

Gripper modules GM

GMQ 12 - GMQ 32

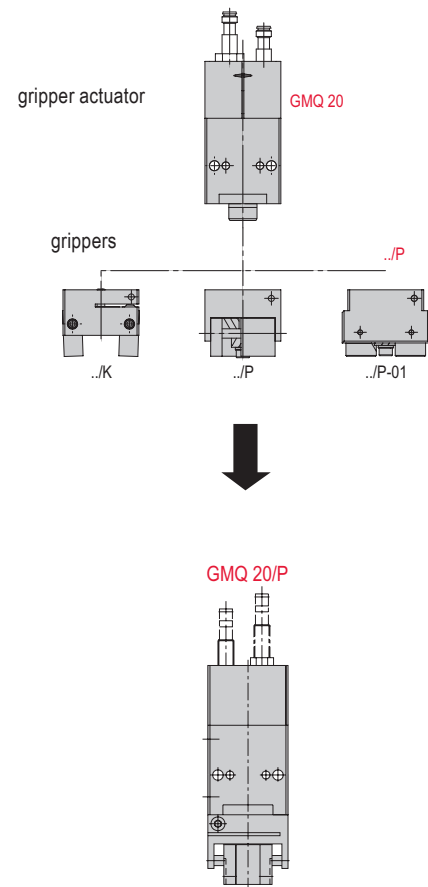


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GMQ 20/P	Gripping rotary module	Possible specifications
GM	gripper actuator	GM
Q	can be acknowledged	Q
20	piston diameter gripper actuator	12
		20
		32
P	gripper	../K
		../P
		../P-01

The Afag gripper modules consist of a gripper actuator and a gripper. There are one gripper actuator and three gripper variants, and these can be combined with each other. The grippers can be rotated and fixed axially to the gripper actuator in any desired position. Maximum flexibility and application diversity are therefore guaranteed. All GMQ gripper actuators can be operated with shock absorbers and stop screws.

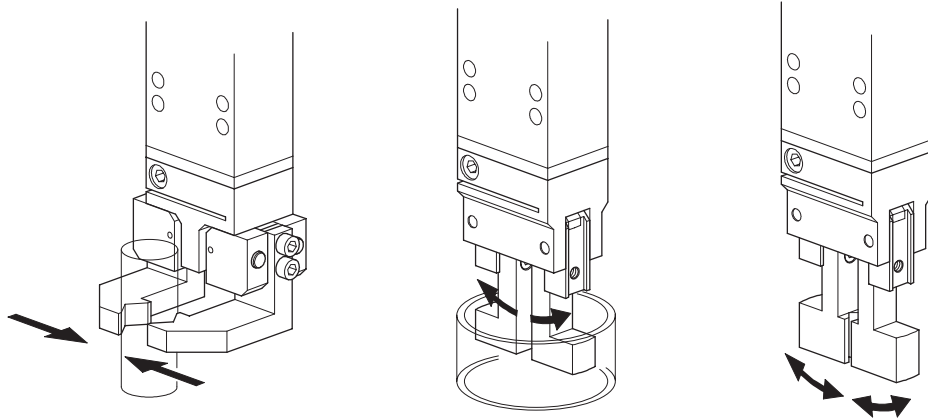


Afag gripper module gripping options:

All Afag gripper modules are designed for external and internal clamping, as well as single and double-action operation.

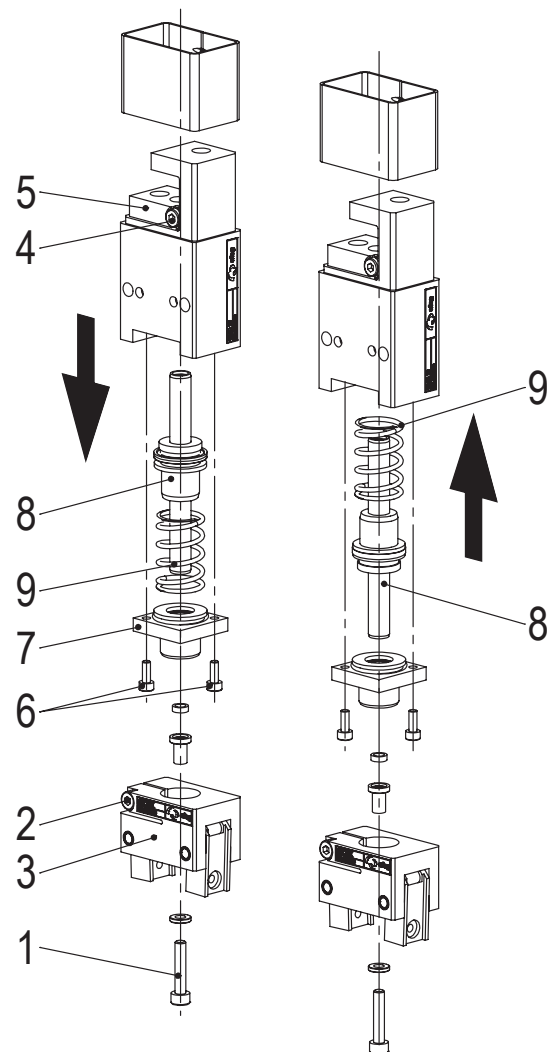
An integrated spring provides gripping force securing when in a depressurised state. All gripper modules are supplied ex works with external clamping and gripping force securing (closed pressure-free). If required, each gripper can be easily modified for another function within just one minute. For this, no additional components are required.

5



Conversion to internal clamping:

- Loosen screw (1+2)
- Remove gripper (3)
- Loosen screw (4+6)
- Remove guide pin (7)
- Pull out piston (8) with spring (9)
- Remove stroke stop (5) (only for GMQ)
- Reapply piston (8) with spring, (9) reversed
- Assemble module in reverse order
- Carry out functional check



