

The new industry benchmark...



RK DuoLine

Degree of protection IP 40

Greater reliability in automation...

...thanks to RK DuoLine, the new generation of spindles and toothed belts



Width, length and height adjustment

Features:

- ✓ Manual or electric drive
- ✓ Occasional to multiple adjustments daily
- ✓ Low duty cycle
- ✓ Low speed
- ✓ Medium to high stability

RK DuoLine S spindle unit with trapezoidal screw drive



Move-Tec
continued on page 10

Place-Tec
continued on page 16

**Your application
takes
centre stage**

Control-Tec
continued on page 18

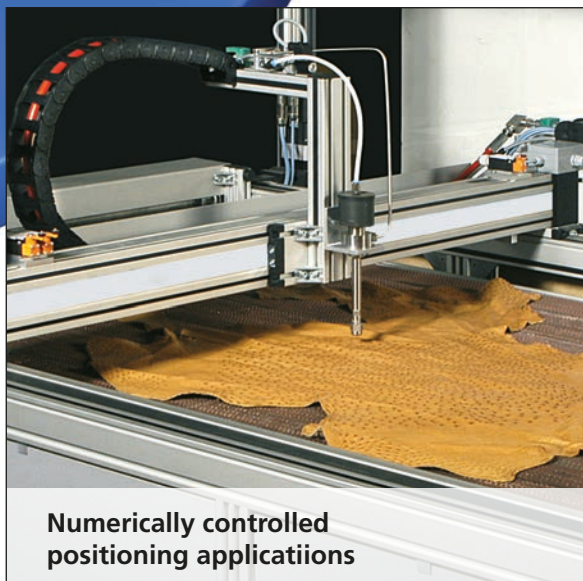


Loading and unloading,
palletising, pick & place

Features:

- ✓ High repeatability
- ✓ Short cycle times
- ✓ High cycle rates
- ✓ 3 shift operation
- ✓ High reliability

RK DuoLine Z timing-belt unit



Numerically controlled
positioning applications

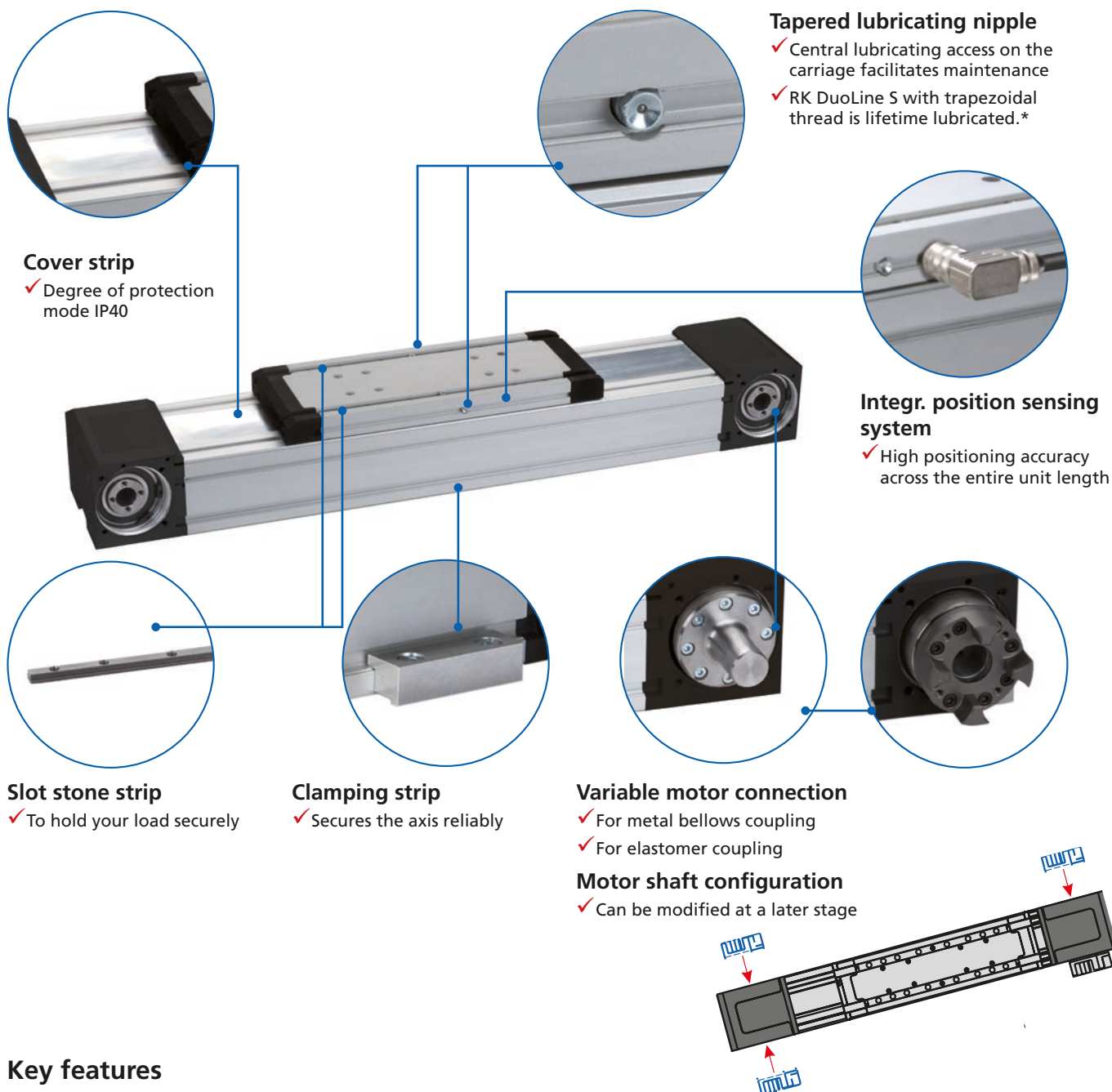
Features:

- ✓ High positioning accuracy
- ✓ Uniform movement sequences
- ✓ High drive stiffness
- ✓ 3 shift operation
- ✓ Extremely reliable

**RK DuoLine S spindle unit
with ball screw**



Key features / technical benefits



Key features

General

- High efficiency
- Low idle torque
- Max. usable travel speed regardless of length
- Central lubricating access on the carriage facilitates maintenance

RK DuoLine S Protect (spindle drive)

- Degree of protection IP40 provided by steel cover strip and seals
- Positioning accuracy ± 0.05 mm when using an integrated linear encoder Multiple anti-vibration spindle supports

RK DuoLine Z (toothed-belt drive)

- Degree of protection IP20
- Flexible positioning of motor thanks to pulley boxes with hollow shafts
- Repeat accuracy ± 0.05 mm

RK DuoLine Z Protect (toothed-belt drive)

- Degree of protection IP40 provided by steel cover strip and seals
- Flexible positioning of motor thanks to pulley boxes with hollow shafts
- Repeat accuracy ± 0.05 mm

* to around 30km running performance

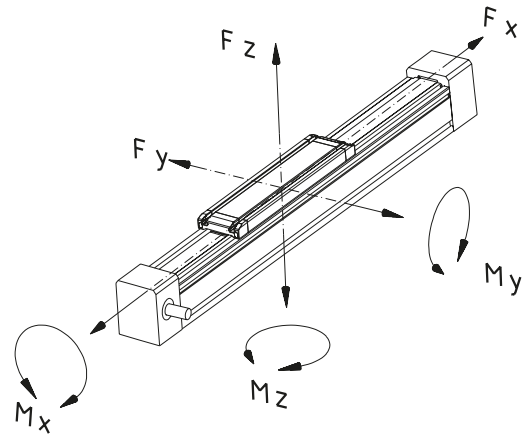
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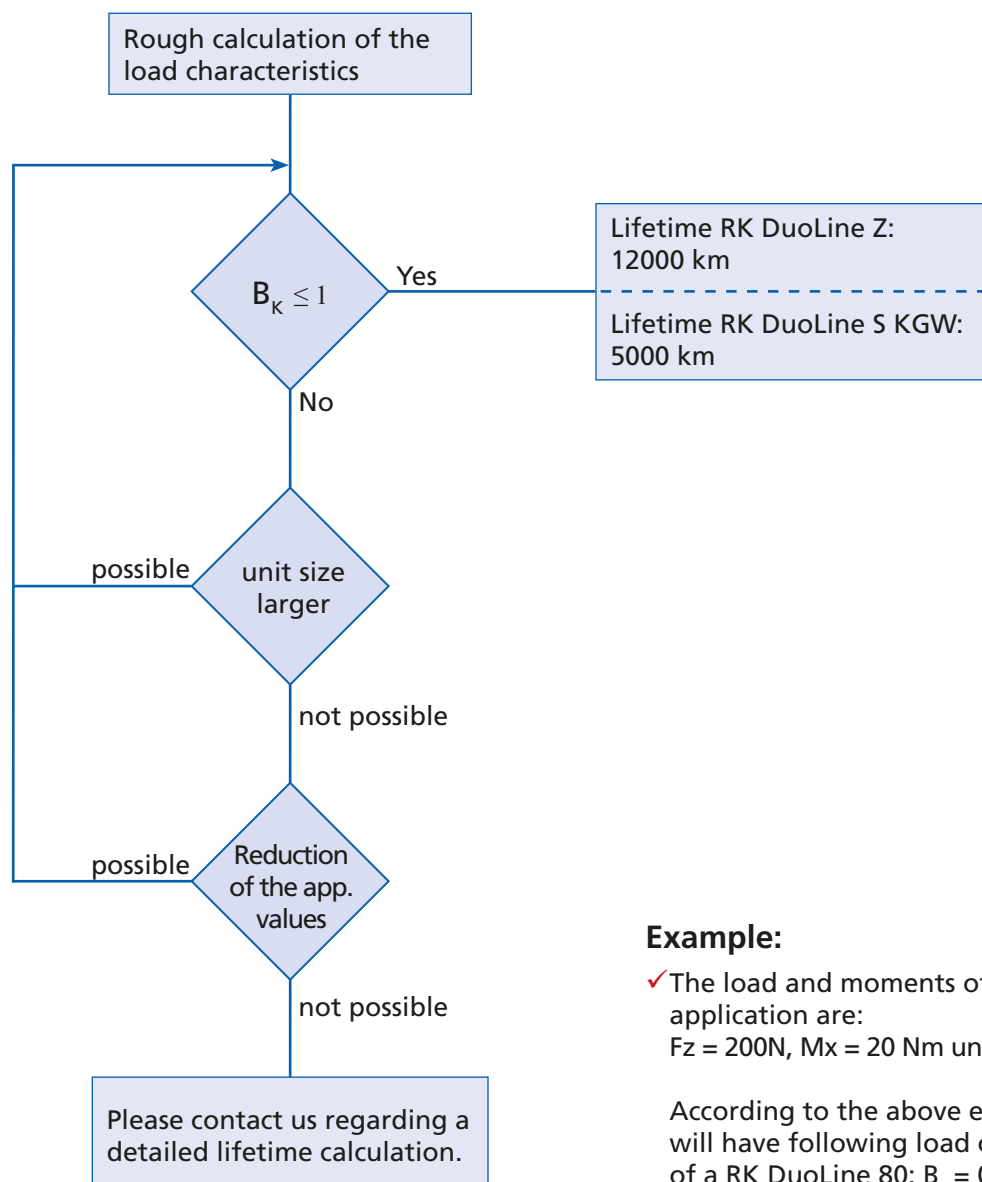
Calculation of the load characteristic to define the lifetime

- The lifetime of linear units are in accordance with the average loads and moments of an application. The load characteristic can approximately calculated by following equation with simultaneously appearing load and moments.

$$\text{Load characteristic} = \frac{\text{Application values (z.B. } F_y)}{\text{Catalog values (z.B. } F_{y_{\max}})}$$



$$\text{Load characteristic } B_k = \frac{F_y}{F_{y_{\max}}} + \frac{F_z}{F_{z_{\max}}} + \frac{M_x}{M_{x_{\max}}} + \frac{M_y}{M_{y_{\max}}} + \frac{M_z}{M_{z_{\max}}} \leq 1$$



Example:

- ✓ The load and moments of the application are:
 $F_z = 200\text{N}$, $M_x = 20\text{ Nm}$ und $M_z = 45\text{ Nm}$

According to the above equation you will have following load characteristic of a RK DuoLine 80: $B_k = 0.55$.

