

IBC



INOX-Runner

Stainless steel roller carriage system

S-LBX 30 and S-LBX 45

TI-I-7012.0/E



Introduction

Precision and innovation. IBC Wälzlager has relied on these building blocks since 1972. In addition to the well-known and proven range of rotary rolling bearings, IBC manufactures linear rolling bearings – which are guided in rails with an X or U profile and an internal raceway. Our innovative **INOX-Runner** carriage system is specially designed for stainless steel applications. The use of high-grade AISI 316L (1.4404) material means that the profile rails are even suitable for seawater-resistant applications, whereby the track rollers must be checked in each individual case. The system impresses with a high degree of corrosion protection, an outstanding price-performance ratio and excellent running properties – the perfect combination of technology and cost effectiveness. It is available in profile sizes 30 and 45 and therefore covers a wide range.

Typical applications

- Food industry
- Beverage industry
- Medical engineering
- Laboratory equipment
- Enclosures
- Maritime applications
- And in all applications, in which optimum corrosion protection is a high priority

Special hygienic design

FDA- and EC-compliant versions are available in both profile sizes (30 and 45), especially used for food or hygienic applications. The track roller lubricant and wiper are selected accordingly for these applications, and are identified by their blue colour. This version is available from stock with the -HY suffix.

Special features

- High degree of corrosion resistance
- FDA- and EC-compliant version
- Light, robust and rigid version due to optimised design
- Insensitive to dirt due to the use of rollers and wipers



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Technical Data

Our innovative **INOX-Runner** carriage system in stainless steel V4A impresses with its high degree of corrosion protection, increased efficiency and reliability.

Material

Profile rails: 1.4404 (AISI 316L)
 Track rollers: 1.4125 (AISI 440C)
 Carriage body: 1.4404 (AISI 316L)

Lubrication

Track rollers:

- Lifetime lubrication with high-quality lubricant for linear guides in industrial applications
- Lifetime lubrication with high-quality lubricant approved for food in hygienic applications

Rails:

We recommend lubricating the system before commissioning. The best way to do this is by simply applying a thin film of lubricant to the tracks, for example by using a paintbrush.

Temperature application ranges

Standard: -30 °C to +100 °C

Lower and higher temperature ranges possible by request.

Wipers and seals

- The sealing lips on the wiper of the carriage are flexible and adapt to the raceway contour
- For hygienic applications, the wiper is made from food-grade plastic (blue colour)
- The seals of the track rollers have a splash-proof design RS; for hygienic applications they are made from food-grade plastic (blue colour)

Lengths

Installation lengths: S-LBX 30: 160 mm to 4000 mm
 S-LBX 45: 160 mm to 5200 mm
 Special lengths by request

Travel speeds

Up to 1.5 m/s (depending on the application and the installation length).

Acceleration

The acceleration may be as much as 2 m/s².

Static load ratings

S-LBX 30

C_{0rad} : 840 N

C_{0ax} : 420 N

S-LBX 45

C_{0rad} : 1790 N

C_{0ax} : 950 N

Distances between the mounting holes

The standard distance between the holes is 80 mm. The holes are in the form of elongated holes.

Fastening screws and tightening torques

S-LBX 30: M5

ISO 7380

Flat head screws with inside TORX T25

Material: A2-70 min.

Tightening torque: 9 Nm

S-LBX 45: M8

ISO 7380

Flat head screws with inside TORX T40

Material: A2-70 min.

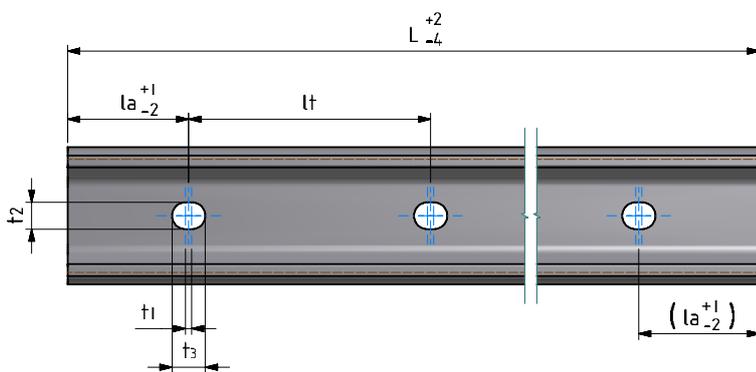
Tightening torque: 22 Nm

Technical notes

The carriages are mounted with alternating concentric and eccentric track rollers. The concentric, load-bearing track rollers are visually marked with a dot on the track rail so that the track can be easily inserted into the profile rail in accordance with the load direction. The eccentric rollers on the carriage are adjusted so that they are play-free or have the required preload in the profile rail by rotating them with the provided open-ended spanner (see page 6).

