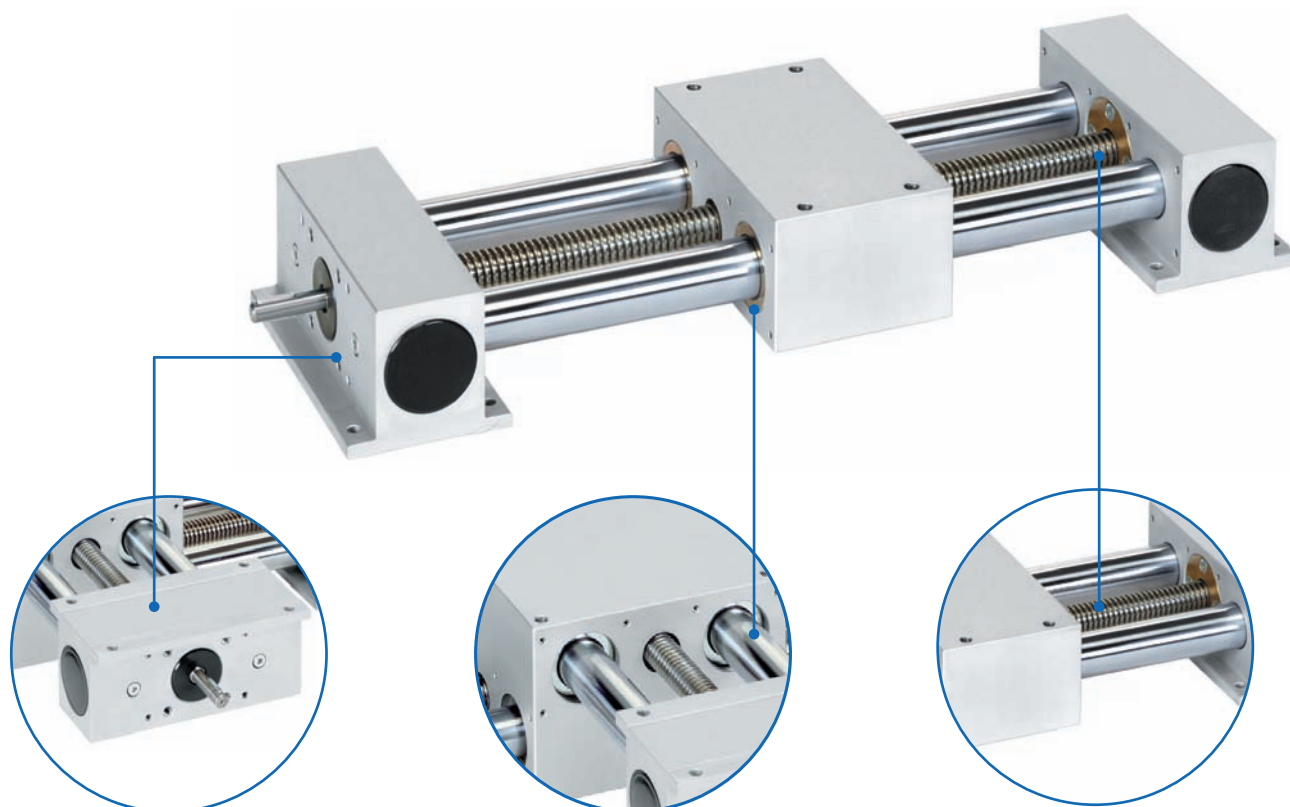


Twin tube guide/actuator - COPAS

Elegant anodised aluminium design ensures precision running even at high load ratings



Use of high-quality materials

- ✓ Enables high moments
- ✓ Straight, large fastening surfaces
- ✓ Visually attractive

Ball lining guide

- ✓ Precise and exceptionally quiet running

Choice of drive screw

- ✓ ACME screw
- ✓ Ball screw

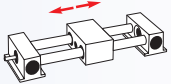
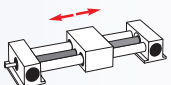
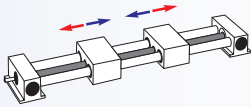
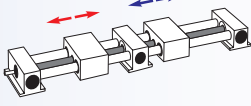
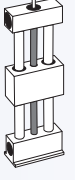
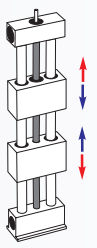
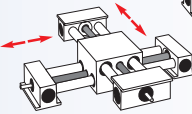
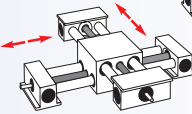
Features:

- High load ratings
- Free choice of ACME screw or ball screw drive
- Guide shaft made of tempered steel, induction hardened
- High availability due to pre-assembled kits

Options:

- Corrosion-protected units
- Bellows
- Free-running carriage

COPAS twin tube actuator - Table of Contents

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COPAS – Technical data

General information/operating conditions

Design	Axis, optional ACME screw or ball screw drive
Guidance system	Ball lining guide
Installation position	Any position
Lead accuracy	ACME screw ± 0.15 mm/300 mm travel, ball screw drive ± 0.1 mm/300 mm travel
Self-locking	on ACME screw
Ambient temperature	0°C to +60°C

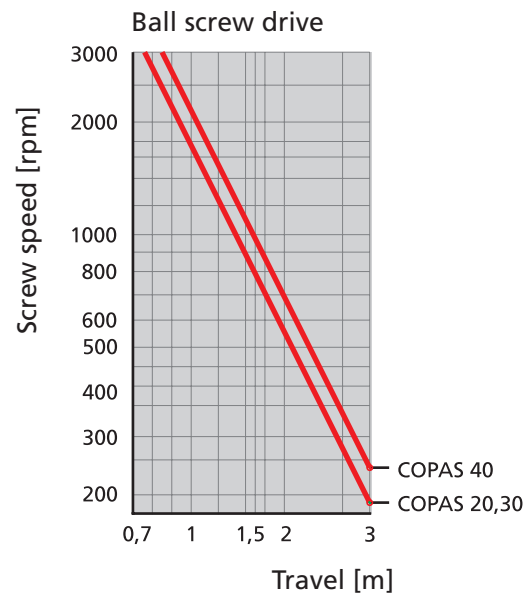
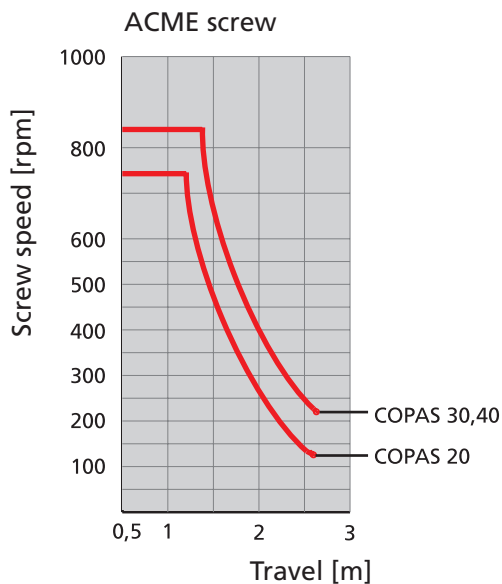
Screw lead

ACME screw [mm]	
Type	Screw lead
COPAS 20	3
COPAS 30	4
COPAS 40	4

Ball screw drive [mm]	
Type	Screw lead
COPAS 20	5
COPAS 30	5
COPAS 40	5

$$\text{Required screw speed } n \text{ [rpm]} = \frac{\text{speed [m/min]} \times 1000}{\text{screw lead [mm]}}$$

Critical screw speed



No-load torque

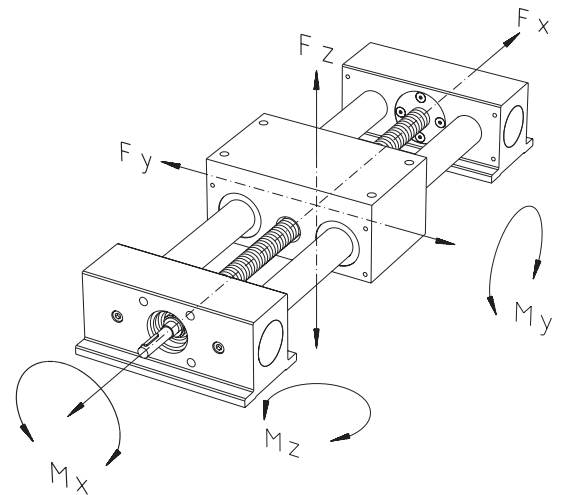
Type	ACME screw [Nm]	Ball screw [Nm]
20	0.30	0.20
30	0.40	0.30
40	0.50	0.40



Load data*

- F Force [N]
- M Moment [Nm]
- I Geometric moment of inertia [cm⁴]

* with reference to carriage (deflection of guide element f = 0.5 mm, static, resting on end elements)

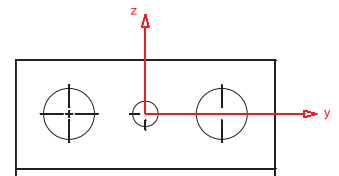


Type	Fx		Fy		Fz		Mx	My	Mz
	ACME screw	Ball screw	500	1000	500	1000			
total length [mm]	500	500	500	1000	500	1000			
COPAS 20	800	1000	700	400	1000	600	30	22	32
COPAS 30	1000	1000	2000	1000	3000	2000	112	99	132
COPAS 40	1000	1600	3500	2400	5200	3200	234	218	294

Geometric moment of inertia

Type	ly	lz
COPAS 20	1.6	202
COPAS 30	8.0	710
COPAS 40	25.1	1820

[cm⁴]



