

Supplementary designations - suffixes

It should be noted that the appearance of a suffix in the alphabetical list, which follows, does not mean that a particular variant is available.

- A** Deviating or modified internal design with same boundary dimensions. As a rule the significance of the letter is bound to the particular bearing or bearing series
Examples: 4210 A Double row deep groove ball bearing without filling slots
7056 A Single row angular contact ball bearing with 30° contact angle
- AC** Single row angular contact ball bearing with 25° contact angle
- ACD** Single row angular contact ball bearing, optimised internal design, 25° contact angle
- ADA** Double row full complement cylindrical roller bearing with wide snap ring grooves in outer ring, two inner ring halves held together by U-shaped retaining ring
- AS** Needle roller bearing with lubrication hole(s) in outer ring. A figure following the AS indicates the number of holes
- ASR** Needle roller bearing with annular groove and lubrication hole(s) in outer ring. A figure following the ASR indicates the number of holes
- Axx(x)** A combined with a two or three-figure number identifies variants of the standard design, which cannot be identified by generally applicable suffixes
- B** 1. Deviating or modified internal design with same boundary dimensions. As a rule the significance of the letter is bound to the particular bearing or bearing series
Examples: 7210 B Single row angular contact ball bearing with 40° contact angle
32210 B Taper roller bearing with steep contact angle (steeper than 32210)
2. Taper roller bearing to ABMA standard with external flange on outer ring
- BE** Single row angular contact ball bearing with 40° contact angle and optimised internal design
- BEJ** Single row angular contact ball bearing with 40° contact angle and optimised internal design, with ball centred pressed steel cage
- BEM** Single row angular contact ball bearing with 40° contact angle and optimised internal design, with machined brass cage

- BEP** Single row angular contact ball bearing with 40° contact angle and optimised internal design, with moulded cage of glass fibre reinforced polyamide 6,6
- BEY** Single row angular contact ball bearing with 40° contact angle and optimised internal design, with ball centred pressed brass cage
- Bxx(x)** B combined with a two or three-figure number identifies variants of the standard design, which cannot be identified by generally applicable suffixes
Example: /B20 Reduced width tolerance
- C**
1. Deviating or modified internal design with same boundary dimensions. As a rule the significance of the letter is bound to the particular bearing
Examples: 7210 C Single row angular contact ball bearing with 15° contact angle
BSA 205 C Spherical roller bearing with flangeless inner ring, symmetrical rollers, loose guide ring and pressed steel cage
 2. Y-bearing with cylindrical outside diameter, e.g. YET 205 C
- CA**
1. Spherical roller bearing of C design, but with retaining flanges on inner ring and machined cage
 2. Single row angular contact ball bearing for universal pairing in back-to-back, face-to-face or tandem arrangement. When arranged back-to-back or face-to-face there will be a slight axial clearance
- CAB** Spherical roller bearing of CA design but with pierced rollers and pin-type cage
- CABC** Spherical roller bearing of CAB design but with enhanced roller guidance and correspondingly reduced friction
- CAC** Spherical roller bearing of CA design but with enhanced roller guidance and correspondingly reduced friction
- CB** Single row angular contact ball bearing for universal pairing in back-to-back, face-to-face or tandem arrangement. When arranged back-to-back or face-to-face there will be an axial clearance greater than CA
- CC**
1. Spherical roller bearing of C design but with enhanced roller guidance and correspondingly reduced friction
 2. Single row angular contact ball bearing for universal pairing in back-to-back, face-to-face or tandem arrangement. When arranged back-to-back or face-to-face there will be an axial clearance greater than CB
- CD** Single row angular contact ball bearing, optimised internal design, 15° contact angle

