

Hand in hand for tomorrow



# **Product data sheet**

Parallel gripper LGP

# Easy. Economical. Reliable. Universal gripper LGP

Universal 2-finger parallel gripper with T-slot guidance and excellent cost-performance ratio

## Field of application

Universal application in clean surroundings, such as assembly areas

## **Advantages – Your benefits**

**Function optimized gripper type** for maximum cost effectiveness

**Stable, ground T-groove slideway** for highest precision in handling

**Matching SCHUNK C-slot switch** for process reliable position monitoring

Hard-anodized or hardened functional components For a long service life

**Wedge-hook design** for high power transmission and synchronized gripping

Compact dimensions for minimized interfering contours









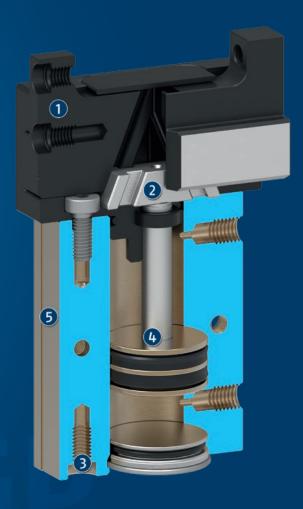




## **Functional description**

The round piston is pushed upwards or downwards with compressed air.

The angled active surfaces of the wedge-hook produce a synchronized, parallel jaw motion.



- Base jaw
   for the connection of workpiece-specific gripper fingers
- ② Wedge-hook design for high force transmission and centric gripping
- 3 Centering and mounting possibilities for assembly of the gripper to a base area and at the long side
- **Drive** pneumatic piston drive
- (5) Housing is weight-optimized due to the use of high-strength aluminum alloy

#### General notes about the series

**Operating principle:** Wedge-hook kinematics **Housing material:** Aluminum alloy, anodized

Base jaw material: Steel

**Actuation:** pneumatic, with filtered compressed air as per

ISO 8573-1:2010 [7:4:4]. **Warranty:** 24 months

**Scope of delivery:** Centering elements, assembly, and operating instruction with manufacturer's declaration.

**Gripping force maintenance:** possible by using the version with mechanical gripping force maintenance or pressure maintenance valve SDV-P

**Gripping force:** is the arithmetic sum of the individual force applied to each jaw at distance P (see illustration).

**Finger length:** is measured from the reference surface as the distance P in direction to the main axis. The maximum permissible finger length applies until the nominal operating pressure is achieved. With higher pressures, the finger length must be reduced proportio-

**Repeat accuracy:** is defined as a distribution of the end Position for 100 consecutive strokes.

nally to the nominal operating pressure.

**Workpiece weight:** is calculated for force-fit gripping with a coefficient of static friction of 0.1 and a safety factor of 2 against workpiece slippage at acceleration due to gravity g. For form-fit or capture gripping, there are significantly higher permissible workpiece weights.

Closing and opening times: are movement times of the base jaws only, without application–specific gripper fingers. Valve switching times, hose fill times, or PLC reaction times are not included, and are to be considered when cycle times are calculated.

## **Application example**

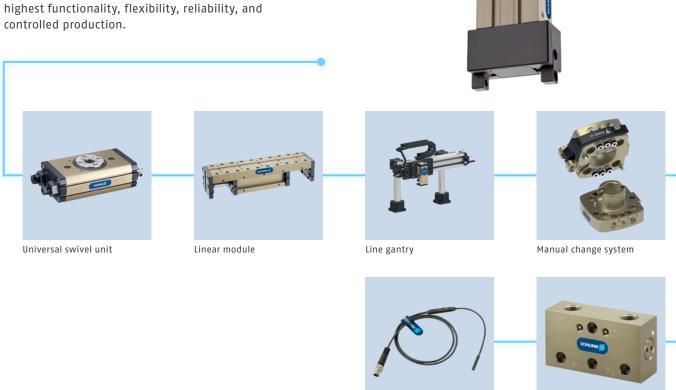
Complete unit consisting of linear axis, swivel unit and four grippers for transporting and packaging several conical workpieces.

- Universal gripper LGP
- 2 Universal rotary actuator SRM
- Flat linear module Delta with toothed-belt drive



### SCHUNK offers more ...

The following components make the product even more productive – the suitable addition for the highest functionality, flexibility, reliability, and controlled production.



① For more information on these products can be found on the following product pages or at schunk.com.

## Options and special information

**Gripping force maintenance version AS/IS:** The mechanical gripping force maintenance version ensures minimum gripping force even in the event of a pressure drop. In the AS/S version this acts as a closing force, in the IS version as an opening force

Programmable magnetic

switch

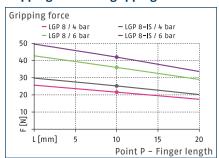
**Sensor system:** Monitoring with a SCHUNK MMS 22 or RMS 22 sensor is not possible. The use of the recommended sensors MMS-P is compulsory.

