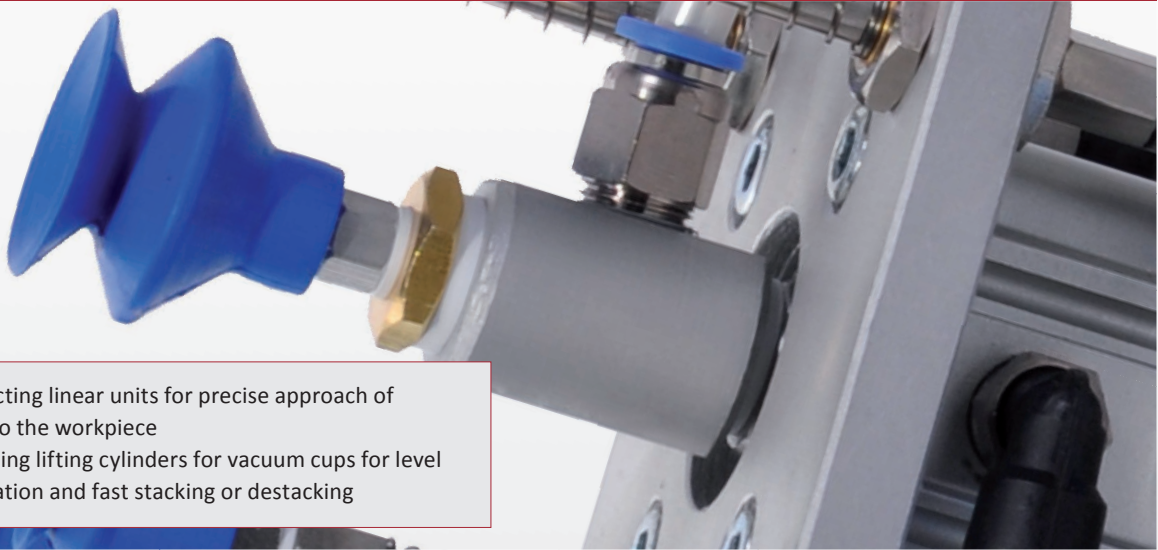


FIPA Linear technology



- > Double-acting linear units for precise approach of grippers to the workpiece
- > Single-acting lifting cylinders for vacuum cups for level compensation and fast stacking or destacking



**Lifting cylinders – vacuum-operated or operated by compressed air**

- > Torsionally rigid piston plunger for fast stacking or destacking of flat objects such as cards, signs, veneer
- > Fixation of workpieces in cutting stations
- > Model 55.005 comes with integrated blow-off function for short duty cycles
- > See page 332



**Short stroke cylinders**

- > Space-saving, lightweight design
- > Sensors for optional monitoring of piston position
- > To be used as gripping or holding tool when combined with pressure plates GR07.196 - GR07.199
- > See page 336



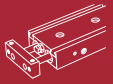
**Dual-piston cylinders**

- > Feed lift of grippers and cutting tools
- > Torsionally rigid dual-piston design and precise slide bearing guiding for high loads
- > Sensors for optional monitoring of piston position
- > See page 338



**Guide blocks**

- > Feed lift of grippers and cutting tools
- > GR07.506 to GR07.520 come in extra slim design for space-saving installation
- > Sensors for optional monitoring of piston position
- > See page 346



# Linear technology | Lifting cylinders

Lifting cylinders – operated by compressed air

## Lifting cylinders – operated by compressed air

With blow-off feature, torsionally rigid



### Product notes

- > Picking-up and stacking of flat and sensitive objects such as signs, card, labels, veneer in the correct position using non-rotating piston rod
- > Integrated vacuum generation
- > Very short cycle times due to integrated compressed air pulse during placement
- > Very compact design in robust aluminum housing
- > Long service life of around 25 million cycles thanks to Hartcoat® treated running surfaces
- > Optional monitoring of piston position

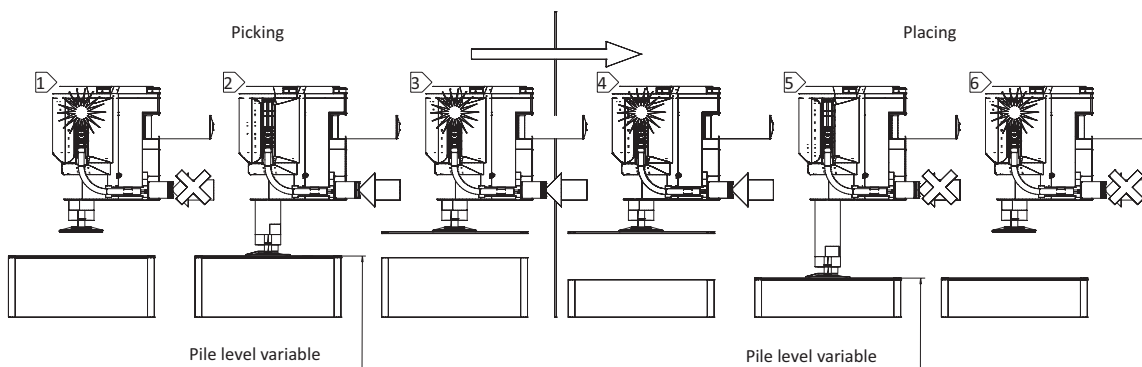
### Notes

- > For release of workpiece in defined position compressed air line needs to be shut and ventilated by means of a 3/2-way valve. Otherwise the piston will not extend and the workpiece will fall down.

### Technical data

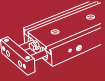
Item no.	Stroke [mm]	Lifting force at 6 bar (87 psi) [N]	Operating pressure [bar (psi)]	Volume flow at 6 bar (87 psi) [l/min]	Operating temperature [°C (°F)]	Weight [g]	Accessories
55.005	25	8	5 - 8 (72.5 - 116)	48	5 - 80 (41 - 176)	220	Silencer: 72.028 (p.398) Magnetic field sensor: 55.099

### Wiring diagram

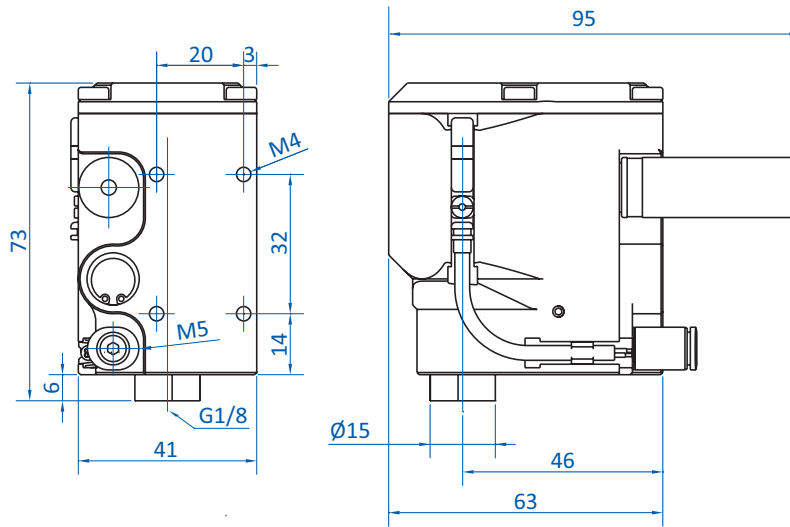


#### Process:

1. Initial position: compressed air off, piston drawn in, magnetic sensor in operation
2. Compressed air switched on, piston moves out, workpiece is pulled in, piston retracts with the workpiece to the initial position
3. Workpiece sucked in and lifted, compressed air on, magnetic field sensor in operation
4. Transport movement
5. Switch off compressed air, piston moves out with the workpiece, places the workpiece and retracts to the initial position
6. Initial position: compressed air off, piston drawn in, magnetic sensor in operation

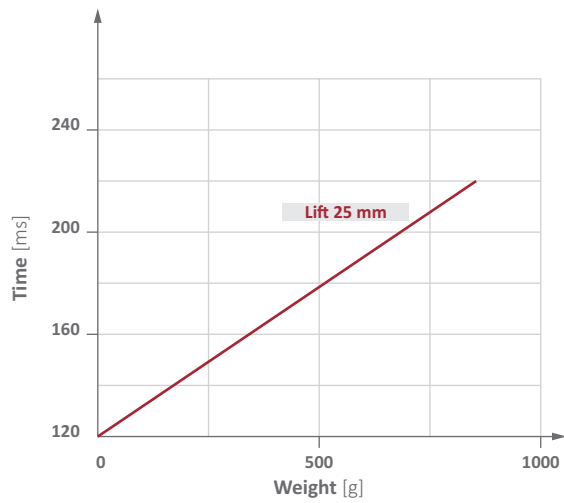


## Dimensions

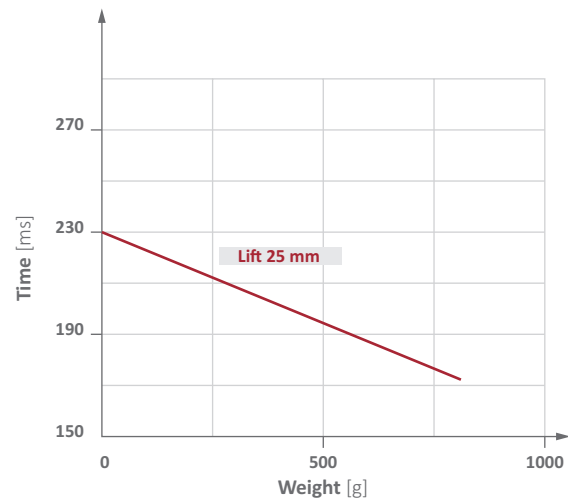


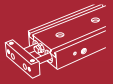
## Diagrams

> Double stroke lifting time against weight, pressure 6 bar (87 psi)



