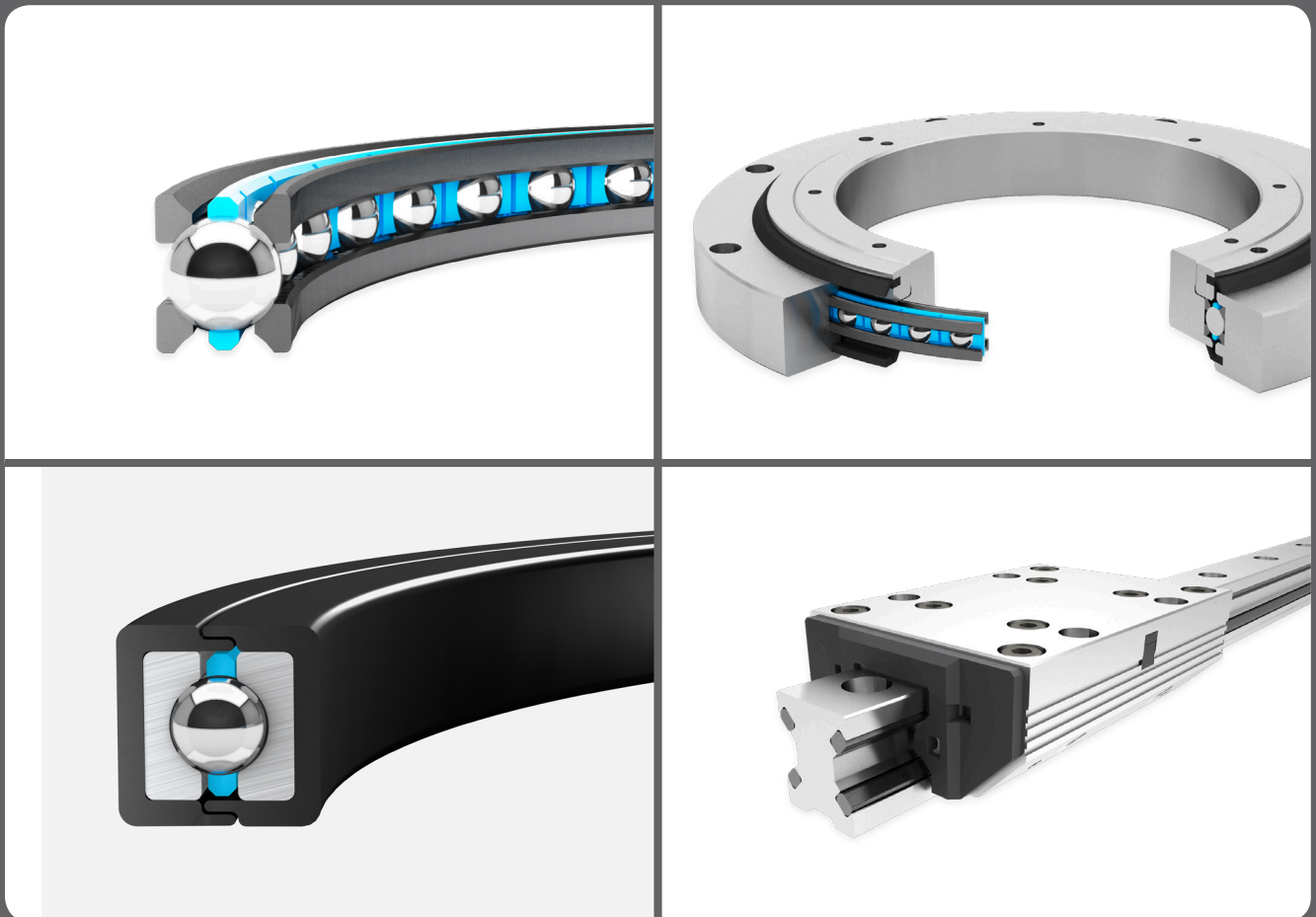


---

Wire Race Bearings Slim Bearings Bearing Assemblies Rotary Tables

Linear Guides Linear Tables Linear Modules

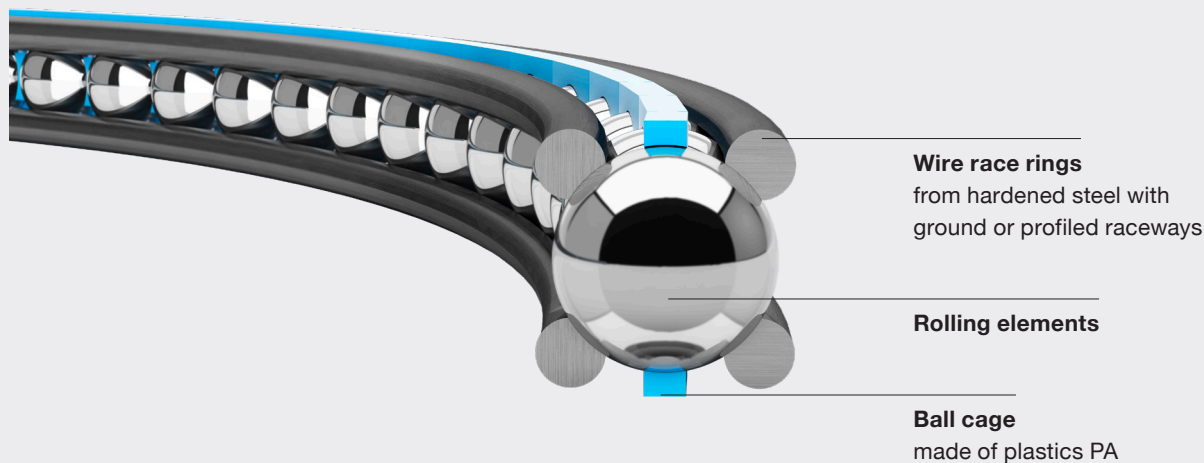
## Standard Program



# An ingeniously simple principle

---

Franke wire race bearings are based on a simple and ingenious principle. Single raceways made of hardened wire are provided with a raceway that is exactly adapted to the diameter of the rolling elements. The rolling process does not take place directly between rolling elements and enclosing construction, but with only low friction on the four open races.



## Function principle and application examples:

YouTube, search for „Franke Prinziple“.

## Further information, bearing selector, application samples, accessories, further data, etc.:

[www.franke-gmbh.com](http://www.franke-gmbh.com)

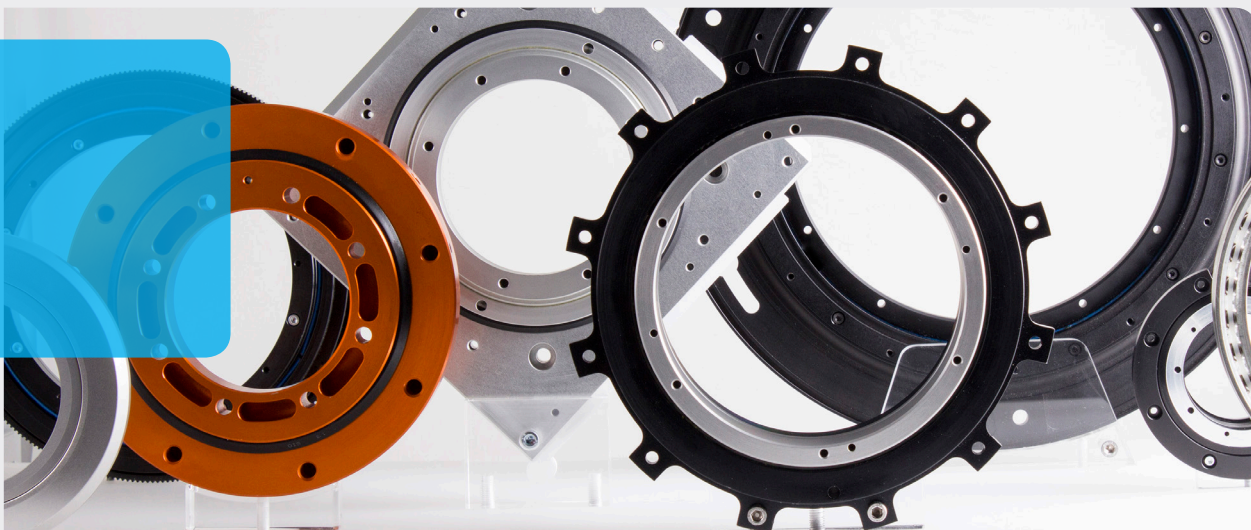
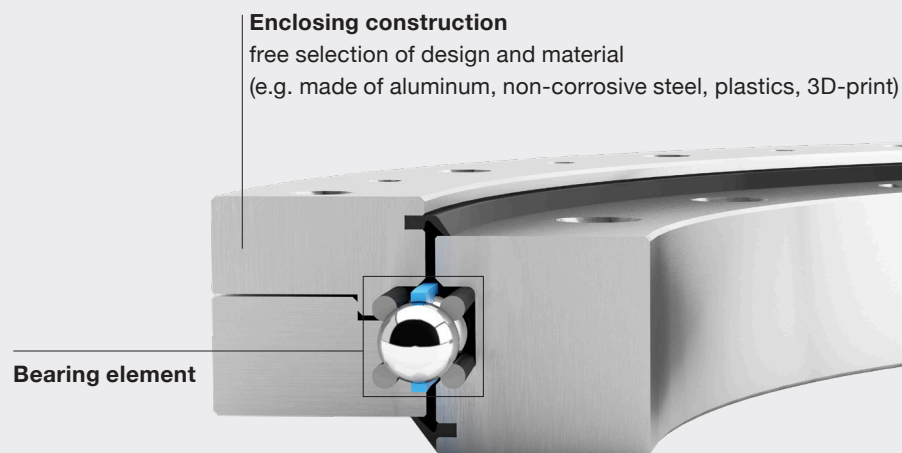
Reduced to the essentials, Franke Wire Race Bearings enable innovative designs with substantial weight, energy and space savings, while offering comparable rigidity and maximum precision over the entire service life.

# Compact, precise, lightweight and durable bearing elements and bearing assemblies

---

The principle of the wire race bearing allows the free design of the enclosing construction in terms of geometry and choice of materials. In addition, it is characterized by other advantages:

- 4-point system - load capacity from all directions
- Rotational resistance freely adjustable - a preloaded system
- Compact design - minimal installation space
- Insensitive to environmental influences, shock and impact elastic



## Wire Race Bearings Types and Characteristics



### Bearing Elements

LEL  
LER

Page Characteristics

- 8 • highest possible degree of integration
- 9 • cost-sensitive series applications
- maximum flexibility in terms of preload, running behaviour, diameter ranges



### Slim Bearings

LSA  
LSC

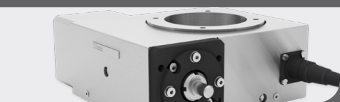
- 10 • simple, space-saving integration,
- 11 • cost effective alternative to conventional slim bearings
- non-preloaded bearings



### Bearing Assemblies

LVA  
LVB  
LVC  
LVD  
LVE  
LVG

- 12 • ready to install with a large selection range
- 13 • preloaded system (optimized in terms of stiffness, speed, service life)
- 14 • short-term availability
- 15 • Type LVC for high rotational speeds
- 16 • Type LVG as a double row roller bearing
- 17 •



### Rotary Tables

LTA  
LTB

- 18 • Turntables for fast-turning or high-precision handling and measuring tasks
- 19 • Bearing assemblies with direct drive
- maximum flexibility in terms of preload, running characteristics, diameter ranges

