

W-LINE



 **VANSICHEN**
LINEAR TECHNOLOGY

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WHY W-LINE?

Thanks to a mechanism integrated in the carriage, the rollers of the W-Line always adjust to the rail contour.

This makes it possible to negotiate curves and straights without play and with constant displacement resistance.

WHAT ADVANTAGE DOES THIS OFFER?

Adjustment to the rail width via eccentric pins is no longer necessary. The preload of the guide carriage is always constant and assembly errors are avoided.

Track roller guides wear out due to the rollers slipping on the rail, but this is prevented by the constant pre-tensioning force, as the roller is always in contact with the rail. Simply push the carriage onto the rail and all carriages move evenly and without slippage of the castors on the rail.

WHY CAN'T ALL SERIES NEGOTIATE CURVES?

The mechanics of the LWF series allow compensation of approx. 0.5 mm, making it possible to negotiate curves and straight rails.

The roller carriages of the LWS series are equipped with a simpler balancing mechanism, which enables a tolerance compensation in the range of approx. 0.05 mm, which is why only straight rails can be negotiated.

WHAT INFLUENCE DOES THIS HAVE ON THE SERVICE LIFE? DO THE MECHANICS GIVE WAY UNDER LOAD?

The pretensioning of the LWF series is set in such a way that the wagons remain inflexibly on track as long as the permissible loads are not exceeded.

The permissible forces and torques are designed in such a way that the carriages have a service life of L(10) of > 100,000 km. If the permissible loads are exceeded, the mechanical system absorbs the resulting shocks. The track rollers of the LWS series yield a maximum of 0.05 mm under load.

ARE ALL 4 CASTORS SELF-ALIGNING?

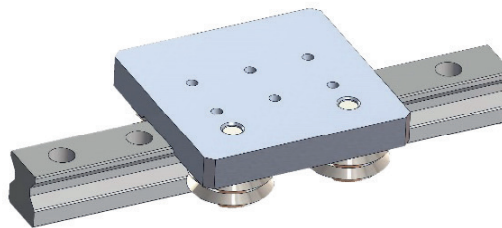
The mechanism for pretensioning the castors is installed on one side of two castors. The two opposite castors are rigidly mounted.

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Dimensions of size 2

Dimensions of size 3



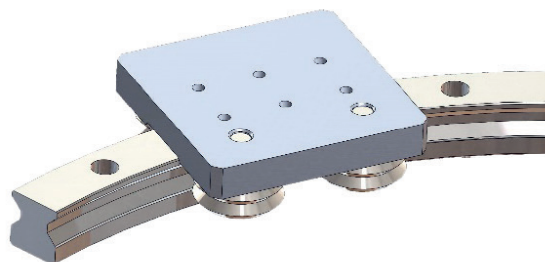
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CARRIAGES OF THE LWF SERIES

Dimensions of size 2

Dimensions of size 3



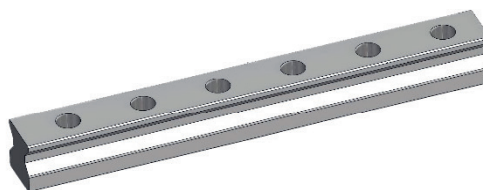
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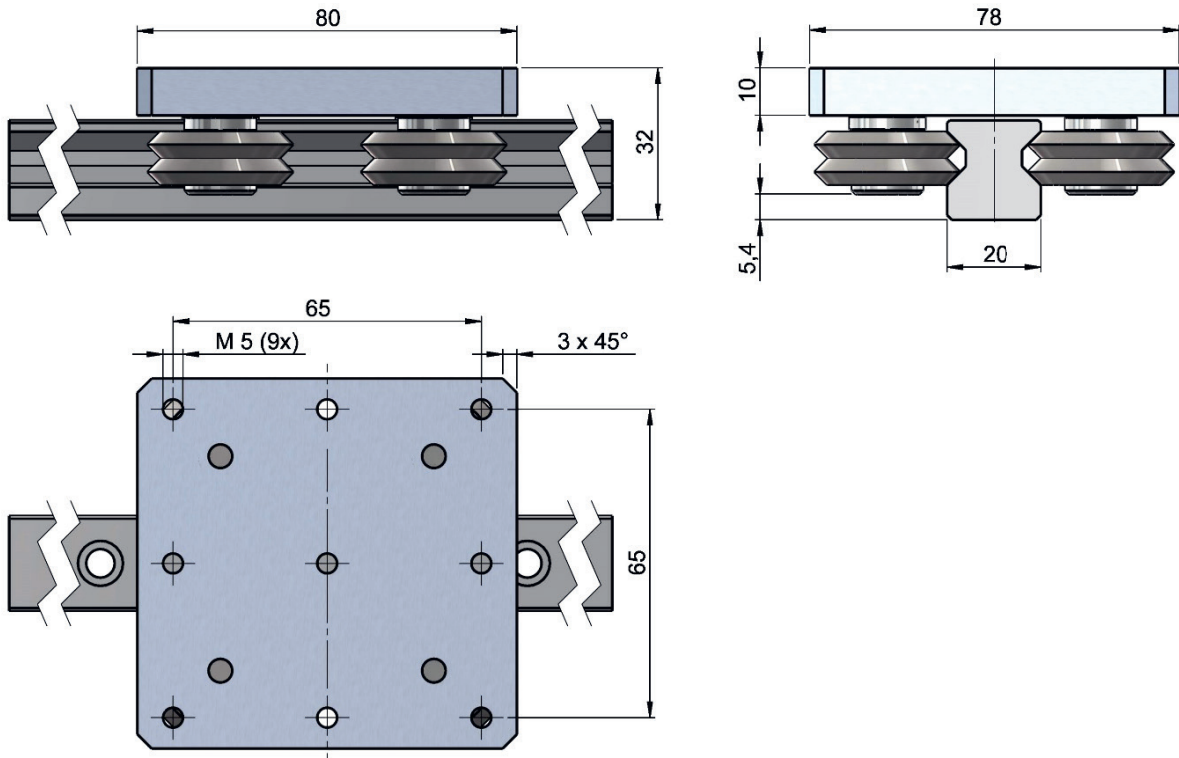
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OTHER ROLLER GUIDES FROM THE MOTION RANGE