> Double stroke placing time against weight, pressure 6 bar (87 psi)





### Lifting cylinders – vacuum-operated

Torsionally rigid



55.000 | 55.001 | 55.004



55.002

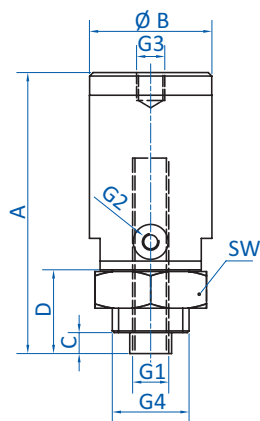
#### Product notes

- > Picking-up and stacking flat and sensitive objects such as e.g. signs, cards, paper, veneers
- > Suitable for short cycle times
- > Application e.g. for workpiece positioning in cutting stations
- > Robust aluminum housing, Hartcoat® treated
- > Non-rotating piston rod
- > Low-noise version
- > 55.002: stacking and lifting of metal sheet and heavy parts
- > Not suitable for workpieces permeable to air
- > Customized sizes on request

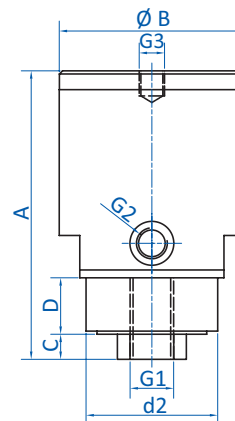
#### Technical data

Item no.	Stroke [mm]	Volume flow at 80 % vacuum [NI/min]	Lifting force at 80 % vacuum [N]	Cycle time (extend-suction-lift) [s]	Operating temperature [°C (°F)]	Weight [g]
55.000	17	15	3	0.3	5 - 80 (41 - 176)	39
55.001	25	35	7	0.4	5 - 80 (41 - 176)	111
55.002	30	35	50	1.4	5 - 80 (41 - 176)	331
55.004	40	35	7	0.8	5 - 80 (41 - 176)	138

#### Dimensions

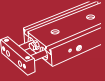


55.000 | 55.001 | 55.004



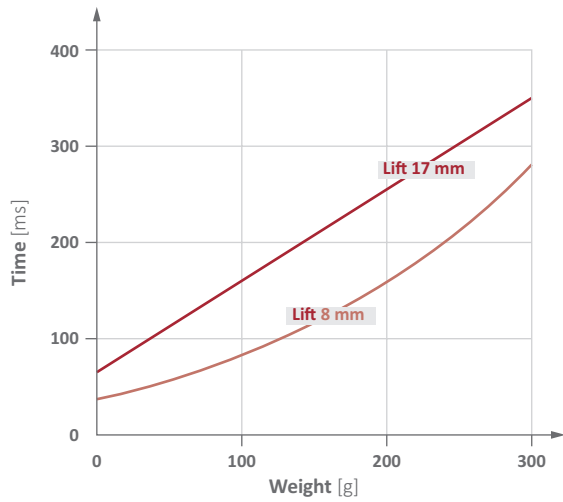
55.002

Item no.	G1	G2	G3	G4	A [mm]	Ø B [mm]	C [mm]	D [mm]	d2 [mm]	SW
55.000	M5	M5	M6	M16x1.5	55.5	24	4	16	--	19
55.001	G1/8	M5	M8	M22x1.5	78	35	6	22	--	27
55.002	G1/4	G1/4	M10	--	92	59	8	18	42	--
55.004	G1/8	G1/8	M8	M22x1.5	99	35	9	24	--	27



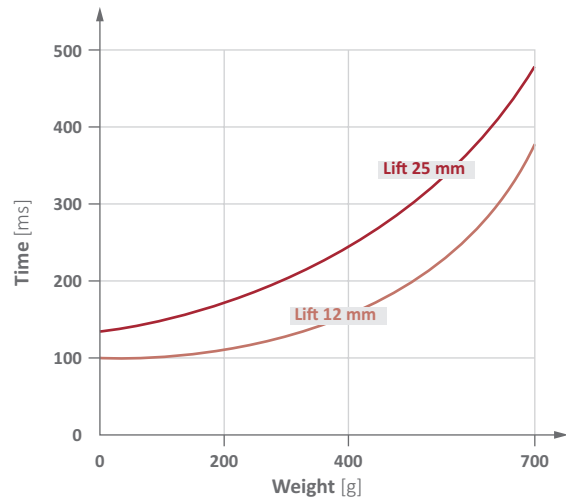
Diagrams

> Double stroke lifting time against weight



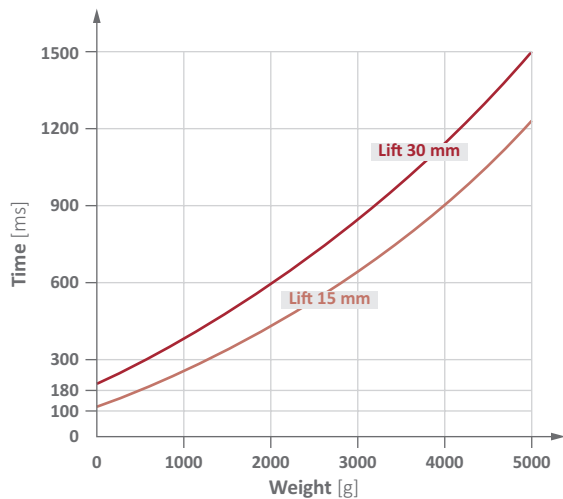
55.000

> Double stroke lifting time against weight



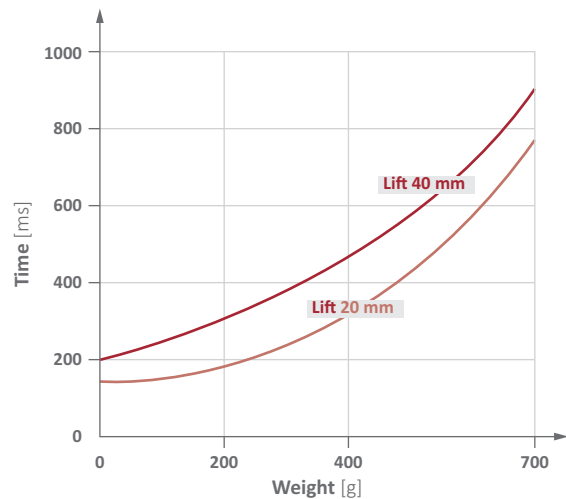
55.001

> Double stroke lifting time against weight

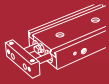


55.002

> Double stroke lifting time against weight



55.004



# Linear technology | Short lifting cylinders

## Short stroke cylinders – double-acting

### Short stroke cylinders – double-acting

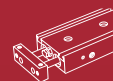


#### Product notes

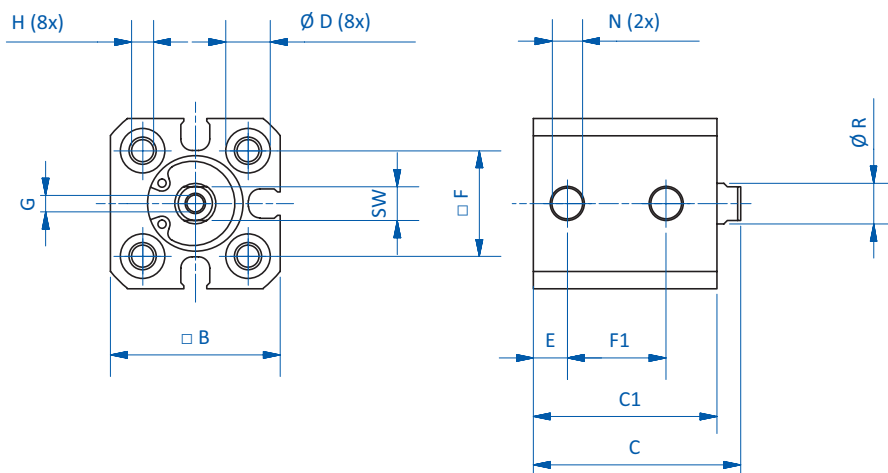
- > Elements to guide gripper components such as vacuum cups to the workpiece
- > Double-acting, separate compressed air connections for extraction and retraction
- > Medium: filtered and oiled/unoled air
- > Sensors for optional detection of piston position (extracted/retracted)
- > Screws and lock washers included in scope of delivery
- > Further stroke versions available on request
- > PNP and NPN sensors:
  - C-slot (90° angle): GR04.202P, GR04.202N
  - C-slot (straight, short design): GR04.280P, GR04.280N
- > Can be used as gripper tool when combined with pressure plates GR07.196 - GR07.199

