Rolling bearings SKF

i ###

ii Project information

? **Nhập các thông số thiết kế**

1.0 ☒ **a chọn loại ổ lăn, kiểu tải trọng**

1.1 Đơn vị tính toán

1.2 **Loại ổ lăn**

1.3 **Thiết kế ổ lăn**

1.4

1.5

1.6

1.7 **Tải trọng ổ**

1.8	Tốc độ quay	n	550.0	[/min]
1.9	Lựa hướng tâm	Fr	410.0	[N]
1.10	Lực dọc trục	Fa	0.0	[N]
1.11	Hệ số lực động thêm vào		2.2	

1.12 **Thông số yêu cầu của ổ lăn**

1.13	Thời gian làm việc của ổ	Lh	10000	[h]
1.14	Hệ số an toàn tĩnh	s0	2.00	

1.15 **Lực động thêm vào**

1.16 ○ **one**

1.17 ○ **om geared transmissions**

1.18

1.19	Hệ số	fk	1.05 - 1.1	1.07 ☒

1.20

1.21	Hệ số	fd	1.5 - 2.5	2.00 ☒

1.22 ○ **om belt drives**

1.23

1.24	Hệ số	fb	1.9 - 2.5	2.20 ☒

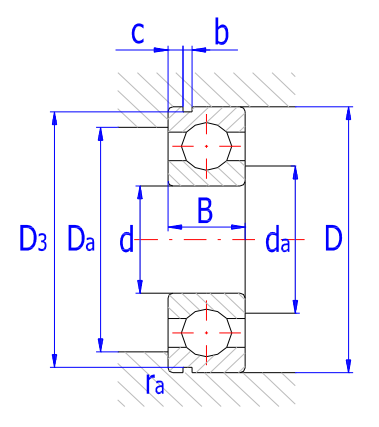
2.0 ☒ **a chọn kích thước ổ**

2.1 **Bearing size**

ID	d	D	B	C	C0	nr	nmax	Bearing

2.2 **Thông số Ổ**

2.3	Khả năng tải trọng động cơ bản	C	13800	[N]	d	30
2.4	Tải trọng động cân bằng	P	#NAME?	[N]	D	55
2.5	Khả năng làm việc cơ bản	L10h	#NAME?	[h]	B	13
2.6	Khả năng tải trọng tĩnh cơ bản	C0	8300	[N]	ramax	1
2.7	Tải trọng tĩnh cân bằng	P0	902	[N]	Damax	50.4
2.8	Hệ số an toàn tĩnh	s0	9.2		damin	34.6
2.9	Lực hướng tâm lớn nhất	Frmax	-	[N]	D3	52.6
2.10	Lực dọc trục lớn nhất	Famax	-	[N]	c	2.06
2.11	Tốc độ làm việc	nr	28000	[/min]	b	1.35
2.12	Tốc độ giới hạn	nmax	17000	[/min]		
2.13	Công suất mất mát	NR	#NAME?	[W]		
2.14	Khối lượng ổ	g	0.12	[kg]		



3.0 ☒ **ông số làm việc, điều chỉnh thời gian làm việc của ổ**

3.1 **Độ nhớt động học của chất bôi trơn**

3.2	Độ nhớt cho phép	ν_1	#NAME?	[mm^2/s]
3.3	Độ nhớt hoạt động	ν	20.1	[mm^2/s]
3.4	Tỷ số độ nhớt	κ	#NAME?	

3.5 **Tải trong yêu cầu nhỏ nhất**

3.6	Minimum radial load	Frmin	22.41	[N]

3.7 **Tính toán điều chỉnh thời gian làm việc**

3.8	Tải trọng mỏi giới hạn	Pu	355	[N]
3.9	Độ tin cậy yêu cầu			
3.10	Sự nhiễm bẩn của dầu bôi trơn			
3.11	Hệ số của cấp độ nhiễm bẩn	η	0.3 - 0.1	0.20 ☒
3.12	Hệ số thay đổi thời gian l	a1/a23	1	#NAME?
3.13	Thời gian làm việc thay đổi	Lmh	#NAME?	[h]

Supplements section

4.0 ☐ **xiliary calculations**

5.0 ☐ **ctuating bearing load**

6.0 ☐ **lculation of bearings with angular contact**

7.0 ☐ **aphical output, CAD systems**

Calculation's units

Đơn vị SI (N, mm, kW…)
Đơn vị Anh (lbf, in, HP….)

Bearing group

Ổ bi có rãnh sâu	1	ICO_01	1	A	1
Ổ lăn hình dạng Y	0	ICO_02	0	B	2
Ổ bi tiếp xúc góc	1	ICO_03	8	C	3
Ổ bi tự lựa	1	ICO_04	12	D	4
Ổ đũa trụ	1	ICO_05	15	E	5
Ổ kim	1	ICO_06	20	F	6
Combined roller bearings	0	ICO_07	0	G	7
Taper roller bearings	1	ICO_08	22	H	8
Spherical roller bearings	1	ICO_09	23	I	9
Toroidal roller bearings	1	ICO_10	25	J	10
Thrust ball bearings	1	ICO_11	27	K	11
Angular contact thrust ball be	0	ICO_12	0	L	12
Cylindrical roller thrust bearin	1	ICO_13	28	M	13
Needle roller thrust bearings	1	ICO_14	29	N	14
Taper roller thrust bearings	0	ICO_15	0	O	15
Spherical roller thrust bearing	1	ICO_16	30	P	16
Other bearings	0	ICO_17	0	Q	17

Lubrication

Dầu bôi trơn
Mỡ bôi trơn

Additional dynamic forces 1

Bánh răng trụ chính xác (du	1.07	1.05	1.1
Bánh răng trụ qua gia công c	1.2	1.1	1.3
Bánh răng đúc (dung sai củ	1.7	1.5	2

Additional dynamic forces 2

Máy điện, turbin, máy nén tu	1.1	1	1.2
Động cơ piston và xy lanh	1.3	1.2	1.5
Đai băng tải, dây, máy bơm,	1.1	1	1.2
Cẩu trục, thang máy, máy th	1.2	1	1.4
Thang máy và máy bơm ở m	1.6	1.5	1.8
Máy nén và máy bơm psiton	1.3	1.2	1.5
Máy phay bàn,máy cán ống,	1.6	1.5	1.8
Máy xới đất, máy khoan sâu	2	1.5	2.5
Thùng sấy	1.4	1.3	1.5
Máy làm sợi và giấy	1.2	1	1.5
Máy thực phẩm	1.3	1.1	1.5
Máy mài, máy khoan, máy p	1.2	1.1	1.3
Máy tiện, máy cắt gọt với đ	1.5	1.4	1.6
Máy cán, búa rèn, máy uốn k	1.6	1.3	2
Máy cán thô, máy phá.	2.2	1.5	3

Additional dynamic forces 3

Đai răng	1.2	1.1	1.3
Đai thang	2.2	1.9	2.5

Đai dẹt	3	1.5	4.5

Clearance

Normal clearance
Radial internal clearance C3
Radial internal clearance C4

Pairing 1

Single bearing
Matched bearings pair

Pairing 2

Single bearing
Matched bearings pair, tandem arrangement
Matched bearings pair, back-to-back arrangement
Matched bearings pair, face-to-face arrangement

Sealing 1

Thiết kế mở
Vòng đệm một bên
Vòng đệm hai bên
Vòng chắn một bên
Vòng chắn hai bên

Sealing 2

Thiết kế mở
Vòng chắn một bên
Vòng chắn hai bên

Sealing 3

Thiết kế mở
Vòng đệm hai bên
Vòng chắn hai bên

Sealing 4

Thiết kế mở
Vòng chắn hai bên

Sealing 5

Thiết kế mở
Vòng đệm hai bên

Design of cylindrical roller bearings 1

Design	
Design N	N
Design NU	NU
Design NUB	NUB
Design NJ	NJ
Design NF	NF
Design NUP	NUP

Design of cylindrical roller bearings 2 and 3

Design NN	NN

Design NNU	NNU
Design NNUP	NNUP

Design of cylindrical roller bearings 4

Design NCF	NCF
Design NJG	NJG

Design of cylindrical roller bearings 5

Design NNCL	NNCL
Design NNCF	NNCF
Design NNC	NNC
Design NNF, Vòng đệm hai b	NNF

Design of needle roller bearings

With flanges
With flanges, Thiết kế mở
With flanges, Vòng đệm một bên
With flanges, Vòng đệm hai bên
Without flanges

Design of spherical roller bearings

Thiết kế mở
Vòng đệm hai bên
For vibratory applications

Design of toroidal roller bearings 1

With cage
Full complement
Vòng đệm hai bên

Design of toroidal roller bearings 2

With cage
Full complement

Design of thrust ball bearings

with sphered housing washer
Single direction
Single direction, with sphered housing washer
Double direction
Double direction, with sphered housing washer

Washers for needle roller thrust bearings 1

Washer	
Washer 1 - none	none
Washer 1 - thrust washer, se	thrust washer, series AS
Washer 1 - raceway washer,	raceway washer, series LS
Washer 1 - bearing washer, s	bearing washer, series WS
Washer 1 - bearing washer, s	bearing washer, series GS

Washers for needle roller thrust bearings 1

Washer 2 - none
Washer 2 - thrust washer, series AS
Washer 2 - raceway washer, series LS

Washer 2 - bearing washer, series WS	
Washer 2 - bearing washer, series GS	

Minimum load

Minimum radial load	Frmin
Minimum axial load	Famin
Minimum equivalent load	Pmin
Minimum equivalent load	P0min

Contamination level

Extreme cleanliness	1	1	1	1			
High cleanliness	0.7	0.8	0.8 - 0.6	0.9 - 0.8	0.8	0.6	0.9
Normal cleanliness	0.6	0.7	0.6 - 0.5	0.8 - 0.6	0.6	0.5	0.8
Slight contamination	0.4	0.5	0.5 - 0.3	0.6 - 0.4	0.5	0.3	0.6
Typical contamination	0.2	0.3	0.3 - 0.1	0.4 - 0.2	0.3	0.1	0.4
Severe contamination	0.1	0.1	0.1 - 0	0.1 - 0	0.1	0	0.1
Very severe contamination	0	0	0	0			

Reliability

90 %	1
91 %	0.93
92 %	0.86
93 %	0.78
94 %	0.7
95 %	0.62
96 %	0.53
97 %	0.44
98 %	0.33
99 %	0.21
99,5 %	0.13
99,9 %	0.05

Viscosity grading systems

ISO 3448	40 °C	100 °C
	0.5	0.291
ISO VG 2	2.2	0.74
ISO VG 3	3.2	0.995
ISO VG 5	4.6	1.44
ISO VG 7	6.8	1.83
ISO VG 10	10	2.36
ISO VG 15	15	3.12
ISO VG 22	22	4.06
ISO VG 32	32	5.24
ISO VG 46	46	6.69
ISO VG 68	68	8.7
ISO VG 100	100	11.3
ISO VG 150	150	14.8
ISO VG 220	220	19.1
ISO VG 320	320	24.6
ISO VG 460	460	31.4
ISO VG 680	680	41
ISO VG 1000	1000	53.3
ISO VG 1500	1500	70.5

	2500	100
	5000	163
	10000	266
	50000	846
	100000	1405

Table autoscale

0	0.1
20	0.2
60	0.3
120	0.4
240	0.6
480	0.8
800	1
1200	1.5
1800	2
2400	4

Coefficients 1

fo*Fa/C0	e	X	Y	e	X	Y	e
0.172	0.19	0.56	2.3	0.29	0.46	1.88	0.38
0.345	0.22	0.56	1.99	0.32	0.46	1.71	0.4
0.689	0.26	0.56	1.71	0.36	0.46	1.52	0.43
1.03	0.28	0.56	1.55	0.38	0.46	1.41	0.46
1.38	0.3	0.56	1.45	0.4	0.46	1.34	0.47
2.07	0.34	0.56	1.31	0.44	0.46	1.23	0.5
3.45	0.38	0.56	1.15	0.49	0.46	1.1	0.55
5.17	0.42	0.56	1.04	0.54	0.46	1.01	0.56
6.89	0.44	0.56	1	0.54	0.46	1	0.56

Coefficients 2

type	e	X	Y	Y0	X	Y1	Y2
B	1.14	0.35	0.57	0.26	0.57	0.55	0.93
C	1.03	0.36	0.62	0.28	0.59	0.62	1.01
AC	0.68	0.41	0.87	0.38	0.67	0.92	1.41
AG	0.8	0.39	0.76	0.33	0.63	0.78	1.24
C2	0.95	0.37	0.66	0.29			

Coefficients 3

fo*Fa/C0	e	Y
0.172	0.19	2.3
0.345	0.22	1.99
0.689	0.26	1.71
1.03	0.28	1.55
1.38	0.3	1.45
2.07	0.34	1.31
3.45	0.38	1.15
5.17	0.42	1.04
6.89	0.44	1

