data table is sometimes only reached after a few hundred gripping cycles.



You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

### Sensor system



#### Extension cables for proximity switches/magnetic switches

Description	ID
GK 3-M5-PNP/ NPN	0301652
GK 3-M8	0301622
KV 10-M8	0301496
KV 20-M8	0301497
W 3-M5-PNP/ NPN	0301650
WK 3-M8	0301594
WK 3-M8 NPN	0301602
WK 5-M8	0301502
WK 5-M8 NPN	9641116

ⓘ Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

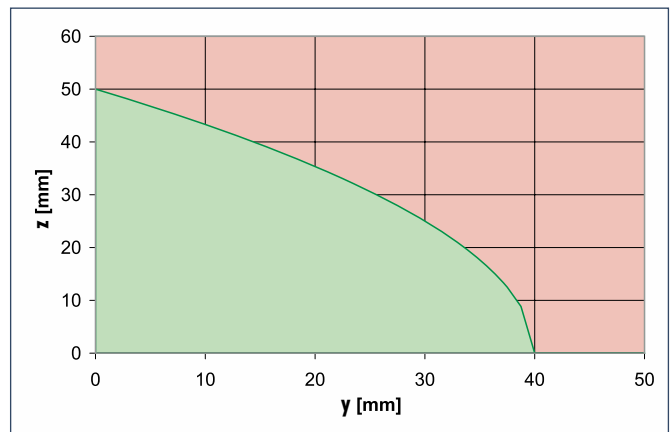
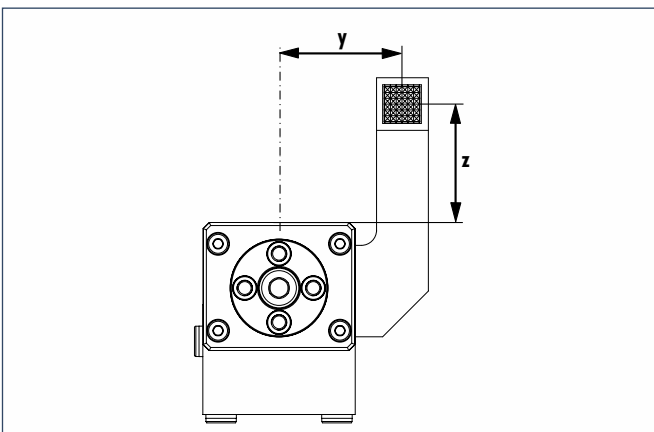
#### End position monitoring:

##### Electronic magnetic switches, for mounting in C-slot

Description	ID	Recommended product
MMS 22-S-M5-NPN	0301455	
MMS 22-S-M5-NPN-SA	0301461	
MMS 22-S-M5-PNP	0301454	
MMS 22-S-M5-PNP-SA	0301460	
MMS 22-S-M8-NPN	0301451	
MMS 22-S-M8-NPN-SA	0301457	
MMS 22-S-M8-PNP	0301450	•
MMS 22-S-M8-PNP-SA	0301456	
MMSK 22-S-NPN	0301453	
MMSK 22-S-NPN-SA	0301459	
MMSK 22-S-PNP	0301452	
MMSK 22-S-PNP-SA	0301458	

ⓘ Two sensors (NO contacts) are required for each gripper, plus extension cables as an option.

### Maximum permitted overhang



■ Permitted range  
■ Non-permissible range

The curve applies to the basic version (stroke -1). For other versions, the curve will be parallel but offset in line with the max. permitted finger length.



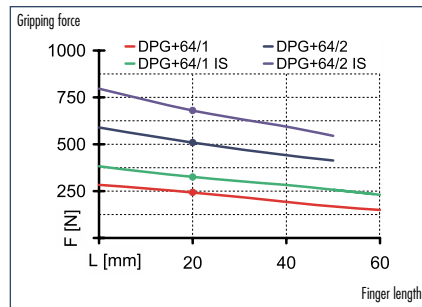
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# DPG-plus 64

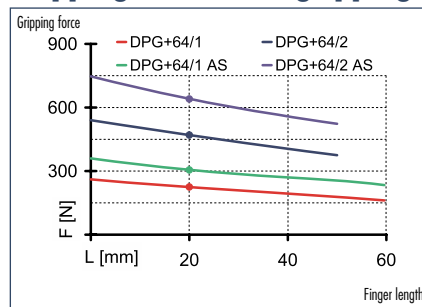
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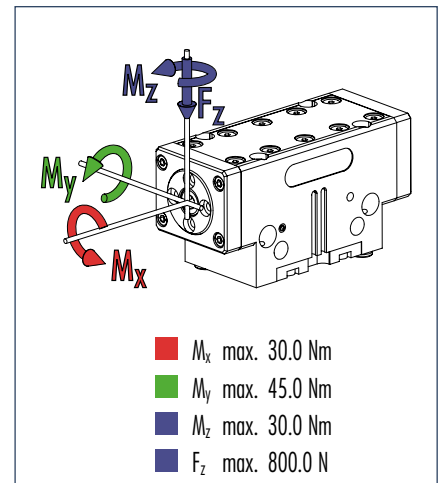
## Gripping force, I.D. gripping



## Gripping force, O.D. gripping



## Finger load



① Moments and forces apply per base jaw and may occur simultaneously.  $M_y$  may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

## Technical data

Description		DPG-plus 64-1	DPG-plus 64-2	DPG-plus 64-1 AS	DPG-plus 64-2 AS	DPG-plus 64-1 IS	DPG-plus 64-2 IS
ID		0304311	0304312	0304313	0304314	0304315	0304316
Stroke per jaw	[mm]	6.0	3.0	6.0	3.0	6.0	3.0
Closing force	[N]	225.0	470.0	305.0	640.0		
Opening force	[N]	240.0	500.0			325.0	680.0
Min. spring force	[N]			80.0	170.0	80.0	170.0
Weight	[kg]	0.39	0.39	0.46	0.46	0.46	0.46
Recommended workpiece weight	[kg]	1.1	2.3	1.1	2.3	1.1	2.3
Air consumption per double stroke	[cm <sup>3</sup> ]	9.0	9.0	24.0	24.0	24.0	24.0
Minimum pressure	[bar]	2.5	2.5	4.0	4.0	4.0	4.0
Maximum pressure	[bar]	8.0	8.0	6.5	6.5	6.5	6.5
Nominal operating pressure	[bar]	6.0	6.0	6.0	6.0	6.0	6.0
Closing time	[s]	0.04	0.04	0.03	0.03	0.06	0.06
Opening time	[s]	0.04	0.04	0.06	0.06	0.03	0.03
Max. permitted finger length	[mm]	64.0	50.0	64.0	50.0	64.0	50.0
Max. permitted weight per finger	[kg]	0.3	0.3	0.3	0.3	0.3	0.3
IP rating		67	67	67	67	67	67
Min. ambient temperature	[°C]	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0
Max. ambient temperature	[°C]	90.0	90.0	90.0	90.0	90.0	90.0
Repeat accuracy	[mm]	0.01	0.01	0.01	0.01	0.01	0.01

### OPTIONS and their characteristics

KVZ for increased grip force	ID	0304317
Description		DPG-plus 64-1-KVZ
Closing force	[N]	405.0
Opening force	[N]	440.0
Weight	[kg]	0.47
Maximum pressure	[bar]	6.0
Air consumption per double stroke	[cm <sup>3</sup> ]	9.0
Max. permitted finger length	[mm]	50.0

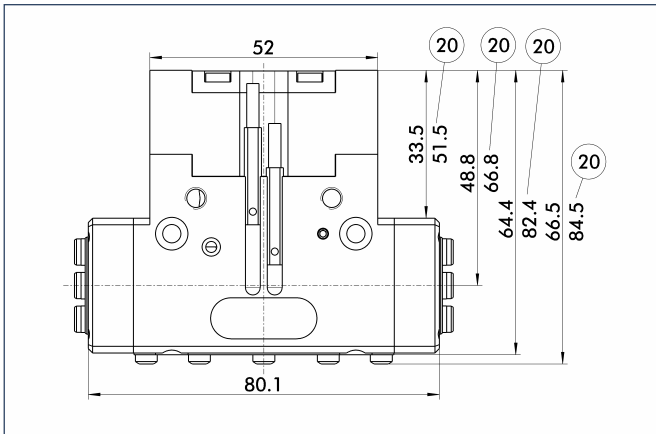
① Please note that an additional hose for ventilation or purging the air is essential for the gripper, i.e. it requires three hoses in total. See the assembly and operating manual for more detailed information.



# DPG-plus 64

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## KVZ for increased grip force



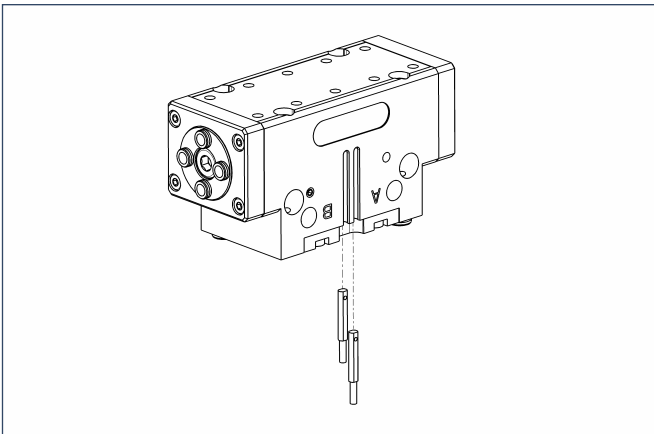
⑳ With AS/IS version

The KVZ grip force cylinder increases the gripping forces during opening and closing. A second, in series-connected piston also increases the force on the wedge hook. The full gripping force shown in the data table is sometimes only reached after a few hundred gripping cycles.