## Linear Systems Types and Characteristics



### Linear Guides

FDA  
FDB  
FDC  
FDD  
FDE  
FDG  
FDH

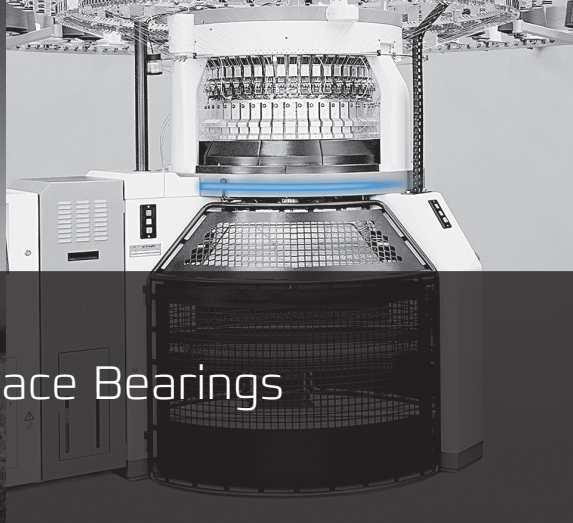
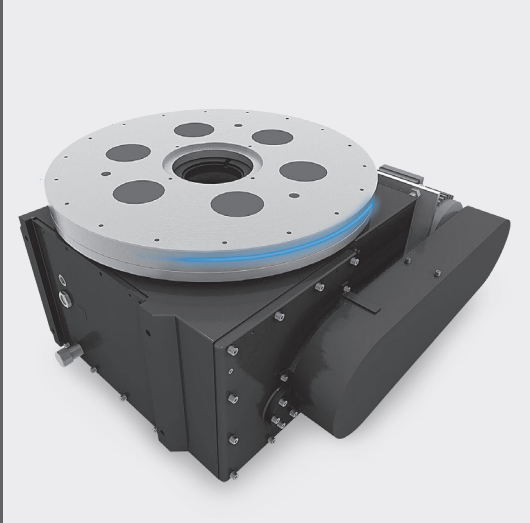
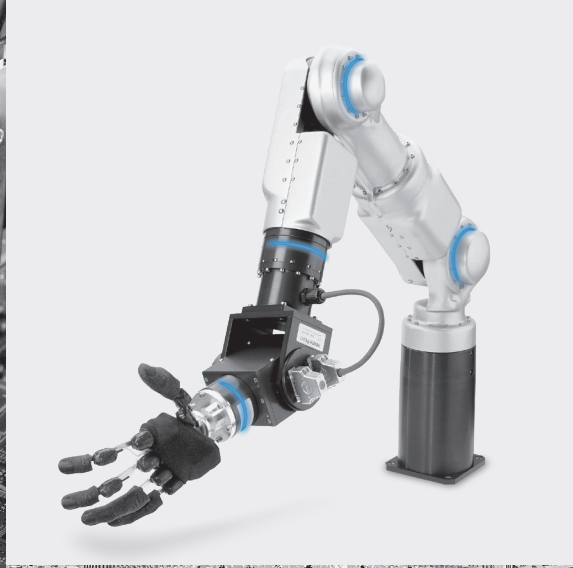
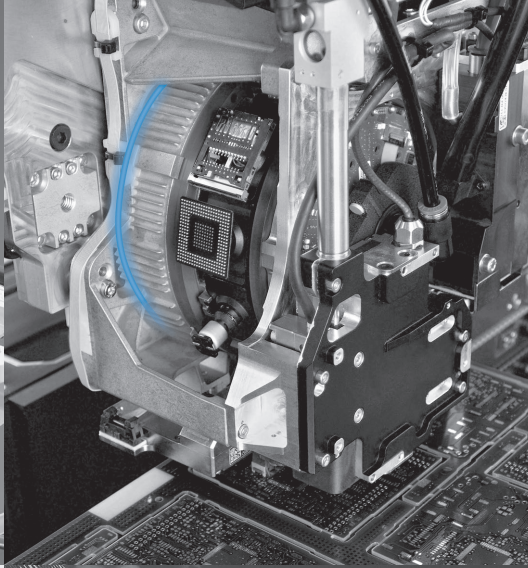
- 22 • Aluminum roller guides in different variants (eg Niro, lubricant-free, LowCost)
- all variants with inserted steel raceways
- large rollers for easy and quiet running
- Sliding resistance individually adjustable



### Linear Tables Linear Modules

FTB  
FTC  
FTD

- 25 • motorized modules with stroke lengths up to 7 m
- 26 • Tooth belt or spindle drive
- 27 • Linear table for exact positioning

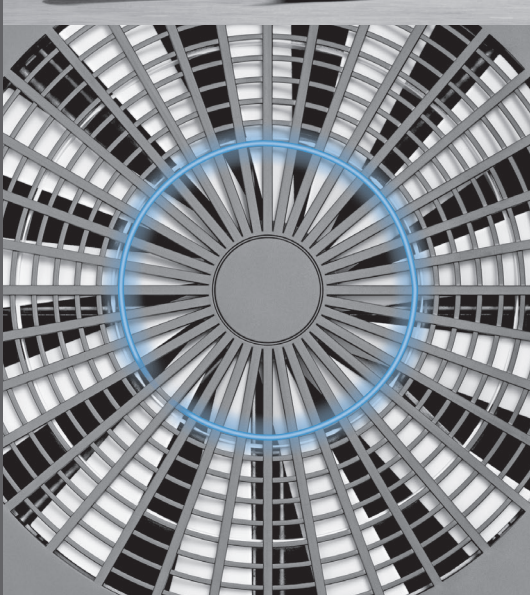


## Wire Race Bearings

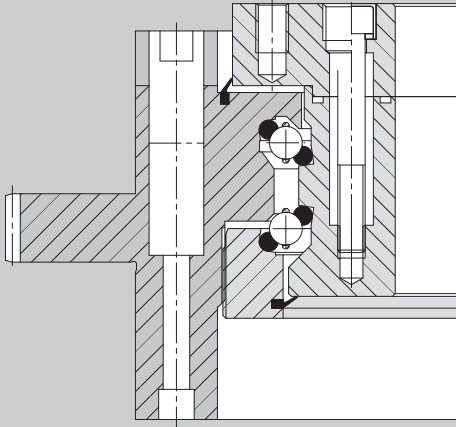
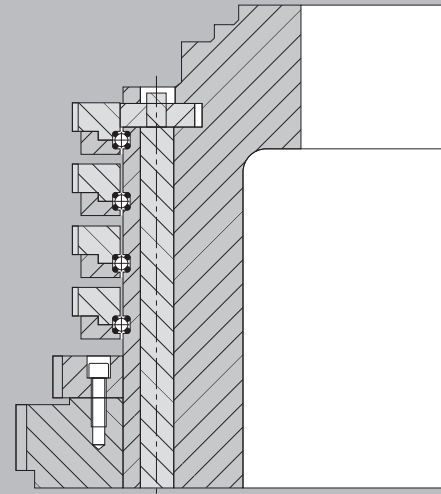
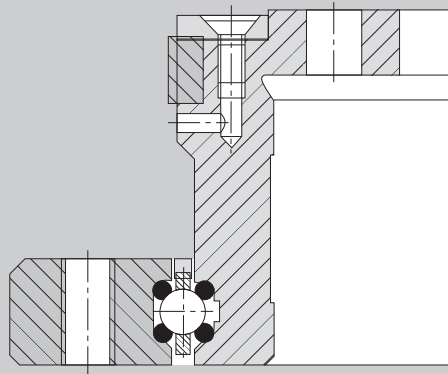
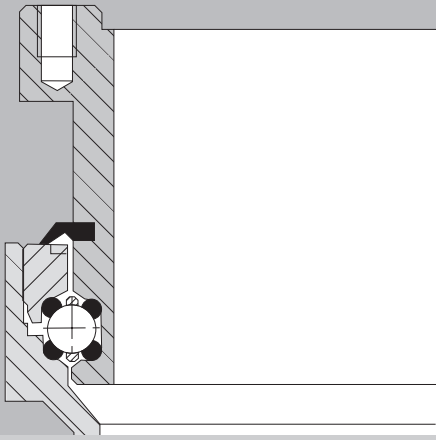


### In all Branches

Universal freedom of design. Capacity in every application. Space saving. Variable. Individually customizable.



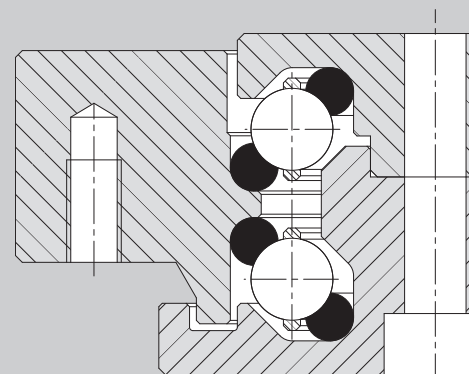
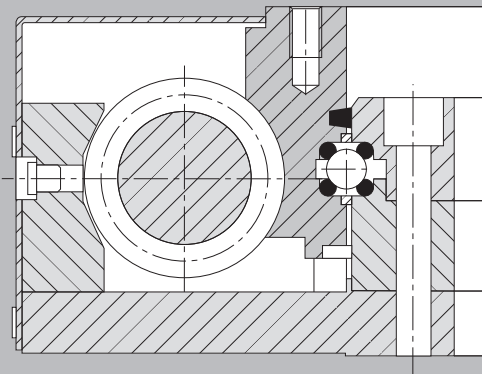
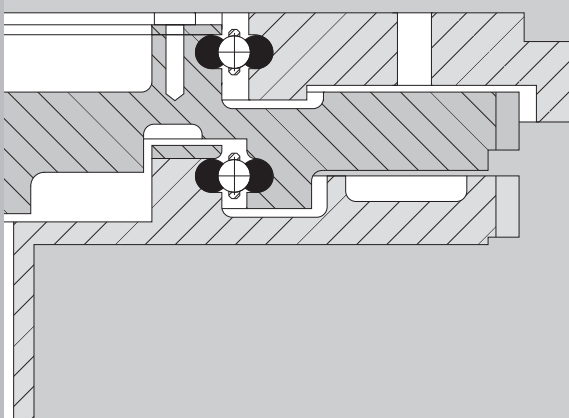
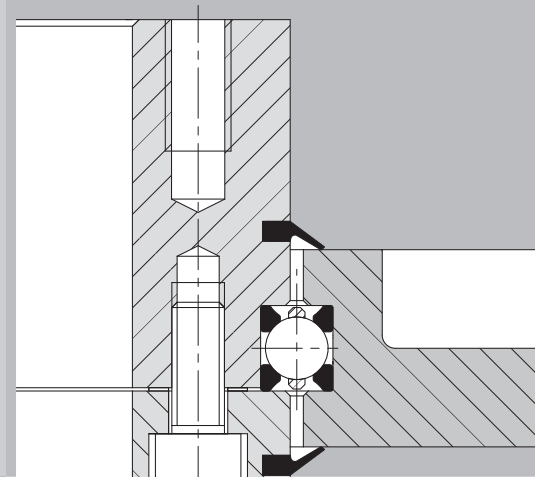
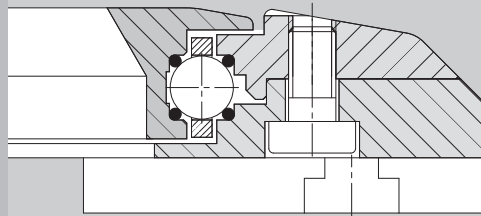
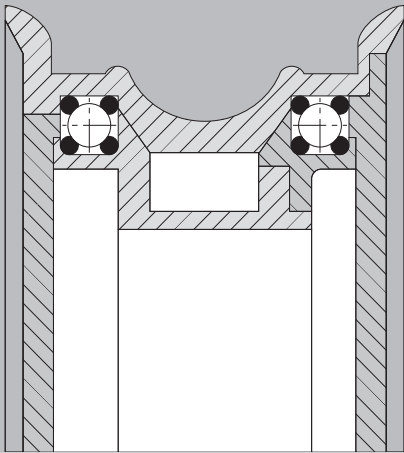




## Constructive examples

### **Greatest possible freedom**

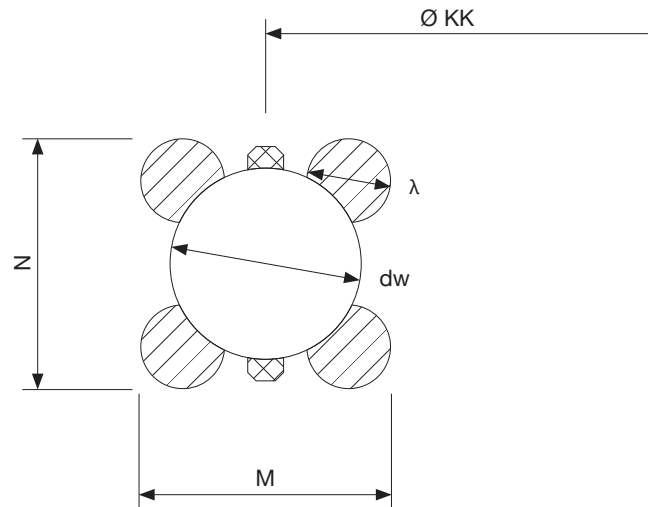
The housing parts are not directly exposed to the load of the rolling elements and can be extremely thin-walled. Together with the small mounting space of the wire race bearings compact and lightweight constructions can easily be realised.



# Bearing Elements

## Type LEL

### Ground Raceways



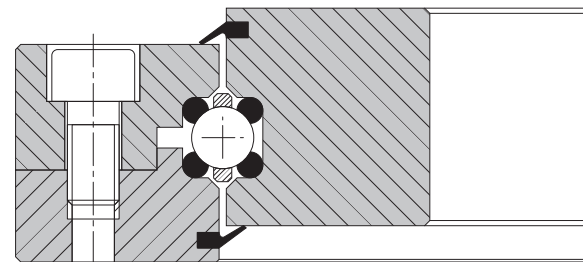
#### Dimensions

Size	Dimensions mm				Load rating kN				stat. moment kNm $C_{om}$	Weight kg
	Ø KK	M x N	dw	λ	$C_{oa}$	$C_{or}$	$C_a$	$C_r$		
LEL1,5	70 - 150	5,9 x 5,9	5	1,5	13 - 30	6 - 14	7 - 10	6 - 8	0,2 - 1	0,04 - 0,09
LEL2,5	160 - 300	9,2 x 9,2	8	2,5	73 - 141	35 - 66	20 - 25	17 - 22	3 - 10	0,10 - 0,18
LEL4	200 - 1500	12,86 x 12,86	9,525	4	118 - 905	55 - 426	26 - 55	23 - 48	6 - 319	0,39 - 2,94
LEL5	220 - 1500	15,5 x 15,5	12	5	257 - 1782	121 - 839	41 - 83	35 - 72	13 - 629	0,70 - 4,77
LEL7	340 - 2000	20,9 x 20,9	16	7	441 - 2629	207 - 1237	62 - 119	53 - 103	35 - 1237	1,89 - 11,24

#### Characteristics

Franke bearing elements in type LEL meet high standards in terms of runnability and accuracy. Their hardened and CNC-ground raceways, along with the ideal geometric adjustment of ball and raceway radius, lend them outstanding bearing properties. Bearing elements in the LEL type permit the greatest possible freedom of bearing design. The standard mounting space is between 5.9 mm and 20.9 mm. Race ring thickness of up to 20 mm and bearing sizes up to 50 mm are possible to meet special requirements.