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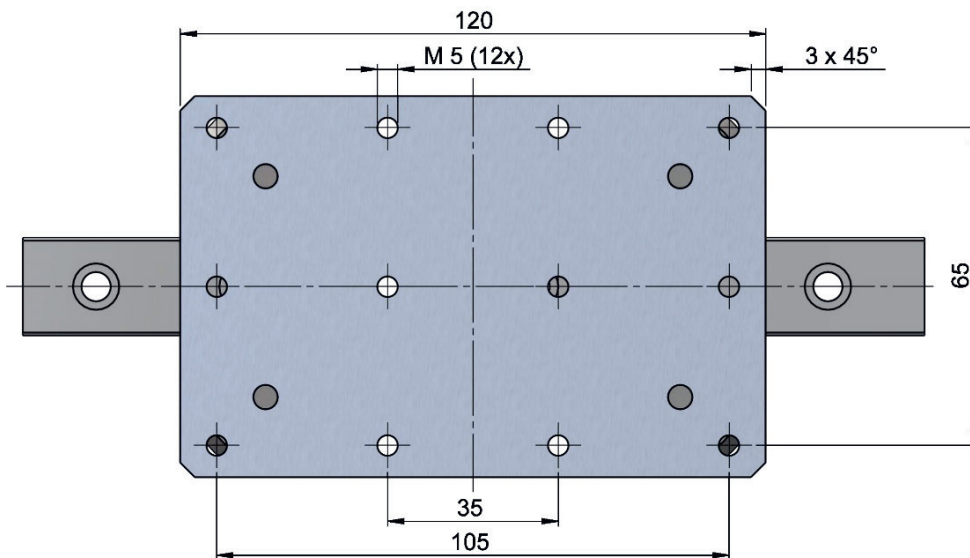
DIMENSIONS LWS-02