Coefficients 4

type	e	X	Y1	Y2	Y0
32 A, 33 A	0.8	0.63	0.78	1.24	0.66

33 DNRCBM	1.14	0.57	0.55	0.93	0.52
33 D	1.33	0.54	0.47	0.81	0.44
33 DMA	1.34	0.54	0.47	0.81	0.46
52 E	0.68	0.67	0.92	1.44	0.76
54 A	0.66	0.68	0.95	1.45	0.78

Coefficients 5

type	e	X	Y1	Y2	Y0
QJ	0.95	0.6	0.66	1.07	0.58
QJ 12	1.34	0.54	0.47	0.81	0.44

Coefficients 6

Lubrication	k1	k2	k1	k2	k1	k2	k1
Oil	1.5	0.15	0.5	0.05	1	0.3	0.35
Grease	1	0.1	0.3	0.03	0.5	0.15	0.2

Calculation table		e	X	Y	X0	Y0	Frmax
T_CALCA01	d	D	B	C	C0	Pu	nr
FALSE	FALSE	0	0	0	0.6	0.5	0
0	ramax	Damax	damin			f0*Fa/C0	kr
0	11	12	13			0	0
	1	1	2	1.62	2	2	0.8
T_CALCA02	d	D	B	C	C0	Pu	nr
TRUE	FALSE	#NAME?	#NAME?	#NAME?	0.6	0.5	0
#NAME?	ramax	Damax	damin	D3	c	b	0
902	11	12	13	14	15	16	0.025
T_CALCA03	d	D	B	C	C0	Pu	nr
FALSE	FALSE	0	0	0	0.6	0.5	0
0	ramax	Damax	damin				f0*Fa/C0
0	11	12	13				0
	1	1	2	1.62	2	2	0.8
T_CALCA04	d	D	B	C	C0	Pu	nr
FALSE	FALSE	0	0	0	0.6	0.5	0
0	ramax	damin	D3	c			f0*Fa/C0
0	11	12	13	14			0
T_CALCA05	d	D	B	C	C0	Pu	nr
FALSE	FALSE	0	1	1	1	0.5	0
0	ramax	Damax	damin				
0	11	12	13				
T_CALCA06	d	D	B	C	C0	Pu	nr
FALSE	FALSE	0	1	1	1	0.5	0
0	ramax	Damax	damin	D3	c	b	
0	11	12	13	14	15	16	
T_CALCA07	d	D	B	C	C0	Pu	nr
FALSE	FALSE	0	0	0	0.6	0.5	0
0	ramax	Damax	damin				f0*Fa/C0
0	11	12	13				0
T_CALCC01	d	D	B	C	C0	Pu	nr
FALSE	FALSE	0	0	0	0.5	0	0

0	ramax	rbmax	Damax	damin	Dbmax		type
0	11	12	13	14	15		0
T_CALCC02	d	D	2B	C	C0	Pu	nr
FALSE	FALSE	0	0	0	0.5	0	0
0	ramax	Damax	damin				type
0	11	13	14				0
T_CALCC03	d	D	2B	C	C0	Pu	nr
FALSE	FALSE	0	0	0	1	0	0
0	ramax	rbmax	Damax	damin			type
0	11	12	13	14			0
T_CALCC04	d	D	B	C	C0	Pu	nr
FALSE	FALSE	0	0	0	1	0	0
0	ramax	Damax	damin				
0	11	12	13				
T_CALCC05	d	D	B	C	C0	Pu	nr
FALSE	FALSE	0	0	0	1	0	0
0	ramax	damin	D3	c	b		
0	11	12	13	14	15		
T_CALCC06	d	D	B	C	C0	Pu	nr
FALSE	FALSE	0	0	0	1	0	0
0	ramax	Damax	damin				
0	11	12	13				
T_CALCD01	d	D	B	C	C0	Pu	nr
FALSE	FALSE	0	0	0	1	0	0
0	ramax	Damax	damin				
0	11	12	13				
T_CALCD02	d	D	B	C	C0	Pu	nr
FALSE	FALSE	0	0	0	1	0	0
0	ramax	Damax					
0	11	12					
T_CALCD03	d	D	B	C	C0	Pu	nr
FALSE	FALSE	0	0	0	1	0	0
0	C	ramax	Damax				
0	11	12	13				
T_CALCE01	d	D	B	C	C0	Pu	nr
FALSE	FALSE		1	0	1	0	0
0							
0	11	12	13	14	15	16	17
36	ramax	rbmax	Damin	Damax	damin	damax	s
37	ramax	rbmax	Damax	damin	damax	dbmin	s
38	C	ramax	rbmax	Damax	damax	dbmin	s
T_CALCE02	d	D	B	C	C0	Pu	nr
FALSE	FALSE	0	0	0	1	0	0
0						k1	k2
0	11	12	13	14	15	0	0
39	ramax	Damax	damin	damax	dbmin		
40	ramax	Damax	damin				
41	ramax	Damax	damin	dbmin			
T_CALCE03	d	D	B	C	C0	Pu	nr
FALSE	FALSE		1	0	1	0	0
0							
0	11	12	13	14	15	16	17
42	ramax	rbmax	Damin	Damax	damin	s	

43	ramax	rbmax	Damax	damin	damax	dbmin	s
T_CALCE04	d	D	B	C	C0	Pu	nr
FALSE	FALSE	0.1	0	0	1	0	0
0	ramax	rbmax	Damax	damin		k1	k2
0	11	12	13	14		0	0
T_CALCE05	d	D	B	C	C0	Pu	nr
FALSE	FALSE		1	0	1	0	0
0							
0	11	12	13	14	15		
45	rbmax	Damin	Damax	damin	s		
46	rbmax	Damax	damin	damax	s		
T_CALCE06	d	D	B	C	C0	Pu	nr
FALSE	FALSE	0	0	0	1	0	0
0						k1	k2
0	11	12	13	14	15	0	0
47	ramax	rbmax	Damax	damin	Dbmax		
48	ramax	Damax	damin	dbmax			
T_CALCE07	d	D	B	C	C0	Pu	nr
FALSE	FALSE		1	0	1	0	0
0	ramax	Damax	damin				
0	11	12	13				
T_CALCE08	d	D	B	C	C0	Pu	nr
FALSE	FALSE	0.15	0	0	1	0	0
0	ramax	Damax	damin			k1	k2
0	11	12	13			0	0
T_CALCE09	d	D	B	C	C0	Pu	nr
FALSE	FALSE	0.15	0	0	1	0	0
0	C	ramax	rbmax	Damax	damin	k1	k2
0	11	12	13	14	15	0	0
T_CALCF01	d	D	B	C	C0	Pu	nr
FALSE	FALSE		1	0	1	0	0
0							
0	11	12	13	14	15	16	
53	ramax	Damax	damin	s			
54	C	ramax	Damax	damin			
55	C	ramax	Damax	damin			
56	ramax	Da	da	Db	db	s	
57	ramax	Damax					
58	ramax	Damax					
59	ramax	Damax					
60	ramax	Da	da	db			
T_CALCH01	d	D	T	C	C0	Pu	nr
FALSE	FALSE	0	0	0	0.5	0	0
0	C	B	ramax	rbmax	Damax	Damin	damax
0	11	12	13	14	15	16	17
T_CALCH02	d	D	T	C	C0	Pu	nr
FALSE	FALSE	0	0	0	1	0	0
0	C	ramax	romax	dbmin	Dbmin		
0	11	12	13	14	15		
T_CALCH03	d	D	T	C	C0	Pu	nr
FALSE	FALSE	0	0	0	1	0	0
0	2B	ramax	rbmax	Damax	Damin	damax	
0	11	12	13	14	15	16	

T_CALCI01	d	D	B	C	C0	Pu	nr
FALSE	FALSE	0	0	0	1	0	0
0	ramax	Damax	damin	damax			
0	11	12	13	14			
T_CALCI02	d	D	B	C	C0	Pu	nr
FALSE	FALSE	0	0	0	1	0	0
0	ramax	Damax					
0	11	12					
T_CALCJ01	d	D	B	C	C0	Pu	nr
FALSE	FALSE		1	0	1	0	0
0							
0	11	12	13	14	15	16	
71	ramax	Damin	Damax	damin	damax	s1	
72	ramax	Damax	damin	damax	s1	s2	
73	ramax	Damax	damin	damax	s2		
T_CALCJ02	d	D	B	C	C0	Pu	nr
FALSE	FALSE		1	0	1	0	0
0							
0	11	12	13	14	15	16	
74	ramax	Damin	Damax	damin	damax	s1	
75	ramax	Damax	damin	damax	s1	s2	
T_CALCK01	d	D	H	C	C0	Pu	nr
FALSE	FALSE		0	1	0	1	0
0							
0	11	12	13	14	15	16	17
76	ramax	Damax	damin				
77	D3	H	R	ramax	Damax	damin	
78	D1	ramax	rbmax	Damax	damax		
79	D1	D3	H	R	ramax	rbmax	Damax
T_CALCM01	d	D	H	C	C0	Pu	nr
FALSE	FALSE		0	1	0	1	0
0	ramax	Damax	damin				
0	11	12	13				
T_CALCN01	d	D	Dw	C	C0	Pu	nr
FALSE	FALSE		0	1	0	1	0
0	B1	B2	B3	D1	d1		
0	11	12	13	14	15		
T_CALCP01	d	D	H	C	C0	Pu	nr
FALSE	FALSE		1.2	1	2.7	1	0
0	H1	ramax	Damax	damin			A
0	11	12	13	14			0

Calculation table for angular contact bearings

T_AngularA1	type	e	coef	X	Y
TRUE	1	1.14	#NAME?	#NAME?	#NAME?
#NAME?	1	0	0		TRUE
T_AngularB1	type	e	coef	X	Y
TRUE	1	1.14	#NAME?	#NAME?	#NAME?
#NAME?	1	0	0		FALSE
T_AngularA2	YA	e	coef	X	Y
FALSE	0	0	0	0	0
0	1	0	0	FALSE	FALSE
T_AngularB2	YB	e	coef	X	Y

FALSE	0	0	0	0	0
0	1	0	0	TRUE	TRUE

Special drawing sizes

r1	r2	r3	r4	fo
1	1	1	1	15

Drawing table

T_Draw1	1	12	1	12	16	16	
9	26.5	16	16	26.5	0	0	
2					0	13	
T_Draw2	1	5.5	1	5.5	16	26.5	16
15	26.5	16	16	26.5	0	0	0
3	2	6.5	2	6.5	0	6.5	13
T_Draw3	1	12	1	12	16	16	
13	26.5	16	16	26.5	0	0	
2					0	13	
T_Draw4	1	12	1	12	16	16	
12	26.5	16	16	26.5	0	0	
2					0	13	
T_Draw5	1	12	1	12	15.4	16	
9	26.5	16	16	26.5	0	0	
2					0	13	
T_Draw6	1	5.5	1	5.5	15.4	26.5	16
17	26.5	16	16	26.5	0	0	0
3	2	6.5	2	6.5	0	6.5	13
T_Draw7	1	5.5	1	5.5	16	26.5	16
15	26.5	16	16	26.5	0	0	0
3	2	6.5	2	6.5	0	6.5	13
T_Draw8	1	5.5	1	5.5	15.4	27.1	15.4
15	26.5	16	16	26.5	0	0	0
3	2	6.5	2	6.5	0	6.5	13
T_Draw9	1	12	1	12	16	16	
13	26.5	16	16	26.5	0	0	
2					0	13	
T_Draw10	1	11	1	12	16	26.5	
9	26.5	17	16	26.5	0	0	
2					0	13	
T_Draw11	7	6	7	6	16	16	
15	26.5	16	16	26.5	0	0	
2					0	13	
T_Draw12	1	12	1	12	16	16	
9	26.5	16	16	26.5	0	0	
2					0	13	
T_Draw13	7	6	7	6	16	16	
13	26.5	16	16	26.5	0	0	
2					0	13	
T_Draw14	1	12	1	12	16	16	
9	26.5	16	16	26.5	0	0	
2					0	13	
T_Draw15	1	11	1	12	16	26.5	
9	26.5	18	16	26.5	0	0	
2					0	13	

