

## Supplementary designations

### Prefixes

Prefixes are used to identify components of a bearing and are usually then followed by the designation of the complete bearing, or to avoid confusion with other bearing designations. For example they are used in front of designations for taper roller bearings according to a system described in ANSI/ABMA Standard 19 for (predominantly) inch-size bearings.

- GS** Housing washer of a cylindrical roller thrust bearing
- K** Cylindrical roller and cage thrust assembly
- K-** Inner ring with roller and cage assembly (cone) or outer ring (cup) of inch-size taper roller bearing belonging to an ABMA standard series.
- L** Separate inner or outer ring of a separable bearing
- R** Inner or outer ring with roller (and cage) assembly of a separable bearing
- W** Stainless steel deep groove ball bearing
- WS** Shaft washer of a cylindrical roller thrust bearing
- ZE** Bearing with SensorMount® feature

### Suffixes

Suffixes are used to identify designs or variants which differ in some way from the original design, or which differ from the current standard design. The suffixes are divided into groups and when more than one special feature is to be identified; suffixes are given in the order shown in the scheme in **fig 11**, **page 150**.

The most commonly used suffixes are listed below. Note that not all variants are available.

- A** Deviating or modified internal design with the 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  
3220 A: Double row angular contact ball bearing with a 30° contact angle
- AC** Single row angular contact ball bearing with a 25° contact angle
- ADA** Modified snap ring grooves in the outer ring; a two-piece inner ring held together by a retaining ring
- B** Deviating or modified internal design with the same boundary dimensions. As a rule the significance of the letter is bound to the particular bearing series. Examples:  
7224 B: Single row angular contact ball bearing with a 40° contact angle  
32210 B: Steep contact angle taper roller bearing
- Bxx(x)** B combined with a two or three-figure number identifies variants of the standard design that cannot be identified by generally applicable suffixes. Example:  
B20: Reduced width tolerance
- C** Deviating or modified internal design with the same boundary dimensions. As a rule the significance of the letter is bound to the particular bearing series. Example:  
21306 C: Spherical roller bearing with a flangeless inner ring, symmetrical rollers, loose guide ring and a window-type steel cage

## Bearing data – general

<b>CA</b>	<ul style="list-style-type: none"> <li>1. Spherical roller bearing of C design, but with retaining flanges on the inner ring and a machined cage</li> <li>2. Single row angular contact ball bearing for universal matching. Two bearings arranged back-to-back or face-to-face will have a slight axial clearance before mounting</li> </ul>	<b>CN</b>	<p>Normal internal clearance, normally only used together with an additional letter that identifies a reduced or displaced clearance range.</p> <p>Examples:</p> <p>CNH Upper half of the Normal clearance range</p> <p>CNM Two middle quarters of the Normal clearance range</p> <p>CNL Lower half of the Normal clearance range</p> <p>CNP Upper half of the Normal and lower half of C3 clearance</p> <p>CNR Cylindrical roller bearings with Normal clearance to DIN 620-4:1982</p> <p>The above letters H, M, L and P are also used together with the following clearance classes: C2, C3 and C4</p>
<b>CAC</b>	Spherical roller bearing of the CA design but with enhanced roller guidance	<b>CV</b>	Full complement cylindrical roller bearing with modified internal design
<b>CB</b>	<ul style="list-style-type: none"> <li>1. Single row angular contact ball bearing for universal matching. Two bearings arranged back-to-back or face-to-face will have a "Normal" axial clearance before mounting</li> <li>2. Controlled axial clearance of double row angular contact ball bearings</li> </ul>	<b>CS</b>	Contact seal of nitrile butadiene rubber (NBR) with sheet steel reinforcement on one side of the bearing
<b>CC</b>	<ul style="list-style-type: none"> <li>1. Spherical roller bearing of C design but with enhanced roller guidance</li> <li>2. Single row angular contact ball bearing for universal matching. Two bearings arranged back-to-back or face-to-face will have a large axial clearance before mounting</li> </ul>	<b>CS2</b>	Contact seal of fluoro rubber (FPM) with sheet steel reinforcement on one side of the bearing
<b>CLN</b>	Taper roller bearing with tolerances corresponding to ISO tolerance class 6X	<b>CS5</b>	Contact seal of hydrogenated nitrile butadiene rubber (HNBR) with sheet steel reinforcement on one side of the bearing
<b>CL0</b>	Inch-size taper roller bearing with tolerances to class 0 according to ANSI/ABMA Standard 19.2:1994	<b>2CS</b>	Contact seals of nitrile butadiene rubber (NBR) with sheet steel reinforcement on both sides of the bearing
<b>CL00</b>	Inch-size taper roller bearing with tolerances to class 00 according to ANSI/ABMA Standard 19.2:1994	<b>2CS2</b>	Contact seals of fluoro rubber (FPM) with sheet steel reinforcement on both sides of the bearing
<b>CL3</b>	Inch-size taper roller bearing with tolerances to class 3 according to ANSI/ABMA Standard 19.2:1994	<b>2CS5</b>	Contact seals of hydrogenated nitrile butadiene rubber (HNBR) with sheet steel reinforcement on both sides of the bearing
<b>CL7C</b>	Taper roller bearing with special frictional behaviour and heightened running accuracy	<b>C1</b>	Bearing internal clearance smaller than C2
		<b>C2</b>	Bearing internal clearance smaller than Normal (CN)
		<b>C3</b>	Bearing internal clearance greater than Normal (CN)
		<b>C4</b>	Bearing internal clearance greater than C3