You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

### Sensor system



#### End position monitoring:

#### Electronic magnetic switches, for mounting in C-slot

Description	ID	Recommended product
MMS 22-S-M5-NPN	0301455	
MMS 22-S-M5-NPN-SA	0301461	
MMS 22-S-M5-PNP	0301454	
MMS 22-S-M5-PNP-SA	0301460	
MMS 22-S-M8-NPN	0301451	
MMS 22-S-M8-NPN-SA	0301457	
MMS 22-S-M8-PNP	0301450	•
MMS 22-S-M8-PNP-SA	0301456	
MMSK 22-S-NPN	0301453	
MMSK 22-S-NPN-SA	0301459	
MMSK 22-S-PNP	0301452	
MMSK 22-S-PNP-SA	0301458	

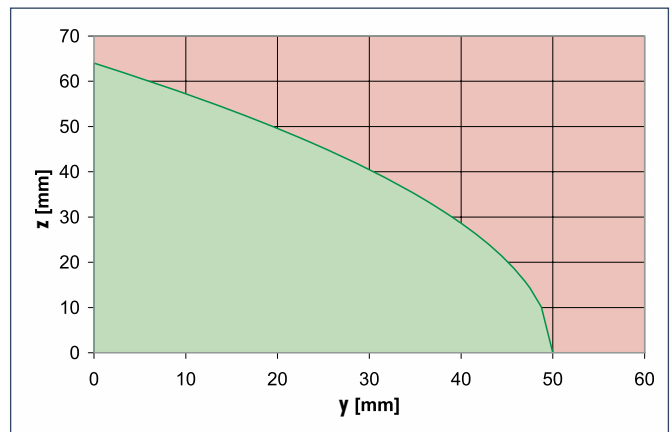
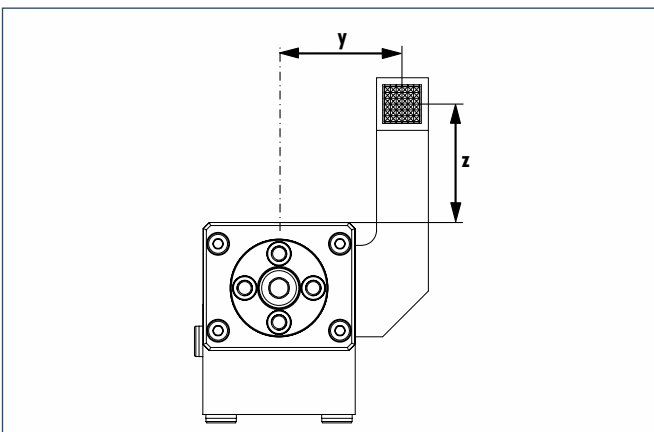
① Two sensors (NO contacts) are required for each gripper, plus extension cables as an option.

#### Extension cables for proximity switches/magnetic switches

Description	ID
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GK 3-M8	0301622
KV 10-M8	0301496
KV 20-M8	0301497
W 3-M5-PNP/ NPN	0301650
WK 3-M8	0301594
WK 3-M8 NPN	0301602
WK 5-M8	0301502
WK 5-M8 NPN	9641116

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

### Maximum permitted overhang



■ Permitted range  
■ Non-permissible range

The curve applies to the basic version (stroke -1). For other versions, the curve will be parallel but offset in line with the max. permitted finger length.



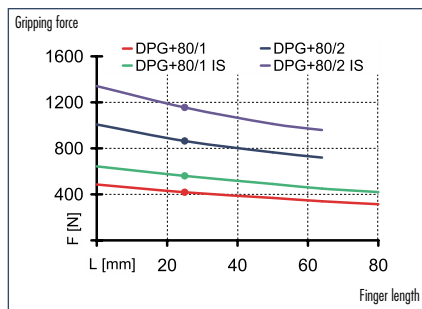
You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

# DPG-plus 80

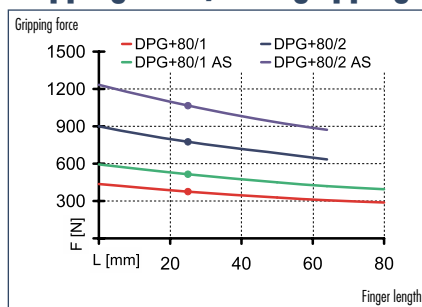
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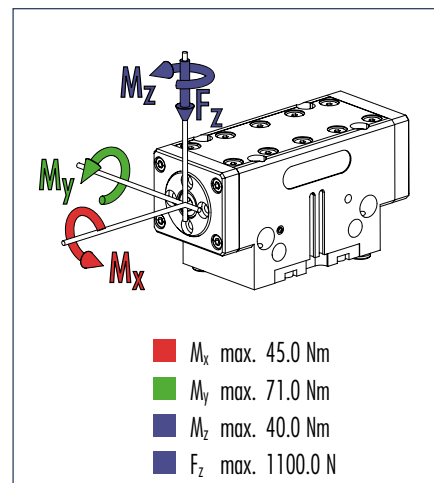
## Gripping force, I.D. gripping



## Gripping force, O.D. gripping



## Finger load



① Moments and forces apply per base jaw and may occur simultaneously.  $M_y$  may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

## Technical data

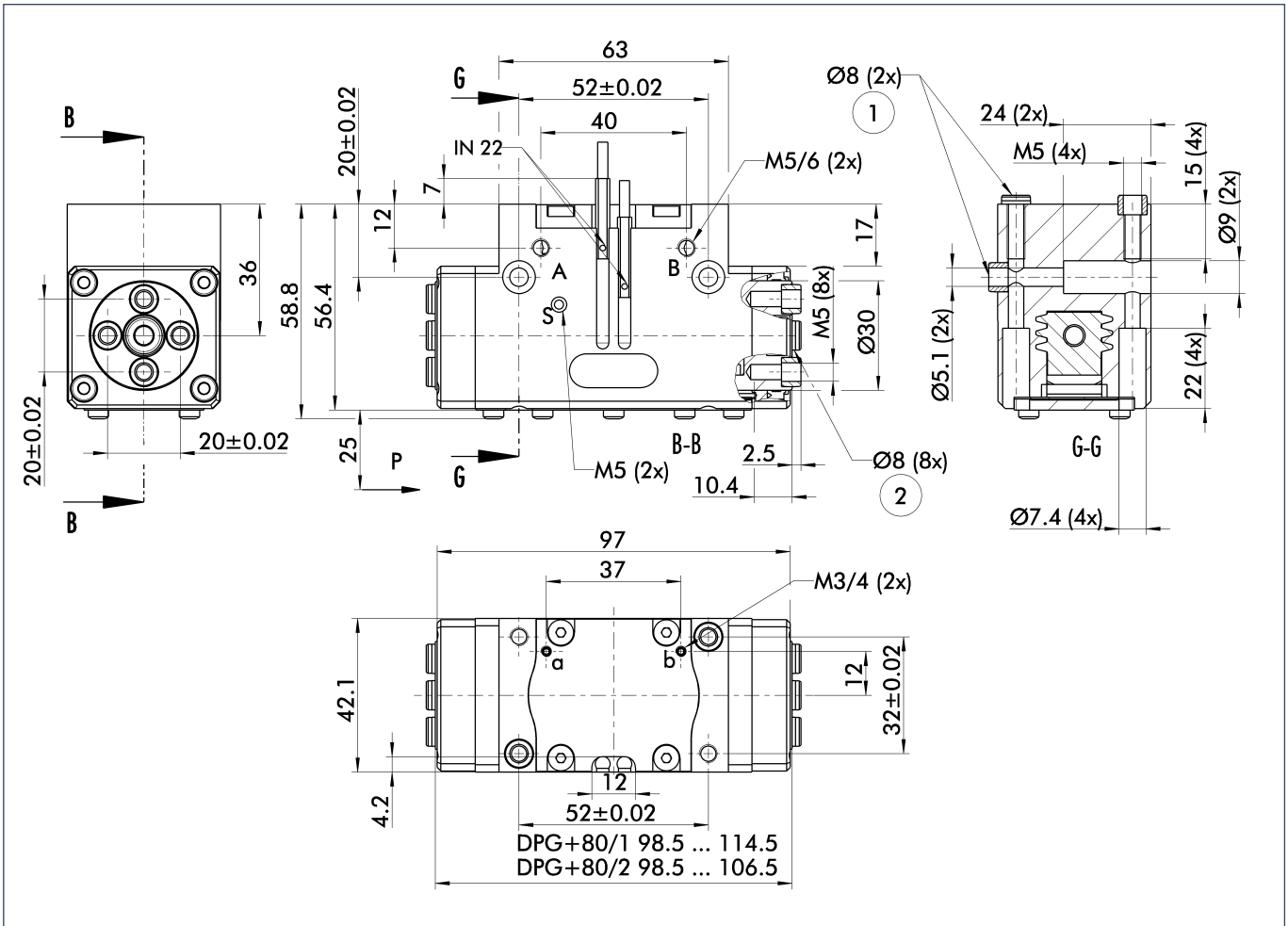
Description		DPG-plus 80-1	DPG-plus 80-2	DPG-plus 80-1 AS	DPG-plus 80-2 AS	DPG-plus 80-1 IS	DPG-plus 80-2 IS
ID		0304321	0304322	0304323	0304324	0304325	0304326
Stroke per jaw	[mm]	8.0	4.0	8.0	4.0	8.0	4.0
Closing force	[N]	375.0	775.0	515.0	1065.0		
Opening force	[N]	415.0	860.0			560.0	1155.0
Min. spring force	[N]			140.0	290.0	140.0	290.0
Weight	[kg]	0.68	0.68	0.8	0.8	0.8	0.8
Recommended workpiece weight	[kg]	1.8	3.8	1.8	3.8	1.8	3.8
Air consumption per double stroke	[cm <sup>3</sup> ]	21.0	21.0	45.0	45.0	45.0	45.0
Minimum pressure	[bar]	2.5	2.5	4.0	4.0	4.0	4.0
Maximum pressure	[bar]	8.0	8.0	6.5	6.5	6.5	6.5
Nominal operating pressure	[bar]	6.0	6.0	6.0	6.0	6.0	6.0
Closing time	[s]	0.05	0.05	0.04	0.04	0.07	0.07
Opening time	[s]	0.05	0.05	0.07	0.07	0.04	0.04
Max. permitted finger length	[mm]	80.0	64.0	80.0	64.0	80.0	64.0
Max. permitted weight per finger	[kg]	0.5	0.5	0.5	0.5	0.5	0.5
IP rating		67	67	67	67	67	67
Min. ambient temperature	[°C]	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0
Max. ambient temperature	[°C]	90.0	90.0	90.0	90.0	90.0	90.0
Repeat accuracy	[mm]	0.01	0.01	0.01	0.01	0.01	0.01

### OPTIONS and their characteristics

KVZ for increased grip force	ID	0304327
Description		DPG-plus 80-1-KVZ
Closing force	[N]	675.0
Opening force	[N]	755.0
Weight	[kg]	0.85
Maximum pressure	[bar]	6.0
Air consumption per double stroke	[cm <sup>3</sup> ]	42.0
Max. permitted finger length	[mm]	64.0

① Please note that an additional hose for ventilation or purging the air is essential for the gripper, i.e. it requires three hoses in total. See the assembly and operating manual for more detailed information.

