



# Numbering System Quick Reference Guide



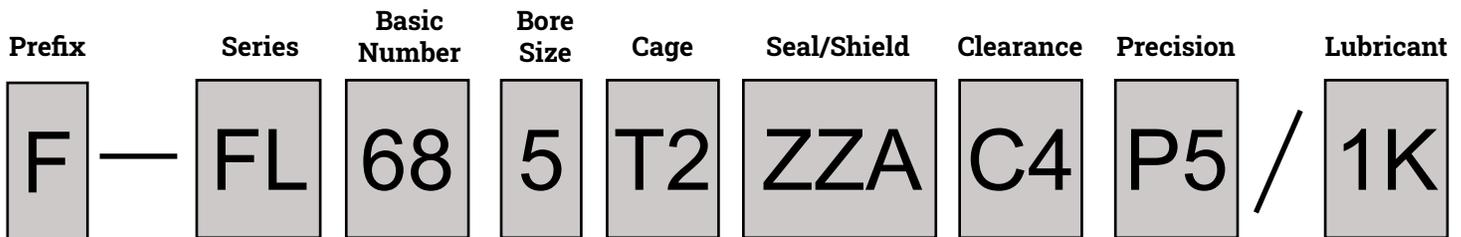
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# Table of Contents

MICRO BEARINGS.....	4
RADIAL BALL BEARINGS.....	5
ANGULAR CONTACT BALL BEARINGS.....	6
SNR ANGULAR CONTACT BALL BEARINGS.....	7
SELF-ALIGNING BALL BEARINGS.....	8
CYLINDRICAL ROLLER BEARINGS.....	9
TAPERED ROLLER BEARINGS.....	10
SPHERICAL ROLLER BEARINGS.....	11
BALL AND ROLLER THRUST BEARINGS.....	12
MOUNTED BEARING UNITS.....	13
ULTRA-CLASS MOUNTED BEARING UNITS.....	14
SENTINEL SERIES BEARING UNITS.....	15
SPHERICAL HOUSED BEARING UNITS.....	16
BOWER TYPE E BEARING UNITS .....	17
PREFIX AND SUFFIX INDUSTRY INTERCHANGE.....	18
BEARING SERIES INDUSTRY INTERCHANGE.....	19

# Micro Bearing Numbering System



### 1. PREFIX

- No Symbol: High carbon chrome bearing steel (equivalent to AISI E52100)
- F: Martensitic stainless steel (equivalent to AISI 440C)
- N: Beryllium Copper

### 2. BASIC NUMBER & SERIES

- 67, 68: Metric Series
- 69, 60: Metric Series
- 62, 63: Metric Series
- R: Inch Series
- W: Wider than standard width (sealed type)
- WA: Non- standard sizes
- RA: Wider than standard width of inch series (open and sealed types)
- FL: Flanged outer ring
- FLA: Flanged outer ring, provided non-standard flange dimensions

### 3. BORE

- X: Bore size = X mm (Ex. 5 = 5mm)

### 4. CAGE

- No symbol: Pressed steel cage
- J1: Pressed stainless steel cage
- T1: Phenolic resin cage
- T2: Nylon cage
- JR: Pressed steel (riveted)
- JS: Pressed steel (spot welded)
- JA: Pressed steel (bent finger)
- V: Without cage

### 5. SEAL OR SHIELD\*

- No symbol: Open type
- Z, ZZ: Steel shield(s)
- ZA, ZZA: Removable steel shield(s)
- ZA1, ZZA1: Removable stainless steel shield(s)
- Z1, ZZ1: Stainless steel shield(s)
- LB, LLB: Non-contact rubber seal(s)
- LU, LLU: Contact rubber seal(s)
- SA, SSA: Non-contact nylon seal(s)

### 6. INTERNAL CLEARANCE

- No symbol: Normal clearance
- C2: Clearance less than normal
- C3: Clearance greater than normal
- C4: Clearance greater than C3
- C2S: Low group of C2 clearance
- CNS: Low group of normal clearance
- CNM: Medium group of normal clearance
- CNL: High group of normal clearance
- C3S: Low group of C3 clearance
- C3M: Medium group of C3 clearance
- C3L: High group of C3 clearance

### 7. PRECISION

- No symbol: ISO class 0 (equivalent to ABEC 1)
- P6: ISO class 6 (equivalent to ABEC 3)
- P5: ISO class 5 (equivalent to ABEC 5)
- P4: ISO class 4 (equivalent to ABEC 7)
- P2: ISO class 2 (equivalent to ABEC 9)
- P5A: ISO class 5A
- P4A: ISO class 4A
- PS5: NTN PS class 5
- PS4: NTN PS class 4
- PX1: Special tolerance

### 8. LUBRICANT

- 1K: Kyodo Yushi Multemp PS No. 2
- 2AS: Shell Alvania 2
- 1E: Exxon Andok C
- 6K: Kluber Isoflex Super LDS18
- 5C: Chevron SRI2
- 5K: Kyodo Yushi Multemp DRL
- 1W: Anderson Oil Windsor Lube L245X (oil)
- L627: Exxon Polyrex EM

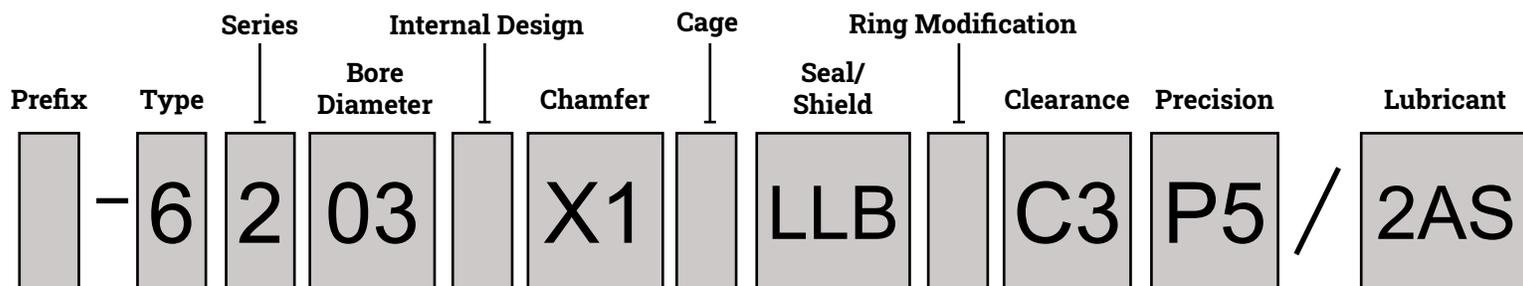
### 9. SPECIAL SPECIFICATION\*

- V1...Vx: Special features from 1 onward (V1, V2,...)

