
W-Line



- Without axial play!
- Adjustment-free!

The new dimension in running culture!

Why W-Line?

Thanks to a mechanism integrated in the roller unit, the rollers of the W-Line always adapt to the contour of the rail.

This enables backlash-free travel on curves and straight sections with constant displacement resistance.

What is the advantage?

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

Roller guides wear out due to the rollers slipping on the rail, this is prevented by the constant preload force. The roller is always in contact with the rail.

Simply push the carriage onto the rail and all carriages run evenly and without slipping of the rollers on the rail.

Why can not all series drive curves?

The mechanics of the LWF series allow a compensation of approx. 0.5 mm, which makes it possible to drive on curves and straight rails.

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

What influence does this have on the service life?

Does the mechanics give way under load?

The preload of the LWF series is set so that the carriages remain rigidly 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 achieve a service life $L_{(10)}$ of > 100,000 km.

If the permissible loads are exceeded, the mechanical system absorbs the resulting shocks.

The track rollers of series LWS yield a maximum of 0.05 mm under load.

Are all 4 rollers self-aligning ?

The mechanism for pretensioning the rollers is installed on one side of two rollers.

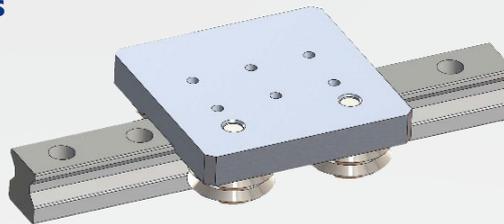
The opposite two rollers are rigidly mounted.

Content

Carriages of the LWS series

Dimensions size 2

Dimensions size 3



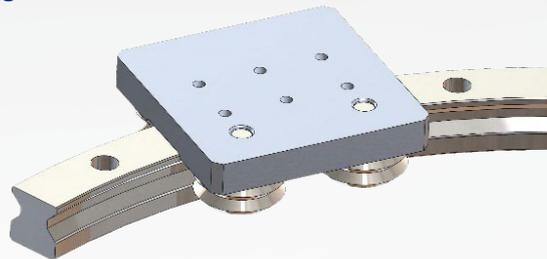
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Carriages of the LWF series

Dimensions size 2

Dimensions size 3



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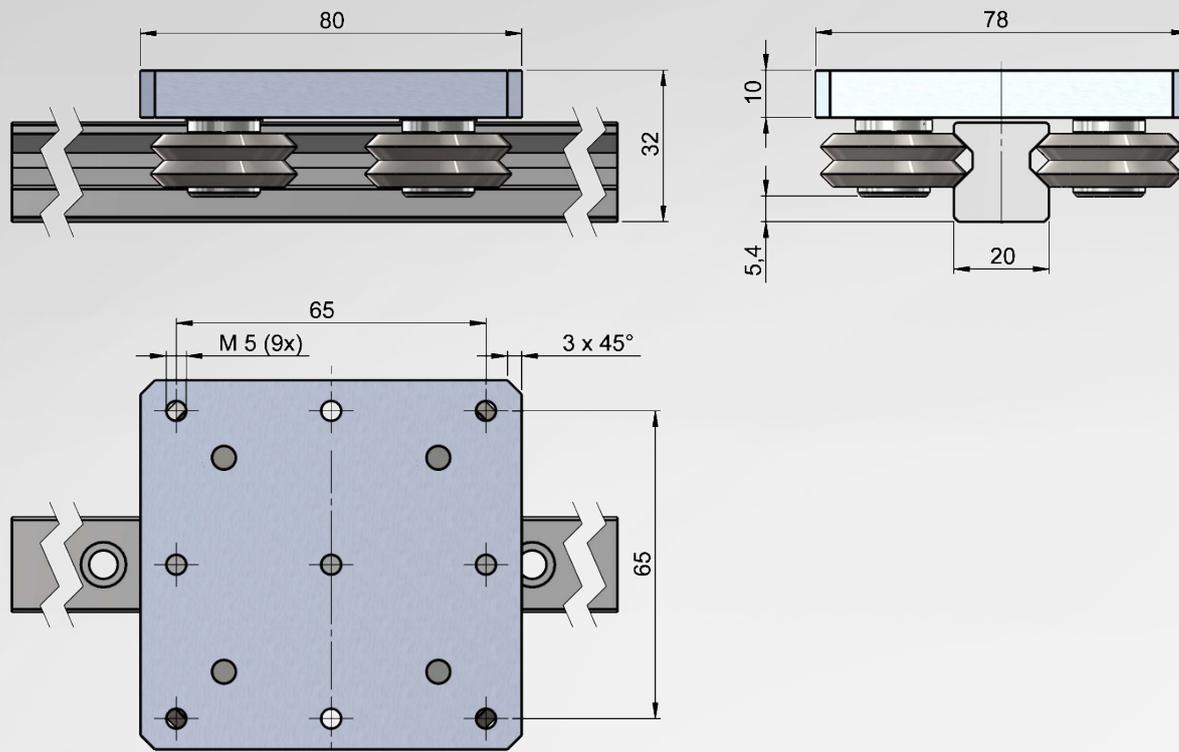
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Further track roller guidance systems from the PGM Motion program

