



RK ROSE+KRIEGER

A Phoenix Mecano Company

We are your *competent* partner in safety

Linear technology complies with
EU Machinery Directive 2006/42/EC
documentation through
DGUV certification



Vertical axes with secure locking function

RK DuoLine Safelock / MultiLine Safelock

RK Safelock

Vertical axes with secure locking function

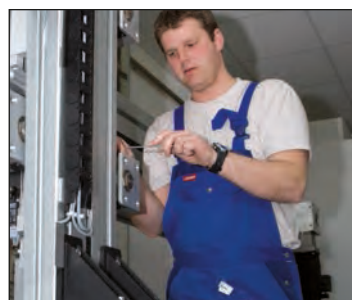
- ✓ Holding force 1,500 N for DuoLine 120x80 II
Holding force 2,500 N for DuoLine 120Z
Intended use documented by DGUV certificate
- ✓ „Safelock“ safety locking device is an approved component in accordance with category 1 of DIN EN ISO 13849-1, which should be considered
- ✓ B10 = 1.000.000 operations (static)
- ✓ Holding force 2,000 N for DuoLine 160, DuoLine 160 and MultiLine
- ✓ Integrated locking system
- ✓ Secure locking during assembly/maintenance work in accordance with EU Machinery Directive 2006/42/EC
- ✓ Independent and redundant to the motor brake
- ✓ Automatic/operator-independent action in the event of a pressure drop
- ✓ No inconvenient parts fitted to the outside of the linear axis.
All functional components are integrated within the linear axis
- ✓ Guaranteed holding force with a lubricated rail
- ✓ Sizes available: RK DuoLine 120 Z, 120x80 II, DuoLine 160 and MultiLine



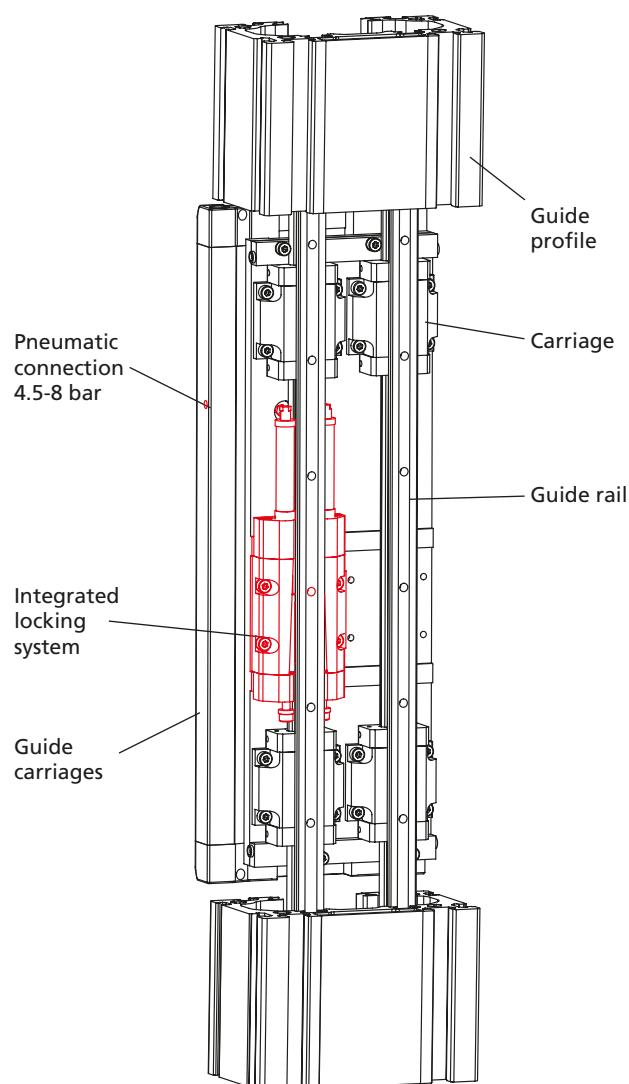
The system is switched off or comes to an unexpected standstill.



The locking system is activated when the machine is at a standstill, preventing the Z axis from lowering vertically. It is now safe to enter the safety zone.



Maintenance and set-up work can be carried out without risk to operating personnel.



Brake path calculation

To calculate the entire length of the linear axis, the path travelled by the vertical axis from application of the brake to standstill must be taken into account.

