Bringt zuverlässig von A nach B

Lineartechnik in Bewegung

ROLLON®

LinearEvolution

Product Properties, Application Examples

ROLLON GROUP

ELMORE Engineering

www.rollon.de

Key Industries

ROLLON®
LinearEvolution

Medical Engineering

Packaging & Logistics

Automation / Warehousing

Power Engineering

Railway Vehicle Industry

Cabinetry / Interiors

Special Engineering

ATMs / Vending Devices

Military Vehicles

Food Industry

Naval Industry (Interiors)

Aircraft Industry (Interiors)

Paper Processing / Printing Industry

Environm. Engineering / Recycling

Wood Working Industry

Electronic Devices

Product Characterictics

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Compact Rail

Main Characteristics:

- cold drawn carbon bearing steel (rail) / hardened rollers
- induction hardened (ca. 1 mm) and grinded raceways
- open rail profile, thus easy accessibility (cleaning); compact product design
- running smoothness (better than ball guided systems)
- low maintenance intervals
- corrosion-resistance verified in salt spray test (DIN EN ISO 9227 NSS)

Competitive Advantages:

- **fixed / loose bearing** (self-aligning in two planes)
- **no misalignment of rollers (compare: T-Race)**
- **preload adjustment even in mounted state**
- **no special/expensive treatment of mounting surfaces necessary**
- **individual** system configuration and custom solutions possible
- surface coating with **FDA approval** (on request)
- **resistant against soiling; suitable for continuous operation**

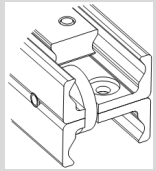
Telescopic Rail

Main Characteristics:

- cold drawn carbon bearing steel (rail + sliders)
- induction hardened, wear-resistant raceways (except: LTF, LTH)
- space saving and rigid intermediate elements for all mid to high load range applications (C_{0rad}: up to 44,000 N)
- double-side extraction and special strokes (not for all types)
- corrosion-resistance verified in salt spray test (ISO)

Competitive Advantages:

- **zero clearance and low deflection, even if under maximum load, thus minimal slide-in forces needed**
- **individual system configuration and custom solutions possible, e.g. synchronizations, weight-reduced designs etc.**
- **suitable for continuous operation** (except: LTF, LTH)
- surface coating with **FDA approval** (on request)
- **LTH series**: higher load capacity, rigidity and shorter dimensions compared with respective Chambrelan type (RA5R, RA7R)
- **wide product range**



Product Characterictics

Easy Rail

Main Characteristics:

- cold drawn carbon bearing steel (rail + sliders)
- induction hardened raceways
- compact design, flat slider geometries
- vertical use or short strokes not recommended (-> SNK)
- multiple synchronized or separate sliders in one rail
- very low friction coefficient of ca. 0.01 (optimal conditions provided)

Competitive Advantages:

- **available up to size 63** (C_{0rad}: up to 122,000 N)
- **applicable up to 170 °C** (338 °F), as standard
- **high, linear accuracy: 0.1 mm/m stroke**
- **high rigidity**
- surface coating with **FDA approval** (on request)

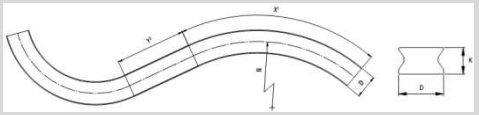
Curviline

Main Characteristics:

- pair-wise arrangement of rollers for a uniform preload
- max. effective length: 3,240 mm
- moment resistance can be achieved by using several trolleys
- long maintenance intervals because of lifetime lubricated rollers
- 3 bore hole types: threaded (F), countersunk (V), counterbored (C)
- yet unhardened material (stainless steel: on request)

Competitive Advantages:

- **guiding systems designed in accordance to customer specifications**
- **smooth running behaviour along the whole rail profile**
- different radii can be realized **on one rail**
- **Rollon Alloy** surface coating, as standard
- **preload adjustment on already installed system possible**
- **very precise manufacturing tolerances / accuracy of the radii**



Product Characterictics

X-Rail

Main Characteristics:

- roller embossed rail profiles made of sheet steel or stainless steel
- open (unhardened) rail profil, thus easy accessibility (cleaning); compact design
- fixed slider with a solid/compact body; hardened rollers
- provides functionality similar to Compact Rail
- moment resistance can be achieved by using several sliders

Competitive Advantages:

- **most precise manufacturing tolerances, thus high running smoothness**
- **fixed / loose bearing** (self-aligning in one plane)
- **no misalignment of rollers**
- **preload adjustment on already installed system possible**
- alternative to expansive profile rail guiding systems, e.g. for simple machine housings; **attractive price level**
- **„Entry-level" product of the highest available quality**

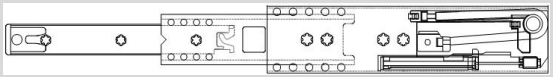
Light Rail

Main Characteristics:

- cost-effective solution for small loads (C_{0rad}: up to 650 N)
- slim product design and low deflection
- full extraction telescopes with rollback protection (when closed)
- pair-wise arrangement (drawer principle) recommended
- lightweight design and long product lifetime (low maintenance)
- applicable for occasional use only
- no stroke modification (≠ Telescopic Rail)

Competitive Advantages:

- **minimal mounting space required**
- **resistant** to shocks and deformation
- **rapid availability** (mainly in-stock products)
- **attractive price level**



Product Characterictics

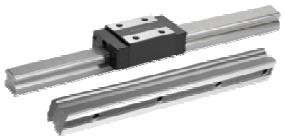
Mono Rail (MR) / Mono Rail Plus (MR+)

Main Characteristics:

- X-arrangement (MR) and O-arrangement (MR+), respectively, with 2-point contact of the raceways (circular arch profile)
- 4-row ball recirculation
- uniform load capacity in all main directions
- MR: high ability for self-regulating (ability to compensate errors in parallelism to a certain degree)
- MR+: high moment rigidity (very precise running behaviour)
- variety of effective sealings