Pressure maintenance valve

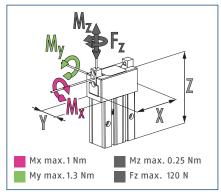




#### **Gripping force I.D. gripping**



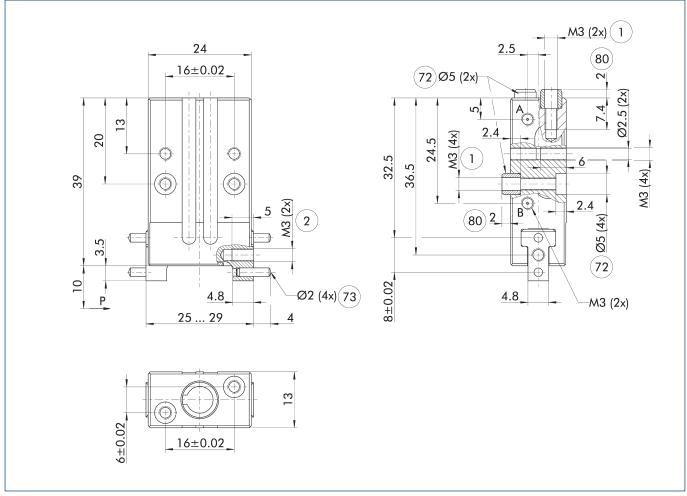
#### Max. loads



The indicated moments and forces are statical values, apply for each base jaw and may appear simultaneously. Loads may additionally occur to the moment produced by the gripping force itself.

#### Technical data

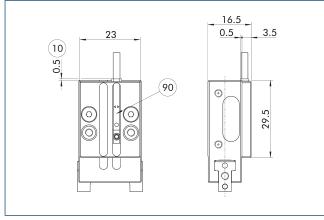
Description		LGP 8	LGP 8-AS	LGP 8-IS
ID		0312900	0312901	0312902
Stroke per jaw	[mm]	2	2	2
Closing/opening force	[N]	26/36	32/-	-142
Min. spring force	[N]		6	6
Weight	[kg]	0.03	0.04	0.04
Recommended workpiece weight	[kg]	0.13	0.13	0.13
Cylinder volume per double stroke	[cm³]	0.9	0.9	0.9
Min./nom./max. operating pressure	[bar]	2/6/8	4/6/6.5	4/6/6.5
Closing/opening time	[s]	0.01/0.01	0.01/0.02	0.02/0.01
Closing/opening time with spring	[s]		0.03	0.03
Max. permissible finger length	[mm]	20	20	20
Max. permissible weight per finger	[kg]	0.03	0.03	0.03
IP protection class		40	40	40
Min./max. ambient temperature	[°C]	5/90	5/90	5/90
Repeat accuracy	[mm]	0.02	0.02	0.02
Dimensions X x Y x Z	[mm]	24 x 13 x 39	24 x 13 x 39	24 x 13 x 39



The drawing shows the gripper in the basic version with closed jaws, without dimensional consideration of the options described below.

- A Main connection open gripper
- B Main connection close gripper
- 1 Gripper connection
- 2 Finger connection
- (72) Fit for centering sleeves
- 73 Fit for centering pins
- 80 Depth of the centering sleeve hole in the counter part

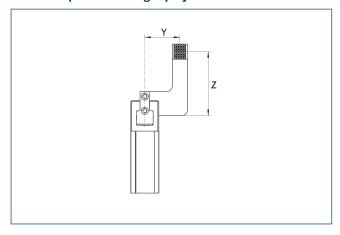
#### Clamping plate for sensor

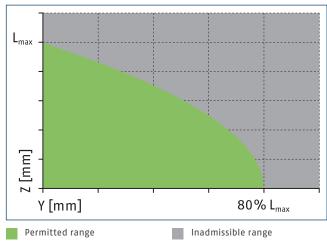


- (10) Projection applies only for AS version
- 90 MMS-P programmable magnetic switch

The magnetic switches have to be clamped together with the clamping plate at the gripper housing.

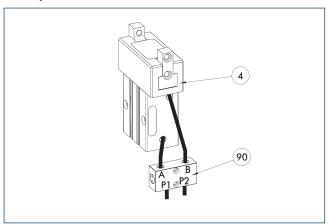
#### Maximum permitted finger projection





 $L^{\text{max}}$  is equivalent to the maximum permitted finger length, see the technical data table.

#### SDV-P pressure maintenance valve



4 Grippers

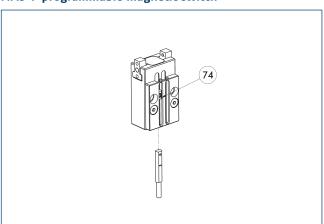
90 SDV-P pressure maintenance

The SDV-P pressure maintenance valve ensures in emergency STOP situations that the pressure in the piston chamber of pneumatic gripper, swivel, linear, and quick-change modules is temporarily maintained.