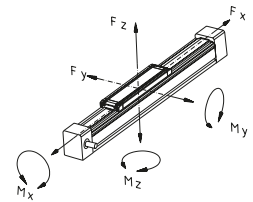
General information / operating conditions

	RK DuoLine Z 60	RK DuoLine Z 80	RK DuoLine Z 120	RK DuoLine Z 120 II	RK DuoLine Z 160
Guidance system	1 Ball rail system	1 Ball rail system	1 Ball rail system	2 Ball rail system	2 Ball rail system
Installation position	any position				
Max. driving torque	28 Nm	67 Nm	141 Nm	141 Nm	220 Nm
Max. speed	5 m/s	5 m/s	5 m/s	5 m/s	5 m/s
Max. acceleration	50 m/s ²	50 m/s ²	50 m/s ²	50 m/s ²	50 m/s ²
Repeat accuracy	± 0.05 mm	± 0.05 mm	± 0.05 mm	± 0.05 mm	± 0.05 mm
Positioning accuracy	with integrated linear encoder ± (0.025 + 0.01 x L) mm; L = travel in meters				
Max. no-load torque	2 Nm	2.2 Nm	2.3 Nm	2.3 Nm	2.5 Nm
Drive	GT Belts from neoprene, Pitch 5 mm, Width 20 mm	GT Belts from neoprene, Pitch 8 mm, Width 30 mm	GT Belts from neoprene, Pitch 8 mm, Width 50 mm	GT Belts from neoprene, Pitch 8 mm, Width 50 mm	GT Belts from neoprene, Pitch 8 mm, Width 75 mm
Active Ø pulley wheel	52.52 mm	66.21 mm	76.39 mm	76.39 mm	76.39 mm
Pulley wheel circumference	165 mm	208 mm	239.99 mm	239.99 mm	239.99 mm
Ambient temperature	0 to +60°C	0 to +60°C	0 to +60°C	0 to +60°C	0 to +60°C
Degree of protection	Basic IP 20 / Protect IP 40	Basic IP 20 / Protect IP 40	Basic IP 20 / Protect IP 40	Basic IP 20 / Protect IP 40	Basic IP 20 / Protect IP 40

Dynamic load data

Force [N]

Torque [Nm]



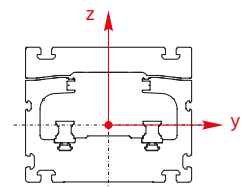
Toothed-belt drive						
Load data	Fx*	Fy	Fz	Mx	My	Mz
Standard guide carriage						
RK DuoLine Z 60	900	700	2500	48	160	140
RK DuoLine Z 80	2000	1000	4100	100	340	300
RK DuoLine Z 120	3600	1400	6400	125	550	530
RK DuoLine Z 120 II	3600	2000	6900	205	620	560
RK DuoLine Z 160	6000	5100	8900	500	840	810
Extended guide carriage						
RK DuoLine Z 60	900	700	2500	48	250	220
RK DuoLine Z 80	2000	1000	4100	100	590	520
RK DuoLine Z 120	3600	1400	6400	125	890	680
RK DuoLine Z 120 II	3600	2000	6900	205	940	790
RK DuoLine Z 160	6000	5100	8900	500	1200	1150

* Initial tension of the timing belt 0,8 x Fx

Geometric moment of inertia

[cm⁴]

	Iy	Iz
RK DuoLine Z 60	52.54 cm ⁴	67.41 cm ⁴
RK DuoLine Z 80	127.90 cm ⁴	172.80 cm ⁴
RK DuoLine Z 120	289.5 cm ⁴	627.8 cm ⁴
RK DuoLine Z 120 II	287.3 cm ⁴	597.9 cm ⁴
RK DuoLine 160	437.70 cm ⁴	1455.90 cm ⁴



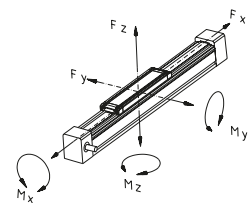
General information / operating conditions

	RK DuoLine S 60	RK DuoLine S 60	RK DuoLine S 80	RK DuoLine S 80
Guidance system	1 Ball rail system			
Installation position	any position			
Max. driving torque	2,2 Nm	3,4 Nm	18 Nm	17 Nm
Max. speed	0.02 m/s	0.283 / 0.467 / 0.747 m/s	0.02 / 0.04 m/s (regardless of travel)	0.24 / 0.94 / 2.4 m/s (regardless of travel)
Max. acceleration	3 m/s ²	20 m/s ²	3 m/s ²	20 m/s ²
Repeat accuracy	± 0.1 mm	± 0.04 mm	± 0.1 mm	± 0.04 mm
Positioning accuracy	-	-	-	with integrated linear encoder ± (0.025 + 0.01 x L) mm; L = travel in meters
Max. no-load torque			1.0 Nm	0.6 Nm
Drive	Trapezoidal thread Ø16, Pitch 4	Ball-and-screw Ø16, Pitch 5, 10, 16mm	Trapezoidal thread Ø20, Pitch 4 or 8 mm, on the right	Ball-and-screw Ø20, Pitch 5, 20 or 50 mm, on the right
Pitch accuracy	(± 0.1 / 300 mm)	T5 (± 0.023 / 300 mm)	(± 0.1 / 300 mm)	T5 (± 0.023 / 300 mm)
Duty cycle	S3 30% Basic 1h	S3 100%	S3 30% Basic 1h	S3 100%
Ambient temperature	0 to +60°C	0 to +60°C	0 to +60°C	0 to +60°C
Degree of protection	IP 40	IP 40	IP 40	IP 40

Dynamic load data

Force [N]

Torque [Nm]

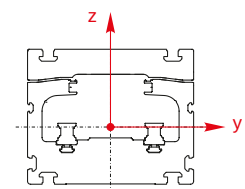


Spindle drive							
Load data	Spindle	Fx	Fy	Fz	Mx	My	Mz
Standard guide carriagew							
RK DuoLine S 60	16x4	1400	700	2500	48	160	140
	16x5	840					
	16x10	1300					
	16x16	1300					
RK DuoLine S 80	20x4 / 20x8	2500	1000	4100	100	380	350
	20x5	950					
	20x20	1420					
	20x50	2250					
Extended guide carriage							
RK DuoLine S 60	16x4	1400	700	2500	48	250	220
	16x5	840					
	16x10	1300					
	16x16	1300					
RK DuoLine S 80	20x4 / 20x8	2500	1000	4100	100	620	550
	20x5	950					
	20x20	1420					
	20x50	2250					

Geometric moment of inertia

[cm⁴]

	Iy	Iz
RK DuoLine S 60	48.97 cm ⁴	61.84 cm ⁴
RK DuoLine S 80	116.76 cm ⁴	165.75 cm ⁴



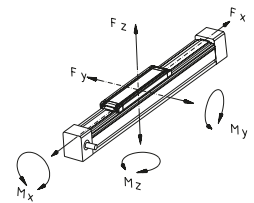
General information / operating conditions

	RK DuoLine S 120	RK DuoLine S 160
Guidance system	2 Ball rail systems	2 Ball rail systems
Installation position	any position	
Max. driving torque	32 Nm	52 Nm
Max. speed	0.24 / 1.2 / 2.4 m/s (regardless of travel)	2 m/s (regardless of travel)
Max. acceleration	20 m/s ²	20 m/s ²
Repeat accuracy	± 0.04 mm	± 0.04 mm
Positioning accuracy	with integrated linear encoder ± (0.025 + 0.01 x L) mm; L = travel in meters	
Max. no-load torque	0.7 Nm	0.9 Nm
Drive	Ball-and-screw	
	Ø25, Pitch 5, 25 or 50 mm	Ø32, Pitch 40 mm, on the right
Pitch accuracy	T5 (± 0.023 / 300 mm)	T5 (± 0.023 / 300 mm)
Duty cycle	S3 100%	S3 100%
Ambient temperature	0 to +60°C	0 to +60°C
Degree of protection	IP 40	IP 40

Dynamic load data

Force [N]

Torque [Nm]

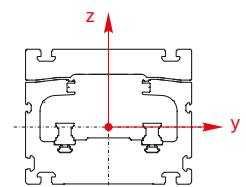


Spindle drive							
Load data	Spindle	Fx	Fy	Fz	Mx	My	Mz
Standard guide carriagew							
RK DuoLine S 120	25x5	1240	2000	6900	205	620	560
	25x25	2700					
	25x50	3400					
RK DuoLine S 160	32x40	8000	5100	8900	500	840	810
Extended guide carriage							
RK DuoLine S 120	25x5	1240	2000	6900	205	940	790
	25x25	2700					
	25x50	3400					
RK DuoLine S 160	32x40	8000	5100	8900	500	1200	1150

Geometric moment of inertia

[cm⁴]

	I _y	I _z
RK DuoLine S 120	287.3 cm ⁴	597.9 cm ⁴
RK DuoLine S 160	437.70 cm ⁴	1455.90 cm ⁴



Dimensions / ordering data

Order information:

- Second free concurrent carriage on request
- Also available without screw drive as a torque support
- Lubrication over carriages on request

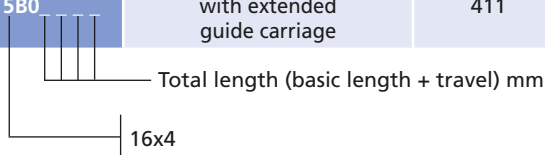
Spindle unit RK DuoLine S with trapezoidal screw Move-Tec



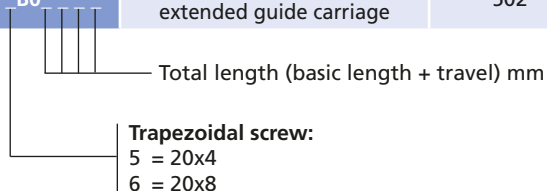
Key feature:

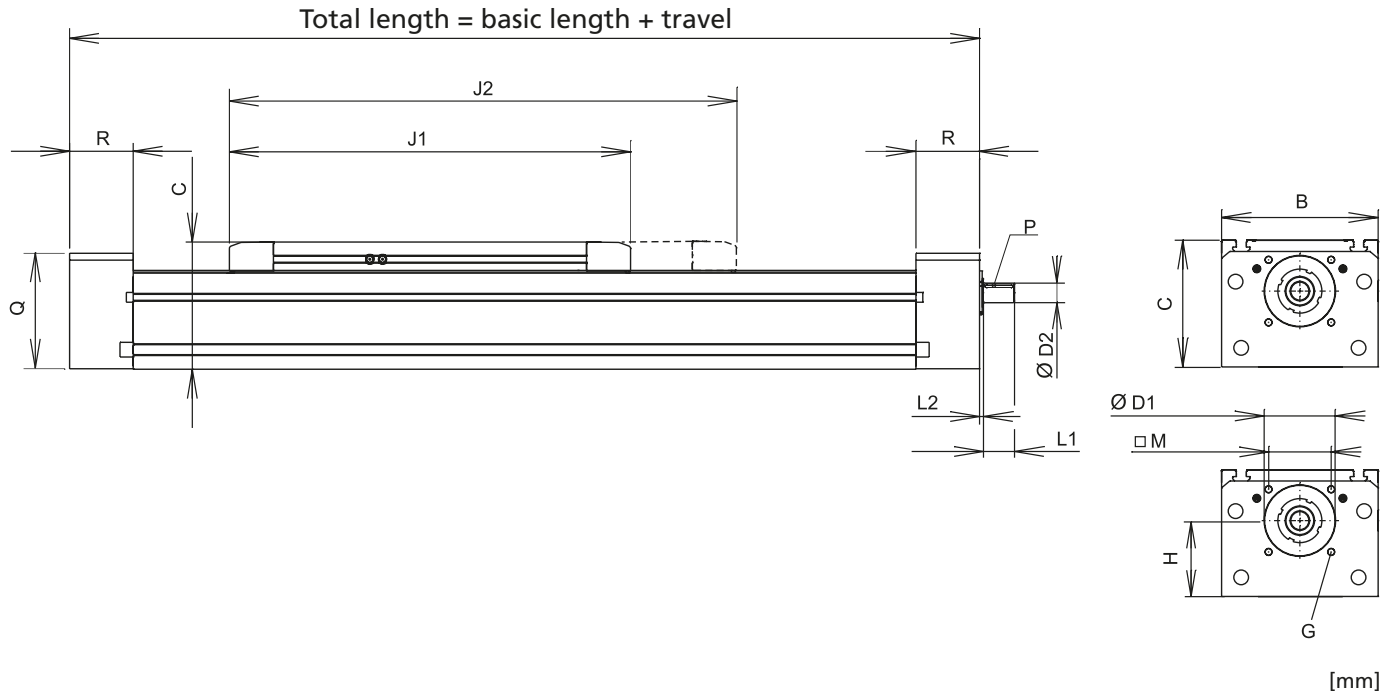
- ✓ Lubricated for life up to 30 km running performance

