3

Anj w4bG#NCnIbN=
cb4€hbGdj H

3 Angular contact ball bearings

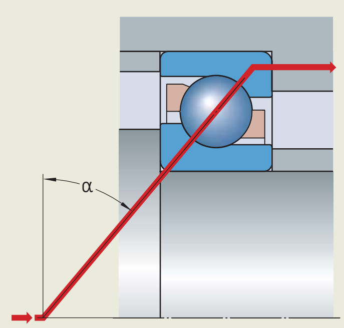
3 Angular contact ball bearings

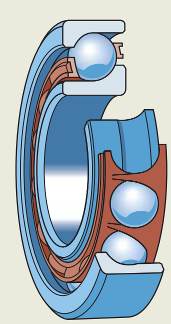
7

[illegible]

[illegible]

[illegible]





ychh–fun cnbw

v wc=€hbGubj +wnUH+v o 3 0+CG+Th+bwIC5 C lUKh+uhPwHGd+bGh=€bHhP+€n+PCwc4h+GCx = bnj w4bG+NCnIbN=€b4+€hbGubj H+WThd+TbKh= 5 bPh+bn+bqqGhNUbc4h+NCnIGdcwlUCn+C+Th= bNTUbKh5 hnI+€i+5 C0h+NC5 qbN+x hUjTI = HbwThi .ePtTnt .tT9 D6TPe.xttP9 y6Mxne. PnSxnzPe.sP6xyT6UM

EPux6Pe.Thhos9 xuTbn.xyovuuSPtP.Dsoe vzut.xne.wxsTknut.hos.Thevtus7k6xDD6Ex uTbnt.zxn.yP.tvDD6Pe.on.sPrvPtu

o–fun –fbcu–w

ATTp p fb–Tp hn– pf w

. ALTk66oxet.Th.onP.eTsPzuTbn.on6Mhos.. tThi 6P.soK.yPxsThi t

. ALTk66oxet.Th.PTUSPs.eTsPzuTbn.hos.eovy6P. soK.xne.hovs DoThuzonuxzuyPxsThi t

y pf Tfuuj n TfFfTbj

. l SP.6oKPs.tSov6ePs.Pnxy6Pt.x.6xsi P. nv9 yPs.ohyx66t.uo.yP.ThzosDosxuPe.Th. tThi 6P.soK.yPxsThi t .i TwThi .uSP9 .uSPTs. sP6xuTwP6MSTS.6oxe.zxssMThi .zxDxzTUM

. BPzxvtP.ohuSP.tPzone.soK.ohyx66t .x. 6xsi P.nv9 yPs.ohyx66t.xsP.ThzosDosxuPe. Th.eovy6P.soK.yPxsThi t .i TwThi .uSP9 . uSPTs.STS.6oxe.zxssMThi .zxDxzTUM

. A.6xsi P.nv9 yPs.ohyx66t.xsP.ThzosDosxuPe. Th.hovs DoThuzonuxzuyPxsThi t .i TwThi . uSP9 .uSPTs.STS.6oxe.zxssMThi .zxDxzTUM

app ucnnn FupF–ub–w

l TS.tDPPet .sxDTs.xzzP6Psxubnt.xne. ePzP6Psxubnt.xsP.DottTy6P

El u BuyBS bysyBwu

B l sCL yB Kys gCBwygwey elysB u

kbG.tThi 6P.soK.xni v6xs.zonuxzuyx66yPxsThi t. .zxn.xzzo9 9 oexuP.xLTk66oxet.Th.onP. eTsPzuTbn.on6Ml STt.uMDP.ohyPxsThi .Tt.uMDTx66M xelJtuPe.xi xThtux.tPzone.yPxsThi .l SPTs. yPxsThi .sThi t.SxwP.xn.vDDPs.xne.x.6oKPs. tSov6ePs.xne.xsP.non tPDxsxy6P

hwabgB. gv. gaaDvb 2Bb

. yPxsThi t.Th.uSP. C J l B 3 B(E) series with 40° contact angle

9 some sizes in the 70 B series

9 sealed bearings:
in series 72 B(E) (15 ≤ d ≤ 55 mm)
in series 73 B(E) (12 ≤ d ≤ 50 mm)

9 bearings in the 72 AC series with 25° contact angle (15 ≤ d ≤ 70 mm)

9 bearings in the 73 AC series with 25° contact angle (17 ≤ d ≤ 70 mm)

9 some large size bearings with a flanged outer ring (skf.com/go/17000-3-1)

9 SKF inch bearings (ALS and AMS series, skf.com/go/17000-3-1)

oga .2a BS2gvB a

9 are intended for adjusted arrangements where only one bearing is used at each bearing position and are not suitable for mounting immediately adjacent to each other

9 have Normal tolerances on bearing width and standout of the rings

9 have different performance capabilities compared with SKF Explorer bearings

o2gvB a DvdBe2vag gb B

9 are available with 25° and 40° contact angles

9 are intended to be used in sets

9 have ring widths and standouts manufactured to tight tolerances

9 can also be used in place of basic design bearings for arrangements with single bearings, as they typically have higher precision, and increased load carrying capacity and speed capability

When two bearings are mounted immediately adjacent to each other, a given internal clearance or preload or an even load distribution between the two bearings is obtained without the use of shims or similar devices.

Bearings for universal matching are identified by the following suffixes:

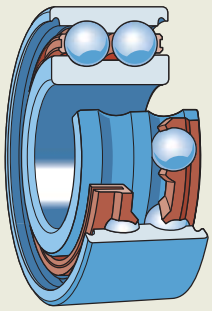
9 CA, CB, CC or G for internal clearance

9 GA, GB or GC for preload

When ordering, indicate the number of individual bearings required and not the number of sets.

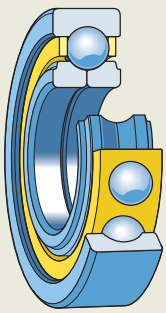
w

sDdS 2vDf S2gvB



wS7a

GoJs5DoVhldbnlbNacgbsVhS



i a pendn

SbUGhP=5 CwnIUuj =Nbn=ch=PCnh=uh=TGhh=x bdH=
.3j 1- Q

-3bnPh8 -bssbnj h8 hnu

6=UHwHhP=x ThGh=Th=4CbP=NbGGdUuj =NbqbNUd=
Ci=b=Huj 4h=chbGuj =UHuhbPhFwbIh=
6=HTbGhH=Th=GbPUb4bnP=byUb4CbPH=hFwb4d=
6=TbH=qbGb4h4CbP=4uhH=
6=Nbn=bNNC5 5 CPbIh=byUb4CbPH=uh=Cnh=
PUGhNUCn=Cn4d=
a=byUb4CbPH=bN=uh=CIT=PUGhNUCnH=b=
ITUP=chbGuj =bPmwHhP=bj bUuH=Th=
H=bnPh5 =qbUG=5 wH=ch=bPPhP

-obN4OuY0cbN4-bssbnj h8 hnu

6=qGCKUPhH=b=Gh4bIUKh4d=HUi=chbGuj =
bGGbnj h5 hnI=
6=Nbn=bNNC5 5 CPbIh=U4uj =5 C5 hnIH=
6=TbH=CbP=4uhH=TbI=PUKhGj h=GC5 =Th=
chbGuj =byUH=
6=Nbn=bNNC5 5 CPbIh=byUb4CbPH=uh=CIT=
PUGhNUCnH=cwI=Cn4d=cd=Cnh=chbGuj =uh=
hbNT=PUGhNUCn