For more information visit:
www.afag.com
 Operating manual GMQ

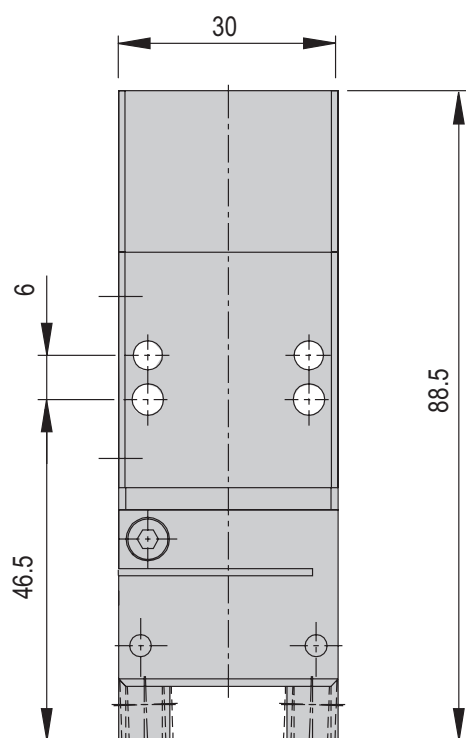
Gripper modules GM

GMQ 12

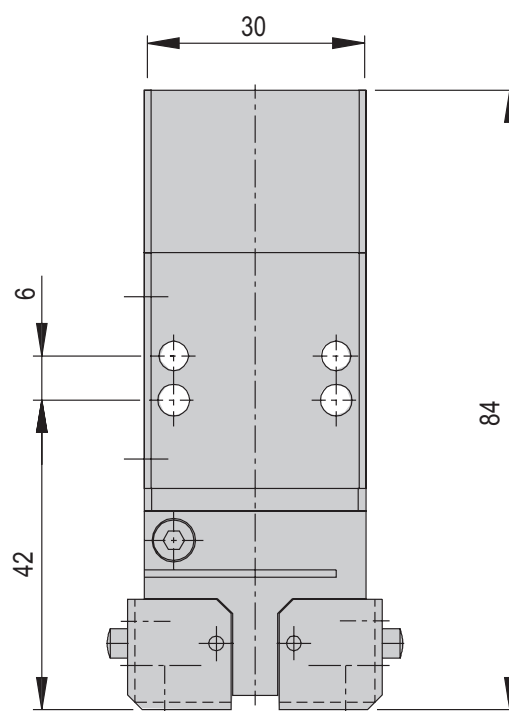
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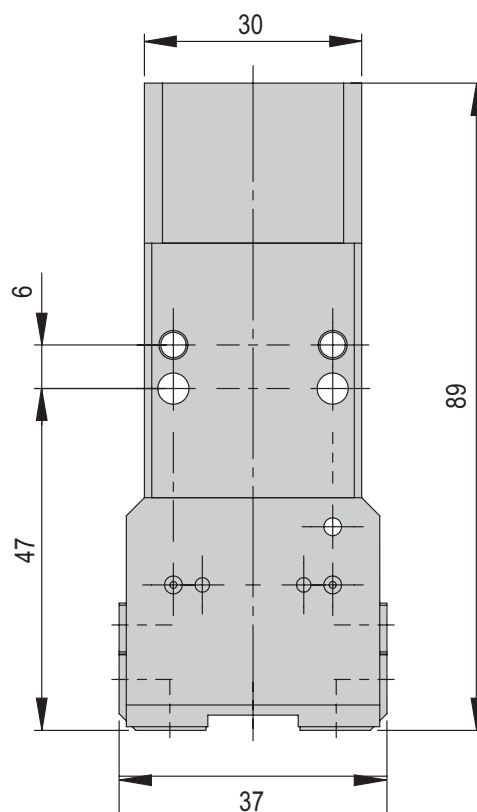
- Drive combinable with different grippers
- Gripping force securing
- Parallel and swivelling grippers



GMQ 12/K



GMQ 12/P



GMQ 12/P-01



GMQ 12	
Attachment grid	22 mm
Operating pressure	6 +/- 2 bar
Air connection P	M5
Cylinder Ø	12 mm
Operating temperature	0 - 50 °C
Storage temperature	0 - 50 °C

Type	GMQ 12/K	GMQ 12/P	GMQ 12/P-01
Order number	11010496	11010495	50000797
Net weight	0.157 kg	0.21 kg	0.26 kg
Max. admissible weight per gripper finger	40 g	50 g	50 g
Air consumption/cycle	0.005 NL	0.005 NL	0.005 NL
Gripping time	* 0.1 s	* 0.08 s	* 0.08 s
Gripping force	* 14 N	* 15 N	* 15 N
Spring force	15-31 N	15-31 N	15-31 N
Opening angle	176 °	-	-
Opening stroke	-	8 mm	9 mm
Repeat accuracy	+/- 0.02 mm	+/- 0.02 mm	+/- 0.02 mm
Mounting position	↕	↕	↕

The technical data refer to a nominal pressure of 6 bar under Afag standard test conditions.
The module can be operated with lubricated or dry air.
Cleanroom class ISO 14644-1, class ISO 7

*Observe gripping force diagrams
- Measurements for slowly closing fingers
- All module measurements carried out via outer clamping.

Included in the delivery (Catalogue HT accessories)

- 2x Centering pin Ø4x6
- 4x Mounting screw M4x30
- 2x Washer M4


Accessories (Catalogue HT accessories)

- Stop screw AS 08/15
- Adjusting stop pin M8x1/25
- Shock absorber SD M8x1 -2
- INI d6.5x35-Sn1.5-PNP-NO-M8x1
- INI d6.5x44-Sn1.5-PNP-NO-M8x1

←

→

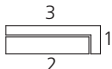
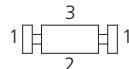

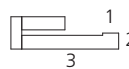


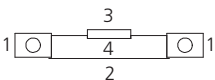
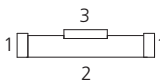


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CS 12	1,3	VP 109	1
CS 16	1,3	VP 109	1
LM 12	1 3	VW 304 < direct >	1 1
LM 16	1 3	VW 304 < direct >	1 1
LM 20	1,3	VP 128	1
HM 10	1	VP 109	1
CR 16	3	VP 109	1
RM 12	3	VF 400	1
RM 16	3	VF 401	1
ES12	1,3	VP 109	1
SA-1	1,2	VP 102	2
SA-3	1,2	VP 109	1
RE-50	3	VP 109	1
SREH-50	3	VP 109	1



↑

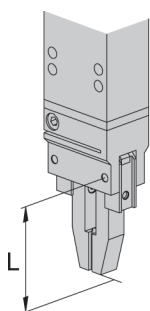
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Mounting areas

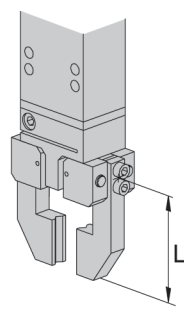
CS, ES	LM	HM	SA	UG, GM, SG, DG, PG, GE, SGE
				
PMP, PMP-c	PEZ, PDZ	PEL, PDL	RM, RE	CR, RM 32, RE, SREH, RA
				

Note that there might be different mounting positions from one module to another one.

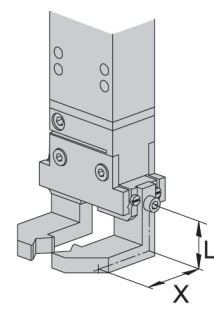
The required connection elements and the range of support columns are depicted in the catalogue HT accessories.