LWS-02-080



Mass of carriage 375 g

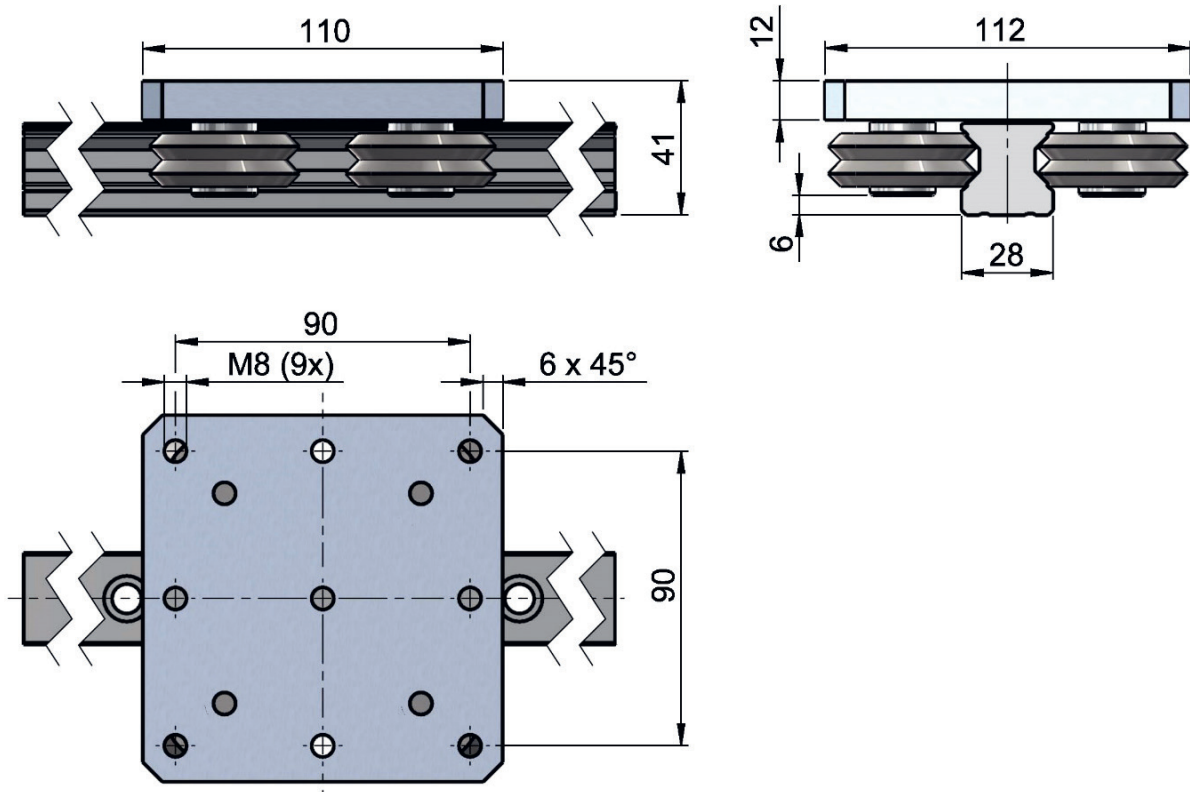
LWS-02-120



Mass of carriage 460 g

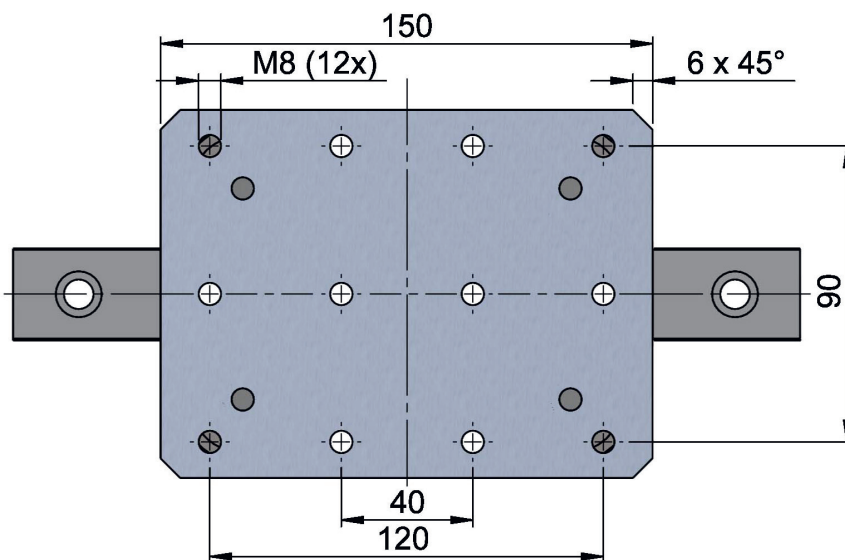
DIMENSIONS LWS 03

LWS-03-110



Mass of carriage 1040 g

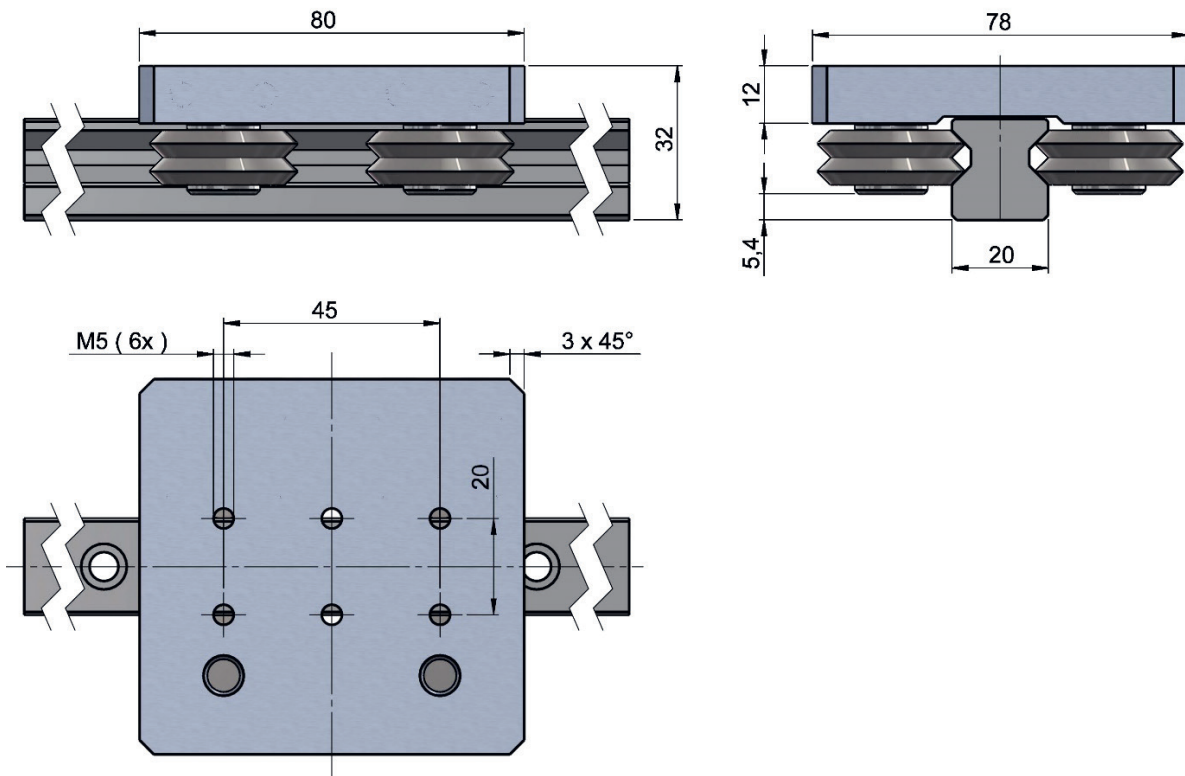