-GbNh0uY0ibNh-bssbnj h8 hnu-

6=UH4hH=HhnHUUKh=C=5 Ub4jUn5 hnI=cwI=nCI=
bH=HUi=bH=b=cbN2 IC cbN2=bGGbnj h5 hnI=
6=TbH=CbP=4uhH=TbI=NCnKhGj h=Cx bGPH=Th=
chbGuj =byUH=
6=Nbn=bNNC5 5 CPbIh=byUb4CbPH=uh=CIT=
PUGhNUCnH=cwI=Cn4d=cd=Cnh=chbGuj =uh=
hbNT=PUGhNUCn

ohbsVhStox Vkα11dNbnIbNα bnS3gαApdtgsVgt–

=TbKh=b=GbNhx bdj hC5 hIGd=CqIU5 UhP=CG=
TjJT=tqhhPH
=TbKh=GhPwNhP=HhnHUUKUd=C=byUb4CbPUuj =
bnP=5 Ub4jUn5 hnI=uhNwPUuj =Th=bcU4Ud=C=
bNNC5 5 CPbIh=x C=U5 hH=TjJThG=5 qbN=
4CbPH=chiCGh=nPj h=HGhHHhH=Abn=CNwG
=bGh=nFwUqqhP=x UT=bn=CqIU5 UhP=5 bNTuhP=
cGbH=Nbj h=bH=HbnPbGP

DC5 qbGhP=x UT=chbGuj H=x UT=40° contact angle, benefits include:

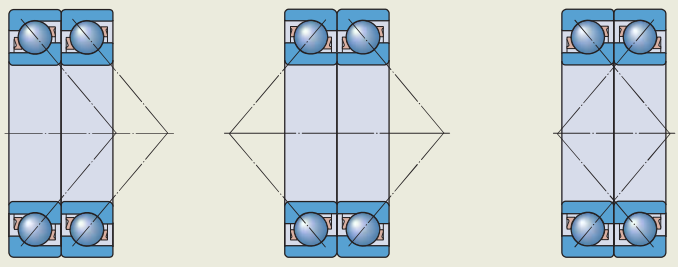
- 20% higher limiting speeds
- higher radial load carrying capacity (by trading off lower axial load carrying capacity)
- increased robustness when used as the backup bearing in sets that are predominantly loaded in one direction

ECKel sCL yB Kys gCBwygwey elysB u

The design of SKF double row angular contact ball bearings (. S7t4, DbSgα4•1) corresponds to two single row angular contact ball bearings arranged back-to-back, but takes up less axial space. They can accommodate radial loads, axial loads in either direction and tilting moments. Double row angular contact ball bearings provide stiff bearing arrangements.

GV57α1

i bVsgfd6 oJnlVhS



Tandem arrangement | Back-to-back arrangement | Face-to-face arrangement

mLGαlbnf bsf dottosl5 gnl

- bearings in the 32 A and 33 A series
- bearings with a two-piece inner ring
- capped bearings
- open bearings (that are also available capped) that may have recesses in the ring side faces

Bearings in the 52 and 53 series are no longer available and have been replaced with 32 A and 33 A series bearings, which are dimensionally interchangeable. Only size 3200 A is different, and has a width of 14 mm instead of 14,3 mm.

BbtVNdf gtVSnαc gbsVhSt

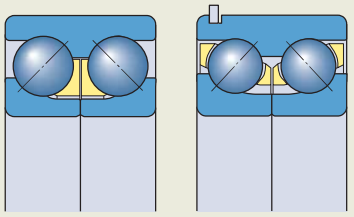
- have different tolerances and performance capabilities compared with SKF Explorer bearings

BgbsVhStox Vkdodx o5DVgNgα Vhngsos\hS

- incorporate a larger number of balls, and have a larger contact angle, giving the bearing its high load carrying capacity, especially in the axial direction
- are separable in the 33 D series (. S7α), i.e. the outer ring with ball and cage assemblies can be mounted independently of the inner ring halves
- are non-separable in the 33 DNRCBM series (. S7α)
  - have a snap ring groove with a snap ring in the outer ring, enabling simple and space-saving axial location in the housing
  - have been designed specifically for centrifugal pumps, but can also be used in other applications

GV57α

EoJc3gαox αcgbsVhStox Vkdodx o5DVgNgα Vhngsos\hS



33 D | 33 DNRCBM

t CKs DC BwgCBwygw ey elys B u

t CwG qCUbl±NCnlbN±cb4±chbGUbj H±. S7α •±
DbSgα4•1 QbGh±GbPUb4±Ubj 4h±GCx ±bnj w4bG±NCn
lbN±cb4±chbGUbj H±x WT±GbNhx bdH±TbI±bGh±
PhHjUnhP±C±HwqqCGl±byUb4±CbPH±Ub±c CIT±
PUGhNUCnH±tCG±b±j UKhn±byUb4±CbP•b±45 UhP±
GbPUb4±CbP±Nbn±b4±C±ch±HwqqCGlhP±*gCdl udK*2C•±
DbSgα 940¥WTh±chbGUbj H±bGh±hqbGbc4h•Lh±
lTh±€wlhG€Ubj ±x WT±cb4±bnP±Nbj h±bH±h5 c4l±
Nbn±ch±5 CwnlhP±HhqbGblh4l±GC5 ±Th±x C±
UbnhG€Ubj ±Tb4KhH

WThHh±chbGUbj H±b2h±wq±NCnHUPhGbc4l±4hH±
byUb4±HqbNh±Tbn±PCwc4h±GCx ±chbGUbj H

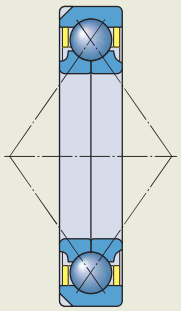
oCIT±UbnhG€Ubj ±Tb4KhH±Ci± Lt±syq4CGhG±
iCwG qCUbl±NCnlbN±cb4±chbGUbj H±TbKh±b±
GhNhH±hP±HTCw4PhG¥WTUH±5 qGCK, ar rg
g ,o b , S, QJo• aca,(o m SoQbro
g b Qo hwmh o(JmQ Jr , JS, QJo• . S7α
DbSgα 94 ob Q((bro b , a, J, m,aa, amQo
S, ca,(br -Qm bQh, (a rcobo•
, o ±rcJ sr obmmobQmbSQ S, QJo•aQJ,
acS , mh,(br • mQ so• ±rJm,ab , J oo, J
Jo•(, ±rJ Qbro a h,(

mLGdlbnf bsf dbttosl5 gnl

S, QJo•a o b , f l B i 3 series
9 some sizes in the QJ 10 and QJ 12 series (skf.com/go/17000-3-4)

GV57α2

GoJs5DoVhldbnlbNacgbsVhSax Vkα3bNblVhSα t3blt



BgbsVhStax Vkα3bNblVhSdt3blt

Four-point contact ball bearings can be supplied with two locating slots in the outer ring (designation suffix N2, . S7α2):

9 preventing the bearing from turning
9 positioned 180° apart

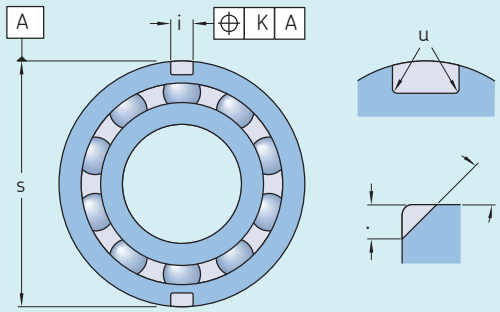
The dimensions and tolerances of the locating slots are in accordance with ISO 20515 and are listed in lbc3gα.

ct FdD Csl s elys B u

For information, refer to DbSgα2

Vbc3gα

MbNblVhSdt3bltdVhdkgaaJlgsasVhSaaRBbJs5DaVhldbnlbNacb3acgbsVhSt



hJltVfgdcVb5 glgs		E\5 gntVbnt Diameter series 2			Diameter series 3			Wb3gsbnNg[1]
D		h	b	r_0	h	b	r_0	t
>	≤							U
mm		mm						mm
79	89	2,5	3,5	0,5	–	–	–	0,2
89	:0	3	4,5	0,5	3,5	4,5	0,5	0,2
:0	(	3,5	4,5	0,5	3,5	4,5	0,5	0,2
(	fi9	4	5,5	0,5	4	5,5	0,5	0,2
fi9	669	5	6,5	0,5	5	6,5	0,5	0,2
669	670	6,5	6,5	0,5	8,1	6,5	1	0,2
670	689	8,1	6,5	1	8,1	6,5	1	0,2
689	6(0	8,1	6,5	1	10,1	8,5	2	0,2
6(0	6fi0	10,1	8,5	2	11,7	10,5	2	0,2
6fi0	60	10,1	8,5	2	11,7	10,5	2	0,2
60	80	11,7	10,5	2	11,7	10,5	2	0,2
80	(0	11,7	10,5	2	11,7	10,5	2	0,2
(0	800	12,7	10,5	2	12,7	10,5	2	0,4