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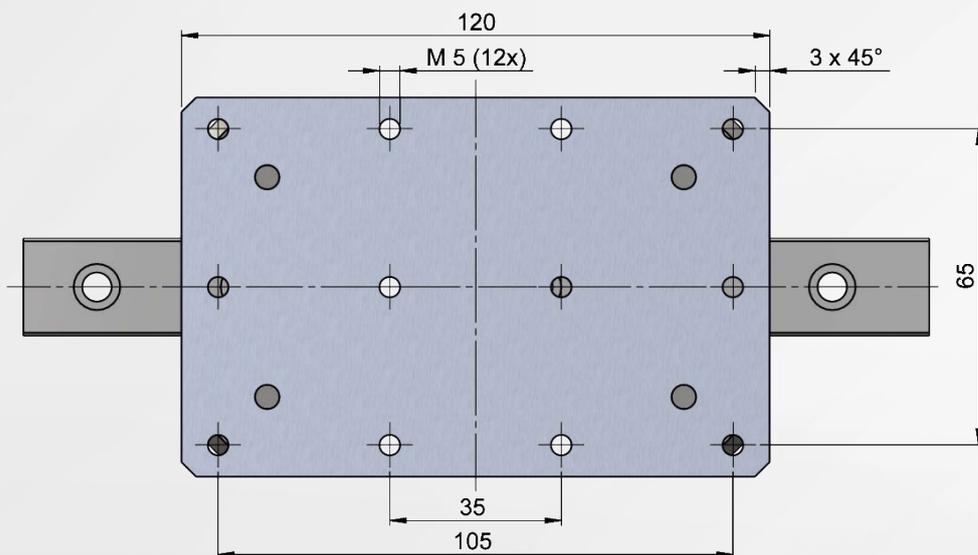
Dimensions LWS-02