#### Constructive example



#### Technical details

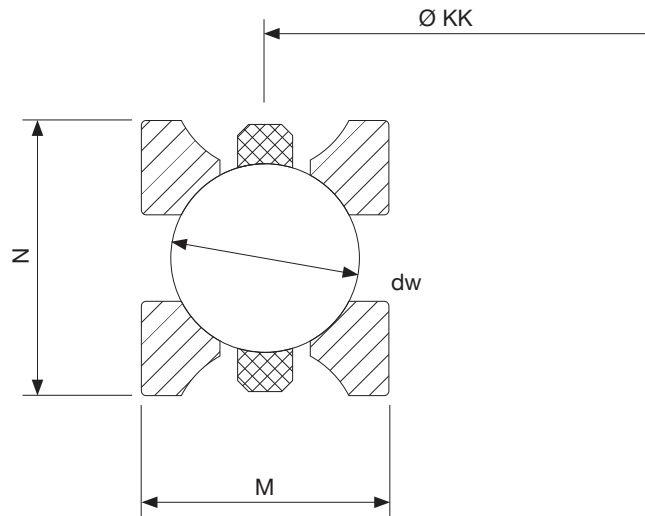
<b>Material</b>	Ball race rings: 54SiCr6, rolling element: 100Cr6, cage: PA12
<b>Temperature in use</b>	-30 °C to +80 °C, briefly up to +100 °C
<b>Circumfer. speed</b>	max. 5 m/s, without seals max. 10 m/s
<b>Lubricant grease</b>	Klüber ISOFLEX TOPAS NCA52



# Bearing Element

## Type LER

### Rectangular profile/profiled raceway



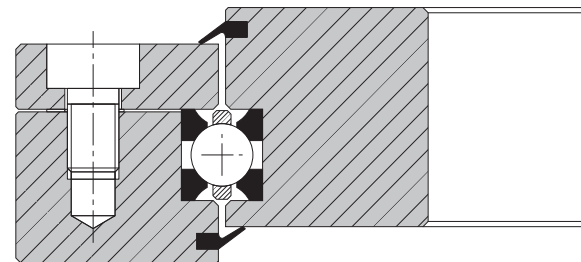
#### Dimensions

Size	Dimensions mm			Load rating kN				stat. moment kNm	Weight kg
	Ø KK	M x N	dw	$C_{0a}$	$C_{0r}$	$C_a$	$C_r$		
LER2	80 - 400	7,5 x 9	6	28 - 142	13 - 67	10 - 18	8 - 15	1 - 13	0,07 - 0,34
LER3	100 - 1500	11 x 13	9,525	54 - 847	25 - 398	18 - 52	16 - 45	1 - 299	0,13 - 2,63
LER4	200 - 1500	14 x 16	12	174 - 1348	82 - 635	44 - 94	38 - 82	8 - 476	0,61 - 4,59
LER5	250 - 1800	15,75 x 17,5	12	260 - 1925	122 - 906	48 - 101	42 - 87	15 - 815	0,95 - 6,87

#### Characteristics

Franke bearing elements in type LER are designed for medium rotational speeds and accuracies. They run smoothly, possess high dynamism and require just compact mounting space. The straight contact surface ensures simple integration in the mating structure and also a high rigidity. The attractive price makes this bearing element type LER an economic solution. LER are generally mounted free from clearance. The preload can be defined individually to meet the specific requirement. See 'Technical information' for the adjustment methods.

#### Constructive example



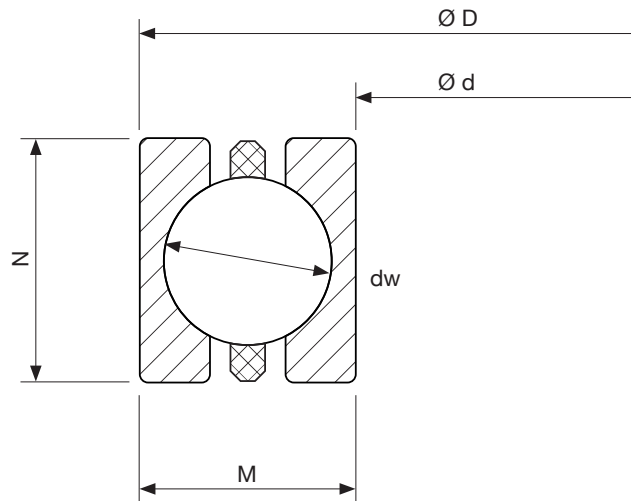
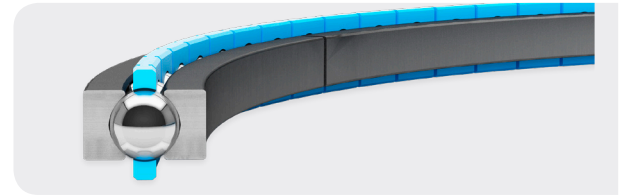
#### Technical details

<b>Material</b>	Ball race rings: 54SiCr6, rolling element: 100Cr6, cage: PA12
<b>Temperature in use</b>	-30 °C to +80 °C, briefly up to +100 °C
<b>Circumfer. speed</b>	max. 5 m/s, without seals max. 10 m/s
<b>Lubricant grease</b>	Klüber ISOFLEX TOPAS NCA52

# Slim Bearings

## Type LSA

2 race rings/profiled raceways



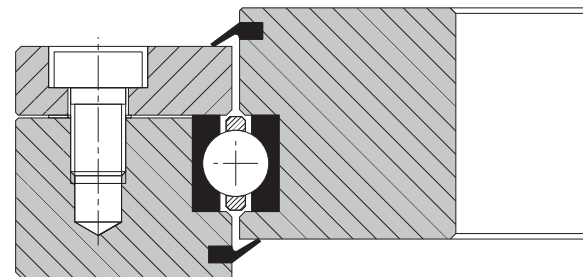
### Dimensions

Size	Dimensions mm				Load rating kN				stat. moment kNm	Weight kg
	$\varnothing D$	$\varnothing d$	M x N	dw	$C_{oa}$	$C_{or}$	$C_a$	$C_r$	$C_{om}$	
LSA4	90,2 - 395	76,2 - 381	7 x 4	4	20 - 95	9 - 45	5 - 10	5 - 8	0,4 - 9	0,04 - 0,19
LSA6	127 - 393,7	114,3 - 381	6,35 x 6,40	4	41 - 131	19 - 62	6 - 10	5 - 8	1 - 12	0,08 - 0,27
LSA8	155,58 - 777,88	139,7 - 762	7,94 x 7,94	5	55 - 294	26 - 138	10 - 18	9 - 16	2 - 54	0,13 - 0,79

### Characteristics

Franke slim bearings of type LSA deliver a convincingly smooth run, require extremely compact mounting space, ensure simple assembly and come at a favorable price. Slim bearings type LSA consist of one inner and one outer race ring with hardened and profiled raceway and a plastic cage with retained balls. The rolling elements touch the race rings at two points each, hence ensuring the 4-point system. The race rings are separated; their diameter can therefore be altered elastically for mounting.

### Constructive example



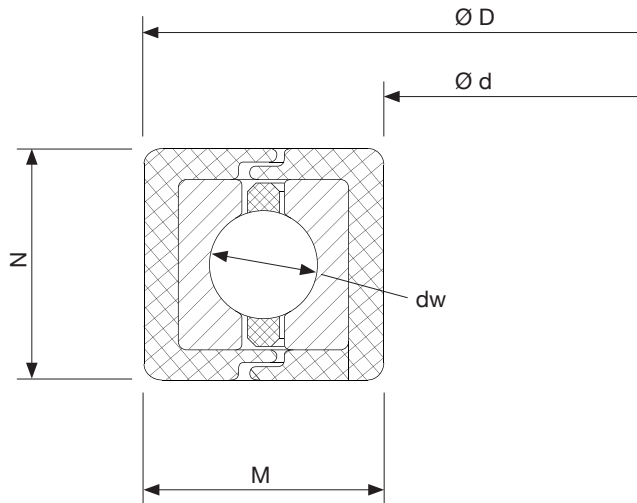
### Technical details

<b>Material</b>	Ball race rings: 54SiCr6, rolling element: 100Cr6, cage: PA12
<b>Temperature in use</b>	-30 °C to +80 °C, briefly up to +100 °C
<b>Circumfer. speed</b>	max. 5 m/s, without seals max. 10 m/s
<b>Lubricant grease</b>	Klüber ISOFLEX TOPAS NCA52/Shell Gadus S3 V220

# Slim Bearings

## Type LSC

2 race rings/profiled/Elastomer sleeve



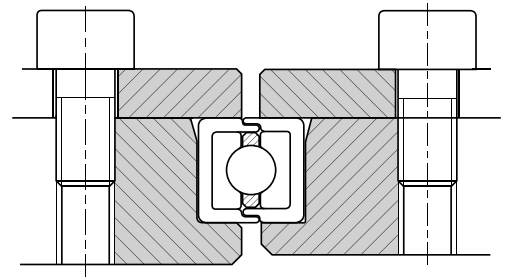
### Dimensions

Größe	Dimensions mm				Load rating kN				stat. moment kNm	Weight kg
	Ø D	Ø d	M x N	dw	C <sub>oa</sub>	C <sub>or</sub>	C <sub>a</sub>	C <sub>r</sub>	C <sub>om</sub>	
LSC4	119,25 - 398,65	97,95 - 377,35	10,65 x 6	4	26 - 95	12 - 45	6 - 10	5 - 8	0,7 - 9	0,05 - 0,19
LSC8	158,81 - 781,11	136,47 - 758,77	11,17 x 10,74	5	55 - 294	26 - 138	10 - 18	9 - 16	2 - 54	0,16 - 0,84

### Characteristics

Franke slim bearings of type LSC deliver a convincingly smooth run, require extremely compact mounting space, ensure simple assembly and come at a favorable price. Slim bearings type LSC consist of an inner and outer race ring with a hardened and profiled raceway and a plastic cage with retained balls. They are covered by elastomer profiles, which take over the sealing, tolerance compensation and vibration elimination of the bearing. Due to the overlapping lips of the elastomer sleeves further sealing of the bearing is not necessary.