- CLN** Taper roller bearing with reduced total (abutment) and ring width tolerances corresponding to ISO tolerance class 6X
- CL0** Inch-size taper roller bearing with increased accuracy to ISO tolerance class 0 specifications (ISO standard now withdrawn) = ANSI-ABMA Standard 19 tolerance class 0
- CL00** Inch-size taper roller bearing with increased accuracy to ISO tolerance class 00 specifications (ISO Standard now withdrawn) = ANSI-ABMA Standard 19 tolerance class 00
- CL3** Inch-size taper roller bearing with increased accuracy to ISO tolerance class 3 specifications (ISO Standard now withdrawn) = ANSI-ABMA Standard 19 tolerance class 3
- CL7A** Previous standard taper roller bearing quality for pinion bearing arrangements
- CL7C** Current standard taper roller bearing quality for pinion bearing arrangements
- CN** Normal internal clearance, normally only used together with a second letter which identifies a reduced or displaced clearance range
 Examples: /CNH Upper half of Normal clearance range
 /CNM Two middle quarters of Normal clearance range
 /CNL Lower half of Normal clearance range
 /CNP Upper half of Normal and lower half of C3 clearance
 /CNR Normal clearance range to DIN 620-4 from 1982
 (cylindrical roller bearings)
- CV** Full complement cylindrical roller bearing with modified internal design
- 2CS** Sheet steel reinforced rubbing seal of nitrile rubber (NBR) at both sides of spherical roller bearing; a figure following CS indicates a change of design or material, e.g. -2CS2 sheet steel reinforced rubbing seal of fluoro rubber (FPR) at both sides of spherical roller bearing
- 2CSW** Sheet steel reinforced rubbing seal of nitrile rubber (NBR) at both sides of spherical roller bearing. Without lubrication groove and holes in the outer ring
- C1** Bearing internal clearance smaller than C2
- C2** Bearing internal clearance smaller than Normal
- C3** Bearing internal clearance greater than Normal
- C4** Bearing internal clearance greater than C3
- C5** Bearing internal clearance greater than C4
- A letter (H, M, L or P) following the clearance class is used to indicate that the clearance range is reduced or displaced, see under CN.

C01	Reduced running accuracy tolerance range for inner ring
C02	Reduced running accuracy tolerance range for inner ring, smaller than C01
C023	C02 + C3
C03	Reduced running accuracy tolerance range for outer ring
C04	Reduced running accuracy tolerance range for outer ring, smaller than C03
C05	C01 + C03
C06	C02 + C03
C07	C01 + C04
C08	C02 + C04
C083	C02 + C04 + C3
C084	C02 + C04 + C4

D 1. Deviating or modified internal design with same boundary dimensions; as a rule the significance of the letter is bound to the particular bearing or bearing series

Examples: 3310 D Double row angular contact ball bearing with 45° contact angle

K 40×45×17 D Split needle roller and cage assembly (radial)

2. Inner ring with two roller and cage assemblies (double cone) or outer ring with two raceways (double cup) of double row taper roller bearing to ABMA standard (normally inch-size)

DB Two single row deep groove ball bearings, single row angular contact ball bearings or single row taper roller bearings matched for mounting in a back-to-back arrangement; the letter(s) following the DB indicate the magnitude of the axial internal clearance or preload in the bearing before mounting; for paired taper roller bearings the design and arrangement of the intermediate rings between the inner and/or outer rings are identified by a two-figure number which follows immediately after DB

A Light preload (angular contact ball bearings)

B Preload greater than A (angular contact ball bearings)

C Preload greater than B (angular contact ball bearings)

CA Small axial internal clearance (deep groove and angular contact ball bearings)

CB Axial internal clearance greater than CA (deep groove and angular contact ball bearings)

CC Axial internal clearance greater than CB (deep groove and angular contact ball bearings)

CG "Zero" clearance (taper roller bearings)

C... Special axial internal clearance (the figures following the C give the magnitude of the axial clearance in μm)

GA Light preload (deep groove ball bearings)

GB Preload greater than GA

G... Special preload (the figures following the G give the magnitude of the preload in daN)

DF Two single row deep groove ball bearings, single row angular contact ball bearings or single row taper roller bearings matched for mounting in a face-to-face arrangement; the letter(s) following the DF are explained under DB

