

GRIPPER WITH TWO PARALLEL JAWS, SERIES P3

**METAL
WORK**[®]
P N E U M A T I C

Parallel double-acting two-jaw gripper, with either internal or external clamping.

Also available in the double-acting with spring version, normally open (NO) for internal grip and normally closed (NC) for external grip.

Aluminum alloy body coated with surface hardening treatment; jaws made of wear-resistant coated steel.

The jaw-guiding system and precision in coupling with the body make the gripper extremely stable.

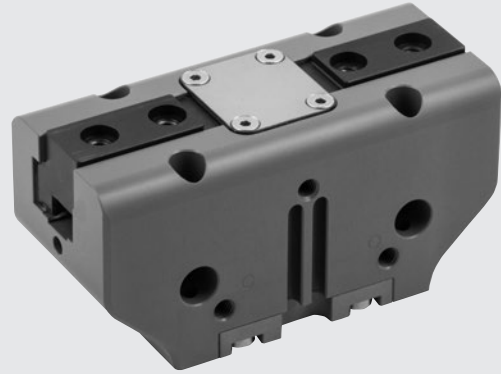
The ceramic-coated body reduces friction and wear, and enhances the movement of the jaws on the body.

All sizes are available in the version with standard stroke and clamping force, while only some in the version with reduced stroke but with higher clamping torque.

The gripper is equipped with a magnet and grooves for sensors.

A version designed to house inductive sensors is also available (**the inductive sensors are not supplied by Metal Work**).

Pneumatic supply is available on both sides.



ACTUATORS

GRIPPER WITH TWO PARALLEL JAWS, SERIES P3

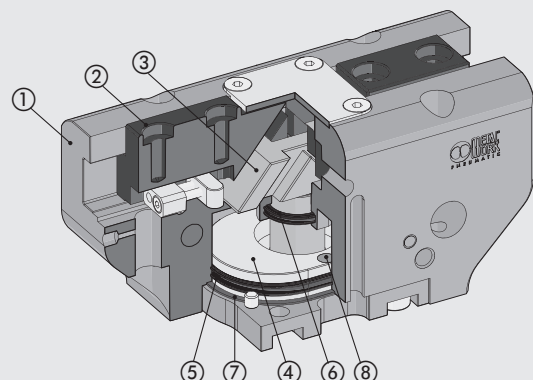
TECHNICAL DATA		P3-40			P3-64			P3-80		P3-100		
		DA	NO	NC	DA	NO	NC	Standard DA	Increased force DA	Standard DA	Increased force DA	
Minimum operating pressure	bar	2	3		2			2		2		
	MPa	0.2	0.3		0.2			0.2		0.2		
	psi	29	43.5		29			29		29		
Maximum operating pressure	bar		8		8			8		8		
	MPa		0.8		0.8			0.8		0.8		
	psi		116		116			116		116		
Temperature range	°C	-10 to 80										
Fluid		20 µm filtered, lubricated or unlubricated air; lubrication if used, it must be continuous										
Gripping force at 6.3 bar *	opening	N	75	93	-	125	157	-	265	445	360	790
	closing	N	70	-	88	113	-	145	239	401	324	711
Minimum gripping force produced by the spring *		N	-	18	18	-	32	32	-	-	-	-
Maximum movable weight	kg		0.65			1.3			2.5	5	3.5	7
Stroke of each jaw	mm		2.5			6			8	4	10	5
Minimum time	opening	s	0.05	0.05	0.1	0.05	0.05	0.1	0.05		0.05	
	closing	s	0.05	0.1	0.05	0.05	0.1	0.05	0.05		0.05	
Repeatability	mm		0.01									
Moment of inertia as regards the piston axis	kg cm ²		0.21	0.24	0.24	0.85	1.74	1.74	4.5		12	
Weight	kg		0.08	0.1	0.1	0.17	0.35	0.35	0.5		0.9	

DA: Double-acting; NO: Double acting with spring, normally open; NC: Double acting with spring, normally closed.