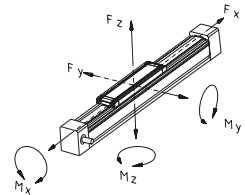
A calculation formula can be found in the assembly instructions (download from Service Area at www.rk-rose-krieger.com).

	Recirculating ball		Toothed belt			
	RK Duoline S 120x80 II	RK Duoline S 160	RK Duoline Z 120	RK Duoline Z 120x80 II	RK Duoline Z 160	MultiLine
Guidance system	Ball rail system	Ball rail system	Ball rail system	Ball rail system	Ball rail system	Ball rail system
Installation position	any position	any position	any position	any position	any position	any position
Max. driving torque	on request	52 Nm	141 Nm	on request	220 Nm	on request
Max. speed	1 m/s	2 m/s (regardless of travel)	5 m/s	5 m/s	5 m/s	5 m/s
Max. acceleration	20 m/s ²	20 m/s ²	50 m/s ²	50 m/s ²	50 m/s ²	50 m/s ²
Repeat accuracy	± 0.04 mm	± 0.04 mm	± 0.05 mm	± 0.05 mm	± 0.05 mm	± 0.05 mm
Positioning accuracy	± 0.1/300 mm	± 0.05 mm (with integrated position sensing system)		± 0.1/300 mm	± 0.05 mm (with integrated position sensing system)	± 0.1/300 mm
Max. no-load torque	0.7 Nm	0.9 Nm	2.3 Nm	1.2 Nm	2.5 Nm	2.0 Nm
Drive	Ball-and-screw, Ø 20, Pitch 20 mm, on the right	Ball-and-screw, Ø 32, Pitch 40 mm, on the right	GT Belts, Pitch 8 mm, Width 50 mm	GT Belts, Pitch 8 mm, Width 50 mm	GT Belts, Pitch 8 mm, Width 75 mm	GT Belts, Pitch 8 mm, Width 60 mm
Active Ø pulley wheel	–	–	76.39	68.75	76.39	68.75
Pulley wheel circumference	–	–	239.86	215.88	239.86	215.88
Ambient temperature	0°C to +60°C	0°C to +60°C	0°C to +60°C	0°C to +60°C	0°C to +60°C	0°C to +60°C
Degree of protection	IP 20	IP 40	IP 20/optional IP 40	IP 20	IP 20/optional IP 40	IP 20

Load data

F Force [N]

M Torque [Nm]

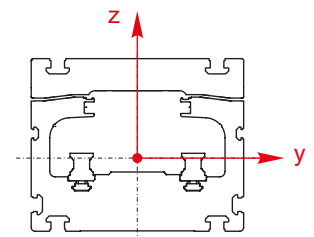


Load data	F _x	F _y	F _z	M _x	M _y	M _z
RK Duoline S 120x80 II	1500	5000	6000	150	430	370
RK Duoline S 160	2000	5100	8900	500	840	810
RK Duoline Z 120	2500	1400	6400	125	550	530
RK Duoline Z 120x80 II	1500	5000	6000	150	430	370
RK Duoline Z 160	2000	5100	8900	500	840	810
MultiLine	2000	8200	12000	920	1600	1500

Geometric moment of inertia

[cm⁴]

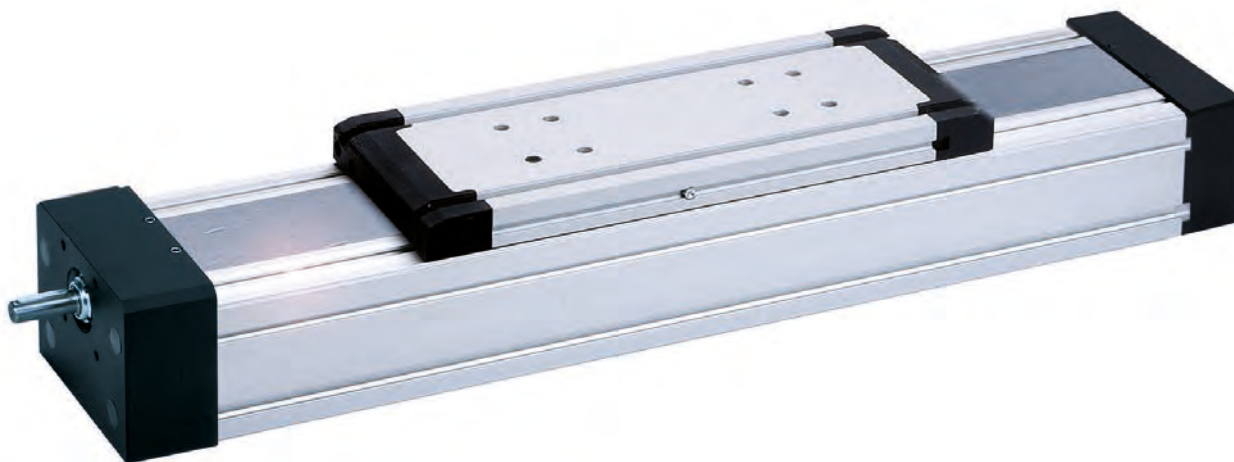
Type	I _y	I _z
RK Duoline S 120x80 II	185.94	554.68
RK Duoline S 160	437.70	1455.90
RK Duoline Z 120	289.5	627.8
RK Duoline Z 120x80 II	185.94	554.68
RK Duoline Z 160	437.70	1455.90
MultiLine	630.85	2643.85