### Main views

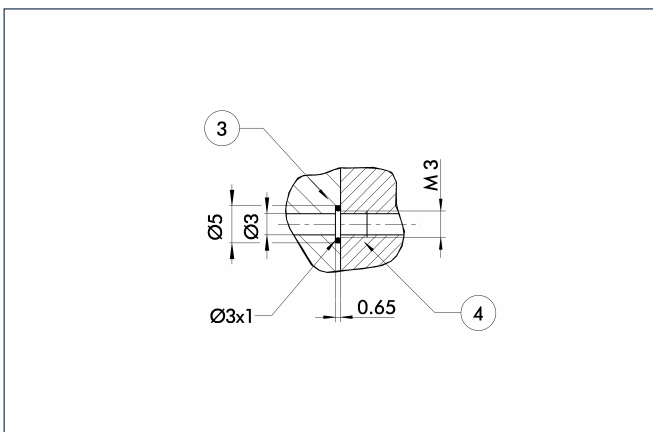


For finger connection, we recommend only using two of the four centering bores for each finger. The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

① The SDV-P pressure maintenance valve can also be used (see "Accessories" catalog section) for I.D. or O.D. gripping as an alternative or in addition to the spring-loaded, mechanical gripping force safety device.

- A,a Main/direct connection, gripper opening
- B,b Main/direct connection, gripper closing
- S,s Ventilation hole or air purge connection
- ① Gripper connection
- ② Finger connection

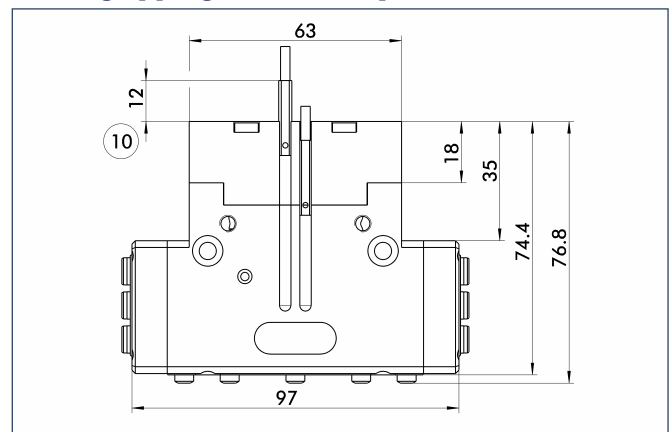
### Hoseless direct connection



- ③ Adapter
- ④ Gripper

The direct connection is used for supplying compressed air to the gripper without vulnerable hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

### AS/IS gripping force safety device



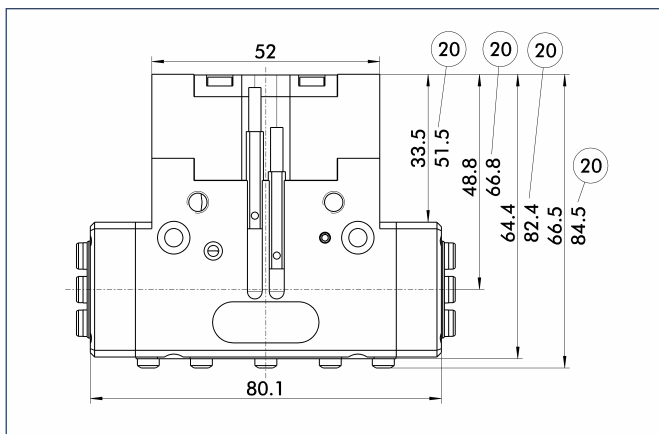
- ⑩ Projection only with AS version

The mechanical gripping force safety device ensures a minimum gripping force even if there is a drop in pressure. This acts as closing force in the AS version, and as opening force in the IS version. In addition, the gripping force safety device can also be employed as a gripping force booster or for single-acting gripping.

# DPG-plus 80

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## KVZ for increased grip force



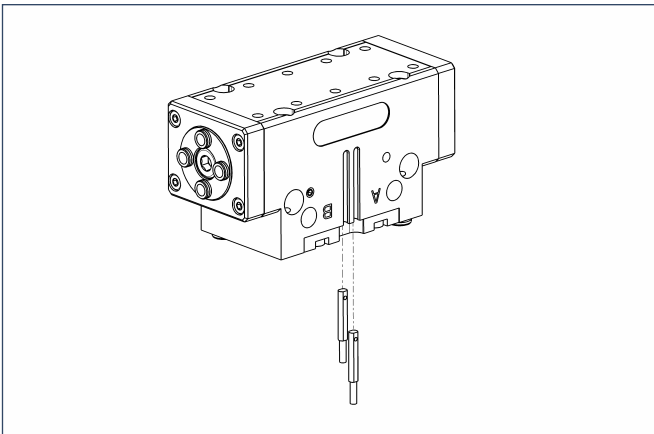
⑳ With AS/IS version

The KVZ grip force cylinder increases the gripping forces during opening and closing. A second, in series-connected piston also increases the force on the wedge hook. The full gripping force shown in the data table is sometimes only reached after a few hundred gripping cycles.



You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

### Sensor system



#### End position monitoring:

#### Electronic magnetic switches, for mounting in C-slot

Description	ID	Recommended product
MMS 22-S-M5-NPN	0301455	
MMS 22-S-M5-NPN-SA	0301461	
MMS 22-S-M5-PNP	0301454	
MMS 22-S-M5-PNP-SA	0301460	
MMS 22-S-M8-NPN	0301451	
MMS 22-S-M8-NPN-SA	0301457	
MMS 22-S-M8-PNP	0301450	•
MMS 22-S-M8-PNP-SA	0301456	
MMSK 22-S-NPN	0301453	
MMSK 22-S-NPN-SA	0301459	
MMSK 22-S-PNP	0301452	
MMSK 22-S-PNP-SA	0301458	

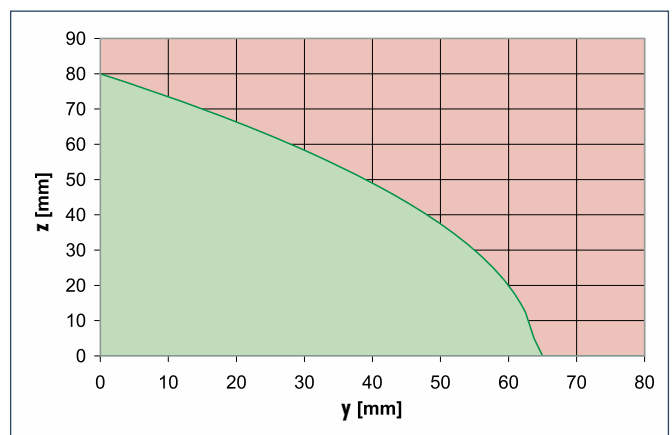
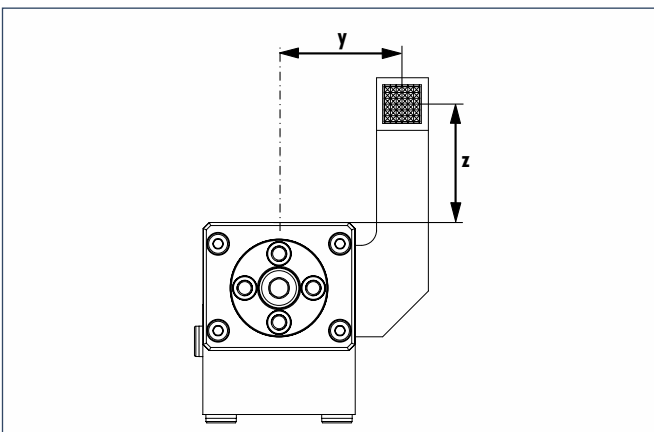
① Two sensors (NO contacts) are required for each gripper, plus extension cables as an option.

#### Extension cables for proximity switches/magnetic switches

Description	ID
GK 3-M5-PNP/ NPN	0301652
GK 3-M8	0301622
KV 10-M8	0301496
KV 20-M8	0301497
W 3-M5-PNP/ NPN	0301650
WK 3-M8	0301594
WK 3-M8 NPN	0301602
WK 5-M8	0301502
WK 5-M8 NPN	9641116

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

### Maximum permitted overhang



■ Permitted range  
■ Non-permissible range

The curve applies to the basic version (stroke -1). For other versions, the curve will be parallel but offset in line with the max. permitted finger length.



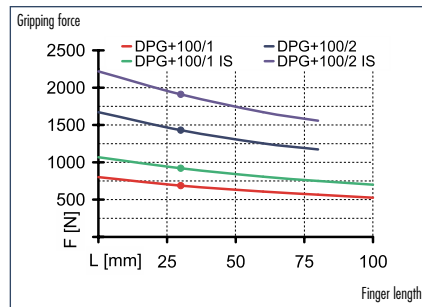
You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

# DPG-plus 100

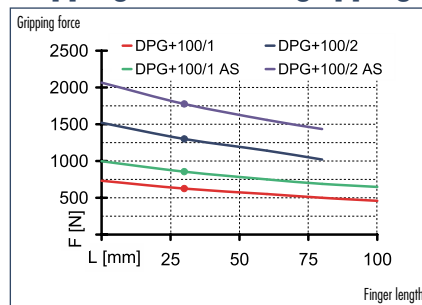
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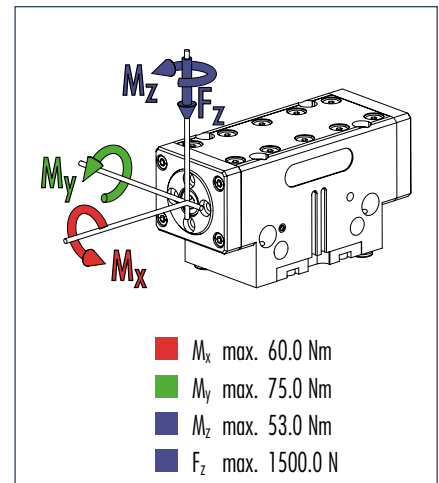
## Gripping force, I.D. gripping



## Gripping force, O.D. gripping



## Finger load



ⓘ Moments and forces apply per base jaw and may occur simultaneously.  $M_y$  may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