\*Contact NTN Engineering

\*One letter signifies one shield or seal; two letters signifies two shields or seals

# Radial Ball Bearing Numbering System



## 1. PREFIX

No Prefix: Heat stabilized up to 250°F (120°C)  
 TS2: Heat stabilized up to 320°F (160°C)  
 TS3: Heat stabilized up to 390°F (200°C)  
 TS4: Heat stabilized up to 480°F (250°C)  
 5S: Ceramic rolling elements  
 7MC3: MEGAOHM® (ceramic coating)

## 2. TYPE

6: Single row deep groove ball bearing  
 8, WC8: Single row deep groove ball bearing  
 BL: Maximum capacity  
 DE, DF: Special double row ball bearing  
 SC, SX: Special single row ball bearing  
 R: Inch series  
 TMB: Long life thermal mechanical bearing

## 3. SERIES

8: ISO 18 series  
 9: ISO 19 series  
 0: ISO 10 series  
 2: ISO 02 series  
 3: ISO 03 series

## 4. BORE

00: 10mm  
 01: 12mm  
 02: 15mm  
 03: 17mm  
 04+: # \* 5 = Bore diameter in mm (ex. 04=20 mm)

## 5. INTERNAL DESIGN

A: Internal design change, from A onward  
 U: Universal seal groove for open bearings  
 C: Capacity up bearings  
 HT200: Heat stabilized up to 390°F (200°C)  
 FT150: Heat stabilized up to 300°F (150°C)

## 6. CHAMFER

Xn: Special chamfer, from 1 onward (X1, X2...)

## 7. CAGE

No Symbol: Standard cage  
 J: Pressed steel cage  
 T1: Phenolic cage  
 T2, T2X: Nylon cage  
 L1: Machined brass cage  
 JR: Pressed steel (riveted)  
 JA: Pressed steel (bent finger)

## 8. SEAL OR SHIELD

No Symbol: Open type  
 LB, LLB: Non-contact type rubber seal(s)  
 LU, LLU: Contact type rubber seal(s)  
 LH, LLH: Light contact rubber seal  
 LUA, LLUA: Polyacrylic seal  
 LUA1, LLUA1: Fluorocarbon seal  
 Z, ZZ: Steel shield(s)  
 Z1, ZZ1: Stainless steel shield(s)  
 ZA, ZZA: Removable steel shield(s)  
 ZA1, ZZA1: Removable stainless steel shield(s)

## 9. RING MODIFICATION

N: Snap ring groove on outer ring, without snap ring  
 NR: Snap ring groove on outer ring, snap ring included  
 NRS: Snap ring and groove on opposite side  
 /X.XX: Special dimension, XX.XX in mm  
 (Ex. 5/16" bore = /7.938)

## 10. INTERNAL CLEARANCE

No symbol: Normal clearance  
 C1: Clearance less than C2  
 C2: Clearance less than normal  
 C3: Clearance greater than normal  
 C4: Clearance greater than C3  
 C5: Clearance greater than C4  
 C3L: Low group of C3 clearance  
 CSxx: Clearance special(xx is mean value 0.001 mm)

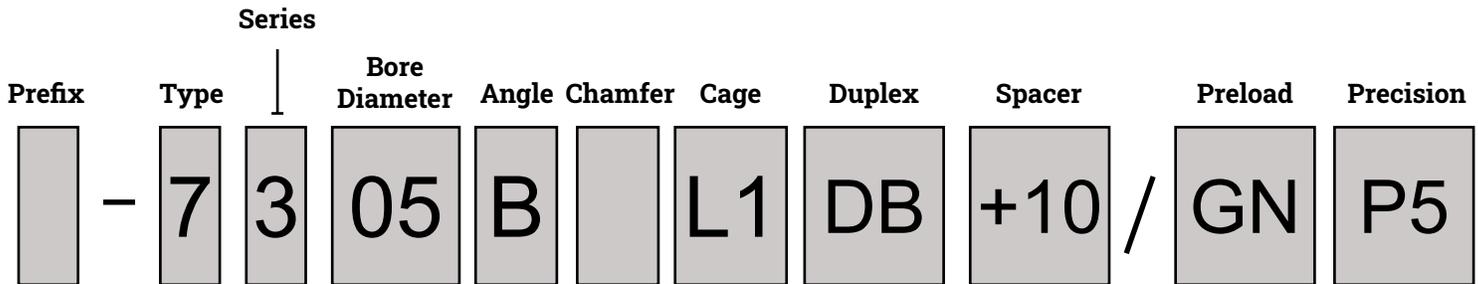
## 11. PRECISION

No symbol: ISO class 0 (equivalent to ABEC 1)  
 P6: ISO class 6 (equivalent to ABEC 3)  
 P5: ISO class 5 (equivalent to ABEC 5)  
 P4: ISO class 4 (equivalent to ABEC 7)  
 P2: ISO class 2 (equivalent to ABEC 9)  
 PXn: Special radial tolerance from 1 onward  
 (PX1, PX2,...)  
 HVZZ: P6 precision and high speed design

## 12. LUBRICANT

2AS: Shell Alvania 2  
 2E: Exxon Unirex N3  
 3AS: Shell Oil Alvania #3 grease  
 5C: Chevron SRI#2 grease (MIL-G-18709A)  
 L627: Exxon Polyrex EM  
 0G: No grease

# Angular Contact Ball Bearing Numbering System



**1. PREFIX**

- No Symbol: Heat stabilized up to 250°F (120°C)
- TS2: Heat stabilized up to 320°F (160°C)
- TS3: Heat stabilized up to 390°F (200°C)
- TS4: Heat stabilized up to 480°F (250°C)
- 5S: Ceramic rolling elements
- 7MC3: MEGAOHM® (ceramic coating)