Description	ID	Recommended hose diameter		
		[mm]		
Pressure maintenance	e valve			
SDV-P 04	0403130	6		
Pressure maintenance valve with air bleed screw				
SDV-P 04-E	0300120	6		

① In order to achieve the specified closing and opening time for each gripper variant, the recommended hose diameter must be used. The direct allocation of the respective variant of the gripper for the respective SDV-P can be found at schunk.com.

#### MMS-P programmable magnetic switch

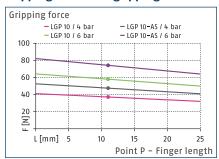


74) Limit stop for sensor

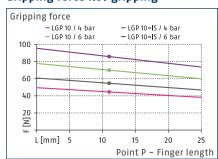
Position monitoring with two programmable positions per sensor. End position monitoring for mounting in the C-slot.

Description	ID	Often combined			
Programmable magnetic switch					
MMSK-P 22-S-PNP	0301371				
MMS-P 22-S-M8-PNP	0301370	•			
Connection cables					
KA GLN0804-LK-00500-A	0307767	•			
KA GLN0804-LK-01000-A	0307768				
KA WLN0804-LK-00500-A	0307765				
KA WLN0804-LK-01000-A	0307766				
Clip for connector/socket					
CLI-M8	0301463				
Sensor distributor					
V2-M8-4P-2XM8-3P	0301380				

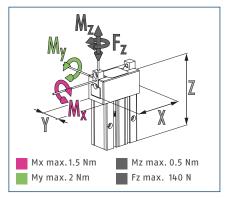




#### **Gripping force I.D. gripping**



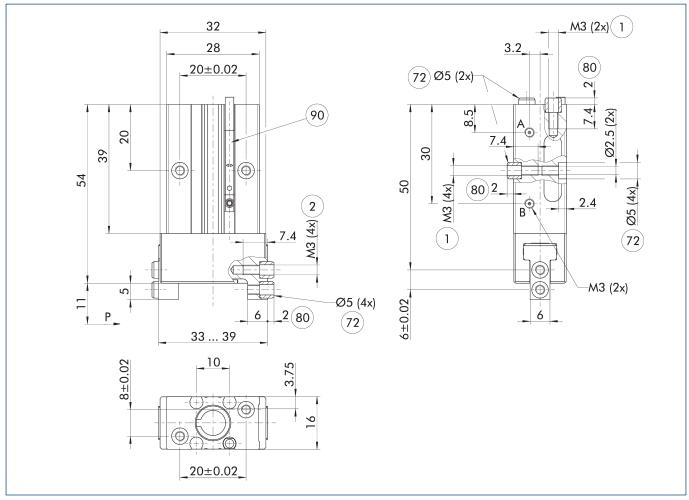
#### Max. loads



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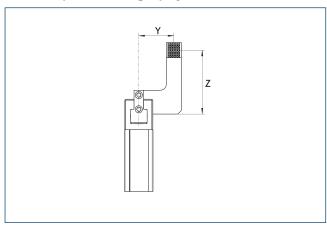
#### Technical data

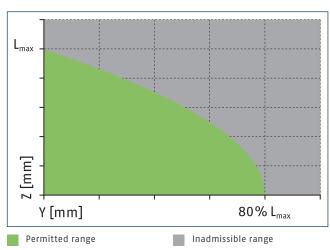
Description		LGP 10	LGP 10-AS	LGP 10-IS
ID		0312903	0312904	0312905
Stroke per jaw	[mm]	3	3	3
Closing/opening force	[N]	58/70	74/-	-186
Min. spring force	[N]		16	16
Weight	[kg]	0.07	0.08	0.08
Recommended workpiece weight	[kg]	0.29	0.29	0.29
Cylinder volume per double stroke	[cm³]	1.8	1.8	1.8
Min./nom./max. operating pressure	[bar]	21618	4/6/6.5	4/6/6.5
Closing/opening time	[s]	0.01/0.01	0.01/0.02	0.02/0.01
Closing/opening time with spring	[s]		0.04	0.04
Max. permissible finger length	[mm]	25	25	25
Max. permissible weight per finger	[kg]	0.04	0.04	0.04
IP protection class		40	40	40
Min./max. ambient temperature	[°C]	5/90	5/90	5/90
Repeat accuracy	[mm]	0.02	0.02	0.02
Dimensions X x Y x Z	[mm]	32 x 16 x 54	32 x 16 x 54	32 x 16 x 54



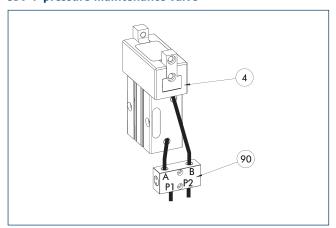
The drawing shows the gripper in the basic version with closed jaws, without dimensional consideration of the options described below.