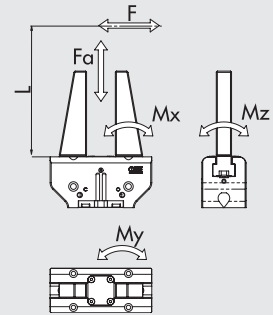
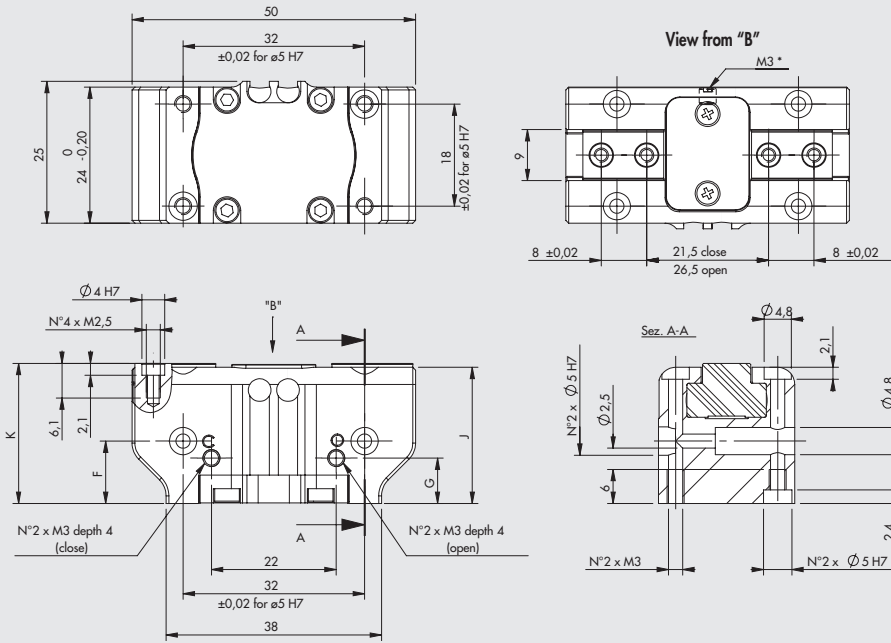
* Referred to a single jaw 20 mm from the upper surface. The total force is obtained by multiplying the reported value by 2.

COMPONENTS

- ① BODY: hard-anodized aluminium
- ② JAWS: nitrided steel
- ③ PISTON ROD + GUIDE: nitrided steel
- ④ PISTON: hard-anodized aluminium
- ⑤ PISTON GASKET: NBR
- ⑥ PISTON ROD GASKET: NBR / polyurethane
- ⑦ BASE GASKET: reinforced SBR / NBR
- ⑧ MAGNET: neodymium



GRIPPER P3-40



Fa 250 N
 Mx 12 Nm
 My 5 Nm
 Mz 10 Nm

F gripping force for each jaw
 Fa maximum admissible static axial force
 Mx, My, Mz maximum admissible static moments

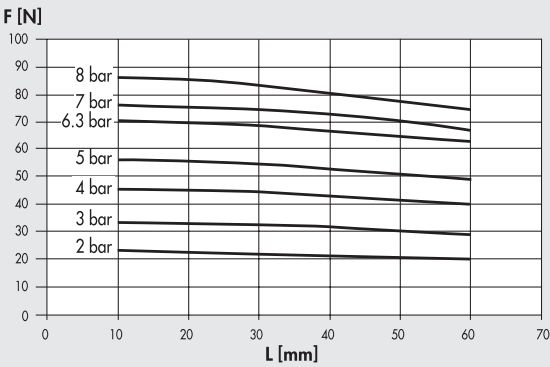
	K	J	F ± 0.02	G
DA	24.7	24	11	8
NO / NC	33.7	33	20	17

* Discharge pressurization connection

GRAPHS OF GRIPPING FORCE AS A FUNCTION OF DISTANCE "L"

