

Lubrication

Fittings

Lubrication points are tapped 1/4" NPT or 1/8" NPT depending on size and series, and fitted with nipples for grease lubrication as standard. Grease nipples may be removed and replaced with other fittings or pipes. Pipework must be flexible to allow swivel cartridges to function correctly.

BSP fittings may be used, but care must be taken to avoid blocking off the lubricant cross-drilling as these fittings generally screw in further than NPT fittings.

Lubricant type

Cooper bearings and housings are designed for grease lubrication. Grease is easier to retain in the housing than oil, offering reduced lubricant loss and improved sealing. It also offers better protection against corrosion to the rolling surfaces.

Greases of NLGI No.2 designation are recommended for most applications. For centrally pumped systems a No.1 grease may be used for increased 'pumpability'.

Greases with extreme pressure (EP) additives are recommended.

For speeds over 200,000mm dn, greases with synthetic base oils are recommended.

Grease with a lithium complex thickener is usually used for normal applications operating at temperatures between 0°C and 80°C. When water resistance is required a grease with aluminium complex thickener can be used. Aluminium complex greases are not compatible with some other types of grease. The bearing must therefore be solvent cleaned of other greases before adding an aluminium complex based grease.

For extreme temperatures, speeds and loads always obtain a lubricant recommendation from our technical department.

Selection of Base Oil Viscosity (ISO-VG)

Grease selected for bearing lubrication must have a base oil of sufficiently high viscosity to adequately separate the rolling elements and race parts under operating conditions, in order for the bearing to provide a long service life. The same comment applies for the viscosity of the oil if oil lubrication is used.

The charts on page 3 recommended operating ranges for three common oil viscosities, for bearings under normal loading (for radial loads up to Cr/10).

In order to use these charts, the 'geometry factor' for the bearing in question must be found from the tables opposite and on page 2, and this geometry factor multiplied by the bearing speed (in thousands of rpm) in order to obtain the 'velocity factor'.

For example, if an 01E B 65M bearing is to be run at 1800rpm:

The geometry factor is 48.2 from the table.

Velocity factor = $48.2 \times 1800/1000 = 86.76$

To determine the suitability of one of these oils, draw a vertical line from the horizontal axis at the calculated velocity factor, and draw a horizontal line from vertical axis at the operating temperature.

If the lines intersect in the shaded area the viscosity of the oil is suitable.

If the lines intersect above the shaded area a higher viscosity oil is required.

If the lines intersect below the shaded area the bearing may operate satisfactorily, but it is suggested that a lower viscosity oil is used.

The use of these charts is subject to the operating conditions being within the recommended ranges for the lubricant as specified by the lubricant manufacturer:

For conditions not covered by these charts, please contact our technical department.

Note that the lubricant film thickness is not particularly sensitive to load, so for heavier loading the lubricant selection as provided by these charts is usually sufficient provided that the lines drawn on the chart as explained above do not intersect at the upper edge of the shaded area.

It is recommended that our technical department is contacted with details of the application if extremes of load, speed or temperature are expected.

GEOMETRY FACTORS OF STANDARD CYLINDRICAL BEARINGS

Shaft Diameter d	Bearing Reference	Geometry factor	Shaft Diameter d	Bearing Reference	Geometry factor
35	01 B 35M	27.3	110	100 B 110M	104
40	01 B 40M	27.3		01 B 110M	112
45	01E B 45M	37.6		02 B 110M	120
50	01E B 50M	37.6	115	03 B 110M	127
	02 B 50M	39.0		01 B 115M	112
55	01E B 55M	48.2		02 B 115M	120
60	01E B 60M	48.2	120	100 B 120M	124
	02 B 60M	53.2		01 B 120M	129
65	01E B 65M	48.2		02 B 120M	139
	02 B 65M	53.2	03 B 120M	127	
70	01E B 70M	61.4	125	01 B 125M	129
	02 B 70M	67.1		02 B 125M	139
75	100 B 75M	57.5		130	100 B 130M
	01E B 75M	61.4	01 B 130M		129
	02 B 75M	67.1	02 B 130M		139
80	01E B 80M	77.2	135	03 B 130M	143
	02 B 80M	83.7		01 B 135M	147
85	100 B 85M	71.5		140	100 B 140M
	01E B 85M	77.2	01 B 140M		147
	02 B 85M	83.7	02 B 140M		158
90	01E B 90M	77.2	145	03 B 140M	160
	02 B 90M	83.7		02 B 145M	158
95	01E B 95M	92.8		150	100 B 150M
	100 B 100M	87.9	01 B 150M		164
	01E B 100M	92.8	02 B 150M		176
100	02 B 100M	101	155	03 B 150M	181
	03 B 100M	112		01 B 155M	164
	01E B 105M	92.8		02 B 155M	176
105	02 B 105M	101			

GEOMETRY FACTORS OF STANDARD CYLINDRICAL BEARINGS

Shaft Diameter d	Bearing Reference	Geometry factor
160	01 B 600-160M	164
	01 B 160M	183
	02 B 600-160M	176
	02 B 160M	198
	03 B 160M	212
170	01 B 608-170M	183
	01 B 170M	200
	02 B 170M	198
175	01 B 175M	200
	02 B 175M	216
180	01 B 180M	200
	02 B 180M	216
	03 B 180M	232
190	01 B 190M	237
	02 B 190M	258
	03 B 190M	277
200	01 B 200M	237
	02 B 200M	258
	03 B 200M	277
220	01 B 220M	277
	02 B 220M	297
	03 B 220M	328
230	01 B 230M	277
	02 B 230M	297