Code No.	Type	Basic length	B	C	D1	D2
TD13A5A1A15B0_ _ _ _	RK DuoLine S 60 Protect	321	60	80	Ø32 ^{H7} 2.3 deep	Ø10 _{k7}
TD13A5A1B15B0	RK DuoLine S 60 Protect with extended guide carriage	411	60	80	Ø32 ^{H7} 2.3 deep	Ø10 _{k7}



Code No.	Type	Basic length	B	C	D1	D2
TD13A2A1A1_ B0_ _ _ _	RK DuoLine S 80 Protect	370	80	100	Ø42 ^{H7} 2.3 deep	Ø14 _{k7}
TD13A2A1B1_ B0	RK DuoLine S 80 Protect with extended guide carriage	502	80	100	Ø42 ^{H7} 2.3 deep	Ø14 _{k7}





G	H	J1	J2	L1	L2	M	P	Q	R	Max. travel	Mass [kg]	
											Basic length	per 100 mm travel
M5-10 deep	47.7	245	-	17.2	2.8	33x24	3x3x12	72.2	38	2664	3.44	0.60
M5-10 deep	47.7	-	335	17.2	2.8	33x24	3x3x12	72.2	38	2574	4.26	0.60

[mm]

G	H	J1	J2	L1	L2	M	P	Q	R	Max. travel	Mass [kg]	
											Basic length	per 100 mm travel
M6-18 deep	57.5	278	-	30	3.8	□46±0.2	5x5x25	89	46	2890	6.74	0.96
M6-18 deep	57.5	-	410	30	3.8	□46±0.2	5x5x25	89	46	2758	8.01	0.96

Dimensions / ordering data

Order information:

- Lubrication over carriages on request
- Extended carriages on request

Spindle unit RK DuoLine S with trapezoidal screw Move-Tec

Version

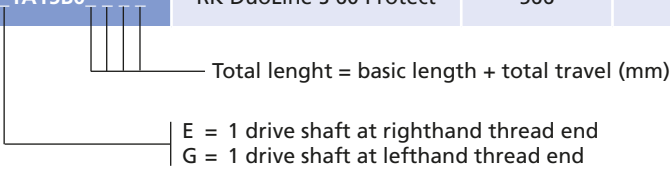
- Right and lefthand thread
RK DuoLine S 60 16x4
RK DuoLine S 80 20x4



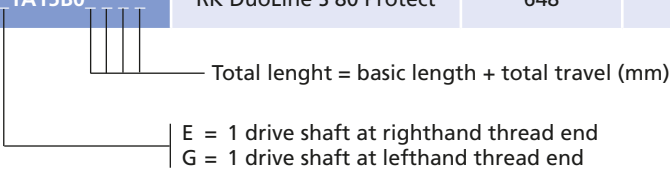
Key feature:

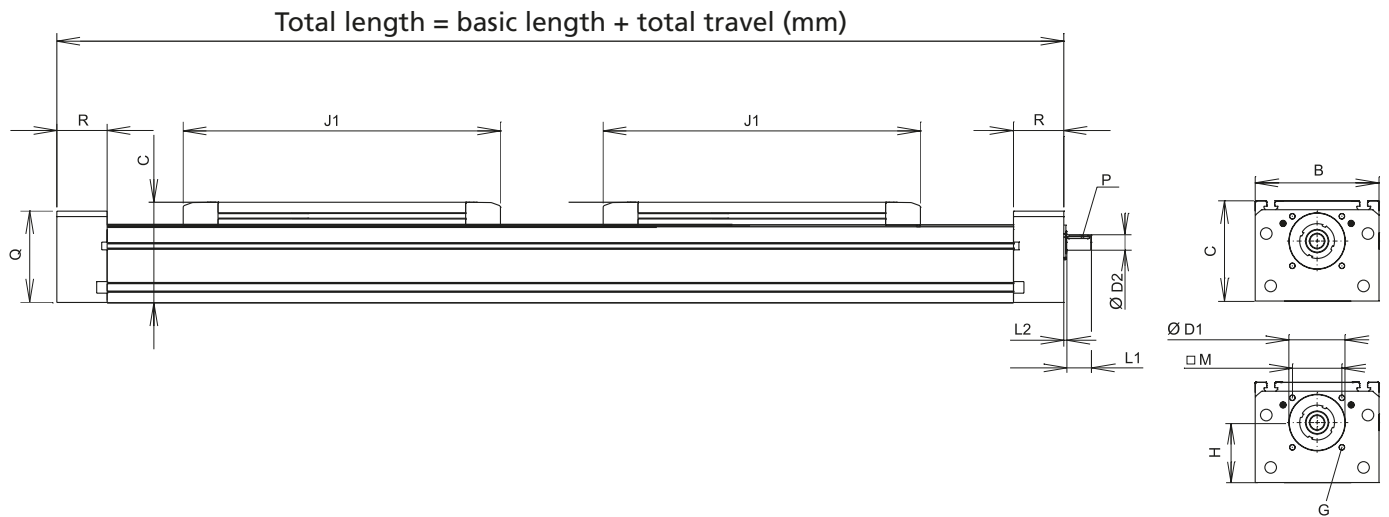
- ✓ Lubricated for life up to 30 km running performance

Code No.	Type	Basic length	B	C	D1	D2
TD13A5_1A15B0	RK DuoLine S 60 Protect	566	60	80	Ø32 ^{H7} 2.3 deep	Ø10 _{k7}



Code No.	Type	Basic length	B	C	D1	D2
TD13A2_1A15B0	RK DuoLine S 80 Protect	648	80	100	Ø42 ^{H7} 2.3 deep	Ø14 _{k7}





[mm]

G	H	J1	L1	L2	M	P	Q	R	Max. travel	Mass [kg]	
										Basic length	per 100 mm travel
M5-10 deep	47.7	245	17,2	2,8	33x24	3x3x12	72.2	38	2476	5.97	0.60

[mm]

G	H	J1	L1	L2	M	P	Q	R	Max. travel	Mass [kg]	
										Basic length	per 100 mm travel
M6-18 deep	57.5	278	30	3.8	□46±0.2	5x5x25	89	46	2890	11.7	0.96

RK DuoLine R 60/80/120 – Versions

Order information:

- Longer travel lengths on request
- Integrated linear encoder as Option

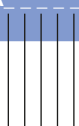
Version

■ Guide

Ideal as additional / secondary support for the RK DuoLine with toothed belt or spindle.

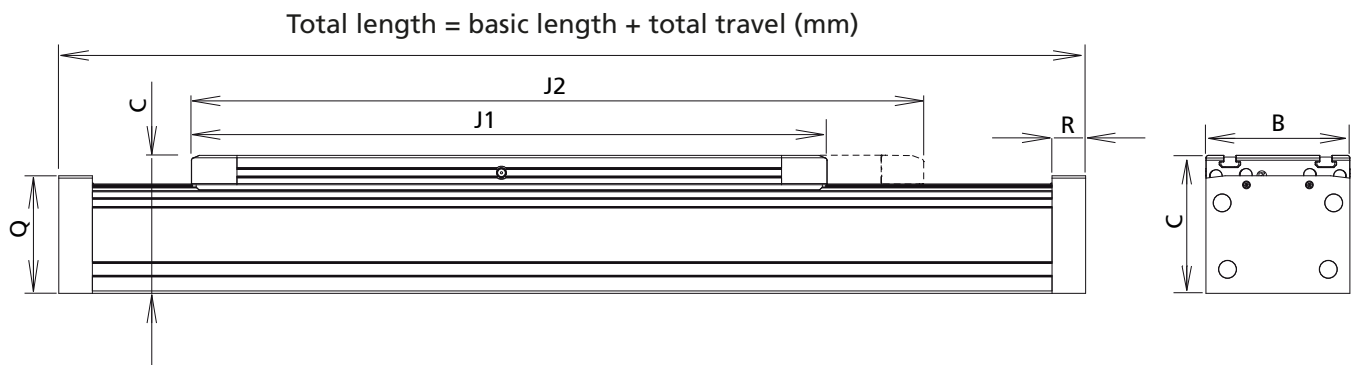


Code No.	Type	Basic length	B	C
TD14A5T1A11A0 _ _ _ _	RK DuoLine R 60 Protect	295	60	80
TD14A5T1B11A0 _ _ _ _	RK DuoLine R 60 Protect with extended guide carriage	385		
TD14A2T1A11A0 _ _ _ _	RK DuoLine R 80 Protect	352	80	100
TD14A2T1B11A0 _ _ _ _	RK DuoLine R 80 Protect with extended guide carriage	484		
TD14A3T1A11A _ _ _ _	RK DuoLine R 120 Protect one ball rail guide	472	120	115
TD14A3T1B11A _ _ _ _	RK DuoLine R 120 Protect one ball rail guide with extended guide carriage	616		



Total length = basic length + total travel (mm)

For Place-Tec and Control-Tec



[mm]

J1	J2	Q	R	max. travel	Mass [kg]	
					Basic length	per 100 mm travel
245	–	70	22	3587	3.73	0.54
–	335			3497	4.46	0.54
278	–	97	22	7692	5.22	0.83
–	410			7560	6.89	0.83
386	–	98	28	7584	9.76	1.19
–	530			7440	12.16	1.19

Dimensions / ordering data

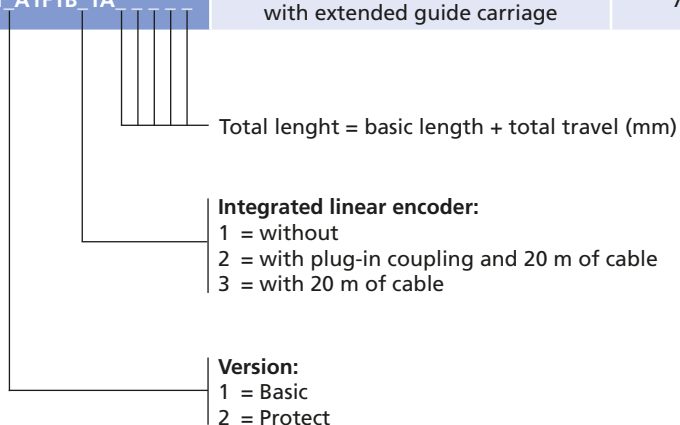
Order information:

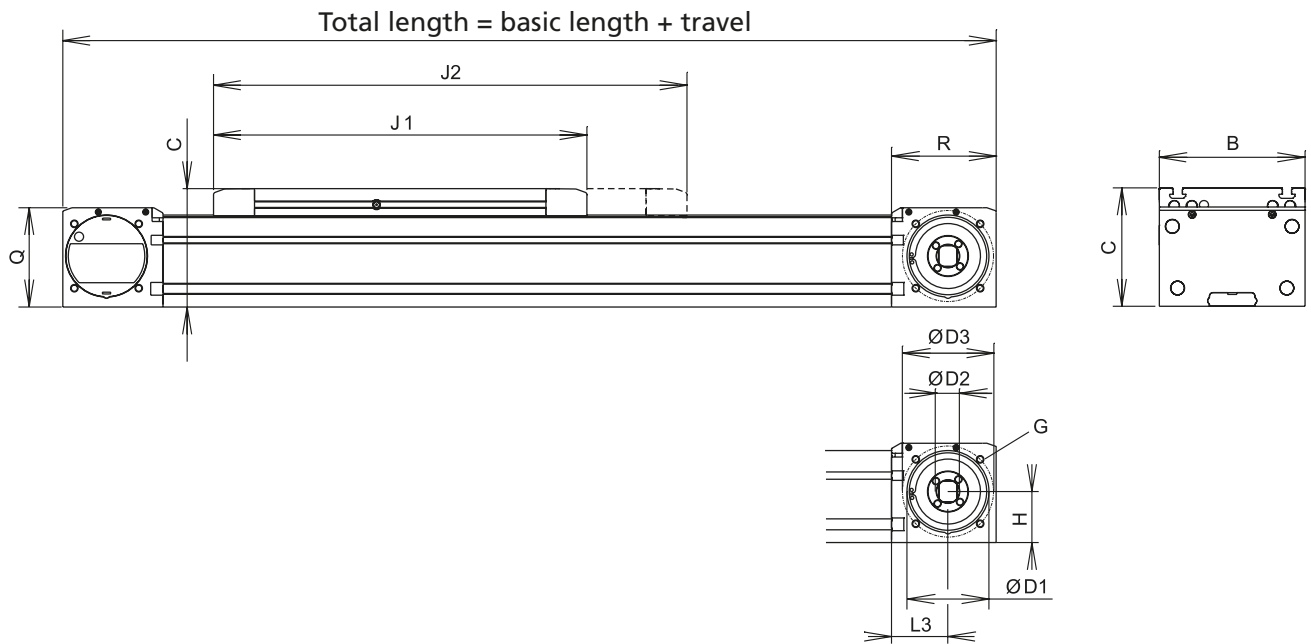
- Longer travel lengths on request
- Also available without screw drive as a torque support