LWS-02-080



Weight of the carriage 375 g

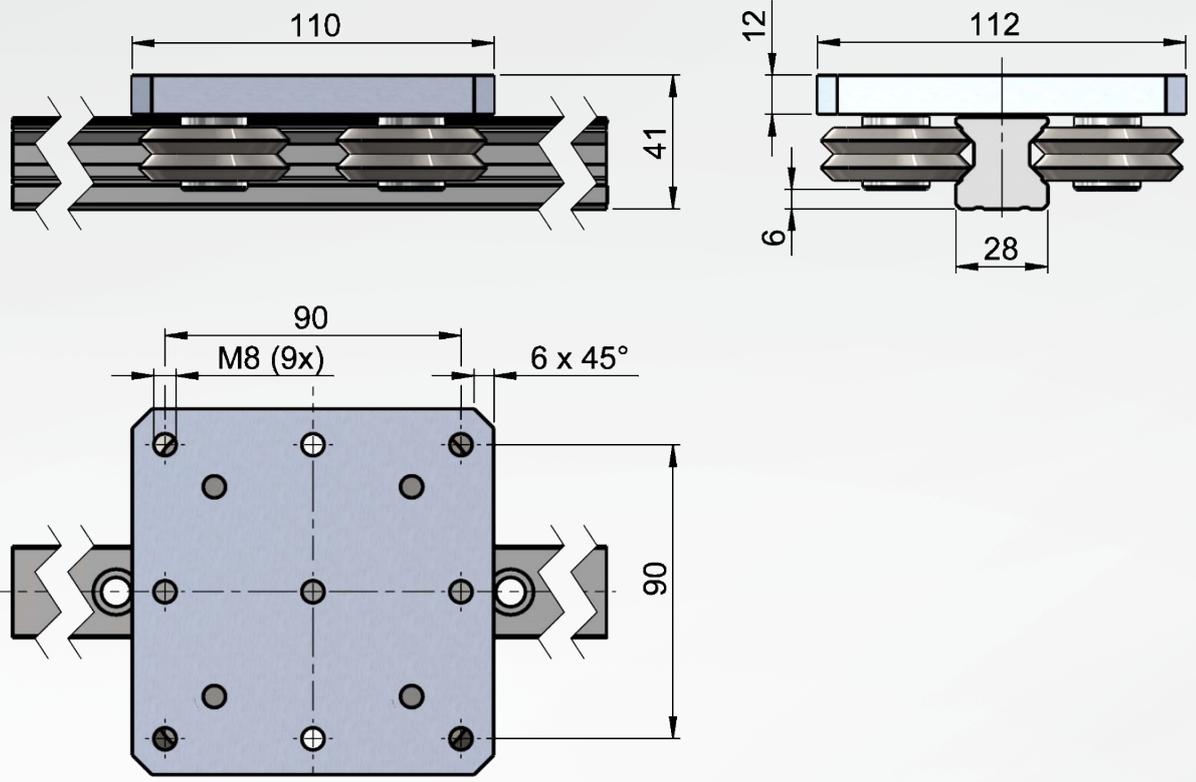
LWS-02-120



Weight of the carriage 460 g

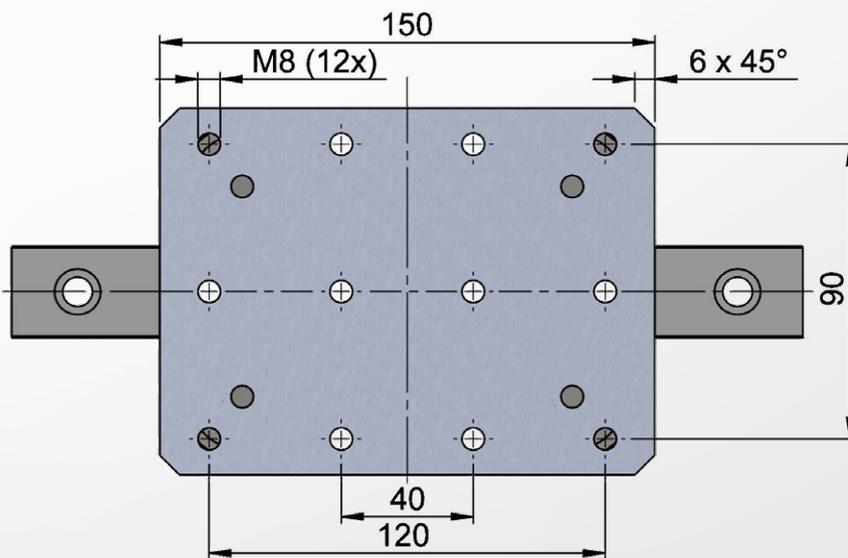
Dimensions LWS 03

LWS-03-110



Weight of the carriage 1040 g

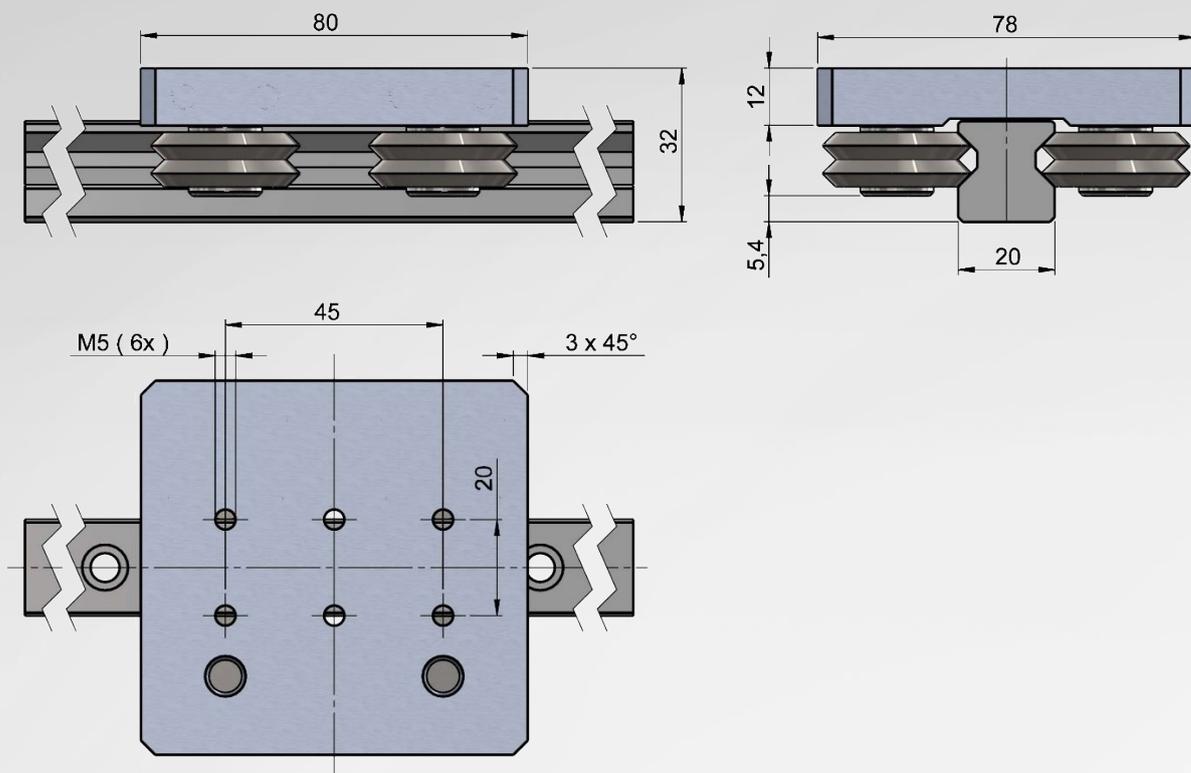
LWS-03-150



