



KUNSTSTOFF-METALL-FORMTEILE



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WIRE BALL BEARING

This catalogue shows all WIRE-BALL-BEARING products of our company. The name WIRE-BALL-BEARING results due to the wires which hold the rolling elements. To this product range various bearings with various shapes and cross-cuts are available. All of them have in common that they are manufactured with most modern and self-developed manufacturing methods and that they can be used as an alternative for Slim split bearings. These bearings are manufactured at the company KMF – Kunststoff-Metall-Formteile under consideration of highest precision, quality and repeatability.



KUNSTSTOFF-METALL-FORMTEILE

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Technical description

Description of construction

The KMF KVE wire ball bearing units are used everywhere where there is insufficient space for a complete bearing. Because of the possibility of designing the machine while hardly taking the necessary roller bearing into consideration, this type of bearing has been increasingly used in recent years.

A neatly turned groove with easily achieved tolerances in the customer's design is sufficient to accommodate the running wires. This type of construction makes it possible to dispense with the conventional support rings (as provided for a complete bearing). Thus the customer obtains not only a space-saving bearing, but one at an extremely reasonable price.

By using hardened running wires, high surface hardness with a ground track corresponding to the ball diameter, one achieves a long service life.

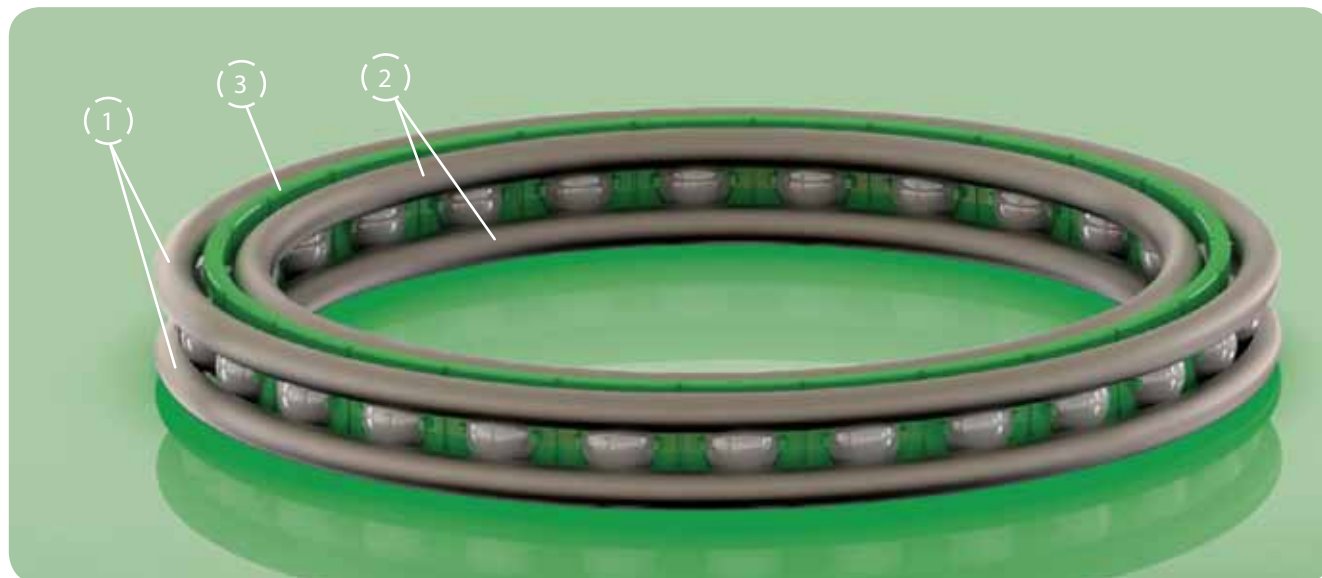
The bearing pressure angle of 90° makes it possible to support loads due to radial and axial forces and torques from any directions.

Operating conditions

The temperature limits of the standard bearing in continuous operation are -40°C and +100°C, for short periods up to +120°C.

Features

- Free choice of structural material, e. g. aluminium, bronze, stainless steel etc.
- Due to the slotted running rings, no difficulties from differential expansion
- Small fitted space
- High static and dynamic strength
- Great precision
- Low weight of bearing
- Economical, due to optimum price/performance ratio
- Short delivery period

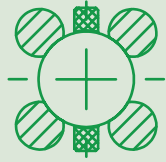


Component parts

- (1) 2 pieces outer running wires
Hardened (drawn), neatly turned and ground track corresponds to the ball diameter
- (2) 2 pieces inner running wires
Hardened (drawn), neatly turned and ground track corresponds to the ball diameter
- (3) 1 piece ball cage strip
Guided and contained balls

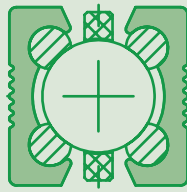
WIRE BALL BEARING – GROUND TRACK

Wire ball bearing KVE



Wire ball bearing MVE

Whisper-Wire ball bearing DFX

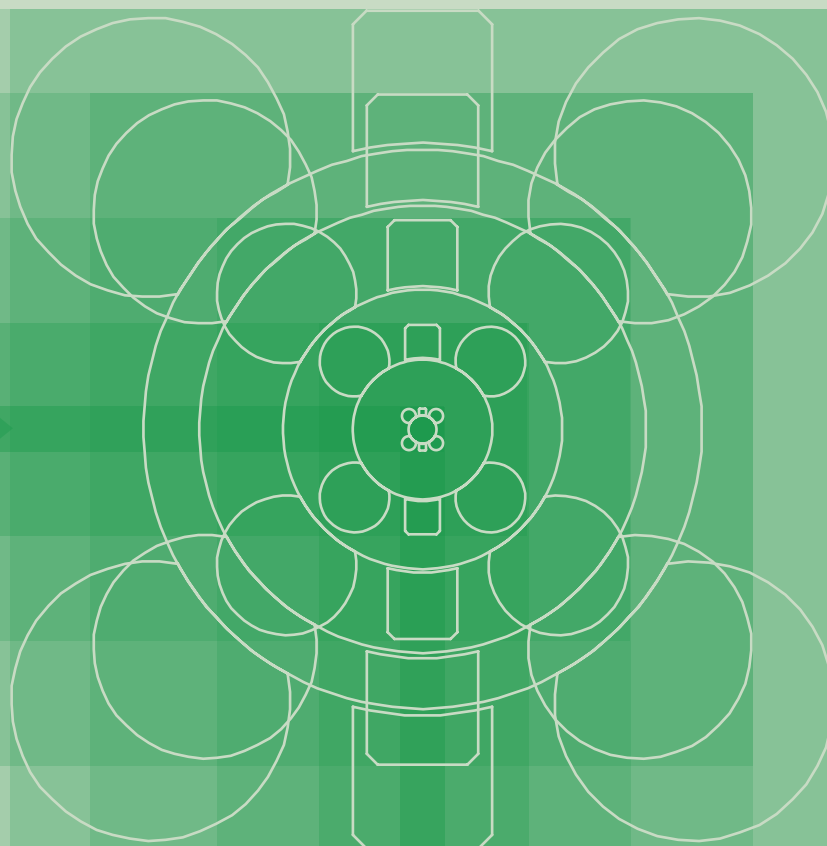


Wire ball bearing ZVE

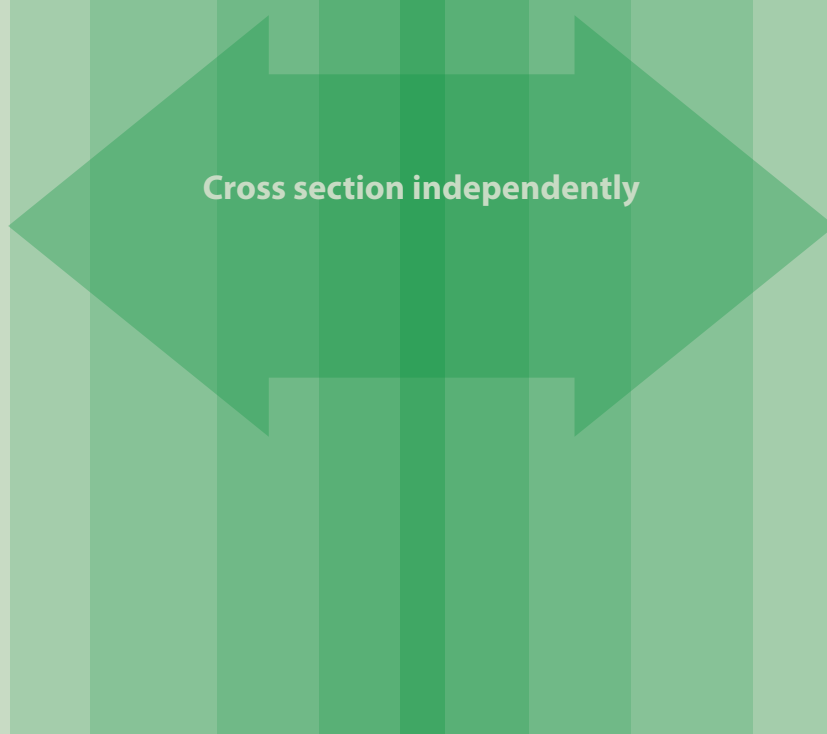


Wire ball bearing KVE
MVE
ZVE

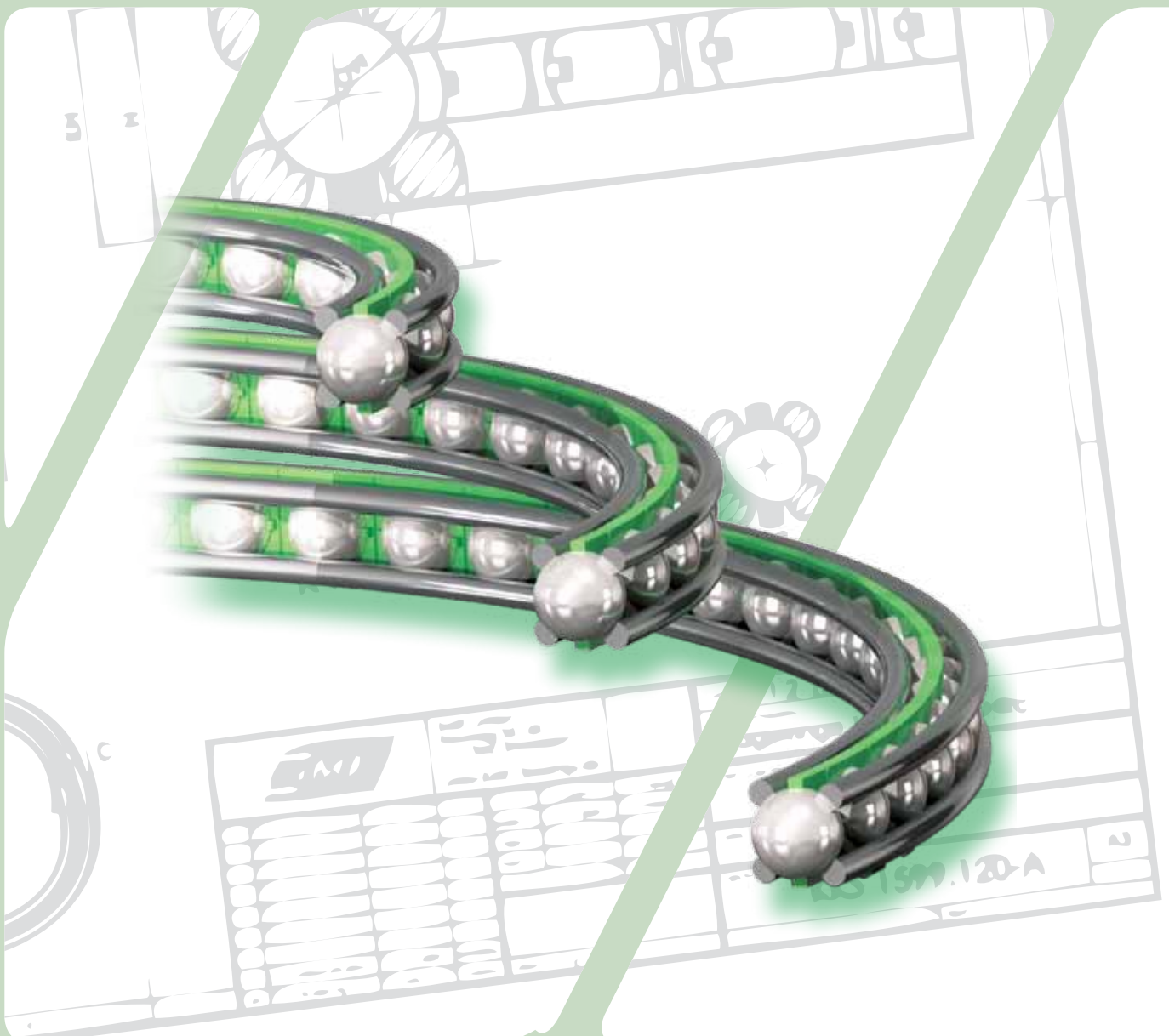
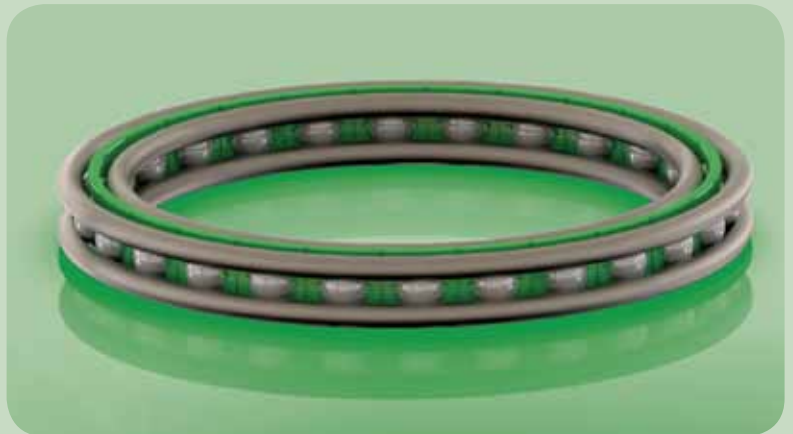
Diameter-independently



Cross section independently



Wire ball bearing KVE



Description of construction

The KMF wire ball bearing unit consists of four hardened ball running rings with polished tracks and one ball cage strip with guided and contained balls. KMF wire ball bearing units can be easily designed according to the customer's design requirements, as various combinations of running wires/balls are possible for the same circle diameter. The ball diameters of 5, 6, 6,35, 8, 9, 9,525, 10, 12, 16 and 20 mm and the circle diameter ranges of 70 to 2000 mm permit the use of many possible variations.

Material

Ball running rings

Hardened spring steel

Ball cage strip

Polyamide PA 12

Balls

Hardened ball bearing steel 100 Cr 6
acc. to DIN 5401, Grade 28 (Class III)

Example of order

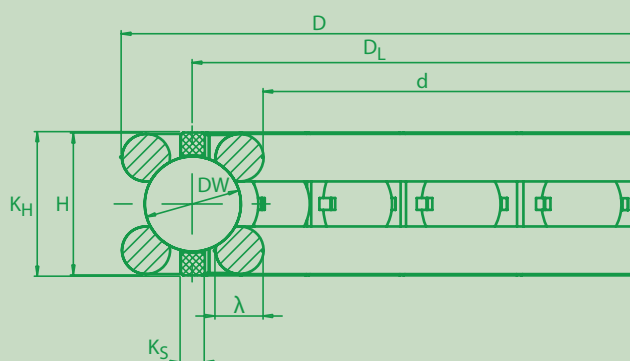
KVE 10 0350 SS

KVE can also be supplied in a corrosion-resistant version. This will have the additional symbol SS.

KVE	Type series	
10	Ball size	10 mm
0350	running circle diam.	350 mm
SS	Stainless steel	

WIRE BALL BEARING – GROUND TRACK

Fitted dimensions



Bearing dimensions

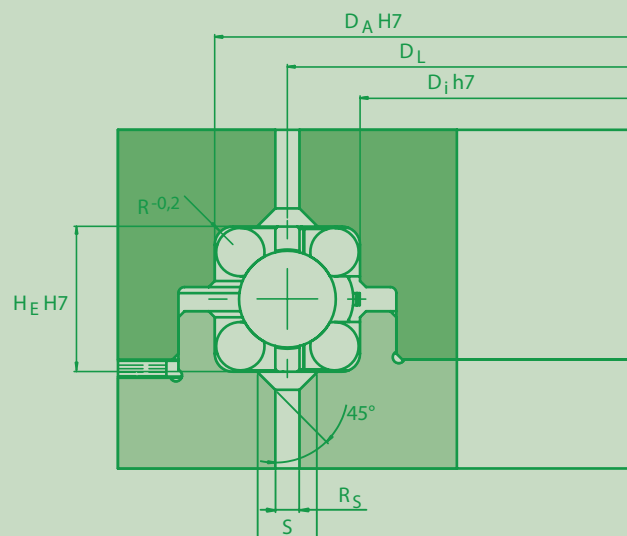


Table of dimensions

KMF- type ¹⁾	Ball D _W		Wire- Ø	Range of use		Bearing dimensions			Cage	
				Running circle Ø		d	D	H	dimensions	
				D _L	D _L				K _H	K _S
	λ	min.	max.							
	mm	inch	mm	mm	mm	mm	mm	mm	mm	mm
KVE 5	5,000		1,5	70	160	D _L – 5,90	D _L + 5,90	5,90	8,0	1,5
KVE 6	6,000		2,0	70	220	D _L – 7,40	D _L + 7,40	7,40	9,0	1,6
KVE 6,35	6,350	¼	3,0	100	400	D _L – 9,20	D _L + 9,20	9,20	9,0	1,6
KVE 9	9,000		3,0	150	400	D _L – 10,60	D _L + 10,60	10,60	11,6	2,0
KVE 8	8,000		4,0	150	2000	D _L – 11,78	D _L + 11,78	11,78	12,0	2,0
KVE 8	8,000		4,0	150	2000	D _L – 12,00	D _L + 12,00	12,00	12,0	2,0
KVE 9,525	9,525	⅜	4,0	150	2000	D _L – 12,95	D _L + 12,95	12,95	12,6	2,5
KVE 9,525	9,525	⅜	4,0	150	2000	D _L – 12,86	D _L + 12,86	12,86	12,6	2,5
KVE 10	10,000		4,0	150	2000	D _L – 13,19	D _L + 13,19	13,19	13,2	2,5
KVE 12	12,000		4,0	200	2000	D _L – 14,10	D _L + 14,10	14,10	15,0	2,5
KVE 12	12,000		4,0	200	2000	D _L – 14,61	D _L + 14,61	14,61	15,0	2,5
KVE 16	16,000		5,0	250	2000	D _L – 18,40	D _L + 18,40	18,40	20,0	3,5
KVE 16	16,000		5,0	250	2000	D _L – 19,00	D _L + 19,00	19,00	20,0	3,5
KVE 20	20,000		6,0	300	2000	D _L – 22,60	D _L + 22,60	22,60	24,2	3,5

		Fitted dimensions						Cage type ³⁾	Load capacity ⁴⁾	
		d _i	D _A	H _E	R	S	R _S		Dyn.	Stat.
C _a	C _{oa}									
mm	mm								mm	mm
	6,8	D _L – 5,90	D _L + 5,90	5,90	0,6	---	2,5	KKLK 050	0,450 • √D _L	0,071 • D _L
	7,8	D _L – 7,40	D _L + 7,40	7,40	0,9	---	2,6	KKLK 060	0,735 • √D _L	0,125 • D _L
	7,8	D _L – 9,20	D _L + 9,20	9,20	1,4	3,0	---	KKLK 063	1,180 • √D _L	0,280 • D _L
	11,5	D _L – 10,60	D _L + 10,60	10,60	1,4	4,5	---	KKLK 090	1,370 • √D _L	0,340 • D _L
	12,0	D _L – 11,78	D _L + 11,78	11,78	1,9	4,5	---	KKLK 080	1,240 • √D _L	0,350 • D _L
	12,0	D _L – 12,00	D _L + 12,00	12,00	1,9	4,5	---	KKLK 080	1,200 • √D _L	0,340 • D _L
	12,0	D _L – 12,95	D _L + 12,95	12,95	1,9	4,5	---	KKLK 095	1,450 • √D _L	0,310 • D _L
	12,0	D _L – 12,86	D _L + 12,86	12,86	1,9	4,5	---	KKLK 095	1,450 • √D _L	0,310 • D _L
	12,5	D _L – 13,19	D _L + 13,19	13,19	1,9	4,5	---	KKLK 100	1,500 • √D _L	0,330 • D _L
	15,0	D _L – 14,10	D _L + 14,10	14,10	1,9	5,5	---	KKLK 120	2,220 • √D _L	0,440 • D _L
	15,0	D _L – 14,61	D _L + 14,61	14,61	1,9	5,5	---	KKLK 120	2,150 • √D _L	0,400 • D _L
	20,0	D _L – 18,40	D _L + 18,40	18,40	2,4	7,5	---	KKLK 160	3,020 • √D _L	0,580 • D _L
	20,0	D _L – 19,00	D _L + 19,00	19,00	2,4	7,5	---	KKLK 160	2,930 • √D _L	0,530 • D _L
	25,0	D _L – 22,60	D _L + 22,60	22,60	2,9	8,0	---	KKLK 200	3,550 • √D _L	0,640 • D _L

1) Other dimensions on request

2) K_T= ball division

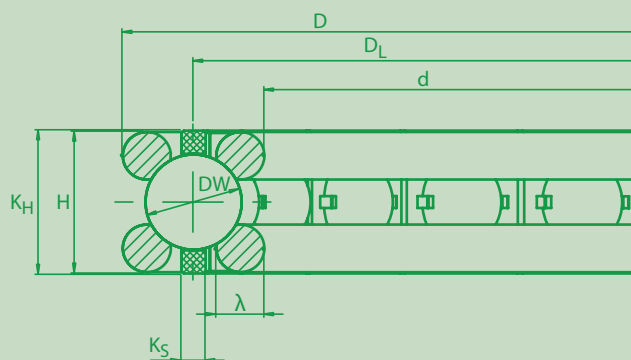
3) See catalog WLK 100

4) Calculated hardness 510 HV

WIRE BALL BEARING – GROUND TRACK

Wire ball bearing KVE – metric

Fitted dimensions



Bearing dimensions

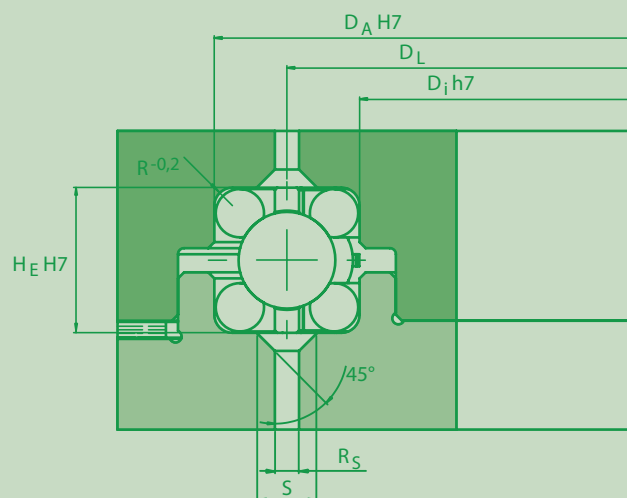


Table of dimensions (type series KVE 08 - metric)

