

Series UPG



Series UPG

The AVENTICS Series UPG is a 2-finger parallel gripper characterized by its high gripping forces, precision, and exact movement of the clamping jaws. They can be selected based on the application requirements and flexibly equipped with object-specific gripper fingers.

- 2-finger, parallel gripper
- with magnetic piston

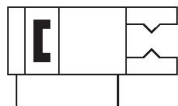


Product overview

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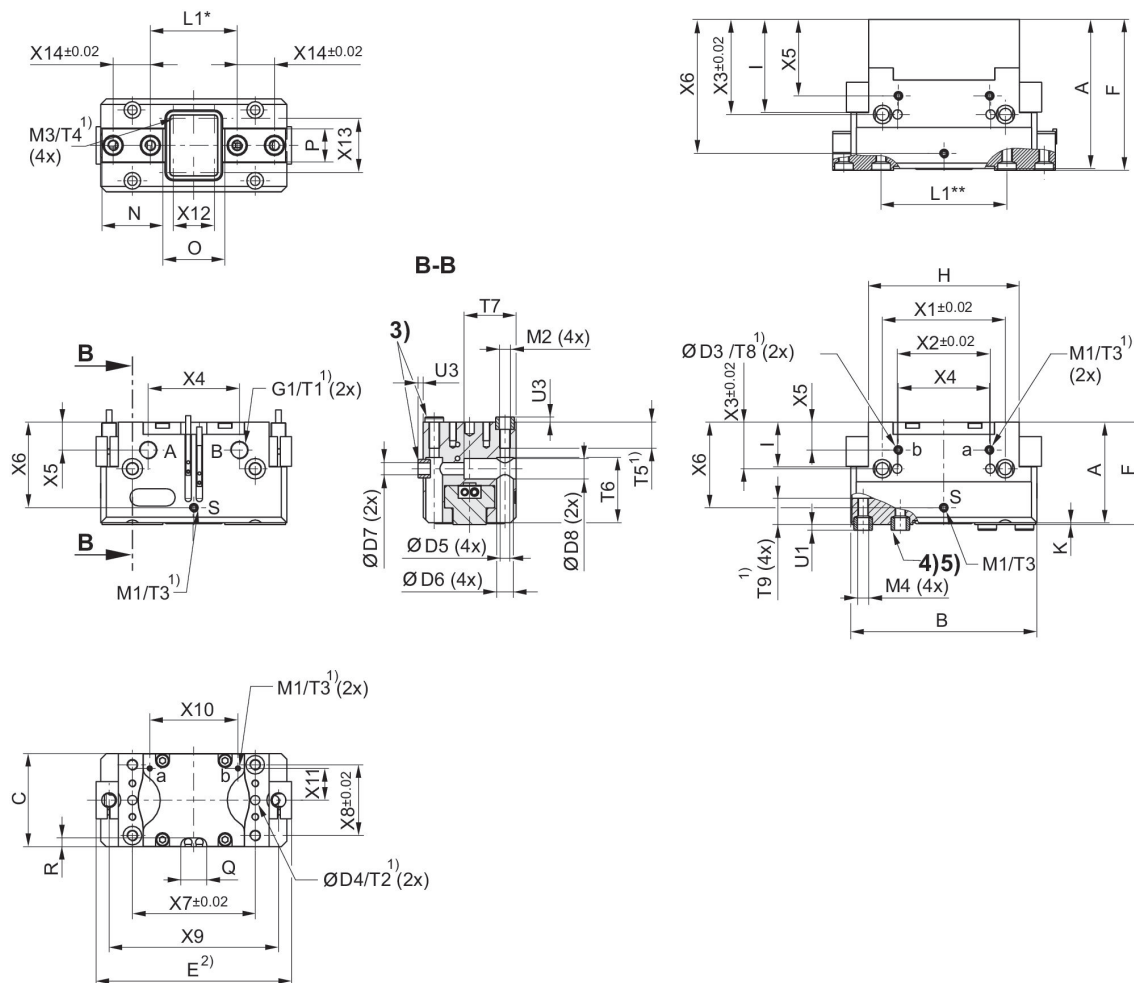
Grippers, Series UPG, Double-acting

Magnetic piston: with magnetic piston
Grippers type: 2-finger, parallel gripper



Type	Effective gripping force of I.D gripper per finger, min. [N]	Effective gripping force of O.D gripper per finger, min. [N]	Effective total gripping force I.D. gripper, min. [N]	Effective total gripping force O.D. gripper, min. [N]	Max. permissible finger length [mm]	Max. permissible finger mass [kg]	Stroke per finger [mm]	Closing time at 6 bar [s]	Opening time at 6 bar [s]	Recommended workpiece mass [kg]	Air consumption per double-stroke at 1 bar [cm³]	Weight [kg]	Part No.
UPG-P-40	66	61.5	132	123	50	0.1	2.5	0.02	0.02	0.62	2.5	0.08	R412026301
UPG-P-50	72.5	70	145	140	64	0.18	4	0.02	0.02	0.7	5	0.15	R412026302
UPG-P-64	135	125	270	250	80	0.35	6	0.03	0.03	1.25	10	0.28	R412026303
UPG-P-80	232.5	207.5	465	415	100	0.6	8	0.04	0.04	2.1	22.5	0.5	R412026304
UPG-P-100	362.5	330	725	660	125	1.1	10	0.07	0.07	3.3	45	0.81	R412026305
UPG-P-125	585	540	1170	1080	160	2.1	13	0.1	0.1	5.4	87	1.35	R412026306
UPG-P-160	885	820	1770	1640	200	3.5	16	0.15	0.15	8.2	164	2.6	R412026307