Shaft Diameter d	Bearing Reference	Geometry factor
240	01 B 240M	323
	02 B 240M	343
	03 B 240M	359
250	01 B 250M	323
	02 B 250M	343
	03 B 250M	359
260	01 B 1000-260M	323
	01 B 260M	364
	02 B 260M	343
270	01 B 270M	364
	01 B 275M	364
	01 B 280M	364
280	02 B 280M	386
	03X B 280M	413
	03E B 280M	397
290	01 B 290M	413
	03 B 290M	463
300	01 B 300M	413
	02 B 300M	435
	03 B 300M	463
320	01 B 320M	455
	02 B 320M	484
	03 B 320M	527
330	01 B 330M	455
	02 B 330M	484

Shaft Diameter d	Bearing Reference	Geometry factor
340	01 B 1300-340M	455
	01 B 340M	501
	02 B 340M	536
	03E B 340M	551
350	01 B 350M	501
	02 B 350M	536
360	01 B 1400-360M	501
	01 B 360M	551
	02 B 360M	536
	03E B 360M	551
380	03X B 360M	576
	01 B 380M	551
	02 B 380M	579
390	03 B 380M	631
	01 B 390M	600
400	01 B 400M	600
	02 B 400M	631
	03 B 400M	631
420	01 B 420M	650
	02 B 420M	685
	03E B 420M	701
440	01 B 440M	701
	02 B 440M	730
	03E B 440M	701

Shaft Diameter d	Bearing Reference	Geometry factor
460	01 B 460M	701
	02 B 460M	730
	03E B 460M	759
	03X B 460M	807
480	01 B 480M	757
	02 B 480M	790
	03X B 480M	807
500	01 B 500M	810
	02 B 500M	837
	03 B 500M	917
530	01 B 530M	879
	02 B 530M	903
	03 B 530M	917
560	01 B 560M	934
	02 B 560M	966
	03E B 560M	995
580	01 B 580M	995
	02 B 580M	1031
600	01 B 600M	1053
	02 B 600M	1075
	03E B 600M	1053

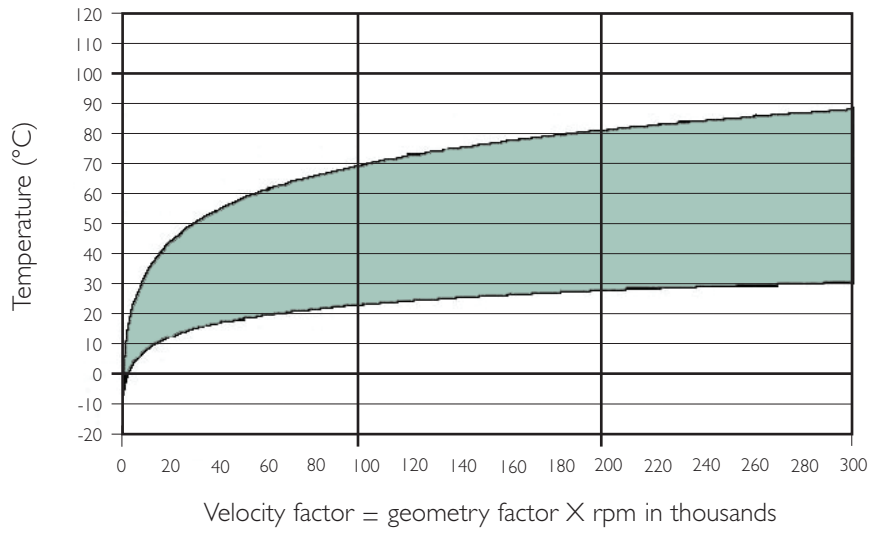
GEOMETRY FACTORS OF 08 SERIES BEARINGS

Shaft Diameter (mm)	Bearing Reference	Geometry factor
150	08 B 150M EX	176
	08 B 150M GR	
160	08 B 160M EX	176
	08 B 160M GR	
200	08 B 200M EX	258
	08 B 200M GR	
220	08 B 220M EX	297
	08 B 220M GR	
240	08 B 240M EX	343
	08 B 240M GR	

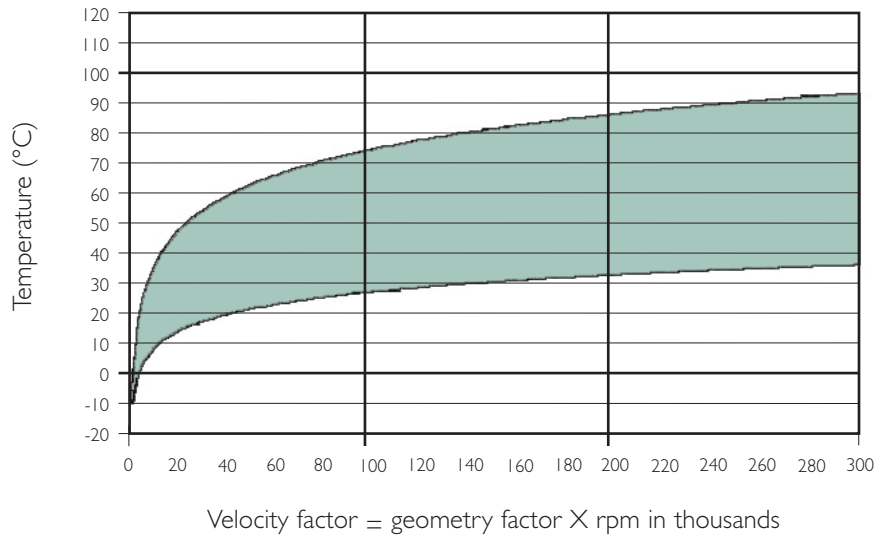
GEOMETRY FACTORS OF IDTB SERIES BEARINGS