KMF-Type ¹⁾	Bearing dimensions				Load capacity		Limiting speed		Weight
	d	D	D _L	H	dyn.	stat.	n _G Grease	n _G Oil	
	mm	mm	mm	mm	C	C ₀	min ⁻¹	min ⁻¹	
KVE 08 0100	88	112	100	12	12,0	34,0	1910	2290	0,18
KVE 08 0125	113	137	125	12	13,4	42,5	1528	1832	0,23
KVE 08 0150	138	162	150	12	14,7	51,0	1273	1527	0,27
KVE 08 0175	163	187	175	12	15,9	59,5	1091	1309	0,32
KVE 08 0200	188	212	200	12	17,0	68,0	955	1145	0,36
KVE 08 0225	213	237	225	12	18,0	76,5	849	1018	0,41
KVE 08 0250	238	262	250	12	19,0	85,0	764	916	0,45
KVE 08 0275	263	287	275	12	19,9	93,5	695	833	0,50
KVE 08 0300	288	312	300	12	20,8	102,0	637	763	0,54
KVE 08 0325	313	337	325	12	21,6	110,5	588	705	0,59
KVE 08 0350	338	362	350	12	22,4	119,0	546	654	0,63
KVE 08 0375	363	387	375	12	23,2	127,5	509	611	0,68
KVE 08 0400	388	412	400	12	24,0	136,0	478	573	0,72
KVE 08 0425	413	437	425	12	24,7	144,5	449	539	0,77
KVE 08 0450	438	462	450	12	25,5	153,0	424	509	0,81
KVE 08 0475	463	487	475	12	26,2	161,5	402	482	0,86
KVE 08 0500	488	512	500	12	26,8	170,0	382	458	0,90
KVE 08 0525	513	537	525	12	27,5	178,5	364	436	0,95



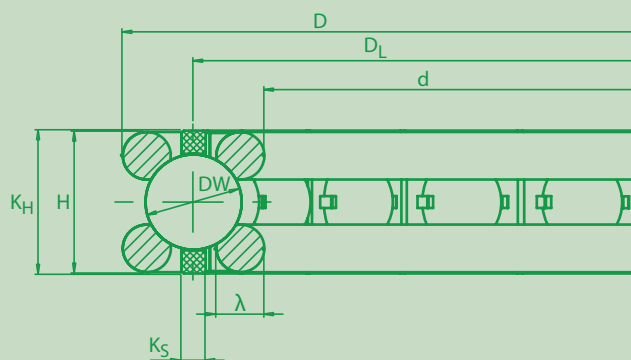
KMF-Type ¹⁾	Bearing dimensions				Load capacity		Limiting speed		Weight
	d	D	D _L	H	dyn.	stat.	n _G Grease	n _G Oil	
	mm	mm	mm	mm	C	C ₀	min ⁻¹	min ⁻¹	
KVE 08 0550	538	562	550	12	28,1	187,0	347	416	0,99
KVE 08 0575	563	587	575	12	28,8	195,5	332	398	1,04
KVE 08 0600	588	612	600	12	29,4	204,0	318	382	1,08
KVE 08 0625	613	637	625	12	30,0	212,5	306	366	1,13
KVE 08 0650	638	662	650	12	30,6	221,0	294	352	1,17
KVE 08 0675	663	687	675	12	31,2	229,5	283	339	1,22
KVE 08 0700	688	712	700	12	31,7	238,0	273	327	1,26
KVE 08 0725	713	737	725	12	32,3	246,5	263	316	1,31
KVE 08 0750	738	762	750	12	32,9	255,0	255	305	1,35
KVE 08 0775	763	787	775	12	33,4	263,5	246	295	1,40
KVE 08 0800	788	812	800	12	33,9	272,0	239	286	1,44
KVE 08 0825	813	837	825	12	34,5	280,5	232	278	1,49
KVE 08 0850	838	862	850	12	35,0	289,0	225	269	1,53
KVE 08 0875	863	887	875	12	35,5	297,5	218	262	1,58
KVE 08 0900	888	912	900	12	36,0	306,0	212	254	1,62
KVE 08 0925	913	937	925	12	36,5	314,5	206	248	1,67
KVE 08 0950	938	962	950	12	37,0	323,0	201	241	1,71
KVE 08 0975	963	987	975	12	37,5	331,5	196	235	1,76
KVE 08 1000	988	1012	1000	12	37,9	340,0	191	229	1,80
KVE 08 1025	1013	1037	1025	12	38,4	348,5	186	223	1,85
KVE 08 1050	1038	1062	1050	12	38,9	357,0	182	218	1,89
KVE 08 1075	1063	1087	1075	12	39,3	365,5	178	213	1,94
KVE 08 1100	1088	1112	1100	12	39,8	374,0	174	208	1,98
KVE 08 1125	1113	1137	1125	12	40,2	382,5	170	204	2,03
KVE 08 1150	1138	1162	1150	12	40,7	391,0	166	199	2,07
KVE 08 1175	1163	1187	1175	12	41,1	399,5	163	195	2,12
KVE 08 1200	1188	1212	1200	12	41,6	408,0	159	191	2,16
KVE 08 1225	1213	1237	1225	12	42,0	416,5	156	187	2,21
KVE 08 1250	1238	1262	1250	12	42,4	425,0	153	183	2,25
KVE 08 1275	1263	1287	1275	12	42,8	433,5	150	180	2,30
KVE 08 1300	1288	1312	1300	12	43,3	442,0	147	176	2,34
KVE 08 1325	1313	1337	1325	12	43,7	450,5	144	173	2,39
KVE 08 1350	1338	1362	1350	12	44,1	459,0	141	170	2,43

1) Other dimensions on request

WIRE BALL BEARING – GROUND TRACK

Wire ball bearing KVE – English series

Fitted dimensions



Bearing dimensions

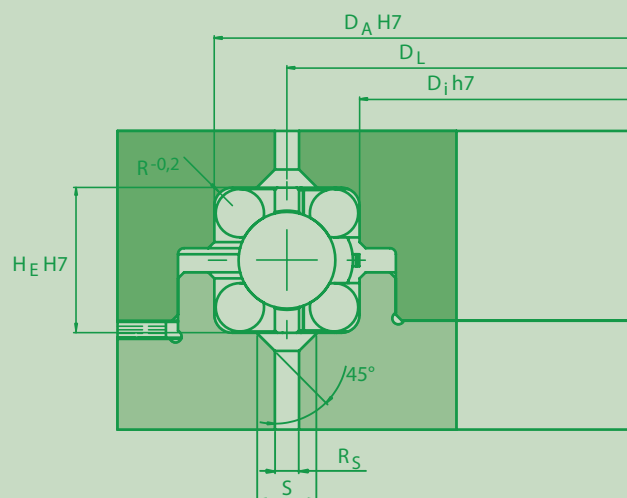


Table of dimensions (type series KVE - english series)

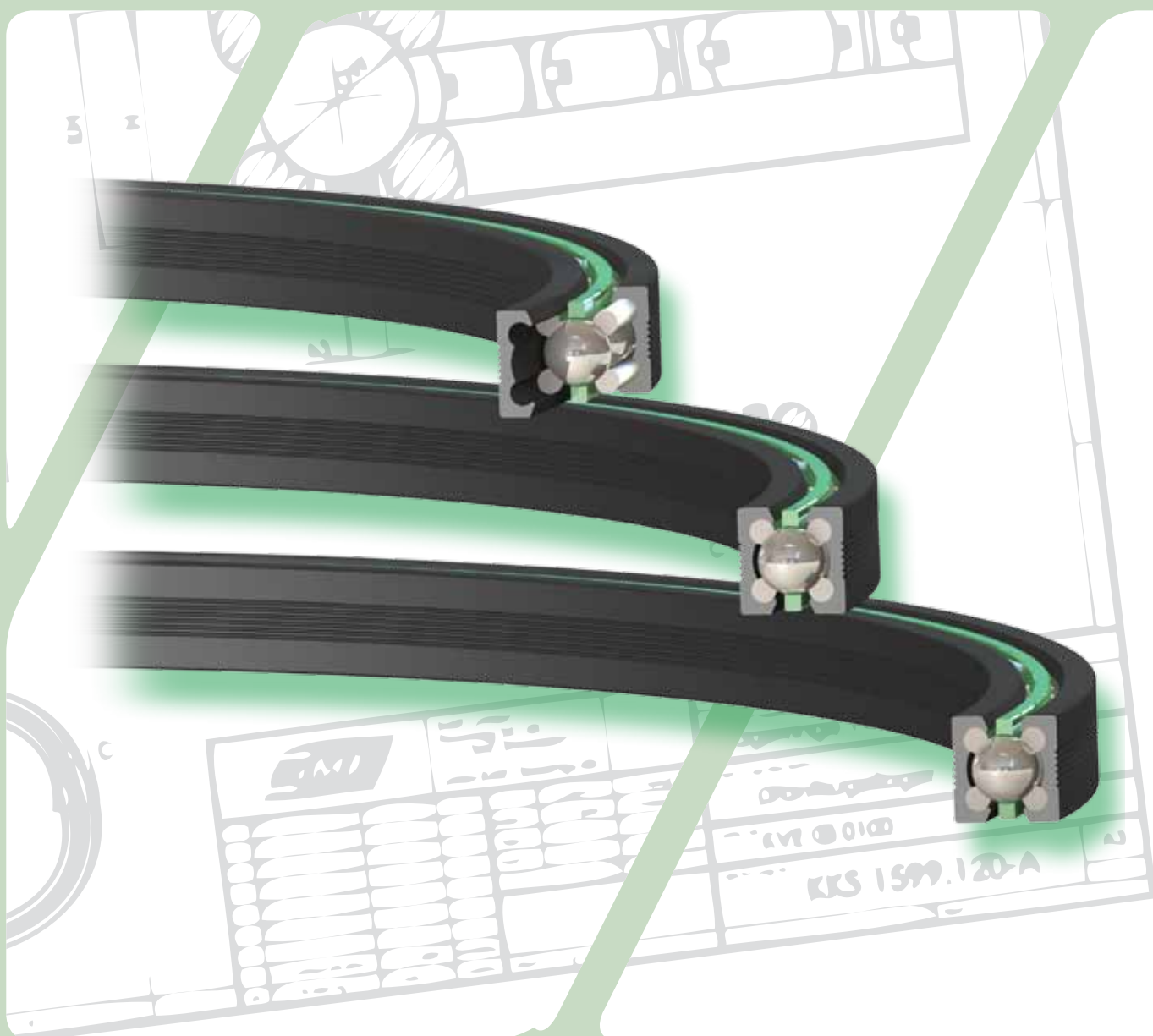
KMF-Type ¹⁾	Bearing dimensions				Load capacity		Limiting speed		Weight kg
	d	D	D _L	H	dyn. C	stat. C ₀	n _G Grease	n _G Oil	
	mm	mm	mm	mm	kN	kN	min ⁻¹	min ⁻¹	
KVE 9,525 0100	87,05	112,95	0,51	12,95	14,5	31,0	1910	2290	0,26
KVE 9,525 0125	112,05	137,95	0,51	12,95	16,2	38,8	1528	1832	0,32
KVE 9,525 0150	137,05	162,95	0,51	12,95	17,8	46,5	1273	1527	0,37
KVE 9,525 0175	162,05	187,95	0,51	12,95	19,2	54,3	1091	1309	0,42
KVE 9,525 0200	187,05	212,95	0,51	12,95	20,5	62,0	955	1145	0,47
KVE 9,525 0225	212,05	237,95	0,51	12,95	21,8	69,8	849	1018	0,53
KVE 9,525 0250	237,05	262,95	0,51	12,95	22,9	77,5	764	916	0,58
KVE 9,525 0275	262,05	287,95	0,51	12,95	24,0	85,3	695	833	0,63
KVE 9,525 0300	287,05	312,95	0,51	12,95	25,1	93,0	637	763	0,68
KVE 9,525 0325	312,05	337,95	0,51	12,95	26,1	100,8	588	705	0,74
KVE 9,525 0350	337,05	362,95	0,51	12,95	27,1	108,5	546	654	0,79
KVE 9,525 0375	362,05	387,95	0,51	12,95	28,1	116,3	509	611	0,84
KVE 9,525 0400	387,05	412,95	0,51	12,95	29,0	124,0	478	573	0,89
KVE 9,525 0425	412,05	437,95	0,51	12,95	29,9	131,8	449	539	0,95
KVE 9,525 0450	437,05	462,95	0,51	12,95	30,8	139,5	424	509	1,00
KVE 9,525 0475	462,05	487,95	0,51	12,95	31,6	147,3	402	482	1,05
KVE 9,525 0500	487,05	512,95	0,51	12,95	32,4	155,0	382	458	1,10
KVE 9,525 0525	512,05	537,95	0,51	12,95	33,2	162,8	364	436	



KMF-Type ¹⁾	Bearing dimensions				Load capacity		Limiting speed		Weight
	d	D	D _L	H	dyn.	stat.	n _G Grease	n _G Oil	
	mm	mm	mm	mm	C	C ₀	min ⁻¹	min ⁻¹	
KVE 9,525 0550	537,05	562,95	0,51	12,95	34,0	170,5	347	416	1,16
KVE 9,525 0575	562,05	587,95	0,51	12,95	34,8	178,3	332	398	1,21
KVE 9,525 0600	587,05	612,95	0,51	12,95	35,5	186,0	318	382	1,26
KVE 9,525 0625	612,05	637,95	0,51	12,95	36,3	193,8	306	366	1,31
KVE 9,525 0650	637,05	662,95	0,51	12,95	37,0	201,5	294	352	1,37
KVE 9,525 0675	662,05	687,95	0,51	12,95	37,7	209,3	283	339	1,42
KVE 9,525 0700	687,05	712,95	0,51	12,95	38,4	217,0	273	327	1,47
KVE 9,525 0725	712,05	737,95	0,51	12,95	39,0	224,8	263	316	1,52
KVE 9,525 0750	737,05	762,95	0,51	12,95	39,7	232,5	255	305	1,58
KVE 9,525 0775	762,05	787,95	0,51	12,95	40,4	240,3	246	295	1,63
KVE 9,525 0800	787,05	812,95	0,51	12,95	41,0	248,0	239	286	1,68
KVE 9,525 0825	812,05	837,95	0,51	12,95	41,6	255,8	232	278	1,73
KVE 9,525 0850	837,05	862,95	0,51	12,95	42,3	263,5	225	269	1,79
KVE 9,525 0875	862,05	887,95	0,51	12,95	42,9	271,3	218	262	1,84
KVE 9,525 0900	887,05	912,95	0,51	12,95	43,5	279,0	212	254	1,89
KVE 9,525 0925	912,05	937,95	0,51	12,95	44,1	286,8	206	248	1,94
KVE 9,525 0950	937,05	962,95	0,51	12,95	44,7	294,5	201	241	2,00
KVE 9,525 0975	962,05	987,95	0,51	12,95	45,3	302,3	196	235	2,05
KVE 9,525 1000	987,05	1012,95	0,51	12,95	45,9	310,0	191	229	2,10
KVE 9,525 1025	1012,05	1037,95	0,51	12,95	46,4	317,8	186	223	2,15
KVE 9,525 1050	1037,05	1062,95	0,51	12,95	47,0	325,5	182	218	2,21
KVE 9,525 1075	1062,05	1087,95	0,51	12,95	47,5	333,3	178	213	2,26
KVE 9,525 1100	1087,05	1112,95	0,51	12,95	48,1	341,0	174	208	2,31
KVE 9,525 1125	1112,05	1137,95	0,51	12,95	48,6	348,8	170	204	2,36
KVE 9,525 1150	1137,05	1162,95	0,51	12,95	49,2	356,5	166	199	2,42
KVE 9,525 1175	1162,05	1187,95	0,51	12,95	49,7	364,3	163	195	2,47
KVE 9,525 1200	1187,05	1212,95	0,51	12,95	50,2	372,0	159	191	2,52
KVE 9,525 1225	1212,05	1237,95	0,51	12,95	50,8	379,8	156	187	2,57
KVE 9,525 1250	1237,05	1262,95	0,51	12,95	51,3	387,5	153	183	2,63
KVE 9,525 1275	1262,05	1287,95	0,51	12,95	51,8	395,3	150	180	2,68
KVE 9,525 1300	1287,05	1312,95	0,51	12,95	52,3	403,0	147	176	2,73
KVE 9,525 1325	1312,05	1337,95	0,51	12,95	52,8	410,8	144	173	2,78
KVE 9,525 1350	1337,05	1362,95	0,51	12,95	53,3	418,5	141	170	2,84

1) Other dimensions on request

Whisper-Wire ball bearing DFX



Description of construction

The KMF whisper wire ball bearing consists of a wire ball bearing of type series KVE, which is provided on the outer and the inner wires with an elastomer sheath with 70 Shore hardness.

Operating conditions

The temperature limits of the bearing in continuous operation are –40°C and +80°C.

Material

Ball running rings

Hardened Spring steel

Ball cage strip

Polyamide PA 12

Balls

Hardened ball bearing steel 100 Cr 6
acc. to DIN 5401, Grade 28 (Class III)

Sheath

Perbunan 70 Shore A

Example of order

DFXG 800 M

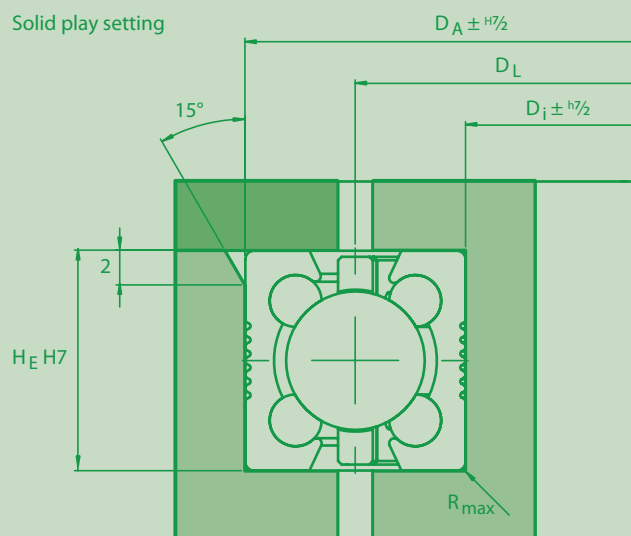
DFXG 300 Z

DFXG	Type series
800	Size of the bearing (D _L in mm)
M	Metric series
300	Size of the bearing (d in inch x 10)
Z	English series

WIRE BALL BEARING – GROUND TRACK

Fitted dimensions

Solid play setting



ABL play setting

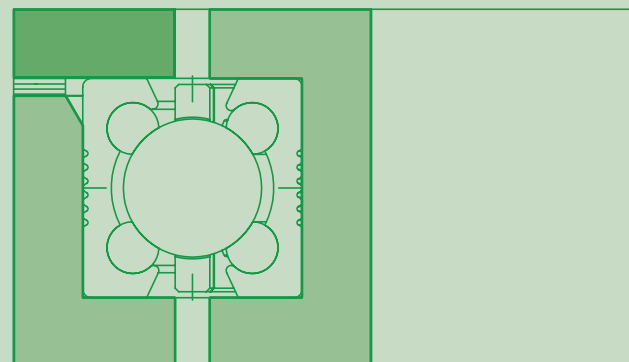
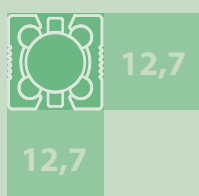
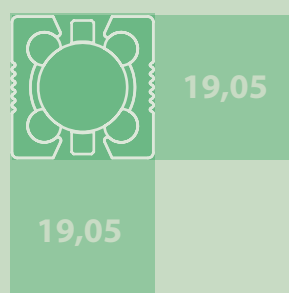


Table of dimensions (type series DFX)

KMF- Type ¹⁾	Ball D _w		Wire- Ø λ	Range of use		Bearing dimensiones			Cage- dimensiones	
				Running circle-Ø		d	D	H	K _H	
	mm	inch	mm	D _L min.	D _L max.					
DFXD	8	---	3,0	150	1500	DL – 12,70	DL + 12,70	12,70	12,0	
DFXF	12	---	5,0	250	1500	DL – 19,05	DL + 19,05	19,05	16,5	
DFXG	16	---	7,0	350	1500	DL – 25,40	DL + 25,40	25,40	21,6	

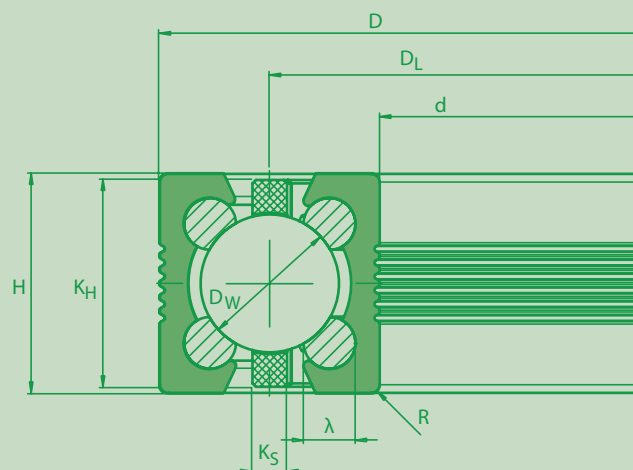


DFXD



DFXF

Bearing dimensions



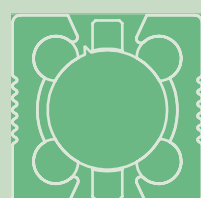
		Fitted dimensions				Cage- type ³⁾	Load capacity ⁴⁾	
		d _i	D _A	H _E	R		dyn.	stat.
K _S	K _T ²⁾						C _a	C _{oa}
mm	mm	mm	mm	mm	mm		kN	kN
2,0	12,0	DL – 12,70	DL + 12,70	12,70	0,6	KKLK 080	0,61 • √DL	0,175 • DL
3,0	16,5	DL – 19,05	DL + 19,05	19,05	0,6	KKLK 12F	1,64 • √DL	0,385 • DL
3,5	21,5	DL – 25,40	DL + 25,40	25,40	0,6	KKLK 16F	1,71 • √DL	0,395 • DL

1) Other dimensions on request

2) K_T = ball division

3) See catalog WLK 100

4) Calculated hardness 510 HV



DFXG

25,4

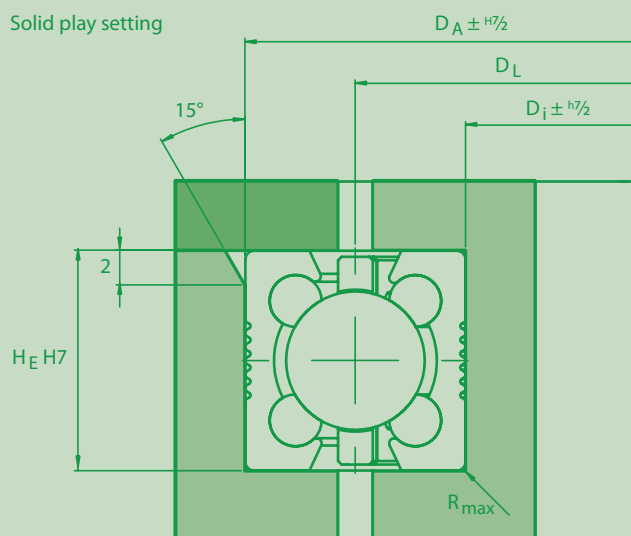
25,4

WIRE BALL BEARING – GROUND TRACK

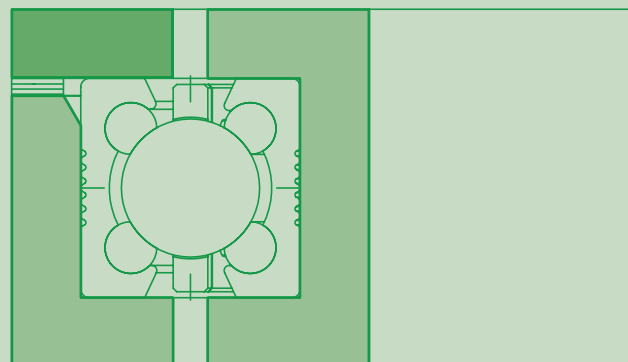
Wire ball bearing DFX (metric advantages row)