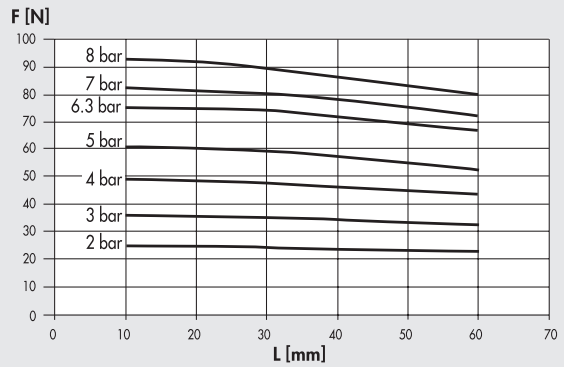
External grip*** (closing jaws)

Version DA

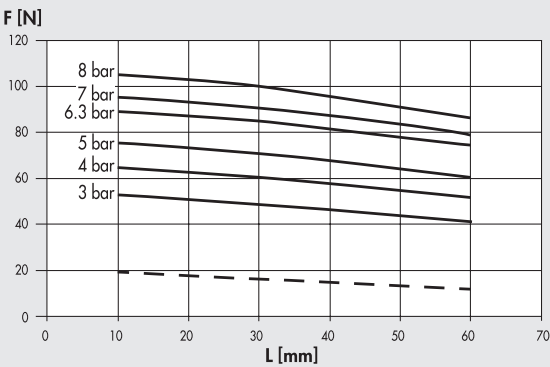


Internal grip*** (opening jaws)

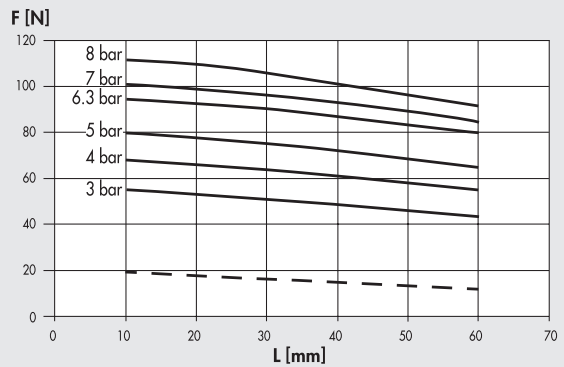
Version DA



Version NC



Version NO



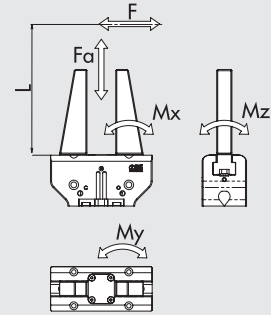
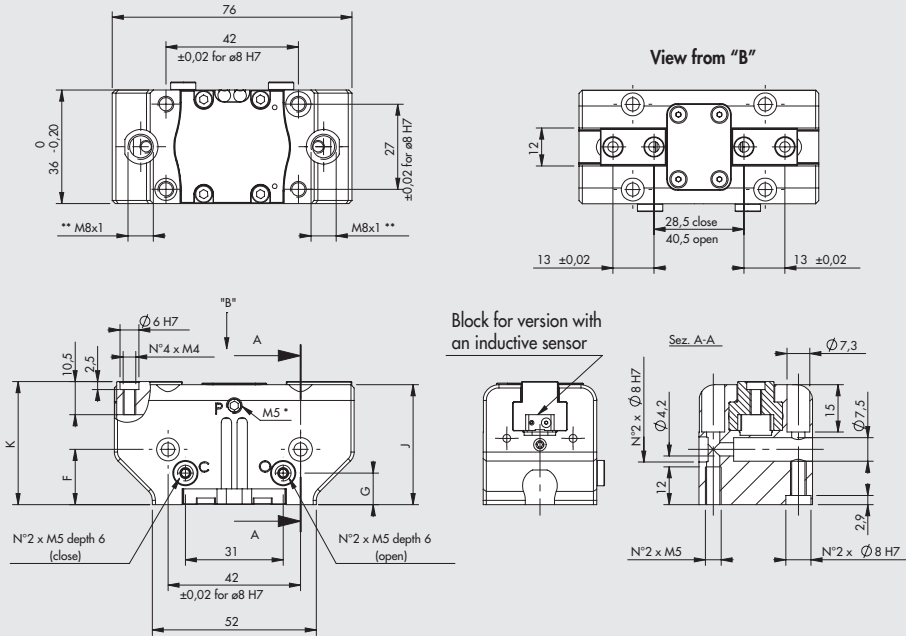
*** Referred to a single jaw. The total force is obtained by multiplying the value by 2.