T_Draw16	12.4	49.4	1	12.6	16	16	27.1
13	27.1	16	16	27.1	0	0	0
3					0	50.4	13
T_Draw17	12.4	-1	1	37.8	16	15.5	16
25	27.1	16	16	27.1	0	0	0
5	1	-25.2	1	-25.2	0		-25.2
T_Draw18	7	-1	1	37.2	16	15.5	15.5
25	26.5	16	16	26.5	0	0	0
4	2	6.5	2	6.5	0		13
T_Draw19	1	5.5	7	48	26.5	16	16
22	26.5	16	16	26.5	0	0	0
5	2	6.5	2	6.5	0	6	6.5
T_Draw20	1	12	1	12	16	15	0.2
13	23.5	1.2	16	26.5	0	0	0
4					0	4.333	8.667
T_Draw21	1	12	1	12	1.5	0.5	15.4
15	26.5	1.5	1.5	26.5	0	0	0
13					0	2.167	-18
T_Draw22	1	49.4	1	49.4	16	15	0.2
16	18.1	1.2	16	26.5	0	0	0
5					0	16.8	33.6
T_Draw23	-9.8	22.8	-9.8	22.8	20.1	1.5	0.5
25	26.5	1.5	1.5	26.5	0	0	0
14					0	-10.8	-5.033
T_Draw24	1	12	1	12	16	15.5	0.2
16	23.5	1.2	16	26.5	0	0	0
4					0		
T_Draw25	1	12	1	12	15	15	15
17	26.5	16	16	26.5	0	0	0
4					0	0	13

0.8
0.6
0.4
0.2
0

X	Y
0.44	1.47
0.44	1.4
0.44	1.3
0.44	1.23
0.44	1.19
0.44	1.12
0.44	1.02
0.44	1
0.44	1

Y0
0.52
0.56
0.76
0.66

k2
0.1
0.06

Famax	Fmin
nmax	g
0	0
ka	fo
0	0
1	2
nmax	g
2075	22.409063
ka	fo
0.25	15
nmax	g
0	0
kr	fo
0	0
1	2
nmax	g
0	0
kr	fo
0	0
nmax	g
0	0
kr	fo
0	0
nmax	g
0	0
kr	fo
0	0
nmax	g
0	0
kr	fo
0	0
nmax	g
0	0

kr	ka
0	0
nmax	g
0	0
kr	ka
0	0
nmax	g
0	0
kr	ka
0	0
nmax	g
0	0
type	kr
0	0
nmax	g
0	0
type	kr
0	0
nmax	g
0	0
type	ka
0	0
nmax	g
0	0
nmax	g
0	0
	taper
	12
nmax	g
0	0
nmax	g
0	0
kr	F
0	38.2
nmax	g
0	0
kr	Y
0	0
nmax	g
0	0
kr	
0	

nmax	g
0	0
kr	
0	
nmax	g
0	0
kr	taper
0	0
nmax	g
0	0
kr	Y
0	0
nmax	g
0	0
kr	
0	
nmax	g
0	0
kr	
0	
nmax	g
0	0
kr	d1
0	0
nmax	g
0	0
	F
	0.4
nmax	g
0	0
dbmin	Dbmin
18	19
nmax	g
0	0
nmax	g
0	0

nmax	g
0	0
nmax	g
0	0
	taper
	0
nmax	g
0	0
kc	
0	
0.007	
0.01	
0.01	
nmax	g
0	0
kc	taper
0	0
0.007	
0.01	
nmax	g
0	0
	A
18	0
damin	
nmax	g
0	0
	A
	0
nmax	g
0	0
nmax	g
0	0
Fmin	Type
0	0

	1	0	0	1	12	13	13
	15	16	26.5	27.5	27.5	26.5	16
		1	0	2	0	3	0
	1	0	0	1	5.5	6.5	7.5
	15	16	26.5	27.5	27.5	26.5	27.5
		1	0	2	0	3	2
	1	0	0	1	2.06	2.06	3.41
	15	16	26.5	27.5	27.5	26.3	26.3
		1	0	2	0	0	0
	1	0	0	1	52.6	52.6	53.6
	15	16	16.3	17.3	17.3	28.5	27.5
		1	0	2	0	0	1
	0.4	0	0	1	12.6	13	13
	15	15.4	26.5	27.5	27.5	27.1	16
		1	0	2	0	3	0
	0.4	0	0	1	6.1	6.5	6.5
	15	15.4	26.5	27.5	27.5	27.1	26.5
		1	0	2	0	3	0
	1	0	0	0.4	5.5	6.5	7.5
	15	16	27.1	27.5	27.5	26.5	27.5
		1	0	2	0	3	2
	0.4	0	0	1	6.1	6.5	6.9
	15	15.4	26.5	27.5	27.5	27.1	27.5
		1	0	2	0	3	2
	1	0	0	1	52.6	52.6	54.66
	15	16	26.5	27.5	27.5	17.3	17.3
		1	0	2	0	0	0
	12	13	13	12	1	0	0
	27.5	26.5	16.366667	15.366667	15	16	26.5
		3	0	4	0	1	0
	1	0	0	1	6	6	7
	15	16	23.5	24.5	24.5	26.5	27.5
		1	0	2	0	0	2
	1	0	0	1	12	13	13
	15	16	26.5	27.5	27.5	26.5	16
		1	0	2	0	3	0
	1	0	0	6	6	7	6
	15	16	7.5	7.5	26.5	27.5	27.5
		1	0	0	0	2	0
	0	0	0	1	12	13	13
	15	16	26.5	27.5	27.5	26.5	16
		0	0	2	0	3	0
	12	13	13	12	1	0	0
	27.5	26.5	16.366667	15.366667	15	16	26.5
		3	0	4	0	1	0

		1	0	0	12	12	12.2	12.6
		15	16	24.5	24.5	27.3	27.5	27.5
			1	0	0	0	2	0
16	27.1	1	0	0	12	12	12.2	37.8
0	0	15	16	24.5	24.5	27.3	27.5	27.5
50.4	13		1	0	0	0	2	0
16		1	0	0	6	6	6.4	37.2
0		15	16	24.5	24.5	27.1	27.5	27.5
13			1	0	0	0	2	0
16	26.5	6.4	6	6	0	0	1	48.6
0	0	15	15.4	22.8125	22.8125	26.5	27.5	27.5
7	13		1	0	0	0	2	0
1.2		4.333	4.333	1	0	0	1	8.667
0		0.2	15	15	16	23.5	24.5	24.5
13			0	0	1	0	2	0
		31	31	30.6	-17.6	-18	-18	1
		0.5	15.4	15	15	15.4	0.5	0.5
			0	4	0	1	0	0
1.2	25.5	16.8	16.8	1	0	0	1	13
0	0	0.2	15	15	16	18.1	19.1	19.1
50.4	13		0	0	1	0	2	0
15.4		31	31	30.6	-17.6	-18	-18	-9.8
0		0.5	15.4	15	15	15.4	0.5	0.5
-18			0	4	0	1	0	0
0.7		1	0	0	1	12	12	12.5
0		15	16	23.5	24.5	24.5	27	27.5
13			1	0	2	0	0	2
15		0	0	0	0	0	0	0
0		15	16.25	17.5	18.75	20	21.25	22.5
13			0	0	0	0	0	0

12 15 4	1 15 0							
12 27.5 0	13 26.5 3	13 16 0	12 15 4	7.5 15 0	6.5 16 1	5.5 15 4	1 15 0	
3.41 27.5 0	12 27.5 0	13 26.5 3	13 16 0	12 15 4	1 15 0			
12 27.5 0	13 26.5 3	13 16 0	12 15 4	1 15 0				
12 15 4	0.4 15 0							
7.5 27.5 2	12.6 27.5 0	13 27.1 3	13 16 0	12 15 4	6.9 15 0	6.5 15.4 1	6.5 16 0	5.5 15 4
12.6 27.5 0	13 27.1 3	13 16 0	12 15 4	6.9 15 0	6.5 15.4 1	6.1 15 4	1 15 0	
12 27.5 0	13 26.5 3	13 15.4 0	12.6 15 4	7.5 15 0	6.5 16 1	5.5 15 4	0.4 15 0	
54.66 27.5 0	12 27.5 0	13 26.5 3	13 16 0	12 15 4	1 15 0			
1 27.5 2	12 27.5 0							
6 27.5 0	7 26.5 3	7 24.5 0	12 24.5 0	13 23.5 3	13 16 0	12 15 4	1 15 0	
12 15 4	1 15 0							
7 26.5 3	7 7.5 0	13 7.5 0	13 16 0	12 15 4	1 15 0			
13 15 0	0 15 0							
1 27.5 2	12 27.5 0							

13 27.1 3	13 22.8125 0	50.4 22.8125 0	50.4 15.5 0	49.9 15 4	1 15 0			
38.2 27.1 3	38.2 27.5 0	13 27.5 0	13 27.3 0	13.2 27.5 2	12.6 27.5 0	13 27.1 3	13 22.8125 0	50.4 22.8125 0
38.2 26.5 3	38.2 27.5 0	-25.2 27.5 0	-25.2 26.5 0	-24.2 27.5 2	6.6 27.5 0	7 27.1 3	7 24.5 0	13 24.5 0
49 27.1 3	49 27.5 0	-36 27.5 0	-36 27.1 0	-35.6 27.5 2	12 27.5 0	13 26.5 3	13 22.8125 0	7 22.8125 0
8.667 27.5 0	12 27.5 0	13 26.5 3	13 1.2 0	12 0.2 4	4.333 0.2 0			
0 1.5 1	0 26.5 0	1 27.5 2	12 27.5 0	13 26.5 3	13 1.5 0	12 0.5 4	31 0.5 0	
13 0.5 0	12 0.5 0	13 -0.5 3	13 25.5 0	12 24.5 4	50.4 24.5 0	50.4 1.2 0	49.4 0.2 4	16.8 0.2 0
-10.8 1.5 1	-10.8 19.1 0	1 19.1 0	0 20.1 1	0 24.2 0	1 25.2 2	25.2 0	27.5 0	13 27.5 0
12 27.5 0	13 26.5 3	13 0.7 0	12.5 0.2 4	0.2 0	16 0	15.5 0	-0.5 15 4	1 15 0
0 27.5 0	13 27.5 0	13 26.25 0	13 25 0	13 23.75 0	13 22.5 0	13 21.25 0	13 20 0	13 15 0

0.4
15
0

50.4 15.5 0	49.9 15 4	-24.2 15 0	-25.2 16 1	-25.2 15 0	15 0	15.5 0	-0.5 15 4	1 15 0
13 16 0	12 15 4	13.4 15 0	13 15.4 1	13 15 0	15 0	15.4 0	-0.4 15 4	1 15 0
7 15.4 0	6.6 15 4	7.5 15 0	6.5 16 1	5.5 15 4	6.4 15 0			
13 25.2 0	12 25.2 0	13 24.2 3	13 20.1 0	12 19.1 4	23.8 19.1 0	23.8 1.5 0	22.8 0.5 4	31 0.5 0
								16
0 15 0						27.5 15 1.25	15 0 0	27.5 0 0

Bearings type

		Units	Group	Group design	Load	Famax
1	Ổ bi có rãnh sâu, một dãy	1	1	1	3	2
2	Ổ bi có rãnh sâu, một dãy, có rãnh lắp vòng	1	1	1	3	2
3	Ổ bi có rãnh sâu, một dãy, thép không rỉ	1	1	1	3	2
4	Ổ bi có rãnh sâu, một dãy, thép không rỉ, có	1	1	1	3	2
5	Ổ bi có rãnh sâu, một dãy, có rãnh châm d	1	1	1	3	1
6	Ổ bi có rãnh sâu, một dãy, có rãnh châm dẫ	1	1	1	3	1
7	Ổ bi có rãnh sâu, hai dãy	1	1	1	3	2
8	Ổ bi tiếp xúc góc, một dãy	1	3	1	3	0
9	Ổ bi tiếp xúc góc, hai dãy	1	3	1	3	0
10	Ổ bi tiếp xúc góc, hai dãy, có rãnh lắp vòng	1	3	1	3	0
11	Ổ bi tiếp xúc bốn điểm	1	3	1	3	0
12	Ổ bi tự lựa, có lồ trụ	1	4	5	3	0
13	Ổ bi tự lựa, có lỗ côn	1	4	5	3	0
14	Ổ bi tự lựa, có vòng đệm trong kéo dài	1	4	5	3	0
15	Ổ đũa trụ, một dãy	1	5	2	1	1
16	Ổ đũa trụ, hai dãy , có lỗ tròn	1	5	2	1	1
17	Ổ đũa trụ, hai dãy , có lỗ côn	1	5	2	1	1
18	Ổ đũa trụ bổ sung đầy đủ, một dãy	1	5	2	3	1
19	Ổ đũa trụ bổ sung đầy đủ, hai dãy	1	5	2	1	1
20	Ổ kim, có vòng đệm trong	1	6	2	1	1
21	Ổ kim, không có vòng đệm trong	1	6	2	1	1
22	Ổ đũa côn, một dãy	1	8	2	3	0
23	Ổ đũa cầu, có lồ trụ	1	9	2	3	0
24	Ổ đũa cầu, có lỗ côn	1	9	2	3	0
25	Ổ đũa xoắn, có lồ trụ	1	10	2	1	1
26	Ổ đũa xoắn, có lỗ côn	1	10	2	1	1
27	Ổ bi chặn	1	11	3	2	0
28	Ổ đũa trụ chặn	1	13	4	2	0
29	Ổ kim chặn	1	14	4	2	0
30	Ổ đũa cầu chặn	1	16	4	3	0