- A Main connection open gripper
- B Main connection close gripper
- 1 Gripper connection
- 2 Finger connection
- 72 Fit for centering sleeves
- 80 Depth of the centering sleeve hole in the counter part
- 90 MMS-P programmable magnetic switch





 $L^{\text{max}}$  is equivalent to the maximum permitted finger length, see the technical data table.



4 Grippers

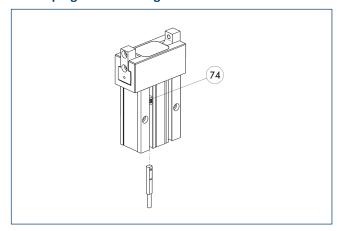
90 SDV-P pressure maintenance

The SDV-P pressure maintenance valve ensures in emergency STOP situations that the pressure in the piston chamber of pneumatic gripper, swivel, linear, and quick-change modules is temporarily maintained.

Description	ID	Recommended hose diameter	
		[mm]	
Pressure maintena	ance valve		
SDV-P 04	0403130	6	
Pressure maintenance valve with air bleed screw			
SDV-P 04-E	0300120	6	

① In order to achieve the specified closing and opening time for each gripper variant, the recommended hose diameter must be used. The direct allocation of the respective variant of the gripper for the respective SDV-P can be found at schunk.com.

#### MMS-P programmable magnetic switch

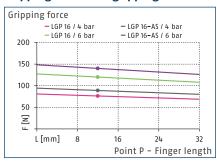


74) Limit stop for sensor

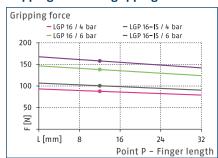
Position monitoring with two programmable positions per sensor. End position monitoring for mounting in the C-slot.

Description	ID	Often combined			
Programmable magnetic switch					
MMSK-P 22-S-PNP	0301371				
MMS-P 22-S-M8-PNP	0301370	•			
Connection cables					
KA GLN0804-LK-00500-A	0307767	•			
KA GLN0804-LK-01000-A	0307768				
KA WLN0804-LK-00500-A	0307765				
KA WLN0804-LK-01000-A	0307766				
Clip for connector/socket					
CLI-M8	0301463				
Sensor distributor					
V2-M8-4P-2XM8-3P	0301380				

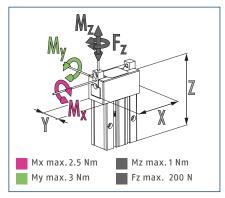




#### **Gripping force I.D. gripping**



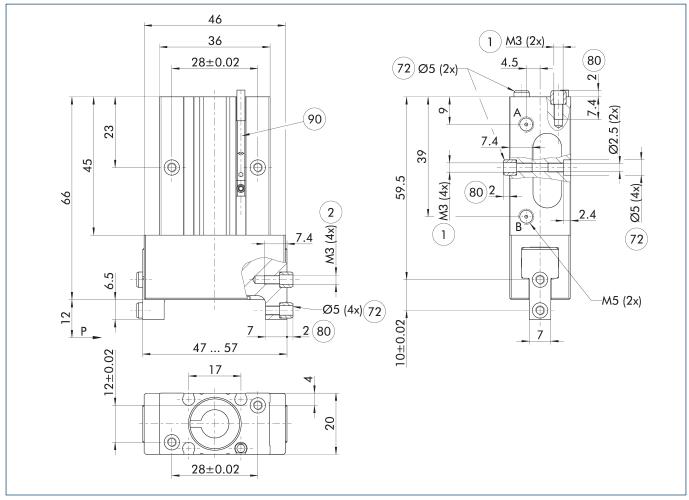
#### Max. loads



The indicated moments and forces are statical values, apply for each base jaw and may appear simultaneously. Loads may additionally occur to the moment produced by the gripping force itself.

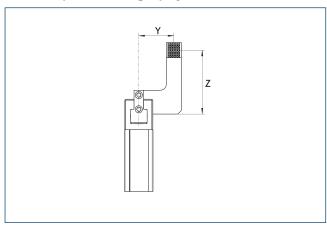
#### Technical data

Description		LGP 16	LGP 16-AS	LGP 16-IS
ID		0312906	0312907	0312908
Stroke per jaw	[mm]	5	5	5
Closing/opening force	[N]	120/138	140/-	-/158
Min. spring force	[N]		20	20
Weight	[kg]	0.15	0.16	0.16
Recommended workpiece weight	[kg]	0.6	0.6	0.6
Cylinder volume per double stroke	[cm³]	7	7	7
Min./nom./max. operating pressure	[bar]	2/6/8	4/6/6.5	4/6/6.5
Closing/opening time	[s]	0.02/0.02	0.02/0.03	0.03/0.02
Closing/opening time with spring	[s]		0.05	0.05
Max. permissible finger length	[mm]	32	32	32
Max. permissible weight per finger	[kg]	0.06	0.06	0.06
IP protection class		40	40	40
Min./max. ambient temperature	[°C]	5/90	5/90	5/90
Repeat accuracy	[mm]	0.02	0.02	0.02
Dimensions X x Y x Z	[mm]	46 x 20 x 66	46 x 20 x 66	46 x 20 x 66