Finger length centric
GMQ / 12/K



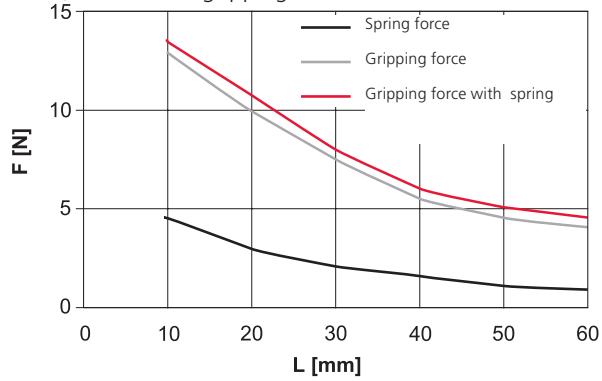
Finger length centric
GMQ / 12/P
GMQ / 12/P-01



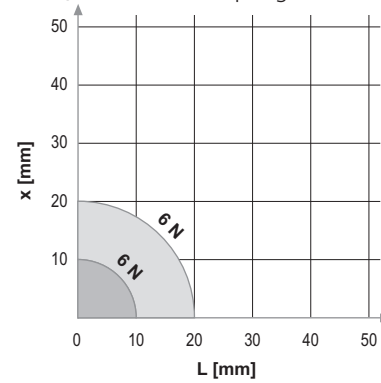
Finger length eccentric
GMQ / 12/P
GMQ / 12/P-01

Gripping force diagrams per jaw

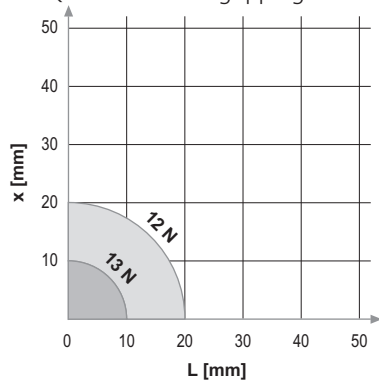
GMQ 12/K centric gripping force



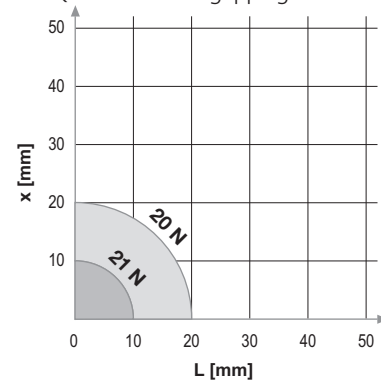
GMQ 12/P eccentric spring force



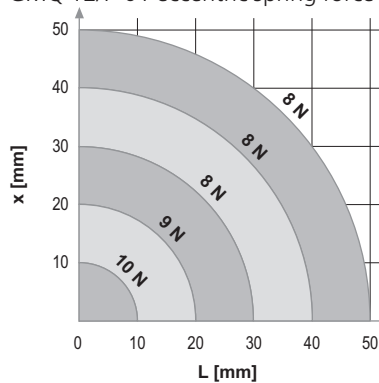
GMQ 12/P eccentric gripping force



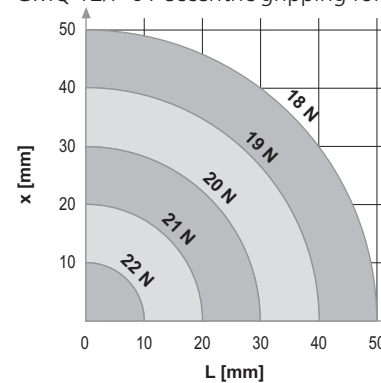
GMQ 12/P eccentric gripping force with gripping force securing



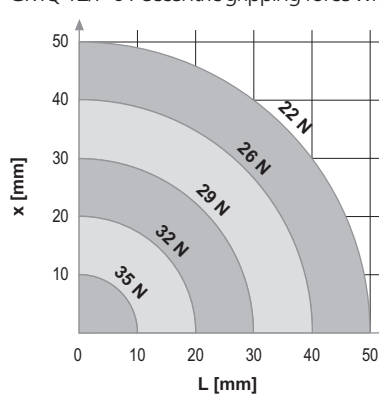
GMQ 12/P-01 eccentric spring force



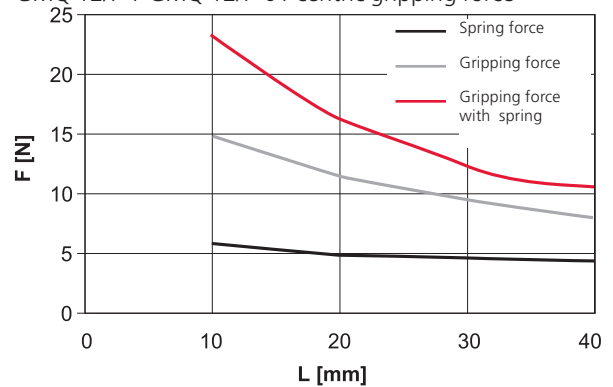
GMQ 12/P-01 eccentric gripping force



GMQ 12/P-01 eccentric gripping force with gripping force securing



GMQ 12/P + GMQ 12/P-01 centric gripping force



Gripper actuator GMQ 12

Order number

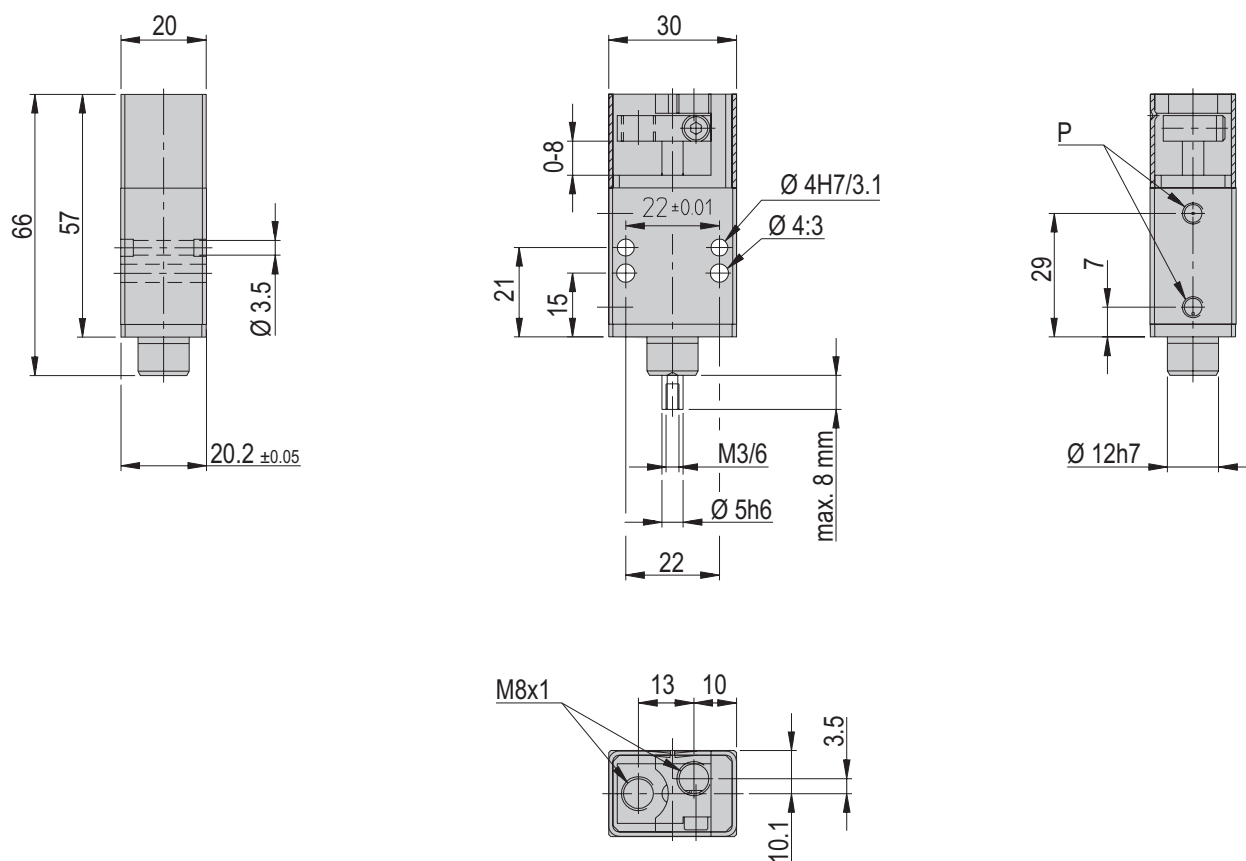
11009173

Net weight

0.104 kg

P

M5



Included in the delivery (Catalogue HT accessories)