LWS-03-150



Mass of carriage 1180 g

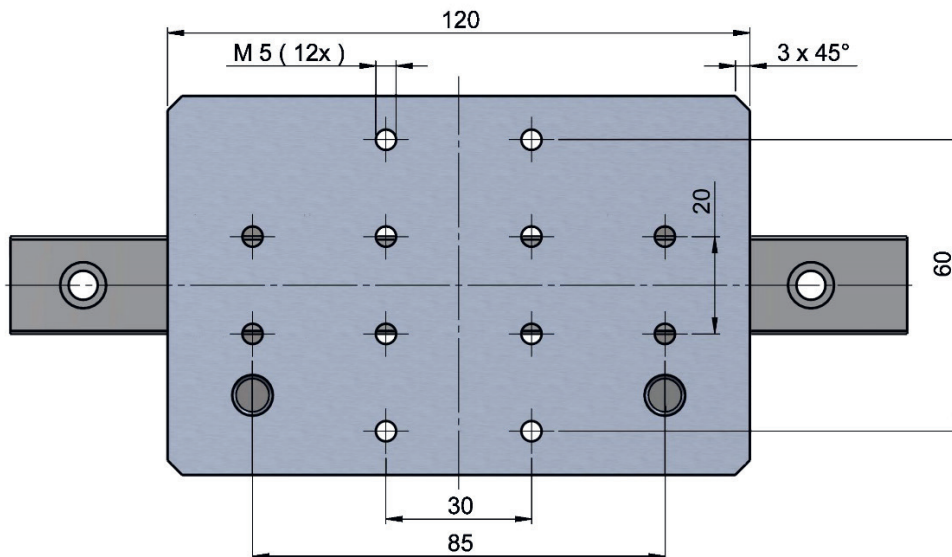
DIMENSIONS LWF 02

LWF-02-080



Minimum curve radius 200 mm
Mass of carriage 420 g

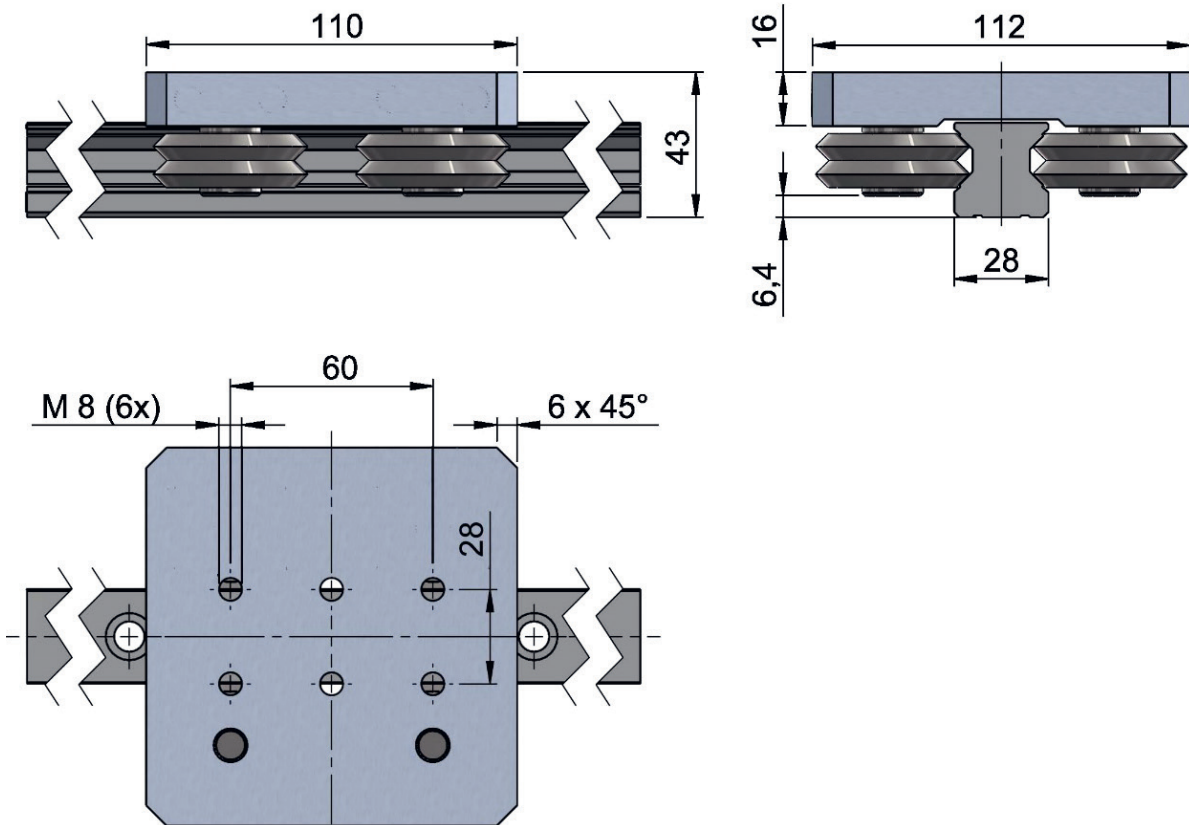
LWF-02-120