Dimensions



- * Gripper closed
- ** Gripper open
- 1) min.
- 2) max.
- 3) Sleeve ØD2 h6 ØD2 in housing for bottom gripper connection (2x)
- 4) Sleeve ØD1 h6 ØD1 H7 in base jaw for bottom finger connection (4x)
- 5) Sleeve ØD1 h6 ØD1in base jaw for bottom finger connection (4x)

Part No.	A	B	C	D1 H7	D2 H7	D3 H7	D4 H7	D5	D6	D7
R412026301	24	45	24	4	5	-	-	2.5	4.8	2.6
R412026302	30	57	30	5	6	-	-	3,3	5,8	3,3
R412026303	38	64	36	6	8	4	4	4,2	7,25	4,2
R412026304	48	80	42	8	8	-	4	4,2	7,25	5,1
R412026305	54	100	50	10	10	5	5	5,1	9	6,6
R412026306	62	125	60	10	12	6	6	6,8	10,5	9
R412026307	76	160	72	14	12	6	6	6,8	10,5	9

Part No.	D8	E	F	G1	H	I	K	L1*	L1**	M1
R412026301	4.8	-	24.7	M3	38	9	0.7	26.5	21.5	M2
R412026302	5.8	-	31	M5	42	13	1	33,5	25,5	M5
R412026303	7,25	70	39	M5	52	15	1	40,5	28,5	M5

Part No.	D8	E	F	G1	H	I	K	L1*	L1**	M1
R412026304	9	87	49	M5	63	20	1	53	37	M5
R412026305	11	105	55	G1/8	81	24	1	67	47	M5
R412026306	14	130	63	G1/8	100	26	1	87	61	M5
R412026307	14	162,5	77	G1/8	125	32	1	109	77	M5

Part No.	M2	M3	M4	N	O	P	Q	R	T1	T2
R412026301	M3	M2	M2.5	14.8	14.9	6.8	9.5	3.5	4	-
R412026302	M4	M2,5	M3	18,6	19	10	9.5	3,8	4.5	-
R412026303	M5	M2,5	M4	21	20,3	12	11	4,3	6	6
R412026304	M5	M2,5	M5	26	26,8	14,4	12	4,2	6	8
R412026305	M6	M3	M6	32,7	33,3	17,8	14	4,8	7	6
R412026306	M8	M3	M6	39	45,5	19,7	14	4,3	7	10
R412026307	M8	M3	M10	50	57,9	26	16	5,3	7	12

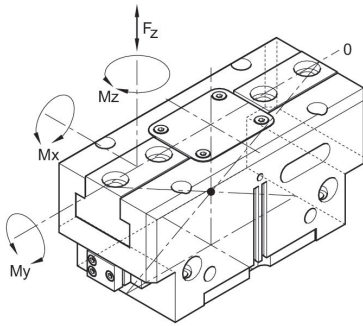
Part No.	T3	T4	T5	T6	T7	T8	T9	U1	U3	X1
R412026301	4	3.5	8	16	14	-	6.1	2.2	2	32
R412026302	6	3.5	11	19	18	-	8,5	2.2	2,5	35
R412026303	6	3.5	12	24,1	25	5	10	2.6	2,5	42
R412026304	4	3.5	15	33	24	-	10	2.6	2,5	52
R412026305	6	5,5	14	35	28	5	14,2	3.1	3	66
R412026306	6	5,5	20	39,5	38	6	13	3.1	3	82
R412026307	6	5,5	20	55,5	41	7	17	4	3	100

Part No.	X2	X3	X4	X5	X6	X7	X8	X9	X10	X11
R412026301	-	11	22	8	18.6	32	18	-	20	6.8
R412026302	-	14,5	24	10	25,5	35	22	-	22,6	8,7
R412026303	20	17,5	31	10	33	42	27	58,6	27	10
R412026304	-	20	40	12	39,5	52	32	73	37	12
R412026305	50	25	49	15	46	66	38	91	47,4	17
R412026306	60	30	63	15	53	82	45	116	61	20
R412026307	76	28	74	18	61	100	56	148,5	75	24,5

Part No.	X12	X13	X14
R412026301	8	14	8
R412026302	11	18	12
R412026303	13	20,5	13
R412026304	17	14,4	16
R412026305	22	17,8	20
R412026306	35,5	19,7	24
R412026307	43	31	32