- 2x Centering pin $\varnothing 4 \times 6$
- 4x Mounting screw M4x30
- 2x Washer M4

Accessories

(Catalogue HT accessories)

- Stop screw AS 08/15
- Adjusting stop pin M8x1/25
- Shock absorber SD M8x1 -2
- INI d6.5x35-Sn1.5-PNP-NO-M8x1
- INI d6.5x44-Sn1.5-PNP-NO-M8x1

Gripper GM 12/K

Order number

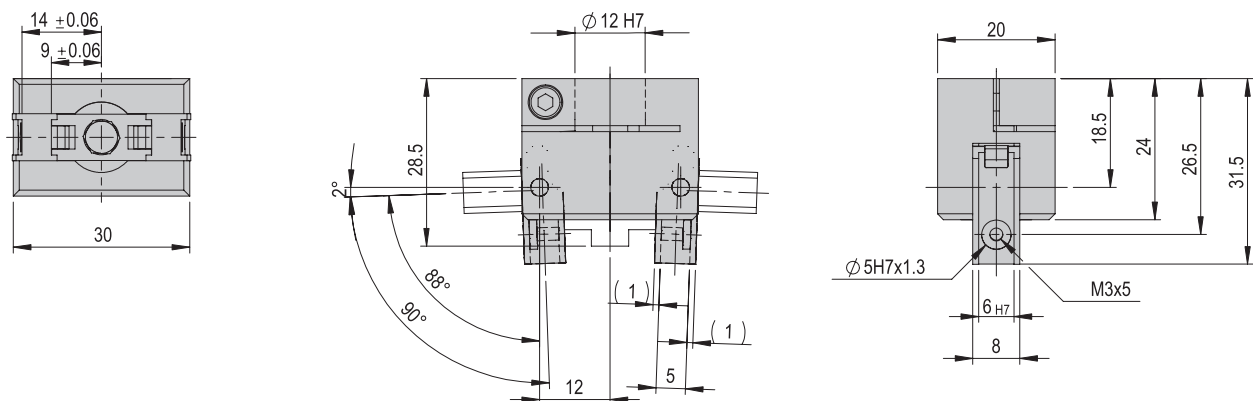
11002278

Net weight

0.044 kg

Opening angle

176 °



Note: It must be ensured that the jaw movement is carried out without impact or bouncing. This can be done via the corresponding throttling. Otherwise, the service life will be reduced.