<b>C5</b>	Bearing internal clearance greater than C4	<b>DF</b>	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
<b>C02</b>	Extra reduced tolerance for running accuracy of inner ring of assembled bearing	<b>DT</b>	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
<b>C04</b>	Extra reduced tolerance for running accuracy of outer ring of assembled bearing	<b>E</b>	Deviating or modified internal design with the same boundary dimensions; as a rule the significance of the letter is bound to the particular bearing series; usually indicates reinforced rolling element complement. Example: 7212 BE: Single row angular contact ball bearing with a 40° contact angle and optimized internal design
<b>C08</b>	C02 + C04	<b>EC</b>	Single row cylindrical roller bearing with an optimized internal design and with modified roller end/flange contact
<b>C083</b>	C02 + C04 + C3	<b>ECA</b>	Spherical roller bearing of CA design but with reinforced rolling element complement
<b>C10</b>	Reduced tolerance for the bore and outside diameters	<b>ECAC</b>	Spherical roller bearing of CAC design but with reinforced rolling element complement
<b>D</b>	Deviating or modified internal design with the same boundary dimensions; as a rule the significance of the letter is bound to the particular bearing series. Example: 3310 D: Double row angular contact ball bearing with a two-piece inner ring	<b>F</b>	Machined steel or special cast iron cage, rolling element centred; different designs or materials are identified by a figure following the F, e.g. F1
<b>DA</b>	Modified snap ring grooves in the outer ring; two-piece inner ring held together by a retaining ring	<b>FA</b>	Machined steel or special cast iron cage; outer ring centred
<b>DB</b>	Two single row deep groove ball bearings (1), single row angular contact ball bearings (2) 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 clearance or preload in the bearing pair before mounting. A Light preload (2) B Moderate preload (2) C Heavy preload (2) CA Small axial clearance (1, 2) CB Normal axial clearance (1, 2) CC Large axial clearance (1, 2) C Special axial clearance in µm GA Light preload (1) GB Moderate preload (1) G Special preload in daN For paired taper roller bearings the design and arrangement of the intermediate rings between the inner and outer rings are identified by a two-figure number which is placed between DB and the above mentioned letters.	<b>FB</b>	Machined steel or special cast iron cage; inner ring centred
		<b>G</b>	Single row angular contact ball bearing for universal matching. Two bearings arranged back-to-back or face-to-face will have a certain axial clearance before mounting