### Constructive example



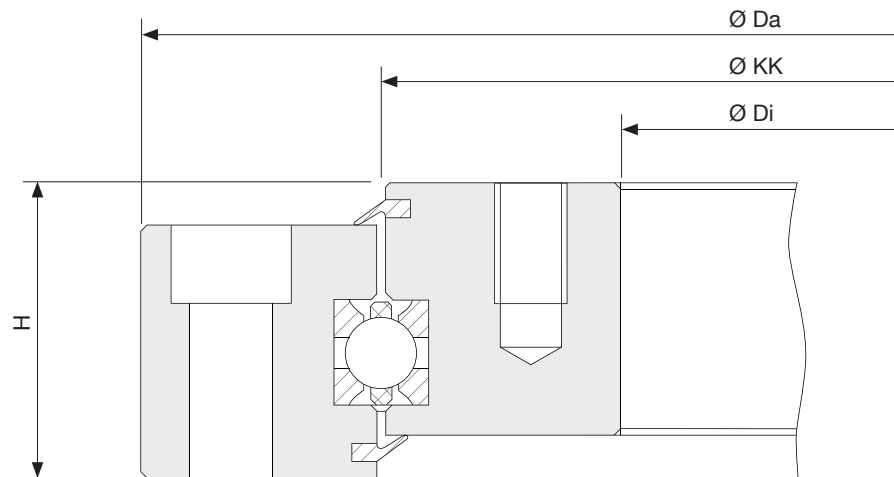
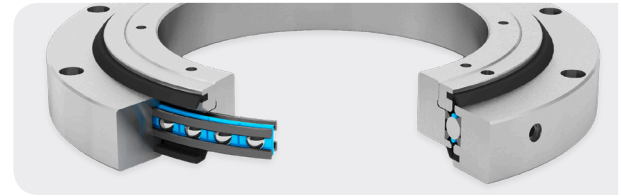
### Technical details

<b>Material</b>	Ball race rings: 54SiCr6, rolling element: 100Cr6, cage: PA12, Elastomer: NBR
<b>Temperature in use</b>	-30 °C to +80 °C, briefly up to +100 °C
<b>Circumfer. speed</b>	max. 5 m/s, without seals max. 10 m/s
<b>Lubricant grease</b>	Shell Gadus S3 V220

# Bearing Assemblies

## Type LVA

### Steel Version



#### Dimensions

Size*	Dimensions mm				Load rating kN				stat. moment	Weight	Available
	Ø KK	Ø Da	Ø Di	H	C <sub>oa</sub>	C <sub>or</sub>	C <sub>a</sub>	C <sub>r</sub>	C <sub>om</sub> kNm	kg	
LVA0100	100	150	50	34	54	25	18	16	1	3,0	from Stock
LVA0150	150	200	100	34	82	39	22	19	3	4,6	from Stock
LVA0200	200	250	150	34	110	52	24	21	5	6,1	from Stock
LVA0250	250	300	200	34	138	65	26	23	8	7,6	from Stock
LVA0300	300	360	240	38	166	78	28	24	12	12,8	from Stock
LVA0400	400	470	330	44	424	199	54	47	40	23,7	from Stock
LVA0500	500	580	420	49	530	249	59	51	62	39,1	from Stock
LVA0600	600	680	520	49	635	299	63	54	63	46,9	from Stock
LVA1800	1800	1930	1670	90	2367	1114	114	99	1003	449,0	

\*Intermediate sizes and other diameters can be found at [www.franke-gmbh.com](http://www.franke-gmbh.com)

#### Characteristics

LVA is a bearing assembly with housing rings made of steel and integrated bearing element. Franke bearing assemblies in type LVA are designed for medium rotational speeds and accuracies. They are available on short notice, in some cases even from the warehouse. Franke bearing assemblies type LVA are ready-to-use, complete bearings with integrated Wire Race Bearings. Designed as 4-point bearings, they absorb equal load from all sides and are insensitive to impact and vibration. The bearing assemblies are sealed on both sides and set free from clearance and are preloaded.

#### Technical details

**Material** Inner / Outer ring: C45N, ball race rings: 54SiCr6, rolling elements: 100Cr6, cage: PA12, seal: NBR

**Temperature in use** -30 °C to +80 °C, briefly up to +100 °C

**Circumfer. speed** max. 5 m/s, without seals max. 10 m/s

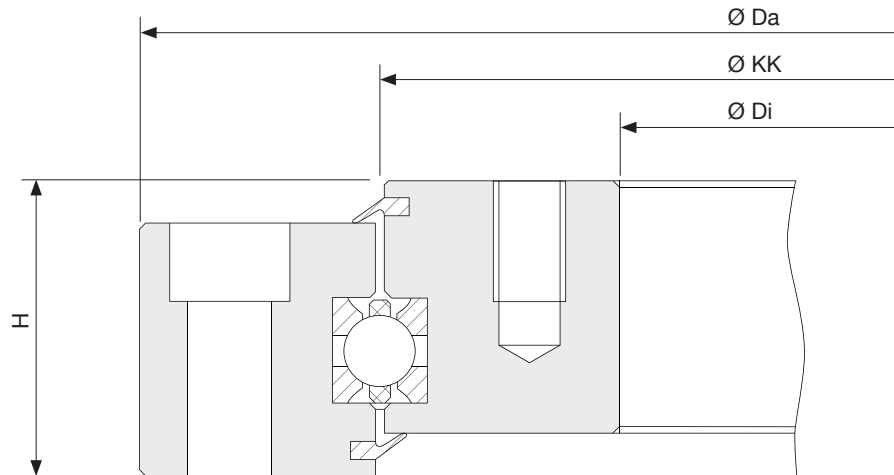
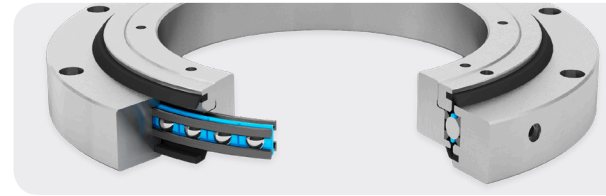
**Lubricant grease** Klüber Isoflex Topas NCA52

**Lubrication** using grease nipples according to DIN 3405

# Bearing Assembly

## Type LVB

### Aluminum Version



#### Dimensions

Size*	Dimensions mm				Load rating kN				stat. moment	Weight	Available
	Ø KK	Ø Da	Ø Di	H	C <sub>oa</sub>	C <sub>or</sub>	C <sub>a</sub>	C <sub>r</sub>	kNm C <sub>om</sub>	kg	
LVB0100	100	150	50	34	54	25	18	16	1	1,2	from Stock
LVB0150	150	200	100	34	82	39	22	19	3	1,8	
LVB0200	200	250	150	34	110	52	24	21	5	2,4	from Stock
LVB0250	250	300	200	34	138	65	26	23	8	3,0	
LVB0300	300	360	240	38	166	78	28	24	12	4,9	from Stock
LVB0400	400	470	330	44	424	199	54	47	40	9,5	
LVB0500	500	580	420	49	530	249	59	51	62	15,0	
LVB0600	600	680	520	49	635	299	63	54	63	18,2	
LVB1800	1800	1930	1670	90	2367	1114	114	99	1003	166,7	

\*Intermediate sizes and other diameters can be found at [www.franke-gmbh.com](http://www.franke-gmbh.com)

#### Characteristics

LVB is a bearing assembly with housing rings made of aluminium and integrated bearing element. Franke bearing assemblies in type LVB are designed for medium rotational speeds and accuracies. They are available on short notice, in some cases even from stock. Franke bearing assemblies type LVB are ready-to-use, complete bearings with integrated Wire Race Bearings. Designed as 4-point bearings, they absorb equal load from all sides and are insensitive to impact and vibration. The bearing assemblies are sealed on both sides and set free from clearance and are preloaded.

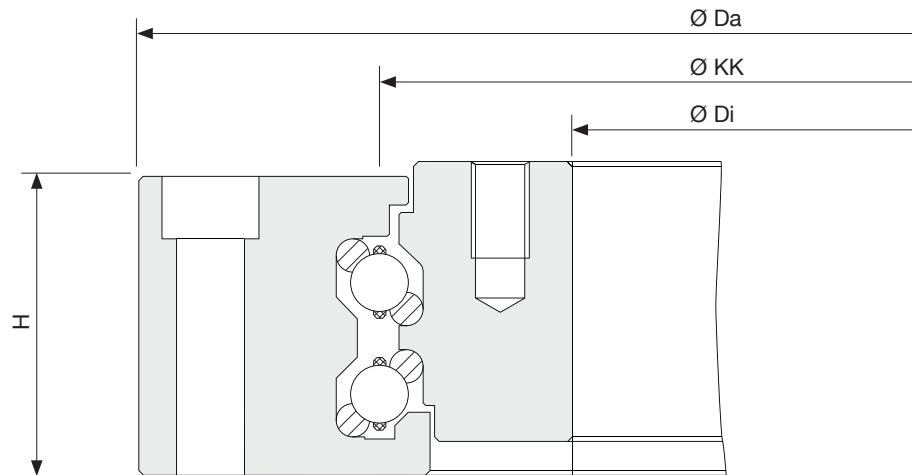
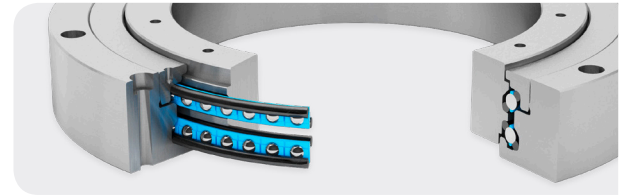
#### Technical details

<b>Material</b>	Inner / outer ring: AlZnMgCu05, ball race rings: 54SiCr6, rolling elements: 100Cr6, cage: PA12, seal: NBR
<b>Temperature in use</b>	-30 °C bis +80 °C, briefly up to +100 °C
<b>Circumfer. speed</b>	max. 5 m/s, without seals max. 10 m/s
<b>Lubricant grease</b>	Klüber Isoflex Topas NCA52
<b>Lubrication</b>	using grease nipples according to DIN 3405

# Beaing Assemblies

## Type LVC

### Angular Ball Bearing / Steel Version



#### Dimensions

Size*	Dimensions mm				Load rating kN				stat. moment kNm	Weight kg
	Ø KK	Ø Da	Ø Di	H	C <sub>oa</sub>	C <sub>or</sub>	C <sub>a</sub>	C <sub>r</sub>	C <sub>om</sub>	
LVC0100	100	150	50	34	55	26	11	10	1	3,7
LVC0200	200	250	150	34	113	53	15	13	7	7,4
LVC0400	400	480	330	57	318	150	33	27	30	36,7
LVC0600	600	700	520	65	816	384	67	58	115	76,2
LVC0800	800	900	720	65	1094	515	74	64	206	101,1
LVC1000	1000	1100	920	65	1372	646	81	70	323	126,0
LVC1200	1200	1300	1085	69	1644	774	86	75	464	192,6
LVC1800	1800	1930	1670	84	2472	1163	100	87	1047	437,9

\*Intermediate sizes and other diameters can be found at [www.franke-gmbh.com](http://www.franke-gmbh.com)

#### Characteristics

LVC is a bearing assembly designed as double-row angular contact ball bearing made of steel with two integrated bearing elements. Franke bearing assemblies in type LVC are suitable for the highest circumferential speeds. Convincing aspects include their high dynamism and low rotational resistance. Franke bearing assemblies type LVC are ready-to-use, complete bearings. The double-row angular contact ball bearing in 4-point adjustment is preloaded free of clearance. It is insensitive to impact and vibration. The low rotational resistance and the minimal breakaway torque reduce the necessary drive power. Bearing assemblies type LVC operate practically without maintenance and achieve a high service life due to the low friction values.

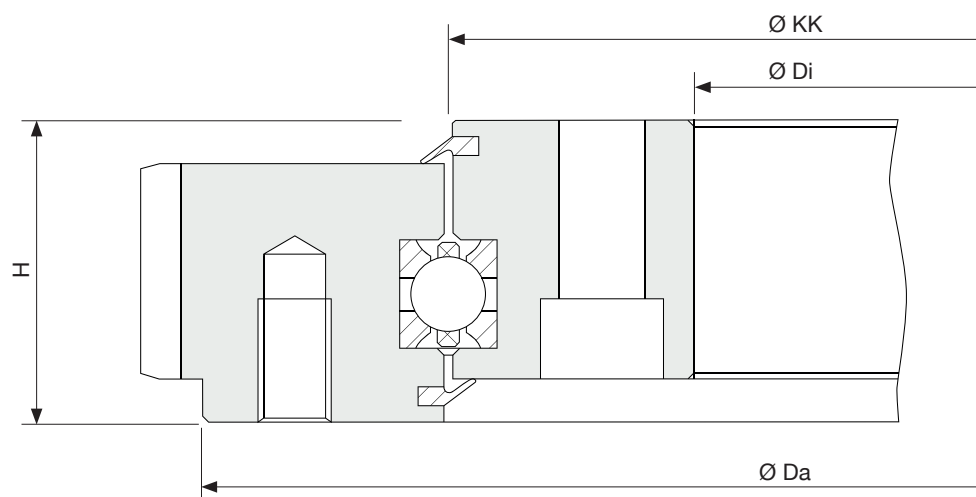
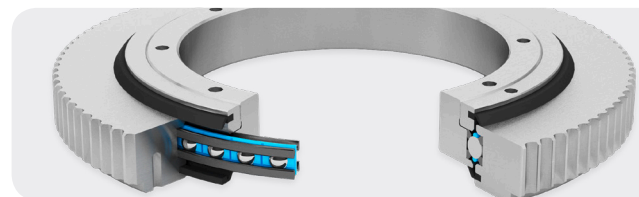
#### Technical details

<b>Material</b>	Inner / outer ring C45N, ball race rings: 54SiCr6, rolling elements: 100Cr6, cage: PA12
<b>Temperature in use</b>	-30 °C to +80 °C, briefly up to +100 °C
<b>Circumfer. speed</b>	max. 20 m/s
<b>Lubricant grease</b>	Klüber Isoflex Topas NCA52
<b>Lubrication</b>	using grease nipples according to DIN 3405

# Bearing Assemblies

## Type LVD

### External Gear/Steel Version



#### Dimensions

Size*	Dimensions mm				Load rating kN				stat. moment	Weight	Available
	Ø KK	Ø Da	Ø Di	H	C <sub>oa</sub>	C <sub>or</sub>	C <sub>a</sub>	C <sub>r</sub>	kNm C <sub>om</sub>	kg	
LVD0100	100	150	50	34	54	25	18	16	1	3,4	
LVD0200	200	250	150	34	110	52	24	21	5	6,7	from Stock
LVD0300	300	360	240	38	166	78	28	24	12	14,1	from Stock
LVD0400	400	470	330	44	424	199	54	47	40	26,0	from Stock
LVD0600	600	680	520	49	635	299	63	54	63	50,8	
LVD0800	800	890	710	53	852	401	70	61	160	83,2	
LVD1000	1000	1090	910	53	1068	503	76	66	251	104,0	
LVD1800	1800	1930	1670	90	2367	1114	114	99	1003	484,2	

\*Intermediate sizes and other diameters can be found at [www.franke-gmbh.com](http://www.franke-gmbh.com)

#### Characteristics

LVD is a bearing assembly with external gear type and housing rings made of steel and integrated bearing element. Franke bearing assemblies in type LVD are designed for medium rotational speeds and accuracies. They are available on short notice, in some cases even from stock. Franke bearing assemblies type LVD are ready-to-use, complete bearings with integrated Wire Race Bearings. Designed as 4-point bearings, they absorb equal load from all sides and are insensitive to impact and vibration. The bearing assemblies are sealed on both sides and set free from clearance and are preloaded.