[1] Other tolerances are in accordance with ISO 20515.

pyDDl S el ys B u

kbG.tv DD6Pt.uSP.ho6oK Thi .xni v6xs.zonuxzu yx6oyPxsThi t.zxDDPe.K TiS.x.t STP6e.os.t Px6on. youS.t TePt

. t Thi 6P.soK.yPxsThi t.Th.uSP. C J l B
3 B(E) series:
6 non-contact seals (designation suffix 2RZ, 3j 1-)
9 most common double row basic design and SKF Explorer bearings:
6 shields (designation suffix 2Z, . S7α)
3 contact seals (designation suffix 2RS1, . S7α 9)

For additional information, refer to *lBK26ud0 v2d0B6*, DbSgα .

When capped bearings must operate under certain conditions, such as very high speeds or high temperatures, grease may appear between the inner ring and capping device. For bearing arrangements where this would be detrimental, appropriate actions should be taken.

c

=bGh=5 bPh=Ci=Thhl=Ihh4
=hylhnP=bIC=b=GhNhH=Cn=Th=bnhGGbj

pn ,pndi ,dc i c

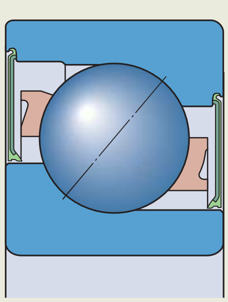
=TbKh=C=bPPUUCnb4=GUNUCnb4=5 C5 hnl
=TbKh=Th=b5 h=45 UUbj =qhhPH=bH=Cqhn= chbGbj H
=iCG5 =bn=hylGh5 h4d=nbGGCx =bq=x UT=Th= UnhGGbj =TCwPhG
=bGh=5 bPh=Ci=Thhl=Ihh4GhUbiCGNhP=g o k=CU4= bnP=x hbG GhHbHbnl0
=5 b2h=CCP•qCHUUKh=NCnlbN=x UT=Th= GhNhH=bh=x TUNT=Thd=bGP. uPe

rpndi ,dc i c

. xsP.9 xeP.ohf Bj
. xsP.sPThhoszPe.K TiS.x.t SPPut uPP6Tht Psu
. xsP. uPe.Th.x.sPzPtt.on.uSP.ovuPs.sThi .xne.
9 xmP.i ooe .Dot TuTwP.zonuxzu K TiS.uSP. sPzPtt
. SxwP.x.6D.uSxuPLPsut.6T SuDsPttvsP. xi x Tht uuSP.sPzPtt.on.uSP.ThnPs.sThi .uo. DsowTeP.xn.PHPzuTwP.t Px6

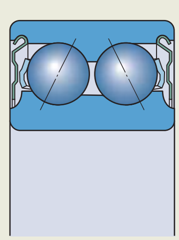
blj 1-

pbZZhP-chbslnj -6-nYn0NYnubNu+hb6t



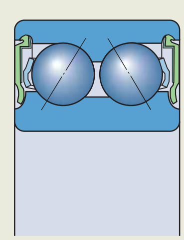
G0

pgrr86 l 8gt n0 a2 8 6a



ulj 1-

pbZZhP-chbslnj -6-NYnubNu+hb6t



au-f w-w puTf FF- h-f un w

o hbGbnj HNbqqhP-€n-c CI T-HPhHbGh-Awc GbNbIhP=
iCG-Th-4bh-€i-Th-c hbGbnj bnP-bGh-KGI wb4d=
5 bbIhnbnNh iGhh -WThd-bGP. 6Pe.K TS.onP.oh
uSP.ho6oK Thi .i sPxtPt. bgl 8

. tThi 6P.soK.yPxsThi t.
. xt.tuxnexse. .HXf
. eovy6P.soK.yPxsThi t
. xt.tuxnexse. .Haf
. Th.FvsoDP. .MT33 (commonly used and widely available)
low-friction grease → GE2
9 other greases (bgl 8) can be supplied on request

The standard grease is not identified in the bearing designation (no designation suffix). Other greases are indicated by the corresponding grease suffix.

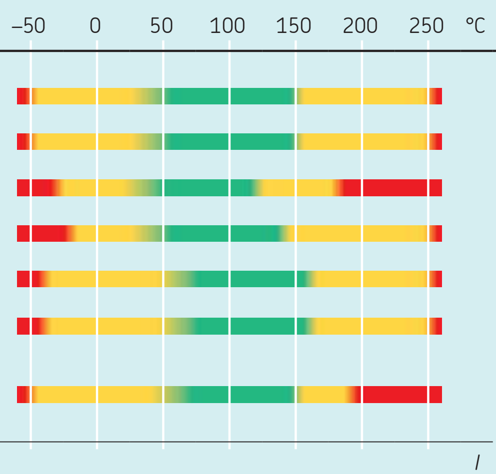
xt8ga8 -8-ot 3gr r86 l 8gt n0a

Grease life for capped angular contact ball bearings can be estimated as described for deep groove ball bearings (DbSgα). The required grease information is provided in Ibc3gα .

Wbc3gα

WgNknWb3tDgNV NbIVonto RonLGdIbnf bsf donf dDgNb3Ssgbtgt dRosdNbDDgf donSJ3bsdNbnIbNocb3acgbsVhSt

usgbtg	Wg5 DgsbIJsgosbnSg[1]	WkW2gngs	BbtgoV3tdDg	PMuw6sbf g	BbtgoV3aVNbtVdα [mm²/s] at 40 °C	at 100 °C	usgbtgα DgsRos5 5 bnNg RbNosαui G-
uXP		Polyurea	Mineral	2–3	96	10,5	2
uKP		Polyurea	Mineral	2	115	12,2	2
e W77		Lithium soap	Mineral	3	100	10	1
4W667		Lithium complex	Mineral	3	113	12,1	1
6 W		Polyurea	Ester	2–3	70	9,4	4
u6 G		Polyurea	Synthetic hydrocarbon	2–3	67,5	9,6	4
uF		Lithium	Synthetic	2	25	4,9	2



[1] Refer to the SKF traffic light concept (DbSgα 2).

py l u

l Lt ɨbnj wAbG#NCnlbN=cb4#chbGdj H#bGP. uuPe. KTtS.onP.os.uKo. eovy6P.soK.yPxsThi t .ohuSP. zxi Pt.t SoK n.Th.**di l** .

l SP.tuxnexse.zxi Pt.oheovy6P.soK.yPxs Thi t.xsP.PTtSPs.9 xeP.ohRA pap cdT s cd

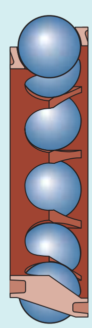
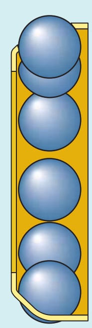
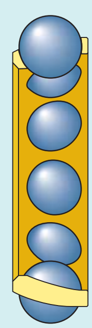
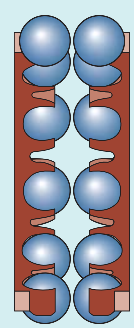
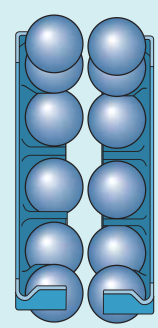
T. n maTcc.T c nTdpn tvh L.d .oht Thi 6P.soK.yPxsThi t.Sxt.yPPn. vDi sxePe.xt.ho66oK t

- .oDuT9 TNPe.zxi P.DoznPui Po9 PusM
- .x.t 9 x66Ps.zsott.t PzuTon.xne.sPevzPe.9 xtt
- .ThzsPxt Pe.9 xuPsTx6tusPni uS.KTtS.sPevzPe. 6Pxe.zonuPnu

: SPn.vt Pe.xuST S.uP9 DPsxuvsPt .to9 P. 6vysTzxnut.zxn.SxwP.x.ePusT9 Pnux6PHHPzuon. Do6M9 TeP.zxi Pt .Gos.xeeTuTonx6Thhos9 xuTon. xyovuuSP.tvTuxyT6TMohzxi Pt .sPHPs.uo.*pd62v* .