Gripper GM 12/P

Order number

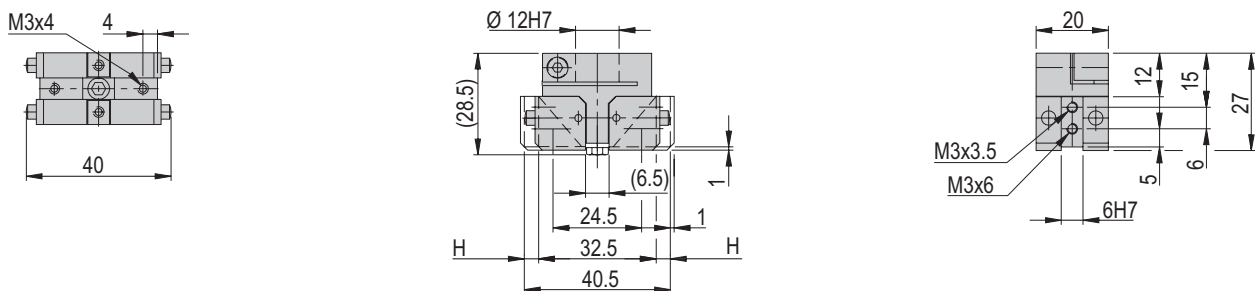
11002277

Net weight

0.109 kg

Opening stroke

8 mm



Gripper GM 12/P-01

Order number

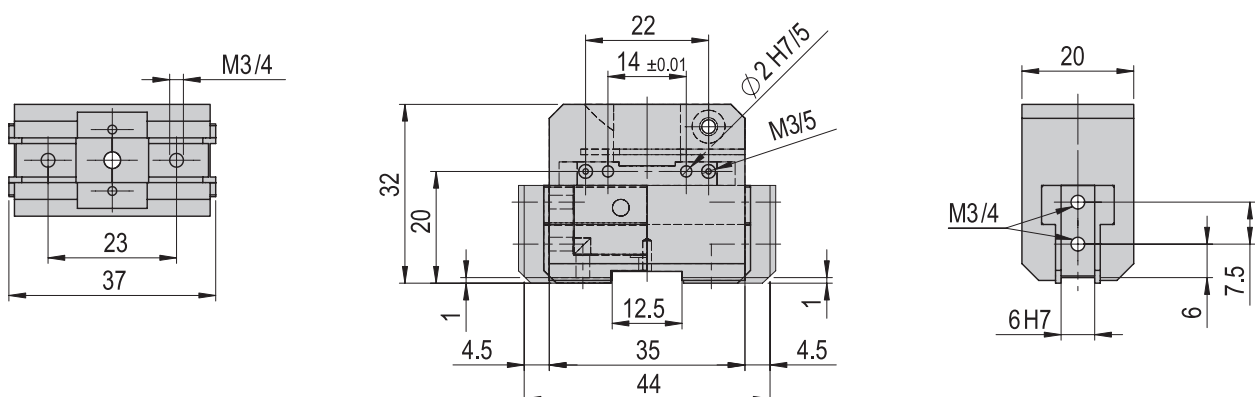
50000788

Net weight

0.139 kg

Opening stroke

9 mm



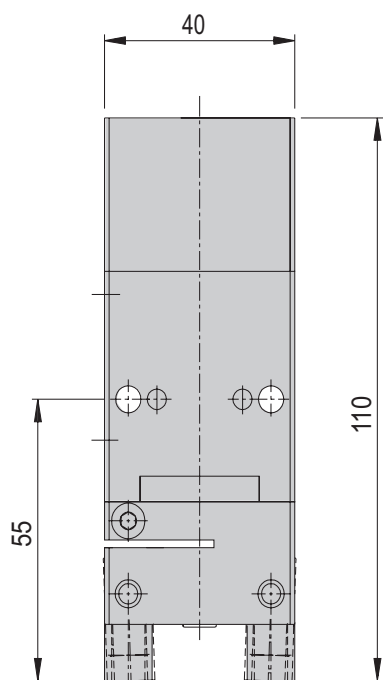
Gripper modules GM

GMQ 20

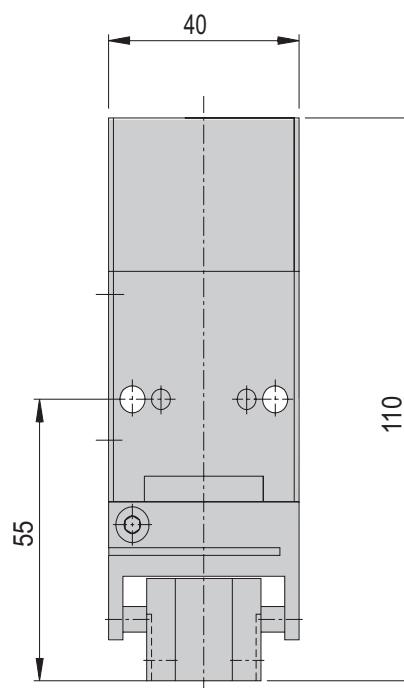
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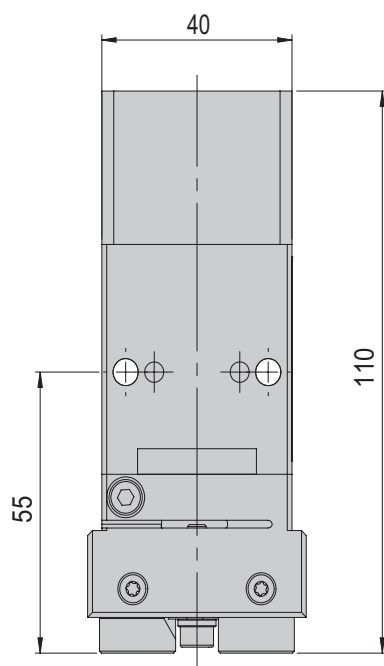
- Drive combinable with different grippers
- Gripping force securing
- Parallel and swivelling grippers



GMQ 20/K



GMQ 20/P



GMQ 20/P-01



GMQ 20	
Attachment grid	30 mm
Operating pressure	6 +/- 2 bar
Air connection P	M5
Cylinder Ø	20 mm
Operating temperature	0 - 50 °C

Type	GMQ 20/K	GMQ 20/P	GMQ 20/P-01
Order number	11010477	11010483	50409827
Net weight	0.335 kg	0.411 kg	0.322 kg
Max. admissible weight per gripper finger	60 g	80 g	80 g
Air consumption/cycle	0.021 NL	0.021 NL	0.021 NL
Gripping time	*0.16 s	*0.11 s	*0.11 s
Gripping force	*57 N	*40 N	*60 N
Spring force	17-70 N	17-70 N	17-70 N
Opening angle	180 °	-	-
Opening stroke	-	10 mm	10 mm
Repeat accuracy	+/- 0.02 mm	+/- 0.02 mm	+/- 0.01 mm
Mounting position	↕	↕	↕

The technical data refer to a nominal pressure of 6 bar under Afag standard test conditions.

Note: It must be ensured that the jaw movement is carried out without impact or bouncing. This can be done via the corresponding throttling. Otherwise, the service life will be reduced.

The module can be operated with lubricated or dry air.

Cleanroom class ISO 14644-1, class ISO 7

*Observe gripping force diagrams

- Measurements for slowly closing fingers

- All module measurements carried out via outer clamping.

Included in the delivery (Catalogue HT accessories)

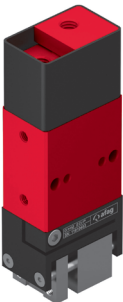
- 2x Centering pin Ø4x6
- 4x Mounting screw M5x35
- 2x Washer M5

Accessories

(Catalogue HT accessories)

- Stop screw AS 08/15
- Adjusting stop pin M8x1/25
- Shock absorber SD M8x1 -2
- INI d6.5x35-Sn1.5-PNP-NO-M8x1
- INI d6.5x44-Sn1.5-PNP-NO-M8x1

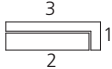
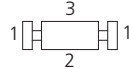

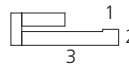


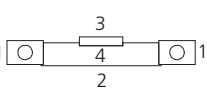
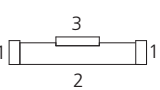


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CS 20	1,3	VP 129	1
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LM 25	1,3	< direct >	1
LM 32	1	VP 130	2*
HM 10	1	VP 110	1
HM 16	1	VP 110	1
CR 16	3	VP 110	1
CR 20	3	VP 110	1
RM 16	3	VF 403	1
ES20	1	VP 110	1
SA-3	1,2	VP 110	1
SA-6	1,2	VP 110	1
RE-50	3	VP 110	1
RE-75	3	VP 129	1
SREH-50	3	VP 110	1



* GMK 20

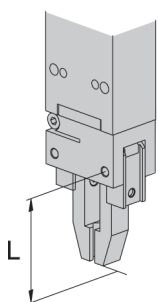
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Mounting areas

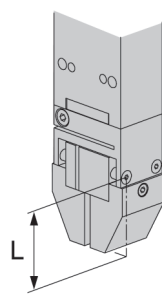
CS, ES	LM	HM	SA	UG, GM, SG, DG, PG, GE, SGE
				
PMP, PMP-c	PEZ, PDZ	PEL, PDL	RM, RE	CR, RM 32, RE, SREH, RA
				

Note that there might be different mounting positions from one module to another one.

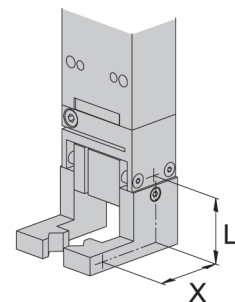
The required connection elements and the range of support columns are depicted in the catalogue HT accessories.



Finger length centric
GMQ / 20/K



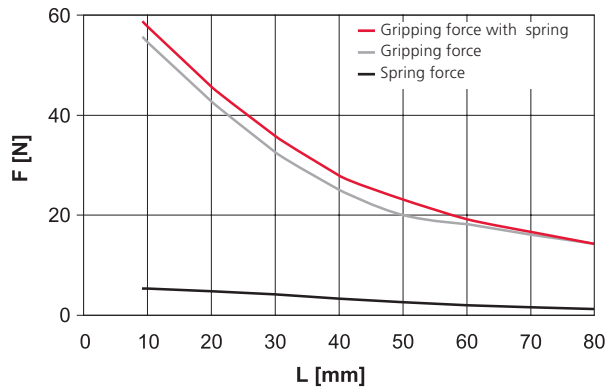
Finger length centric
GMQ / 20/P
GMQ / 20/P-01