RK DuoLine S Safelock

Order information:

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



Code No.	Type	Spindle	Basic length	B	C	ØD1	ØD2	G
TS_1280 I	RK DuoLine S Safelock 120x80	20x20	554	120	100	42 ^{H6}	12 _{h8}	M6-22 deep

Total length (basic length + travel) in mm

Shaft components:

T = 1 shaft

U = 2 shafts

Version (see diagram below):

Q = Motor at top / Profile traverses

L = Motor at top / Carriage traverses

T = Motor at bottom / Carriage traverses

Code No.	Type	Spindle	Basic length	B	C	ØD1	ØD2	G
TD13A1A1C_1_0	RK DuoLine S Safelock 160	32x40	805	160	130	75 ^{H7}	20 _{h8}	M8-22 deep

Total length (basic length + travel) in mm

Version:

Q = Motor at top / Profile traverses

L = Motor at top / Carriage traverses

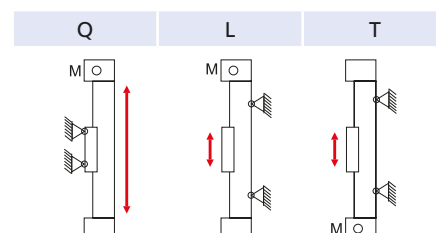
T = Motor at bottom / Carriage traverses

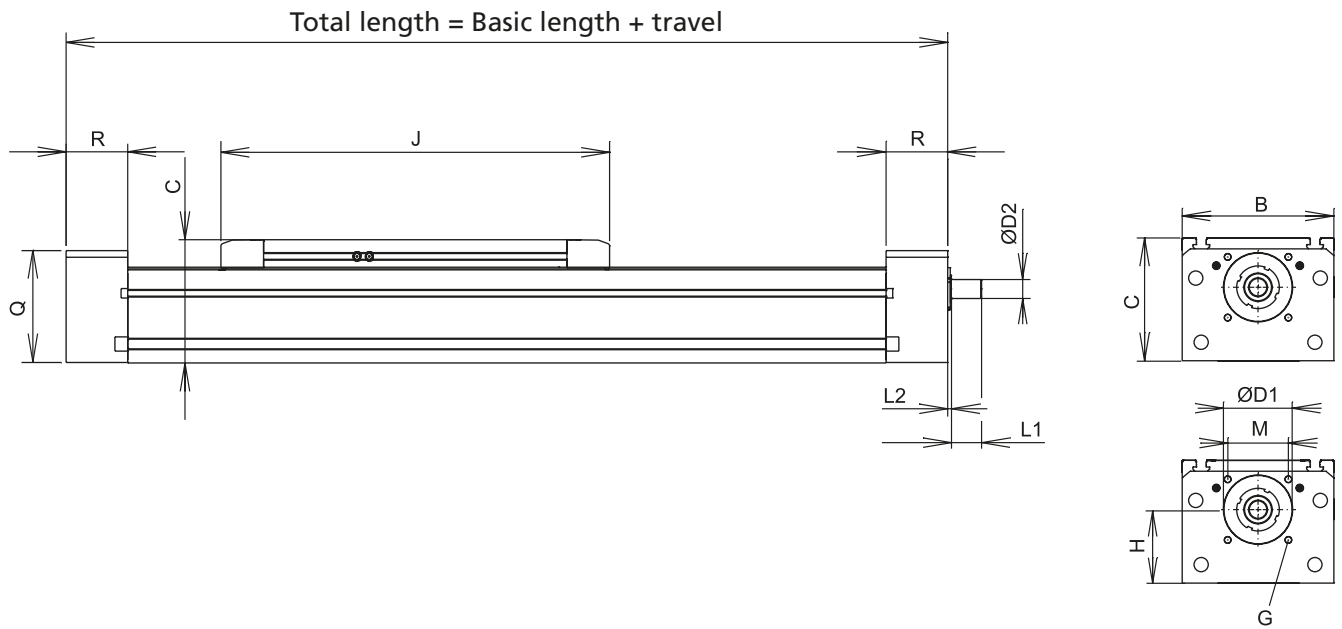
Integrated position sensing system:

1 = without

2 = with plug-in coupling and 20 m of cable

3 = with 20 m of cable





[mm]

H	J	L1	L2	M	Q	R	Max. travel	Mass [kg]	
								Basic length	per 100 mm travel
64.5	450	30	1.4	□43±0.2	95.5	52	2424	14.6	1.24

[mm]

H	J	L1	L2	M	Q	R	Max. travel	Mass [kg]	
								Basic length	per 100 mm travel
78	675	32	3.7	□64±0.2	118	65	4275	31,66	2.21

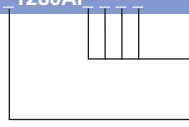
RK DuoLine Z Safelock

Order information:

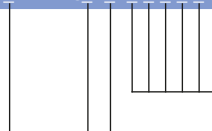
- Longer travel lengths on request
- Also available without toothed-belt drive as a torque support

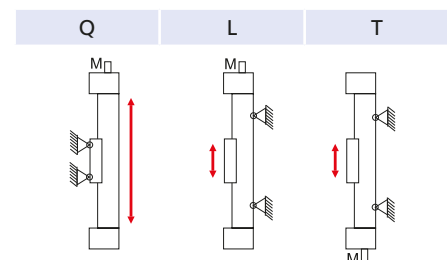


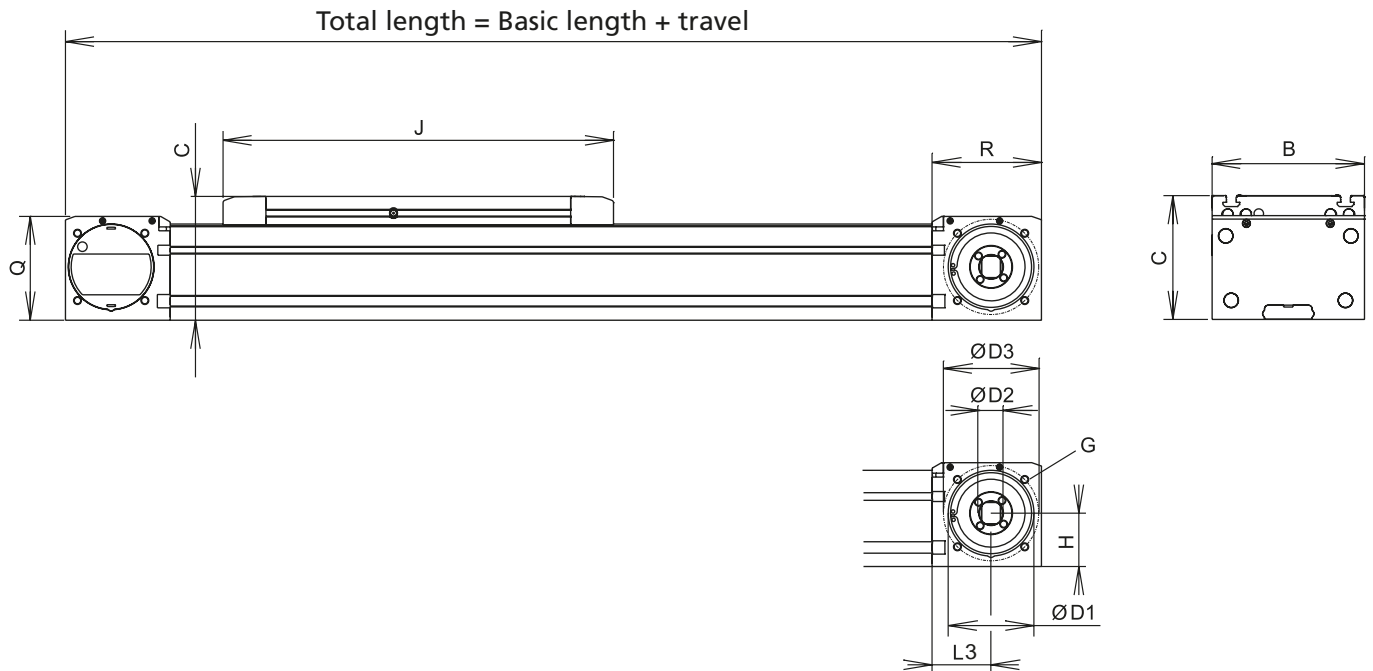
Code No.	Type	Basic length	B	C	ØD1	ØD2	ØD3
TT_1280AI	RK DuoLine Z Safelock 120x80	650	120	100	75 ^{H7}	25 ^{H7}	90.5±0.2