Competitive Advantages:

- standard main dimensions, thus r**eplaceability of competitor products**
- **rapid availability** (mainly in-stock products)
- **low-maintenance** lubricating felts
- **custom** bore hole pitches possible



Miniature Mono Rail

Main Characteristics:

- O-arrangement with 4-point contact of the raceways (gothic arch profile)
- 2-row ball recirculation
- uniform load capacity in all main directions
- available as standard and large width version
- made of corrosion-resistant steel

Competitive Advantages:

- standard main dimensions, thus **replaceability of competitor products**
- **rapid availability** (mainly in-stock products)
- spare part delivery possible; **trolleys can be exchanged on exisiting rails** (separate tolerance classes for rail + trolley)
- **quiet** running because of unique ball recirculation system
- **custom** bore hole pitches possible

Product Characterictics

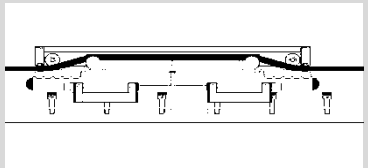
ELM

Main Characteristics:

- self-supporting, anodized aluminium profile
- available: ball circulation system (with ball chain*) or roller system (SP/CI) for high dynamics or high precision and smooth running
- redirection unit with ball bearings to guide the sealing strip through the trolley (less driving forces and operation costs)
- variety of connection elements and accessories (modular system)

Competitive Advantages:

- **stroke up to 19,500 mm possible** (as joint version)
- **only high-quality components used**, such as steel turning head with zero clearance, even under frequent occurring load dir. changes
- **sealing strip and profile effectively protect the interior parts from getting soiled**; corrosion-resistant version available
- optional **sealing air connection**
- **"Code Creator"** to display prices of each axis configuration
- **parallel arrangement** of two axes by using a connecting shaft, and **multi-axis portals** can be realized with other Rollon axes, as well



*** except: ELM50**

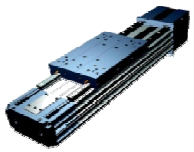
ROBOT

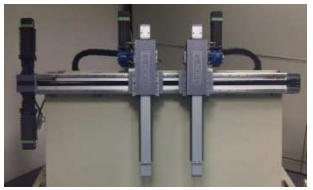
Main Characteristics:

- self-supporting, anodized aluminium profile (as transverse axis)
- available: ball circulation system (with ball chain*) or roller system (SP/CI) for high dynamics or high precision and smooth running
- redirection unit with ball bearings to guide the sealing strip through the trolley (less driving forces and operation costs)
- variety of connection elements and accessories (modular system)

Competitive Advantages:

- **parallel use of two trolleys on one axis possible (version "2C")**
- **sealing strip and profile effectively protect the interior parts from getting soiled**; corrosion-resistant version available
- optional **sealing air connection**
- **"Code Creator"** to display prices of each axis configuration
- **multi-axis portals** can be realized with other Rollon axes, as well





*** except : ROBOT100**

Product Characterictics

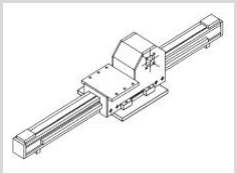
SC

Main Characteristics:

- designed to be used as vertical axis
- ball circulation system with ball chain
- no movement of redundant masses (motor, gearbox, cables)
- turning heads for alternating loads and zero clearance
- variety of connection elements and accessories (modular system)

Competitive Advantages:

- stationary carriage with **omega-shape belt redirection**
- **hollow chambers** provide additional space for cables, hoses etc.
- **integrated mounting plate for easy connection to the ROBOT axis**
- **"Code Creator"** to display prices of each axis configuration
- can be used as **cantilever axis**, too
- **corrosion-resistant version** available



TT-TX-TK / TH

Main Characteristics:

- compact ball screws for precise and rigid guiding tasks (accurracy class of ball screws: ISO5 or 7)
- ball circulation system (partly equipped with ball chain)
- several ball screw leads available
- partly protected by bellows (TT)
- connection options for proximity sensors (TT)

Competitive Advantages:

- TK / TH series as an **alternative to competitor products**
- TH: **Compatible with Bosch-Rexroth type "CKK", but with enhanced features**, such as separate lubrication channels each for linear guiding system and ball screw
- broad **variety** of accessories available (couplings, adapter flanges, sensors…)
- **test certificate** as enclosure of each TT axis

Product Characterictics

ECO

Main Characteristics:

- actuator series designed for mid-range loads and clean conditions
- available: ball circulation system (with ball chain*) or roller system (SP/CI) for high dynamics or high precision and smooth running
- driving belt serves also as cover of interior parts
- fixation of the profile also by using T-nuts (≠ ELM)
- gearboxes cannot be installed by using clamping sets
- different slider lengths available (≠ ELM)

Competitive Advantages:

- **economical price-performance ratio**
- **stroke up to 11,000 mm possible** (as joint version)
- **fast assembly**, also at the Düsseldorf plant (also: ELM)
- **variety of accessories available** (similar to ELM)
- **multi-axis portals** can be realized with other Rollon axes, as well

*** except: ECO60**

E-/R-/S-LIGHT

Main Characteristics:

- actuator series designed for low to mid-range loads
- ball circulation system (with ball chain*)
- open axis profile (exposed tooth belt)
- maximum effectivity, but a simple design; cost effective alternative to ELM/ECO (E), ROBOT (R), SC (S)
- long operating performance on normal-dynamic applications
- no special or corrosion-resistant versions available
- to be used under uncritical environmental conditions only

Competitive Advantages:

- **very attractive price-performance ratio**
- **fast assembly**, also at the Düsseldorf plant
- **variety of accessories available** (similar to ELM/ECO)
- **multi-axis portals** can be realized with other Rollon axes, as well