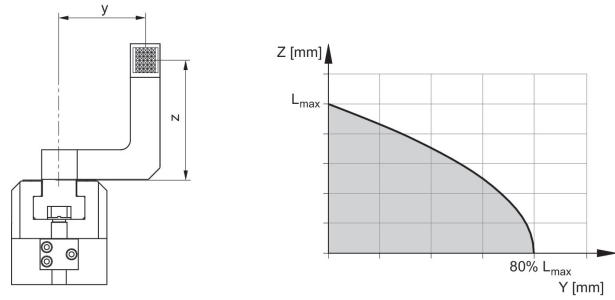
* Gripper open
** Gripper closed

Max. permissible forces and torques on gripper



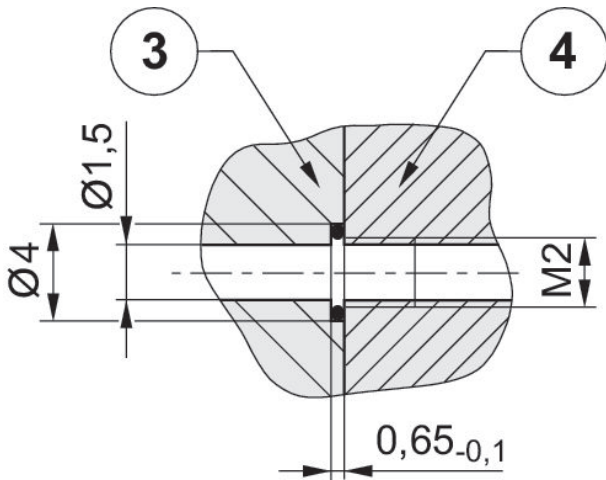
Moments and forces are static values, apply per base jaw, and may occur simultaneously. My may arise in addition to the moment generated by the gripping force itself.

Maximum permissible projection



Lmax = Max. permissible finger length

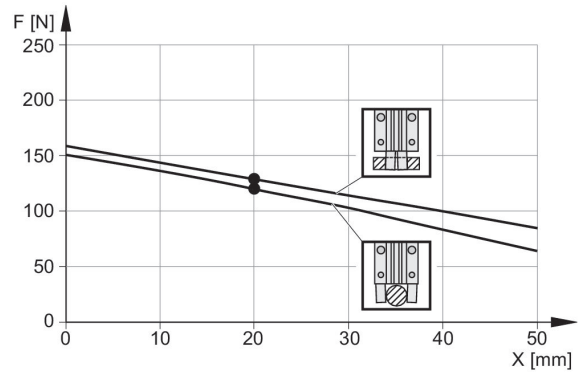
Tubeless direct connection M2



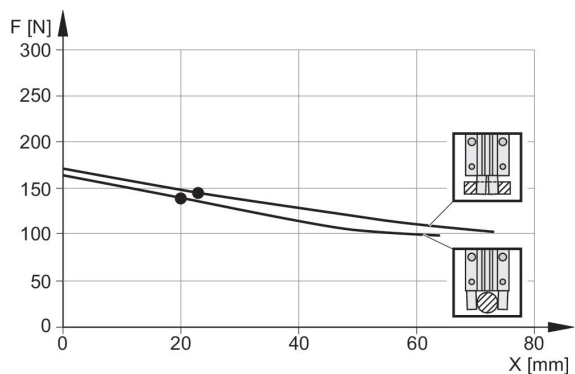
The direct connection is used for supplying compressed air without tubing, which is liable to faults. Instead, the pressure medium is fed through bore-holes in the screw-on plate.