Minimum curve radius 400 mm
Mass of carriage 510 g

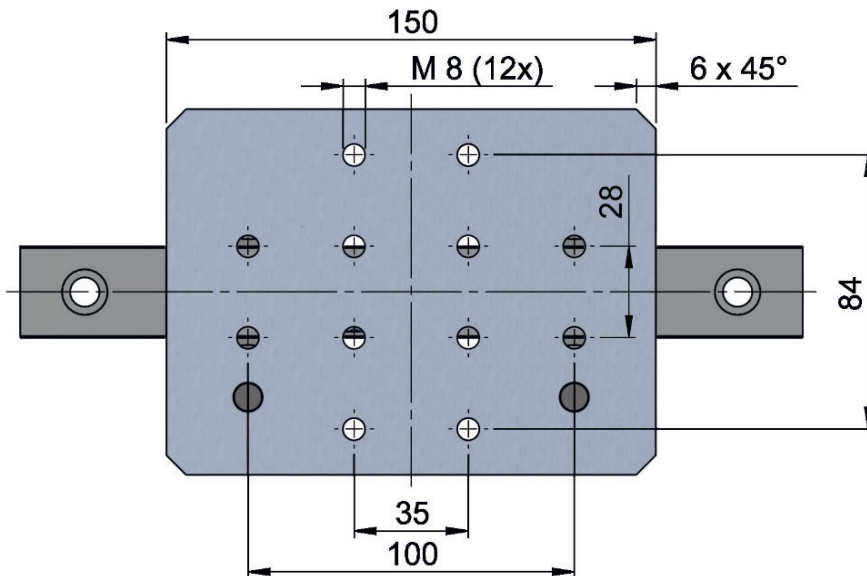
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LWF-03-110



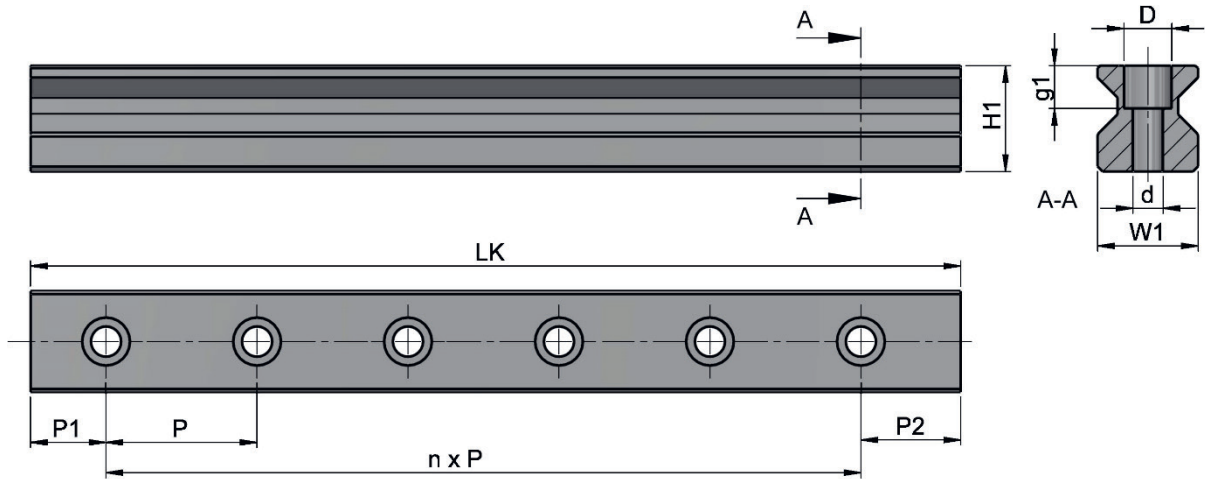
Minimum curve radius 300 mm
Mass of carriage 1270 g