Fitted dimensions

Solid play setting



ABL play setting



DFXD 500 M

DFX

Type series

4-Point wire ball bearing

D

Bearing cross section

D = 12,7 x 12,7
F = 19,05 x 19,05
G = 25,4 x 25,4

500

Pitch circle diameter

D_L in mm

M

Placing behind character

M = metric advantages row

Bearing dimensions

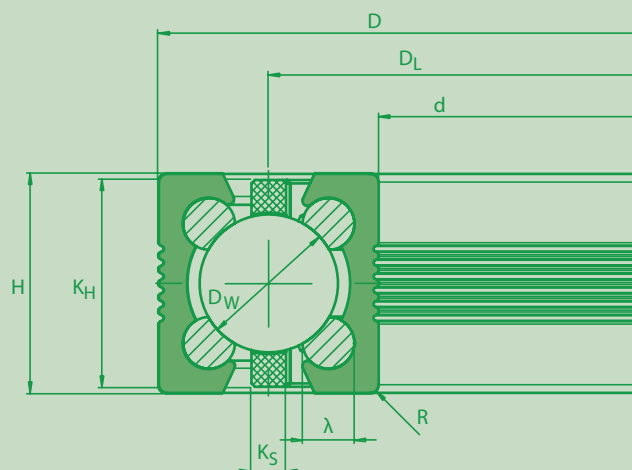


Table of dimensions (type series DFXD (metric advantages row))

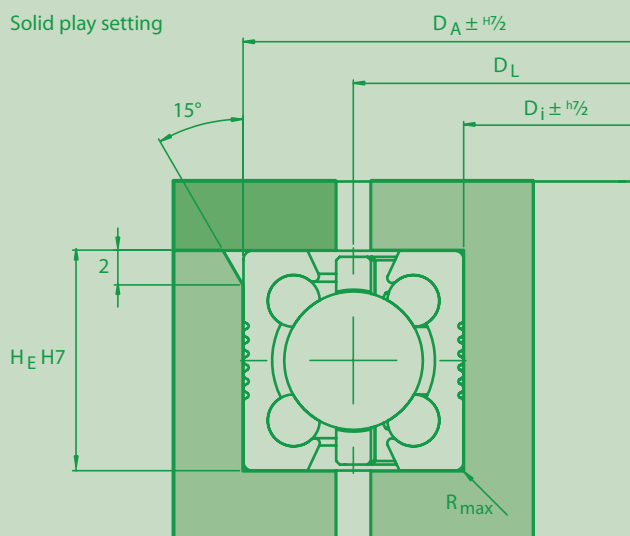
KMF-Type ¹⁾	Bearing dimensiones				Load capacity		Limiting speed		Weight
	d	D	D _L	H	dyn.	stat.	n _G Grease	n _G Oil	
	mm	mm	mm	mm	C	C ₀	min ⁻¹	min ⁻¹	
DFXD 150 M	137,30	162,70	150	12,70	7,5	26,3	1273	1527	0,26
DFXD 200 M	187,30	212,70	200	12,70	8,6	35,0	955	1145	0,35
DFXD 250 M	237,30	262,70	250	12,70	9,7	43,8	764	916	0,43
DFXD 300 M	287,30	312,70	300	12,70	10,6	52,5	637	763	0,52
DFXD 350 M	337,30	362,70	350	12,70	11,4	61,3	546	654	0,61
DFXD 400 M	387,30	412,70	400	12,70	12,2	70,0	478	573	0,70
DFXD 450 M	437,30	462,70	450	12,70	13,0	78,8	424	509	0,78
DFXD 500 M	487,30	512,70	500	12,70	13,6	87,5	382	458	0,87
DFXD 550 M	537,30	562,70	550	12,70	14,3	96,3	347	416	0,96
DFXD 600 M	587,30	612,70	600	12,70	14,9	105,0	318	382	1,04
DFXD 650 M	637,30	662,70	650	12,70	15,6	113,8	294	352	1,13
DFXD 700 M	687,30	712,70	700	12,70	16,1	122,5	273	327	1,22
DFXD 750 M	737,30	762,70	750	12,70	16,7	131,3	255	305	1,30
DFXD 800 M	787,30	812,70	800	12,70	17,3	140,0	239	286	1,39
DFXD 850 M	837,30	862,70	850	12,70	17,8	148,8	225	269	1,48

1) Other dimensions on request

WIRE BALL BEARING – GROUND TRACK

Fitted dimensions

Solid play setting



ABL play setting

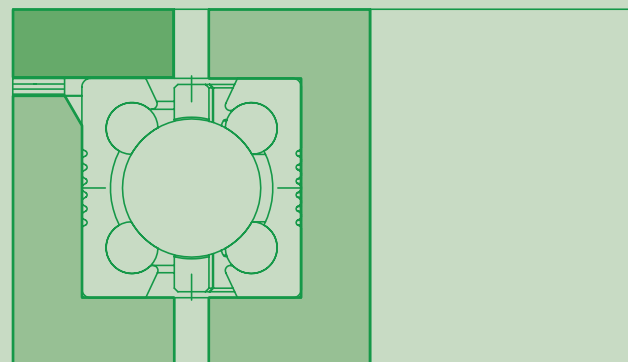


Table of dimensions (type series DFXF (metric advantages row))

KMF-Type ¹⁾	Bearing dimensiones				Load capacity		Limiting speed		Weight
	d	D	D _L	H	dyn.	stat.	n _G Grease	n _G Oil	
	mm	mm	mm	mm	C	C ₀	min ⁻¹	min ⁻¹	
DFXF 250 M	230,95	269,05	250	19,05	25,9	96,3	764	916	0,95
DFXF 300 M	280,95	319,05	300	19,05	28,4	115,5	637	763	1,14
DFXF 350 M	330,95	369,05	350	19,05	30,7	134,8	546	654	1,33
DFXF 400 M	380,95	419,05	400	19,05	32,8	154,0	478	573	1,52
DFXF 450 M	430,95	469,05	450	19,05	34,5	173,3	424	509	1,71
DFXF 500 M	480,95	519,05	500	19,05	36,7	192,5	382	458	1,90
DFXF 550 M	530,95	569,05	550	19,05	38,5	211,8	347	416	2,08
DFXF 600 M	580,95	619,05	600	19,05	40,2	231,0	318	382	2,27
DFXF 650 M	630,95	669,05	650	19,05	41,8	250,3	294	352	2,46
DFXF 700 M	680,95	719,05	700	19,05	43,4	269,5	273	327	2,65
DFXF 750 M	730,95	769,05	750	19,05	44,9	288,8	255	305	2,84
DFXF 800 M	780,95	819,05	800	19,05	46,4	308,0	239	286	3,03
DFXF 850 M	830,95	869,05	850	19,05	47,8	327,3	225	269	3,22
DFXF 900 M	880,95	919,05	900	19,05	49,2	346,5	212	254	3,41
DFXF 950 M	930,95	969,05	950	19,05	50,5	365,8	201	241	3,60
DFXF 1000 M	980,95	1019,05	1000	19,05	51,9	385,0	191	229	3,79
DFXF 1050 M	1030,95	1069,05	1050	19,05	53,1	404,3	182	218	3,98

1) Other dimensions on request

Bearing dimensions

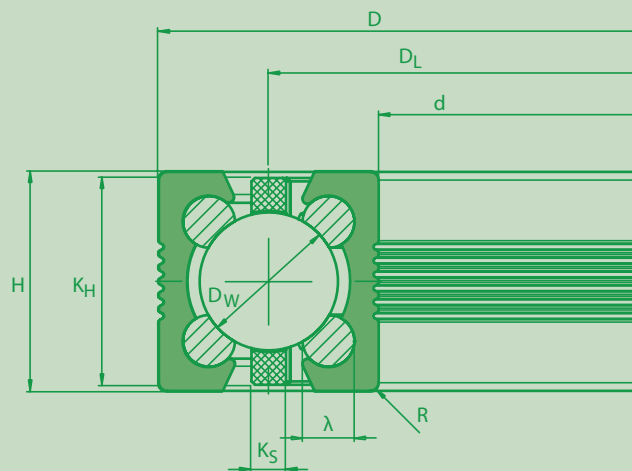


Table of dimensions (type series DFXG (metric advantages row))

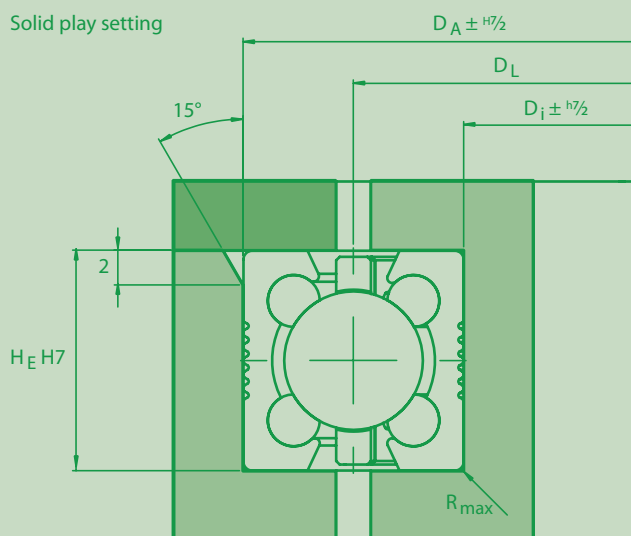
KMF-Type ¹⁾	Bearing dimensiones				Load capacity		Limiting speed		Weight
	d	D	D _L	H	dyn.	stat.	n _G Grease	n _G Oil	
	mm	mm	mm	mm	C	C ₀	min ⁻¹	min ⁻¹	
DFXG 350 M	324,6	375,4	350	25,4	32,0	138,3	546	654	2,43
DFXG 400 M	374,6	425,4	400	25,4	34,2	158,0	478	573	2,78
DFXG 450 M	424,6	475,4	450	25,4	36,3	177,8	424	509	3,13
DFXG 500 M	474,6	525,4	500	25,4	38,2	197,5	382	458	3,48
DFXG 550 M	524,6	575,4	550	25,4	40,1	217,3	347	416	3,82
DFXG 600 M	574,6	625,4	600	25,4	41,9	237,0	318	382	4,17
DFXG 650 M	624,6	675,4	650	25,4	43,6	256,8	294	352	4,52
DFXG 700 M	674,6	725,4	700	25,4	45,2	276,5	273	327	4,87
DFXG 750 M	724,6	775,4	750	25,4	46,8	296,3	255	305	5,21
DFXG 800 M	774,6	825,4	800	25,4	48,4	316,0	239	286	5,56
DFXG 850 M	824,6	875,4	850	25,4	49,9	335,8	225	269	5,91
DFXG 900 M	874,6	925,4	900	25,4	51,3	355,5	212	254	6,26
DFXG 950 M	924,6	975,4	950	25,4	52,7	375,3	201	241	6,60
DFXG 1000 M	974,6	1025,4	1000	25,4	54,0	395,0	191	229	6,95
DFXG 1050 M	1024,6	1075,4	1050	25,4	55,4	414,9	182	218	7,30

1) Other dimensions on request

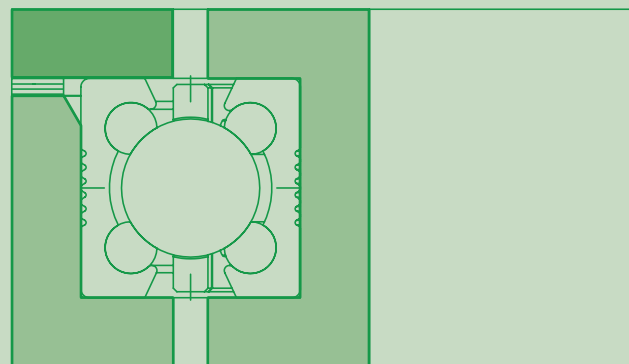
Whisper-Wire ball bearing DFX – English series

Fitted dimensions

Solid play setting



ABL play setting



DFXD 250 Z

DFX

Type series

4-Point Whisper ball bearing

D

Bearing cross section

D = 12,7 x 12,7
F = 19,05 x 19,05
G = 25,4 x 25,4

250

Inside diameter

d in inch

Z

Placing behind character

Z = metric advantages row

Bearing dimensions

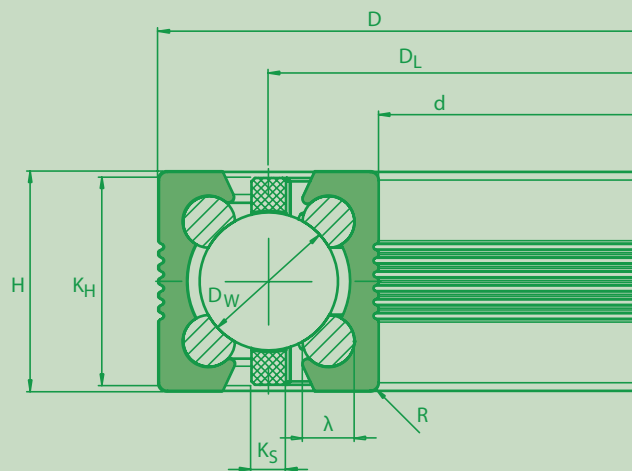


Table of dimensions (type series DFXD - english series)

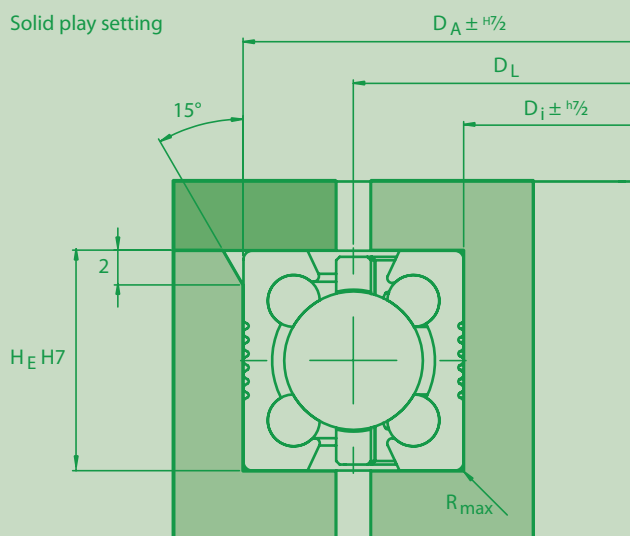
KMF-Type ¹⁾	Bearing dimensiones				Load capacity		Limiting speed		Weight
	d		D	H	dyn.	stat.	n _G Grease	n _G Oil	
	mm	inch	mm	mm	C	C _o	min ⁻¹	min ⁻¹	
DFXD 055 Z	139,7	5 ½	165,1	12,70	7,5	26,7	1273	1527	0,26
DFXD 075 Z	190,5	7 ½	215,9	12,70	8,7	35,6	955	1145	0,36
DFXD 095 Z	241,3	9 ½	266,7	12,70	9,7	44,5	764	916	0,46
DFXD 115 Z	292,1	11 ½	317,5	12,70	10,6	53,3	637	763	0,55
DFXD 130 Z	330,2	13	355,6	12,70	11,3	60,0	546	654	0,63
DFXD 150 Z	381,0	15	406,4	12,70	12,1	68,9	478	573	0,72
DFXD 170 Z	431,8	17	457,2	12,70	12,9	77,8	424	509	0,82
DFXD 190 Z	482,6	19	508,0	12,70	13,6	86,7	382	458	0,92
DFXD 210 Z	533,4	21	558,8	12,70	14,3	95,6	347	416	1,01
DFXD 230 Z	584,2	23	609,6	12,70	14,9	104,4	318	382	1,11
DFXD 250 Z	635,0	25	660,4	12,70	15,5	113,3	294	352	1,20
DFXD 270 Z	685,8	27	711,2	12,70	16,1	122,2	273	327	1,30
DFXD 290 Z	736,6	29	762,0	12,70	16,7	131,1	255	305	1,40
DFXD 310 Z	787,4	31	812,8	12,70	17,3	140,0	239	286	1,49
DFXD 330 Z	838,2	33	863,6	12,70	17,8	148,9	225	269	1,59

1) Other dimensions on request

WIRE BALL BEARING – GROUND TRACK

Fitted dimensions

Solid play setting



ABL play setting

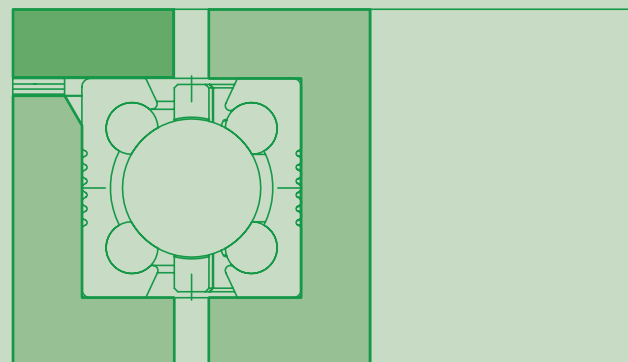


Table of dimensions (type series DFXF - english series)

KMF-Type ¹⁾	Bearing dimensiones				Load capacity		Limiting speed		Weight
	d		D	H	dyn.	stat.	n _G Grease	n _G Oil	
	mm	inch	mm	mm	C	C ₀	min ⁻¹	min ⁻¹	
DFXF 090 Z	228,6	9	266,7	19,05	25,8	95,3	764	916	0,94
DFXF 110 Z	279,4	11	317,5	19,05	28,3	114,9	637	763	1,15
DFXF 130 Z	330,2	13	368,3	19,05	30,6	134,5	546	654	1,36
DFXF 150 Z	381,0	15	419,1	19,05	32,8	154,0	478	573	1,57
DFXF 170 Z	431,8	17	469,9	19,05	34,8	173,6	424	509	1,78
DFXF 190 Z	482,6	19	520,7	19,05	36,7	193,1	382	458	1,98
DFXF 210 Z	533,4	21	571,5	19,05	38,5	212,7	347	416	2,19
DFXF 230 Z	584,2	23	622,3	19,05	40,3	232,3	318	382	2,40
DFXF 250 Z	635,0	25	673,1	19,05	41,9	251,8	294	352	2,61
DFXF 270 Z	685,8	27	723,9	19,05	43,5	271,4	273	327	2,82
DFXF 290 Z	736,6	29	774,7	19,05	45,1	290,9	255	305	3,03
DFXF 310 Z	787,4	31	825,5	19,05	46,6	310,5	239	286	3,24
DFXF 330 Z	838,2	33	876,3	19,05	48,0	330,0	225	269	3,45
DFXF 350 Z	889,0	35	927,1	19,05	49,4	349,6	212	254	3,66
DFXF 370 Z	939,8	37	977,9	19,05	50,8	369,2	201	241	3,86
DFXF 390 Z	990,6	39	1028,7	19,05	52,1	388,7	191	229	4,07
DFXF 410 Z	1041,4	41	1079,5	19,05	53,4	408,3	182	218	4,28

1) Other dimensions on request

Bearing dimensions

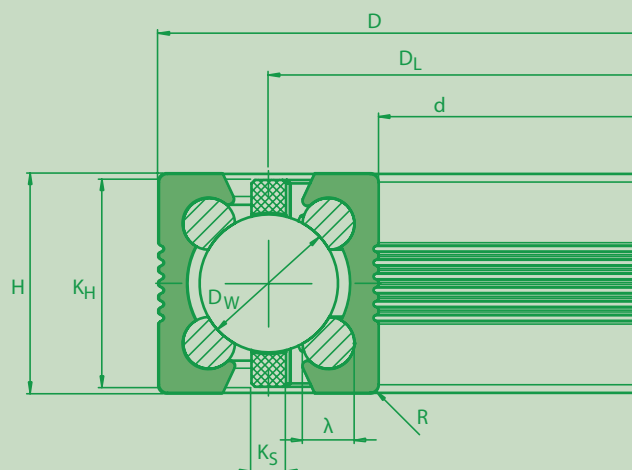
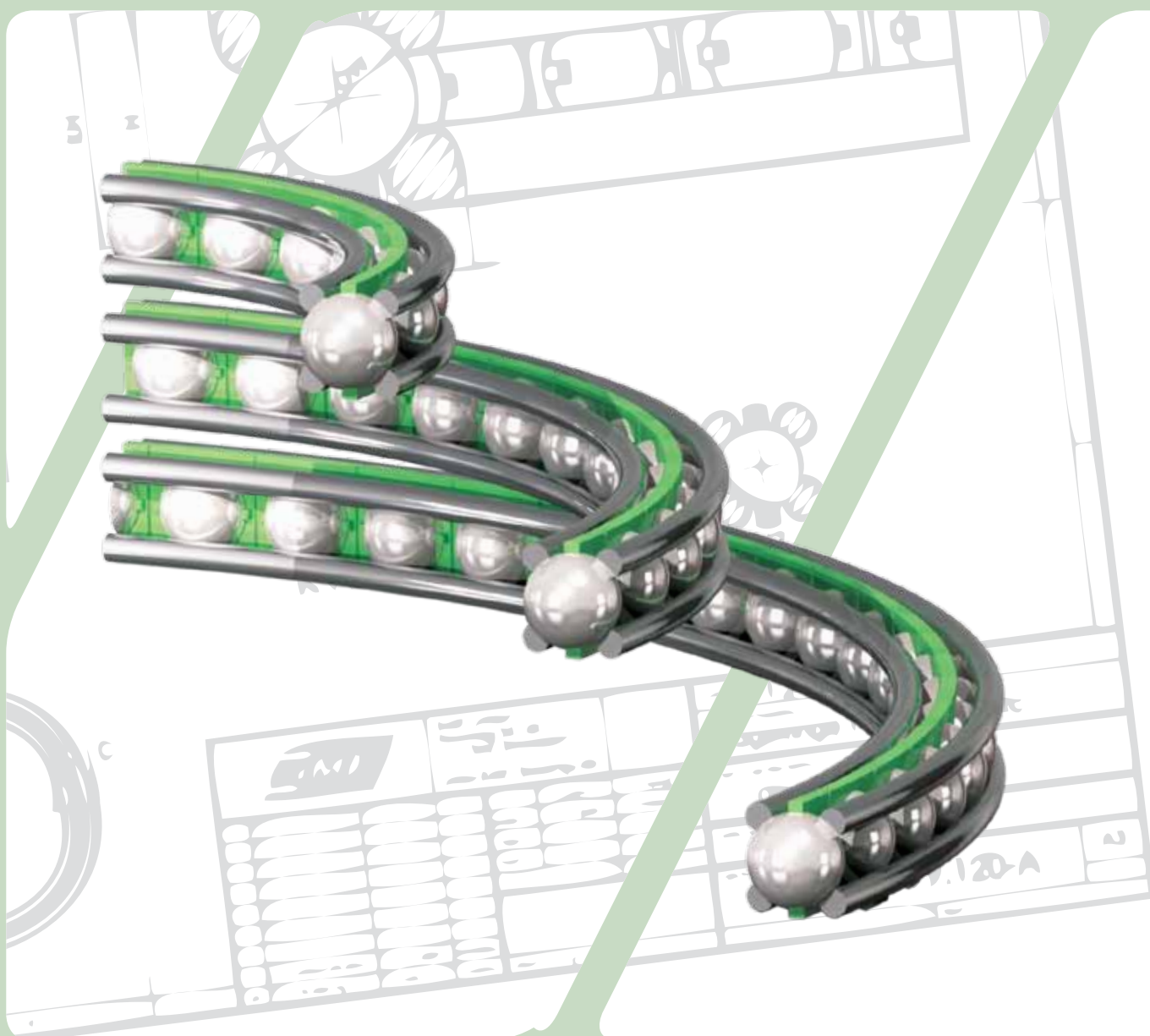
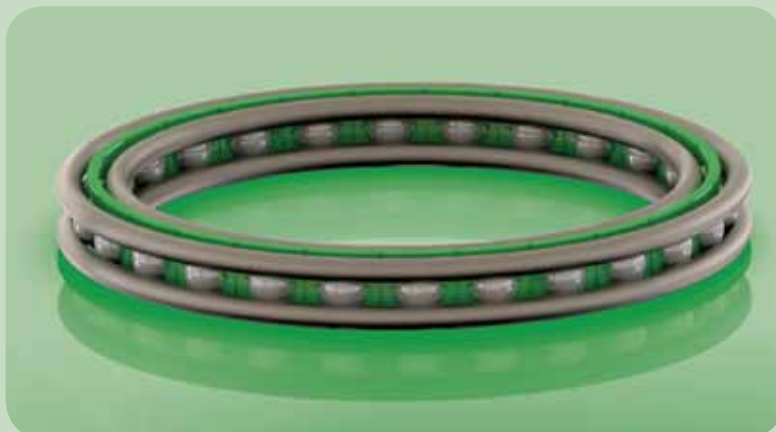