## Technical data

Description		DPG-plus 100-1	DPG-plus 100-2	DPG-plus 100-1 AS	DPG-plus 100-2 AS	DPG-plus 100-1 IS	DPG-plus 100-2 IS
ID		0304331	0304332	0304333	0304334	0304335	0304336
Stroke per jaw	[mm]	10.0	5.0	10.0	5.0	10.0	5.0
Closing force	[N]	625.0	1300.0	855.0	1775.0		
Opening force	[N]	685.0	1430.0			920.0	1910.0
Min. spring force	[N]			230.0	475.0	230.0	475.0
Weight	[kg]	1.1	1.1	1.35	1.35	1.35	1.35
Recommended workpiece weight	[kg]	3.1	6.5	3.1	6.5	3.1	6.5
Air consumption per double stroke	[cm <sup>3</sup> ]	40.0	40.0	85.0	85.0	85.0	85.0
Minimum pressure	[bar]	2.5	2.5	4.0	4.0	4.0	4.0
Maximum pressure	[bar]	8.0	8.0	6.5	6.5	6.5	6.5
Nominal operating pressure	[bar]	6.0	6.0	6.0	6.0	6.0	6.0
Closing time	[s]	0.09	0.09	0.07	0.07	0.12	0.12
Opening time	[s]	0.09	0.09	0.12	0.12	0.07	0.07
Max. permitted finger length	[mm]	100.0	80.0	100.0	80.0	80.0	80.0
Max. permitted weight per finger	[kg]	0.95	0.95	0.95	0.95	0.95	0.95
IP rating		67	67	67	67	67	67
Min. ambient temperature	[°C]	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0
Max. ambient temperature	[°C]	90.0	90.0	90.0	90.0	90.0	90.0
Repeat accuracy	[mm]	0.01	0.01	0.01	0.01	0.01	0.01

### OPTIONS and their characteristics

KVZ for increased grip force	ID	0304337
Description		DPG-plus 100-1-KVZ
Closing force	[N]	1125.0
Opening force	[N]	1240.0
Weight	[kg]	1.38
Maximum pressure	[bar]	6.0
Air consumption per double stroke	[cm <sup>3</sup> ]	80.0
Max. permitted finger length	[mm]	80.0

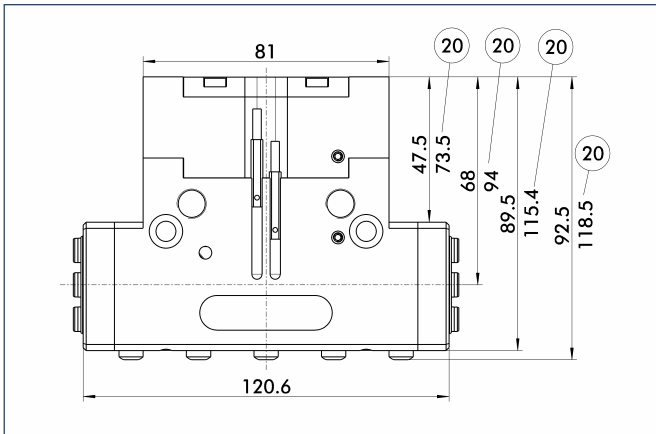
ⓘ Please note that an additional hose for ventilation or purging the air is essential for the gripper, i.e. it requires three hoses in total. See the assembly and operating manual for more detailed information.



# DPG-plus 100

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## KVZ for increased grip force



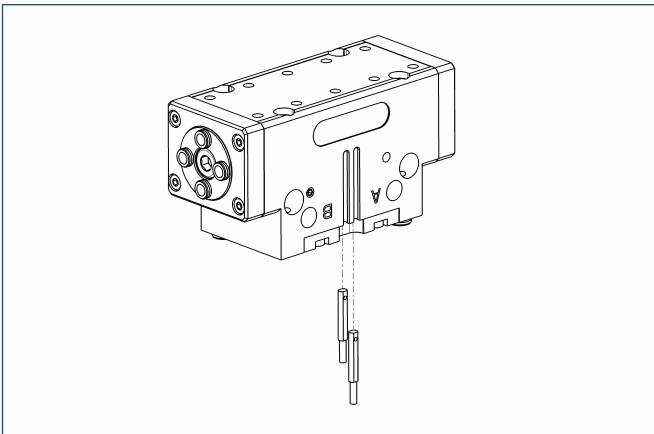
⊕ With AS/IS version

The KVZ grip force cylinder increases the gripping forces during opening and closing. A second, in series-connected piston also increases the force on the wedge hook. The full gripping force shown in the data table is sometimes only reached after a few hundred gripping cycles.



You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

### Sensor system



#### End position monitoring:

#### Electronic magnetic switches, for mounting in C-slot

Description	ID	Recommended product
MMS 22-S-M5-NPN	0301455	
MMS 22-S-M5-NPN-SA	0301461	
MMS 22-S-M5-PNP	0301454	
MMS 22-S-M5-PNP-SA	0301460	
MMS 22-S-M8-NPN	0301451	
MMS 22-S-M8-NPN-SA	0301457	
MMS 22-S-M8-PNP	0301450	•
MMS 22-S-M8-PNP-SA	0301456	
MMSK 22-S-NPN	0301453	
MMSK 22-S-NPN-SA	0301459	
MMSK 22-S-PNP	0301452	
MMSK 22-S-PNP-SA	0301458	

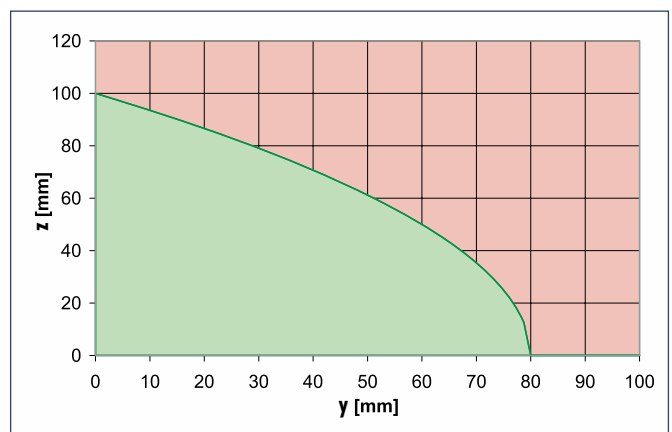
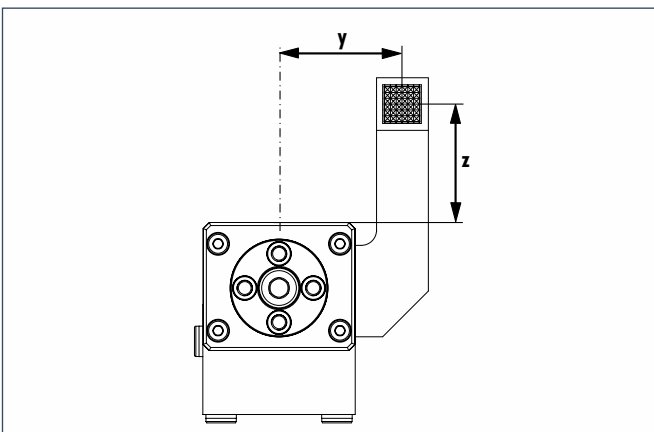
① Two sensors (NO contacts) are required for each gripper, plus extension cables as an option.

#### Extension cables for proximity switches/magnetic switches

Description	ID
GK 3-M5-PNP/ NPN	0301652
GK 3-M8	0301622
KV 10-M8	0301496
KV 20-M8	0301497
W 3-M5-PNP/ NPN	0301650
WK 3-M8	0301594
WK 3-M8 NPN	0301602
WK 5-M8	0301502
WK 5-M8 NPN	9641116

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

### Maximum permitted overhang



■ Permitted range  
■ Non-permissible range

The curve applies to the basic version (stroke -1). For other versions, the curve will be parallel but offset in line with the max. permitted finger length.



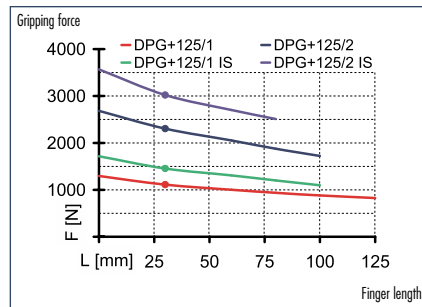
You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

# DPG-plus 125

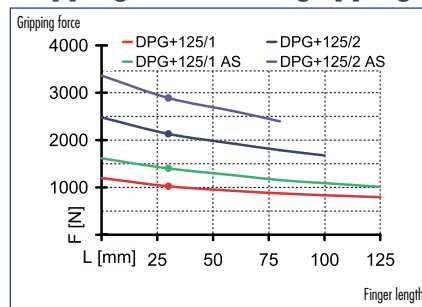
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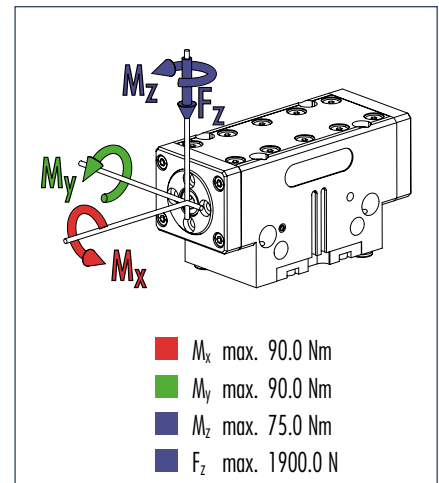
## Gripping force, I.D. gripping



## Gripping force, O.D. gripping



## Finger load



① Moments and forces apply per base jaw and may occur simultaneously.  $M_y$  may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