Weight of the carriage 1180 g

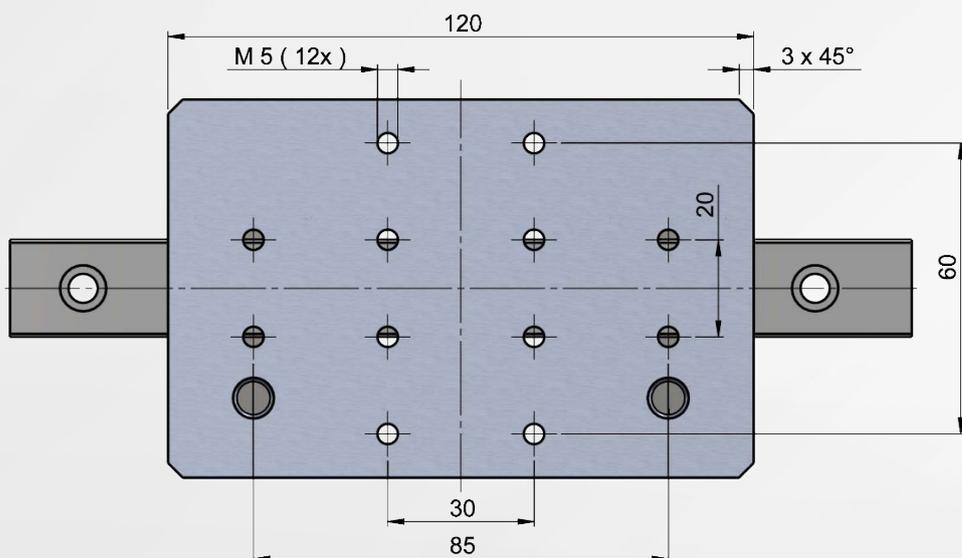
Dimensions LWF 02

LWF-02-080



Minimum curve radius 200 mm
Weight of the carriage 420 g

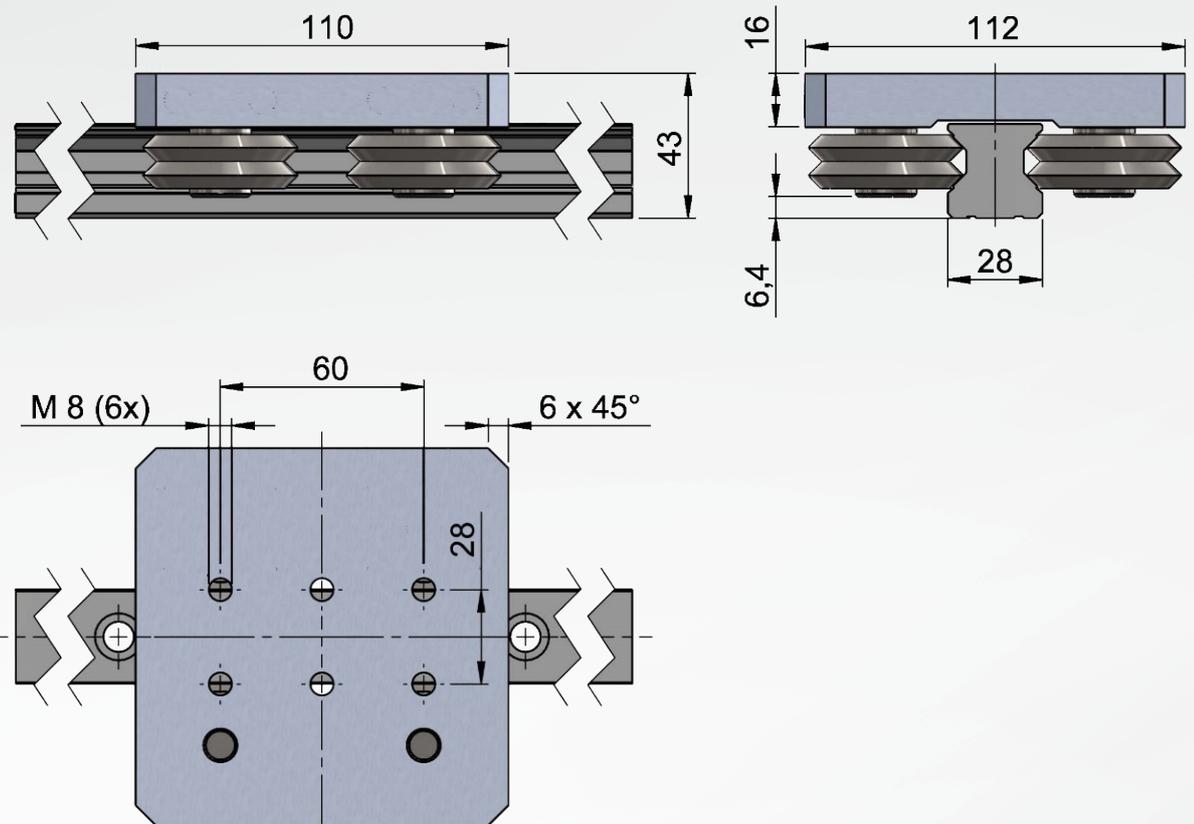
LWF-02-120



Minimum curve radius 400 mm
Weight of the carriage 510 g

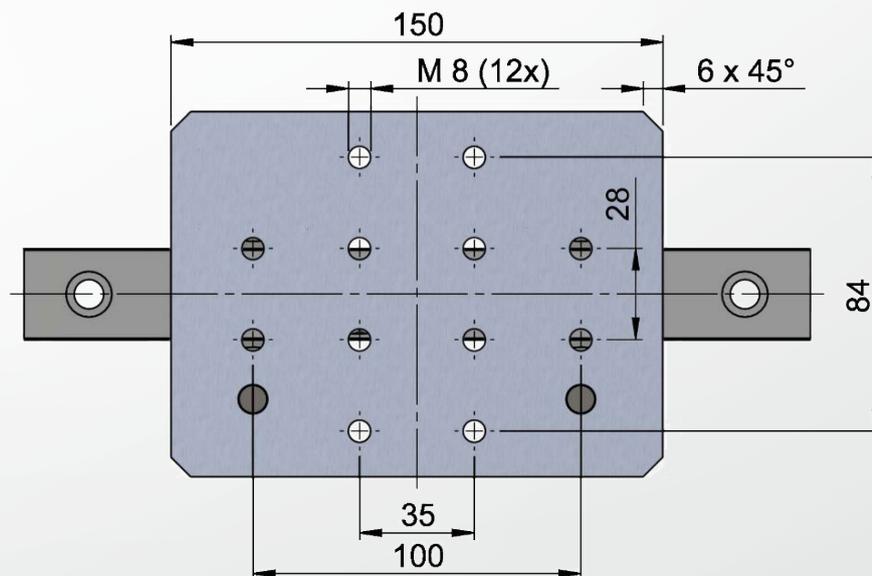