Table of dimensions (type series DFXG - english series)

KMF-Type ¹⁾	Bearing dimensiones				Load capacity		Limiting speed		Weight
	d		D	H	dyn.	stat.	n _G Grease	n _G Oil	
	mm	inch	mm	mm	C	C ₀	min ⁻¹	min ⁻¹	
DFXG 140 Z	355,6	14	406,4	25,4	33,4	150,5	546	654	2,66
DFXG 160 Z	406,4	16	457,2	25,4	35,5	170,6	478	573	3,04
DFXG 180 Z	457,2	18	508,0	25,4	37,6	190,7	424	509	3,42
DFXG 200 Z	508,0	20	558,8	25,4	39,5	210,7	382	458	3,80
DFXG 220 Z	558,8	22	609,6	25,4	41,3	230,8	347	416	4,18
DFXG 240 Z	609,6	24	660,4	25,4	43,1	250,9	318	382	4,56
DFXG 260 Z	660,4	26	711,2	25,4	44,8	270,9	294	352	4,94
DFXG 280 Z	711,2	28	762,0	25,4	46,4	291,0	273	327	5,32
DFXG 300 Z	762,0	30	812,8	25,4	48,0	311,0	255	305	5,70
DFXG 320 Z	812,8	32	863,6	25,4	49,5	331,1	239	286	6,08
DFXG 340 Z	863,6	34	914,4	25,4	51,0	351,2	225	269	6,47
DFXG 360 Z	914,4	36	965,2	25,4	52,4	371,2	212	254	6,85
DFXG 380 Z	965,2	38	1016,0	25,4	53,8	391,3	201	241	7,23
DFXG 400 Z	1016,0	40	1066,8	25,4	55,2	411,4	191	229	7,61
DFXG 420 Z	1066,8	42	1117,6	25,4	56,5	431,4	182	218	7,99

1) Other dimensions on request

Wire ball bearing MVE/ZVE



Description of construction

The KMF whisper wire ball bearing consists of a wire ball bearing of type series KVE, which is provided on the outer and the inner wires with an elastomer sheath with 70 Shore hardness.

Material

Ball running rings

Hardened Spring steel

Ball cage strip

Polyamide PA 12

Balls

Hardened ball bearing steel 100 Cr 6
acc. to DIN 5401, Grade 28 (Class III)

Example of order

MVE 10 0300

MVE	Type series
10	Cross cut (10 x 10 mm)
0300	Size of the bearing (D _L in mm)

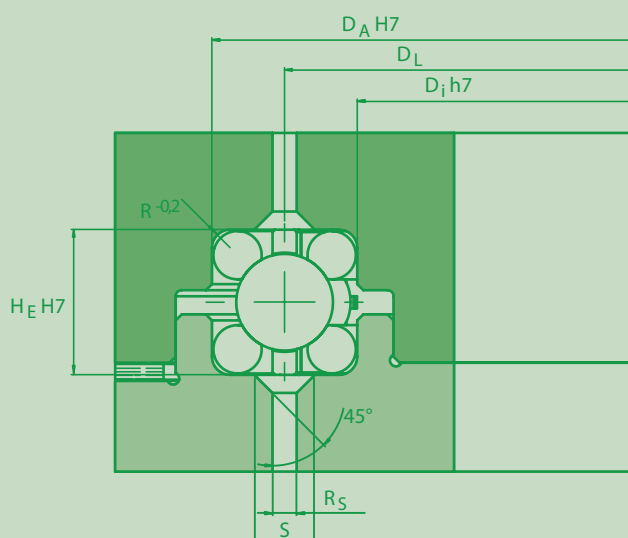
Example of order

ZVEC 130

ZVEC	type ZVE with "C cross cut" 9,525 x 9,525 mm
130	Size of the bearing (d in inch x 10)

WIRE BALL BEARING – GROUND TRACK

Fitted dimensions



Bearing dimensions

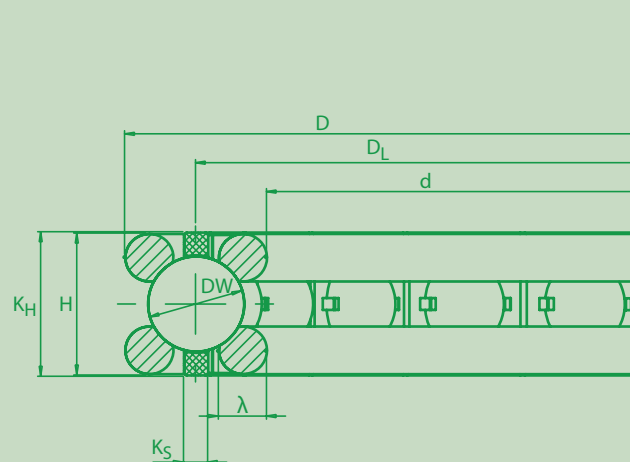
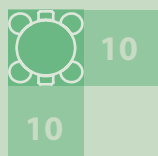
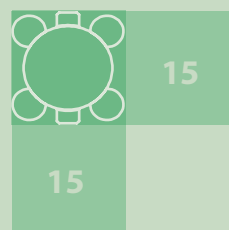


Table of dimensions (type series MVE)

KMF- Type ¹⁾	Ball D _w		Wire- Ø	Range of use		Bearing dimensiones			Cage dimensiones	
				Running circle-Ø		d	D	H	K _H	K _S
				λ						
	mm	inch	mm	D _L min.	D _L max.	mm	mm	mm	mm	mm
MVE 10	8		3	150	1500	DL – 10	DL + 10	10	10,6	2,0
MVE 15	11		5	250	1500	DL – 15	DL + 15	15	13,7	2,5
MVE 20	16		6	300	1500	DL – 20	DL + 20	20	20,0	3,5
MVE 25	20		7	350	1500	DL – 25	DL + 25	25	24,2	3,5



MVE 10



MVE 15

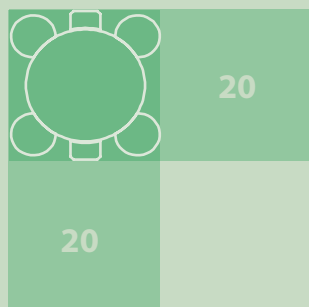
		Fitted dimensions					Cage- type ³⁾	Load capacity ⁴⁾	
		d _i	D _A	H _E	R	S		dyn.	stat.
	K _T ²⁾							C _a	C _{oa}
	mm	mm	mm	mm	mm	mm		kN	kN
	12,0	DL – 10,0	DL + 10,0	10	1,4	4,5	KKLK 080	1,24 • √DL	0,31 • DL
	14,0	DL – 15,0	DL + 15,0	15	2,4	4,5	KKLK 111	1,70 • √DL	0,56 • DL
	20,0	DL – 20,0	DL + 20,0	20	2,9	7,5	KKLK 160	3,08 • √DL	0,73 • DL
	25,0	DL – 25,0	DL + 25,0	25	3,4	7,5	KKLK 200	4,21 • √DL	0,86 • DL

1) Other dimensions on request

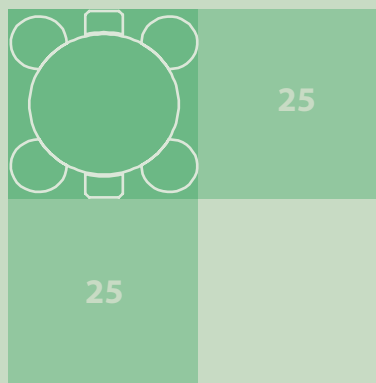
2) K_T = ball division

3) See catalog WLK 100

4) Calculated hardness 510 HV



MVE 20



MVE 25

WIRE BALL BEARING – GROUND TRACK

Table of dimensions (type series MVE 10)

KMF-Type ¹⁾	Bearing dimensions				Load capacity		Limiting speed		Weight
	d	D	D _L	H	dyn.	stat.	n _G Grease	n _G Oil	
	mm	mm	mm	mm	C	C ₀	min ⁻¹	min ⁻¹	
MVE 10 0150	140	160	150	10	15,2	46,5	1273	2290	0,19
MVE 10 0200	190	210	200	10	17,5	62,0	955	1832	0,25
MVE 10 0250	240	260	250	10	19,6	77,5	764	1527	0,32
MVE 10 0300	290	310	300	10	21,5	93,0	637	1309	0,38
MVE 10 0350	340	360	350	10	23,2	108,5	546	1145	0,44
MVE 10 0400	390	410	400	10	24,8	124,0	478	1018	0,51
MVE 10 0450	440	460	450	10	26,3	139,5	424	916	0,57
MVE 10 0500	490	510	500	10	27,7	155,0	382	833	0,63
MVE 10 0550	540	560	550	10	29,1	170,5	347	763	0,70
MVE 10 0600	590	610	600	10	30,4	186,0	318	705	0,76
MVE 10 0650	640	660	650	10	31,6	201,5	294	654	0,82
MVE 10 0700	690	710	700	10	32,8	217,0	273	611	0,89
MVE 10 0750	740	760	750	10	34,0	232,5	255	573	0,95
MVE 10 0800	790	810	800	10	35,1	248,0	239	539	1,01
MVE 10 0850	840	860	850	10	36,2	263,5	225	509	1,08
MVE 10 0900	890	910	900	10	37,2	279,0	212	482	1,14

1) Other dimensions on request

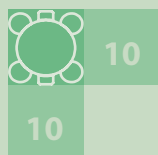
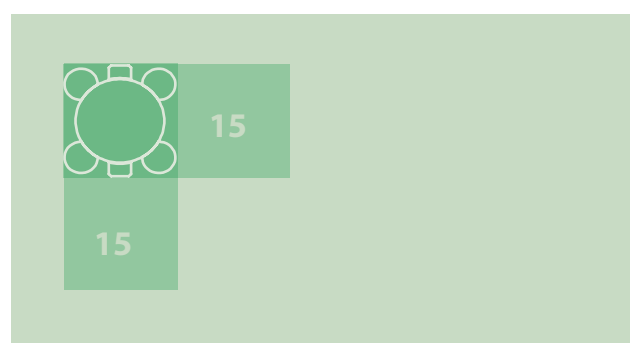


Table of dimensions (type series MVE 15)

KMF-Type ¹⁾	Bearing dimensions				Load capacity		Limiting speed		Weight
	d	D	D _L	H	dyn.	stat.	n _G Grease	n _G Oil	
	mm	mm	mm	mm	C	C ₀	min ⁻¹	min ⁻¹	
MVE 15 0250	235	265	250	15	26,9	90,0	764	916	0,58
MVE 15 0300	285	315	300	15	29,4	108,0	637	763	0,70
MVE 15 0350	335	365	350	15	31,8	126,0	546	654	0,81
MVE 15 0400	385	415	400	15	34,0	144,0	478	573	0,93
MVE 15 0450	435	465	450	15	36,1	162,0	424	509	1,04
MVE 15 0500	485	515	500	15	38,0	180,0	382	458	1,16
MVE 15 0550	535	565	550	15	39,9	198,0	347	416	1,28
MVE 15 0600	585	615	600	15	41,6	216,0	318	382	1,40
MVE 15 0650	635	665	650	15	43,3	234,0	294	352	1,51
MVE 15 0700	685	715	700	15	45,0	252,0	273	327	1,63
MVE 15 0750	735	765	750	15	46,6	270,0	255	305	1,74
MVE 15 0800	785	815	800	15	48,1	288,0	239	286	1,86
MVE 15 0850	835	865	850	15	49,6	306,0	225	269	1,98
MVE 15 0900	885	915	900	15	51,0	324,0	212	254	2,09
MVE 15 0950	935	965	950	15	52,3	342,0	201	241	2,21
MVE 15 1000	985	1015	1000	15	53,8	360,0	191	229	2,33

1) Other dimensions on request



WIRE BALL BEARING – GROUND TRACK

Table of dimensions (type series MVE 20)

KMF-Type ¹⁾	Bearing dimensions				Load capacity		Limiting speed		Weight
	d	D	D _L	H	dyn.	stat.	n _G Grease	n _G Oil	
	mm	mm	mm	mm	C	C ₀	min ⁻¹	min ⁻¹	
MVE 20 0300	280	320	300	20	53,3	219,0	637	763	0,10
MVE 20 0350	330	370	350	20	57,6	255,5	546	654	0,12
MVE 20 0400	380	420	400	20	61,6	292,0	478	573	0,14
MVE 20 0450	430	470	450	20	65,3	328,5	424	509	0,16
MVE 20 0500	480	520	500	20	68,9	365,0	382	458	0,17
MVE 20 0550	530	570	550	20	72,2	401,5	347	416	0,19
MVE 20 0600	580	620	600	20	75,4	438,0	318	382	0,21
MVE 20 0650	630	670	650	20	78,5	474,5	294	352	0,23
MVE 20 0700	680	720	700	20	81,5	511,0	273	327	0,24
MVE 20 0750	730	770	750	20	84,3	547,5	255	305	0,26
MVE 20 0800	780	820	800	20	87,1	584,0	239	286	0,28
MVE 20 0850	830	870	850	20	89,8	620,5	225	269	0,29
MVE 20 0900	880	920	900	20	92,4	657,0	212	254	0,31
MVE 20 0950	930	970	950	20	94,9	693,5	201	241	0,33
MVE 20 1000	980	1020	1000	20	97,4	730,0	191	229	0,35
MVE 20 1050	1030	1070	1050	20	99,8	766,5	182	218	0,37

1) Other dimensions on request

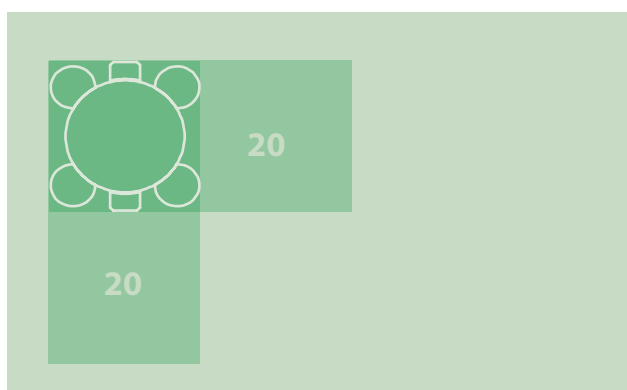
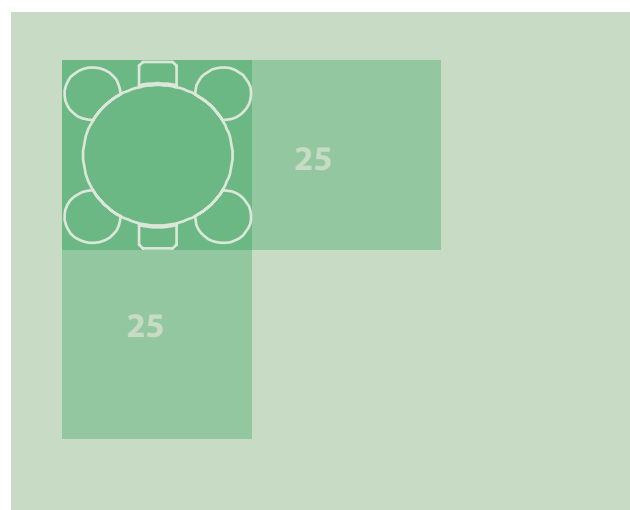


Table of dimensions (type series MVE 25)

KMF-Type ¹⁾	Bearing dimensiones				Load capacity		Limiting speed		Weight
	d	D	D _L	H	dyn.	stat.	n _G Grease	n _G Oil	
	mm	mm	mm	mm	C	C ₀	min ⁻¹	min ⁻¹	
MVE 25 0350	325	325	350	25	78,8	301,0	546	654	2,82
MVE 25 0400	375	375	400	25	84,2	344,0	478	573	3,22
MVE 25 0450	425	425	450	25	89,3	387,0	424	509	3,63
MVE 25 0500	475	475	500	25	94,1	430,0	382	458	4,03
MVE 25 0550	525	525	550	25	98,7	473,0	347	416	4,43
MVE 25 0600	575	575	600	25	103,1	516,0	318	382	4,83
MVE 25 0650	625	625	650	25	107,3	559,0	294	352	5,24
MVE 25 0700	675	675	700	25	111,4	602,0	273	327	5,64
MVE 25 0750	725	725	750	25	115,3	645,0	255	305	6,04
MVE 25 0800	775	775	800	25	119,1	688,0	239	286	6,45
MVE 25 0850	825	825	850	25	122,7	731,0	225	269	6,85
MVE 25 0900	875	875	900	25	126,3	774,0	212	254	7,25
MVE 25 0950	925	925	950	25	129,8	817,0	201	241	7,65
MVE 25 1000	975	975	1000	25	133,1	860,0	191	229	8,06
MVE 25 1050	1025	1025	1050	25	136,4	903,0	182	218	8,46
MVE 25 1100	1075	1075	1100	25	139,6	946,0	174	208	8,86

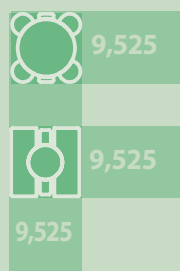
1) Other dimensions on request



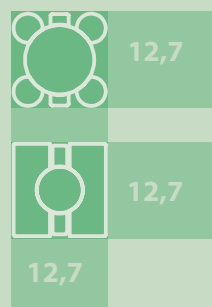
Wire ball bearing ZVE

Table of dimensions (type series ZVE)

KMF- Type ¹⁾	Ball D _w		Wire- Ø λ	Range of use		Bearing dimensiones			Cage dimensiones	
				Running circle-Ø		d	D	H	K _H	K _S
				D _L	D _L					
				min.	max.					
	mm	inch	mm	mm	mm	mm	mm	mm	mm	mm
ZVEC	8,000		3	150	1500	DL – 9,525	DL + 9,525	9,525	10,6	2,0
ZVED	9,525	3/8	4	150	1500	DL – 12,700	DL + 12,700	12,700	12,6	2,5
ZVEF	16,000		5	250	1500	DL – 19,050	DL + 19,050	19,050	20,0	3,5
ZVEG	20,000		7	350	1500	DL – 25,400	DL + 25,400	25,400	24,2	3,5

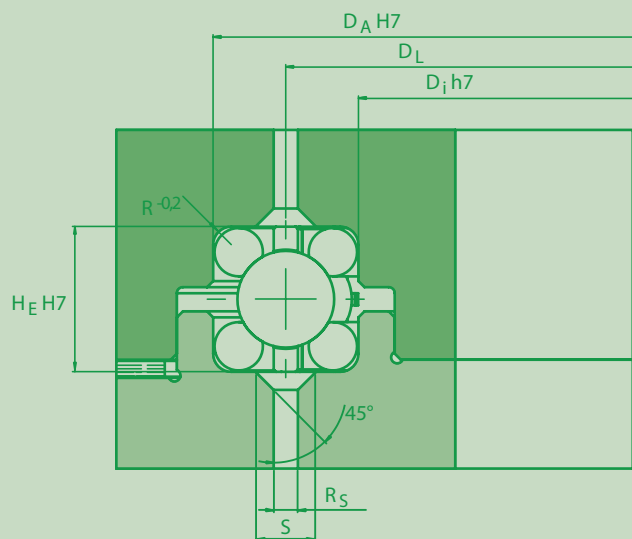


ZVEC

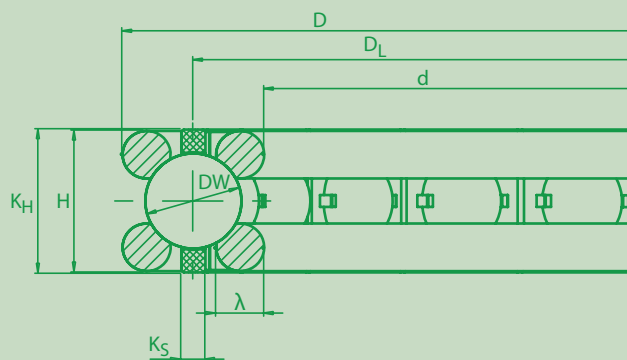


ZVED

Fitted dimensions



Bearing dimensions



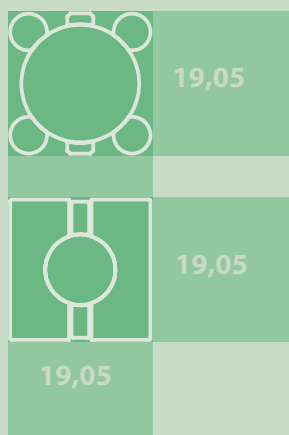
Fitted dimensions							Cage- Type ³⁾	Load capacity ⁴⁾	
K _T ²⁾	d _i	D _A	H _E	R	S			dyn.	stat.
								C _a	C _{oa}
mm	mm	mm	mm	mm	mm			kN	kN
12,0	DL – 9,525	DL + 9,525	9,525	1,4	4,5	KKLK 080		1,24 • √DL	0,35 • DL
12,0	DL – 12,700	DL + 12,700	12,700	1,9	4,5	KKLK 095		1,47 • √DL	0,36 • DL
20,0	DL – 19,050	DL + 19,050	19,050	2,4	7,5	KKLK 160		2,93 • √DL	0,53 • DL
25,0	DL – 25,400	DL + 25,400	25,400	3,4	7,5	KKLK 200		3,98 • √DL	0,69 • DL

1) Other dimensions on request

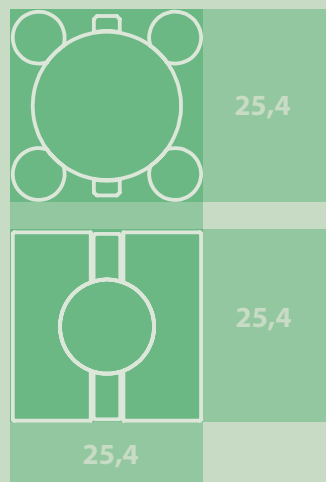
2) K_T = ball division

3) See catalog WLK 100

4) Calculated hardness 510 HV



ZVEF



ZVEG

WIRE BALL BEARING – GROUND TRACK

Table of dimensions (type series ZVEC)