## Technical data

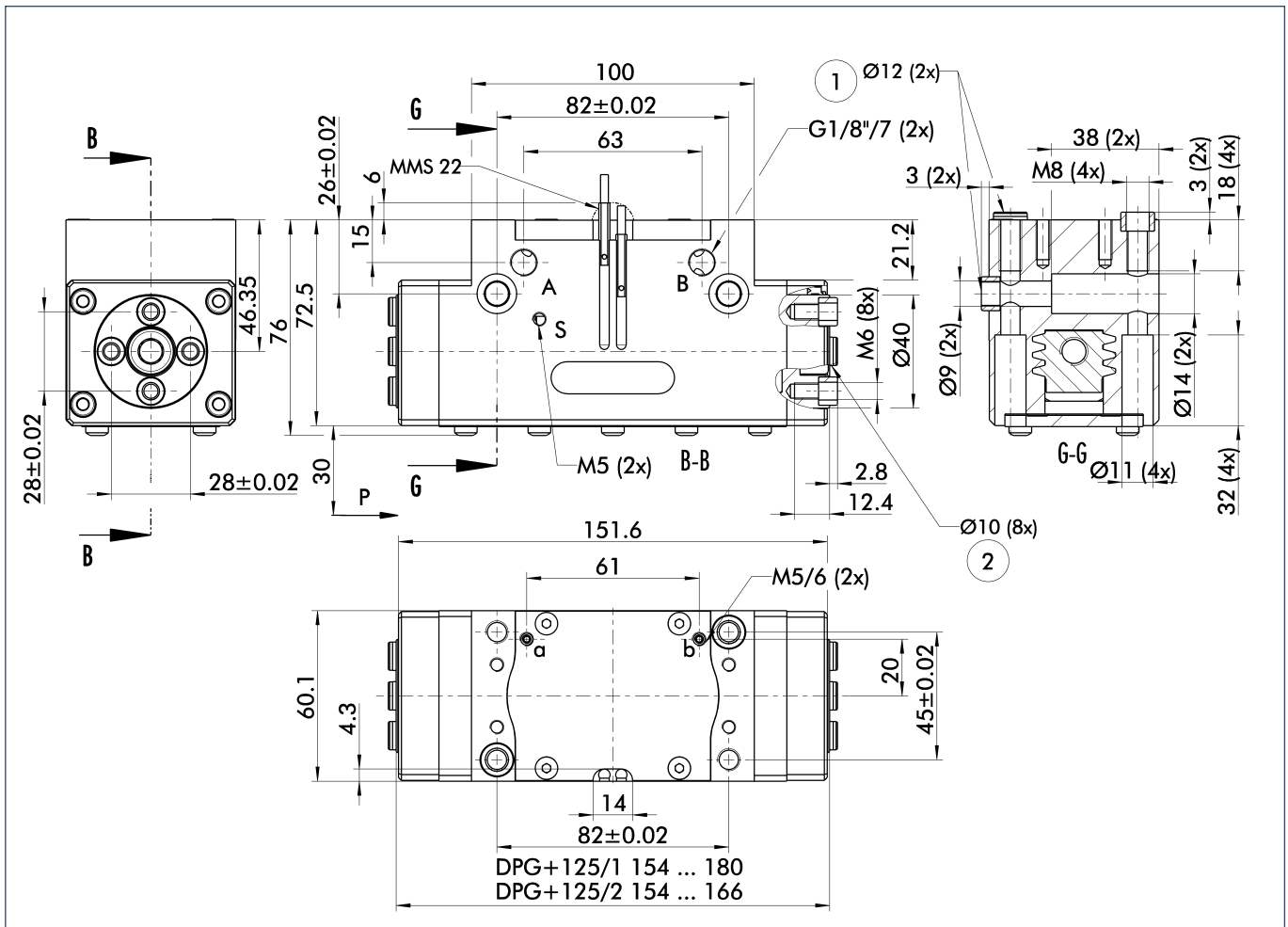
Description		DPG-plus 125-1	DPG-plus 125-2	DPG-plus 125-1 AS	DPG-plus 125-2 AS	DPG-plus 125-1 IS	DPG-plus 125-2 IS
ID		0304341	3043342	0304343	0304344	0304345	0304346
Stroke per jaw	[mm]	13.0	6.0	13.0	6.0	13.0	6.0
Closing force	[N]	1025.0	2130.0	1400.0	2890.0		
Opening force	[N]	1110.0	2300.0			1455.0	3020.0
Min. spring force	[N]			375.0	760.0	375.0	760.0
Weight	[kg]	1.9	1.9	2.35	2.35	2.35	2.35
Recommended workpiece weight	[kg]	5.1	10.6	5.1	10.6	5.1	10.6
Air consumption per double stroke	[cm <sup>3</sup> ]	81.0	81.0	158.0	158.0	158.0	158.0
Minimum pressure	[bar]	2.5	2.5	4.0	4.0	4.0	4.0
Maximum pressure	[bar]	8.0	8.0	6.5	6.5	6.5	6.5
Nominal operating pressure	[bar]	6.0	6.0	6.0	6.0	6.0	6.0
Closing time	[s]	0.13	0.13	0.11	0.11	0.16	0.16
Opening time	[s]	0.13	0.13	0.16	0.16	0.11	0.11
Max. permitted finger length	[mm]	125.0	100.0	125.0	80.0	100.0	80.0
Max. permitted weight per finger	[kg]	1.75	1.75	1.75	1.75	1.75	1.75
IP rating		67	67	67	67	67	67
Min. ambient temperature	[°C]	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0
Max. ambient temperature	[°C]	90.0	90.0	90.0	90.0	90.0	90.0
Repeat accuracy	[mm]	0.01	0.01	0.01	0.01	0.01	0.01

### OPTIONS and their characteristics

KVZ for increased grip force	ID	0304347
Description		DPG-plus 125-1-KVZ
Closing force	[N]	1845.0
Opening force	[N]	2000.0
Weight	[kg]	2.4
Maximum pressure	[bar]	6.0
Air consumption per double stroke	[cm <sup>3</sup> ]	162.0
Max. permitted finger length	[mm]	80.0

① Please note that an additional hose for ventilation or purging the air is essential for the gripper, i.e. it requires three hoses in total. See the assembly and operating manual for more detailed information.

### Main views

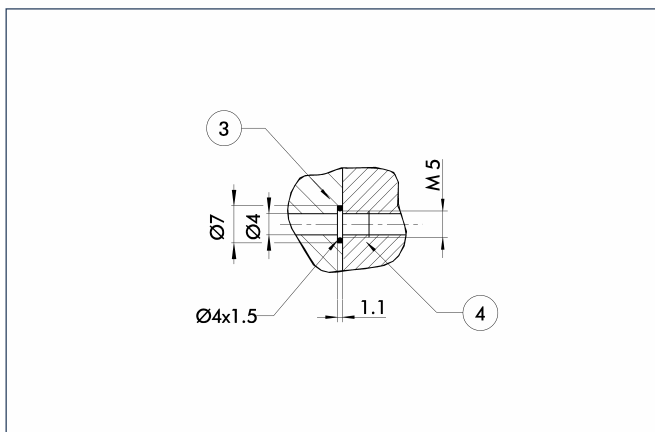


For finger connection, we recommend only using two of the four centering bores for each finger. The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

① The SDV-P pressure maintenance valve can also be used (see "Accessories" catalog section) for I.D. or O.D. gripping as an alternative or in addition to the spring-loaded, mechanical gripping force safety device.

- A,a Main/direct connection, gripper opening
- B,b Main/direct connection, gripper closing
- S,s Ventilation hole or air purge connection
- ① Gripper connection
- ② Finger connection

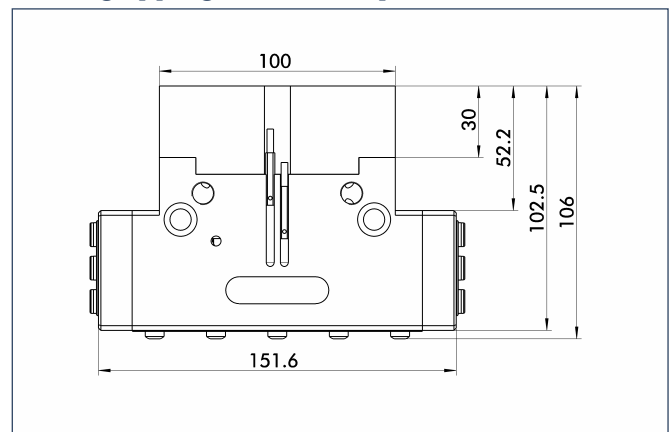
### Hoseless direct connection



- ③ Adapter
- ④ Gripper

The direct connection is used for supplying compressed air to the gripper without vulnerable hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

### AS/IS gripping force safety device

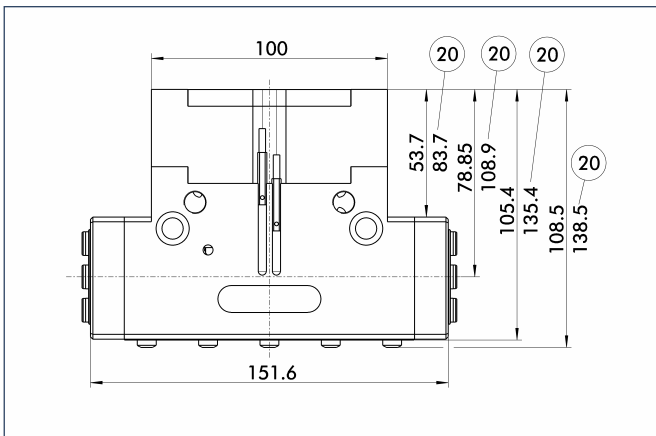


The mechanical gripping force safety device ensures a minimum gripping force even if there is a drop in pressure. This acts as closing force in the AS version, and as opening force in the IS version. In addition, the gripping force safety device can also be employed as a gripping force booster or for single-acting gripping.

# DPG-plus 125

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## KVZ for increased grip force



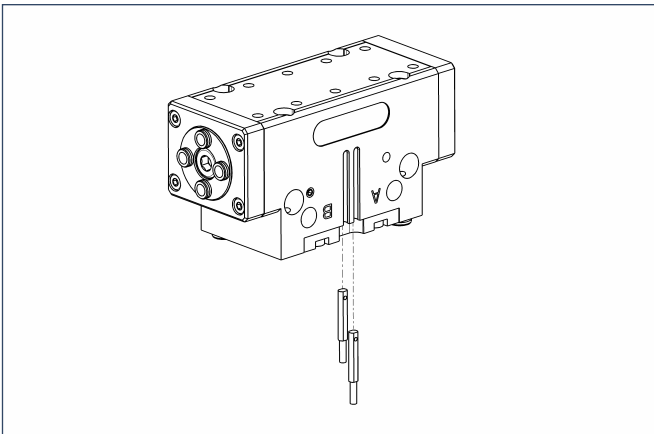
⑳ With AS/IS version

The KVZ grip force cylinder increases the gripping forces during opening and closing. A second, in series-connected piston also increases the force on the wedge hook. The full gripping force shown in the data table is sometimes only reached after a few hundred gripping cycles.