## Bearing data – general

<b>G..</b>	Grease filling. A second letter indicates the operating temperature range of the grease 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: Figures 1, 2 and 3 indicate smaller than standard, 4 up to 9 a larger fill. Examples: GEA Extreme pressure grease, standard fill GLB2 Low temperature grease, 15 to 25 % fill	<b>HA</b>	Bearing or bearing components of case-hardening steel. 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
<b>GA</b>	Single row angular contact ball bearing for universal matching. Two bearings arranged back-to-back or face-to-face will have a light preload before mounting	<b>HB</b>	Bainite hardened bearing or bearing components. For closer identification HB is followed by one of the figures explained under HA
<b>GB</b>	Single row angular contact ball bearing for universal matching. Two bearings arranged back-to-back or face-to-face will have a moderate preload before mounting	<b>HC</b>	Bearing or bearing components of ceramic material. For closer identification HC is followed by one of the figures explained under HA
<b>GC</b>	Single row angular contact ball bearing for universal matching. Two bearings arranged back-to-back or face-to-face will have a heavy preload before mounting	<b>HE</b>	Bearing or bearing components of vacuum remelted steel. For closer identification HE is followed by one of the figures explained under HA
<b>GJN</b>	Normal fill grade of polyurea base grease of consistency 2 to the NLGI Scale for a temperature range –30 to +150 °C	<b>HM</b>	Martensite hardened bearing or bearing components. For closer identification HM is followed by one of the figures explained under HA
<b>H</b>	Pressed snap-type steel cage, hardened	<b>HN</b>	Special surface heat-treated bearing or bearing components. For closer identification HN is followed by one of the figures explained under HA
		<b>HT</b>	Grease fill for high operating temperatures (–20 to +130 °C). Greases, which differ from the selected standard grease for this temperature range, are identified by two-figure numbers following HT. Filling degrees other than standard are identified by a letter or letter/figure combination following HTxx: A Filling degree less than standard B Filling degree greater than standard C Filling degree greater than 70 % F1 Filling degree less than standard F7 Filling degree greater than standard F9 Filling degree greater than 70 % Examples: HTB, HT22 or HT24B

<b>HV</b>	Bearing or bearing components of hardenable stainless steel. For closer identification HV is followed by one of the figures explained under HA	<b>ML</b>	One-piece brass window-type cage, inner or outer ring centred
<b>J</b>	Pressed steel cage, rolling element centred, unhardened; different designs or materials are identified by a figure, e.g. J1	<b>MP</b>	One-piece brass window-type cage, with punched or reamed pockets, inner or outer ring centred
<b>JR</b>	Cage comprising of two flat washers of unhardened sheet steel, riveted together	<b>MR</b>	One-piece brass window-type cage, rolling element centred
<b>K</b>	Tapered bore, taper 1:12	<b>MT</b>	Grease fill for medium operating temperatures (–30 to +110 °C). A two-figure number following MT identifies the actual grease. An additional letter or letter/figure combination as mentioned under “HT” identifies filling degrees other than standard. Examples: MT33, MT37F9 or MT47
<b>K30</b>	Tapered bore, taper 1:30	<b>N</b>	Snap ring groove in the outer ring
<b>LHT</b>	Grease fill for low and high operating temperatures (–40 to +140 °C). A two-figure number following LHT identifies the actual grease. An additional letter or letter/figure combination as mentioned under “HT” identifies filling degrees other than standard. Examples: LHT23, LHT23C or LHT23F7	<b>NR</b>	Snap ring groove in the outer ring with appropriate snap ring
<b>LS</b>	Land-riding contact seal with or without sheet steel reinforcement on one side of the bearing	<b>N1</b>	One locating slot (notch) in one outer ring side face
<b>2LS</b>	Land-riding contact seals with or without sheet steel reinforcement on both sides of the bearing	<b>N2</b>	Two locating slots (notches) in one outer ring side face at 180° to each other
<b>LT</b>	Grease fill for low operating temperatures (–50 to +80 °C). Greases, which differ from the selected standard grease for this temperature range are identified as explained under “HT”. Examples: LT, LT10 or LTF1	<b>P</b>	Injection moulded cage of glass fibre reinforced polyamide 6,6, rolling element centred
<b>L4B</b>	Bearing rings and rolling elements with special surface coating	<b>PH</b>	Injection moulded cage of polyether ether ketone (PEEK), rolling element centred
<b>L5B</b>	Rolling elements with special surface coating	<b>PHA</b>	Injection moulded cage of polyether ether ketone (PEEK), outer ring centred
<b>L5DA</b>	NoWear bearing with coated rolling elements	<b>P4</b>	Dimensional and running accuracy to ISO tolerance class 4
<b>L7DA</b>	NoWear bearing with coated rolling elements and inner ring raceway(s)	<b>P5</b>	Dimensional and running accuracy to ISO tolerance class 5
<b>M</b>	Machined brass cage, rolling element centred; different designs or materials are identified by a figure, e.g. M2	<b>P6</b>	Dimensional and running accuracy to ISO tolerance class 6
<b>MA</b>	Machined brass cage, outer ring centred	<b>P62</b>	P6 + C2
<b>MB</b>	Machined brass cage, inner ring centred	<b>P63</b>	P6 + C3
		<b>Q</b>	Optimized internal geometry and surface finish (taper roller bearing)
		<b>R</b>	1. Flanged outer ring 2. Crowned runner surface (track runner bearing)
		<b>RS</b>	Contact seal of synthetic rubber with or without sheet steel reinforcement on one side of the bearing
		<b>RS1</b>	Contact seal of acrylonitrile butadiene rubber (NBR) with sheet steel reinforcement on one side of the bearing