KMF-Type ¹⁾	Bearing dimensiones				Load capacity		Limiting speed		Weight
	d		D	H	dyn.	stat.	n _G Grease	n _G Oil	
	mm	inch	mm	mm	C	C ₀	min ⁻¹	min ⁻¹	
ZVEC 055	139,7	5 ½	158,75	9,525	15,1	52,2	1280	1535	0,18
ZVEC 075	190,5	7 ½	209,55	9,525	17,5	70,0	955	1145	0,25
ZVEC 095	241,3	9 ½	260,35	9,525	19,6	87,8	761	913	0,31
ZVEC 115	292,1	11 ½	311,15	9,525	21,5	105,6	633	759	0,38
ZVEC 130	330,2	13	349,25	9,525	22,9	118,9	562	674	0,43
ZVEC 150	381,0	15	400,05	9,525	24,5	136,7	489	586	0,49
ZVEC 170	431,8	17	450,85	9,525	26,0	154,5	433	519	0,56
ZVEC 190	482,6	19	501,65	9,525	27,5	172,2	388	465	0,62
ZVEC 210	533,4	21	552,45	9,525	28,9	190,0	352	422	0,69
ZVEC 230	584,2	23	603,25	9,525	30,2	207,8	322	386	0,75
ZVEC 250	635,0	25	654,05	9,525	31,5	225,6	296	355	0,82
ZVEC 270	685,8	27	704,85	9,525	32,7	243,4	275	329	0,88
ZVEC 290	736,6	29	755,65	9,525	33,9	261,1	256	307	0,95
ZVEC 310	787,4	31	806,45	9,525	35,0	278,9	240	287	1,02
ZVEC 330	838,2	33	857,25	9,525	36,1	296,7	225	270	1,08
ZVEC 350	889,0	35	908,05	9,525	37,2	314,5	213	255	1,15

1) Other dimensions on request

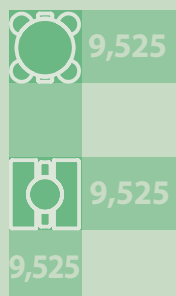
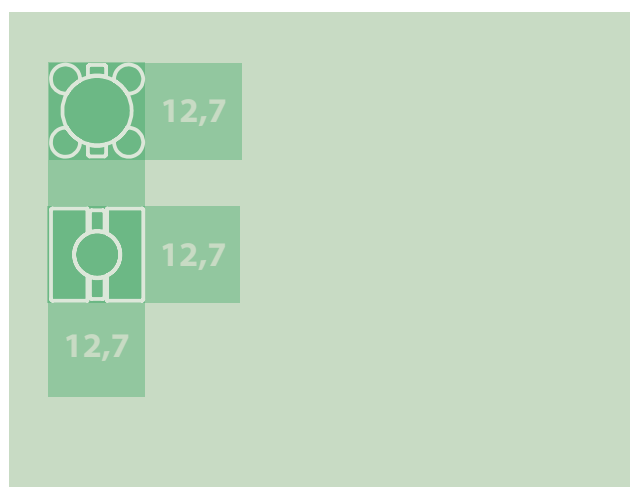


Table of dimensions (type series ZVED)

KMF-Type ¹⁾	Bearing dimensiones				Load capacity		Limiting speed		Weight
	d		D	H	dyn.	stat.	n _G Grease	n _G Oil	
	mm	inch	mm	mm	C	C _o	min ⁻¹	min ⁻¹	
ZVED 055	139,7	5 ½	165,1	12,70	18,1	54,9	1253	1503	0,28
ZVED 075	190,5	7 ½	215,9	12,70	21,0	73,2	940	1127	0,38
ZVED 095	241,3	9 ½	266,7	12,70	23,4	91,4	752	902	0,48
ZVED 115	292,1	11 ½	317,5	12,70	25,7	109,7	627	751	0,59
ZVED 130	330,2	13	355,6	12,70	27,2	123,4	557	668	0,66
ZVED 150	381,0	15	406,4	12,70	29,2	141,7	485	582	0,76
ZVED 170	431,8	17	457,2	12,70	31,0	160,0	430	515	0,87
ZVED 190	482,6	19	508,0	12,70	32,7	178,3	386	462	0,98
ZVED 210	533,4	21	558,8	12,70	34,4	196,6	350	419	1,07
ZVED 230	584,2	23	609,6	12,70	35,9	214,9	320	384	1,17
ZVED 250	635,0	25	660,4	12,70	37,4	233,2	295	354	1,27
ZVED 270	685,8	27	711,2	12,70	38,0	240,7	273	328	1,38
ZVED 290	736,6	29	762,0	12,70	40,2	269,7	255	306	1,48
ZVED 310	787,4	31	812,8	12,70	41,6	288,0	239	286	1,58
ZVED 330	838,2	33	863,6	12,70	42,9	306,3	224	269	1,68
ZVED 350	889,0	35	914,4	12,70	44,1	324,6	212	254	1,78

1) Other dimensions on request



WIRE BALL BEARING – GROUND TRACK

Table of dimensions (type series ZVEF)

KMF-Type ¹⁾	Bearing dimensions				Load capacity		Limiting speed		Weight
	d		D	H	dyn.	stat.	n _G Grease	n _G Oil	
	mm	inch	mm	mm	C	C ₀	min ⁻¹	min ⁻¹	
ZVEF 090	228,6	9	266,7	19,05	46,1	131,4	771	925	1,02
ZVEF 110	279,4	11	317,5	19,05	50,6	158,2	640	767	1,25
ZVEF 130	330,2	13	368,3	19,05	54,8	185,1	547	656	1,48
ZVEF 150	381,0	15	419,1	19,05	58,6	212,1	477	572	1,70
ZVEF 170	431,8	17	469,9	19,05	62,2	239,0	424	508	1,93
ZVEF 190	482,6	19	520,7	19,05	65,6	265,9	381	456	2,16
ZVEF 210	533,4	21	571,5	19,05	68,9	292,8	346	415	2,38
ZVEF 230	584,2	23	622,3	19,05	72,0	319,7	317	380	2,61
ZVEF 250	635,0	25	673,1	19,05	74,9	346,7	292	350	2,84
ZVEF 270	685,8	27	723,9	19,05	77,8	373,6	271	325	3,06
ZVEF 290	736,6	29	774,7	19,05	80,5	400,5	253	303	3,29
ZVEF 310	787,4	31	825,5	19,05	83,2	427,4	237	284	3,52
ZVEF 330	838,2	33	876,3	19,05	85,8	454,4	223	267	3,75
ZVEF 350	889,0	35	927,1	19,05	88,3	481,3	210	252	3,97
ZVEF 370	939,8	37	977,9	19,05	90,7	508,2	199	239	4,20
ZVEF 390	990,6	39	1028,7	19,05	93,1	535,1	189	227	4,43

1) Other dimensions on request

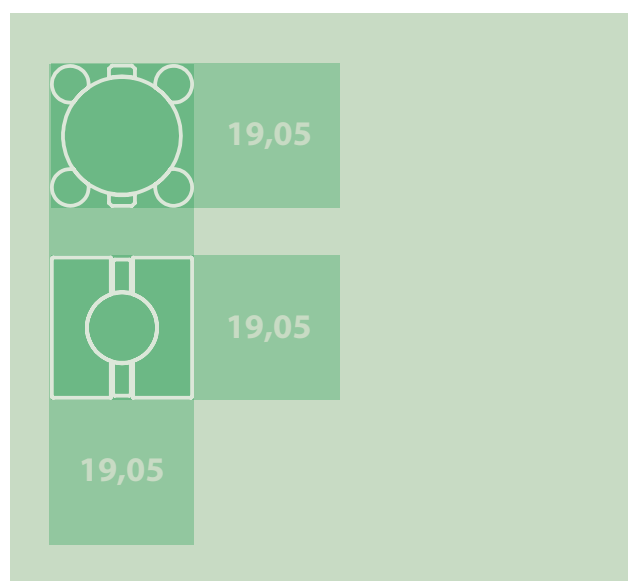
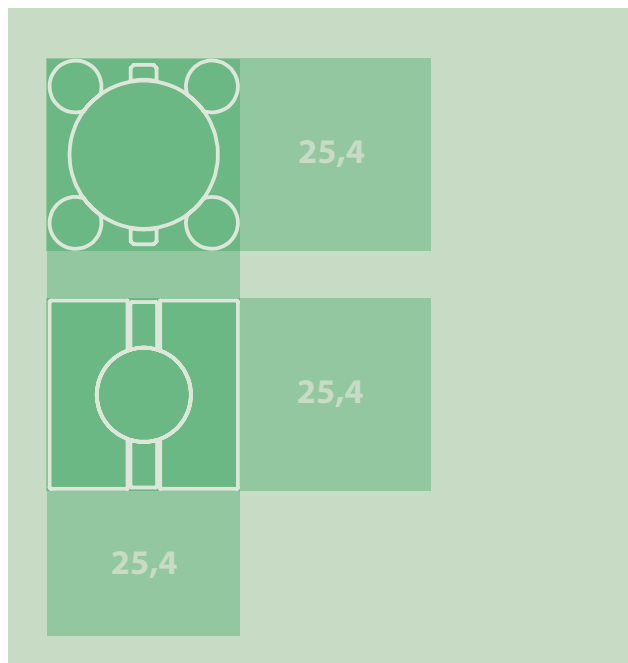


Table of dimensions (type series ZVEG)

KMF-Type ¹⁾	Bearing dimensiones				Load capacity		Limiting speed		Weight
	d		D	H	dyn.	stat.	n _G Grease	n _G Oil	
	mm	inch	mm	mm	C	C _o	min ⁻¹	min ⁻¹	
ZVEG 140	355,6	14	406,4	25,4	77,7	262,9	501	601	2,86
ZVEG 160	406,4	16	457,2	25,4	82,7	297,9	442	530	3,27
ZVEG 180	457,2	18	508,0	25,4	87,4	333,0	396	475	3,68
ZVEG 200	508,0	20	558,8	25,4	91,9	368,0	358	429	4,09
ZVEG 220	558,8	22	609,6	25,4	96,2	403,1	327	392	4,49
ZVEG 240	609,6	24	660,4	25,4	100,3	438,2	301	361	4,90
ZVEG 260	660,4	26	711,2	25,4	104,2	473,2	279	334	5,31
ZVEG 280	711,2	28	762,0	25,4	108,0	508,3	259	311	5,72
ZVEG 300	762,0	30	812,8	25,4	111,7	543,3	243	291	6,13
ZVEG 320	812,8	32	863,6	25,4	115,2	578,4	228	273	6,54
ZVEG 340	863,6	34	914,4	25,4	118,7	613,4	215	258	6,95
ZVEG 360	914,4	36	965,2	25,4	122,0	648,5	203	244	7,35
ZVEG 380	965,2	38	1016,0	25,4	125,3	683,5	193	231	7,76
ZVEG 400	1016,0	40	1066,8	25,4	128,4	718,6	183	220	8,17
ZVEG 420	1066,8	42	1117,6	25,4	131,5	753,6	175	210	8,58
ZVEG 440	1117,6	44	1168,4	25,4	134,6	788,7	167	200	9,00

1) Other dimensions on request

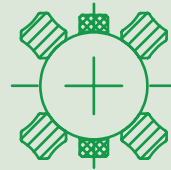


WIRE BALL BEARING – DRAWN RACEWAYS

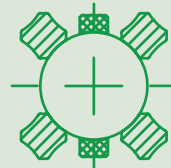
Wire ball bearing KER
11 x 13



Wire ball bearing KED
12,95 x 12,95

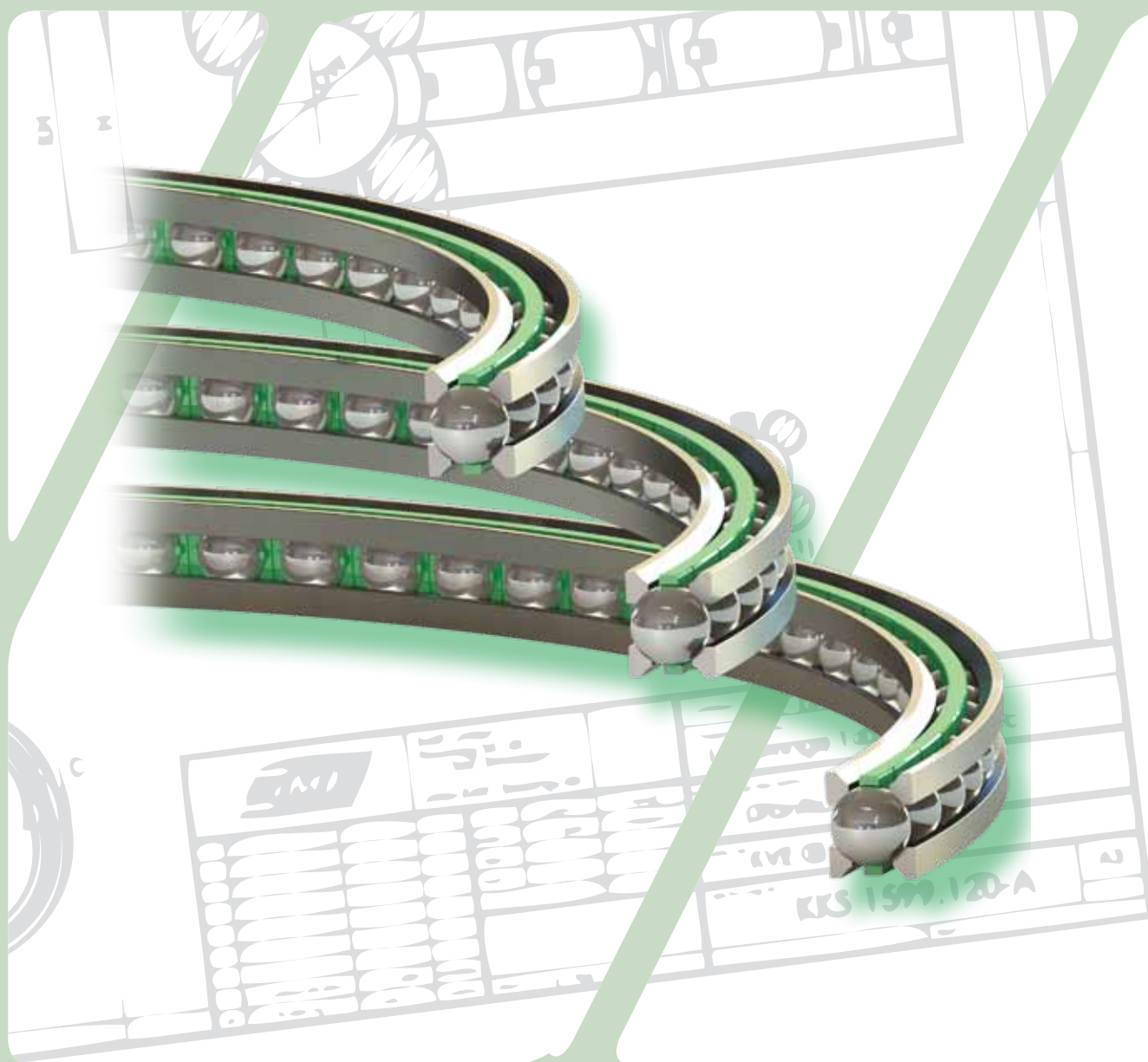


Wire ball bearing KEDD
12,7 x 12,7



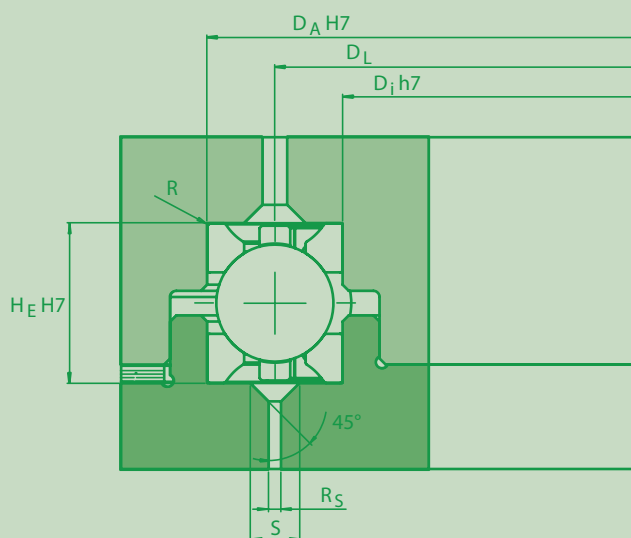
Wire ball bearing
KER
KED
KEDD

Wire ball bearing KER

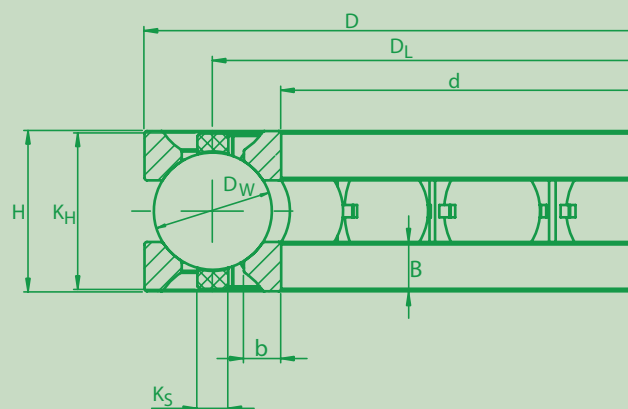


WIRE BALL BEARING – DRAWN RACEWAYS

Fitted dimensions



Bearing dimensions



Description of construction:

The KMF wire ball bearing units KER and KED consists of four hardened ball running rings with drawn tracks and one ball cage strip with guided and contained balls.

The surface roughness of the drawn raceways is $R_a < 0,8 \mu\text{m}$.

Material

Ball running rings

Hardened ball bearing steel 100 Cr 6

Ball cage strip

Polyamide PA12

Balls

Hardened ball bearing steel 100 Cr 6

DIN 5401 Grade 28 (cl. III)

Table of dimensions (type series KER)

KMF- Type ¹⁾	Ball D _W		Wire- dimensions		Range of use Running circle-Ø		Bearing dimensiones			Cage- dimensions
							d	D	H	
										b
	min.	max.								
	mm	inch	mm	mm	mm	mm	mm	mm	mm	mm
KER 9	9		3	4	80	2000	DL – 10,63	DL + 10,63	12,63	11,6
KER 9,525	9,525	3/8	3	4	80	2000	DL – 11,00	DL + 11,00	13,00	12,6
KER 10	10		3	4	80	2000	DL – 11,34	DL + 11,34	13,34	13,2

Example of order

KER 9,525 0300 SS

Wire ball bearing insert elements type series KER and KED are available in a corrosion resistant version (material: X 46 Cr 13, material no. 1.4034).

Please add the symbol SS for stainless steel to the description.

KER	Type series
9,525	Ball size (9,525 mm)
0300	Running circle-Ø (300 mm)
SS	Ball running rings – Stainless steel

			Fitted dimensions					Cage- type ³⁾	Load capacity ⁴⁾	
			d _i	D _A	H _E	R	S		dyn.	stat.
max.	C _a	C _{oa}								
	K _S	K _T ²⁾			mm	mm	mm		mm	mm
	2,0	11,5	DL – 10,63	DL + 10,63	12,63	0,30	3,5		KKLK 090	1,48 • √DL
	2,5	12,0	DL – 11,00	DL + 11,00	13,00	0,30	3,5	KKLK 095	1,50 • √DL	0,32 • DL
	2,5	12,5	DL – 11,34	DL + 11,34	13,34	0,30	3,5	KKLK 100	1,52 • √DL	0,33 • DL

1) Other dimensions on request

2) K_T = ball division

3) See catalog WLK 100

4) Calculated hardness 510 HV

WIRE BALL BEARING – DRAWN RACEWAYS

Table of dimensions (type series KER 9,525)

KMF-Type ¹⁾	Bearing dimensions				Load capacity		Limiting speed		Weight
	d	D	D _L	H	dyn.	stat.	n _G Grease	n _G Oil	
	mm	mm	mm	mm	C	C ₀	min ⁻¹	min ⁻¹	
KER 9,525 0100	89	111	100	13	15,0	32,0	1910	2290	0,19
KER 9,525 0105	94	116	105	13	15,4	33,6	1819	2181	0,20
KER 9,525 0110	99	121	110	13	15,7	35,2	1736	2082	0,21
KER 9,525 0115	104	126	115	13	16,1	36,8	1661	1991	0,21
KER 9,525 0120	109	131	120	13	16,4	38,4	1592	1908	0,22
KER 9,525 0125	114	136	125	13	16,8	40,0	1528	1832	0,23
KER 9,525 0130	119	141	130	13	17,1	41,6	1469	1762	0,24
KER 9,525 0135	124	146	135	13	17,4	43,2	1415	1696	0,25
KER 9,525 0140	129	151	140	13	17,7	44,8	1364	1636	0,26
KER 9,525 0145	134	156	145	13	18,1	46,4	1317	1579	0,27
KER 9,525 0150	139	161	150	13	18,4	48,0	1273	1527	0,28
KER 9,525 0155	144	166	155	13	18,7	49,6	1232	1477	0,29
KER 9,525 0160	149	171	160	13	19,0	51,2	1194	1431	0,30
KER 9,525 0165	154	176	165	13	19,3	52,8	1158	1388	0,31
KER 9,525 0170	159	181	170	13	19,6	54,4	1124	1347	0,32
KER 9,525 0175	164	186	175	13	19,9	56,0	1091	1309	0,33
KER 9,525 0180	169	191	180	13	20,1	57,6	1061	1272	0,34
KER 9,525 0185	174	196	185	13	20,4	59,2	1032	1238	0,34
KER 9,525 0190	179	201	190	13	20,7	60,8	1005	1205	0,35
KER 9,525 0195	184	206	195	13	21,0	62,4	979	1174	0,36
KER 9,525 0200	189	211	200	13	21,2	64,0	955	1145	0,37
KER 9,525 0205	194	216	205	13	21,5	65,6	932	1117	0,38
KER 9,525 0210	199	221	210	13	21,7	67,2	910	1090	0,39
KER 9,525 0215	204	226	215	13	22,0	68,8	888	1065	0,40
KER 9,525 0220	209	231	220	13	22,3	70,4	868	1041	0,41
KER 9,525 0225	214	236	225	13	22,5	72,0	849	1018	0,42
KER 9,525 0230	219	241	230	13	22,8	73,6	830	996	0,43
KER 9,525 0235	224	246	235	13	23,0	75,2	813	974	0,44
KER 9,525 0240	229	251	240	13	23,2	76,8	796	954	0,45
KER 9,525 0245	234	256	245	13	23,5	78,4	780	935	0,46
KER 9,525 0250	239	261	250	13	23,7	80,0	764	916	0,47
KER 9,525 0255	244	266	255	13	24,0	81,6	749	898	0,47