You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

### Sensor system



#### Extension cables for proximity switches/magnetic switches

Description	ID
GK 3-M5-PNP/ NPN	0301652
GK 3-M8	0301622
KV 10-M8	0301496
KV 20-M8	0301497
W 3-M5-PNP/ NPN	0301650
WK 3-M8	0301594
WK 3-M8 NPN	0301602
WK 5-M8	0301502
WK 5-M8 NPN	9641116

ⓘ Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

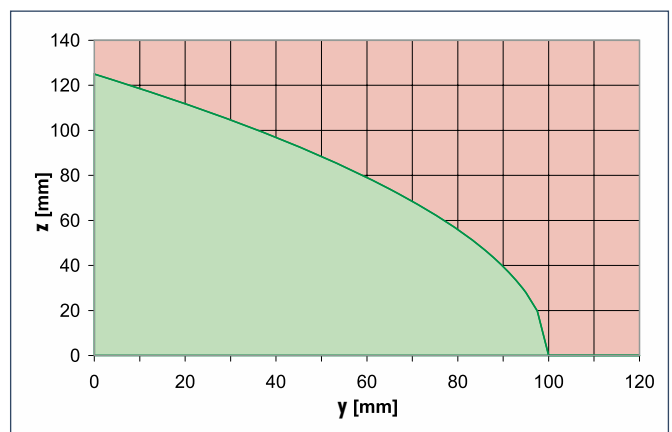
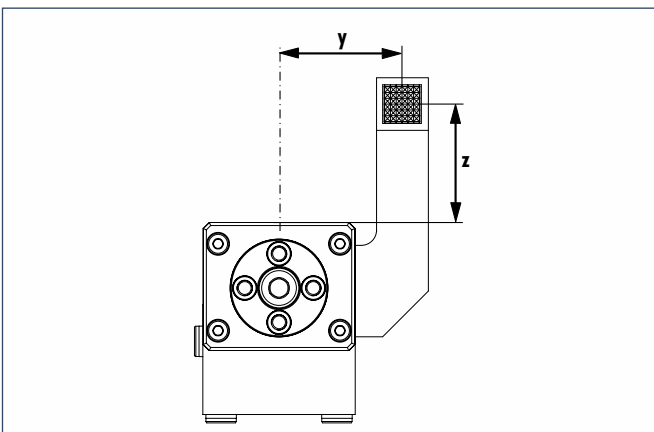
#### End position monitoring:

##### Electronic magnetic switches, for mounting in C-slot

Description	ID	Recommended product
MMS 22-S-M5-NPN	0301455	
MMS 22-S-M5-NPN-SA	0301461	
MMS 22-S-M5-PNP	0301454	
MMS 22-S-M5-PNP-SA	0301460	
MMS 22-S-M8-NPN	0301451	
MMS 22-S-M8-NPN-SA	0301457	
MMS 22-S-M8-PNP	0301450	•
MMS 22-S-M8-PNP-SA	0301456	
MMSK 22-S-NPN	0301453	
MMSK 22-S-NPN-SA	0301459	
MMSK 22-S-PNP	0301452	
MMSK 22-S-PNP-SA	0301458	

ⓘ Two sensors (NO contacts) are required for each gripper, plus extension cables as an option.

### Maximum permitted overhang



■ Permitted range  
■ Non-permissible range

The curve applies to the basic version (stroke -1). For other versions, the curve will be parallel but offset in line with the max. permitted finger length.

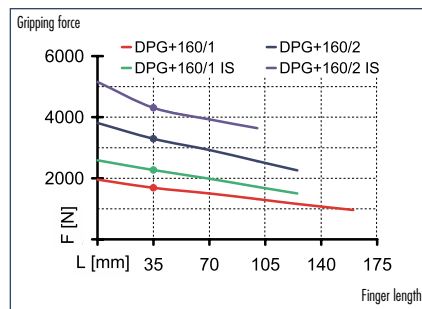
 You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

# DPG-plus 160

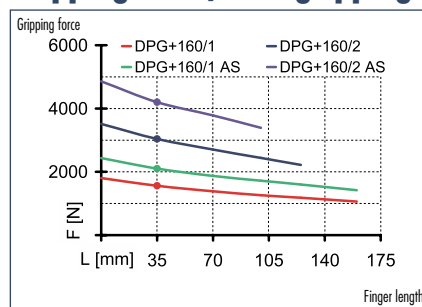
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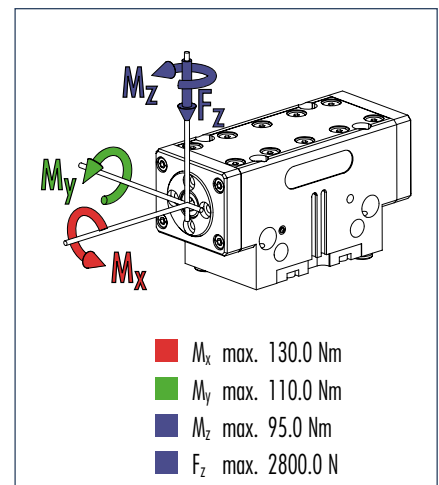
## Gripping force, I.D. gripping



## Gripping force, O.D. gripping



## Finger load



① Moments and forces apply per base jaw and may occur simultaneously.  $M_y$  may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

## Technical data

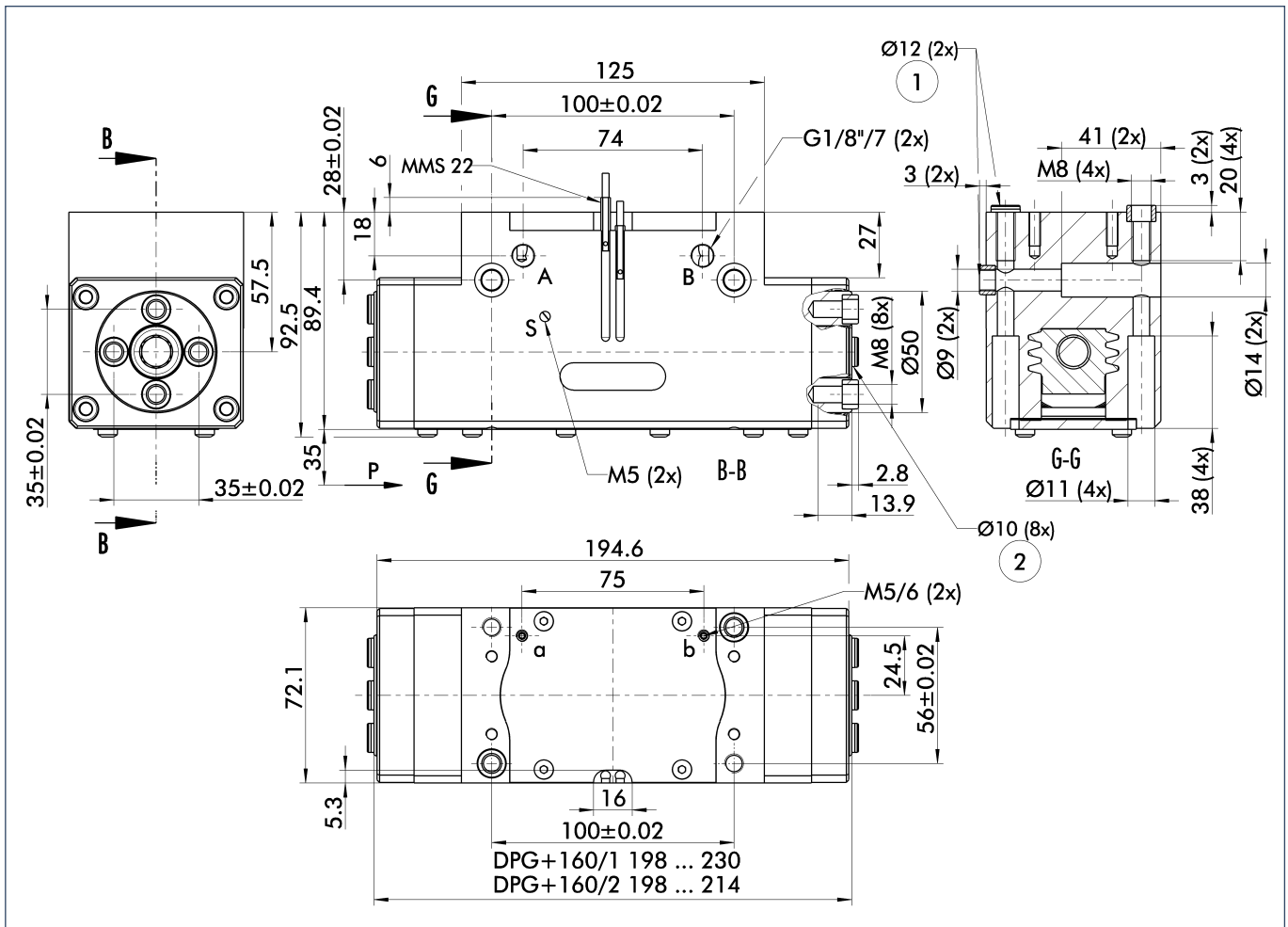
Description		DPG-plus 160-1	DPG-plus 160-2	DPG-plus 160-1 AS	DPG-plus 160-2 AS	DPG-plus 160-1 IS	DPG-plus 160-2 IS
ID		0304351	0304352	0304353	0304354	0304355	0304356
Stroke per jaw	[mm]	16.0	8.0	16.0	8.0	16.0	8.0
Closing force	[N]	1560.0	3040.0	2100.0	4200.0		
Opening force	[N]	1680.0	3290.0			2270.0	4305.0
Min. spring force	[N]			540.0	1160.0	540.0	1160.0
Weight	[kg]	3.65	3.65	4.65	4.65	4.65	4.65
Recommended workpiece weight	[kg]	7.8	15.2	7.8	15.2	7.8	15.2
Air consumption per double stroke	[cm <sup>3</sup> ]	157.0	157.0	265.0	265.0	265.0	265.0
Minimum pressure	[bar]	2.5	2.5	4.0	4.0	4.0	4.0
Maximum pressure	[bar]	8.0	8.0	6.5	6.5	6.5	6.5
Nominal operating pressure	[bar]	6.0	6.0	6.0	6.0	6.0	6.0
Closing time	[s]	0.19	0.19	0.16	0.16	0.33	0.33
Opening time	[s]	0.19	0.19	0.33	0.33	0.16	0.16
Max. permitted finger length	[mm]	160.0	125.0	160.0	100.0	125.0	100.0
Max. permitted weight per finger	[kg]	3.0	3.0	3.0	3.0	3.0	3.0
IP rating		67	67	67	67	67	67
Min. ambient temperature	[°C]	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0
Max. ambient temperature	[°C]	90.0	90.0	90.0	90.0	90.0	90.0
Repeat accuracy	[mm]	0.01	0.01	0.01	0.01	0.01	0.01

### OPTIONS and their characteristics

KVZ for increased grip force	ID	0304357
Description		DPG-plus 160-1-KVZ
Closing force	[N]	2810.0
Opening force	[N]	
Weight	[kg]	5.8
Maximum pressure	[bar]	6.0
Air consumption per double stroke	[cm <sup>3</sup> ]	314.0
Max. permitted finger length	[mm]	100.0

① Please note that an additional hose for ventilation or purging the air is essential for the gripper, i.e. it requires three hoses in total. See the assembly and operating manual for more detailed information.