#### Technical data

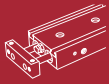
Item no.	Com-pressed air connection	Operating pressure [bar (psi)]	Piston diameter [mm]	Stroke [mm]	Operating temperature [°C (°F)]	Weight [g]	Accessories
GR07.012-5	M5	0.5 - 9.9 (7.3 - 143.6)	12	5	-5 - 60 (23 - 140)	8	
GR07.012-10	M5	0.5 - 9.9 (7.3 - 143.6)	12	10	-5 - 60 (23 - 140)	9	
GR07.016-5	M5	0.5 - 9.9 (7.3 - 143.6)	16	5	-5 - 60 (23 - 140)	16	
GR07.016-10	M5	0.5 - 9.9 (7.3 - 143.6)	16	10	-5 - 60 (23 - 140)	18	
GR07.016-20	M5	0.5 - 9.9 (7.3 - 143.6)	16	20	-5 - 60 (23 - 140)	22	
GR07.016-30	M5	0.5 - 9.9 (7.3 - 143.6)	16	30	-5 - 60 (23 - 140)	26	
GR07.020-5	M5	0.5 - 9.9 (7.3 - 143.6)	20	5	-5 - 60 (23 - 140)	28	
GR07.020-10	M5	0.5 - 9.9 (7.3 - 143.6)	20	10	-5 - 60 (23 - 140)	31	
GR07.020-20	M5	0.5 - 9.9 (7.3 - 143.6)	20	20	-5 - 60 (23 - 140)	37	Mounting bracket: GR07.002 (p.351)
GR07.020-30	M5	0.5 - 9.9 (7.3 - 143.6)	20	30	-5 - 60 (23 - 140)	44	Sensor: GR04.202N (p.404)
GR07.020-50	M5	0.5 - 9.9 (7.3 - 143.6)	20	50	-5 - 60 (23 - 140)	56	Sensor: GR04.202P (p.404)
GR07.025-5	M5	0.5 - 9.9 (7.3 - 143.6)	25	5	-5 - 60 (23 - 140)	44	Sensor: GR04.280N (p.404)
GR07.025-10	M5	0.5 - 9.9 (7.3 - 143.6)	25	10	-5 - 60 (23 - 140)	48	Sensor: GR04.280P (p.404)
GR07.025-20	M5	0.5 - 9.9 (7.3 - 143.6)	25	20	-5 - 60 (23 - 140)	57	
GR07.025-30	M5	0.5 - 9.9 (7.3 - 143.6)	25	30	-5 - 60 (23 - 140)	66	
GR07.025-50	M5	0.5 - 9.9 (7.3 - 143.6)	25	50	-5 - 60 (23 - 140)	84	
GR07.032-5	G1/8	0.5 - 9.9 (7.3 - 143.6)	32	5	-5 - 60 (23 - 140)	78	
GR07.032-10	G1/8	0.5 - 9.9 (7.3 - 143.6)	32	10	-5 - 60 (23 - 140)	86	
GR07.032-20	G1/8	0.5 - 9.9 (7.3 - 143.6)	32	20	-5 - 60 (23 - 140)	105	
GR07.032-30	G1/8	0.5 - 9.9 (7.3 - 143.6)	32	30	-5 - 60 (23 - 140)	117	
GR07.032-50	G1/8	0.5 - 9.9 (7.3 - 143.6)	32	50	-5 - 60 (23 - 140)	125	



### Dimensions



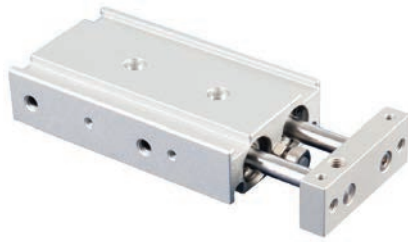
Item no.	□ B [mm]	C [mm]	C1 [mm]	Ø D [mm]	E [mm]	□ F [mm]	F1 [mm]	G	H	SW	L [mm]	N	Ø R [mm]
GR07.012-5	25	30.5	27	6.5x4	5	15.5	14.5	M3x6	M4x7	5	--	M5	6
GR07.012-10	25	35.5	32	6.5x4	5	15.5	19.5	M3x6	M4x7	5	--	M5	6
GR07.016-5	29	30.5	27	6.5x4	5	20	14.5	M4x8	M4x7	6	--	M5	8
GR07.016-10	29	35.5	32	6.5x4	5	20	19.5	M4x8	M4x7	6	--	M5	8
GR07.016-20	29	45.5	42	6.5x4	5	20	29.5	M4x8	M4x7	6	--	M5	8
GR07.016-30	29	55.5	52	6.5x4	5	20	39.5	M4x8	M4x7	6	--	M5	8
GR07.020-5	36	39	34.5	9x7	5.5	25.5	20	M5x7	M6x10	8	--	M5	10
GR07.020-10	36	44	39.5	9x7	5.5	25.5	25	M5x7	M6x10	8	--	M5	10
GR07.020-20	36	54	49.5	9x7	5.5	25.5	35	M5x7	M6x10	8	--	M5	10
GR07.020-30	36	64	59.5	9x7	5.5	25.5	45	M5x7	M6x10	8	--	M5	10
GR07.020-50	36	84	79.5	9x7	5.5	25.5	65	M5x7	M6x10	8	--	M5	10
GR07.025-5	40	42.5	37.5	9x7	5.5	28	21	M6x12	M6x10	10	--	M5	12
GR07.025-10	40	47.5	42.5	9x7	5.5	28	26	M6x12	M6x10	10	--	M5	12
GR07.025-20	40	57.5	52.5	9x7	5.5	28	36	M6x12	M6x10	10	--	M5	12
GR07.025-30	40	67.5	62.5	9x7	5.5	28	46	M6x12	M6x10	10	--	M5	12
GR07.025-50	40	87.5	82.5	9x7	5.5	28	66	M6x12	M6x10	10	--	M5	12
GR07.032-5	45	45	38	9x7	7.5	34	20	M8x13	M6x10	14	7	G1/8	16
GR07.032-10	45	50	43	9x7	7.5	34	25	M8x13	M6x10	14	7	G1/8	16
GR07.032-20	45	60	53	9x7	7.5	34	35	M8x13	M6x10	14	7	G1/8	16
GR07.032-30	45	70	63	9x7	7.5	34	45	M8x13	M6x10	14	7	G1/8	16
GR07.032-50	45	90	83	9x7	7.5	34	65	M8x13	M6x10	14	7	G1/8	16



# Linear technology | Dual-piston cylinders

## Dual-piston cylinders – double-acting

### Dual-piston cylinders – double-acting



**HIGH PRECISION CYLINDER GUIDING, ANTI-TWIST PROTECTION**



Combination of dual-piston cylinder and guide block

#### Product notes

- > Unit to precisely guide gripper components such as vacuum cups to the workpiece
- > Double-acting, separate compressed air connections for extraction and retraction
- > Sensors for optional detection of piston position (extracted/retracted)
- > PNP and NPN sensors:
  - C-slot (90° angle): GR04.202P, GR04.202N
  - C-slot (straight, short design): GR04.280P, GR04.280N
- > Medium: filtered and oiled/unoled air

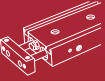
#### Technical data

Item no.	GR07.112-25	GR07.112-50	GR07.112-75	GR07.116-25	GR07.116-50	GR07.116-75	GR07.116-100
Compressed air connection	M5	M5	M5	M5	M5	M5	M5
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)	1 - 7 (14.5 - 101.5)	1 - 7 (14.5 - 101.5)	1 - 7 (14.5 - 101.5)
Piston diameter [mm]	12	12	12	16	16	16	16
Stroke [mm]	25	50	75	25	50	75	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)
Weight [g]	180	230	280	290	360	435	510
Suitable sensors	GR04.202N (p.404) GR04.202P (p.404) GR04.280N (p.404) GR04.280P (p.404)	GR04.202N (p.404) GR04.202P (p.404) GR04.280N (p.404) GR04.280P (p.404)	GR04.202N (p.404) GR04.202P (p.404) GR04.280N (p.404) GR04.280P (p.404)	GR04.202N (p.404) GR04.202P (p.404) GR04.280N (p.404) GR04.280P (p.404)	--	GR04.202N (p.404) GR04.202P (p.404) GR04.280N (p.404) GR04.280P (p.404)	GR04.202N (p.404) GR04.202P (p.404) GR04.280N (p.404) GR04.280P (p.404)