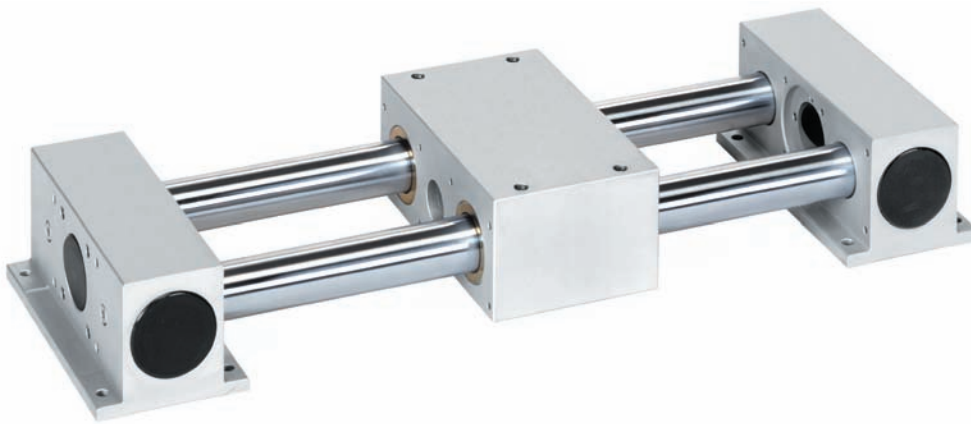
COPAS RC - Versions

Order information:

- Second carriage available on request
- Bellows version available as optional extra
- Longer travel lengths on request

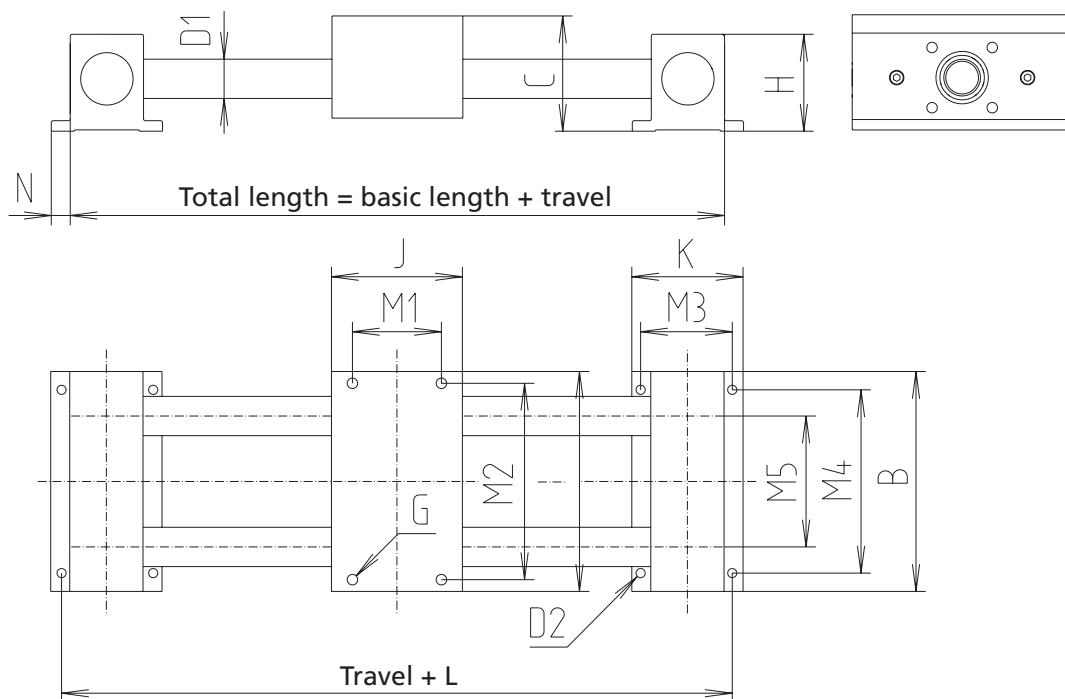
Version

- Horizontal
- Guide



Code No.	Type	Basic length	B	C	Ø D1	Ø D2	G	H	I	J
MFA2000CA	RC 20	202	136	60	20	7	M6-16 deep	58	136	90
MFA3000CA	RC 30	241	168	80	30	7	M8-16 deep	74	168	100
MFA4000CA	RC 40	305	204	100	40	9	M8-16 deep	92	204	125

----- Total length = basic length + travel [mm]



[mm]

K	L	M1	M2	M3	M4	M5	N	Max. travel	Mass [kg]	
									Basic length	per 100 mm travel
70	216	50	120	56	110	80	14	1300	3.9	0.5
85	256	60	150	70	140	100	14.5	2300	6.5	1.1
110	325	100	170	90	170	120	20	2250	15.1	2.0

COPAS - Versions

Order information:

- Second free-running carriage available on request
- Bellows version available as optional extra
- Longer travel lengths on request

Version

- Horizontal actuator
- Right or lefthand thread



Code No.	Type	Screw	Basic length	A	B	C	Ø D	Ø D1	E	F	G	H	I	J1	J2	K1	K2	L
ACME screw																		
74_20_4	TR-HO 20	14 x 3	202	90	136	50	7	30	120	70	136	56	110	30	37	40	60	216
74_30_4	TR-HO 30	20 x 4	241	100	168	60	7	40	150	85	168	70	140	46	48	46	77	255
74_40_4	TR-HO 40	20 x 4	305	125	204	100	9	40	170	110	204	90	170	46	55	46	87	325
Ball screw																		
75_20_4	KG-HO 20	16 x 5	202	90	136	50	7	30	120	70	136	56	110	30	37	40	60	216
75_30_4	KG-HO 30	16 x 5	241	100	168	60	7	40	150	85	168	70	140	46	48	46	77	255
75_40_4	KG-HO 40	20 x 5	305	125	204	100	9	40	170	110	204	90	170	46	55	46	87	325

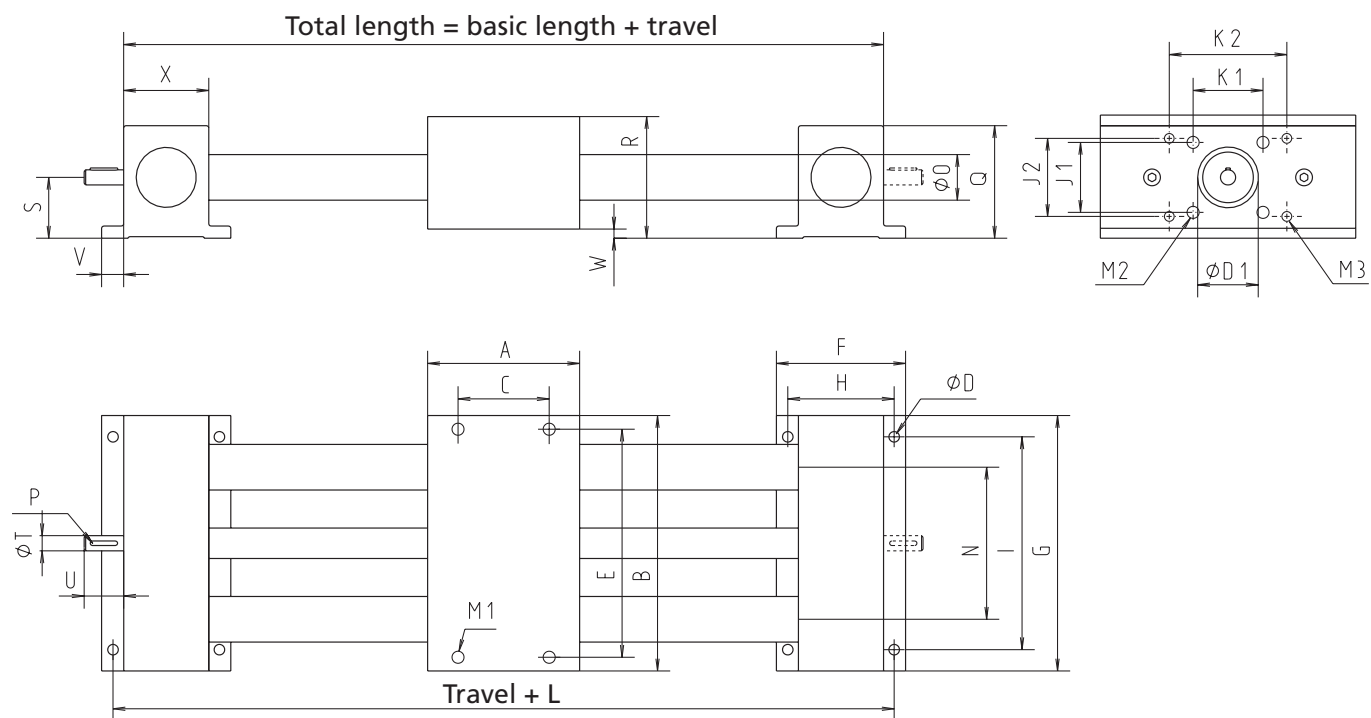
----- Total length = basic length + travel [mm]

Drive shafts:

- 1 = 1 drive shaft
- 3 = 2 drive shafts

Version:

- 0 = righthand thread
- 1 = lefthand thread



[mm]

M1	M2	M3	N	Ø O	P	Q	R	S	Ø T	U	V	W	X	Max. travel	Mass [kg]	
															Basic length	per 100 mm travel
M6-16 deep	M6-12 deep	M4-10 deep	80	20	2 x 2 x 20	58	60	30	8	26	14	2	42	1300	4.5	0.59
M8-16 deep	M8-12 deep	M5-12 deep	100	30	3 x 3 x 20	74	80	40	10	38	14.5	10	56	2300	8.5	1.30
M8-16 deep	M8-15 deep	M6-14 deep	120	40	4 x 4 x 25	92	100	50	12	38	20	12	70	2250	16.8	2.16
M6-16 deep	M6-12 deep	M4-10 deep	80	20	2 x 2 x 20	58	60	30	8	26	14	2	42	1800	4.6	0.62
M8-16 deep	M8-12 deep	M5-12 deep	100	30	3 x 3 x 20	74	80	40	10	38	14.5	10	56	1800	8.5	1.23
M8-16 deep	M8-15 deep	M6-14 deep	120	40	4 x 4 x 25	92	100	50	12	38	20	12	70	2250	16.9	2.17