Dimensions LWF 03

LWF-03-110



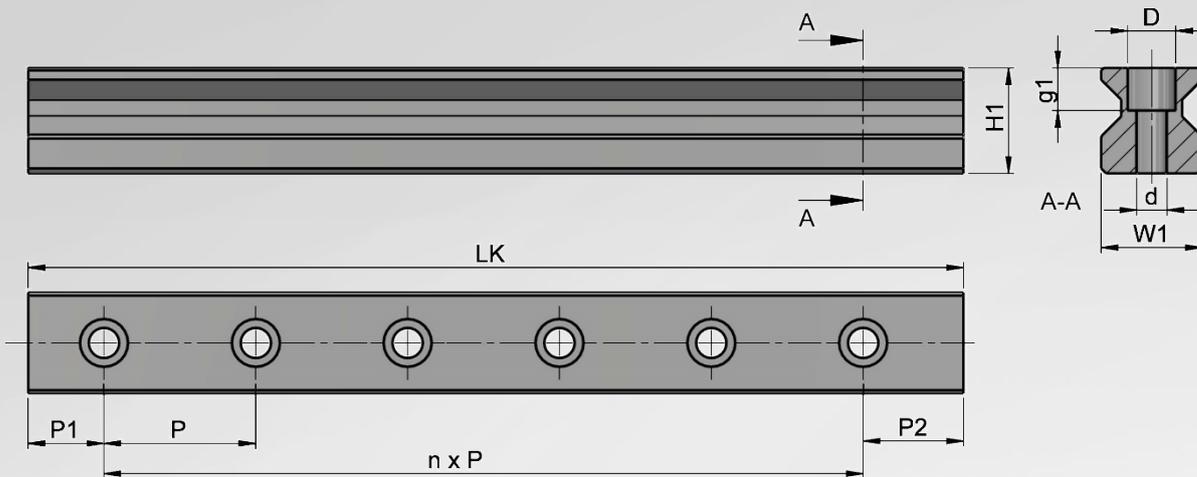
Minimum curve radius 300 mm
Weight of the carriage 1270 g

LWF-03-150

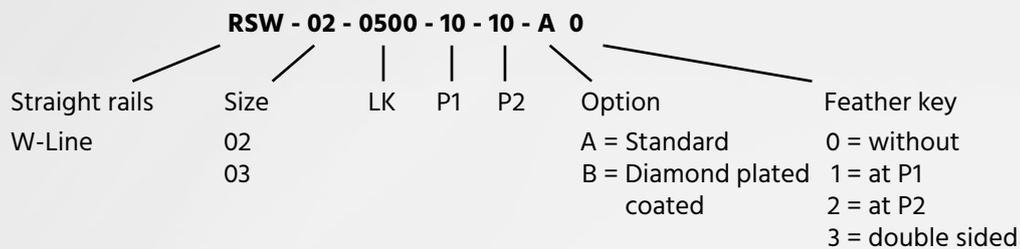


Minimum curve radius 500 mm
Weight of the carriage 1450 g

Straight rails



Order numbers