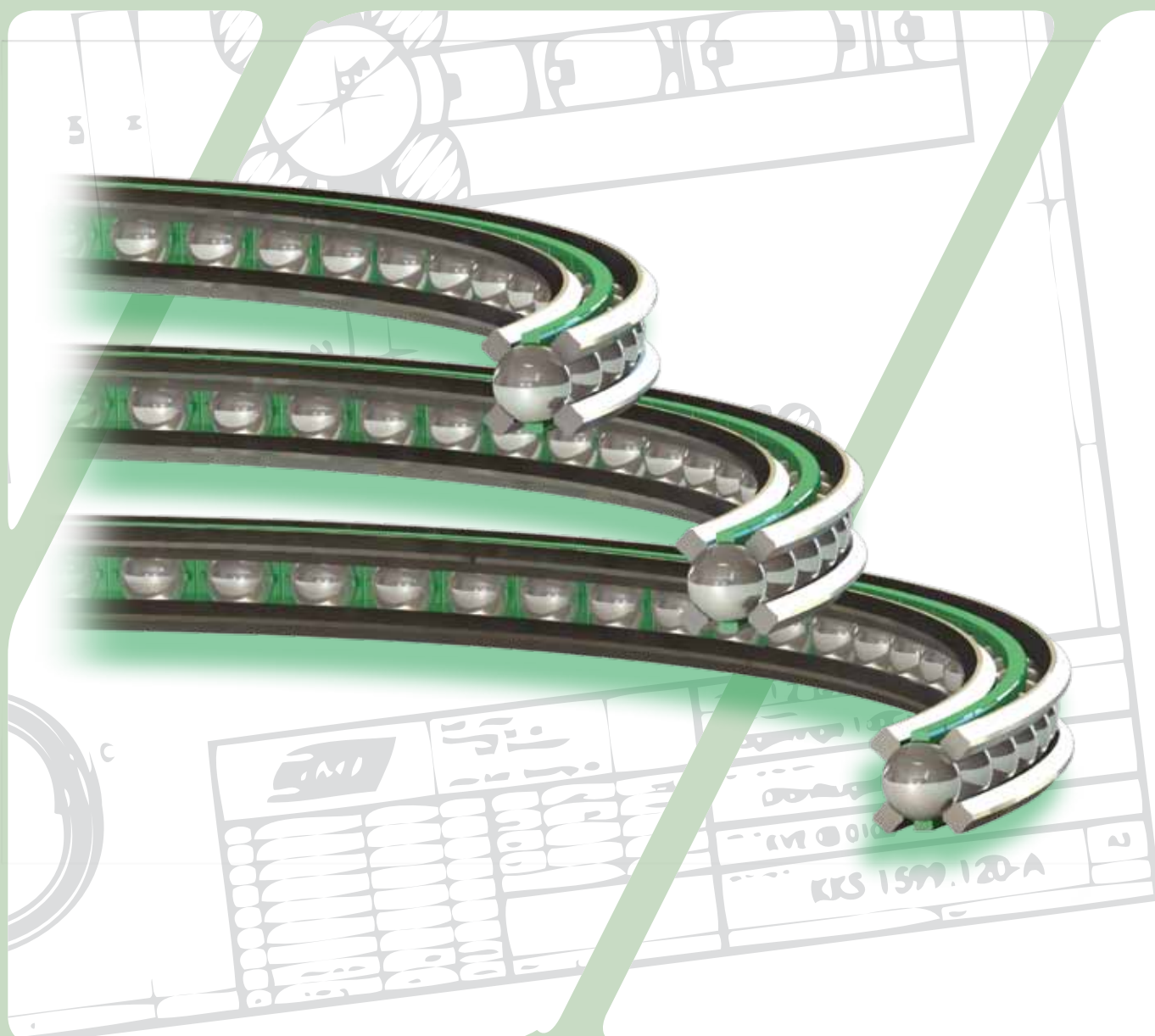




KMF-Type ¹⁾	Bearing dimensions				Load capacity		Limiting speed		Weight
	d	D	D _L	H	dyn.	stat.	n _G Grease	n _G Oil	
	mm	mm	mm	mm	C	C ₀	min ⁻¹	min ⁻¹	
KER 9,525 0260	249	271	260	13	24,2	83,2	735	881	0,48
KER 9,525 0265	254	276	265	13	24,4	84,8	721	864	0,49
KER 9,525 0270	259	281	270	13	24,7	86,4	707	848	0,50
KER 9,525 0275	264	286	275	13	24,9	88,0	695	833	0,51
KER 9,525 0280	269	291	280	13	25,1	89,6	682	818	0,52
KER 9,525 0285	274	296	285	13	25,3	91,2	670	804	0,53
KER 9,525 0290	279	301	290	13	25,6	92,8	659	790	0,54
KER 9,525 0295	284	306	295	13	25,8	94,4	647	776	0,55
KER 9,525 0300	289	311	300	13	26,0	96,0	637	763	0,56
KER 9,525 0310	299	321	310	13	26,4	99,2	616	739	0,58
KER 9,525 0320	309	331	320	13	26,8	102,4	597	716	0,60
KER 9,525 0330	319	341	330	13	27,2	105,6	579	694	0,61
KER 9,525 0340	329	351	340	13	27,7	108,8	562	674	0,63
KER 9,525 0350	339	361	350	13	28,1	112,0	546	654	0,65
KER 9,525 0360	349	371	360	13	28,5	115,2	531	636	0,67
KER 9,525 0370	359	381	370	13	28,9	118,4	516	619	0,69
KER 9,525 0380	369	391	380	13	29,2	121,6	503	603	0,71
KER 9,525 0390	379	401	390	13	29,6	124,8	490	587	0,73
KER 9,525 0400	389	411	400	13	30,0	128,0	478	573	0,74
KER 9,525 0410	399	421	410	13	30,4	131,2	466	559	0,76
KER 9,525 0420	409	431	420	13	30,8	134,4	455	545	0,78
KER 9,525 0430	419	441	430	13	31,1	137,6	444	533	0,80
KER 9,525 0440	429	451	440	13	31,5	140,8	434	520	0,82
KER 9,525 0450	439	461	450	13	31,8	144,0	424	509	0,84
KER 9,525 0460	449	471	460	13	32,2	147,2	415	498	0,86
KER 9,525 0470	459	481	470	13	32,5	150,4	406	487	0,87
KER 9,525 0480	469	491	480	13	32,9	153,6	398	477	0,89
KER 9,525 0490	479	501	490	13	33,2	156,8	390	467	0,91
KER 9,525 0500	489	511	500	13	33,5	160,0	382	458	0,93
KER 9,525 0510	499	521	510	13	33,9	163,2	375	449	0,95
KER 9,525 0520	509	531	520	13	34,2	166,4	367	440	0,97
KER 9,525 0530	519	541	530	13	34,5	169,6	360	432	0,99

1) Other dimensions on request

Wire ball bearing KED



Description of construction:

The KMF wire ball bearing unit KED consists of four hardened ball running rings with drawn tracks and one ball cage strip with guided and contained balls.

The surface roughness of the drawn raceways is

$Ra < 0,8 \mu m$.

Material

Ball running rings

Hardened ball bearing steel 100 Cr 6

Ball cage strip

Polyamide PA12

Balls

Hardened ball bearing steel 100 Cr 6

DIN 5401 Grade 28 (cl. III)

Example of order

KED 9,525 0300 SS

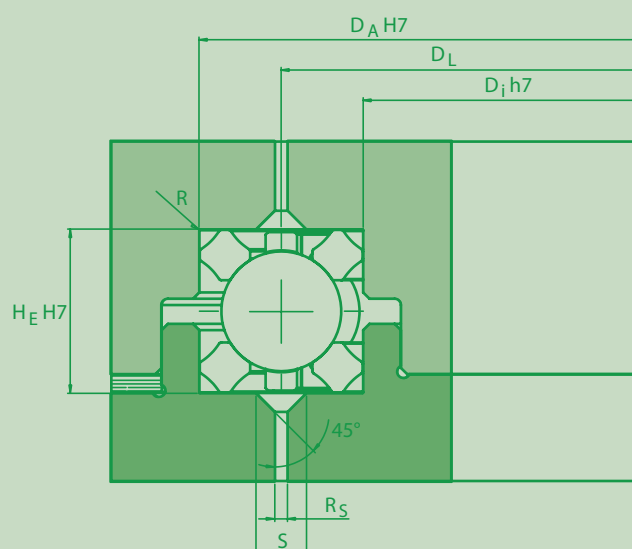
Wire ball bearing insert elements type series KED are available in a corrosion resistant version (material: X 46 Cr 13, material no. 1.4034).

Please add the symbol SS for stainless steel to the description.

KED	Type series
9,525	Ball size (9,525 mm)
0300	Running circle-Ø (300 mm)
SS	Ball running rings – Stainless steel

WIRE BALL BEARING – DRAWN RACEWAYS

Fitted dimensions



Bearing dimensions

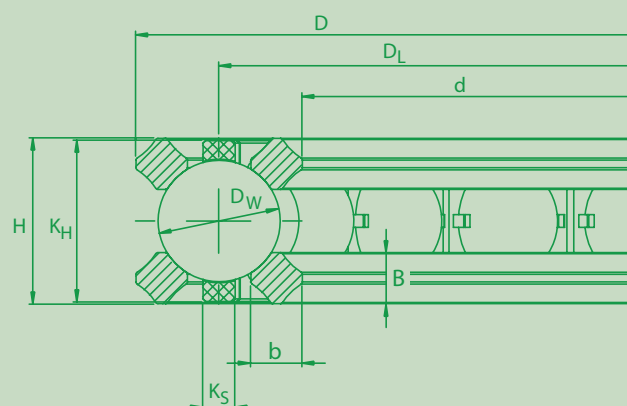


Table of dimensions (type series KED)

KMF- Type ¹⁾	Ball D _W		Wire- dimensions		Range of use Running circle-Ø		Bearing dimensiones			Cage- dimensions	
							d	D	H		
					b	B				D _L	D _L
	min.	max.									
	mm	inch	mm	mm	mm	mm	mm	mm	mm	mm	mm
KED 9	9,000		4	4	80	2000	DL – 12,58	DL + 12,58	12,58	11,6	2,0
KED 9,525	9,525	⅜	4	4	80	2000	DL – 12,95	DL + 12,95	12,95	12,6	2,5
KED 10	10,000		4	4	80	2000	DL – 13,29	DL + 13,29	13,29	13,2	2,5

		Fitted dimensions					Cage- type ³⁾	Load capacity ⁴⁾	
		d _i	D _A	H _E	R	S		dyn.	stat.
	K _T ²⁾				max.			C _a	C _{oa}
	mm	mm	mm	mm	mm	mm		kN	kN
	11,5	DL – 12,58	DL + 12,58	12,58	1,2	4,5	KKLK 090	1,48 • √DL	0,31 • DL
	12,0	DL – 12,95	DL + 12,95	12,95	1,2	4,5	KKLK 095	1,50 • √DL	0,32 • DL
	12,5	DL – 13,29	DL + 13,29	13,29	1,2	4,5	KKLK 100	1,52 • √DL	0,33 • DL

1) Other dimensions on request

2) K_T = ball division

3) See catalog WLK 100

4) Calculated hardness 510 HV

WIRE BALL BEARING – DRAWN RACEWAYS

Table of dimensions (type series KED 9,525)

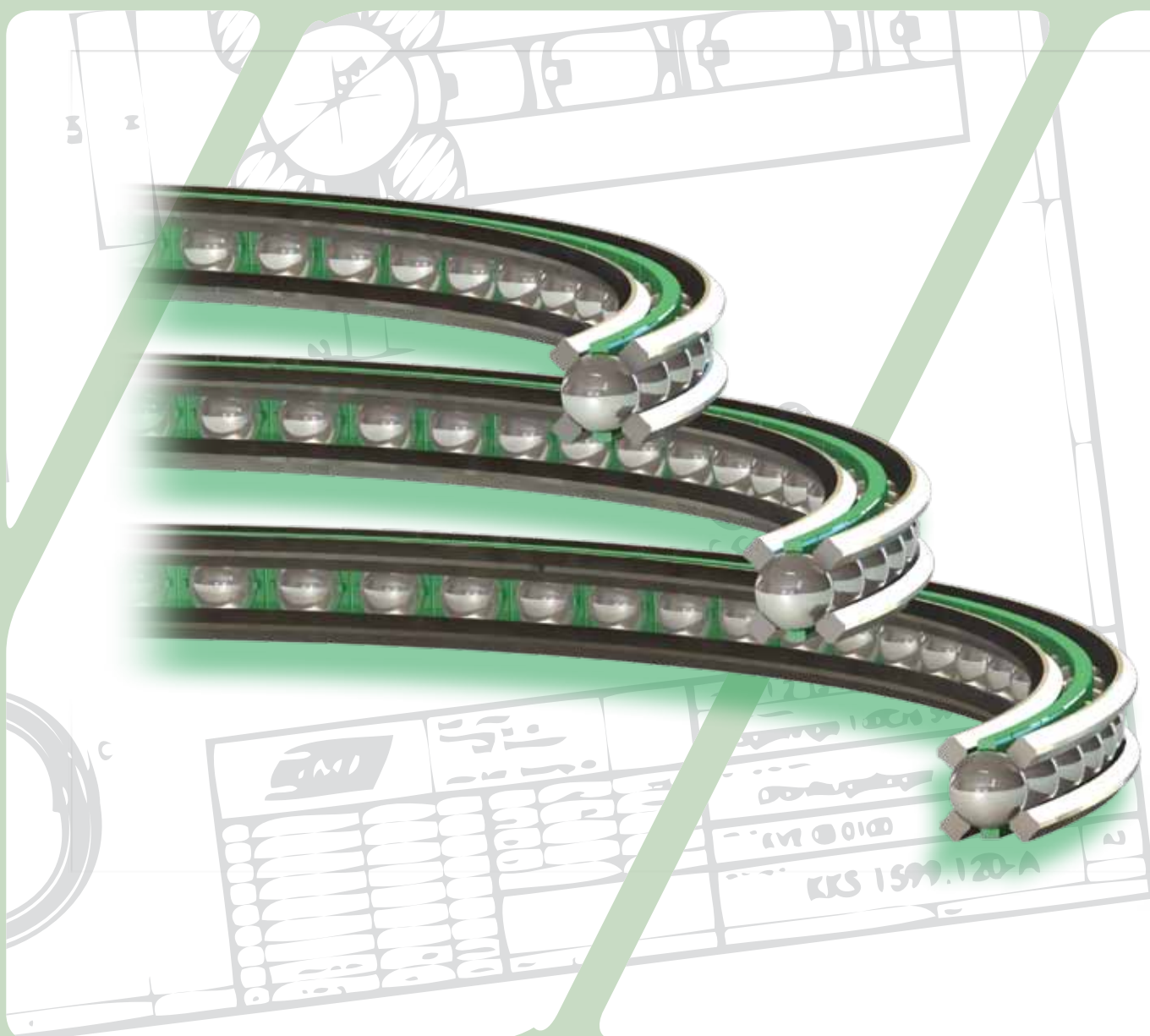
KMF-Type ¹⁾	Bearing dimensions				Load capacity		Limiting speed		Weight
	d	D	D _L	H	dyn.	stat.	n _G Grease	n _G Oil	
	mm	inch	mm	mm	C	C ₀	min ⁻¹	min ⁻¹	
KED 9,525 0100	87,05	112,95	100	12,95	15,0	32,0	1910	2290	0,20
KED 9,525 0105	92,05	117,95	105	12,95	15,4	33,6	1819	2181	0,21
KED 9,525 0110	97,05	122,95	110	12,95	15,7	35,2	1736	2082	0,22
KED 9,525 0115	102,05	127,95	115	12,95	16,1	36,8	1661	1991	0,23
KED 9,525 0120	107,05	132,95	120	12,95	16,4	38,4	1592	1908	0,24
KED 9,525 0125	112,05	137,95	125	12,95	16,8	40,0	1528	1832	0,25
KED 9,525 0130	117,05	142,95	130	12,95	17,1	41,6	1469	1762	0,26
KED 9,525 0135	122,05	147,95	135	12,95	17,4	43,2	1415	1696	0,27
KED 9,525 0140	127,05	152,95	140	12,95	17,7	44,8	1364	1636	0,27
KED 9,525 0145	132,05	157,95	145	12,95	18,1	46,4	1317	1579	0,28
KED 9,525 0150	137,05	162,95	150	12,95	18,4	48,0	1273	1527	0,29
KED 9,525 0155	142,05	167,95	155	12,95	18,7	49,6	1232	1477	0,30
KED 9,525 0160	147,05	172,95	160	12,95	19,0	51,2	1194	1431	0,31
KED 9,525 0165	152,05	177,95	165	12,95	19,3	52,8	1158	1388	0,32
KED 9,525 0170	157,05	182,95	170	12,95	19,6	54,4	1124	1347	0,33
KED 9,525 0175	162,05	187,95	175	12,95	19,9	56,0	1091	1309	0,34
KED 9,525 0180	167,05	192,95	180	12,95	20,1	57,6	1061	1272	0,35
KED 9,525 0185	172,05	197,95	185	12,95	20,4	59,2	1032	1238	0,36
KED 9,525 0190	177,05	202,95	190	12,95	20,7	60,8	1005	1205	0,37
KED 9,525 0195	182,05	207,95	195	12,95	21,0	62,4	979	1174	0,38
KED 9,525 0200	187,05	212,95	200	12,95	21,2	64,0	955	1145	0,39
KED 9,525 0205	192,05	217,95	205	12,95	21,5	65,6	932	1117	0,40
KED 9,525 0210	197,05	222,95	210	12,95	21,7	67,2	910	1090	0,41
KED 9,525 0215	202,05	227,95	215	12,95	22,0	68,8	888	1065	0,42
KED 9,525 0220	207,05	232,95	220	12,95	22,3	70,4	868	1041	0,43
KED 9,525 0225	212,05	237,95	225	12,95	22,5	72,0	849	1018	0,44
KED 9,525 0230	217,05	242,95	230	12,95	22,8	73,6	830	996	0,45
KED 9,525 0235	222,05	247,95	235	12,95	23,0	75,2	813	974	0,46
KED 9,525 0240	227,05	252,95	240	12,95	23,2	76,8	796	954	0,47
KED 9,525 0245	232,05	257,95	245	12,95	23,5	78,4	780	935	0,48
KED 9,525 0250	237,05	262,95	250	12,95	23,7	80,0	764	916	0,49
KED 9,525 0255	242,05	267,95	255	12,95	24,0	81,6	749	898	0,50



KMF-Type ¹⁾	Bearing dimensions				Load capacity		Limiting speed		Weight
	d	D	D _L	H	dyn.	stat.	n _G Grease	n _G Oil	
	mm	inch	mm	mm	C	C ₀	min ⁻¹	min ⁻¹	
KED 9,525 0260	247,05	272,95	260	12,95	24,2	83,2	735	881	0,51
KED 9,525 0265	252,05	277,95	265	12,95	24,4	84,8	721	864	0,52
KED 9,525 0270	257,05	282,95	270	12,95	24,7	86,4	707	848	0,53
KED 9,525 0275	262,05	287,95	275	12,95	24,9	88,0	695	833	0,54
KED 9,525 0280	267,05	292,95	280	12,95	25,1	89,6	682	818	0,55
KED 9,525 0285	272,05	297,95	285	12,95	25,3	91,2	670	804	0,56
KED 9,525 0290	277,05	302,95	290	12,95	25,6	92,8	659	790	0,57
KED 9,525 0295	282,05	307,95	295	12,95	25,8	94,4	647	776	0,58
KED 9,525 0300	287,05	312,95	300	12,95	26,0	96,0	637	763	0,59
KED 9,525 0310	297,05	322,95	310	12,95	26,4	99,2	616	739	0,61
KED 9,525 0320	307,05	332,95	320	12,95	26,8	102,4	597	716	0,63
KED 9,525 0330	317,05	342,95	330	12,95	27,2	105,6	579	694	0,65
KED 9,525 0340	327,05	352,95	340	12,95	27,7	108,8	562	674	0,67
KED 9,525 0350	337,05	362,95	350	12,95	28,1	112,0	546	654	0,69
KED 9,525 0360	347,05	372,95	360	12,95	28,5	115,2	531	636	0,71
KED 9,525 0370	357,05	382,95	370	12,95	28,9	118,4	516	619	0,73
KED 9,525 0380	367,05	392,95	380	12,95	29,2	121,6	503	603	0,75
KED 9,525 0390	377,05	402,95	390	12,95	29,6	124,8	490	587	0,76
KED 9,525 0400	387,05	412,95	400	12,95	30,0	128,0	478	573	0,78
KED 9,525 0410	397,05	422,95	410	12,95	30,4	131,2	466	559	0,80
KED 9,525 0420	407,05	432,95	420	12,95	30,8	134,4	455	545	0,82
KED 9,525 0430	417,05	442,95	430	12,95	31,1	137,6	444	533	0,84
KED 9,525 0440	427,05	452,95	440	12,95	31,5	140,8	434	520	0,86
KED 9,525 0450	437,05	462,95	450	12,95	31,8	144,0	424	509	0,88
KED 9,525 0460	447,05	472,95	460	12,95	32,2	147,2	415	498	0,90
KED 9,525 0470	457,05	482,95	470	12,95	32,5	150,4	406	487	0,92
KED 9,525 0480	467,05	492,95	480	12,95	32,9	153,6	398	477	0,94
KED 9,525 0490	477,05	502,95	490	12,95	33,2	156,8	390	467	0,96
KED 9,525 0500	487,05	512,95	500	12,95	33,5	160,0	382	458	0,98
KED 9,525 0510	497,05	522,95	510	12,95	33,9	163,2	375	449	1,00
KED 9,525 0520	507,05	532,95	520	12,95	34,2	166,4	367	440	1,02
KED 9,525 0530	517,05	542,95	530	12,95	34,5	169,6	360	432	1,04

1) Other dimensions on request

Wire ball bearing KEDD



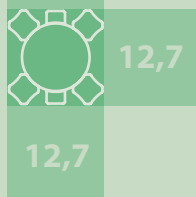
Thin ring bearing

D-cross cut
(e. g. PBXD)



Wire ball bearing

KEDD



KMF wire ball bearing of the type series KEDD were conceived particularly as alternative to thin-ring-bearing and are compatible to all thin-ring- bearings of the D-cross section.

Description of construction:

The KMF wire ball bearing KEDD consists of 4 hardened ball running rings with drawn tracks and 1 ball cage strip with guided and contained balls.

The surface roughness of the drawn raceways is
 $R_a < 0,8 \mu\text{m}$.

Material

Ball running rings

Hardened ball bearing steel 100 Cr 6

Ball cage strip

Polyamide PA12

Balls

Hardened ball bearing steel 100 Cr 6
DIN 5401 Grade 28 (cl. III)

Example of order

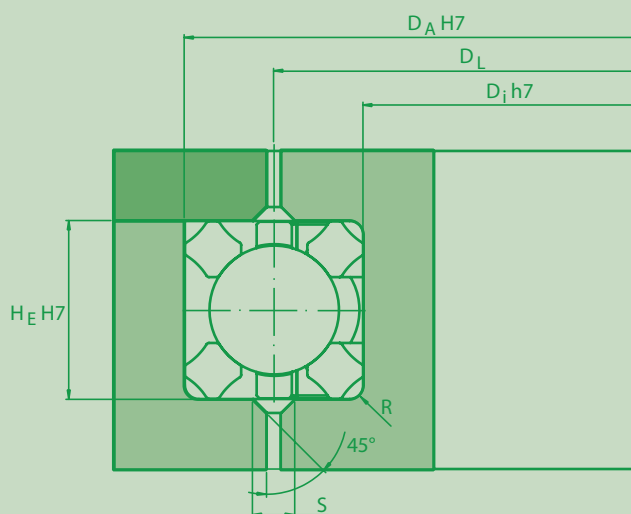
KEDD 110 SS

Wire ball bearing insert elements type series KEDD are available in a corrosion resistant version (material: X 46 Cr 13 material no. 1.4034). Please add the symbol SS for stainless steel to the description.