*** except: E-LIGHT30 and S-LIGHT50**

Product Characterictics

ONE

Main Characteristics:

- designed for cleanroom use (certified up to class ISO 3, *DIN EN ISO 14644-1* / class 1, *U.S. Fed 209 E*)
- use of special, abrasion resistant components (incl. tooth belt)
- redirection unit with ball bearings to guide the sealing strip through the trolley (less driving forces and operation costs)
- high-quality materials (bearings, guiding system: stainless steel)
- ball circulation system with ball chain* (running smoothness and minimum emission of particles)

Competitive Advantages:

- **international patent pending and certified by the *Fraunhofer Institute (IPA)* – successfully tested up to class ISO 1**
- **vacuum connection** to minimize particle emission
- special **cleanroom-compliant lubricants**
- **parallel arrangement** of two axes and multi-axis portals possible

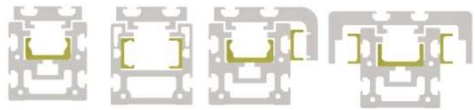
Uniline

Main Characteristics:

- integrated standard Rollon components (Compact Rail)
- rigid structure and dedicated variants to withstand occurring moments
- easy accessibility of all parts that are subject to maintenance
- variety of connection elements and accessories (e.g.: motor / gearbox adapter plates)

Competitive Advantages:

- **resistant against soiling** (roller system instead of ball system)
- **long or multiple trolleys can be used on one axis**
- **lubrication-free operation possible**
- **fast assembly**, also at the Düsseldorf plant
- **parallel arrangement** of two axes by using a connecting shaft
- **multi-axis portals** can be realized with other Rollon axes, as well



*** except: ONE50**

Product Matrix – Linear Guides

ROLLON®
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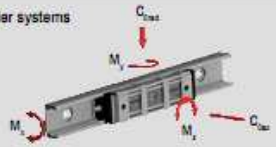
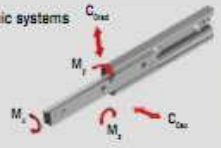
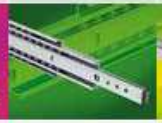
Linear guides at a glance

The values shown below are standard values. Special models or alternative surface treatments are available in many cases. Please contact Application Technology.

*Larger travel available as impact version

Specifications	Roller systems			Ball systems				
Rail/slider systems  Telescopic systems 	X-Rail 	Compact Rail 	Curviline 	Telescopic Rail 	Light Rail 	Easy Rail 	Mono Rail 	Miniature Mono Rail 
Max. radial loading capacity C_{rad} per slider or telescopic system [N]	1,740	15,000	1,615	44,247	650	122,000	249,000	8,385
Max. axial loading capacity C_{ax} per slider or telescopic system [N]	935	10,000	1,130	30,973	115	85,400	249,000	8,385
Max. moment M_x per slider or telescopic system [Nm]	-	350	-	1,723.3	-	1,120.7	5,800	171.7
Max. moment M_y per slider or telescopic system [Nm]	-	689	-	20,530	-	8,682	6,000	45.7
Max. moment M_z per slider [Nm]	-	1,830	-	29,328	-	12,403	6,000	45.7
Max. running speed (dependent on application) [m/s (in/s)]	1.5 (59.10)	9 (354.33)	1.5 (59.10)	-	-	0.8 (31.49)	3.5 (137.79)	3 (118.11)
Max. acceleration (dependent on application) [m/s² (in/s²)]	2 (78.74)	20 (787.40)	2 (78.74)	-	-	-	150 (5,905.51)	150 (5,905.51)
Max. extension speed (dependent on application) [m/s (in/s)]	0.8 (31.49)	-	-	0.8 (31.49)	0.5 (19.69)	-	-	-
Max. available rail length or system length in one piece [mm (in)]	3,120 (122.83)	3,600 (141.73)	3,240 (127.56)	2,210 (87.01)	1,100 (43.31)	1,970 (77.56)	4,000 (157.48)	1,000 (39.37)
Max. travel or stroke per rail or system [mm (in)]	3,060 (120.47)	3,480 (137)*	3,170 (124.80)	2,266 (89.21)	1,100 (43.31)	1,360 (53.54)	3,950 (155.51)*	976 (38.42)*
Temperature range [°C (°F)]	-30 to +120 (-22 to +248)	-30 to +120 (-22 to +248)	-30 to +80 (-22 to +176)	-30 to +170 (-22 to +338)	+10 to +40 (+50 to +104)	-30 to +170 (-22 to +338)	max. +80 (+176)	-40 to +80 (-40 to +176)
Guide rail	fixed/compensating bearing stainless steel or galvanised steel	fixed/compensating bearing galvanised steel	fixed bearing galvanised steel	fixed bearing galvanised steel	fixed bearing chromatised steel or galvanised steel	fixed bearing galvanised steel	fixed bearing uncoated steel	fixed bearing corrosion-resistant steel

Product Matrix – Linear Axes

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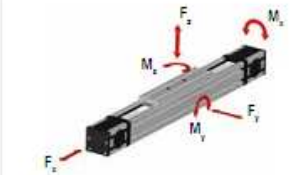
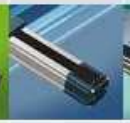
Overview of linear axes

The values given are standard values.
For special versions, please contact our Application Engineering Department.