## Main views

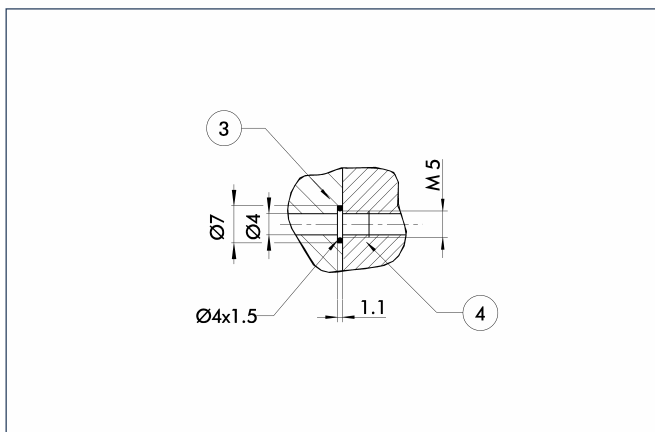


For finger connection, we recommend only using two of the four centering bores for each finger. The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

① The SDV-P pressure maintenance valve can also be used (see "Accessories" catalog section) for I.D. or O.D. gripping as an alternative or in addition to the spring-loaded, mechanical gripping force safety device.

- A,a Main/direct connection, gripper opening
- B,b Main/direct connection, gripper closing
- S,s Ventilation hole or air purge connection
- ① Gripper connection
- ② Finger connection

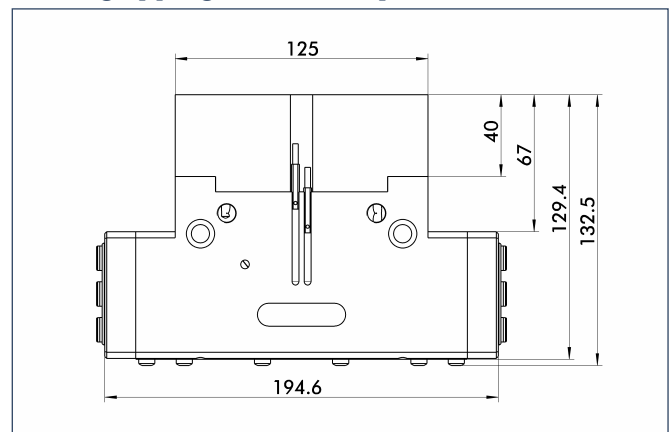
## Hoseless direct connection



- ③ Adapter
- ④ Gripper

The direct connection is used for supplying compressed air to the gripper without vulnerable hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

## AS/IS gripping force safety device

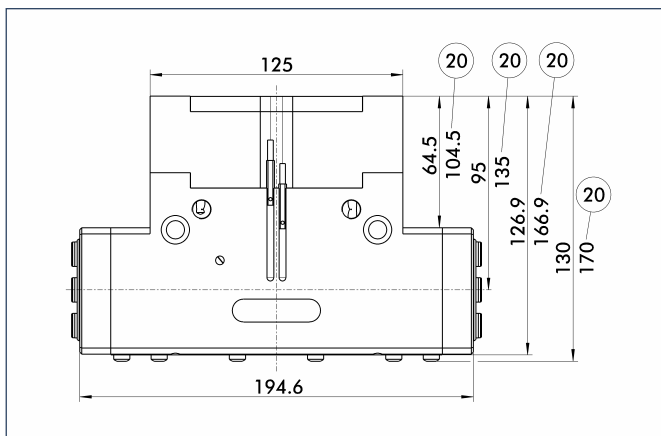


The mechanical gripping force safety device ensures a minimum gripping force even if there is a drop in pressure. This acts as closing force in the AS version, and as opening force in the IS version. In addition, the gripping force safety device can also be employed as a gripping force booster or for single-acting gripping.

# DPG-plus 160

Pneumatic · 2-Finger Parallel Grippers · **Sealed Grippers**

## KVZ for increased grip force



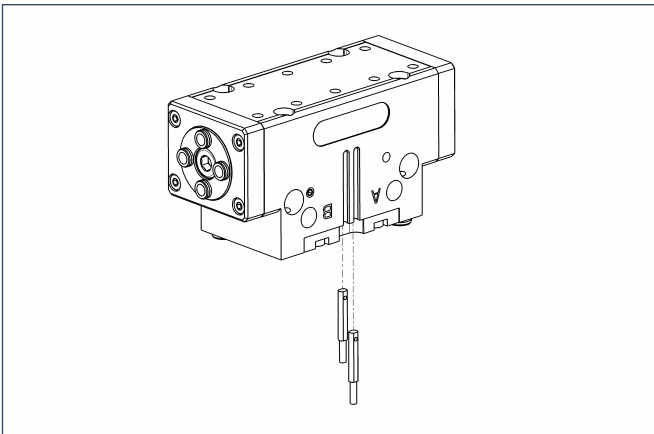
② With AS/IS version

The KVZ grip force cylinder increases the gripping forces during opening and closing. A second, in series-connected piston also increases the force on the wedge hook. The full gripping force shown in the data table is sometimes only reached after a few hundred gripping cycles.



You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

### Sensor system



#### End position monitoring:

#### Electronic magnetic switches, for mounting in C-slot

Description	ID	Recommended product
MMS 22-S-M5-NPN	0301455	
MMS 22-S-M5-NPN-SA	0301461	
MMS 22-S-M5-PNP	0301454	
MMS 22-S-M5-PNP-SA	0301460	
MMS 22-S-M8-NPN	0301451	
MMS 22-S-M8-NPN-SA	0301457	
MMS 22-S-M8-PNP	0301450	•
MMS 22-S-M8-PNP-SA	0301456	
MMSK 22-S-NPN	0301453	
MMSK 22-S-NPN-SA	0301459	
MMSK 22-S-PNP	0301452	
MMSK 22-S-PNP-SA	0301458	

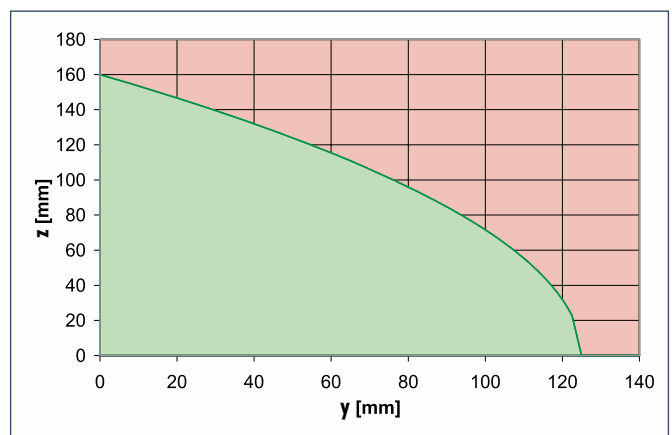
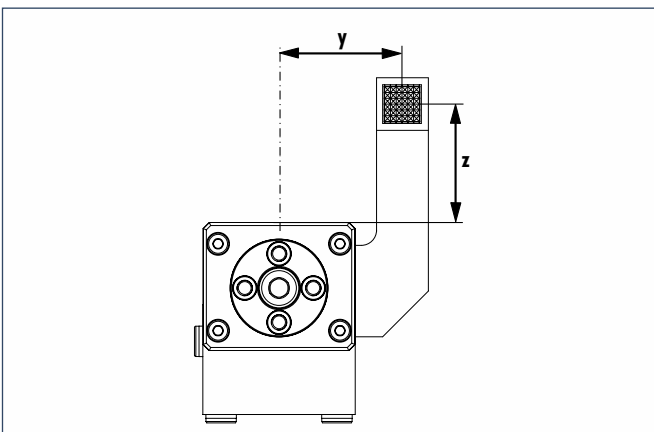
① Two sensors (NO contacts) are required for each gripper, plus extension cables as an option.

#### Extension cables for proximity switches/magnetic switches

Description	ID
GK 3-M5-PNP/ NPN	0301652
GK 3-M8	0301622
KV 10-M8	0301496
KV 20-M8	0301497
W 3-M5-PNP/ NPN	0301650
WK 3-M8	0301594
WK 3-M8 NPN	0301602
WK 5-M8	0301502
WK 5-M8 NPN	9641116

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

### Maximum permitted overhang



■ Permitted range  
■ Non-permissible range

The curve applies to the basic version (stroke -1). For other versions, the curve will be parallel but offset in line with the max. permitted finger length.

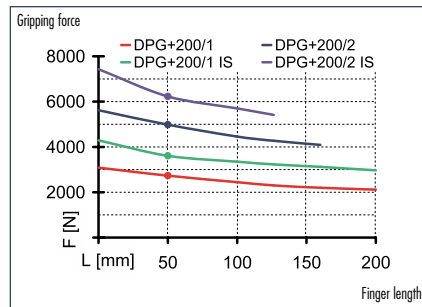
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# DPG-plus 200

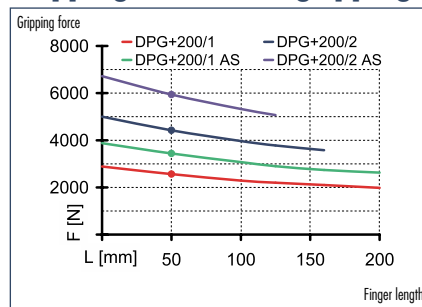
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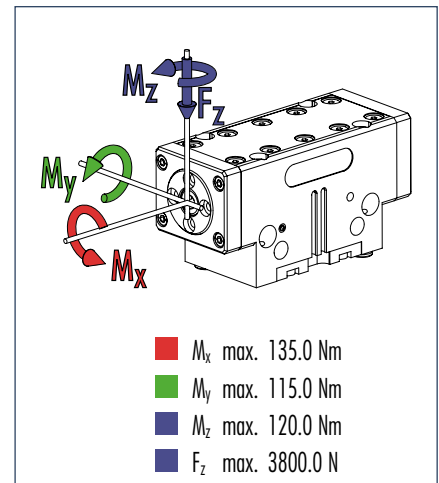
## Gripping force, I.D. gripping