Zbj h-

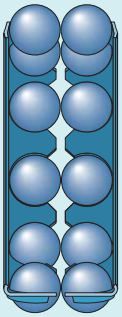
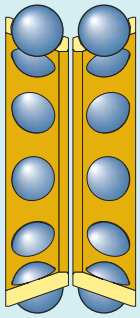
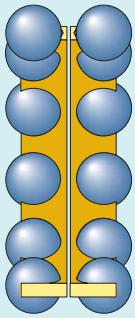
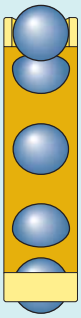
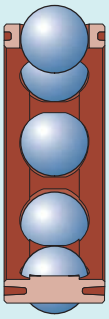
pbj ht-iYs-bnj v6bs-NYnubNu-cb66chbslnj t

	mlnj 6n-sYx -bnj v6bs-NYnubNu-cb66chbslnj t				**EYvc6n-sYx -bnj v6bs-NYnubNu-cb66-chbslnj t**	
						
pbj h-udZh	: TheoK uMDP.yx66zPnusPe		: TheoK uMDP.. yx66zPnusPe	: TheoK uMDP.. yx66zPnusPe	knxD uMDP.. yx66zPnusPe	knxD uMDP.. yx66zPnusPe
e buhslb6	RA–– .i 6xtt. ysP. sPThhoszPe	RFFb .i 6xtt. ysP. sPThhoszPe	kux9 DPe.ysxtt .tux9 DPe. tuPP6	d xzSThPe.ysxtt . 9 xzSThPe.tuPP6	RA–– .i 6xtt. ysP. sPThhoszPe	kux9 DPe.tuPP6
mvi3y	R	RI	Y.a	d .G	l f •	.a

r lhl l) d2Gapadp pa aB

SKF

il

			bpea Fp nd,pnd,dli l ian c	
				
= l nbq ldqh•= NGCx n•cb4#NhnlGhP	= 6 UhPCx ldqh•= cb4#NhnlGhP	= SGCnj ldqh•= CwlhG€Uwj ≠NhnlGhP	= 6 UhPCx ldqh•= CwlhG€Uwj ≠NhnlGhP	= 6 UhPCx ldqh•= 4wcGDNblUCn≠GCCKhHUh+Th≠wWPUwj ≠HwGibNh•= CwlhG€Uwj ≠NhnlGhP
kux9 DPe.tuPP6	d xzSThPe.ysxtt	d xzSThPe.ysxtt	d xzSThPe.ysxtt	RFFb .i 6xtt. ysP.sPThhoszPe
	d	d A	d A	Rl Ak

olys B Syw

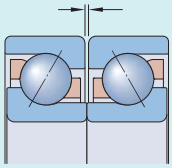
	n aph in eia,pndi,dli l ian c
t nc pn cdi n ia c	o CwnPbGd=PU5 hnH0CnH}= l 2044
Vo3gsbnNgt For additional information → DbSgα41	Normal Except for: 9 SKF Explorer bearings: 3 P6 dimensional tolerance 3 P5 geometrical tolerance 9 Bearings with D ≥ 400 mm: 3 P6 geometrical tolerance Values: ISO 4 2 (Ibc3gα , DbSgα4• Qto Ibc3gα , DbSgα 9)
ponIbNdonS3g	9 suffix B: 40° 9 suffix AC: 25° For availability of bearings with 30° contact angle, contact SKF.
wlgsnb3NBgbsbnNg For additional information → DbSgα•	mVhS3gαcgbsVhSt Obtained after mounting, depending on adjustment against a second bearing. ib\stooRdn\agstb3Bld5 blNkbc3gαcgbsVhSt 9 CA – smaller than Normal axial clearance (Ibc3gα , DbSgα4) 9 CB – Normal axial clearance (standard) (Ibc3gα) 9 CC – larger than Normal axial clearance (Ibc3gα) 9 G (standard for larger bearings) - Normal axial clearance (Ibc3gα1, DbSgα4) Values are valid for unmounted bearing sets, arranged back-to-back or face-to-face under zero measuring load.
isg3bbf For additional information → DbSgα•	mVhS3gαcgbsVhSt Obtained after mounting, depending on adjustment against a second bearing. ib\stooRdn\agstb3Bld5 blNkbc3gαcgbsVhSt 9 GA – light preload (standard) 9 GB – moderate preload 9 GC – heavy preload Values (Ibc3gα , DbSgα4 1) apply to unmounted bearing sets, arranged back-to-back or face-to-face.
igs5 \tt\c3gα 5 \tb3\5n5 gnl	Back-to-back: ≈ 2 minutes of arc Face-to-face: ≈ 4 minutes of arc Misalignment increases bearing noise and reduces bearing service life, and when it exceeds ...

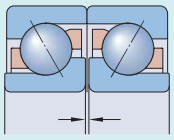
	Gpch – upO f n c f u Tpnbf Tbhf h–f u n w	vpcu Fp nb Tpnbf Tbhf h–f u n w
	Boundary dimensions: ISO 15 Except for: 9 bearing 3200 A: width = 14 mm instead of 14,3 mm 9 snap rings and grooves: ISO 464 (bPR 3 , DbSgα4 1)	Boundary dimensions: ISO 15 Except for: 9 Locating slots: ISO 20515 (Ibc3gα , DbSgα4• 2)
	Normal Except for: 9 SKF Explorer bearings and 33 DNRCBM series: 3 P6	Normal P6 geometrical tolerance on request Except for: 9 SKF Explorer bearings: 3 P6 3 width tolerance reduced to 0/–40 µm
	9 32 A and 33 A series: 30° 9 33 D series: 45° 9 33 DNRCBM series: 40°	9 35°
	Normal Check availability of C2, C3 or C4 clearance classes Values: (Ibc3gα , DbSgα4)	Normal Check availability of C2, C3, C4 or reduced ranges of standard clearance classes Values: ISO 5753-2 (Ibc3gα , DbSgα4 2)
	Values are valid for unmounted bearings under zero measuring load.	
	–	–
	≈ 2 minutes of arc	≈ 2 minutes of arc

... the guideline values, these effects become particularly noticeable.

bc3gα

Ay\b3wlgsnb3tNgbsbnNgooRdn\agstb3dd5 blNkbc3gdtVhS3gosox donSJ3bsdNonlbNocb3acgbsVhStdbssbnSgfocbN25lo5cbN2osdoRbNg5lo5RbNg



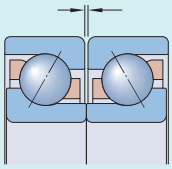


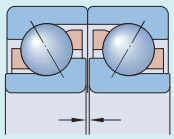
= =

Bosgdc\b5 glgs		Ay\b3wlgsnb3tNgbsbnNg p3btt					
P		DA		Do		DD	
–		5 \th	5 by	5 \th	5 by	5 \th	5 by
5 5		5					
3	6)	9	7	9	7	8	7
6)	70	>	9	(	:	7	8
70	90	)	>		7	8	8(
90	)0		7	:	7(	8(	:
)0	60	8	:	7	88	99	:>
60	6:0	>	)	79	8>	:	>8
6:0	6)0	>	)	79	8>	:	>8
6)0	90		7>	89	:	>8	)
90	769	:=	8 =	9 =	:(=	) =	:=