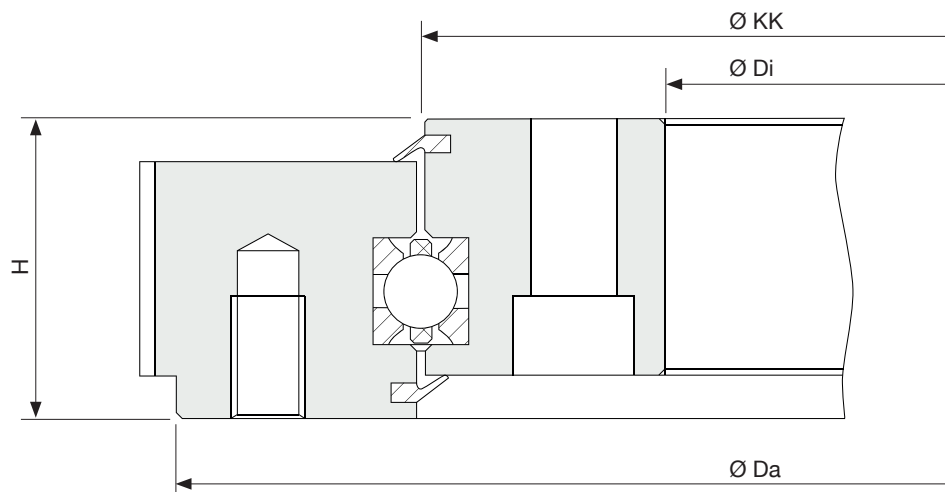
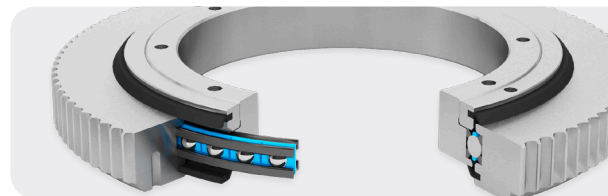
#### Technical details

<b>Material</b>	Inner ring: C45N, outer ring: 42CrMo4V, ball race rings: 54SiCr6, balls: 100Cr6, cage: PA12, seal: NBR
<b>Temperature in use</b>	-30 °C to +80 °C, briefly up to +100 °C
<b>Circumfer. speed</b>	max. 5 m/s, without seals max. 10 m/s
<b>Lubricant grease</b>	Klüber Isoflex Topas NCA52
<b>Lubrication</b>	using grease nipples according to DIN 3405

# Bearing Assemblies

## Type LVE

### Toothed Belt Gear/Aluminum Version



#### Dimensions

Size*	Dimensions mm				Load rating kN				stat. moment	Weight	Available
	Ø KK	Ø Da	Ø Di	H	C <sub>oa</sub>	C <sub>or</sub>	C <sub>a</sub>	C <sub>r</sub>	C <sub>om</sub>	kg	
LVE0100	100	150	50	34	54	25	18	16	1	1,2	
LVE0200	200	250	150	34	110	52	24	21	5	2,4	from Stock
LVE0300	300	360	240	38	166	78	28	24	12	5,0	from Stock
LVE0400	400	470	330	44	424	199	54	47	40	9,5	from Stock
LVE0600	600	680	520	49	635	299	63	54	63	18,2	
LVE0800	800	890	710	53	852	401	70	61	160	29,6	
LVE1000	1000	1090	910	53	1068	503	76	66	251	37,0	
LVE1800	1800	1930	1670	90	2367	1114	114	99	1003	181,1	

\*Intermediate sizes and other diameters can be found at [www.franke-gmbh.com](http://www.franke-gmbh.com)

#### Characteristics

LVE is a bearing assembly with toothed belt gear type and housing rings made of aluminium and integrated bearing element. Franke bearing assemblies in type LVE are designed for medium rotational speeds and accuracies. They are available on short notice, in some cases even from stock. Franke bearing assemblies type LVE are ready-to-use, complete bearings with integrated Wire Race Bearings. Designed as 4-point bearings, they absorb equal load from all sides and are insensitive to impact and vibration. The bearing assemblies are sealed on both sides and set free from clearance and are preloaded.

#### Technical details

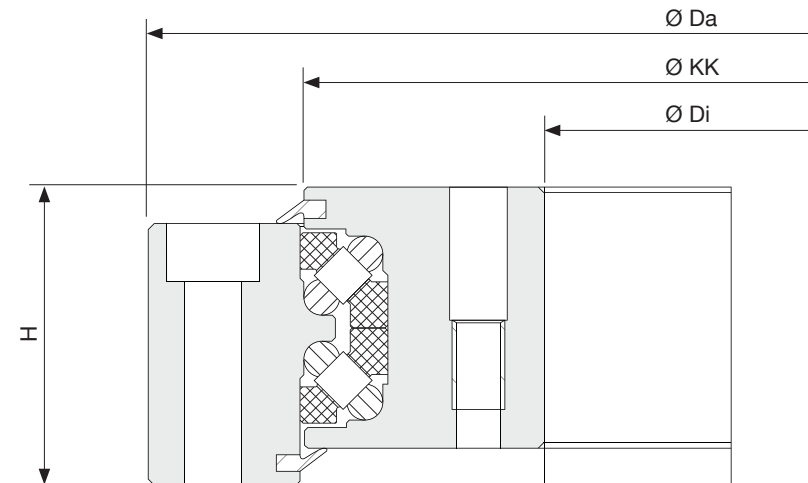
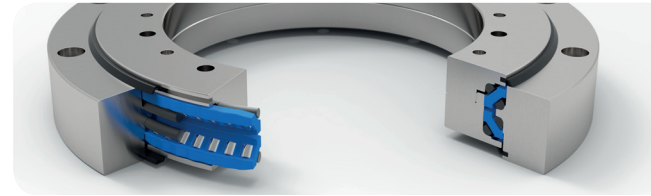
<b>Material</b>	Inner / outer ring: AlZnMgCu05, ball race rings: 54SiCr6, rolling elements: 100Cr6, cage: PA12, seal: NBR
<b>Temperature in use</b>	-30 °C to +80 °C, briefly up to +100 °C
<b>Circumfer. speed</b>	max. 5 m/s, without seals max. 10 m/s
<b>Lubricant grease</b>	Klüber Isoflex Topas NCA52
<b>Lubrication</b>	using grease nipples according to DIN 3405



# Bearing Assemblies

## Type LVG

### 2-row Roller Bearing/Aluminum



**New**

#### Dimensions

Size	Dimensions mm				Load rating kN				stat. moment kNm	Weight kg
	Ø KK	Ø Da	Ø Di	H	C <sub>oa</sub>	C <sub>or</sub>	C <sub>a</sub>	C <sub>r</sub>	C <sub>om</sub>	
LVG0200	200	262	140	47	309	124	39	36	14	4,1
LVG0300	300	375	223	57	617	247	78	72	39	9,3
LVG0400	400	475	323	57	827	331	90	83	60	12,4

#### Characteristics

LVG is a 2-row angular roller bearing with aluminum housing and two integrated bearing elements. Franke bearing assemblies type LVG are suitable for highest load capacities. They convince by high rigidity, low rotational resistance and low weight. Franke bearing assemblies type LVG are ready-to-use, complete bearings with integrated Wire Race Bearings. Designed as roller bearings, they absorb equal load from all sides and are insensitive to impact and vibration. The bearing assemblies are sealed from both sides and adjusted free from clearance. Due to the housing parts made of aluminum the weight is reduced by 60% compared to steel bearings.

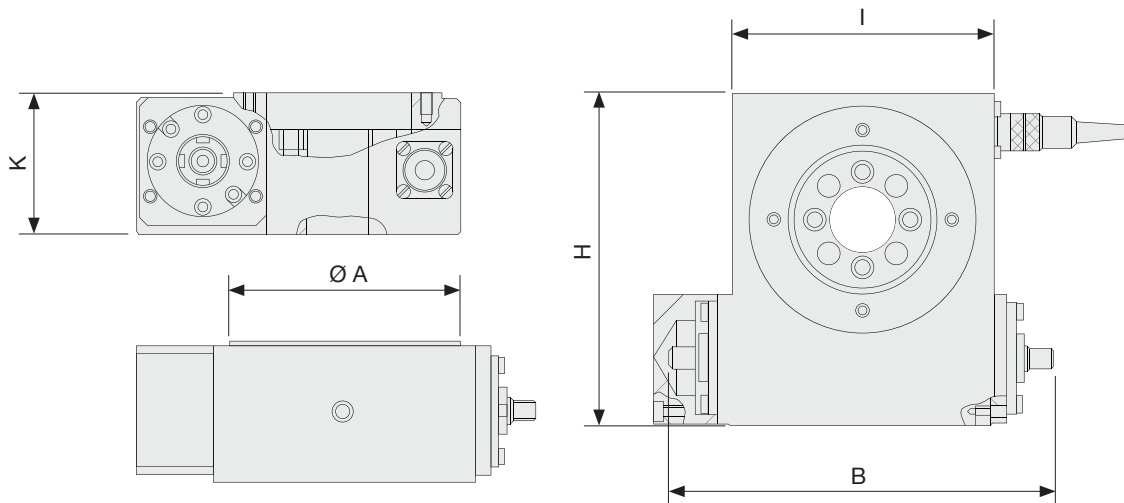
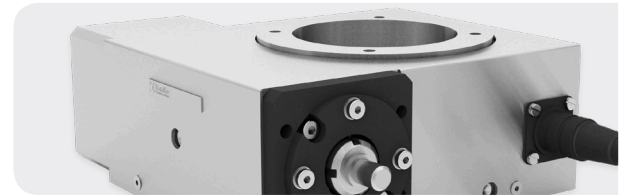
#### Technical details

<b>Material</b>	Inner / Outer ring: ALZnMgCu0,5, ball race rings: CrSi70, rollers: 100Cr6, cage: POM, seal: NBR
<b>Temperature in use</b>	-30 °C to +80 °C, briefly up to +100 °C
<b>Circumfer. speed</b>	max. 4 m/s
<b>Lubricant grease</b>	Klüber Isoflex Topas NCA52
<b>Lubrication</b>	using grease nipples according to DIN 3405

# Rotary Tables

## Type LTA

Highly dynamic / Worm Drive



### Dimensions

Size	Dimensions mm					Weight kg
	Ø A	B	H	I	K	
LTA100	100	183	155	125	65	5,5
LTA200	200	278	255	220	70	10,0

### Performance Overview

		LTA100	LTA200
Planarity and concentricity	<b>µm</b>	30	30
Positioning accuracy	<b>sec</b>	160	120
Repeatability	<b>sec</b>	20	14
Load rating $C_o$	<b>kN</b>	17,5	43
Load rating C	<b>kN</b>	9	18
Tilting moment $C_{om}$	<b>Nm</b>	289	433
reduction	<b>i</b>	18	36
Input speed $N_{1max}$	<b>U/min</b>	1800	2200
Output speed $N_{2max}$	<b>U/min</b>	100	61
Input torque $M_{1max}$	<b>Nm</b>	5	5
Output torque $M_{2max}$	<b>Nm</b>	54	108

### Characteristics

Franke rotary tables of type LTA are lightweight, compact, ready-to-use positioning units. They are highly resilient and deliver outstanding radial and axial run accuracy. Franke rotary tables type LTA are versatile in use and are well-suited to light processing applications and also for dynamic handling and assembly applications.

