

# OVERVIEW OF COOPER NOMENCLATURE

## PART DESCRIPTION: 01 BCP 507 EX ATL C3

### SERIES

**100**.....light duty  
**01**.....medium duty  
**01E**.....enhanced medium duty:  
 bore size 111 to 400  
 (metric 45M to 105M) and  
 607 to 1200 (metric 160M  
 to 300M)  
**02**.....heavy duty  
**02E**.....enhanced heavy duty:  
 bore size 607 to 1200  
 (metric 160M to 300M)  
**03**.....extra heavy duty  
 .....  
**04**.....high speed  
**07**.....medium duty water-cooled  
**07I**.....medium duty water-cooled  
 without top half outer race  
**08**.....heavy duty water-cooled  
**08I**.....heavy duty water-cooled  
 without top half outer race  
**MSP**.....obsolete designation, use 01  
 or 01E  
**HSP**.....obsolete designation, use 02  
 or 02E  
**XHP**.....obsolete designation, use 03

### CONFIGURATION

**B**.....bearing only  
**BC**.....bearing, cartridge, & seals  
**BCP**.....complete pillow block  
**BC4P**.....complete pillow block with  
 4-bolt base for sizes where  
 2-bolt is standard outside  
 US 01 series: 303 to 408  
 bore 02 series: 211 to 400  
 bore  
**BCSAFC**.....complete pillow block unit  
 with SAFC pedestal  
**BCPNE**.....complete pillow block unit  
 with Type E pedestal  
**BCSNC**.....complete pillow block unit  
 with SNC pedestal  
**BCPM**.....complete pillow block unit  
 with M-line pedestal  
**BCPS**.....complete pillow block unit  
 with steel pedestal  
**BCF**.....complete round flange unit  
**BCDF**.....complete square flange unit  
**C**.....cartridge only  
**P**.....pedestal only  
**Z**.....marine pedestal  
 .....  
**BH**.....complete hanger unit  
**BCRES**.....complete rod end shoe type  
**BCRET**.....complete rod end tee type  
**BCTP**.....complete takeup push type  
**BCTT**.....complete takeup tension type

### BORE SIZE

**Inches** – last 2 digits represent  
 the number of 1/16"ths  
 Example: 307 = 3-7/16"  
 1008 = 10-1/2"  
 104 = 1-1/4"

**Metric** – in millimeters (mm),  
 denoted by M  
 Example: 130M  
 75M  
 320M

### TYPE

**EX**.....expansion type  
**GR**.....fixed type

### SEAL TYPE

**ATL**.....aluminum triple labyrinth seals  
 (standard seals up to 12" bore;  
 available with Buna rubber or  
 high temperature "O" rings)  
**PTL**.....plastic (HDPE) triple labyrinth  
 seals  
**HTP**.....high temperature packing seals  
**SRS**.....split rubber seals  
**FELT**.....felt seals  
**LAB**.....grease groove seals  
 (also known as GG)  
**SRSRP**.....split rubber seal with  
 retaining plate

### SPECIAL FEATURES

**C2 (or 02)**.....less than standard clearance  
**C3 (or 03)**.....greater than standard  
 clearance  
**C5 (or 05)**.....greater than C3 clearance  
**GM**.....gunmetal roller cage  
**SI**.....SI swivel fit  
**TE**.....drilled & tapped for RTD  
**RO**.....drilled & tapped for  
 recirculating oil  
**OM**.....drilled & tapped for oil mist  
**CLO**.....drilled & tapped for  
 constant level oiler  
**NP**.....nickel plated  
**FR**.....full complement of rollers  
**EL**.....electrical specification  
**SLUB**.....spherical lubrication  
**PBR**.....pedestal base reduction  
**GP**.....grease ports  
**BPTL**.....blanking plate  
**BEM**.....base ends machined

## BEARING TYPES

Cooper bearings are commonly supplied in two forms: the Fixed Type ('GR') and Expansion Type ('EX') as described below. Where conditions are unsuitable for these standard types other configurations are possible, some of which are described on pages 5 to 7.