**2. TYPE**

- 3: Double row angular contact w/ filling slot
- 5: Double row angular contact w/o filling slot
- 7: Angular contact ball bearing
- BNT: High speed angular contact bearing
- BST: Ball screw support
- HSA: High speed angular contact bearing
- HSB: High speed angular contact bearing
- HSE: High speed angular contact bearing
- SF: Special angle row angular contact
- DE, DF: Special double row angular contact
- HTA, HTB: High thrust angular contact bearing

**3. SERIES**

- 8: ISO 18 series
- 9: ISO 19 series
- 0: ISO 10 series
- 2: ISO 02 series
- 3: ISO 03 series

**4. BORE**

- 00: 10mm
- 01: 12mm
- 02: 15mm
- 03: 17mm
- 04+: # \* 5 = Bore diameter in mm (ex. 04=20 mm)

**5. CONTACT ANGLE**

- No Symbol: Contact angle 30°
- B: Contact angle 40°
- C: Contact angle 15°

**6. CHAMFER**

- Xn: Special chamfer, from 1 onward (X1, X2...)

**7. CAGE**

- No Symbol: Standard cage
- J: Pressed steel cage
- L1: Machined brass cage
- L1B: Machined brass cage, ball guided
- T1: Phenolic cage
- T2: Nylon cage

**8. DUPLEX ARRANGEMENT**

- DB: Duplex pair, back to back mounting
- DF: Duplex pair, face to face mounting
- DT: Duplex pair, tandem mounting
- G: Single bearing, flush ground, universal mount
- GD2: Pair of universally mountable bearings
- +A: Spacer (A is nominal width of spacer in mm)

**9. PRELOAD**

- GL: Light preload
- GN: Normal preload
- GM: Medium preload
- GH: Heavy preload
- Gn: Special Preload

**10. PRECISION**

- No Symbol: ISO class 0 (equivalent to ABEC-1)
- P6: ISO class 6 (equivalent to ABEC 3)
- P5: ISO class 5 (equivalent to ABEC 5)
- P4: ISO class 4 (equivalent to ABEC 7)
- P2: ISO class 2 (equivalent to ABEC 9)
- PXn: Special precision, from 1 onward (PX1, PX2,...)

# Angular Contact Ball Bearing Numbering System (NTN-SNR)

Prefix	Seals	Style	Type	Series	Bore Diameter	Angle	Cage	Lubrication Holes	Arrangement	Preload	Precision
ML	E	CH	7	19	12	C	V		U	J7	4S

## 1. PREFIX

ML: High speed range (small ball)

## 2. SEALS

E: Sealed bearing

## 3. STYLE

CH: Hybrid bearing (ceramic balls)

N: HNS bearing (stainless steel)

## 4. TYPE

7: Angular contact

## 5. SERIES

19: ISO 19 (equivalent to NTN 7900 series)

0: ISO 10

2: ISO 02

## 6. BORE DIAMETER

00: 10mm

01: 12mm

02: 15mm

03: 17mm

04+: # \* 5 = Bore diameter in mm (ex. 04=20 mm)

## 7. CONTACT ANGLE

C: Contact angle 15° (ML: 17°)

H: Contact angle 25° (ML: 25°)

## 8. CAGE

V: Phenolic cage - (Series 719-70)

G1: Phenolic cage - (Series 72)

## 9. LUBRICATION HOLES

No Symbol: Standard Ring

L1: The relubrication hole is on the thick (back) side of the ACBB

L2: The relubrication hole is on the thin (front) side of the ACBB

## 10. ARRANGEMENT

U: Universal single bearing

DU: Universal pair

TU: Arrangement of 3 universal bearings

QU: Arrangement of 4 universal bearings

DB: Back to back pair

DF: Face to face pair

DT: Tandem pair

Q16: Back to back pair with single tandem

Q21: Two tandem sets back to back

Q18: Three tandem with single back to back

Q34: Back to back bearings with different contact angles

Q30: Back to back pair with single tandem

## 10. PRELOAD

J7: Light

J8: Medium

J9: Heavy

JX: Special

J0: No preload

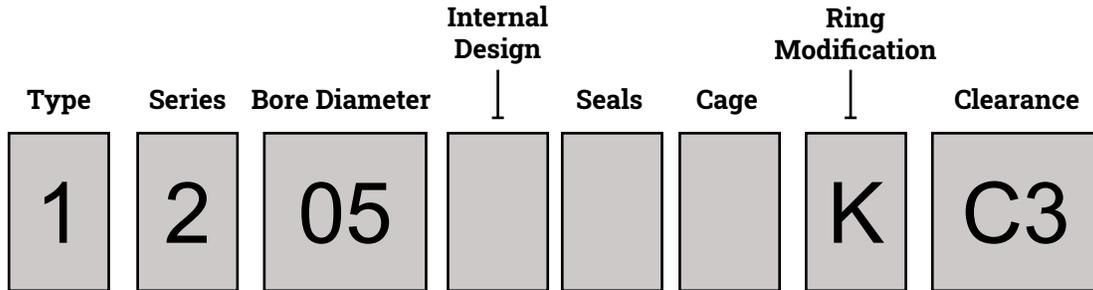
## 11. PRECISION

4: ISO class 4 (equivalent to ABEC 7)

4S: ISO class 4 (equivalent to ABEC 7) for ML and MLE

2: ISO class 2 (equivalent to ABEC 9)

# Self-Aligning Ball Bearing Numbering System



**1. TYPE**

- 1: Standard self-aligning ball bearing
- 2: Wide self-aligning ball bearing

**2. SERIES**

- 2: ISO 02 series
- 3: ISO 03 series

**3. BORE**

- 00: 10mm
- 01: 12mm
- 02: 15mm
- 03: 17mm
- 04+: # \* 5 = Bore diameter in mm (ex. 04=20 mm)

**4. INTERNAL DESIGN**

- S: Internal design

**5. SEALS**

- EE: Full contact seals on both sides

**6. CAGE**

- No Symbol: Standard cage
- J: Pressed steel cage
- T2: Plastic cage (nylon or PTFE)
- L1: Machined brass cage
- G15: Plastic cage