— — — Minimum gripping force generated by the spring alone (NO and NC versions only). Actual force varies with stroke.

Code	Description
W1560400200	Gripper with 2 parallel jaws P3-40
W1560402200	Gripper with 2 parallel jaws P3-40 NO
W1560403200	Gripper with 2 parallel jaws P3-40 NC

NOTES

GRIPPER P3-64



- Fa 1100 N
- Mx 60 Nm
- My 40 Nm
- Mz 40 Nm

F gripping force for each jaw
 Fa maximum admissible static axial force
 Mx, My, Mz maximum admissible static moments

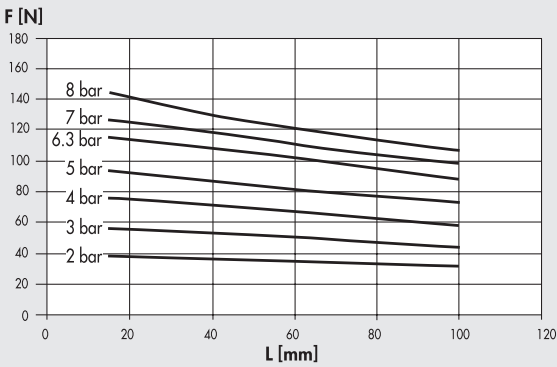
	K	J	F ±0.02	G
DA	39	38	17.5	10
NO/NC	57	56	35.5	29

* Discharge pressurization connection, present on both sides
 ** Inductive sensor slot

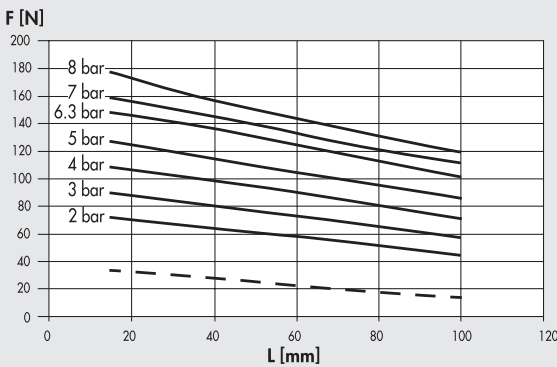
GRAPHS OF GRIPPING FORCE AS A FUNCTION OF DISTANCE "L"

External grip*** (closing jaws)

Version DA

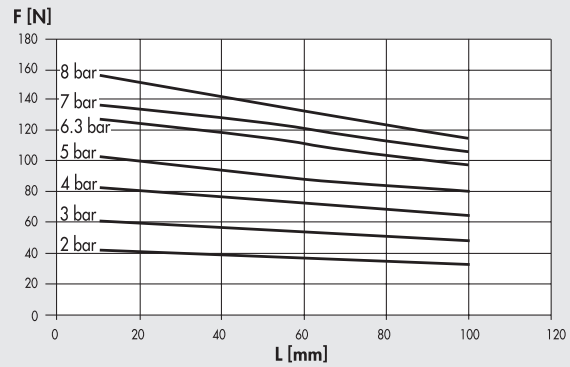


Version NC

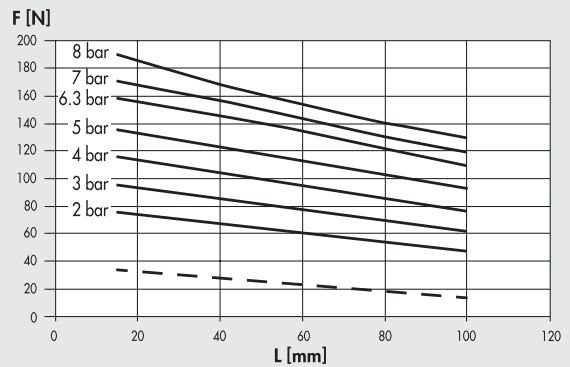


Internal grip*** (opening jaws)

