Operating Conditions

Corrosion Protection

The Compact Rail product family has a standard corrosion protection system by means of electrolytic-zinc plating according to ISO 2081. If increased corrosion protection is required, application-specific surface treatments are available upon request, e.g. as nickel-plated design with FDA approval for use in the food industry. For more information contact Rollco.

Speed and Acceleration

The Compact Rail product family is suitable for high operating speeds and accelerations.

Size	Speed (m/s)	Acceleration (m/s²)
18	3	10
28	5	15
43	7	15
63	9	20

Operating Temperatures

The temperature range for continuous operation is: -30 °C / +120 °C with occasional peaks up to +150 °C. Peaks up to +170 °C can also be reached with the use of CSW-series sliders (except size 63) not equipped with polyamide wipers.

Preload

Preload classes

The factory installed systems, consisting of rails and sliders, are available in two preload classes:

- Standard preload K1 means a rail-slider combination with minimum preload which means the rollers are adjusted free of clearance for optimal running properties.
- Usually preload K2 is used for rail-slider systems for increasing the rigidity. When using a system with K2 preload a reduction of the loading capacities and service life must be taken into consideration (see table below).

This coefficient y is used in the calculation formula for checking the static load and lifetime (see section **Static Load**). The interference is the difference between the contact lines of the rollers and the raceways of the rail.

Preload class	Reduction y	Interference* (mm)	Rail type
K1	-	0.01	all
K2	0.1	0.03	T, U...18
		0.04	T, U...28
		0.05	T, U...35
		0.06	T, U, K...43, T, U, K...63

* Measured on the largest interior dimension between the raceways

Maintenance

Roller Lubrication

The bearings inside the rollers are lubricated for life. Custom lubrication of the roller sliders for use in high temperature environments or in the food industry is available upon request. For more information, please contact Rollco.

Lubrication of the Raceways

Proper lubrication during normal conditions:

- reduces friction
- reduces wear
- reduces the load of the contact surfaces through elastic deformations
- reduces running noise

To reach the calculated service life a film of lubricant should always be present between the raceway and roller This also serves to protect against corrosion of the ground raceways.

N-slider Lubrication

Lubrication when using N-sliders

NTE-, NUE- and NKE-sliders (except for types NT/NU18) are equipped with a self-lubrication kit for periodic lubrication of the slider. This provides a progressive release of lubricant on the raceway way during operation of the slider. The expected service life is up to 2 million cycles, depending on the type of application. The zerk fittings provide the lubrication.

Lubricant	Thickening agent	Temperature range (°C)	Dynamic viscosity (mPas)
Mineral oil	Lithium soap	-30... to + 120	1000

CSW-slider Lubrication

Lubrication when using CSW-sliders

The CSW series sliders can be provided with wipers made of polyamide, to remove the contaminants on the raceways. Since the sliders do not have a self-lubrication kit, manual lubrication of the raceways is required. A guideline is to lubricate the raceways every 100 km or every 6 months. We recommend a roller bearing lubricant with a lithium base of average consistency as a lubricant.

Lubricant	Thickening agent	Temperature range (°C)	Dynamic viscosity (mPas)
Roller bearing lubricant	Lithium soap	-30 to + 170	4500