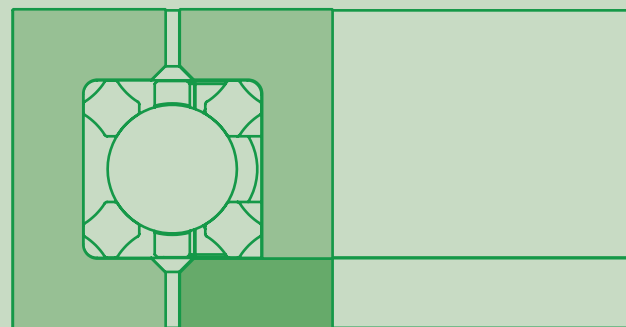
KEDD	Type series (D cross-cut 12,7 x 12,7 mm)
110	Bearing size (d in inch x 10)
SS	Ball running rings – Stainless steel

WIRE BALL BEARING – DRAWN RACEWAYS

Fitted dimensions



Solid play setting – Clamping ring (outside)



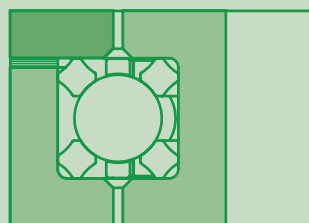
Solid play setting – Clamping ring (inside)

Features

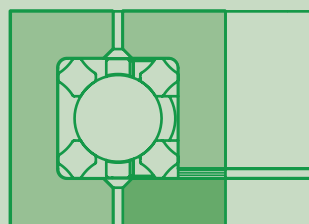
- Compatible to slim bearings
- Reduced in weight
- Corrosion resistant
- Suitable for combined loads
- Adjustable in play
- Long-lived
- Economical
- Robust and Fast available

Table of dimensions (type series KEDD)

KMF- Type ¹⁾	Ball D_w		Wire- dimensions		Range of use Running circle-Ø		Bearing dimensiones			Cage- dimensions	
							d	D	H	K_H	K_S
	mm	inch	b	B	D_L min.	D_L max.					
KEDD	9,20	---	4	4	80	2000	DL – 12,70	DL + 12,70	12,70	12,6	2,5



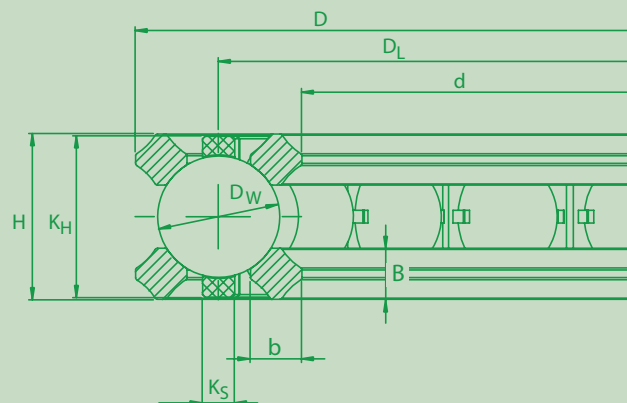
Clamping ring (outside)



Clamping ring (inside)

ABL-play setting

Bearing dimensions



		Fitted dimensions					Cage- type ³⁾	Load capacity ⁴⁾	
		d _i	D _A	H _E	R	S		dyn.	stat.
	K _T ²⁾				max.			C _a	C _{0a}
	mm	mm	mm	mm	mm	mm		kN	kN
	12,0	DL – 12,70	DL + 12,70	12,70	1,2	4,5	KKLK 092	1,50 • √DL	0,32 • DL

1) Other dimensions on request

2) K_T = ball division

3) See catalog WLK 100

4) Calculated hardness 510 HV

WIRE BALL BEARING – DRAWN RACEWAYS

Table of dimensions (type series KEDD)

KMF-Type ¹⁾	Bearing dimensiones					
	d		D		D _L	
	mm	inch	mm	inch	mm	inch
KEDD 040	101,60	4,00	127,00	5,00	114,30	4,50
KEDD 042	107,95	4,25	133,35	5,25	120,65	4,75
KEDD 045	114,30	4,50	139,70	5,50	127,00	5,00
KEDD 047	120,65	4,75	146,05	5,75	133,35	5,25
KEDD 050	127,00	5,00	152,40	6,00	139,70	5,50
KEDD 055	139,70	5,50	165,10	6,50	152,40	6,00
KEDD 060	152,40	6,00	177,80	7,00	165,10	6,50
KEDD 065	165,10	6,50	190,50	7,50	177,80	7,00
KEDD 070	177,80	7,00	203,20	8,00	190,50	7,50
KEDD 075	190,50	7,50	215,90	8,50	203,20	8,00
KEDD 080	203,20	8,00	228,60	9,00	215,90	8,50
KEDD 090	228,60	9,00	254,00	10,00	241,30	9,50
KEDD 100	254,00	10,00	279,40	11,00	266,70	10,50
KEDD 110	279,40	11,00	304,80	12,00	292,10	11,50
KEDD 120	304,80	12,00	330,20	13,00	317,50	12,50
KEDD 140	355,60	14,00	381,00	15,00	368,30	14,50
KEDD 160	406,40	16,00	431,80	17,00	419,10	16,50
KEDD 180	457,20	18,00	482,60	19,00	469,90	18,50
KEDD 200	508,00	20,00	533,40	21,00	520,70	20,50
KEDD 210	533,40	21,00	558,80	22,00	546,10	21,50
KEDD 250	635,00	25,00	660,40	26,00	647,70	25,50
KEDD 300	762,00	30,00	787,40	31,00	774,70	30,50

			Load capacity		Limiting speed		Weight
	H		dyn.	stat.	n _G Grease	n _G Oil	
			C	C _o			
	mm	inch	kN	kN	min ⁻¹	min ⁻¹	kg
	12,70	0,50	16,00	36,60	1671	2003	0,23
	12,70	0,50	16,50	38,60	1583	1898	0,24
	12,70	0,50	16,90	40,60	1504	1803	0,25
	12,70	0,50	17,30	42,70	1432	1717	0,27
	12,70	0,50	17,70	44,70	1367	1639	0,28
	12,70	0,50	18,50	48,80	1253	1503	0,31
	12,70	0,50	19,30	52,80	1157	1387	0,33
	12,70	0,50	20,00	56,90	1074	1288	0,36
	12,70	0,50	20,70	61,00	1003	1202	0,38
	12,70	0,50	21,40	65,00	940	1127	0,41
	12,70	0,50	22,00	69,10	885	1061	0,43
	12,70	0,50	23,30	77,20	792	949	0,48
	12,70	0,50	24,50	85,30	716	859	0,53
	12,70	0,50	25,60	93,50	654	784	0,58
	12,70	0,50	26,70	101,60	602	721	0,64
	12,70	0,50	28,80	117,90	519	622	0,74
	12,70	0,50	30,70	134,10	456	546	0,84
	12,70	0,50	32,50	150,40	406	487	0,94
	12,70	0,50	34,20	166,60	367	440	1,04
	12,70	0,50	35,10	174,80	350	419	1,09
	12,70	0,50	38,20	207,30	295	354	1,30
	12,70	0,50	41,80	247,90	247	296	1,55

1) Other dimensions on request

WIRE BALL BEARING – DRAWN RACEWAYS

Manufacturer comparative list (KEDD – Thin ring bearing)

	Bearing dimensions							
KMF-type	d		D	KAYDON-type	FAG-type	SKF-type	INA-type	Franke-type
(Wire ball bearing)				(Thin ring bearing)	(Thin ring bearing)	(Thin ring bearing)	(Thin ring bearing)	(Sheath-wire ball bearing)
	mm	inch	mm					
KEDD 040	101,60	4,00	127,00	KD 040 XPO	L 18 TA 400 T	FPXD 400	CSXD 040	-----
KEDD 042	107,95	4,25	133,35	KD 042 XPO	L 18 TA 404 T	FPXD 404	CSXD 042	-----
KEDD 045	114,30	4,50	139,70	KD 045 XPO	L 18 TA 408 T	FPXD 408	CSXD 045	-----
KEDD 047	120,65	4,75	146,05	KD 047 XPO	L 18 TA 412 T	FPXD 412	CSXD 047	-----
KEDD 050	127,00	5,00	152,40	KD 050 XPO	L 18 TA 500 T	FPXD 500	CSXD 050	-----
KEDD 055	139,70	5,50	165,10	KD 055 XPO	L 18 TA 508 T	FPXD 508	CSXD 055	-----
KEDD 060	152,40	6,00	177,80	KD 060 XPO	L 18 TA 600 T	FPXD 600	CSXD 060	LFD 6,0
KEDD 065	165,10	6,50	190,50	KD 065 XPO	L 18 TA 608 T	FPXD 608	CSXD 065	LFD 6,5
KEDD 070	177,80	7,00	203,20	KD 070 XPO	L 18 TA 700 T	FPXD 700	CSXD 070	LFD 7,0
KEDD 075	190,50	7,50	215,90	KD 075 XPO	L 18 TA 708 YH	FPXD 708	CSXD 075	LFD 7,5
KEDD 080	203,20	8,00	228,60	KD 080 XPO	L 18 TA 800 YH	FPXD 800	CSXD 080	LFD 8,0
KEDD 090	228,60	9,00	254,00	KD 090 XPO	L 18 TA 900 YH	FPXD 900	CSXD 090	LFD 9,0
KEDD 100	254,00	10,00	279,40	KD 100 XPO	L 18 TA 1000 YH	FPXD 1000	CSXD 100	LFD 10,0
KEDD 110	279,40	11,00	304,80	KD 110 XPO	L 18 TA 1100 YH	FPXD 1100	CSXD 110	LFD 11,0
KEDD 120	304,80	12,00	330,20	KD 120 XPO	L 18 TA 1200 YH	FPXD 1200	CSXD 120	LFD 12,0
KEDD 140	355,60	14,00	381,00	KD 140 XPO	L 18 TA 1400 YH	FPXD 1400	CSXD 140	LFD 14,0
KEDD 160	406,40	16,00	431,80	KD 160 XPO	L 18 TA 1600 YH	FPXD 1600	CSXD 160	LFD 16,0
KEDD 180	457,20	18,00	482,60	KD 180 XPO	L 18 TA 1800 YH	FPXD 1800	CSXD 180	LFD 18,0
KEDD 200	508,00	20,00	533,40	KD 200 XPO	-----	FPXD 2000	-----	LFD 20,0
KEDD 210	533,40	21,00	558,80	KD 210 XPO	-----	-----	-----	-----
KEDD 250	635,00	25,00	660,40	KD 250 XPO	-----	FPXD 2500	-----	LFD 25,0
KEDD 300	762,00	30,00	787,40	KD 300 XPO	-----	FPXD 3000	-----	-----

ANGULAR CONTACT WIRE BALL BEARING

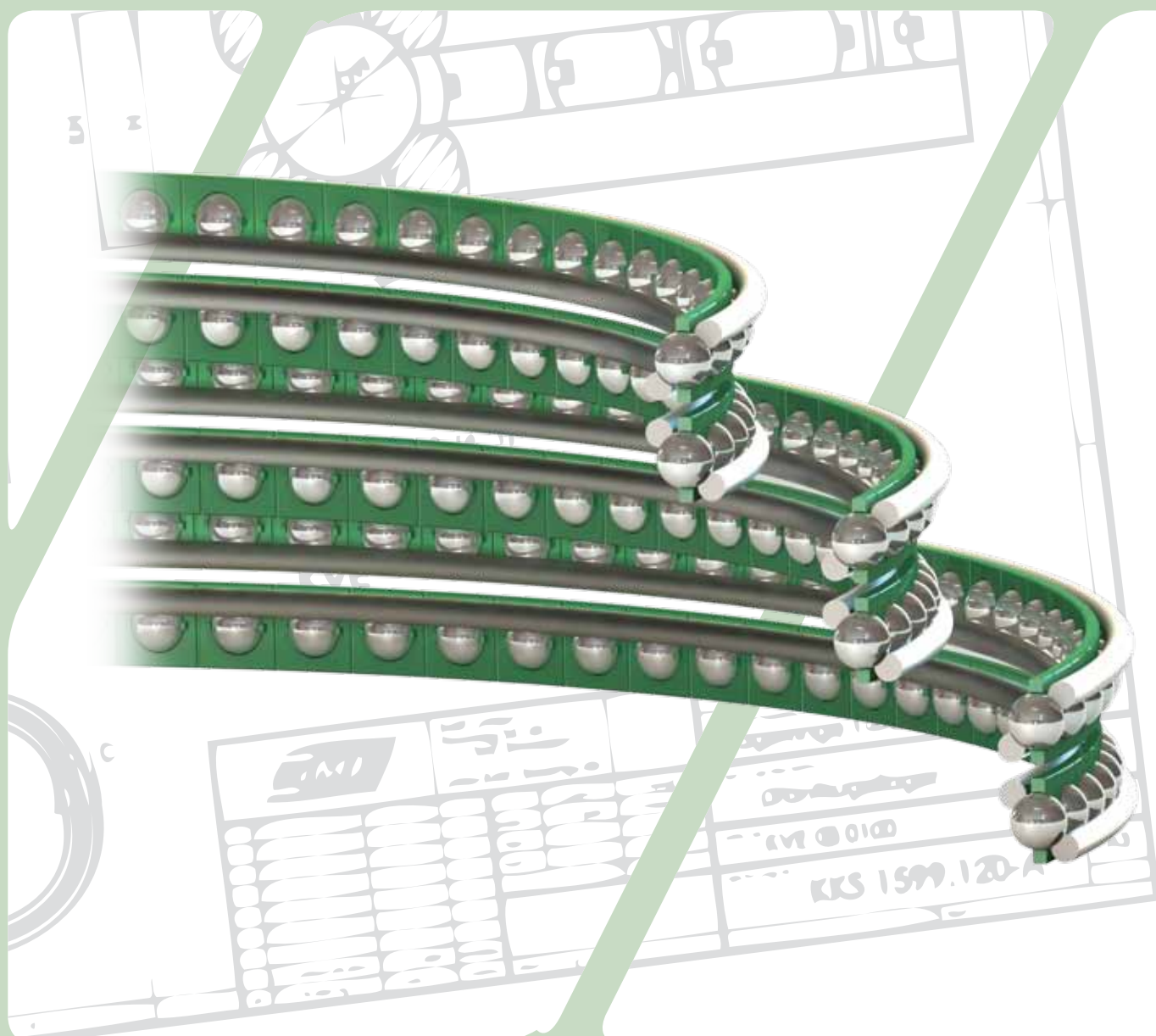
Angular contact
wire ball bearing
DSED, DSEF, DSEG



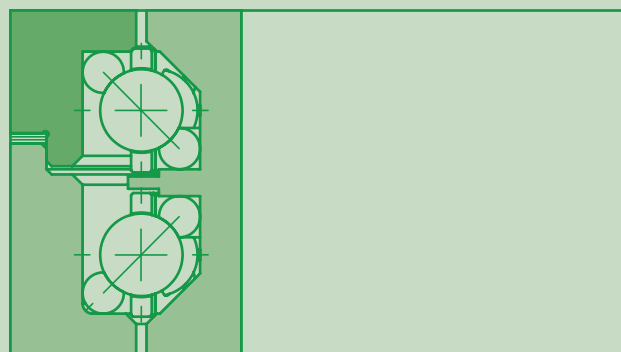
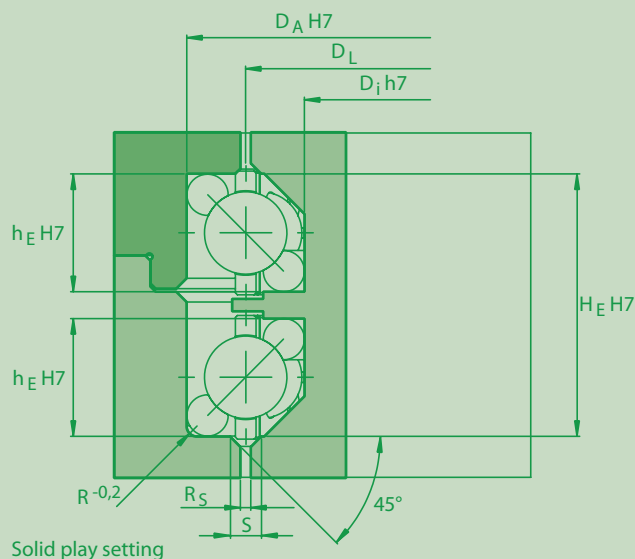
Angular contact-
Wire ball bearing

DSED
DSEF
DSEG

Angular contact
wire ball bearing
DSED, DSEF, DSEG



Fitted dimensions



Description of construction

The KMF angular contact wire ball bearing DSE consists of 2 separate ball rows that are running on 4 hardened running wires with polished and conformed running tracks. The pressure angle is 45°. A cage strip with guided and contained balls is used for every row.

Material

Ball running rings

Hardened Spring Steel

Ball cage strip

Polyamide PA12

Balls

Hardened ball bearing steel 100 Cr 6

DIN 5401 Grade 28 (cl. III)

Example of order

DSEG 16 0900 ZW

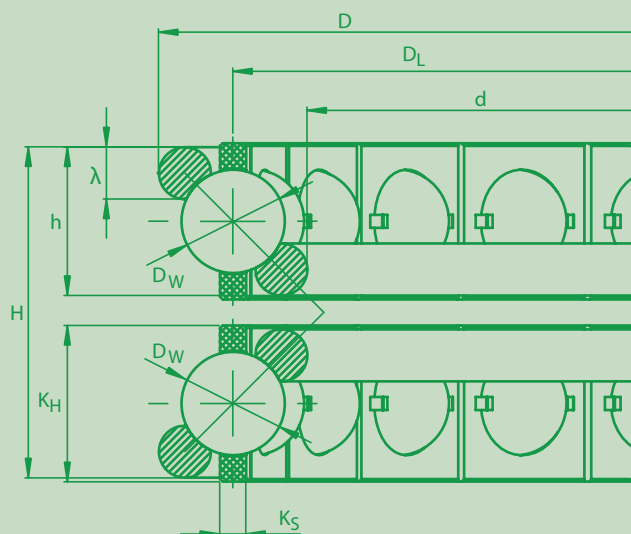
DSEG	Type series
16	Ball size (16 mm)
0900	running circle-Ø (900 mm)
ZW	Two rows

Features

- Small fitted space
- High strength
- High stiffness (tilting rigidity)
- Lower bearing frictional torque
- Particularly quiet running
- Great precision

ANGULAR CONTACT WIRE BALL BEARING

Bearing dimensions



Arrangement

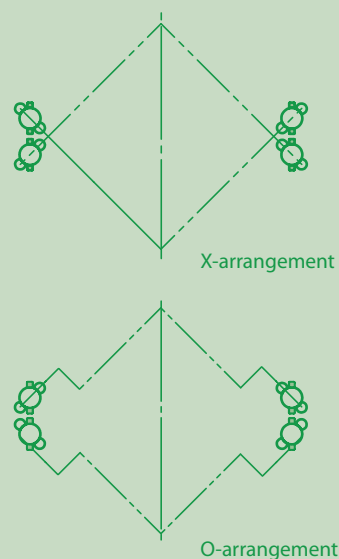


Table of dimensions

KMF-type ¹⁾	Ball D _W		Wire- Ø λ	Range of use		Bearing dimensiones			
				Running circle-Ø		d	D	H	h
				D _L	D _L				
				min.	max.				
	mm	inch	mm	mm	mm	mm	mm	mm	mm
DSED 08... ZW	8	---	4,0	150	1500	DL – 11,40	DL + 11,40	25,4	11,40
DSEF 12... ZW	12	---	6,0	250	1500	DL – 16,40	DL + 16,40	38,1	16,40
DSEG 16... ZW	16	---	7,0	350	1500	DL – 22,20	DL + 22,20	50,8	22,20



Cage dimensions			Fitted dimensions					Cage-type ³⁾	Load capacity ⁴⁾	
K _H	K _S	K _T ²⁾	d _i	D _A	H _E	h _E	R		dyn.	stat.
									C _a	C _{oa}
mm	mm	mm	mm	mm	mm	mm	mm		kN	kN
12,0	2,0	12,0	DL – 11,40	DL + 11,40	25,4	11,40	1,9	KKLK 080	2,02 • √DL	0,70 • DL
16,5	3,0	16,5	DL – 16,40	DL + 16,40	38,1	16,40	2,9	KKLK 12F	3,61 • √DL	0,88 • DL
21,6	3,5	21,5	DL – 22,20	DL + 22,20	50,8	22,20	3,4	KKLK 16F	4,91 • √DL	1,16 • DL

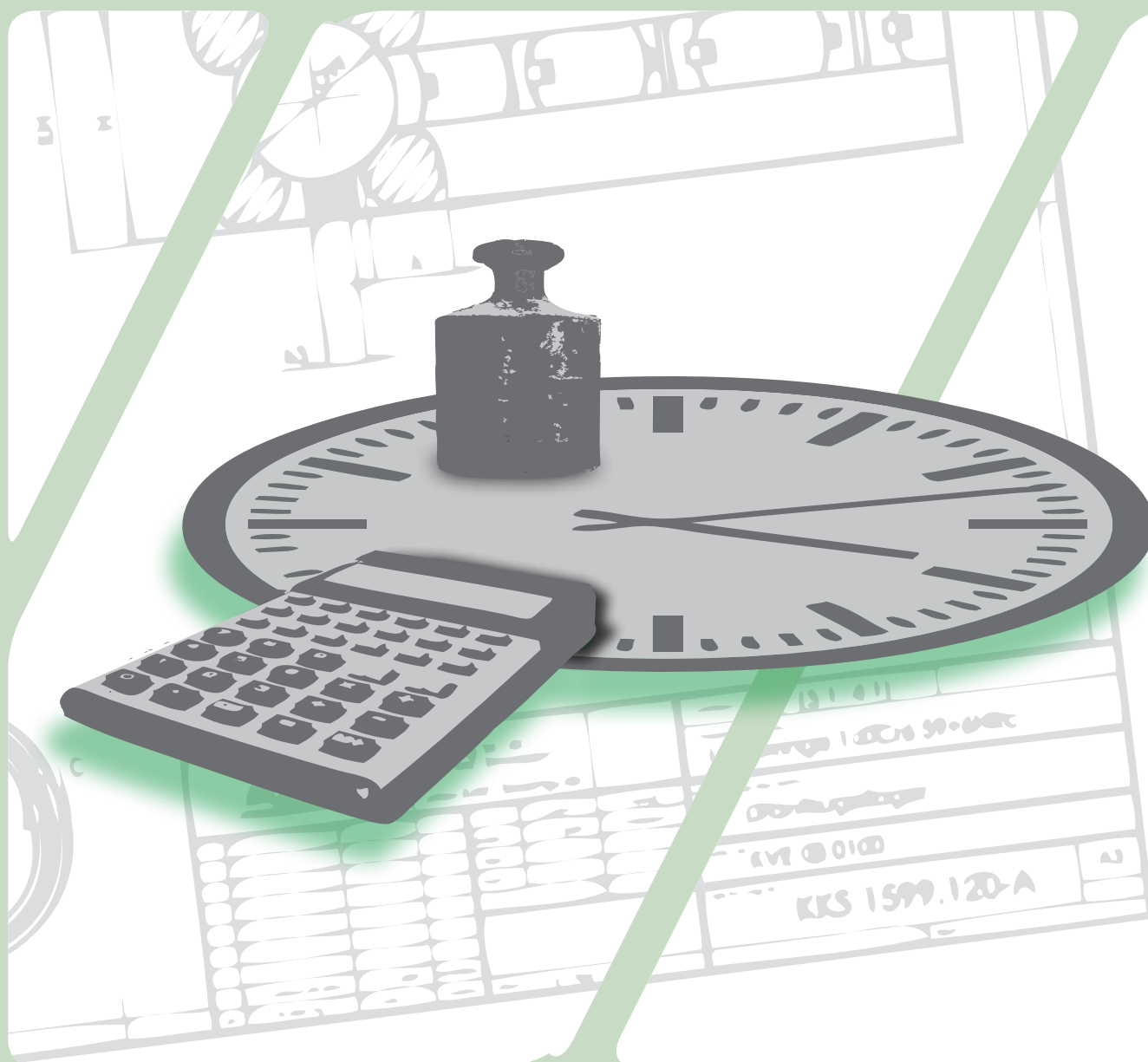
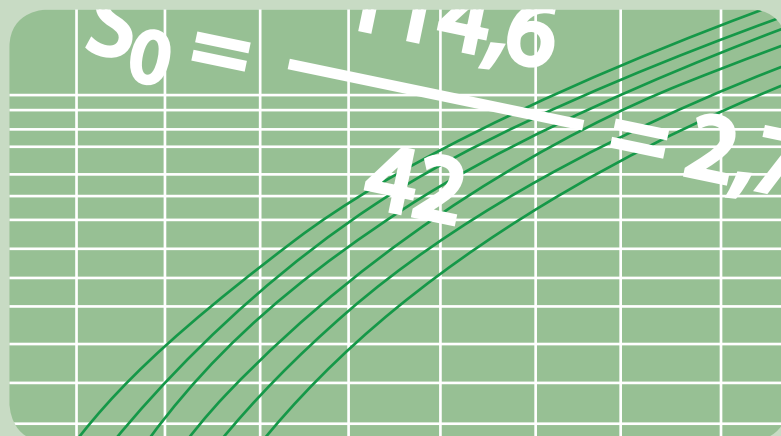
1) Other dimensions on request