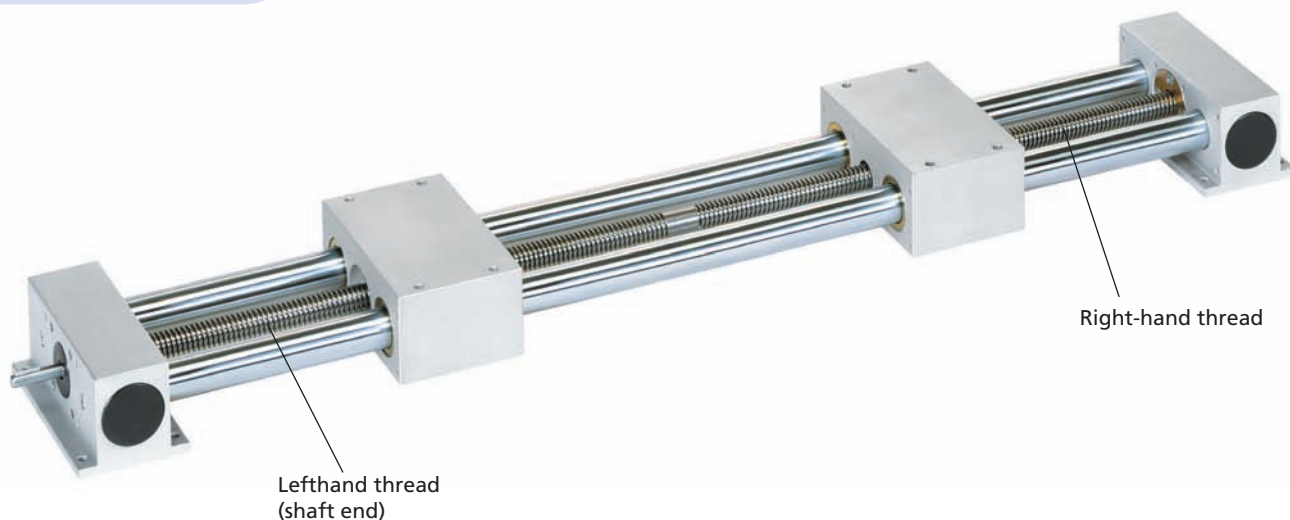
COPAS - Versions

Order information:

- Please specify total travel when placing an order
- Second free-running carriage available on request
- Bellows version available as optional extra
- Longer travel lengths on request

Version

- Horizontal actuator
- Right *and* lefthand thread

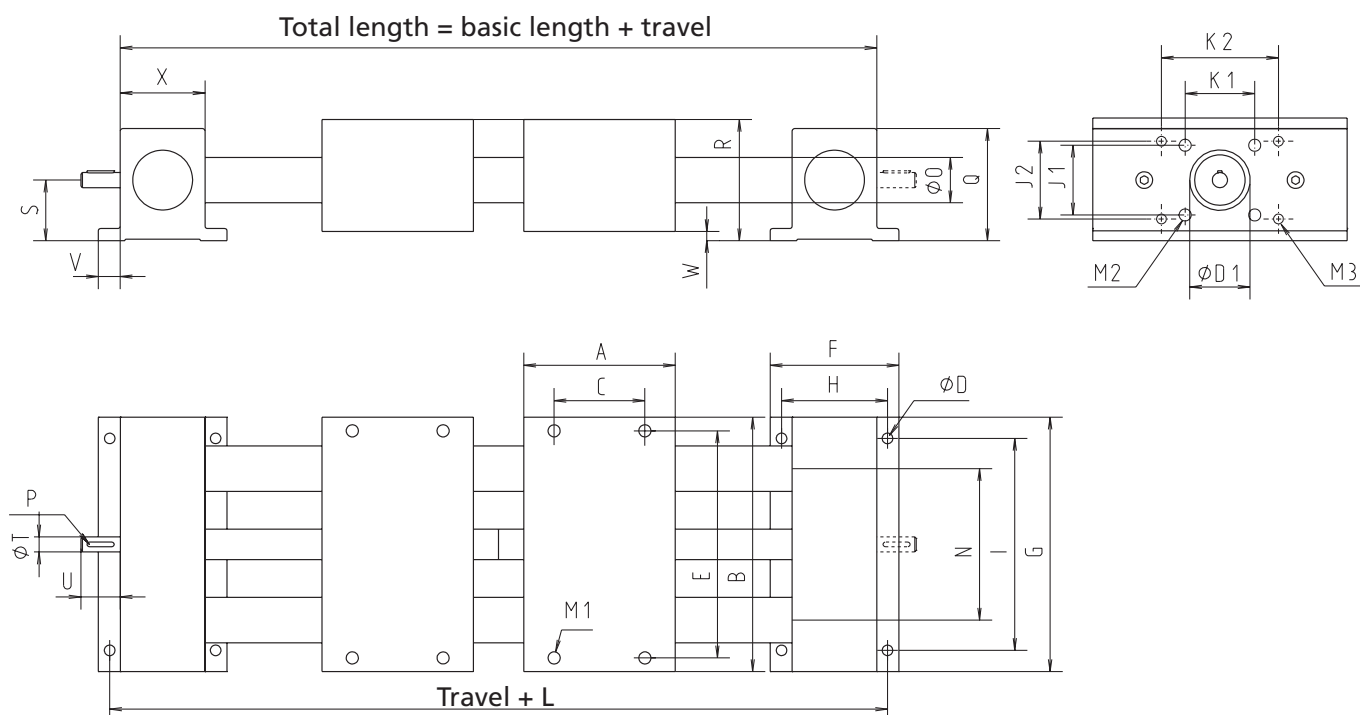


Code No.	Type	Screw	Basic length	A	B	C	Ø D	Ø D1	E	F	G	H	I	J1	J2	K1	K2	L
ACME screw																		
74220_4	TR-HU 20	14 x 3	292	90	136	50	7	30	120	70	136	56	110	30	37	40	60	306
74230_4	TR-HU 30	20 x 4	341	100	168	60	7	40	150	85	168	70	140	46	48	46	77	355
74240_4	TR-HU 40	20 x 4	430	125	204	100	9	40	170	110	204	90	170	46	55	46	87	450
Ball screw																		
75220_4	KG-HU 20	16 x 5	292	90	136	50	7	30	120	70	136	56	110	30	37	40	60	306
75230_4	KG-HU 30	16 x 5	341	100	168	60	7	40	150	85	168	70	140	46	48	46	77	355
75240_4	KG-HU 40	20 x 5	430	125	204	100	9	40	170	110	204	90	170	46	55	46	87	450

----- Total length = basic length + travel [mm]

Version:

- 1 = 1 drive shaft at righthand thread end
- 2 = 1 drive shaft at lefthand thread end
- 3 = 2 drive shafts



[mm]

M1	M2	M3	N	ØD	P	Q	R	S	ØT	U	V	W	X	Max. travel	Mass [kg]	
															Basic length	per 100 mm travel
M6-16 deep	M6-12 deep	M4-10 deep	80	20	2 x 2 x 20	58	60	30	8	26	14	2	42	1200	6.7	0.59
M8-16 deep	M8-12 deep	M5-12 deep	100	30	3 x 3 x 20	74	80	40	10	38	14.5	10	56	2200	12.3	1.30
M8-16 deep	M8-15 deep	M6-14 deep	120	40	4 x 4 x 25	92	100	50	12	38	20	12	70	2100	24.2	2.16
M6-16 deep	M6-12 deep	M4-10 deep	80	20	2 x 2 x 20	58	60	30	8	26	14	2	42	1200	7.0	0.62
M8-16 deep	M8-12 deep	M5-12 deep	100	30	3 x 3 x 20	74	80	40	10	38	14.5	10	56	2200	12.3	1.23
M8-16 deep	M8-15 deep	M6-14 deep	120	40	4 x 4 x 25	92	100	50	12	38	20	12	70	2100	24.5	2.17

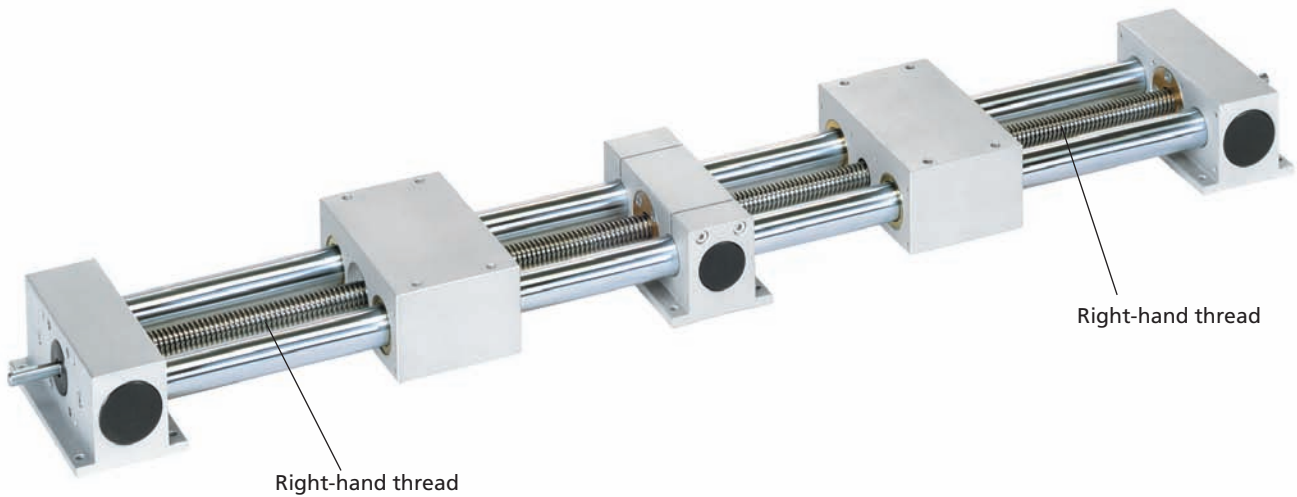
COPAS - Versions

Order information:

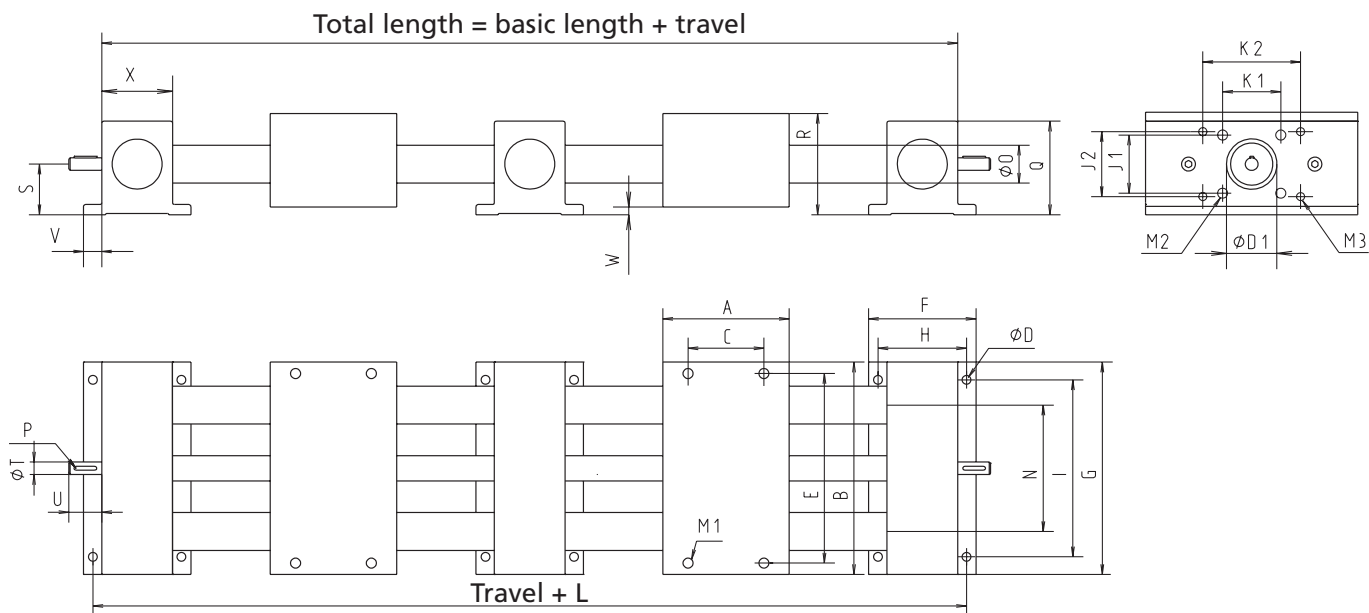
- Please specify total travel when placing an order
- Second free-running carriage available on request
- Bellows version available as optional extra
- Longer travel lengths on request

Version

- Horizontal actuator
- *Split screw*



Code No.	Type	Screw	Basic length	A	B	C	Ø D	Ø D1	E	F	G	H	I	J1	J2	K1	K2	L
ACME screw																		
7432034	TR-HG 20	14 x 3	362	90	136	50	7	30	120	70	136	56	110	30	37	40	60	376
7433034	TR-HG 30	20 x 4	426	100	168	60	7	40	150	85	168	70	140	46	48	46	77	440
7434034	TR-HG 40	20 x 4	540	125	204	100	9	40	170	110	204	90	170	46	55	46	87	560
Ball screw																		
7532034	KG-HG 20	16 x 5	362	90	136	50	7	30	120	70	136	56	110	30	37	40	60	376
7533034	KG-HG 30	16 x 5	426	100	168	60	7	40	150	85	168	70	140	46	48	46	77	440
7534034	KG-HG 40	20 x 5	540	125	204	100	9	40	170	110	204	90	170	46	55	46	87	560



M1	M2	M3	N	ØO	P	Q	R	S	ØT	U	V	W	X	Max. travel/end	Mass [kg]	
															Basic length	per 100 mm travel
M6-16 deep	M6-12 deep	M4-10 deep	80	20	2 x 2 x 20	58	60	30	8	26	14	2	42	575	8.2	0.59
M8-16 deep	M8-12 deep	M5-12 deep	100	30	3 x 3 x 20	74	80	40	10	38	14.5	10	56	1075	15.2	1.30
M8-16 deep	M8-15 deep	M6-14 deep	120	40	4 x 4 x 25	92	100	50	12	38	20	12	70	1025	30.0	2.16
M6-16 deep	M6-12 deep	M4-10 deep	80	20	2 x 2 x 20	58	60	30	8	26	14	2	42	825	8.4	0.62
M8-16 deep	M8-12 deep	M5-12 deep	100	30	3 x 3 x 20	74	80	40	10	38	14.5	10	56	825	15.1	1.23
M8-16 deep	M8-15 deep	M6-14 deep	120	40	4 x 4 x 25	92	100	50	12	38	20	12	70	1025	30.0	2.17

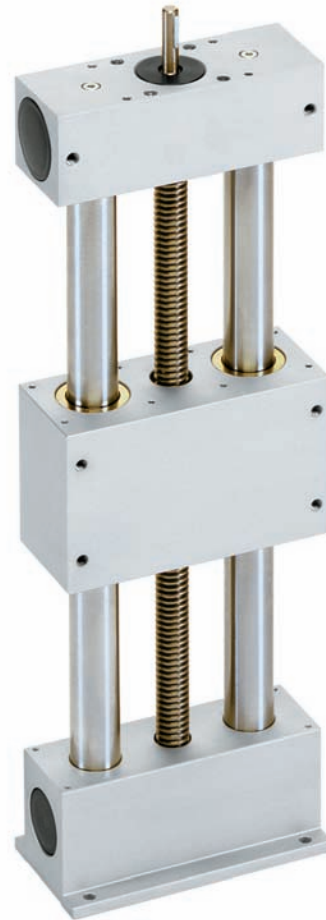
COPAS - Versions

Order information:

- Second free-running carriage available on request
- Bellows version available as optional extra
- Longer travel lengths on request

Version

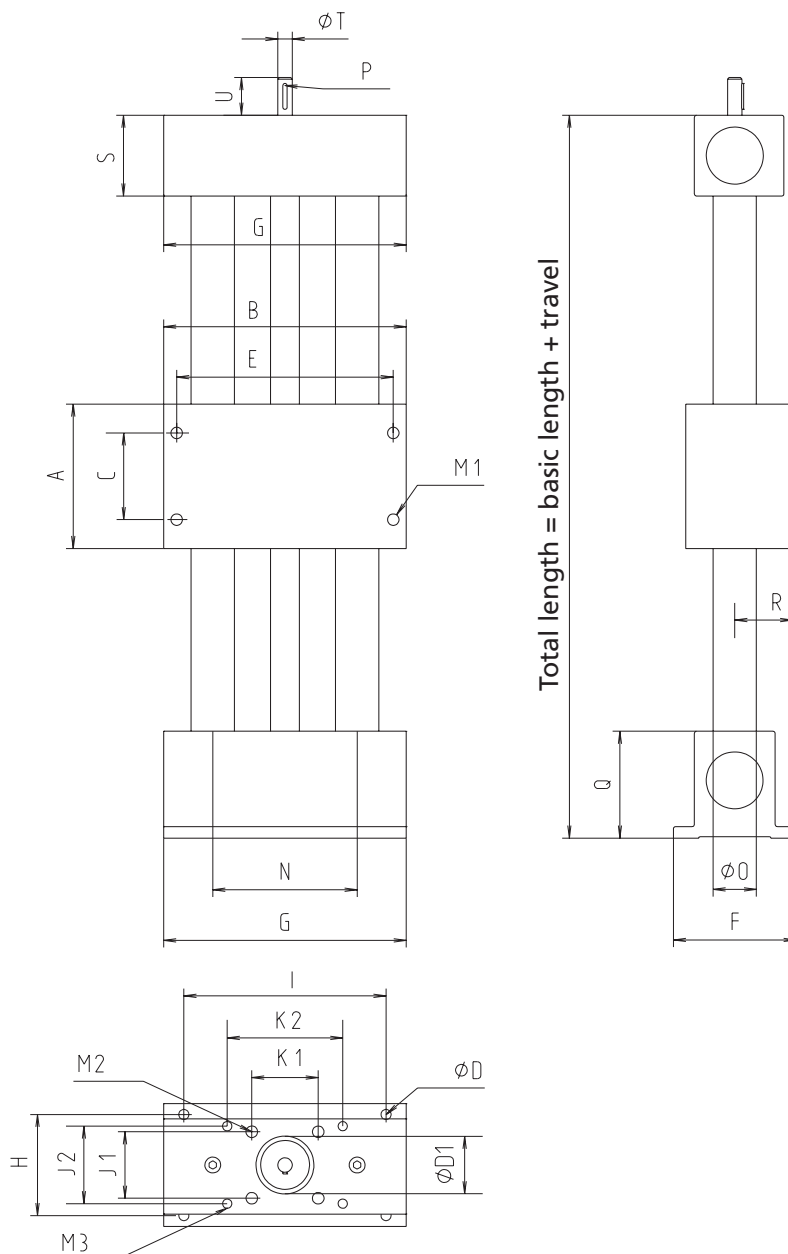
- Vertical actuator
- Right or lefthand thread



Code No.	Type	Screw	Basic length	A	B	C	Ø D	Ø D1	E	F	G	H	I	J1	J2	K1	K2
ACME screw																	
74_2014	TR-VO 20	14 x 3	190	90	136	50	7	30	120	70	136	56	110	30	37	40	60
74_3014	TR-VO 30	20 x 4	230	100	168	60	7	40	150	85	168	70	140	46	48	46	77
74_4014	TR-VO 40	20 x 4	287	125	204	100	9	40	170	110	204	90	170	46	55	46	87
Ball screw																	
75_2014	KG-VO 20	16 x 5	190	90	136	50	7	30	120	70	136	56	110	30	37	40	60
75_3014	KG-VO 30	16 x 5	230	100	168	60	7	40	150	85	168	70	140	46	48	46	77
75_4014	KG-VO 40	20 x 5	287	125	204	100	9	40	170	110	204	90	170	46	55	46	87

----- Total length = basic length + travel [mm]

Version:
5 = righthand thread
6 = lefthand thread



[mm]