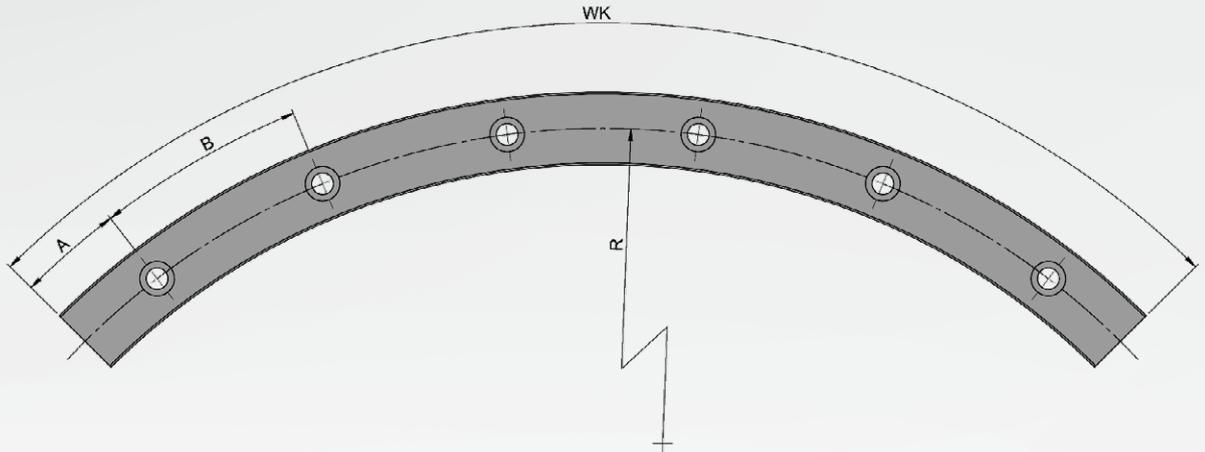
Order numbers	W1	D	d	g1	H1	P	LK max.
RSW-02	20	9,5	6	8,5	21	30	4000
RSW-03	28	14	9	12	28	40	4000

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

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 a short term offer, a drawing and / or the corresponding CAD data.