- 3) Adapter
- 4) Grippers

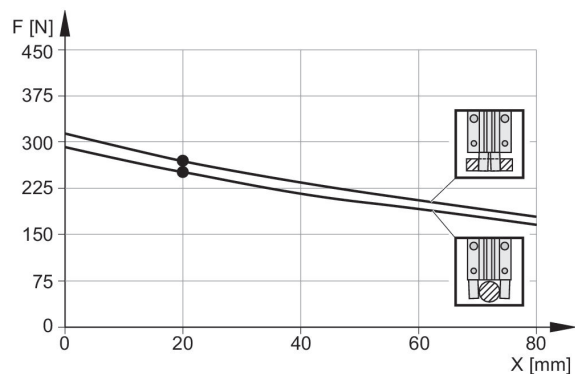
Gripping force/finger



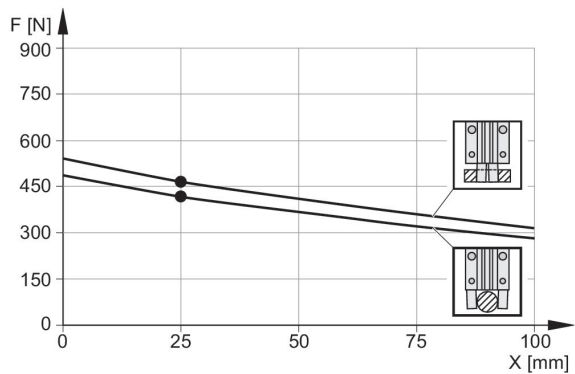
Gripping force/finger



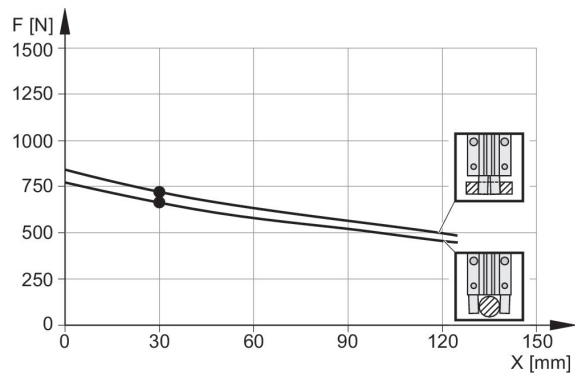
Gripping force/finger



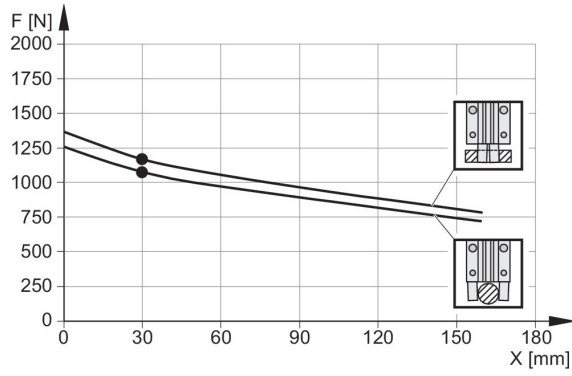
Gripping force/finger



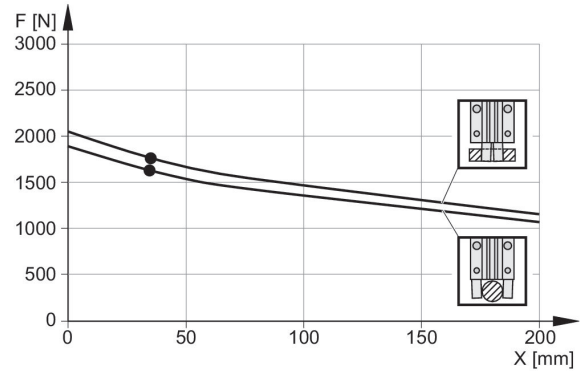
Gripping force/finger



Gripping force/finger

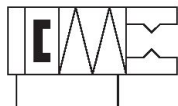


Gripping force/finger



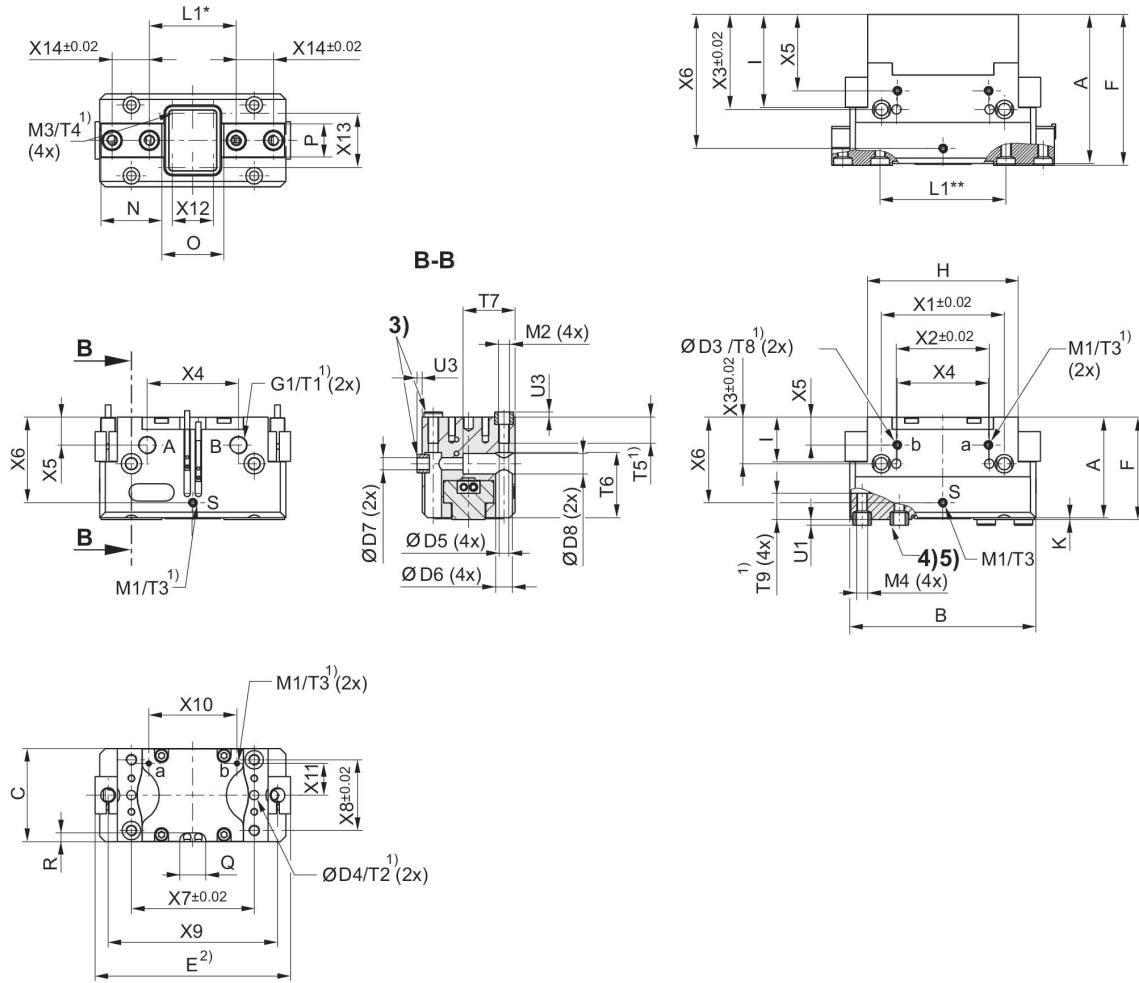
Grippers, Series UPG, Double-acting, closed without pressure