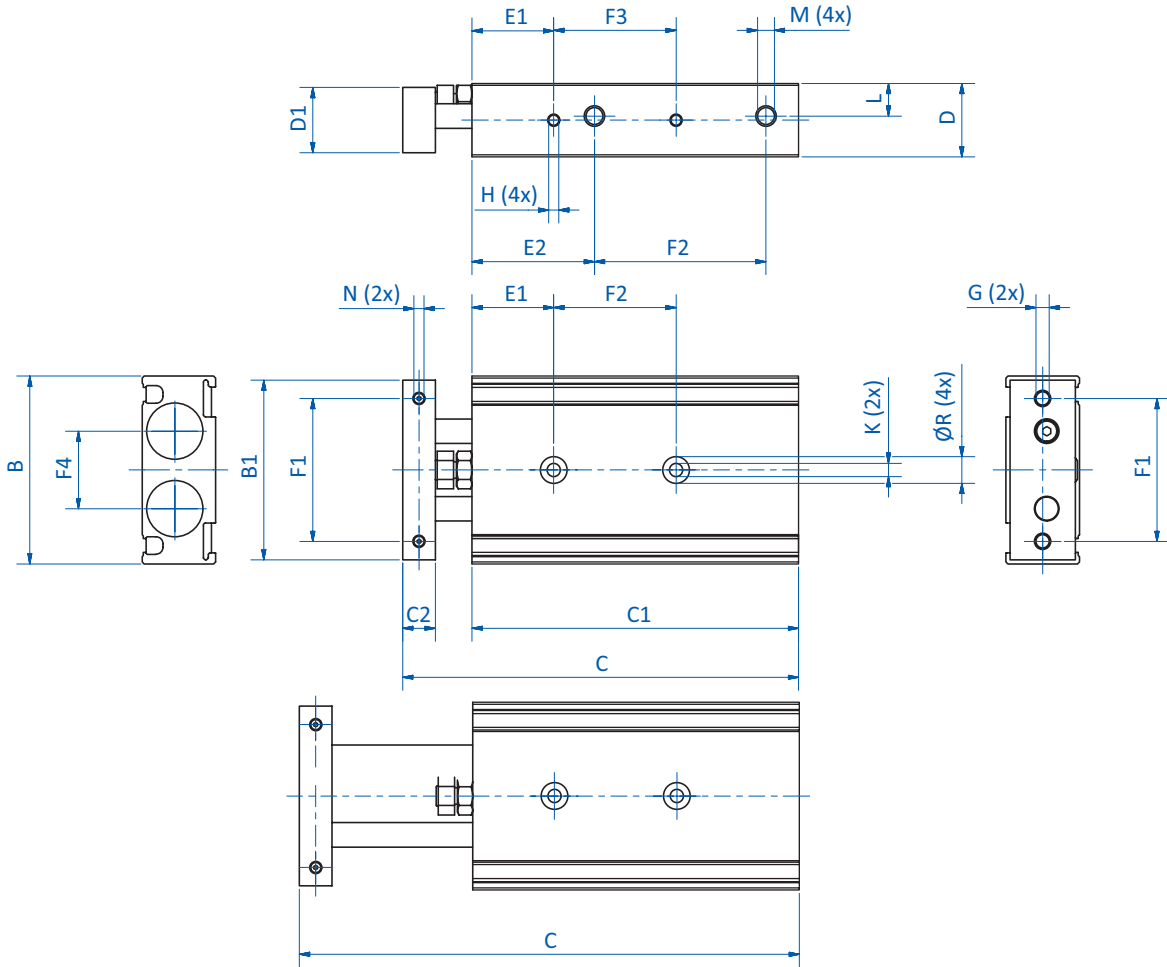
#### Theoretical cylinder force depending on the working pressure

Working pressure [bar]	Cylinder force [N]			
	GR07.112-xx		GR07.116-xx	
	Move out	Move in	Move out	Move in
1	16	10	35.5	25
1.5	23.5	15	53	38
2	31.5	20	70.5	50.5
3	47	30	106	75.5
4	63	40	141	101
5	78.5	50	176.5	126
6	94	60	212	151
7	110	70	247	176.5



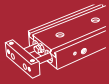


### Dimensions



① = Compressed air connection M5

Item no.	GR07.112-25	GR07.112-50	GR07.112-75	GR07.116-25	GR07.116-50	GR07.116-75	GR07.116-100
L [mm]	8.5	8.5	8.5	9.5	9.5	9.5	9.5
B [mm]	46	46	46	58	58	58	58
B1 [mm]	44	44	44	58	58	58	58
C [mm]	97 - 122	122 - 172	147 - 222	104 - 129	129 - 179	154 - 229	179 - 279
C1 [mm]	80	105	130	85	110	135	160
C2 [mm]	8	8	8	10	10	10	10
D [mm]	18	18	18	20	20	20	20
D1 [mm]	16	16	16	18	18	18	18
E1 [mm]	20	20	20	30	30	30	30
E2 [mm]	30	30	30	38.5	38.5	38.5	38.5
F1 [mm]	35	35	35	45	45	45	45
F2 [mm]	42	67	92	38.5	63.5	88.5	114
F3 [mm]	30	40	50	25	35	45	55
F4 [mm]	19	19	19	25	25	25	25
G	M4x0.7	M4x0.7	M4x0.7	M5x0.8	M5x0.8	M5x0.8	M5x0.8
H	M3x4,5	M3x4,5	M3x4,5	M4x5	M4x5	M4x5	M4x5
K	M4	M4	M4	M5	M5	M5	M5
M	M5	M5	M5	M5	M5	M5	M5
N	M3x5	M3x5	M3x5	M4x6	M4x6	M4x6	M4x6
Ø R	6,5x3,3	6,5x3,3	6,5x3,3	8x4,4	8x4,4	8x4,4	8x4,4

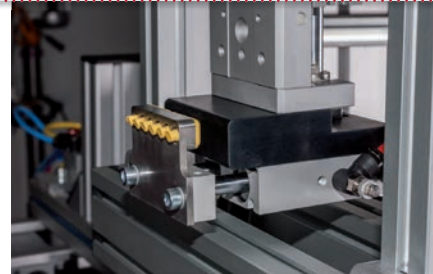
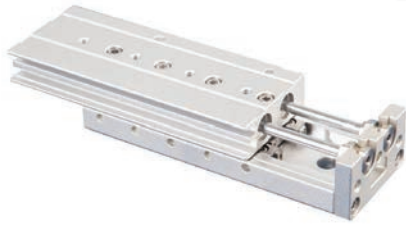


# Linear technology | Guide blocks

Guide blocks piston diameter 8 mm – double-acting

## Guide blocks piston diameter 8 mm – double-acting

HIGH PRECISION COMBINATION OF CYLINDER AND LINEAR GUIDING



Combination of guide block and dual-piston cylinder

### Product notes

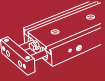
- > Unit to precisely guide gripper components such as sprue grippers or nippers to the workpiece
- > Double-acting, separate compressed air connections for extraction and retraction
- > Sensors for optional detection of piston position (extracted/retracted)
- > Stroke adjusters available on request
- > Linear guide blocks can also be used to move gripped workpieces more closely together, to prepare the items for example for pick & place by vacuum grippers
- > PNP and NPN sensors:
  - C-slot (90° angle): GR04.202P, GR04.202N
  - C-slot (straight, short design): GR04.280P, GR04.280N

### Technical data

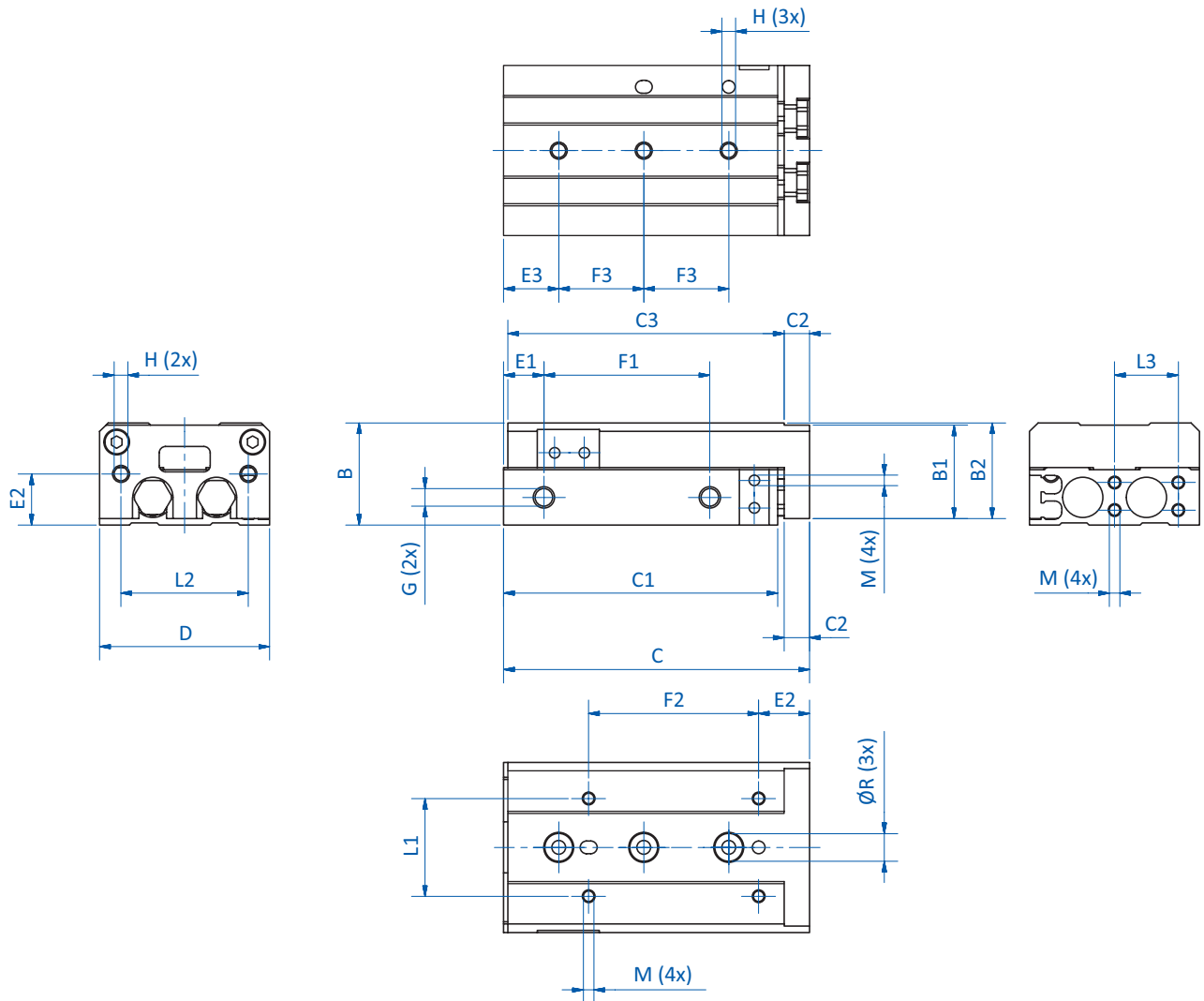
Item no.	GR07.208-30	GR07.208-50	GR07.208-75
Compressed air connection	2xM5	2xM5	2xM5
Operating pressure [bar (psi)]	1.5 - 7 (21.8 - 101.5)	1.5 - 7 (21.8 - 101.5)	1.5 - 7 (21.8 - 101.5)
Piston diameter [mm]	8	8	8
Stroke [mm]	30	50	75
Medium	Filtered and oiled/unoiled air	Filtered and oiled/unoiled air	Filtered and oiled/unoiled air
Operating temperature [°C (°F)]	-5 - 60 (23 - 140)	-5 - 60 (23 - 140)	-5 - 60 (23 - 140)
Weight [g]	190	285	410
Suitable sensors	GR04.202N (p.404) GR04.202P (p.404) GR04.280N (p.404) GR04.280P (p.404)	GR04.202N (p.404) GR04.202P (p.404) GR04.280N (p.404) GR04.280P (p.404)	GR04.202N (p.404) GR04.202P (p.404) GR04.280N (p.404) GR04.280P (p.404)

