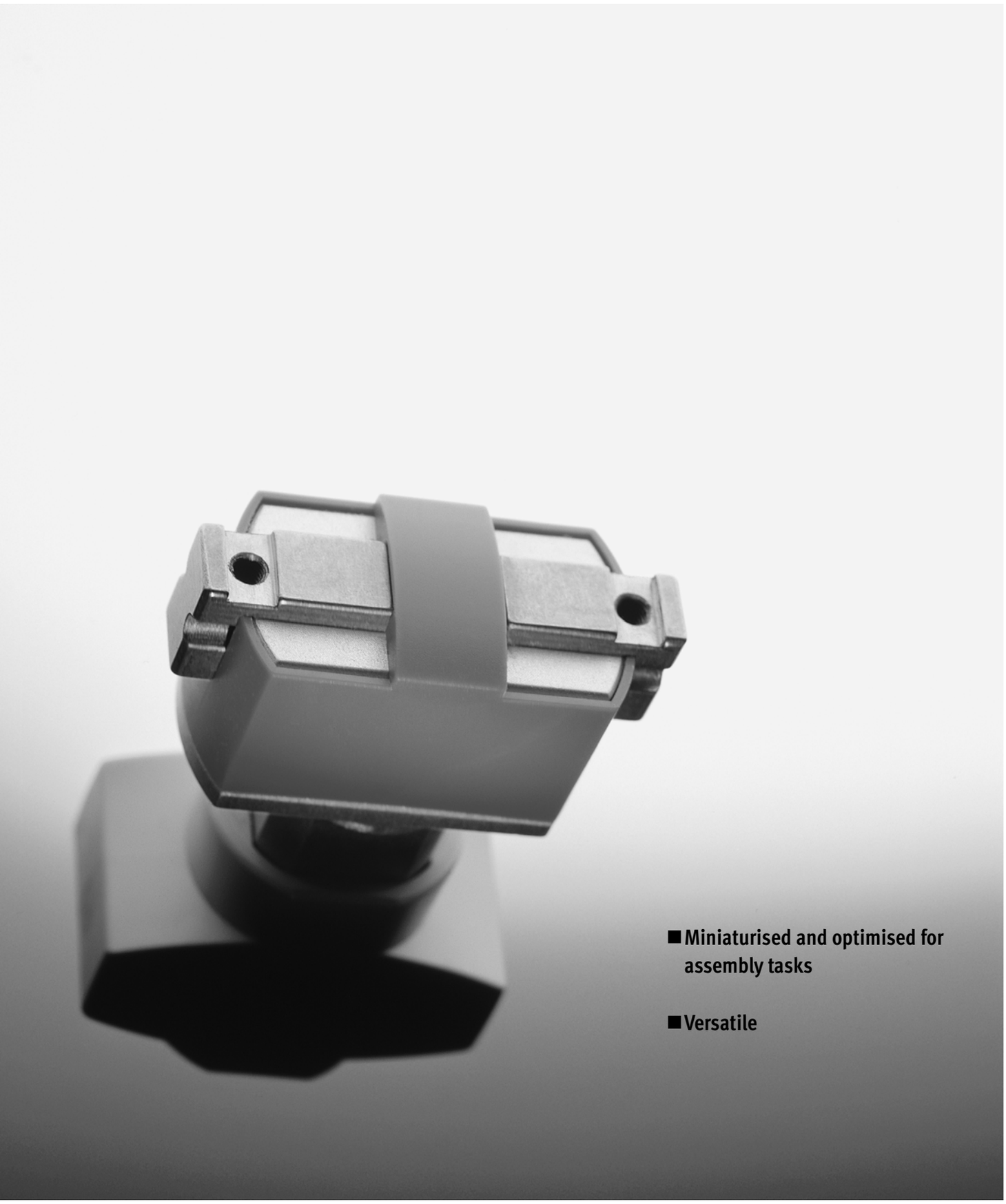
Micro grippers HGPM/HGWM

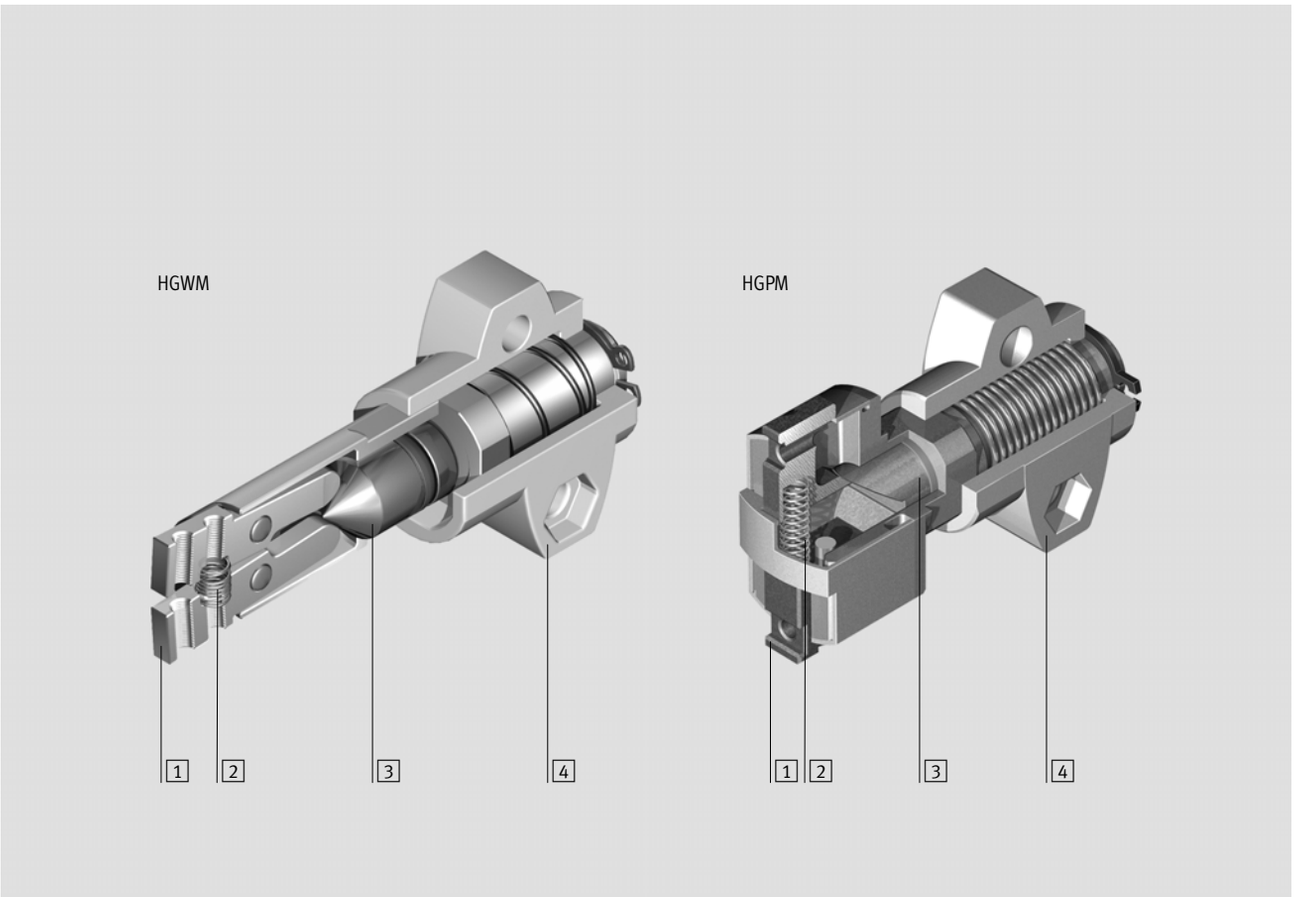
FESTO



- Miniaturised and optimised for assembly tasks
- Versatile

Micro grippers HGPM/HGWM

Key features



System product for handling and assembly technology

- Compact handy design.
- Versatile thanks to externally adaptable gripper fingers.
- Wide range of options for mounting on drive units.