Magnetic piston: with magnetic piston
Grippers function: double-acting, closed without pressure
Grippers type: 2-finger, parallel gripper



Type	Effective gripping force of O.D gripper per finger, min. [N]	Effective total gripping force O.D. gripper, min. [N]	Max. permissible finger length [mm]	Max. permissible finger mass [kg]	Stroke per finger [mm]	Closing time at 6 bar [s]	Opening time at 6 bar [s]	Recommended work-piece mass [kg]	Air consumption per double-stroke at 1 bar [cm³]	Weight [kg]	Part No.
UPG-P-40-NC	81	163	45	0.1	2.5	0.02	0.03	0.62	4.5	0.09	R412026308
UPG-P-50-NC	92	185	58	0.18	4	0.02	0.03	0.7	8.5	0.2	R412026309
UPG-P-64-NC	170	340	72	0.35	6	0.02	0.04	1.25	17	0.37	R412026310
UPG-P-80-NC	285	570	90	0.6	8	0.03	0.05	2.1	36	0.6	R412026311
UPG-P-100-NC	450	900	115	1.1	10	0.05	0.09	3.3	79	1	R412026312
UPG-P-125-NC	735	1470	145	2.1	13	0.08	0.12	5.4	119	1.85	R412026313
UPG-P-160-NC	1105	2210	180	3.5	16	0.12	0.25	8.2	210	3.3	R412026314

Dimensions



* Gripper closed

** Gripper open

1) min.

2) max.

3) Sleeve ØD2 h6 ØD2 in housing for bottom gripper connection (2x)

4) Sleeve ØD1 h6 ØD1 H7 in base jaw for bottom finger connection (4x)

5) Sleeve ØD1 h6 ØD1in base jaw for bottom finger connection (4x)

Part No.	A	B	C	D1 H7	D2 H7	D3 H7	D4 H7	D5	D6	D7
R412026308	33,05	45	24	4	5	-	-	2.5	4.8	2.6
R412026309	46	57	30	5	6	-	-	3,3	5,8	3,3
R412026310	56	64	36	6	8	4	4	4,2	7,25	4,2
R412026311	66	80	42	8	8	-	4	4,2	7,25	5,1
R412026312	80	100	50	10	10	5	5	5,1	9	6,6
R412026313	92	125	60	10	12	6	6	6,8	10,5	9
R412026314	116	160	72	14	12	6	6	6,8	10,5	9

Part No.	D8	E	F	G1	H	I	K	L1*	L1**	M1
R412026308	4.8	-	33.75	M3	38	18.1	0.7	26.5	21.5	M2
R412026309	5.8	-	47	M5	42	29	1	33,5	25,5	M5
R412026310	7,25	70	57	M5	52	33	1	40,5	28,5	M5

Part No.	D8	E	F	G1	H	I	K	L1*	L1**	M1
R412026311	9	87	67	M5	63	38	1	53	37	M5
R412026312	11	105	81	G1/8	81	50	1	67	47	M5
R412026313	14	130	93	G1/8	100	56	1	87	61	M5
R412026314	14	162,5	117	G1/8	125	72	1	109	77	M5

Part No.	M2	M3	M4	N	O	P	Q	R	T1	T2
R412026308	M3	M2	M2.6	14.8	14.9	6.8	-	-	4	-
R412026309	M4	M2,5	M3	18,6	19	10	-	-	4.5	-
R412026310	M5	M2,5	M4	21	20,3	12	-	-	6	6
R412026311	M5	M2,5	M5	26	26,8	14,4	-	-	6	8
R412026312	M6	M3	M6	32,7	33,3	17,8	-	-	7	6
R412026313	M8	M3	M6	39	45,5	19,7	-	-	7	10
R412026314	M8	M3	M10	50	57,9	26	11	5,1	7	12

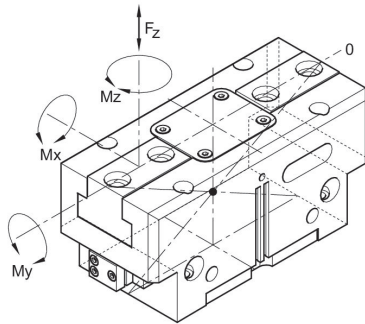
Part No.	T3	T4	T5	T6	T7	T8	T9	U1	U3	X1
R412026308	4	3.5	8	16	14	-	7.1	2.2	2	32
R412026309	6	3.5	11	19	18	-	8,5	2.2	2,5	35
R412026310	6	3.5	12	24,1	25	5	10	2.6	2,5	42
R412026311	4	3.5	15	33	24	-	10	2.6	2,5	52
R412026312	6	5,5	14	35	28	5	14,2	3.1	3	66
R412026313	6	5,5	20	39,5	38	6	13	3.1	3	82
R412026314	6	5,5	20	55,5	41	7	17	4	3	100