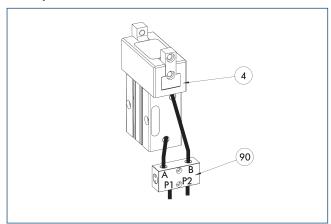
The drawing shows the gripper in the basic version with closed jaws, without dimensional consideration of the options described below.

- A Main connection open gripper
- B Main connection close gripper
- 1 Gripper connection
- 2 Finger connection
- 72 Fit for centering sleeves
- 80 Depth of the centering sleeve hole in the counter part
- 90 MMS-P programmable magnetic switch





 $L^{\text{max}}$  is equivalent to the maximum permitted finger length, see the technical data table.



4 Grippers

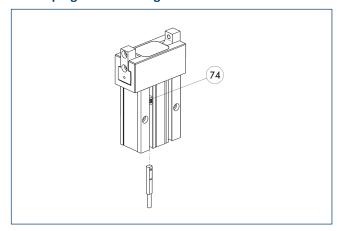
90 SDV-P pressure maintenance

The SDV-P pressure maintenance valve ensures in emergency STOP situations that the pressure in the piston chamber of pneumatic gripper, swivel, linear, and quick-change modules is temporarily maintained.

Description	ID	Recommended hose diameter	
		[mm]	
Pressure maintena	ance valve		
SDV-P 04	0403130	6	
Pressure maintenance valve with air bleed screw			
SDV-P 04-E	0300120	6	

① In order to achieve the specified closing and opening time for each gripper variant, the recommended hose diameter must be used. The direct allocation of the respective variant of the gripper for the respective SDV-P can be found at schunk.com.

#### MMS-P programmable magnetic switch

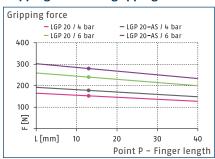


74) Limit stop for sensor

Position monitoring with two programmable positions per sensor. End position monitoring for mounting in the C-slot.

Description	ID	Often combined					
Programmable magnetic switch							
MMSK-P 22-S-PNP	0301371						
MMS-P 22-S-M8-PNP	0301370	•					
Connection cables							
KA GLN0804-LK-00500-A	0307767	•					
KA GLN0804-LK-01000-A	0307768						
KA WLN0804-LK-00500-A	0307765						
KA WLN0804-LK-01000-A	0307766						
Clip for connector/socket							
CLI-M8	0301463						
Sensor distributor	Sensor distributor						
V2-M8-4P-2XM8-3P	0301380						

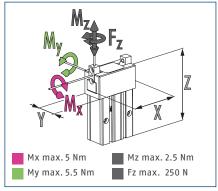




#### **Gripping force I.D. gripping**



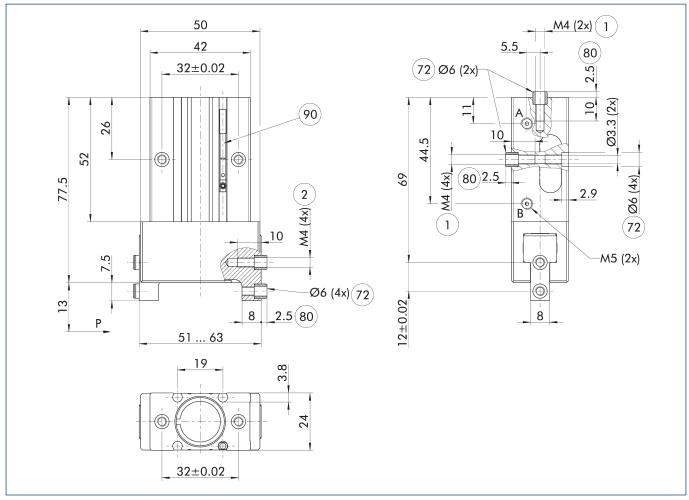
#### Max. loads



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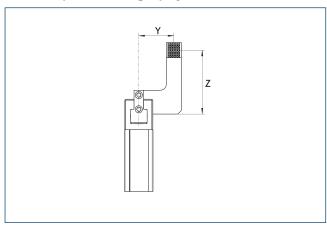
#### **Technical data**