1 Variable gripping action
- External gripping
- Internal gripping

2 Gripper jaws with compression spring
- Open gripper jaws
- Closed gripper jaws

3 Single-acting piston drive

4 Versatile mounting options:
- with stroke compensation
- with male thread
- with clamping spigot
- with flange mounting

Selection and calculation software
www.festo.com/en/engineering

Micro grippers HGPM/HGWM

Key features

Micro parallel gripper			Technical data ➔ 1 / 7.4-7
with open gripper jaws	with stroke compensation	with clamping spigot	with flange mounting
	HGPM-...-EO-G6	HGPM-...-EO-G8	HGPM-...-EO-G9
			
with closed gripper jaws			
	HGPM-...-EZ-G6	HGPM-...-EZ-G8	HGPM-...-EZ-G9
			

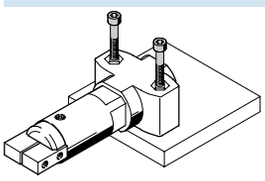
Micro angle gripper			Technical data ➔ 1 / 7.4-15
with open gripper jaws	with stroke compensation	with male thread	with clamping spigot
	HGWM-...-EO-G6	HGWM-...-EO-G7	HGWM-...-EO-G8
			
with closed gripper jaws			
	HGWM-...-EZ-G6	HGWM-...-EZ-G7	HGWM-...-EZ-G8
			

Micro grippers HGPM/HGWM

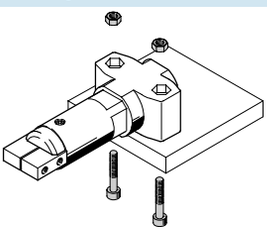
Key features

Mounting options

Via through-holes

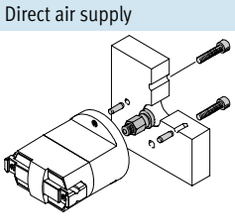


Via through-holes, screws and retaining nuts

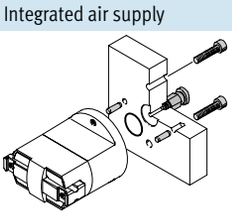


Via flange mounting, screws and dowel pins (for HGPM)

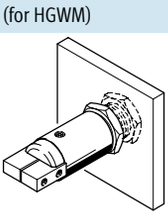
Direct air supply



Integrated air supply

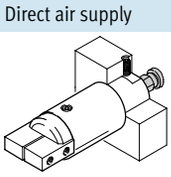


Via male thread and lock nut (for HGWM)

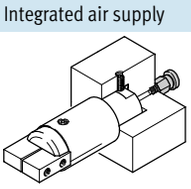


Via set screw

Direct air supply

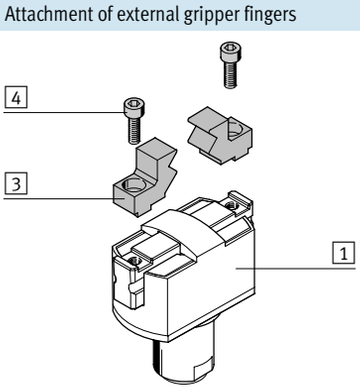


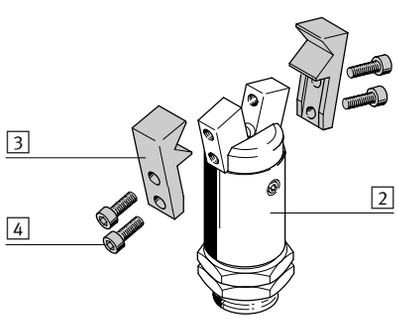
Integrated air supply



Range of applications (user-specific)

Attachment of external gripper fingers

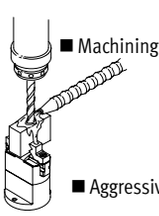




1 Micro parallel gripper HGPM
2 Micro angle gripper HGWM
3 External gripper fingers
4 Mounting screws

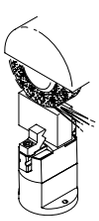
- Note

Micro grippers are not suitable for the following or similar applications:

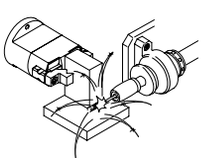


■ Machining

■ Aggressive media



■ Grinding dust



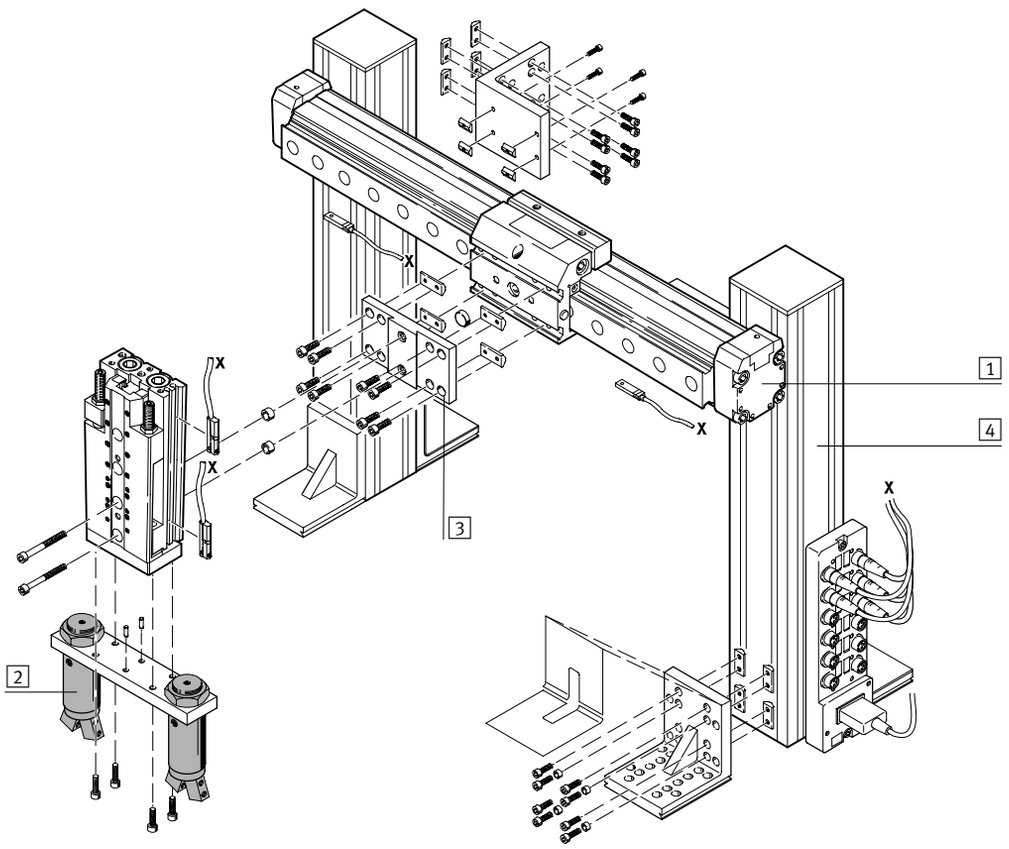
■ Welding spatter

Micro grippers HGPM/HGWM

System example

FESTO

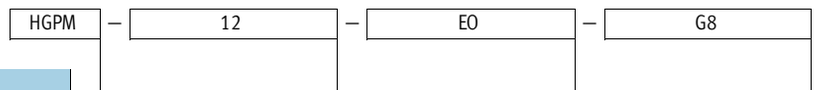
System product for handling and assembly technology