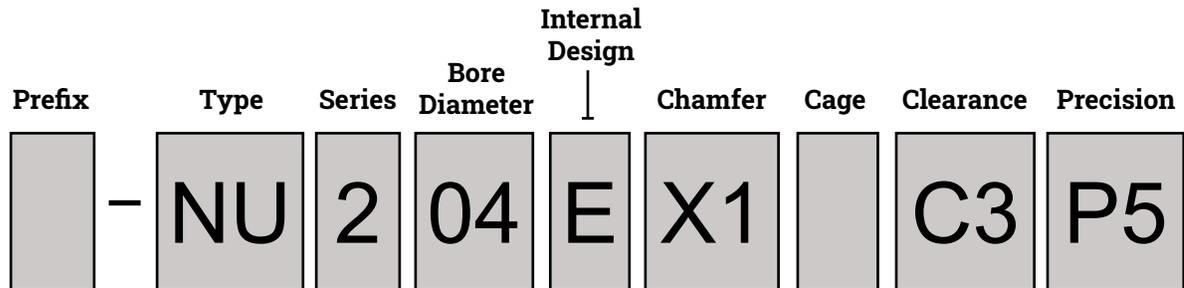
**7. RING MODIFICATION**

- No Symbol: Cylindrical bore
- K: Tapered bore (1:12)

**8. INTERNAL CLEARANCE**

- No symbol: Normal clearance
- C1: Clearance less than C2
- C2: Clearance less than normal
- C3: Clearance greater than normal
- C4: Clearance greater than C3
- C5: Clearance greater than C4
- CSxx: Clearance special (xx is mean value 0.001 mm)

# Cylindrical Roller Bearing Numbering System



## 1. PREFIX

- No Symbol: Heat stabilized up to 250°F (120°C)
- TS2: Heat stabilized up to 320°F (160°C)
- TS3: Heat stabilized up to 390°F (200°C)
- TS4: Heat stabilized up to 480°F (250°C)
- E: Case-carburized material

## 2. TYPE

- N: Straight outer ring w/inner ring and roller assembly
- NU: Straight inner ring w/outer ring and roller assembly
- NF: One lip outer ring w/inner ring and roller assembly
- NJ: One lip inner ring w/outer ring and roller assembly
- NH: NJ series bearing w/HJ thrust collar (NJ+HJ = NH)
- NN: Double row cylindrical roller bearing
- HJ: Separate thrust collar
- R, RN, RNU: Special cylindrical roller bearing
- NUP: Non-separable ring and roller assembly

## 3. SERIES

- 10: ISO 10 Series
- 2: ISO 02 Series
- 22: Wide ISO 02 Series
- 23: Wide ISO 03 Series
- 3: ISO 03 Series
- 4: ISO 04 Series

## 4. BORE

- 00: 10mm
- 01: 12mm
- 02: 15mm
- 03: 17mm
- 04+: # \* 5 = Bore diameter in mm (ex. 04=20 mm)

## 5. INTERNAL DESIGN

- E: High capacity CRB
- EA: ULTAGE®

## 6. CHAMFER

- Xn: Special chamfer, from 1 onward (X1, X2...)

## 7. CAGE

- No Symbol: Standard cage
- F1: Machined steel cage
- J: Pressed steel cage
- JC: Pressed steel cage (ULTAGE®)
- G1: Machined brass cage
- L1: Machined brass cage
- GR: Machined brass cage (ULTAGE®)
- T2: Nylon cage
- T2X: Nylon cage

## 8. INTERNAL CLEARANCE

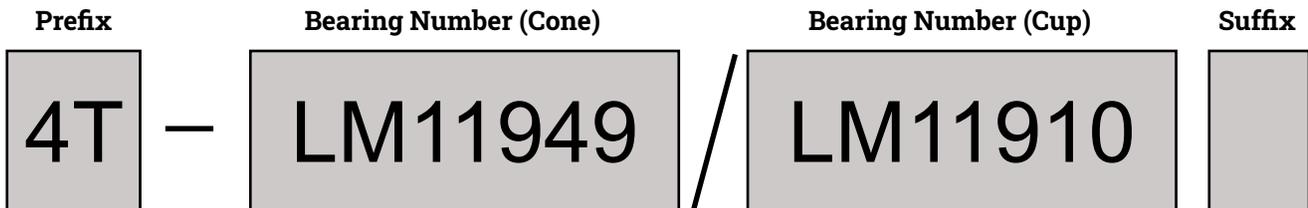
- No Symbol: Normal clearance
- NA: Radial clearance of cylindrical roller bearing with non-interchangeable components
- C1: Clearance less than C2
- C2: Clearance less than normal
- C3: Clearance greater than normal
- C4: Clearance greater than C3
- C5: Clearance greater than C4
- CSxx: Clearance special (xx is mean value 0.001 mm)

## 9. PRECISION

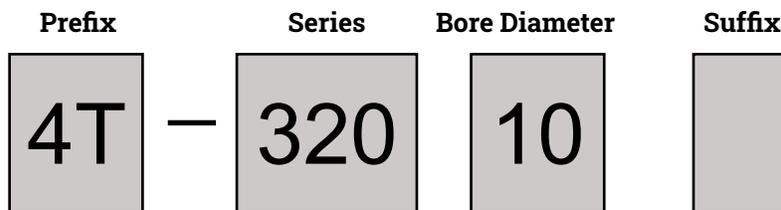
- No Symbol: ISO class 0 (equivalent to ABEC 1)
- P6: ISO class 6 (equivalent to ABEC 3)
- P5: ISO class 5 (equivalent to ABEC 5)
- P4: ISO class 4 (equivalent to ABEC 7)
- P2: ISO class 2 (equivalent to ABEC 9)
- PXn: Special precision, from 1 onward (PX1, PX2, ...)
- UP: Ultra-high precision

# Tapered Roller Bearing Numbering System

## Inch Series



## ISO (Metric) Series



### 1. PREFIX

- ET: NTN endurance taper roller bearing, case hardened
- 4T: NTN 4-top tapered roller bearing, case hardened
- E: Case hardened steel
- T: Internationally interchangeable dimensions