### Technical Details

**Material** Baseplate: Aluminium, Housing: V2A, Ball race rings: 54SiCr6, Rolling elements: 100Cr6, Worm wheel: wear-resistant bronze alloy, Worm shaft: CK45N hardened and ground

**Temperature in use** -10 °C to +80 °C

**Mounting position** any, but we recommend positions in which the drive module occupies the lowest point

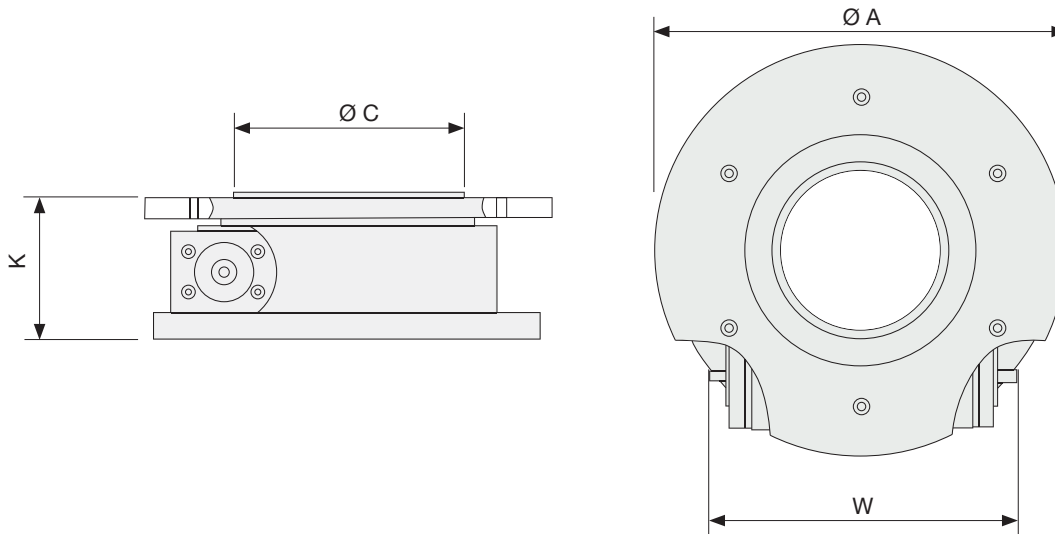
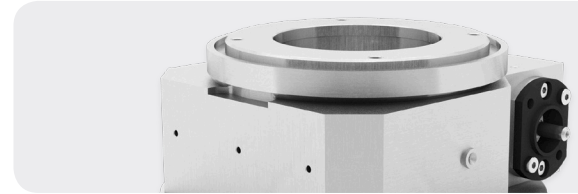
**Lubrication** with bearing grease via grease nipples

**Option** inductive proximity switch, flange/coupling to mount the motor, motorization

# Rotary Tables

## Type LTB

### High Precision / Worm Drive



#### Dimensions

Size	Dimensions mm				Weight kg
	Ø A	C	K	W	
LTB125	125	-	75	135	3
LTB175	175	-	82	196	6
LTB265	265	150	90	193	10
LTB400	400	300	100	251	27

#### Performance Overview

	LTB125	LTB175	LTB265	LTB400	
Planarity and concentricity	<b>µm</b>	20	20	20	30
Positioning accuracy	<b>sec</b>	80	80	70	50
Repeatability	<b>sec</b>	16	14	10	8
Load rating $C_o$	<b>kN</b>	2	2,6	4,2	14,1
Tilting moment $C_{om}$	<b>Nm</b>	110	140	310	1780
Reduction	<b>i</b>	360	360	360	360
Input speed $N_{1max}$	<b>rpm</b>	2500	2500	2500	2500
Output speed $N_{2max}$	<b>rpm</b>	7	7	7	7
Input torque $M_{1max}$	<b>Nm</b>	0,7	0,9	1,5	2
Output torque $M_{2max}$	<b>Nm</b>	70	75	160	290

#### Characteristics

Franke rotary tables of type LTB are open-center, ready-to-use positioning units. They are highly resilient, lightweight (aluminium housing) and deliver outstanding ATR accuracy and discrimination. Franke rotary tables of type LTB are versatile in use and are primarily suited to movement and positioning tasks in the fields of measurement, testing and orientation.

#### Technical Details

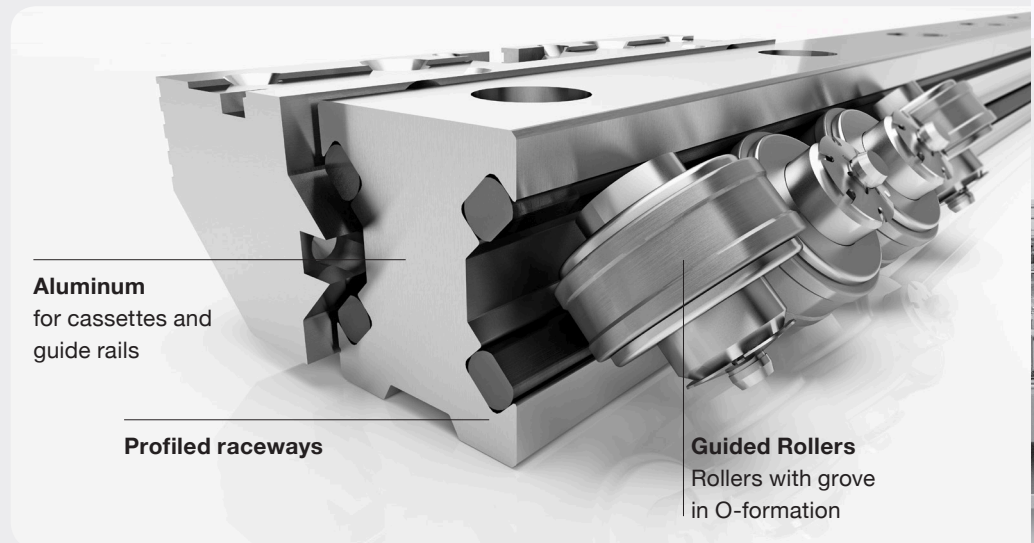
<b>Material</b>	Baseplate: Aluminium, Housing: V2A, Ball race rings: 54SiCr6, Rolling elements: 100Cr6, Worm wheel: wear-resistant bronze alloy, Worm shaft: CK45N hardened and ground
<b>Temperature in use</b>	-10 °C to +80 °C
<b>Mounting position</b>	any, but we recommend positions in which the drive module occupies the lowest point
<b>Lubrication</b>	with bearing grease via grease nipples
<b>Option</b>	inductive proximity switch, flange/coupling to mount the motor, motorization

# Low Weight as well as smooth and easy running

Franke Aluminum Linear Systems are the best solution when it comes to speed and lightweight construction. The design principle of Franke Linear Systems makes them highly dynamic, quiet and maintenance-free. Franke Linear Systems can be modified individually to suit customer needs, thanks to their modular structure.

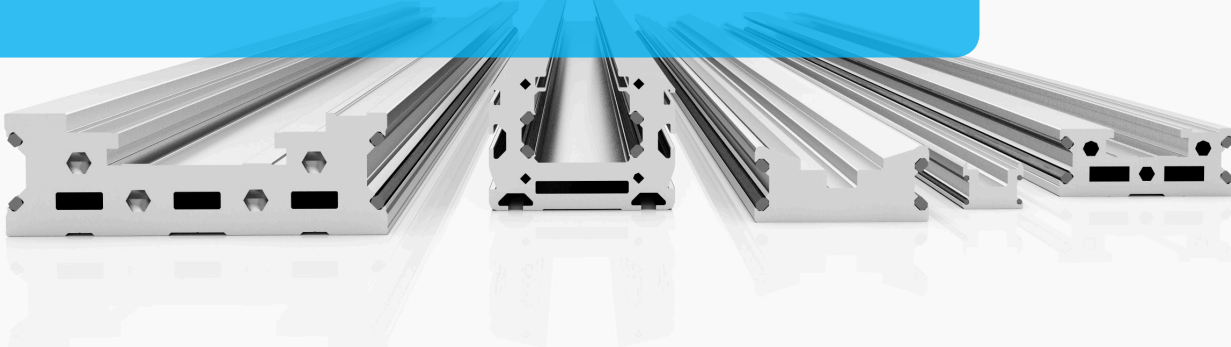
Franke Linear Systems can be modified individually to suit customer needs, thanks to their modular structure. You will always receive a solution that is ideally tailored to match your specific applications due to the use of various rail profiles and roller shoes, special cassettes, variable track widths or an integrated direct drive.

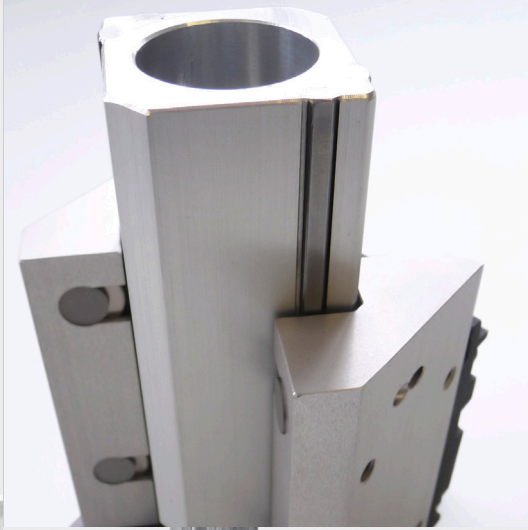
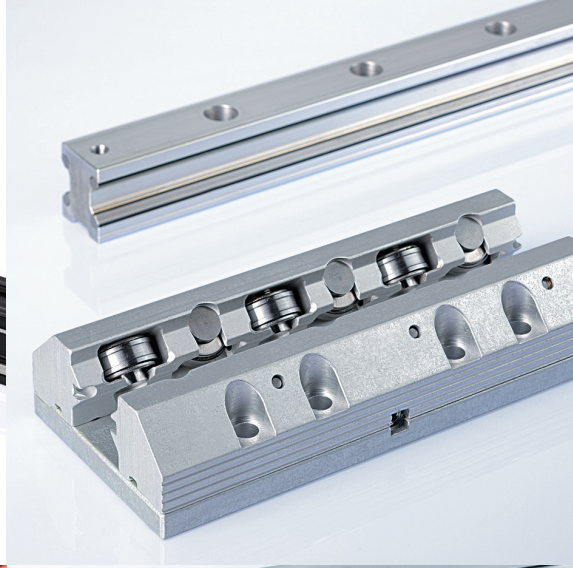
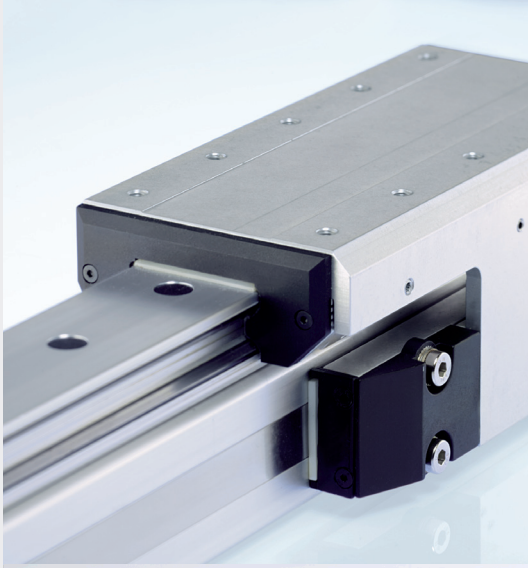
- Lightweight designs
- Homogeneous material properties in assemblies with aluminium profiles
- Low moved masses
- Low drive energy required
- High dynamism and speed



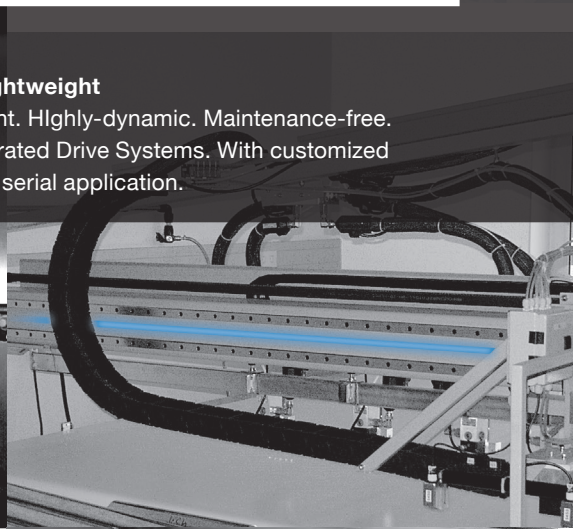
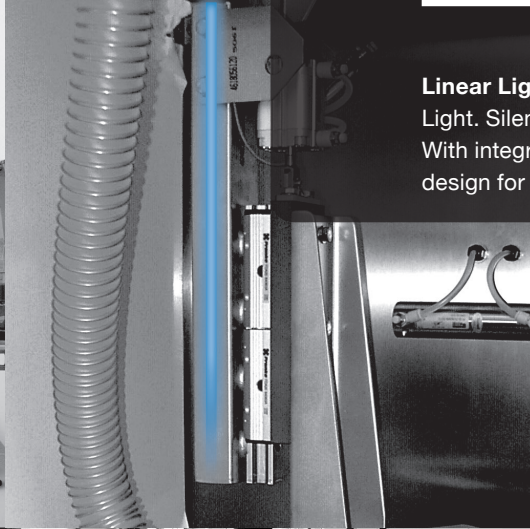
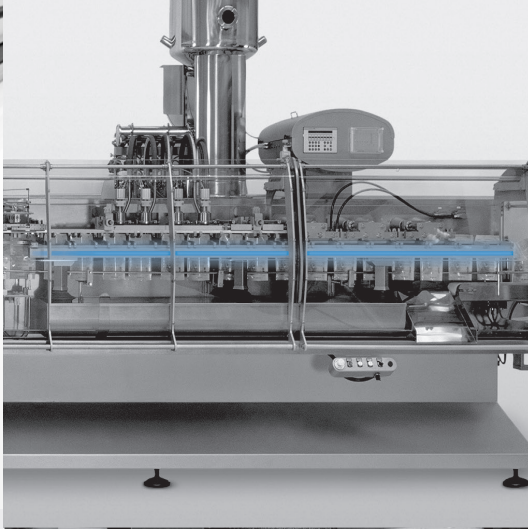
## Customer-specific rail profile

The Franke principle of inserted raceways can be transferred to almost any aluminium profile. This enables you to structure your design individually..