- DG** Two single row angular contact ball bearings for universal pairing, i.e. paired for mounting in a back-to-back, face-to-face or tandem arrangement; supplementary designations for axial internal clearance and preload are explained under DB
- DH** Single direction thrust bearing with two housing washers
- DR** Two single row deep groove ball bearings or cylindrical roller bearings paired to achieve even radial load distribution
- DS** 1. Single direction thrust bearing with two shaft washers
2. Split radial needle roller and cage assembly
- DT** Two single row deep groove ball bearings, single row angular contact ball bearings or single row taper roller bearings matched for mounting in a tandem arrangement; for paired taper roller bearings the design and arrangement of the intermediate rings between the inner and/or outer rings are identified by a two-figure number which follows immediately after DT
- D8** Deep groove ball bearing of open design, also available as standard with shields or seals, but without seal recesses in the outer ring
- E** Deviating or modified internal design with same boundary dimensions; as a rule the significance of the letter is bound to the particular bearing or bearing series; usually indicates reinforced rolling element complement
- EC** Single row cylindrical roller bearing with optimised internal design
- Exx(x)** E combined with a two or three-figure number identifies variants of the standard design, which cannot be identified by generally applicable suffixes
- F** Machined steel or special cast iron cage; different designs or materials are identified by a figure following the F
- FA** Machined steel or special cast iron cage; outer ring centred
- FB** Machined steel or special cast iron cage; inner ring centred
- 2F** Y-bearing with plain flinger at both sides
- G** Single row angular contact ball bearing for universal pairing in a back-to-back, face-to-face or tandem arrangement; when mounted back-to-back or face-to-face, the bearing pair will have a small axial clearance
- GA** Single row angular contact ball bearing for universal pairing in a back-to-back or face-to-face arrangement; when mounted the bearing pair will have a slight preload

GB Single row angular contact ball bearing for universal pairing in a back-to-back or face-to-face arrangement; when mounted the bearing pair will have a preload greater than GA

GC Single row angular contact ball bearing for universal pairing in a back-to-back or face-to-face arrangement; when mounted the bearing pair will have a preload greater than GB

Gxx Lubricating grease, a second letter after the G indicates the operating temperature range and a third letter identifies the actual grease; the significance of the second letter is as follows:

E Extreme pressure grease

F Food compatible grease

H, J High temperature grease, -20 to +130 °C

L Low temperature grease, -50 to +80 °C

M Medium temperature grease, -30 to +110 °C

W, X Low/high temperature grease, -40 to +140 °C

A figure following the three-letter grease code indicates that the filling degree deviates from the standard: 1, 2 and 3 indicate smaller than standard, 4 to 9 a larger fill

Examples: GEA Extreme pressure grease, standard fill

GLB2 Low temperature grease, 15 to 25 % fill

H 1. Pressed steel cage (snap-type), hardened
2. Needle roller bearing without inner ring with reduced inside diameter (under rollers) tolerance; followed by tolerance limits in μm , e.g. /H+20+27

HA Case hardened bearing or bearing component; for closer identification HA is followed by one of the following figures

0 Complete bearing

1 Outer and inner rings

2 Outer ring

3 Inner ring

4 Outer ring, inner ring and rolling elements

5 Rolling elements

6 Outer ring and rolling elements

7 Inner ring and rolling elements

HB Bainite hardened bearing or bearing component; for closer identification HB is followed by one of the figures explained under HA

HC Hybrid bearing with steel rings and ceramic rolling elements

HE Bearing or bearing component of vacuum remelted steel; for closer identification HE is followed by one of the figures explained under HA

HM Martensite hardened bearing or bearing component; for closer identification HM is followed by one of the figures explained under HA

- HT** Grease for high temperatures (–20 to +130 °C), followed by a two-figure number which identifies the actual grease; grease quantities which differ from the standard fill are identified by a letter following HTxx:
 A Grease quantity less than standard
 B Grease quantity greater than standard
 C Grease quantity greater than B
- More recently A, B and C have been replaced by F followed by one figure; F1 = A, F7 = B and F9 = C; the figures have the same significance as those used with the new grease codes Gxx
- HV** Bearing or bearing component of hardenable stainless steel; for closer identification HV is followed by one of the figures explained under HA
- IS** Needle roller bearing with lubricating hole(s) in inner ring; a figure following IS identifies the number of holes
- ISR** Needle roller bearing with annular groove and lubricating hole(s) in inner ring; a figure following ISR identifies the number of holes
- J** Pressed steel cage, unhardened; different designs or materials are identified by a figure, e.g. J1
- JHA** Pressed steel cage, hardened, outer ring centred
- JR** Pressed steel cage consisting of two flat unhardened washers riveted together (for large thrust bearings)
- JW** Pressed steel cage, unhardened, welded
- K** Tapered bore; taper 1:12 on diameter
- K30** Tapered bore; taper 1:30 on diameter
- L** Machined light alloy cage; different designs or materials are identified by a figure, e.g. L1
- LA** Machined light alloy cage, outer ring centred
- LB** Machined light alloy cage, inner ring centred
- LHT** Grease for low and high temperatures (–40 to +140 °C), followed by a two-figure number which identifies the actual grease; grease quantities which differ from the standard fill are identified by a letter following LHTxx, or by Fx as explained under HT
- LO** Bearing without preservative, but coated with low viscosity oil; the actual oil is identified by figures following the LO, e.g. LO10