Version DA



Version NO



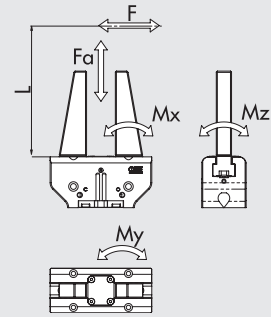
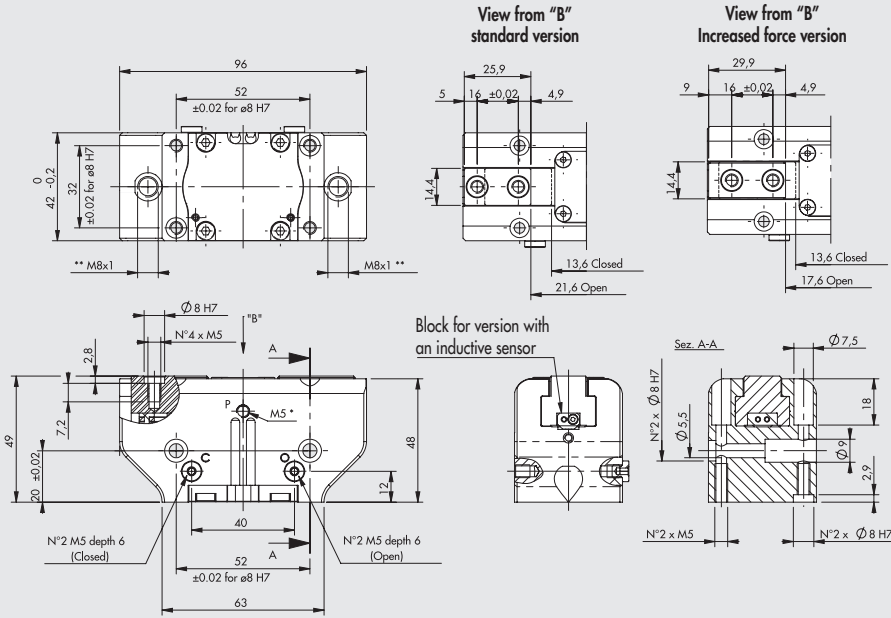
*** Referred to a single jaw. The total force is obtained by multiplying the value by 2.

— — — Minimum gripping force generated by the spring alone (NO and NC versions only). Actual force varies with stroke.

Code	Description
W1560640200	Gripper with 2 parallel jaws P3-64
W1560640201	Gripper with 2 parallel jaws P3-64 for inductive sensors
W1560642200	Gripper with 2 parallel jaws P3-64 NO
W1560642201	Gripper with 2 parallel jaws P3-64 NO for inductive sensors
W1560643200	Gripper with 2 parallel jaws P3-64 NC
W1560643201	Gripper with 2 parallel jaws P3-64 NC for inductive sensors