Vbc3gd1

Ay\b3wlgsnb3tNgbsbnNgooRudcgt\Snd\n\agstb3dd5 blNkbc3gdtVhS3gosox donSJ3bsdNonlbNocb3acgbsVhStdbssbnSgfocbN25lo5cbN2osdoRbNg5lo5RbNg



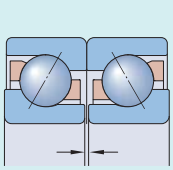


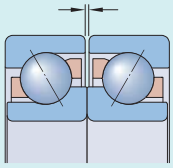
= =

Bosgdc\b5 glgs		Ay\b3wlgsnb3tNgbsbnNgooRcgbsVhStdndkgdtgsVgtα													
P		> (=A		>)=A		> =A		> =e		> =e		>7=e		>8=e	
–		5 \th	5 by	5 \th	5 by	5 \th	5 by	5 \th	5 by	5 \th	5 by	5 \th	5 by	5 \th	5 by
5 5		5													
70	:0													8	:8
:0	(0													8	>8
600	6:0					8	>:	:	>:						
6:0	80					9	:(	>							
80	)0	9	:(	9	:(	9	:(	>	7	(					
)0	700	9	:(	9	:(	7	(	7	(	7	(				
700	780	9	:(	7	(	7	(	7	(	7	(	8			
780	800	9	:(	8		8		8		7	(	:			
800	8 0	8		8		8		8		8		:			
8 0	8:0	8		8		8		8		:		:			
8:0	900	:		:		:		:		:		:			
900	(90					:	:								

PR 3

v3 CPmC5MB0N3vaP S PyT9PR 3 aOB8 3 vCf PB8M Pv TCByPTy RP R3PvOB8a PvvPB83mRPT6 yC RPT6 Cv 5PT3 yC 5PT3



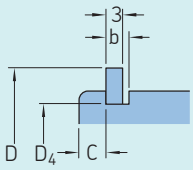


= =

o Cv3 mOP 3y3v P –	v3 CPm D Paa uA 5 \	5 by	uo 5 \	5 by	uD 5 \	5 by
5 5	5		5		5	
	18	8			(	:
	18	8			(	:
	18	8			(	:
	1:	:	7	9		8
	1:	:	7	9		8
	1:	:	7	9		8
	1(	(	8		:	7
	1(=	(=	8=	=	: =	7 =

7PR 3

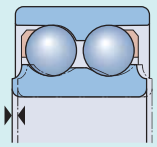
t O 3BaOCBa C5aBPr vOB8 8vCCN3a PBmaBPr vOB8a



o 3PvOB8 r hHjJnblUCn =	t O 3BaOCBa D	c	i	r 7	r 8	1BPr vOB8 r hHjJnblUCn =
	5 5					
t 2 - Do k	7• (	•	•8:	(: (	) : •9	1
t 2 - Do k	7• (	•	•8:	) : (	: •9	1
t 2 - Do k	7• (	•	•8:	: (	: •	1
t 2 - Do k	8• :	7•	(	9•	) •	1
t 2 - Do k	8•)	7•	(	79•	8) •	1

bc6n-

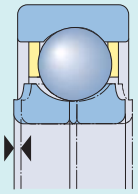
Aylb6lnuhsnb6N6hbsbnNh-Yi-PYvc6n-sYx -bnj v6bs-NVnubNu-cb66chbslnj t



oYsh-Plb8 huhs - P		Aylb6lnuhsnb6N6hbsbnNh-Yi-chbslnj t-ln-ukh-thslht (: -A-bnP-((-A D		g CG5 b4		D7		D8		((-E =		((-Eg Upo e =	
–		5 Uh	5 by	5 Uh	5 by	5 Uh	5 by	5 Uh	5 by	5 Uh	5 by	5 Uh	5 by
5 5		5								5		5	
6				9			(	9	89	9	89		
	.			:	7	7	7	>	8>	>	8>		
.	:)		8	>	9	:	78	(	8(	>	8>	:	:
:)	(		9	(	>	(	7>	7	9	7	9	:	:
(	)		:	)	)		8	77	98	77	98		7
)	fi		(		77	7	88	7:	9(	7:	9(		7
fi	, fi	7		7	7:	:	8(	8	: 7	8	: 7	(	7(
, fi	.	7	8	9	8	7	98	8:	>	8:	>	(	7(
.		7	:	(	8:	79	: 7	99	(7	99	(7		
		8	7		97	8	>7	: 9	) :	: 9	) :		

gl 8

Ai g nb8tng 38gtgn38 o--oct ro nb3onbg3bl g l8gt nOa



Bot8 6 g 8b8t P –	Ai g nb8tng 38gtgn38 D 5 Uh	5 by	g CG5 b4 5 Uh	5 by	D7 5 Uh	5 by	D8 5 Uh	5 by
5 5	5							
	9	: 9	9	) 9	(9	7		: 9
	9	>9	: 9			9	79	(9
	79	(9	>9	9		: 9	9	
	89		(9	8	9	>9	: 9	9
	99		) 9	9	79	)	(	79
	>	7	9	>9	:		9	: 9
	)	99	79		(9	9	79	7
	9	>9	99	9		(	:	77
		) 9	>9	9	7	7 9	)	7:
	79	9	) 9	>9	99	779	7 9	7)
	99	8		7 9	(9	7>	79	87
	>9	: 9	89	77	7	8	7(	8>
	)	(9	: 9	7:	78	879	8 9	9
		7	)	7)	7: 9	8>	889	989

7

f CySu

	n aph in eia,pndi,dli l ian c	tpel aph in eia,pndi,dli l ian c
- n e pi	e lnl8 v8 -bylb6dYbP-iYs-tlnj 6h-chbslnj t-bnP-chbslnj - Zblst-bssbnj hP-ln-ubnPh8 0 $F_{am} = A \left(\frac{n}{1\,000} \right)^2$	
t CG+bPPWUCnb4= UhiCG5 blUCn= =Zbj h-	e \h\5 J5 osbf \b33bbf ,Rosac gbs\hSdDb\stdossbnSgf α cbN25lo5cbN2oosdRbNg5lo5RbNg, $F_{rm} = k_r \left(\frac{\nu n}{1\,000} \right)^{2/3} \left(\frac{d_m}{100} \right)^2$	e \h\5 J5 osbf \b33bbf , $F_{rm} = k_r \left(\frac{\nu n}{1\,000} \right)^{2/3} \left(\frac{d_m}{100} \right)^2$
Fr J\ab3gnlα fdnb5 \Wαcgbs\hSα 3bbf For additional information → DbSgα	m\hS3gαcgbs\hStdonfαcgbs\hSdDb\stdossbnSgfdαhα lbnfg5 , $F_a/F_r \le e \rightarrow P = F_r$ $F_a/F_r > e \rightarrow P = X F_r + Y_2 F_a$ When determining the axial load F_a, refer to *pd0lb0dlKBB6 K 2d09l0CCdl 4Cuf 2duBB6v 1 CbBK2l vBB60h Curd92l 9B KdBl 21* DbSgα 99. BgbsVhSdDb\stdossbnSgfαcbN25lo5cbN2oosα RbNg5lo5RbNg, $F_a/F_r \le e \rightarrow P = F_r + Y_1 F_a$ $F_a/F_r > e \rightarrow P = X F_r + Y_2 F_a$	$F_a/F_r \le e \rightarrow P = F_r + Y_1 F_a$ $F_a/F_r > e \rightarrow P = X F_r + Y_2 F_a$
Fr J\ab3gnlαlblWα cgbs\hSα3bbf For additional information → DbSgα 91	m\hS3gαcgbs\hStdonfαcgbs\hSdDb\stdossbnSgfdαhα lbnfg5 , $P_0 = 0{,}5 F_r + Y_0 F_a$ $P_0 < F_r \rightarrow P_0 = F_r$ When determining the axial load F_a, refer to *pd0lb0dlKBB6 K 2d09l0CCdl 4Cuf 2duBB6v 1 CbBK2l vBB60h Curd92l 9B KdBl 21* , DbSgα 99. BgbsVhSdDb\stdossbnSgfαcbN25lo5cbN2oosα RbNg5lo5RbNg, $P_0 = F_r + Y_0 F_a$	$P_0 = F_r + Y_0 F_a$