LP	Light alloy window-type cage, with punched or reamed pockets, inner or outer ring centred
LPS	As LP but with lubrication grooves in the guiding surfaces
LS	Land riding seal at one side of bearing; rubbing seal, usually of sheet steel reinforced synthetic rubber, seals against inner ring shoulder
2LS	LS seal at both sides of bearing
LT	Grease for low temperatures (−50 to +80 °C), followed by a two-figure number which identifies the actual grease; grease quantities which differ from the standard fill are identified by a letter following LTxx or by Fx as explained under HT
M	Machined brass cage; different designs or materials are identified by a figure, e.g. M2
MA	Machined brass cage, outer ring centred
MAS	As MA but with lubrication grooves in the guiding surfaces
MB	Machined brass cage, inner ring centred
MBS	As MB but with lubrication grooves in the guiding surfaces
ML	Machined brass window-type cage, inner or outer ring centred
MO	Bearing without preservative, but coated with medium viscosity oil; the actual oil is identified by figures following the MO, e.g. MO10
MP	Machined brass window-type cage, with punched or reamed pockets, inner or outer ring centred
MPS	As MP but with lubrication grooves in the guiding surfaces
MR	Machined brass window-type cage, roller centred
MT	Grease for medium temperatures (−30 to +110 °C), followed by a two-figure number which identifies the actual grease; grease quantities which differ from the standard fill are identified by a letter following MTxx, or by Fx as explained under HT
N	Snap ring groove in outer ring
NR	As N but with snap ring
N1	One locating slot in outer ring
N2	Two locating slots in outer ring at 180° to each other

P	Moulded glass fibre reinforced polyamide 6,6 cage
PH	Moulded cage of polyether ether ketone (PEEK GF16)
PP	Nitrile rubber rubbing seals at both sides of track runner bearing
P4	Dimensional and running accuracy to ISO tolerance class 4 (better than P5)
P4A	Dimensional accuracy to ISO tolerance class 4 and running accuracy to ABMA tolerance class ABEC 9
P5	Dimensional and running accuracy to ISO tolerance class 5 (better than P6)
P6	Dimensional and running accuracy to ISO tolerance class 6 (better than Normal)
P43	P4 + C3
P52	P5 + C2
P62	P6 + C2
P63	P6 + C3
PA9	Dimensional and running accuracy to ABMA tolerance class ABEC 9 (better than P4)
PA9A	As PA9
PA9B	As PA9 but running accuracy better than ABMA tolerance class ABEC 9
Q	Optimised internal geometry and surface finish of taper roller bearings
QBC	Set of four matched deep groove or angular contact ball bearings; two bearings arranged back-to-back with the other two arranged outside the back-to-back pair in tandem with them, i.e. two tandem pairs arranged back-to-back
QBT	Set of four matched deep groove or angular contact ball bearings; two bearings arranged back-to-back and the other two in tandem at one side of the back-to-back pair, i.e. three bearings in tandem and back-to-back with fourth bearing
QE5	Special electric motor quality (no longer used)
QE6	Special electric motor quality (no longer used)
QFC	Set of four matched deep groove or angular contact ball bearings; as /QBC but with central pair arranged face-to-face, i.e. two tandem pairs arranged face-to-face
QFT	Set of four matched deep groove or angular contact ball bearings; as /QBT but with face-to-face pair at one side, i.e. three bearings in tandem and face-to-face with fourth bearing
QR	Set of four single row deep groove ball or cylindrical roller bearing matched for equal distribution of radial load
QT	Set of four matched deep groove or angular contact ball bearings arranged in tandem

