

# Supplementary designations

## 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 bearings.

<b>GS</b>	Housing washer of a cylindrical roller thrust bearing
<b>K</b>	Cylindrical roller and cage thrust assembly
<b>K-</b>	Inner ring with roller and cage assembly (cone) or outer ring (cup) of inch taper roller bearing belonging to an ABMA standard series
<b>L</b>	Separate inner or outer ring of a separable bearing
<b>R</b>	Inner or outer ring with roller (and cage) assembly of a separable bearing
<b>W</b>	Stainless steel deep groove ball bearing
<b>WS</b>	Shaft washer of a cylindrical roller thrust bearing
<b>ZE</b>	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 provided in the order shown in the scheme in **diagram 1**.

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

<b>A</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 or bearing series. Examples: 4210 A: Double row deep groove ball bearing without filling slots 3220 A: Double row angular contact ball bearing without filling slots
<b>AC</b>	Single row angular contact ball bearing with a 25° contact angle
<b>ADA</b>	Modified snap ring grooves in the outer ring; a two-piece inner ring held together by a retaining ring
<b>B</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
<b>Bxx(x)</b>	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
<b>C</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: 21306 C: Spherical roller bearing with a flangeless inner ring, symmetrical rollers, loose guide ring and a pressed window-type steel cage
<b>CA</b>	1. Spherical roller bearing of C design, but with retaining flanges on the inner ring and a machined cage 2. Single row angular contact ball bearing for universal matching. Two bearings arranged back-to-back or face-to-face will have an axial internal clearance smaller than Normal (CB) before mounting
<b>CAC</b>	Spherical roller bearing of the CA design but with enhanced roller guidance
<b>CB</b>	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 internal clearance before mounting 2. Controlled axial clearance of a double row angular contact ball bearing
<b>CC</b>	1. Spherical roller bearing of C design but with enhanced roller guidance 2. Single row angular contact ball bearing for universal matching. Two bearings arranged back-to-back or face-to-face will have an axial internal clearance larger than Normal (CB) before mounting
<b>CLN</b>	Taper roller bearing with tolerances corresponding to ISO tolerance class 6X
<b>CLO</b>	Inch taper roller bearing with tolerances to class 0 according to ANSI/ABMA Standard 19.2:1994
<b>CL00</b>	Inch taper roller bearing with tolerances to class 00 according to ANSI/ABMA Standard 19.2:1994
<b>CL3</b>	Inch taper roller bearing with tolerances to class 3 according to ANSI/ABMA Standard 19.2:1994
<b>CL7C</b>	Taper roller bearing with special frictional behaviour and heightened running accuracy

**Designation system for suffixes**

**Designation example**

6205-RS1NRTN9/P63LT20CVB123

23064 CCK/HA3C084S2W33

Basic designation

Space

Suffixes

Group 1: Internal design

Group 2: External design (seals, snap ring groove etc.)

Group 3: Cage design

Oblique stroke

Group 4: Variants

Group 4.1: Materials, heat treatment

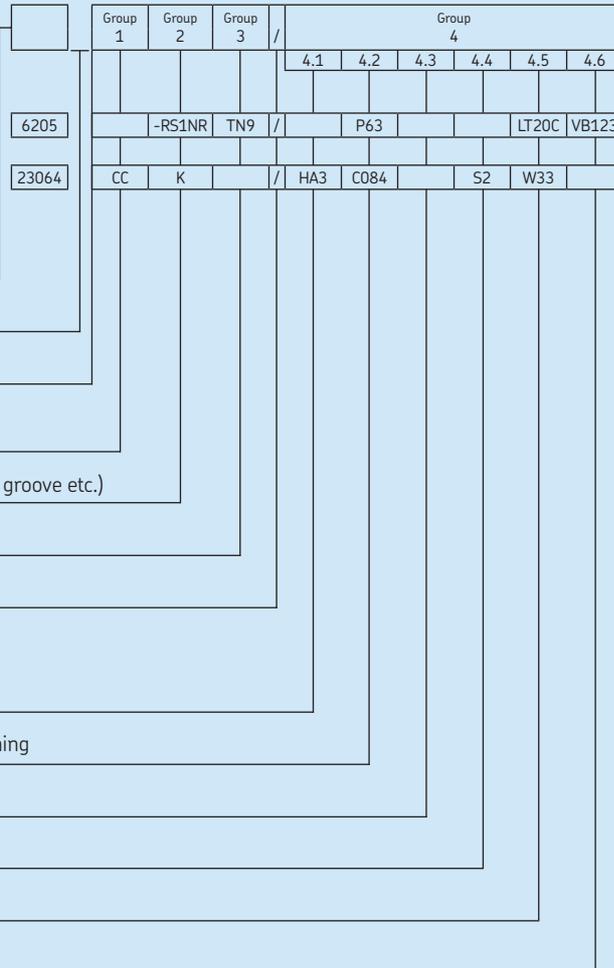
Group 4.2: Accuracy, clearance, quiet running