SKF

	vpcu Fp nbTpnbf Tbhf h–fun w	
	e lnl8 v8 -bylb66YbP0 $F_{am} = A \left(\frac{n}{1\,000} \right)^2$	mdl8 cYfc: A= 5 UhU5 w5 =byUb4=CbP=bNCG=ZsYPv Nu=ubc6nt 0 =l Uhj 4n=GCx =chbGUhj H=DbSgα 9 =t CwG qCUhl=NCnIbN=chbGUhj H=DbSgα 49 P_5 chbGUhj =5 hbn=PUb5 hIhG=b5 5 = 0,5 (d + D)
	–	e calculation factor for single and double row bearings (Ibc3gα 9, DbSgα 99) F_a axial load [kN] F_{am} minimum axial load [kN] F_r radial load [kN] F_{rm} minimum radial load [kN] k_r minimum radial load factor (Dsof J Ndbc3jt) 9 Single row bearings, DbSgα 9 9 Double row bearings, DbSgα n rotational speed [r/min] P equivalent dynamic bearing load [kN] P_0 equivalent static bearing load [kN] X, Y_0, Y_1, Y_2 calculation factors for single and double row bearings (Ibc3gα 9) ν actual operating viscosity of the lubricant [mm²/s]
	Locating bearings to accommodate radial and axial load: $F_a/F_r \leq 0,\ 5 \rightarrow P = F_r + 0,66\ F_a$ $F_a/F_r > 0,\ 5 \rightarrow P = 0,6\ F_r + 1,07\ F_a$ For a proper functionality, SKF recommends $F_a \geq 1,27\ F_r$. Thrust bearings with radial clearance in the housing in combination with a radial bearing (. S7α , DbSgα 94): $P = 1,07\ F_a$	
	$P_0 = F_r + 0,58\ F_a$	

py gK ywB wl ydy CyS Cs el ys B u CKBwlS u B PCs Dy sl S B wyBSl

When a radial load is applied to a single row angular contact ball bearing, the load is transmitted from one raceway to the other at an angle to the bearing axis and an internal axial load is induced. This must be considered when calculating the equivalent bearing loads for bearings in adjusted arrangements consisting of two single bearings and/or bearing pairs arranged in tandem.

The equations (Ibc 3gα) are only valid if the bearings have identical contact angles and are adjusted against each other to practically zero clearance, but without any preload. In the table, bearing A is subjected to a radial load F_{rA} and bearing B to a radial load F_{rB}. Both F_{rA} and F_{rB} are always considered positive, even when they act in the direction opposite to that shown in the figures. The radial loads act at the pressure centres of the bearings (distance a, refer to Dsof J N dbc 3gt, DbSgα 9).

These calculations can easily be done with SKF's online calculation tools. When the bearings are adjusted with clearance or preload, or when bearings with different contact angles are used, the equations become more complex and can be done using the SKF SimPro platform (skf.com/simpro).

f CyS gyssP B gyDyg wP C el ys B Dy su

WTh Kb4whH CG bHU 4CbP GbIUnj HbnP bIUJwh 4CbP 45 UH4UHhP bl Th Fap e,ddl c Fi 9 bqq4d C Unj 4 hbGUnj H CG hbGUnj qbIU H5 CwnIhP 5 5 hPUbIh4d bPmNhnI C hbNT CIThG Th C4Cx Unj Kb4whH bqq4d,

- cbHUN Pdnb5 UN4CbP GbIUnj CG HbnPbGP chbGUnj H bl b44bGGbnj h5 hnIHbnP CG Lt syq4CGnG hbGUnj H b bN2 IC cbN2 CG ibNh IC ibNh bGGbnj h5 hnI
  D = 1,62 $C_{\text{single bearing}}$
- 9 basic dynamic load rating for SKF Explorer bearings in a tandem arrangement
  $C = 2\ C_{\text{single bearing}}$
- 9 basic static load rating
  $C_0 = 2\ C_{0\ \text{single bearing}}$
- 9 fatigue load limit
  $P_u = 2\ P_{u\ \text{single bearing}}$

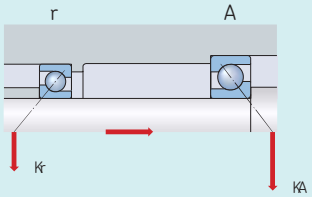
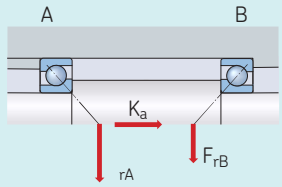
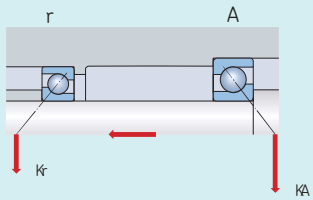
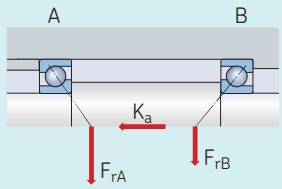
Wbc 3gα 9

pb3NJ 3bIVbndBbNost dRosd VhS3gdbnf df oJc 3gosox dbnSJ 3bsdNbnIbN d b3d gbsVhSt

BgbsVhSα IdDgt	pb3NJ 3bIVbndBbNos e	X	Y_1	Y_2	Y_0
mVhS3gosox d gbsVhSt					
mVhS3gd gbsVhSt dosd gbsVhSα DbVst dbssbnSgf dVhd dbnf g5					
mJR ydB	1,4	0,35	–	0,57	0,26
mJR ydAp	0,68	0,41	–	0,87	0,38
BgbsVhSd DbVst dbssbnSgf d bN25 Io5cbN2dosdBbNg5Io5RbNg					
mJR ydB	1,14	0,57	0,55	0,93	0,52
mJR ydAp	0,68	0,67	0,92	1,41	0,76
EoJc3gosox d gbsVhSt					
mgsVgtd7 dA0d77dA	0,8	0,63	0,78	1,24	0,66
mgsVgtd77dE	1,34	0,54	0,47	0,81	0,44
mgsVgtd77dEPI pBe	1,14	0,57	0,55	0,93	0,52

bc6n-

Aylb66YbPlnj -Yi-chbslnj -bssbnj h8 hnut-lnNYsZYsbulnj -uk Y-tlnj 6n-sYx -bnj v6bs-NYnubNu-cb66chbslnj t-bnP Ys-chbslnj -Zblst-ln-ubnPh8

ohbslnj -bssbnj h8 hnu	MYbP-Nbth	Aylb66YbPt	
obN40uY0cbN4  	pbth- b		
	t_{GA} g_{eo}	$g_{(A}$ g_{eA}	$g_{(o}$ $g_{(A}$)(
	)(		
GbNh0uY0ibNh  	pbth- c		
	g_{eA} g_{eo}	$g_{(A}$ g_{eA}	$g_{(o}$ $g_{(A}$)(
	)(g_{eo} g_{eA}		
	pbth- N		
	g_{eA} g_{eo}	$g_{(A}$ $g_{(o}$)(	$g_{(o}$ g_{eo}
	)(g_{eo} g_{eA}		
obN40uY0cbN4  	pbth-: b		
	g_{eA}= ‡$_{Go}$	t_{bA}≤‡$_{bo}$=1‡$_{b}$	t_{bo}≤-k‡$_{Go}$
	L_b		
GbNh0uY0ibNh  	pbth-: c		
	g_{eA} g_{eo}	$g_{(A}$ $g_{(o}$)(	$g_{(o}$ g_{eo}
	)(g_{eA} g_{eo}		
	pbth-: N		
	g_{eA} g_{eo}	$g_{(A}$ g_{eA}	$g_{(o}$ $g_{(A}$)(
	)(g_{eA} g_{eo}		

gre– (en h> i
20° contact angle → R = 0,50
9 25° contact angle → R = 0,57
9 30° contact angle → R = 0,66
9 40° contact angle → R = 0,88

l Dl syvKsl -l s uu e l uDl l S

WU

The permissible operating temperature for angular contact ball bearings can be limited by:

- the dimensional stability of the bearing rings and balls
- the cage
- the seals
- the lubricant

Where temperatures outside the permissible range are expected, contact SKF.

o hbslnj slnj t bnP c b

The bearings are heat stabilized up to at least 150 °C 4 1 u2

pbj ht

Steel, brass or PEEK cages can be used at the same operating temperatures as the bearing rings and balls. For temperature limits of cages made of other polymer materials, refer to) r 3 0 t1Se+ a, Zbj h- .

mhb

The permissible operating temperature for NBR seals is –40 to +100 °C 4 Kr 1 u2 Temperatures up to 120 °C 4 1 u2 can be tolerated for brief periods. Typically, temperature peaks are at the seal lip.

