



## FIPA Grippers

> Active gripper elements for secure and precise demolding of plastic parts or general handling of workpieces



### Sprue grippers

- > Wide jaw opening for large sprues
- > Narrow closing-gap for small sprues
- > Single-acting or double-acting
- > Series 130 and 140 come with self-centering factory setting, easy to deactivate if required
- > Detects sprues larger 1 mm

> See page 164



### Grippers with stroke

- > For flat sprues or flaps
- > Feed lift for demolding of plastic parts
- > Return lift for depositing
- > Double-acting and self-centering
- > Detects parts larger 1 mm

> See page 190



### Grippers for direct mounting

- > Compact design for direct integration to extrusions
- > Single-acting (GR04.110A and B) and double-acting (GR04.110)
- > Detects sprues larger 1 mm

> See page 193



### Gripper fingers

- > Gripping behind and clamping workpieces
- > 35° and 95° lift
- > HNBR elastomer pads for gentle product contact
- > Centering and stop elements available

> See page 200



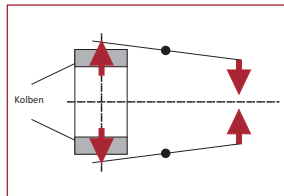
### Parallel and angular grippers

- > Parallel grippers with large stroke
- > 2-finger parallel gripper for pick & place applications, handling of inserts
- > 3-finger gripper for precise handling of e.g. inserts
- > Angle grippers for gripping on undercuts or for clamping parts
- > For short cycle times, double-acting grippers available

> See page 209



## FIPA Sprue grippers – technical properties



### Very high gripping force

- > Force directly transferred to gripper jaws by two pneumatic pistons
- > Wear is minimized, gripping force is maximized



### Long life due to robust design

- > Gripper body and jaws made of high-strength, anodized aluminum alloy
- > Maximizes wear resistance and lifetime



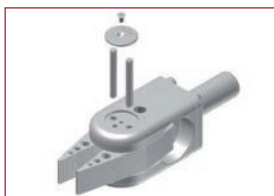
### Direct part detection

- > Large area sensor activation, independent of sprue position in the gripper
- > PNP and NPN sensors
- > Detects sprues larger 1 mm
- > Integrated control LED



### Indirect part detection

- > Sensor activated if no part has been gripped and jaws are fully closed
- > PNP and NPN sensors
- > Sensors without mechanical or moving components, suitable for high loads
- > Integrated control LED



### Series 130 and 140 can be easily disassembled without snap rings

- > Jaws quickly exchanged
- > Grippers easily changed over to non-self-centering



# Grippers | Sprue grippers

Series 60 – miniature grippers, clamping diameter 10 mm

Series 60 – miniature grippers, clamping diameter 10 mm

**NEW**



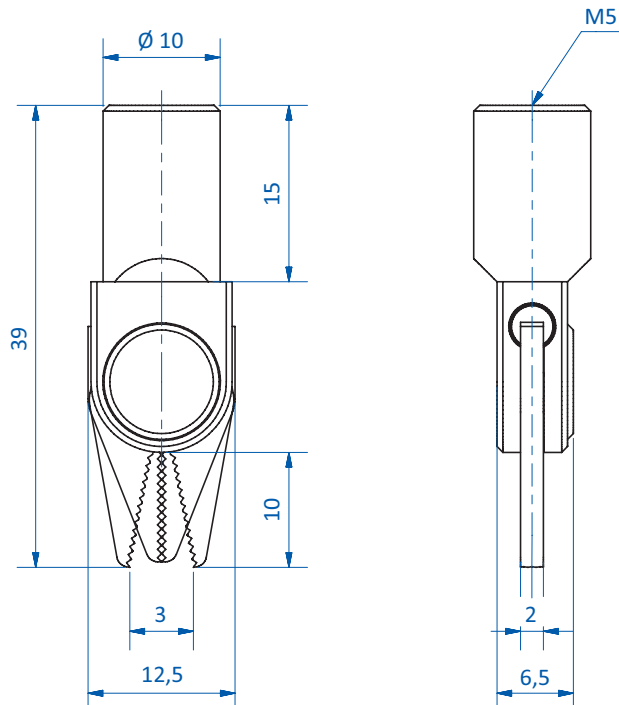
## Product notes

- > Gripper for small sprues and restricted space
- > Gap-free closing
- > Body and jaws made of high-strength anodized aluminum alloy
- > Single-acting
- > Medium: filtered and oiled/unoiled air

## Technical data

Item no.	Operating pressure [bar (psi)]	Closing force at 6 bar (87 psi) [N]	Weight [g/m]
<b>GR04.060</b>	6 (87)	3.5	5.3

## Dimensions





Series 80 – miniature sprue gripper



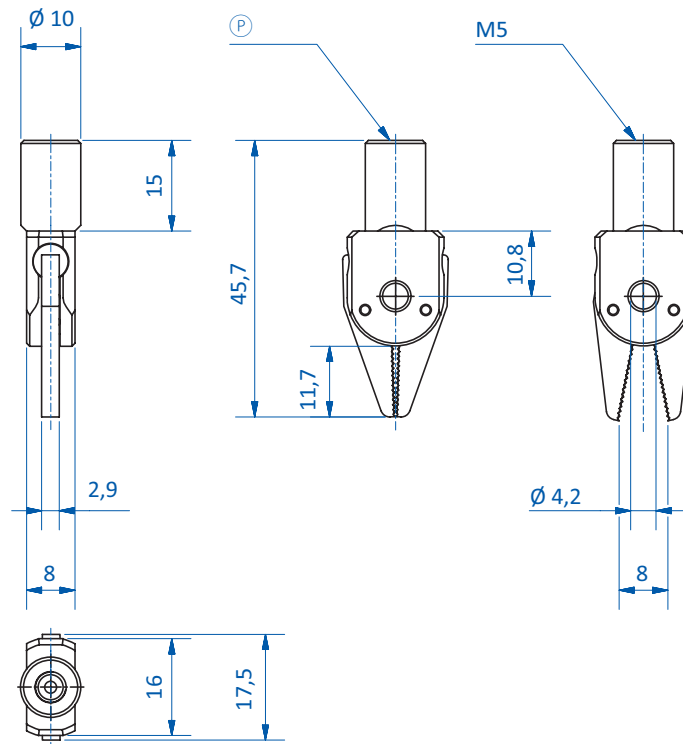
Product notes

- > Clamping diameter 10 mm
- > Body and jaws made of anodized aluminum alloy
- > Principle of operation: single-acting
- > Medium: filtered and oiled/unoiled air

Technical data

Item no.	Max. operating pressure [bar (psi)]	Closing force at 6 bar (87 psi) [N]	Weight [g]
GR04.080	6 (87)	12	8

Dimensions





### Series 90 – miniature sprue grippers, clamping diameter 10 mm – single-acting



#### Product notes

- > Grippers for small gates and limited space requirement
- > High gripping force and wide jaw opening
- > Housings and gripper jaws consist of an anodized, high-strength aluminum alloy
- > Model H with replaceable HNBR pads for gentle handling
- > Index 1N and 1P for direct sensor monitoring
- > Index 2N and 2P for teachable sensors
- > Index 3P for indirect sensor monitoring
- > Single-acting
- > Medium: filtered and oiled/non-oiled air

#### Notes

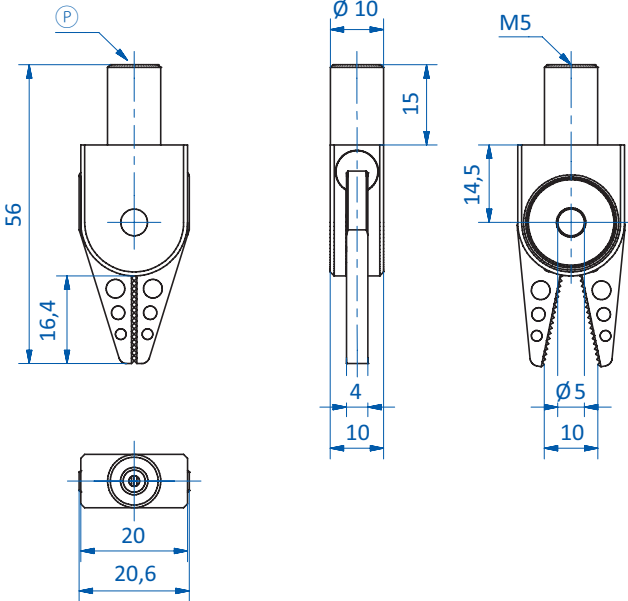
- > PNP Inverter 20.530 enables direct control of parts on gripper GR04.090-3N: Sensor triggers as soon as part is gripped
- > The converter 20.531 enables the use of grippers in NPN circuits

#### Technical data

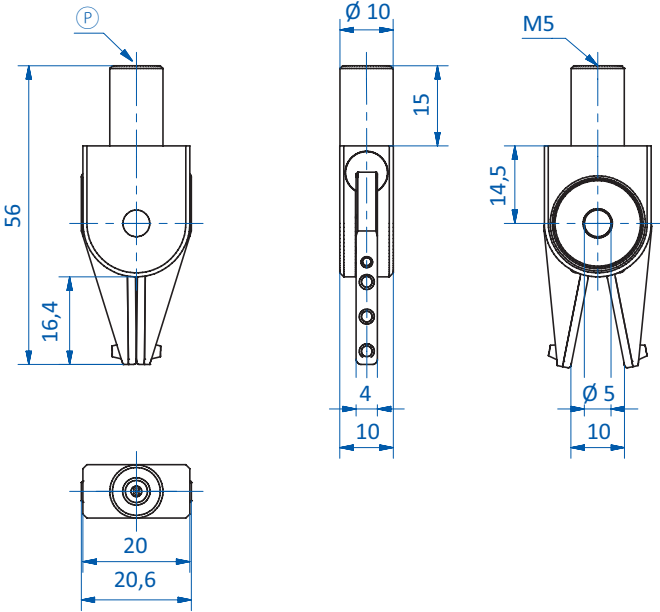
Item no.	Jaw design	Operating pressure [bar (psi)]	Sensor	Closing force at 6 bar (87 psi) [N]	Weight [g]	Accessories
<b>GR04.090</b>	Standard	2.5 - 6 (36.3 - 87)	--	15	14	--
<b>GR04.090H</b>	HNBR pad	2.5 - 6 (36.3 - 87)	--	15	15	HNBR pad: GR04.090-4
<b>GR04.090-1N</b>	Standard	2.5 - 6 (36.3 - 87)	NPN	15	16	Plug connector: 20.527 (p.411) Plug connector: 20.528 (p.411) Connector cable: 20.503 (p.410) Connector cable: 20.507 (p.410)
<b>GR04.090-1P</b>	Standard	2.5 - 6 (36.3 - 87)	PNP	15	16	Plug connector: 20.527 (p.411) Plug connector: 20.528 (p.411) Connector cable: 20.503 (p.410) Connector cable: 20.507 (p.410)
<b>GR04.090-3P</b>	Standard	2.5 - 6 (36.3 - 87)	PNP	15	14	Connector cable: 20.503 (p.410) Signal converter: 20.530 (p.422) Signal converter: 20.531 (p.422)
<b>GR04.090H-2N</b>	HNBR pad	2.5 - 6 (36.3 - 87)	NPN	15	17	Connector cable: 20.501 (p.410) Connector cable: 20.502 (p.410) HNBR pad: GR04.090-4
<b>GR04.090H-2P</b>	HNBR pad	2.5 - 6 (36.3 - 87)	PNP	15	17	Connector cable: 20.501 (p.410) Connector cable: 20.502 (p.410) HNBR pad: GR04.090-4



Dimensions



GR04.090



GR04.090H

Ⓟ = Compressed air connection

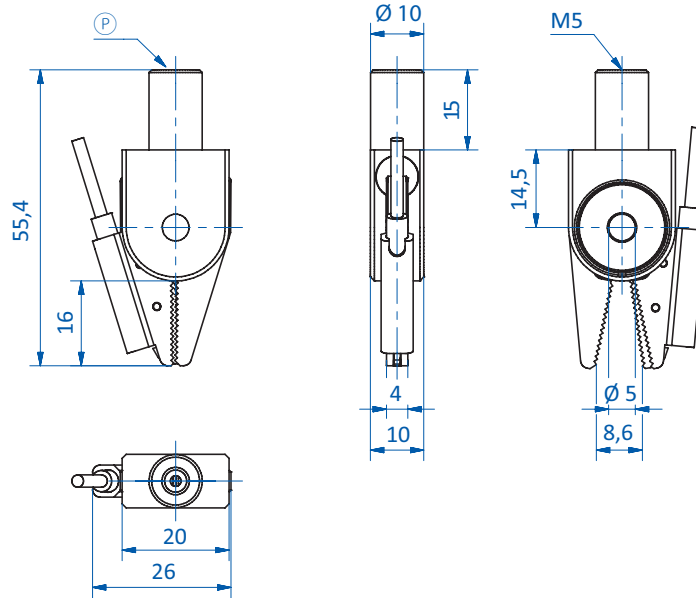
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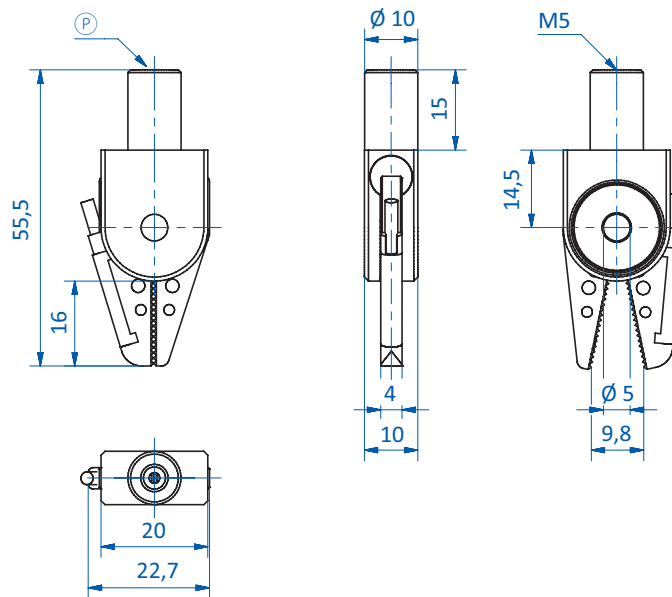
# Grippers | Sprue grippers

Series 90 – miniature sprue grippers, clamping diameter 10 mm – single-acting

## Dimensions



GR04.090-1N | GR04.090-1P

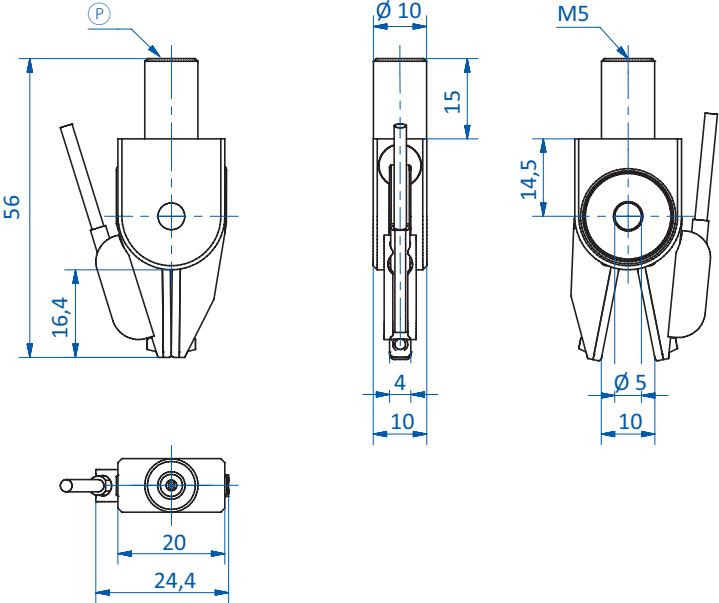


GR04.090-3P

Ⓟ = Compressed air connection



Dimensions



GR04.090H-2N | GR04.090H-2P

Ⓟ = Compressed air connection





# Grippers | Sprue grippers

Series 100 – sprue grippers, clamping diameter 10 mm – single-acting

## Series 100 – sprue grippers, clamping diameter 10 mm – single-acting



### Product notes

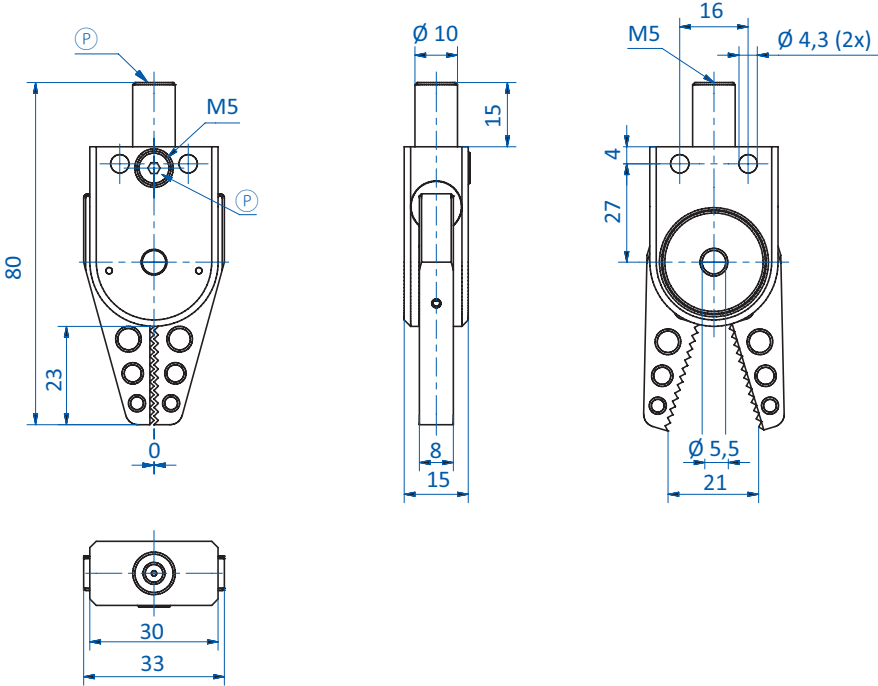
- > Grippers with wide jaw opening for large gates
- > Gap-free closing for flat gates
- > Housings and gripper jaws consist of an anodized, high-strength aluminum alloy
- > Model B with rounded gripper jaws for large/inclined gates
- > Model U for special gripper jaws; the closing force depends on the shape of the gripper jaws
- > Model S with sawtooth profile for inclined gates
- > Model H with replaceable HNBR pads for gentle handling
- > Model XW with extra wide gripper jaws
- > Index 1N and 1P for direct monitoring; large-area sensor operation, regardless of the position of the gate in the gripper
- > Index 2N and 2P for direct monitoring; sensor with two freely adjustable switching points
- > Index 3N and 3P for indirect monitoring; signal triggering if no component has been gripped; no moving parts and thus increased mechanical stability
- > Single-acting
- > Medium: filtered and oiled/non-oiled air

### Technical data

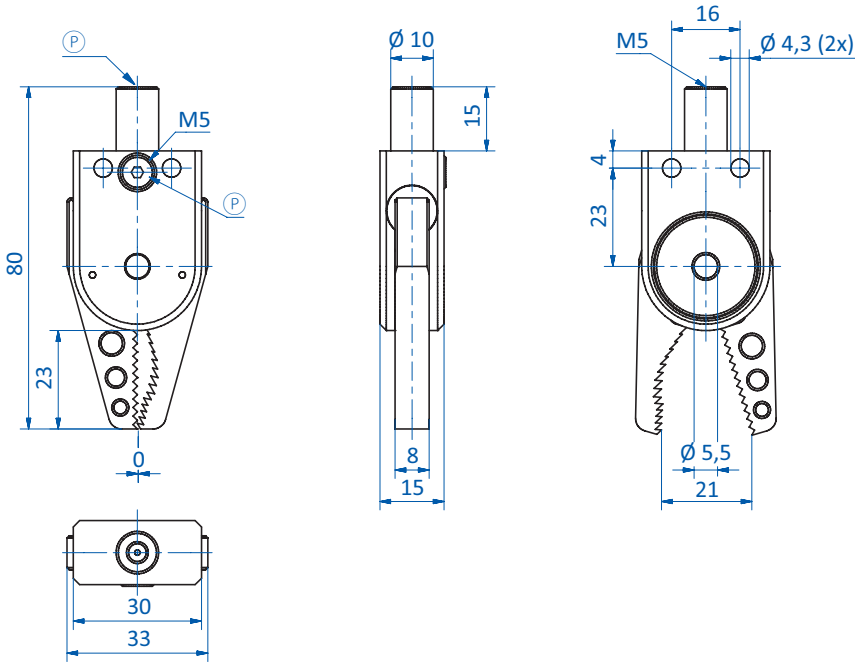
Item no.	Jaw design	Operating pressure [bar (psi)]	Sensor	Closing force at 6 bar (87 psi) [N]	Weight [g]	Accessories
<b>GR04.100</b>	Standard	2.5 - 8 (36.3 - 116)	--	22	49	--
<b>GR04.100B</b>	Sawtooth jaws round	2.5 - 8 (36.3 - 116)	--	22	49	--
<b>GR04.100U</b>	Universal	2.5 - 8 (36.3 - 116)	--	--	44	--
<b>GR04.100S</b>	Sawtooth jaws straight	2.5 - 8 (36.3 - 116)	--	22	49	--
<b>GR04.100H</b>	HNBR pad	2.5 - 8 (36.3 - 116)	--	22	46	HNBR pad: GR04.103-4HNBR
<b>GR04.100HNBR</b>	Fully HNBR-coated	2.5 - 8 (36.3 - 116)	--	22	48	--
<b>GR04.100XW</b>	Xwide	2.5 - 8 (36.3 - 116)	--	22	85	--
<b>GR04.100-1N</b>	Standard	2.5 - 8 (36.3 - 116)	NPN	22	52	Sensor: GS04.002 (p.408) Connector cable: 20.503 (p.410)
<b>GR04.100-1P</b>	Standard	2.5 - 8 (36.3 - 116)	PNP	22	52	Sensor: GS04.001 (p.408) Connector cable: 20.503 (p.410)
<b>GR04.100-2N</b>	Standard	2.5 - 8 (36.3 - 116)	NPN	22	53	Sensor: GS04.006 Connector cable: 20.501 (p.410) Connector cable: 20.502 (p.410)
<b>GR04.100-2P</b>	Standard	2.5 - 8 (36.3 - 116)	PNP	22	53	Sensor: GS04.005 Connector cable: 20.501 (p.410) Connector cable: 20.502 (p.410)
<b>GR04.100-3N</b>	Standard	2.5 - 8 (36.3 - 116)	NPN	22	50	Sensor: GR04.203N (p.404) Connector cable: 20.503 (p.410)
<b>GR04.100-3P</b>	Standard	2.5 - 8 (36.3 - 116)	PNP	22	50	Sensor: GR04.203P (p.404) Connector cable: 20.503 (p.410)
<b>GR04.100H-2N</b>	HNBR pad	2.5 - 8 (36.3 - 116)	NPN	22	50	Sensor: GS04.006 Connector cable: 20.503 (p.410) HNBR pad: GR04.103-4HNBR
<b>GR04.100H-2P</b>	HNBR pad	2.5 - 8 (36.3 - 116)	PNP	22	50	Sensor: GS04.005 Connector cable: 20.503 (p.410) HNBR pad: GR04.103-4HNBR



Dimensions



GR04.100



GR04.100B

Ⓟ = Compressed air connection

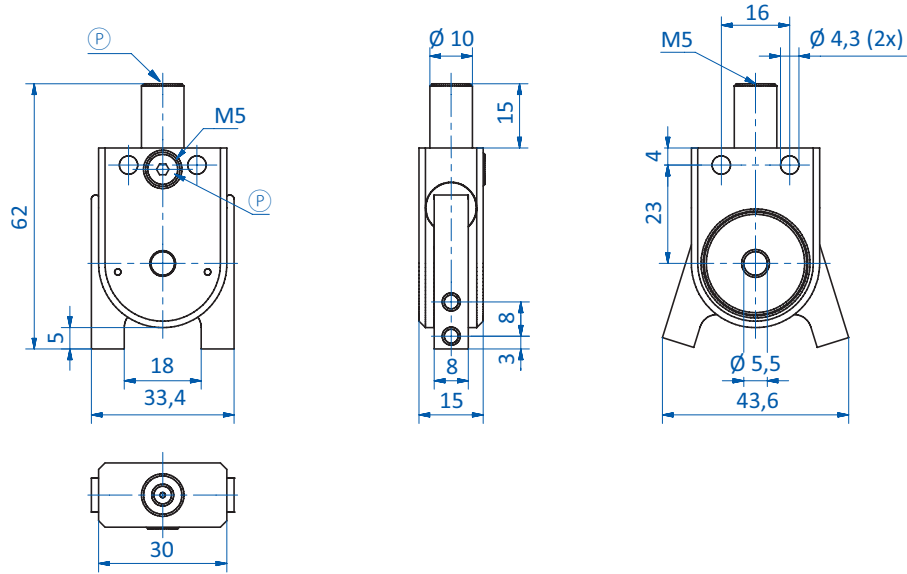
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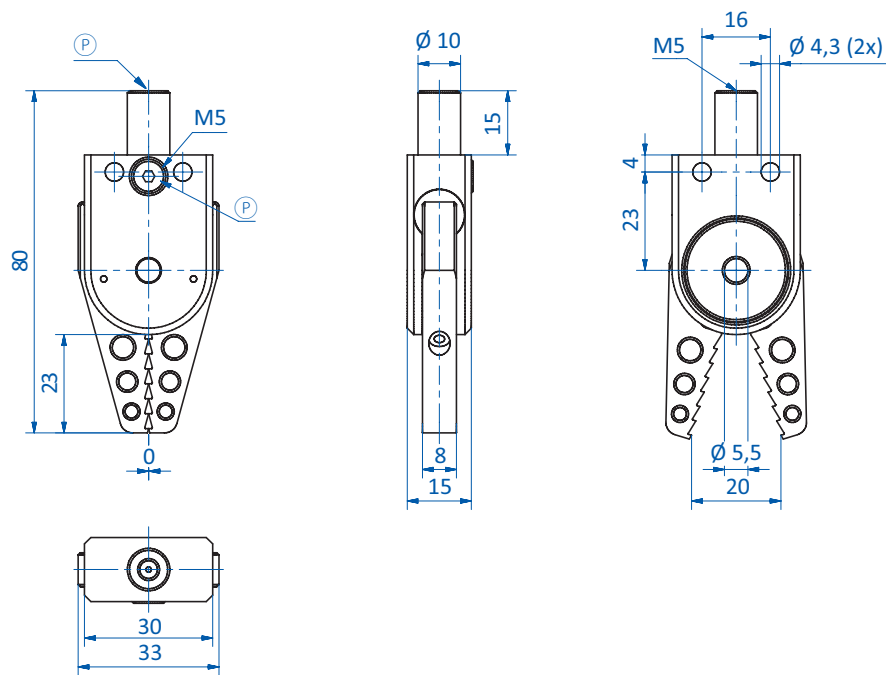
# Grippers | Sprue grippers

Series 100 – sprue grippers, clamping diameter 10 mm – single-acting

## Dimensions



GR04.100U

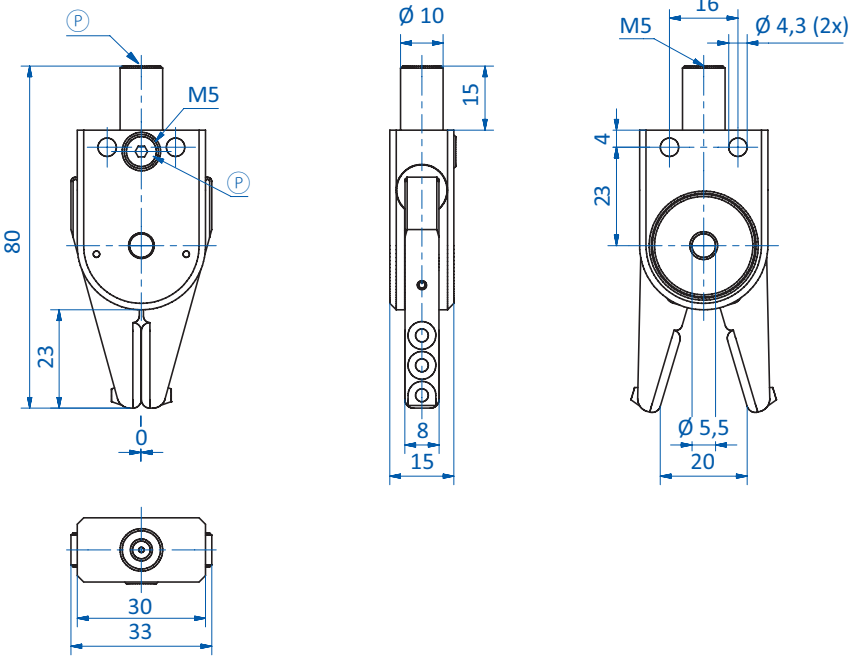


GR04.100S

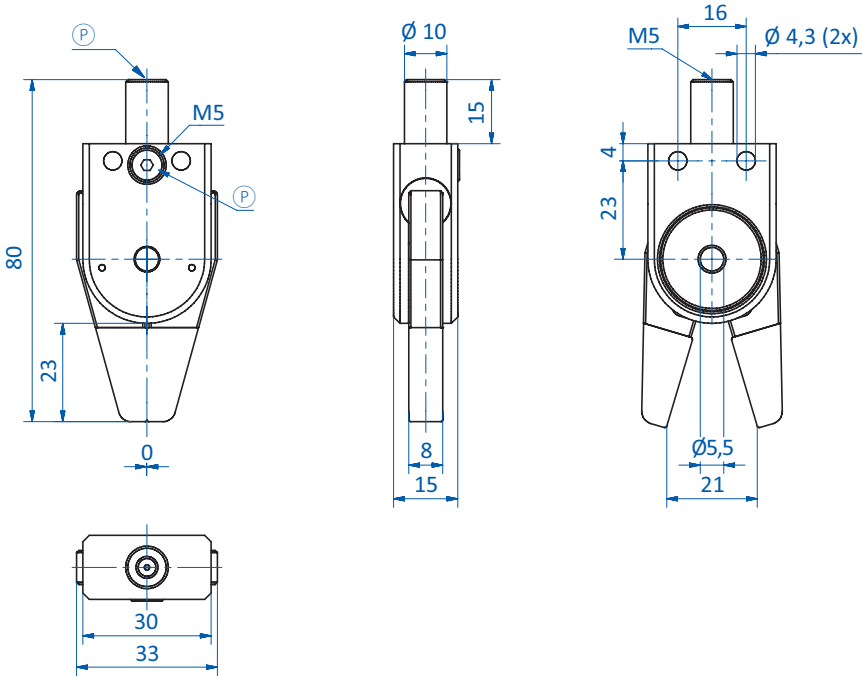
Ⓟ = Compressed air connection



Dimensions



GR04.100H



GR04.100HNBR

P = Compressed air connection

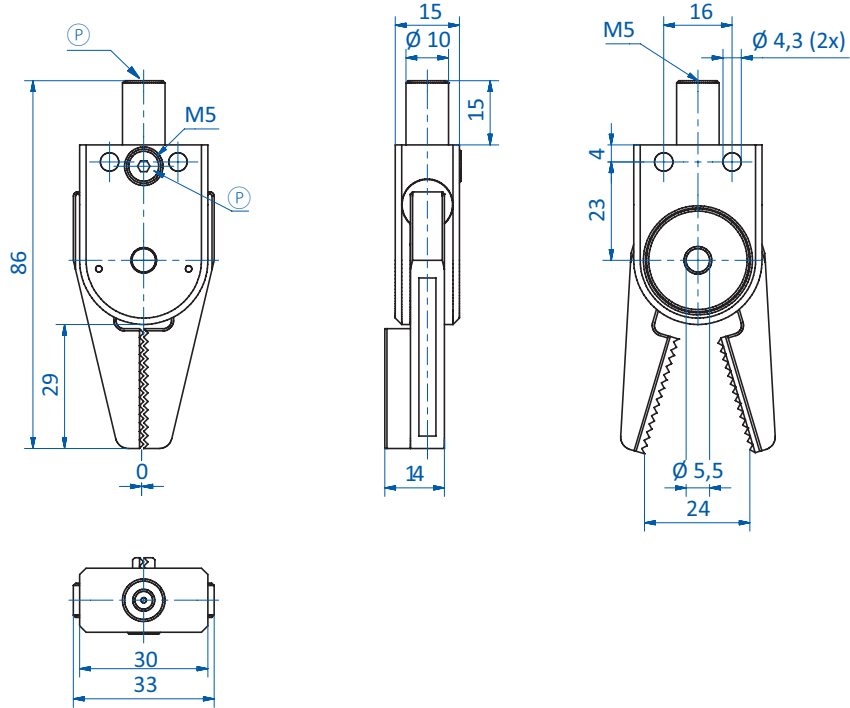
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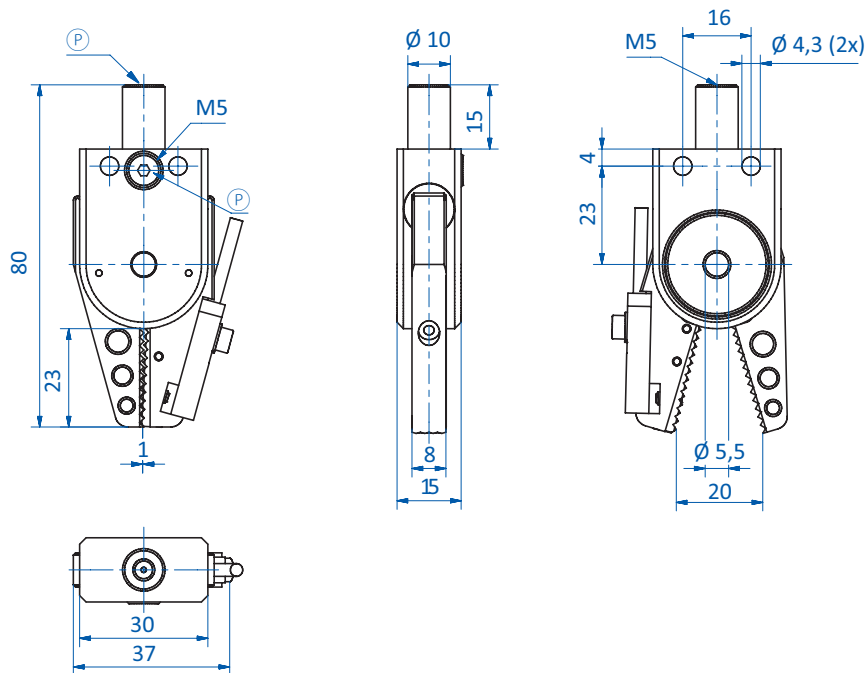
# Grippers | Sprue grippers

Series 100 – sprue grippers, clamping diameter 10 mm – single-acting

## Dimensions



GR04.100XW

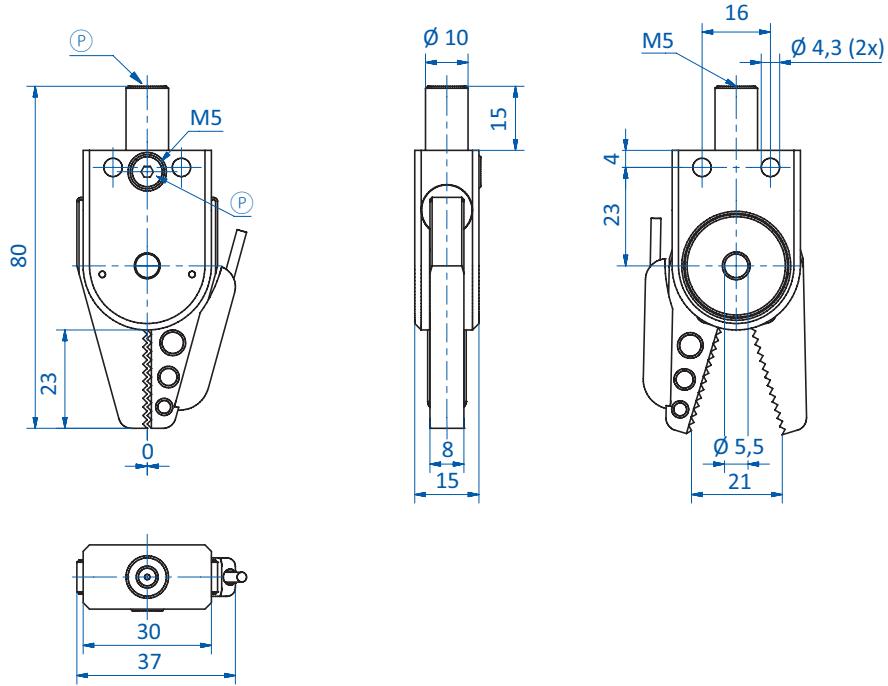


GR04.100-1N | GR04.100-1P

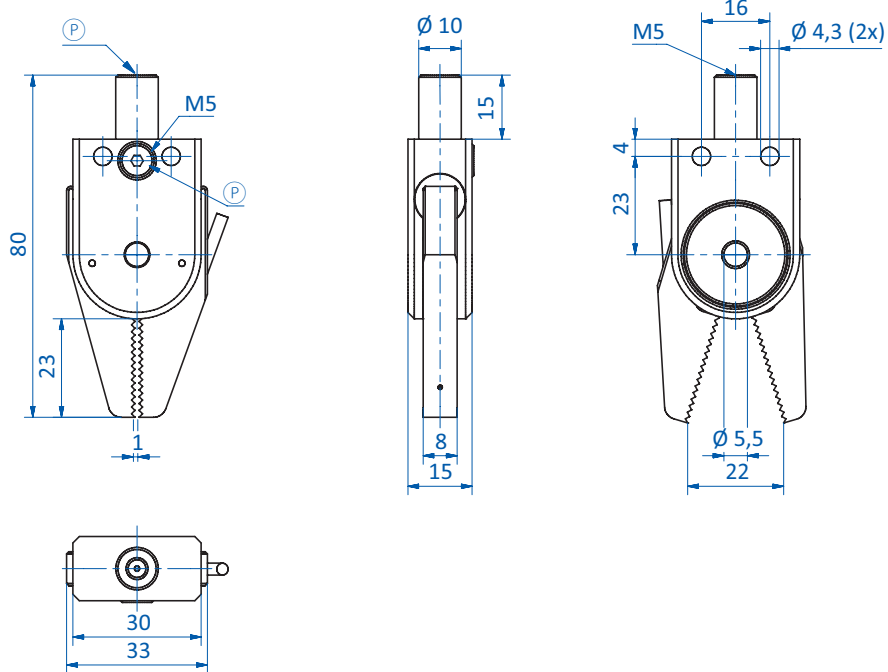
Ⓟ = Compressed air connection



## Dimensions



GR04.100-2N | GR04.100-2P



GR04.100-3N | GR04.100-3P

Ⓟ = Compressed air connection

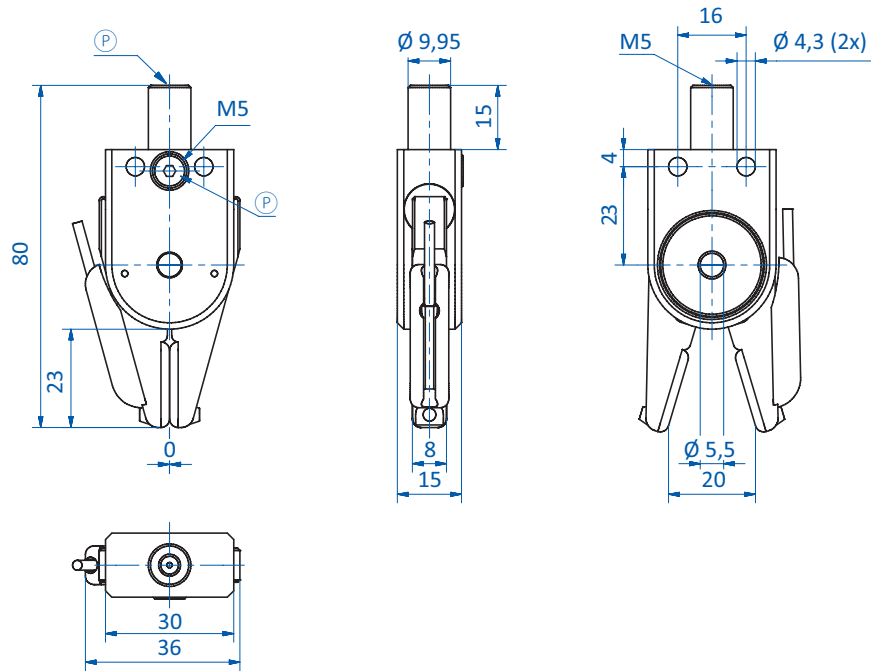
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# Grippers | Sprue grippers

Series 100 – sprue grippers, clamping diameter 10 mm – single-acting

## Dimensions



GR04.100H-2N | GR04.100H-2P

Ⓟ = Compressed air connection



### Series 100 – sprue grippers, clamping diameter 10 mm – double-acting



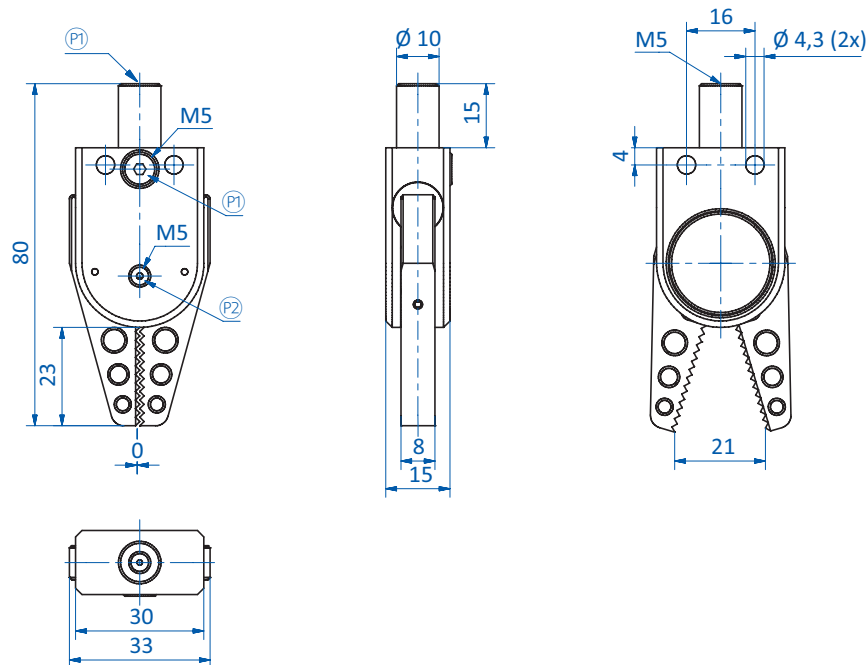
#### Product notes

- > Grippers with wide jaw opening for large gates
- > Gap-free closing for flat gates
- > Dual-action for short cycle times; opening and closing separately controllable
- > Housings and gripper jaws consist of an anodized, high-strength aluminum alloy
- > Double-acting
- > Medium: filtered and oiled/non-oiled air