Group 4.3: Bearing sets, paired bearings

Group 4.4: Stabilization

Group 4.5: Lubrication

Group 4.6: Other variants



<b>CN</b>	Normal internal clearance, normally only used together with an additional letter that identifies a reduced or displaced clearance range. Examples: CNH Upper half of the Normal clearance range CNL Lower half of the Normal clearance range CNM Two middle quarters of the Normal clearance range CNP Upper half of the Normal and lower half of C3 clearance The above letters H, L, M and P are also used together with the clearance classes C2, C3, C4 and C5	<b>DA</b>	Modified snap ring grooves in the outer ring; two-piece inner ring held together by a retaining ring	<b>EC</b>	Single row cylindrical roller bearing with an optimized internal design and with modified roller end/flange contact
<b>CV</b>	Full complement cylindrical roller bearing with modified internal design	<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 internal clearance or preload in the bearing pair before mounting. A Light preload (2) B Moderate preload (2) C Heavy preload (2) CA Axial internal clearance smaller than Normal (CB) (1, 2) CB Normal axial internal clearance (1, 2) CC Axial internal clearance larger than Normal (CB) (1, 2) C Special axial internal clearance in $\mu\text{m}$ 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>ECA</b>	Spherical roller bearing of CA design but with reinforced rolling element complement
<b>CS</b>	Sheet steel reinforced contact seal of acrylonitrile-butadiene rubber (NBR) on one side of the bearing	<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>ECAC</b>	Spherical roller bearing of CAC design but with reinforced rolling element complement
<b>2CS</b>	CS contact seal on both sides of the 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>F</b>	Machined steel or special cast iron cage, rolling element centred; different designs or material grades are identified by a figure following the F, e.g. F1
<b>CS2</b>	Sheet steel reinforced contact seal of fluoro rubber (FKM) on one side of the 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>FA</b>	Machined steel or special cast iron cage; outer ring centred
<b>2CS2</b>	CS2 contact seal on both sides of the bearing			<b>FB</b>	Machined steel or special cast iron cage; inner ring centred
<b>CS5</b>	Sheet steel reinforced contact seal of hydrogenated acrylonitrile-butadiene rubber (HNBR) on one side of the bearing			<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
<b>2CS5</b>	CS5 contact seal on both sides of the bearing			<b>G..</b>	Grease filling. A second letter indicates the 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, e.g. -20 to +130 °C L Low temperature grease, e.g. -50 to +80 °C M Medium temperature grease, e.g. -30 to +110 °C W, X Low/high temperature grease, e.g. -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>C1</b>	Bearing internal clearance smaller than C2			<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>C2</b>	Bearing internal clearance smaller than Normal (CN)			<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>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>C02</b>	Extra reduced tolerance for running accuracy of inner ring of assembled bearing				
<b>C04</b>	Extra reduced tolerance for running accuracy of outer ring of assembled bearing				
<b>C08</b>	C02 + C04				
<b>C083</b>	C02 + C04 + C3				
<b>C10</b>	Reduced tolerance for the bore and outside diameters				
<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>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>F9</b>	Filling degree greater than 70 % Examples: HTB, HT22 or HT24B	<b>MT</b>	Grease fill for medium temperatures (e.g. -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>GJN</b>	Grease with a polyurea thickener of consistency 2 to the NLGI Scale for a temperature range -30 to +150 °C (normal fill grade)	<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>N</b>	Snap ring groove in the outer ring