Timing-belt unit RK DuoLine Z Place-Tec



Code No.	Type	Basic length	B	C	D1	D2
TD1_A5F1A11A0_	RK DuoLine Z 60	405	60	80	62 ^{H7} 5 deep	15 ^{H6}
TD1_A5F1B11A0_	RK DuoLine Z 60 one ball rail guide with extended guide carriage	495				
TD1_A2F1A_1A_	RK DuoLine Z 80	468	80	100	75 ^{H7} 7 deep	16 ^{H6}
TD1_A2F1B_1A_	RK DuoLine Z 80 with extended guide carriage	600				
TD1_A3F1A_1A_	RK DuoLine Z 120 one ball rail guide	606	120	115	90 ^{H7} 3,5 deep	20 ^{H6}
TD1_A3F1B_1A_	RK DuoLine Z 120 one ball rail guide with extended guide carriage	750				
TD1_A4F1A_1A_	RK DuoLine Z 120 two ball rail guides	606				
TD1_A4F1B_1A_	RK DuoLine Z 120 two ball rail guides with extended guide carriage	750				
TD1_A1F1A_1A_	RK DuoLine Z 160	630	160	130	90 ^{H7} 3,5 deep	25 ^{H6}
TD1_A1F1B_1A_	RK DuoLine Z 160 with extended guide carriage	780				





[mm]

D3	G	H	J1	J2	L3	Q	R	max. travel	Mass [kg]	
									Basic length	per 100 mm travel
72,1±0.2	M6-12 deep	33.8	245	–	44	70	80	5753	4.65	0.54
			–	335				5665	5.38	0.54
90.5±0.2	M8-12 deep	40.1	278	–	52	85	95	7722	7.84	0.83
			–	410				7590	9.51	0.83
100±0.2	M8-16 deep	46.8	386	–	62	98	110	7614	16.33	1.19
			–	530				7470	18.72	1.19
			386	–				5614	16.33	1.19
			–	530				5470	18.72	1.19
100±0.2	M8-28 deep	56	410	–	62	109	110	9010	25.76	1.80
			–	560				8860	28.16	1.80

Dimensions / ordering data

Order information:

- Second free concurrent carriage on request
- Also available without screw drive as a torque support

Spindle unit RK DuoLine S with ball screw Control-Tec



Code No.	Type	Basic length			B	C	D1	D2
		Total length of up to 812 mm	Total length of 813-1899 mm	Total length of 1900 mm				
TD13A5A1A1_A0_ _ _ _	RK DuoLine S 60 Protect	321	391	471	60	80	Ø32 ^{H7} 2.3 deep	Ø10 _{k7}
TD13A5A1B1_A0	RK DuoLine S 60 Protect with extended guide carriage	411	481	561				

Total length = basic length + total travel (mm)

Ball screw:

- 1 = 16x5
- 2 = 16x10
- 3 = 16x16

Code No.	Type	Basic length			B	C	D1	D2
		Total length of up to 1171 mm	Total length of 1172-3051 mm	Total length of 3052 mm				
TD13A2A1A_A0_ _ _ _	RK DuoLine S 80 Protect	370	415	495	80	100	Ø42 ^{H7} 2.3 deep	Ø14 _{k7}
TD13A2A1B_A0	RK DuoLine S 80 Protect with extended guide carriage	502	547	627	80	100	Ø42 ^{H7} 2.3 deep	Ø14 _{k7}

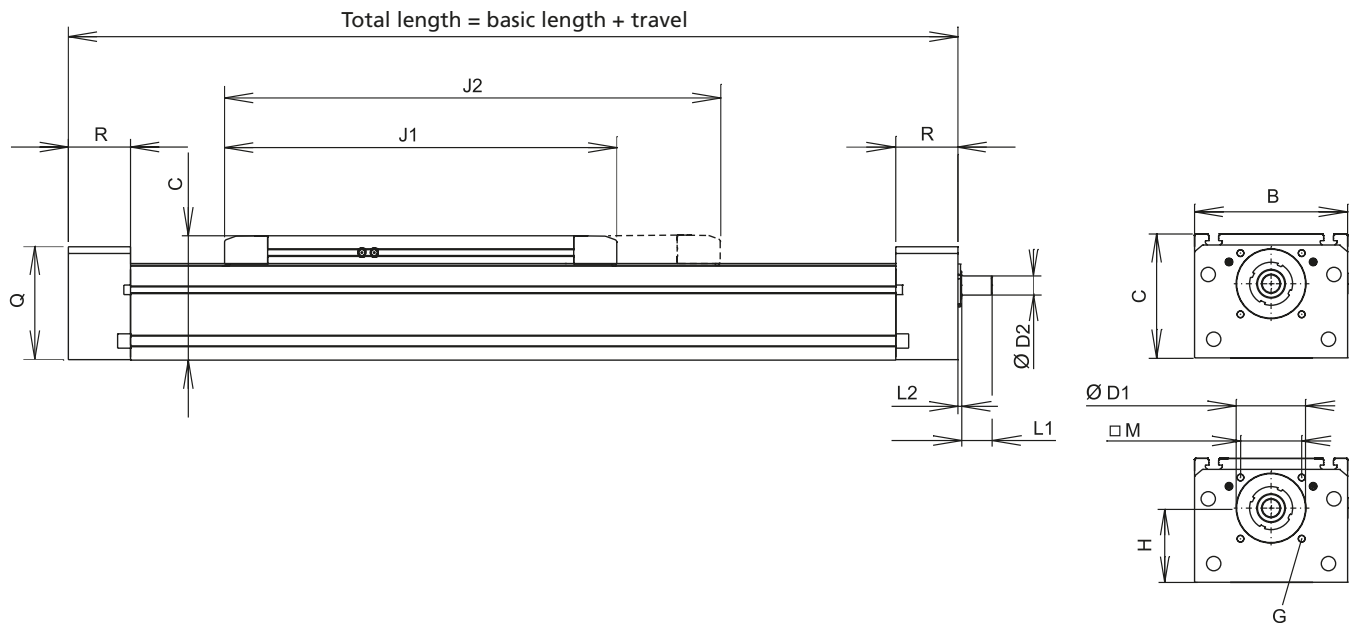
Total length = basic length + total travel (mm)

Integrated linear encoder:

- 1 = without
- 2 = with plug-in coupling and 20 m of cable
- 3 = with 20 m of cable

Ball screw:

- 3 = 20x5
- 1 = 20x20
- 2 = 20x50



[mm]

G	H	J1	J2	L1	L2	M	Q	R	max. travel	Mass [kg]	
										Basic length	per 100 mm travel
M5-10 deep	47.7	245	-	17.2	2.8	33x24	72.2	38	2664	3.44	0.60
		-	335						2574	4.26	0.60

[mm]

G	H	J1	J2	L1	L2	M	Q	R	max. travel	Masse [kg]	
										Basic length	per 100 mm travel
M6-18 deep	57.5	278	-	30	3.8	□46±0.2	89	46	4440	6.74	0.96
M6-18 deep	57.5	-	410	30	3.8	□46±0.2	89	46	4368	8.01	0.96

Dimensions / ordering data

Order information:

- Second free concurrent carriage on request
- Also available without screw drive as a torque support

Spindle unit RK DuoLine S with ball screw

Control-Tec



Code No.	Type	Basic length		B	C	D1	D2
		Total length of up to 3042 mm	Total length of 3043 mm				
TD13A4A1A1_A0_---	RK DuoLine S 120 Protect	498	614	120	115	Ø55 ^{H7} 2.3 deep	Ø16 _{K6}
TD13A4A1B_A0	RK DuoLine S 120 Protect with extended guide carriage	642	758				

Total length = basic length + total travel (mm)

Integrated linear encoder:

- 1 = without
- 2 = with plug-in coupling and 20 m of cable
- 3 = with 20 m of cable

Ball screw:

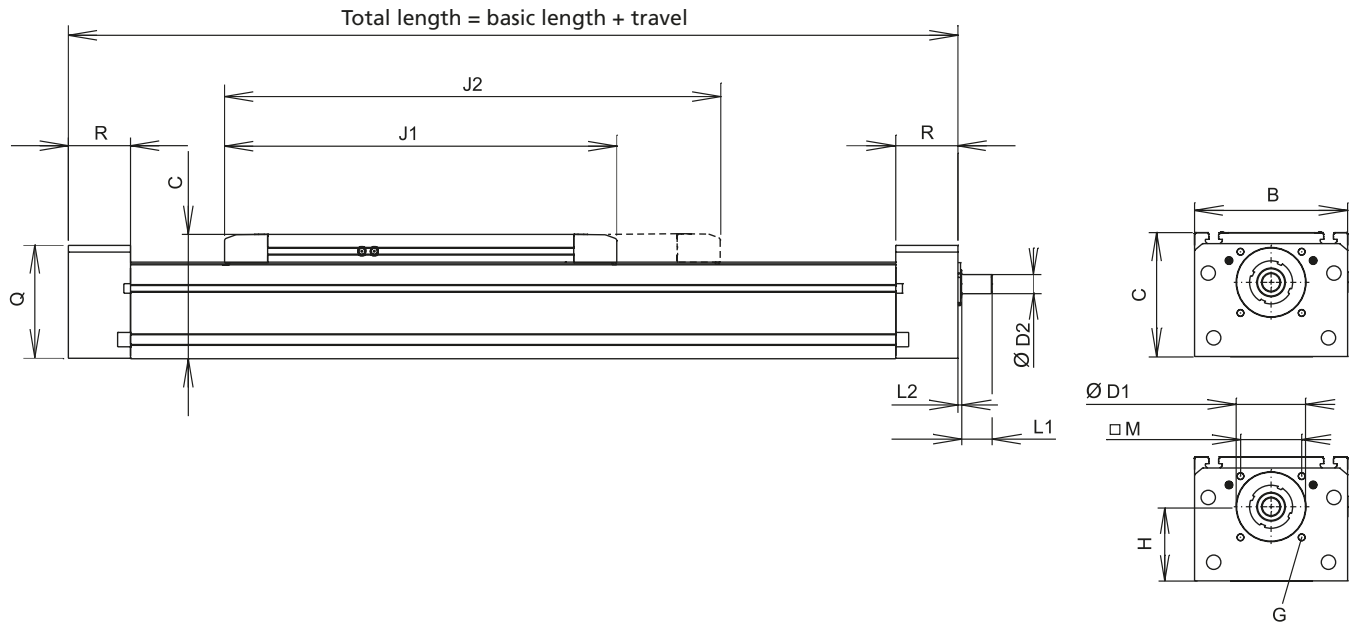
- 1 = 25x5
- 2 = 25x25
- 3 = 25x50

Code No.	Type	Basic length			B	C	D1	D2
		Total length of up to 1350 mm	Total length of 1351-3350 mm	Total length of 3351 mm				
TD13A1A1A12A0_---	RK DuoLine S 160 Protect	540	602	702	160	130	Ø75 ^{H7} 2.3 deep	Ø20 _{K8}
TD13A1A1B_2A0	RK DuoLine S 160 Protect with extended guide carriage	690	752	852	160	130	Ø75 ^{H7} 2.3 deep	Ø20 _{K8}

Total length = basic length + total travel (mm)

Integrated linear encoder:

- 1 = without
- 2 = with plug-in coupling and 20 m of cable
- 3 = with 20 m of cable