System elements and accessories			
		Brief description	**➔ Page**
1	Drive unit	Wide range of combination options within handling and assembly technology	Volume 1 www.festo.com Volume 1
2	Grippers	Wide range of variation options within handling and assembly technology	Volume 1 www.festo.com Volume 2
3	Adapter	For drive/drive and drive/gripper connections	Volume 5 www.festo.com Volume 2
4	Basic components	Profiles and profile connections as well as profile/drive connections	Volume 5 www.festo.com Volume 1
–	Installation components	For achieving a clear-cut, safe layout of electrical cables and tubing	Volume 5 www.festo.com Volume 1
–	Axes	Wide range of combination options within handling and assembly technology	Volume 5 www.festo.com Volume 1
–	Motors	Servo and stepper motors, with or without gearing	Volume 5 www.festo.com Volume 1

Micro grippers HGPM/HGWM

Type codes



Type	
HGPM	Micro parallel gripper
HGWM	Micro angle gripper

Piston ∅

Gripper jaw position	
EO	Open
EZ	Closed

Mounting options	
G6	With stroke compensation
G7	With male thread
G8	With clamping spigot
G9	With mounting flange

Micro parallel grippers HGPM

Technical data

FESTO

Function
Single-acting

- Ø - Piston ∅
  8 ... 12 mm
- ▮ - Stroke
  4 ... 6 mm

Variants
with open gripper jaws
HGPM-...-EO-G...

with closed gripper jaws
HGWM-...-EZ-G...

G6: with stroke compensation

G8: with clamping spigot

G9: with flange mounting

General technical data				
Piston ∅			8	12
Design			Wedge mechanism	
Mode of operation			Single-acting	
Gripper function			Parallel	
Number of gripper jaws			2	
Max. applied load per external gripper finger[1]		[N]	0.05	0.15
Resetting force[2]	Gripper jaws open	[N]	1.5	5
	Gripper jaws closed	[N]	2	6.5
Stroke per gripper jaw		[mm]	2	3
Pneumatic connection			M3	
Repetition accuracy[3] [4]		[mm]	< 0.05	
Max. interchangeability		[mm]	0.4	
Max. operating frequency		[Hz]	4	
Centring precision[4]		[mm]	< ∅ 0.15 (valid only for HGPM-...-G8 and HGPM-...-G9)	
Position sensing			No	
Type of mounting	HGPM-...-E...-G6		Via through-holes	
	HGPM-...-E...-G8		Clamped	
	HGPM-...-E...-G9		Via female thread and locating hole	

1) Valid for unthrottled operation.
2) Spring resetting force between the jaws.
3) End-position drift under constant conditions of use with 100 consecutive strokes in the direction of movement of the gripper jaws.
4) The indicated values are only valid when gripping with compressed air, not with spring force.

Operating and environmental conditions			
Piston ∅		8	12
Min. operating pressure	[bar]	4	
Max. operating pressure	[bar]	8	
Operating medium		Filtered compressed air, lubricated or unlubricated (grade of filtration 40µm)	
Ambient temperature	[°C]	+5 ... +60	
Corrosion resistance class CRC[1]		1	

1) Corrosion resistance class 1 according to Festo standard 940 070
Components requiring low corrosion resistance. Transport and storage protection. Parts that do not have primarily decorative surface requirements, e.g. in internal areas that are not visible or behind covers.

Weight [g]		
Piston ∅	8	12
With stroke compensation	19	62
With clamping spigot	11	41
With flange mounting	18	62

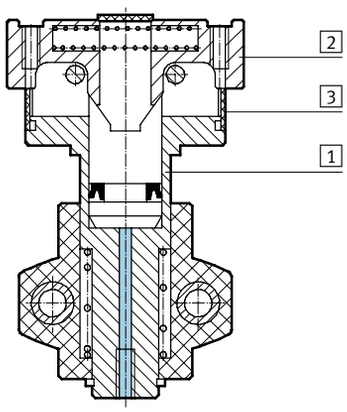
Micro parallel grippers HGPM

Technical data

FESTO

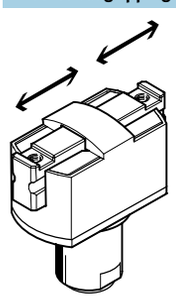
Materials

Sectional view



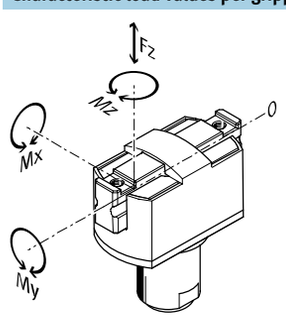
Gripper		
1	Housing	Anodised aluminium
2	Gripper jaw	Stainless steel
3	Cover cap	Polyacetate
–	Note on materials	Free of copper, PTFE and silicone

Theoretical gripping force [N] at 6 bar per gripper jaw



Piston ∅	8	12
Gripper jaws open	16.5	30
Gripper jaws closed	17	33

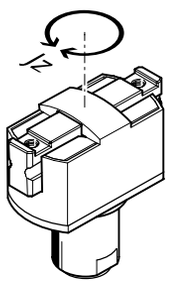
Characteristic load values per gripper jaw



The indicated permissible forces and torques refer to a single gripper jaw. The indicated values include the lever arm, additional applied loads caused by the workpiece or external gripper fingers, as well as forces which occur during movement.
The zero coordinate line (gripper finger guide slot) must be taken into consideration for the calculation of torques.

Piston ∅		8	12
Max. permissible force F_Z	[N]	10	30
Max. permissible torque M_X	[Nm]	0.15	0.5
Max. permissible torque M_Y	[Nm]	0.15	0.5
Max. permissible torque M_Z	[Nm]	0.15	0.5

Mass moment of inertia [kgm²x10⁻⁴]

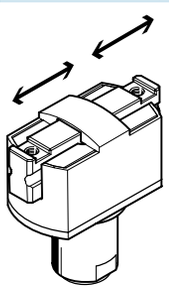


Mass moment of inertia [kgm^2x10^{-4}] for micro parallel grippers in relation to the central axis, without external gripper fingers, without load.