Part No.	X2	X3	X4	X5	X6	X7	X8	X9	X10	X11
R412026308	-	20.1	22	17.1	27.7	32	18	-	20	6.8
R412026309	-	30,5	24	26	41,5	35	22	-	22,6	8,7
R412026310	20	35,5	31	28	51	42	27	58,6	27	10
R412026311	-	38	40	30	57,5	52	32	73	37	12
R412026312	50	51	49	41	72	66	38	91	47,4	17
R412026313	60	60	63	45	83	82	45	116	61	20
R412026314	76	68	74	58	101	100	56	148,5	75	24,5

Part No.	X12	X13	X14
R412026308	8	14	8
R412026309	11	18	12
R412026310	13	20,5	13
R412026311	17	14,4	16
R412026312	22	17,8	20
R412026313	35,5	19,7	24
R412026314	43	31	32

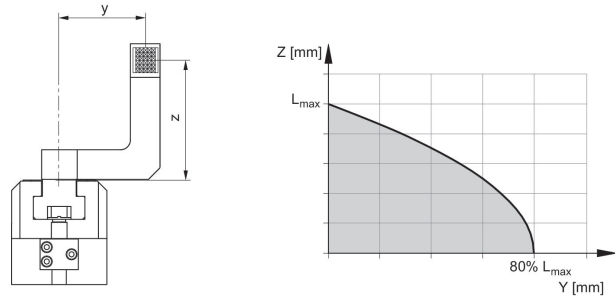
* Gripper open
** Gripper closed

Max. permissible forces and torques on gripper



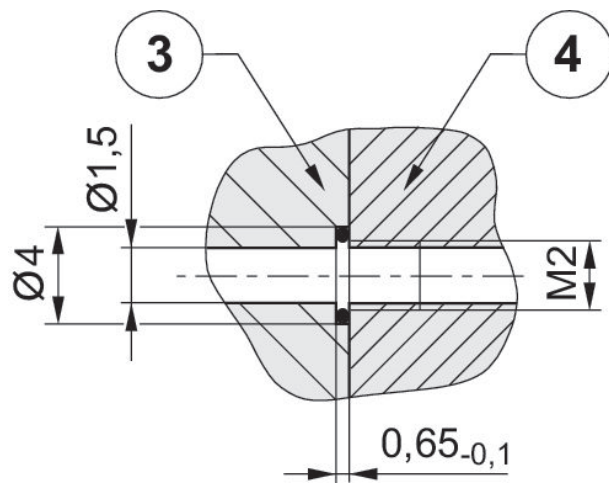
Moments and forces are static values, apply per base jaw, and may occur simultaneously. My may arise in addition to the moment generated by the gripping force itself.

Maximum permissible projection



Lmax = Max. permissible finger length

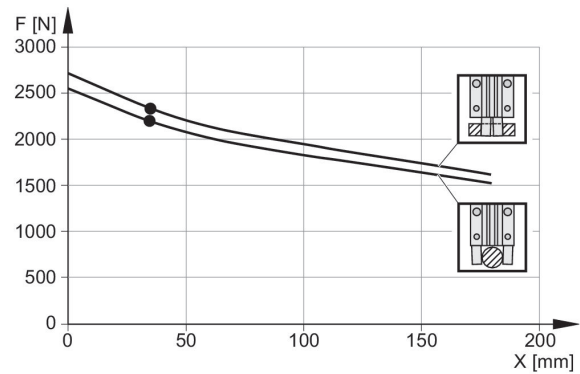
Tubeless direct connection M2



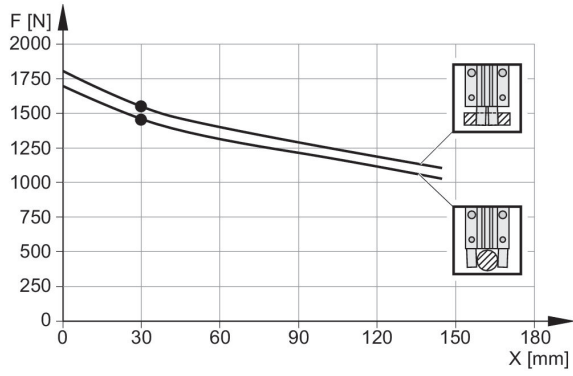
The direct connection is used for supplying compressed air without tubing, which is liable to faults. Instead, the pressure medium is fed through bore-holes in the screw-on plate.