NOTES

GRIPPER P3-80

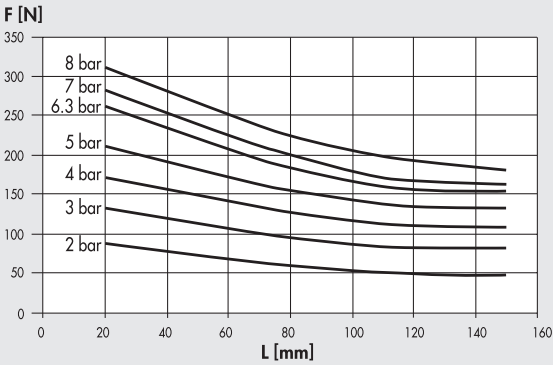


- Fa 1500 N
- Mx 90 Nm
- My 55 Nm
- Mz 55 Nm

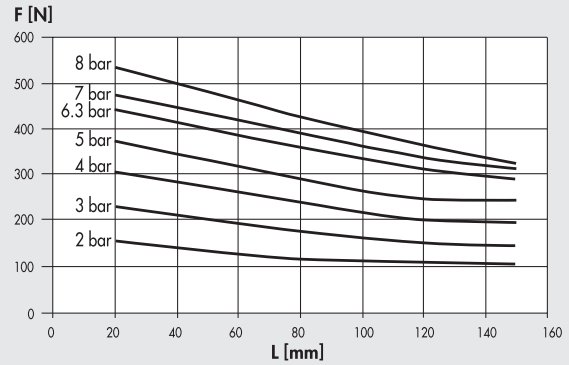
F gripping force for each jaw
 Fa maximum admissible static axial force
 Mx, My, Mz maximum admissible static moments

- * Discharge pressurization connection, present on both sides
- ** Inductive sensor slot

Standard version

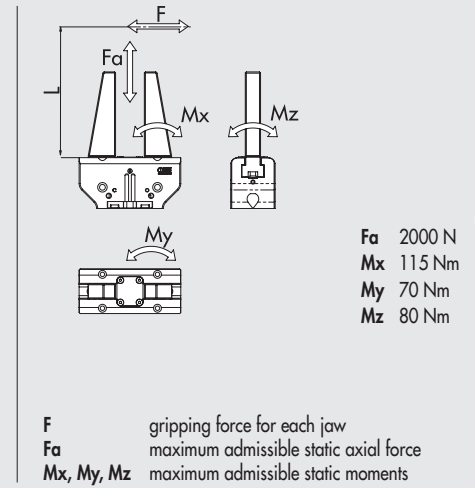
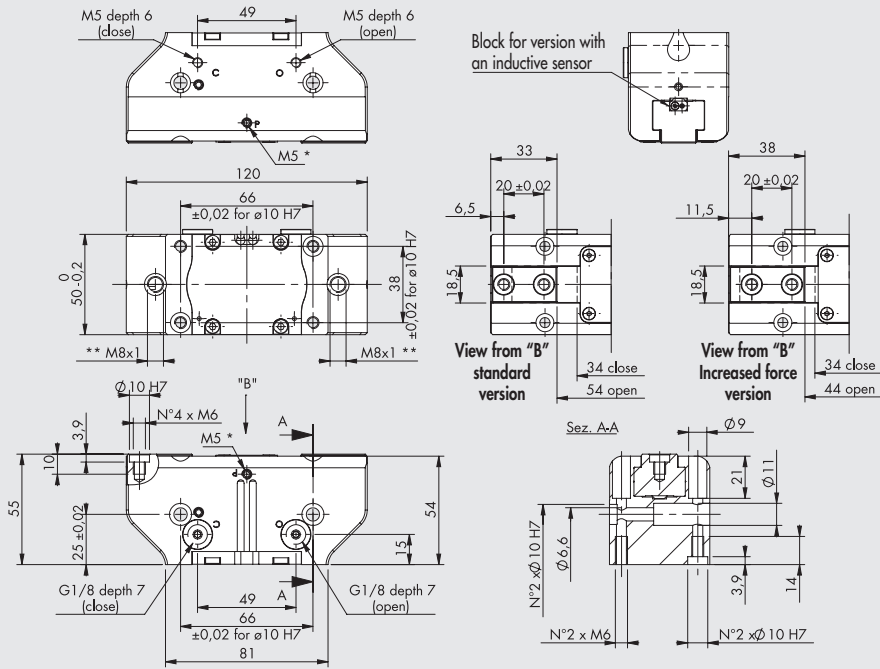


Increased force version



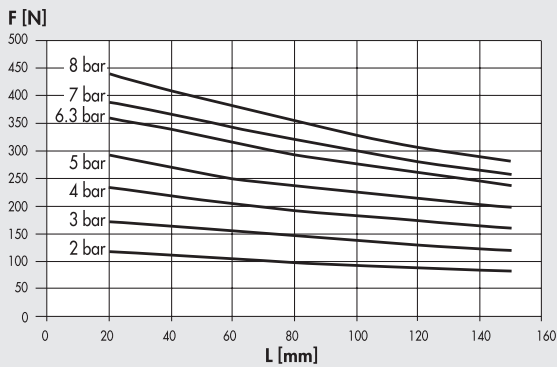
Code	Description
W1560800200	Gripper with 2 parallel jaws P3-80
W1560800201	Gripper with 2 parallel jaws P3-80 for inductive sensors
W1560800220	Gripper with 2 parallel jaws P3-80 increased force
W1560800221	Gripper with 2 parallel jaws P3-80 increased force for inductive sensors