2) K_T = ball division

3) See catalog WLK 100

4) Calculated hardness 510 HV

Example of calculations for combined static strength and nominal service life



Example of calculations

Calculation of Static Strength

Given:

KVE 10 0300

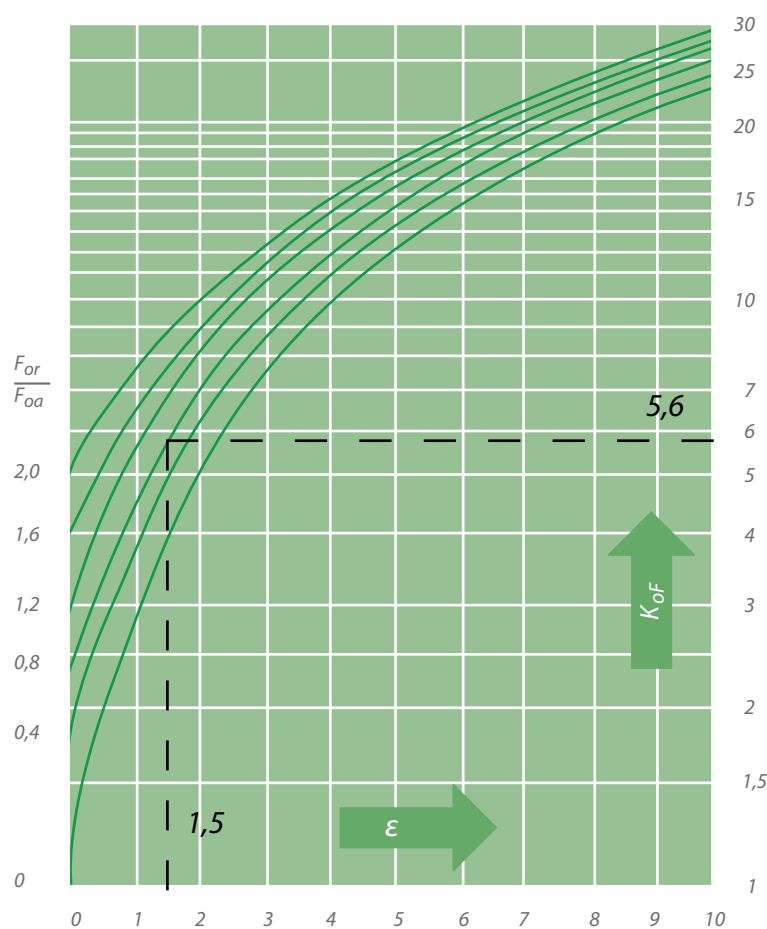
Static Load Capacity $C_o = 0,33 \times D_L$
 $C_o = 0,33 \times 300 = 99 \text{ kN}$

Bearing Loads:

Axial Load $F_{oa} = 7,5 \text{ kN}$
Radial Load $F_{or} = 6,0 \text{ kN}$
Tilting Torque $M_{ok} = 1,7 \text{ kNm}$

Wanted:

Static Safety Factor



Static Load Factor K_{oF} for four point thin ring bearing

ϵ = Load eccentricity value

D_L = Running Circle $\varnothing$ in mm

$$\epsilon = \frac{2 \cdot M_{ok}}{F_{oa} \cdot D_L} \cdot 10^3$$

$$\epsilon = \frac{2 \cdot 1,7}{7,5 \cdot 300} \cdot 10^3 = 1,5$$

$$\frac{F_{or}}{F_{oa}} = \frac{6}{7,5} = 0,8 \quad K_{oF} = 5,6$$

$$P_o = F_{oa} \cdot K_{oF} = 7,5 \cdot 5,6 = 42 \text{ kN}$$

$$\text{Static Safety Factor } S_o = \frac{C_{oa}}{P_o}$$

$$S_o = \frac{99}{42} = 2,36 \text{ times}$$

Calculation of Service Life

Given:

KVE 10 0300

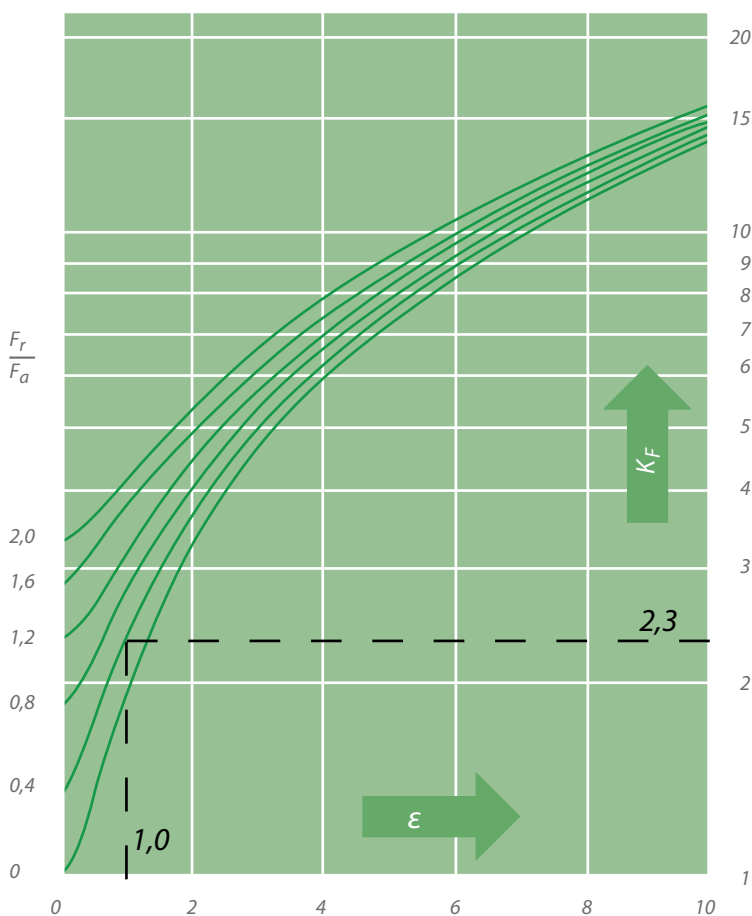
Dynamic Load Capacity $C = 1,5 \times \sqrt{DL}$
 $C = 1,5 \times \sqrt{300} = 26 \text{ kN}$

Bearing Loads:

Axial Load $F_a = 2,50 \text{ kN}$
 Radial Load $F_r = 1,00 \text{ kN}$
 Tilting Torque $M_k = 0,38 \text{ kNm}$
 Speed $n = 20 \text{ min}^{-1}$

Wanted:

Nominal Service Life



Dynamic Load Factor K_F for four point thin ring bearing

ϵ = Load eccentricity value

D_L = Running Circle $\varnothing$ in mm

$$\epsilon = \frac{2 \cdot M_k}{F_a \cdot D_L} \cdot 10^3$$

$$\epsilon = \frac{2 \cdot 0,38}{2,5 \cdot 300} \cdot 10^3 = 1,0$$

$$\frac{F_r}{F_a} = \frac{1,0}{2,5} = 0,4 \quad K_F = 2,3$$

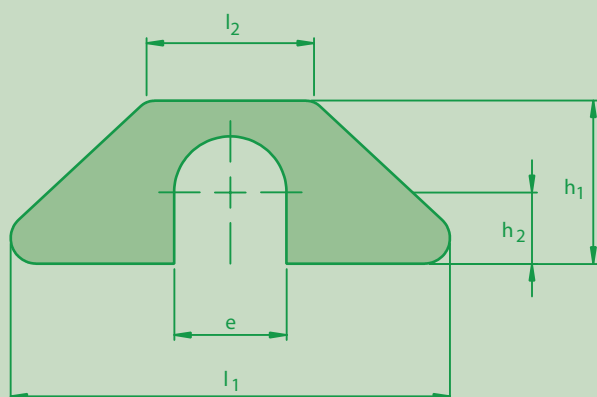
$$P = F_a \cdot K_F = 2,5 \cdot 2,3 = 5,75 \text{ kN}$$

$$\text{Service Life } L_h = \frac{16666}{n} \cdot \left(\frac{C}{P} \right)^3$$

$$L_h = \frac{16666}{20} \cdot \left(\frac{20}{5,75} \right)^3 = 77000 \text{ h}$$

Spacers – Type series ABL

Dimensions



KMF-type ¹⁾	For screw	Dimensions (in mm)				
		e	h ₁	h ₂	l ₁	l ₂
ABL 6	M8	7	11,0	5	24,0	11,0
ABL 8	M10	9	13,5	6	34,0	14,7
ABL 10	M12	11	16,0	7	43,0	16,4
ABL 12	M16	13	18,0	8	45,0	20,3
ABL 16		17	24,0	11	54,0	25,4

1) Stainless steel dimensional changes reserved

Spacers for setting the play can be supplied in the required thickness. Packing unit 100 pcs.

Spacers can be supplied in the following thickness:

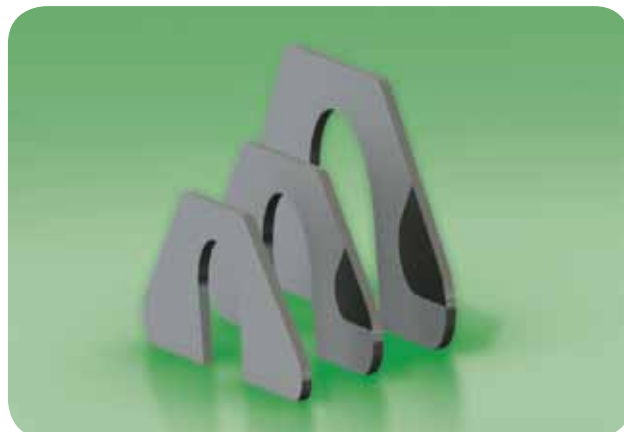
KMF-type	Strenght
ABL 6	1,000 mm
ABL 8	0,500 mm
ABL 10	0,300 mm
ABL 12	0,250 mm
ABL 16	0,200 mm
	0,150 mm
	0,100 mm
	0,025 mm

Example of order

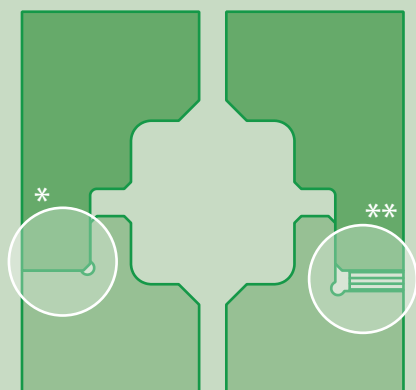
ABL 10 - 0,25

500 pieces

500 off spacers for M10 screws with a thickness of 0.25 mm or complete set.

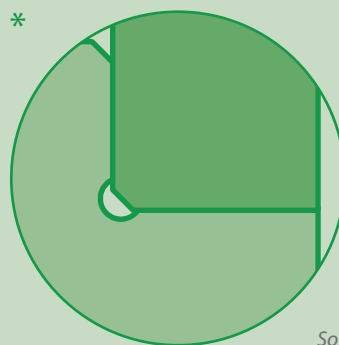


Bearing play

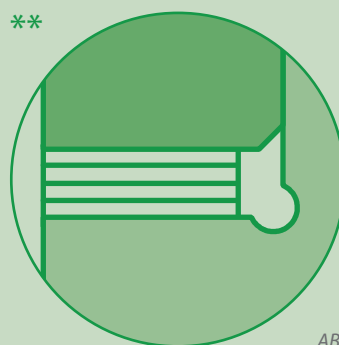


The play in bearings can be set later via the surface – solid settings, or can be set without later work by matching with spacers. Spacers made of corrosion-resistant steel of different sizes and thicknesses can be supplied on request.

(see document page 58).



Solid play setting



ABL play setting

Sealing profiles

Description of shape

One can seal to the adjacent structure with KMF sealing profiles, depending on the requirements and the type of pollution.

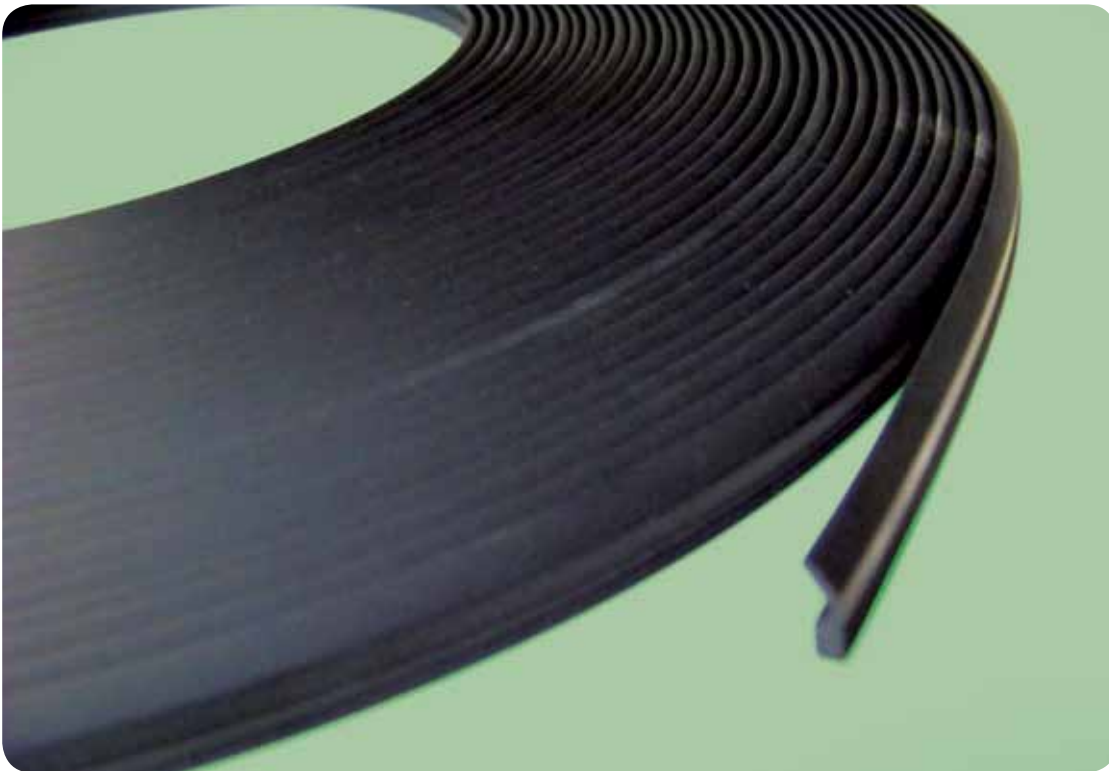
We have developed some sealing profiles as yard-goods for this purpose, which meet different requirements. For infinite purposes, the interfaces must be flat and free of grease. A cyan acrylate glue can be used as the glue. One must take care that there is no displacement when join the interfaces.

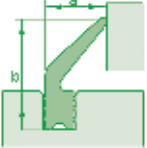
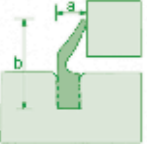
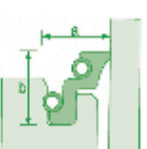
Material

The standard material of the sealing profile is NBR 70 (Shore hardness of 70), which has proved successful due to its resistance to oil and grease and its good resistance to wear.

Operating conditions

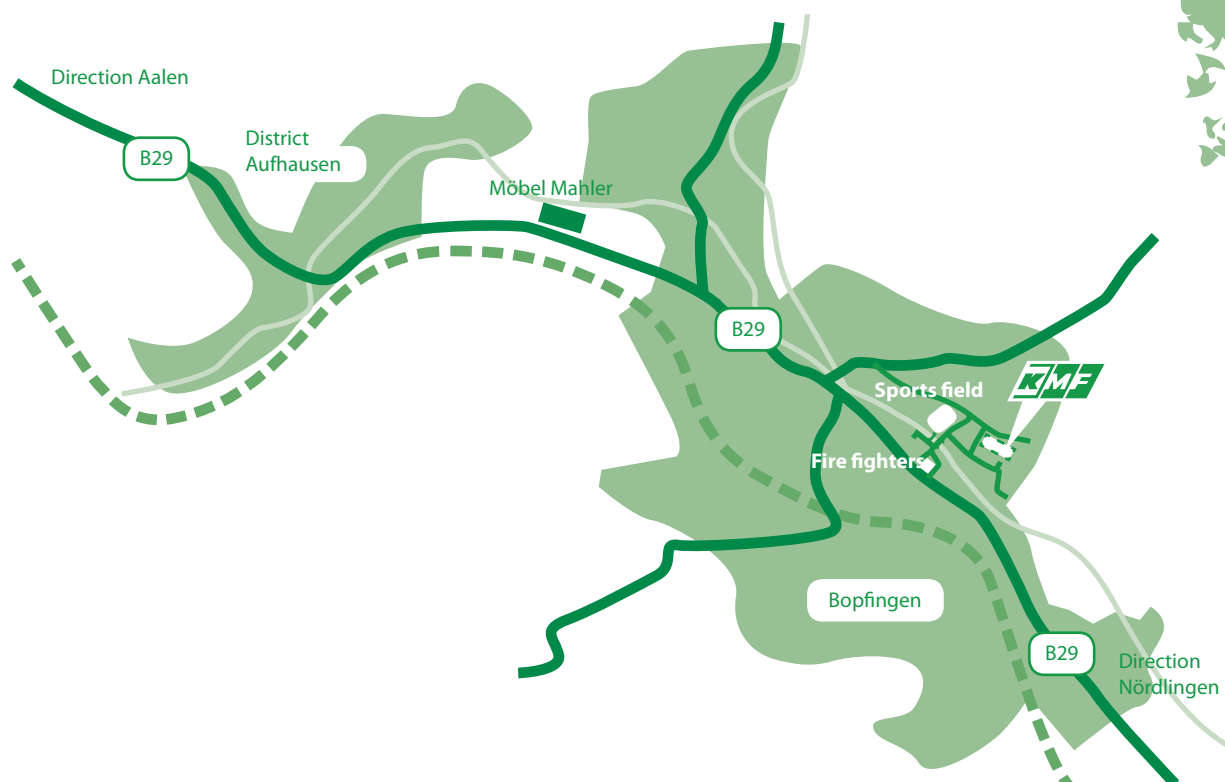
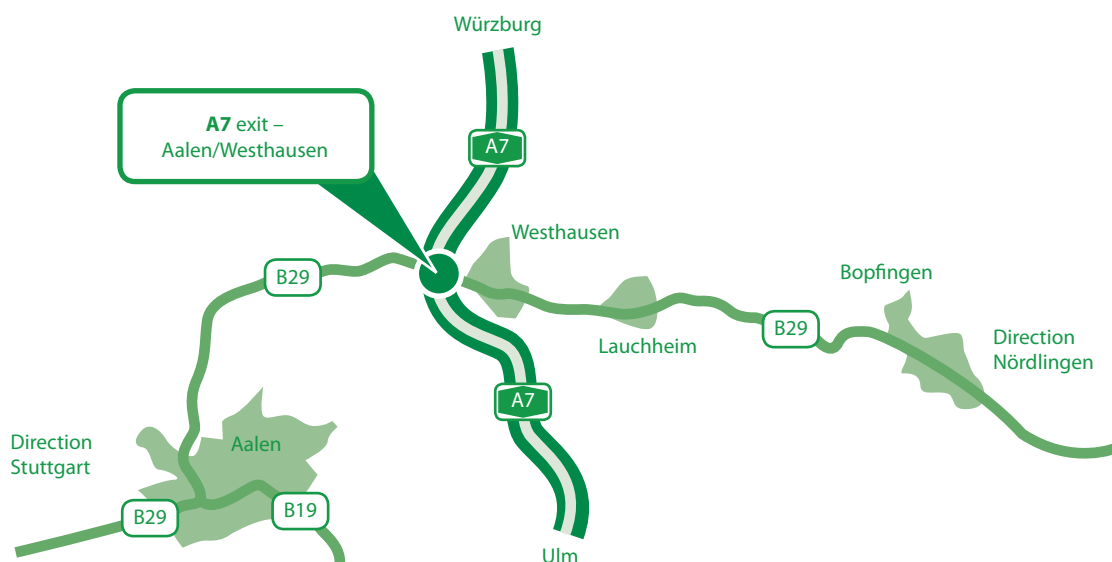
The sealing profiles can be used at working temperatures of -40°C to +80°C.



Sealing profiles		Short sign	Required space (guid)		Diameter range		Characteristics
Axial sealing	Radial sealing				D		
			a	b	Axial	Radial	
		S9	7	17	> Ø 400	> Ø 400	Robust seal increased friction
		S4	5	13	> Ø 200	> Ø 200	Normal seal low friction
		S5	11	9	> Ø 400	> Ø 400	Protected bearing gap seal
		S7	7	5	> Ø 200	> Ø 200	Protected bearing gap seal low space requirement
		S6	9	10		> Ø 200	High pressure due to Spring-loaded sealing lip, preferred for oscillating operation
		R2 R3 R4	1,5 2,3 3,1	2,7 4,0 5,4	> Ø 200	> Ø 200	Static seal

Installation drawings are available for the individual seal profiles. Please ask for them.

Directions to find firm...



... starting from the B29

in the Nördlingen direction...

shortly after entering the place, turn right at the
Fire Station, then after 30 m, turn left again,
follow the street, pass the Sports Stadium,
turn right to the Postweg,
we are 200 m along on the right hand side.



... starting from the A7 exit Aalen/Westhausen ...

take the B29 in the Nördlingen direction.
Shortly before the exit to the Fire Station, turn left,
then after 30 m, turn left again,
follow the street, pass the Sports Stadium,
turn right to the Postweg,
we are 200 m along on the right hand side.

KMF Kunststoff-Metall-Formteile GmbH

Postweg 34-40

D-73441 Bopfingen

Phone 07362/7001

Fax 07362/7007

E-Mail info@kmf-bearings.de

Notes





KUNSTSTOFF-METALL-FORMTEILE

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