R	1. External flange on outer ring 2. Crowned runner surface of support rollers
RF	Rubberised flinger (pressed steel flinger with vulcanised rubber sealing lip) at one side of Y-bearing
RS	Rubbing seal of nitrile rubber at one side of bearing (needle roller bearings)
RS1	Rubbing seal of nitrile rubber with sheet steel reinforcement at one side of bearing
RS1Z	Rubbing seal of nitrile rubber with sheet steel reinforcement at one side and one shield at the other side of the bearing
RS2	Rubbing seal of fluoro rubber with sheet steel reinforcement at one side of bearing
RZ	Low-friction rubbing seal of nitrile rubber with sheet steel reinforcement at one side of bearing
2RF	RF flinger at both sides of Y-bearing
2RS	RS seal at both sides of bearing (needle roller bearing)
2RS1	RS1 seal at both sides of bearing
2RS2	RS2 seal at both sides of bearing
2RZ	RZ seal at both sides of bearing
SM	Needle roller bearing with grease. The two-figure number following identifies the actual grease
SORT	Tolerance grade of needle rollers of a needle roller and cage assembly; the figures following give the actual limits in μm , e.g. /SORT-2-4
SP	Special tolerance class for machine tool spindle bearings; dimensional accuracy approximately to ISO tolerance class 5 and running accuracy approximately to ISO tolerance class 4
S0	Bearing rings (or washers) dimensionally stabilised for use at operating temperatures up to +150 °C
S1	Bearing rings (or washers) dimensionally stabilised for use at operating temperatures up to +200 °C
S2	Bearing rings (or washers) dimensionally stabilised for use at operating temperatures up to +250 °C

S3	Bearing rings (or washers) dimensionally stabilised for use at operating temperatures up to +300 °C
S4	Bearing rings (or washers) dimensionally stabilised for use at operating temperatures up to +350 °C
T	Machined fabric reinforced phenolic resin cage
TA	Machined fabric reinforced phenolic resin cage, outer ring centred
TB	Machined fabric reinforced phenolic resin cage, inner ring centred
TBT	Set of three matched single row deep groove or angular contact ball bearings; two bearings arranged back-to-back and the third in tandem
TFT	Set of three matched single row deep groove or angular contact ball bearings; two bearings arranged face-to-face and the third in tandem
TH	Machined cage of fabric reinforced phenolic resin
TN	Moulded cage of plastic; different designs or materials are identified by a figure following the TN Example: TN9 Moulded cage of glass fibre reinforced polyamide 6,6
TR	Three single row deep groove ball or cylindrical roller bearings, matched to give equal distribution of radial load
TT	Set of three matched single row deep groove or angular contact ball bearings arranged in tandem
U	1. Y-bearing without locking collar 2. Y-bearing locking collar without grub screw
UP	Special tolerance class for machine tool spindle bearings; dimensional accuracy approximately to ISO tolerance class 4 and running accuracy better than ISO class 4
V	Full complement bearing (without cage)
VH	Full complement bearing with non-separable roller complement (cylindrical roller bearings)
VGS	Inner ring raceway of cylindrical and needle roller bearings pre-ground only, for cylindrical roller bearings replaced by /VU001
VU001	Preground raceways

Vxxxx(x) V combined with a second letter and followed by a three or four-figure number identifies variants of the standard design, which cannot be identified by generally applicable suffixes; the second letter identifies a variant group:

Examples: VA Application oriented variants
VB Boundary dimension deviations
VE External deviations and some internal deviations
VQ Quality, dimensions, accuracy, vibration etc.
VS Clearance and preload
VT Lubrication

VA201 Bearing for hot applications (e.g. kiln trucks)

VA301 Bearing for traction motors

VA701 Bearing for papermaking machines

W Bearing without relubrication facility

W20 Three lubrication holes in outer ring

W26 Six lubrication holes in inner ring

W33 Annular groove and three lubrication holes in outer ring

W33X Annular groove and six lubrication holes in outer ring

W513 Six lubrication holes in inner ring and annular groove and three lubrication holes in outer ring

W518 Six lubrication holes in inner ring and three lubrication holes in outer ring

W64 "Solid Oil" lubrication

W77 As W33 but with three holes plugged

X 1. Boundary dimensions altered to conform to ISO standards
2. Cylindrical runner surface (support rollers, cam followers)

Y Pressed brass cage; different designs or materials are identified by a figure following the Y, e.g. Y1

Z 1. Combined needle roller bearings with cover
2. Shield (non-rubbing seal) at one side of bearing

2Z Z shield at both sides of bearing

ZW Double row needle roller and cage assembly