M1	M2	M3	N	ØO	P	Q	R	S	ØT	U	Max. travel	Mass [kg]	
												Basic length	per 100 mm travel
M6-16 deep	M6-12 deep	M4-10 deep	80	20	2 x 2 x 20	58	30	42	8	26	1300	4.2	0.59
M8-16 deep	M8-12 deep	M5-12 deep	100	30	3 x 3 x 20	74	40	56	10	38	2250	8.2	1.30
M8-16 deep	M8-15 deep	M6-14 deep	120	40	4 x 4 x 25	92	50	70	12	38	2200	16.2	2.16
M6-16 deep	M6-12 deep	M4-10 deep	80	20	2 x 2 x 20	58	30	42	8	26	1800	4.3	0.62
M8-16 deep	M8-12 deep	M5-12 deep	100	30	3 x 3 x 20	74	40	56	10	38	1750	8.2	1.23
M8-16 deep	M8-15 deep	M6-14 deep	120	40	4 x 4 x 25	92	50	70	12	38	2200	16.3	2.17

COPAS - Versions

Order information:

- Please specify total travel when placing an order
- Second free-running carriage available on request
- Bellows version available as optional extra
- Longer travel lengths on request

Version

- Vertical actuator
- Right *and* lefthand thread

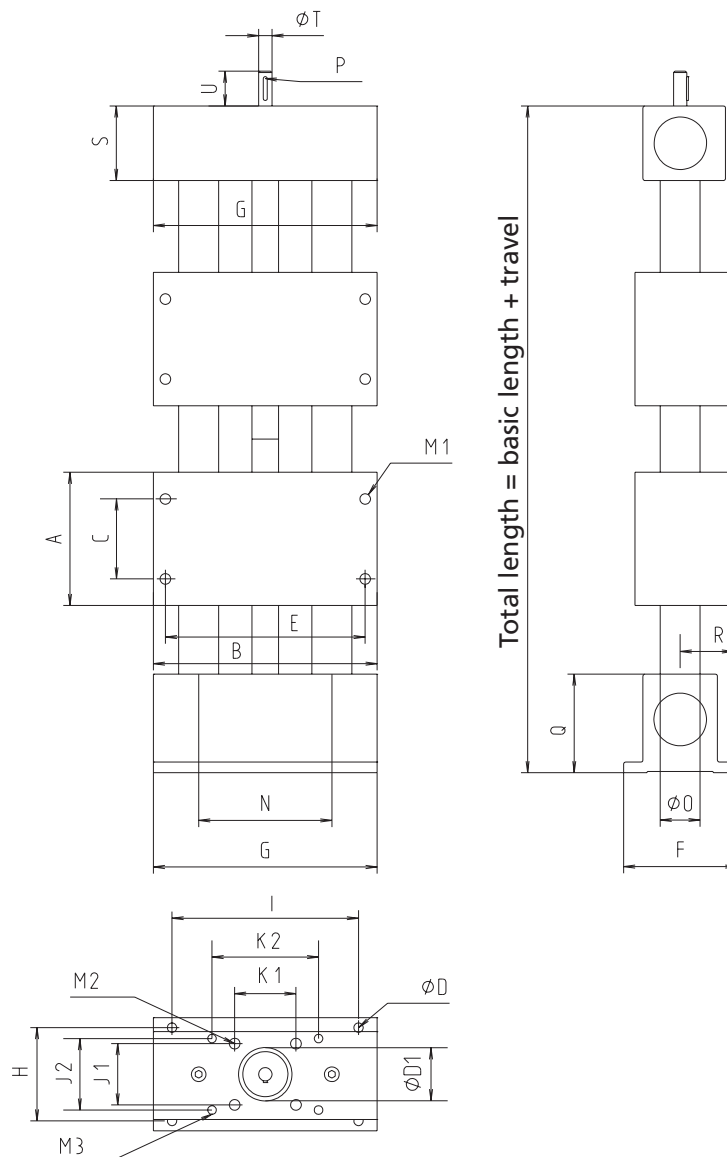


Code No.	Type	Screw	Basic length	A	B	C	Ø D	Ø D1	E	F	G	H	I	J1	J2	K1	K2
ACME screw																	
74720_4	TR-VU 20	14 x 3	280	90	136	50	7	30	120	70	136	56	110	30	37	40	60
74730_4	TR-VU 30	20 x 4	330	100	168	60	7	40	150	85	168	70	140	46	48	46	77
74740_4	TR-VU 40	20 x 4	412	125	204	100	9	40	170	110	204	90	170	46	55	46	87
Ball screw																	
75720_4	KG-VU 20	16 x 5	280	90	136	50	7	30	120	70	136	56	110	30	37	40	60
75730_4	KG-VU 30	K6 x 5	330	100	168	60	7	40	150	85	168	70	140	46	48	46	77
75740_4	KG-VU 40	20 x 5	412	125	204	100	9	40	170	110	204	90	170	46	55	46	87

----- Total length = basic length + travel [mm]

Version:

- 1 = 1 drive shaft at righthand thread end
- 2 = 1 drive shaft at lefthand thread end



[mm]

M1	M2	M3	N	Ø O	P	Q	R	S	Ø T	U	Max. travel	Mass [kg]	
												Basic length	per 100 mm travel
M6-16 deep	M6-12 deep	M4-10 deep	80	20	2 x 2 x 20	58	30	42	8	26	1200	5.9	0.59
M8-16 deep	M8-12 deep	M5-12 deep	100	30	3 x 3 x 20	74	40	56	10	38	2150	10.5	1.30
M8-16 deep	M8-15 deep	M6-14 deep	120	40	4 x 4 x 25	92	50	70	12	38	2100	17.2	2.16
M6-16 deep	M6-12 deep	M4-10 deep	80	20	2 x 2 x 20	58	30	42	8	26	1200	6.2	0.62
M8-16 deep	M8-12 deep	M5-12 deep	100	30	3 x 3 x 20	74	40	56	10	38	2150	10.5	1.23
M8-16 deep	M8-15 deep	M6-14 deep	120	40	4 x 4 x 25	92	50	70	12	38	2100	17.5	2.17

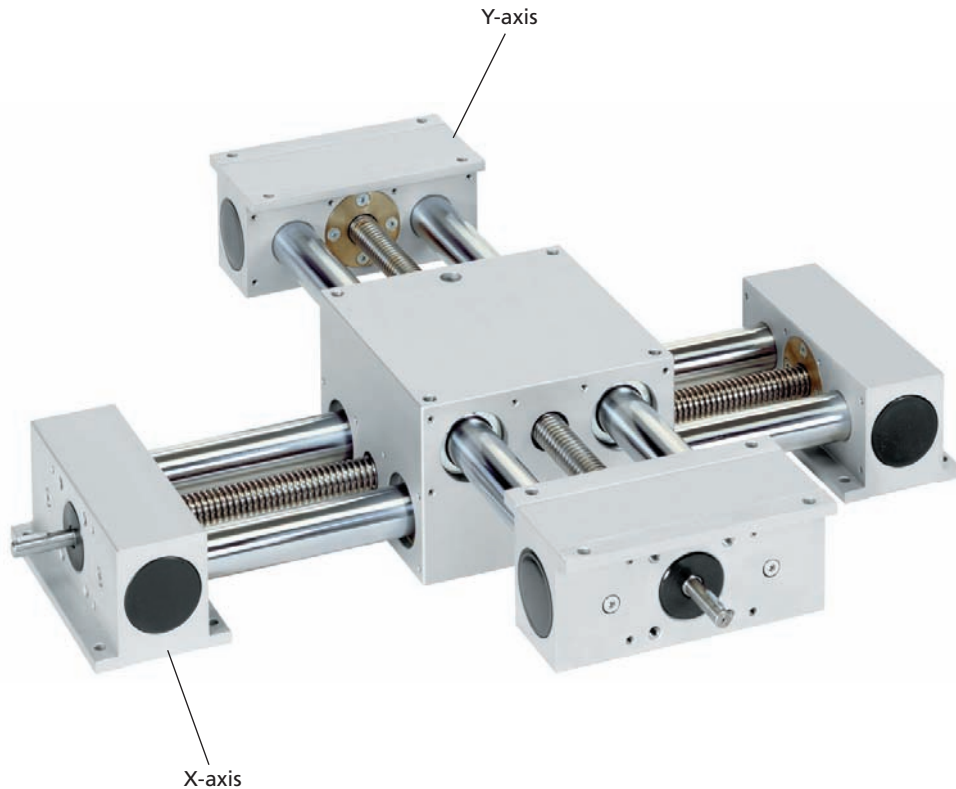
COPAS - Versions

Order information:

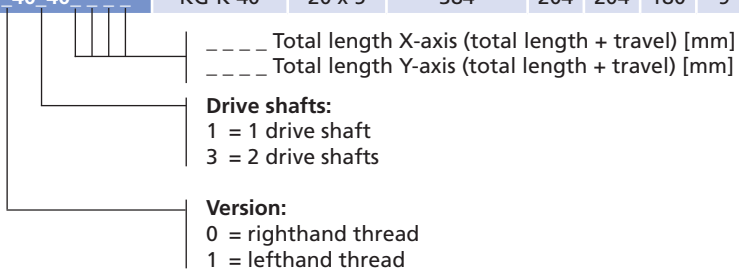
- The Y-axis is a moving axis (the carriage is stationary, the axis is moving!)
- You need to check the moments M_y for the Y-axis and M_x for the X-axis (see page 111)