Bearings design

		Display sizes	Draw sizes		Fmin	Sealed
			Start	ID		
1	Deep groove ball bearings, single row, unse	3	17	3	1	0
2	Deep groove ball bearings, single row, seal	3	17	3	1	1
3	Deep groove ball bearings, single row, seals	3	17	3	1	1
4	Deep groove ball bearings, single row, shiel	3	17	3	1	0
5	Deep groove ball bearings, single row, shiel	3	17	3	1	0
6	Deep groove ball bearings, single row, with	6	21	4	1	0
7	Deep groove ball bearings, single row, with	6	21	4	1	0
8	Deep groove ball bearings, single row, with	6	21	4	1	0
9	Deep groove ball bearings, single row, stain	3	16	3	1	0
10	Deep groove ball bearings, single row, stain	3	16	3	1	1
11	Deep groove ball bearings, single row, stain	3	16	3	1	0
12	Deep groove ball bearings, single row, stain	4	17	3	1	0
13	Deep groove ball bearings, single row, stain	4	17	3	1	0
14	Deep groove ball bearings, single row, with	3	16	3	1	0
15	Deep groove ball bearings, single row, with	3	16	3	1	0

16	Deep groove ball bearings, single row, with	3	16	3	1	0
17	Deep groove ball bearings, single row, with	6	20	4	1	0
18	Deep groove ball bearings, single row, with	6	20	4	1	0
19	Deep groove ball bearings, single row, with	6	20	4	1	0
20	Deep groove ball bearings, single row, with	filling slots,	without cage			
21	Deep groove ball bearings, double row	3	16	3	1	0
22	Angular contact ball bearings, single row	5	19	5	2	0
23	Angular contact ball bearings, single row, fo	3	19	5	2	0
24	Angular contact ball bearings, single row, fo	4	19	5	1	0
25	Angular contact ball bearings, single row, fo	4	19	5	1	0
26	Angular contact ball bearings, double row	3	16	3	1	0
27	Angular contact ball bearings, double row, s	3	16	3	1	1
28	Angular contact ball bearings, double row, s	3	16	3	1	0
29	Angular contact ball bearings, double row, w	5	18	4	1	0
30	Four-point contact ball bearings	3	16	3	2	0
31	Self-aligning ball bearings, with cylindrical b	3	18	3	4	0
32	Self-aligning ball bearings, with cylindrical b	3	18	3	4	1
33	Self-aligning ball bearings, with tapered bor	2	17	3	4	0
34	Self-aligning ball bearings, with tapered bor	2	17	3	4	1
35	Self-aligning ball bearings, with extended in	3	18	3	4	0
36	Cylindrical roller bearings, single row - N	7	19	4	1	0
37	Cylindrical roller bearings, single row - NU	7	20	4	1	0
38	Cylindrical roller bearings, single row - NUB	7	19	4	1	0
39	Cylindrical roller bearings, single row - NJ	5	20	5	1	0
40	Cylindrical roller bearings, single row - NF	3	18	5	1	0
41	Cylindrical roller bearings, single row - NUP	4	18	5	1	0
42	Cylindrical roller bearings, double row, with	6	18	4	1	0
43	Cylindrical roller bearings, double row, with	7	19	4	1	0
44	Cylindrical roller bearings, double row, with	4	16	5	1	0
45	Cylindrical roller bearings, double row, with	5	18	4	1	0
46	Cylindrical roller bearings, double row, with	5	18	4	1	0
47	Full complement cylindrical roller bearings,	5	20	5	1	0
48	Full complement cylindrical roller bearings,	4	19	4	1	0
49	Full complement cylindrical roller bearings,	3	15	3	1	0
50	Full complement cylindrical roller bearings,	3	15	3	1	0
51	Full complement cylindrical roller bearings,	3	15	3	1	0
52	Full complement cylindrical roller bearings,	5	17	5	1	1
53	Needle roller bearings, with inner ring, with	4	15	2	1	0
54	Needle roller bearings, with inner ring, with	4	15	2	1	1
55	Needle roller bearings, with inner ring, with	4	15	2	1	1
56	Needle roller bearings, with inner ring, witho	6	17	3	1	0
57	Needle roller bearings, without inner ring, w	2	13	2	1	0
58	Needle roller bearings, without inner ring, w	2	13	2	1	1
59	Needle roller bearings, without inner ring, w	2	13	2	1	1
60	Needle roller bearings, without inner ring, w	4	15	2	1	0
61	Taper roller bearings, single row	9	26	3	1	0
62	Taper roller bearings, single row, for paired	9	26	7	1	0
63	Taper roller bearings, single row, for paired	5	22	7	1	0
64	Taper roller bearings, single row, for paired	6	22	3	1	0
65	Spherical roller bearings, with cylindrical bo	3	18	3	4	0
66	Spherical roller bearings, with cylindrical bo	4	19	3	4	1
67	Spherical roller bearings, with cylindrical bo	3	18	3	4	0
68	Spherical roller bearings, with tapered bore,	2	18	3	4	0

69	Spherical roller bearings, with tapered bore,	2	18	3	4	1
70	Spherical roller bearings, with tapered bore,	2	18	3	4	0
71	Toroidal roller bearings, with cylindrical bore	6	19	3	4	0
72	Toroidal roller bearings, with cylindrical bore	6	19	3	4	0
73	Toroidal roller bearings, with cylindrical bore	5	18	3	4	1
74	Toroidal roller bearings, with tapered bore, v	6	20	3	4	0
75	Toroidal roller bearings, with tapered bore, f	6	20	2	4	0
76	Thrust ball bearings, single direction	3	15	3	2	0
77	Thrust ball bearings, single direction, with sp	6	18	6	2	0
78	Thrust ball bearings, double direction	5	17	3	2	0
79	Thrust ball bearings, double direction, with s	8	20	6	2	0
80	Cylindrical roller thrust bearings	3	16	3	2	0
81	Needle roller thrust bearings	5	16	3	2	0
82	Spherical roller thrust bearings	4	17	7	2	0
83						
84						
85						

Type of angular contact bearings

		Type ID	Paired	Design ID		Calc A
1	Ổ bi tiếp xúc góc	8	1	22	23	T_AngularA
2	Ổ đũa côn	22	1	61	62	T_AngularA

Adjustment factor fp

1	for radial ball bearings	0.05	0.1	0.2	0.3	0.4
	20	1	0.94	0.8	0.7	0.61
	70	1	0.9	0.7	0.56	0.44
	120	1	0.85	0.6	0.42	0.3
	600	1	0.83	0.53	0.34	0.25
2	for radial roller bearings	0.05	0.1	0.15	0.2	0.25
	35	1	0.83	0.7	0.57	0.48
	150	1	0.7	0.53	0.39	0.29
	400	1	0.65	0.45	0.28	0.2
	600	1	0.52	0.31	0.18	0.12
3	for thrust ball bearings	0.05	0.1	0.15	0.2	0.25
	17	1	0.61	0.42	0.28	0.2
	500	1	0.51	0.3	0.18	0.13
4	for thrust roller bearings	0.025	0.05	0.075	0.1	0.125
	95	1	0.64	0.48	0.36	0.28
	300	1	0.55	0.37	0.26	0.2
5	for self-aligning ball bearings	0.05	0.1	0.2	0.3	0.4
	20	1	0.97	0.92	0.87	0.83
	70	1	0.96	0.91	0.84	0.78
	120	1	0.95	0.87	0.79	0.71

Adjustment factor fv

1	for radial ball bearings	0.05	0.1	0.2	0.3	0.4
	15	1.35	1.29	1.18	1.1	1.06
	32	1	1	1	1	1
	68	0.75	0.77	0.83	0.88	0.91
	150	0.62	0.66	0.74	0.8	0.85
	220	0.55	0.58	0.66	0.74	0.82
	460	0.4	0.43	0.52	0.61	0.7

2	for radial roller bearings	0.05	0.1	0.15	0.2	0.25
	32	1	1	1	1	1
	68	0.83	0.89	0.93	0.95	0.97
	150	0.75	0.81	0.87	0.91	0.94
	220	0.68	0.77	0.83	0.88	0.92
	460	0.5	0.62	0.72	0.8	0.86
3	for thrust ball bearings	0.05	0.1	0.15	0.2	0.25
	15	1.08	1.04	1.02	1.01	1
	32	1	1	1	1	1
	68	0.9	0.95	0.97	0.975	0.98
	150	0.84	0.9	0.94	0.965	0.975
	220	0.84	0.9	0.94	0.965	0.975
	460	0.72	0.85	0.92	0.94	0.96
4	for thrust roller bearings	0.025	0.05	0.075	0.1	0.125
	68	1	1	1	1	1
	150	0.92	0.95	0.97	0.98	0.985
	220	0.87	0.92	0.95	0.97	0.98
	460	0.73	0.84	0.9	0.93	0.95

SKF life modification factor a23

1	for radial ball bearings	0.005	0.01	0.02	0.05	0.1
	0.11	0.103	0.103	0.104	0.106	0.107
	0.15	0.108	0.111	0.114	0.121	0.125
	0.2	0.119	0.124	0.132	0.146	0.161
	0.3	0.143	0.158	0.178	0.221	0.274
	0.4	0.167	0.192	0.23	0.315	0.436
	0.5	0.19	0.225	0.282	0.421	0.636
	0.6	0.209	0.256	0.332	0.531	0.865
	0.8	0.242	0.308	0.423	0.752	1.38
	1	0.267	0.351	0.501	0.961	1.92
	1.5	0.311	0.427	0.649	1.4	3.22
	2	0.338	0.477	0.75	1.74	4.33
	3	0.37	0.537	0.878	2.2	6.01
	4	0.388	0.572	0.955	2.49	7.18
2	for radial roller bearings	0.005	0.01	0.02	0.05	0.1
	0.11	0.1	0.101	0.101	0.101	0.102
	0.15	0.102	0.103	0.103	0.105	0.107
	0.2	0.105	0.106	0.109	0.113	0.117
	0.3	0.112	0.116	0.122	0.133	0.146
	0.4	0.119	0.126	0.135	0.155	0.179
	0.5	0.125	0.134	0.148	0.177	0.213
	0.6	0.13	0.142	0.159	0.196	0.246
	0.8	0.138	0.154	0.177	0.231	0.306
	1	0.144	0.163	0.191	0.259	0.358
	1.5	0.154	0.178	0.215	0.309	0.458
	2	0.16	0.187	0.231	0.342	0.527
	3	0.167	0.197	0.248	0.383	0.614
	4	0.17	0.203	0.258	0.406	0.667
	for thrust ball bearings	0.005	0.01	0.02	0.05	0.1
	0.11	0.102	0.102	0.103	0.104	0.105
	0.15	0.106	0.107	0.109	0.113	0.116
	0.2	0.112	0.116	0.121	0.129	0.138
	0.3	0.128	0.136	0.148	0.171	0.197

3	0.4	0.142	0.156	0.175	0.216	0.267
	0.5	0.154	0.173	0.201	0.261	0.34
	0.6	0.165	0.188	0.223	0.303	0.414
	0.8	0.181	0.213	0.262	0.379	0.553
	1	0.194	0.232	0.292	0.442	0.679
	1.5	0.214	0.263	0.345	0.56	0.928
	2	0.226	0.283	0.378	0.639	1.11
	3	0.24	0.305	0.418	0.738	1.34
	4	0.247	0.318	0.44	0.797	1.49
4	for thrust roller bearings	0.005	0.01	0.02	0.05	0.1
	0.11	0.1	0.1	0.101	0.101	0.101
	0.15	0.101	0.102	0.102	0.103	0.104
	0.2	0.103	0.104	0.106	0.109	0.111
	0.3	0.108	0.111	0.115	0.122	0.13
	0.4	0.113	0.117	0.123	0.135	0.149
	0.5	0.117	0.123	0.131	0.148	0.168
	0.6	0.12	0.127	0.137	0.159	0.185
	0.8	0.125	0.134	0.148	0.177	0.214
	1	0.129	0.14	0.156	0.191	0.238
	1.5	0.135	0.148	0.169	0.215	0.279
	2	0.138	0.154	0.177	0.231	0.306
	3	0.142	0.159	0.186	0.248	0.338
	4	0.144	0.163	0.191	0.258	0.357