Shaft Diameter d (mm)	Bearing Reference	Geometry factor
75	IDTB75M	63
80	IDTB80M	69
90	IDTB90M	78
100	IDTB100M	96
110	IDTB110M	110
120	IDTB120M	118
140	IDTB140M	144
160	IDTB160M	169
180	IDTB180M	196

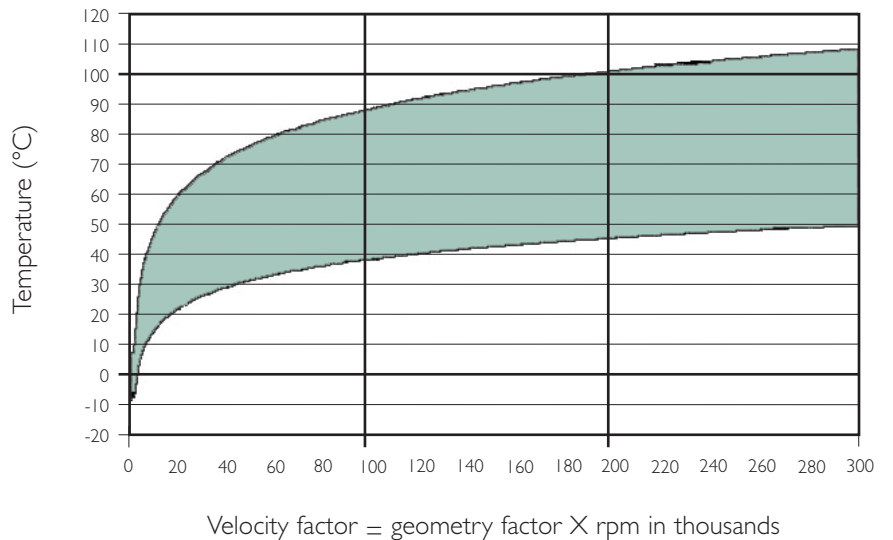
Cooper Bearing recommended speed and temperature range for VG 150 grease and oils



Cooper Bearing recommended speed and temperature range for VG 220 grease and oils



Cooper Bearing recommended speed and temperature range for VG 460 grease and oils



Grease quantity for initial lubrication

The quantity of grease required on initial lubrication is dependent upon operating speed and temperature.

If the operating temperature is below 80°C the quantity of grease may be determined directly according to the bearing reference and operating speed from the table below. If the operating temperature is above 80°C a 25% pack of grease should be used regardless of operating speed (refer to the right hand column of the table).

With a 'full pack' of grease the space within the housing (i.e. surrounding the bearing components) in the assembled unit is completely filled with grease.

The table assumes normal density grease (about 0.85 g/cm³).

INITIAL GREASE QUANTITIES FOR STANDARD CYLINDRICAL BEARINGS

Shaft Diameter d (mm)	Bearing Reference	Speed (rpm) up to	Grease (full pack) (kg)	Speed (rpm)		Grease (75% full pack) (kg)	Speed (rpm)		Grease (50% full pack) (kg)	Speed (rpm)		Grease (33% full pack) (kg)	Speed (rpm) over	Grease (25% full pack) (kg)
				from	to		from	to		from	to			
35	01 B 35M	1312	0.06	1312	2625	0.05	2625	3937	0.03	3937	5249	0.02	5249	0.02
40	01 B 40M	1312	0.06	1312	2625	0.05	2625	3937	0.03	3937	5249	0.02	5249	0.02
45	01E B 45M	984	0.09	984	1969	0.07	1969	2953	0.05	2953	3937	0.03	3937	0.02
50	01E B 50M	984	0.09	984	1969	0.07	1969	2953	0.05	2953	3937	0.03	3937	0.02
	02 B 50M	984	0.15	984	1969	0.11	1969	2953	0.08	2953	3937	0.05	3937	0.04
55	01E B 55M	787	0.15	787	1575	0.11	1575	2362	0.08	2362	3150	0.05	3150	0.04
60	01E B 60M	787	0.15	787	1575	0.11	1575	2362	0.08	2362	3150	0.05	3150	0.04
	02 B 60M	787	0.21	787	1575	0.16	1575	2362	0.11	2362	3150	0.07	3150	0.05
65	01E B 65M	787	0.15	787	1575	0.11	1575	2362	0.08	2362	3150	0.05	3150	0.04
	02 B 65M	787	0.21	787	1575	0.16	1575	2362	0.11	2362	3150	0.07	3150	0.05
70	01E B 70M	656	0.18	656	1312	0.14	1312	1969	0.09	1969	2625	0.06	2625	0.05
	02 B 70M	656	0.30	656	1312	0.23	1312	1969	0.15	1969	2625	0.10	2625	0.08
75	100 B 75M	656	0.15	656	1312	0.11	1312	1969	0.08	1969	2625	0.05	2625	0.04
	01E B 75M	656	0.18	656	1312	0.14	1312	1969	0.09	1969	2625	0.06	2625	0.05
	02 B 75M	656	0.30	656	1312	0.23	1312	1969	0.15	1969	2625	0.10	2625	0.08
80	01E B 80M	562	0.30	562	1125	0.23	1125	1687	0.15	1687	2250	0.10	2250	0.08
	02 B 80M	562	0.45	562	1125	0.34	1125	1687	0.23	1687	2250	0.15	2250	0.11
85	100 B 85M	573	0.22	573	1145	0.17	1145	1718	0.11	1718	2291	0.07	2291	0.06
	01E B 85M	562	0.30	562	1125	0.23	1125	1687	0.15	1687	2250	0.10	2250	0.08
	02 B 85M	562	0.45	562	1125	0.34	1125	1687	0.23	1687	2250	0.15	2250	0.11
90	01E B 90M	562	0.30	562	1125	0.23	1125	1687	0.15	1687	2250	0.10	2250	0.08
	02 B 90M	562	0.45	562	1125	0.34	1125	1687	0.23	1687	2250	0.15	2250	0.11