LWF-03-150



Minimum curve radius 500 mm
Mass of carriage 1450 g

STRAIGHT RAILS



ORDER NUMBERS

RSW - 02 - 0500 - 10 - 10 - A 0

Straight rail	Size	LK	P1	P2	Option	Adjustment spring
W-Line	02 03				A = Standard B = Diamond plating coated	0 = without 1 = at P1 2 = at P2 3 = on both sides

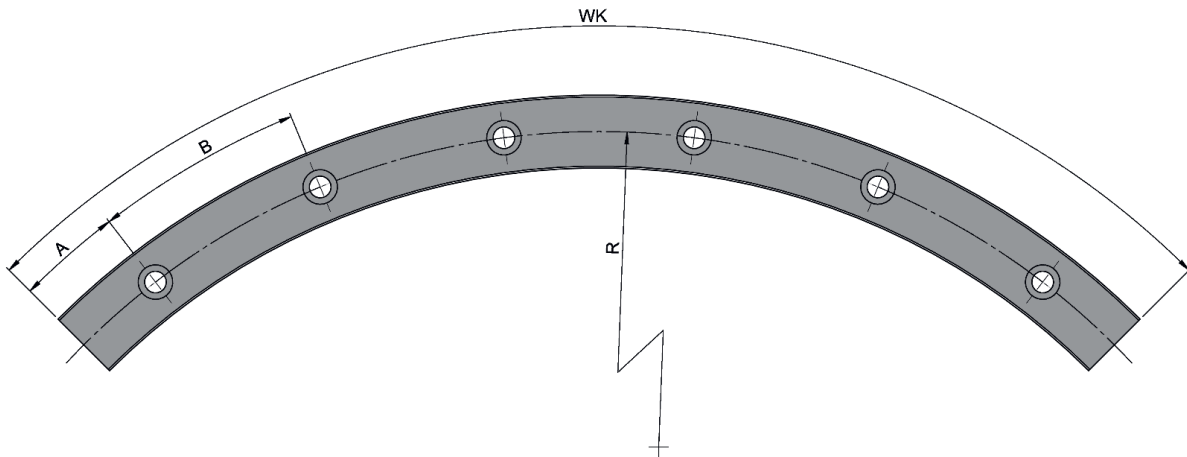
Order number	W1	D	d	g1	H1	P	LK max.
RSW-02	20	9,5	6	8,5	21	30	4000
RSW-03	28	14	9	12	28	40	4000

Option and adjustment spring see accessories on page 11.
The maximum lengths of the dimensions P1 and P2 are $P - D/2$.

Complex geometries of curves and straight rails can be created according to the application. Send us a sketch and you will receive an offer, a drawing and/or the corresponding CAD data at short notice.

Rail material: steel hardened.

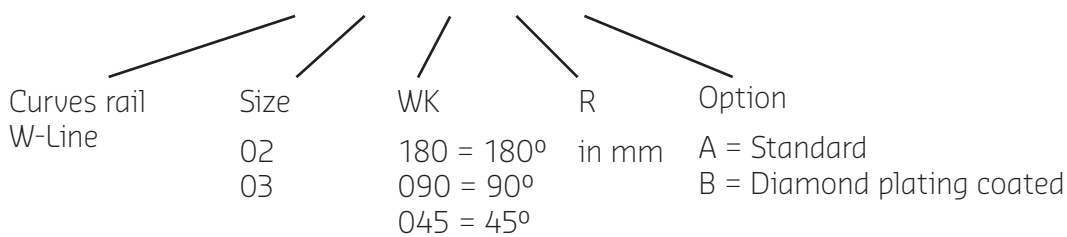
CURVE RAILS



For fixing holes and cross-section see straight rails.

ORDER NUMBERS

RCW - 02 - 090 - 200 - B3



Order number	R	A	B	WK Standard version (tabular)		
RCW-02-	200	7,5 °	15°	180°	90°	45°
RCW-02- RCW-03-	300	7,5 °	15°	180°	90°	45°
	400	3,75°	7,5°	180°	90°	45°
	500	3,75°	7,5°	-	90°	45°
	600	3,75°	7,5°	-	90°	45°
	800	3,75°	7,5°	-	-	45°