[mm]

G	H	J1	J2	L1	L2	M	Q	R	max. travel	Mass [kg]	
										Basic length	per 100 mm travel
M6-18 deep	72.7	386	-	30	2,5	□40±0.2	104	55	4591	14.57	1,49
		-	530						4447	16.74	1,49

[mm]

G	H	J1	J2	L1	L2	M	Q	R	max. travel	Mass [kg]	
										Basic length	per 100 mm travel
M8-22 deep	78	410	-	32	3,7	□64±0.2	118	65	4300	23.26	2,21
M8-22 deep	78	-	560	32	3,7	□64±0.2	118	65	4150	26.59	2,21

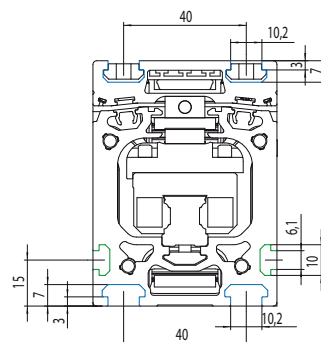
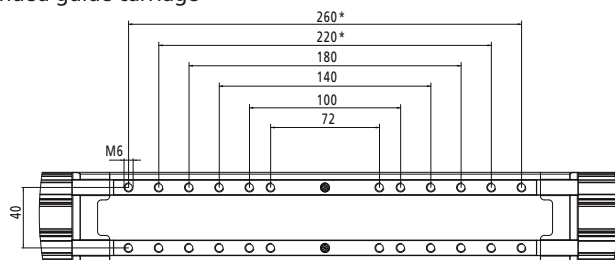
Fixation of payload

■ Two slot stone strips have been inserted in the guide carriage on which fittings can be securely attached in a variety of ways

■ Profile slots in the guide carriage and guide profiles facilitate fixation

RK DuoLine R/S/Z 60

*only with version with extended guide carriage

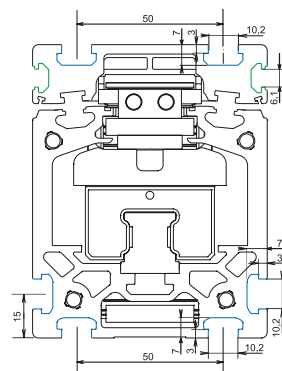
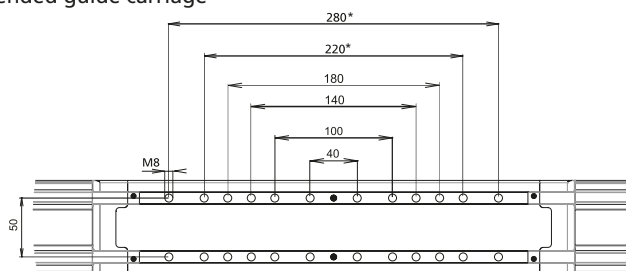


— 20 slot geometry

— 30 slot geometry

RK DuoLine R/S/Z 80

*only with version with extended guide carriage

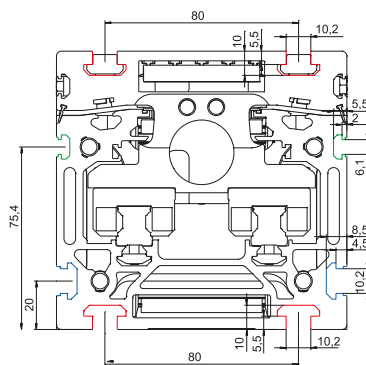
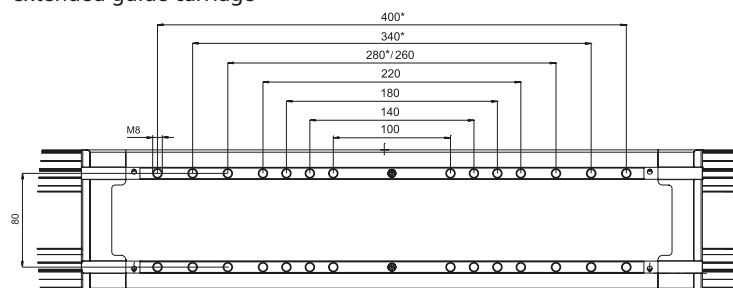


— 20 slot geometry

— 30 slot geometry

RK DuoLine R/S/Z 120

*only with version with extended guide carriage



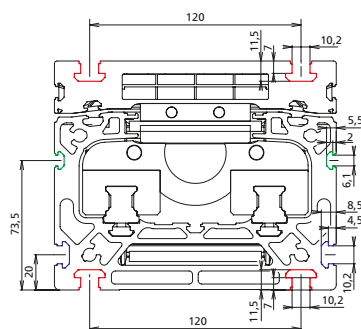
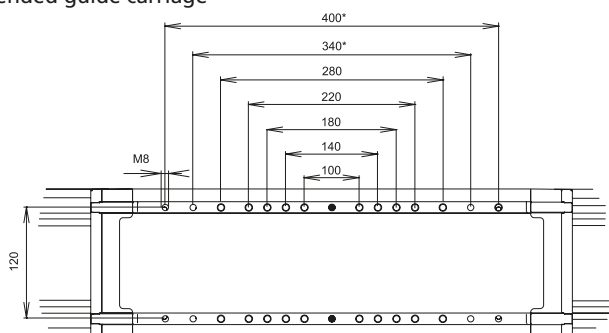
— 20 slot geometry

— 30 slot geometry

— 40 slot geometry

RK DuoLine S/Z 160

*only with version with extended guide carriage



— 20 slot geometry

— 30 slot geometry

— 40 slot geometry

Clamping strips

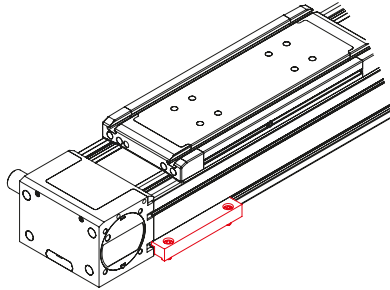
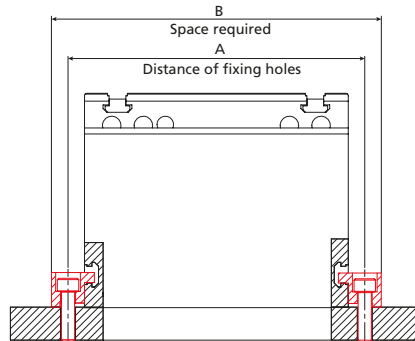
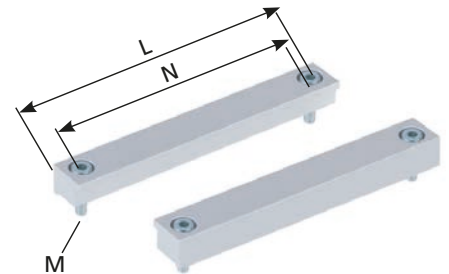


Fig.1: Ground assembly

- Clamping strips facilitate fixation of the linear unit to the chassis or two units to a crossing table



Material:
Natural anodised aluminium, galvanised fixation material.
Scope of delivery:
2 clamping strips with fixation material



[mm]

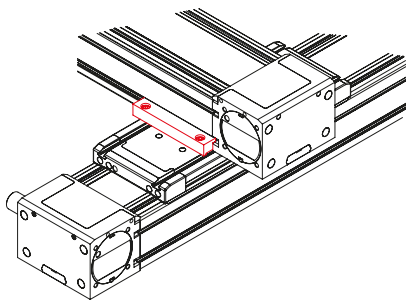


Fig.2: Crossing units

Code No.	Type	Fig..	A	B	L	M	N
91818	RK DuoLine 60 ground assembly	1	72	91	57	M6	40
	RK DuoLine 60 crossing to 60	2					
91806	RK DuoLine 80 ground assembly	1	100	122	76	M8	50
	RK DuoLine 80 crossing to 80	2					
91812	RK DuoLine 120 ground assembly	1	140	160	116	M8	80
	RK DuoLine 120 crossing to 120	2					
	RK DuoLine 160 crossing to 120	2					
91802	RK DuoLine 160 ground assembly	1	180	200	156	M8	120
	RK DuoLine 160 crossing to 160	2					
	RK DuoLine 120 crossing to 160	2					

Order instruction slot stones:

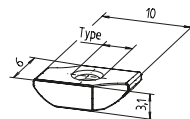
- Purchase only in lot sizes and a multiple of that, see product table below

Slot stones

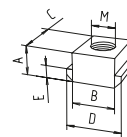
- Slot stones can be inserted and positioned at the guide profile and guide carriage

Material: galvanised steel

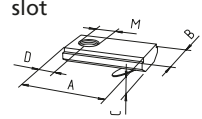
Slot stone -B-
can be swivelled into the slot



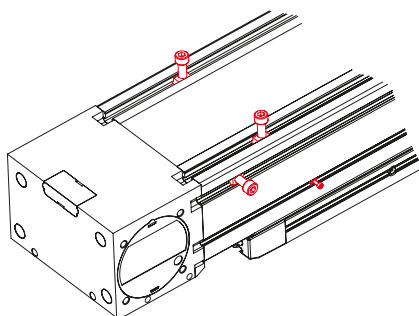
Slot stone -N-
can be slid into the slot



Slot stone -K-
can be swivelled into the slot



[mm]



View of DuoLine from below

Code No.	Type	lot sizes	Slot geometry	A	B	C	D	E	M	F [N]
Slot stone -B-										
E00017CEE	M3	10, 20, 30... pcs	20							
E00058CEE	M4	10, 20, 30... pcs	20							
Slot stone -N-										
40062021	M8	10, 20, 30... pcs	30	5	10	13	13	3	M8	4000
4026206	M8	10, 20, 30... pcs	40	8	10	13	15	4	M8	9000
Slot stone -K-										
4006211	M5	10, 20, 30... pcs	30	21	12	4	7	-	M5	5000
4006212	M6	10, 20, 30... pcs	30	21	12	4	7	-	M6	5000
4016212	M6	10, 20, 30... pcs	40	21	14	4	7	-	M6	5000

Centering Sets for RK DuoLine

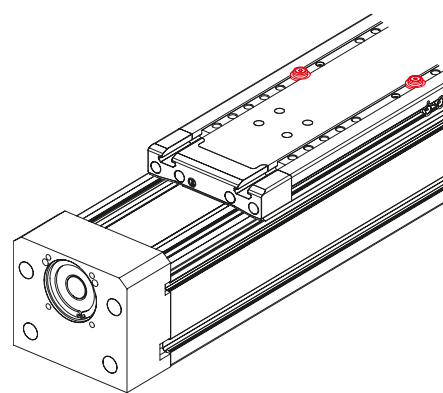


Fig. 1: Slide centering

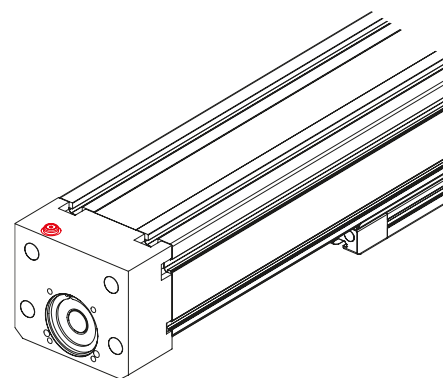
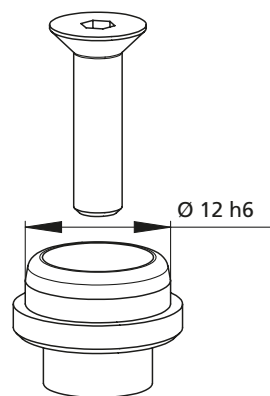


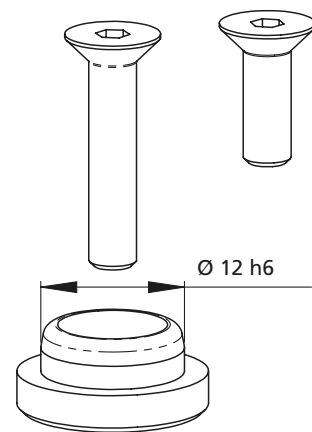
Fig. 2: Base centering

- The following positions could be defined exactly during the design process per set
 - Load capacity
 - Linear unit
- Reproducible position of the load capacity
- Reduced assembly/disassembly time of the load capacity or the linear unit
- Accuracy of the centering bolts h6
- To use for all RK DuoLine linear units in Basic and Protect design from October 2015 production date