Frmax	Design ID	Sp. des. count	Special design 1					
			Table A	Design ID				
0	1	3	T_Sealing1	1	2	3	4	5
0	6	2	T_Sealing2	6	7	8		
0	9	2	T_Sealing3	9	10	11		
0	12	1	T_Sealing4	12	13			
0	14	1	T_Sealing2	14	15	16		
0	17	1	T_Sealing2	17	18	19		
0	21	0						
0	22	1	T_Pairing2	22	23	24	25	
0	26	1	T_Sealing3	26	27	28		
0	29	0						
0	30	0						
0	31	1	T_Sealing5	31	32			
0	33	1	T_Sealing5	33	34			
0	35	0						
0	36	2	T_Design1	36	37	38	39	40
0	42	2	T_Design2	42	43	44		
0	45	1	T_Design3	45	46			
0	47	2	T_Design4	47	48			
0	49	2	T_Design5	49	50	51	52	
0	53	1	T_Design6	53	54	55	56	
0	57	1	T_Design6	57	58	59	60	
0	61	1	T_Pairing2	61	62	63	64	
0	65	1	T_Design7	65	66	67		
0	68	1	T_Design7	68	69	70		
0	71	1	T_Design8	71	72	73		
0	74	1	T_Design9	74	75			
1	76	1	T_Design1(	76	77	78	79	
1	80	0						
1	81	2	T_Washers1					
1	82	0						

Table		Picture	Draw	Special
Size	Calculation			
T_SKFA01	T_CALCA01	PIC_A01	T_Draw1	
T_SKFA02	T_CALCA01	PIC_A01	T_Draw1	
T_SKFA03	T_CALCA01	PIC_A01	T_Draw1	
T_SKFA04	T_CALCA01	PIC_A01	T_Draw1	
T_SKFA05	T_CALCA01	PIC_A01	T_Draw1	
T_SKFA06	T_CALCA02	PIC_A02	T_Draw3	
T_SKFA07	T_CALCA02	PIC_A02	T_Draw3	
T_SKFA08	T_CALCA02	PIC_A02	T_Draw3	
T_SKFA09	T_CALCA0	PIC_A01	T_Draw1	
T_SKFA10	T_CALCA0	PIC_A01	T_Draw1	
T_SKFA11	T_CALCA0	PIC_A01	T_Draw1	
T_SKFA12	T_CALCA0	PIC_A03	T_Draw4	
T_SKFA13	T_CALCA0	PIC_A03	T_Draw4	
T_SKFA14	T_CALCA0	PIC_A01	T_Draw1	
T_SKFA15	T_CALCA0	PIC_A01	T_Draw1	

T_SKFA16	T_CALCA0	PIC_A01	T_Draw1	
T_SKFA17	T_CALCA0	PIC_A02	T_Draw3	
T_SKFA18	T_CALCA0	PIC_A02	T_Draw3	
T_SKFA19	T_CALCA0	PIC_A02	T_Draw3	
T_SKFA20	T_CALCA0	PIC_A04	T_Draw1	
T_SKFC01	T_CALCC0	PIC_C01	T_Draw5	
T_SKFC02	T_CALCC0	PIC_C02	T_Draw6	
T_SKFC02	T_CALCC0	PIC_C03	T_Draw7	
T_SKFC02	T_CALCC0	PIC_C04	T_Draw8	
T_SKFC03	T_CALCC04	PIC_C05	T_Draw1	
T_SKFC04	T_CALCC04	PIC_C05	T_Draw1	
T_SKFC05	T_CALCC04	PIC_C05	T_Draw1	
T_SKFC06	T_CALCC05	PIC_C06	T_Draw9	
T_SKFC07	T_CALCC06	PIC_C07	T_Draw1	
T_SKFD01	T_CALCD01	PIC_D01	T_Draw1	
T_SKFD02	T_CALCD01	PIC_D01	T_Draw1	
T_SKFD03	T_CALCD02	PIC_D02	T_Draw10	
T_SKFD04	T_CALCD02	PIC_D02	T_Draw10	
T_SKFD05	T_CALCD03	PIC_D03	T_Draw11	
T_SKFE01	T_CALCE01	PIC_E01	T_Draw12	R1331
T_SKFE02	T_CALCE01	PIC_E02	T_Draw12	R3113
T_SKFE03	T_CALCE01	PIC_E03	T_Draw13	R3113
T_SKFE04	T_CALCE02	PIC_E04	T_Draw12	R1113
T_SKFE05	T_CALCE02	PIC_E05	T_Draw12	R1131
T_SKFE06	T_CALCE02	PIC_E06	T_Draw12	R1113
T_SKFE07	T_CALCE03	PIC_E07	T_Draw12	R1331
T_SKFE08	T_CALCE03	PIC_E08	T_Draw12	R1331
T_SKFE09	T_CALCE04	PIC_E09	T_Draw12	R1331
T_SKFE10	T_CALCE05	PIC_E10	T_Draw15	R1331
T_SKFE11	T_CALCE05	PIC_E11	T_Draw15	R1331
T_SKFE12	T_CALCE06	PIC_E05	T_Draw12	R1131
T_SKFE13	T_CALCE06	PIC_E04	T_Draw1	
T_SKFE14	T_CALCE07	PIC_E07	T_Draw1	
T_SKFE15	T_CALCE08	PIC_E12	T_Draw1	
T_SKFE16	T_CALCE08	PIC_E13	T_Draw1	
T_SKFE17	T_CALCE09	PIC_E14	T_Draw13	R1331
T_SKFF01	T_CALCF0	PIC_F01	T_Draw1	
T_SKFF02	T_CALCF0	PIC_F02	T_Draw13	R1111
T_SKFF03	T_CALCF0	PIC_F02	T_Draw13	R1111
T_SKFF04	T_CALCF0	PIC_F03	T_Draw1	
T_SKFF05	T_CALCF01	PIC_F04	T_Draw14	
T_SKFF06	T_CALCF01	PIC_F04	T_Draw14	
T_SKFF07	T_CALCF01	PIC_F04	T_Draw14	
T_SKFF08	T_CALCF01	PIC_F05	T_Draw14	
T_SKFH01	T_CALCH01	PIC_H01	T_Draw16	
T_SKFH02	T_CALCH01	PIC_H02	T_Draw17	
T_SKFH03	T_CALCH02	PIC_H03	T_Draw18	
T_SKFH04	T_CALCH03	PIC_H04	T_Draw19	
T_SKFI01	T_CALCI01	PIC_I01	T_Draw1	
T_SKFI02	T_CALCI01	PIC_I01	T_Draw1	
T_SKFI03	T_CALCI01	PIC_I01	T_Draw1	
T_SKFI04	T_CALCI02	PIC_I02	T_Draw10	

T_SKFI05	T_CALCI02	PIC_I02	T_Draw10	
T_SKFI06	T_CALCI02	PIC_I02	T_Draw10	
T_SKFJ01	T_CALCJ01	PIC_J01	T_Draw1	
T_SKFJ02	T_CALCJ01	PIC_J01	T_Draw1	
T_SKFJ03	T_CALCJ01	PIC_J01	T_Draw1	
T_SKFJ04	T_CALCJ02	PIC_J02	T_Draw10	
T_SKFJ05	T_CALCJ02	PIC_J02	T_Draw10	
T_SKFK01	T_CALCK01	PIC_K01	T_Draw20	
T_SKFK02	T_CALCK01	PIC_K02	T_Draw22	
T_SKFK03	T_CALCK01	PIC_K03	T_Draw21	
T_SKFK04	T_CALCK01	PIC_K04	T_Draw23	
T_SKFM01	T_CALCM01	PIC_M01	T_Draw20	
T_SKFN01	T_CALCN01	PIC_N01	T_Draw25	
T_SKFP01	T_CALCP01	PIC_P01	T_Draw24	

Calc B
T_AngularB1
T_AngularB2

0.5	0.6	0.7	0.8	0.9	1
0.53	0.45	0.38	0.31	0.25	0.2
0.35	0.28	0.23	0.18	0.14	0.1
0.23	0.18	0.15	0.12	0.08	0.05
0.18	0.14	0.11	0.08	0.06	0.04
0.3	0.4	0.5	0.6	0.7	0.8
0.4	0.29	0.23	0.18	0.15	0.12
0.22	0.16	0.12	0.09	0.07	0.06
0.16	0.1	0.08	0.06	0.05	0.04
0.09	0.06	0.05	0.04	0.035	0.03
0.3	0.4	0.5	0.6	0.7	0.8
0.16	0.11	0.08	0.07	0.06	0.05
0.1	0.07	0.05	0.04	0.03	0.02
0.15	0.2	0.25	0.3	0.35	0.4
0.24	0.17	0.13	0.1	0.08	0.06
0.16	0.12	0.09	0.07	0.06	0.05
0.5	0.6	0.7	0.8	0.9	1
0.79	0.75	0.73	0.71	0.7	0.69
0.72	0.65	0.59	0.53	0.46	0.4
0.63	0.56	0.49	0.42	0.36	0.3

0.5	0.6	0.7	0.8	0.9	1
1.04	1.03	1.02	1.01	1.005	1
1	1	1	1	1	1
0.93	0.95	0.97	0.98	0.99	1
0.89	0.93	0.95	0.97	0.99	1
0.87	0.9	0.93	0.96	0.98	1
0.77	0.83	0.88	0.92	0.96	1

0.3	0.4	0.5	0.6	0.7	0.8
1	1	1	1	1	1
0.98	1	1	1	1	1
0.96	0.98	0.99	1	1	1
0.95	0.97	0.99	1	1	1
0.91	0.94	0.97	0.98	0.99	1

0.3	0.4	0.5	0.6	0.7	0.8
1	1	1	1	1	1
1	1	1	1	1	1
0.985	0.99	0.995	1	1	1
0.98	0.99	0.995	1	1	1
0.98	0.99	0.995	1	1	1
0.97	0.985	0.995	1	1	1

0.15	0.2	0.25	0.3	0.35	0.4
1	1	1	1	1	1
0.99	0.995	1	1	1	1
0.985	0.99	1	1	1	1
0.97	0.98	0.99	1	1	1

0.2	0.5	1	2	5	10	20	50	100
0.109	0.113	0.116	0.121	0.13	0.139	0.152	0.177	0.207
0.132	0.147	0.162	0.185	0.233	0.294	0.397	0.686	1.22
0.183	0.229	0.288	0.387	0.661	1.16	2.47	10.8	
0.364	0.605	1.03	2.1	8.4	41.8			
0.666	1.46	3.39	11.1					
1.1	3.09	9.71						
1.66	5.82	24.3						
3.14	15.9							
4.96	33.8							
10.3								
15.8								
25.5								
33.1								

0.2	0.5	1	2	5	10	20	50	100
0.102	0.103	0.104	0.105	0.108	0.111	0.114	0.122	0.129
0.109	0.113	0.117	0.124	0.136	0.15	0.172	0.221	0.288
0.123	0.135	0.149	0.17	0.217	0.282	0.403	0.804	1.75
0.165	0.208	0.267	0.374	0.716	1.48	4.29	43.8	
0.218	0.315	0.469	0.815	2.47	9.18			
0.276	0.448	0.766	1.64	7.89				
0.335	0.604	1.17	3.01	22.9				
0.452	0.962	2.27	8.11					
0.561	1.35	3.74	17.4					
0.789	2.34	8.47						
0.96	3.23	13.9						
1.19	4.63	24.4						
1.34	5.63	33.3						

0.2	0.5	1	2	5	10	20	50	100
0.106	0.109	0.111	0.114	0.119	0.125	0.133	0.147	0.163
0.121	0.13	0.139	0.152	0.177	0.206	0.251	0.357	0.512
0.15	0.175	0.203	0.247	0.348	0.496	0.791	1.88	4.83
0.237	0.329	0.461	0.717	1.63	3.95	13.8		

0.35	0.573	0.957	1.91	7.21	33.4			
0.481	0.905	1.77	4.43	28				
0.622	1.32	2.95	9.1					
0.914	2.33	6.54	28.8					
1.2	3.52	11.7						
1.83	6.76	30.3						
2.33	9.85							
3.03	15							
3.49	18.9							
0.2	0.5	1	2	5	10	20	50	100
0.101	0.102	0.103	0.104	0.105	0.107	0.11	0.114	0.12
0.106	0.109	0.112	0.116	0.124	0.132	0.145	0.172	0.206
0.115	0.123	0.132	0.144	0.17	0.203	0.257	0.404	0.663
0.141	0.165	0.195	0.245	0.374	0.596	1.14	4.31	21.8
0.17	0.218	0.284	0.407	0.817	1.79	5.68		
0.2	0.276	0.391	0.633	1.64	4.97	27.3		
0.227	0.335	0.511	0.922	3.02	12.5			
0.277	0.452	0.776	1.67	8.13				
0.319	0.561	1.05	2.58	17.5				
0.398	0.789	1.71	5.27					
0.451	0.961	2.2	8.08					
0.518	1.19	3.11	13.1					
0.558	1.34	3.7	17.1					