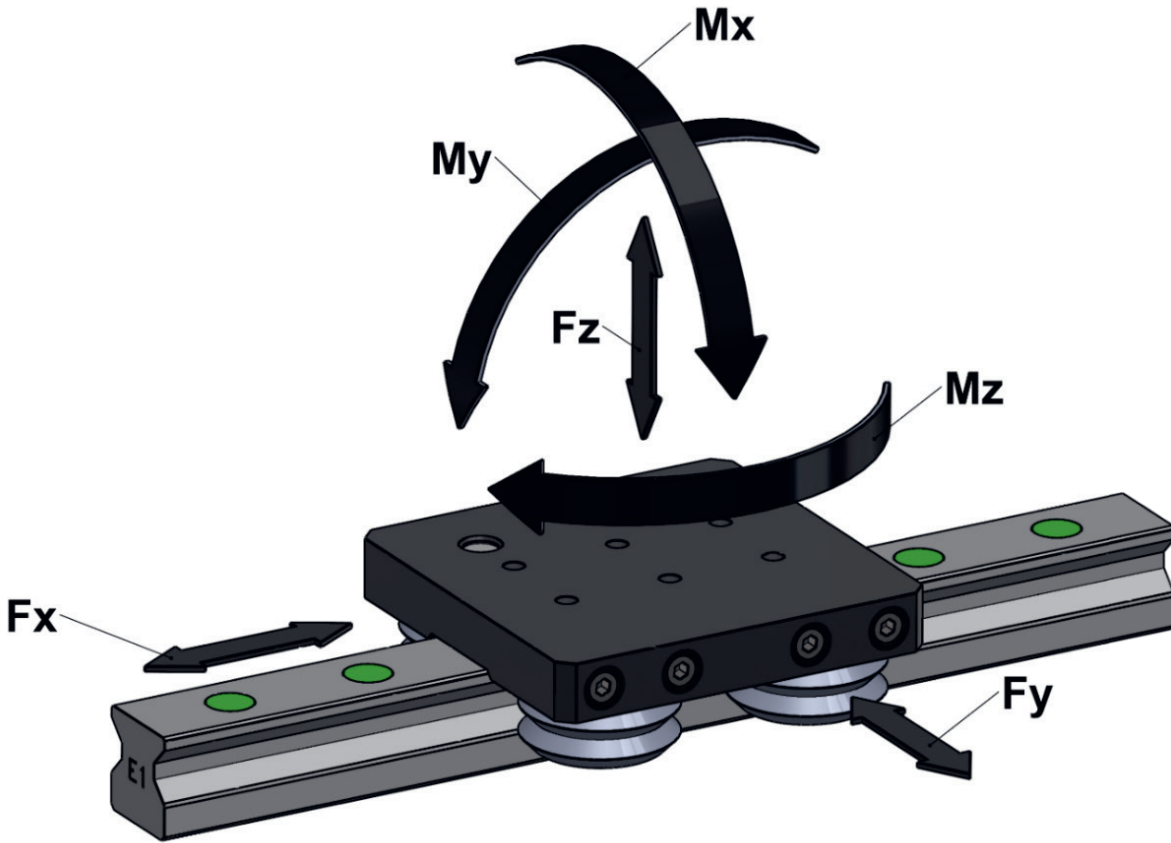
Option see accessories on page 11.

Curved rails are supplied with spring groove on both sides.

Complex geometries of curves and straight rails as well as other radii and angles can be created according to the application. Send us a sketch and you will receive an offer, a drawing and/or the corresponding CAD data at short notice.

Material of the rail: steel hardened.

FORCES AND TORQUES



Carriage	FY (N)	FZ (N)	MX (Nm)	MY (Nm)	MZ (Nm)
LWF-02-080	400	400	18	18	26
LWS-02-080	600	600	27	27	39
LWF-02-120	400	400	18	34	39
LWS-02-120	600	600	27	51	58
LWF-03-110	800	800	52	48	70
LWS-03-110	1200	1200	78	72	105
LWF-03-150	800	800	52	80	95
LWS-03-150	1200	1200	78	120	142

The permissible loads are designed so that the carriages achieve a service life of >100.000 km L (10).

The service life in the application also depends on the lubrication condition and impurities and may accordingly vary.

Compound loads:

$$\frac{FyA}{Fy} + \frac{FzA}{Fz} \leq 1 \quad \frac{MxA}{Mx} + \frac{MyA}{My} + \frac{MzA}{Mz} \leq 1$$

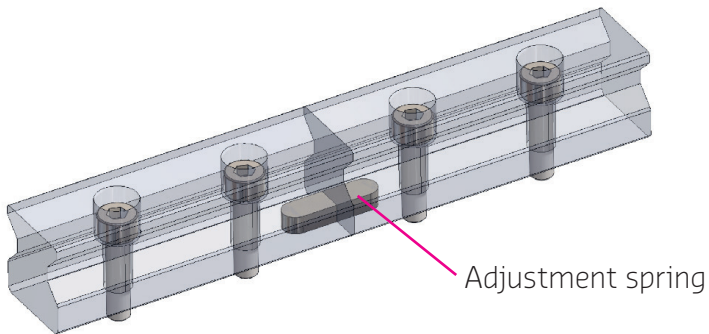
ACCESSORIES

COATED RAILS

With option B, the rails are supplied coated with diamond plating.

This coating reduces friction, increases the hardness of the rail and provides corrosion protection. The guides thus have better dry-running properties, the service life of the system is increased and the need for lubricants is reduced.