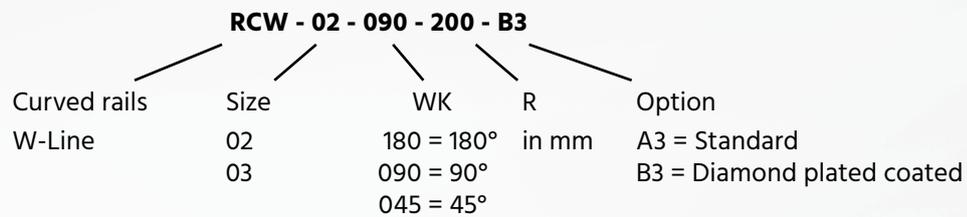
Material of the rail: hardened steel.

Curved rails



For mounting holes and cross section see straight rails.

Order numbers



Order numbers	R	A	B	WK		
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°

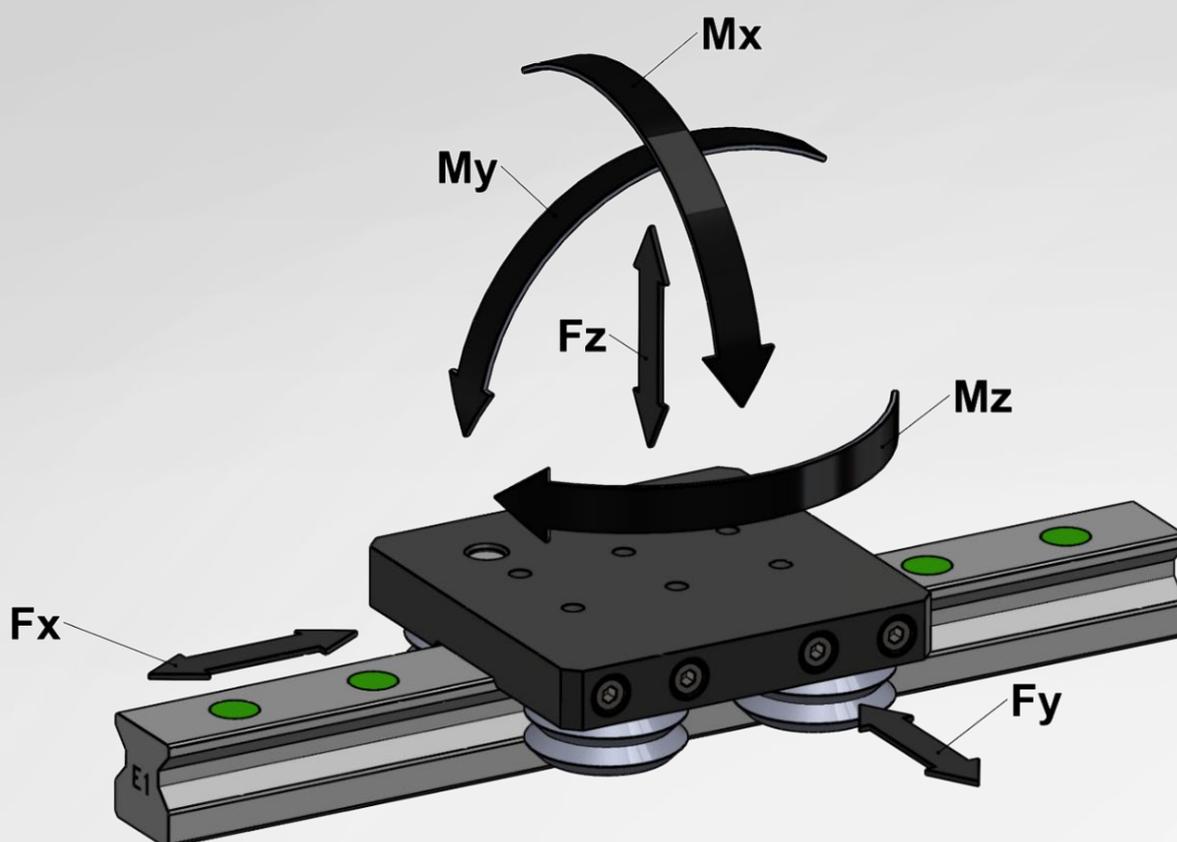
Options see accessories on page 11.

Curved rails are supplied with keyway 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 a short term offer, a drawing and / or the corresponding CAD data.

Material of the rail: Hardened steel.