#### Technical data

Item no.	Jaw design	Operating pressure [bar (psi)]	Closing force at 6 bar (87 psi) [N]	Weight [g]
<b>GR04.102</b>	Standard	2.5 - 8 (36.3 - 116)	20	51

#### Dimensions



Ⓟ = Compressed air supply (close) Ⓠ = Compressed air supply (open)





# Grippers | Sprue grippers

Series 130 – sprue grippers, clamping diameter 20 mm – single-acting

## Series 130 – sprue grippers, clamping diameter 20 mm – single-acting



### Product notes

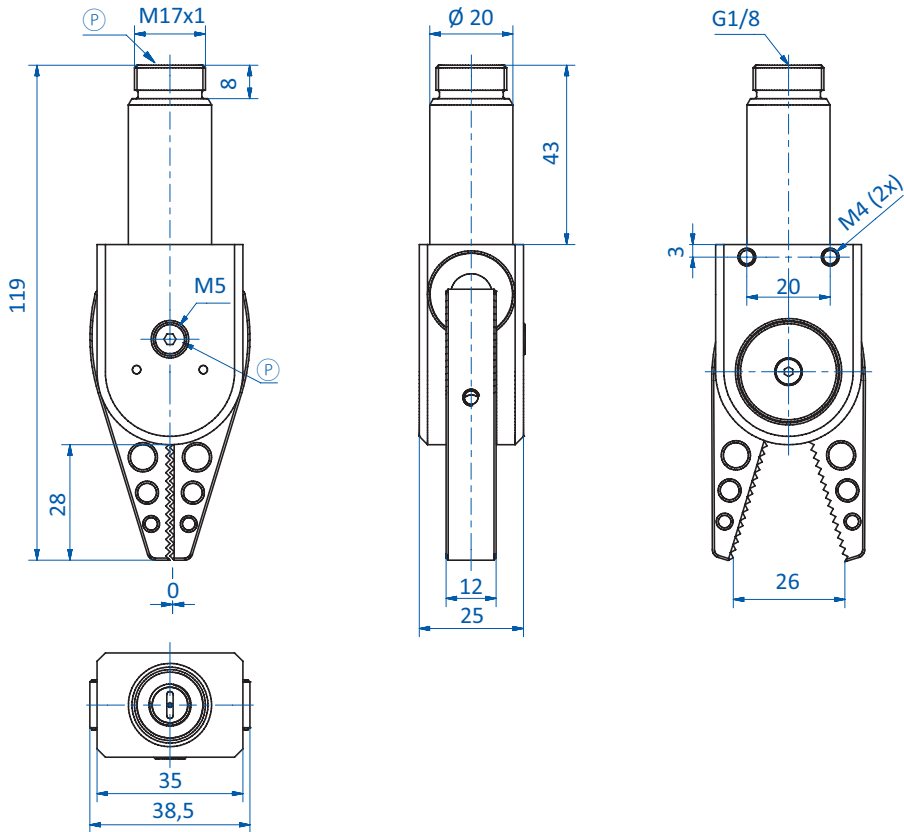
- > Grippers with strong gripping force and wide jaw opening for large gates
- > Tight closing for flat gates
- > GR04.130 with straight gripper jaws
- > Housings and gripper jaws consist of an anodized, high-strength aluminum alloy
- > Model B with rounded gripper jaws for large/inclined gates
- > Model U for special gripper jaws; the closing force depends on the shape of the gripper jaws
- > Model S with sawtooth profile for inclined gates
- > Model H with replaceable HNBR pads for gentle handling
- > Model XW with extra wide gripper jaws
- > Index 1N and 1P for direct monitoring; large-area sensor operation, regardless of the position of the gate in the gripper
- > Index 3N and 3P for indirect monitoring; signal triggering if no component has been gripped; no moving parts and thus increased mechanical stability
- > Single-acting
- > Medium: filtered and oiled/non-oiled air

### Technical data

Item no.	Jaw design	Operating pressure [bar (psi)]	Sensor	Closing force at 6 bar (87 psi) [N]	Weight [g]	Accessories
<b>GR04.130</b>	Standard	2.5 - 8 (36.3 - 116)	--	95	133	--
<b>GR04.130B</b>	Sawtooth jaws round	2.5 - 8 (36.3 - 116)	--	95	131	--
<b>GR04.130U</b>	Universal	2.5 - 8 (36.3 - 116)	--	--	128	--
<b>GR04.130H</b>	HNBR pad	2.5 - 8 (36.3 - 116)	--	95	137	Extension tube: GR06.022 (p.90) HNBR pad: GR04.130C-4HNBR
<b>GR04.130-1N</b>	Standard	2.5 - 8 (36.3 - 116)	NPN	95	141	Extension tube: GR06.022 (p.90) Connector cable: 20.503 (p.410) Sensor: GS04.002 (p.408)
<b>GR04.130-1P</b>	Standard	2.5 - 8 (36.3 - 116)	PNP	95	141	Extension tube: GR06.022 (p.90) Connector cable: 20.503 (p.410) Sensor: GS04.001 (p.408)
<b>GR04.130B-1N</b>	Sawtooth jaws round	2.5 - 8 (36.3 - 116)	NPN	95	140	Extension tube: GR06.022 (p.90) Connector cable: 20.503 (p.410) Sensor: GS04.002 (p.408)
<b>GR04.130B-1P</b>	Sawtooth jaws round	2.5 - 8 (36.3 - 116)	PNP	95	140	Extension tube: GR06.022 (p.90) Connector cable: 20.503 (p.410) Sensor: GS04.001 (p.408)
<b>GR04.130XW-3P</b>	Xwide	2.5 - 8 (36.3 - 116)	PNP	95	139	Extension tube: GR06.022 (p.90) Connector cable: 20.503 (p.410) Sensor: GR04.203P (p.404)



Dimensions



GR04.130

Ⓟ = Compressed air connection

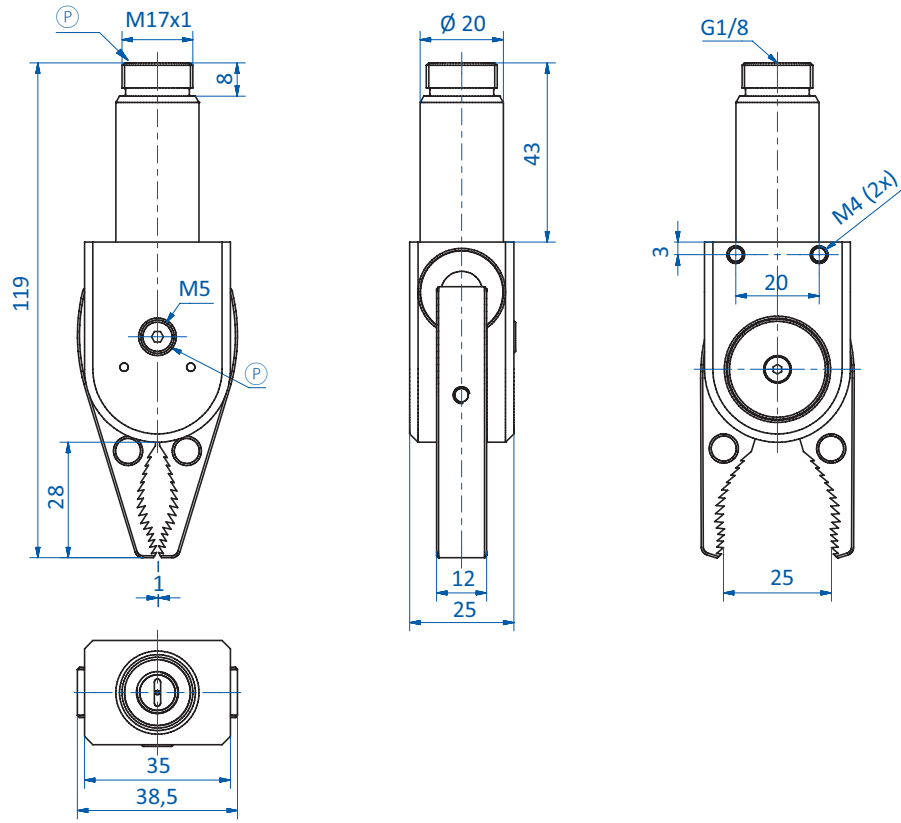
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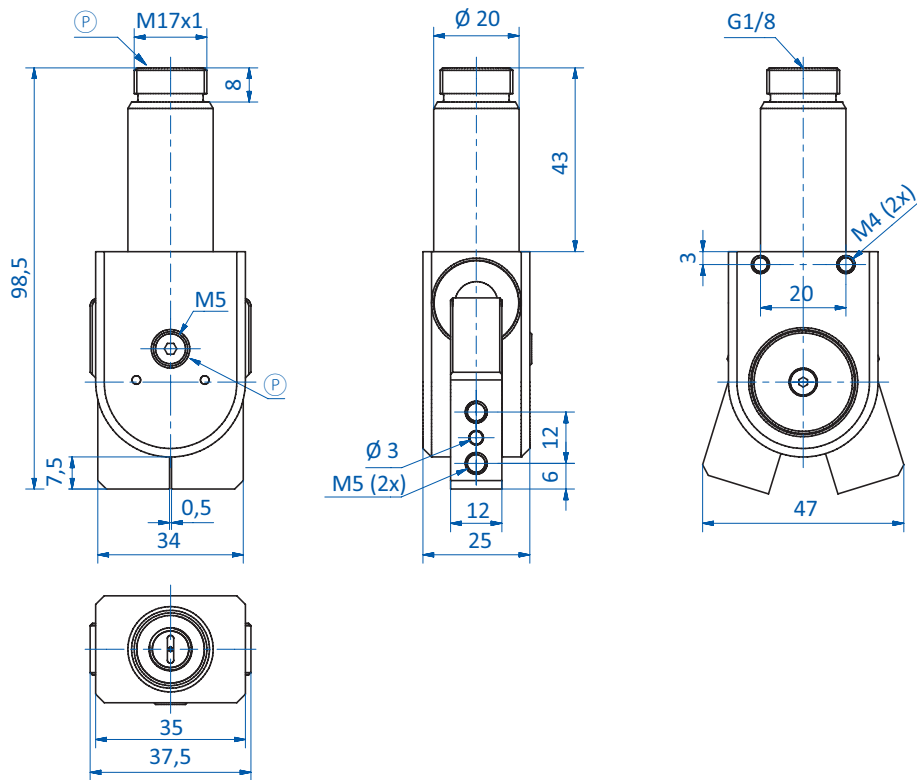
# Grippers | Sprue grippers

Series 130 – sprue grippers, clamping diameter 20 mm – single-acting

## Dimensions



GR04.130B

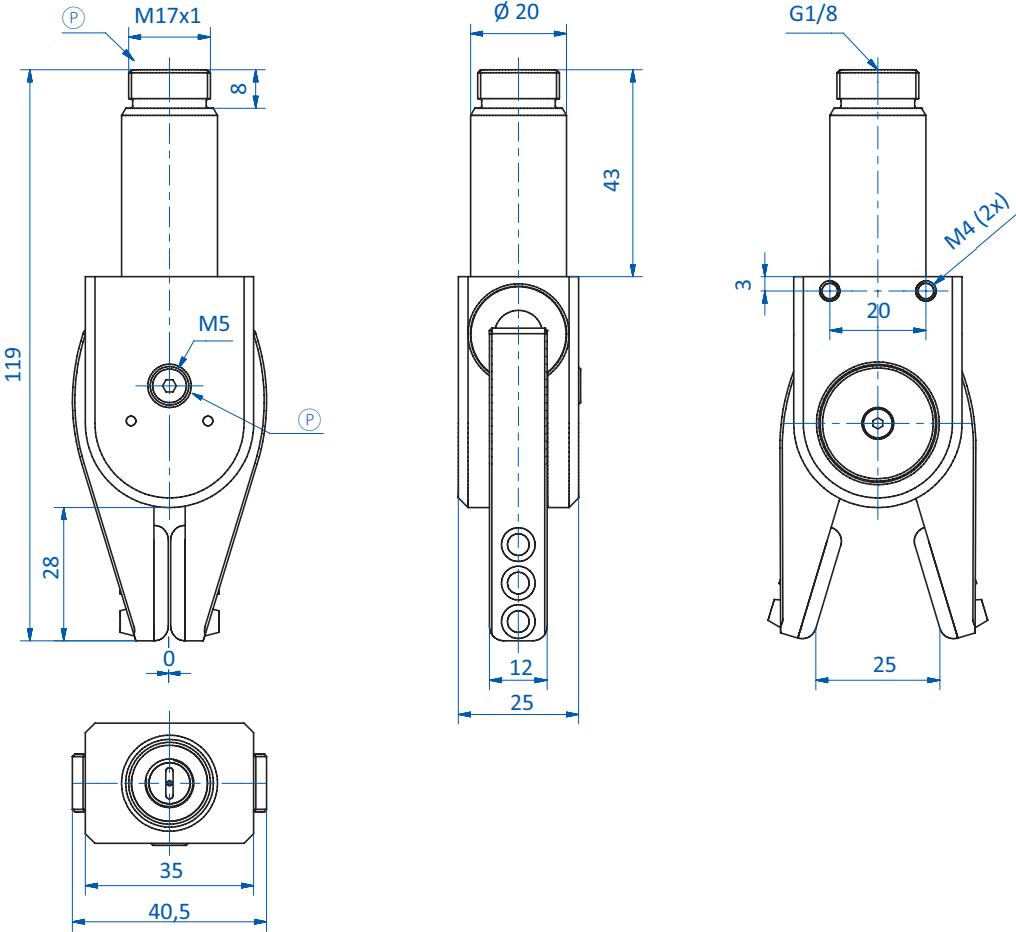


GR04.130U

Ⓟ = Compressed air connection



Dimensions



GR04.130H

Ⓟ = Compressed air connection

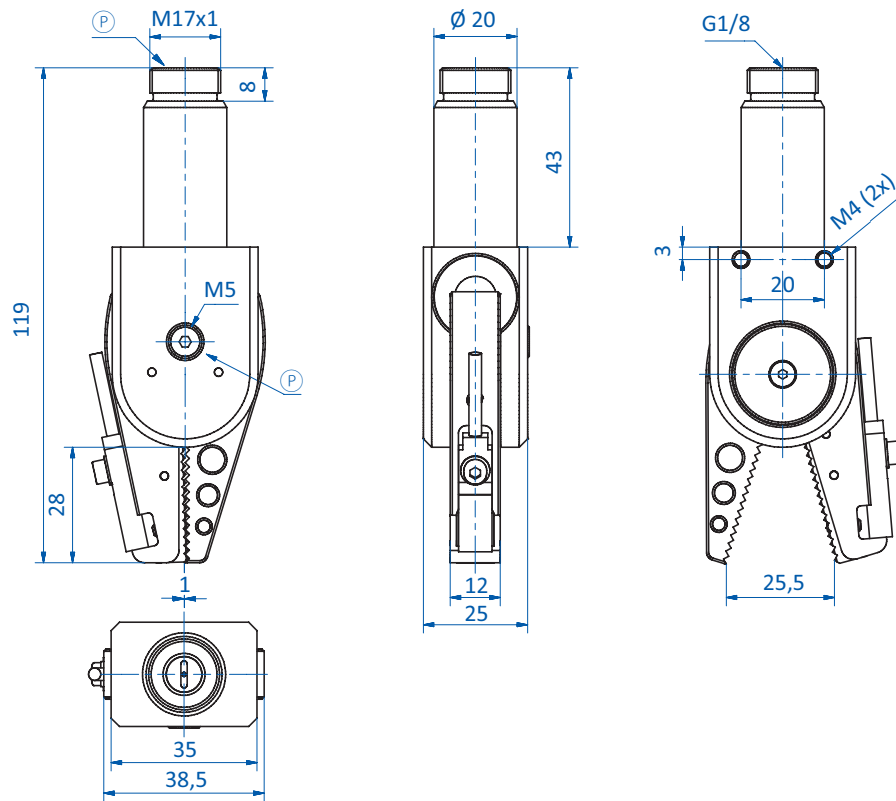
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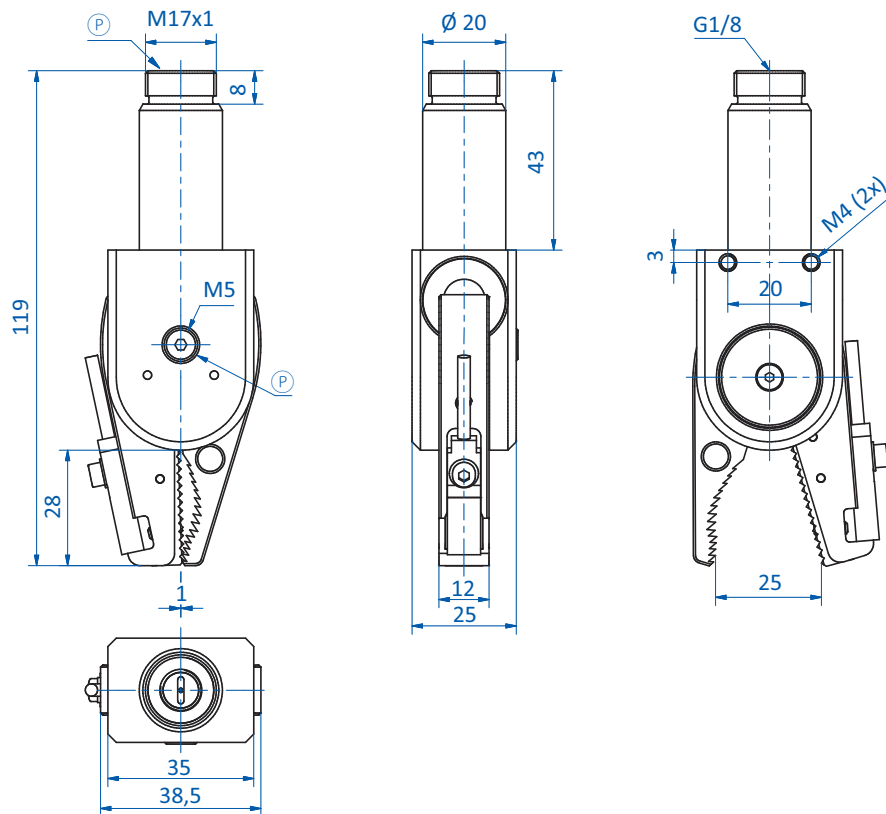
# Grippers | Sprue grippers

Series 130 – sprue grippers, clamping diameter 20 mm – single-acting

## Dimensions



GR04.130-1N | GR04.130-1P

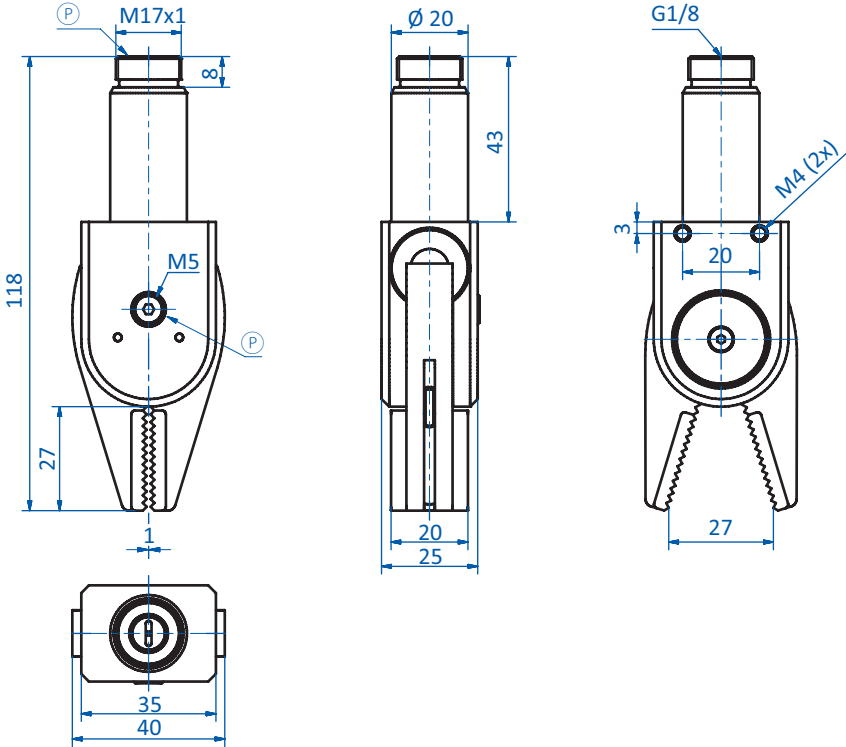


GR04.130B-1N | GR04.130B-1P

Ⓟ = Compressed air connection



Dimensions



GR04.130XW-3P

Ⓟ = Compressed air connection



# Grippers | Sprue grippers

Series 2016 – sprue grippers, without sensor

## Series 2016 – sprue grippers, without sensor

SELF-CENTERING



GR04.2016R with straight jaws



Sprue gripper GR04.2016H with HNBR pads

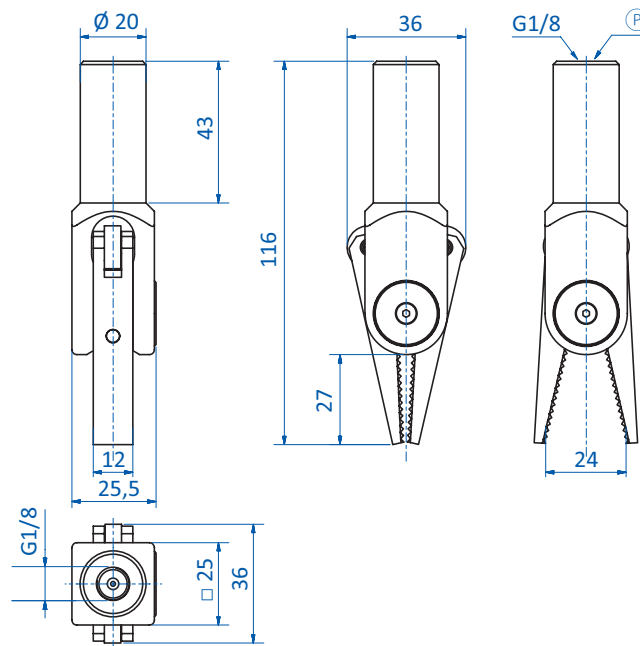
### Product notes

- > Clamping diameter 20 mm
- > Grippers with wide opening jaws and high gripping force
- > GR04.2016S with sawtooth jaws for a higher gripping force
- > GR04.2016H with interchangeable HNBR pads for gentle gripping
- > Easy assembly/disassembly of the gripper jaws
- > Jaws made of zinc-plated steel
- > If a sprue detection is needed please use the grippers GR04.2016RC or GR04.2016SC with direct part detection
- > Body and jaws made of anodized aluminum
- > Principle of operation: single-acting
- > Medium: Filtered and oiled/unoiled air

### Technical data

Item no.	Max. operating pressure [bar (psi)]	Closing force at 6 bar (87 psi) [N]	Weight [g]
GR04.2016R	6 (87)	52	148
GR04.2016S	6 (87)	52	148
GR04.2016H	6 (87)	52	148

### Dimensions

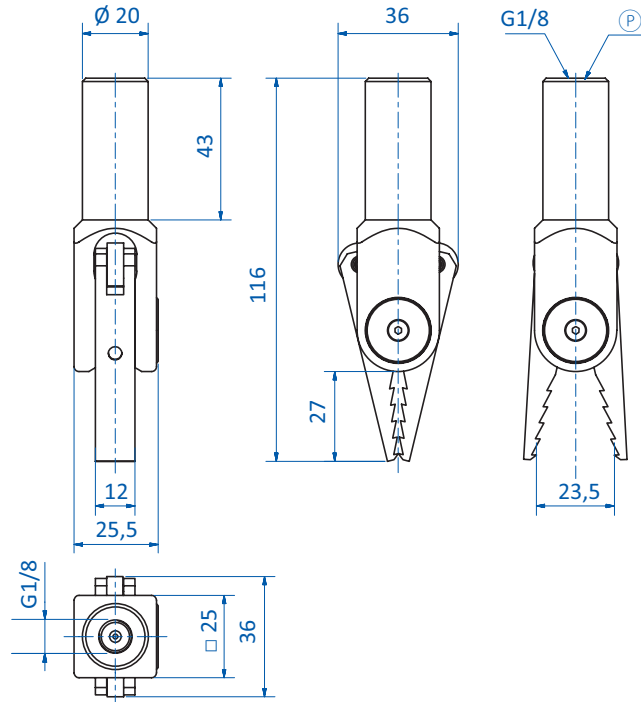


GR04.2016R

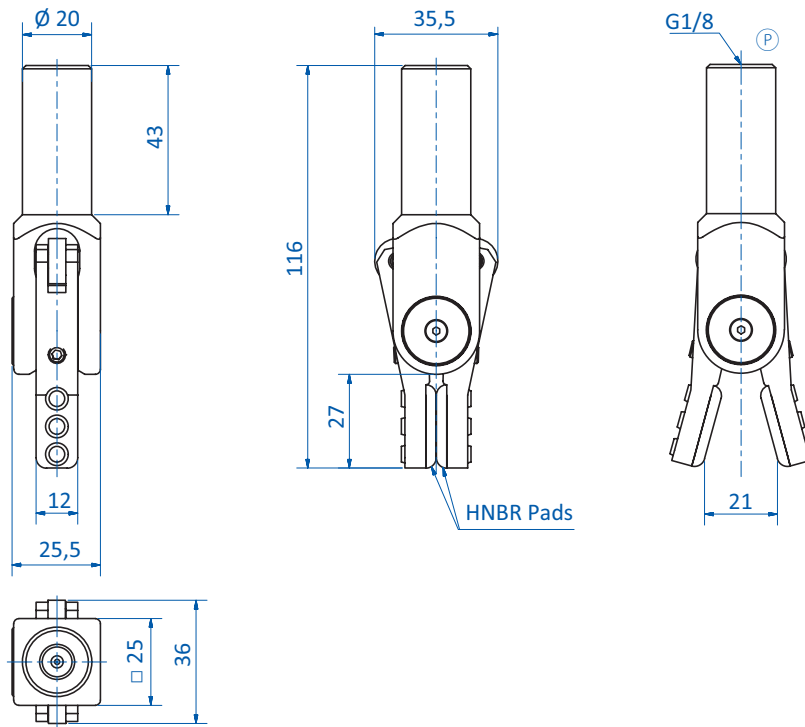
Ⓟ = Compressed air connection



Dimensions



GR04.2016S



GR04.2016H

Ⓟ = Compressed air connection





# Grippers | Sprue grippers

Series 2016 – sprue grippers, with direct sensing

## Series 2016 – sprue grippers, with direct sensing



GR04.2016RC with straight jaws



GR04.2016SC with sawtooth for a higher gripping force

SELF-CENTERING

### Product notes

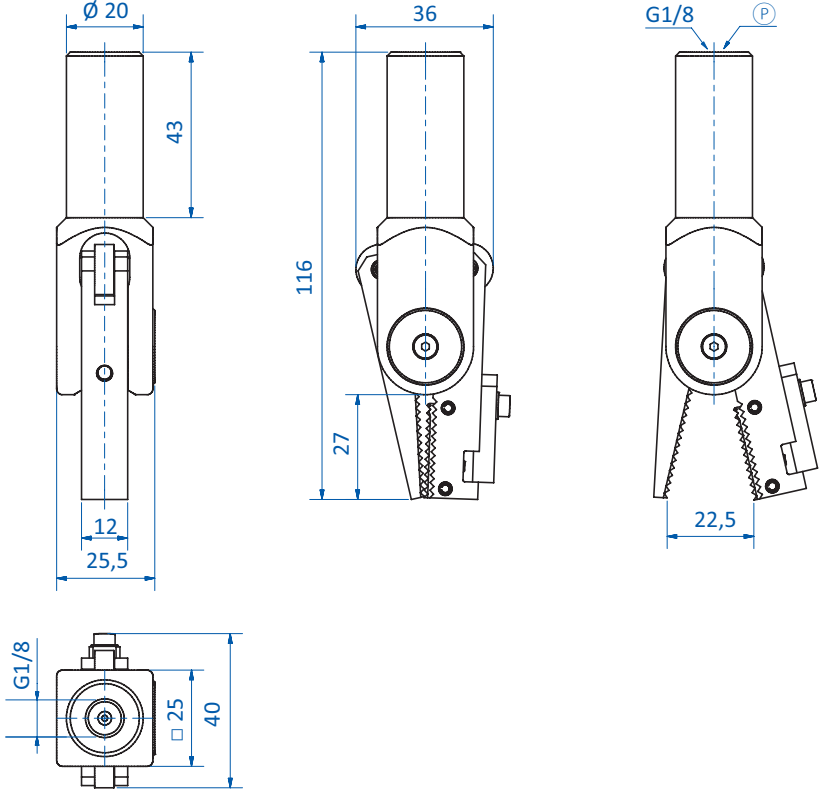
- > Clamping diameter 20 mm
- > Grippers with wide opening jaws and high gripping force
- > Self-centering
- > Large area sensor activation, regardless of sprue position
- > Easy assembly/disassembly of the gripper jaws
- > Jaws made of zinc-plated steel
- > Body and jaws made of anodized aluminum
- > Principle of operation: single-acting
- > Medium: filtered and oiled/unoled air

### Technical data

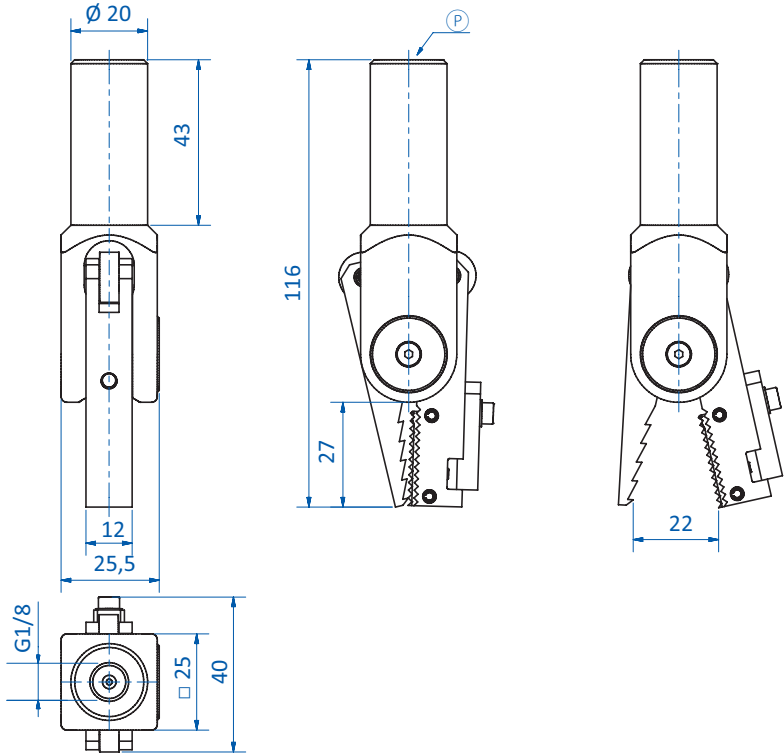
Item no.	Max. operating pressure [bar (psi)]	Sensor	Closing force at 6 bar (87 psi) [N]	Weight [g]	Accessories
<b>GR04.2016RC</b>	6 (87)	PNP	52	165	Connector cable: 20.503 (p.410) Sensor: GS04.001 (p.408)
<b>GR04.2016RC/NPN</b>	6 (87)	NPN	52	165	Connector cable: 20.503 (p.410) Sensor: GS04.002 (p.408)
<b>GR04.2016SC</b>	6 (87)	PNP	52	168	Connector cable: 20.503 (p.410) Sensor: GS04.001 (p.408)
<b>GR04.2016SC/NPN</b>	6 (87)	NPN	52	168	Connector cable: 20.503 (p.410) Sensor: GS04.002 (p.408)



Dimensions



GR04.2016RC | GR04.2016RC/NPN



GR04.2016SC | GR04.2016SC/NPN

Ⓟ = Compressed air connection



### Series 140 – power grippers



Application example: gripping of plastic flaps

#### Product notes

- > Clamping diameter 20 mm
- > PNP or NPN sensors with 0.3 m cable, 3-pin M8 plug and extension cable 2 m with 3-pin M8 socket & free end, included
- > Very high grip force
- > Body and jaws made of anodized aluminum
- > Principle of operation: single-acting
- > Medium: filtered and oiled/unoiled air

#### Technical data

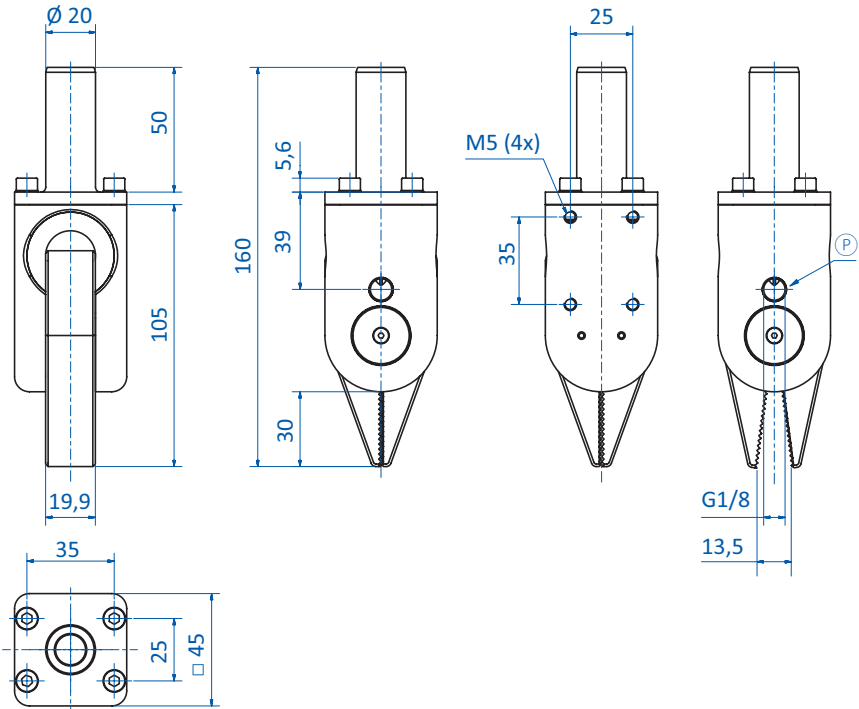
Item no.	Max. operating pressure [bar (psi)]	Sensor	Closing force at 6 bar (87 psi) [N]	Weight [g]	Accessories
<b>GR04.140A</b>	8 (116)	--	380	395	--
<b>GR04.140B</b>	8 (116)	PNP	380	405	Connector cable: 20.503 (p.410) Sensor: GS04.001 (p.408)
<b>GR04.140B/NPN</b>	8 (116)	NPN	380	405	Connector cable: 20.503 (p.410) Sensor: GS04.002 (p.408)

#### Installation example with side-mounted fitting

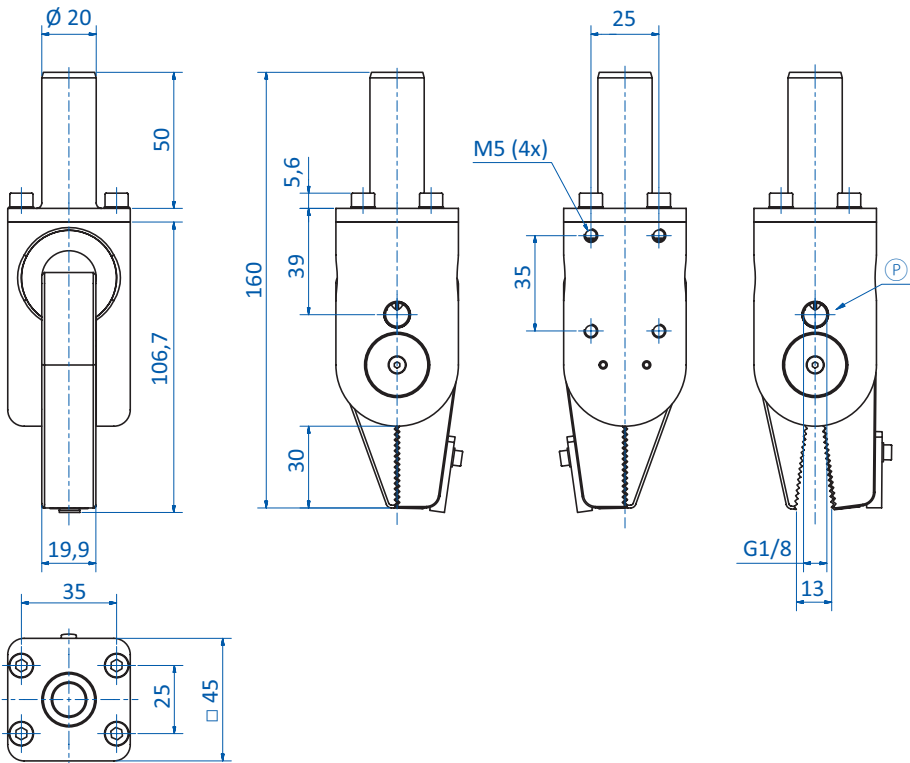




Dimensions



GR04.140A



GR04.140B | GR04.140B/NPN

Ⓟ = Compressed air connection



# Grippers | Sprue grippers

Series 840 – power grippers with stroke, clamping diameter 30 mm

## Series 840 – power grippers with stroke, clamping diameter 30 mm

DETECTS SPRUES LARGER 1 MM



### Product notes

- > Grippers with high gripping force and narrow closing gap for flat sprues
- > Feed stroke (cylinder 1) moves gripper towards the mold for part removal
- > Back stroke (cylinder 2) fully retracts gripper to enable undisturbed part release, e.g. on a conveyor belt
- > Grippers are self-centering
- > Medium: filtered and oiled/unoiled air
- > Suitable for heavy-duty applications due to closed, coaxial cylinder guiding
- > Part control via large area sensor activation, regardless of sprue position (GR04.140B, GR04.140B/NPN)
- > Detection of stroke via optional cylinder sensors
- > Easy exchange of jaws without snap-rings
- > If required, the grippers can quickly be changed over to non-self-centering
- > Included in scope of delivery of GR04.840B: sensor GR04.131-S1, resp. GR04.131-S2, cable 0.2 m, 3-pin M8 male connector, free end; extension cable 2 m, 3-pin M8 male connector, free end
- > Please refer to "suitable sensors" for cylinder sensors

### Technical data

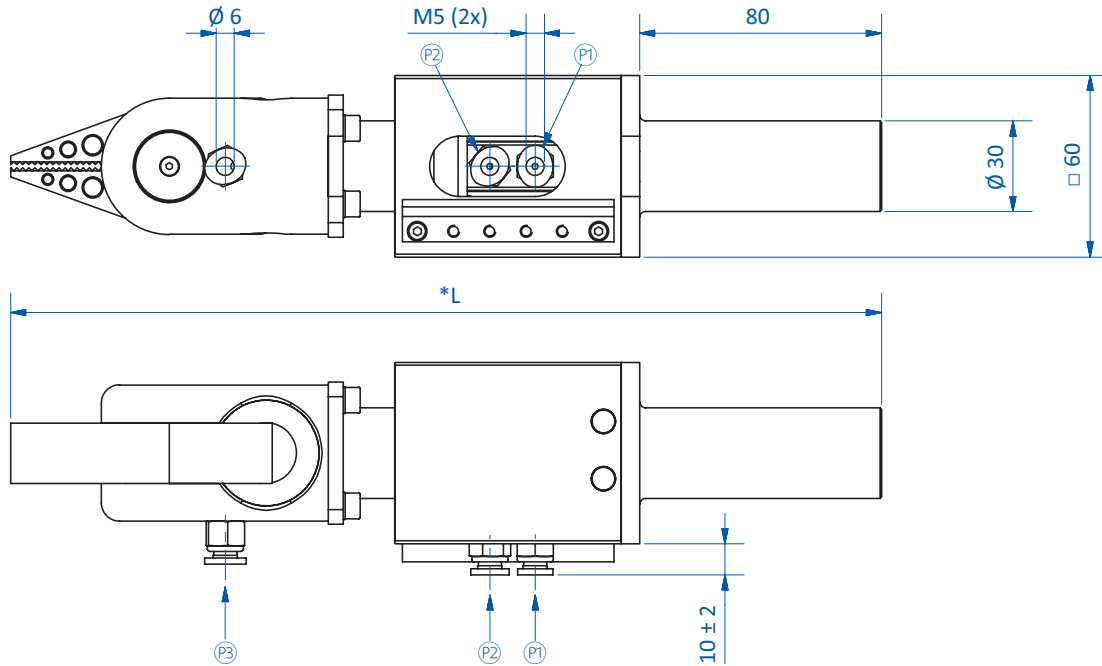
Item no.	Operating pressure [bar (psi)]	Sensor	Closing force at 6 bar (87 psi) [N]	Stroke 1 [mm]	Stroke 2 [mm]	Weight [g]	Suitable sensors
GR04.840A-20	6 (87)	--	380	20	--	1,110	GR04.202N (p.404) GR04.202P (p.404) GR04.280N (p.404) GR04.280P (p.404)
GR04.840A-30	6 (87)	--	380	30	--	1,185	GR04.202N (p.404) GR04.202P (p.404) GR04.280N (p.404) GR04.280P (p.404)
GR04.840A-20-20	6 (87)	--	380	20	20	1,480	GR04.202N (p.404) GR04.202P (p.404) GR04.280N (p.404) GR04.280P (p.404)
GR04.840A-20-30	6 (87)	--	380	30	20	1,540	GR04.202N (p.404) GR04.202P (p.404) GR04.280N (p.404) GR04.280P (p.404)
GR04.840B-20	6 (87)	PNP	380	20	--	1,130	GS04.001 (p.408) GR04.202P (p.404) GR04.280P (p.404)
GR04.840B-30	6 (87)	PNP	380	30	--	1,200	GS04.001 (p.408) GR04.202P (p.404) GR04.280P (p.404)
GR04.840B-20-20	6 (87)	PNP	380	20	20	1,500	GS04.001 (p.408) GR04.202P (p.404) GR04.280P (p.404)
GR04.840B-20-30	6 (87)	PNP	380	30	20	1,560	GS04.001 (p.408) GR04.202P (p.404) GR04.280P (p.404)
GR04.840B-20/NPN	6 (87)	NPN	380	20	--	1,130	GS04.002 (p.408) GR04.202N (p.404) GR04.280N (p.404)
GR04.840B-30/NPN	6 (87)	NPN	380	30	--	1,200	GS04.002 (p.408) GR04.202N (p.404) GR04.280N (p.404)