 Total length (basic length + travel) in mm
Version (see diagram below):
 Q = Motor at top / Profile traverses
 L = Motor at top / Carriage traverses
 T = Motor at bottom / Carriage traverses

Code No.	Type	Basic length	B	C	ØD1	ØD2	ØD3
TD1_A3A1C_1	RK DuoLine Z Safelock 120	836	120	115	90	20 ^{H6}	100±0.2
TD1_A1A1C_1	RK DuoLine Z Safelock 160	820	160	130	90 ^{H7}	25 ^{H6}	100±0.2


 Total length (basic length + travel) in mm
Version:
 Q = Motor at top / Profile traverses
 L = Motor at top / Carriage traverses
 T = Motor at bottom / Carriage traverses
Integrated position sensing system:
 1 = without
 2 = with plug-in coupling and 20 m of cable
 3 = with 20 m of cable
Degree of protection:
 1 = Basic
 2 = Protect (IP 40 via cover strip)





[mm]

G	H	J	L	Q	R	Max. travel	Mass [kg]	
							Basic length	per 100 mm travel
M8-30 deep	40.5	450	59.5	87	100	3550	18.53	1.07

[mm]

G	H	J	L	Q	R	Max. travel	Mass [kg]	
							Basic length	per 100 mm travel
M8-16 deep	46.8	616	62	98	110	7384	21.27	1.19
M8-28 deep	56	600	62	109	110	9380	30.20	1.80

remark:
accessories see catalogue
Linear-Technology

RK MultiLine Safelock

Order information:

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



[mm]

Code No.	Type	Basic length	Max. travel	Mass [kg]	
				Basic length	per 100 mm travel
TA_2010AI	RK MultiLine Safelock	650	3506	31	2.05

Total length (basic length + travel) in mm

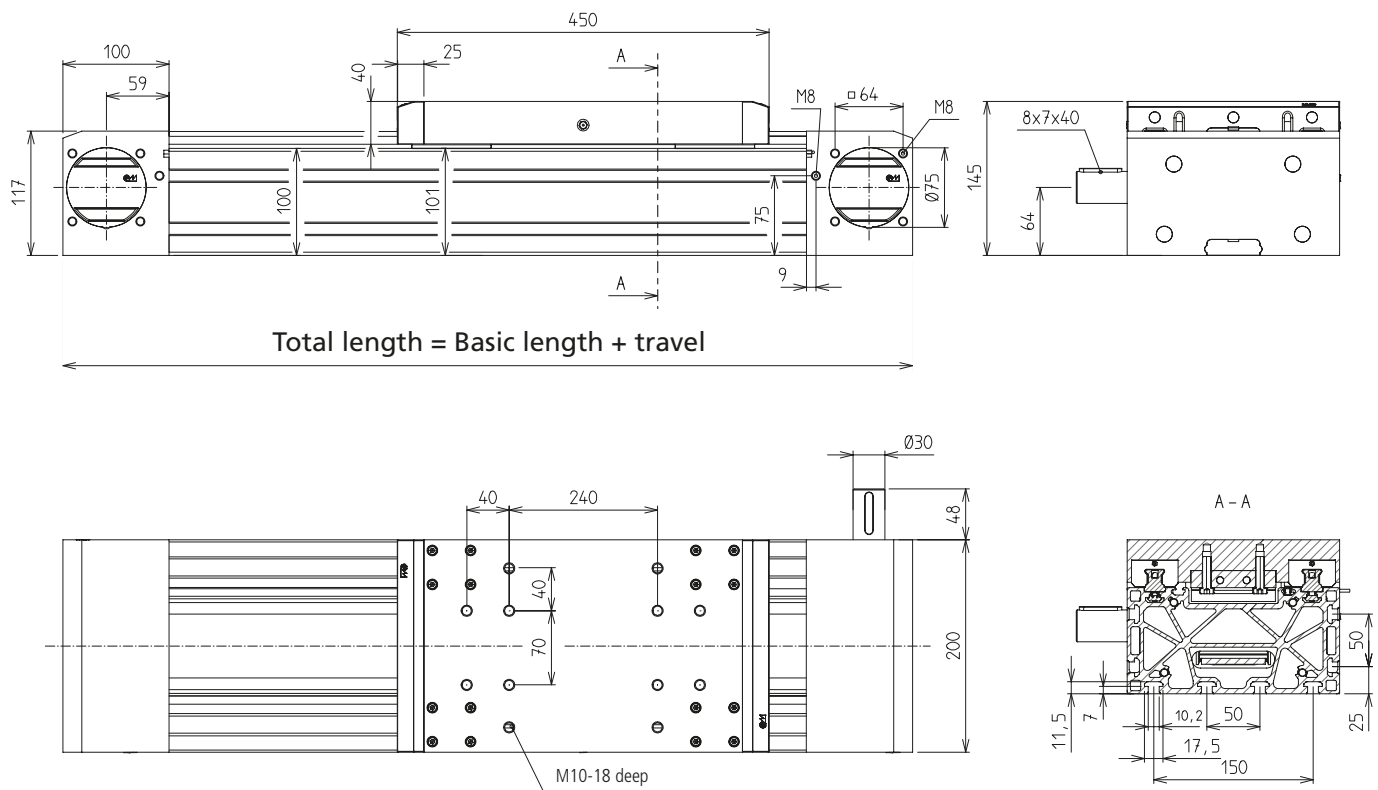
Version:

Q = Motor at top / Profile traverses

L = Motor at top / Carriage traverses

T = Motor at bottom / Carriage traverses

Q	L	T



remark:
acesories see catalogue
Linear-Technology

RK Rose+Krieger's range of services

The RK product range



LINEAR TECHNOLOGY

- ✓ Manual adjustment units
- ✓ Electric cylinders
- ✓ Lift columns
- ✓ Linear axes
- ✓ We can move loads for you of up to 3 t up to 12 m dynamically, reliably and with great precision



PROFILE TECHNOLOGY

- ✓ The tried and tested BLOCAN® aluminium assembly system
- ✓ Sections from 20 mm to 320 mm for all applications
- ✓ Joining technology with an unsurpassed combination of flexibility and reliability



JOINING TECHNOLOGY

- ✓ Fittings for the secure combining of round and square tubes
- ✓ Aluminium, steel, stainless steel and plastic elements
- ✓ Sizes from 12 mm to 80 mm



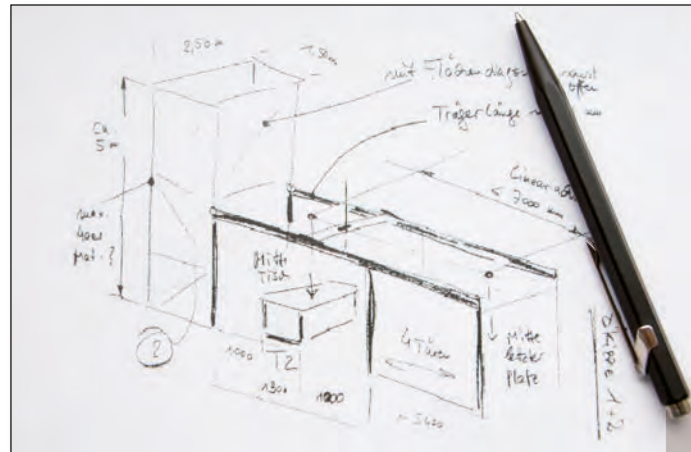
MODULE TECHNOLOGY

- ✓ Machine frames
- ✓ Workstations
- ✓ Protective clothing
- ✓ Multidimensional linear axis modules
- ✓ Complete drive solutions

What we can do for you

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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RK ROSE+KRIEGER

A Phoenix Mecano Company

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



FAX reply form

☒ Yes, I would like to know more about RK linear technology, please:

☐ send me the linear components catalogue

☐ send me details of your product range in PDF format on a CD-ROM

☐ contact me

Company: _____

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Tel. + Fax: _____

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A Phoenix Mecano Company

Connecting and positioning systems

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