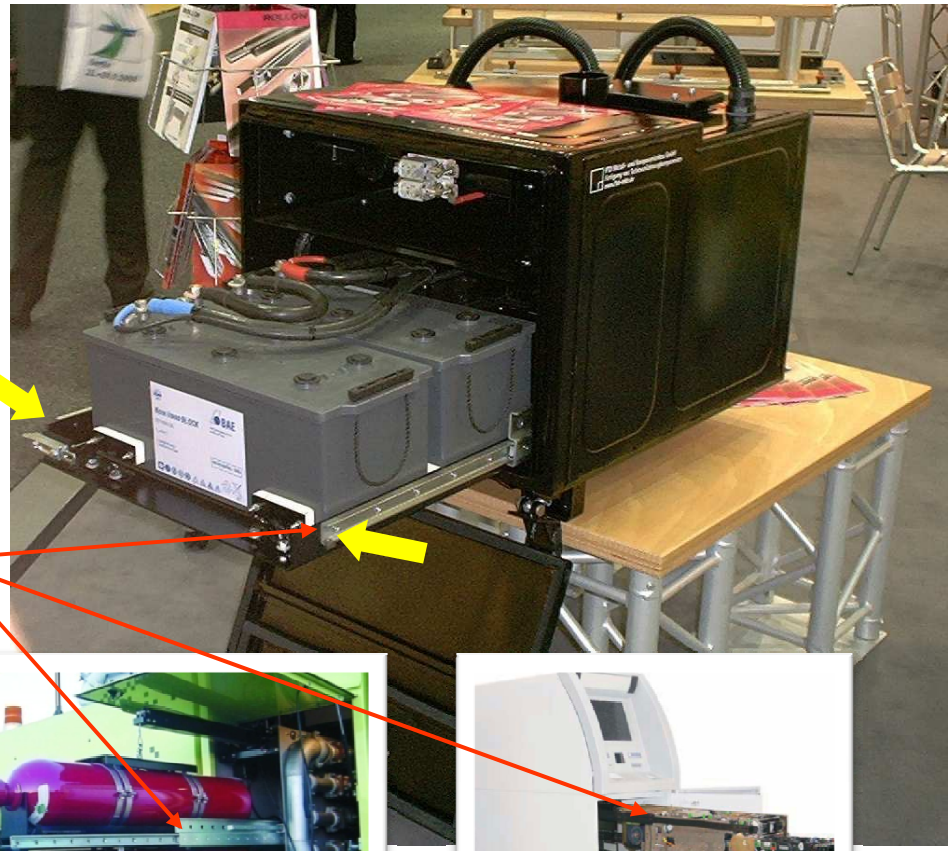
*, **, *** Larger strokes are possible as joined version.

Performance characteristics	Toothed belt drive									Ball screws			
	ECO series	ELM series	ROBOT series	SC series	LIGHT series			ONE series	UNILINE	T series			TH series
					E	R	S			TT	TV	TK	
													
Sizes	60-80-100	50-65-80-110	100-130-160-220	65-130-160	30-50-80-100	120-160	50-65-80	50-80-110	40-55-75-100	100-155-225-310	60-80-110-140	40-60-80	145
Max. static load rating F_x per slider [N]	4,410**	4,410**	9,190**	6,170**	4,410**	4,410**	2,350**	4,410**	1,000	58,300*	58,300*	12,642*	27,000*
Max. static load rating F_y per slider[N]	43,400*	79,000*	158,000*	86,800*	65,000*	130,200*	43,400*	79,000*	11,000	230,500*	48,400*	50,674*	86,800*
Max. static load rating F_z per slider [N]	43,400*	79,000*	158,000*	86,800*	65,000*	130,200*	43,400*	79,000*	8,700	274,500*	54,700*	50,674*	86,800*
Max. static moment M_x per slider [Nm]	620*	1,300*	13,590*	6,770*	1,160*	7,552*	570*	1,300*	400	30,195*	2,320*	1,507*	3,780*
Max. static moment M_y per slider [Nm]	3,820*	7,110*	18,090*	17,600*	5,070*	12,109*	3,168*	7,110*	2,305	26,625*	3,476*	622*	2,860*
Max. static moment M_z per slider [Nm]	3,820*	7,110*	18,090*	17,600*	5,070*	12,109*	3,168*	7,110*	2,282	22,365*	3,170*	622*	2,860*
Max. travel speed (depending on the application) [m/s]	5.0	5.0	5.0	5.0	4.0	4.0	4.0	5.0	9.0	2.5	2.5	1.48	2.0
Max. acceleration (depending on the application) [m/s²]	50	50	50	50	50	50	50	50	20	-	-	-	-
Repeat accuracy [mm]	0.1	0.05	0.05	0.05	0.1	0.1	0.1	0.05	0.1	0.005	0.01	0.003	0.005
Max. traverse or stroke per system [mm]	6,000***	6,000***	6,000***	2,500	6,000***	6,000	2,000	6,000	5,600***	3,000	4,000	810	1,500
Temperature range [°C]	+10 to +80	+10 to +80	+10 to +80	+10 to +80	+10 to +80	+10 to +80	+10 to +80	+10 to +80	-20 to +80	+10 to +80	+10 to +80	+10 to +80	+10 to +80
Guide	Recirculating ball screw or roller guide	Recirculating ball screw or roller guide	Recirculating ball screw or roller guide	Recirculating ball screw	Recirculating ball screw	Recirculating ball screw	Recirculating ball screw	Recirculating ball screw	Roller guide	Recirculating ball screw	Recirculating ball screw	Recirculating ball screw	Recirculating ball screw

Typical Applications

Extraction System

For inspection reasons or during the daily operation many functional elements, e.g. batteries, have to be accessible in an easy and reliable way. Depending on type and size, several hundreds of kilograms of load may apply on the telescopes – within the railway industry special, mandatory safety directives exist which require that all load bearing components have to withstand a 3-5 times higher than expected load.



Can be found in, e.g.:
- ***railway vehicles***
- ***air conditioning system / power generators***
- ***special vehicles***
- ***vending devices, ATMs (safe drawers, …)***
- ***premium closets***

Reasons why Rollon has been chosen:
- ***slim design (here: DSS)***
- ***low deflection***
- ***low friction coefficient (manual operability)***

Typical Applications

Machine Housings

To guarantee safe operation of machining centers, in particular, very solid protection doors/housings are mandatory, while easy movement and reliability of such parts are required side characteristics at the same time. Very often customers judge the quality of the entire machine also by the performance of its minor components (smooth running behaviour, noise generation, rigidity). A lot of designer are already aware of that, while searching for adequate solutions.