Piston ∅	8	12
With stroke compensation	0.00922	0.06674
With clamping spigot	0.00573	0.04252
With flange mounting	0.01712	0.07939

Opening and closing times [ms] at 6 bar

without external gripper fingers

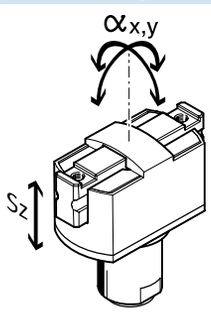


The indicated opening and closing times [ms] have been measured at room temperature and 6 bar operating pressure with vertically mounted gripper and without additional gripper fingers. Load is increased if external gripper fingers are attached. This means that kinetic energy is also increased, as this is determined by gripper finger weight and velocity. If permissible kinetic energy is exceeded, various parts of the gripper may be damaged. This occurs when the applied load reaches the end position and the cushioning is only able to partially convert the kinetic energy into potential energy and heat energy. It thus becomes apparent that the indicated max. permissible applied load due to the external gripper fingers must be checked and maintained.

Piston ∅		8	12
Gripper jaws open	Opening	4.9	11
	Closing	2.3	3.7
Gripper jaws closed	Opening	1.9	3
	Closing	4.1	8.3

Gripper jaw backlash

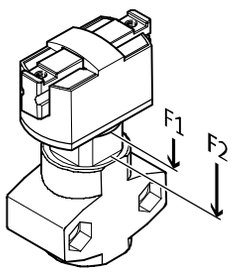
without external gripper fingers



With micro parallel grippers, backlash occurs between the gripper jaws and the guide element due to the plain-bearing guide. The backlash values listed in the table have been calculated based upon the traditional accumulative tolerance method and usually do not occur with mounted grippers.

Piston ∅		8	12
Gripper jaw backlash s_z	[mm]	< 0.03	
Gripper jaw angular backlash a_x, a_y	[°]	< 0.5	

Spring displacement forces [N]



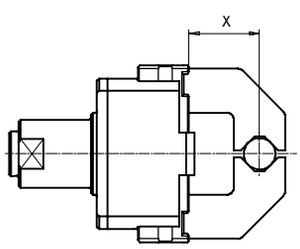
Theoretical actuating force due to stroke compensation for design variant with stroke compensation.

Piston ∅	8	12
Spring displacement forces F_1	4	10
Spring displacement forces F_2	6	23

Gripping force F_{Grip} per gripper jaw as a function of operating pressure and lever arm x

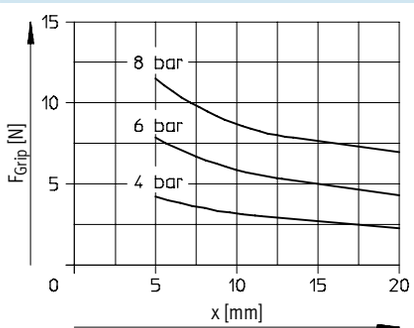
External and internal gripping (closing and opening)

Gripping forces related to operating pressure and lever arm can be determined for the various sizes using the following graphs.

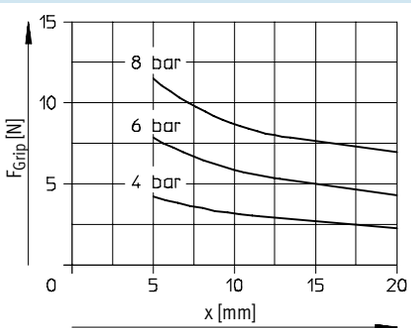


EO = External gripping (closing)
EZ = Internal gripping (opening)

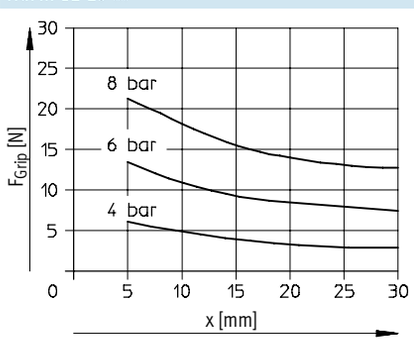
HGPM-08-EO-...



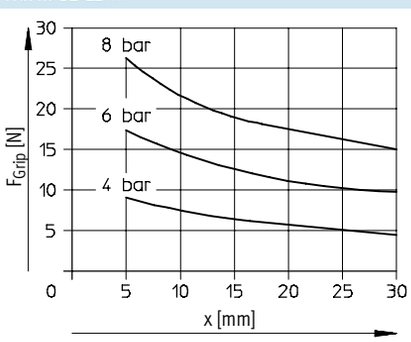
HGPM-08-EZ-...



HGPM-12-EO-...



HGPM-12-EZ-...

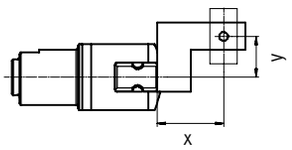


Micro parallel grippers HGPM

Technical data

Gripping force F_{Grip} per gripper jaw at 6 bar as a function of lever arm x and eccentricity y

External and internal gripping (closing and opening)



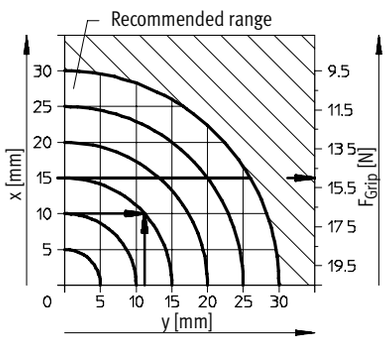
Gripping forces at 6 bar dependent upon eccentric application of force and the maximum permissible off-centre point of force application can be determined for the various sizes using the following graphs.

Calculation example

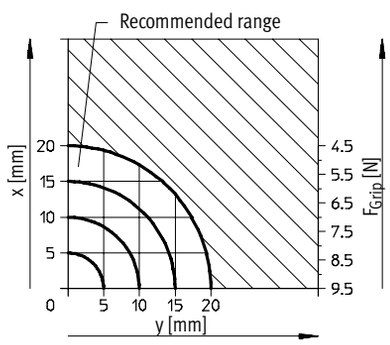
Given:
HGPM-12-EZ-...
Lever arm x = 10 mm
Eccentricity y = 11 mm
To be found:
Gripping force at 6 bar

Procedure:
- Determine the intersection xy between lever arm x and eccentricity y in the graph for HGPM-12-EZ
- Draw an arc (with centre at origin) through intersection xy
- Determine the intersection between the arc and the X axis
- Read the gripping force

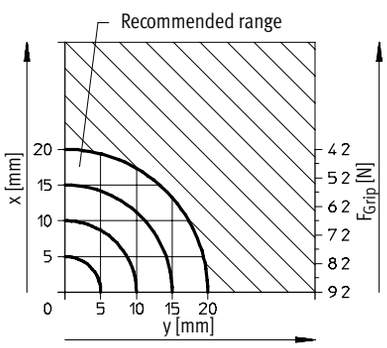
Result:
Gripping force = approx. 15 N



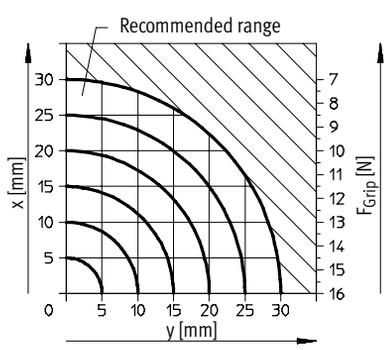
HGPM-08-EO-...