### Technical data

Item no.	Operating pressure [bar (psi)]	Sensor	Closing force at 6 bar (87 psi) [N]	Stroke 1 [mm]	Stroke 2 [mm]	Weight [g]	Suitable sensors
GR04.840B-20-20/NPN	6 (87)	NPN	380	20	20	1,500	GS04.002 (p.408) GR04.202N (p.404) GR04.280N (p.404)
GR04.840B-20-30/NPN	6 (87)	NPN	380	30	20	1,560	GS04.002 (p.408) GR04.202N (p.404) GR04.280N (p.404)

### Dimensions



GR04.840A-20 | GR04.840A-30 | GR04.840B-20 | GR04.840B-30 | GR04.840B-20/NPN | GR04.840B-30/NPN

\* = The length L refers to the gripper with retracted cylinders. Total length = L + stroke 1 (resp. stroke 1 + stroke 2).  $\textcircled{P1}$  = Compressed air connection cylinder extended  $\textcircled{P2}$  = Compressed air connection cylinder retracted  $\textcircled{P3}$  = Compressed air connection gripper

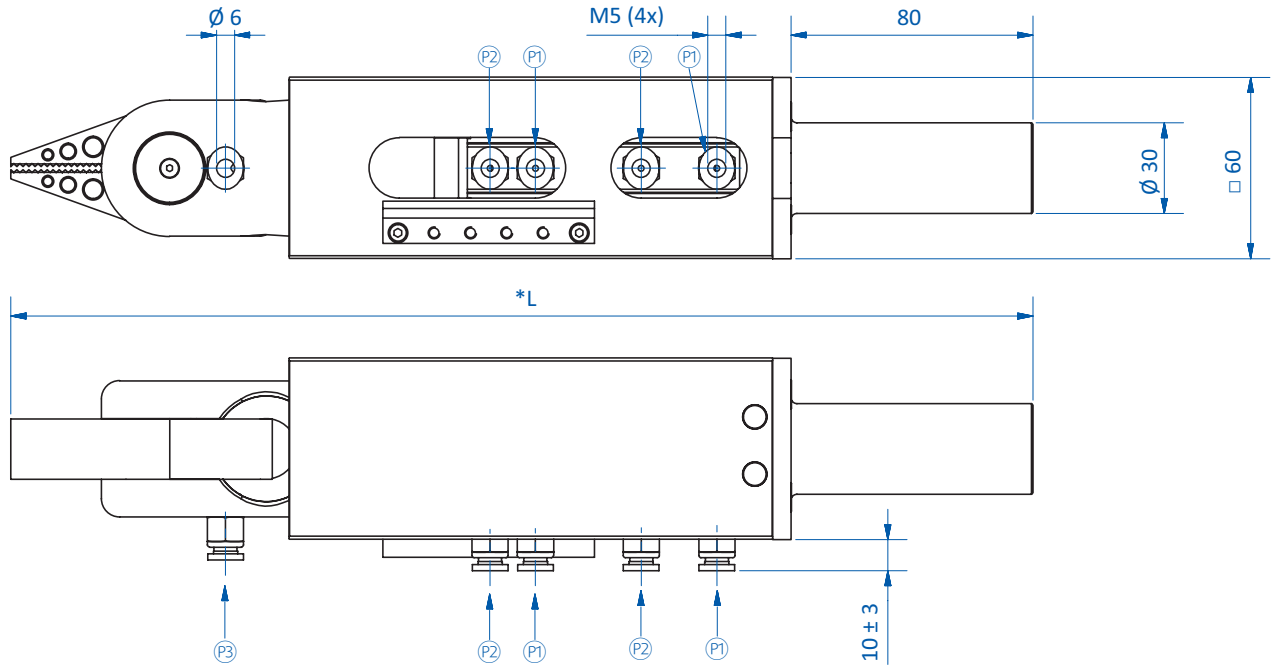
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# Grippers | Sprue grippers

Series 840 – power grippers with stroke, clamping diameter 30 mm

## Dimensions



GR04.840A-20-20 | GR04.840A-20-30 | GR04.840B-20-20 | GR04.840B-20-30 | GR04.840B-20-20/NPN | GR04.840B-20-30/NPN

\* = The length L refers to the gripper with retracted cylinders. Total length = L + stroke 1 (resp. stroke 1 + stroke 2).  $\textcircled{P1}$  = Compressed air connection cylinder extended  $\textcircled{P2}$  = Compressed air connection cylinder retracted  $\textcircled{P3}$  = Compressed air connection gripper

Item no.	L [mm]
GR04.840A-20	298
GR04.840A-30	308
GR04.840A-20-20	348
GR04.840A-20-30	358
GR04.840B-20	298
GR04.840B-30	308
GR04.840B-20-20	348
GR04.840B-20-30	358
GR04.840B-20/NPN	298
GR04.840B-30/NPN	308
GR04.840B-20-20/NPN	348
GR04.840B-20-30/NPN	358



Series 110 – sprue gripper with indirect sensing



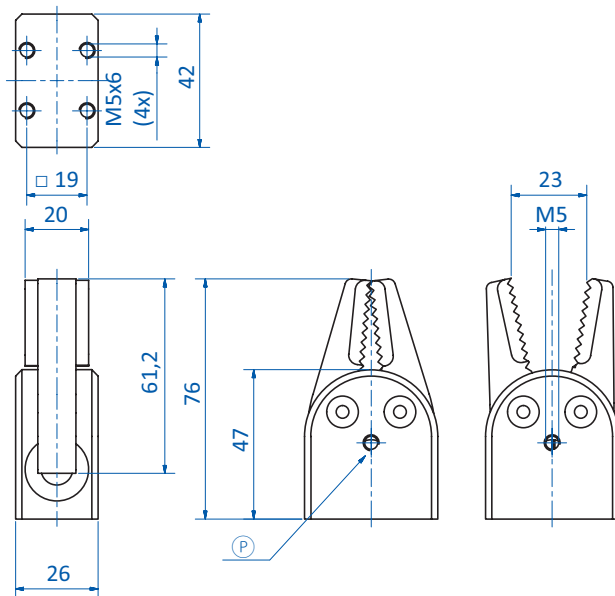
Product notes

- > Grippers with high gripping force and wide jaw opening
- > Jaws with rough tooth pattern for parts that are difficult to demold
- > Sprue detection via indirect sensing, signals when jaws are closed, because no part has been gripped
- > Principle of operation: single-acting
- > Sensor with 3-pole M8 plug and 0.6 m cable included in scope of delivery

Technical data

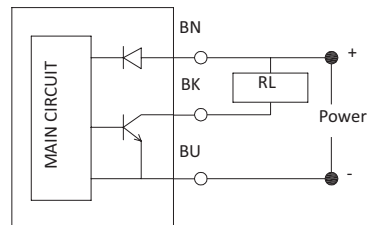
Item no.	Max. operating pressure [bar (psi)]	Sensor	Closing force at 6 bar (87 psi) [N]	Weight [g]	Accessories
GR04.111A	8 (116)	PNP*	95	135	Mounting bracket: GR04.196A (p.198) Sensor: GR04.111A-Sensor
GR04.111A/NPN	8 (116)	NPN*	95	135	Mounting bracket: GR04.196A (p.198) Sensor: GR04.111A-Sensor-NPN

Dimensions

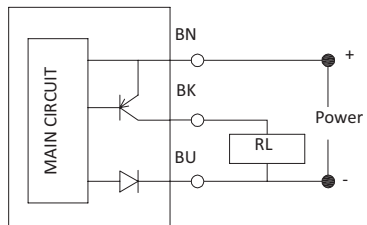


Wiring diagrams sensors

NPN



PNP



BN = Brown, BK = Black, BU = Blue

Ⓟ = Compressed air connection \* = Sensing of parts larger 2 mm





### Series 110 – grippers



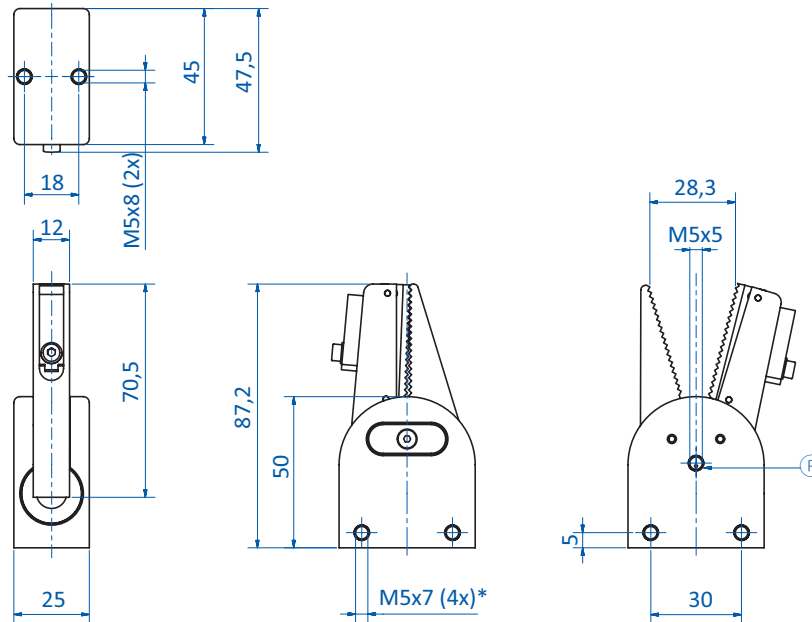
#### Product notes

- > High grip force, extra wide jaw opening and gap-free closing allow for a wide range of sprue diameters to be gripped
- > PNP or NPN sensors with 0.3 m cable, 3-pin M8 plug and extension cable 2 m with 3-pin M8 socket & free end, included
- > Principle of operation: single-acting

#### Technical data

Item no.	Max. operating pressure [bar (psi)]	Sensor	Closing force on the jaw tip [N]	Minimum sprue thickness [mm]	Weight [g]	Suitable sensors
<b>GR04.110A</b>	8 (116)	PNP	95	1	130	GS04.001 (p.408)
<b>GR04.110A/NPN</b>	8 (116)	NPN	95	1	130	GS04.002 (p.408)
<b>GR04.110B</b>	8 (116)	--	95	1	130	--

#### Dimensions

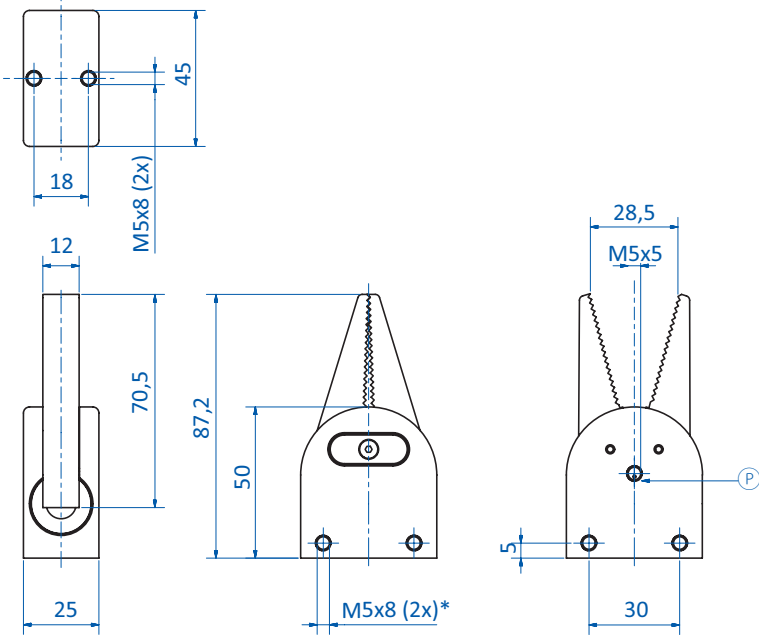


GR04.110A | GR04.110A/NPN

Ⓟ = Compressed air connection \* = Fixing hole



Dimensions



GR04.110B

Ⓟ = Compressed air connection \* = Fixing hole





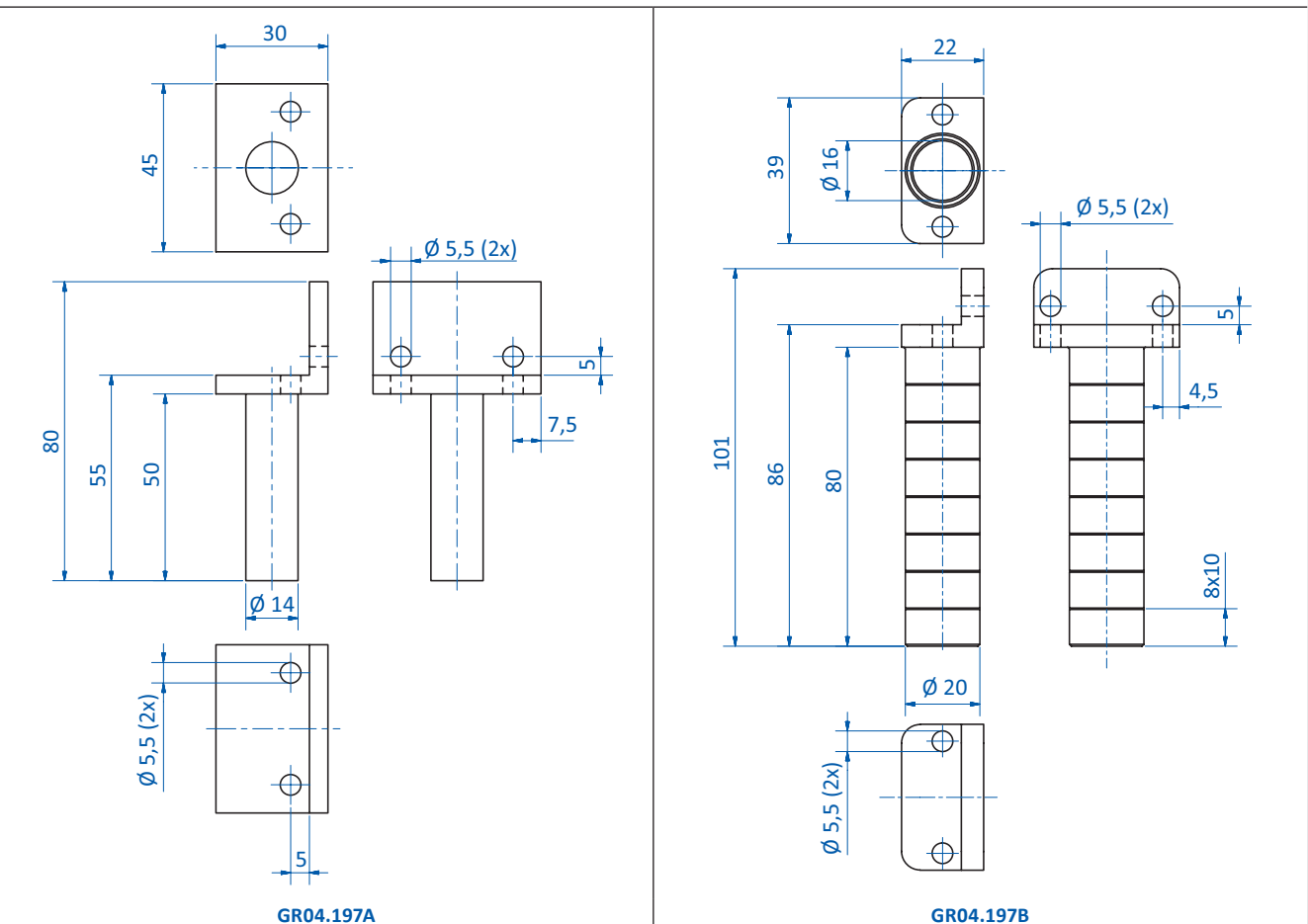
Mounting brackets for Series 110 – grippers



Technical data

Item no.	Weight [g]
GR04.197A	47
GR04.197B	47

Dimensions





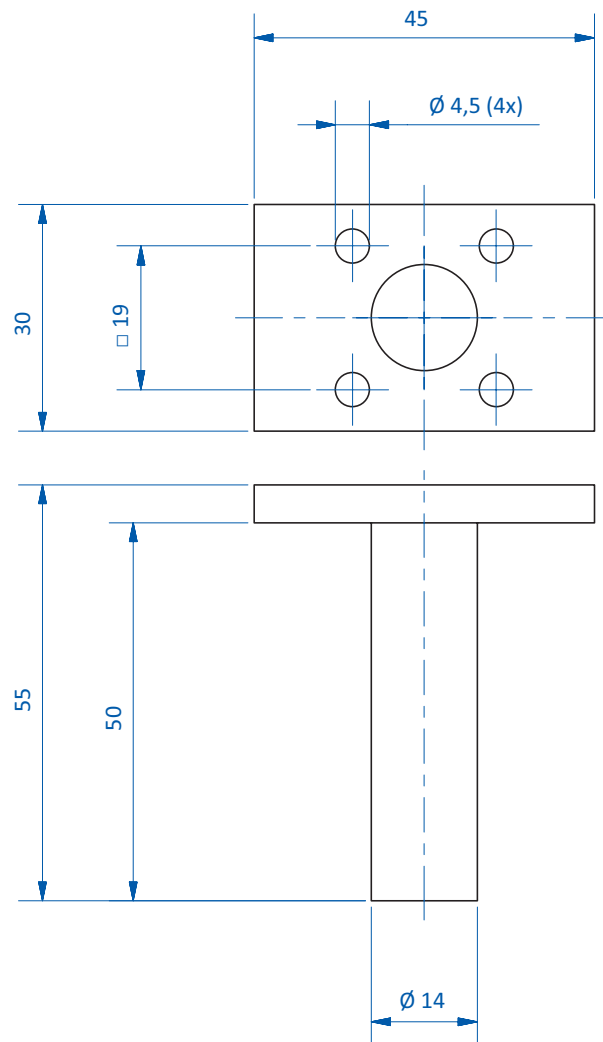
## Mounting brackets for Series 110 – grippers



### Technical data

Item no.	Weight [g]
GR04.196A	27

### Dimensions





Notes:

A large area for taking notes, featuring a vertical red line on the left side and horizontal grey lines for writing.



# Grippers | Gripper fingers

## 95° Gripper fingers

### 95° Gripper fingers



Gripper finger with HNBR pad and HNBR stop element for soft gripping

#### Product notes

- > Single-acting, spring return
- > Body and jaws made of anodized aluminum alloy
- > GR04.034 & GR04.040: optional sensors for monitoring piston position
- > Gripper finger with central hole for mounting optional HNBR pad

#### Technical data

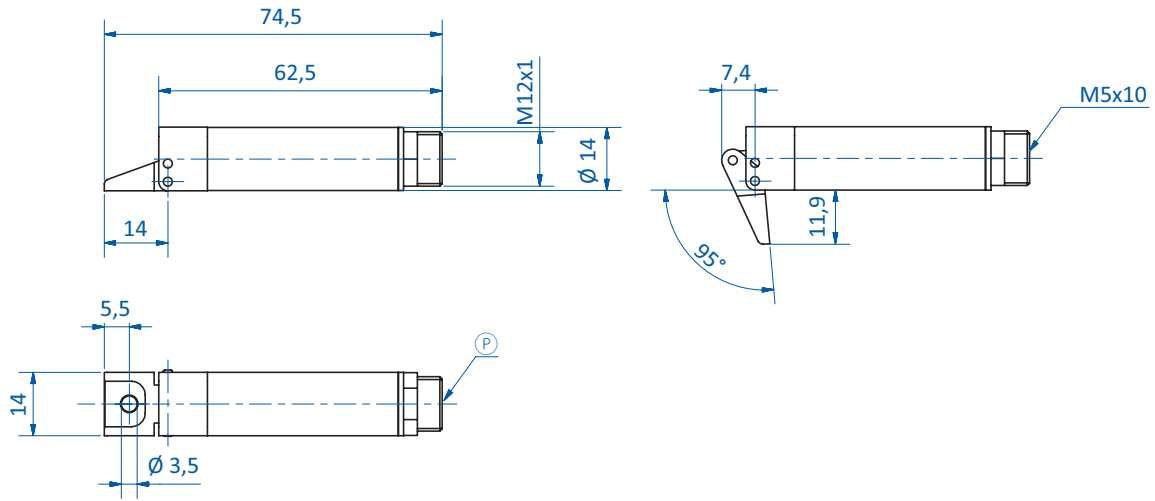
Item no.	GR04.034	GR04.040	GR04.044
Operating pressure [bar (psi)]	2 - 8 (29 - 116)	2 - 8 (29 - 116)	2 - 8 (29 - 116)
Clamping Ø [mm]	14	20	20
Angle stroke [°]	95	95	95
Sensor nut	--	Yes	--
Closing force at 6 bar (87 psi) [N]	24	70	70
Weight [g]	25	82	60
Accessories	HNBR pad: GR04.034-HNBR Sensor: GR04.198 (p.404) Sensor: GR04.198/NPN (p.404) Sensor mounting bracket: GR04.038S (p.204)	HNBR pad: GR04.044-HNBR Sensor: GR04.198 (p.404) Sensor: GR04.198/NPN (p.404)	HNBR pad: GR04.044-HNBR

#### Application example with sensor

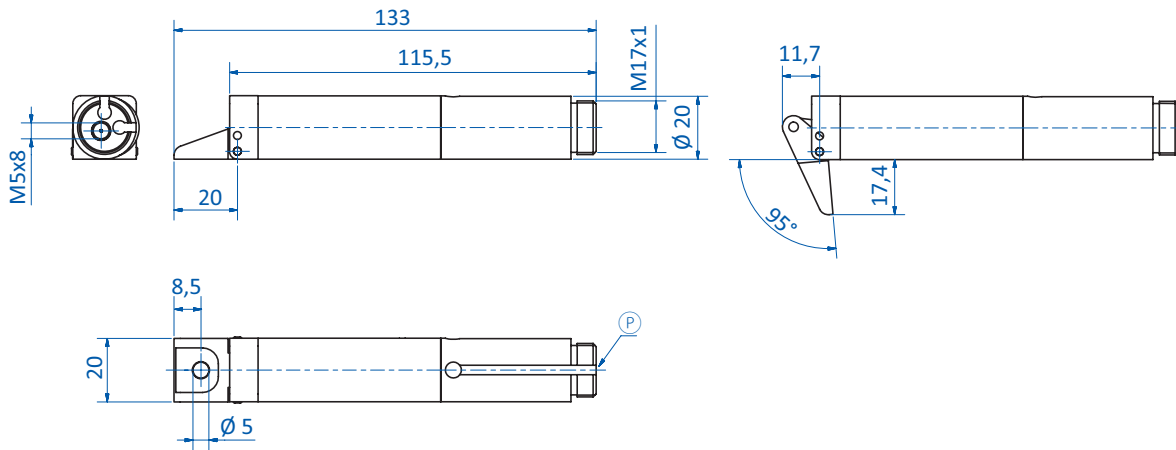




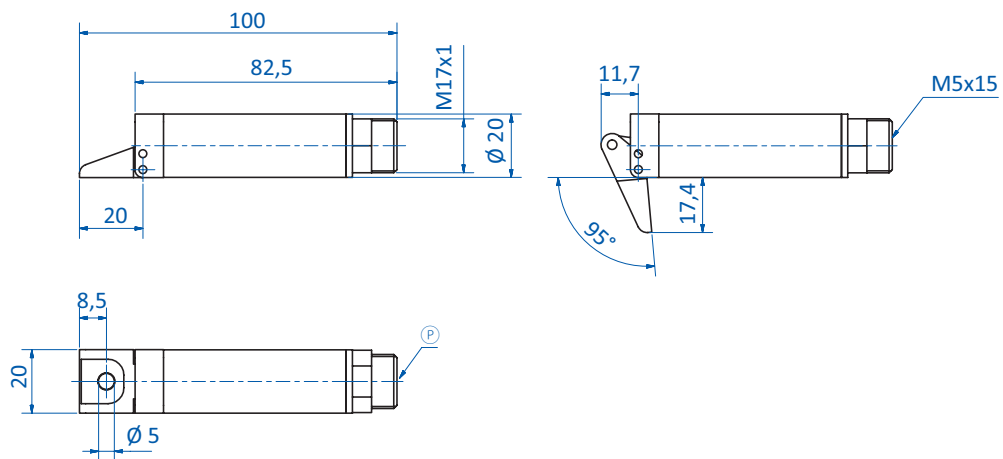
Dimensions



GR04.034



GR04.040



GR04.044

Ⓟ = Compressed air connection





### 35° Gripper Fingers



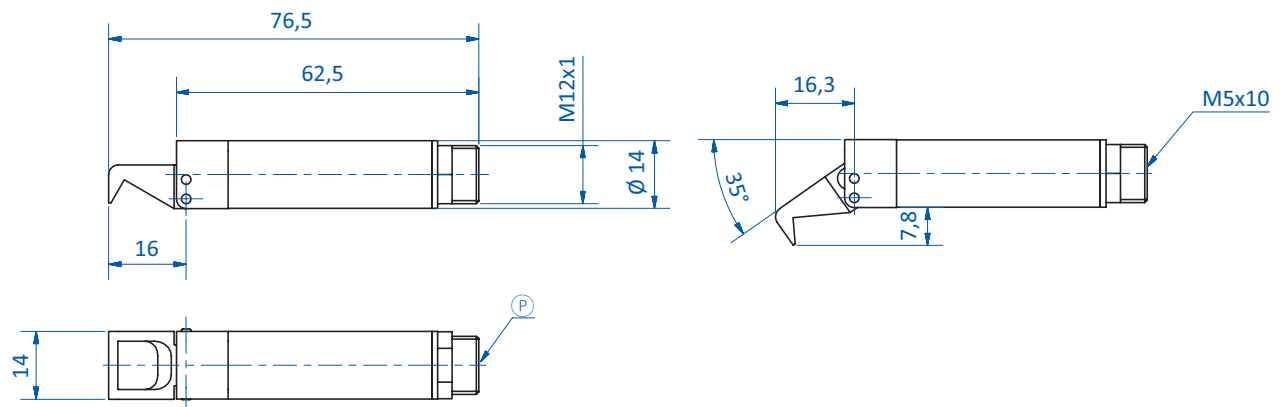
#### Product notes

- > Single-acting, spring return
- > Body and jaws made of anodized aluminum alloy
- > GR04.035 & GR04.041: optional sensors for monitoring piston position

#### Technical data

Item no.	GR04.035	GR04.041	GR04.045
Operating pressure [bar (psi)]	2 - 8 (29 - 116)	2 - 8 (29 - 116)	2 - 8 (29 - 116)
Clamping $\varnothing$ [mm]	14	20	20
Angle stroke [°]	35	35	35
Sensor nut	--	Yes	--
Closing force at 6 bar (87 psi) [N]	23	65	65
Weight [g]	25	86	65
Accessories	Sensor: GR04.198 (p.404) Sensor: GR04.198/NPN (p.404) Sensor mounting bracket: GR04.038S (p.204)	Sensor: GR04.198 (p.404) Sensor: GR04.198/NPN (p.404)	--

#### Dimensions

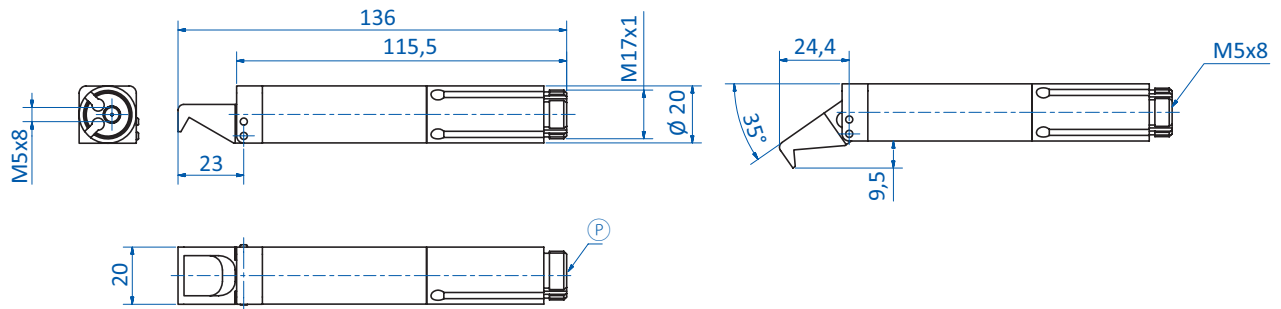


GR04.035

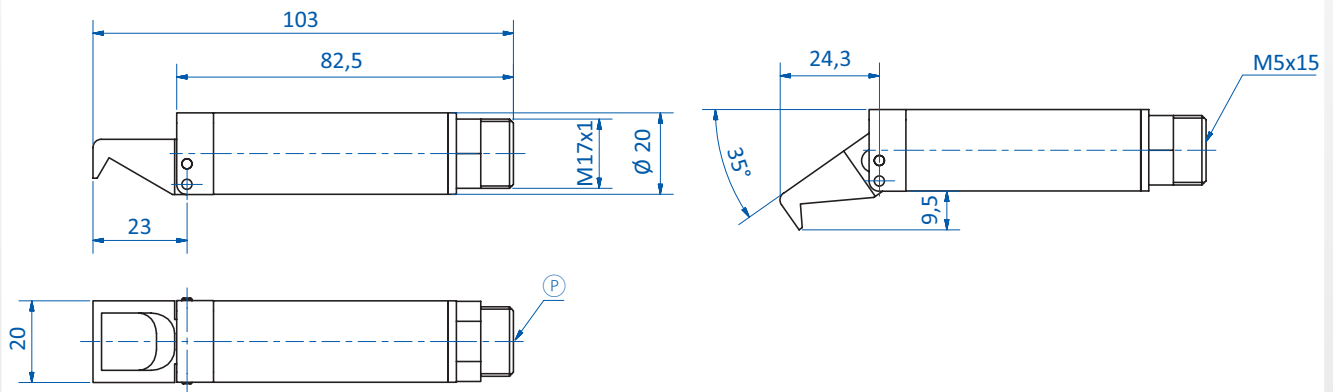
Ⓟ = Compressed air connection



Dimensions



GR04.041



GR04.045

Ⓟ = Compressed air connection



## Grippers | Gripper finger accessories

Sensor mounting bracket for gripper fingers, diameter 14 mm

Sensor mounting bracket for gripper fingers, diameter 14 mm



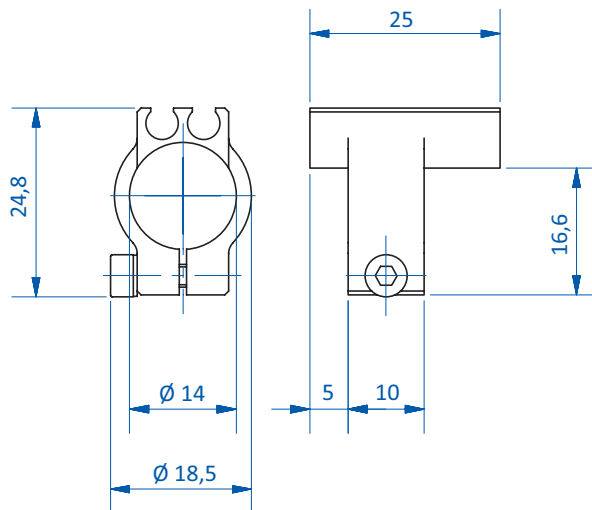
### Product notes

- > Made of anodized aluminum

### Technical data

Item no.	Suitable for gripper fingers	Clamping $\varnothing$ [mm]	Weight [g]	Suitable sensors
<b>GR04.0385</b>	GR04.034, GR04.035	14	6	GR04.198 (p.404) GR04.198/NPN (p.404)

### Dimensions





Gripper finger guide



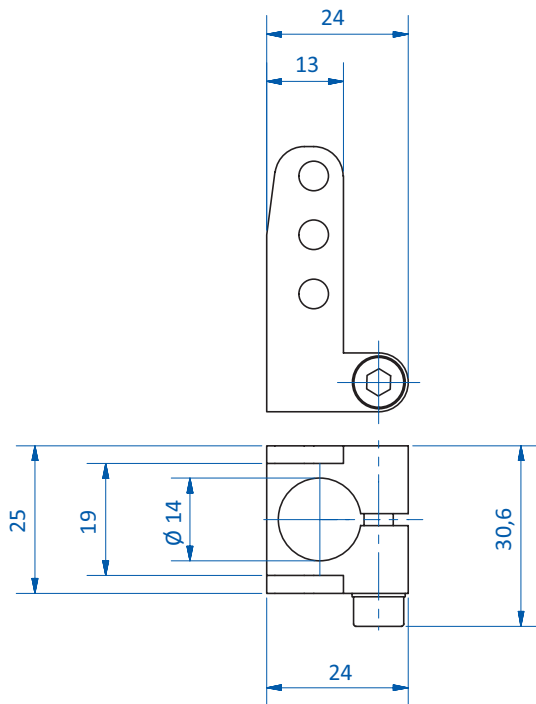
Product notes

> Part protection during demolding

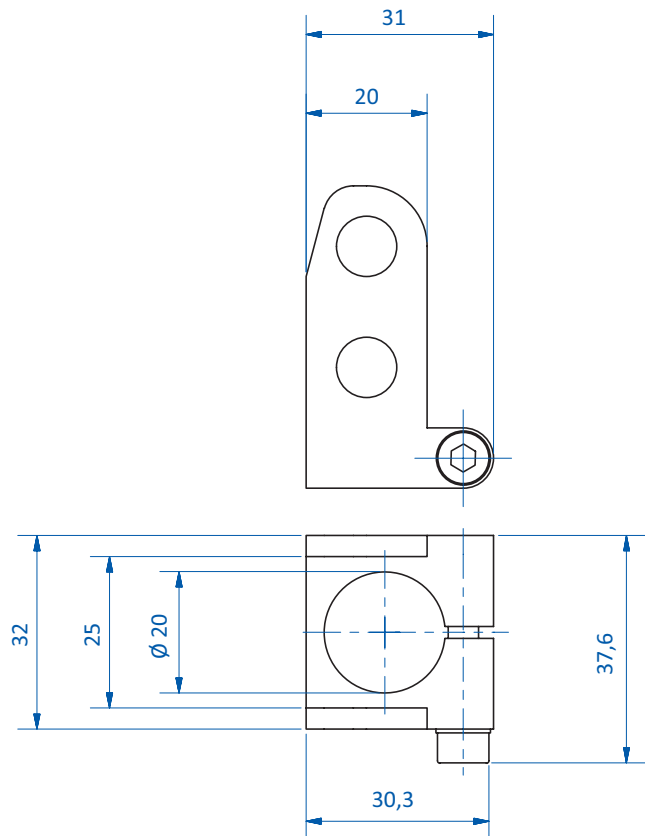
Technical data

Item no.	Suitable for gripper fingers	Clamping $\varnothing$ [mm]	Weight [g]	Suitable finger grippers
<b>GR04.037</b>	GR04.034, GR04.035	14	12	GR04.034 (p.200) GR04.035 (p.202)
<b>GR04.047</b>	GR04.040, GR04.041, GR04.044, GR04.045	20	19	GR04.040 (p.200) GR04.041 (p.202) GR04.044 (p.200) GR04.045 (p.202)

Dimensions



GR04.037



GR04.047



### Stop elements for gripper fingers



GR04.036 and GR04.046



GR04.034-H and GR04.044-H with HNBR pad

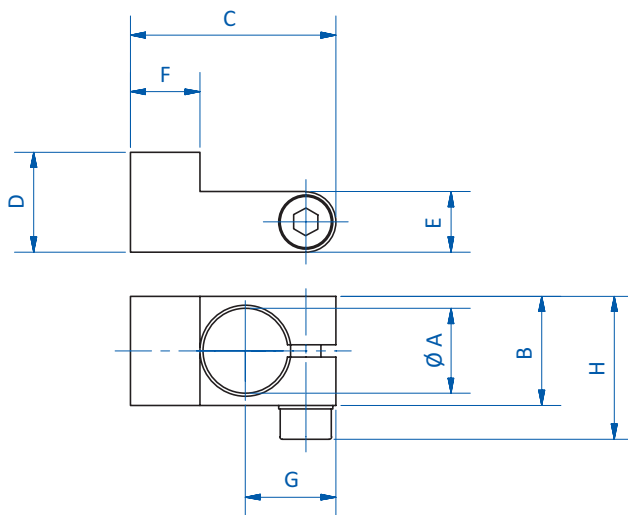
### Product notes

- > Made of POM
- > Can be used in conjunction with guide elements
- > GR04.034-H & GR04.044-H: with HNBR pads for gentle gripping of sensitive components, temperature range 0 - 160 °C (32 - 320 °F) for short term contact – up to 30 seconds

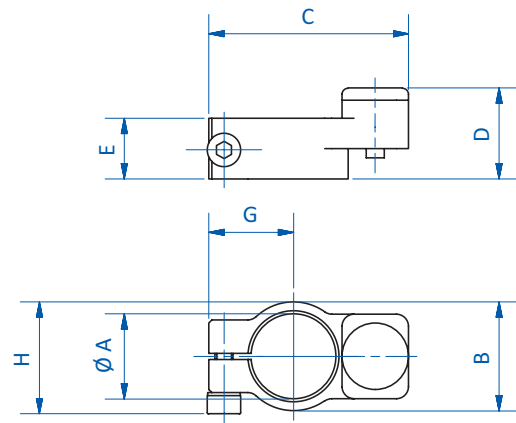
### Technical data

Item no.	Suitable for gripper fingers	Clamping $\varnothing$ [mm]	Weight [g]	Replacement parts
<b>GR04.036</b>	GR04.034, GR04.035	14	11	--
<b>GR04.046</b>	GR04.040, GR04.041, GR04.044, GR04.045	20	16	--
<b>GR04.034-H</b>	GR04.034, GR04.035	14	6	GR04.034-HNBR
<b>GR04.044-H</b>	GR04.040, GR04.041, GR04.044, GR04.045	20	13	GR04.044-HNBR

### Dimensions



GR04.036 | GR04.046



GR04.034-H | GR04.044-H

Item no.	$\varnothing A$ [mm]	B [mm]	H [mm]	C [mm]	D [mm]	E [mm]	F [mm]	G [mm]
<b>GR04.036</b>	14	18	23.6	34	16.5	10	11.5	15
<b>GR04.046</b>	20	24	29.6	45	14.5	10	16.5	18
<b>GR04.034-H</b>	14	18	18.5	33	15	10	--	14
<b>GR04.044-H</b>	20	24	24	44.5	13	10	--	17



Application examples

> Gripper finger with stop element without HNBR pad



> Gripper finger with stop element with HNBR pad





### Extension tubes



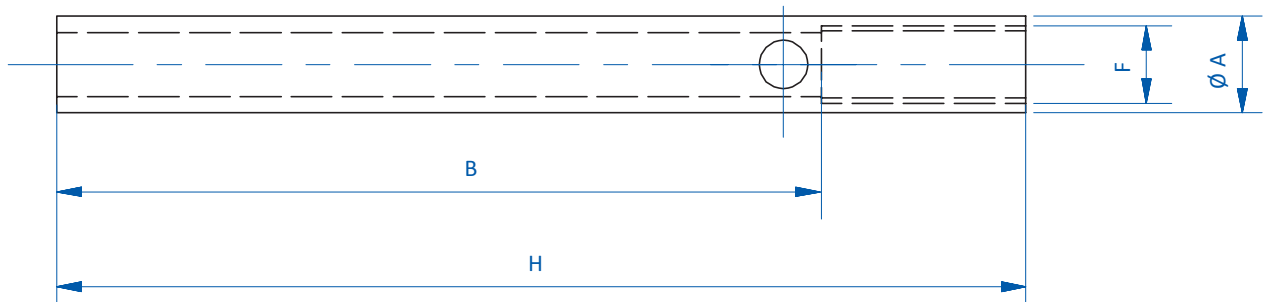
### Product notes

> Compatible with locator pins, finger grippers and sprue grippers

### Technical data

Item no.	Clamping $\phi$ [mm]	Weight [g]	Suitable locator pins
GR06.020	10	10	GR06.001 (p.89)
GR06.021A	14	22	GR06.002A (p.89)
GR06.022	20	28	GR06.003 (p.89)

### Dimensions



Item no.	F	$\phi A$ [mm]	B [mm]	H [mm]
GR06.020	M8x1	10	87	100
GR06.021A	M12x1	14	82	100
GR06.022	M17x1	20	82	100



## 2-finger parallel grippers



## Product notes

- > Gripper with high gripping force
- > Double-acting for inside/outside gripping and short duty cycles
- > Single-acting: normally open (NO), compressed air for closing, opening via return spring
- > Body and jaws made of high-strength aluminum alloy
- > Options
  - Base jaws for customization
  - Sensors for monitoring gripper action via piston position
- > Medium: filtered and oiled/unoiled air
- > PNP and NPN sensors:
  - C-slot (90° angle): GR04.202P, GR04.202N
  - C-slot (straight, short design): GR04.280P, GR04.280N
  - T-slot (straight): GR04.203P, GR04.203N
- > Connector cable for sensors:
  - 20.503: 3-pole M8, cable straight, length 2,500 mm, open wire
  - 20.507: 3-pole M8, cable 90°, length 2,000 mm, open end
  - 20.570: 3-pole M8, length 1,500 mm, end with plug 3-pole M8

## Technical data

Item no.	Principle of operation	Operating pressure [bar (psi)]	Piston diameter [mm]	Stroke per gripper jaw [mm]	Closing force at 5 bar (72,5 psi) [N]	Opening force at 5 bar (72,5 psi) [N]	Max. operating frequency [1/min]	Operating temperature [°C (°F)]	Weight [g]	Accessories
GR04.122-10	Double-acting	3 - 7 (43.5 - 101.5)	10	2	16	11	180	-10 - 60 (14 - 140)	120	Sensor: GR04.203N (p.404) Sensor: GR04.203P (p.404) Connector cable: 20.503 (p.410) Connector cable: 20.507 (p.410) Connector cable: 20.570 (p.410) Mounting bracket: GR06.050 (p.240)
GR04.122-10S	Single-acting	3 - 7 (43.5 - 101.5)	10	2	16	11	180	-10 - 60 (14 - 140)	120	Sensor: GR04.203N (p.404) Sensor: GR04.203P (p.404) Connector cable: 20.503 (p.410) Connector cable: 20.507 (p.410) Connector cable: 20.570 (p.410) Mounting bracket: GR06.050 (p.240)
GR04.122-16	Double-acting	3 - 7 (43.5 - 101.5)	16	3	44	33	180	-10 - 60 (14 - 140)	160	Sensor: GR04.202N (p.404) Sensor: GR04.202P (p.404) Sensor: GR04.203N (p.404) Sensor: GR04.203P (p.404) Sensor: GR04.280N (p.404) Sensor: GR04.280P (p.404)
GR04.122-16S	Single-acting	3 - 7 (43.5 - 101.5)	16	3	44	33	180	-10 - 60 (14 - 140)	160	Connector cable: 20.503 (p.410) Connector cable: 20.507 (p.410) Connector cable: 20.570 (p.410) Mounting bracket: GR06.051 (p.240)