- 3) Adapter
- 4) Grippers

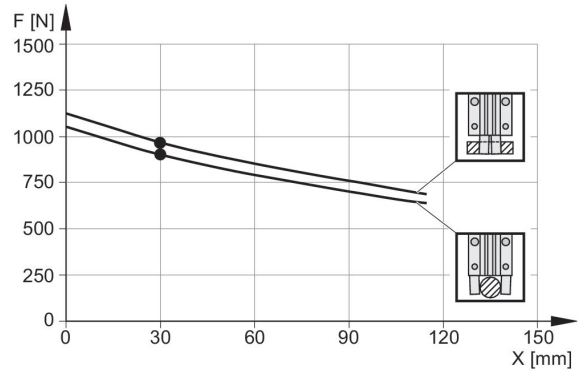
Gripping force/finger



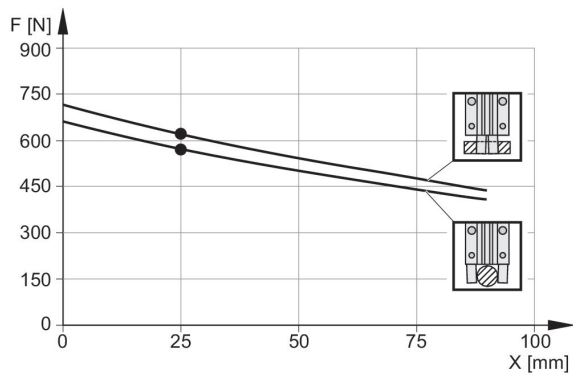
Gripping force/finger



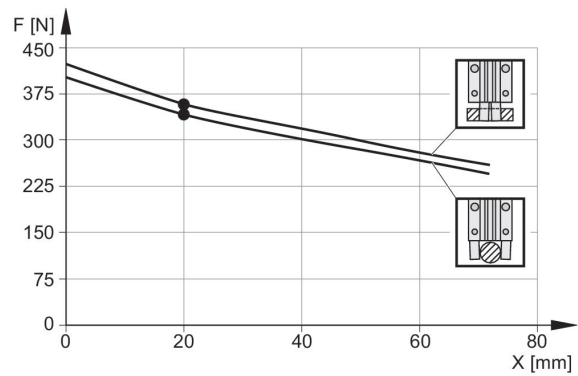
Gripping force/finger



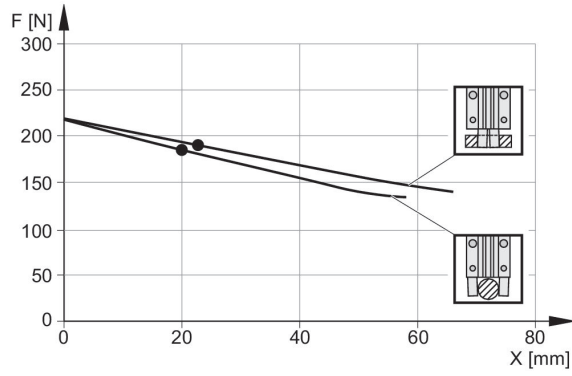
Gripping force/finger



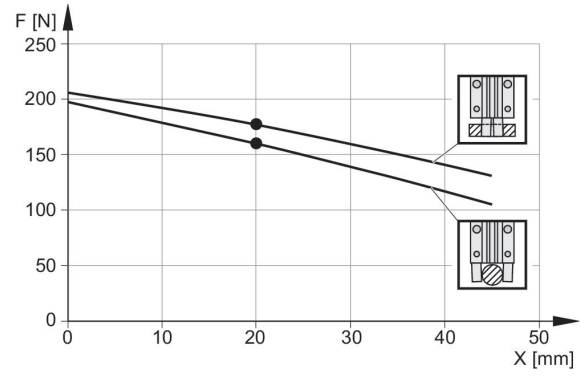
Gripping force/finger



Gripping force/finger



Gripping force/finger

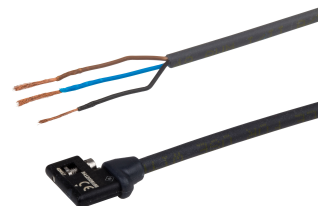


Sensors, Series SC4, open cable ends

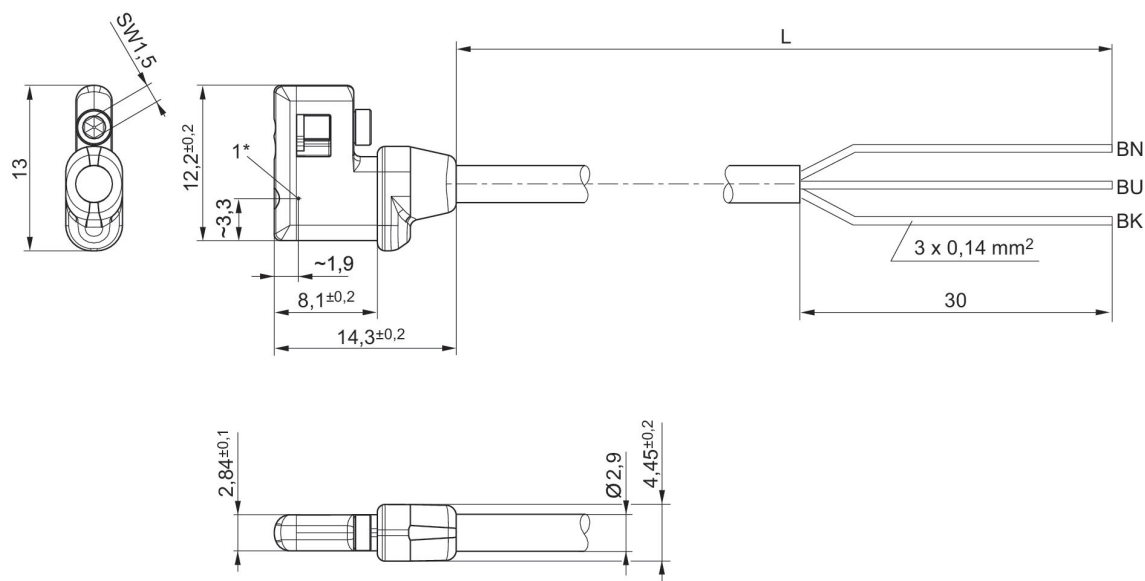
For series: UPG RTC MSN GPC MSC PRA SSI TWC