GRIPPER P3-100

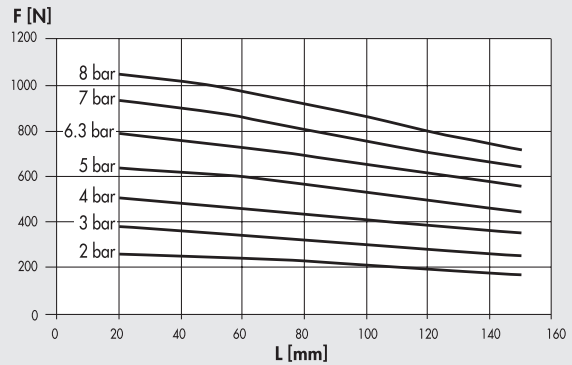


- * Discharge pressurization connection, present on both sides
- ** Inductive sensor slot

Standard version



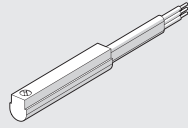
Increased force version



Code	Description
W1561000200	Gripper with 2 parallel jaws P3-100
W1561000201	Gripper with 2 parallel jaws P3-100 for inductive sensors
W1561000220	Gripper with 2 parallel jaws P3-100 increased force
W1561000221	Gripper with 2 parallel jaws P3-100 increased force for inductive sensors

ACCESSORIES

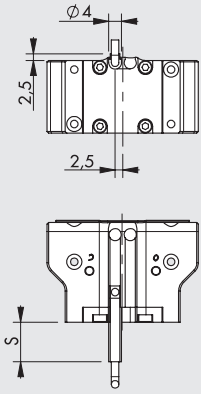
SENSOR Ø 4



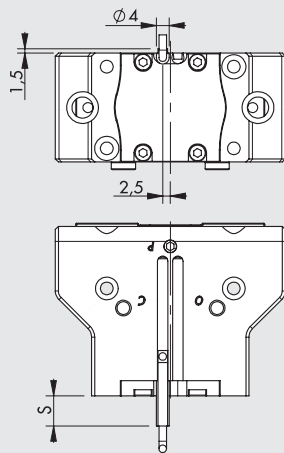
For codes and technical data, see [chapter A6](#).

SENSOR MOUNTING IN THE NO AND NC GRIPPERS SLOTS

P3-40

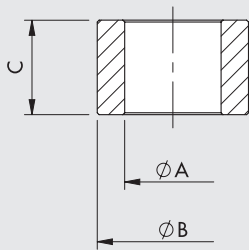


P3-64



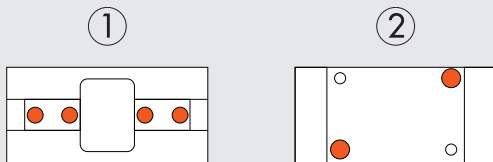
	S	
	P3-40	P3-64
NO	6	12
NC	13	12

CENTRING RING



Code	ØA	ØB ¹⁷	C
W1560409201	3 ^{0/-0.1}	4	4 ^{0/-0.1}
W1560649201	4.5 ^{0/-0.1}	6	5 ^{0/-0.1}
W1560809201	5.1 ^{0/-0.1}	8	5 ^{0.05/-0.1}
W1561009201	6.2 ^{±0.1}	10	6.9 ^{0/-0.1}

Note: 2-pieces pack



QUANTITY OF KITS NEEDED

Sizer gripper	① - USE WITH JAWS	② - BODY USE
40	2 code W1560409201	-
64	2 code W1560649201	2 code W1560809201
80	2 code W1560809201	2 code W1560809201
100	2 code W1561009201	2 code W1561009201

NOTES