Continued on the next page →





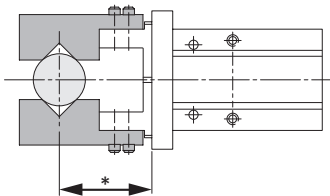
# Grippers | Parallel grippers

## 2-finger parallel grippers

### Technical data

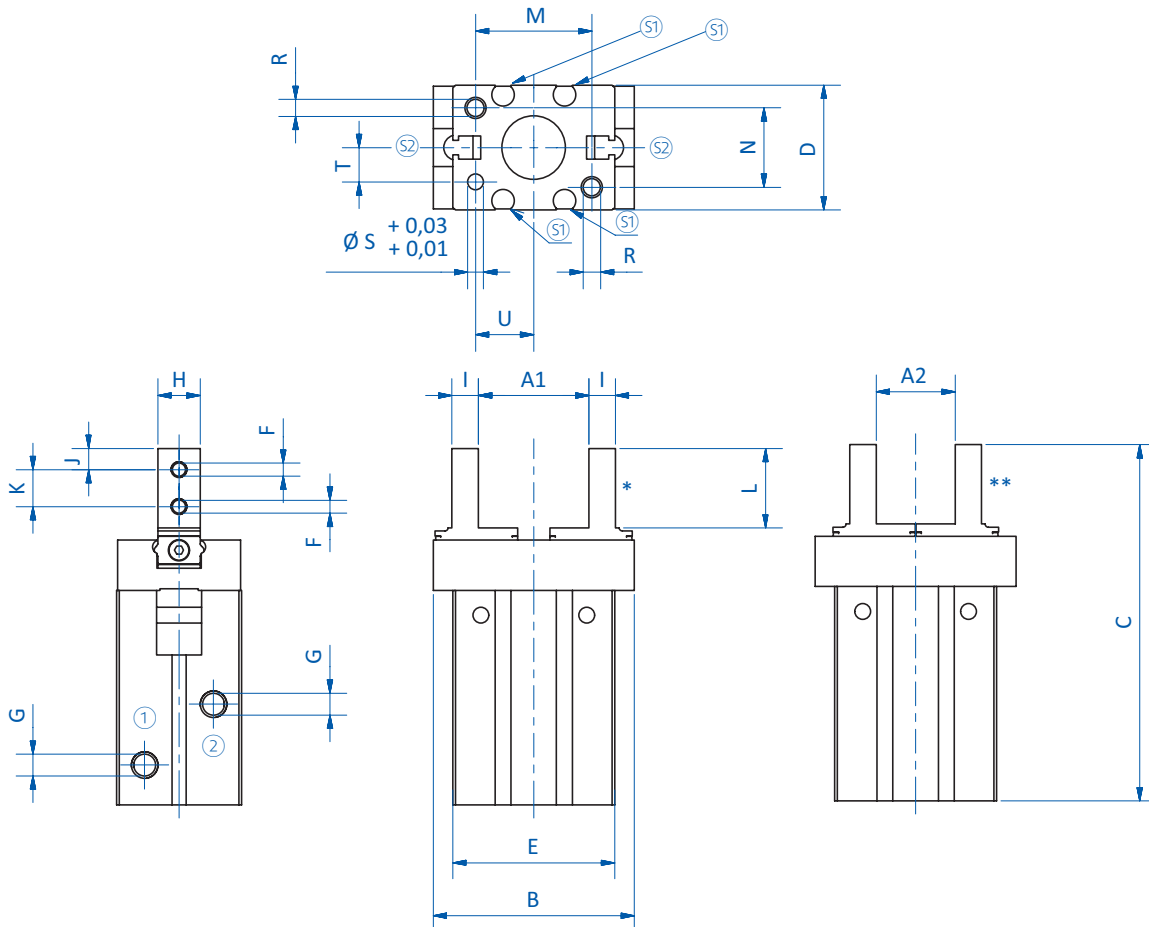
Item no.	Principle of operation	Operating pressure [bar (psi)]	Piston diameter [mm]	Stroke per gripper jaw [mm]	Closing force at 5 bar (72,5 psi) [N]	Opening force at 5 bar (72,5 psi) [N]	Max. operating frequency [1/min]	Operating temperature [°C (°F)]	Weight [g]	Accessories
<b>GR04.122-20</b>	Double-acting	3 - 7 (43.5 - 101.5)	20	5	65	40	180	-10 - 60 (14 - 140)	300	Sensor: GR04.202N (p.404) Sensor: GR04.202P (p.404) Sensor: GR04.203N (p.404) Sensor: GR04.203P (p.404) Sensor: GR04.280N (p.404)
<b>GR04.122-20S</b>	Single-acting	3 - 7 (43.5 - 101.5)	20	5	65	40	180	-10 - 60 (14 - 140)	300	Sensor: GR04.280P (p.404) Connector cable: 20.503 (p.410) Connector cable: 20.507 (p.410) Connector cable: 20.570 (p.410) Mounting bracket: GR06.052 (p.240)
<b>GR04.122-25</b>	Double-acting	3 - 7 (43.5 - 101.5)	25	7	105	66	180	-10 - 60 (14 - 140)	365	Sensor: GR04.202N (p.404) Sensor: GR04.202P (p.404) Sensor: GR04.203N (p.404) Sensor: GR04.203P (p.404) Sensor: GR04.280N (p.404)
<b>GR04.122-25S</b>	Single-acting	3 - 7 (43.5 - 101.5)	25	7	105	66	180	-10 - 60 (14 - 140)	365	Sensor: GR04.280P (p.404) Connector cable: 20.503 (p.410) Connector cable: 20.507 (p.410) Connector cable: 20.570 (p.410) Mounting bracket: GR06.053 (p.240)
<b>GR04.122-32</b>	Double-acting	3 - 7 (43.5 - 101.5)	32	11	225	156	60	-10 - 60 (14 - 140)	860	Sensor: GR04.202N (p.404) Sensor: GR04.202P (p.404) Sensor: GR04.203N (p.404) Sensor: GR04.203P (p.404) Sensor: GR04.280N (p.404)
<b>GR04.122-32S</b>	Single-acting	3 - 7 (43.5 - 101.5)	32	11	225	156	60	-10 - 60 (14 - 140)	860	Sensor: GR04.280P (p.404) Connector cable: 20.503 (p.410) Connector cable: 20.507 (p.410) Connector cable: 20.570 (p.410) Mounting bracket: GR06.054 (p.240)
<b>GR04.122-40</b>	Double-acting	3 - 7 (43.5 - 101.5)	40	15	320	255	60	-10 - 60 (14 - 140)	950	Sensor: GR04.202N (p.404) Sensor: GR04.202P (p.404) Sensor: GR04.203N (p.404) Sensor: GR04.203P (p.404) Sensor: GR04.280N (p.404)
<b>GR04.122-40S</b>	Single-acting	3 - 7 (43.5 - 101.5)	40	15	320	255	60	-10 - 60 (14 - 140)	950	Sensor: GR04.280P (p.404) Connector cable: 20.503 (p.410) Connector cable: 20.507 (p.410) Connector cable: 20.570 (p.410) Mounting bracket: GR06.055 (p.240)

### Distance to gripping point (\* see diagrams)





Dimensions



S<sub>1</sub> = Sensor slot for GR04.202 and GR04.280 S<sub>2</sub> = Sensor slot for GR04.203 ① = Compressed air supply (open) ② = Compressed air supply (close)  
\* = Gripper jaw opened \*\* = Gripper jaw closed

Item no.	A1 [mm]	A2 [mm]	B [mm]	C [mm]	D [mm]	E [mm]	F	G	H [mm]	I [mm]	J [mm]	K [mm]	L [mm]	M [mm]	N [mm]	R	∅ S [mm]	T [mm]	U [mm]
GR04.122-10	15.2	11.2	29	57	16.4	23	M2,5	M3	5	4	3	5.7	12	18	12	M3	2	5.2	7.6
GR04.122-10S	15.2	11.2	29	57	16.4	23	M2,5	M3	5	4	3	5.7	12	18	12	M3	2	5.2	7.6
GR04.122-16	20.9	14.9	38	67.3	23.6	30.6	M3	M5	8	5	4	7	15	22	15	M4	3	6.5	11
GR04.122-16S	20.9	14.9	38	67.3	23.6	30.6	M3	M5	8	5	4	7	15	22	15	M4	3	6.5	11
GR04.122-20	26.3	16.3	50	84.8	27.6	42	M4	M5	10	8	5	9	20	32	18	M5	4	7.5	16.8
GR04.122-20S	26.3	16.3	50	84.8	27.6	42	M4	M5	10	8	5	9	20	32	18	M5	4	7.5	16.8
GR04.122-25	33.3	19.3	63	102.7	33.6	52	M5	M5	12	10	6	12	25	40	22	M6	4	10	21.8
GR04.122-25S	33.3	19.3	63	102.7	33.6	52	M5	M5	12	10	6	12	25	40	22	M6	4	10	21.8
GR04.122-32	48	26	97	113	40	60	M6	M5	15	12	7	14	29	46	26	M6	5	12	23
GR04.122-32S	48	26	97	113	40	60	M6	M5	15	12	7	14	29	46	26	M6	5	12	23
GR04.122-40	60	30	119	139	48	72	M8	M5	18	14	9	17	36	56	32	M8	5	14	29
GR04.122-40S	60	30	119	139	48	72	M8	M5	18	14	9	17	36	56	32	M8	5	14	29

Continued on the next page →

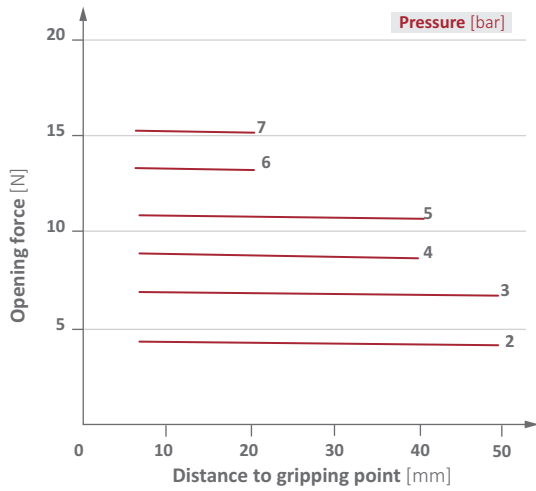


# Grippers | Parallel grippers

## 2-finger parallel grippers

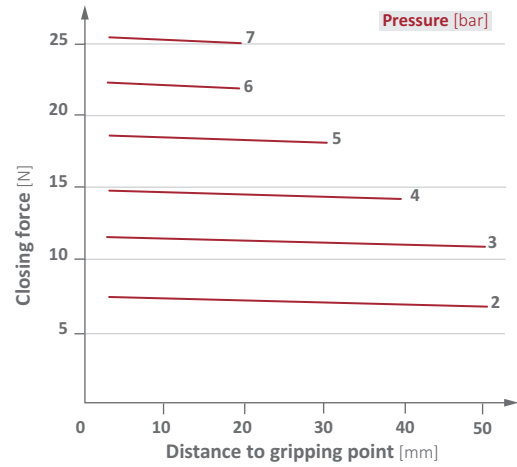
### Diagrams

> Opening force as a function of distance to gripping point and feed pressure



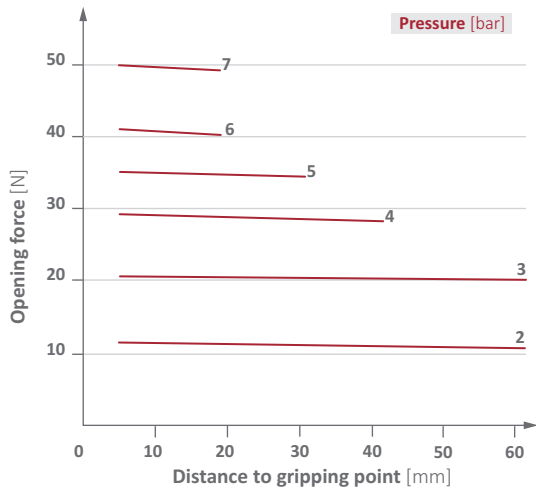
GR04.122-10 | GR04.122-10S

> Closing force as a function of distance to gripping point and feed pressure



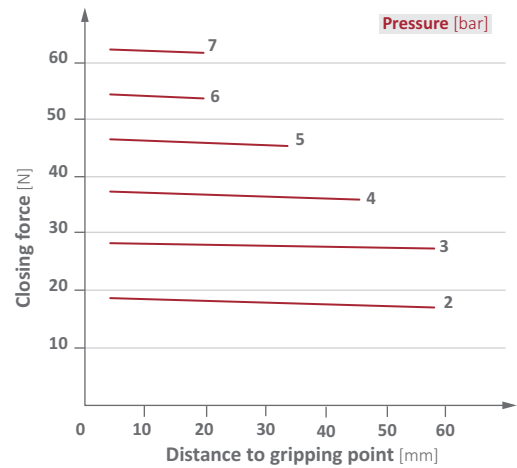
GR04.122-10 | GR04.122-10S

> Opening force as a function of distance to gripping point and feed pressure



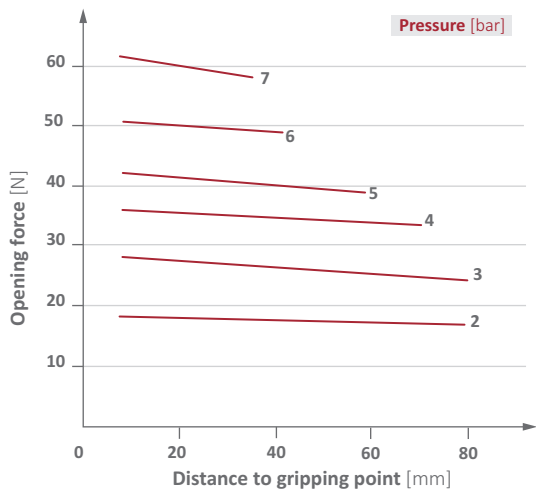
GR04.122-16 | GR04.122-16S

> Closing force as a function of distance to gripping point and feed pressure



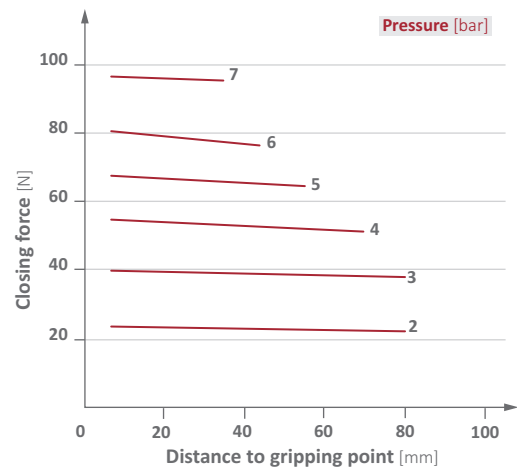
GR04.122-16 | GR04.122-16S

> Opening force as a function of distance to gripping point and feed pressure



GR04.122-20 | GR04.122-20S

> Closing force as a function of distance to gripping point and feed pressure

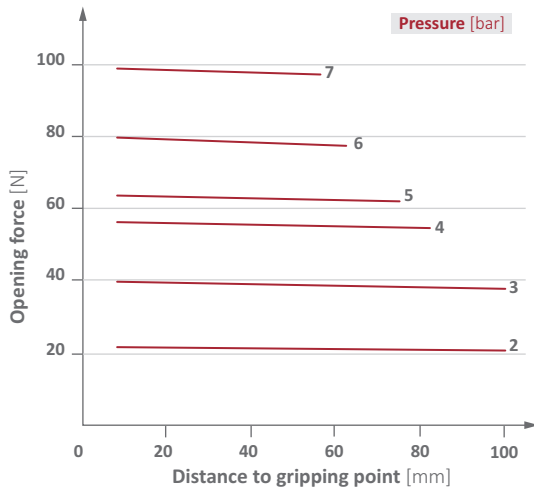


GR04.122-20 | GR04.122-20S



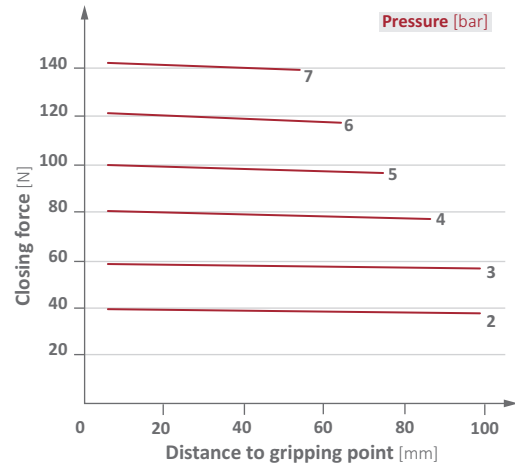
### Diagrams

> Opening force as a function of distance to gripping point and feed pressure



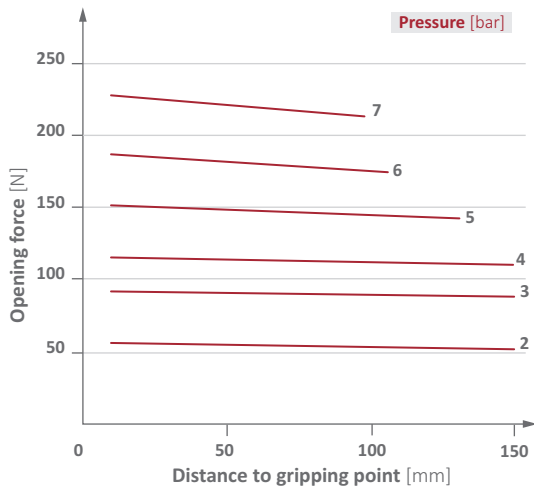
GR04.122-25 | GR04.122-25S

> Closing force as a function of distance to gripping point and feed pressure



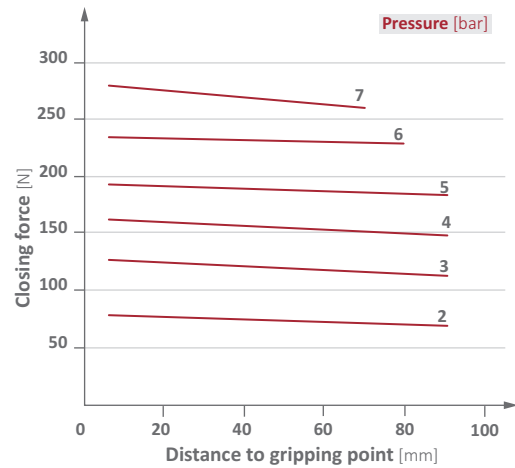
GR04.122-25 | GR04.122-25S

> Opening force as a function of distance to gripping point and feed pressure



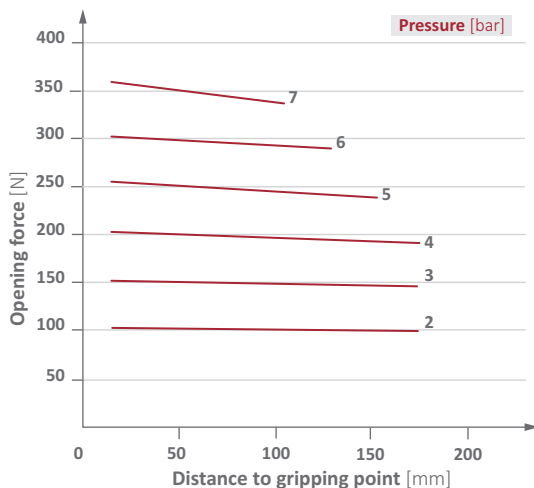
GR04.122-32 | GR04.122-32S

> Closing force as a function of distance to gripping point and feed pressure



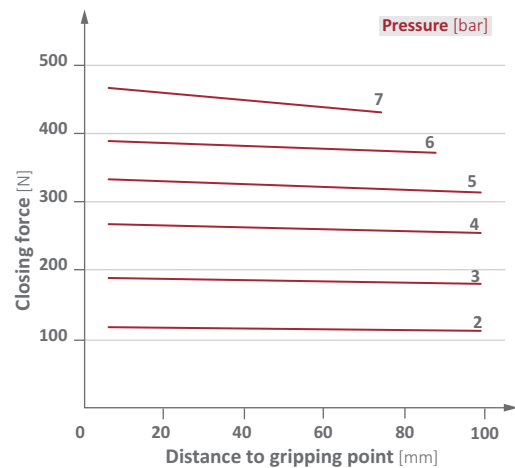
GR04.122-32 | GR04.122-32S

> Opening force as a function of distance to gripping point and feed pressure



GR04.122-40 | GR04.122-40S

> Closing force as a function of distance to gripping point and feed pressure



GR04.122-40 | GR04.122-40S



# Grippers | Parallel grippers

## Base jaws for parallel grippers

### Base jaws for parallel grippers



#### Product notes

- > Base jaws aluminum (index -1) for customization
- > Base jaws steel (index -4) with HNBR pads enable soft gripping
- > Base jaws with index -4 come with HNBR pads
- > Screws included in scope of delivery

#### Technical data

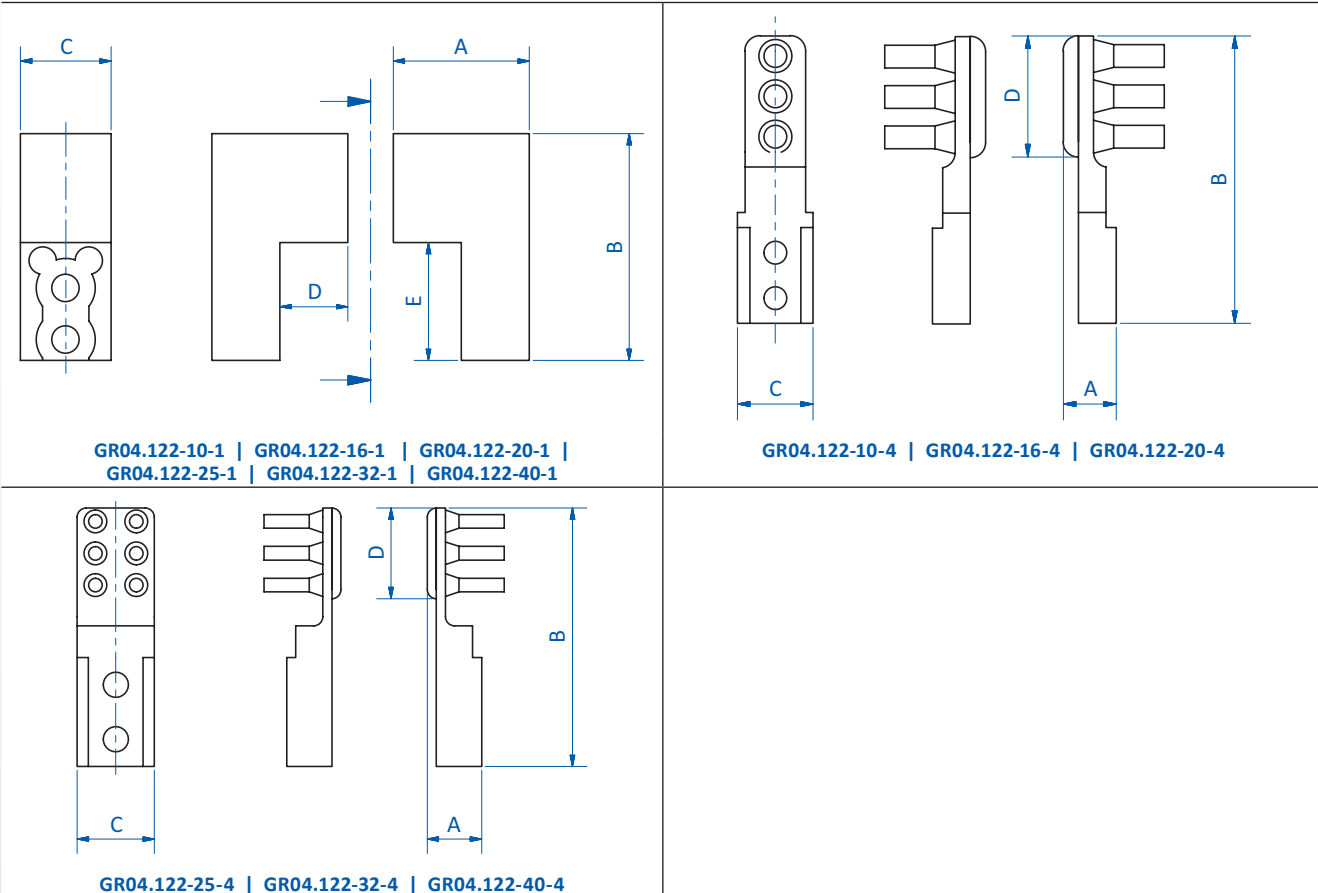
Item no.	Suitable for parallel grippers	Weight [g]	Replacement parts
<b>GR04.122-10-1</b>	GR04.122-10, GR04.122-10S	20	--
<b>GR04.122-16-1</b>	GR04.122-16, GR04.122-16S	24	--
<b>GR04.122-20-1</b>	GR04.122-20, GR04.122-20S	37	--
<b>GR04.122-25-1</b>	GR04.122-25, GR04.122-25S	53	--
<b>GR04.122-32-1</b>	GR04.122-32, GR04.122-32S	106	--
<b>GR04.122-40-1</b>	GR04.122-40, GR04.122-40S	156	--
<b>GR04.122-10-4</b>	GR04.122-10, GR04.122-10S	29	GR04.103-4HNBR
<b>GR04.122-16-4</b>	GR04.122-16, GR04.122-16S	49	GR04.103-4HNBR
<b>GR04.122-20-4</b>	GR04.122-20, GR04.122-20S	61	GR04.130C-4HNBR
<b>GR04.122-25-4</b>	GR04.122-25, GR04.122-25S	85	GR04.103-4HNBR
<b>GR04.122-32-4</b>	GR04.122-32, GR04.122-32S	136	GR04.103-4HNBR
<b>GR04.122-40-4</b>	GR04.122-40, GR04.122-40S	230	GR04.130C-4HNBR

#### Base jaws with HNBR pads





### Dimensions



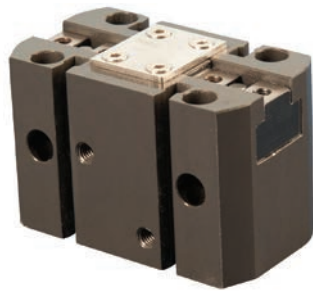
Item no.	A [mm]	B [mm]	C [mm]	D [mm]	E [mm]
GR04.122-10-1	15	25	10	7.5	13
GR04.122-16-1	17.9	28	13	10.4	16
GR04.122-20-1	21.5	33	15	14	21
GR04.122-25-1	25	38	17	17.5	26
GR04.122-32-1	36.4	42	20	22.9	30
GR04.122-40-1	40.4	49	23	26.9	37
GR04.122-10-4	7.5	45.2	10	20	--
GR04.122-16-4	9.5	57	13	20	--
GR04.122-20-4	10.5	57	15	24	--
GR04.122-25-4	12	57	17	20	--
GR04.122-32-4	15.2	57	20	20	--
GR04.122-40-4	17.3	64	24	24	--



# Grippers | Parallel grippers

2-finger parallel grippers – high gripping force

## 2-finger parallel grippers – high gripping force



### Product notes

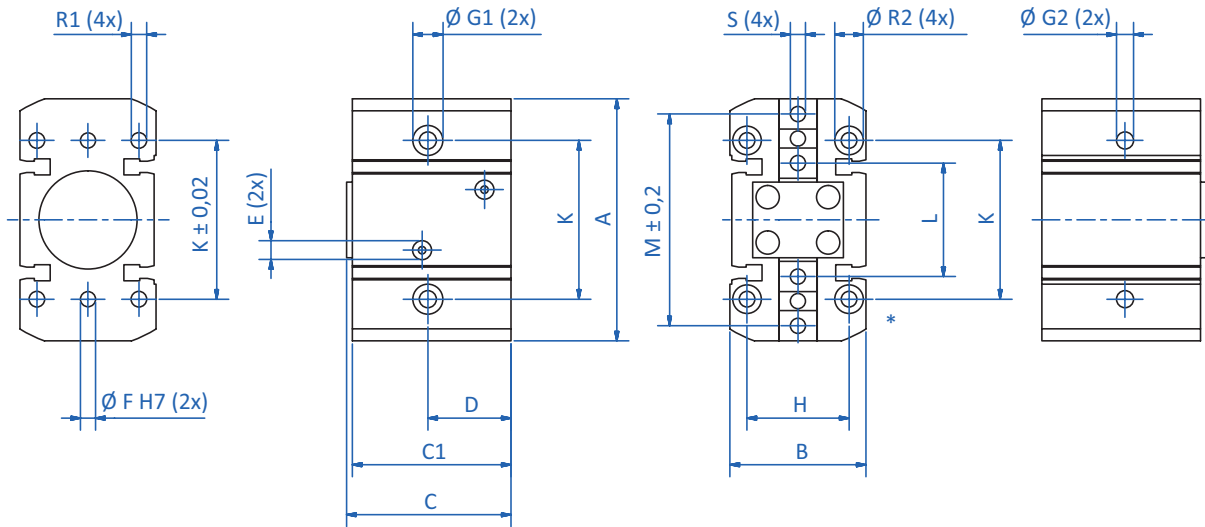
- > Grippers with high gripping force taking high bending moments
- > Compact design
- > Double-acting for inside/outside gripping and short duty cycles
- > Body made of high-strength aluminum alloy
- > Sensors for monitoring gripper action via piston position
- > Gripping force values are valid for a holding position L = 25 mm measured from top of gripper
- > Principle of operation: double-acting
- > Medium: filtered and oiled/unoiled air
- > PNP and NPN sensors:
  - T-slot (straight) for sensors: GR04.203P, GR04.203N

### Technical data

Item no.	GR04.600-12	GR04.600-16	GR04.600-20	GR04.600-26	GR04.600-32
Operating pressure [bar (psi)]	3 - 7 (43.5 - 101.5)	3 - 7 (43.5 - 101.5)	3 - 7 (43.5 - 101.5)	3 - 7 (43.5 - 101.5)	3 - 7 (43.5 - 101.5)
Piston diameter [mm]	12	16	20	26	32
Stroke per gripper jaw [mm]	6	8	10	13	16
Closing force at 6 bar (87 psi) [N]	240	320	550	750	1,200
Opening force at 6 bar (87 psi) [N]	280	370	600	830	1,300
Max. operating frequency [1/min]	180	180	180	180	180
Operating temperature [°C (°F)]	-5 - 60 (23 - 140)	-5 - 60 (23 - 140)	-5 - 60 (23 - 140)	-5 - 60 (23 - 140)	-5 - 60 (23 - 140)
Weight [g]	280	450	760	1,400	2,500
Suitable sensors	GR04.203N (p.404) GR04.203P (p.404)	GR04.203N (p.404) GR04.203P (p.404)	GR04.203N (p.404) GR04.203P (p.404)	GR04.203N (p.404) GR04.203P (p.404)	GR04.203N (p.404) GR04.203P (p.404)



## Dimensions



\* = Gripper jaw closed

Item no.	GR04.600-12	GR04.600-16	GR04.600-20	GR04.600-26	GR04.600-32
A [mm]	64	80	100	125	160
B [mm]	36	42	50	60	72
C [mm]	43.8	53	61	70	84
C1 [mm]	42	51	59	68	82
D [mm]	22	23	20	36	34
E	M5	M5	Rc1/8	Rc1/8	Rc1/8
Ø F [mm]	4	4	5	6	6
Ø G1	7.5x13	9x16	11x19	15x14	15x15
Ø G2 [mm]	4	5.1	6.6	9	9
H [mm]	27	32	38	45	56
K [mm]	42	52	66	82	100
L	28 (min)	38 (min)	46 (min)	60 (min)	78 (min)
M [mm]	56	70	88	108	142
R1	M5	M5	M6	M8	M8
Ø R2	7.5x26	7.5x33	9.1x45	11x42	11x56
S	M4x8	M5x10	M6x12	M6x13	M8x17

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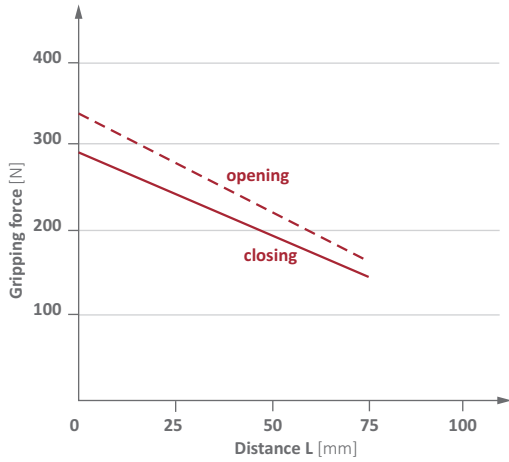


# Grippers | Parallel grippers

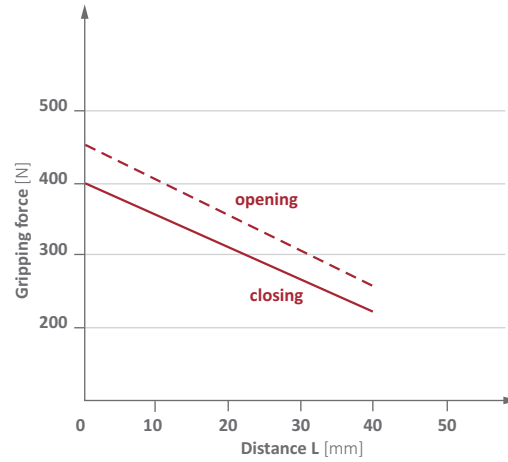
2-finger parallel grippers – high gripping force

## Diagrams

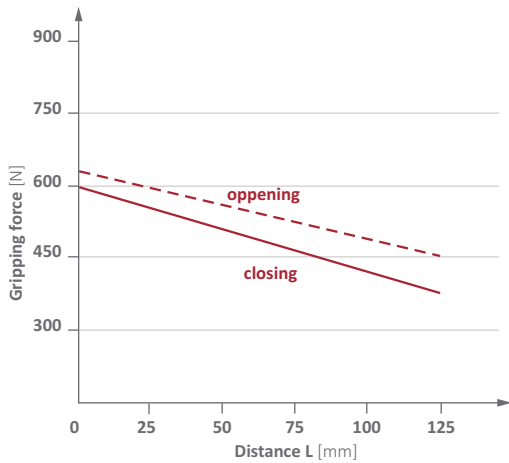
> Gripping force piston diameter 12 mm



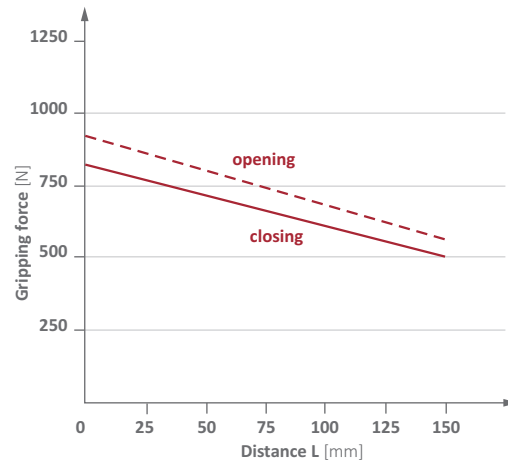
> Gripping force piston diameter 16 mm



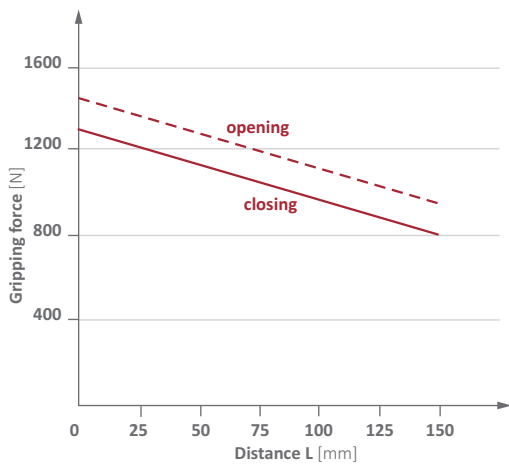
> Gripping force piston diameter 20 mm



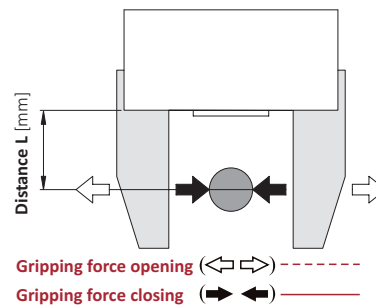
> Gripping force piston diameter 26 mm



> Gripping force piston diameter 32 mm



> Description of holding position L





### Parallel grippers for large strokes – piston diameter 10 - 20 mm



#### Product notes

- > Gripper for large strokes for handling large parts
- > Double-acting for inside/outside gripping and short duty cycles
- > Body and jaws made of high-strength aluminum alloy
- > Sensors for monitoring gripper action via piston position optionally available
- > Principle of operation: double-acting
- > Medium: filtered and oiled/unoiled air
- > PNP and NPN sensors:
  - T-slot (straight) for sensors: GR04.199, GR04.199/NPN

#### Technical data

Item no.	GR04.510	GR04.510-1	GR04.510-2	GR04.516	GR04.516-1	GR04.516-2	GR04.520	GR04.520-1	GR04.520-2
Operating pressure [bar (psi)]	1.5 - 6 (21.8 - 87)	1.5 - 6 (21.8 - 87)	1.5 - 6 (21.8 - 87)	1 - 6 (14.5 - 87)	1 - 6 (14.5 - 87)	1 - 6 (14.5 - 87)	1 - 6 (14.5 - 87)	1 - 6 (14.5 - 87)	1 - 6 (14.5 - 87)
Piston diameter [mm]	10	10	10	16	16	16	20	20	20
Stroke per gripper jaw [mm]	10	20	30	15	30	40	20	40	50
Closing force at 6 bar (87 psi) [N]	22	22	22	60	60	60	100	100	100
Operating temperature [°C (°F)]	-5 - 70 (23 - 158)	-5 - 70 (23 - 158)	-5 - 70 (23 - 158)	-5 - 70 (23 - 158)	-5 - 70 (23 - 158)	-5 - 70 (23 - 158)	-5 - 70 (23 - 158)	-5 - 70 (23 - 158)	-5 - 70 (23 - 158)
Weight [g]	280	350	430	600	800	950	1,000	1,500	1,700
Suitable sensors	GR04.199 (p.404) GR04.199/ NPN (p.404)	GR04.199 (p.404) GR04.199/ NPN (p.404)	GR04.199 (p.404) GR04.199/ NPN (p.404)	GR04.199 (p.404) GR04.199/ NPN (p.404)	GR04.199 (p.404) GR04.199/ NPN (p.404)	GR04.199 (p.404) GR04.199/ NPN (p.404)	GR04.199 (p.404) GR04.199/ NPN (p.404)	GR04.199 (p.404) GR04.199/ NPN (p.404)	GR04.199 (p.404) GR04.199/ NPN (p.404)

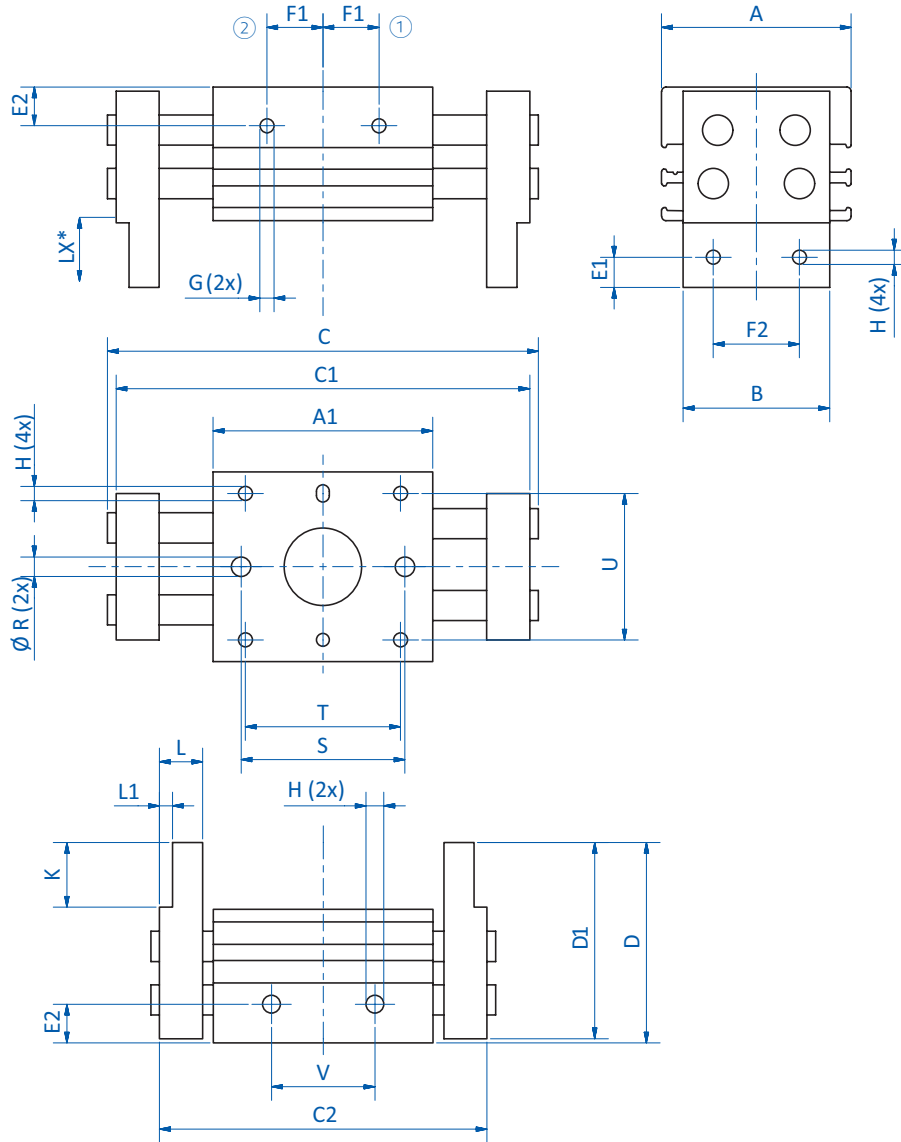
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# Grippers | Parallel grippers

Parallel grippers for large strokes – piston diameter 10 - 20 mm

## Dimensions



\* = LX: Distance gripper jaws – workpiece ① = Compressed air supply (open) ② = Compressed air supply (close)