INITIAL GREASE QUANTITIES FOR STANDARD CYLINDRICAL BEARINGS

Shaft Diameter d (mm)	Bearing Reference	Speed (rpm) up to	Grease (full pack) (kg)	Speed (rpm)		Grease (75% full pack) (kg)	Speed (rpm)		Grease (50% full pack) (kg)	Speed (rpm)		Grease (33% full pack) (kg)	Speed (rpm) over	Grease (25% full pack) (kg)
				from	to		from	to		from	to			
95	01E B 95M	492	0.36	492	984	0.27	984	1476	0.18	1476	1969	0.12	1969	0.09
100	100 B 100M	492	0.36	492	984	0.27	984	1476	0.18	1476	1969	0.12	1969	0.09
	01E B 100M	492	0.36	492	984	0.27	984	1476	0.18	1476	1969	0.12	1969	0.09
	02 B 100M	492	0.60	492	984	0.45	984	1476	0.30	1476	1969	0.20	1969	0.15
	03 B 100M	492	1.20	492	984	0.90	984	1476	0.60	1476	1969	0.40	1969	0.30
105	01E B 105M	492	0.36	492	984	0.27	984	1476	0.18	1476	1969	0.12	1969	0.09
	02 B 105M	492	0.60	492	984	0.45	984	1476	0.30	1476	1969	0.20	1969	0.15
110	100 B 110M	437	0.36	437	875	0.27	875	1312	0.18	1312	1750	0.12	1750	0.09
	01 B 110M	437	0.51	437	875	0.38	875	1312	0.26	1312	1750	0.17	1750	0.13
	02 B 110M	437	0.90	437	875	0.68	875	1312	0.45	1312	1750	0.30	1750	0.23
	03 B 110M	437	1.40	437	875	1.05	875	1312	0.70	1312	1750	0.46	1750	0.35
115	01 B 115M	437	0.51	437	875	0.38	875	1312	0.26	1312	1750	0.17	1750	0.13
	02 B 115M	437	0.90	437	875	0.68	875	1312	0.45	1312	1750	0.30	1750	0.23
120	100 B 120M	394	0.49	394	787	0.37	787	1181	0.25	1181	1575	0.16	1575	0.12
	01 B 120M	394	0.60	394	787	0.45	787	1181	0.30	1181	1575	0.20	1575	0.15
	02 B 120M	394	1.20	394	787	0.90	787	1181	0.60	1181	1575	0.40	1575	0.30
	03 B 120M	437	1.40	437	875	1.05	875	1312	0.70	1312	1750	0.46	1750	0.35
125	01 B 125M	394	0.60	394	787	0.45	787	1181	0.30	1181	1575	0.20	1575	0.15
	02 B 125M	394	1.20	394	787	0.90	787	1181	0.60	1181	1575	0.40	1575	0.30
130	100 B 130M	394	0.49	394	787	0.37	787	1181	0.25	1181	1575	0.16	1575	0.12
	01 B 130M	394	0.60	394	787	0.45	787	1181	0.30	1181	1575	0.20	1575	0.15
	02 B 130M	394	1.20	394	787	0.90	787	1181	0.60	1181	1575	0.40	1575	0.30
	03 B 130M	394	1.40	394	787	1.05	787	1181	0.70	1181	1575	0.46	1575	0.35
135	01 B 135M	358	0.78	358	716	0.59	716	1074	0.39	1074	1432	0.26	1432	0.20
140	100 B 140M	358	0.64	358	716	0.48	716	1074	0.32	1074	1432	0.21	1432	0.16
	01 B 140M	358	0.78	358	716	0.59	716	1074	0.39	1074	1432	0.26	1432	0.20
	02 B 140M	358	1.40	358	716	1.05	716	1074	0.70	1074	1432	0.46	1432	0.35
	03 B 140M	358	2.00	358	716	1.50	716	1074	1.00	1074	1432	0.66	1432	0.50
145	02 B 145M	358	1.40	358	716	1.05	716	1074	0.70	1074	1432	0.46	1432	0.35