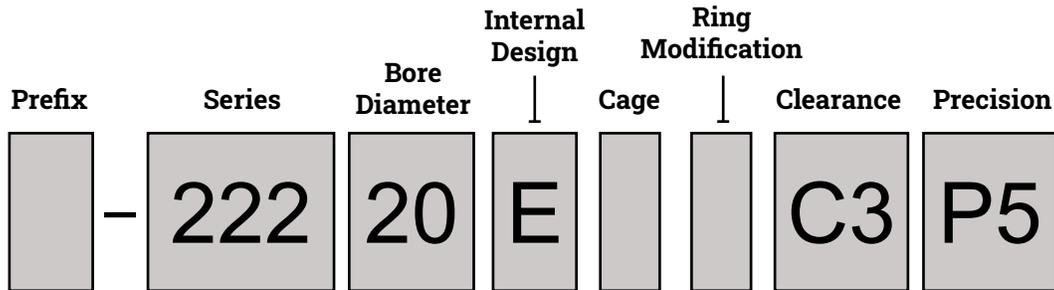
### 2. BEARING NUMBER

- HH: Heavier than heavy
- H: Heavy
- HM: Heavy-medium
- M: Medium
- LM: Light medium
- L: Light
- LL: Extra light
- J: J-metric series (ex: 4T-JM736110)

### 3. SUFFIX

- A: Different bore, OD, width or radius from basic pn
- D: Denotes double ring (inch series only)
- L: Seal
- PK: Class K for J metric
- PXn: Special tolerance from 1 onward (PX1, PX2,...)
- S: Different bore, OD, width or radius from basic pn
- U: ISO series, internationally interchangeable through hardened steel
- W: Slot or keyway
- X: Different bore, OD, width or radius from basic pn
- 3: AFBMA class 3
- 0: AFBMA class 0
- 00: AFBMA class 00
- +ACBnnn: Spacer assembly with nnn end play in 0.0001 in
- +ACSnnn: Spacer assembly with nnn end play in 0.001mm
- #G: Cup only (metric series only)
- G: Cone only (metric series only)
- G2: Pin-type cage
- E1, EW: Special crowning

# Spherical Roller Bearing Numbering System



## 1. PREFIX

- TS2: Heat stabilized up to 320°F (160°C)
- TS3: Heat stabilized up to 390°F (200°C)
- TS4: Heat stabilized up to 480°F (250°C)
- MX: Outer surface rings phosphate coated
- LH: Long life and high temperature series

## 2. SERIES

- 213: Standard narrow series spherical roller bearing
- 222, 223: Standard series spherical roller bearing
- 230, 231: Standard series spherical roller bearing
- 232, 239: Standard series spherical roller bearing
- 240, 241: Standard series spherical roller bearing
- W: Wide series spherical w/integral seals
- WA: Wide series with standard seals
- 2P: Special series spherical roller bearing

## 3. BORE

- 00: 10mm
- 01: 12mm
- 02: 15mm
- 03: 17mm
- 04+: # \* 5 = Bore diameter in mm (ex. 04=20 mm)
- /XXX: Special large bore greater than 500 mm in XXX mm (ex. /530 = 530 mm)

## 4. INTERNAL DESIGN

- E: High capacity spherical roller bearing, temperature stabilized to 200°C
- B: One piece ribbed inner ring, asymmetrical roller, center guide rib
- UA: Inner ring w/o center guide; asymmetrical rollers & outer ring center guided retainer
- C: Two-piece pressed cage, symmetrical roller for bore sizes of 50mm or smaller

## 5. CAGE

- No Symbol: Standard cage
- J: Pressed steel
- T2: Nylon
- L1: Machined brass
- A: Pressed steel (E type)
- G15: Nylon (E type)
- M: Machined brass (E type)
- MA: Machined brass for shaker screen applications (E type)

## 6. SEALS

- LL: Two integral garter seals w/steel backing plate

## 7. RING MODIFICATION

- D1: Oil groove and holes
- W33: Oil groove and holes
- K: Tapered bore (1:12)
- K30: Tapered bore (1:30) (240, 241 series)

## 8. INTERNAL CLEARANCE

- No Symbol: Normal clearance
- C1: Clearance less than C2
- C2: Clearance less than normal
- C3: Clearance greater than normal
- C4: Clearance greater than C3
- C5: Clearance greater than C4
- CSxx: Nominal clearance value (xx is mean value 0.001 mm)

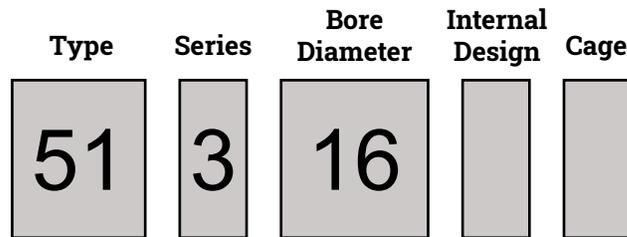
## 9. PRECISION

- No Symbol: ISO class 0 (equivalent to ABEC 1)
- PXn: Special precision, from 1 onward (PX1, PX2, ...)

## 10. SHAKER SCREEN DESIGNATIONS

- (replaces cage, ring mod, and clearance if used)
- VS1: Special tolerance for UA type shaker screen bearing (C3 clearance)
- VS2: Special tolerance for UA type shaker screen bearing (C4 clearance)
- F800: Special tolerance and machined brass cage for E type shaker screen bearing (C4 clearance)
- F801: Special tolerance and machined brass cage for E type shaker screen bearing (C3 clearance)
- F802: Special tolerance and machined brass cage for E type shaker screen bearing (C0 clearance)

# Ball and Roller Thrust Bearing Numbering System



**1. TYPE**

- 51, 53\*: Single direction thrust ball bearing
- 52, 54\*: Double direction thrust ball bearing
- 56: Angular contact thrust bearing
- 292: Spherical thrust roller bearing
- 293: Spherical thrust roller bearing
- 294: Spherical thrust roller bearing
- 29: Single direction thrust ball bearing
- 9: Single direction thrust ball bearing

**3. 3. BORE**

- 00: 10mm
- 01: 12mm
- 02: 15mm
- 03: 17mm
- 04+: # \* 5 = Bore diameter in mm (ex. 04=20 mm)