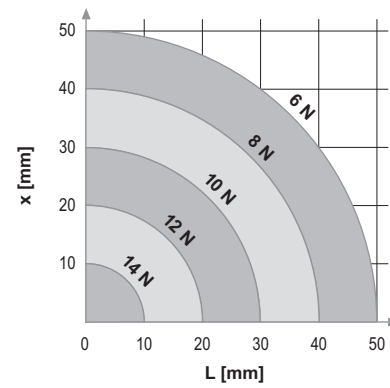
Finger length eccentric
GMQ / 20/P

Gripping force diagrams per jaw

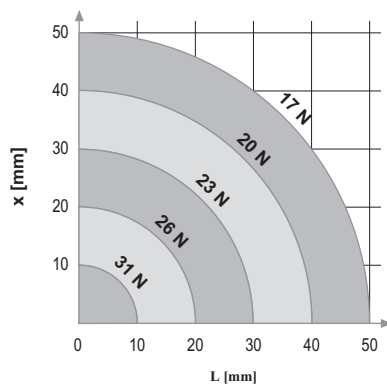
GMQ 20/K centric gripping force



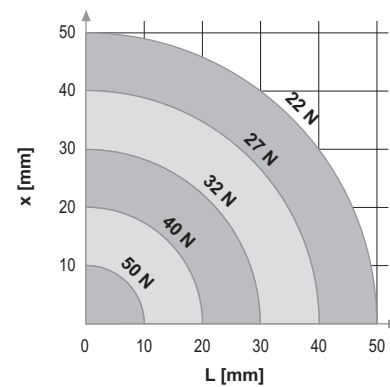
GMQ 20/P eccentric spring force



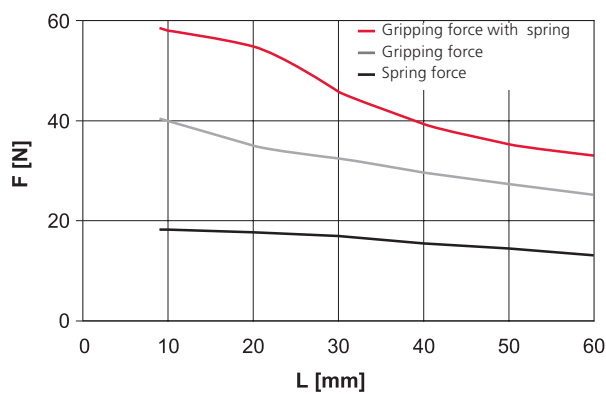
GMQ 20/P eccentric gripping force



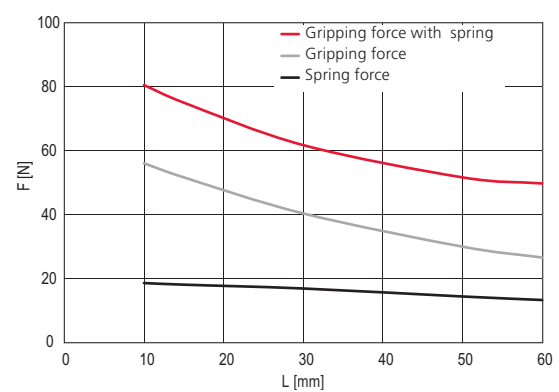
GMQ 20/P eccentric gripping force with gripping force securing



GMQ 20/P centric gripping force



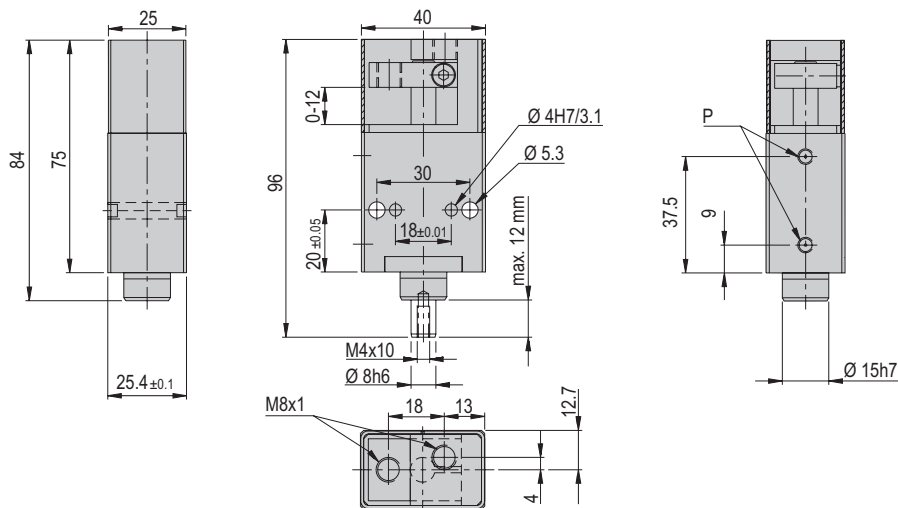
GMQ 20/P-01 centric gripping force



Gripper actuator

Gripper actuator GMQ 20

Order number	11009151
Net weight	0.243 kg
P	M5



Included in the delivery (Catalogue HT accessories)

- 2x Centering pin Ø4x6
- 4x Mounting screw M5x35
- 2x Washer M5

Accessories

(Catalogue HT accessories)

- Adjusting stop pin M8x1/25
- Shock absorber SD M8x1 -2
- Stop screw AS 08/15
- INI d6.5x35-Sn1.5-PNP-NO-M8x1
- INI d6.5x44-Sn1.5-PNP-NO-M8x1

Gripper

Gripper GM 20/K

Order number

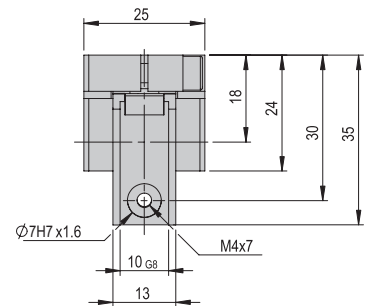
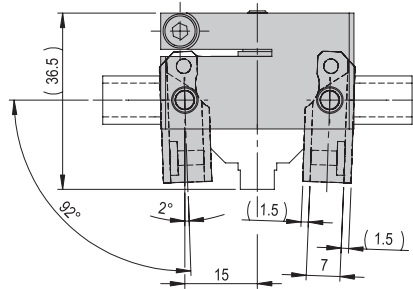
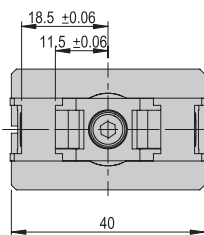
11009144

Net weight

0.092 kg

Opening angle

180 °



Note: It must be ensured that the jaw movement is carried out without impact or bouncing. This can be done via the corresponding throttling. Otherwise, the service life will be reduced.