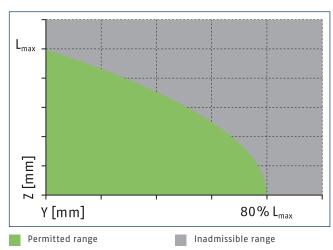
Description		LGP 20	LGP 20-AS	LGP 20-IS
ID		0312909	0312910	0312911
Stroke per jaw	[mm]	6	6	6
Closing/opening force	[N]	240/280	280/-	-/320
Min. spring force	[N]		40	40
Weight	[kg]	0.24	0.25	0.25
Recommended workpiece weight	[kg]	1.2	1.2	1.2
Cylinder volume per double stroke	[cm³]	13	13	13
Min./nom./max. operating pressure	[bar]	2/6/8	4/6/6.5	4/6/6.5
Closing/opening time	[s]	0.03/0.03	0.02/0.04	0.04/0.02
Closing/opening time with spring	[s]		0.08	0.08
Max. permissible finger length	[mm]	40	40	40
Max. permissible weight per finger	[kg]	0.09	0.09	0.09
IP protection class		40	40	40
Min./max. ambient temperature	[°C]	5/90	5/90	5/90
Repeat accuracy	[mm]	0.02	0.02	0.02
Dimensions X x Y x Z	[mm]	50 x 24 x 77.5	50 x 24 x 77.5	50 x 24 x 77.5



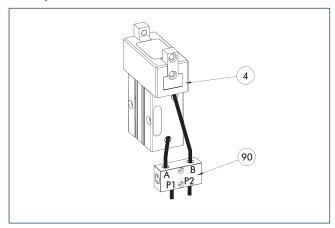
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- B Main connection close gripper
- 1 Gripper connection
- 2 Finger connection
- (72) Fit for centering sleeves
- 80 Depth of the centering sleeve hole in the counter part
- 90 MMS-P programmable magnetic switch





 $L^{\text{max}}$  is equivalent to the maximum permitted finger length, see the technical data table.



4 Grippers

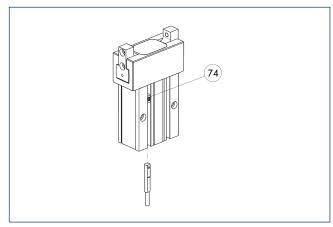
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The SDV-P pressure maintenance valve ensures in emergency STOP situations that the pressure in the piston chamber of pneumatic gripper, swivel, linear, and quick-change modules is temporarily maintained.

Description	ID	Recommended hose diameter	
		[mm]	
Pressure maintena	ance valve		
SDV-P 04	0403130	6	
Pressure maintenance valve with air bleed screw			
SDV-P 04-E	0300120	6	

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#### MMS-P programmable magnetic switch

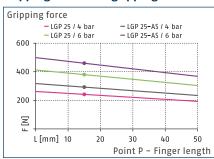


74) Limit stop for sensor

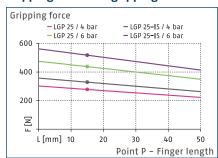
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Description	ID	Often combined					
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MMS-P 22-S-M8-PNP	0301370	•					
Connection cables							
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KA GLN0804-LK-01000-A	0307768						
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KA WLN0804-LK-01000-A	0307766						
Clip for connector/socket							
CLI-M8	0301463						
Sensor distributor	Sensor distributor						
V2-M8-4P-2XM8-3P	0301380						