**4. INTERNAL DESIGN**

- E: Internal design, not interchangeable with standard series.
- U: Misaligning ring included (type 53 and 54 only)

**2. SERIES**

- 8: ISO 18 series
- 9: ISO 19 series
- 0: ISO 10 series
- 2: ISO 02 series
- 3: ISO 03 series

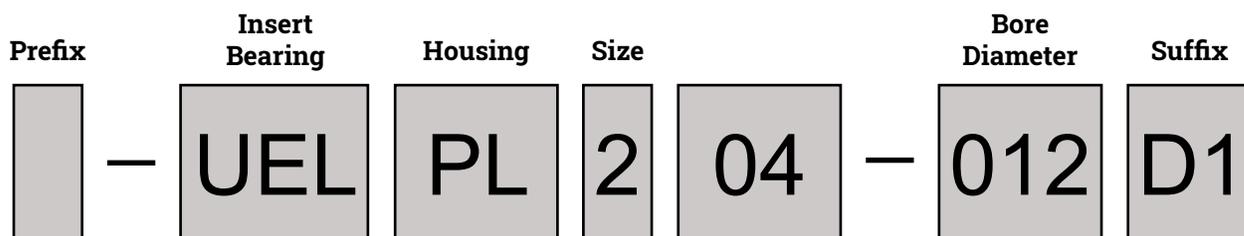
**5. 5. CAGE**

- No Symbol: Standard cage
- J: Pressed steel cage
- L1: Machined brass cage
- T2: Nylon cage

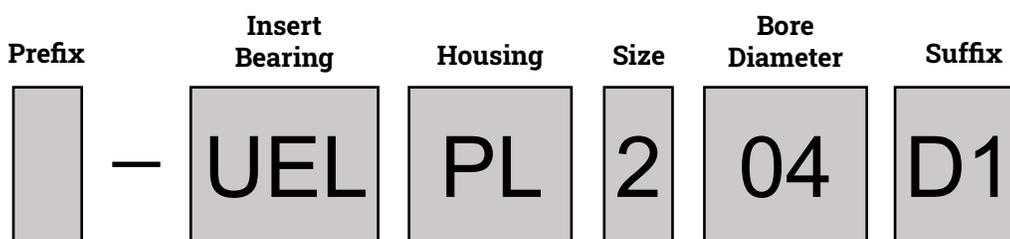
\*Self-aligning outside diameter

# Mounted Bearing Unit Numbering System

## Inch Series



## ISO (Metric) Series



### 1. PREFIX

F:	Stainless
A:	Lube on non-locking mechanism side
C:	Open cover (cast iron)
CM:	Closed cover (cast iron)
S:	Open cover (pressed steel)
SM:	Closed cover (pressed steel)

### 2. BEARING INSERTS\*

AEL:	Narrow inner ring, locking collar
AR:	Narrow inner ring, set screw type
AS:	Narrow inner ring, set screw type
JEL:	Narrow inner ring, eccentric locking collar
REL:	Wide inner ring, eccentric locking collar
UR:	Wide inner ring, set screw type
UC:	Wide inner ring, set screw type w/flinger
UEL:	Wide inner ring, locking collar w/flinger
UK:	Tapered bore, w/ flinger
CS:	Cylindrical bore type

\*For cylindrical OD, add "S" to pn (ex: JELS)

### 3. HOUSING

F:	Flanged unit, cast 4-bolt square housing
FA:	Flanged unit, cast rhombus housing
FC:	Flange piloted unit, cast, round housing
FD:	Flanged unit, cast, short 2-bolt housing
FH:	Flanged unit, cast, 3-bolt bracket housing
FL:	Flanged unit, cast, 2-bolt housing
FS:	Flanged piloted unit, cast, 4-bolt square housing
FU:	Flanged unit, cast, 4-bolt square bearing
PF:	Flanged unit, pressed steel, 3-bolt round housing
PFL:	Flanged unit, pressed steel, 2-bolt housing
RPF:	Flanged unit, pressed steel w/rubber ring, 3-bolt round housing

### 3. HOUSING (CONT.)

HP:	Pillow block, cast housing, high center height
P:	Pillow block, cast housing
PL:	Pillow block, cast housing, low center height
PP:	Pillow block, pressed steel housing
RPP:	Pillow block, pressed steel housing w/rubber ring
UP:	Pillow block, cast housing, tapped base
C:	Cylindrical cartridge unit
HB:	Hanger unit, cast housing
PT:	Mini stretcher
T:	Take-up unit, cast housing

### 4. SERIES

2:	Light
X:	Medium
3:	Heavy

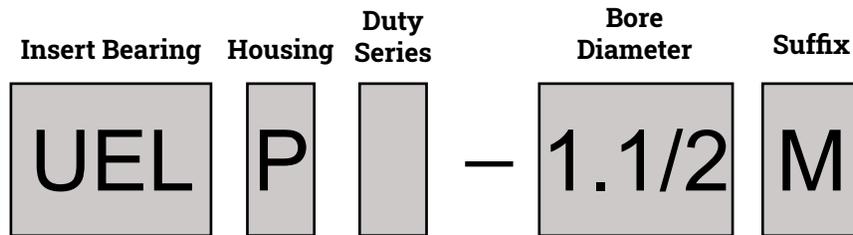
### 5. BORE

00:	10mm
01:	12mm
02:	15mm
03:	17mm
04+:	# * 5 = Bore diameter in mm (ex. 04=20 mm)
Xnn:	X is number of inch; nn is number of 1/16" (ex: 115 = 1.15/16")

### 6. SUFFIX

D1:	Relube type
W3:	Cup point set screw
N:	Snap ring groove
NR:	Snap ring and groove
R:	Meets ISO series
HT1D1:	Heat stabilized up to 284°F (140°C)
HT2D1:	Heat stabilized up to 356°F (180°C)
CT1:	Cold stabilized down to -58°F (-50°C)
LLS, LLJ:	Triple-lip contact seals