Gripper GM 20/P

Order number

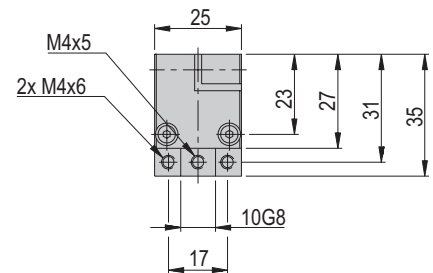
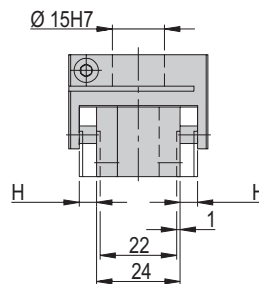
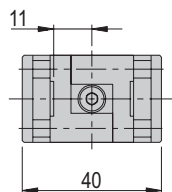
11009147

Net weight

0.077 kg

Opening stroke

2x5 mm



Gripper GM 20/P-01

Order number

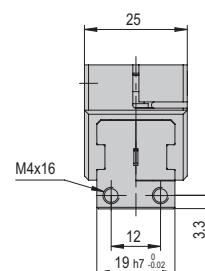
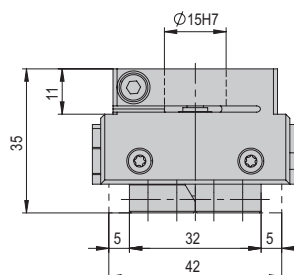
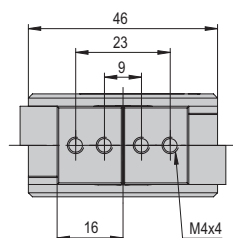
50408160

Net weight

0.092 kg

Opening stroke

2x5 mm



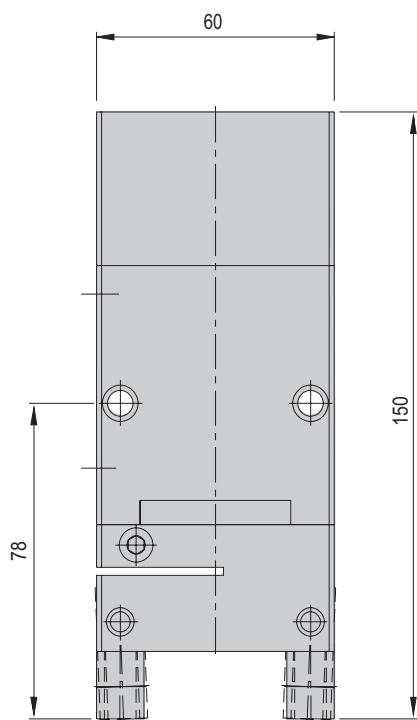
Gripper modules GM

GMQ 32

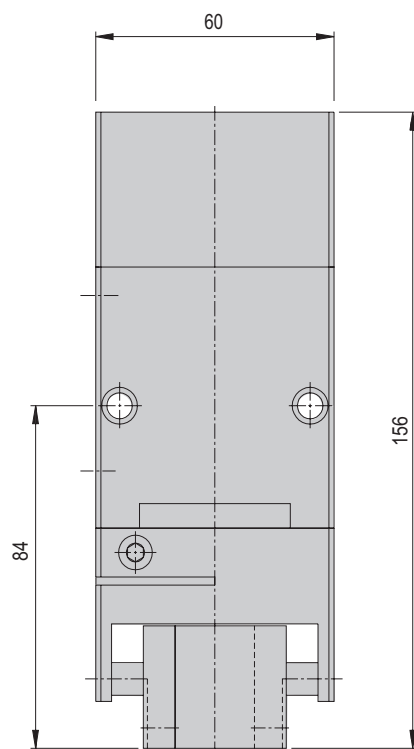
5



- Drive combinable with different grippers
- Gripping force securing
- Parallel and swivelling grippers



GMQ 32/K



GMQ 32/P



GMQ 32	
Attachment grid	48 mm
Operating pressure	6 +/- 2 bar
Air connection P	G 1/8 "
Cylinder Ø	32 mm
Operating temperature	0 - 50 °C

Type	GMQ 32/K	GMQ 32/P
Order number	11010478	11010486
Net weight	1.015 kg	1.153 kg
Max. admissible weight per gripper finger	80 g	110 g
Air consumption/cycle	0.072 NL	0.072 NL
Gripping time without shock absorber	*0.25 s	*0.18 s
Gripping time with shock absorber	*0.2 s	*0.15 s
Gripping force	*130 N	*235 N
Spring force	96-176 N	96-176 N
Opening angle	176 °	-
Opening stroke	-	16 mm
Repeat accuracy	+/- 0.025 mm	+/- 0.025 mm
Mounting position	✚	✚

The technical data refer to a nominal pressure of 6 bar under Afag standard test conditions.

Note: It must be ensured that the jaw movement is carried out without impact or bouncing. This can be done via the corresponding throttling. Otherwise, the service life will be reduced.

The module can be operated with lubricated or dry air.

Cleanroom class ISO 14644-1, class ISO 7

*Observe gripping force diagrams

- Measurements for slowly closing fingers

- All module measurements carried out via outer clamping.

Included in the delivery (Catalogue HT accessories)

- 2x Centering bushing Ø9x4
- 2x Mounting screw M6x50
- 2x Washer M6

Accessories


(Catalogue HT accessories)

- Stop screw AS 08/15
- Adjusting stop pin M8x1/25
- Shock absorber SD M8x1 -2
- INI d6.5x35-Sn1.5-PNP-NO-M8x1
- INI d6.5x44-Sn1.5-PNP-NO-M8x1

←

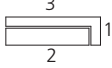
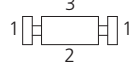

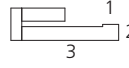


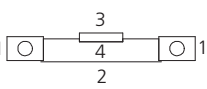
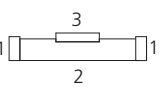


→

CS 20	1,3	< direct >	1
CS 25	1,3	< direct >	1
LM 20	1,3	< direct >	1
LM 25	1,3	< direct >	1
LM 32	1	< direct >	1
	1	VP 131	2*
CR 20	3	< direct >	1
RM 32	3	VF 405	1
ES30	1,3	< direct >	1
SA-3	1,2	VP 117	1
SA-6	1,2	VP 112	1
RE-50	3	VP 117	1
RE-75	3	< direct >	1



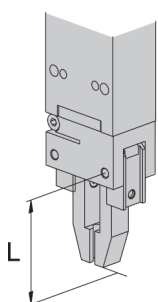
* GMK 32

Mounting areas

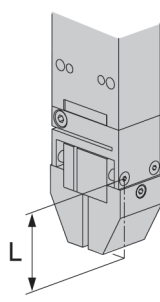
CS, ES	LM	HM	SA	UG, GM, SG, DG, PG, GE, SGE
				
PMP, PMP-c	PEZ, PDZ	PEL, PDL	RM, RE	CR, RM 32, RE, SREH, RA
				

Note that there might be different mounting positions from one module to another one.

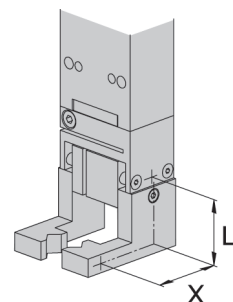
The required connection elements and the range of support columns are depicted in the catalogue HT accessories.