## Gripping force, O.D. gripping



## Finger load



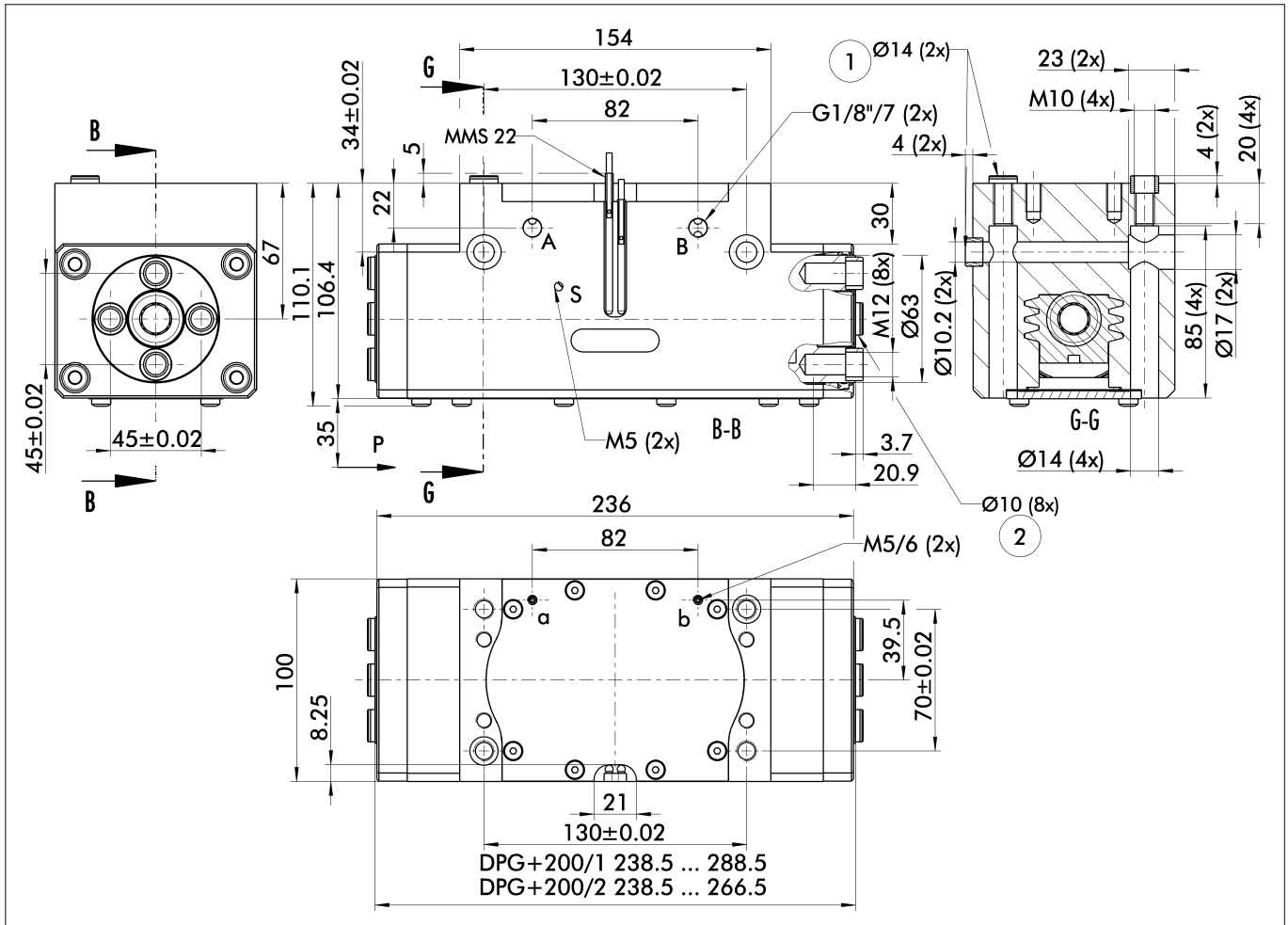
ⓘ Moments and forces apply per base jaw and may occur simultaneously.  $M_y$  may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

## Technical data

Description		DPG-plus 200-1	DPG-plus 200-2	DPG-plus 200-1 AS	DPG-plus 200-2 AS	DPG-plus 200-1 IS	DPG-plus 200-2 IS
ID		0304361	0304362	0304363	0304364	0304365	0304366
Stroke per jaw	[mm]	25.0	14.0	25.0	14.0	25.0	14.0
Closing force	[N]	2565.0	4420.0	3440.0	5940.0		
Opening force	[N]	2730.0	4970.0			3610.0	6230.0
Min. spring force	[N]			875.0	1520.0	875.0	1520.0
Weight	[kg]	7.3	7.3	9.5	9.5	9.5	9.5
Recommended workpiece weight	[kg]	12.8	22.1	12.8	22.1	12.8	22.1
Air consumption per double stroke	[cm <sup>3</sup> ]	390.0	390.0	635.0	635.0	635.0	635.0
Minimum pressure	[bar]	2.5	2.5	4.0	4.0	4.0	4.0
Maximum pressure	[bar]	8.0	8.0	6.5	6.5	6.5	6.5
Nominal operating pressure	[bar]	6.0	6.0	6.0	6.0	6.0	6.0
Closing time	[s]	0.45	0.45	0.4	0.4	0.8	0.8
Opening time	[s]	0.45	0.45	0.8	0.8	0.4	0.4
Max. permitted finger length	[mm]	200.0	160.0	200.0	125.0	160.0	125.0
Max. permitted weight per finger	[kg]	5.5	5.5	5.5	5.5	5.5	5.5
IP rating		67	67	67	67	67	67
Min. ambient temperature	[°C]	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0
Max. ambient temperature	[°C]	90.0	90.0	90.0	90.0	90.0	90.0
Repeat accuracy	[mm]	0.02	0.02	0.02	0.02	0.02	0.02

ⓘ Please note that an additional hose for **ventilation** or purging the air is essential for the gripper, i.e. it requires three hoses in total. See the assembly and operating manual for more detailed information.

## Main views

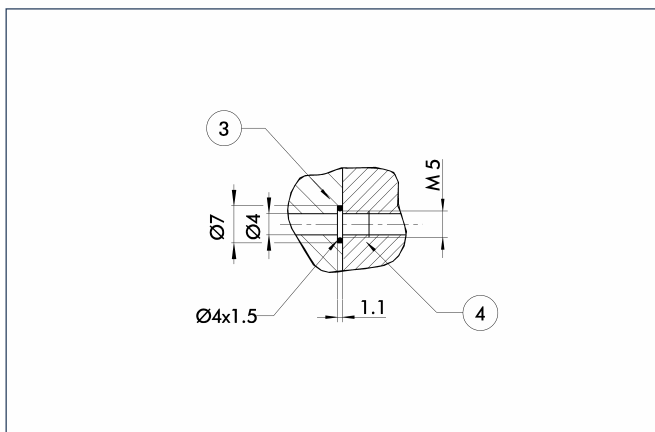


For finger connection, we recommend only using two of the four centering bores for each finger. The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

① The SDV-P pressure maintenance valve can also be used (see "Accessories" catalog section) for I.D. or O.D. gripping as an alternative or in addition to the spring-loaded, mechanical gripping force safety device.

- A,a Main/direct connection, gripper opening
- B,b Main/direct connection, gripper closing
- S,s Ventilation hole or air purge connection
- ① Gripper connection
- ② Finger connection

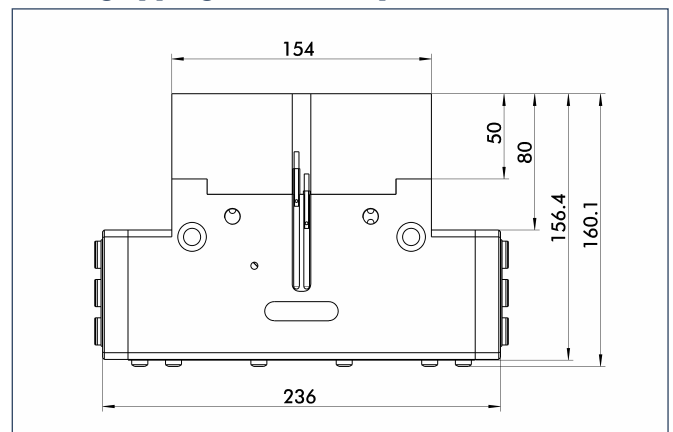
## Hoseless direct connection



- ③ Adapter
- ④ Gripper

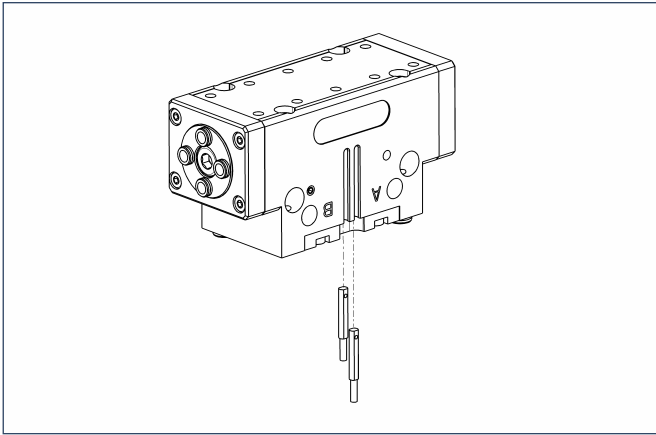
The direct connection is used for supplying compressed air to the gripper without vulnerable hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

## AS/IS gripping force safety device



The mechanical gripping force safety device ensures a minimum gripping force even if there is a drop in pressure. This acts as closing force in the AS version, and as opening force in the IS version. In addition, the gripping force safety device can also be employed as a gripping force booster or for single-acting gripping.

## Sensor system



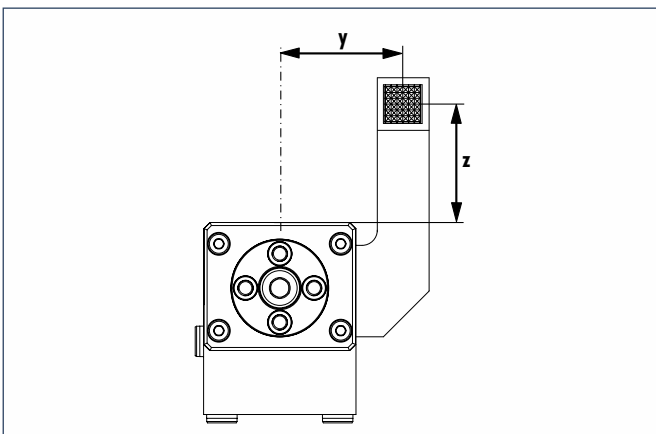
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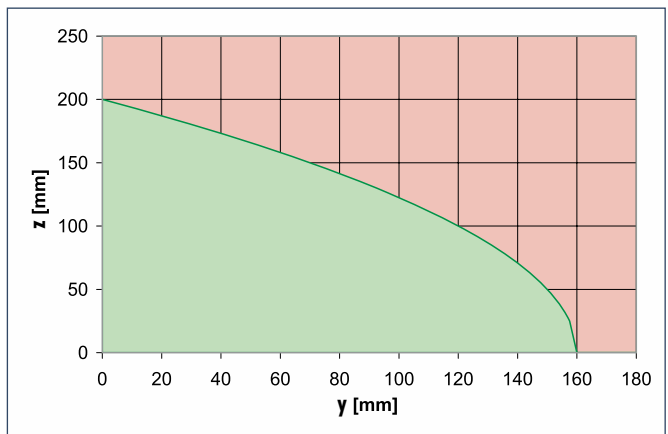
## Maximum permitted overhang



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