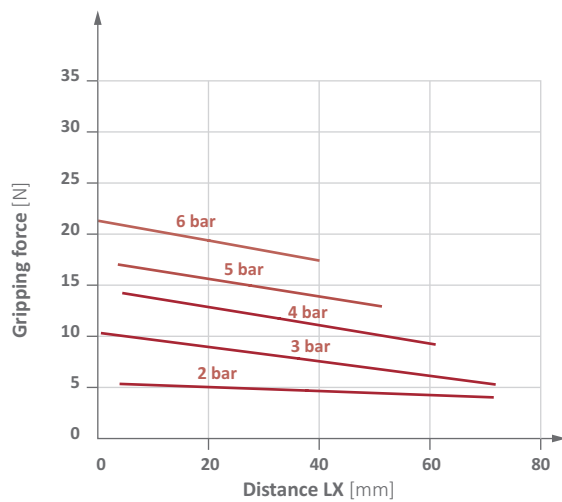
Item no.	GR04.510	GR04.510-1	GR04.510-2	GR04.516	GR04.516-1	GR04.516-2	GR04.520	GR04.520-1	GR04.520-2
A [mm]	44	44	44	55	55	55	65	65	65
A1 [mm]	51	67	85	60	90	110	71	113	133
B [mm]	35	35	35	44.8	44.8	44.8	54	54	54
C [mm]	101	142	180	130	200	240	159	259	300
C1 [mm]	97	138	176	126	196	236	156	256	297
C2 [mm]	74.5	96.5	114.5	92.5	134.5	154.5	116	176	199.5
D [mm]	46.5	46.5	46.5	59	59	59	70	70	70
D1 [mm]	46	46	46	58	58	58	69	69	69
E1 [mm]	7	7	7	8	8	8	10	10	10
E2 [mm]	9	9	9	10	10	10	11	11	11
F1 [mm]	12	19.5	28.5	14.1	29.4	39.4	16.9	34.4	50
F2 [mm]	20	20	20	25	25	25	30	30	30
G	M5	M5	M5	M5	M5	M5	M5	M5	M5



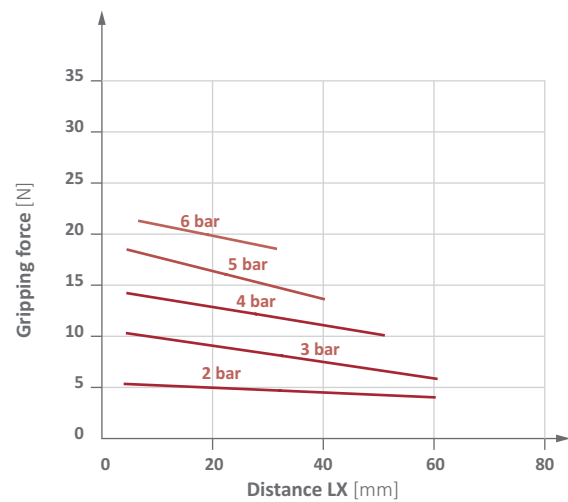
Item no.	GR04.510	GR04.510-1	GR04.510-2	GR04.516	GR04.516-1	GR04.516-2	GR04.520	GR04.520-1	GR04.520-2
H	M4	M4	M4	M5	M5	M5	M6	M6	M6
K [mm]	15	15	15	19	19	19	24	24	24
L [mm]	10	10	10	12.8	12.8	12.8	17	17	17
L1 [mm]	3	3	3	4	4	4	4.5	4.5	4.5
Ø R [mm]	4.5	4.5	4.5	5.5	5.5	5.5	6.6	6.6	6.6
S [mm]	38	54	72	40	70	90	54	96	116
T [mm]	36	52	70	46	75	95	58	100	120
U [mm]	34	34	34	43	43	43	52	52	52
V [mm]	26	42	60	28	58	78	38	80	100

### Diagrams

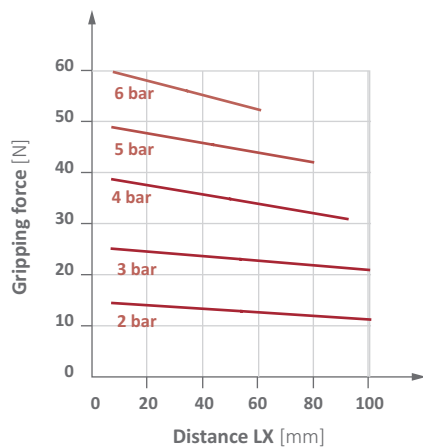
> Gripping force piston diameter 10 mm – standard version



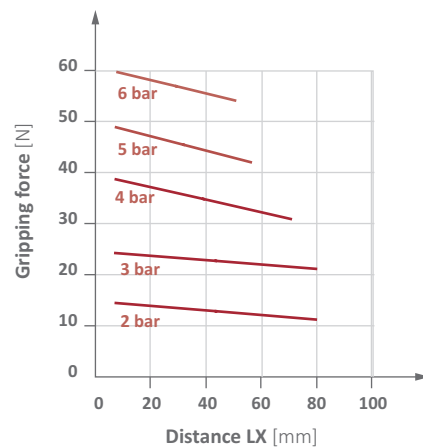
> Gripping force piston diameter 10 mm – versions 1 & 2



> Gripping force piston diameter 16 mm – standard version



> Gripping force piston diameter 16 mm – versions 1 & 2



\* = LX distance to gripping point

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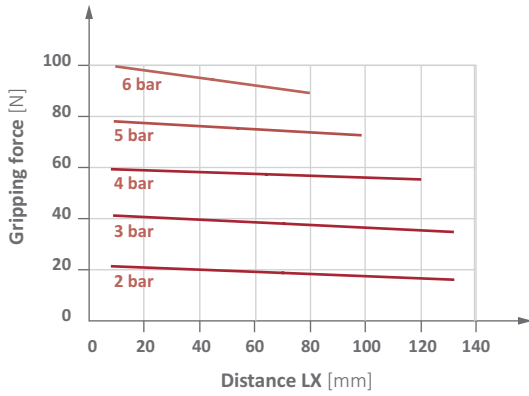


# Grippers | Parallel grippers

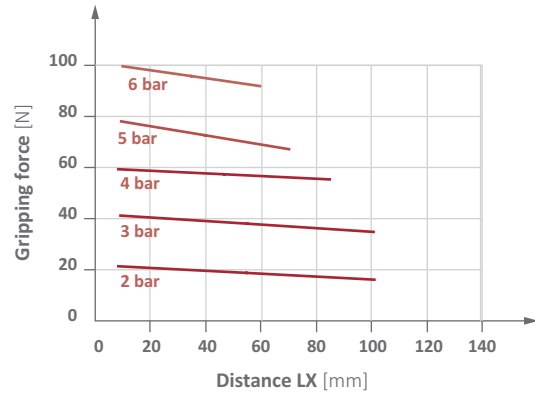
Parallel grippers for large strokes – piston diameter 10 - 20 mm

## Diagrams

> Gripping force piston diameter 20 mm – standard version



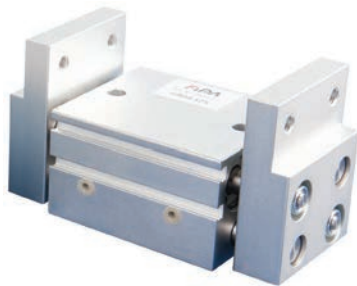
> Gripping force piston diameter 20 mm – versions 1 & 2



\* = LX distance to gripping point



### Parallel grippers for large strokes – piston diameter 25 - 32 mm



#### Product notes

- > Grippers for large strokes for handling large parts
- > Double-acting for inside/outside gripping and short duty cycles
- > Body and jaws made of high-strength aluminum alloy
- > Sensors for monitoring gripper action via piston position optionally available
- > Principle of operation: double-acting
- > Medium: filtered and oiled/unoiled air
- > PNP and NPN sensors:
  - T-slot (straight) for sensors: GR04.199, GR04.199/NPN

#### Technical data

Item no.	GR04.525	GR04.525-1	GR04.525-2	GR04.532	GR04.532-1	GR04.532-2
Operating pressure [bar (psi)]	1 - 6 (14.5 - 87)	1 - 6 (14.5 - 87)	1 - 6 (14.5 - 87)	1 - 6 (14.5 - 87)	1 - 6 (14.5 - 87)	1 - 6 (14.5 - 87)
Piston diameter [mm]	25	25	25	32	32	32
Stroke per gripper jaw [mm]	25	50	60	35	60	80
Closing force at 6 bar (87 psi) [N]	160	160	160	300	300	300
Operating temperature [°C (°F)]	-5 - 70 (23 - 158)	-5 - 70 (23 - 158)	-5 - 70 (23 - 158)	-5 - 70 (23 - 158)	-5 - 70 (23 - 158)	-5 - 70 (23 - 158)
Weight [g]	1,700	2,500	2,800	2,900	3,800	4,700
Suitable sensors	GR04.199 (p.404) GR04.199/NPN (p.404)	GR04.199 (p.404) GR04.199/NPN (p.404)	GR04.199 (p.404) GR04.199/NPN (p.404)	GR04.199 (p.404) GR04.199/NPN (p.404)	GR04.199 (p.404) GR04.199/NPN (p.404)	GR04.199 (p.404) GR04.199/NPN (p.404)

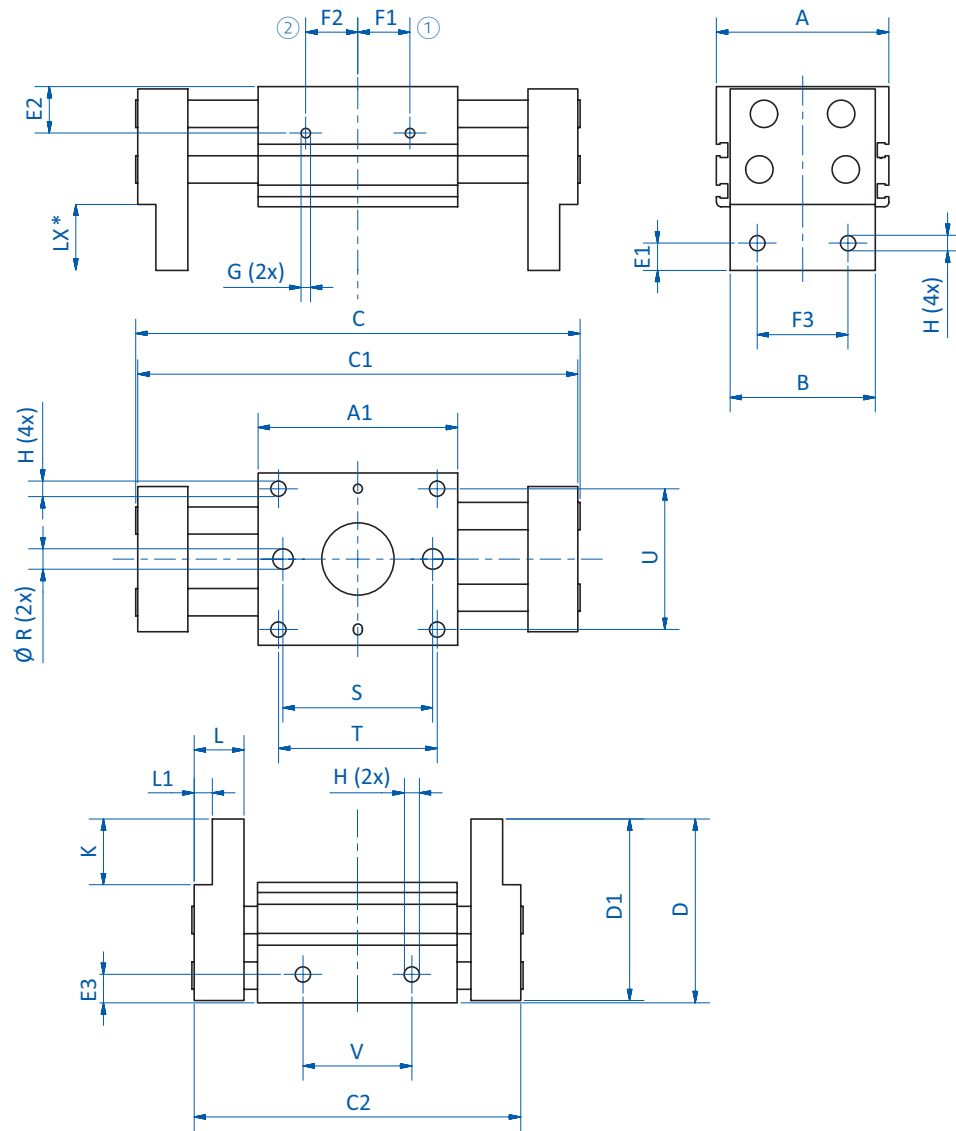
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# Grippers | Parallel grippers

Parallel grippers for large strokes – piston diameter 25 - 32 mm

## Dimensions

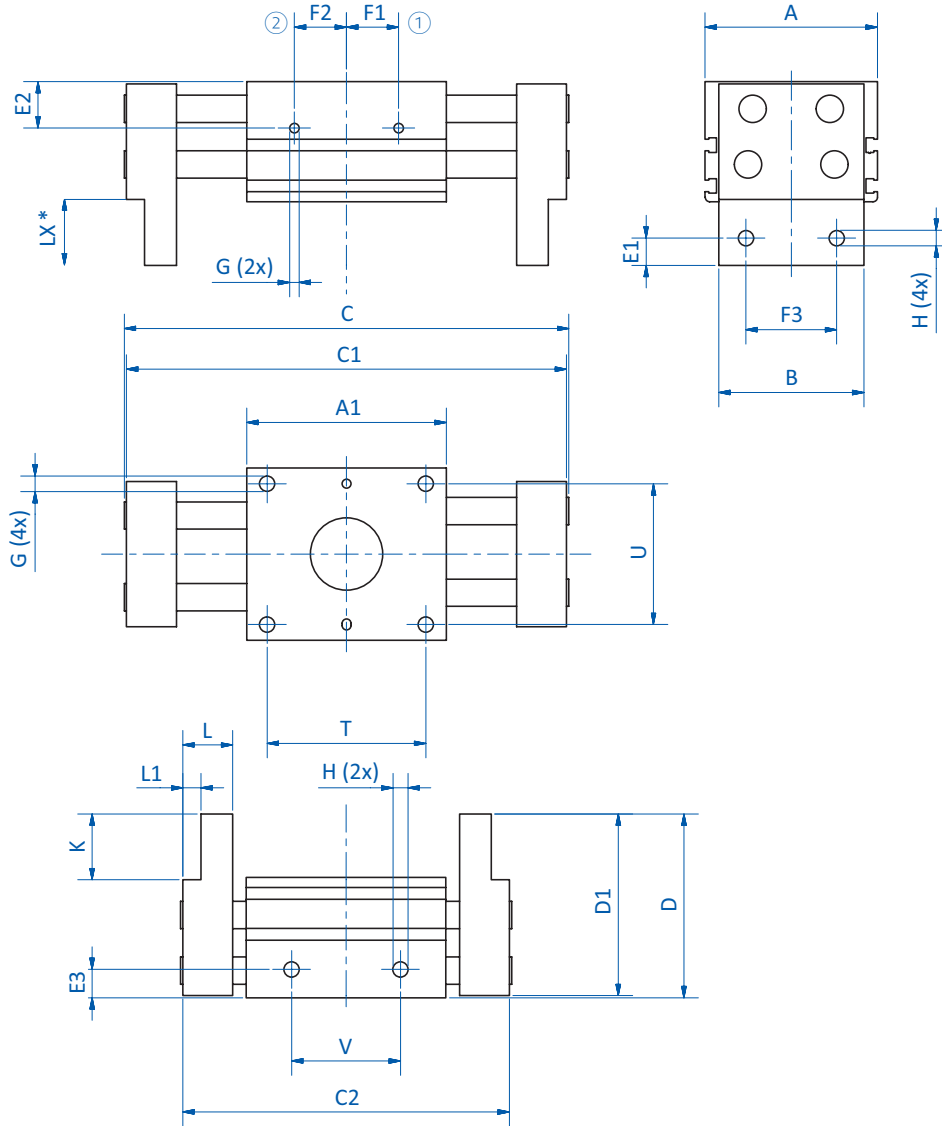


GR04.525 | GR04.525-1 | GR04.525-2

\* = LX: Distance gripper jaws – workpiece ① = Compressed air supply (open) ② = Compressed air supply (close)



Dimensions



GR04.532 | GR04.532-1 | GR04.532-2

\* = LX: Distance gripper jaws – workpiece ① = Compressed air supply (open) ② = Compressed air supply (close)

Item no.	GR04.525	GR04.525-1	GR04.525-2	GR04.532	GR04.532-1	GR04.532-2
A [mm]	76	76	76	82	82	82
A1 [mm]	88	142	160	110	158	202
B [mm]	64	64	64	70	70	70
C [mm]	196.5	328	366	272	370	454
C1 [mm]	195	326	364	268	366	450
C2 [mm]	144	226	244	198	246	290
D [mm]	81	81	81	100	100	100
D1 [mm]	80	80	80	99	99	99
E1 [mm]	12	12	12	15	15	15
E2 [mm]	20.5	20.5	20.5	22	22	22
E3 [mm]	12.5	12.5	12.5	16	16	16

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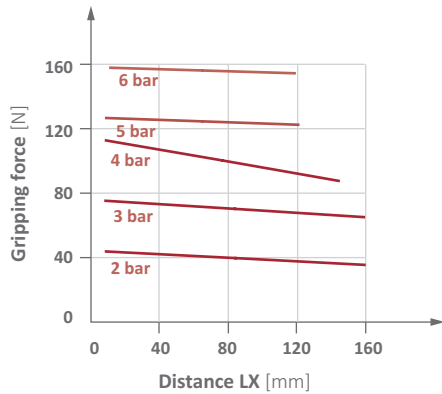
# Grippers | Parallel grippers

Parallel grippers for large strokes – piston diameter 25 - 32 mm

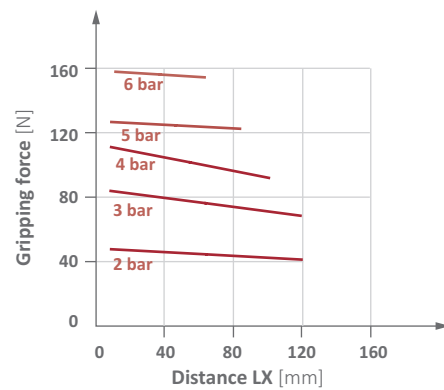
Item no.	GR04.525	GR04.525-1	GR04.525-2	GR04.532	GR04.532-1	GR04.532-2
F1 [mm]	22	50	59	30	54	76
F2 [mm]	22	23	24	30	54	76
F3 [mm]	40	40	40	50	50	50
G	M5	M5	M5	M8	M8	M8
H	M8	M8	M8	M10	M10	M10
K [mm]	29	29	29	32	32	32
L [mm]	22	22	22	24	24	24
L1 [mm]	8	8	8	9	9	9
Ø R [mm]	9	9	9	--	--	--
S [mm]	66	120	138	--	--	--
T [mm]	70	124	142	86	134	178
U [mm]	62	62	62	64	64	64
V [mm]	48	102	120	54	102	146

## Diagrams

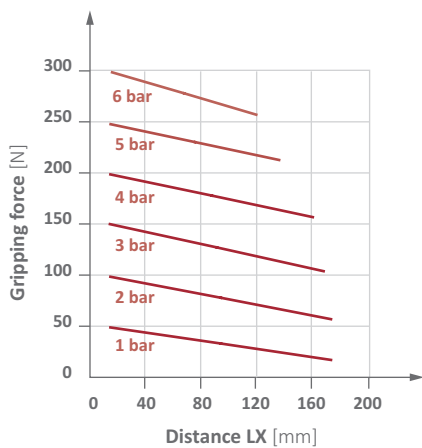
> Gripping force piston diameter 25 mm – standard version



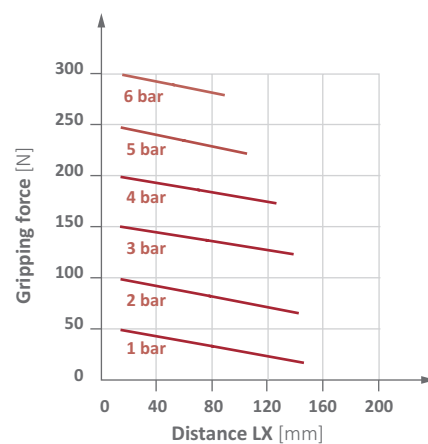
> Gripping force piston diameter 25 mm – versions 1 & 2



> Gripping force piston diameter 32 mm – standard version



> Gripping force piston diameter 32 mm – versions 1 & 2



\* = LX distance to gripping point



## 3-finger grippers



## Product notes

- > Grippers with high gripping force
- > Compact design
- > Double-acting for inside/outside gripping and short duty cycles
- > Body and jaws made of high-strength aluminum alloy
- > Sensors for monitoring gripper action via piston position optionally available
- > Principle of operation: double-acting
- > Medium: filtered and oiled/unoiled air
- > PNP and NPN sensors:
  - T-slot (straight) for sensors: GR04.199, GR04.199/NPN

## Calculation of the inner gripping diameter:

- > Min.: dimensions W closed x 2
- > Max.: dimensions W opened x 2

## Technical data

Item no.	GR04.125-16	GR04.125-25	GR04.125-32	GR04.125-40	GR04.125-50	GR04.125-60	GR04.125-80
Operating pressure [bar (psi)]	2 - 6 (29 - 87)	2 - 6 (29 - 87)	1 - 6 (14.5 - 87)	1 - 6 (14.5 - 87)	1 - 6 (14.5 - 87)	1 - 6 (14.5 - 87)	1 - 6 (14.5 - 87)
Piston diameter [mm]	16	25	32	40	50	63	80
Stroke per gripper jaw [mm]	2	3	4	5	6	8	10
Closing force at 5 bar (72,5 psi) [N]	14	42	74	118	187	335	500
Opening force at 5 bar (72,5 psi) [N]	16	47	82	130	204	359	525
Operating frequency [Hz]	120	120	60	60	60	60	30
Operating temperature [°C (°F)]	-5 - 70 (23 - 158)	-5 - 70 (23 - 158)	-5 - 70 (23 - 158)	-5 - 70 (23 - 158)	-5 - 70 (23 - 158)	-5 - 70 (23 - 158)	-5 - 70 (23 - 158)
Weight [g]	62	139	240	354	542	1,000	1,850
Accessories	Sensor: GR04.280N (p.404) Sensor: GR04.280P (p.404) Mounting bracket: GR06.125-16 (p.241)	Sensor: GR04.280N (p.404) Sensor: GR04.280P (p.404) Mounting bracket: GR06.125-25 (p.241)	Sensor: GR04.199 (p.404) Sensor: GR04.199/NPN (p.404) Mounting bracket: GR06.125-32 (p.241)	Sensor: GR04.199 (p.404) Sensor: GR04.199/NPN (p.404) Mounting bracket: GR06.125-40 (p.241)	Sensor: GR04.199 (p.404) Sensor: GR04.199/NPN (p.404) Mounting bracket: GR06.125-50 (p.241)	Sensor: GR04.199 (p.404) Sensor: GR04.199/NPN (p.404) Mounting bracket: GR06.125-60 (p.241)	Sensor: GR04.199 (p.404) Sensor: GR04.199/NPN (p.404) Mounting bracket: GR06.125-80 (p.241)

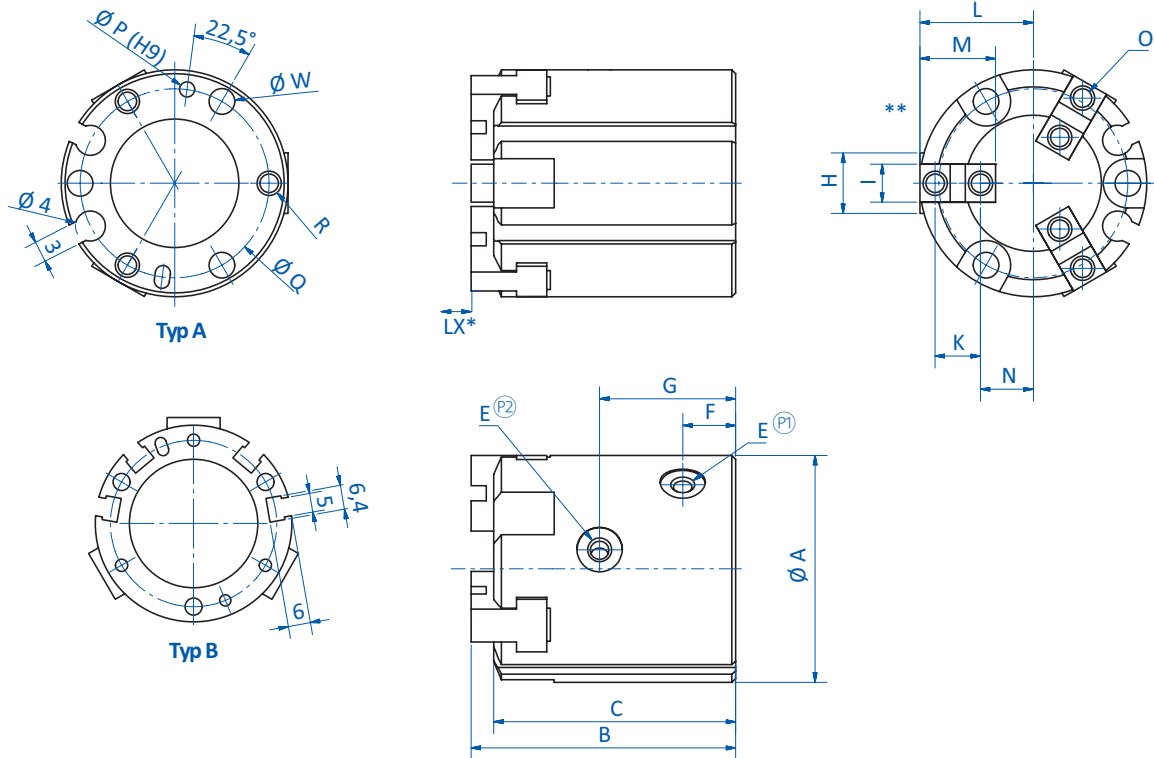
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# Grippers | Parallel grippers

## 3-finger grippers

### Dimensions



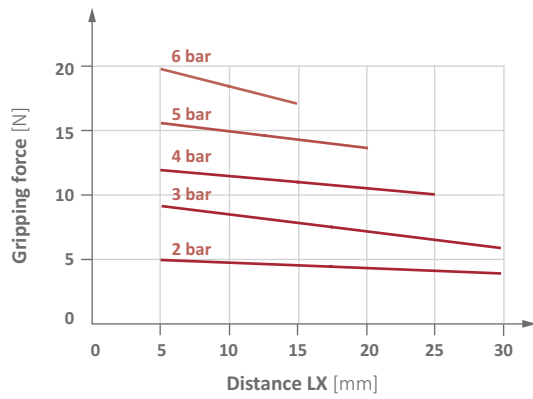
\* = LX: Distance between the gripper jaw and the gripper (see gripper force diagrams)  $\textcircled{P1}$  = Compressed air supply (open)  $\textcircled{P2}$  = Compressed air supply (close) \*\* = Gripper jaw closed

Item no.	GR04.125-16	GR04.125-25	GR04.125-32	GR04.125-40	GR04.125-50	GR04.125-60	GR04.125-80
$\varnothing A$ [mm]	30	42	52	62	70	86	106
B [mm]	35	40	44	47	55	66	82
C [mm]	32	37	41	44	52	62	77
E	M3x0.5x11	M5x0.8x15	M5x0,8	M5x0,8	M5x0,8	M5x0,8	G1/8
F [mm]	7	7	8	8	9	12	13.5
G [mm]	18	22	24	26	29	34	40.5
H [mm]	8	12	14	16	18	24	28
I [mm]	5	6	8	8	10	12	14
K [mm]	6	8	11	12	14	17	20
L open [mm]	17	24	32	35	41	51	63.3
L closed [mm]	15	21	28	31	35	43	53.3
M [mm]	10	14	20	21	24	28	32
N open [mm]	9	13	16.5	19	21	28.5	37.3
N closed [mm]	7	9	12.5	14	15	20.5	27.3
O	M3x0.5x5	M3x0.5x5	M4x0.7x8	M4x0.7x8	M5x0.8x10	M5x0.8x10	M6x1x12
$\varnothing P$	2x2	3x3	3x3	4x4	4x4	5x5	5x5
$\varnothing Q$ [mm]	25	34	44	53	62	76	95
R	M3x0.5x4	M4x0.5x7	M4x0.7x6	M5x0.8x0.7	M5x0.8x10	M6x1x9	M6x1x12
$\varnothing W$ [mm]	3.4	4.5	4.5	5.5	5.5	6.5	6.5
Model	A	A	B	B	B	B	B

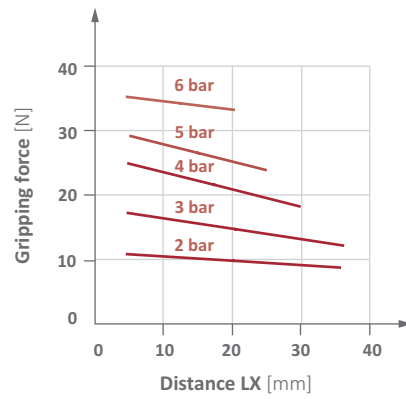


### Diagrams

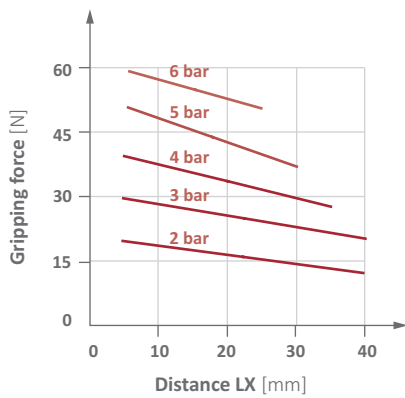
> Gripping force piston diameter 16 mm



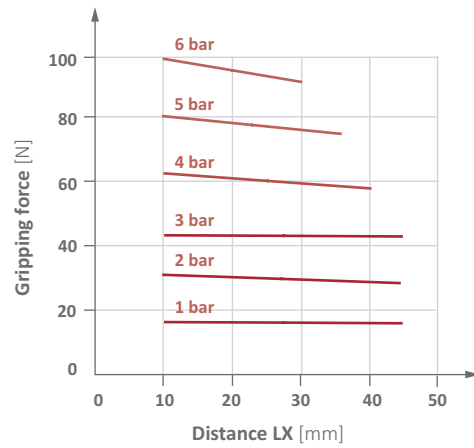
> Gripping force piston diameter 20 mm



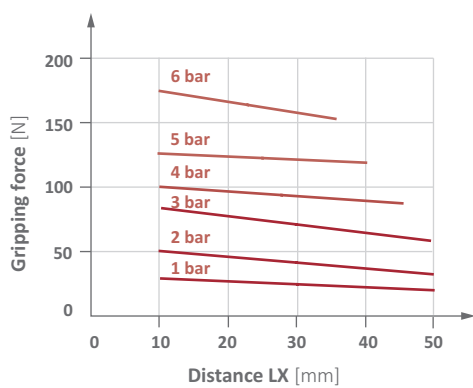
> Gripping force piston diameter 25 mm



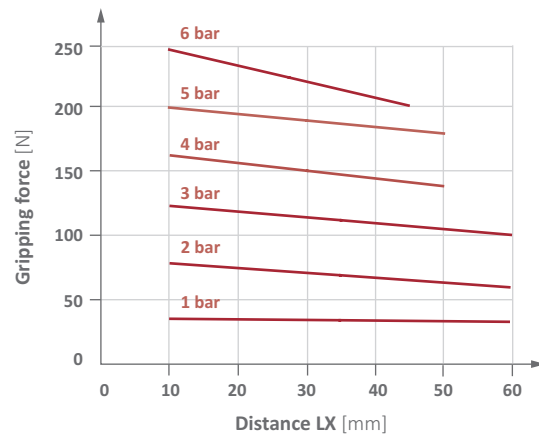
> Gripping force piston diameter 32 mm



> Gripping force piston diameter 40 mm



> Gripping force piston diameter 50 mm



\* = LX distance to gripping point



# Grippers | Parallel grippers

3-finger grippers for large strokes

## 3-finger grippers for large strokes



### Product notes

- > Grippers with stroke more than double of GR04.125 at same gripping force
- > Compact and flat design
- > Double-acting for inside/outside gripping and short duty cycles
- > Body and jaws made of high-strength aluminum alloy
- > Sensors for monitoring gripper action via piston position optionally available
- > Principle of operation: double-acting
- > Medium: filtered and oiled/unoled air
- > PNP and NPN sensors:
  - C-slot (90° angle): GR04.202P, GR04.202N
  - C-slot (straight, short design): GR04.280P, GR04.280N

### Calculation of the inner gripping diameter:

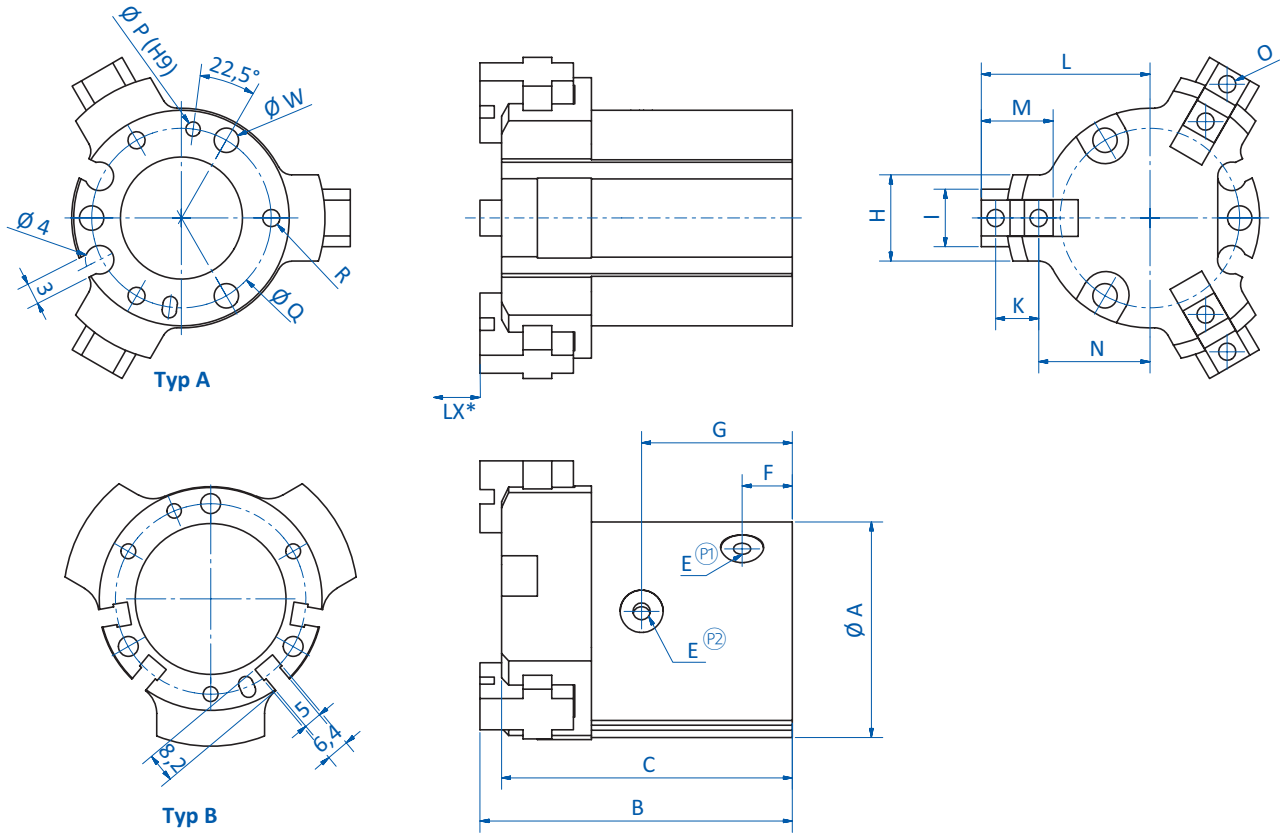
- > Min.: dimensions W closed x 2
- > Max.: dimensions W opened x 2

### Technical data

Item no.	GR04.125-16L	GR04.125-25L	GR04.125-32L	GR04.125-40L	GR04.125-50L
Operating pressure [bar (psi)]	2 - 6 (29 - 87)	2 - 6 (29 - 87)	1 - 6 (14.5 - 87)	1 - 6 (14.5 - 87)	1 - 6 (14.5 - 87)
Piston diameter [mm]	16	25	32	40	50
Stroke per gripper jaw [mm]	5	6	8	10	14
Closing force at 5 bar (72,5 psi) [N]	14	42	74	118	187
Opening force at 5 bar (72,5 psi) [N]	16	47	82	130	204
Operating frequency [Hz]	120	120	60	60	60
Operating temperature [°C (°F)]	-10 - 60 (14 - 140)	-10 - 60 (14 - 140)	-10 - 60 (14 - 140)	-10 - 60 (14 - 140)	-10 - 60 (14 - 140)
Weight [g]	100	190	373	600	930
Accessories	Sensor: GR04.202N (p.404) Sensor: GR04.202P (p.404) Sensor: GR04.280N (p.404) Sensor: GR04.280P (p.404) Mounting bracket: GR06.125-16 (p.241)	Sensor: GR04.202N (p.404) Sensor: GR04.202P (p.404) Sensor: GR04.280N (p.404) Sensor: GR04.280P (p.404) Mounting bracket: GR06.125-25 (p.241)	Sensor: GR04.202N (p.404) Sensor: GR04.202P (p.404) Sensor: GR04.280N (p.404) Sensor: GR04.280P (p.404) Mounting bracket: GR06.125-32 (p.241)	Sensor: GR04.199 (p.404) Sensor: GR04.199/NPN (p.404) Mounting bracket: GR06.125-40 (p.241)	Sensor: GR04.199 (p.404) Sensor: GR04.199/NPN (p.404) Mounting bracket: GR06.125-50 (p.241)



## Dimensions



\* = LX: Distance between the gripper jaw and the gripper (see gripper force diagrams) P1 = Compressed air supply (open) P2 = Compressed air supply (close)

Item no.	GR04.125-16L	GR04.125-25L	GR04.125-32L	GR04.125-40L	GR04.125-50L
Ø A [mm]	30	42	52	62	70
B [mm]	43.5	49	58	64	77.5
C [mm]	40.5	46	55	61	74.5
E	M3	M5	M5	M5	M5
F [mm]	7	7	8	9	9
G [mm]	21	23.5	28	31	38
H [mm]	12	19	24	30	32
I [mm]	8	13	16	18	20
K [mm]	6	8	11	12	14
L open [mm]	23.5	30	42	47.5	60
L closed [mm]	18.5	24	34	37.5	46
M [mm]	10	14	20	21	24
N open [mm]	15.5	19	26.5	31	41
N closed [mm]	10.5	13	18.5	21	27
O	M3/5deep	M3/6deep	M4/8deep	M4/8deep	M5/10deep
Ø P	2x2	3x3	3x3	4x4	4x4
Ø Q [mm]	25	34	44	53	62
R	M3x0.5x1.5	M4x0.7x1.5	M4x0.7x6	M5x0.8x10	M5x0.8x10
Ø W [mm]	3.4	4.5	4.5	5.5	5.5
Model	A	A	B	B	B

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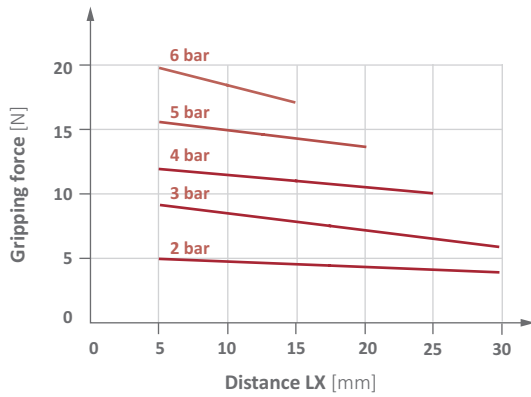


# Grippers | Parallel grippers

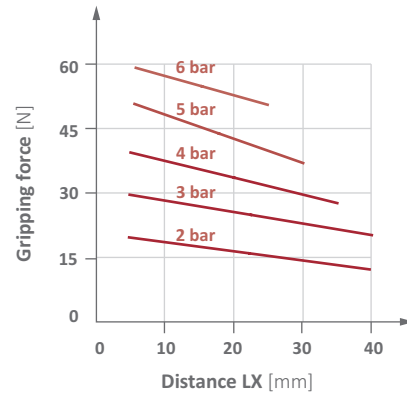
3-finger grippers for large strokes

## Diagrams

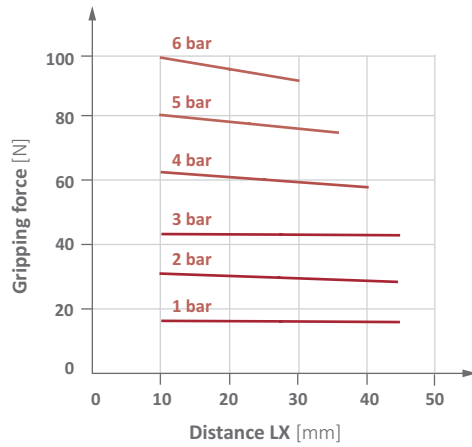
> Gripping force piston diameter 16 mm



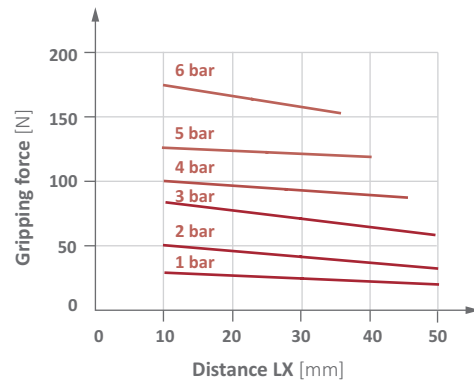
> Gripping force piston diameter 25 mm



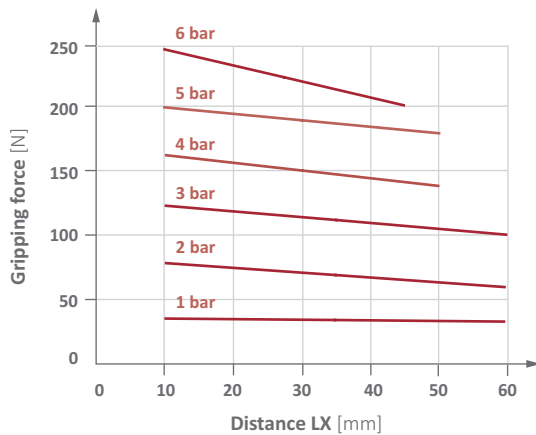
> Gripping force piston diameter 32 mm



> Gripping force piston diameter 40 mm



> Gripping force piston diameter 50 mm



\* = LX distance to gripping point



### 2-finger angular grippers 40°



#### Product notes

- > Grippers for undercuts, clamping, mounting and pick & place applications
- > Double-acting: Inside/outside gripping and short duty cycles
- > Body and jaws made of high-strength aluminum alloy
- > Sensors for monitoring gripper action via piston position optionally available
- > Principle of operation: double-acting
- > Medium: filtered and oiled/unoiled air
- > PNP and NPN sensors:
  - T-slot (straight) for sensors: GR04.203P, GR04.203N