Version

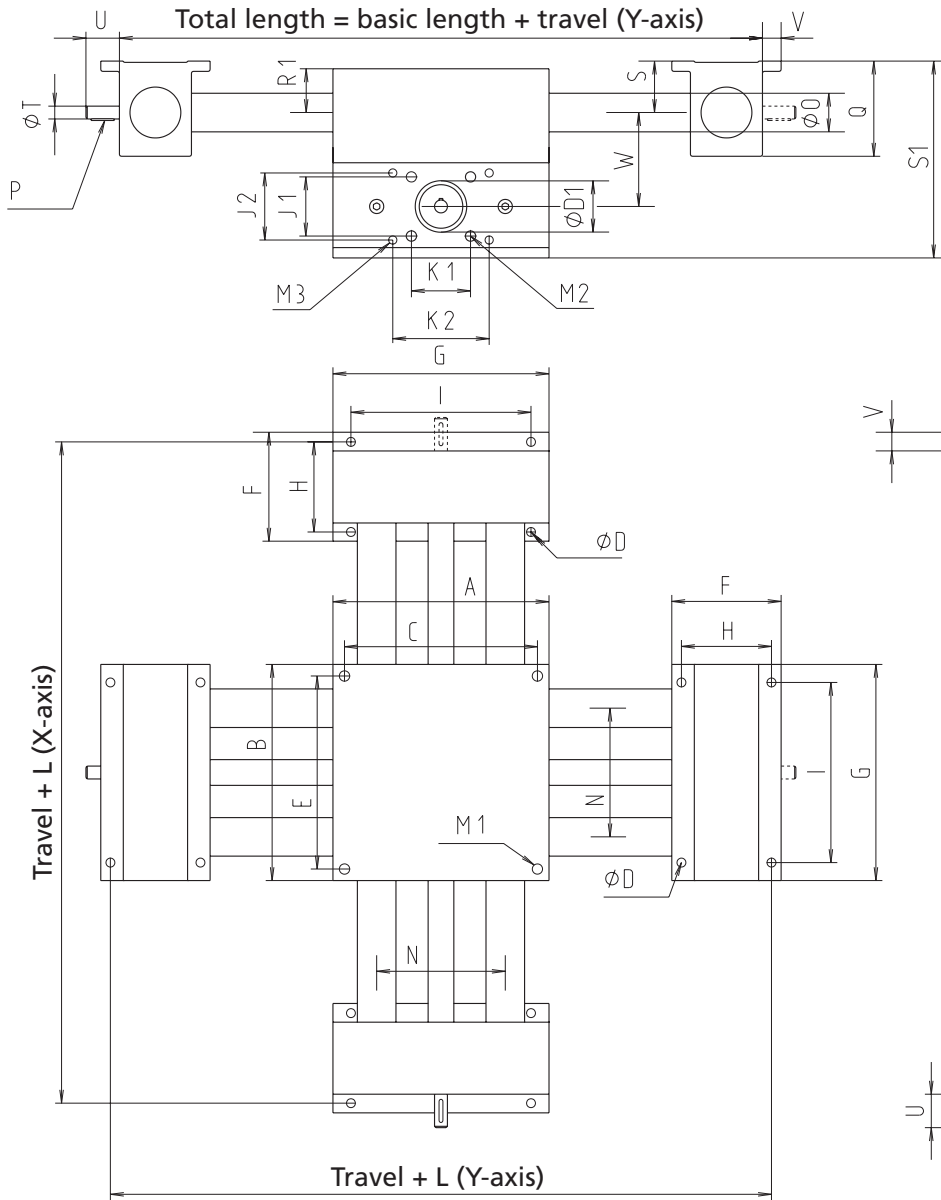
- Crossing
- Horizontal
- Right or lefthand thread



Code No.	Type	Screw	Basic length	A	B	C	Ø D	Ø D1	E	F	G	H	I	J1	J2	K1	K2
ACME screw																	
76_20_40_---	TR-K 20	14 x 3	248	136	136	120	7	30	120	70	136	56	110	30	37	40	60
76_20_40_---	TR-K 30	20 x 4	309	168	168	150	7	40	150	85	168	70	140	46	48	46	77
76_20_40_---	TR-K 40	20 x 4	384	204	204	180	9	40	170	110	204	90	170	46	55	46	87
Ball screw																	
77_20_40_---	KG-K 20	16 x 5	248	136	136	120	7	30	120	70	136	56	110	30	37	40	60
77_30_40_---	KG-K 30	16 x 5	309	168	168	150	7	40	150	85	168	70	140	46	48	46	77
77_40_40_---	KG-K 40	20 x 5	384	204	204	180	9	40	170	110	204	90	170	46	55	46	87



← **Note:** Please specify total length of X- and Y-axis when placing an order



[mm]

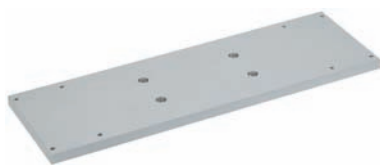
L	M1	M2	M3	N	ØO	P	Q	R1	R2	S	ØT	U	V	W	Mass [kg]	
															Basic length for crossing	per 100 mm travel
262	M6-16 deep	M6-12 deep	M4-10 deep	80	20	2 x 2 x 20	58	28	28	30	8	26	14	45	10.0 for 20/20	0.59
323	M8-16 deep	M8-12 deep	M5-12 deep	100	30	3 x 3 x 20	74	32	32	40	10	38	14.5	50	18.3 for 30/30	1.30
404	M8-16 deep	M8-15 deep	M6-14 deep	120	40	4 x 4 x 25	92	35	38	50	12	38	20	65	34.4 for 40/40	2.16
262	M6-16 deep	M6-12 deep	M4-10 deep	80	20	2 x 2 x 20	58	28	28	30	8	26	14	45	10.0 for 20/20	0.62
323	M8-16 deep	M8-12 deep	M5-12 deep	100	30	3 x 3 x 20	74	32	32	40	10	38	14.5	50	18.3 for 30/30	1.23
404	M8-16 deep	M8-15 deep	M6-14 deep	120	40	4 x 4 x 25	92	35	38	50	12	38	20	65	34.4 for 40/40	2.17

COPAS – Fixing/Drive

Connecting plate for cross table

- Connecting plate between two crossing axes
- The Y-axis is a fixed axis (the axis is stationary, the carriage is moving)

Material: Aluminium
Precision-milled surface

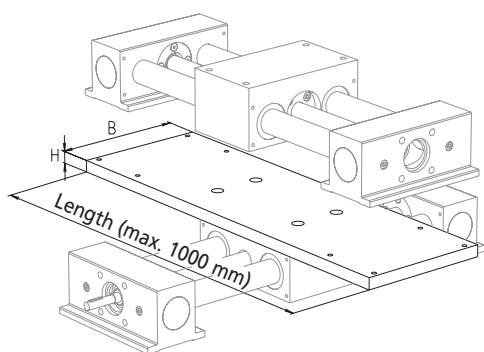


Sample order:
COPAS 20 Horizontal
500 mm travel

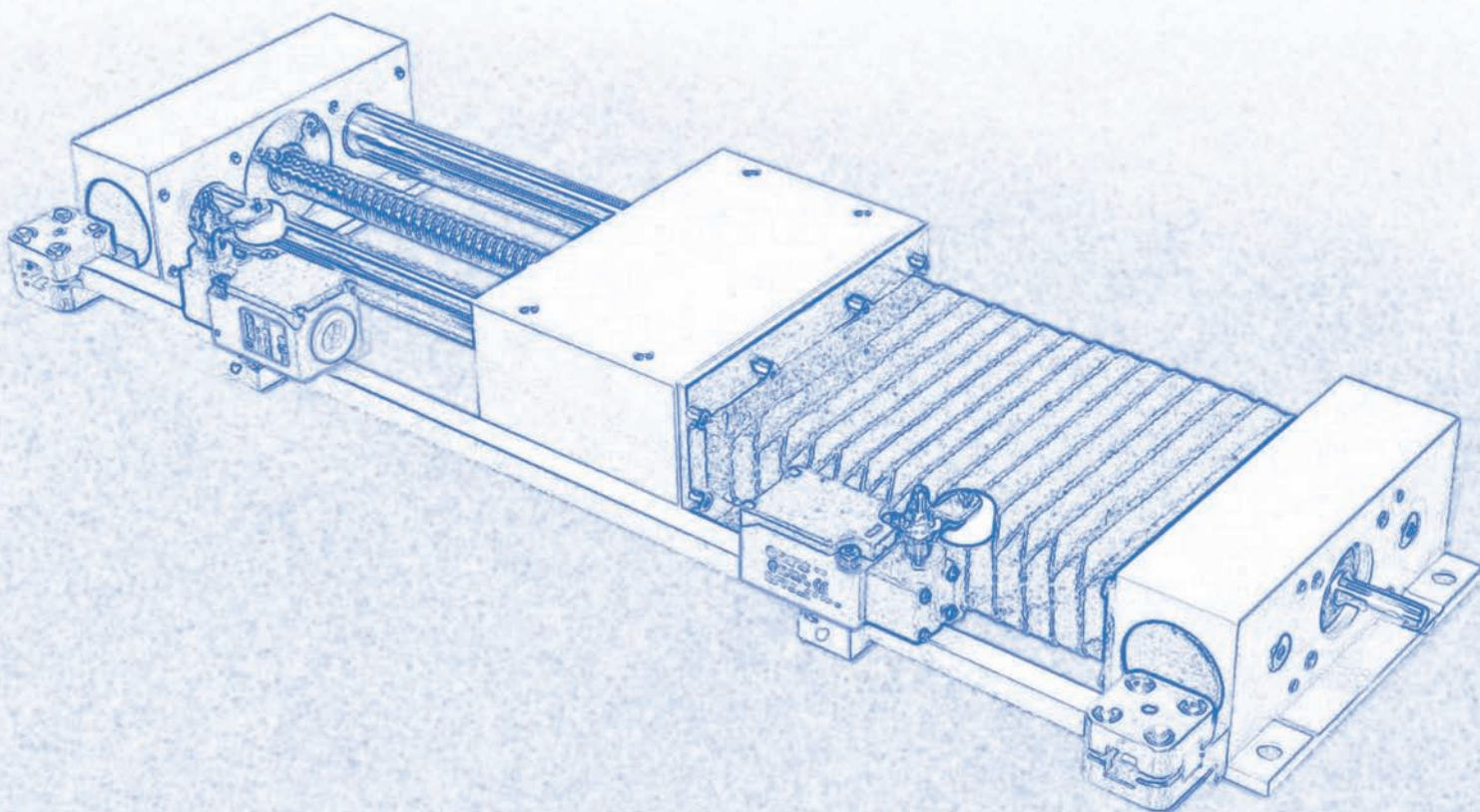
Code No. + length (basic length Y-axis + travel + 2 x dimension V)
94302 + 0730 (202 mm + 500 mm + 2 x 14 mm)