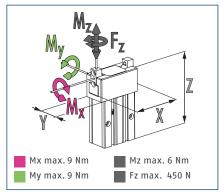




#### **Gripping force I.D. gripping**



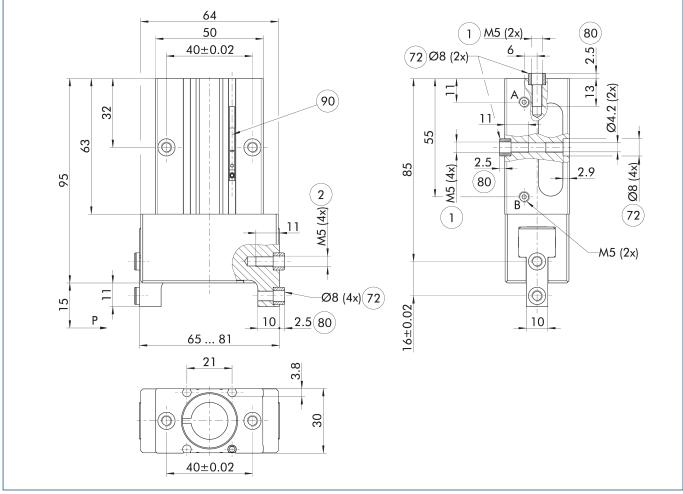
#### Max. loads



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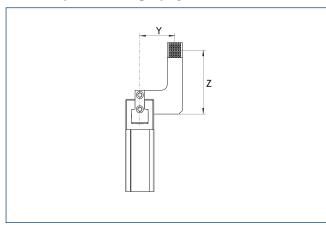
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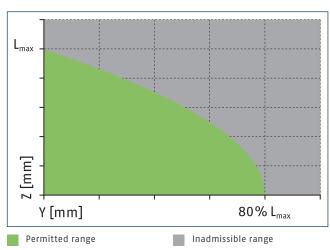
Description		LGP 25	LGP 25-AS	LGP 25-IS
ID		0312912	0312913	0312914
Stroke per jaw	[mm]	8	8	8
Closing/opening force	[N]	380/438	460/-	-/518
Min. spring force	[N]		80	80
Weight	[kg]	0.46	0.48	0.48
Recommended workpiece weight	[kg]	1.9	1.9	1.9
Cylinder volume per double stroke	[cm³]	27	27	27
Min./nom./max. operating pressure	[bar]	21618	4/6/6.5	4/6/6.5
Closing/opening time	[s]	0.05/0.05	0.04/0.07	0.07/0.04
Closing/opening time with spring	[s]		0.12	0.12
Max. permissible finger length	[mm]	50	50	50
Max. permissible weight per finger	[kg]	0.12	0.12	0.12
IP protection class		40	40	40
Min./max. ambient temperature	[°C]	5/90	5/90	5/90
Repeat accuracy	[mm]	0.02	0.02	0.02
Dimensions X x Y x Z	[mm]	64 x 30 x 95	64 x 30 x 95	64 x 30 x 95



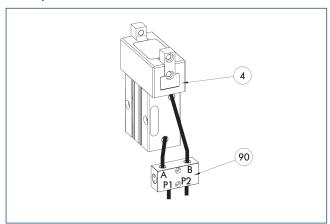
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- 1 Gripper connection
- 2 Finger connection
- (72) Fit for centering sleeves
- 80 Depth of the centering sleeve hole in the counter part
- 90 MMS-P programmable magnetic switch





 $L^{\text{max}}$  is equivalent to the maximum permitted finger length, see the technical data table.



4 Grippers

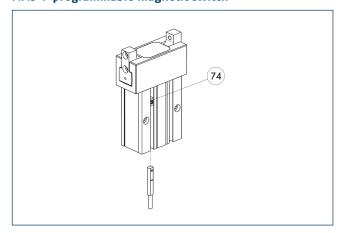
90 SDV-P pressure maintenance

The SDV-P pressure maintenance valve ensures in emergency STOP situations that the pressure in the piston chamber of pneumatic gripper, swivel, linear, and quick-change modules is temporarily maintained.

Description	ID	Recommended hose diameter	
		[mm]	
Pressure maintenance valve			
SDV-P 04	0403130	6	
Pressure maintenance valve with air bleed screw			
SDV-P 04-E	0300120	6	

① In order to achieve the specified closing and opening time for each gripper variant, the recommended hose diameter must be used. The direct allocation of the respective variant of the gripper for the respective SDV-P can be found at schunk.com.

#### MMS-P programmable magnetic switch

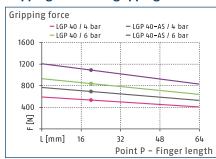


74) Limit stop for sensor

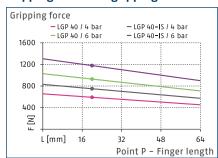
Position monitoring with two programmable positions per sensor. End position monitoring for mounting in the C-slot.

Description	ID	Often combined		
Programmable magnetic switch				
MMSK-P 22-S-PNP	0301371			
MMS-P 22-S-M8-PNP	0301370	•		
Connection cables				
KA GLN0804-LK-00500-A	0307767	•		
KA GLN0804-LK-01000-A	0307768			
KA WLN0804-LK-00500-A	0307765			
KA WLN0804-LK-01000-A	0307766			
Clip for connector/socket				
CLI-M8	0301463			
Sensor distributor				
V2-M8-4P-2XM8-3P	0301380			

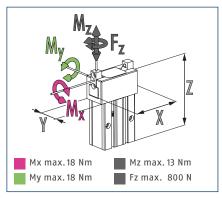




#### **Gripping force I.D. gripping**



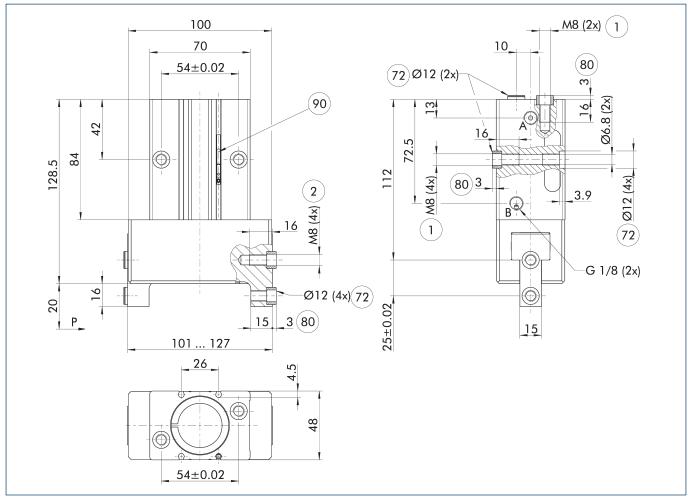
#### Max. loads



The indicated moments and forces are statical values, apply for each base jaw and may appear simultaneously. Loads may additionally occur to the moment produced by the gripping force itself.