#### Technical data

Item no.	GR04.123-10	GR04.123-16	GR04.123-20	GR04.123-25	GR04.123-32
Pressure range [bar (psi)]	1.5 - 7 (21.8 - 101.5)	1.5 - 7 (21.8 - 101.5)	1.5 - 7 (21.8 - 101.5)	1.5 - 7 (21.8 - 101.5)	1.5 - 7 (21.8 - 101.5)
Piston diameter [mm]	10	16	20	25	32
Angle stroke open [°]	-10	-10	-10	-10	-10
Angle stroke closed [°]	30	30	30	30	30
Max. closing torque at 6 bar [Ncm]	11	47	100	199	358
Max. opening torque at 6 bar [Ncm]	15	65	135	252	476
Max. operating frequency [1/min]	80	80	80	80	80
Operating temperature [°C (°F)]	0 - 60 (32 - 140)	0 - 60 (32 - 140)	0 - 60 (32 - 140)	0 - 60 (32 - 140)	0 - 60 (32 - 140)
Weight [g]	100	120	200	330	560
Accessories	Sensor: GR04.203N (p.404) Sensor: GR04.203P (p.404) Connector cable: 20.503 (p.410) Mounting bracket: GR06.050 (p.240) Base jaw: GR04.123-10-1 (p.236)	Sensor: GR04.203N (p.404) Sensor: GR04.203P (p.404) Connector cable: 20.503 (p.410) Mounting bracket: GR06.051 (p.240) Base jaw: GR04.123-16-1 (p.236)	Sensor: GR04.203N (p.404) Sensor: GR04.203P (p.404) Connector cable: 20.503 (p.410) Mounting bracket: GR06.052 (p.240) Base jaw: GR04.123-20-1 (p.236)	Sensor: GR04.203N (p.404) Sensor: GR04.203P (p.404) Connector cable: 20.503 (p.410) Mounting bracket: GR06.053 (p.240) Base jaw: GR04.123-25-1 (p.236)	Sensor: GR04.203N (p.404) Sensor: GR04.203P (p.404) Connector cable: 20.503 (p.410) Mounting bracket: GR06.054 (p.240) Base jaw: GR04.123-32-1 (p.236)

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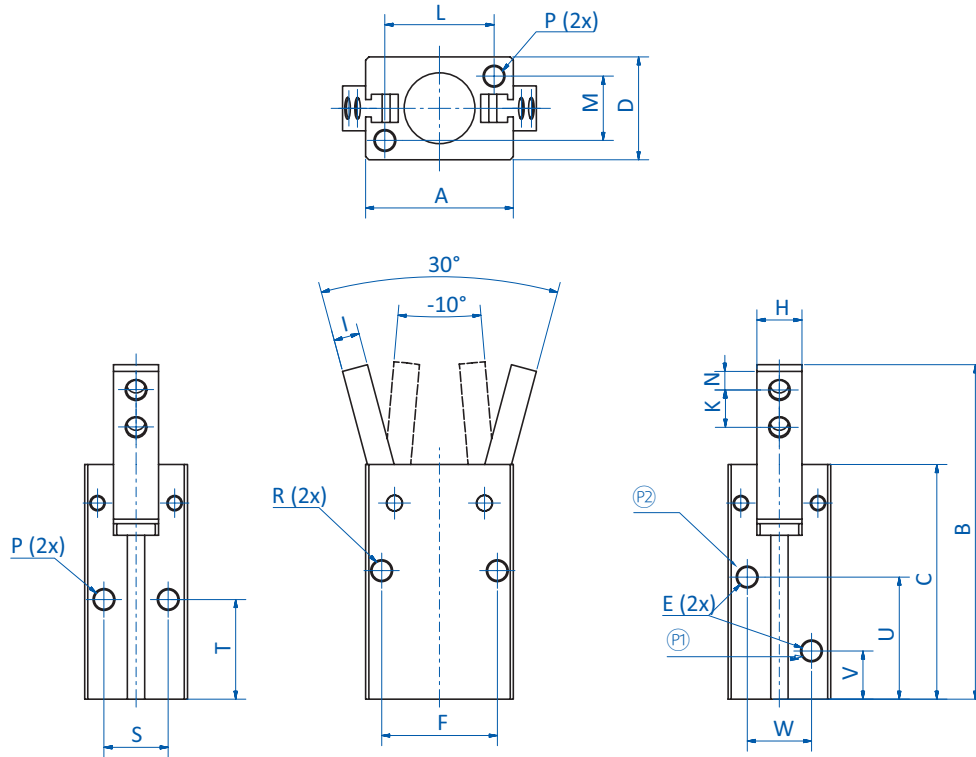




# Grippers | Angular grippers

2-finger angular grippers 40°

## Dimensions



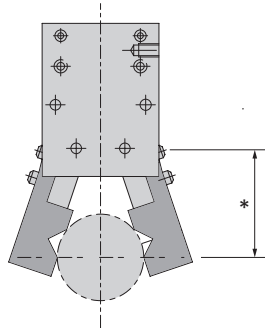
Ⓢ = Sensor slot for GR04.203   Ⓟ = Compressed air supply (open)   Ⓠ = Compressed air supply (close)

Item no.	GR04.123-10	GR04.123-16	GR04.123-20	GR04.123-25	GR04.123-32
A [mm]	23	34	45	52	60
B [mm]	52	64	75	89	100
C [mm]	36.5	45.5	53	61	68
D [mm]	16	22	26	32	40
E	M3	M5	M5	M5	M5
F [mm]	18	24	30	36	44
H [mm]	7	9	12	14	18
I [mm]	4	6	7	9	10
K [mm]	6	8	10	12	14
L [mm]	17	26	35	40	46
M [mm]	10	14	16	20	26
N [mm]	3	3	4	5	6
P	M3	M4	M5	M6	M6
R	M3	M4	M5	M6	M6
S [mm]	10	14	16	20	26
T [mm]	15.5	21	22	24.5	30
U [mm]	19	25.5	28	31	33.5
V [mm]	7.5	7.5	8	9	10
W [mm]	10	12	13	18	24

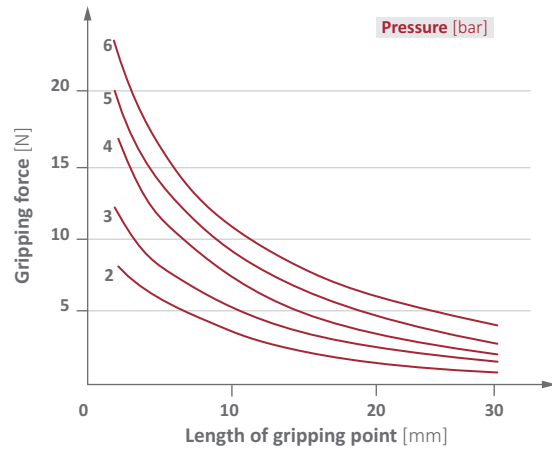


## Diagrams

> Length of gripping point (\* see diagrams)



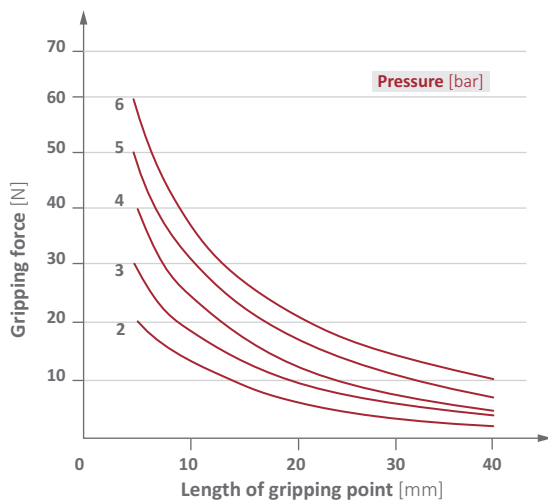
> Gripping force as a function of length of gripping point and feed pressure



GR04.123-10 | GR04.123-16 | GR04.123-20 | GR04.123-25 | GR04.123-32

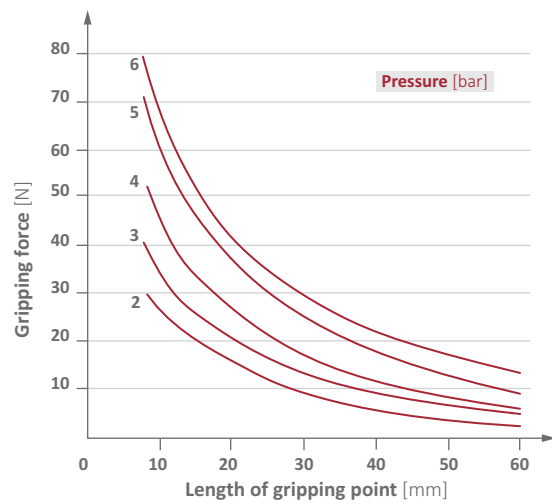
GR04.123-10

> Gripping force as a function of length of gripping point and feed pressure



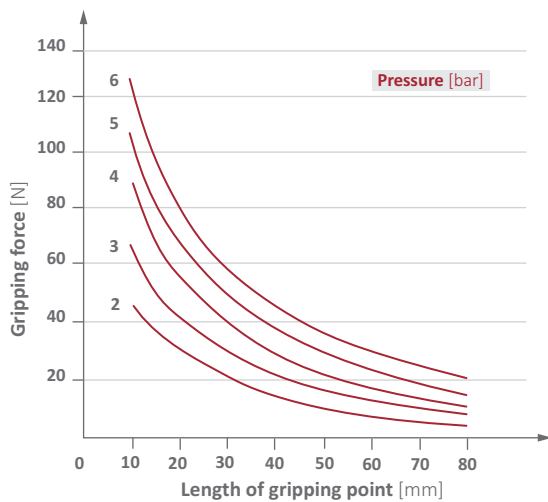
GR04.123-16

> Gripping force as a function of length of gripping point and feed pressure



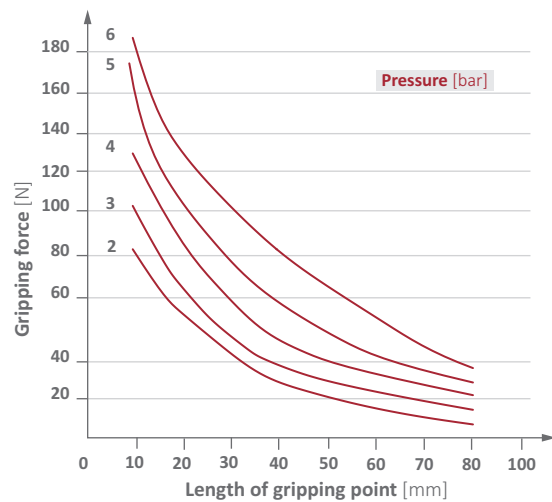
GR04.123-20

> Gripping force as a function of length of gripping point and feed pressure



GR04.123-25

> Gripping force as a function of length of gripping point and feed pressure



GR04.123-32



# Grippers | Angular grippers

Base jaws for angular grippers

## Base jaws for angular grippers



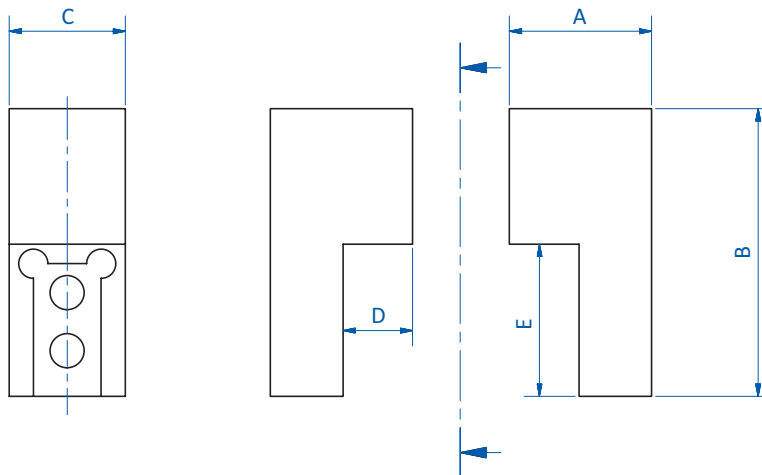
### Product notes

- > Aluminum blanks for customized jaws
- > Screws included in scope of delivery

### Technical data

Item no.	Suitable for angular grippers	Weight [g]
GR04.123-10-1	GR04.123-10	18
GR04.123-16-1	GR04.123-16	30
GR04.123-20-1	GR04.123-20	38
GR04.123-25-1	GR04.123-25	56
GR04.123-32-1	GR04.123-32	150

### Dimensions



Item no.	A [mm]	B [mm]	C [mm]	D [mm]	E [mm]
GR04.123-10-1	14.7	29.7	12	7.2	15.7
GR04.123-16-1	20.5	31.5	14	13	17.5
GR04.123-20-1	24	36	17	16.5	21
GR04.123-25-1	29.8	40	19	20.8	26
GR04.123-32-1	33	44	23	24	29



2-finger angular gripper 180° – self-centering



Product notes

- > High gripping force with high gripping precision
- > Gripping of objects located behind large undercuts; clamping and assembly of parts
- > Suitable for dusty environments due to dust protection seals
- > Double-acting, short duty cycles
- > Body and jaws made of high-strength aluminum alloy
- > Versatile use with customized gripper jaws
- > Optional parts monitoring by detection of piston position
- > Principle of operation: double-acting
- > Medium: filtered and oiled/unoiled air
  
- > PNP and NPN sensors:
  - C-slot (90° angle): GR04.202P, GR04.202N
  - C-slot (straight, short design): GR04.280P, GR04.280N
- > Extension cable for sensors:
  - 20.503: 3-pole M8, length 2,500 mm, open wire
  - 20.570: 3-pole M8, length 1,500 mm, end with plug 3-pole M8

Technical data

Item no.	GR04.121-10	GR04.121-16	GR04.121-20	GR04.121-25
Pressure range [bar (psi)]	1 - 6 (14.5 - 87)	1 - 6 (14.5 - 87)	1 - 6 (14.5 - 87)	1 - 6 (14.5 - 87)
Effective gripping torque [Nm]	0.16	0.54	1.1	2.28
Piston diameter [mm]	10	16	20	25
Angle stroke open [°]	180 - 182	180 - 182	180 - 182	180 - 182
Angle stroke closed [°]	-3	-3	-3	-3
Repeat accuracy [mm]	+/- 0.2	+/- 0.2	+/- 0.2	+/- 0.2
Max. operating frequency [1/min]	60	60	60	60
Operating temperature [°C (°F)]	-10 - 60 (14 - 140)	-10 - 60 (14 - 140)	-10 - 60 (14 - 140)	-10 - 60 (14 - 140)
Weight [g]	80	150	320	600
Accessories	Sensor: GR04.202N (p.404) Sensor: GR04.202P (p.404) Sensor: GR04.280N (p.404) Sensor: GR04.280P (p.404) Connector cable: 20.503 (p.410) Connector cable: 20.570 (p.410)	Sensor: GR04.202N (p.404) Sensor: GR04.202P (p.404) Sensor: GR04.280N (p.404) Sensor: GR04.280P (p.404) Connector cable: 20.503 (p.410) Connector cable: 20.570 (p.410)	Sensor: GR04.202N (p.404) Sensor: GR04.202P (p.404) Sensor: GR04.280N (p.404) Sensor: GR04.280P (p.404) Connector cable: 20.503 (p.410) Connector cable: 20.570 (p.410)	Sensor: GR04.202N (p.404) Sensor: GR04.202P (p.404) Sensor: GR04.280N (p.404) Sensor: GR04.280P (p.404) Connector cable: 20.503 (p.410) Connector cable: 20.570 (p.410)

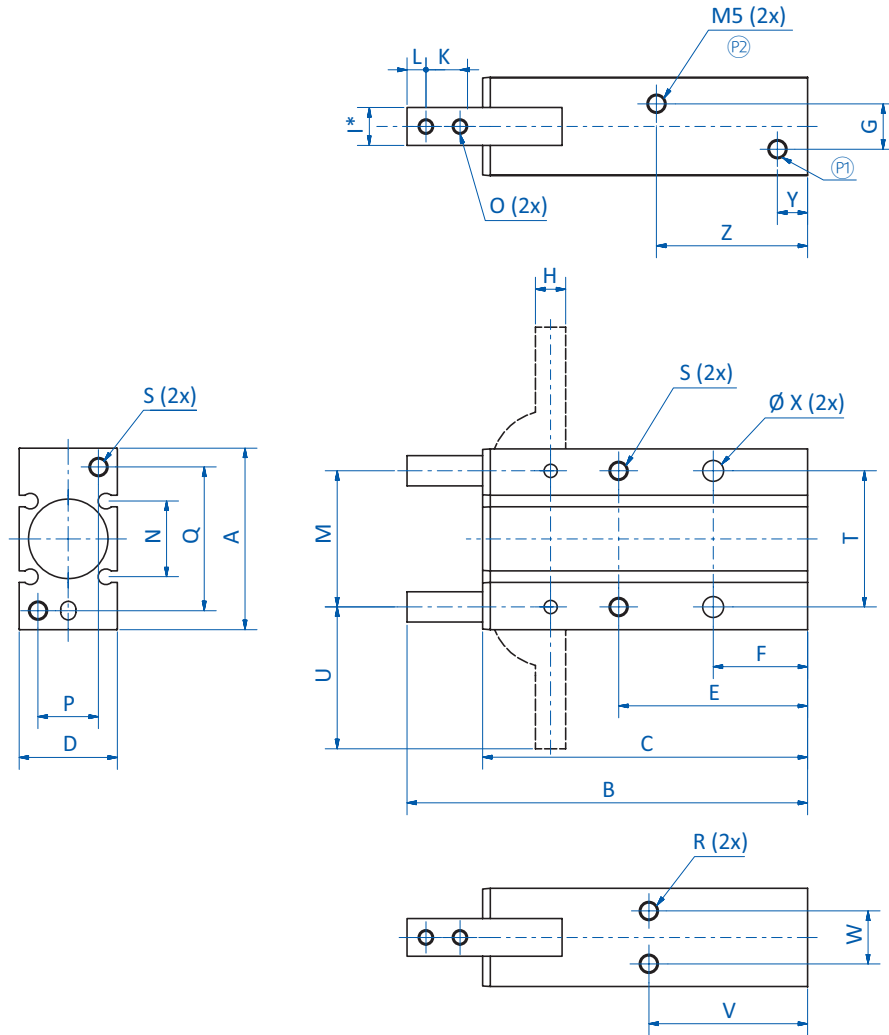
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# Grippers | Angular grippers

2-finger angular gripper 180° – self-centering

## Dimensions



\* = Tolerance: -0.005 mm to -0.025 mm (P) = Compressed air supply (open) (P2) = Compressed air supply (close)

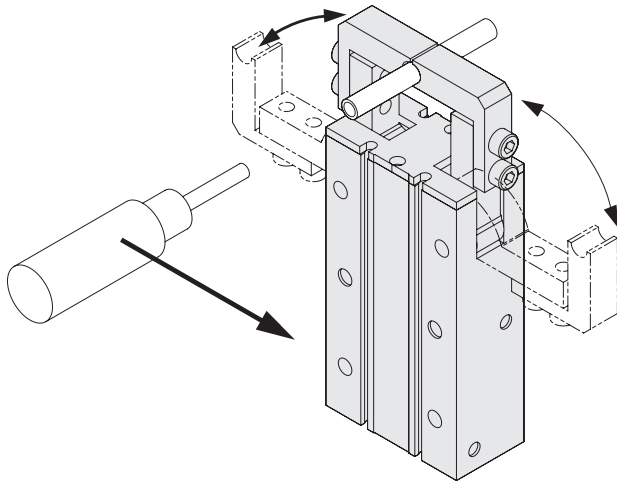
Item no.	GR04.121-10	GR04.121-16	GR04.121-20	GR04.121-25
A [mm]	30	38	48	58
B [mm]	71	84	106	131
C [mm]	58	69	86	107
D [mm]	15	20	26	30
E [mm]	35	41	50	60
F [mm]	18	20	25	30
G [mm]	3	8	12	14
H [mm]	4	5	8	10
I [mm]	6	8	10	12
K [mm]	6	7	9	12
L [mm]	3	4	5	6
M [mm]	22	28	36	45
N [mm]	13	18	20	24
O	M3	M3	M4	M5
P [mm]	9	12	16	18
Q [mm]	24	30	38	46



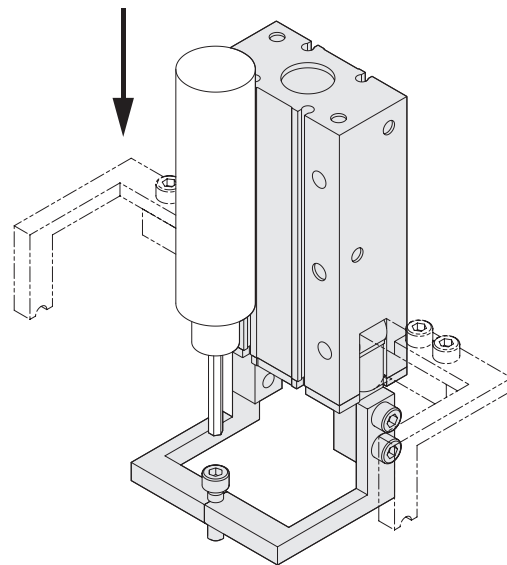
Item no.	GR04.121-10	GR04.121-16	GR04.121-20	GR04.121-25
R	M3x4	M4x5	M5x8	M6x10
S	M3x6	M4x8	M5x10	M6x12
T [mm]	24	30	36	42
U [mm]	23.5	28.5	37	45
V [mm]	30	33	42	50
W [mm]	9	12	14	16
Ø X [mm]	3.4	4.5	5.5	6.6
Y [mm]	7	7	8	8
Z [mm]	30	32	40	50

## Application examples

> Clamping



> Assembly

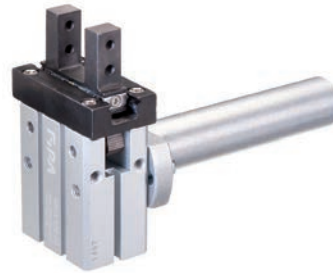




# Grippers | Angular grippers

Mounting brackets for parallel and angular grippers

## Mounting brackets for parallel and angular grippers



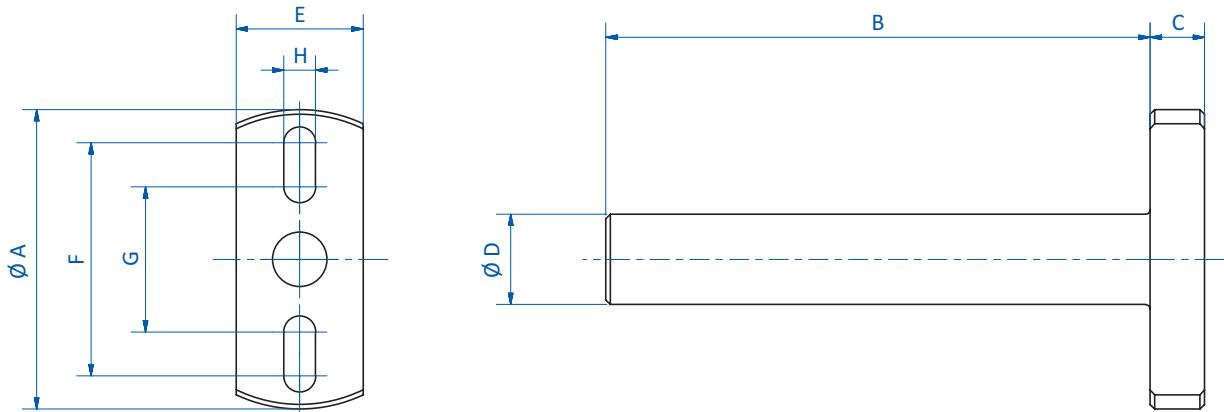
### Product notes

- > Brackets for mounting parallel or angular grippers to extrusions
- > Compatible with many brands of grippers due to slotted mounting holes

### Technical data

Item no.	Suitable for	Weight [g]
<b>GR06.050</b>	GR04.122-10, GR04.123-10	14
<b>GR06.051</b>	GR04.122-16, GR04.123-16	16
<b>GR06.052</b>	GR04.122-20, GR04.123-20	52
<b>GR06.053</b>	GR04.122-25, GR04.123-25	56
<b>GR06.054</b>	GR04.122-32, GR04.123-32	110
<b>GR06.055</b>	GR04.122-32	152

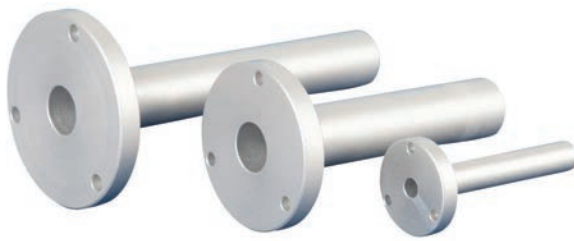
### Dimensions



Item no.	Ø A [mm]	B [mm]	C [mm]	Ø D [mm]	E [mm]	F [mm]	G [mm]	H [mm]
<b>GR06.050</b>	33	60	6	10	14	25.7	16	3.5
<b>GR06.051</b>	39	60	6	14	18	32.5	22	4.5
<b>GR06.052</b>	49	90	8	20	24	40	30	5.5
<b>GR06.053</b>	59	90	8	20	24	50	32	6.5
<b>GR06.054</b>	64	120	8	30	32	53	44	6.5
<b>GR06.055</b>	79	120	10	30	40	64.5	56	8.5



### Mounting brackets for 3-finger grippers



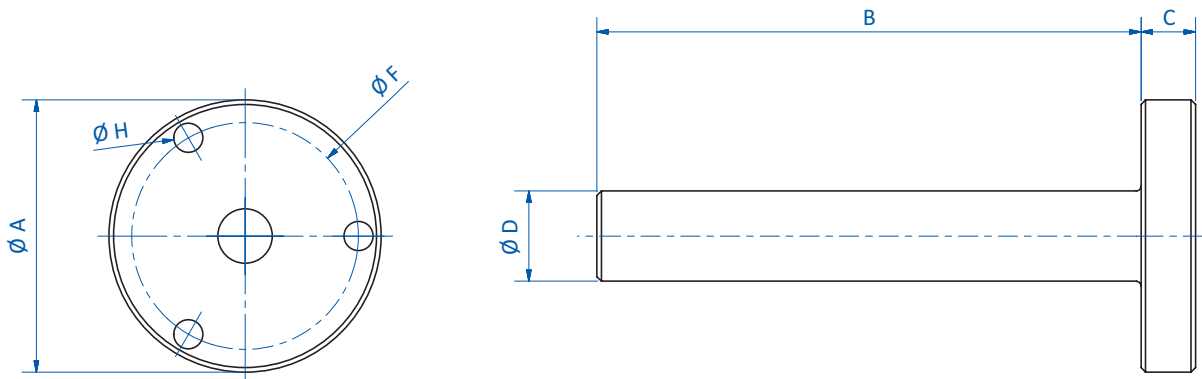
#### Product notes

> Brackets for mounting 3-finger parallel grippers to extrusions

#### Technical data

Item no.	Suitable for	Weight [g]
GR06.125-16	GR04.125-16L	18
GR06.125-25	GR04.125-25L	34
GR06.125-32	GR04.125-32L	74
GR06.125-40	GR04.125-40L	102
GR06.125-50	GR04.125-50L	232
GR06.125-60	GR04.125-60L	216
GR06.125-80	GR04.125-80L	388

#### Dimensions



Item no.	Ø A [mm]	B [mm]	C [mm]	Ø D [mm]	Ø F [mm]	Ø H [mm]
GR06.125-16	30	60	6	10	25	3.2
GR06.125-25	42	90	6	14	34	4.2
GR06.125-32	52	90	8	20	44	4.2
GR06.125-40	62	120	8	20	53	5.3
GR06.125-50	70	150	8	30	62	5.3
GR06.125-60	86	150	8	30	76	6.3
GR06.125-80	106	150	10	30	95	6.3





# Grippers | Expansion grippers

ID grippers for diameters from 3 - 10 mm

## ID grippers for diameters from 3 - 10 mm



FOOD GRADE GRIPPER HEADS



### Product notes

- > Gripping within small recesses
- > Expansion grippers for small or lightweight parts
- > Compact and lightweight design
- > Food grade gripper heads made of polyamide (FDA approved material)
- > Body made of high-strength, anodized aluminum
- > Gripper heads can be easily exchanged
- > Optional monitoring of piston position
- > ID grippers from Series GR04.F02-65 come with O-ring (food grade silicone) for improved holding force
- > PNP and NPN sensors:
  - C-slot (straight): GR04.198, GR04.198NPN

### Technical data

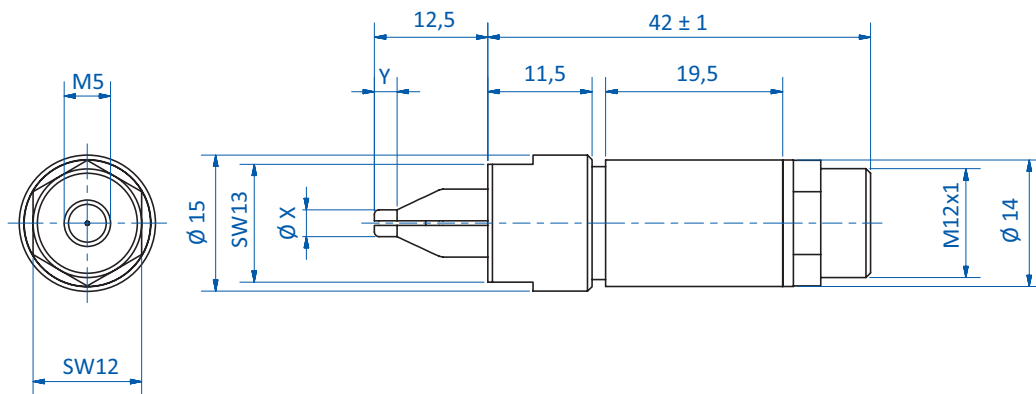
Item no.	For parts having an inner $\phi$ from/to [mm]	Optimal operating pressure [bar (psi)]	Clamping $\phi$ [mm]	Weight [g]	Accessories
GR04.F01-35	3.5 - 3.9	6 (87)	14	21	Extension tube: GR06.021A (p.90) Sensor mounting bracket: GR04.038S (p.204) Sensor: GR04.198 (p.404) Sensor: GR04.198/NPN (p.404) ID gripper head – spare part: GR04.F01-A35
GR04.F01-40	4 - 4.4	6 (87)	14	21	Extension tube: GR06.021A (p.90) Sensor mounting bracket: GR04.038S (p.204) Sensor: GR04.198 (p.404) Sensor: GR04.198/NPN (p.404) ID gripper head – spare part: GR04.F01-A40
GR04.F01-45	4.5 - 4.9	6 (87)	14	21	Extension tube: GR06.021A (p.90) Sensor mounting bracket: GR04.038S (p.204) Sensor: GR04.198 (p.404) Sensor: GR04.198/NPN (p.404) ID gripper head – spare part: GR04.F01-A45
GR04.F02-50	5 - 5.4	6 (87)	14	21	Extension tube: GR06.021A (p.90) Sensor mounting bracket: GR04.038S (p.204) Sensor: GR04.198 (p.404) Sensor: GR04.198/NPN (p.404) ID gripper head – spare part: GR04.F02-A50
GR04.F02-55	5.5 - 5.9	6 (87)	14	21	Extension tube: GR06.021A (p.90) Sensor mounting bracket: GR04.038S (p.204) Sensor: GR04.198 (p.404) Sensor: GR04.198/NPN (p.404) ID gripper head – spare part: GR04.F02-A55
GR04.F02-60	6 - 6.4	6 (87)	14	21	Extension tube: GR06.021A (p.90) Sensor mounting bracket: GR04.038S (p.204) Sensor: GR04.198 (p.404) Sensor: GR04.198/NPN (p.404) ID gripper head – spare part: GR04.F02-A60
GR04.F02-65	6.5 - 6.9	6 (87)	14	21	Extension tube: GR06.021A (p.90) Sensor mounting bracket: GR04.038S (p.204) Sensor: GR04.198 (p.404) Sensor: GR04.198/NPN (p.404) ID gripper head – spare part: GR04.F02-A65



## Technical data

Item no.	For parts having an inner $\varnothing$ from/to [mm]	Optimal operating pressure [bar (psi)]	Clamping $\varnothing$ [mm]	Weight [g]	Accessories
<b>GR04.F02-70</b>	7 - 7.4	6 (87)	14	21	Extension tube: GR06.021A (p.90) Sensor mounting bracket: GR04.038S (p.204) Sensor: GR04.198 (p.404) Sensor: GR04.198/NPN (p.404) ID gripper head – spare part: GR04.F02-A70
<b>GR04.F02-75</b>	7.5 - 7.9	6 (87)	14	21	Extension tube: GR06.021A (p.90) Sensor mounting bracket: GR04.038S (p.204) Sensor: GR04.198 (p.404) Sensor: GR04.198/NPN (p.404) ID gripper head – spare part: GR04.F02-A75
<b>GR04.F02-80</b>	8 - 8.4	6 (87)	14	21	Extension tube: GR06.021A (p.90) Sensor mounting bracket: GR04.038S (p.204) Sensor: GR04.198 (p.404) Sensor: GR04.198/NPN (p.404) ID gripper head – spare part: GR04.F02-A80
<b>GR04.F02-85</b>	8.5 - 8.9	6 (87)	14	21	Extension tube: GR06.021A (p.90) Sensor mounting bracket: GR04.038S (p.204) Sensor: GR04.198 (p.404) Sensor: GR04.198/NPN (p.404) ID gripper head – spare part: GR04.F02-A85
<b>GR04.F02-90</b>	9 - 9.4	6 (87)	14	21	Extension tube: GR06.021A (p.90) Sensor mounting bracket: GR04.038S (p.204) Sensor: GR04.198 (p.404) Sensor: GR04.198/NPN (p.404) ID gripper head – spare part: GR04.F02-A90
<b>GR04.F02-95</b>	9.5 - 9.9	6 (87)	14	21	Extension tube: GR06.021A (p.90) Sensor mounting bracket: GR04.038S (p.204) Sensor: GR04.198 (p.404) Sensor: GR04.198/NPN (p.404) ID gripper head – spare part: GR04.F02-A95
<b>GR04.F02-100</b>	10 - 10.4	6 (87)	14	21	Extension tube: GR06.021A (p.90) Sensor mounting bracket: GR04.038S (p.204) Sensor: GR04.198 (p.404) Sensor: GR04.198/NPN (p.404) ID gripper head – spare part: GR04.F02-A100

## Dimensions



GR04.F01-35 | GR04.F01-40 | GR04.F01-45 | GR04.F02-50 | GR04.F02-55 | GR04.F02-60

\* = O-ring ID gripper from Series GR04.F02-65

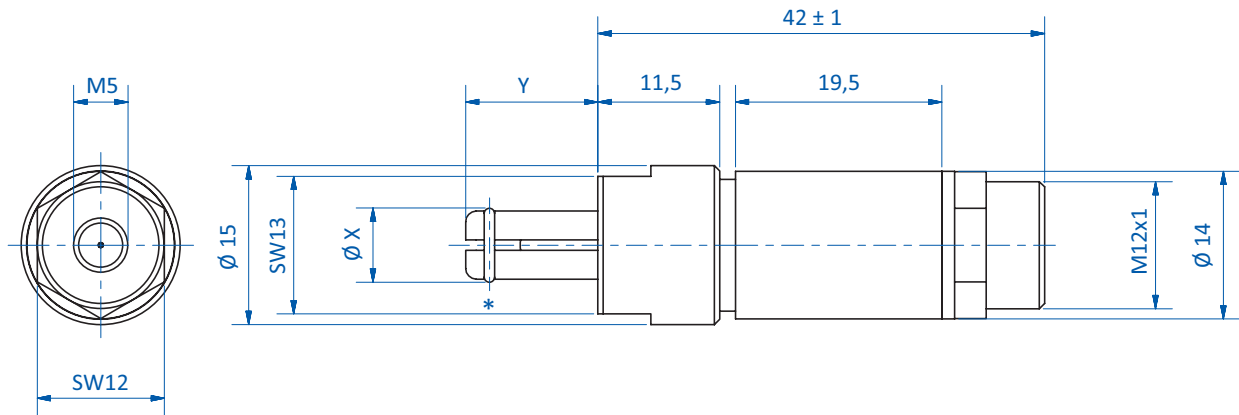
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# Grippers | Expansion grippers

ID grippers for diameters from 3 - 10 mm

## Dimensions



GR04.F02-65 | GR04.F02-70 | GR04.F02-75 | GR04.F02-80 | GR04.F02-85 | GR04.F02-90 | GR04.F02-95 | GR04.F02-100

\* = O-ring ID gripper from Series GR04.F02-65

Item no.	X [mm]	Y [mm]
GR04.F01-35	3	2.5
GR04.F01-40	3.5	3.5
GR04.F01-45	4	5
GR04.F02-50	4.5	5
GR04.F02-55	5	5
GR04.F02-60	5.5	5
GR04.F02-65	6.5	5.5
GR04.F02-70	7	12.5
GR04.F02-75	7.5	12.5
GR04.F02-80	8	12.5
GR04.F02-85	8.5	12.5
GR04.F02-90	9	12.5
GR04.F02-95	9.5	12.5
GR04.F02-100	10	12.5



## ID grippers for diameters 8 - 81 mm



### Product notes

- > Single-acting grippers with high holding force
- > Gripper bellow expanded by pneumatically driven piston, clamps workpiece at its inner surface
- > Ventilation of gripper resets piston and bellow and releases workpiece
- > Piston movement adjustable to position of gripped object
- > Holding force controlled by feed pressure
- > Robust body, made of anodized, high-strength aluminum alloy
- > Elastomer bellows available in EPDM or silicone
- > Easy and non-destructive exchange of bellows
- > Piston movement adjustable to position of gripped object, bellow is not inflated, no risk of bursting

Downward piston movement (workpiece pushed):

- > Clamp the black part of gripper body or using optional extension tubes or threaded mounting brackets

Upward piston movement (workpiece drawn):

- > Clamp the red part of gripper body

### Technical data

Item no.	Elastomer	For parts having an inner $\varnothing$ from/to [mm]	Optimal operating pressure [bar (psi)]	Weight [g]	Accessories
<b>GR04.F208</b>	EPDM	8 - 10	8 (116)	25	Extension tube: GR06.034 (p.249), EPDM elastomer: GR04.208-1, Mounting bracket: GR02.280 (p.250), Mounting bracket: GR02.227 (p.251)
<b>GR04.F208-SI</b>	Silicone	8 - 10	8 (116)	25	Extension tube: GR06.034 (p.249), Silicone elastomer: GR04.208-2, Mounting bracket: GR02.280 (p.250), Mounting bracket: GR02.227 (p.251)
<b>GR04.F210</b>	EPDM	10.5 - 13	8 (116)	26	Extension tube: GR06.034 (p.249), EPDM elastomer: GR04.210-1, Mounting bracket: GR02.280 (p.250), Mounting bracket: GR02.227 (p.251)
<b>GR04.F210-SI</b>	Silicone	10.5 - 13	8 (116)	26	Extension tube: GR06.034 (p.249), Silicone elastomer: GR04.210-2, Mounting bracket: GR02.280 (p.250), Mounting bracket: GR02.227 (p.251)
<b>GR04.F212</b>	EPDM	13 - 17	8 (116)	28	Extension tube: GR06.034 (p.249), EPDM elastomer: GR04.212-1, Mounting bracket: GR02.280 (p.250), Mounting bracket: GR02.227 (p.251)
<b>GR04.F212-SI</b>	Silicone	13 - 17	8 (116)	28	Extension tube: GR06.034 (p.249), Silicone elastomer: GR04.212-2, Mounting bracket: GR02.280 (p.250), Mounting bracket: GR02.227 (p.251)
<b>GR04.F214</b>	EPDM	15 - 19	8 (116)	31	Extension tube: GR06.034 (p.249), EPDM elastomer: GR04.214-1, Mounting bracket: GR02.280 (p.250), Mounting bracket: GR02.227 (p.251)
<b>GR04.F214-SI</b>	Silicone	15 - 19	8 (116)	31	Extension tube: GR06.034 (p.249), Silicone elastomer: GR04.214-2, Mounting bracket: GR02.280 (p.250), Mounting bracket: GR02.227 (p.251)
<b>GR04.F218</b>	EPDM	19 - 23.5	8 (116)	53	Extension tube: GR06.034 (p.249), EPDM elastomer: GR04.218-1, Mounting bracket: GR02.281 (p.250), Mounting bracket: GR02.227 (p.251)
<b>GR04.F218-SI</b>	Silicone	19 - 23.5	8 (116)	53	Extension tube: GR06.034 (p.249), Silicone elastomer: GR04.218-2, Mounting bracket: GR02.281 (p.250), Mounting bracket: GR02.227 (p.251)
<b>GR04.F222</b>	EPDM	23.5 - 31	8 (116)	83	Extension tube: GR06.035 (p.249), EPDM elastomer: GR04.222-1, Mounting bracket: GR02.282 (p.250), Mounting bracket: GR02.228 (p.251)
<b>GR04.F222-SI</b>	Silicone	23.5 - 31	8 (116)	83	Extension tube: GR06.035 (p.249), Silicone elastomer: GR04.222-2, Mounting bracket: GR02.282 (p.250), Mounting bracket: GR02.228 (p.251)
<b>GR04.F227</b>	EPDM	29 - 36.5	8 (116)	117	Extension tube: GR06.035 (p.249), EPDM elastomer: GR04.227-1, Mounting bracket: GR02.283 (p.250), Mounting bracket: GR02.228 (p.251)

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# Grippers | Expansion grippers