Forces and torques



cariage	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 in such a way that the carriages achieve a service life of > 100,000 km $L_{(10)}$.

The service life in the application is also dependent on the lubrication condition and contamination and can therefore deviate.

Composite Loads:

$$\frac{F_{yA}}{F_y} + \frac{F_{zA}}{F_z} \leq 1 \quad \frac{M_{xA}}{M_x} + \frac{M_{yA}}{M_y} + \frac{M_{zA}}{M_z} \leq 1$$

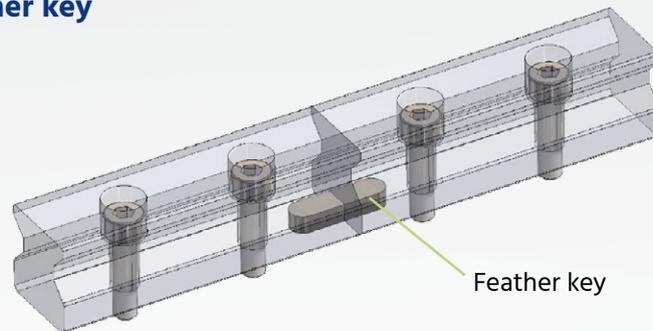
Accessories

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 guideways thus have better dry-running properties, the service life of the system is increased and the need for lubricant is reduced.

Joint with feather key



To simplify installation, the rails can be supplied with a keyway at the joint. The feather key is recessed in the rail, the rails can be screwed directly onto a flat surface.

Straight rails are optionally supplied with a keyway, curved rails contain the keyway as standard.

The keyway aligns the rails to each other and simplifies passing over the joint. The rails with keyway can be paired as desired.

Complube lubrication system

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

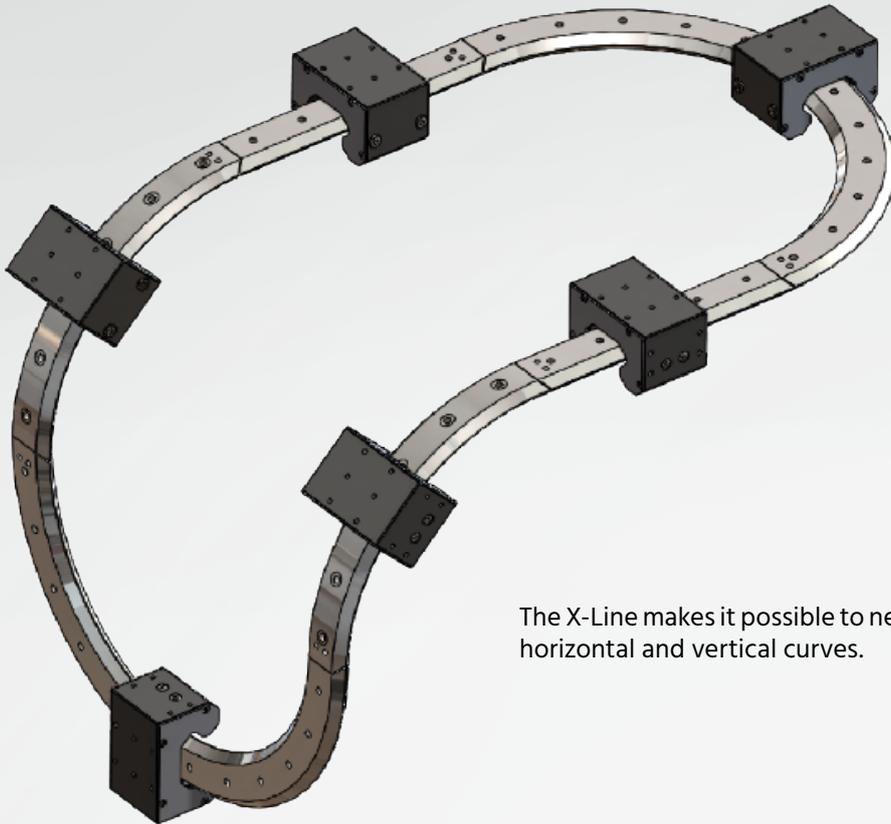
Caps for the guide rails

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

Ordernumber :	size 2	WK-02
	size 3	WK-03

Track roller guides

In addition to the W-Line, you will also find the X-Line in the PGM Motion program.



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

Even twisted rails are possible and allow new applications.



Give us a challenge!

Production ■ Sales ■ Analysis ■ Repair

PGM Motion GmbH

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