Finger length centric
GMQ / 32/K



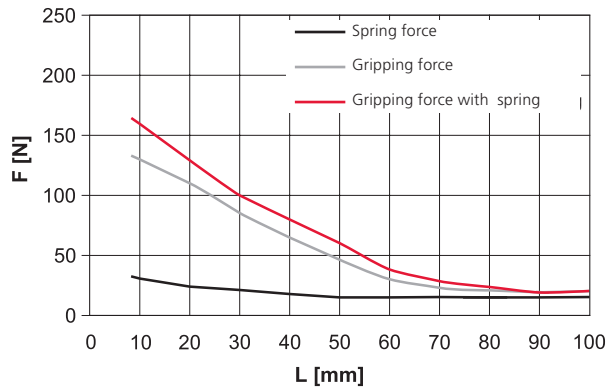
Finger length centric
GMQ / 32/P



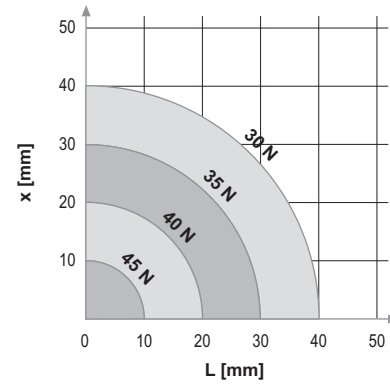
Finger length eccentric
GMQ / 32/P

Gripping force diagrams per jaw

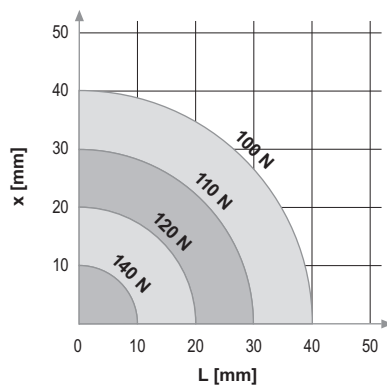
GMQ 32/K centric gripping force



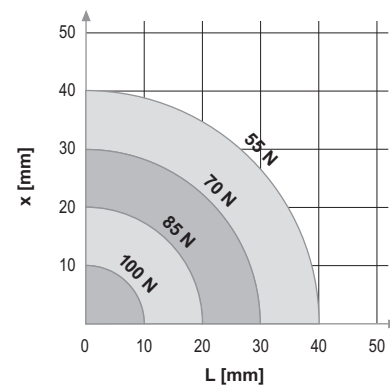
GMQ 32/P eccentric spring force



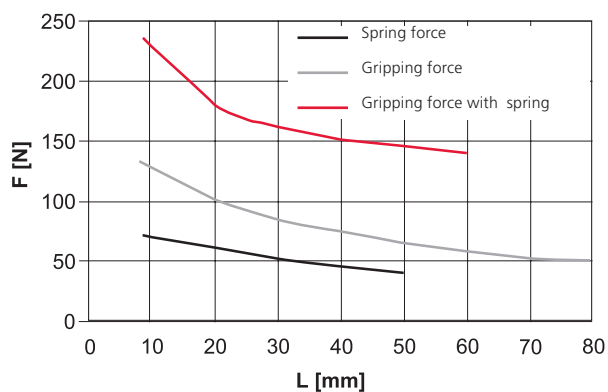
GMQ 32/P eccentric gripping force



GMQ 32/P eccentric gripping force with gripping force securing



GMQ 32/P centric gripping force



Gripper actuator

Gripper actuator GMK 32

Order number

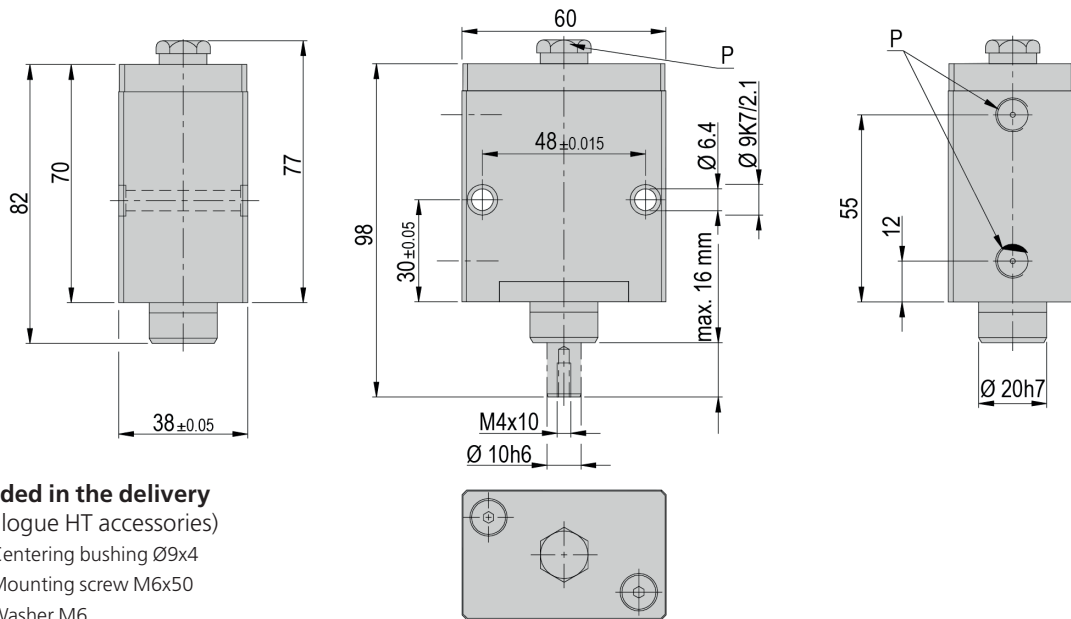
11009154

Net weight

0.572 kg

P

G1/8 "



Gripper

Gripper GM 32/K

Order number

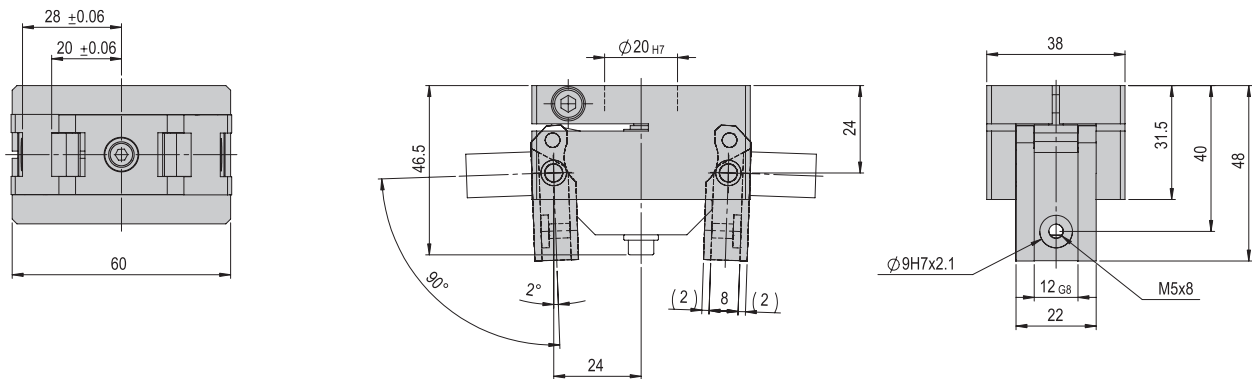
11009169

Net weight

0.285 kg

Opening angle

176 °



Note: It must be ensured that the jaw movement is carried out without impact or bouncing. This can be done via the corresponding throttling. Otherwise, the service life will be reduced.

Gripper GM 32/P

Order number

11009172

Net weight

0.434 kg

Opening stroke

16 mm