Scope of delivery per set:
2 centering bolts and fixing material

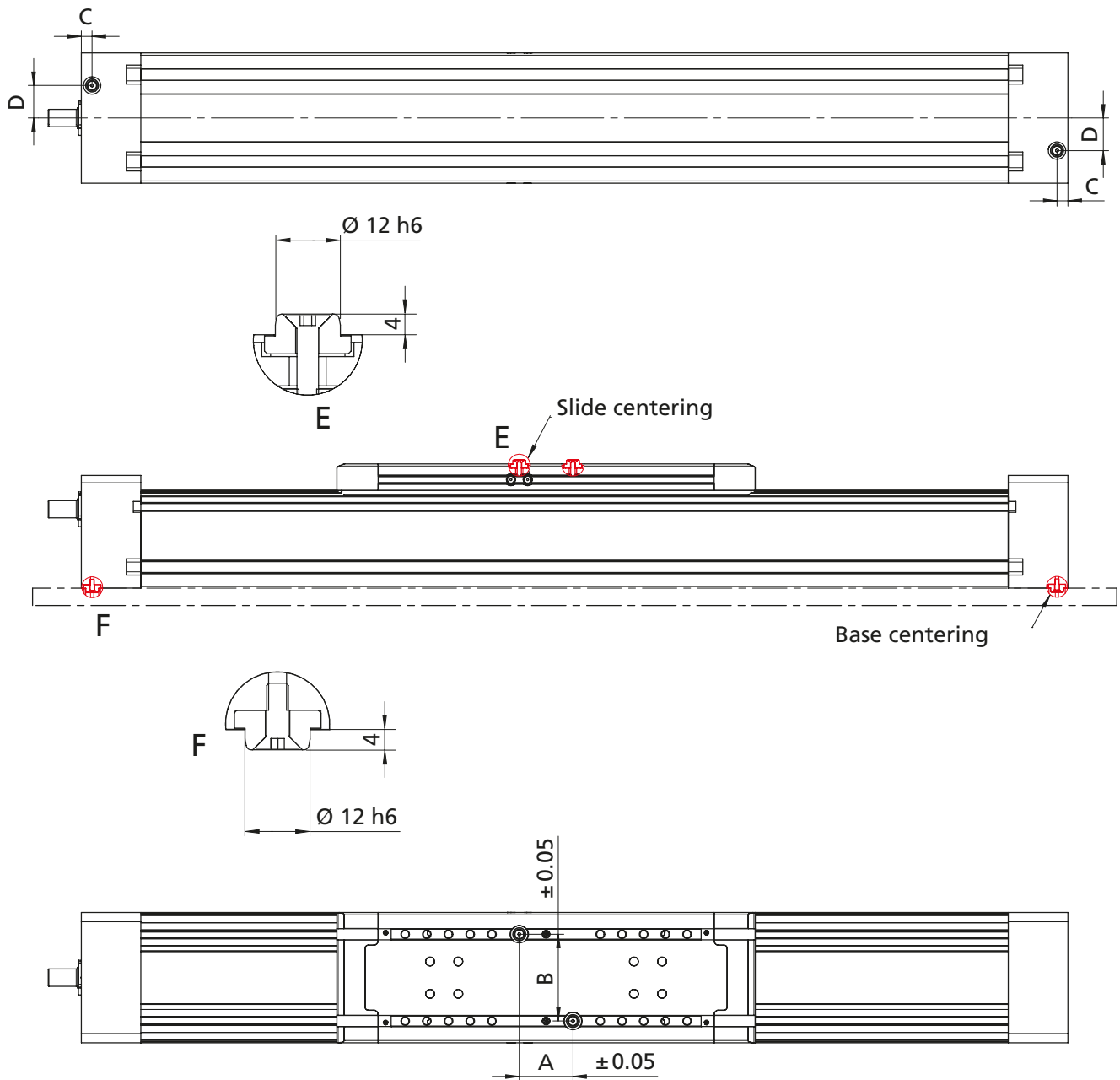


Size -A-



Size -B-

Code No.	Type	Use for
91898	Centering Set Size -A-	Slide centering RK DuoLine S + Z 60/80
91899	Centering Set Size -B-	Slide centering RK DuoLine S + Z 120/160 Base centering RK DuoLine S + Z 60/80/120/160



[mm]

Type	A	B	C	D
RK DuoLine S + Z 60	42	40	10	0
RK DuoLine S + Z 60 with extended guide carriage	48	40	10	0
RK DuoLine S + Z 80	*	*	10	10
RK DuoLine S + Z 80 with extended guide carriage	70	50	10	10
RK DuoLine S + Z 120	49.5	80	10	30
RK DuoLine S + Z 120 with extended guide carriage	250	80	10	30
RK DuoLine S + Z 160	70	120	10	40
RK DuoLine S + Z 160 with extended guide carriage	366	120	10	40

***Note:**

Centering on request only with special drill holes in the slide/clamp strips possible

Order information:

- Reductions 1:1.5, 1:2, 1:3, 1:4 or 1:5 on request

Angular gear

- Fits all third-generation RK DuoLine S
- Can be retrofitted
- Low torsional backlash
- Low noise level
- Spiral toothing

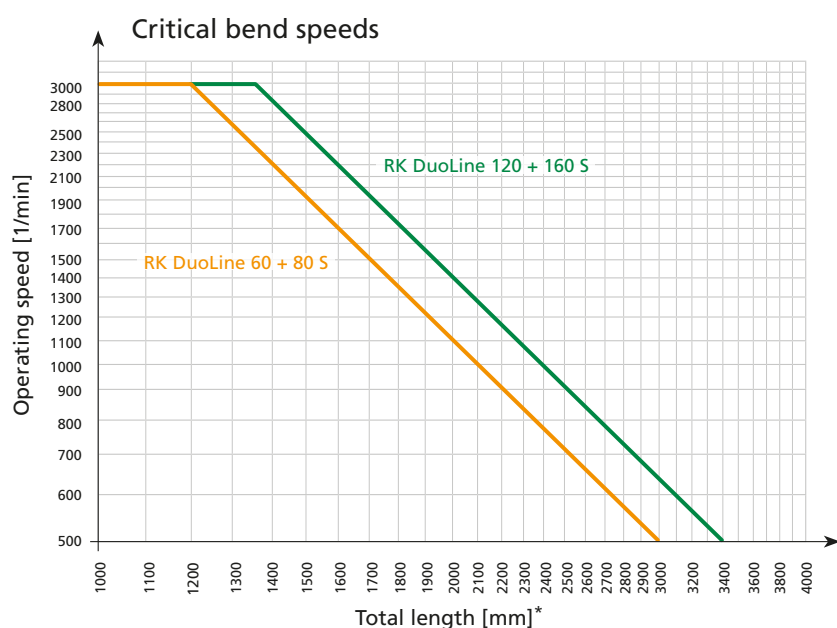
Scope of delivery:

Angular gear 1:1,
Fastenings on RK DuoLine and
synchronisation shaft depending
on system



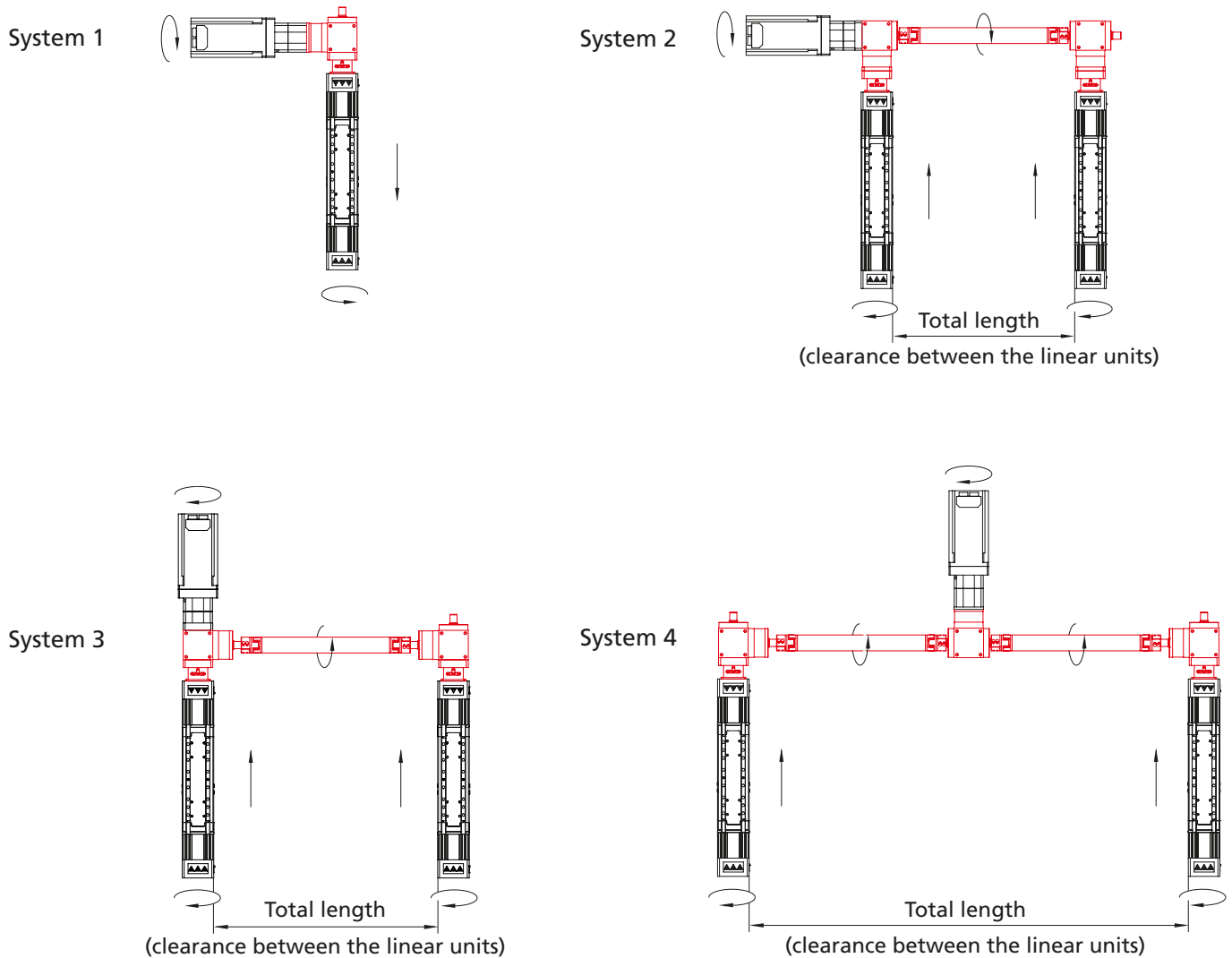
Technical data angular gear

		For RK DuoLine 60 and 80 S	For RK DuoLine 120 and 160 S
Reduction		1:1	1:1
Drive speed	min ⁻¹	3000	3000
Torsional backlash at output shaft	arcmin	≤ 9	≤ 8
Efficiency at full load	%	> 98	> 98
Running noise at 1500 rpm	db(A)	≤ 70	≤ 74
Weight	Kg	4,5	8
Surface		Primer RAL 9005 – black matt	
Geometric moment of inertia	Kgcm ²	1,79	3,88



*To calculate the critical bending speed of system 4, use half of the total length.

Angular gear for RK DuoLine S



Code No.	Type	Basic length (minimum length)		Max. length (clearance)		Weight [kg]		
		60 + 80 S	120 + 160 S	60 + 80 S	120 + 160 S	Basic length 60 + 80 S	120 + 160 S	per 100 mm travel
982__A1A0000	Angular gear system 1	-				5,5	9,5	-
982__A1B__	Angular gear system 2	199	199	2984	3331	10,5	15,5	0,1
982__A1C__	Angular gear system 3	304	319	3089	3451	10,5	15,5	0,1
982__A1D__	Angular gear system 4	563	638	6153	6942	10,5	15,5	0,1

Total length (mm)

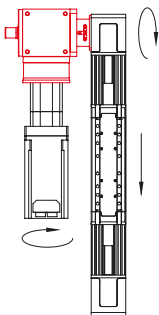
30 = RK DuoLine 60 S
 31 = RK DuoLine 80 S
 32 = RK DuoLine 120 S
 33 = RK DuoLine 160 S

Note: Additional information, dimensions, accessories and necessary tools for assembling the angular gears can be found (chapter: **Motors and controls**).