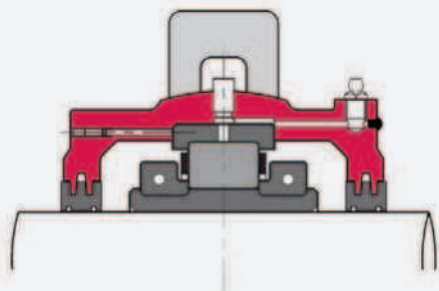
### FIXED TYPE BEARINGS (GR)

The outer race of the fixed (GR) bearing has shoulders integral with the roller track, while the inner race assembly has shoulders formed by hardened lips on the clamping rings or similar integral shoulders.

This type of bearing provides axial location to the rotating

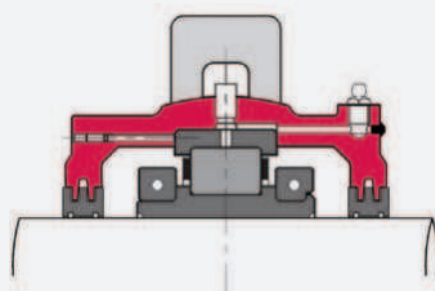
portions of machinery and can sustain both radial and axial loading.

The inner race halves are accurately aligned by means of fitted clamping rings.



#### GR BEARING (D TYPE)

01 and 02 Series through 12"/300mm shaft size and 03 Series through 6"/155mm shaft size. 100 Series all shaft sizes.



#### GR BEARING (C TYPE)

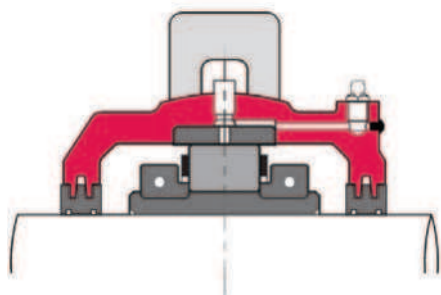
01 and 02 Series through 12"/300mm shaft size and 03 Series through 6"/155mm shaft size.

### EXPANSION TYPE BEARINGS (EX)

The expansion (EX) bearing has a plain outer race roller track. This bearing takes radial load only.

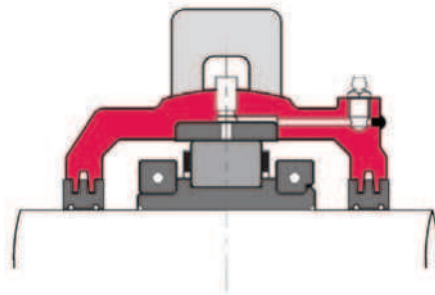
The inner race is clamped to the shaft, and moves axially with it when expansion or contraction occurs.

The Cooper expansion bearing offers virtually no resistance to axial movement as the rollers spiral through the outer race.



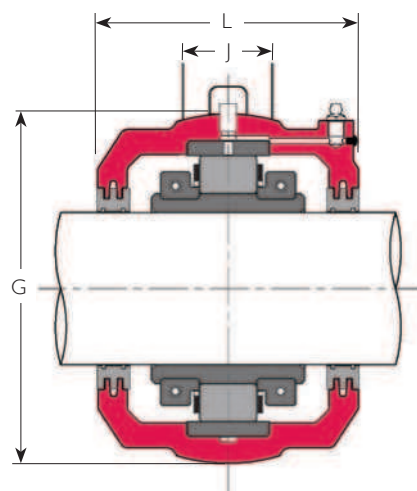
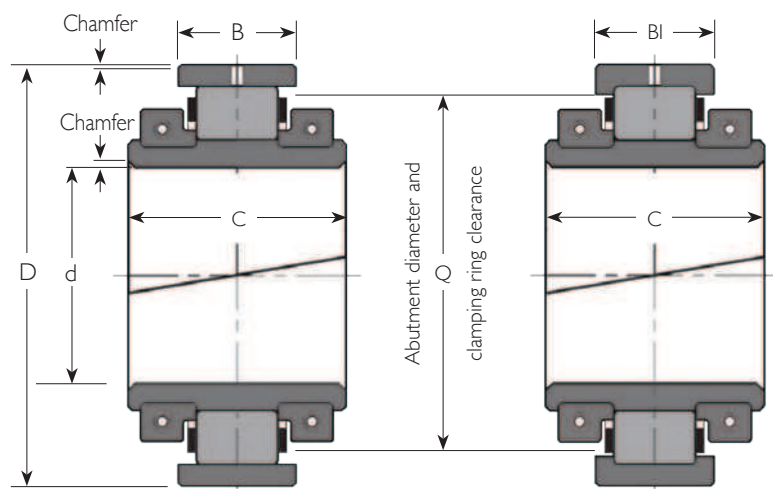
#### EX BEARING (D TYPE)

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01 and 02 Series through 12"/300mm shaft size and 03 Series through 6"/155mm shaft size.