943020730

[mm]

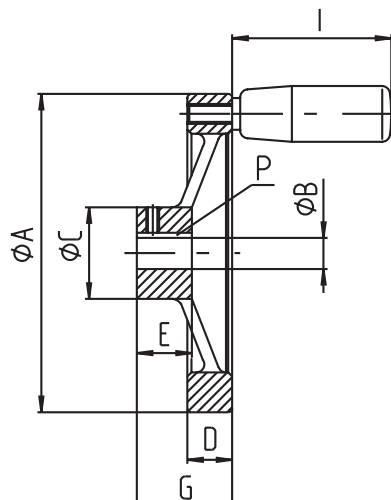


Code No.	Type	B	H	V
94302_ _ _ _	20 on 20	136	15	14
94303_ _ _ _	30 on 30	168	15	14.5
94304_ _ _ _	40 on 40	204	15	20
94312_ _ _ _	20 on 30	136	15	14
94322_ _ _ _	20 on 40	136	15	14
94313	30 on 40	168	15	14.5



Handwheel

Material: Die-cast aluminium
Black powder-coating



Ø 80-100



Ø 140

[mm]

Code No.	Type	A	B	C	D	E	G	P	I
90903	20	80	8	23	11	17	35	2 x 2	52
90913	20	100	8	28	14	17	30	2 x 2	52
90904	30	100	10	28	14	17	30	3 x 3	52
90915	40	100	12	28	14	17	30	4 x 4	52
90905	40	140	12	36	16.5	19	36	4 x 4	52

Selection table Motor adaptor/coupling

Type	Servomotor					Three-phase motor	
	RK-AC118	RK-AC118 with gear unit	RK-AC240	RK-AC240 with gear unit	RK-AC210/470	90/120 W	180/250 W
COPAS 20	949218	949293	949328	–	949327	949623	–
	911430 0811	911430 0816	911940 0814	–	911940 0819	911940 0812	–
COPAS 30	949220	949294	949238	949324	949084	949614	949048
	911430 1011	911430 1016	911430 1014	911940 1020	911430 1019	911430 1012	911430 1014
COPAS 40	949220	949294	949238	949324	949051	949614	949048
	911430 1112	911430 1216	911430 1214	911940 1220	911940 1920	911430 1212	911430 1214

↓

Code No. Motor adaptor:
949294

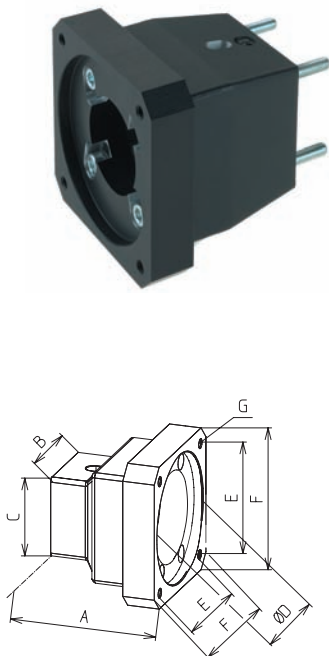
Code No. Coupling with
specification of shaft
diameter
1st end = 12 mm
2nd end = 16 mm:
911430 1216

Note:
For further details on motor versions,
please refer to the chapter "Motors and
controls"

Motor adaptor

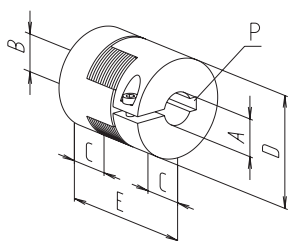
- Simple assembly on linear unit and motor
- Exact fit due to centering shoulders

Material: Aluminium, black



									[mm]
Code No.	Type	A	B	C	D	E	F	G	
949218	20	64	53.5	53.5	60	53	70	M5	
949293	20	71	53.5	53.5	60	53	70	M5	
949328	20	81	53.5	53.5	80	70.7	90	M6	
949327	20	91	53.5	53.5	95	81.3	115	M8	
949262	20	66	53.5	53.5	73	70	90	M6	
949623	20	79	53.5	53.5	50	65	80	M5	
949220	30	74	60	60	60	53	70	M5	
949294	30	83	60	60	60	53	70	M5	
949238	30	83	60	60	80	70.7	90	M6	
949084	30	91	60	60	95	81.3	115	M8	
949324	30	100	60	60	80	70.7	90	M6	
949264	30	83	60	60	73	70	90	M6	
949614	30	83	60	60	50	46	80	M5	
949048	30	83	60	60	80	100	Ø 120	Ø 6.6	
949220	40	74	60	60	60	53	70	M5	
949294	40	83	60	60	60	53	70	M5	
949238	40	83	60	60	80	70.7	90	M6	
949324	40	100	60	60	80	70.7	90	M6	
949051	40	94	60	60	95	81.3	115	M8	
949264	40	83	60	60	73	70	90	M6	
949614	40	83	60	60	50	46	80	M5	
949048	40	83	60	60	80	100	Ø 120	Ø 6.6	

Coupling



[mm]

Code No.	Ø A	Ø B	C	Ø D	E	P	Torque [Nm]	
							with feather key	without feather key
9109200895	8	9.5	10	20	30	2 x 2/-	5	3
9114300811	8	11	11	30	35	2 x 2/4 x 4	12	6
9114300816	8	16	11	30	35	2 x 2/5 x 5	12	6
9114309510	9.5	10	11	30	35	-/3 x 3	12	6
9114309512	9.5	12	11	30	35	-/4 x 4	12	6
9114301011	10	11	11	30	35	3 x 3/4 x 4	12	6
9114301012	10	12	11	30	35	3 x 3/4 x 4	12	6
9114301014	10	14	11	30	35	3 x 3/5 x 5	12	6
9114301016	10	16	11	30	35	3 x 3/5 x 5	12	6
9114301019	10	19	11	30	35	3 x 3/6 x 6	12	6
9114301112	11	12	11	30	35	4 x 4/4 x 4	12	6
9114301212	12	12	11	30	35	4 x 4/4 x 4	12	6
9114301214	12	14	11	30	35	4 x 4/5 x 5	12	6
9114301216	12	16	11	30	35	4 x 4/5 x 5	12	6
9119400812	8	12	25	40	65	2 x 2/4 x 4	17	10
9119400814	8	14	25	40	65	2 x 2/5 x 5	17	10
9119400819	8	19	25	40	65	2 x 2/6 x 6	17	10
9119401020	10	20	25	40	65	3 x 3/6 x 6	17	10
9119401220	12	20	25	40	65	4 x 4/6 x 6	17	10
9119401920	19	20	25	40	65	6 x 6/6 x 6	17	10

COPAS – Drive

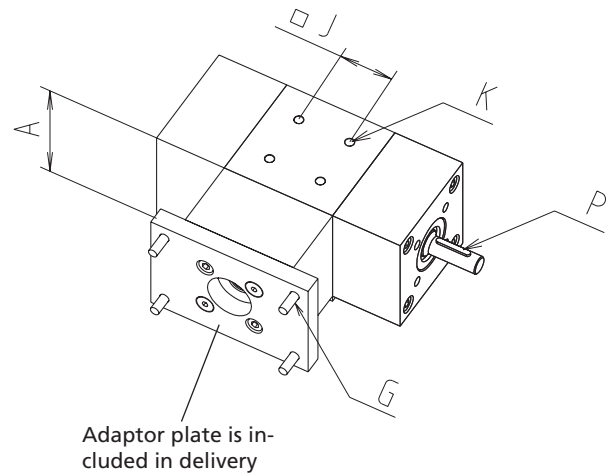
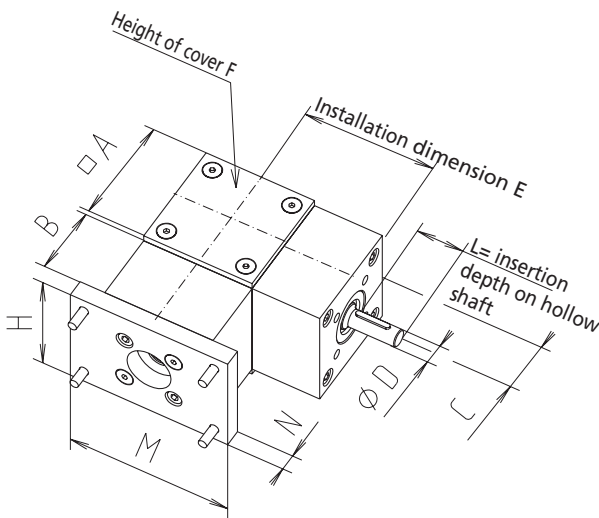
Angular drive

Order information:

- The fitting dimensions of the angular drive and the end elements of the linear units may not be the same.
- Accessories for connection to the angular drive available on request.