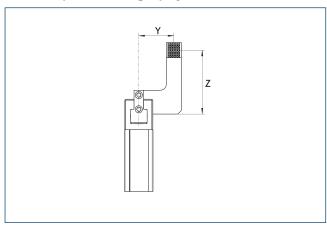
#### Technical data

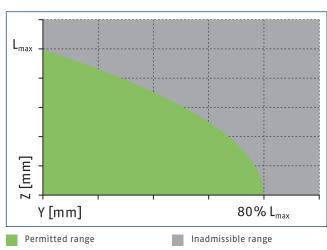
Description		LGP 40	LGP 40-AS	LGP 40-IS
ID		0312915	0312916	0312917
Stroke per jaw	[mm]	13	13	13
Closing/opening force	[N]	840/928	1090/-	-/1178
Min. spring force	[N]		250	250
Weight	[kg]	1.5	1.6	1.6
Recommended workpiece weight	[kg]	4.2	4.2	4.2
Cylinder volume per double stroke	[cm³]	89	89	89
Min./nom./max. operating pressure	[bar]	2/6/8	4/6/6.5	4/6/6.5
Closing/opening time	[s]	0.1/0.1	0.08/0.12	0.12/0.08
Closing/opening time with spring	[s]		0.20	0.20
Max. permissible finger length	[mm]	64	64	64
Max. permissible weight per finger	[kg]	0.3	0.3	0.3
IP protection class		40	40	40
Min./max. ambient temperature	[°C]	5/90	5/90	5/90
Repeat accuracy	[mm]	0.02	0.02	0.02
Dimensions X x Y x Z	[mm]	100 x 48 x 128.5	100 x 48 x 128.5	100 x 48 x 128.5



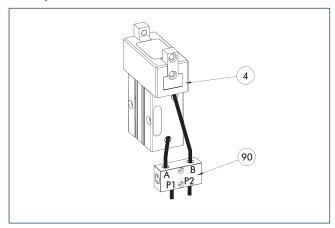
The drawing shows the gripper in the basic version with closed jaws, without dimensional consideration of the options described below.

- A Main connection open gripper
- B Main connection close gripper
- 1 Gripper connection
- 2 Finger connection
- (72) Fit for centering sleeves
- 80 Depth of the centering sleeve hole in the counter part
- 90 MMS-P programmable magnetic switch





 $L^{\text{max}}$  is equivalent to the maximum permitted finger length, see the technical data table.



4 Grippers

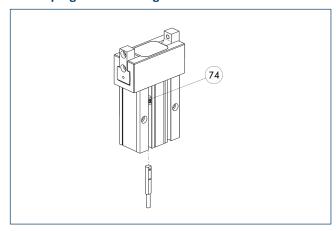
90 SDV-P pressure maintenance

The SDV-P pressure maintenance valve ensures in emergency STOP situations that the pressure in the piston chamber of pneumatic gripper, swivel, linear, and quick-change modules is temporarily maintained.

Description	ID	Recommended hose diameter	
		[mm]	
Pressure maintenan	ce valve		
SDV-P 04	0403130	6	
SDV-P 07	0403131	8	
Pressure maintenance valve with air bleed screw			
SDV-P 04-E	0300120	6	
SDV-P 07-E	0300121	8	

① In order to achieve the specified closing and opening time for each gripper variant, the recommended hose diameter must be used. The direct allocation of the respective variant of the gripper for the respective SDV-P can be found at schunk.com.

#### MMS-P programmable magnetic switch



74) Limit stop for sensor

Position monitoring with two programmable positions per sensor. End position monitoring for mounting in the C-slot.

Description	ID	Often combined		
Programmable magnetic switch				
MMSK-P 22-S-PNP	0301371			
MMS-P 22-S-M8-PNP	0301370	•		
Connection cables				
KA GLN0804-LK-00500-A	0307767	•		
KA GLN0804-LK-01000-A	0307768			
KA WLN0804-LK-00500-A	0307765			
KA WLN0804-LK-01000-A	0307766			
Clip for connector/socket				
CLI-M8	0301463			
Sensor distributor				
V2-M8-4P-2XM8-3P	0301380			



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