ID grippers for diameters 8 - 81 mm

## Technical data

Item no.	Elastomer	For parts having an inner $\varnothing$ from/to [mm]	Optimal operating pressure [bar (psi)]	Weight [g]	Accessories
GR04.F227-SI	Silicone	29 - 36.5	8 (116)	117	Extension tube: GR06.035 (p.249), Silicone elastomer: GR04.227-2, Mounting bracket: GR02.283 (p.250), Mounting bracket: GR02.228 (p.251)
GR04.F233	EPDM	34 - 44	8 (116)	182	Extension tube: GR06.036 (p.249), EPDM elastomer: GR04.233-1, Mounting bracket: GR02.284 (p.250), Mounting bracket: GR02.229 (p.251)
GR04.F233-SI	Silicone	34 - 44	8 (116)	182	Extension tube: GR06.036 (p.249), Silicone elastomer: GR04.233-2, Mounting bracket: GR02.284 (p.250), Mounting bracket: GR02.229 (p.251)
GR04.F241	EPDM	41 - 58	8 (116)	364	Extension tube: GR06.036 (p.249), EPDM elastomer: GR04.241-1, Mounting bracket: GR02.285 (p.250), Mounting bracket: GR02.229 (p.251)
GR04.F241-SI	Silicone	41 - 58	8 (116)	364	Extension tube: GR06.036 (p.249), Silicone elastomer: GR04.241-2, Mounting bracket: GR02.285 (p.250), Mounting bracket: GR02.229 (p.251)
GR04.F251	EPDM	52 - 64	8 (116)	611	Extension tube: GR06.037 (p.249), EPDM elastomer: GR04.251-1, Mounting bracket: GR02.286 (p.250), Mounting bracket: GR02.232 (p.86)
GR04.F251-SI	Silicone	52 - 64	8 (116)	611	Extension tube: GR06.037 (p.249), Silicone elastomer: GR04.251-2, Mounting bracket: GR02.286 (p.250), Mounting bracket: GR02.232 (p.86)
GR04.F263	EPDM	63 - 81	8 (116)	1,051	EPDM elastomer: GR04.263-1, Mounting bracket: GR02.287 (p.250), Mounting bracket: GR02.233 (p.251)
GR04.F263-SI	Silicone	63 - 81	8 (116)	1,051	Silicone elastomer: GR04.263-2, Mounting bracket: GR02.287 (p.250), Mounting bracket: GR02.233 (p.251)

## Elastomer replacement

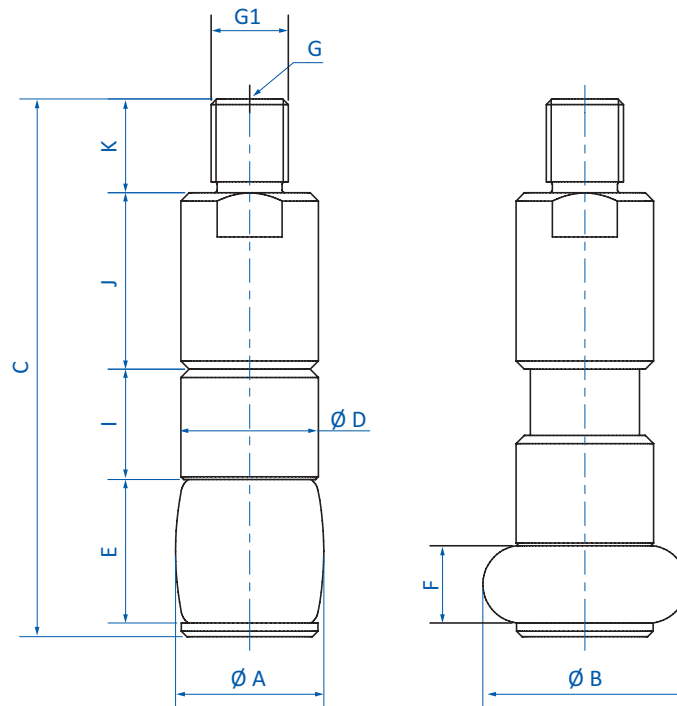
EPDM [included in delivery]  
Color black

- > Non-marking
- > Heat-resistant to 130 °C (266 °F)

Silicone  
Color red

- > Very long service life
- > Heat-resistant to 200 °C (392 °F)

## Dimensions

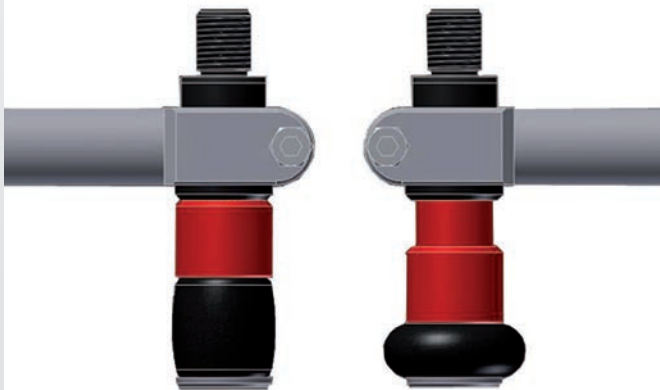




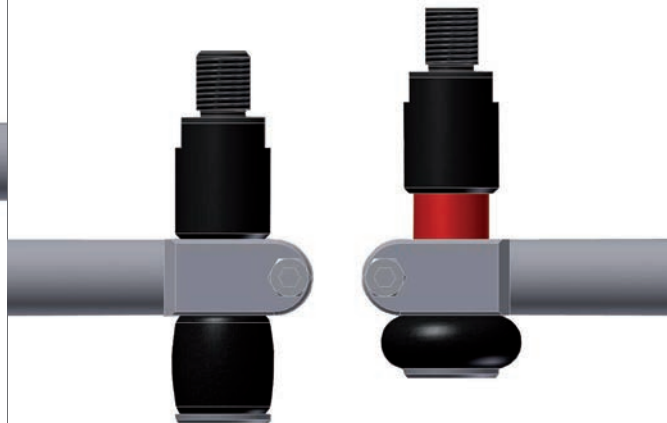
Item no.	G	G1	Ø A [mm]	Ø B [mm]	C [mm]	Ø D [mm]	E [mm]	F [mm]	I [mm]	J [mm]	K [mm]
GR04.F208	M5	M12x1.5	8	10	67	16	7	3.5	11	23	15
GR04.F208-SI	M5	M12x1.5	8	10	67	16	7	3.5	11	23	15
GR04.F210	M5	M12x1.5	10.5	13	69	16	8.5	4.5	11	23	15
GR04.F210-SI	M5	M12x1.5	10.5	13	69	16	8.5	4.5	11	23	15
GR04.F212	M5	M12x1.5	13	17	71	16	10.5	5	11	23	15
GR04.F212-SI	M5	M12x1.5	13	17	71	16	10.5	5	11	23	15
GR04.F214	M5	M12x1.5	15	19	73	16	13	6	11	23	15
GR04.F214-SI	M5	M12x1.5	15	19	73	16	13	6	11	23	15
GR04.F218	M5	M12x1.5	19	23.5	78	20	16.5	9	20	23.5	15
GR04.F218-SI	M5	M12x1.5	19	23.5	78	20	16.5	9	20	23.5	15
GR04.F222	M5	M14x1.5	23.5	31	93	23	21	9	20	32	17
GR04.F222-SI	M5	M14x1.5	23.5	31	93	23	21	9	20	32	17
GR04.F227	M5	M14x1.5	29	36.5	98	25	26	14	20	32	17
GR04.F227-SI	M5	M14x1.5	29	36.5	98	25	26	14	20	32	17
GR04.F233	G1/8	M16x1.5	34	44	113	30	33.5	24	20	37.5	19
GR04.F233-SI	G1/8	M16x1.5	34	44	113	30	33.5	24	20	37.5	19
GR04.F241	G1/8	M16x1.5	41	58	138	40	41.5	14	20	54.5	19
GR04.F241-SI	G1/8	M16x1.5	41	58	138	40	41.5	14	20	54.5	19
GR04.F251	G1/8	M20x1.5	52	64	148	50	53	35	30	42	19
GR04.F251-SI	G1/8	M20x1.5	52	64	148	50	53	35	30	42	19
GR04.F263	G1/8	M24x1.5	63	81	176	60	61	36	36	56	19
GR04.F263-SI	G1/8	M24x1.5	63	81	176	60	61	36	36	56	19

## Installation examples

> Clamping the upper part of gripper body enables downward piston movement (workpiece pushed) GR02.280 - GR02.287



> Clamping the lower gripper body enables upward piston movement (workpiece drawn) GR02.280 - GR02.287



Continued on the next page →

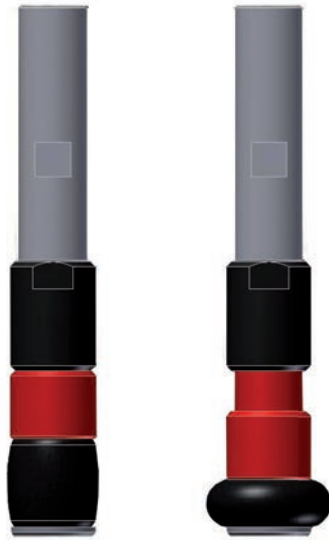


# Grippers | Expansion grippers

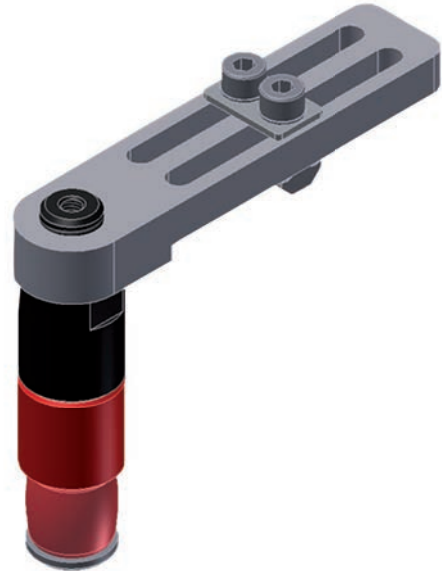
ID grippers for diameters 8 - 81 mm

## Installation examples

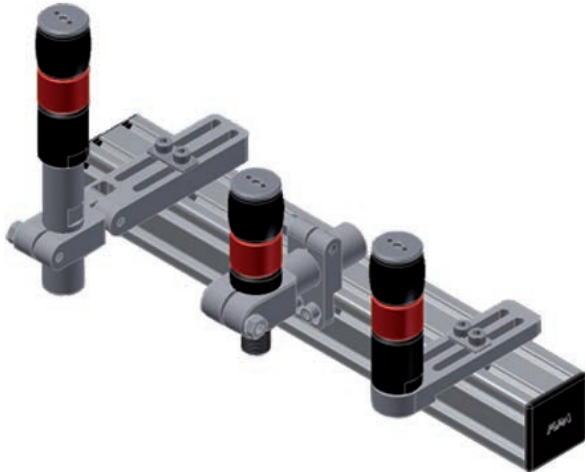
> Clamping to extension tubes enables downward piston movement (workpiece pushed) GR06.034 - GR06.037



> Fitting to threaded mounting brackets enables downward piston movement (workpiece pushed) GR02.227 - 229 and GR02.232 - GR02.233



> Application example





### Extension tubes for ID grippers



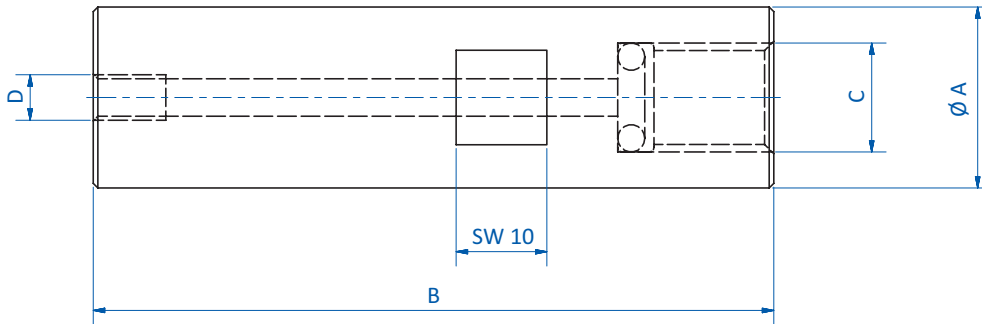
#### Product notes

- > Extension tubes with rear-side compressed air connection and through hole
- > For mounting ID grippers to angle clamps
- > Suitable for ID grippers GR04 with index F
- > Not compatible with ID grippers with index N

#### Technical data

Item no.	Suitable for	Weight [g]
GR06.034	GR04.F208 - GR04.F218	56
GR06.035	GR04.F222 - GR04.F227	54
GR06.036	GR04.F233 - GR04.F241	45
GR06.037	GR04.F251	118

#### Dimensions



Item no.	Ø A [mm]	B [mm]	C	D
GR06.034	20	75	M12x1.5	M5
GR06.035	20	75	M14x1.5	M5
GR06.036	20	75	M16x1.5	G1/8
GR06.037	30	75	M20x1.5	G1/8





# Grippers | Expansion grippers

Mounting brackets for ID grippers

## Mounting brackets for ID grippers



### Product notes

- > Mounting brackets for variable angle installation of ID grippers
- > Clamping grippers to upper part (red) enables upward movement, workpiece is drawn
- > Clamping grippers to bottom part (black) or clamping to extension tube enables downward movement, workpiece is pushed
- > Suitable for ID grippers GR04 with index F

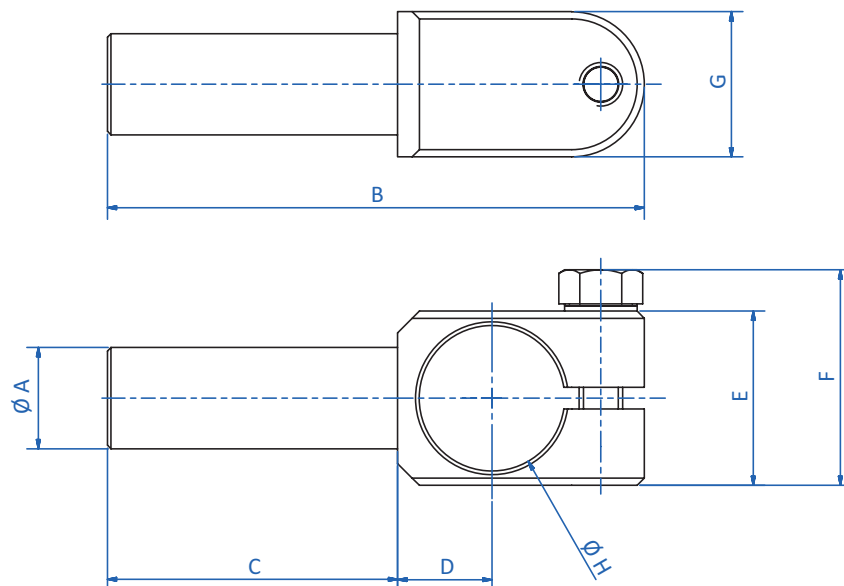
### Technical data

Item no.	Suitable for expansion grippers	Weight [g]
GR02.280	GR04.F208, GR04.F212, GR04.F214	18
GR02.281	GR04.F218	36
GR02.282	GR04.F222	40
GR02.283	GR04.F227	50
GR02.284	GR04.F233	57
GR02.285	GR04.F241	68
GR02.286	GR04.F251	145
GR02.287	GR04.F263	172

### Dimensions

$\varnothing A$ [mm]	B [mm]	C [mm]	D [mm]	E [mm]	F [mm]	G [mm]	$\varnothing H$ [mm]
10	60	30	11	20	26	10	16
14	74	40	13	24	30	20	20
14	77	40	14.5	27	33	20	23
20	89	50	15.5	29	35	20	25
20	94	50	18	34	40	20	30
20	104	50	23	44	45	20	40
30	124	60	27	54	50	30	50
30	134	60	32	64	57	30	60

### Dimensions





## Threaded mounting brackets for ID grippers



### Product notes

- > Threaded mounting brackets for installation the grippers on profiles
- > Threaded mounting bracket enables downward movement of piston of ID gripper, workpiece is pushed
- > Suitable for ID grippers GR04 with index F
- > Slot nuts and mounting screws included in scope of delivery

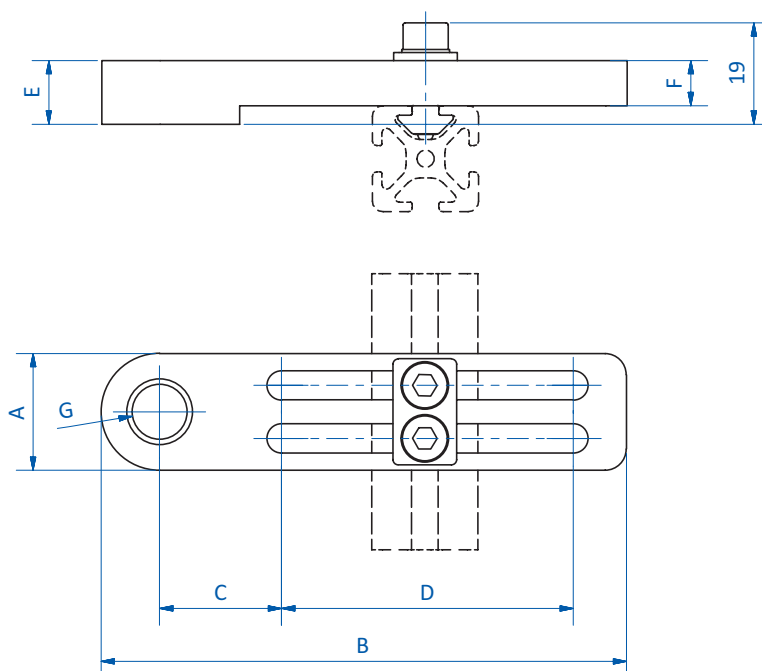
### Technical data

Item no.	Suitable for expansion grippers	Weight [g]
GR02.227	GR04.F208 - GR04.F218	50
GR02.228	GR04.F222 - GR04.F227	53
GR02.229	GR04.F233 - GR04.F241	57
GR02.232	GR04.F251	63
GR02.233	GR04.F263	70

### Dimensions

A [mm]	B [mm]	C [mm]	D [mm]	E [mm]	F [mm]	G
22	99	23	55	12	8.5	M12x1.5
24	99	22	55	12	8.5	M14x1.5
26	99	21	55	12	8.5	M16x1.5
M20x1.5	28	110	12	8.5	65	21
32	110	21	65	12	8.5	M24x1.5

### Dimensions





# Grippers | Expansion grippers

Special ID & OD grippers

## Special ID & OD grippers



Special pneumatic ID gripper

CUSTOM GRIPPERS FOR INSERTS

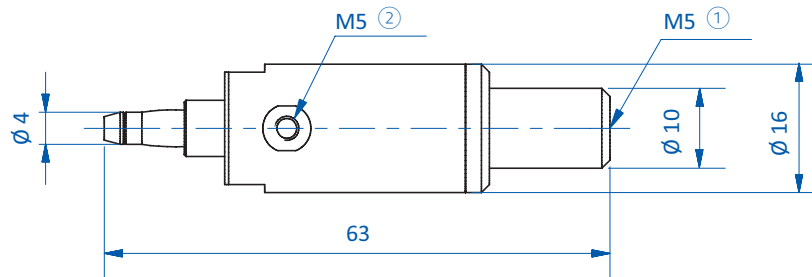


Special vacuum OD gripper

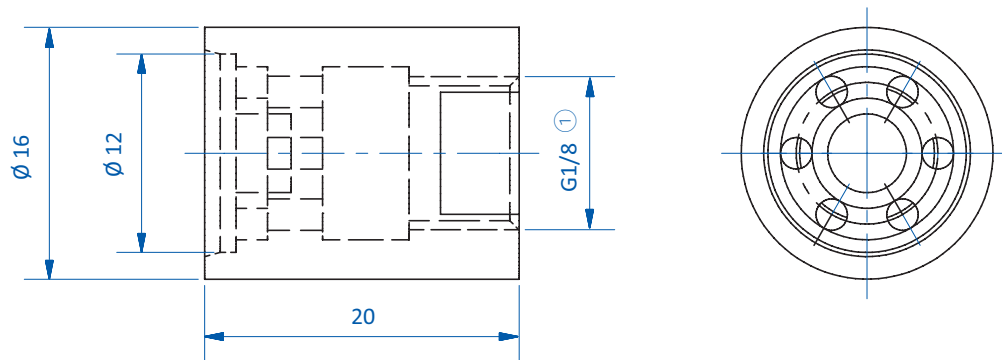
### Product notes

- > Customized ID & OD grippers for inserts such as stem nuts or threaded bushings
- > Gripper customized to workpiece specifications
- > Pneumatically driven:
  - Clamping the workpiece with its inner contour
  - Single-acting or double-acting for short cycle times
- > Vacuum-driven:
  - For gripping parts on the face if ID pick-up is not permitted
- > Lightweight and compact housing, made from aluminum or brass
- > Dimensioned items below are for illustration only and not available as standard
- > We will be happy to develop the gripper that matches your application

### Dimensions



GR09.xx2



GR09.xx3

① = Compressed air connection for extending the piston ② = Compressed air connection for stripping for product release ③ = Vacuum connection

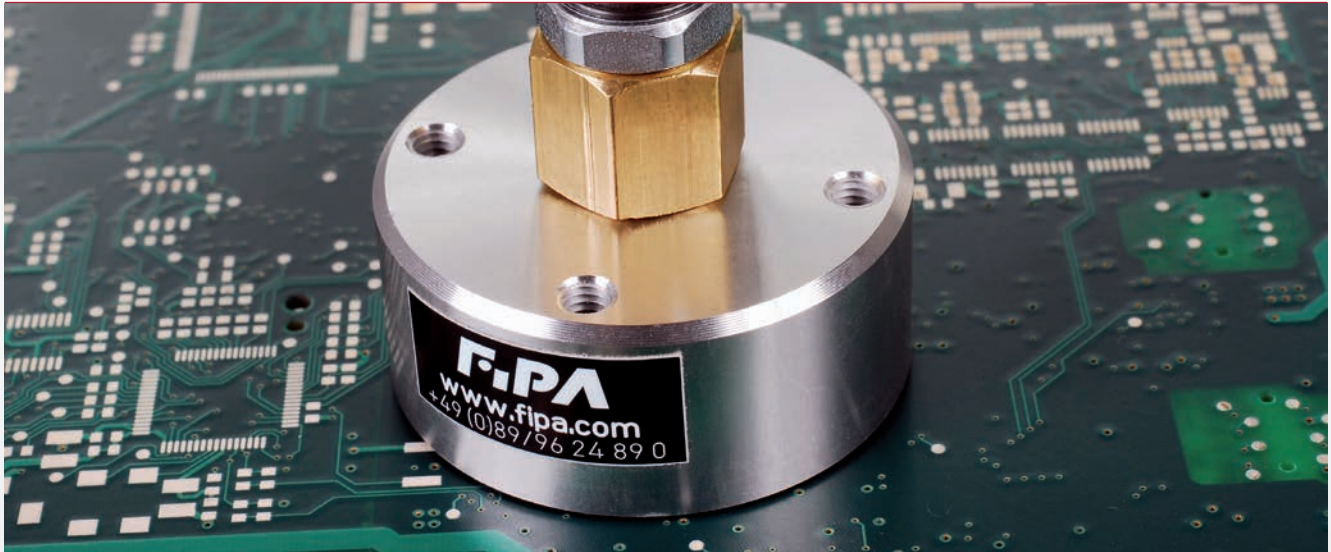


Notes:

A large area for taking notes, featuring a vertical red line on the left side and horizontal grey lines for writing.



## FIPA Special grippers



### Needle grippers

- > For materials that are non-dimensionally stable or difficult to handle with vacuum
- > Alignment to material thickness via adjustable lift
- > Double-acting, enables short duty cycles

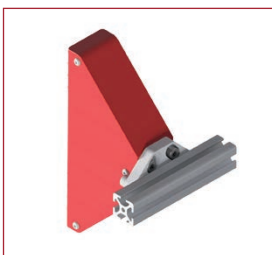
> See page 256



### Needle grippers – slim design, with sensor

- > Internal lift guiding for extra slim design
- > Sensor for monitoring gripper action via piston position (needles extracted/retracted)

> See page 257



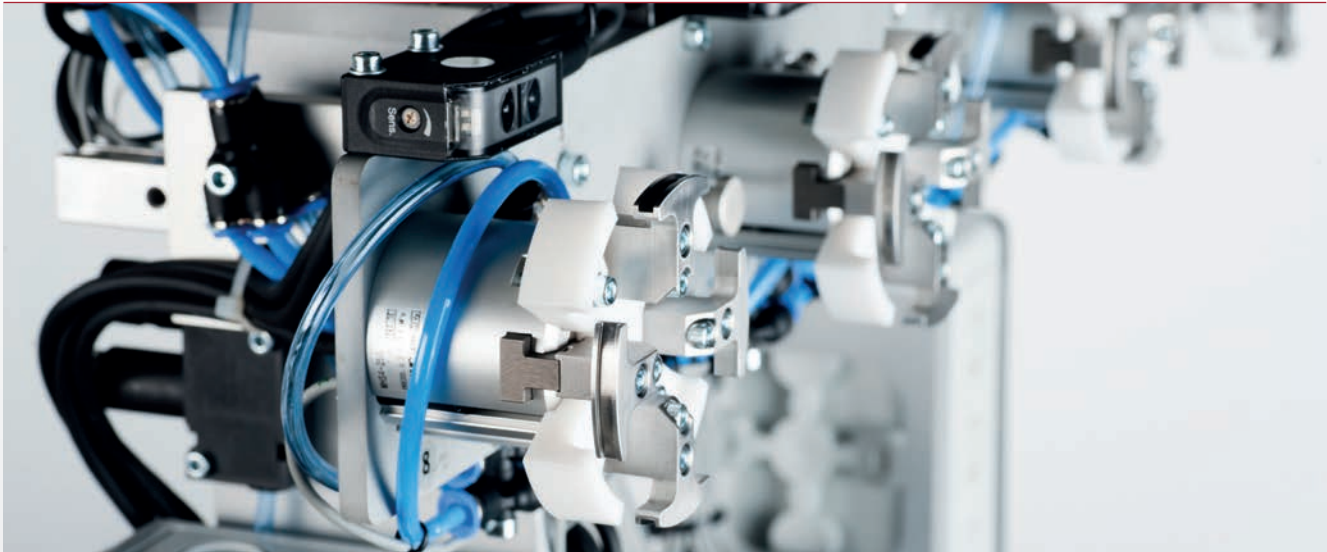
### Mounting brackets for needle gripper

- > Installation on SLine and MLine extrusion systems or on spring loaded suction fingers

> See page 267



FIPA Special grippers



**Magnetic grippers**

> Secure handling of sheet metal and ferromagnetic workpieces with and without recesses

**MG series**

- > Combination of electronic and permanent magnet
- > High cycle times for thin and/or alloyed metal sheets thanks to negligible residual magnetism after switching off the magnetic force
- > Holding force up to 700 N
- > No compressed air required
- > Very energy-efficient, as a short electrical pulse is only required for product release

> See page 269



**Bernoulli vacuum cups – SX-B and SX-B-PK**

- > Non-contact, deformation-resistant transport of thin and sensitive products
- > No ejector, requires compressed air only
- > Suitable for porous products thanks to high volume flow
- > Series for direct contact with food (approval in accordance with FDA/EC1935/2004)

> See page 270



**Modular grippers**

- > Customized gripper tools made of polyamide
- > Easy adaption to robots
- > Integrated media channels to minimize piping complexity
- > Food grade material

> See page 278



**NEW**



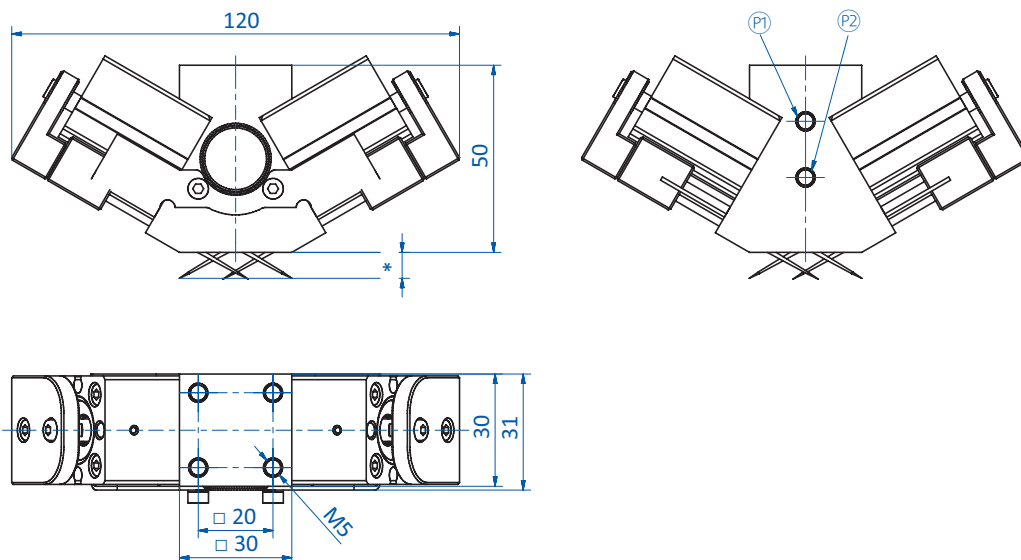
### Product notes

- > Gripper for materials that are non-dimensionally stable or difficult to handle with vacuum
- > Stroke limitation by spacer plates
- > Needles centrally crossed for firm grip
- > Double-acting enables short duty cycles: separate compressed air connections for extraction/retraction of needles
- > Needles can be individually replaced

### Technical data

Item no.	GR04.711-25	GR04.711-40	GR04.711-60
Principle of operation	Double-acting	Double-acting	Double-acting
Stroke [mm]	2.5	4	6
Number of needles [Pcs.]	12	12	12
Needle diameter [mm]	2	2	2
Infeed angle [°]	30	30	30
Operating pressure [bar (psi)]	2.5 - 8 (36.3 - 116)	2.5 - 8 (36.3 - 116)	2.5 - 8 (36.3 - 116)
Operating temperature [°C (°F)]	-10 - 60 (14 - 140)	-10 - 60 (14 - 140)	-10 - 60 (14 - 140)
Weight [g]	313	311	310
Suitable spare needle block	GR04.711-P4	GR04.711-P4	GR04.711-P4

### Dimensions



⊕ = Compressed air connection M5 needles extended ⊖ = Compressed air connection M5 needles retracted \* = Stroke



## Needle grippers GR04.740B



## Product notes

- > Slim design due to internal stroke guiding
- > Gripper for materials that are non-dimensionally stable or difficult to handle with vacuum
- > Alignment to material thickness via adjustable stroke
- > Double-acting, enables short duty cycles, separate compressed air connections for extraction/retraction of needles
- > Internal stroke guiding for extra slim design
- > Sensor for monitoring gripper action via piston position (needles extracted/retracted)
- > Stroke corresponds to maximum entry depth of needles
- > Sensors and spare needle sets with ten needles each, available as accessories
- > PNP and NPN sensors:
  - C-nut (cable: 90°): GR04.202P, GR04.202N
  - C-nut (cable: straight, short design): GR04.280P, GR04.280N

## Technical data

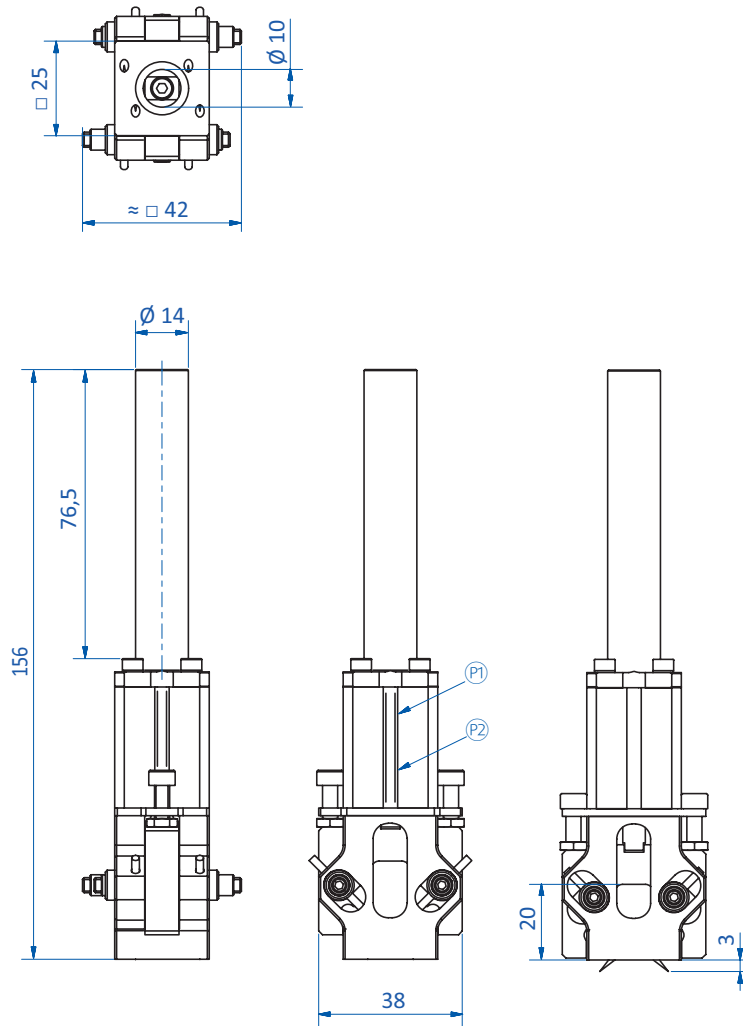
Item no.	GR04.740B
Principle of operation	Double-acting
Stroke [mm]	0 - 3
Number of needles [Pcs.]	4
Needle diameter [mm]	2
Infeed angle [°]	45
Operating pressure [bar (psi)]	2 - 8 (29 - 116)
Operating temperature [°C (°F)]	-10 - 80 (14 - 176)
Weight [g]	226
Accessories	Spare needle kit: GR04.740-30N Sensor: GR04.280N (p.404) Sensor: GR04.280P (p.404) Sensor: GR04.202N (p.404) Sensor: GR04.202P (p.404)

Continued on the next page





### Dimensions



Ⓟ = Compressed air connection M5 needles extended Ⓠ = Compressed air connection M5 needles retracted



Needle grippers GR04.700 and GR04.730



GR04.700



GR04.730

Product notes

- > Small needle diameter for low entry depth, blow-off function for fast product release
- > Grippers with flat entry angle enables handling of thin or flat parts
- > Knurled screw for stroke adjustment to textile thickness
- > GR04.700: double-acting enables short duty cycles: separate compressed air connections for extraction/retraction of needles
  - Additional compressed air inlet (A) for fast product release
- > GR04.730: single-acting, compressed air connection for needle extraction, reset via return spring
- > Stroke corresponds to maximum entry depth of needles
- > Spare needle plates available as accessories

Technical data

Item no.	GR04.700-20	GR04.700-25	GR04.730-20
Principle of operation	Double-acting	Double-acting	Single-acting
Stroke [mm]	0 - 2	0 - 2.5	0 - 2
Number of needles [Pcs.]	32	32	32
Needle diameter [mm]	0.7	0.7	0.7
Infeed angle [°]	30	30	30
Operating pressure [bar (psi)]	4 - 7 (58 - 101.5)	4 - 7 (58 - 101.5)	4 - 7 (58 - 101.5)
Operating temperature [°C (°F)]	-0 - 70 (32 - 158)	-0 - 70 (32 - 158)	-0 - 70 (32 - 158)
Weight [g]	114	114	250
Accessories	Spare needle kit: GR04.700-20N Mounting bracket: GR07.040 (p.267)	Spare needle kit: GR04.700-25N Mounting bracket: GR07.040 (p.267)	Spare needle kit: GR04.730-20N Mounting bracket: GR07.041 (p.267)

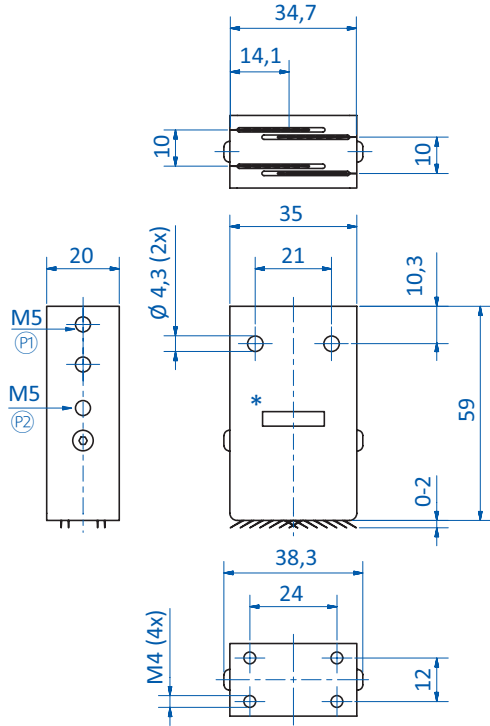
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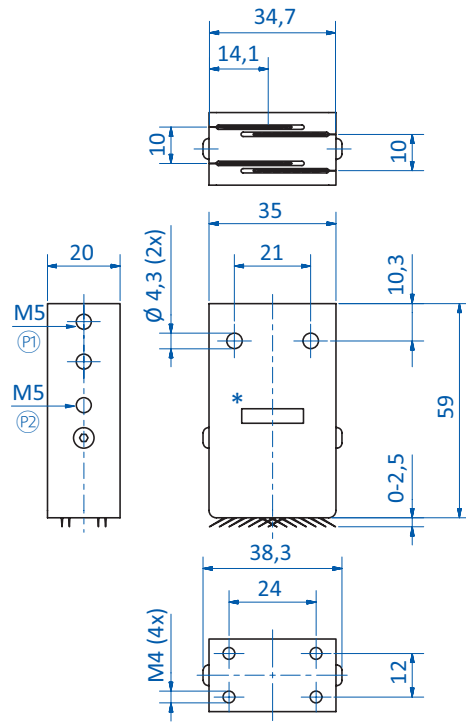
# Grippers | Needle grippers

Needle grippers GR04.700 and GR04.730

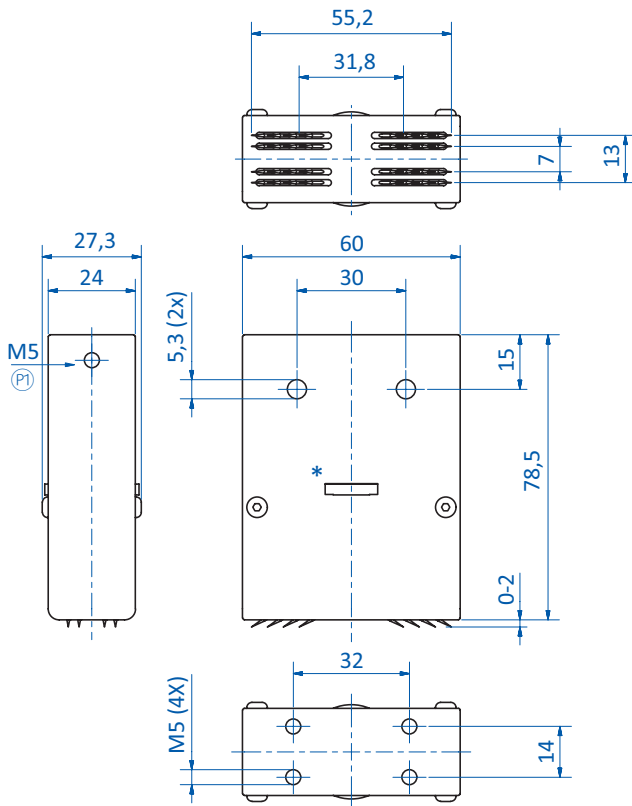
## Dimensions



GR04.700-20



GR04.700-25



GR04.730-20

\* = Stroke adjustment with knurled screw (P1) = Compressed air connection M5 needles extended  
 (P2) = Compressed air connection M5 needles retracted



## Needle grippers GR04.710 and GR04.720



GR04.710



GR04.720 with spring load

### Product notes

- > Strokes adjustable to material thickness
- > Grippers for materials that are non-dimensionally stable or difficult to handle with vacuum
- > Central bore hole (Ø 10 mm) to allow insertion of gripper into stack rails for pick & place
- > Stroke limitation adjustable to material thickness
- > Needles centrally crossed for firm grip
- > Double-acting enables short duty cycles: separate compressed air connections for extraction/retraction of needles
- > Needles can be individually replaced
- > Spare needle sets, each containing ten pieces available

### Technical data

Item no.	GR04.710-25	GR04.710-50	GR04.710-75	GR04.710-100	GR04.720-25	GR04.720-50
Principle of operation	Double-acting	Double-acting	Double-acting	Double-acting	Double-acting	Double-acting
Stroke [mm]	0 - 2.5	0 - 5	0 - 7.5	0 - 10	0 - 2.5	0 - 5
Stroke suspensions [mm]	--	--	--	--	35	35
Number of needles [Pcs.]	10	10	10	10	10	10
Needle diameter [mm]	2	2	2	2	2	2
Infeed angle [°]	30	30	30	30	30	30
Operating pressure [bar (psi)]	2 - 8 (29 - 116)	2 - 8 (29 - 116)	2 - 8 (29 - 116)	2 - 8 (29 - 116)	2 - 8 (29 - 116)	2 - 8 (29 - 116)
Operating temperature [°C (°F)]	-10 - 80 (14 - 176)	-10 - 80 (14 - 176)	-10 - 80 (14 - 176)	-10 - 80 (14 - 176)	-10 - 80 (14 - 176)	-10 - 80 (14 - 176)
Weight [g]	240	298	310	340	492	512
Accessories	Spare needle kit: GR04.710-50N Mounting bracket: GR07.040 (p.267)	Spare needle kit: GR04.710-50N Mounting bracket: GR07.040 (p.267)	Spare needle kit: GR04.710-75AN Spare needle kit: GR04.710-75N Mounting bracket: GR07.040 (p.267)	Spare needle kit: GR04.710-75AN Spare needle kit: GR04.710-75N Mounting bracket: GR07.040 (p.267)	Spare needle kit: GR04.720-25N	Spare needle kit: GR04.720-25N