### Theoretical cylinder force depending on the working pressure

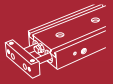
Working pressure [bar]	Cylinder force [N]					
	GR07.208-xx		GR07.216-xx		GR07.220-xx	
	Move out	Move in	Move out	Move in	Move out	Move in
2	20	15	80	60	126	94
3	30	23	121	91	188	141
4	40	30	161	121	251	188
5	51	38	201	151	314	236
6	61	45	241	181	377	283
7	71	53	281	211	400	330
Effective piston surface [mm <sup>2</sup> ]	101	75	402	302	628	471



## Dimensions



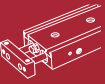
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## Linear technology | Guide blocks

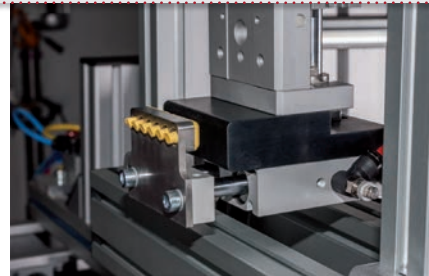
Guide blocks piston diameter 8 mm – double-acting

Item no.	GR07.208-30	GR07.208-50	GR07.208-75
B [mm]	24	24	24
B1 [mm]	22	22	22
B2 [mm]	22.5	22.5	22.5
C [mm]	72 - 102	108 - 158	158 - 233
C1 [mm]	64.5	100.5	150.5
C2 [mm]	6	6	6
C3 [mm]	65	101	151
D [mm]	40	40	40
E1 [mm]	9.5	24.5	38.5
E2 [mm]	12	12	12
E3 [mm]	13	20	27
F1 [mm]	39	60	96
F2 [mm]	40	38	50
F3 [mm]	20	23	28
G	M5	M5	M5
H	M4x8	M4x8	M4x8
L1 [mm]	23	23	23
L2 [mm]	30	30	30
L3 [mm]	15	15	15
M	M3x4	M3x4	M3x4
N	--	--	--
Ø R [mm]	7	7	7



### Guide blocks piston diameter 16 & 20 mm – double-acting

**HIGH PRECISION COMBINATION OF CYLINDER AND LINEAR GUIDING**



Combination of guide block and dual-piston cylinder

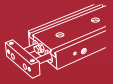
#### Product notes

- > Unit to precisely guide gripper components such as sprue grippers or nippers to the workpiece
- > Double-acting, separate compressed air connections for extraction and retraction
- > Sensors for optional detection of piston position (extracted/retracted)
- > Stroke adjusters available on request
- > Linear guide blocks can also be used to move gripped workpieces more closely together, to prepare the items for example for pick & place by vacuum grippers
- > PNP and NPN sensors:
  - C-slot (90° angle): GR04.202P, GR04.202N
  - C-slot (straight, short design): GR04.280P, GR04.280N

#### Technical data

Item no.	GR07.216-30	GR07.216-50	GR07.216-75	GR07.216-100	GR07.220-10	GR07.220-30	GR07.220-50	GR07.220-75	GR07.220-100	GR07.220-125	GR07.220-150
Compressed air connection	2xM5	2xM5	2xM5	2xM5	2xG1/8	2xG1/8	2xG1/8	2xG1/8	2xG1/8	2xG1/8	2xG1/8
Operating pressure [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)	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)	1.5 - 7 (21.8 - 101.5)
Piston diameter [mm]	16	16	16	16	20	20	20	20	20	20	20
Stroke [mm]	30	50	75	100	10	30	50	75	100	125	150
Medium	Filtered and oiled/ unoiled air	Filtered and oiled/ unoiled air	Filtered and oiled/ unoiled air	Filtered and oiled/ unoiled air	Filtered and oiled/ unoiled air	Filtered and oiled/ unoiled air	Filtered and oiled/ unoiled air	Filtered and oiled/ unoiled air	Filtered and oiled/ unoiled air	Filtered and oiled/ unoiled air	Filtered and oiled/ unoiled air
Operating temperature [°C (°F)]	-5 - 60 (23 - 140)	-5 - 60 (23 - 140)	-5 - 60 (23 - 140)	-5 - 60 (23 - 140)	-5 - 60 (23 - 140)	-5 - 60 (23 - 140)	-5 - 60 (23 - 140)	-5 - 60 (23 - 140)	-5 - 60 (23 - 140)	-5 - 60 (23 - 140)	-5 - 60 (23 - 140)
Weight [g]	602	762	1,095	1,410	1,010	1,010	1,250	1,630	2,150	2,670	3,190
Suitable sensors	GR04.202N (p.404) GR04.202P (p.404) GR04.280N (p.404) GR04.280P (p.404)										

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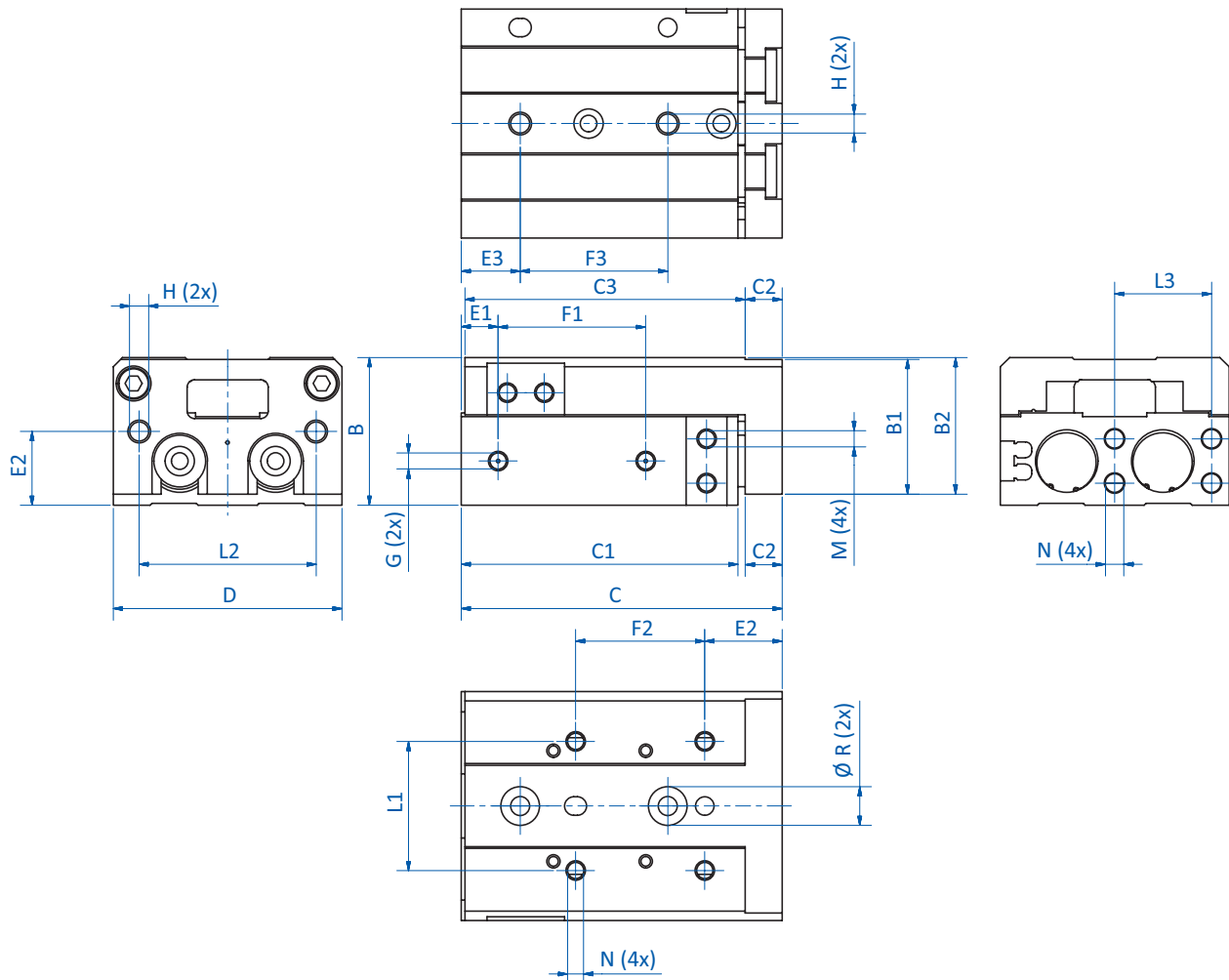
# Linear technology | Guide blocks