## ROLLER BEARING

Shaft Dia. d (mm)	Reference (1)	Equivalent Inch-size Bearing (4)	Bearing Ratings				Principal Dimensions					Axial Movement (2)		
			Cr (kN)	Cor (kN)	Ca (kN)	Max. Speed (rpm)	D (mm)	C (mm)	B (mm)	BI (mm)	Q (mm)	Usual (mm)	Max. (mm)	Mass (kg)
135	01 B 135M	01 B 508	394	542	25.8	1570	241.30	98.4	55.6	55.6	216	8	16	15.0
	02 B 135M	02 B 508	608	808	45.4	1450	273.05	117.5	66.7	66.7	240	10	15	24.0
140	100 B 140M	100 B 508	331	520	30.5	2620	222.25	90.0	54.0	54.0	195	7	13	9.3
	01 B 140M	01 B 508	394	542	25.8	1570	241.30	98.4	55.6	55.6	216	8	16	15.0
	02 B 140M	02 B 508	608	808	45.4	1450	273.05	117.5	66.7	66.7	240	10	15	24.0
	03 B 140M	03 B 508	886	1069	58.8	1340	304.80	147.0	79.4	90.5	270	12	18	44.0
145	02 B 145M	02 B 508	608	808	45.4	1450	273.05	117.5	66.7	66.7	240	10	15	24.0
150	100 B 150M	100 B 600	397	606	31.4	2400	241.30	90.0	55.6	55.6	215	8	15.5	10.4
	01 B 150M	01 B 600	428	616	29.4	1450	254.00	98.4	55.6	55.6	230	8	16	16.6
	02 B 150M	02 B 600	724	1005	52.4	1320	292.10	123.8	68.3	68.3	258	10	15	29.0
	03 B 150M	03 B 600	994	1213	69.4	1220	330.20	160.0	81.0	96.9	292	13	16	57.0
155	01 B 155M	01 B 600	428	616	29.4	1450	254.00	98.4	55.6	55.6	230	8	16	16.6
	02 B 155M	02 B 600	724	1005	52.4	1320	292.10	123.8	68.3	68.3	258	10	15	29.0

## CARTRIDGE

References (1)		Principal Dimensions			
Cartridge Only	Cartridge, Bearing and Seals	G (mm)	J (mm)	L (mm)	Mass (kg)
01 C 09	01 BC 135M AT	279.40	76	168	20.8
02 C 30	02 BC 135M AT	323.85	90	188	33.0
100 C 08	100 BC 140M AT	266.70	76	156	18.4
01 C 09	01 BC 140M AT	279.40	76	168	20.8
02 C 30	02 BC 140M AT	323.85	90	188	33.0
03 C 57	03 BC 140M AT	355.60	108	230	52
02 C 30	02 BC 145M AT	323.85	90	188	33.0
100 C 09	100 BC 150M AT	279.40	76	168	19.4
01 C 10	01 BC 150M AT	295.28	82	174	24.4
02 C 31	02 BC 150M AT	336.55	95	204	39.0
03 C 58	03 BC 150M AT	393.70	114	254	70
01 C 10	01 BC 155M AT	295.28	82	174	24.4
02 C 31	02 BC 155M AT	336.55	95	204	39.0

1) Add 'EX' or 'GR' to reference for expansion type or fixed type respectively, eg:

bearing: 01E B 150M EX

cartridge: 01 C 10 EX

bearing, cartridge and seals: 01E BC 150M EX AT

complete unit: 01E BCP 150M EX AT

Pillow blocks are common between expansion and fixed typed units.

2) Total available axial movement given. Maximum offset from centerline half this amount. 'Usual' axial movement denotes maximum recommended range of running positions of EX bearing for optimum performance. 'Maximum' axial movement denotes available movement before bearing strikes inside of standard Cooper cartridge.