# Ultra-Class™ Mounted Bearing Unit Numbering System



**1. BEARING INSERTS**

- AR: Narrow inner ring, set screw type
- JEL: Narrow inner ring, eccentric locking collar
- UC: Wide inner ring, set screw type w/flinger
- UEL: Wide inner ring, eccentric locking collar w/flinger

**2. HOUSING**

- FLU: Flanged unit, cast, 2-bolt housing
- FU: Flanged unit, cast, 4-bolt square bearing
- P: Pillow block, cast housing
- PL: Pillow block, cast housing, low center height

**3. DUTY SERIES**

- No Symbol: Standard duty (equivalent to 2 series)
- X: Medium duty (equivalent to X series)

**4. BORE DIAMETER**

- X.X/X: Bore diameter in inches (ex. 1.1/2 = 1.1/2")
- nn: Bore diameter in mm (ex. 25 = 25mm)

**5. SUFFIX**

- M: Black oxide coating
- FG1: Food grade solid lube, no relube feature included
- LP03: Standard solid lube
- LP09: Food grade solid lube
- S: Smaller size if same bore offered in larger unit
- R: Non-industry dimensions

# Sentinel Series™

## Numbering System (NTN-SNR)

Material	Insert Type	Housing	Size	Bore Diameter	Suffix	Grease
S	UC	PA	208	— 24	CC	FG1

### 1. MATERIAL

- S: Stainless steel
- Z: Clear zinc chromate

### 2. INSERT TYPE

- UC: Wide inner ring, set screw type w/slinger

### 3. HOUSING

#### Stainless Steel

- P: Pillow block
- PA: Tapped-base pillow block
- FL: Two-bolt flange
- FB: Three-bolt bracket flange
- F: Four-bolt flange
- T: Take up unit

#### Thermoplastic

- PPL: Pillow block
- TBL: Tapped-base pillow block
- NFL: Two-bolt flange
- FBL: Three-bolt flange bracket
- FPL: Four-bolt flange
- TPL: Take-up unit

### 4. SIZE

- 2xx: Basic size

### 5. BORE DIAMETER

- XX: Bore diameter in 16ths of an inch  
(ex: 24/16 = 1.5")

### 6. SUFFIX

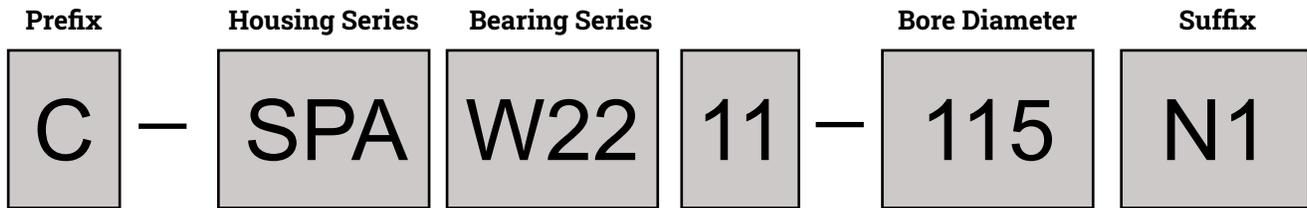
- CC: Closed cover †
  - CO: Open cover †
  - Blank: No cover
- † - 1 additional open cover included for pillow blocks

### 7. GREASE

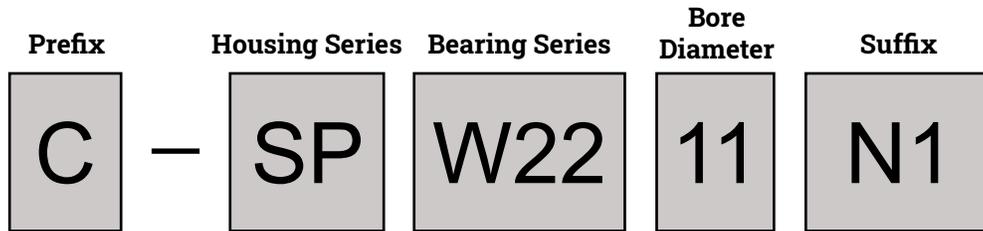
- Blank: Food-grade grease
- FG1: Food-grade solid lube

# Spherical Housed Bearing Unit Numbering System

## Inch Series



## ISO (Metric) Series



**1. PREFIX**

- C: Taconite service seals with open covers
- CM: Taconite service seal with closed cover

**2. HOUSING SERIES**

- SP: Sealed metric spherical pillow block (inch or metric shaft)
- SPA: Sealed inch spherical pillow block (inch or metric shaft)
- SFC: Sealed metric spherical, flanged block (inch or metric shaft)
- SAF: Split pillow block, cast iron housing (inch bore shaft)
- SAFS: Split pillow block, cast steel housing (inch bore shaft)
- FSAF: Split pillow block, cast iron, four-bolt base
- FSPA: Sealed pillow block, inch, four-bolt base

**3. BEARING SERIES**

- W22: Sealed, wide spherical roller bearing

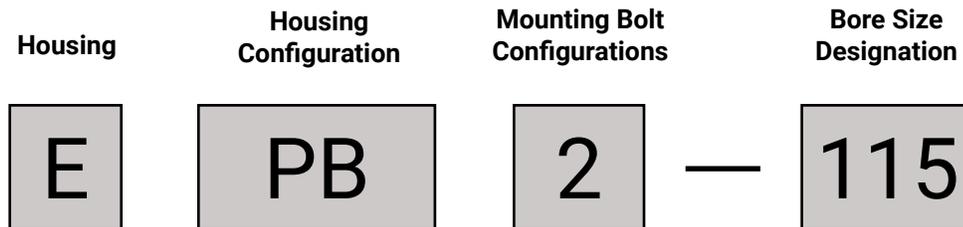
**4. BORE DIAMETER**

- Xnn: Number of 1/16" (ex: 115 = 1.15/16")
- 04+: # \* 5 = Bore diameter in mm (ex. 04=20 mm)

**5. SUFFIX**

- N1: Ductile cast iron housing
- F: Solid base
- G: One stabilizing ring included (when ordering housing only)
- C: Covers are not included
- Vn: Special features (ex. V1, V2, etc.)