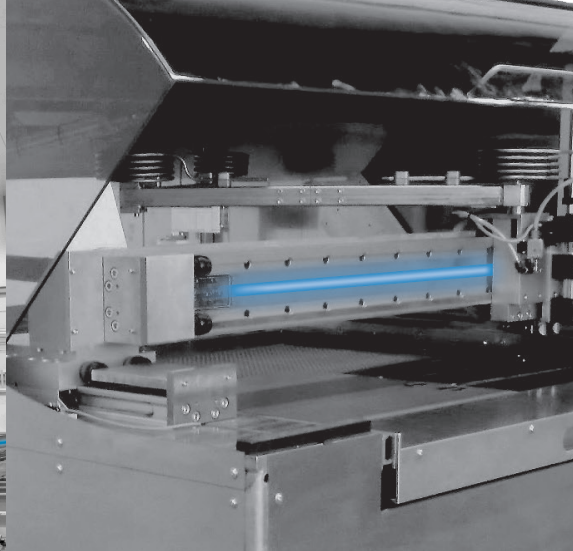
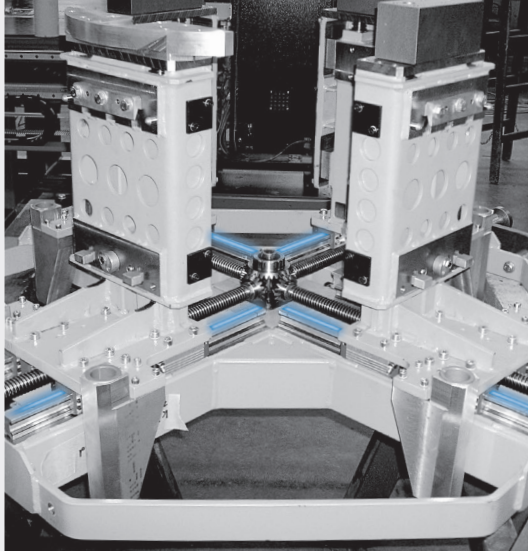


## Linear Systems



### Linear Lightweight

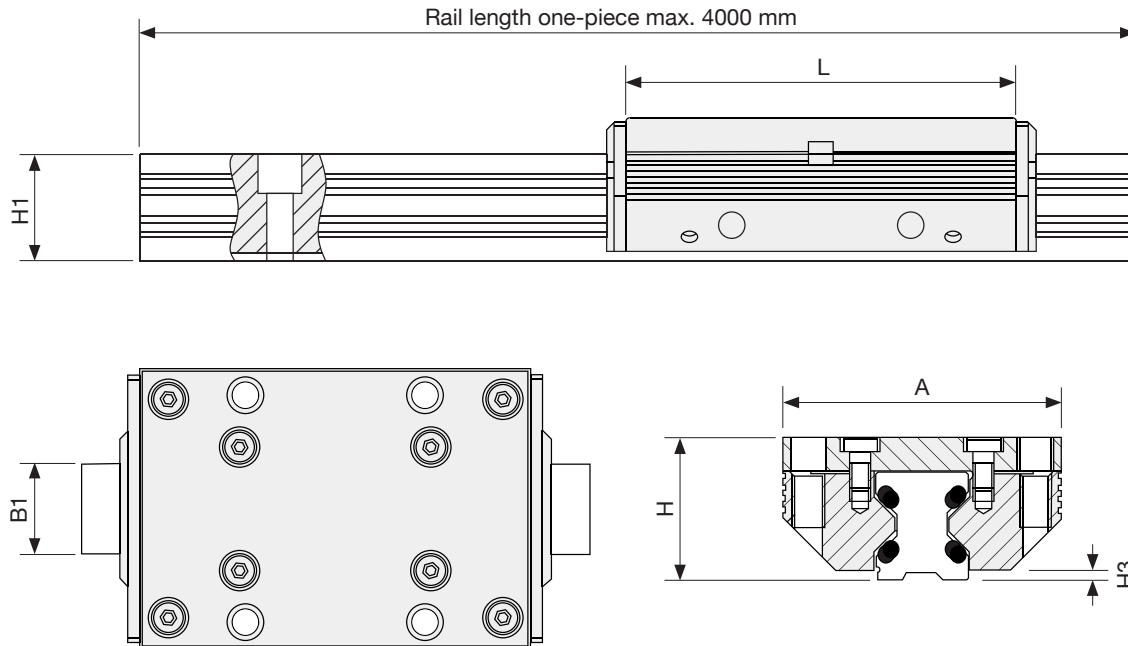
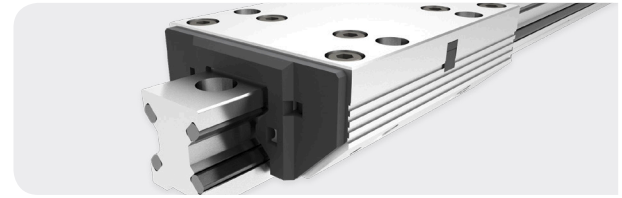
Light. Silent. Highly-dynamic. Maintenance-free.  
With integrated Drive Systems. With customized  
design for serial application.



# Linear Guides

## Type FD

### Double Rail / Cassette



#### Dimensions

Size	Dimensions mm						Available Types
	A	B1	H	H1	H3	L	
12	37	12,0	19	14,7	1,4	64	FDA, FDB, FDC, - , FDE, FDG, -
15	47	15,5	24	18,7	2,0	78	FDA, FDB, FDC, - , FDE, FDG, -
20	63	21,0	30	22,6	2,0	92	FDA, FDB, FDC, - , FDE, FDG, -
25	70	23,0	36	27,0	2,5	98	FDA, FDB, FDC, FDD, FDE, FDG, FDH
35	100	32,0	48	37,0	3,5	135	FDA, FDB, FDC, - , FDE, FDG, FDH
45	120	45,0	60	46,0	4,0	165	FDA, FDB, FDC, - , FDE, FDG, FDH

#### Characteristics

Franke Aluminum Linear Systems are the best solution when it comes to speed and lightweight construction. The design principle of Franke Linear Systems makes them highly dynamic, quiet and maintenance-free. Franke Linear Systems can be modified individually to suit customer needs, thanks to their modular structure. The slide resistance of the cassettes can be adjusted individually. The guide rails are available in one piece up to 4000mm and can be coupled to endless stroke lengths.

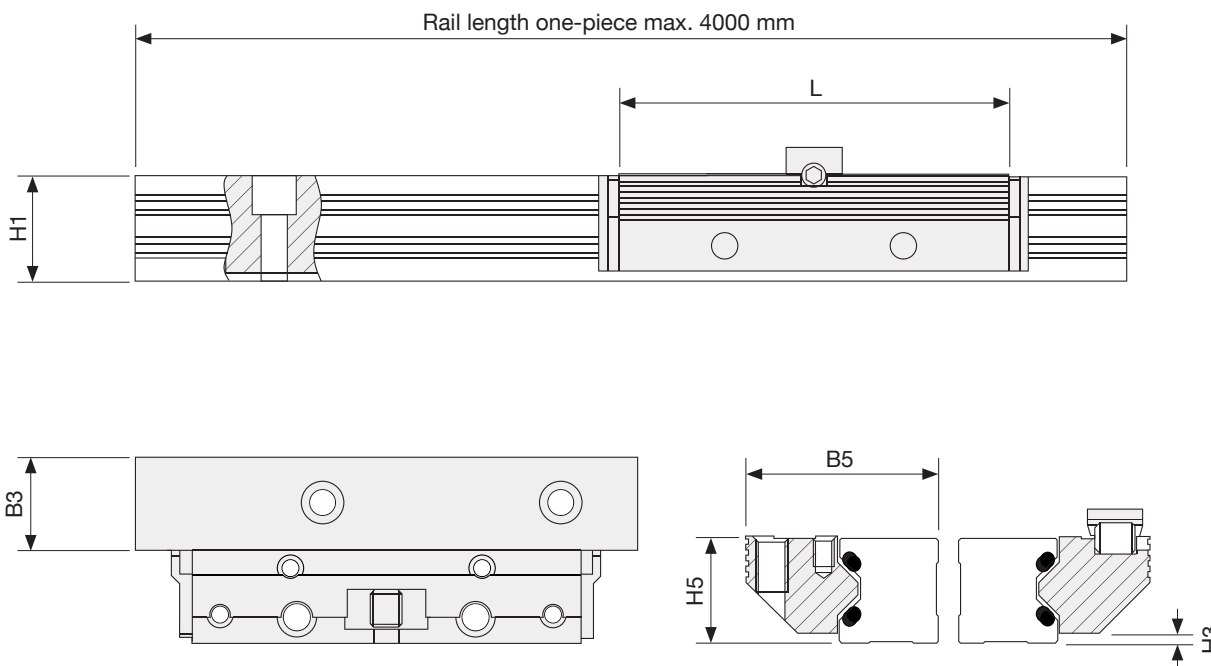
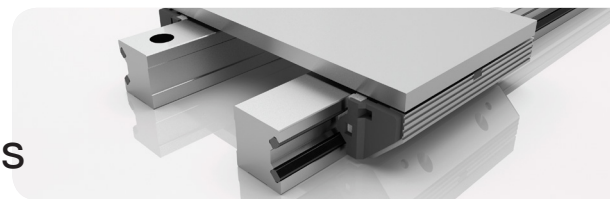
#### Technical Details

<b>Material</b>	Cassette plate, roller shoes and rail body: Aluminum; Rollers and raceways according to type: steel, non-corrosive steel, magn. steel
<b>Temperature in use</b>	-10 °C to +80 °C
<b>Vmax</b>	10 m/s
<b>Mounting position</b>	any
<b>Lubrication</b>	lifetime lubrication, maintenance-free

# Linear Guides

## Type FD

### Pair of Single Rails / Pair of Roller Shoes



#### Dimensions

Size	Dimensions mm					L	Available Types
	B3	B5	H1	H3	H5		
12	12,00	24,4	14,7	1,4	15,0	64	FDA, FDB, FDC, - , FDE, FDG, -
15	15,25	30,9	18,7	2,0	19,0	78	FDA, FDB, FDC, - , FDE, FDG, -
20	20,00	40,9	22,6	2,0	23,0	92	FDA, FDB, FDC, - , FDE, FDG, -
25	25,00	48,4	27,0	2,5	27,5	98	FDA, FDB, FDC, FDD, FDE, FDG, FDH
35	35,00	68,9	37,0	3,5	37,5	135	FDA, FDB, FDC, - , FDE, FDG, FDH
45	45,00	82,4	46,0	4,0	46,5	165	FDA, FDB, FDC, - , FDE, FDG, FDH

#### Characteristics

Franke Aluminum Linear Systems are the best solution when it comes to speed and lightweight construction. The design principle of Franke Linear Systems makes them highly dynamic, quiet and maintenance-free. Franke Linear Systems can be modified individually to suit customer needs, thanks to their modular structure. The slide resistance of the roller shoes can be adjusted individually. The guide rails are available in one piece up to 4000mm and can be coupled to endless stroke lengths.