Can be found in, e.g.:
- ***machining centers***
- ***exposure systems***

Reasons why Rollon has been chosen:
- ***fixed / loose bearing (T+U or K+U)***
- ***easy to mount***
- ***preload adjustment even in mounted state***
- ***low-maintenance / long service intervals***
- ***system based on rollers instead of balls, thus less vulnerable to dirt***
- ***easy to clean, open rail profile***
- ***economic alternative to profile rail guide systems***

Compact Rail (K+U)

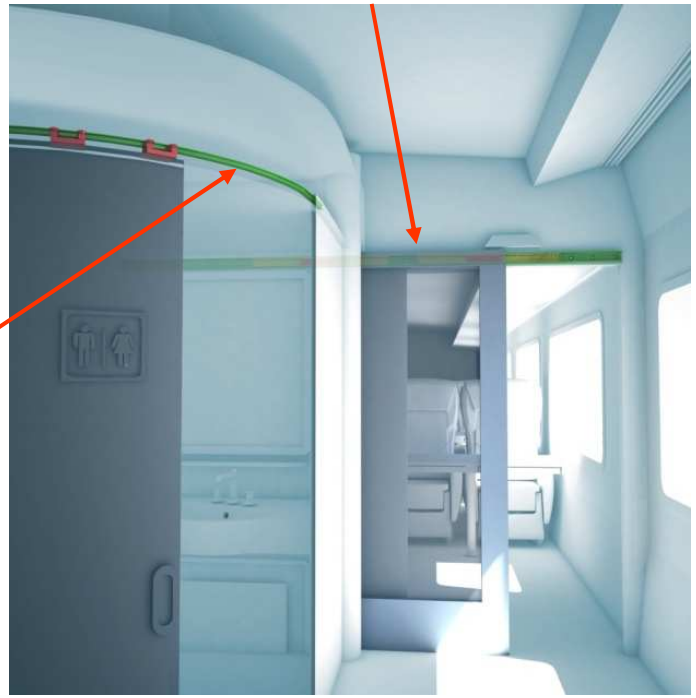
Compact Rail (T+U)

Typical Applications

Door Systems/ Footsteps

Most of the daily used applications are expected to work properly and to maintain process workflows reliably. The deep analysis of all occurring loads and moments has to be done carefully, in advance, to make sure that the chosen guiding systems will permanently withstand the mechanical stress and accomplish its tasks discreetly.

Compact Rail, Telescopic Rail, Easy Rail



Curviline

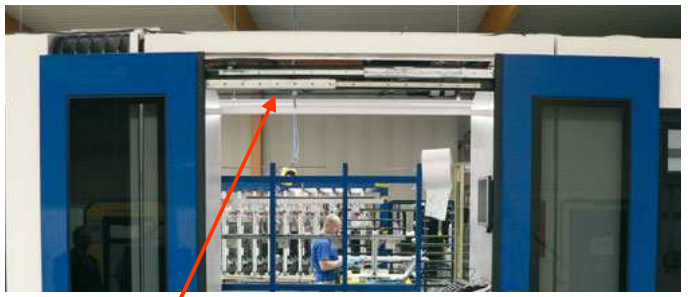
Can be found in, e.g.:

- ***railway vehicles***
- ***coaches / busses (esp.: hybrid or electrical engine type)***
- ***hospitals (operating room)***
- ***automatic access control systems (laboratories, security areas, …)***
- ***special vehicles (transport for disabled people, …)***

Reasons why Rollon has been chosen:

- ***adaptation of standard products to customer specifications***
- ***durable, even in demanding use and difficult environmental conditions***
- ***suitable for continuous operation***
- ***different surface coatings available***

Mono Rail, Compact R.



Special telescopes

Typical Applications

Automatic Warehouse: Storage and Retrieval Systems/ (Multi-) Shuttle Systems

Modern semi- or fully automatic warehouses are characterized, besides others, by short order picking times and a flexible adaption to different shuttle units. Smooth running telescopes with extra-long strokes as well as low-maintenance linear axes are often used here in very big quantities.

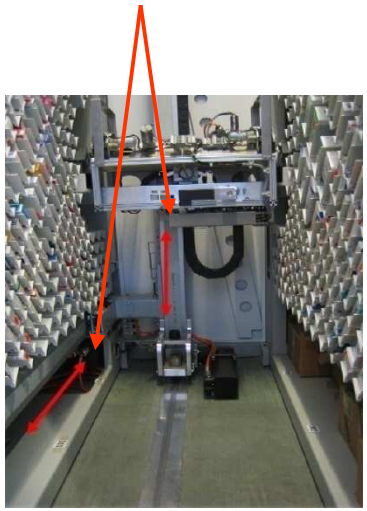
Can be found in, e.g.:

- ***logistic centers***
- ***mail-order business***
- ***industrial companies (parts warehouse)***
- ***pharmaceutical industry (medicine storage)***

Reasons why Rollon has been chosen:

- ***adaptation of standard products to customer specifications or complete new redesign***
- ***can be used at high operating speed***
- ***suitable for continuous operation***
- ***smooth, low-noise running behaviour***

AL (ELM), Uniline



Special telescopes (TR, CR)

Typical Applications

Table / Seat Adjustment

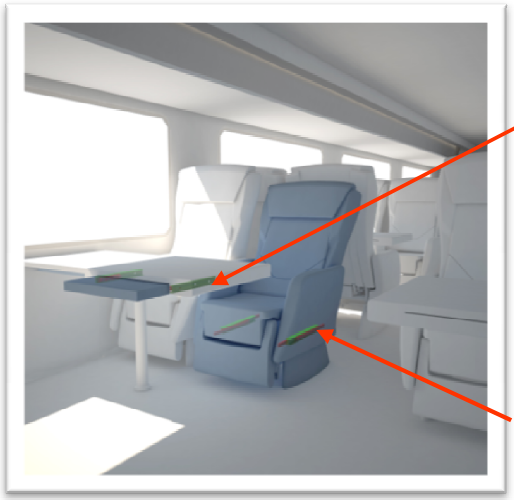
Mainly in those fields where high comfort plays a major role, a couple of applications can be found which take account of the individual, physical needs. Guiding systems that are used in moving vehicles not only have to accomplish its dedicated purpose, but also must withstand extremely high stress in case of a crash.