INITIAL GREASE QUANTITIES FOR STANDARD CYLINDRICAL BEARINGS

Shaft Diameter d (mm)	Bearing Reference	Speed (rpm) up to	Grease (full pack) (kg)	Speed (rpm)		Grease (75% full pack) (kg)	Speed (rpm)		Grease (50% full pack) (kg)	Speed (rpm)		Grease (33% full pack) (kg)	Speed (rpm) over	Grease (25% full pack) (kg)
				from	to		from	to		from	to			
150	100 B 150M	328	1.02	328	656	0.77	656	984	0.51	984	1312	0.34	1312	0.26
	01 B 150M	328	0.90	328	656	0.68	656	984	0.45	984	1312	0.30	1312	0.23
	02 B 150M	328	1.40	328	656	1.05	656	984	0.70	984	1312	0.46	1312	0.35
	03 B 150M	328	2.70	328	656	2.03	656	984	1.35	984	1312	0.89	1312	0.68
155	01 B 155M	328	0.90	328	656	0.68	656	984	0.45	984	1312	0.30	1312	0.23
	02 B 155M	328	1.40	328	656	1.05	656	984	0.70	984	1312	0.46	1312	0.35
160	01 B 600-160M	328	0.90	328	656	0.68	656	984	0.45	984	1312	0.30	1312	0.23
	01 B 160M	303	1.00	303	606	0.75	606	909	0.50	909	1211	0.33	1211	0.25
	02 B 600-160M	328	1.40	328	656	1.05	656	984	0.70	984	1312	0.46	1312	0.35
	02 B 160M	303	1.40	303	606	1.05	606	909	0.70	909	1211	0.46	1211	0.35
	03 B 160M	303	3.60	303	606	2.70	606	909	1.80	909	1211	1.19	1211	0.90
170	01 B 608-170M	303	1.00	303	606	0.75	606	909	0.50	909	1211	0.33	1211	0.25
	01 B 170M	281	1.20	281	562	0.90	562	844	0.60	844	1125	0.40	1125	0.30
	02 B 170M	303	2.00	303	606	1.50	606	909	1.00	909	1211	0.66	1211	0.50
	03 B 170M	303	3.60	303	606	2.70	606	909	1.80	909	1211	1.19	1211	0.90
175	01 B 175M	281	1.20	281	562	0.90	562	844	0.60	844	1125	0.40	1125	0.30
	02 B 175M	281	2.00	281	562	1.50	562	844	1.00	844	1125	0.66	1125	0.50
180	01 B 180M	281	1.20	281	562	0.90	562	844	0.60	844	1125	0.40	1125	0.30
	02 B 180M	281	2.00	281	562	1.50	562	844	1.00	844	1125	0.66	1125	0.50
	03 B 180M	281	4.20	281	562	3.15	562	844	2.10	844	1125	1.39	1125	1.05
190	01 B 190M	246	1.40	246	492	1.05	492	738	0.70	738	984	0.46	984	0.35
	02 B 190M	246	2.70	246	492	2.03	492	738	1.35	738	984	0.89	984	0.68
	03 B 190M	246	5.40	246	492	4.05	492	738	2.70	738	984	1.78	984	1.35
200	01 B 200M	246	1.40	246	492	1.05	492	738	0.70	738	984	0.46	984	0.35
	02 B 200M	246	2.70	246	492	2.03	492	738	1.35	738	984	0.89	984	0.68
	03 B 200M	246	5.40	246	492	4.05	492	738	2.70	738	984	1.78	984	1.35
220	01 B 220M	219	1.40	219	437	1.05	437	656	0.70	656	875	0.46	875	0.35
	02 B 220M	219	3.60	219	437	2.70	437	656	1.80	656	875	1.19	875	0.90
	03 B 220M	219	6.90	219	437	5.18	437	656	3.45	656	875	2.28	875	1.73
230	01 B 230M	219	1.40	219	437	1.05	437	656	0.70	656	875	0.46	875	0.35
	02 B 230M	219	3.60	219	437	2.70	437	656	1.80	656	875	1.19	875	0.90