Connecting two or more profile rails in a row is not recommended.

INOX-Runner profile rails



Type of rail	Size	l_a [mm]	l_t [mm]	t_1 [mm]	t_2 [mm]	t_3 [mm]	B_s [mm]	H_1 [mm]	t [mm]	D [mm]	Screw hole	Weight [kg/m]
S-LBX	30	40	80	2	6.4	8.4	15	29.5	2.5	10	M5	0.89
	45	40	80	2	9	11	22	45.7	4	15.5	M8	2.2

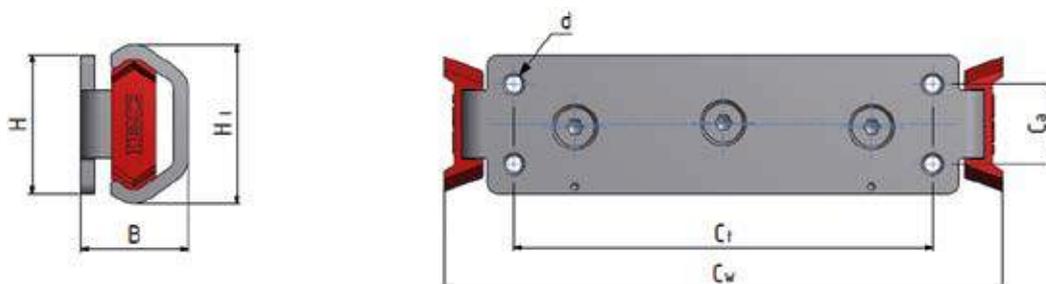
L [mm]	l_a [mm]	l_t [mm]	n	S-LBX 30 Weight [kg]	S-LBX 45 Weight [kg]
160	40	80	2	0.15	0.35
240	40	80	3	0.21	0.52
320	40	80	4	0.29	0.70
400	40	80	5	0.36	0.87
480	40	80	6	0.43	1.08
560	40	80	7	0.50	1.22
640	40	80	8	0.58	1.39
720	40	80	9	0.65	1.57
800	40	80	10	0.72	1.78
880	40	80	11	0.79	1.96
960	40	80	12	0.86	2.14
1,040	40	80	13	0.93	2.27
1,120	40	80	14	1.01	2.50
1,200	40	80	15	1.08	2.67
1,280	40	80	16	1.16	2.84
1,360	40	80	17	1.22	3.01
1,440	40	80	18	1.30	3.18
1,520	40	80	19	1.37	3.32
1,600	40	80	20	1.45	3.57
1,680	40	80	21	1.53	3.66
1,760	40	80	22	1.60	3.85
1,840	40	80	23	1.68	4.02
1,920	40	80	24	1.75	4.20
2,000	40	80	25	1.80	4.36

L [mm]	l_a [mm]	l_t [mm]	n	S-LBX 30 Weight [kg]	S-LBX 45 Weight [kg]
2,080	40	80	26	1.87	4.53
2,160	40	80	27	1.95	4.71
2,240	40	80	28	2.01	4.88
2,320	40	80	29	2.09	5.07
2,400	40	80	30	2.17	5.17
2,480	40	80	31	2.23	5.25
2,560	40	80	32	2.30	5.43
2,640	40	80	33	2.37	5.61
2,720	40	80	34	2.44	5.79
2,800	40	80	35	2.51	5.97
2,880	40	80	36	2.59	6.15
2,960	40	80	37	2.66	6.33
3,040	40	80	38	2.73	6.78
3,120	40	80	39	2.80	6.96
3,200	40	80	40	2.87	7.14
3,280	40	80	41	2.95	7.32
3,360	40	80	42	3.02	7.38
3,440	40	80	43	3.09	7.49
3,520	40	80	44	3.16	7.67
3,600	40	80	45	3.23	8.03
3,680	40	80	46	3.31	8.19
3,760	40	80	47	3.38	8.37
3,840	40	80	48	3.45	8.54
3,920	40	80	49	3.52	8.72
4,000	40	80	50	3.59	8.89

S-LBX 45 is available up to a length of 5200 mm.