	Special design 2		Sp. des. reload	Friction coeff.	Bearing factor	Bearing pair		
	Table B	Table C						
	T_Pairing1	T_Clearanc	2	0.0015	1	0		
	T_Clearance		1	0.0015	1	0		
	T_Pairing1		2	0.0015	1	0		
			1	0.0015	1	0		
			1	0.0015	1	0		
			1	0.0015	1	0		
			0	0.0015	1	0		
			1	0.002	1	0		
			1	0.0024	1	0		
			0	0.0024	1	0		
			0	0.0024	1	0		
			1	0.001	1	0		
			1	0.001	1	0		
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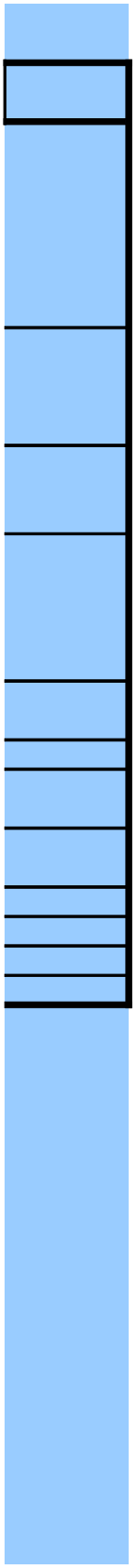

Authorization

1.0 General	
1.1 Language	
2.0 Info	
2.1 Name of help file	bearingskf.htm
2.2 Version number	BearingSKF_01_D8
2.3 Version date	6.12.2009-18:30:28

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Bearing sizes

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Angular contact bearing B

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nmax	g
34000	0.032
32000	0.037
28000	0.045
24000	0.065
22000	0.12
24000	0.069
20000	0.11
19000	0.14
20000	0.08
18000	0.13
16000	0.23
17000	0.12
15000	0.2
13000	0.35
15000	0.16
13000	0.29
12000	0.46
10000	0.95
14000	0.19
11000	0.37
11000	0.63
9000	1.25
12000	0.25
11000	0.41
9500	0.83
8500	1.55
11000	0.26
10000	0.46
8500	1.05
7500	1.9
10000	0.39
9000	0.61
8000	1.35
7000	2.3
9500	0.42
8000	0.78
7000	1.7
6300	2.75
9000	0.44
7500	0.99
6700	2.1
6000	3.3
8000	0.6
7000	1.05
6300	2.5
7500	0.64
6700	1.2
5600	3
7000	0.85
6000	1.4
6700	0.89
5600	1.8
6300	1.15
5300	2.15

5000	2.6
5600	1.25
4800	3.15
5300	1.6
5000	1.95
4800	2.05

1.0 DXF Output Target Applications Table

Selection List	Command's Table Name	SendKeys App Name
DXF File		
AutoCAD LT xx	T_DXFC_ACAD	AutoCAD LT
AutoCAD R12	T_DXFC_ACAD	AutoCAD 12
AutoCAD R13	T_DXFC_ACAD14	AutoCAD
AutoCAD R14	T_DXFC_ACAD14	AutoCAD
AutoCAD 2000	T_DXFC_ACAD	AutoCAD 2000
AutoCAD 2002	T_DXFC_ACAD	AutoCAD 2002
AutoCAD 2004	T_DXFC_ACAD	AutoCAD 2004
AutoCAD 2005	T_DXFC_ACAD	AutoCAD 2005
AutoCAD 2006	T_DXFC_ACAD	AutoCAD 2006
AutoCAD 2007	T_DXFC_ACAD	AutoCAD 2007
AutoCAD 2008	T_DXFC_ACAD	AutoCAD 2008
AutoCAD 2009 (Mechanical..	T_DXFC_ACAD	AutoCAD
AutoCAD 2010,2011 (Mechar	T_DXFC_ACAD	AutoCAD
IntelliCAD 2001	T_DXFC_ICAD	Intellicad 2001
CADopia IntelliCAD 4	T_DXFC_ICAD	CADopia IntelliCAD 4
Ashlar Graphite v7.2 EN	T_DXFC_GRAPHITE	Graphite
TurboCAD Professional v8.2	T_DXFC_TCADV82	TurboCAD Professional v8.2
Not used		
Not used		
Not used	T_DXFC_ICAD	DocumentName - Notepad

2.0 File Name

3.0 Layer Names

Outline	Axis	Invisible line
MTC_OUTLINE	MTC_AXIS	MTC_INVISIBLE

4.0 DXF Header Definition (ISO, mm)

0;SECTION;2;TABLES;0;TABLE;2;LTYPE;0;LTYPE;2;MTC_DASHDOT;3;Axis_line;72
3.0;70;0;0;LTYPE;2;MTC_DASH;3;Invisible_line;72;65;73;2;40;11.0;49;8.0;49;-
3.0;70;0;0;LTYPE;2;MTC_SOLID;3;Solid_line;72;65;73;0;40;0.0;70;0;0;ENDTAB;0;TA
C_TEXTN;62;8;6;MTC_SOLID;70;0;0;LAYER;2;MTC_TEXTB;62;5;6;MTC_SOLID;70;
TC_DASHDOT;70;0;0;LAYER;2;MTC_INVISIBLE;62;8;6;MTC_DASH;70;0;0;ENDTAB

5.0 DXF Header Definition (ANSI, Inch)

0;SECTION;2;TABLES;0;TABLE;2;LTYPE;0;LTYPE;2;MTC_DASHDOT;3;Axis_line;72
0.25;70;0;0;LTYPE;2;MTC_DASH;3;Invisible_line;72;65;73;2;40;0.75;49;0.5;49;-
0.25;70;0;0;LTYPE;2;MTC_SOLID;3;Solid_line;72;65;73;0;40;0.0;70;0;0;ENDTAB;0;T
TC_TEXTN;62;8;6;MTC_SOLID;70;0;0;LAYER;2;MTC_TEXTB;62;5;6;MTC_SOLID;70
MTC_DASHDOT;70;0;0;LAYER;2;MTC_INVISIBLE;62;8;6;MTC_DASH;70;0;0;ENDTA

6.0 DXF End of File

0;ENDSEC;0;EOF

7.0 Name of Cell Containing the User Part

_DXF_UserPart1

8.0 DXF User Part Definition String

1		0;TEXT;8;0;10;0.0;20;0.0;30 0;LINE;8;0;10;-2.0;20;-2.0;3

9.0 Parameters for DXF tables

Pixel size scale [mm]	0.35
Text width scale	0.7
Text hight scale	0.6
Text border justify	0.8

Drawing Scale

Automatic	0.4
1:100	100
1:50	50
1:20	20
1:10	10
1:5	5
2:5	2.5
1:2	2
1:1	1
2:1	0.5
5:2	0.4
5:1	0.2
10:1	0.1

System variables

Application Name	DXF File
Command Table Name	0
SendKeys App Name	0
DDE App Name	0
DDE Topic	0

AutoCAD LT, AutoCAD 13,14,2000,2002

```
SendKeys
{ESC}{ESC}
DDE
#MACRO?
SendKeys
~
```

Intellicad 2001

```
SendKeys
#MACRO?
SendKeys
#MACRO?
SendKeys
#MACRO?
```

Ashlar Graphite v7.2 EN

```
SendKeys
%fi
SendKeys
                    #MACRO?
SendKeys
~~
```

TurboCAD Professional v8.2

```
SendKeys
%if
SendKeys
                    #MACRO?
```

```
SendKeys
~~
```

AutoCAD 13,14

```
SendKeys
{ESC}{ESC}
DDE
                    #MACRO?
SendKeys
~
```

AutoCAD 14 DXF Header+

```
0;SECTION;2;HEADER;9;$ACADVER;1;AC1009;0;ENDSEC;
```

DDE App Name	DDE Topic	
AutoCAD LT.DDE	system	OK, tested
AutoCAD.DDE	system	
AutoCAD.R13.DDE	system	
AutoCAD.R14.DDE	system	OK, tested
AutoCAD.R15.DDE	system	
AutoCAD.R15.DDE	system	OK, tested
AutoCAD.R16.DDE	system	OK, tested
AutoCAD.R16.DDE	system	OK, tested
AutoCAD.R16.DDE	system	OK, tested
AutoCAD.R17.DDE	system	OK, tested
AutoCAD.R17.DDE	system	OK, tested
AutoCAD.R17.DDE	system	OK, tested
AutoCAD.R18.DDE	system	OK, tested
		OK, tested
		OK, tested
		OK, tested
?		OK, tested

#MACRO?

Thin line	Text normal	Text bold
MTC_THIN	MTC_TEXTN	MTC_TEXTB

```
2;65;73;4;40;11.7;49;5.0;49;-3.0;49;0.7;49;-

BLE;2;LAYER;0;LAYER;2;MTC_OUTLINE;62;7;6;MTC_SOLID;70;0;0;LAYER;2;MT
0;0;LAYER;2;MTC_THIN;62;8;6;MTC_SOLID;70;0;0;LAYER;2;MTC_AXIS;62;1;6;M
;0;ENDSEC;0;SECTION;2;ENTITIES;
```

```
2;65;73;4;40;1.2;49;0.5;49;-0.25;49;0.2;49;-

ABLE;2;LAYER;0;LAYER;2;MTC_OUTLINE;62;7;6;MTC_SOLID;70;0;0;LAYER;2;M
0;0;LAYER;2;MTC_THIN;62;8;6;MTC_SOLID;70;0;0;LAYER;2;MTC_AXIS;62;1;6;
AB;0;ENDSEC;0;SECTION;2;ENTITIES;
```

```
0;0.0;40;3.5;1;EMPTY DEFINITION
0;0.0;11;68.0;21;-2.0;31;0.0
```

Sheet texts	Sheet comment	objects (butons...)	Dialog's translation	Authorization	Program messages
XM_Yes					
XM_No					
XM_Language					
XM_WarningMSG					
XM_General					
XM_Standard					
XM_InfoSection					
XM_HelpName					
XM_VerN					
XM_VerD					
XS_Project	XC_PrjInfo				
XM_PrjAuthor					
XM_PrjDate					
XM_PrjNo					
XM_PrjName					
XM_PrjFileName					
XM_PrjInfo					
XM_PrjNote					
			AuthDialog		
			ABT_Cancel		
			ABT_Run		
			ABT_View		
			ABT_Demo		
			ABT_Renew		
			ABT_Buy		
			ABT_Authorize		
			ABT_Download		
			AUT_Label1		
			TranslateDialog		
		BT_Calculation			
		BT_Help			
		BT_Registration			
		SH_Calculation			
		SH_Tables			
		SH_Material			
		SH_Options			
		SH_Dictionary			
		SH_Data			
					MSG_ChDat
					MSG_InputP
					MSG_NoSer
					MSG_NotFor
					MSG_BadHe
					MSG_NoHel
					MSG_Warnir
					MSG_BadSta
				AUT0	
				AUT1	
				AUT2	

AUT3
AUT4
AUT5
AUT6
AUT7
AUT_Contact

XM_Copyright

XS_2DCAD XC_2DCAD
XM_2DOut XC_2DOut
XM_DXFDeta XC_DXFDetail
XM_DXFFile
XM_DXFSAuto
XM_DXFScale

DXF_App0
DXF_App1
DXF_App2
DXF_Exist1
DXF_Exist2

MSG_None3
MSG_Bad3D

XM_BOM0 XC_BOM0
XM_BOM1
XM_BOM2
XM_BOM3

XM_ErrMsg1
XM_ErrMsg2

XM_TBGroup1
XM_TBGroup2
XM_TBGroup3
XM_TBGroup4
XM_TBGroup5
XM_TBGroup6
XM_TBGroup7
XM_TBGroup8
XM_TBGroup9
XM_TBGroup10
XM_TBGroup11
XM_TBGroup12
XM_TBGroup13
XM_TBGroup14
XM_TBGroup15
XM_TBGroup16
XM_TBGroup17
XM_TBLubrication1
XM_TBLubrication2
XM_TBAddForce1

XM_TBAddForce2
XM_TBAddForce3
XM_TBAddForce4
XM_TBAddForce5
XM_TBAddForce6
XM_TBAddForce7
XM_TBAddForce8
XM_TBAddForce9
XM_TBAddForce10
XM_TBAddForce11
XM_TBAddForce12
XM_TBAddForce13
XM_TBAddForce14
XM_TBAddForce15
XM_TBAddForce21
XM_TBAddForce22
XM_TBAddForce23
XM_TBAddForce31
XM_TBAddForce32
XM_TBAddForce33
XM_TBClearance1
XM_TBClearance2
XM_TBClearance3
XM_TBPairing1
XM_TBPairing2
XM_TBPairing3
XM_TBPairing4
XM_TBPairing5
XM_TBSealing1
XM_TBSealing2
XM_TBSealing3
XM_TBSealing4
XM_TBSealing5
XM_TBDesign1
XM_TBDesign2
XM_TBDesign3
XM_TBDesign4
XM_TBDesign5
XM_TBDesign6
XM_TBDesign7
XM_TBDesign8
XM_TBWasher1
XM_TBWasher2
XM_TBWasher3
XM_TBWasher4
XM_TBWasher5
XM_TBMinLoad1
XM_TBMinLoad2
XM_TBMinLoad3
XM_TBMinLoad4
XM_TBClean1
XM_TBClean2
XM_TBClean3