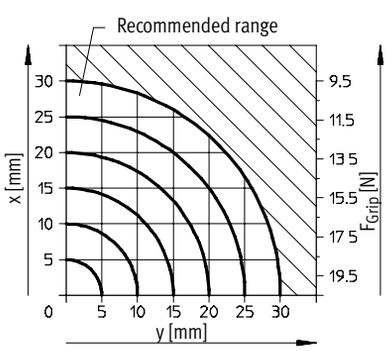
HGPM-08-EZ-...



HGPM-12-EO-...



HGPM-12-EZ-...

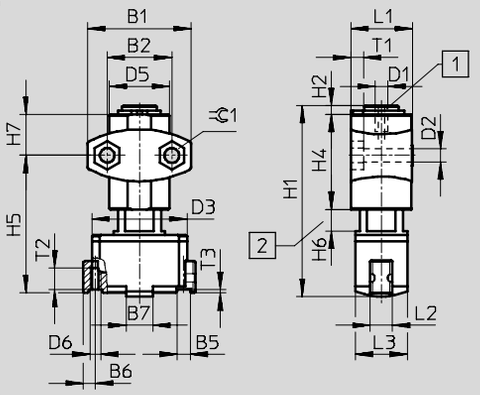


EO = External gripping (closing)
EZ = Internal gripping (opening)

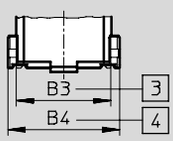
Dimensions

Download CAD data ➔ **www.festo.com/en/engineering**

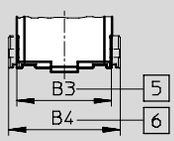
with stroke compensation – HGPM-...-E...-G6



HGPM-...-EO-G6

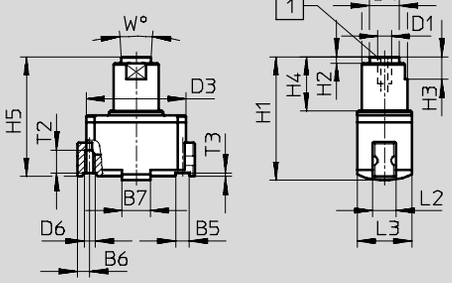


HGPM-...-EZ-G6

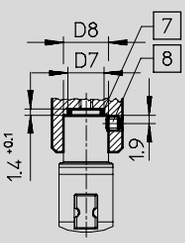


1 Compressed air connection
2 Stroke compensation
3 Closed
4 Open (initial position)
5 Closed (initial position)
6 Open

with clamping spigot – HGPM-...-E...-G8

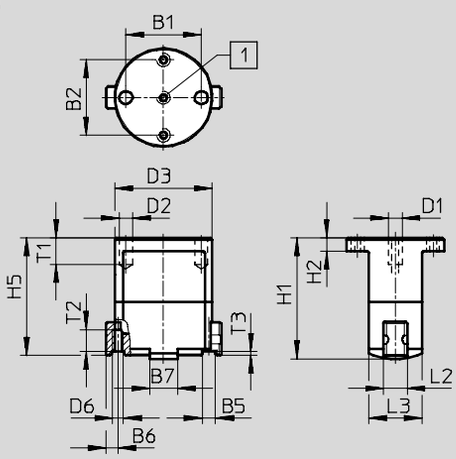


Installation example



1 Compressed air connection
7 O-ring:
HGPM-08: 6x1
HGPM-12: 10x1
(Not included in the scope of delivery)
8 Set screw M3x3 DIN 913
(Not included in scope of delivery)

with flange mounting – HGPM-...-E...-G9



1 Compressed air connection

Micro parallel grippers HGPM

Technical data

FESTO

Type	B1	B2	B3 ±0.3	B4 ±0.3	B5 +0.05/+0.02	B6 +0.19/–0.23	B7 ±0.1	D1	D2 ∅	D3 ∅
HGPM-08-EO-G6	24 ±0.1	15 ±0.25	22	26	3	2.75	6.2	M3	3.4 +0.2	22
HGPM-08-EZ-G6										
HGPM-12-EO-G6	35 ±0.1	24 ±0.25	33	39	4	4	9	M3	4.5 +0.2	33
HGPM-12-EZ-G6										
HGPM-08-EO-G8	–	–	22	26	3	2.75	6.2	M3	–	22
HGPM-08-EZ-G8										
HGPM-12-EO-G8	–	–	33	39	4	4	9	M3	–	33
HGPM-12-EZ-G8										
HGPM-08-EO-G9	17 ±0.02	17 ±0.1	22	26	3	2.75	6.2	M3	3 F8	22
HGPM-08-EZ-G9										
HGPM-12-EO-G9	27 ±0.02	27 ±0.1	33	39	4	4	9	M3	3 F8	33
HGPM-12-EZ-G9										

Type	D4 ∅ ±0.1	D5 ∅	D6	D7 ∅ +0.1	D8 ∅ +0.1	H1 ±0.3	H2	H3	H4	H5
HGPM-08-EO-G6	–	15 ±0.5	M2.5	–	–	44.2	2 +0.1/–0.3	–	22 –0.3	31.9 +0.8/–0.65
HGPM-08-EZ-G6										
HGPM-12-EO-G6	–	22 ±0.5	M3	–	–	63	3 +0.2/–0.3	–	29 –0.3	46.65 +0.8/–0.7
HGPM-12-EZ-G6										
HGPM-08-EO-G8	6.6	10 h8	M2.5	8	10	27.2	1.4 –0.1	5	12 ±0.1	26.4 +0.2/–0.25
HGPM-08-EZ-G8										
HGPM-12-EO-G8	10.6	15 h8	M3	12	15	41	1.4 –0.1	7 ±0.1	18 ±0.1	40.15 +0.2/–0.25
HGPM-12-EZ-G8										
HGPM-08-EO-G9	–	–	M2.5	–	–	27.2	3 ±0.2	–	–	26.4 +0.2/–0.25
HGPM-08-EZ-G9										
HGPM-12-EO-G9	–	–	M3	–	–	41	5 ±0.2	–	–	40.15 +0.2/–0.25
HGPM-12-EZ-G9										

Type	H6 +0.7/–0.2	H7 ±0.3	L1 +0.1/–0.3	L2 –0.1	L3 ±0.1	T1	T2[1]	T3	W	⫧1
HGPM-08-EO-G6	0 ... 5	9.5	14.3	5	12	3 –0.2	4	0.8	–	5.7
HGPM-08-EZ-G6										
HGPM-12-EO-G6	0 ... 8	12.5	20.35	7	18	4 –0.2	6	1	–	7.5
HGPM-12-EZ-G6										
HGPM-08-EO-G8	–	–	–	5	12	–	4	0.8	8°	–
HGPM-08-EZ-G8										
HGPM-12-EO-G8	–	–	–	7	18	–	6	1	8°	–
HGPM-12-EZ-G8										
HGPM-08-EO-G9	–	–	–	5	12	min. 6	4	0.8	–	–
HGPM-08-EZ-G9										
HGPM-12-EO-G9	–	–	–	7	18	min. 6	6	1	–	–
HGPM-12-EZ-G9										

1) Do not exceed max. thread screw-in depth.