INOX-Runner carriage / rollers

Installation dimensions of carriage



Type of carriage	Size	H [mm]	B [mm]	H ₁ [mm]	d [mm]	C _t [mm]	C _w [mm]	C _a [mm]	Weight [kg]
S-CB	30	27.0	20.5	29.5	M5	70.0	95.0	15.0	0.1
	45	40.0	30.5	45.2	M6	120.0	160.0	23.0	0.6

Load capacities of carriage

S-CB 30-21.2RS:

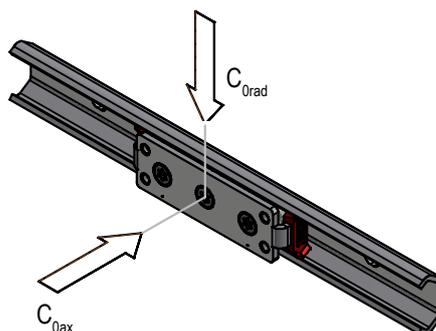
Radial stiffness C_{0rad} : 840 N

Axial stiffness C_{0ax} : 420 N

S-CB 45-21.2RS:

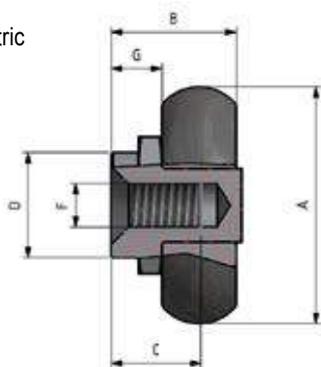
Radial stiffness C_{0rad} : 1790 N

Axial stiffness C_{0ax} : 950 N

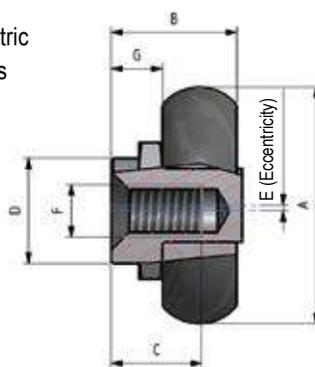


Track rollers

Concentric
Rollers



Eccentric
Rollers



Track roller concentric	Size	B [mm]	G [mm]	A [mm]	D ⁰ _{-0.05} [mm]	F [mm]	C [mm]	Weight [kg]
S-CBXS	30	12.30	4.80	22.54	10.0	M5	8.50	0.02
	45	17.80	6.80	35.10	12.0	M6	12.00	0.07

Track roller eccentric	Size	B [mm]	G [mm]	A [mm]	D ^{-0.01} _{-0.06} [mm]	F [mm]	C [mm]	E [mm]	Weight [kg]
S-CBXE	30	12.30	4.80	22.54	10.0	M5	8.50	0.60	0.02
	45	17.80	6.80	35.10	12.0	M6	12.00	0.80	0.07

Technical note: When mounted in the profile rails, the load capacity is 50% of the specified carriage load capacity radially and 33% axially.

Adjusting the carriage in the profile rail

Each carriage has three rollers. The two outer rollers are concentric, and are not adjustable. For orientation, they are marked with a dot on the runner rail. The middle track roller, which does not have a dot, is arranged eccentrically so that it can be used to adjust the preload of the carriage in the profile rail.

- 1) The carriage must be adjusted using the provided sheet metal spanner in accordance with figure 1. To do this, slightly slacken the fastening screw on the back of the runner rail and insert the runner into the profile rail without the wiper.
- 2) By turning the open-ended spanner clockwise, the eccentric roller is pressed against the upper track until the carriage is play-free. The preload should be selected so that the carriage can be easily moved by hand. Depending on requirements, a higher preload can be set. The fastening screw can be tightened while the roller pin is being held in the correct position with the open-ended spanner (Fig. 2).

Important: Please tighten carefully to begin with, then move the carriage in the profile rail and check whether even running without play or tension takes place over the entire length of the profile rail. If necessary, correct the setting of the eccentric roller.

- 3) Now tighten the fastening screw with the tightening torque mentioned below, whereby the eccentric track roller is still being held in the preset position with the open-ended

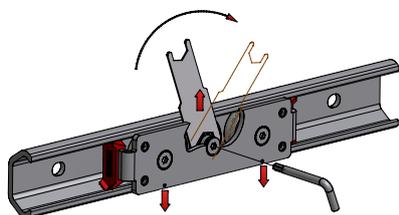


Fig. 1

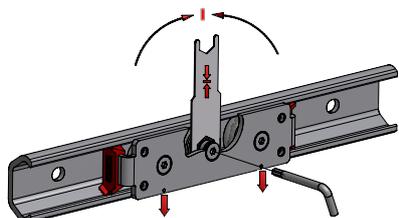


Fig. 2

spanner. The tightening torque for profile size 30 should be 6 Nm, and 10 Nm for profile size 45.