# Bower® Type E Numbering System



## 1. HOUSING

E: Type E dimensions

## 2. HOUSING CONFIGURATION

PB: Pillow block, cast iron

## 3. MOUNTING BOLTS CONFIGURATION

2: Two-bolt

4: Four-bolt

## 4. BORE SIZE DESIGNATION

115: 1 <sup>15</sup>/<sub>16</sub>"

203: 2 <sup>3</sup>/<sub>16</sub>"

307: 3 <sup>7</sup>/<sub>16</sub>"

415: 4 <sup>15</sup>/<sub>16</sub>"

# Prefix & Suffix Interchange

CHARACTERISTICS	NTN	SKF	FAG	TIMKEN	NSK	NTN
<b>CLOSURES</b>						
One Non-Contact Seal	LB	RZ	RZ	RZ	V	LB
Two Non-Contact Seals	LLB	2RZ	2RZ	2RZ	VV	LLB
One Contact Seal	LU	RS1	ELS	RS	DU	LU
Two Contact Seals	LLU	2RS1	2ELS	2RS	DDU	LLU
One Shield	Z	Z	Z	Z	Z	Z
Two Shields	ZZ	2Z	2Z	ZZ	ZZ	ZZ
One Snap Ring	NR	NR	NR	NR	NR	NR
<b>PRECISION CLASSES</b>						
ABEC 3	P6	P6	P6	M*	P6, PA3	P6
ABEC 5	P5	P5	P5	V*	P5, PA5	P5
ABEC 7	P4	P4	P4S	MM, MMV	P4, PA7	P4
ABEC 9	P2	PA9A	P2	MMX*	P2, PA7	P2
<b>CONTACT ANGLES</b>						
15°	C	C	C	2*	C	C
25°	H	AC, ACD	E	3*	A5	H
30°	-	A	N/A	N/A	A	-
40°	B	B	B	-	B	B
<b>PRELOAD</b>						
Extra Light	GL	-	-	UX	EL	GL
Light	GN, J74	GA	L	UL	L, C7	GN, J74
Medium	GM, J84	GB	M	UM	M, C8	GM, J84
Heavy	GH, J94	GC	H	UH	H, C9	GH, J94
<b>CAGE</b>						
Phenolic	T1	TP	TA, TB, TH, TP	CR	T	T1
Pressed Brass	Y	Y	MP	NO SYM	Y	Y
Polyamide/Nylon	T2	TN, P, TN9	TN, T, TV	PRB/PRC, CF	TY	T2
Brass	L1	M, MA, MB	M, MP	MBR	CAM, M	L1
Pressed Steel	J	J	J	C, CD	W	J
<b>DUPLEX</b>						
Universal Ground	G, U	G**	U	SU	SU	G, U
<b>SPHERICAL FEATURES</b>						
Taper Bore	K	K	K	K	K	K
Oil Groove	W33, D1	W33	S	W33	E4	W33, D1
Shaker Screens	UAVS, EF800, EMADIVS	CACM2/W502	F80	W800	VS3(4)	UAVS, EF800, EMADIVS

**NTN Ball Bearing Contact Seal Design Features:**

- Dual lip design
  - As one lip wears, the secondary lip makes contact
  - Longer seal life
- Tighter contact pressure
- Available in various higher temp materials
- Available in low torque design
- Most competitors use a single lip design

\* Prefix  
 \*\* Old Nomenclature; New = CA, CB, CC, GA, GB, GC

# Bearing Series Interchange

CHARACTERISTICS	NTN	SKF	FAG	TIMKEN	NSK	NTN
<b>CYLINDRICALS</b>						
	N	N	N	000RNO	N	N
	NU	NU	NU	000RU0	NU	NU
	NF	NF	N/E	000RF0	NF	NF
	NJ	NJ	NJ	000RJ0	NJ	NJ
	NH	NH	NJ & HJ	N/A	NH	NH
	NN	NN	NN	N/A	NN	NN
<b>BALL BEARINGS</b>						
	R	EE OR R	R	S	R	R
	600	600	600	30K	600	600
	6800	61800	61800	-	6800	6800
	6900	61900	61900	9300K	6900	6900
	6000	6000	6000	9100K	6000	6000
	6200	6200	6200	200K	6200	6200
	6300	6300	6300	300K	6300	6300
	6400	6400	6400	6400	6400	6400
<b>MAX CAPACITY</b>	BL200	200	200	200W	BL200	BL200
	BL300	300	300	300W	BL300	BL300
<b>ANGULAR CONTACT</b>						
	7800	71800	71800	-	-	7800
	7900 (71900)	71900	71900	2MM9300WI	7900	7900 (71900)
	7000	7000	7000	7100	7000	7000
	7200	7200	7200	7200	7200	7200
	7300	7300	7300	7300	7300	7300
<b>SPHERICALS</b>						
	21300	21300	21300	21300	21300	21300
	22200	22200	22200	22200	22200	22200
	22300	22300	22300	22300	22300	22300
	23000	23000	23000	23000	23000	23000
	23100	23100	23100	23100	23100	23100
	23200	23200	23200	23200	23200	23200
	23400	23400	23400	23400	23400	23400
	24000	24000	24000	24000	24000	24000
	24100	24100	24100	24100	24100	24100

# Beyond Bearings

**Training. Installation Support.  
Trouble-shooting. And more.**

When you choose NTN, your team is equipped with all the necessary tools and resources to get the job done right. From installation to problem-solving, we'll be there with the hands-on support you need to take on your toughest challenges. This includes extra services such as:



## **Technical Training Unit**

On-site, mobile training unit offering specialized, hands-on instruction from NTN engineers



## **Product Training School**

Three days of in-depth instruction from NTN engineers at NTN headquarters



## **eKnowledge**

### **WEB-BASED TRAINING PROGRAM**

Six online product training modules covering different bearing types and nomenclature ([www.ntnamericas.com/eknowledge](http://www.ntnamericas.com/eknowledge))



## **NTN Bearing Finder**

Customizable search tool featuring exhaustive data sets, comprehensive part interchanges and interactive CAD drawings ([www.bearingfinder.ntnamericas.com](http://www.bearingfinder.ntnamericas.com))



**Ready to get rolling? Contact us today for full details at  
1-800-323-2358 or [eng@ntnamerica.com](mailto:eng@ntnamerica.com).**

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