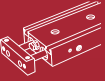
Guide blocks piston diameter 16 & 20 mm – double-acting

## Theoretical cylinder force depending on the working pressure

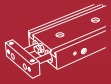
Working pressure [bar]	Cylinder force [N]					
	GR07.208-xx		GR07.216-xx		GR07.220-xx	
	Move out	Move in	Move out	Move in	Move out	Move in
2	20	15	80	60	126	94
3	30	23	121	91	188	141
4	40	30	161	121	251	188
5	51	38	201	151	314	236
6	61	45	241	181	377	283
7	71	53	281	211	400	330
Effective piston surface [mm <sup>2</sup> ]	101	75	402	302	628	471

## Dimensions





Item no.	GR07.216-30	GR07.216-50	GR07.216-75	GR07.216-100	GR07.220-10	GR07.220-30	GR07.220-50	GR07.220-75	GR07.220-100	GR07.220-125	GR07.220-150
<b>B</b> [mm]	40	40	40	40	50	50	50	50	50	50	50
<b>B1</b> [mm]	36.5	36.5	36.5	36.5	45.5	45.5	45.5	45.5	45.5	45.5	45.5
<b>B2</b> [mm]	37	37	37	37	46	46	46	46	46	46	46
<b>C</b> [mm]	87 - 117	112 - 162	162 - 237	210 - 310	97 - 107	97 - 107	122 - 172	161 - 236	214 - 314	268 - 393	320 - 304.5
<b>C1</b> [mm]	75	100	150	198	81.5	81.5	106.5	145.5	198.5	252.2	304.5
<b>C2</b> [mm]	10	10	10	10	13	13	13	13	13	13	13
<b>C3</b> [mm]	76	101	151	199	83	83	108	147	200	254	306
<b>D</b> [mm]	62	62	62	62	76	76	76	76	76	76	76
<b>E1</b> [mm]	10	15	40	55	10	10	10	10	58	70	87
<b>E2</b> [mm]	20 - 21	20 - 21	20 - 21	20 - 21	25 - 27	25 - 27	25 - 27	25 - 27	25 - 27	25 - 27	25 - 27
<b>E3</b> [mm]	16	21	26	39	15	15	15	19	37	41	19
<b>F1</b> [mm]	40	60	85	118	44	44	69	108	113	155	190
<b>F2</b> [mm]	35	30	55	65	50	50	35	60	70	70	80
<b>F3</b> [mm]	40	30	35	35	45	45	35	35	35	38	44
<b>G</b>	M5	M5	M5	M5	G1/8	G1/8	G1/8	G1/8	G1/8	G1/8	G1/8
<b>H</b>	M6x12	M6x12	M6x12	M6x12	M6x12	M6x12	M6x12	M6x12	M6x12	M6x12	M6x12
<b>L1</b> [mm]	35	35	35	35	46	46	46	46	46	46	46
<b>L2</b> [mm]	48	48	48	48	58	58	58	58	58	58	58
<b>L3</b> [mm]	26	26	26	26	30 (2x)	30 (2x)	30 (2x)	30 (2x)	30 (2x)	30 (2x)	30 (2x)
<b>M</b>	M5x5,5	M5x5,5	M5x5,5	M5x5,5	M6x6,5	M6x6,5	M6x6,5	M6x6,5	M6x6,5	M6x6,5	M6x6,5
<b>N</b>	M5x7	M5x7	M5x7	M5x7	M5x8 (6x)	M5x8 (6x)	M5x8 (6x)	M5x8 (6x)	M5x8 (6x)	M5x8 (6x)	M5x8 (6x)
<b>Ø R</b> [mm]	10.5	10.5	10.5	10.5	11	11	11	11	11	11	11



# Linear technology | Guide blocks

Guide blocks, extra narrow design – double-acting

## Guide blocks, extra narrow design – double-acting



### Product notes

- > Unit to precisely guide gripper components such as sprue grippers or nippers to the workpiece
  - > Extra narrow construction for space-saving assembly
  - > Optional position monitoring through detection of piston position
  - > Principle of operation: double-acting
  - > Extension cables for sensors:
    - 20.503: 3-pole M8, straight, length 2,500 mm, open wire
    - 20.507: 3-pole M8, straight, length 2,000 mm, open wire
    - 20.570: 3-pole M8, length 1,500 mm, end with plug 3-pole M8
  - > PNP and NPN sensors:
    - C-slot (90° angle): GR04.202P, GR04.202N
    - C-slot (straight, short design): GR04.280P, GR04.280N
- Other strokes available on request

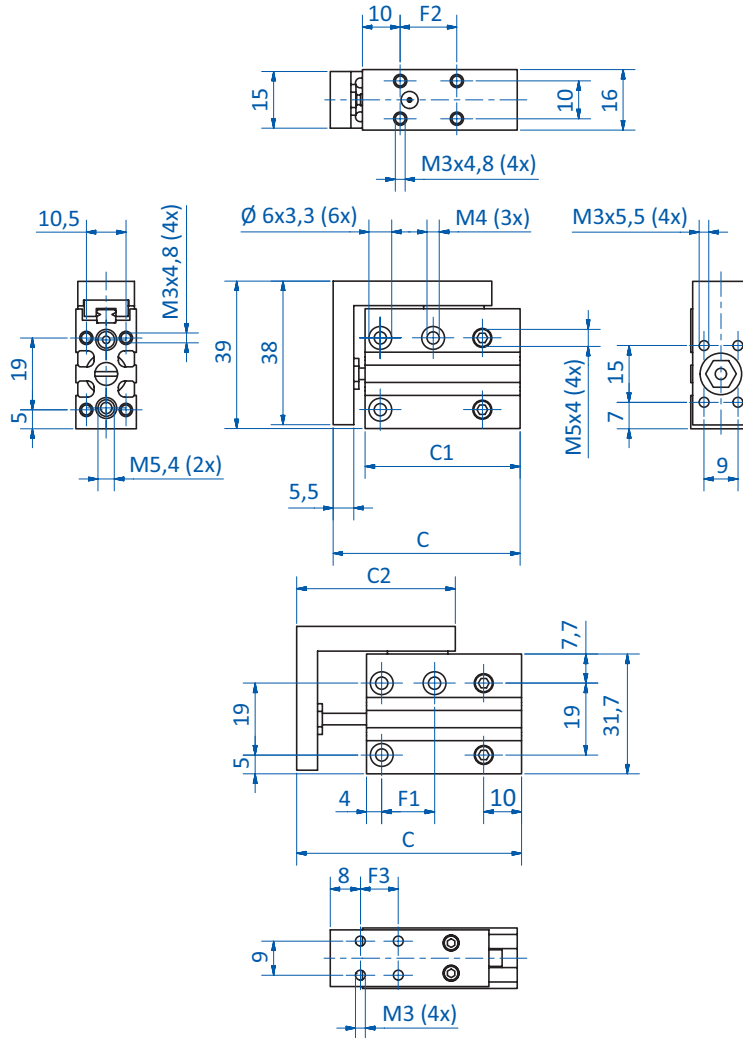
### Technical data

Item no.	Operating pressure [bar (psi)]	Piston diameter [mm]	Stroke [mm]	Piston speed [mm/sec]	Operating temperature [°C (°F)]	Weight [g]	Accessories
<b>GR07.506-10</b>	1.2 - 7 (17.4 - 101.5)	6	10	50 - 500	-5 - 60 (23 - 140)	70	
<b>GR07.506-20</b>	1.2 - 7 (17.4 - 101.5)	6	20	50 - 500	-5 - 60 (23 - 140)	80	
<b>GR07.506-30</b>	1.2 - 7 (17.4 - 101.5)	6	30	50 - 500	-5 - 60 (23 - 140)	100	Sensor: GR04.202N (p.404)
<b>GR07.510-10</b>	1.2 - 7 (17.4 - 101.5)	10	10	50 - 500	-5 - 60 (23 - 140)	125	Sensor: GR04.202P (p.404)
<b>GR07.510-20</b>	1.2 - 7 (17.4 - 101.5)	10	20	50 - 500	-5 - 60 (23 - 140)	150	Sensor: GR04.280N (p.404)
<b>GR07.510-30</b>	1.2 - 7 (17.4 - 101.5)	10	30	50 - 500	-5 - 60 (23 - 140)	170	Sensor: GR04.280P (p.404)
<b>GR07.516-10</b>	1.2 - 7 (17.4 - 101.5)	16	10	50 - 500	-5 - 60 (23 - 140)	230	Connector cable: 20.503 (p.410)
<b>GR07.516-20</b>	1.2 - 7 (17.4 - 101.5)	16	20	50 - 500	-5 - 60 (23 - 140)	260	Connector cable: 20.507 (p.410)
<b>GR07.516-30</b>	1.2 - 7 (17.4 - 101.5)	16	30	50 - 500	-5 - 60 (23 - 140)	290	Connector cable: 20.570 (p.410)