Can be found in, e.g.:

- ***air planes (Business / First Class)***
- ***railway cars (Business / First Class)***
- ***coaches, trucks (driver's seat)***
- ***construction vehicles (in some cases: a complete shifting of the operator cabin is required)***

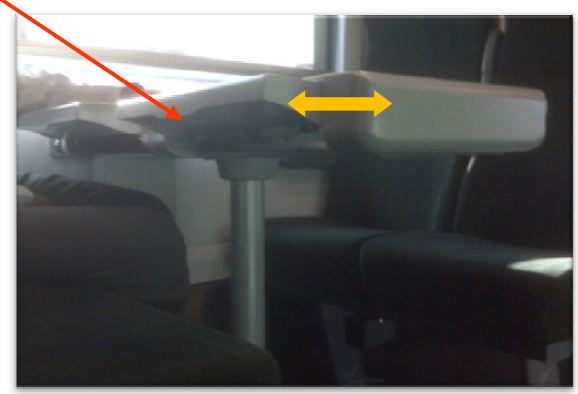
Reasons why Rollon has been chosen:

- ***fixed / loose bearing (T+U or K+U) for smooth running***
- ***weight-reduced systems for applications within the aircraft industry (interiors)***
- ***low-maintenance***
- ***system based on rollers instead of balls, thus less vulnerable to dirt and blocking***
- ***torque resistant, compact design and high load capacity***



X-Rail, Easy Rail

Compact Rail



Mono Rail, TR (ASN)

Typical Applications

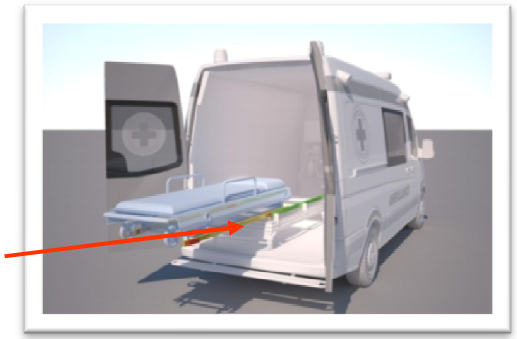
Medical Diagnosis Systems and Transport Devices

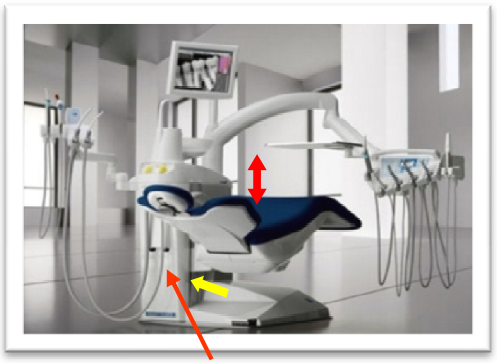
Typically, the requirements of the medical industry are most diverse. High rigid guiding systems for precise positioning tasks on the one hand, durable and wear-resistant linear actuator systems on the other hand have to last a total lifetime while they are required to operate reliably and free from defects.

Can be found in, e.g.:
- ***dental / medical offices***
- ***medical schools***
- ***hospitals***
- ***ambulances***

Reasons why Rollon has been chosen:
- ***broad variety of products -> often more than one product from different product families is required***
- ***high rigidity and load capacity***
- ***smooth, low-noise running behaviour***
- ***surface coating variants (nickel plating, "Rollon Alloy")***

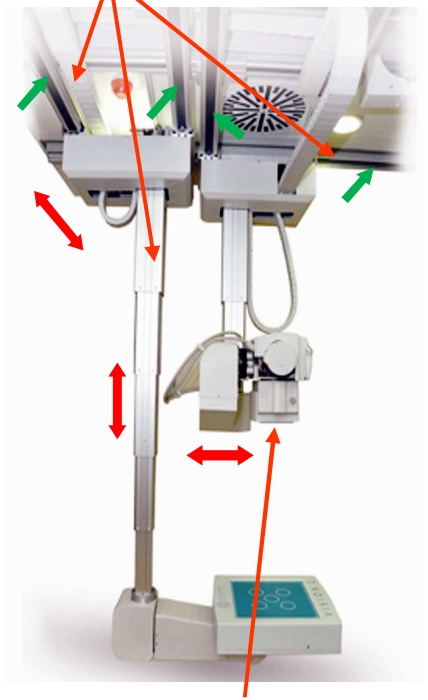
Telescopic Rail (DE)





Mono Rail, TR (ASN), CR

Uniline (A, E), AL (ELM, ECO)



Mono Rail, Easy Rail, X-Rail

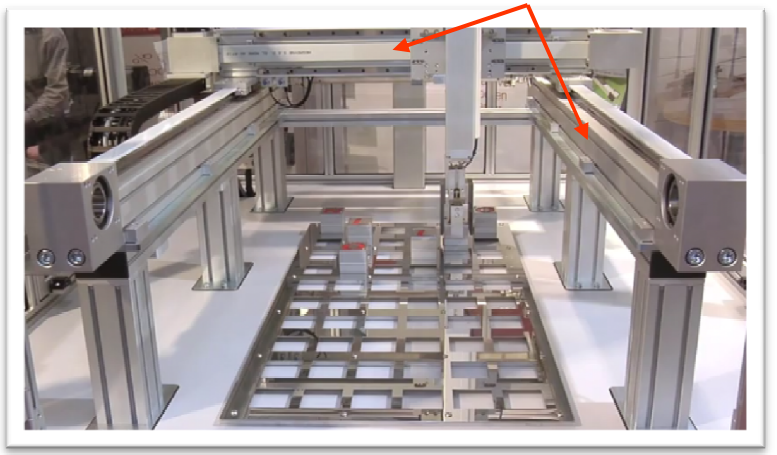
Typical Applications

ROLLON®
LinearEvolution

Handling Systems / Pick & Place Stations

Today's production lines are characterized by a direct connection of the individual stations by means of appropriate handling systems, sometimes installed as a portal construction. Moreover, the palletizing of goods for the subsequent shipping is usually done fully automatic. The need for both, linear guiding systems and linear axes, is equally high in this branch!