Micro parallel grippers HGPM

Technical data and accessories

Ordering data								
Single-acting	Piston ∅	Mounting options						
		with stroke compensation		with clamping spigot		with mounting flange		
	[mm]	Part No.	Type	Part No.	Type	Part No.	Type	
Gripper jaws open	8	**197 559**	**HGPM-08-EO-G6**	**197 560**	**HGPM-08-EO-G8**	**197 561**	**HGPM-08-EO-G9**	
	12	**197 565**	**HGPM-12-EO-G6**	**197 566**	**HGPM-12-EO-G8**	**197 567**	**HGPM-12-EO-G9**	
Gripper jaws closed	8	**197 562**	**HGPM-08-EZ-G6**	**197 563**	**HGPM-08-EZ-G8**	**197 564**	**HGPM-08-EZ-G9**	
	12	**197 568**	**HGPM-12-EZ-G6**	**197 569**	**HGPM-12-EZ-G8**	**197 570**	**HGPM-12-EZ-G9**	

Ordering data – Accessories	
For micro parallel grippers with clamping spigot	
Adapter kits A08 and A12	
	In combination with semi-rotary drives DRQD-6 to 12 ➔ NO TAG ➔ www.festo.com ➔ NO TAG Adapter kits for drive/gripper connections ➔ Band 5 ➔ www.festo.com ➔ NO TAG

Micro angle grippers HGWM

Technical data

FESTO

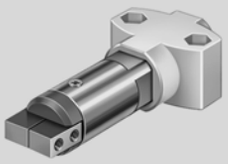
Function
Single-acting

- Ø - Piston ∅
8 ... 12 mm

Variants
with open gripper jaws
HGWM-...-EO-G...

with closed gripper jaws
HGWM-...-EZ-G...

G6: with stroke compensation



G7: with male thread

G8: with clamping spigot

General technical data					
Piston ∅				8	12
Design				Wedge mechanism	
Mode of operation				Single-acting	
Gripper function				Angled	
Number of gripper jaws				2	
Opening angle (±2°)	Gripper jaws open	Open	[°]	20	18.5
		Closed	[°]	4	3.5
	Gripper jaws closed	Open	[°]	14	14
		Closed	[°]	4	4
Spring resetting torque[1]	Gripper jaws open		[Ncm]	0.5	1.3
	Gripper jaws closed		[Ncm]	0.55	1.5
Pneumatic connection				M3	
Repetition accuracy[2) 3)]			[mm]	< 0.02	
Max. operating frequency			[Hz]	4	
Position sensing				No	
Type of mounting	HGWM-...-E...-G6			Via female thread	
	HGWM-...-E...-G7			Via lock nut	
	HGWM-...-E...-G8			Clamped	

1) Spring resetting force between the gripper jaws.
2) End-position drift under constant conditions of use with 100 consecutive strokes in the direction of movement of the gripper jaws.
3) The indicated values are only valid when gripping with compressed air, not with spring force.

Operating and environmental conditions			
Piston ∅		8	12
Min. operating pressure	[bar]	2	
Max. operating pressure	[bar]	8	
Operating medium		Filtered compressed air, lubricated or unlubricated (grade of filtration 40µm)	
Ambient temperature	[°C]	+5 ... +60	
Corrosion resistance class CRC[1)]		2	

1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Weight [g]		
Piston ∅	8	12
With stroke compensation	23	75
With male thread	14	52
With clamping spigot	13	45

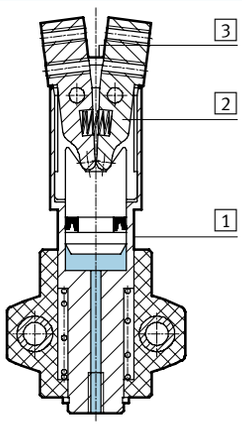
Micro angle grippers HGWM

Technical data

FESTO

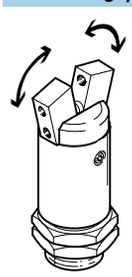
Materials

Sectional view



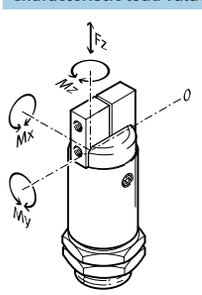
Gripper		
1	Housing	Stainless steel
2	Gripper jaw	Stainless steel
3	Cover cap	Polyacetate
–	Note on materials	Free of copper, PTFE and silicone

Theoretical gripping torque [Ncm] at 6 bar per gripper jaw



Piston ∅	8	12
Gripper jaws open	11	32
Gripper jaws closed	12	38

Characteristic load values at the gripper jaws



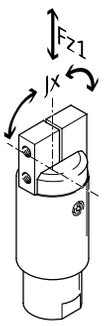
The indicated permissible forces and torques refer to a single gripper jaw. Static forces and torques relate to additional applied loads caused by the workpiece or external gripper fingers, as well as forces which occur during handling. The zero co-ordinate line (gripper jaws point of rotation) must be taken into consideration for the calculation of torques.

Piston ∅		8	12
Max. permissible force F_Z	[N]	7	20
Max. permissible torque M_X	[Ncm]	20	40
Max. permissible torque M_Y	[Ncm]	20	40
Max. permissible torque M_Z	[Ncm]	20	40

Micro angle grippers HGWM

Technical data

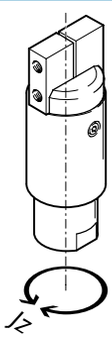
Applied load [N] and mass moment of inertia [kgm²x10⁻⁴] per external gripper finger



Piston ∅	8	12
Applied load Fz_1 [1]	< 0.04	< 0.1
Mass moment of inertia Jx [1]	< 0.025	< 0.056

1) Valid for unthrottled operation.

Mass moment of inertia [kgm²x10⁻⁴]

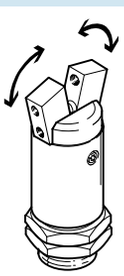


Mass moment of inertia [kgm²x10⁻⁴] for micro angle grippers in relation to the central axis without external gripper fingers.

Piston ∅	8	12
With stroke compensation	0.00705	0.0421
With male thread	0.00315	0.0267
With clamping spigot	0.00252	0.02154

Opening and closing times [ms] at 6 bar

without external gripper fingers

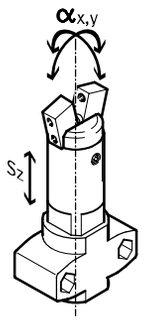


The indicated opening and closing times [ms] have been measured at room temperature and 6 bar operating pressure with vertically mounted gripper and without additional gripper fingers. Load is increased if external gripper fingers are attached. This means that kinetic energy is also increased, as this is determined by gripper finger mass moment of inertia and angular velocity.

Piston ∅		8	12
Gripper jaws open	Opening	2.7	3.7
	Closing	1.2	1.8
Gripper jaws closed	Opening	1	1.7
	Closing	2.5	2.8

Gripper jaw backlash

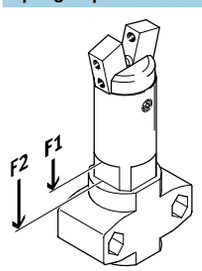
without external gripper fingers



With micro angle grippers, backlash occurs between the gripper jaws and the guide element due to the plain-bearing guide. The backlash values listed in the table have been calculated based upon the traditional accumulative tolerance method and usually do not occur with mounted grippers.