INITIAL GREASE QUANTITIES FOR STANDARD CYLINDRICAL BEARINGS

Shaft Diameter d (mm)	Bearing Reference	Speed (rpm) up to	Grease (full pack) (kg)	Speed (rpm)		Grease (75% full pack) (kg)	Speed (rpm)		Grease (50% full pack) (kg)	Speed (rpm)		Grease (33% full pack) (kg)	Speed (rpm) over	Grease (25% full pack) (kg)
				from	to		from	to		from	to			
240	01 B 240M	197	2.00	197	394	1.50	394	591	1.00	591	787	0.66	787	0.50
	02 B 240M	197	4.20	197	394	3.15	394	591	2.10	591	787	1.39	787	1.05
	03 B 240M	197	8.10	197	394	6.08	394	591	4.05	591	787	2.67	787	2.03
250	01 B 250M	197	2.00	197	394	1.50	394	591	1.00	591	787	0.66	787	0.50
	02 B 250M	197	4.20	197	394	3.15	394	591	2.10	591	787	1.39	787	1.05
	03 B 250M	197	8.10	197	394	6.08	394	591	4.05	591	787	2.67	787	2.03
260	01 B 1000-260M	197	2.00	197	394	1.50	394	591	1.00	591	787	0.66	787	0.50
	01 B 260M	179	2.00	179	358	1.50	358	537	1.00	537	716	0.66	716	0.50
	02 B 260M	197	4.20	197	394	3.15	394	591	2.10	591	787	1.39	787	1.05
	03 B 260M	197	8.10	197	394	6.08	394	591	4.05	591	787	2.67	787	2.03
270	01 B 270M	179	2.00	179	358	1.50	358	537	1.00	537	716	0.66	716	0.50
275	01 B 275M	179	2.00	179	358	1.50	358	537	1.00	537	716	0.66	716	0.50
280	01 B 280M	179	2.00	179	358	1.50	358	537	1.00	537	716	0.66	716	0.50
	02 B 280M	179	4.80	179	358	3.60	358	537	2.40	537	716	1.58	716	1.20
	03X B 280M	179	10.00	179	358	7.50	358	537	5.00	537	716	3.30	716	2.50
	03E B 280M	179	10.00	179	358	7.50	358	537	5.00	537	716	3.30	716	2.50
290	01 B 290M	164	2.00	164	328	1.50	328	492	1.00	492	656	0.66	656	0.50
	03 B 290M	164	11.00	164	328	8.25	328	492	5.50	492	656	3.63	656	2.75
300	01 B 300M	164	2.00	164	328	1.50	328	492	1.00	492	656	0.66	656	0.50
	02 B 300M	164	5.40	164	328	4.05	328	492	2.70	492	656	1.78	656	1.35
	03 B 300M	164	11.00	164	328	8.25	328	492	5.50	492	656	3.63	656	2.75
320	01 B 320M	151	2.76	151	303	2.07	303	454	1.38	454	606	0.91	606	0.69
	02 B 320M	151	6.60	151	303	4.95	303	454	3.30	454	606	2.18	606	1.65
	03 B 320M	151	12.00	151	303	9.00	303	454	6.00	454	606	3.96	606	3.00
330	01 B 330M	151	2.76	151	303	2.07	303	454	1.38	454	606	0.91	606	0.69
	02 B 330M	151	6.60	151	303	4.95	303	454	3.30	454	606	2.18	606	1.65
340	01 B 1300-340M	151	2.76	151	303	2.07	303	454	1.38	454	606	0.91	606	0.69
	01 B 340M	141	3.00	141	281	2.25	281	422	1.50	422	562	0.99	562	0.75
	02 B 340M	141	7.20	141	281	5.40	281	422	3.60	422	562	2.38	562	1.80
	03E B 340M	141	15.00	141	281	11.25	281	422	7.50	422	562	4.95	562	3.75

INITIAL GREASE QUANTITIES FOR STANDARD CYLINDRICAL BEARINGS

Shaft Diameter d (mm)	Bearing Reference	Speed (rpm) up to	Grease (full pack) (kg)	Speed (rpm)		Grease (75% full pack) (kg)	Speed (rpm)		Grease (50% full pack) (kg)	Speed (rpm)		Grease (33% full pack) (kg)	Speed (rpm) over	Grease (25% full pack) (kg)
				from	to		from	to		from	to			
350	01 B 350M	141	3.00	141	281	2.25	281	422	1.50	422	562	0.99	562	0.75
	02 B 350M	141	7.20	141	281	5.40	281	422	3.60	422	562	2.38	562	1.80
360	01 B 1400-360M	141	3.00	141	281	2.25	281	422	1.50	422	562	0.99	562	0.75
	01 B 360M	131	3.00	131	262	2.25	262	394	1.50	394	525	0.99	525	0.75
	02 B 360M	141	7.20	141	281	5.40	281	422	3.60	422	562	2.38	562	1.80
	03E B 360M	141	15.00	141	281	11.25	281	422	7.50	422	562	4.95	562	3.75
	03X B 360M	141	15.00	141	281	11.25	281	422	7.50	422	562	4.95	562	3.75
380	01 B 380M	131	3.00	131	262	2.25	262	394	1.50	394	525	0.99	525	0.75
	02 B 380M	131	7.80	131	262	5.85	262	394	3.90	394	525	2.57	525	1.95
	03 B 380M	131	16.20	131	262	12.15	262	394	8.10	394	525	5.35	525	4.05
390	01 B 390M	123	3.60	123	246	2.70	246	369	1.80	369	492	1.19	492	0.90
400	01 B 400M	123	3.60	123	246	2.70	246	369	1.80	369	492	1.19	492	0.90
	02 B 400M	123	9.00	123	246	6.75	246	369	4.50	369	492	2.97	492	2.25
	03 B 400M	131	16.20	131	262	12.15	262	394	8.10	394	525	5.35	525	4.05
420	01 B 420M	116	4.20	116	232	3.15	232	347	2.10	347	463	1.39	463	1.05
	02 B 420M	116	9.60	116	232	7.20	232	347	4.80	347	463	3.17	463	2.40
	03E B 420M	116	21.60	116	232	16.20	232	347	10.80	347	463	7.13	463	5.40
440	01 B 440M	109	4.20	109	219	3.15	219	328	2.10	328	437	1.39	437	1.05
	02 B 440M	109	9.60	109	219	7.20	219	328	4.80	328	437	3.17	437	2.40
	03E B 440M	116	21.60	116	232	16.20	232	347	10.80	347	463	7.13	463	5.40
460	01 B 460M	109	4.20	109	219	3.15	219	328	2.10	328	437	1.39	437	1.05
	02 B 460M	109	9.60	109	219	7.20	219	328	4.80	328	437	3.17	437	2.40
	03E B 460M	109	24.60	109	219	18.45	219	328	12.30	328	437	8.12	437	6.15
	03X B 460M	104	24.60	104	207	18.45	207	311	12.30	311	414	8.12	414	6.15
480	01 B 480M	104	4.80	104	207	3.60	207	311	2.40	311	414	1.58	414	1.20
	02 B 480M	104	10.20	104	207	7.65	207	311	5.10	311	414	3.37	414	2.55
	03X B 480M	109	24.60	109	219	18.45	219	328	12.30	328	437	8.12	437	6.15
500	01 B 500M	98	4.80	98	197	3.60	197	295	2.40	295	394	1.58	394	1.20
	02 B 500M	98	10.80	98	197	8.10	197	295	5.40	295	394	3.56	394	2.70
	03 B 500M	98	30.00	98	197	22.50	197	295	15.00	295	394	9.90	394	7.50