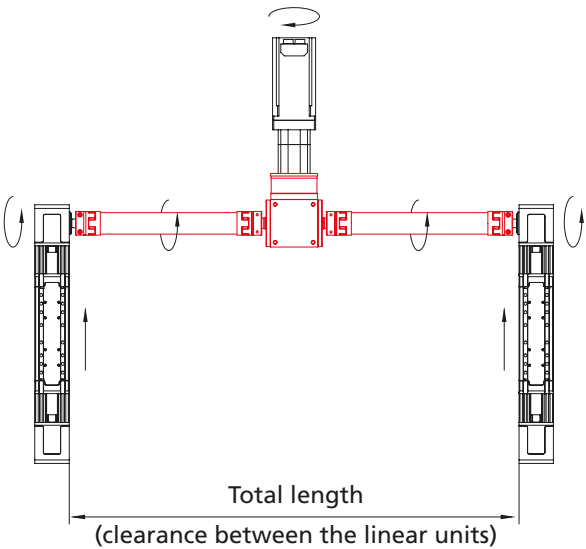
Angular gear for
RK DuoLine Z

- The following combination options are available on request

System 1



System 4



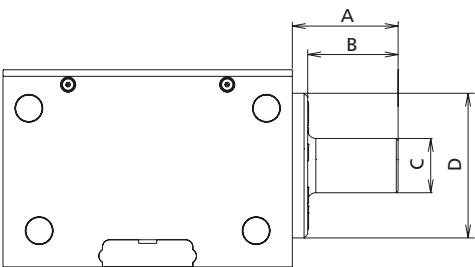
Drive shaft

- The RK DuoLine Z is fitted as standard with a hollow shaft
- This can be retrofitted with a drive shaft as an optional extra

Scope of delivery:
Drive shaft with
fixation material



For metal bellows coupling



[mm]						
Code No.	Type	Version	A	B	C	D
91328	RK DuoLine Z 60	Drive shaft for metal bellows coupling	28.6	25	16	44
91312	RK DuoLine Z 80		35	31.5	20	52
91320	RK DuoLine Z 120		45.5	39	25	74
9720000	RK DuoLine Z 160		58.5	50	30	80

Synchronising shaft

- For torque transmission with parallel linear units
- Synchronisation of the guide carriages by zero point alignment

Scope of delivery:
Synchronising shaft with fixation material

Max. transfer torque:

RK DuoLine Z 60	28 Nm
RK DuoLine Z 80	67 Nm
RK DuoLine Z 120	141 Nm
RK DuoLine Z 160	220 Nm

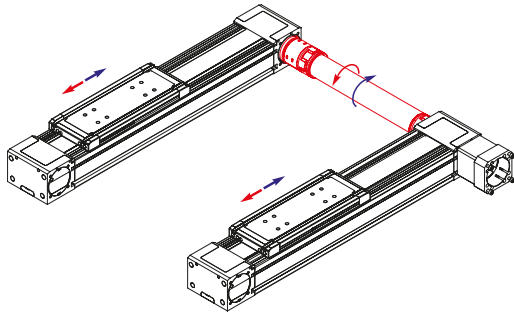
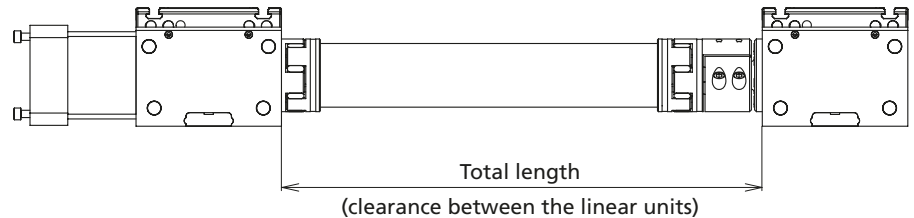


Fig. shows synchronising shaft

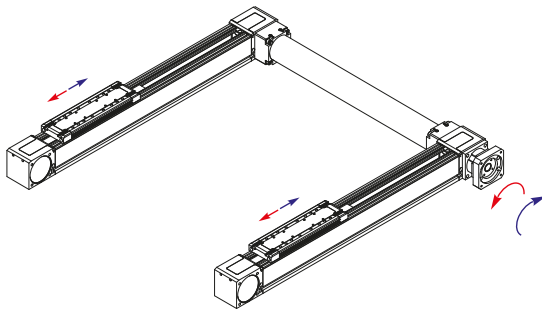
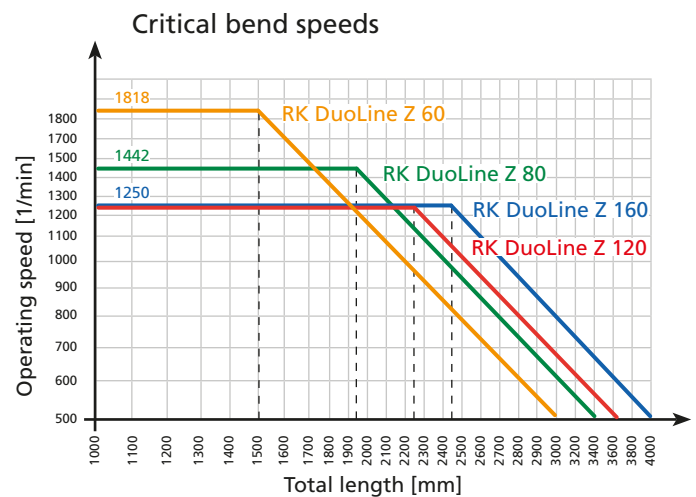


Fig. shows synchronising shaft with protection



[mm]

Code No.	Type	Basic length (minimum length)	Max. length (clearance)	Weight [kg]	
				Basic length	per 100 mm travel
92548_ _ _ _	Synchronising shaft RK DuoLine Z 60	118	2985	0,53	0,09
92538_ _ _ _	Synchronising shaft RK DuoLine Z 80	144	3400	1,07	0,12
92519_ _ _ _	Synchronising shaft RK DuoLine Z 120	175	3994	1,38	0,15
92510_ _ _ _	Synchronising shaft RK DuoLine Z 160	220	3991	3,42	0,22


 Total length [mm]

[mm]

Code No.	Type	Basic length (minimum length)	Max. length (clearance)	Weight [kg]	
				Basic length	per 100 mm travel
92521700_ _ _ _	Synchronising shaft RK DuoLine Z 60 with protection	118	2985	1,0	0,24
92521710_ _ _ _	Synchronising shaft RK DuoLine Z 80 with protection	144	3400	1,96	0,29
92521720_ _ _ _	Synchronising shaft RK DuoLine Z 120 with protection	175	3994	2,53	0,36
92521730_ _ _ _	Synchronising shaft RK DuoLine Z 160 with protection	220	3991	5,38	0,44


 Total length [mm]

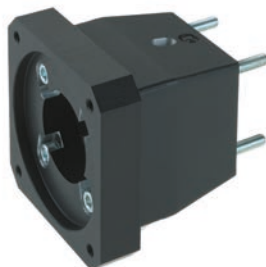
Drive / Position determination

Motor adapter kit for RK AC servomotors

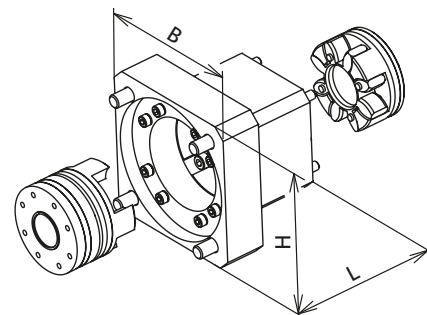
Scope of delivery:

Motor adapter kit, elastomer coupling and fixation material

- Servomotors from the RK standard range can be easily connected



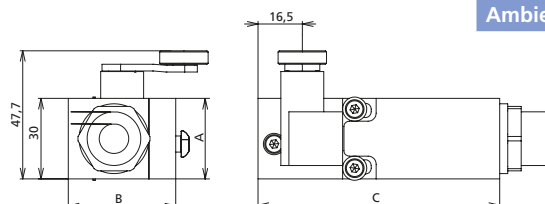
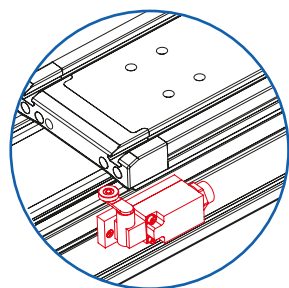
- Complete motor adapter kits manufactured to your specifications on request



Type	Servo motors without gearbox				
	RK-AC 118	RK-AC 240	RK-AC 470	RK-AC 800	RK-AC 1252 RK-AC 1776 RK-AC 2521
RK DuoLine Z 60	–	949376	–	–	–
RK DuoLine Z 80	–	–	949357	–	–
RK DuoLine S 60	949388	949389	–	–	–
RK DuoLine S 80	–	949367	949366	–	–
RK DuoLine S 120	–	949123	949124	949125	–
RK DuoLine S 160	–	–	–	949340	949342
Angular gear system 1 and 4 for RK DuoLine S 60 + 80	–	949130	949131	–	–
Angular gear system 1 and 4 for RK DuoLine S 120 + 160	–	–	949135	949136	949137
Angular gear system 2 and 3 for RK DuoLine S 60 + 80	–	949139	949140	–	–
Angular gear system 2 and 3 for RK DuoLine S 120 + 160	–	–	949141	949142	949143

Type	Servo motors with gearbox					Three phase motors	
	RK-AC 112	RK-AC 260 RK-AC 280	RK-AC 345	RK-AC 800	RK-AC 1252 RK-AC 1776 RK-AC 2521	90/120 W	180/250 W
DuoLine Z 60	949374	949375	–	–	–	949377	949378
DuoLine Z 80	949350	949353	949354	–	–	949355	949356
DuoLine Z 120	–	949371	949370	949370	–	949372	949373
DuoLine Z 160	–	–	949344	949344	949345	–	–
DuoLine S 60	949387	–	–	–	–	–	–
DuoLine S 80 trapezoidal thread	949360	949364	–	–	–	949368	949369
DuoLine S 80 ball screw	949360	949364	–	–	–	949363	949365
DuoLine S 120	949121	949122	–	–	–	949126	949127
DuoLine S 160	–	–	949341	949341	949343	–	–

Mechanical limit switch



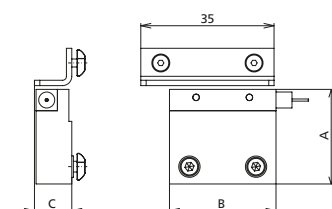
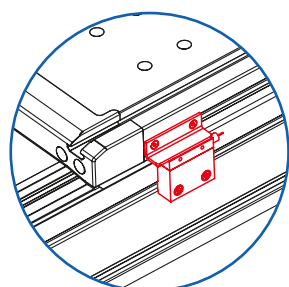
- External fixation on the guide profile

Scope of delivery:
Limit switch with set of fixing items

Voltage	max. 230 V AC
Max. switching current	4 A
Max. starting current	10 A
Operating frequency	max. 5000 / h
Mechanical lifetime	20x10 ⁶ cycles
Axis leverage adjustment	locking by 360°
Degree of protection	IP67
Ambient temperature	-30°C to +80°C

Code No.	Type	A	B	C	Version
92848	RK DuoLine 60	49	39	82	NO / NC, mechanical limit switch
91919	RK DuoLine 80	63	40	83	
92701	RK DuoLine 120	31	40	97	
91910	RK DuoLine 160	30	40	90	

External inductive limit switch



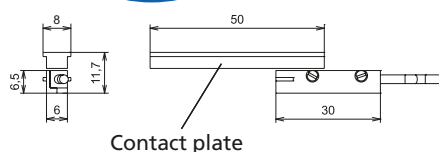
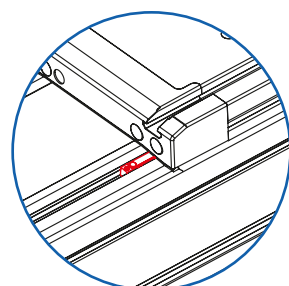
- External fixation on the guide profile

Scope of delivery:
Limit switch with set of fixing items

Voltage	10...30 VDC
Max. switching current	100 mA
Operating frequency	max. 5 kHz
Mechanical lifetime	independent of operating cycles
Operating distance	1.5 mm
Degree of protection	IP67
Cable length	5 m
Ambient temperature	-25°C to +70°C