Piston ∅		8	12
Gripper jaw backlash s_z	[mm]	< 0.03	
Gripper jaw angular backlash a_x, a_y	[°]	< 0.5	

Spring displacement forces [N]



Theoretical actuating force due to stroke compensation for design variant with stroke compensation.

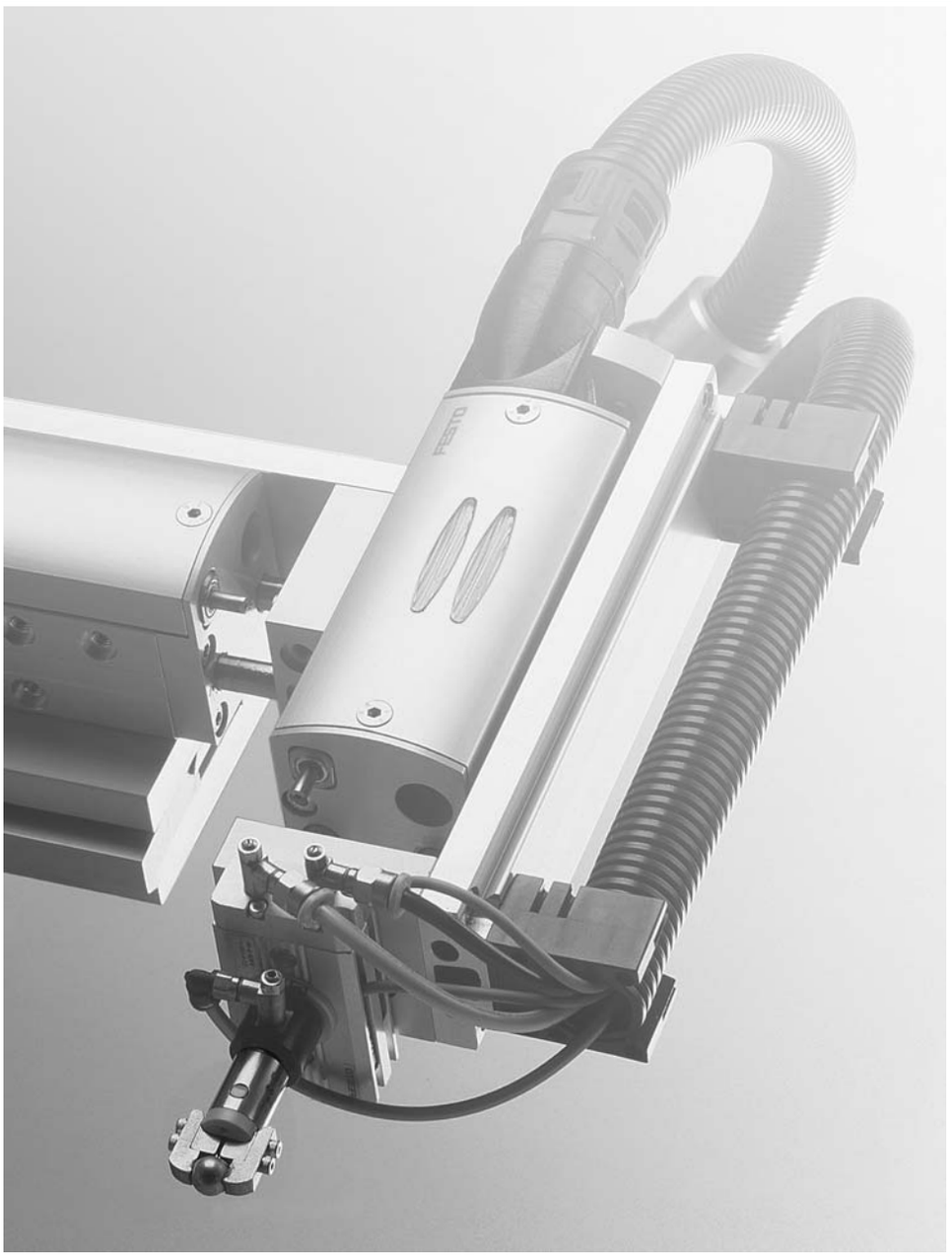
Piston ∅	8	12
Spring displacement forces F_1	4	10
Spring displacement forces F_2	6	23

Micro angle grippers HGWM

Technical data

FESTO

Application example



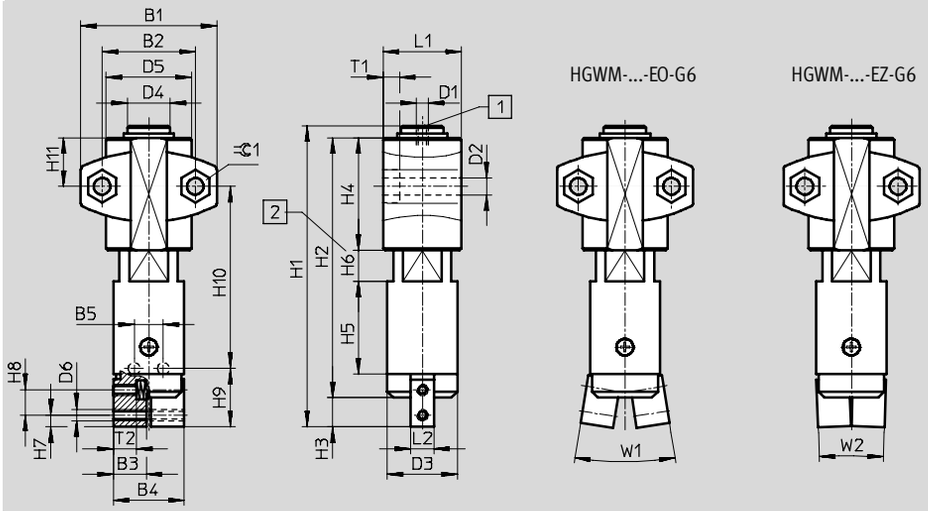
Micro angle grippers HGWM

Technical data

FESTO

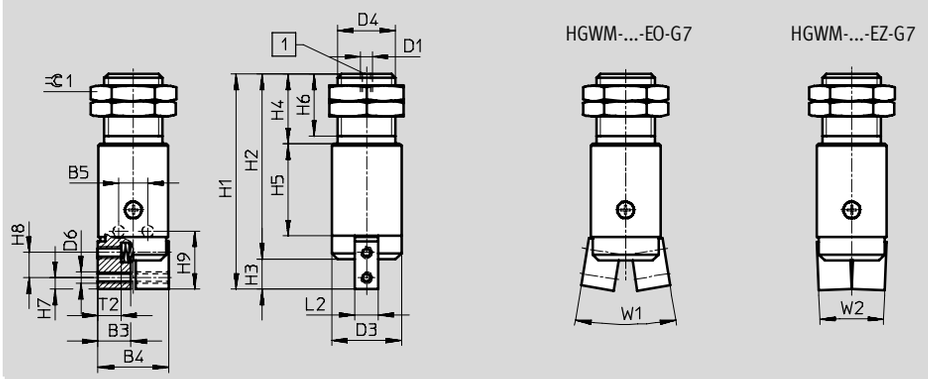
Dimensions Download CAD data ➔ **www.festo.com/en/engineering**