INITIAL GREASE QUANTITIES FOR STANDARD CYLINDRICAL BEARINGS

Shaft Diameter d (mm)	Bearing Reference	Speed (rpm) up to	Grease (full pack) (kg)	Speed (rpm)		Grease (75% full pack) (kg)	Speed (rpm)		Grease (50% full pack) (kg)	Speed (rpm)		Grease (33% full pack) (kg)	Speed (rpm) over	Grease (25% full pack) (kg)
				from	to		from	to		from	to			
530	01 B 530M	94	5.40	94	187	4.05	187	281	2.70	281	375	1.78	375	1.35
	02 B 530M	94	11.40	94	187	8.55	187	281	5.70	281	375	3.76	375	2.85
	03 B 530M	98	30.00	98	197	22.50	197	295	15.00	295	394	9.90	394	7.50
560	01 B 560M	89	5.40	89	179	4.05	179	268	2.70	268	358	1.78	358	1.35
	02 B 560M	89	11.40	89	179	8.55	179	268	5.70	268	358	3.76	358	2.85
	03E B 560M	89	36.00	89	179	27.00	179	268	18.00	268	358	11.88	358	9.00
580	01 B 580M	86	6.00	86	171	4.50	171	257	3.00	257	342	1.98	342	1.50
	02 B 580M	86	12.60	86	171	9.45	171	257	6.30	257	342	4.16	342	3.15
600	01 B 600M	82	6.00	82	164	4.50	164	246	3.00	246	328	1.98	328	1.50
	02 B 600M	82	12.60	82	164	9.45	164	246	6.30	246	328	4.16	328	3.15
	03E B 600M	86	38.40	86	171	28.80	171	257	19.20	257	342	12.67	342	9.60

INITIAL GREASE QUANTITIES FOR 08 SERIES BEARINGS

Shaft Diameter (mm)	Pedestal Reference	Speed (rpm) up to	Grease (full pack) kg	Speed (rpm)		Grease (75% full pack) kg	Speed (rpm)		Grease (50% full pack) kg	Speed (rpm)		Grease (33% full pack) kg	Speed (rpm) over	Grease (25% full pack) kg
				from	to		from	to		from	to			
150	08 SDC3134	328	2.10	328	656	1.57	656	984	1.05	984	1312	0.69	1312	0.53
160	08 SDC3136	328	2.04	328	656	1.53	656	984	1.02	984	1312	0.67	1312	0.50
200	08 SDC3144	246	3.50	246	492	2.63	492	738	1.75	738	max.	1.16	-	0.88
220	08 SDC3148	219	3.62	219	437	2.72	437	656	1.81	656	max.	1.20	-	0.90
240	08 SDC3152	197	5.17	197	394	3.88	394	591	2.59	591	max.	1.71	-	1.30

INITIAL GREASE QUANTITIES FOR IDTB SERIES BEARINGS

Shaft Diameter d (mm)	Bearing Reference	Speed (rpm) up to	Grease (full pack) (Kg)	Speed (rpm)		Grease (75% full pack) (Kg)	Speed (rpm)		Grease (50% full pack) (Kg)	Speed (rpm)		Grease (33% full pack) (Kg)	Speed (rpm) over	Grease (25% full pack) (Kg)
				from	to		from	to		from	to			
75	IDTB75M	667	0.19	667	1333	0.14	1333	2000	0.10	2000	2667	0.06	2667	0.05
80	IDTB80M	625	0.23	625	1250	0.17	1250	1875	0.12	1875	2500	0.08	2500	0.06
90	IDTB90M	556	0.25	556	1111	0.19	1111	1667	0.12	1667	2222	0.08	2222	0.06
100	IDTB100M	500	0.41	500	1000	0.31	1000	1500	0.20	1500	2000	0.13	2000	0.10
110	IDTB110M	455	0.44	455	909	0.33	909	1364	0.22	1364	1818	0.14	1818	0.11
120	IDTB120M	417	0.50	417	833	0.38	833	1250	0.25	1250	1667	0.17	1667	0.13
140	IDTB140M	357	0.65	357	714	0.48	714	1071	0.32	1071	1429	0.21	1429	0.16
160	IDTB160M	313	0.63	313	625	0.47	625	938	0.32	938	1250	0.21	1250	0.16
180	IDTB180M	278	0.77	278	556	0.58	556	833	0.39	833	1111	0.25	1111	0.19

Routine greasing

General (all Series)

Routine greasing frequency depends on temperature, speed and environment. Grease quantities depend on bearing size. Excessive quantities of lubricant should not be used. Particularly at high speeds, this may result in excessive churning and overheating.