<b>GXN</b>	Grease with a polyurea thickener of consistency 2 to the NLGI Scale for a temperature range -40 to +150 °C (normal fill grade)	<b>J</b>	Pressed steel cage, rolling element centred, unhardened; different designs are identified by a figure, e.g. J1	<b>NR</b>	Snap ring groove in the outer ring with appropriate snap ring
<b>H</b>	Pressed snap-type steel cage, hardened	<b>JR</b>	Cage comprising of two flat washers of unhardened steel, riveted together	<b>N1</b>	One locating slot (notch) in one outer ring side face or housing washer
<b>HA</b>	Case-hardened bearing or bearing components. 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>K</b>	Tapered bore, taper 1:12	<b>N2</b>	Two locating slots (notches) 180° apart in one outer ring side face or housing washer
		<b>K30</b>	Tapered bore, taper 1:30	<b>P</b>	Injection moulded cage of glass fibre reinforced polyamide 6,6, rolling element centred
		<b>LHT</b>	Grease fill for low and high temperatures (e.g. -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>PH</b>	Injection moulded cage of polyetheretherketone (PEEK), rolling element centred
		<b>LS</b>	Contact seal of acrylonitrile-butadiene rubber (NBR) or polyurethane (AU) with or without sheet steel reinforcement, on one side of the bearing	<b>PHA</b>	Injection moulded cage of polyetheretherketone (PEEK), outer ring centred
		<b>2LS</b>	LS contact seal on both sides of the bearing	<b>PHAS</b>	Injection moulded cage of polyetheretherketone (PEEK), outer ring centred, lubrication grooves in the guiding surfaces
<b>HB</b>	Bainite-hardened bearing or bearing components. For closer identification HB is followed by one of the figures explained under HA	<b>LT</b>	Grease fill for low temperatures (e.g. -50 to +80 °C). LT or a two-figure number following LT identifies the actual grease. An additional letter or letter/figure combination as mentioned under "HT" identifies filling degrees other than standard. Examples: LT, LT10 or LTF1	<b>P4</b>	Dimensional and running accuracy to ISO tolerance class 4
<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>L4B</b>	Bearing rings and rolling elements with special surface coating	<b>P5</b>	Dimensional and running accuracy to ISO tolerance class 5
<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>L5B</b>	Rolling elements with special surface coating	<b>P6</b>	Dimensional and running accuracy to ISO tolerance class 6
<b>HM</b>	Martensite-hardened bearing or bearing components. For closer identification HM is followed by one of the figures explained under HA	<b>L5DA</b>	NoWear® bearing with coated rolling elements	<b>P62</b>	P6 + C2
<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>L7DA</b>	NoWear bearing with coated rolling elements and inner ring raceway(s)	<b>P63</b>	P6 + C3
<b>HT</b>	Grease fill for high temperatures (e.g. -20 to +130 °C). HT or a two-figure number following HT identifies the actual grease. 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	<b>M</b>	Machined brass cage, rolling element centred; different designs or material grades are identified by a figure or a letter, e.g. M2, MC	<b>Q</b>	Optimized internal geometry and surface finish (taper roller bearing)
		<b>MA</b>	Machined brass cage, outer ring centred	<b>R</b>	1. Integral external outer ring flange 2. Crowned runner surface (track runner bearing)
		<b>MB</b>	Machined brass cage, inner ring centred	<b>RS</b>	Contact seal of acrylonitrile-butadiene rubber (NBR) with or without sheet steel reinforcement on one side of the bearing
		<b>ML</b>	Machined one-piece window-type brass cage, inner or outer ring centred	<b>2RS</b>	RS contact seal on both sides of the bearing
		<b>MP</b>	Machined one-piece window-type brass cage, with punched or reamed pockets, inner or outer ring centred	<b>RS1</b>	Sheet steel reinforced contact seal of acrylonitrile-butadiene rubber (NBR) on one side of the bearing
		<b>MR</b>	Machined one-piece window-type brass cage, rolling element centred	<b>2RS1</b>	RS1 contact seal on both sides of the bearing
				<b>RS1Z</b>	Sheet steel reinforced contact seal of acrylonitrile-butadiene rubber (NBR) on one side and one shield on the other side of the bearing
				<b>RS2</b>	Sheet steel reinforced contact seal of fluoro rubber (FKM) on one side of the bearing