- 4) Finally, the wipers must be fitted to the roller unit by simply pushing them on. The carriage must be removed from the profile rail to do this.
- 5) It is recommended to lubricate the profile rail with a high-performance lubricant for linear guides in the raceways. This is usually done using a paintbrush, whereby the lubricant should not be applied too thickly. You are also welcome to contact our technical department with regard to this.

Fitting of eccentric and concentric track rollers to your own constructions

In the case of own constructions with eccentric or concentric track rollers from IBC installed, the centre offset should be observed. It is 0.5 mm from the centre line to each side alternately for profile size 30 and 0.6 mm for profile size 45 (Fig. 3).

If only eccentric track rollers are installed, the centre offset is not decisive and the centre line can be used throughout (Fig. 3). However, assembly is more complicated because each individual roller must be aligned so that the carriage is mounted parallel to the guide rail.

The distance between the rollers depends on the application. Our application engineering department would be pleased to assist you in calculating the application correctly.

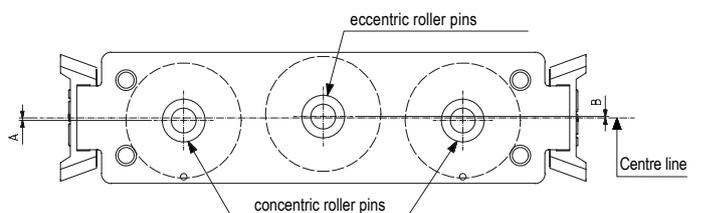
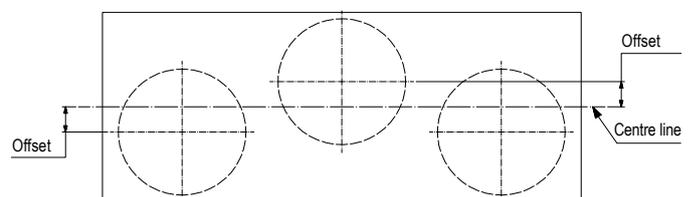
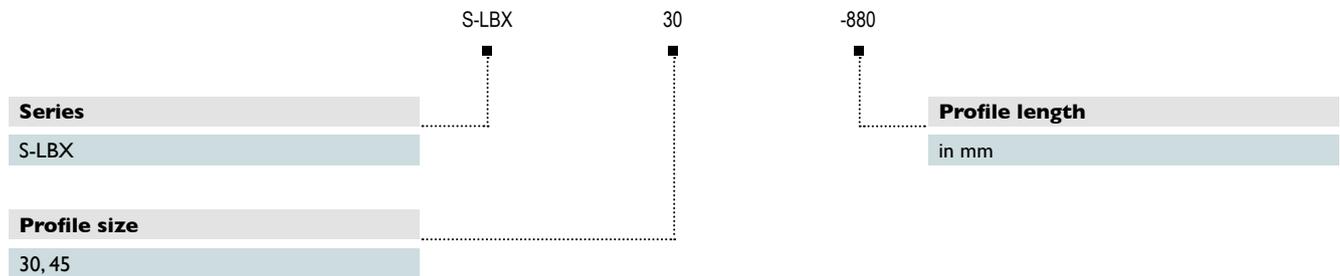