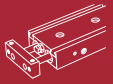


Dimensions



GR07.506-10 | GR07.506-20 | GR07.506-30

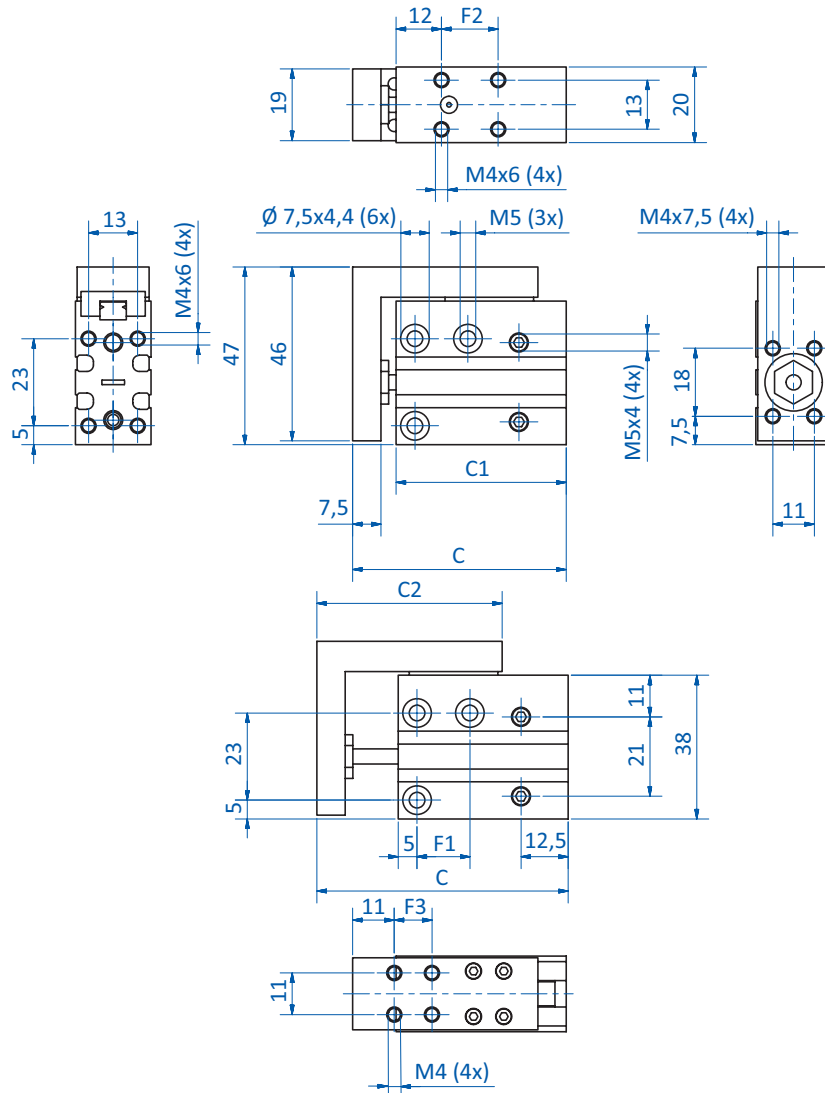
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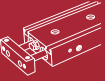
# Linear technology | Guide blocks

Guide blocks, extra narrow design – double-acting

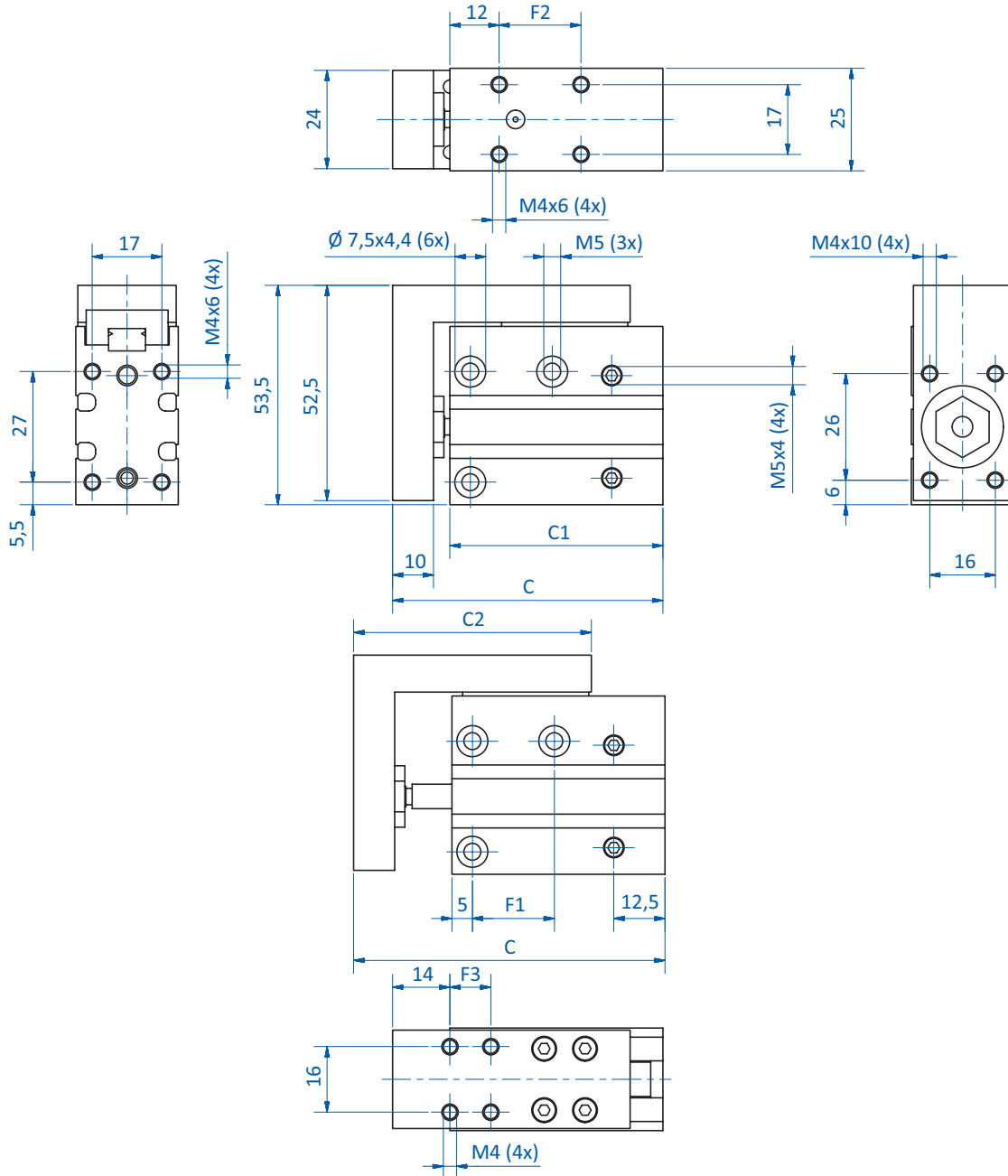
## Dimensions



GR07.510-10 | GR07.510-20 | GR07.510-30

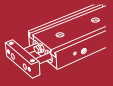


## Dimensions



GR07.516-10 | GR07.516-20 | GR07.516-30

Item no.	C [mm]	C1 [mm]	C2 [mm]	F1 [mm]	F2 [mm]	F3 [mm]
GR07.506-10	49.5 - 59.5	41	42	14	15	10
GR07.506-20	51 - 52	51	52	24	25	20
GR07.506-30	69.5 - 99.5	61	62	30	35	30
GR07.510-10	56.5 - 66.5	45	49	14	15	10
GR07.510-20	66.5 - 86.5	55	59	24	25	20
GR07.510-30	76.5 - 106.5	65	69	30	35	30
GR07.516-10	66 - 76	52	58	20	20	10
GR07.516-20	76 - 96	62	68	30	30	20
GR07.516-30	86 - 116	72	78	40	40	30



### Pressure plates



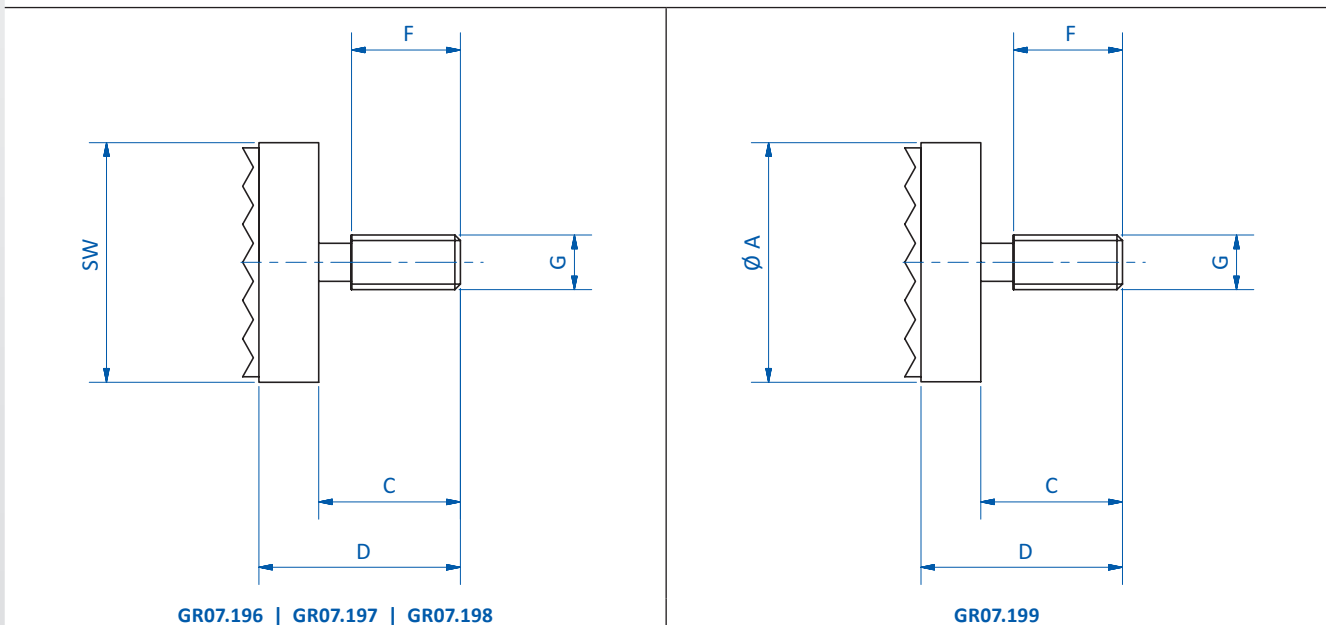
#### Product notes

- > Pressure plates with threads e.g. for screwing into short lifting cylinders as gripping or holding tools
- > GR07.196-198 with grooved natural rubber pad
- > GR07.199 with steel cover