Compact Rail AL (LIGHT)



Can be found in, e.g.:
- ***all kind of production and assembly lines***
- ***logistics centers***

Reasons why Rollon has been chosen:
- ***overall supply of guiding systems provided by one manufacturer***
- ***range of linear axes for the most diverse applications and environmental conditions***
- ***can be used at high operating speed***
- ***suitable for continuous operation***
- ***smooth, low-noise running behaviour***
- ***low-maintenance***

Typical Applications

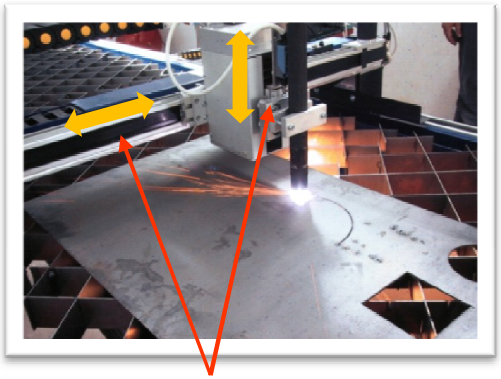
ROLLON®
LinearEvolution

Cutting Tables / Plasma Cutters

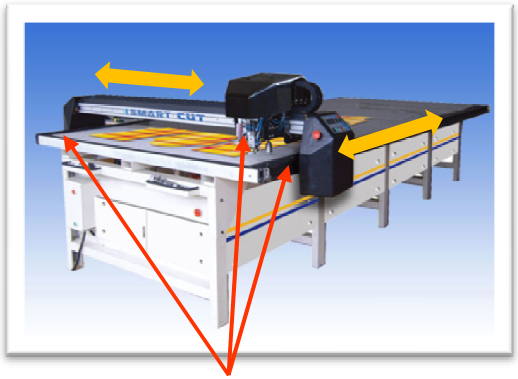
Permanently alternating load directions and fast motion sequences in X-Y-Z direction require very rigid linear axis-system which are mainly used in such machines. At the same time, they have to operate with the same positioning accuracy – even after thousands of cycles.

Can be found in, e.g.:
- ***textile industry***
- ***metal working industry***

Reasons why Rollon has been chosen:
- ***overall supply of guiding systems provided by one manufacturer***
- ***range of linear axes for the most diverse applications and environmental conditions***
- ***can be used at high operating speed***
- ***suitable for continuous operation***
- ***smooth, low-noise running behaviour***
- ***low-maintenance***



AL (TK), Uniline, Mono Rail +



AL, Uniline, Mono Rail

Typical Applications

Cabinetry

Multi-functional furniture, whether to be used in business or private sector, offers a multitude of options for applications for linear guidings. High rigidity, smooth running and long lifetime are the main criteria of its components in order to preserve the necessary creativity of the designers while turning their ideas into reality.

Can be found in, e.g.:

- ***furniture adapted to the needs of disabled (height adjustment)***
- ***museum vitrines, cases (heavy laminated safety glass)***
- ***premium kitchens (smooth running, heavy materials)***
- ***furniture for restaurants, cafeterias (functionality)***

Reasons why Rollon has been chosen:

- ***high rigidity / load capacity***
- ***corrosion-resistant coating or stainless steel***
- ***low deflection***
- ***easy, manual operation***

Compact Rail, X-Rail

Telescopic Rail (ASN)

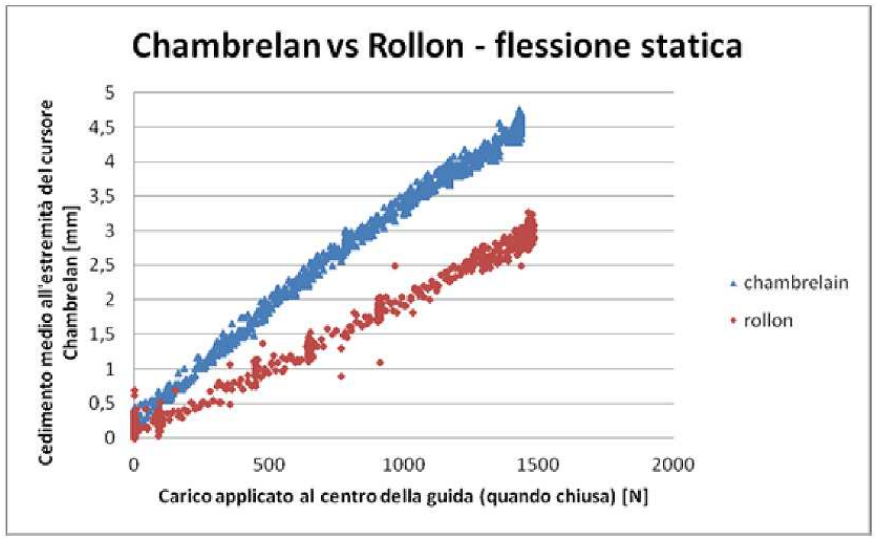
Telescopic Rail (ASN, DE)