XM_TBClean4
XM_TBClean5
XM_TBClean6
XM_TBClean7

XM_TBTypeA1
XM_TBTypeA2
XM_TBTypeA3
XM_TBTypeA4
XM_TBTypeA5
XM_TBTypeA6
XM_TBTypeA7
XM_TBTypeA8
XM_TBTypeC1
XM_TBTypeC2
XM_TBTypeC3
XM_TBTypeC4
XM_TBTypeD1
XM_TBTypeD2
XM_TBTypeD3
XM_TBTypeE1
XM_TBTypeE2
XM_TBTypeE3
XM_TBTypeE4
XM_TBTypeE5
XM_TBTypeF1
XM_TBTypeF2
XM_TBTypeH1
XM_TBTypeI1
XM_TBTypeI2
XM_TBTypeJ1
XM_TBTypeJ2
XM_TBTypeK1
XM_TBTypeM1
XM_TBTypeN1
XM_TBTypeP1

FindDialog MSG_NoBea
ReloadDialog
XM_CalcName
BTN_01
BTN_02
BTN_03
BTN_04
BTN_05
BTN_06
BTN_07
BTN_08
BTN_09
BTN_10
BTN_11
XM_Bearing
XM_Design

XM_Washer	
XM_Pair	
XM_FirstCalc	
XM_AddForce1	
XM_AddForc	XC_AddForce2
XM_AddForc	XC_AddForce3
XM_Cap1	XC_Cap1
XM_Cap2	
XS_0001	XC_S001
XS_0002	XC_S002
XS_0003	XC_S003
XS_0004	XC_S004
XS_0005	XC_S005
XS_0006	XC_S006
XM_0001	XC_0001
XM_0002	XC_0002
XM_0003	XC_0003
XM_0004	XC_0004
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XM_0026	XC_0026
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XM_0028	XC_0028
XM_0029	
XM_0030	
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XM_0032	XC_0032
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XM_0049	
XM_0050	XC_0050
XM_0051	
XM_0052	XC_0052
XM_0053	XC_0053
XM_0054	XC_0054
XM_0055	
XM_0056	
XM_0057	
XM_0058	
XM_0059	
XM_0060	
XM_0061	
XM_0062	

EN	CS
Calculation name	Jméno výpočtu
Yes	Ano
No	Ne
Language	Jazyk
Display automatically warning messages	Zobrazovat automaticky varovné zprávy
General	Obecné
Standard	Norma
Info	Informace
Name of help file	Jméno souboru nápovědy
Version number	Číslo verze
Version date	Datum verze
Project information	Informace o projektu
Author	Autor
Date	Datum
Project No.	Číslo projektu
Project Name	Název projektu
File name	Jméno souboru
Basic Info	Základní informace
Project Notes	Poznámka
Authorization	Autorizace
&Cancel	&Konec
Run	Spustit
View Only	Pouze zobrazit
&Demo	&Demo
&Renew	&Obnovit
&Buy	Ko&upit
&Authorize	&Autorizovat
Do&wnload	&Stáhnout
Enter the Authorization code here :	Sem zadejte autorizační kód :
Runs calculation translation	Probíhá překlad výpočtu
&Calculations	&Výpočty
&Help	&Nápověda
&Authorization	&Autorizace
Calculation	Výpočet
Tables	Tabulky
Material	Materiál
Options	Nastavení
Dictionary	Slovník
Data	Data
System date change	Změna systémového datumu
Authorization - Password entering	Autorizace - zadání hesla
Start of the integrated environment.	Start integrovaného prostředí
Start of calculation.	Spuštění výpočtu
Help	Nápověda
Help	Nápověda
Warning	Upozornění
MITCalc - Nonvalid license	MITCalc - Neplatná licence
Valid license	Platná licence
Valid license	Platná licence
Renewing your license	Obnovení licence

Demo version	Demo verze
Demo version	Demo verze
Error in the entry	Chyba zápisu
System error	Systémová chyba
The software is not installed	Software není nainstalován
Contact information:	Kontaktní informace:
Copyright © 2003	Copyright © 2003
This program/workbook is copyright protected	Tento program/sešit je chráněn copyrightem.
Graphical output	
Graphical output, CAD systems	Grafický výstup, CAD sytémy
2D drawing output to:	Výstup 2D výkresu do:
Detail:	Detail:
DXF File	DXF soubor
Automatic	Automaticky
2D Drawing scale	Měřítko 2D výkresu
Export of drawing	Export výkresu
Application	Program
isn't running. Do you want to save the drawir	není spuštěn. Chcete uložit výkres do soubo
File	Soubor
exist. Overwrite it ?	již existuje. Chcete jej přepsat ?
Graphic output	Grafický výstup
Graphic output	Grafický výstup
Text description (Information for BOM)	Textový popis (Informace pro kusovník)
Row 1 (BOM attribute 1)	Řádek 1 (Kusovník atribut 1)
Row 2 (BOM attribute 2)	Řádek 2 (Kusovník atribut 2)
Row 3 (BOM attribute 3)	Řádek 3 (Kusovník atribut 3)
Calculation without errors.	Výpočet bez chyb.
Check lines:	Zkontrolujte řádek:
Messages special for tables	
Deep groove ball bearings	Kuličková ložiska
Y - bearings	Ložiska Y
Angular contact ball bearings	Kuličková ložiska s kosoúhlým stykem
Self-aligning ball bearings	Naklápěcí kuličková ložiska
Cylindrical roller bearings	Válečková ložiska
Needle roller bearings	Jehlová ložiska
Combined roller bearings	Kombinovaná ložiska
Taper roller bearings	Kuželíková ložiska
Spherical roller bearings	Soudečková ložiska
Toroidal roller bearings	Toroidní ložiska
Thrust ball bearings	Axiální kuličková ložiska
Angular contact thrust ball bearings	Axiální kuličková ložiska s kosoúhlým styken
Cylindrical roller thrust bearings	Axiální válečková ložiska
Needle roller thrust bearings	Axiální jehlová ložiska
Taper roller thrust bearings	Axiální kuželíková ložiska
Spherical roller thrust bearings	Axiální soudečková ložiska
Other bearings	Jiná ložiska
Oil lubrication	Mazání olejem
Grease lubrication	Mazání tukem
Electric rotary machines, turbines, turbo-com	Elektrické točivé stroje, turbiny, turbokompre

Railway and piston engines	Dráhové a pístové motory
Belt conveyors, ropeways, pumps, fans	Pásové dopravníky, lanové dráhy, čerpadla,
Cranes, elevators, mine fans	Jeřáby, výtahy, důlní ventilátory
Mine elevators and pumps	Důlní výtahy a čerpadla
Piston pumps and compressors	Pístová čerpadla a kompresory
Pan, tube and hammer mills, crushers	Kulové, trubnaté a kladivové mlýny, drtiče
Machines for soil removing, deep drilling ma	Stroje na odklizováni zemin, vrtací hlubinové
Drying drums	Sušící bubny
Paper and textile machines	Papírenské a textilní stroje
Machines for food processing	Stroje na zpracování potravin
Grinders, drilling, milling, sawing and wood-c	Brusky, vrtačky, frézy, pily, dřevoobráběcí st
Lathes, cutting machines with reciprocating r	Soustruhy, obráběcí stroje s vratným pohybe
Rolling mills, forging hammers, power sheet	Válcovací stolice, kladiva, nůžky na plech, ra
Roughing and break-down mills	Hrubé a předválcovací stolice
Precision ground gears (deviations of shape	Přesná ozubená kola (úchylky tvaru a rozteč
Ordinary machined gears (deviations of shap	Běžná ozubená kola (úchylky tvaru a rozteče
Cast non-machined gears (deviations of sha	Litá neobrobená kola (úchylky tvaru a rozteč
Toothed belts	Ozubené řemeny
V-belts	Klínové řemeny
Plain belts	Ploché řemeny
Normal clearance	Normální ložisková vůle
Radial internal clearance C3	Radiální ložisková vůle C3
Radial internal clearance C4	Radiální ložisková vůle C4
Single bearing	Samostatné ložisko
Matched bearings pair	Pár sdružených ložisek
Matched bearings pair, tandem arrangement	Pár sdružených ložisek uspořádáných za se
Matched bearings pair, back-to-back arrange	Pár sdružených ložisek uspořádáných zády
Matched bearings pair, face-to-face arrange	Pár sdružených ložisek uspořádáných čely k
Open design	Otevřené provedení
Seal on one side	Utěsněné jednostranně
Seals on both sides	Utěsněné oboustranně
Shield on one side	Zakryté jednostranně
Shields on both sides	Zakryté oboustranně
With flanges	S vodícími přírubami
Without flanges	Bez vodících přírub
For vibratory applications	Pro vibrační stroje
With cage	S klecí
Full complement	S plným počtem valivých elementů
with sphered housing washer	s kulovou dosedací plochou
Single direction	Jednosměrná
Double direction	Obousměrná
none	žádný
thrust washer, series AS	opěrný kroužek, řada AS
raceway washer, series LS	kroužek s oběžnou drážkou, řada LS
bearing washer, series WS	ložiskový kroužek, řada WS
bearing washer, series GS	ložiskový kroužek, řada GS
Minimum radial load	Minimální radiální zatížení
Minimum axial load	Minimální axiální zatížení
Minimum equivalent load	Min. ekvivalentní zatížení
Minimum equivalent load	Min. ekvivalentní zatížení
Extreme cleanliness	Extrémní čistota
High cleanliness	Vysoká čistota
Normal cleanliness	Normální čistota

Slight contamination	Slabé znečištění
Typical contamination	Typické znečištění
Severe contamination	Silné znečištění
Very severe contamination	Velmi silné znečištění
SKF Bearings	
Deep groove ball bearings, single row	Kuličková ložiska jednořadá
Deep groove ball bearings, single row, with s	Kuličková ložiska jednořadá s drážkou pro p
Deep groove ball bearings, single row, stainl	Kuličková ložiska jednořadá nerezová
Deep groove ball bearings, single row, stainl	Kuličková ložiska jednořadá nerezová s přír
Deep groove ball bearings, single row, with f	Kuličková ložiska jednořadá s plnicími drážk
Deep groove ball bearings, single row, with f	Kuličková ložiska jednořadá s plnicími drážk
Deep groove ball bearings, single row, with f	Kuličková ložiska jednořadá s plnicími drážk
Deep groove ball bearings, double row	Kuličková ložiska dvouřadá
Angular contact ball bearings, single row	Kuličková ložiska s kosoúhlým stykem jedno
Angular contact ball bearings, double row	Kuličková ložiska s kosoúhlým stykem dvouř
Angular contact ball bearings, double row, w	Kuličková ložiska s kosoúhlým stykem dvouř
Four-point contact ball bearings	Kuličková ložiska se čtyřbodovým stykem
Self-aligning ball bearings, with cylindrical bo	Naklápěcí kuličková ložiska s válcovou dírou
Self-aligning ball bearings, with tapered bore	Naklápěcí kuličková ložiska s kuželovou díro
Self-aligning ball bearings, with extended inr	Naklápěcí kuličková ložiska s rozšířeným vni
Cylindrical roller bearings, single row	Válečková ložiska jednořadá
Cylindrical roller bearings, double row, with c	Válečková ložiska dvouřadá s válcovou díro
Cylindrical roller bearings, double row, with t	Válečková ložiska dvouřadá s kuželovou díro
Full complement cylindrical roller bearings, s	Válečková ložiska jednořadá s plným počten
Full complement cylindrical roller bearings, d	Válečková ložiska dvouřadá s plným počtem
Needle roller bearings, with inner ring	Jehlová ložiska s vnitřním kroužkem
Needle roller bearings, without inner ring	Jehlová ložiska bez vnitřního kroužku
Taper roller bearings, single row	Kuželíková ložiska jednořadá
Spherical roller bearings, with cylindrical bor	Soudečková ložiska s válcovou dírou
Spherical roller bearings, with tapered bore	Soudečková ložiska s kuželovou dírou
Toroidal roller bearings, with cylindrical bore	Toroidní ložiska s válcovou dírou
Toroidal roller bearings, with tapered bore	Toroidní ložiska s kuželovou dírou
Thrust ball bearings	Axiální kuličková ložiska
Cylindrical roller thrust bearings	Axiální válečková ložiska
Needle roller thrust bearings	Axiální jehlová ložiska
Spherical roller thrust bearings	Axiální soudečková ložiska
Messages special for calculation	
Searching for a bearing	Vyhledání ložiska
Loading data	Načítání dat
Rolling bearings SKF	Valivá ložiska SKF
Fluctuating load	Proměnlivé zatížení
Find first	Vyhledat
Find next	Hledat další
Find first	Vyhledat
Find next	Hledat další
Find first	Vyhledat
Find next	Hledat další
Transfer	Přenos
Transfer	Přenos
Transfer	Přenos
Draw (2D)	Vykreslit (2D)
Bearing	Ložisko
Design	Provedení