## Bearing data – general

<b>RS1Z</b>	Contact seal of acrylonitrile butadiene rubber (NBR) with sheet steel reinforcement on one side and one shield on the other side of the bearing	<b>S3</b>	Bearing rings or washers dimensionally stabilized for use at operating temperatures up to +300 °C
<b>RS2</b>	Contact seal of fluoro rubber (FPM) with sheet steel reinforcement on one side of the bearing	<b>S4</b>	Bearing rings or washers dimensionally stabilized for use at operating temperatures up to +350 °C
<b>RSH</b>	Contact seal of acrylonitrile butadiene rubber (NBR) with sheet steel reinforcement on one side of the bearing	<b>T</b>	Machined cage of fabric reinforced phenolic resin, rolling element centred
<b>RSL</b>	Low-friction contact seal of acrylonitrile butadiene rubber (NBR) with sheet steel reinforcement on one side of the bearing	<b>TB</b>	Window-type cage of fabric reinforced phenolic resin, inner ring centred
<b>RZ</b>	Low-friction seal of acrylonitrile butadiene rubber (NBR) with sheet steel reinforcement on one side of the bearing	<b>TH</b>	Snap-type cage of fabric reinforced phenolic resin, rolling element centred
<b>2RS</b>	Contact seals of synthetic rubber with sheet steel reinforcement on both sides of the bearing	<b>TN</b>	Injection moulded cage of polyamide, rolling element centred
<b>2RS1</b>	Contact seals of acrylonitrile butadiene rubber (NBR) with sheet steel reinforcement on both sides of the bearing	<b>TNH</b>	Injection moulded cage of polyether ether ketone (PEEK), rolling element centred
<b>2RS2</b>	Contact seals of fluoro rubber (FPM) with sheet steel reinforcement on both sides of the bearing	<b>TN9</b>	Injection moulded cage of glass fibre reinforced polyamide 6,6, rolling element centred
<b>2RSH</b>	Contact seals of acrylonitrile butadiene rubber (NBR) with sheet steel reinforcement on both sides of the bearing	<b>U</b>	U combined with a one-figure number identifies a taper roller bearing, cone or cup, with reduced width tolerance. Examples: U2: Width tolerance +0,05/0 mm U4: Width tolerance +0,10/0 mm
<b>2RSL</b>	Low-friction contact seals of acrylonitrile butadiene rubber (NBR) with sheet steel reinforcement on both sides of the bearing	<b>V</b>	Full complement bearing (without cage)
<b>2RZ</b>	Low-friction seals of acrylonitrile butadiene rubber (NBR) with sheet steel reinforcement on both sides of the bearing	<b>V...</b>	V combined with a second letter, identifies a variant group, and followed by a three or four figure number denotes variants not covered by “standard” designation suffixes. Examples: VA Application oriented variants VB Boundary dimension deviations VE External or internal deviations VL Coatings VQ Quality and tolerances other than standard VS Clearance and preload VT Lubrication VU Miscellaneous applications
<b>S0</b>	Bearing rings or washers dimensionally stabilized for use at operating temperatures up to +150 °C	<b>VA201</b>	Bearing for high-temperature applications (e.g. kiln trucks)
<b>S1</b>	Bearing rings or washers dimensionally stabilized for use at operating temperatures up to +200 °C	<b>VA208</b>	Bearing for high-temperature applications
<b>S2</b>	Bearing rings or washers dimensionally stabilized for use at operating temperatures up to +250 °C	<b>VA228</b>	Bearing for high-temperature applications