<b>2RS2</b>	RS2 contact seal 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>VL0241</b>	Aluminium oxide coated outside surface of outer ring for electrical resistance up to 1 000 V DC
<b>RSH</b>	Sheet steel reinforced contact seal of acrylonitrile-butadiene rubber (NBR) on one side of the bearing	<b>VA201</b>	Bearing for high-temperature applications (e.g. kiln trucks)	<b>VL2071</b>	Aluminium oxide coated outside surface of inner ring for electrical resistance up to 1 000 V DC
<b>2RSH</b>	RSH contact seal on both sides of the bearing	<b>VA208</b>	Bearing for high-temperature applications	<b>VQ015</b>	Inner ring with crowned raceway for increased permissible misalignment
<b>RSL</b>	Sheet steel reinforced low-friction contact seal of acrylonitrile-butadiene rubber (NBR) on one side of the bearing	<b>VA216</b>	Bearing for high-temperature applications	<b>VQ424</b>	Running accuracy better than C08
<b>2RSL</b>	RSL low-friction contact seal on both sides of the bearing	<b>VA228</b>	Bearing for high-temperature applications	<b>VT143</b>	Extreme pressure grease with a lithium thickener of consistency 2 to the NLGI Scale for a temperature range -20 to +110 °C (normal fill grade)
<b>RZ</b>	Sheet steel reinforced low-friction seal of acrylonitrile-butadiene rubber (NBR) on one side of the bearing	<b>VA301</b>	Bearing for traction motors	<b>VT378</b>	Food grade grease with an aluminium thickener of consistency 2 to the NLGI Scale for a temperature range -25 to +120 °C (normal fill grade)
<b>2RZ</b>	RZ low-friction seal on both sides of the bearing	<b>VA305</b>	Bearing for traction motors + special inspection routines	<b>W</b>	Without annular groove and lubrication holes in outer ring
<b>S0</b>	Bearing rings or washers dimensionally stabilized for use at operating temperatures up to +150 °C	<b>VA3091</b>	Bearing for traction motors with aluminium oxide coated outside surface of outer ring for electrical resistance up to 1 000 V DC	<b>WT</b>	Grease fill for low as well as high temperatures ( e.g. -40 to +160 °C). WT or a two-figure number following WT identifies the actual grease. An additional letter or letter/figure combination as mentioned under "HT" identifies filling degrees other than standard. Examples: WT or WTF1
<b>S1</b>	Bearing rings or washers dimensionally stabilized for use at operating temperatures up to +200 °C	<b>VA320</b>	Bearing for railway axleboxes according to EN 12080:1998	<b>W20</b>	Three lubrication holes in the outer ring
<b>S2</b>	Bearing rings or washers dimensionally stabilized for use at operating temperatures up to +250 °C	<b>VA350</b>	Bearing for railway axleboxes	<b>W26</b>	Six lubrication holes in the inner ring
<b>S3</b>	Bearing rings or washers dimensionally stabilized for use at operating temperatures up to +300 °C	<b>VA405</b>	Bearing for vibratory applications	<b>W33</b>	Annular groove and three lubrication holes in the outer ring
<b>S4</b>	Bearing rings or washers dimensionally stabilized for use at operating temperatures up to +350 °C	<b>VA406</b>	Bearing for vibratory applications with special PTFE bore coating	<b>W33X</b>	Annular groove and six lubrication holes in the outer ring
<b>T</b>	Window-type cage of fabric reinforced phenolic resin, rolling element centred	<b>VC025</b>	Bearing with specially debris-heat-treated components for applications in heavily contaminated environments	<b>W513</b>	Six lubrication holes in the inner ring and annular groove and three lubrication holes in the outer ring
<b>TB</b>	Window-type cage of fabric reinforced phenolic resin, inner ring centred	<b>VE240</b>	CARB® bearing modified for greater axial displacement	<b>W64</b>	Solid Oil filling
<b>TH</b>	Snap-type cage of fabric reinforced phenolic resin, rolling element centred	<b>VE447</b>	Shaft washer with three equally spaced threaded holes in one side face to accommodate hoisting tackle	<b>W77</b>	Plugged W33 lubrication holes
<b>TN</b>	Injection moulded cage of polyamide 6,6, rolling element centred	<b>VE552</b>	Outer ring with three equally spaced threaded holes in one side face to accommodate hoisting tackle	<b>X</b>	1. Boundary dimensions altered to conform to ISO standards 2. Cylindrical runner surface (track runner bearing)
<b>TNH</b>	Injection moulded cage of polyether-etherketone (PEEK), rolling element centred	<b>VE553</b>	Outer ring with three equally spaced threaded holes in both side faces to accommodate hoisting tackle	<b>Y</b>	Pressed brass cage, rolling element centred; different designs or material grades are identified by a figure following the Y, e.g. Y1
<b>TNHA</b>	Injection moulded cage of polyether-etherketone (PEEK), outer ring centred	<b>VE632</b>	Housing washer 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>TN9</b>	Injection moulded cage of glass fibre reinforced polyamide 6,6, rolling element centred	<b>VG114</b>	Surface-hardened pressed steel cage	<b>ZZ</b>	Z-shield 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>VH</b>	Full complement cylindrical roller bearing with self-retaining roller set		
<b>V</b>	Full complement bearing (without cage)				

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0009 EN • 21 June 2006 • JA

Printed in Sweden.