Code No.	Type	A	B	C	Version
92838	RK DuoLine 60	52.8	25	10	NO, External inductive limit switch
92819	RK DuoLine 80	71.5	25	10	
92840	RK DuoLine 120	22	40	14	
92810	RK DuoLine 160	35.5	40	14	

Internal inductive limit switch



- Proximity switch integrated in the guide profile – no protruding contours

Scope of delivery:
Proximity switch with set of fixing items

Code No.	Type	Version
92828	RK DuoLine 60	NC, Internal inductive limit switch
92820*	RK DuoLine 80	
	RK DuoLine 120 RK DuoLine 160	

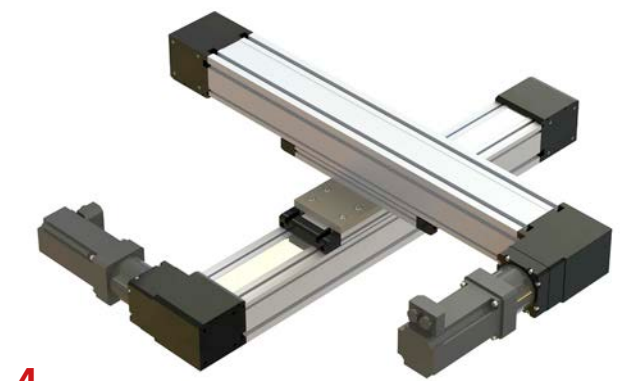
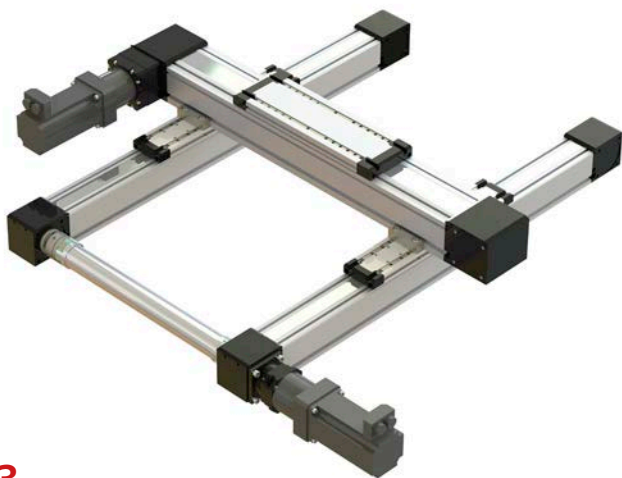
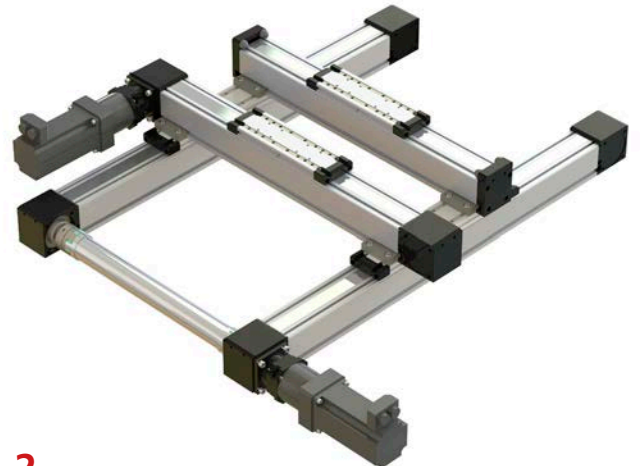
*On this limit switch, the slot must be sealed off with a cover profile

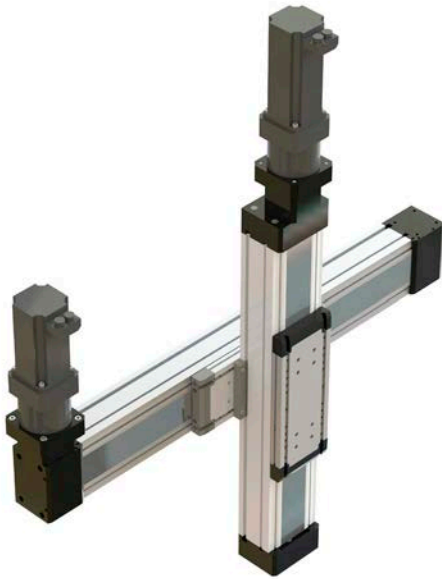
Cover profile

Code No.	Version		
E00024DAC	bar	black	2.000 mm

Assembly examples

RK DuoLine

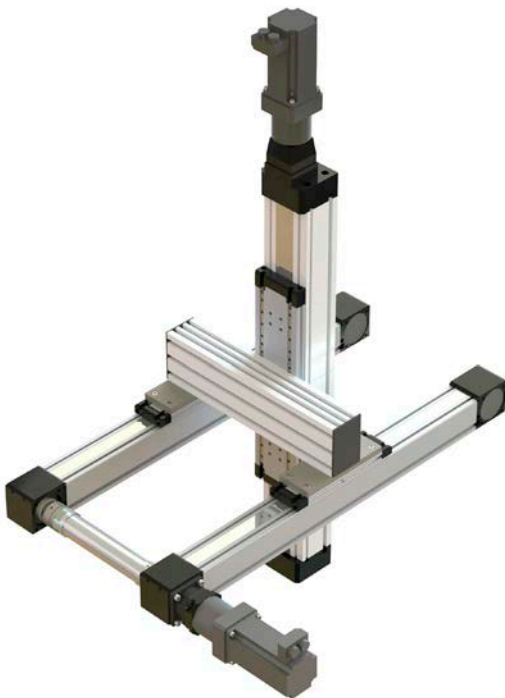




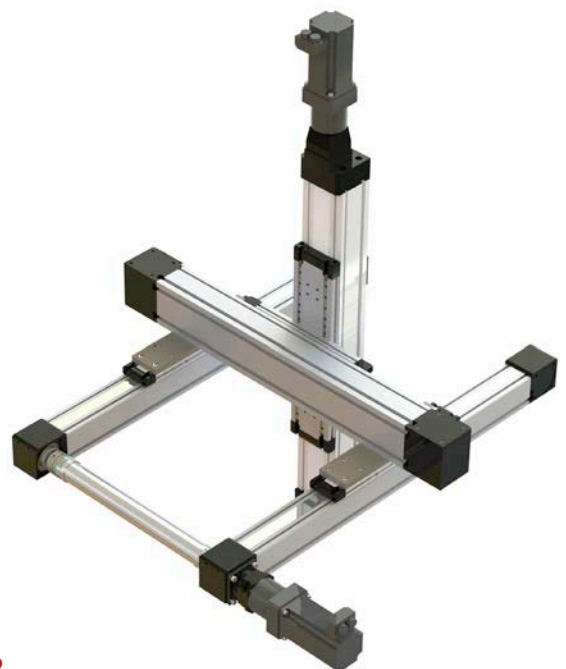
5



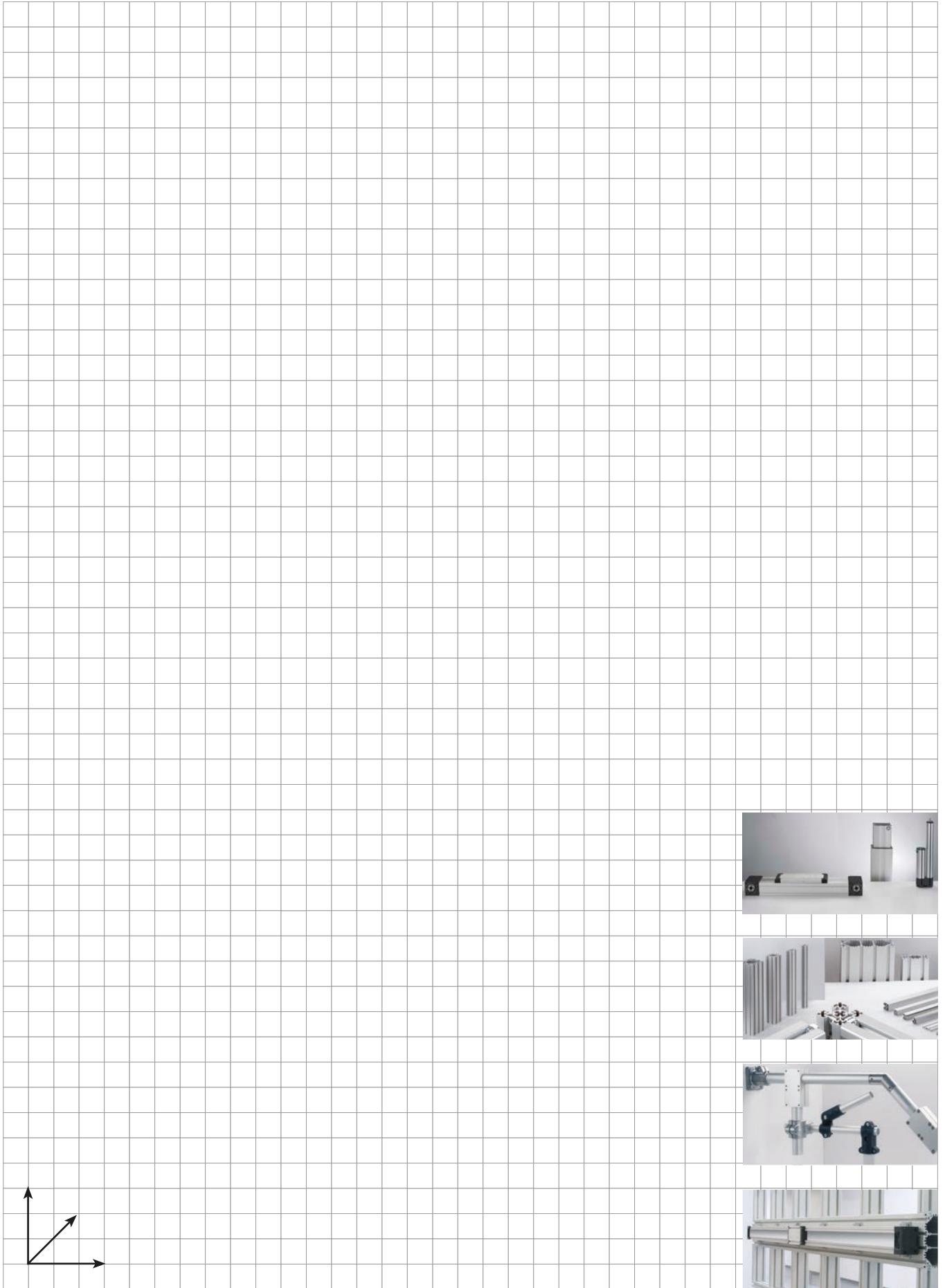
6



7



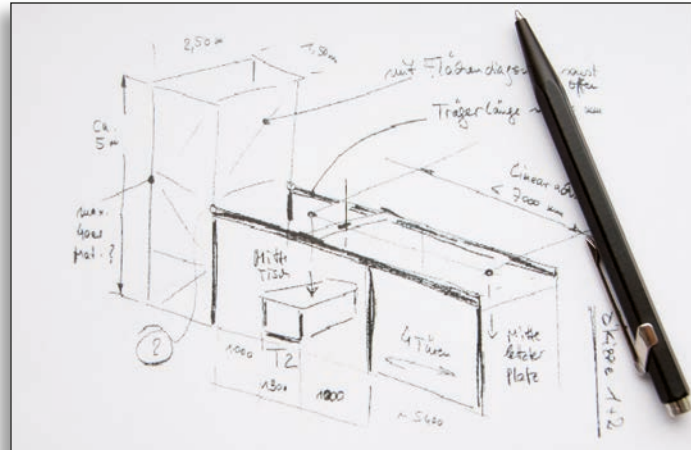
8



Our service

Do you need to focus your resources on other tasks and are you looking for a competent partner you can rely on? Working in close collaboration with you, our specialists will develop solutions tailor-made to meet your needs. If you wish, we can also assemble and commission the units on site.

- Just make a sketch of your requirements



- Our product specialists will devise a solution for you



- We can deliver your turnkey solution or assemble and commission it for you on site



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**LINEAR-
PROFILE-
CONNECTING-
MODULE-
TECHNOLOGY**



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format on a CD-ROM

☐ contact me

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Connecting and positioning systems

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