Electrical connection 2, type: without wire end ferrule, tin-plated

Certificates: CE declaration of conformity cULus UL (Underwriters Laboratories)



Direct mounting for series	Slot width	Switch descr.	Electrical connection number of poles	Part No.
UPG, RTC, MSN, GPC, MSC, PRA, SSI, TWC	4 mm C-slot	electronic PNP	3-pin	R412026162
UPG, RTC, MSN, GPC, MSC, PRA, SSI, TWC	4 mm C-slot	electronic PNP	3-pin	R412026163
UPG, RTC, MSN, GPC, MSC, PRA, SSI, TWC	4 mm C-slot	NPN	3-pin	R412026166



* Switching point
L = cable length

Sensors, Series SC4, with cable, plug M8

For series: UPG RTC MSN GPC MSC PRA SSI TWC

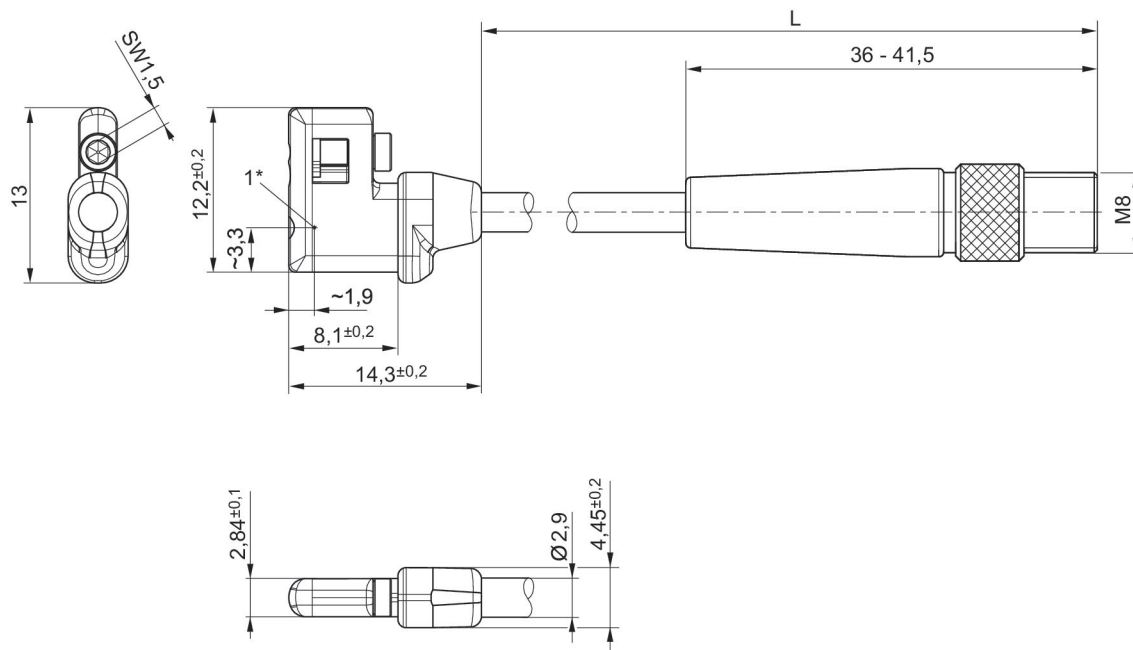
Electrical connection 2, type: Plug

Certificates: CE declaration of conformity cULus UL (Underwriters Laboratories)

Electrical connection 2, number of poles: 3-pin



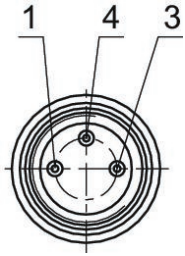
Direct mounting for series	Slot width	Switch descr.	Electrical connection size	Electrical connection number of poles	Part No.
UPG, RTC, MSN, GPC, MSC, PRA, SSI, TWC	4 mm C-slot	electronic PNP	M8	3-pin	R412026164
UPG, RTC, MSN, GPC, MSC, PRA, SSI, TWC	4 mm C-slot	electronic PNP	M8	3-pin	R412026165
UPG, RTC, MSN, GPC, MSC, PRA, SSI, TWC	4 mm C-slot	electronic NPN	M8	3-pin	R412026167



* Switching point
L = cable length

R412026164, R412026165, R412026167

Pin assignment M8x1 (3-pin)







Pin	Allocation
1	(+)
3	(-)
4	(OUT)

Efficient pneumatic solutions, our program:
cylinders and drives, valves and valve systems,
air supply management, proportional pressure
control valves



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