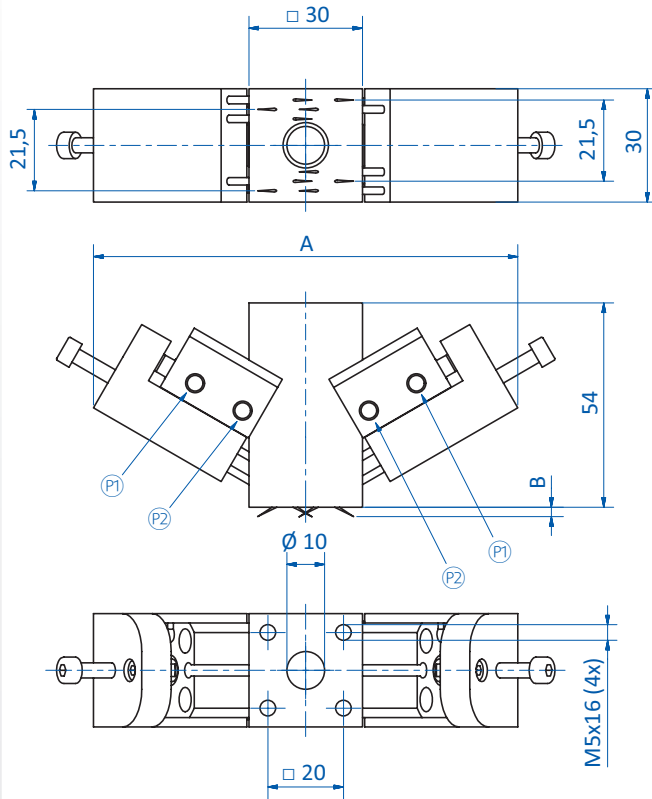
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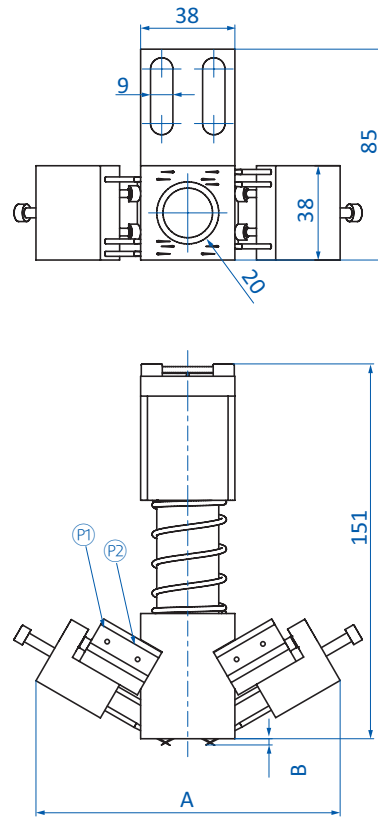
# Grippers | Needle grippers

Needle grippers GR04.710 and GR04.720

## Dimensions



GR04.710-25 | GR04.710-50 | GR04.710-75 | GR04.710-100



GR04.720-25 | GR04.720-50

Ⓟ = Compressed air connection M5 needles extended Ⓠ = Compressed air connection M5 needles retracted

Item no.	GR04.710-25	GR04.710-50	GR04.710-75	GR04.710-100	GR04.720-25	GR04.720-50
A [mm]	111.5 - 123	120 - 138	128 - 154	138.5 - 173	123 - 131.5	131.5 - 149
B [mm]	0 - 2.7	0 - 5	0 - 7.5	0 - 10	0 - 2.5	0 - 5



## Needle grippers GR04.715

RETRACTION OF NEEDLES CAN BE CONTROLLED  
SEPARATELY FOR BOTH SIDES



## Product notes

- > Grippers for workpieces or materials that are non-dimensionally stable or difficult to handle with vacuum
- > Narrow design
- > Stroke can be adjusted to material thickness
- > Double-acting enables short duty cycles: separate compressed air connections for extraction/retraction of needles on the face-side, alternatively one connection/each for separate extraction, one connection for central retraction
- > Needles can be individually replaced
- > Spare needle sets, each containing ten pieces available

## Technical data

Item no.	GR04.715-70
Principle of operation	Double-acting
Stroke [mm]	0 - 7
Number of needles [Pcs.]	6
Needle diameter [mm]	2
Infeed angle [°]	30
Operating pressure [bar (psi)]	2 - 8 (29 - 116)
Operating temperature [°C (°F)]	-10 - 80 (14 - 176)
Weight [g]	195
Accessories	Spare needle kit: GR04.715-70N Mounting bracket: GR07.042 (p.268)

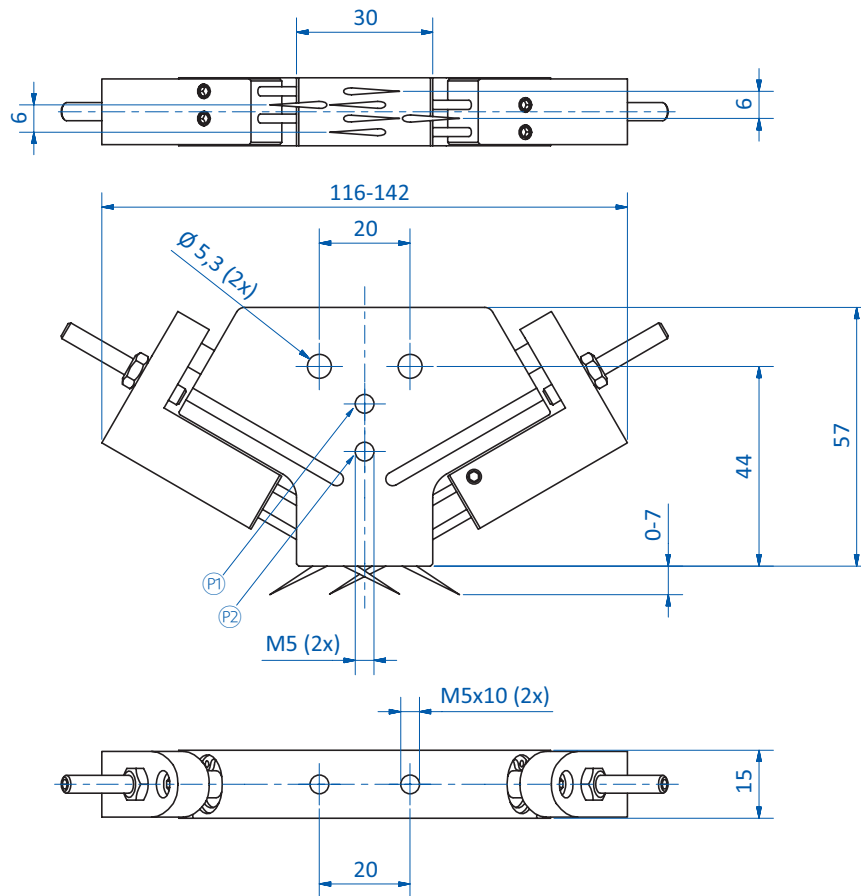
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# Grippers | Needle grippers

Needle grippers GR04.715

## Dimensions



Ⓟ = Bore holes M5 for separate extraction of needles per side Ⓠ = Bore hole M5 for central retraction of needles



## Needle grippers GR04.725

ESPECIALLY SUITED FOR HANDLING HEAVIER WORKPIECES



## Product notes

- > Grippers for materials that are non-dimensionally stable or difficult to handle with vacuum
- > Stroke can be adjusted to material thickness
- > Double-acting enables short duty cycles: separate compressed air connections for extraction/retraction of needles
- > Spare needle plates, available

## Technical data

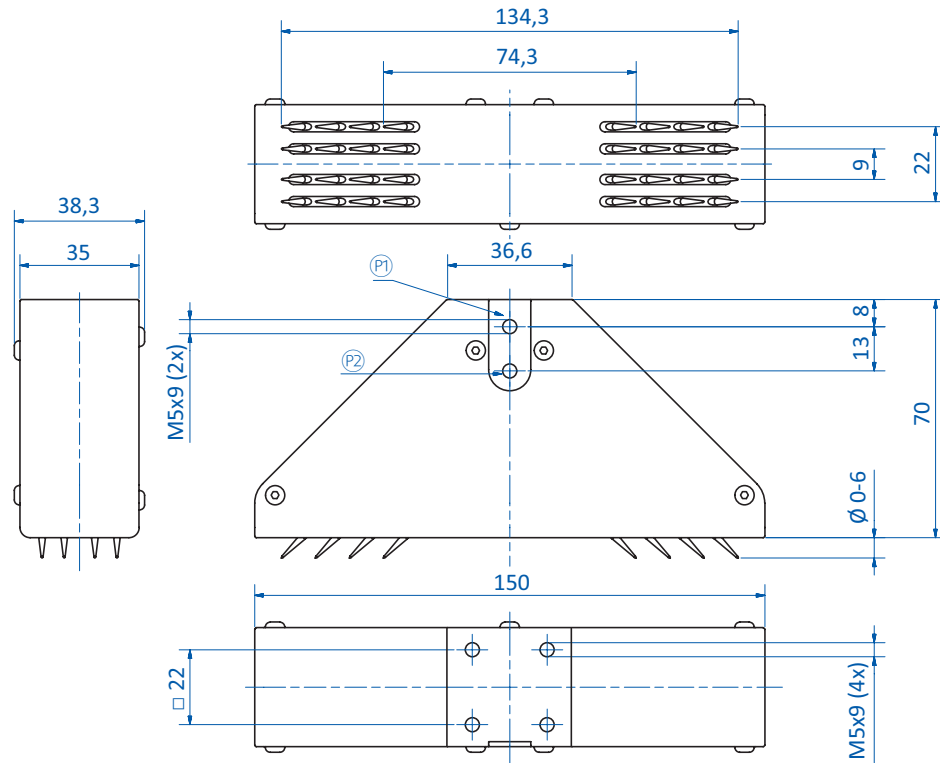
Item no.	GR04.725-60	GR04.725-90
Principle of operation	Double-acting	Double-acting
Stroke [mm]	6	9
Number of needles [Pcs.]	32	32
Needle diameter [mm]	2	2
Infeed angle [°]	45	45
Max. gripping force [N]	360	360
Operating pressure [bar (psi)]	2 - 8 (29 - 116)	2 - 8 (29 - 116)
Operating temperature [°C (°F)]	-10 - 80 (14 - 176)	-10 - 80 (14 - 176)
Weight [g]	450	480
Accessories	Spare needle kit: GR04.725-60N Mounting bracket: GR07.041 (p.267)	Spare needle kit: GR04.725-90N Mounting bracket: GR07.041 (p.267)

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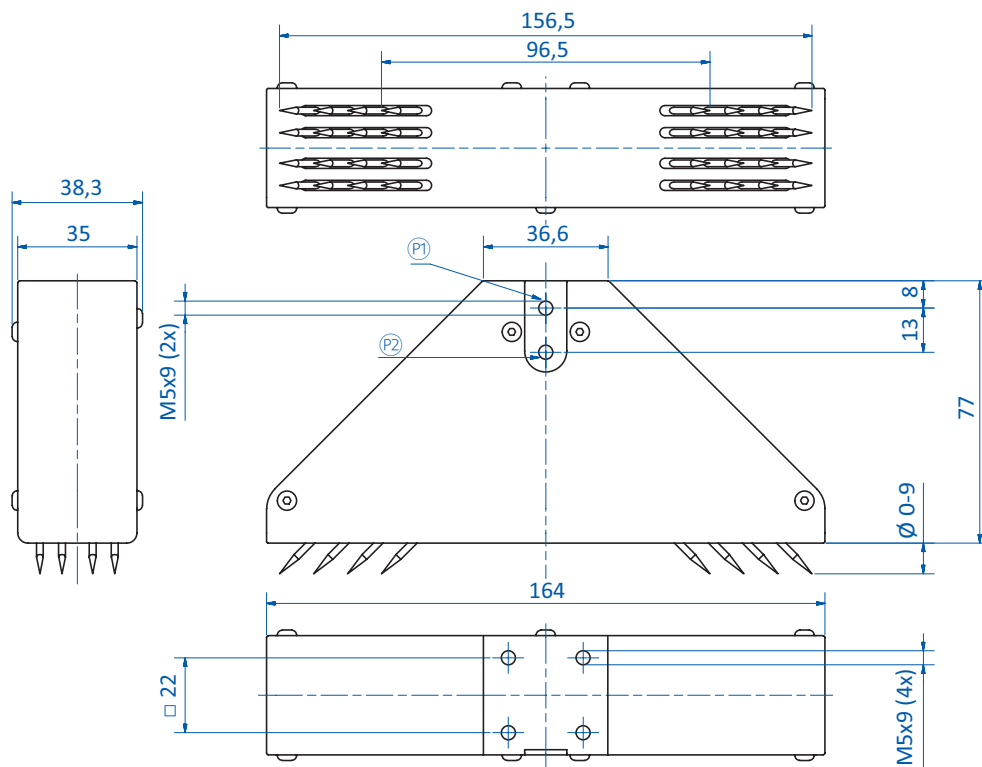




### Dimensions



GR04.725-60

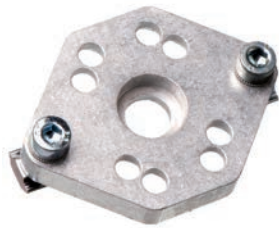


GR04.725-90

Ⓟ = Compressed air connection M5 needles extended Ⓠ = Compressed air connection M5 needles retracted



Mounting plates for needle gripper



Product notes

- > Mounts needle grippers on the SLine and MLine extrusion systems or spring loaded suction fingers
- > Two bore holes for DIN 912-M5, for mounting on extrusion
- > Slot nuts and screws included in scope of delivery

Technical data

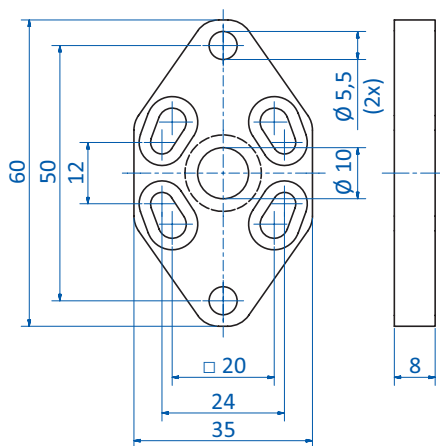
Item no.	Suitable for	Weight [g]	Suitable suction fingers
GR07.040	GR04.700, GR04.710	21	GR03.090A (p.117), GR03.091A (p.117), GR03.130A, GR03.131A
GR07.041	GR04.725, GR04.730	27	GR03.090A (p.117), GR03.091A (p.117), GR03.130A, GR03.131A

Application examples

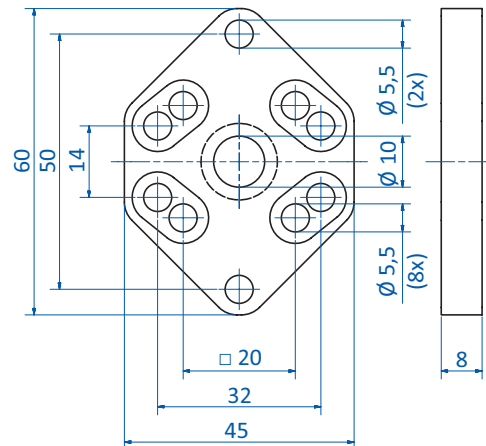


Installation example for needle gripper GR04.700 on spring loaded suction finger or FIPA SLine extrusion system

Dimensions



GR07.040



GR07.041



# Grippers | Needle grippers

Mounting bracket for needle gripper GR04.715

## Mounting bracket for needle gripper GR04.715



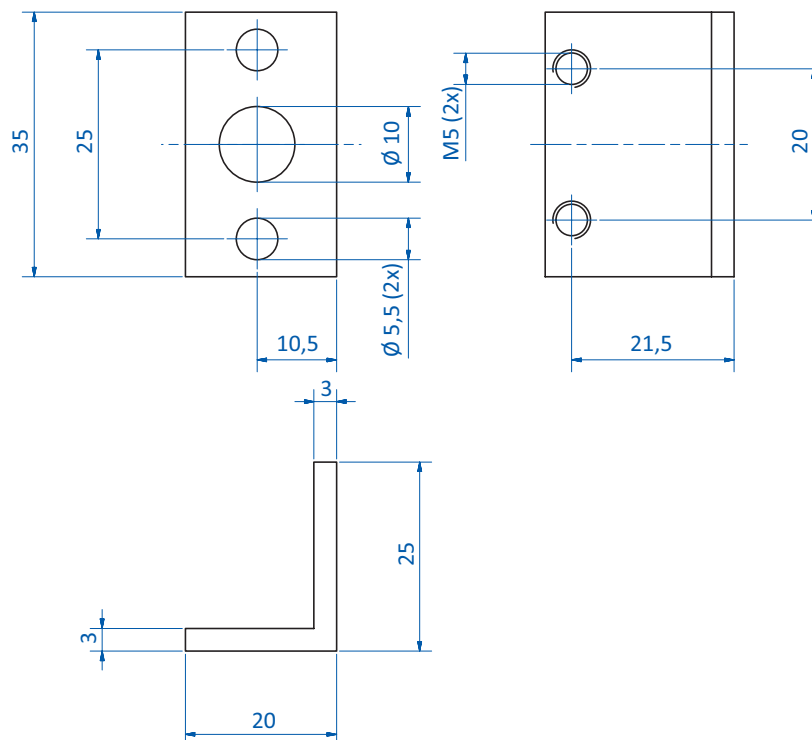
### Product notes

- > Mounted needle gripper on the SLine and MLine extrusion systems or on spring loaded suction finger
- > Two bore holes for DIN 912-M5, for mounting on extrusion with slot nuts
- > Slot nuts and screws included in scope of delivery

### Technical data

Item no.	Weight [g]	Suitable suction fingers
GR07.042	11	GR03.090A (p.117) GR03.091A (p.117) GR03.130A GR03.131A

### Dimensions





### Magnetic grippers – electrical controlled



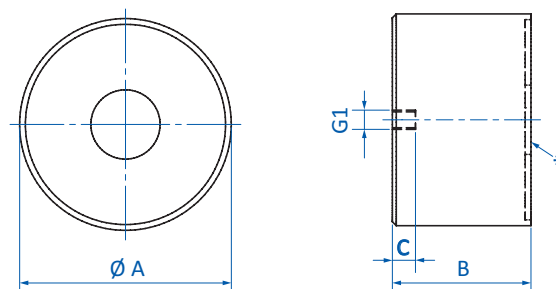
#### Product notes

- > Safe handling of sheet metal or ferromagnetic workpieces with or without recesses
- > Very high holding force thanks to high-performance permanent magnet
- > Safe holding of the workpiece during power failures
- > NC normally closed
- > Short cycle times for thin and/or alloyed metal sheets thanks to negligible residual magnetism after switching off the magnetic force
- > No compressed air required
- > Very energy-efficient as a short electrical pulse is only required for product release
- > Robust design
- > Indicated holding forces are valid for direct placement, without air gap, on the flat holding surface

#### Technical data

Item no.	MG35	MG55	MG70
Principle of operation	Electrical	Electrical	Electrical
Rated power [W]	4.6	9	13.3
Gripping force [N]	160	420	720
Residual gripping force [N]	< 1	< 1	< 1
Operating voltage of the switch-off coil [V]	24	24	24
Power-on time [ED]	25 % ED at < 2 min.	25 % ED at < 2 min.	25 % ED at < 2 min.
Min. recommended sheet thickness [mm]	3	4.5	6
Protection class	IP65	IP65	IP65
Max. operating temperature [°C (°F)]	0 - 70 (32 - 158)	0 - 70 (32 - 158)	0 - 70 (32 - 158)
Weight [g]	200	500	900
Suitable fittings	270.448	270.449	270.450

#### Dimensions



\* = Holding surface

Item no.	MG35	MG55	MG70
G1	M4	M5	M8
Ø A [mm]	35	55	70
B [mm]	30	36	45
C [mm]	5	6	8



# Grippers | Bernoulli vacuum cups

## Bernoulli vacuum cups SX-B

### Bernoulli vacuum cups SX-B



Housing made of anodized aluminum

#### Product notes

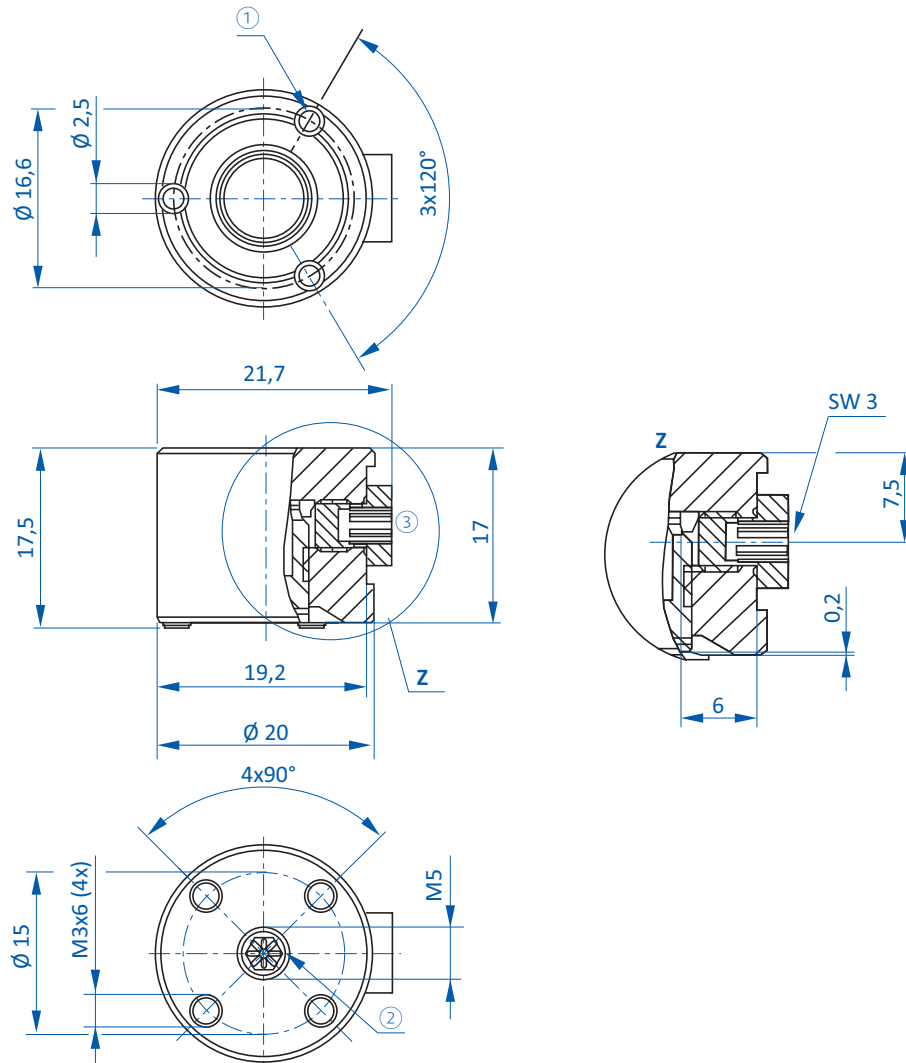
- > Integrated vacuum generation on the Bernoulli principle
- > Non-contact, deformation-resistant transport of thin and sensitive products
- > Suitable for porous products thanks to high volume flow at low vacuum level
- > Easy to install, system flexibly expandable through lateral compressed air inlets
- > Long life cycle due to maintenance-free operation
- > Only operate with unoiled, dry compressed air
- > With 65.530 and 65.540, the pads can be removed for contact-free applications
- > Pads are included in scope of delivery

#### Technical data

Item no.	65.510	65.520	65.530	65.540
Model	SX-B-20	SX-B-30	SX-B-40	SX-B-60
Operating pressure [bar (psi)]	1 - 6 (14.5 - 87)	1 - 6 (14.5 - 87)	1 - 6 (14.5 - 87)	1 - 6 (14.5 - 87)
Holding force at 5 bar (72,5 psi) [N]	2.6	4	6.4	13
Air consumption at 5 bar (72.5 psi) [l/min]	95	100	100	150
Max. particle size [µm]	40	40	40	40
Ambient air temperature [°C (°F)]	5 - 60 (41 - 140)	5 - 60 (41 - 140)	5 - 60 (41 - 140)	5 - 60 (41 - 140)
Weight [g]	50	70	120	260
Suitable pads	78.521	78.521	78.522	78.522



Dimensions



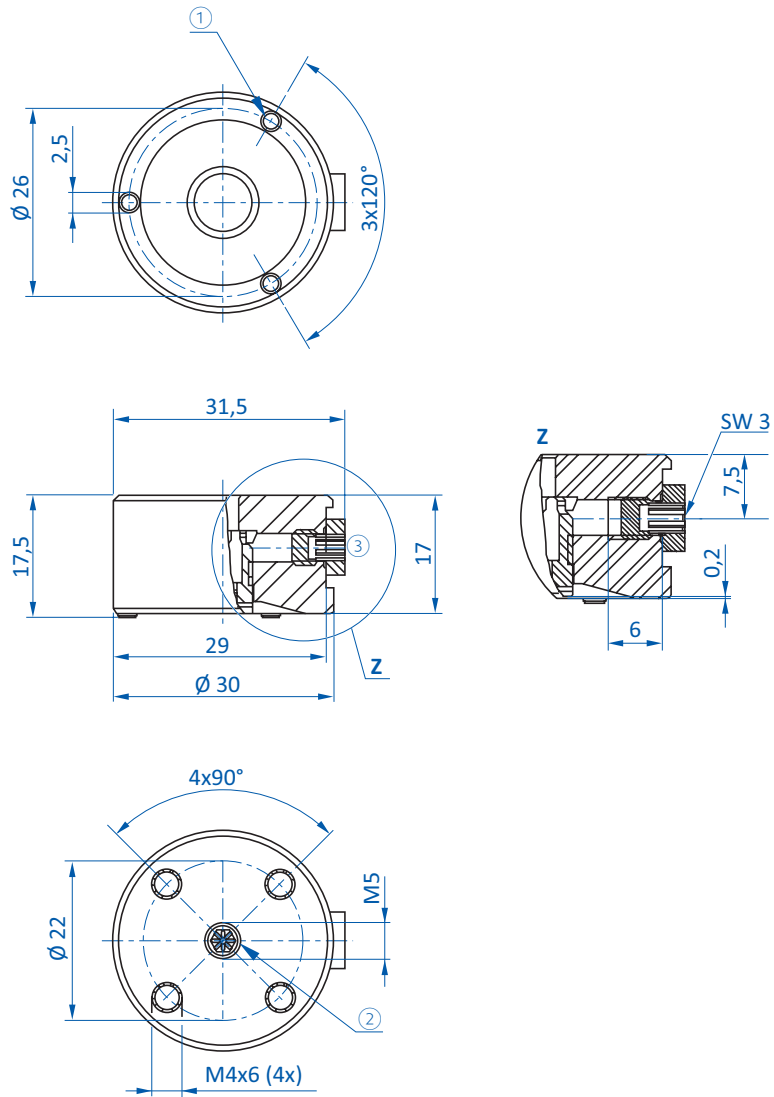
65.510

① = Pads ② = Compressed air connection ③ = Alternative compressed air connection

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### Dimensions

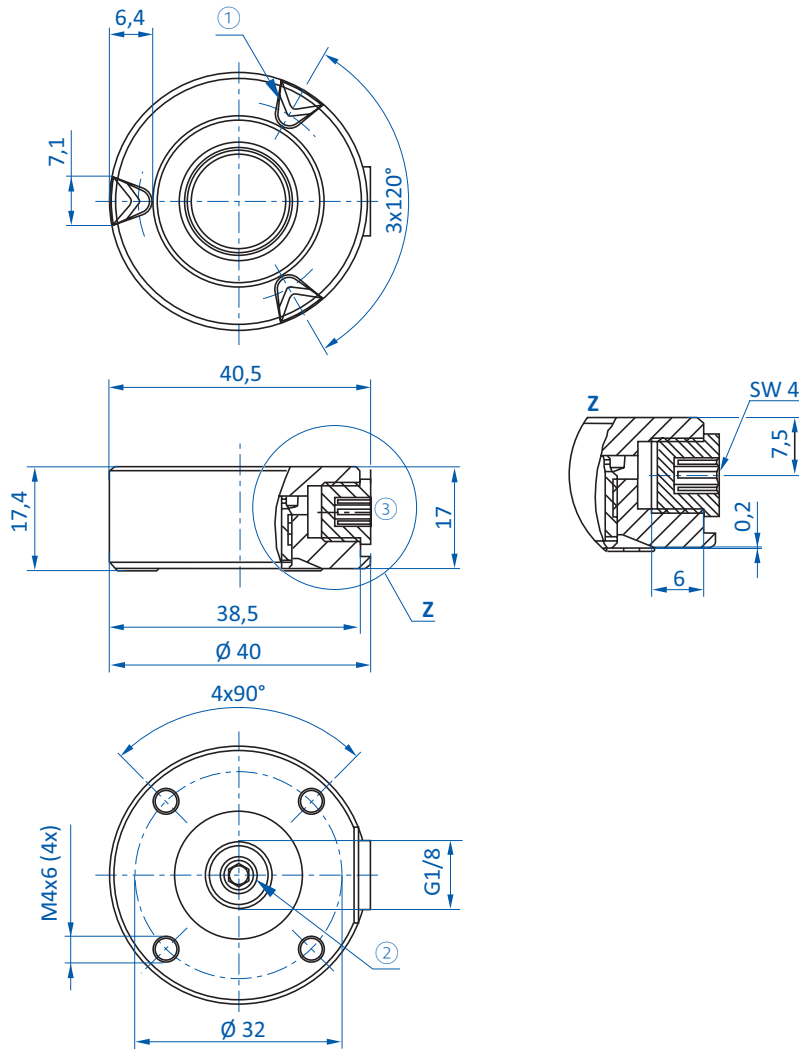


65.520

① = Pads ② = Compressed air connection ③ = Alternative compressed air connection



Dimensions



65.530

① = Pads ② = Compressed air connection ③ = Alternative compressed air connection

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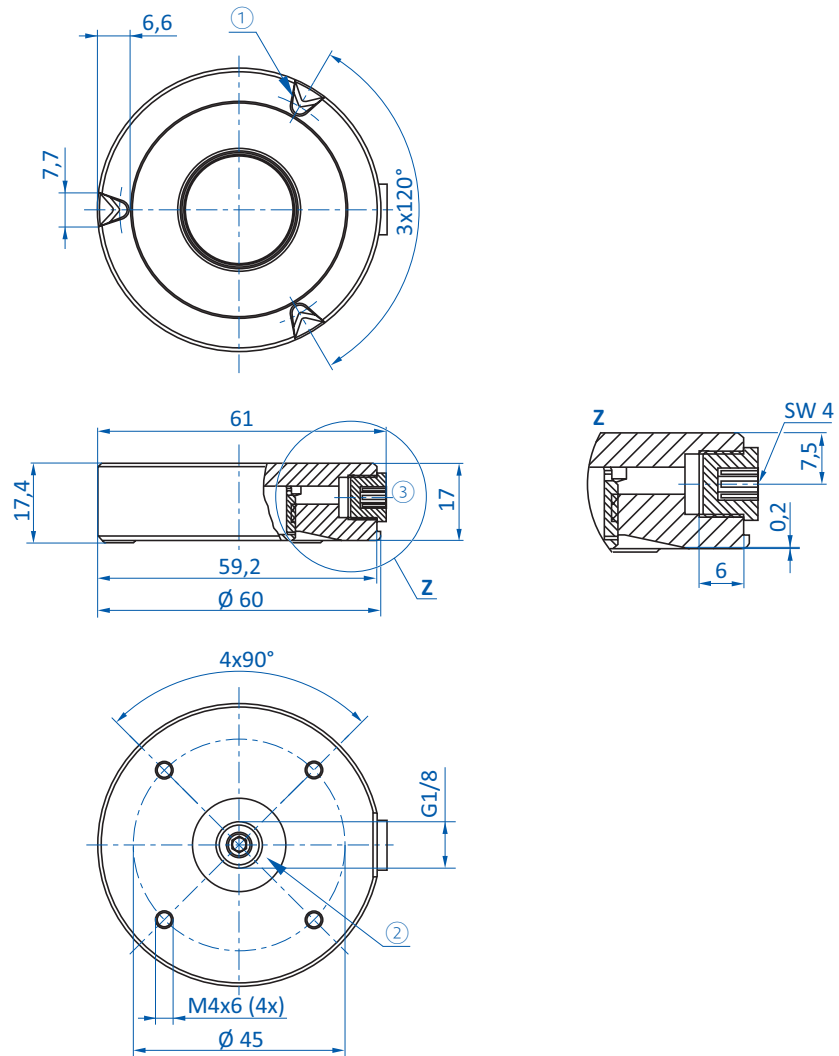




# Grippers | Bernoulli vacuum cups

Bernoulli vacuum cups SX-B

## Dimensions



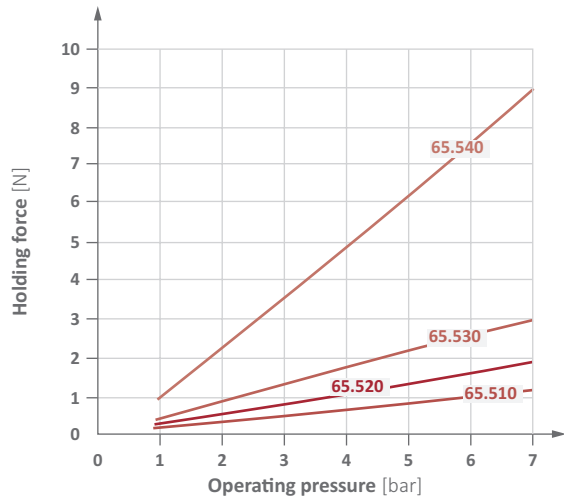
65.540

① = Pads ② = Compressed air connection ③ = Alternative compressed air connection

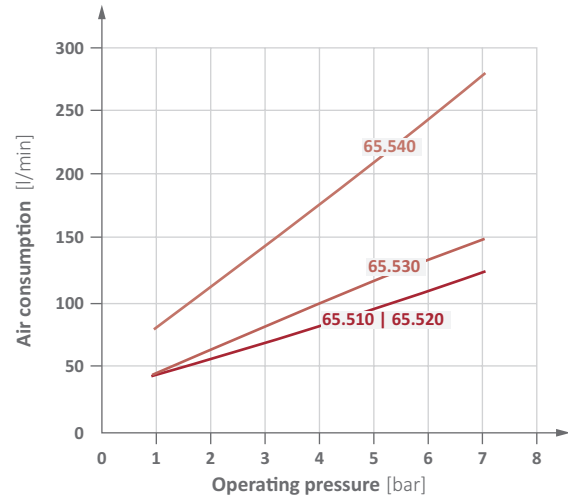


Diagrams

> Holding force as a function of operating pressure



> Air consumption as a function of operating pressure





# Grippers | Bernoulli vacuum cups

## Bernoulli vacuum cups SX-B-PK

### Bernoulli vacuum cups SX-B-PK

SUITABLE FOR FOODSTUFFS



Body and blind screws made of polyetheretherketone (PEEK), nozzle made of stainless steel

#### Product notes

- > Integrated vacuum generation on the Bernoulli principle
- > No ejector, requires compressed air only
- > Non-contact, deformation-resistant transport of thin and sensitive products
- > Suitable for direct contact with food products (approval by FDA/EC1935/2004)
- > Suitable for porous products thanks to high volume flow at low vacuum level
- > Easy to install, system flexibly expandable through lateral compressed air inlets
- > Long life cycle due to maintenance-free operation
- > Only operated with oil-free, dry compressed air

#### Technical data

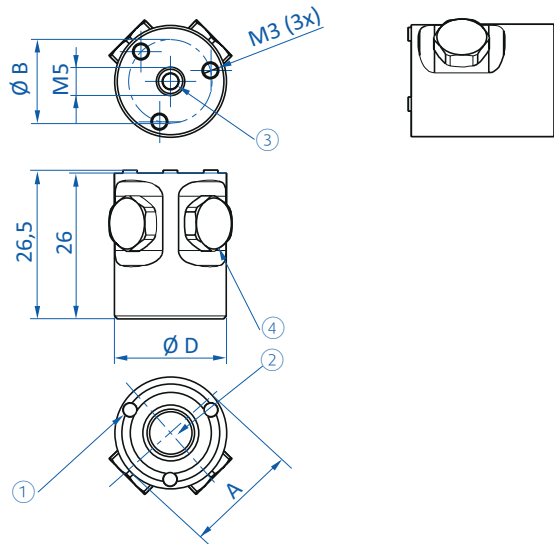
Item no.	65.510-PK	65.520-PK	65.530-PK	65.540-PK
Model	SX-B-PK-20	SX-B-PK-30	SX-B-PK-40	SX-B-PK-60
Operating pressure [bar (psi)]	1 - 7 (14.5 - 101.5)	1 - 7 (14.5 - 101.5)	1 - 7 (14.5 - 101.5)	1 - 7 (14.5 - 101.5)
Holding force at 5 bar (72,5 psi) [N]	2.5	3	5.5	12
Air consumption at 5 bar (72.5 psi) [Nl/min]	150	150	150	220
Max. particle size [µm]	40	40	40	40
Medium	Compressed air	Compressed air	Compressed air	Compressed air
Ambient air temperature [°C (°F)]	5 - 60 (41 - 140)	5 - 60 (41 - 140)	5 - 60 (41 - 140)	5 - 60 (41 - 140)
Weight [g]	10	20	30	70
Suitable silicone pads	78.510	78.510	78.512	78.512

#### Technical specifications

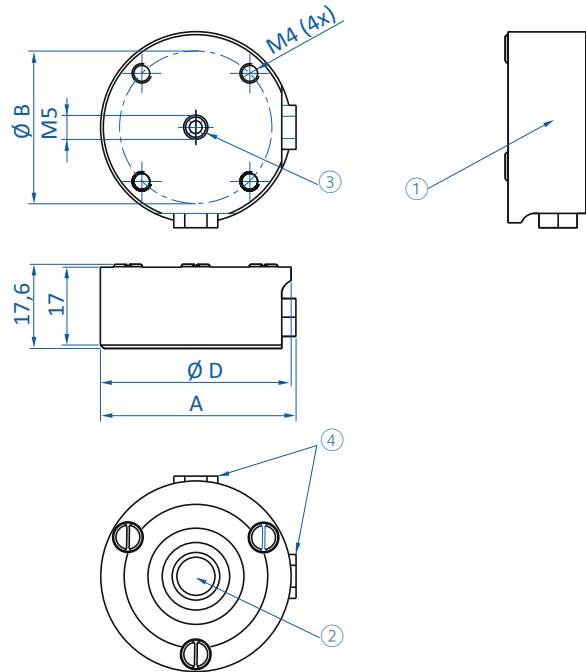
- > Highly resistant against diverse chemicals used in the food industry
- > Suitable for all conventional CIP (cleaning-in-place) and SIP (sterilization-in-place) processes
- > Hygienic product design enables quick and easy cleaning
- > Materials:
  - Housing: polyetheretherketone
  - Pad: silicone
  - Nozzle: stainless steel
  - Seals: fluorocarbon
  - Blanking screw: polyetheretherketone



### Dimensions



65.510-PK



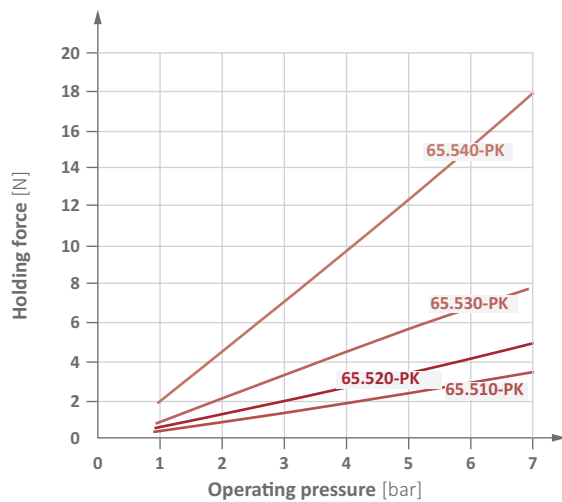
65.520-PK | 65.530-PK | 65.540-PK

① = Silicone rubber pads ② = Nozzle ③ = Compressed air connection ④ = Alternative compressed air connection

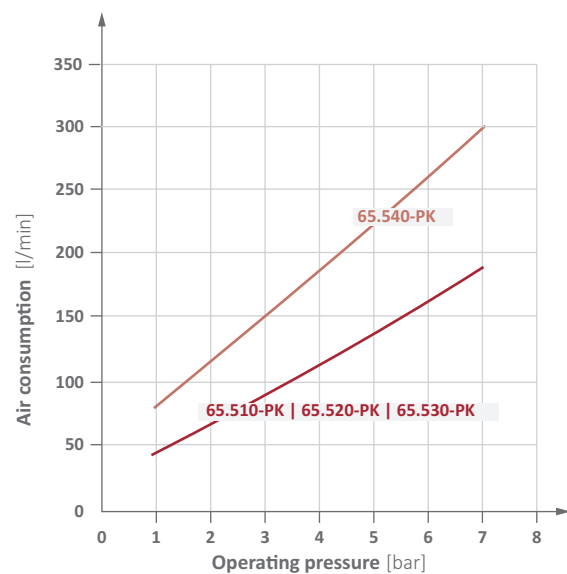
Item no.	65.510-PK	65.520-PK	65.530-PK	65.540-PK
A [mm]	21	31	41	61
Ø B [mm]	15	22	32	45
Ø D [mm]	20	30	40	60

### Diagrams

> Holding force as a function of operating pressure



> Air consumption as a function of operating pressure

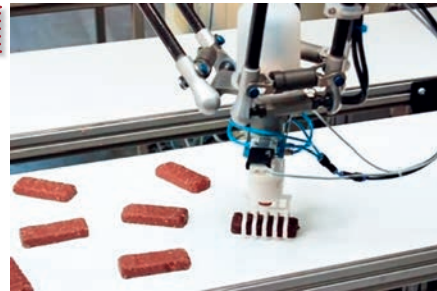




### PA grippers



SUITABLE FOR FOODSTUFFS

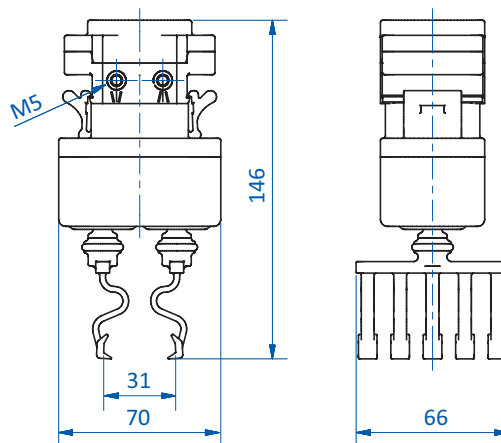


Customized design example

### Product notes

- > Grippers are customized to the workpiece
- > Connection to robots such as Delta Robots
- > Double-acting
- > All components made of FDA compliant material
- > Material: polyamide-based high-performance plastic
- > The product examples displayed are based on customer specifications
- > We would be pleased to develop your customized solution

### Dimensions



### Application examples

> Modular gripper for cans – the gripper design follows the contours of the handling item, to enable rapid acceleration



> Modular gripper with integrated ejector EMM and Varioflex® bellows vacuum cups for height compensation