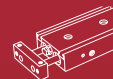
#### Technical data

Item no.	Weight [g]
GR07.196	12
GR07.197	12
GR07.198	7
GR07.199	2

#### Dimensions



Item no.	SW	Ø A [mm]	C [mm]	D [mm]	F [mm]	G
GR07.196	22	--	13	18.5	10	M5
GR07.197	22	--	11.5	17	8.5	M4
GR07.198	22	--	7	11.7	5	M3
GR07.199	--	12	9	12.3	6	M3



### Fittings for compact cylinders



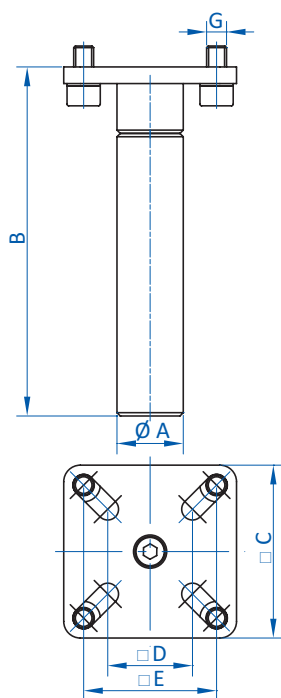
#### Product notes

- > Integration of compact cylinders into gripper systems
- > Compatible with all compact cylinders complying with ISO 21287 standards

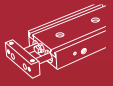
#### Technical data

Item no.	Weight [g]
GR07.001	125
GR07.002	52

#### Dimensions



Item no.	∅ A [mm]	B [mm]	□ C [mm]	□ D [mm]	□ E [mm]	G
GR07.001	20	105	52	25.5	40	M6
GR07.002	14	105	29	15.5	20	M4



### Angle arms for compact cylinders – adjustable



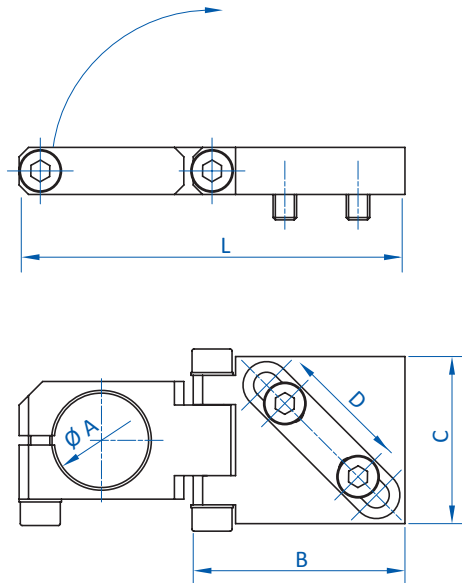
#### Product notes

- > Variable mounting of gripper components on compact cylinders or extrusion systems
- > Compatible with all compact cylinders (anti-twist) complying with ISO 21287 standards

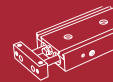
#### Technical data

Item no.	Weight [g]
GR07.030	73

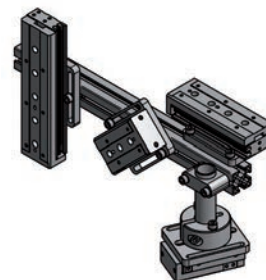
#### Dimensions



Item no.	$\varnothing A$ [mm]	B [mm]	C [mm]	D [mm]	L [mm]
GR07.030	20	45	35.5	17 - 33	82



### Mounting plate for guide blocks



Installation on FIPA MLine extrusion system

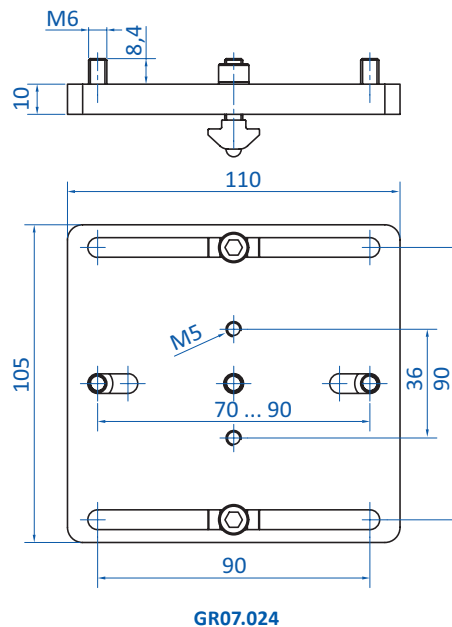
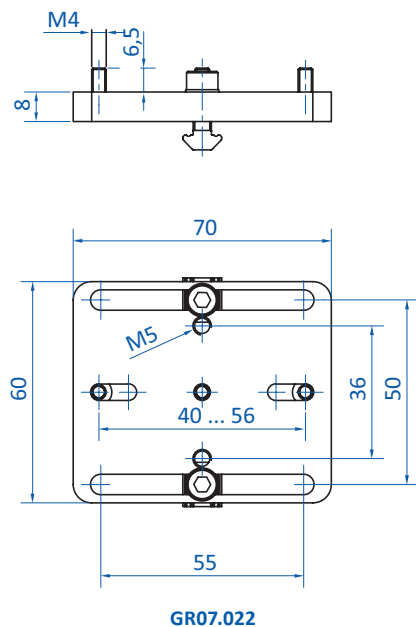
#### Product notes

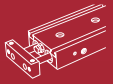
- > Mounting of guide blocks to SLine and MLine extrusions
- > GR07.022: suitable for GR07.208 on SLine and MLine extrusion systems
- > GR07.024: suitable for GR07.220 on XLine extrusion system
- > Slot nuts and screws included in scope of delivery

#### Technical data

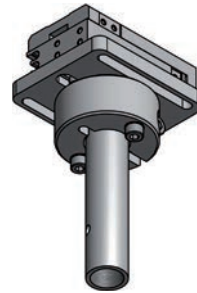
Item no.	Weight [g]
GR07.022	71
GR07.024	266

#### Dimensions





### Mounting ring for linear components



Application example: guide blocks with mounting ring and mounting plate

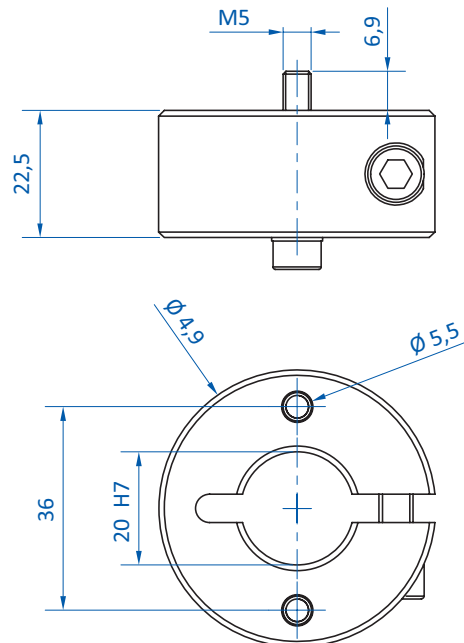
#### Product notes

- > Mounting of linear components on extrusion systems via extension tubes with  $\varnothing$  20 mm clamp
- > Particularly suitable for guide blocks rails and dual piston cylinder
- > Screws included in scope of delivery

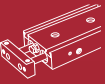
#### Technical data

Item no.	Weight [g]	Accessories
<b>GR07.021</b>	96	Mounting bracket: GR07.022 (p.353) Mounting bracket: GR07.024 (p.353) Mounting bracket: GR07.026 (p.355) Mounting bracket: GR07.028 (p.355) Extension tube: GR06.022 (p.90) Cross clamp: GR02.022 (p.83) Angle clamp: GR02.013A (p.79)

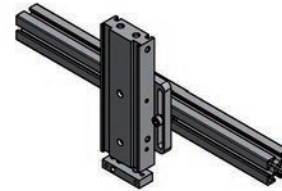
#### Dimensions







### Mounting plate for dual-piston cylinders



Assembly on FIPA MLine extrusions

#### Product notes

- > Mounting of dual-piston cylinders on SLine and MLine extrusion systems
- > Slot nuts and screws included in scope of delivery

#### Technical data

Item no.	Suitable for	Weight [g]
GR07.026	GR07.110	102
GR07.028	GR07.115	182

#### Dimensions