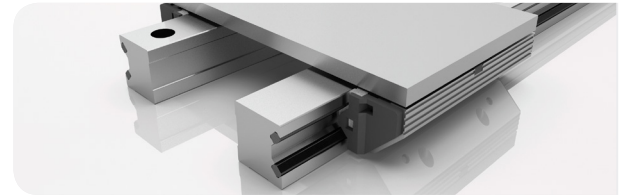
#### Technical Details

<b>Material</b>	Roller shoes and rail body: Aluminum; Rollers and raceways according to type: steel, non-corrosive steel, amagn. steel
<b>Temperature in use</b>	-10 °C to +80 °C
<b>Vmax</b>	10 m/s
<b>Mounting position</b>	any
<b>Lubrication</b>	lifetime lubrication, maintenance-free

# Linear Guides

## Type FD

### Available Types



#### Types

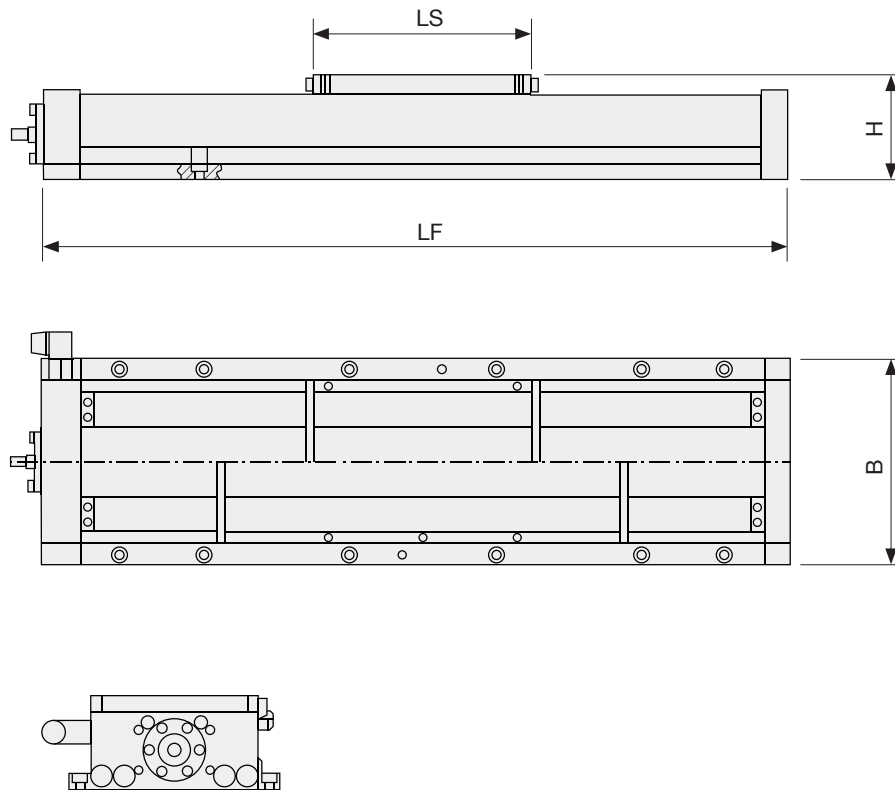
Type	Characteristics	Recommended Application
FDA	<ul style="list-style-type: none"> <li>Aluminum roller guide in <b>Standard</b> version</li> <li>Integrated raceways made of steel</li> <li>Rollers with needle bearings for smooth and easy running</li> </ul>	Suitable for linear motion applications in almost all industries. Sealed rollers for maintenance-free operation over the entire service life. Light, clean run.
FDB	<ul style="list-style-type: none"> <li>Aluminum roller guide in <b>Low-cost</b>-design</li> <li>Integrated raceways made of steel</li> <li>Rollers with ball bearings</li> </ul>	Suitable for linear motion applications in almost all industries. Particularly suitable for cost-sensitive applications and reduced demands on load capacity and noise.
FDC	<ul style="list-style-type: none"> <li>Aluminum roller guide in <b>Non-corrosive</b> design</li> <li>Integrated raceways made of non-corrosive steel</li> <li>Rollers with needle bearings for smooth and easy running</li> </ul>	Suitable for linear motion applications in almost all industries. Insensitive to environmental influences such as moisture or cleaning agents.
FDD	<ul style="list-style-type: none"> <li>Aluminum roller guide in <b>Non-magnetic</b> design</li> <li>Integrated raceways made of non-magnetic steel</li> <li>Rollers in needle bearings for smooth and easy running</li> </ul>	Suitable for linear motion applications in almost all industries. Nonmagnetic guide rails without influence on prevailing magnetic fields (e.g., in medical or electronics manufacturing).
FDE	<ul style="list-style-type: none"> <li>Aluminum roller guide in <b>Lubricant-free</b> design</li> <li>Integrated raceways made of steel</li> <li>Lubricant-free rollers for smooth and clean running</li> </ul>	Suitable for linear motion applications in almost all industries. Special rollers without lubricants. Suitable for use in a vacuum or in clean rooms.
FDG	<ul style="list-style-type: none"> <li>Aluminum roller guide in <b>Non-corrosive low cost</b> design</li> <li>Integrated raceways made of non-corrosive steel</li> <li>Rollers with ball bearings</li> </ul>	Suitable for linear motion applications in almost all industries. Particularly suitable for cost-sensitive applications in harsh environments or when using cleaning agents.
FDH	<ul style="list-style-type: none"> <li>Aluminum roller guide in <b>highly dynamic</b> design</li> <li>Integrated raceways made of steel</li> <li>Rollers with angular ball bearings for high speed and acceleration</li> </ul>	Suitable for linear motion applications in almost all industries. Rollers with angular contact ball bearings for maximum acceleration and speed values, for example when using linear motors as the drive source.



# Linear Tables

## Type FTB

### Spindle Drive / Metal Cover



#### Dimensions

Size	Dimensions mm					Load rating N C	Moment load Nm		Weight kg
	Hub	B	H	LF	LS		$M_{cx}$	$M_{cy}/M_{cz}$	
FTB06A	100-1500	155	70	315-1715	165	15000	670	220	6,4 - 21,8
FTB06B	100-1500	155	70	430-1830	280	30000	1380	1930	7,5 - 22,9

#### Characteristics

Franke type FTB linear tables are lightweight, compact, ready-to-install positioning units. They are highly resilient and have excellent positioning accuracy. Franke type FTB linear tables are equipped with an integrated aluminum roller guide, preloaded ball screw drive and a metal cover.

#### Technical Details

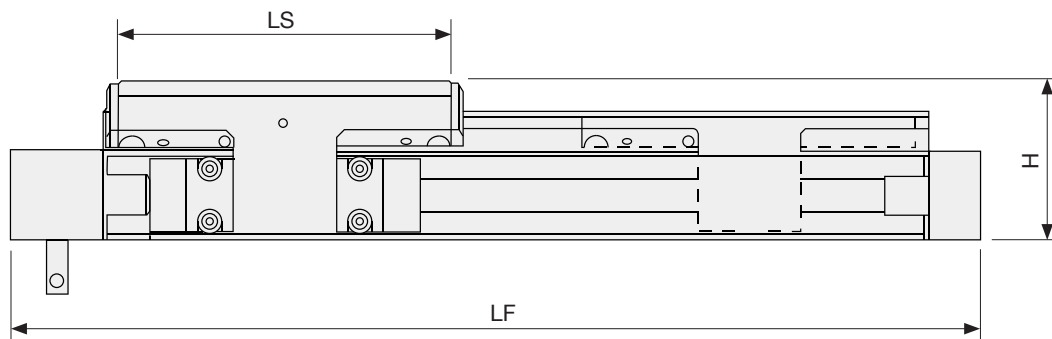
<b>Material</b>	Base plate: AlZnMgCu05, integrated roller guide: AlZnMgCu05, raceways: steel, rollers: steel, covers: non-corrosive steel
<b>Temperature in use</b>	-10 °C to +80 °C
<b>Vmax</b>	15 m/min
<b>Mounting position</b>	any
<b>Lubrication</b>	lifetime lubrication, maintenance-free

# Linear Modules

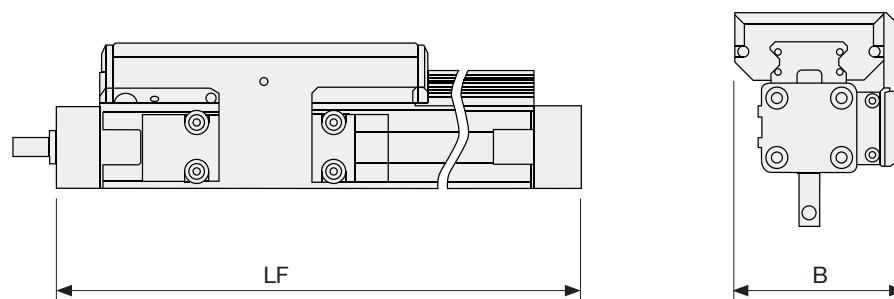
## Type FTC

### Spindle Drive / Belt Drive

Version with  
Belt Drive



Version with  
Spindle Drive



#### Dimensions

Größe	Dimensions mm					Tragzahl N C	Momente Nm		Weight kg
	Hub	B	H	LF	LS		$M_{cx}$	$M_{cy}/M_{cz}$	
<b>Belt Drive</b>									
FTC15	100-3400	72,5	73,5	360-3660	154	4200	81	190	3,0-13,9
FTC20	100-3400	91,0	88,0	411-3711	197	5400	133	338	5,5-28,6
FTC25	100-3200	117,0	118,5	524-3624	276	13500	483	922	12,4-43,4
<b>Spindle Drive</b>									
FTC15	100-1100	72,5	73,5	300-1300	154	4200	81	190	3,0-7,0
FTC20	100-2000	91,0	88,0	350-2250	197	5400	133	338	5,6-18,9
FTC25	100-3200	117,0	118,5	500-3600	276	13500	483	922	12,6-53,2

#### Characteristics

Franke liner modules type FTC are lightweight, compact, ready-to-install positioning units. They are particularly suitable for fast, dynamic movement tasks. The external guide system is moved by an internal spindle or toothed belt drive. Franke linear modules type FTC are versatile. The guide cassette can be customized to meet customer requirements.

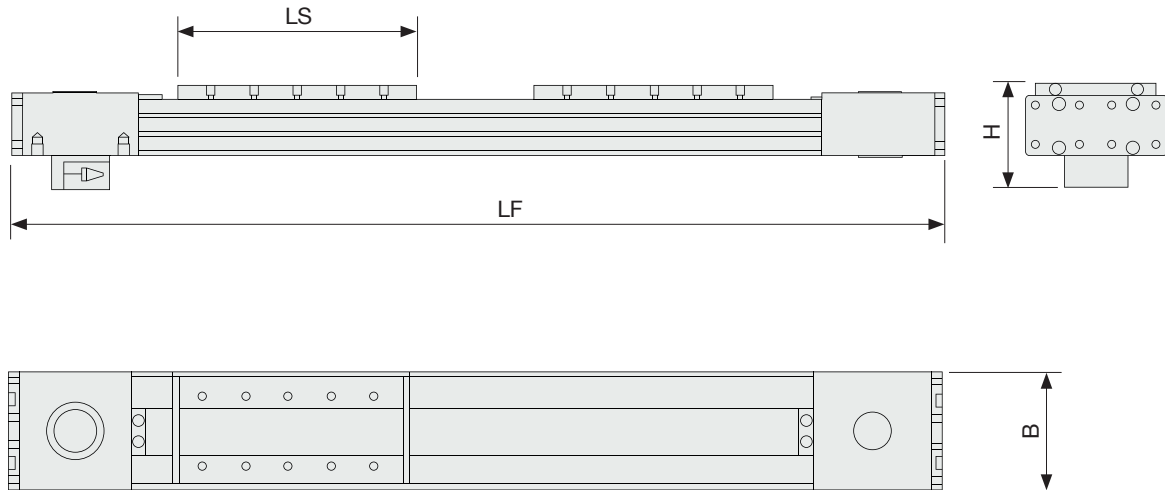
#### Technical Details

<b>Material</b>	Housing: AlZnMgCu05, external roller guide: AlZnMgCu05, raceway/rollers: steel, optional steel spindle or plastic toothed belt
<b>Temperature in use</b>	-10 °C to +80 °C
<b>Vmax</b>	5 m/s
<b>Mounting position</b>	any
<b>Lubrication</b>	lifetime lubrication, maintenance-free

# Linear Modules

## Type FTD

### Belt Drive



#### Dimensions

Size	Dimensions mm					Load rating N C	Moments Nm		Weight kg
	Hub	B	H	LF	LS		$M_{cx}$	$M_{cy}/M_{cz}$	
FTD15	100-7000	93	52,5	536-7436	178	4200	45	274	5,2-35
FTD20	100-7000	116	66,5	624-7524	218	5400	76	460	10,3-56,5
FTD35	100-7000	175	92,5	794-7694	263	12500	294	1233	28,8-133,7

#### Characteristics

Franke FTD linear modules are lightweight, compact, ready-to-install positioning units. They are extremely space-saving and combine the guide system and the toothed belt drive protected within the module housing. Franke linear modules of the type FTD are versatile and also bridge large stroke ranges of up to 7 meters in length.

#### Technical Details

<b>Material</b>	Housing: AlZnMgCu05, integrated roller guide: AlZnMgCu05, raceways/rollers: steel, toothed belt: plastics
<b>Temperature in use</b>	-10 °C to +80 °C
<b>Vmax</b>	10 m/s
<b>Mounting position</b>	any
<b>Lubrication</b>	lifetime lubrication, maintenance-free

Lightweight Bearings,  
Direct Drive Systems  
and Special Bearings  
for innovations



Franke GmbH  
Obere Bahnstraße 64  
73431 Aalen, Germany  
Tel. +49 7361 920-0  
Fax +49 7361 920-120  
info@franke-gmbh.de

[www.franke-gmbh.com](http://www.franke-gmbh.com)  
[www.light-weight-bearings.com](http://www.light-weight-bearings.com)



[www.franke-gmbh.com](http://www.franke-gmbh.com)



YouTube

XING