New and Special Products

Telescope: LTH series

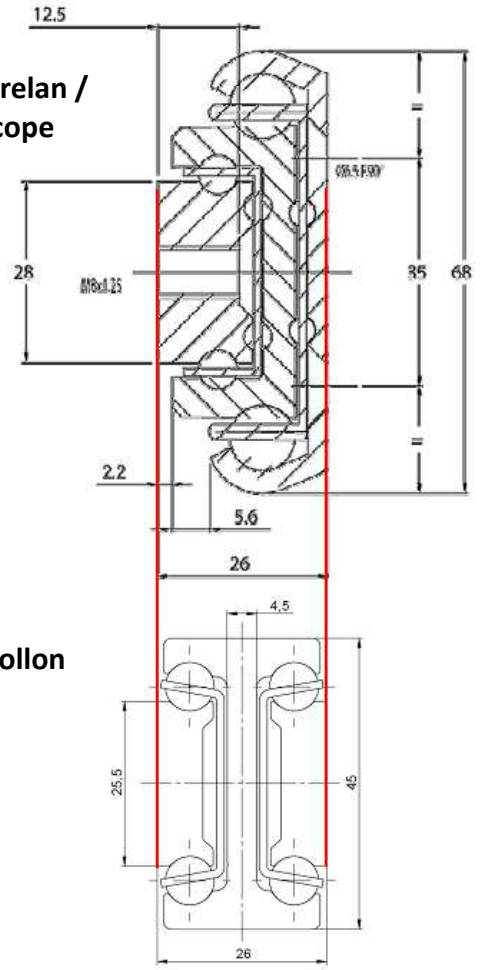
- *size (profile height): 30, 45*
- *compatible with Chambrelan/Profilscope type RA5R (LTH30) and RA7R (LTH45)*
- *suitable for mid-range loads (up to ca. 350 kg/pair)*
- *non-hardened raceways*
- *numerous fields of application (extractions, light safety doors, drawers, …)*

- ***Advantages (Rollon vs. Chambrelan)**:*
  > higher load capacity at more compact design thanks to optimized intermediate element
  > less weight (- 22% / -25%)
  > higher rigidity (+20% / + 30%)



Test results:
LTH30 (red) = up to 30% less deflection compared with RA5R (blue)

Chambrelan / Profilscope

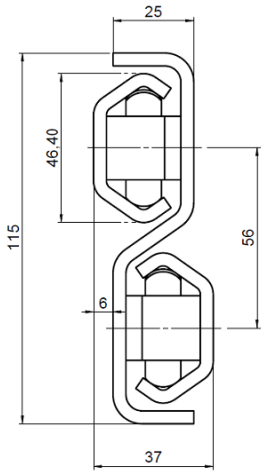


Rollon

New and Special Products

Telescope: DRS45 / DRX45

- *customer-specific special product*
- *size: 45*
- *intermediate element with enhanced rigidity*



Telescope: DSE43 / DME63

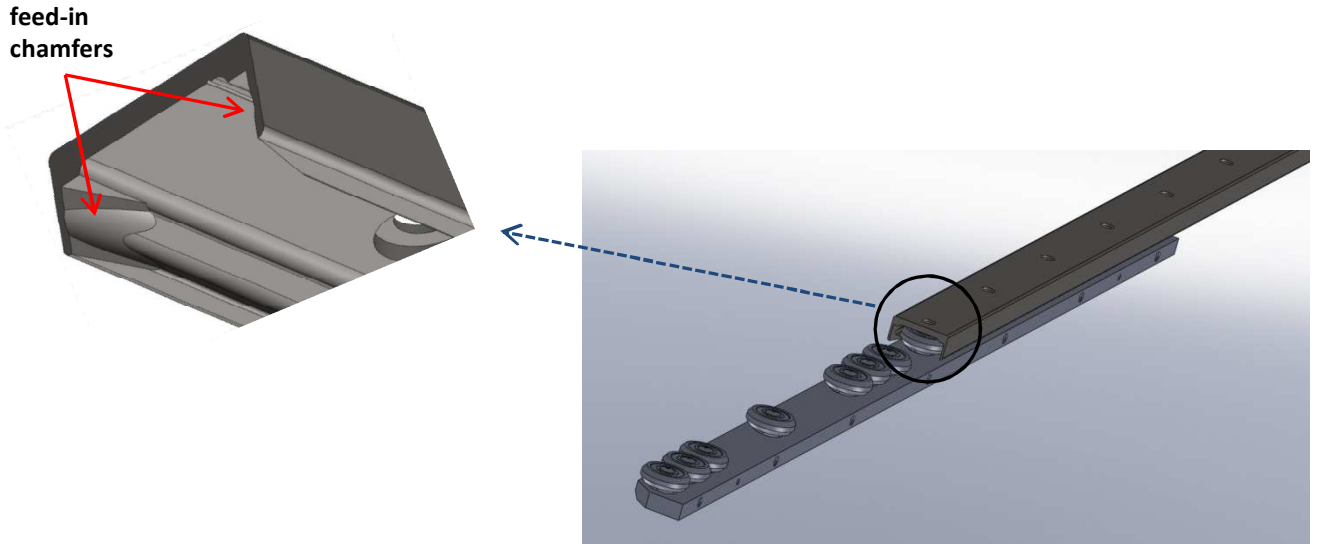
- *customer-specific special product with extended extraction and high rigidity and load capacity at the same time*
- *here: combined with Compact Rail slider*

New and Special Products

ROLLON®
LinearEvolution

Compact Rail: Feed-in chamfers

- *special work step*
- *reduction of mechanical resistance of Compact Rail rollers when (re-) entering the rail*
- *no stress due to vibration or shock on the preloaded rollers (gentle treatment of material)*



Telescopic Rail: weight-reduced

- *customer-specific special product*
- *weight-optimized design*
- *relatively little interference on main performance characteristics (load capacity, deflection)*
- *suitable for applications within the aircraft industry and for a reduction of operating energy*