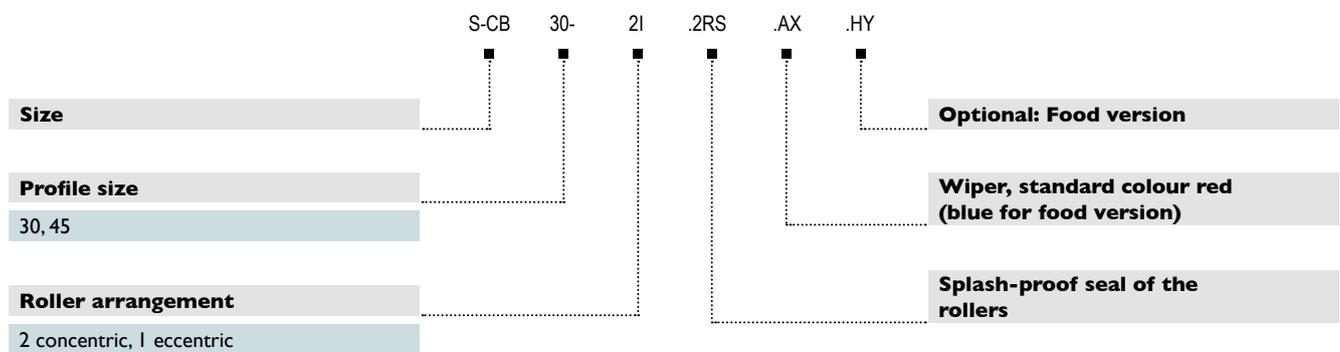
Fig. 3

Order reference

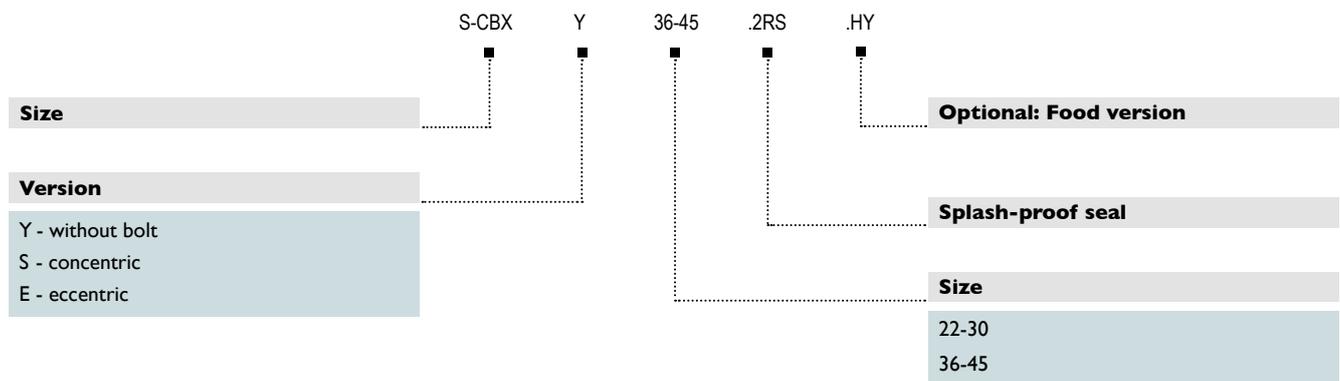
Profile rail



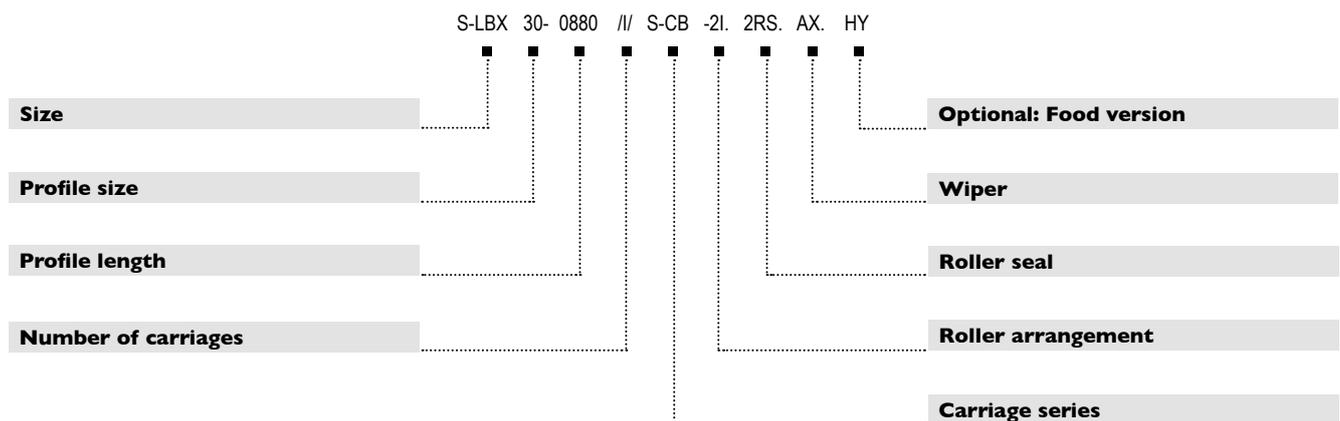
Carriage



Track rollers



Profile rail with pre-assembled rollers





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