<b>VA301</b>	Bearing for traction motors	<b>W</b>	Without annular groove and lubrication holes in outer ring
<b>VA305</b>	VA301 + special inspection routines	<b>WT</b>	Grease fill for low as well as high operating temperatures (–40 to +160 °C). Greases, which differ from the selected standard grease for this temperature range are identified as explained under “HT” Examples: WT or WTF1
<b>VA3091</b>	VA301 + VL0241	<b>W20</b>	Three lubrication holes in the outer ring
<b>VA350</b>	Bearing for railway axleboxes	<b>W26</b>	Six lubrication holes in the inner ring
<b>VA405</b>	Bearing for vibratory applications	<b>W33</b>	Annular groove and three lubrication holes in the outer ring
<b>VA406</b>	Bearing for vibratory applications with special PTFE bore coating	<b>W513</b>	Six lubrication holes in the inner ring and annular groove and three lubrication holes in the outer ring
<b>VA820</b>	Bearing for railway axleboxes according to EN 12080:1998	<b>W64</b>	“Solid Oil” fill
<b>VC025</b>	Bearing with specially debrisheat-treated components for applications in heavily contaminated environments	<b>W77</b>	Plugged W33 lubrication holes
<b>VE240</b>	CARB bearing modified for greater axial displacement	<b>X</b>	1. Boundary dimensions altered to conform to ISO standards 2. Cylindrical runner surface (track runner bearing)
<b>VE447</b>	Shaft washer with three equally spaced threaded holes in one side face to accommodate hoisting tackle	<b>Y</b>	Pressed brass cage, rolling element centred; different designs or materials are identified by a figure following the Y, e.g. Y1
<b>VE552</b>	Outer ring with three equally spaced threaded holes in one side face to accommodate hoisting tackle	<b>Z</b>	Shield of pressed sheet steel on one side of the bearing
<b>VE553</b>	Outer ring with three equally spaced threaded holes in both side faces to accommodate hoisting tackle	<b>2Z</b>	Shields of pressed sheet steel on both sides of the bearing
<b>VE632</b>	Housing washer with three equally spaced threaded holes in one side face to accommodate hoisting tackle		
<b>VG114</b>	Surface hardened pressed steel cage		
<b>VH</b>	Full complement cylindrical roller bearing with self-retaining roller set		
<b>VL0241</b>	Aluminium oxide coated outside surface of outer ring for electrical resistance up to 1 000 V DC		
<b>VL2071</b>	Aluminium oxide coated outside surface of inner ring for electrical resistance up to 1 000 V DC		
<b>VQ015</b>	Inner ring with crowned raceway for increased permissible misalignment		
<b>VQ424</b>	Running accuracy better than C08		
<b>VT143</b>	Grease fill with an extreme pressure grease		