Washer	Kroužek
Bearings pair	Ložiskový pár
(preferential solution recommended)	(doporučeno řešit přednostně)
None	Žádné
From geared transmissions	Od ozubených převodů
From belt drives	Od řemenových převodů
Input parameters section	Kapitola vstupních parametrů
Supplements section	Kapitola doplňků
Selection of bearing type, bearing loads	Volba typu ložiska, zatížení ložiska
Selection of bearing size	Volba rozměrů ložiska
Operating parameters, adjusted bearing life	Provozní parametry, modifikovaná trvanlivos
Auxiliary calculations	Pomocné výpočty
Fluctuating bearing load	Proměnlivé zatížení ložiska
Calculation of bearings with angular contact	Výpočet ložisek s kosoúhlým stykem
Calculation units	Jednotky výpočtu
Bearing type	Typ ložiska
Bearing design	Provedení ložiska
Bearing load	Zatížení ložiska
Rotational speed	Otáčky
Radial load	Radiální zatížení
Axial load	Axiální zatížení
Factor of additional dynamic forces	Součinitel přídavných dynamických sil
Required parameters of bearing	Požadované parametry ložiska
Bearing life	Trvanlivost ložiska
Static safety factor	Součinitel statické bezpečnosti
Additional dynamic forces	Přídavné dynamické síly
Factor	Součinitel
Bearing size	Rozměry ložiska
Bearing parameters	Parametry ložiska
Basic dynamic load rating	Základní dynamická únosnost
Equivalent dynamic load	Dynamické ekvivalentní zatížení
Basic rating life	Základní trvanlivost
Basic static load rating	Základní statická únosnost
Equivalent static load	Statické ekvivalentní zatížení
Static safety factor	Součinitel statické bezpečnosti
Permissible radial load	Dovolené radiální zatížení
Permissible axial load	Dovolené axiální zatížení
Reference speed	Referenční otáčky
Limiting speed	Mezní otáčky
Power loss	Ztrátový výkon
Bearing mass	Váha ložiska
Kinematic viscosity of the lubricant	Kinematická viskozita maziva
Rated viscosity	Vztažná viskozita
Operating viscosity	Provozní viskozita
Viscosity ratio	Viskozní poměr
Requisite minimum load	Požadované minimální zatížení
Fatigue load limit	Mezní únavové zatížení
Calculation of the adjusted rating life	Výpočet modifikované trvanlivosti
Required reliability	Požadovaná spolehlivost
Contamination of the lubricant	Znečištění maziva
Factor for contamination level	Součinitel úrovně znečištění
Life modification factor	Součinitel trvanlivosti
Adjusted rating life	Modifikovaná trvanlivost

Calculation of operating viscosity	Výpočet provozní viskozity
Operating temperature	Provozní teplota
Mineral oils	Minerální oleje
ISO viscosity grade	Viskozitní stupeň ISO
Reference viscosity	Referenční viskozita
Permissible speed	Dovolené otáčky
Other lubricants	Jiná maziva
Temperature	Teplota
Viscosity	Viskozita
Bearing arrangement	Uspořádání ložisek
Bearing lubrication	Mazání ložiska
Method of lubrication	Způsob mazání
Desired oil volume flow	Požadovaný průtok oleje
Relubrication interval	Domazávací období
Calculation of permissible speed	Výpočet dovolených otáček
External axial load	Vnější osová síla
Bearing design	Provedení ložiska
Bearing size	Rozměry ložiska
Number of different load conditions	Počet různých podmínek zatížení
Table of load conditions	Tabulka zatížení
Mean load	Střední zatížení
Transfer of load into main calculation	Přenos zatížení do hlavního výpočtu
Transfer into main calculation	Přenos do hlavního výpočtu

DE	ES	FI	FR	HU	IT	JA
Berechnungsname						
Ja						
Nein						
Sprache						
Warnungsmeldungen automatisch anzeigen						
Allgemein						
Norm						
Informationen						
Name der Hilfsdatei						
Versionsnummer						
Versionsdatum						
Projektinformationen						
Autor						
Datum						
Projekt-Nr.						
Projekt-Name						
Dateiname						
Grundinformation						
Anmerkung						
Autorisierung						
&Abbrechen						
Starten						
Nur anzeigen						
&Demo						
&Erneuern						
&Kaufen						
A&utorisieren						
&Herunterladen						
Hier den Autorisierungskode eingeben:						
Die Übersetzung der Berechnung verläuft						
&Berechnungen						
&Hilfe						
&Autorisierung						
Berechnung						
Tafeln						
Werkstoff						
Einstellung						
Wörterbuch						
Daten						
Umstellung des Systemdatums						
Autorisierung - Kennworteingabe						
Start der integrierten Umgebung.						
Berechnungsstart.						
Hilfe						
Hilfe						
Hinweis						
MITCalc - Nichtgültige Lizenz						
Gültige Lizenz						
Gültige Lizenz						
Lizenzerneuerung						

Demo-Version
Demo-Version
Eingabefehler
Systemfehler
Die Software ist nicht installiert
Kontaktinformationen

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Grafische Ausgabe, CAD - Systeme
2D Ausgabe in:
Detail:
DXF Datei
Automatisch
2D-Zeichnungsmaßstab
Zeichnung exportieren
Programm
ist nicht gestartet. Wünschen Sie die Zeichnung in der DXF Datei zu speichern?
Datei
existiert schon. Überschreiben ?
Graphischer Ausgang
Graphischer Ausgang

Text der Beschreibung (Informationen für die Stückliste)
Zeile 1 (Stückliste Attribut 1)
Zeile 2 (Stückliste Attribut 2)
Zeile 3 (Stückliste Attribut 3)

Berechnung fehlerfrei.
Zeile kontrollieren:

Rillenkugellager
Y - Lager
Schrägkugellager
Pendelkugellager
Zylinderrollenlager
Nadellager
Kombinierte Lager
Kegelrollenlager
Pendelrollenlager
Toroidal-Rollenlager
Axial-Rillenkugellager
Axial-Schrägkugellager
Axial-Zylinderrollenlager
Axial-Nadellager
Axial-Kegelrollenlager
Axial-Pendelrollenlager
Weitere Wälzlager
Ölschmierung
Fettschmierung
Elektrische Drehmaschinen, Turbinen, Turbokompressoren

Bahn- und Kolbenmotoren
Bandtransporter, Seilbahnen, Pumpenanlagen, Ventilatoren
Krananlagen, Aufzüge, Grubenventilatoren
Grubenaufzüge und -pumpanlagen
Kolbenpumpen und -kompressoren
Kugel-, Rohr- und Hammermühlen, Brecher
Maschinen für Erdarbeiten, Tiefbohrmaschinen
Trockentrommeln
Papier- und Textilmaschinen
Maschinen für Lebensmittelbearbeitung
Schleifmasch., Bohrmasch., Fräsen, Sägen, Holzbearb. masch.
Drehmasch., Bearbeitungsmasch. mit Hin- und Rückgang
Walzgerüste, Hammer, Blechscheren, Prägemaschinen
Roh- und Vorwalzgerüste
Präzisionszahnräder (Form- und Teilungsabweichungen bis 0.02mm)
Übliche Zahnräder (Form- und Teilungsabweichungen 0.02-0.1mm)
Gegossene Rohräder (Form- und Teilungsabweichungen über 0.1mm)
Zahnriemen
Keilriemen
Flachriemen
Normal Lagerluft
Radiale Lagerluft C3
Radiale Lagerluft C4
Einzelnes Lager
Zusammengepasst Lagerpaar
Zusammengepasst Lagerpaar in Tandem-Anordnung
Zusammengepasst Lagerpaar in O-Anordnung
Zusammengepasst Lagerpaar in X-Anordnung
Offenen Grundausführung
Dichtscheibe auf einer Seite
Dichtscheiben auf beiden Seiten
Deckscheibe auf einer Seite
Deckscheiben auf beiden Seiten
Mit Borden
Ohne Borde
Für Vibrationsmaschinen
Mit Käfig
Vollrollige
mit kugeliger Gehäusescheibe
Einseitig wirkende
Zweiseitig wirkende
keine
Axialscheibe, Reihe AS
Laufscheibe, Reihe LS
Lagerscheibe, Reihe WS
Lagerscheibe, Reihe GS
Minimale Radialbelastung
Minimale Axialbelastung
Min. äquivalente Lagerbelastung
Min. äquivalente Lagerbelastung
Größte Sauberkeit
Große Sauberkeit
Normale Sauberkeit

Leichte Verunreinigungen
Typische Verunreinigungen
Starke Verunreinigungen
Sehr starke Verunreinigungen

Rillenkugellager, einreihig
Rillenkugellager, einreihig, mit Ringnut am Außenring
Rillenkugellager, einreihig, aus nichtrostendem Stahl
Rillenkugellager, einreihig, aus nichtrostendem Stahl mit Flansch am Außenring
Rillenkugellager, einreihig, mit Einfüllnuten
Rillenkugellager, einreihig, mit Einfüllnuten und Ringnut am Außenring
Rillenkugellager, einreihig, mit Einfüllnuten, ohne Käfig
Rillenkugellager, zweireihig
Schrägkugellager, einreihig
Schrägkugellager, zweireihig
Schrägkugellager, zweireihig, mit Ringnut am Außenring
Vierpunktlager
Pendelkugellager, mit zylindrischer Bohrung
Pendelkugellager, mit kegeliger Bohrung
Pendelkugellager, mit breiten Innenring
Zylinderrollenlager, einreihig
Zylinderrollenlager, zweireihig, mit zylindrischer Bohrung
Zylinderrollenlager, zweireihig, mit kegeliger Bohrung
Vollrollige Zylinderrollenlager, einreihig
Vollrollige Zylinderrollenlager, zweireihig
Nadellager mit Innenring
Nadellager ohne Innenring
Kegelrollenlager, einreihig
Pendelrollenlager, mit zylindrischer Bohrung
Pendelrollenlager, mit kegeliger Bohrung
Toroidal-Rollenlager, mit zylindrischer Bohrung
Toroidal-Rollenlager, mit kegeliger Bohrung
Axial-Rillenkugellager
Axial-Zylinderrollenlager
Axial-Nadellager
Axial-Pendelrollenlager

Aufsuchen des Lagers
Daten laden
Wälzlager SKF
Veränderliche Belastung
Aufsuchen
Weiter suchen
Aufsuchen
Weiter suchen
Aufsuchen
Weiter suchen
Übertragung
Übertragung
Übertragung
Zeichnen (2D)
Lager
Bauform

Scheibe
Lagerpaar
(empfohlen, bevorzugt zu lösen)
Keine
Von den Zahnradgetrieben
Von den Riemenübersetzungen
Kapitel der Eingangsparameter
Ergänzungskapitel
Wahl der Lagerart, Lagerbelastung
Bestimmung der Lagergröße
Betriebsparameter, modifizierte Lebensdauer
Hilfsberechnungen
Veränderliche Lagerbelastung
Berechnung der Schrägkugellager und Kegelrollenlager
Berechnungseinheiten
Lagerart
Lagerausführung
Lagerbelastung
Drehzahl
Radialbelastung
Axialbelastung
Koeffizient der dynamischen Zusatzkräfte
Geforderte Parameter des Lagers
Lebensdauer
Statische Tragsicherheit
Dynamische Zusatzkräfte
Koeffizient
Lagergröße
Parameter des Lagers
Dynamische Tragzahl
Äquival. dynamische Belastung
Nominelle Lebensdauer
Statische Tragzahl
Äquivalente statische Belastung
Statische Tragsicherheit
Zulässige Radialbelastung
Zulässige Axialbelastung
Referenzdrehzahl
Grenzdrehzahl
Verlustleistung
Gewicht des Lagers
Kinematische Schmierstoffviskosität
Bezugsviskosität
Betriebsviskosität
Viskositätsverhältnis
Erforderliche Mindestbelastung
Ermüdungsgrenzbelastung
Berechnung der modifizierten Lebensdauer
Erlebenswahrscheinlichkeit
Schmierstoffverunreinigung
Verunreinigungsbeiwert
Lebensdauerbeiwert
Modifizierte Lebensdauer

Berechnung der Betriebsviskosität
Betriebstemperatur
Mineralöle
ISO Viskositätsklasse
Referenzviskosität
Zulässige Drehzahl
Weitere Schmierstoffe
Temperatur
Viskosität
Lageranordnung
Schmierung
Schmierungsart
Notwendige Öl-Volumenstrom
Schmierfrist
Berechnung der zulässigen Drehzahl
Äußere Axialbelastung
Lagerausführung
Lagergröße
Anzahl der diversen Belastungsbedingungen
Belastungstabelle
Mittelbelastung
Übertragung in die Hauptberechnung
Übertragung in die Hauptberechnung

KO	NL	NO	PL	PT	RU	SK	SL	SV	TR

ZH ZS