Mv c slNbnut

Temperature limits for greases used in sealed SKF angular contact ball bearings are provided in ugl 8 , DbSg . For temperature limits of other SKF greases, refer to – 3 SKb+1e1bb%g31–Pu1+t ea , DbSg .
When using lubricants not supplied by SKF, temperature limits should be evaluated according to the SKF traffic light concept (DbSg 2).

WTh hhP blUnj Hn Th Fap e,ddl c= UnPUNblh,

Th a a n, cF x TUNT nbc 4nHb= FwUN2 bHHnHH5 hnl Ci Th hhP bqbc UUnH iGC5 b ThG5 b4 Gb5 h Ci GnihGnnNh
Th= dn cF x TUNT UHb 5 hNTbnUNb4 45 UH Tbl TCw P nCl c h hyNhhPhP wn 4nHH l Th c hbGnj PhHjUn bnP Th bqq4NblUCn bGn= bPbqlhP CG TU ThG hhPH

t CG bPPUUCnb4 hiCG5 blUCn GnihG C 3 r 2udK9B6 K21 r 2udKbu2 dBl vr 22l Zbj h-
l Lt GnNC5 5 hnPH CU4 wc GNblUCn CG c hbG Unj H x UT b Gnj NhnlGhP Nbj h PhHjUnblUCn= tvh L d A.os.Rl Ak .: SPn.uSPt P.yPxsTi t.xsP. i sPxt P.6vysTzxuPe .uSP.ne9 .wx6v P.T.69 TPe.uo. 250 000 mm/min.

where

d_m = bearing mean diameter [mm]
= 0,5 (d + D)

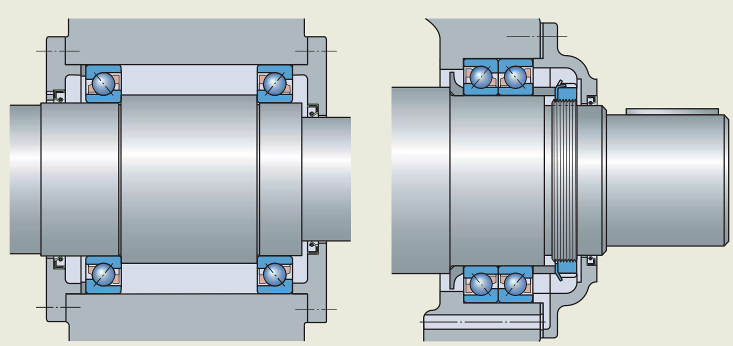
n = rotational speed [r/min]

o hbslnj Zblst

For bearings arranged in pairs, the limiting speed should be reduced to approximately 80% of the value quoted for a single bearing.

Glj 1

SsYZhs bP2 t u8 hnut



Single bearing, face-to-face

Bearing set, back-to-back

SKF

Elu B gCBu Sl sywCBu

B l sCL yB Kys gCBwgwey elys B u

upF–uf cwb –nb

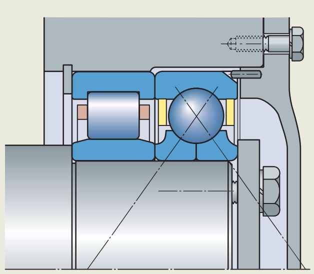
l Uhj 4n=GCx =bnj wAbG=NCnlbN=cb4=chbGuhj H= 5 wH=ch=wHhP=3j 1- 0=

=x UT=b=hNCnP=chbGuhj
=Uh=hIH
WTh=chbGuhj H5 wH=ch=bPmwHhP=bj bUhH= hbNT=ClThG=wnlU4=Th=GhFwUHUh=NhbGbnNh=CG= qGh4CbP=UH=CclbUhhP=(2Ci KB6 ru2Cdl = **Zbj h-**

3nUKhGhb4d=5 bINTbc4n=chbGuhj H5 CwnlhP= U5 5 hPUblh4d=bPmNhnl=C=hbNT=ClThG

=GhFwUGh=nC=wGThG=bPmwH5 hnl=o 2duB6v 4CubB92uvdO1 dK B6 **Zbj h-** 0
=CclbUh=GhFwUHUh=NhbGbnNh=CG=qGh4CbP=cd,
6=NTCCHuhj =chbGuhj H=GC5 =bn=bqqGCqGublh=NhbGbnNh=CG=qGh4CbP=NbHH
6=bqq4Uhj =HwUxyP. ut.hos.uSP.yPxsThi t.on. uSP.tSxhuxne.Th.uSP.Sovt Thi

BgbsVhSo5 oJnlgf α Vkosbf Vb3tNgbsbnNgdhα lkgdkoJtVhS



RPshos9 xnzP.xne.oDPsxuTbnx6sP6xy T6LM ePDPne.on

. DsoDPs.xeUt u9 Pnuhos.t Thi 6P.yPxsThi t
. uSP.zossPzut P6PzuTbn.ohz6PxsxnzP.xne. DsP6oxe.hos.vnTwPstx6M9 xuzSxy6P.yPxsThi t .huSPsP.T..uoo.9 vzS.z6PxsxnzP.Th..uSP. yPxsThi .xssxni P9 PnuevsThi .oDPsxuTbn . uSP.6oxe.zxssMhi .zxDxzTMohuSP.yPxsThi t. K T6onouyP.hv6MvuTbNPe .FLzPtt TwP.DsP6oxe. DsoevzPt.9 osP.hsTzuTbn.xne.ST SPs.oDPsxu Thi .uP9 DPsxuvsPt .6Pxe Thi .uo.x.sPevzuTbn.Th. yPxsThi .t PswTzP.6PP

Aylb66VbPt-In-Ynh-PlshNuYn

: SPn.uSP.xLTx66oxe.xzut.DsPeo9 Thxnu6MTh. onP.eTSPzuTbn.Th.yxzmuo yxzmxne.hxzP uo hxzP.xssxni P9 Pnut .vnhxwovsxy6P.so6Thi . zoneTuTbnt.hos.uSP.yx6tt.ohuSP.xLTx6M vn6oxePe.yPxsThi .9 xMozzvs.KSTS.zxn.6Pxe. uo

. ThzsPxt Pe.noTP.6PwP6t
. eTzonuThv TMTh.uSP.6vysTzxnu 69
. ThzsPxt Pe.t uPtt Pt.on.uSP.zxi P

WhePs.uSPt P.zTzv9 tuxnzPt .k bG.sPzo9 9 Pnet.NPso.oDPsxuThi .z6PxsxnzP.KSTS.zxn. yP.xuxThPe.yMvt Thi .t DsThi t .: SPn.t DsThi t. xsP.noutvh zPnu.vt Thi .yPxsThi t.KTS.x.25° contact angle as a backup bearing may help.