- Choice of helical or straight bevel gears
- Available with solid or hollow shaft
- Fastening option due to threads in combination cube
- Inh and output shaft with ball bearing
- Long service life* due to oil lubrication
- Max speed** 2500 rpm
- Operating temperature -18°C to +80°C

Material: Housing - AlMgSi, Black anodised



Dimensions	COPAS	20	30	40
A		50	64	74
B		36	40	40
C		25	32	37
D		8	10	12
e		61	72	77
F		4	4	4
G		M4-10 deep	M5-12 deep	M6-15 deep
H		47	64	74
J		20	30	30
K		M5-5.5 deep	M5-7.5 deep	M6-10 deep
L		26	28	30
M		70	93	106
N		6	10	10
P		2 x 2 x 20	3 x 3 x 20	4 x 4 x 20
Max. starting torque		3.6 Nm	6.4 Nm	10 Nm
Max. input torque**		1 Nm	3 Nm	4.5 Nm

* Service life ~10,000 h at 1000 rpm

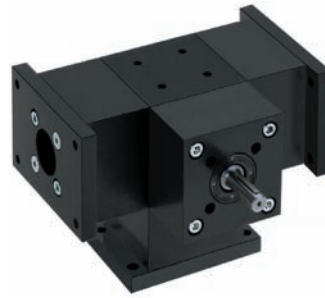
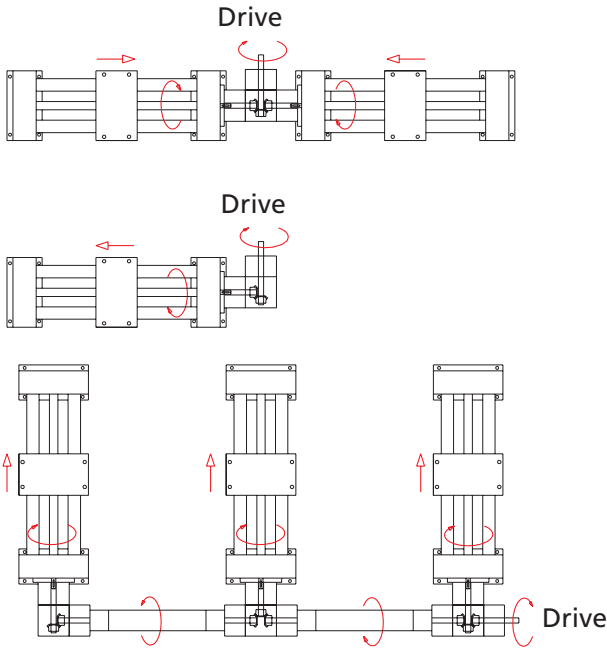
** In the case of gearing up
i=1:1.5 max. input speed 1600 rpm



COPAS - Drive

RK ROSE+KRIEGER

Application examples:



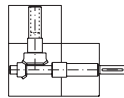
Version K



Version E

Version K and E and other shaft configurations available on request

Version L



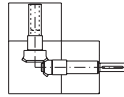
Code No.

9159 _ 2300 _

Version

Solid shaft, long/hollow shaft, short
input/output direction of rotation are identical

Version L



9159 _ 1300 _

Solid shaft, short/hollow shaft, short
input/output direction of rotation are not identical

Version L



9159 _ 3300 _

Hollow shaft, short/hollow shaft, short
input/output direction of rotation are not identical

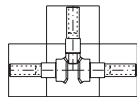
Version L



9159 _ 3400 _

Hollow shaft, long/hollow shaft, short
input/output direction of rotation are identical

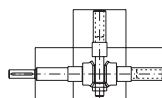
Version T



9159 _ 3330 _

Hollow shaft, short/hollow shaft, short
input/output direction of rotation are not identical

Version T



9159 _ 1340

Solid shaft, short/hollow shaft, short and long
input/output direction of rotation are identical

Can be retrofitted on COPAS units manufactured from 12/95 onwards

Size

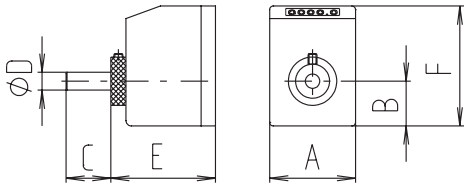
- 2 = 20
- 3 = 30
- 4 = 40

Bevel gear set

- A = straight toothed, $i = 1:1.5$
- B = helical toothed, $i = 1:1$
- C = straight toothed, $i = 1:1$
- D = straight toothed, $i = 1:1.5$
- E = straight toothed, $i = 1:1.5$

COPAS – Position determination

Positioning indicator



- Max. ambient temperature +80°C
- Figure height 6 mm
- Indication accuracy ± 0.1 mm
- If positioning indicators are fitted, the linear units are delivered exclusively with ball bearings

Material: housing polyamide 6 Orange RAL 2004, steel parts, corrosion protected

Scope of delivery: positioning indicator, clamping ring, shaft extension and fastenings

Note: "rising" and "falling" versions refer to the clockwise rotation of the drive shaft.



Installation position: horizontal



Installation position: vertical

[mm]

Type	Installation position	Code No.	Version	Code No.	Version*	A	B	C	D	E	F
20	Horizontal	91022	3 mm rising	91060	6 mm rising	33	16.5	26	8	39	45
20		91032	3 mm fall.	910144	6 mm fall.	33	16.5	26	8	39	45
20	Vertical	91042	3 mm rising	910145	6 mm rising	33	16.5	26	8	39	45
20		91052	3 mm fall.	910146	6 mm fall.	33	16.5	26	8	39	45
30	Horizontal	91007	4 mm rising	910147	8 mm rising	48	25	28	10	59	67
30		91017	4 mm fall.	910148	8 mm fall.	48	25	28	10	59	67
30	Vertical	91027	4 mm rising	910149	8 mm rising	48	25	28	10	59	67
30		91037	4 mm fall.	910150	8 mm fall.	48	25	28	10	59	67
40	Horizontal	91004	4 mm rising	91030	8 mm rising	48	25	38	12	59	67
40		91014	4 mm fall.	91039	8 mm fall.	48	25	38	12	59	67
40	Vertical	91024	4 mm rising	91040	8 mm rising	48	25	38	12	59	67
40		91034	4 mm fall.	91041	8 mm fall.	48	25	38	12	59	67

* Version with double lead e.g. for installation on righthand/lefthand thread screws



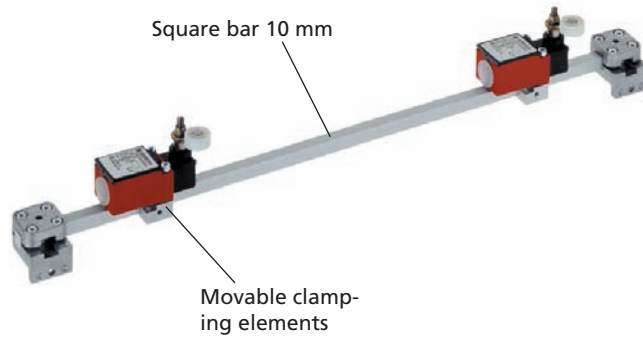
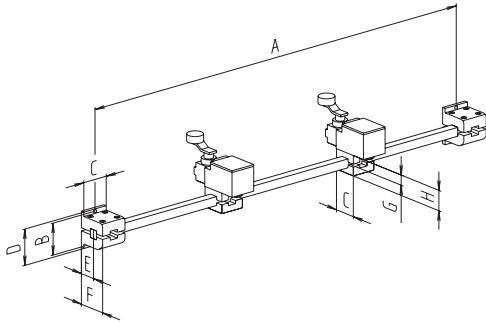
COPAS - Position determination

RK ROSE+KRIEGER

Bracket for mechanical limit switch

■ Switch axial adjustable

Material: Fixing elements Gk Al Si 12, square bar made of aluminium, clear anodised



Code No.	Type	Version	A min	B	C	D	E	F	G	H
92901_ _ _ _	all	2 x limit switches	93	32	31	41	21	36	11.5	23
929020	all	without switch	93	32	31	41	21	36	11.5	23

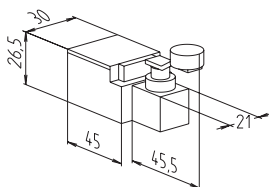
[mm]



Total length of linear unit

Mechanical limit switch

Material: Thermoplastic, fully insulated



Max. voltage	250 V AC
Max. switching current	6 A
Max. starting current	16 A
Operating cycles	Max. 6,000/h
Mechanical lifetime	1 x 10 ⁷ switching cycles
Axis lever adjustment	locking by 360°
Protection class	IP 65
Ambient temperature	-30°C to +80°C

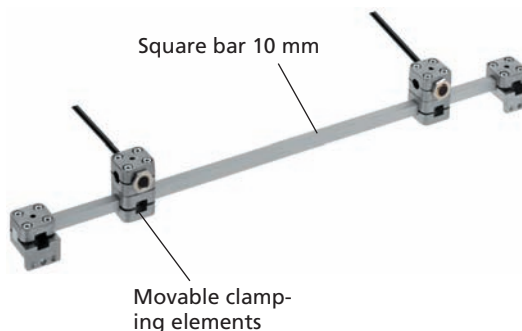
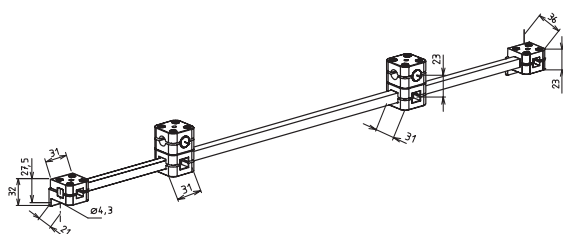
Code No.	Type	Switching function
91905	20/30/40	NC/NO
91907	Clamping element for mech. limit switch	

COPAS – Position determination

Bracket for inductive limit switch

- Switch can be moved and fixed axially

Material: Fixing elements Gk Al Si 12, square bar made of aluminium, clear anodised



[mm]

Code No.	Type	Version	A min	B	C	D	E	F	G	H
92911_ _ _ _	All	2 x NC	93	32	31	41	21	36	23	46
92912_ _ _ _	All	2 x NO	93	32	31	41	21	36	23	46
92914_ _ _ _	All	without switch	93	32	31	41	21	36	23	46

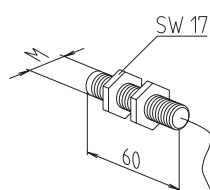
Inductive limit switch

- Function indicator (LED)
- Maintenance-free

Material: housing - brass, chrome-plated



Voltage	10-30 V DC
Max. switching current	200 mA
Max. starting current	2 A for approx. 2 ms
Operating frequency	700 Hz acc. to DIN EN 50010
Mechanical lifetime	independent of operating cycles
Operating distance	4 mm for steel
Protection class	IP 67
Ambient temperature	-25°C to +80°C



[mm]

Code No.	Type	Switching function	L	M	Clamping width
92805	All	Normally closed contact	37	M12 x 1	17
92815	All	Normally open contact	37	M12 x 1	17
92802	Clamping element for inductive limit switch				