BUTT JOINT WITH ADJUSTMENT SPRING



To simplify assembly, the rails can be supplied with a spring groove at the joint. The adjustment spring is recessed in the rail, the rails can be screwed directly onto a flat surface.

Straight rails are optionally supplied with a spring groove, curved rails contain the spring groove as standard. The spring groove aligns the rails to each other and simplifies passing over the joint. The rails with spring groove can be paired as desired.

LUBRICATION SYSTEM COMPLUBE

The carriages of the W-Line can be provided with lifetime lubrication. For this purpose, the carriage contains a Complube lubrication reservoir (detailed information on Complube: see brochure „Complube“).

COVER CAPS FOR THE GUIDE RAILS

To reduce soiling of the guide rails, the fixing holes can be closed with cover caps.

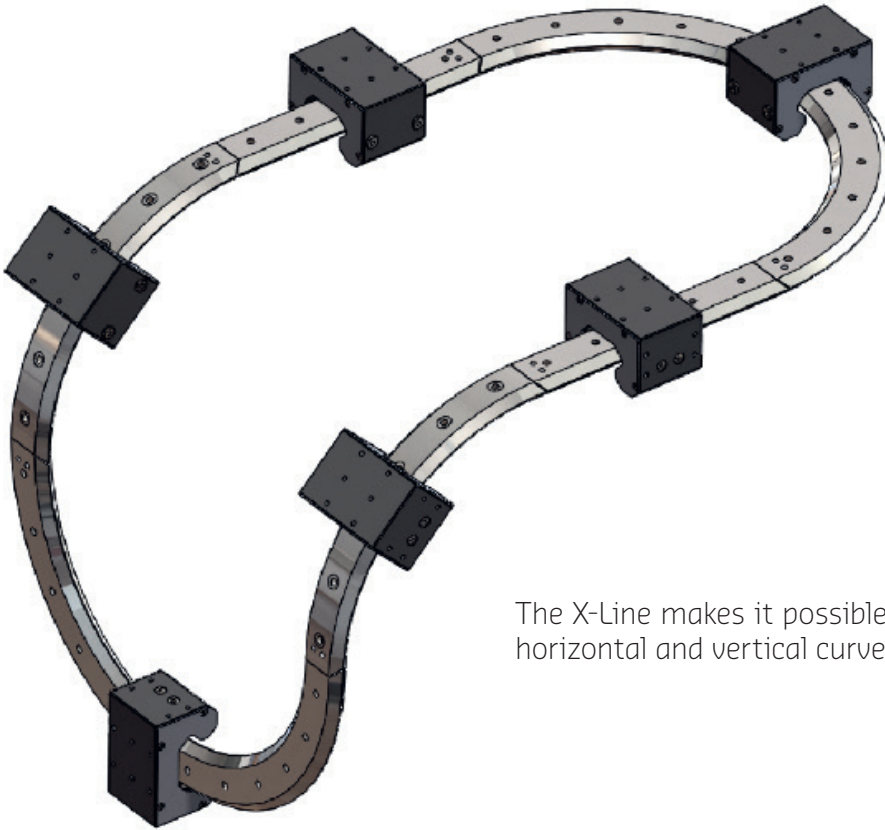
Order number: Size 2 WK-02

Size 3 WK-03

Technical specifications are subject to change without notice.

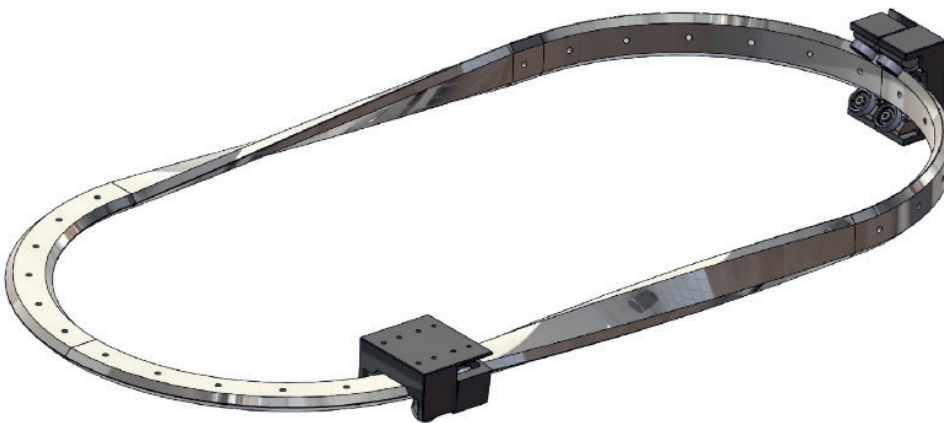
ROLLER GUIDES X-LINE

In addition to the W-Line, you will also find the X-Line in the motion range.



The X-Line makes it possible to negotiate horizontal and vertical curves.

Even twisted rails are possible and allow new applications.



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VANSICHEN LINEAR TECHNOLOGY

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