with stroke compensation – HGWM-...-E...-G6



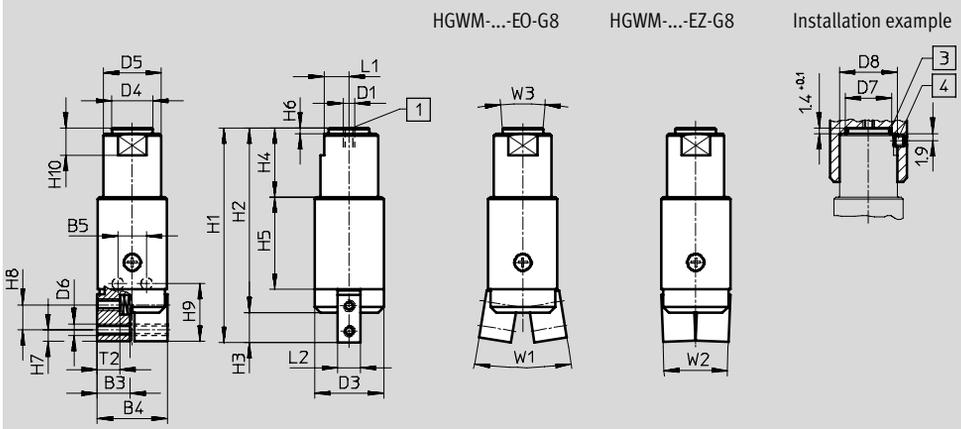
1 Compressed air connection
2 Stroke compensation

with male thread – HGWM-...-E...-G7



1 Compressed air connection

with clamping spigot – HGWM-...-E...-G8



1 Compressed air connection
3 O-ring:
HGWM-08: 6x1
HGWM-12: 10x1
(Not included in the scope of delivery)
4 Set screw M3x3 DIN 913
(Not included in the scope of delivery)

Micro angle grippers HGWM

Technical data

FESTO

Type	B1 ±0.1	B2 ±0.25	B3	B4 ±0.3	B5	D1	D2 ∅ +0.1	D3 ∅ +0.1	D4 ∅	D5 ∅	D6
HGWM-08-EO-G6	24	15	5.5	11.8	5 ±0.02	M3	3.4	12	8 –0.02/–0.05	15 ±0.5	M2
HGWM-08-EZ-G6											
HGWM-12-EO-G6	35	24	8.5	18.2	7.5 –0.05	M3	4.5	18	11 –0.02/–0.05	22 ±0.5	M3
HGWM-12-EZ-G6											
HGWM-08-EO-G7	–	–	5.5	11.8	5 ±0.02	M3	–	12	M10x1	–	M2
HGWM-08-EZ-G7											
HGWM-12-EO-G7	–	–	8.5	18.2	7.5 –0.05	M3	–	18	M15x1.5	–	M3
HGWM-12-EZ-G7											
HGWM-08-EO-G8	–	–	5.5	11.8	5 ±0.02	M3	–	12	6.6 –0.03	10 h8	M2
HGWM-08-EZ-G8											
HGWM-12-EO-G8	–	–	8.5	18.2	7.5 –0.05	M3	–	18	10.6 –0.03	15 h8	M3
HGWM-12-EZ-G8											

Type	D7 ∅ +0.1	D8 +0.1	H1 +0.25	H2	H3	H4	H5 +0.1	H6	H7	H8	H9 +0.1
HGWM-08-EO-G6	–	–	54	47 ±0.3	5 ±0.2	22–0.3	16	0 ... 5 +0.6/–0.3	2	4.3	10
HGWM-08-EZ-G6											
HGWM-12-EO-G6	–	–	77.5	67 ±0.3	7.5	29–0.3	24	0 ... 8 +0.6/–0.3	3	6.5	15
HGWM-12-EZ-G6											
HGWM-08-EO-G7	–	–	37	32 +0.3/–0.2	5 ±0.2	12	16	11	2	4.3	10
HGWM-08-EZ-G7											
HGWM-12-EO-G7	–	–	55.5	48 +0.3/–0.2	7.5	18	24	16	3	6.5	15
HGWM-12-EZ-G7											
HGWM-08-EO-G8	8	10	37	32 +0.3/–0.2	5 ±0.2	12	16	1.4 –0.1	2	4.3	10
HGWM-08-EZ-G8											
HGWM-12-EO-G8	12	15	55.5	48 +0.3/–0.2	7.5	18	24	1.4 –0.1	3	6.5	15
HGWM-12-EZ-G8											

Type	H10	H11 ±0.3	L1	L2 –0.02	T1 –0.2	T2[1)]	W1 ±2°	W2 ±2°	W3 ±2°	⫧1
HGWM-08-EO-G6	32.4 ±0.6	9.5	14.2 –0.2	4	3	3.4 ±0.2	20°	4°	–	5.7
HGWM-08-EZ-G6						–	14°			
HGWM-12-EO-G6	47 ±0.6	12.5	20.2 –0.2	6	4	5.9	18.5°	3.5°	–	7.5
HGWM-12-EZ-G6						–	14°	4°		
HGWM-08-EO-G7	–	–	–	4	–	3.4 ±0.2	20°	4°	–	12
HGWM-08-EZ-G7						–	14°			
HGWM-12-EO-G7	–	–	–	6	–	5.9	18.5°	3.5°	–	19
HGWM-12-EZ-G7						–	14°	4°		
HGWM-08-EO-G8	5	–	4.5 –0.05	4	–	3.4 ±0.2	20°	4°	8°	–
HGWM-08-EZ-G8						–	14°			
HGWM-12-EO-G8	7	–	6.5 –0.05	6	–	5.9	18.5°	3.5°	8°	–
HGWM-12-EZ-G8						–	14°	4°		

1) Do not exceed max. thread screw-in depth.

Micro angle grippers HGWM

Technical data and accessories

Ordering data								
Single-acting	Piston ∅	Mounting options						
		with stroke compensation		with male thread		with clamping spigot		
	[mm]	Part No.	Type	Part No.	Type	Part No.	Type	
Gripper jaws open	8	**185 693**	**HGWM-08-EO-G6**	**185 694**	**HGWM-08-EO-G7**	**185 695**	**HGWM-08-EO-G8**	
	12	**185 699**	**HGWM-12-EO-G6**	**185 700**	**HGWM-12-EO-G7**	**185 701**	**HGWM-12-EO-G8**	
Gripper jaws closed	8	**185 696**	**HGWM-08-EZ-G6**	**185 697**	**HGWM-08-EZ-G7**	**185 698**	**HGWM-08-EZ-G8**	
	12	**185 702**	**HGWM-12-EZ-G6**	**185 703**	**HGWM-12-EZ-G7**	**185 704**	**HGWM-12-EZ-G8**	

Ordering data – Accessories	
For micro angle grippers with clamping spigot	
Adapter kits A08 and A12	
	In combination with semi-rotary drives DRQD-6 to 12 ➔ NO TAG ➔ www.festo.com ➔ NO TAG Adapter kits for drive/gripper connections ➔ Volume 5 ➔ www.festo.com ➔ NO TAG