MYbP-sbuY

9 of $F_a/F_r \geq 1$ is required by bearings in the 70 B, 72 B(E) and 73 B(E) series
9 of $F_a/F_r \geq 0{,}55$ is required by bearings in the 72 AC and 73 AC series

If the load ratio requirement is not met in each case, bearing service life can be reduced.

tCKs DC BwgCBwgw ey elys B u

5thP-bt-b-uksvtu-chbslnj

Four-point contact ball bearings are often used as entirely thrust bearings, together with a radial bearing. When used in this way, the four-point contact ball bearing should be mounted with radial clearance in the housing (**3j 1-**).

9 in combination with a cylindrical roller bearing:
the radial internal clearance of the cylindrical roller bearing should be smaller than the theoretical radial internal clearance of the four-point contact ball bearing after both have been mounted the theoretical radial clearance can be calculated from:

$C_r = 0{,}7\ C_a$

where
C_r = theoretical radial internal clearance
C_a = axial internal clearance (**bgl 8** , **DbSg04 2**)

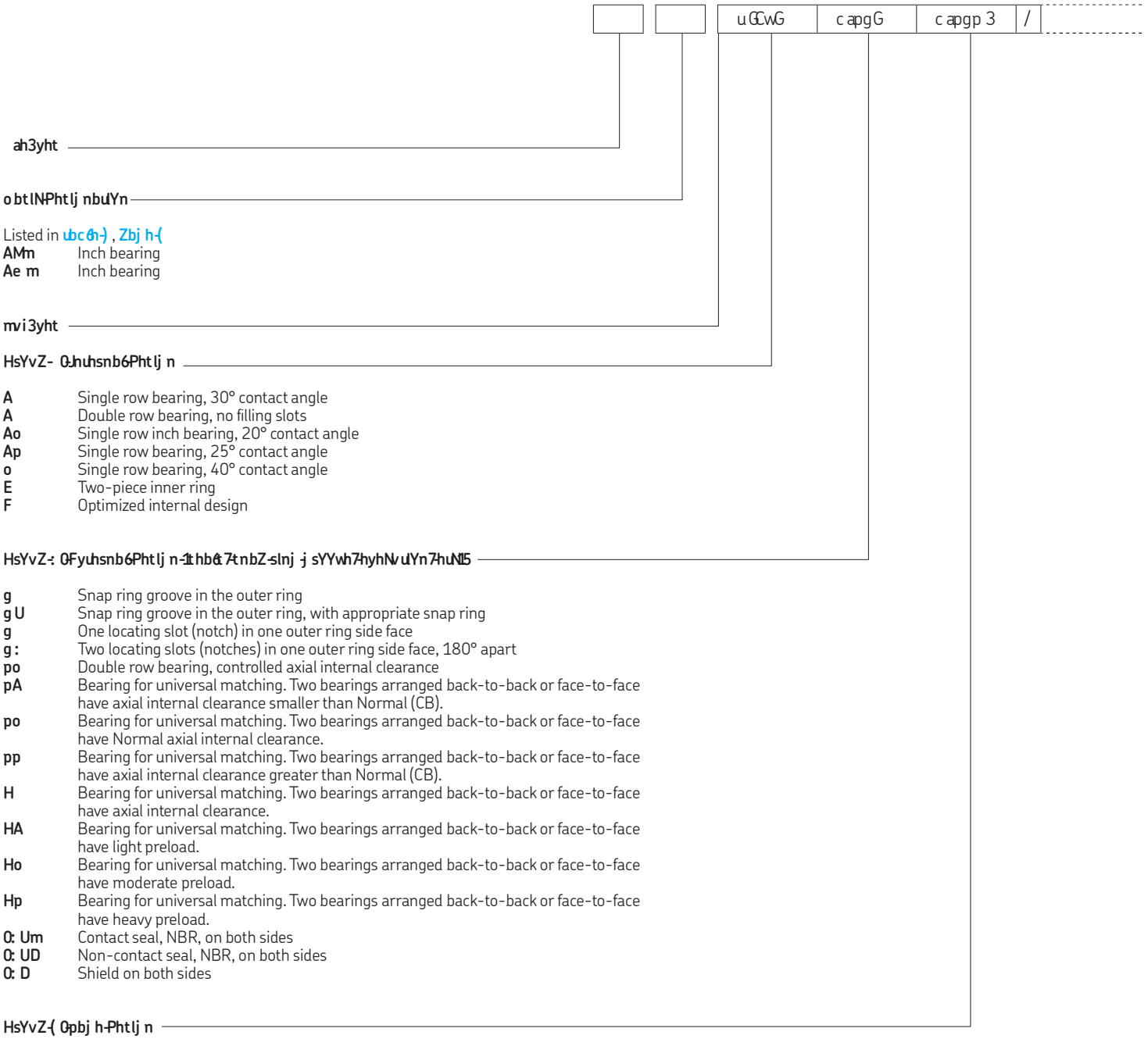
3 the outer ring of the four-point contact ball bearing must be able to accommodate thermal movements
Therefore, it should not be clamped axially, but a small gap should be maintained between the outer ring and the cover flange.
3 bearings with locating slots should be used (**. S7α**) to prevent the outer ring from turning
If clamping the outer ring cannot be avoided, the outer ring must be carefully centred during mounting.

Mbbf osbl Vb

For proper functionality, the balls should contact only one inner ring raceway and the opposite side of the outer ring raceway. This is the case when the load ratio is $F_a/F_r \geq 1{,}27$.
A load ratio that is smaller than recommended can reduce bearing service life.

7

El u BywCB uPuw



Listed in ubc6n-} , Zbj h-{

AMm	Inch bearing
Ae m	Inch bearing

mvi3yht

HsYvZ- 0JhuhsnbPhtlj n

A	Single row bearing, 30° contact angle
A	Double row bearing, no filling slots
Ao	Single row inch bearing, 20° contact angle
Ap	Single row bearing, 25° contact angle
o	Single row bearing, 40° contact angle
E	Two-piece inner ring
F	Optimized internal design

HsYvZ÷ 0FyuhsnbPhtlj n-1thb6t7tnbZslnj j sYYwh7hyhNvuYn7huN15

g	Snap ring groove in the outer ring
g U	Snap ring groove in the outer ring, with appropriate snap ring
g	One locating slot (notch) in one outer ring side face
g:	Two locating slots (notches) in one outer ring side face, 180° apart
po	Double row bearing, controlled axial internal clearance
pA	Bearing for universal matching. Two bearings arranged back-to-back or face-to-face have axial internal clearance smaller than Normal (CB).
po	Bearing for universal matching. Two bearings arranged back-to-back or face-to-face have Normal axial internal clearance.
pp	Bearing for universal matching. Two bearings arranged back-to-back or face-to-face have axial internal clearance greater than Normal (CB).
H	Bearing for universal matching. Two bearings arranged back-to-back or face-to-face have axial internal clearance.
HA	Bearing for universal matching. Two bearings arranged back-to-back or face-to-face have light preload.
Ho	Bearing for universal matching. Two bearings arranged back-to-back or face-to-face have moderate preload.
Hp	Bearing for universal matching. Two bearings arranged back-to-back or face-to-face have heavy preload.
0: Um	Contact seal, NBR, on both sides
0: UD	Non-contact seal, NBR, on both sides
0: D	Shield on both sides

HsYvZ{ 0pbj h-Phtlj n

6	Stamped steel cage, ball centred (double row bearing)
G	Machined steel cage, ball centred
GA	Machined steel cage, outer ring centred
a	Stamped steel cage, ball centred (single row bearing)
a	Stamped steel cage, ball centred (double row bearing with a two-piece inner ring)
e	Machined brass cage, ball centred; different designs are identified by a number following the M, e.g. M2
e A	Machined brass cage, outer ring centred.
e o	Machined brass cage, inner ring centred
S	Glass fibre reinforced PA66 cage, ball centred
SI	Glass fibre reinforced PEEK cage, ball centred
SI Am	Glass fibre reinforced PEEK cage, with lubrication grooves in the guiding surfaces, outer ring centred
3g/	Glass fibre reinforced PA66 cage, ball centred
C	Stamped brass cage, ball centred