Automatic lubrication systems should be metered to deliver grease at an average rate equivalent to the routine greasing periods and quantities specified.

If it can be done safely, routine greasing should occur while the shaft is rotating to help distribute the grease. Do not mix different types of grease in the bearing.

Standard cylindrical bearings

The table below specifies routine greasing intervals. The shortest greasing interval should be selected to which one or more of the conditions in the table apply. If operating conditions fall outside those listed please contact our technical department for a recommended lubrication interval.

The following table specifies the required quantity of grease at each routine greasing. Note that 2ml is approximately one shot from a conventional side-lever grease gun. Smaller quantities may be delivered using a push-type gun.

Routine greasing frequency	Operating conditions		
	Temperature	Speed dn (mm)	Environment (3)
100 hours	80°C to 175°C	200,000 to 300,000 (1)	Very dirty/submerged
200 hours	60°C to 80°C	100,000 to 200,000	Dusty/splashed
400 hours (2)	Below 60°C	Up to 100,000	Clean/dry

(1) Up to bearing maximum in case of 100 Series bearings

(2) For EX bearings and GR bearings used for location only (i.e. no nominal thrust load) this may be extended to 1000 hours. For applications where temperature and operating speed allow for a full pack of grease this may be extended to one year for EX bearings and GR bearings used for location only.

(3) For applications where operating speed and temperature allow for a full pack of grease, regreasing can occur every 400 hours regardless of the working environment.

* May be increased to 2 if speed is less than 100,000dn (mm), or up to 200,000dn (mm) if operating temperature is less than 80°C.

Shaft Diam. d	Bearing Reference	Routine Grease Volume (ml)
35	01 B 35M	4
40	01 B 40M	4
45	01E B 45M	4
50	01E B 50M	4
	02 B 50M	4
55	01E B 55M	4
60	01E B 60M	4
	02 B 60M	4
65	01E B 65M	4
	02 B 65M	4
70	01E B 70M	4
	02 B 70M	4
75	100 B 75M	1*
	01E B 75M	4
	02 B 75M	4
80	01E B 80M	4
	02 B 80M	4
85	100 B 85M	1*
	01E B 85M	4
	02 B 85M	4
90	01E B 90M	4
	02 B 90M	4
95	01E B 95M	4
100	100 B 100M	2
	01E B 100M	4
	02 B 100M	4
	03 B 100M	4

Shaft Diam. d	Bearing Reference	Routine Grease Volume (ml)
105	01E B 105M	4
	02 B 105M	4
110	100 B 110M	2
	01 B 110M	4
	02 B 110M	4
	03 B 110M	4
115	01 B 115M	4
	02 B 115M	4
120	100 B 120M	4
	01 B 120M	4
	02 B 120M	4
	03 B 120M	4
125	01 B 125M	4
	02 B 125M	4
130	100 B 130M	4
	01 B 130M	4
	02 B 130M	4
	03 B 130M	4
135	01 B 135M	4
140	100 B 140M	4
	01 B 140M	4
	02 B 140M	4
	03 B 140M	8
145	02 B 145M	4
150	100 B 150M	4
	01 B 150M	4
	02 B 150M	4
	03 B 150M	8

Shaft Diam. d	Bearing Reference	Routine Grease Volume (ml)
155	01 B 155M	4
	02 B 155M	4
160	01 B 600-160M	4
	01 B 160M	4
	02 B 600-160M	4
	02 B 160M	8
170	03 B 160M	8
	01 B 608-170M	4
	01 B 170M	4
175	02 B 170M	8
	03 B 170M	8
180	01 B 175M	4
	02 B 175M	8
190	01 B 180M	4
	02 B 180M	8
	03 B 180M	8
200	01 B 190M	4
	02 B 190M	8
	03 B 190M	16
220	01 B 200M	4
	02 B 200M	8
	03 B 200M	16
230	01 B 220M	4
	02 B 220M	8
	03 B 220M	16
230	01 B 230M	4
	02 B 230M	8

Shaft Diam. d	Bearing Reference	Routine Grease Volume (ml)
240	01 B 240M	8
	02 B 240M	8
	03 B 240M	16
260	01 B 1000-260M	8
	01 B 260M	8
	02 B 260M	8
	03 B 260M	16
270	01 B 270M	8
275	01 B 275M	8
280	01 B 280M	8
	02 B 280M	16
	03X B 280M	16
	03E B 280M	16
290	01 B 290M	8
300	03 B 290M	16
	01 B 300M	8
	02 B 300M	16
320	03 B 300M	16
	01 B 320M	8
	02 B 320M	16
330	03 B 320M	24
	01 B 330M	8
	02 B 330M	16
340	01 B 1300-340M	8
	01 B 340M	8
	02 B 340M	16
	03E B 340M	24
350	01 B 350M	8
	02 B 350M	16

Shaft Diam. d	Bearing Reference	Routine Grease Volume (ml)
360	01 B 1400-360M	8
	01 B 360M	8
	02 B 360M	16
	03E B 360M	24
380	03X B 360M	24
	01 B 380M	8
	02 B 380M	16
390	03 B 380M	24
	01 B 390M	16
400	01 B 400M	16
	02 B 400M	16
	03 B 400M	24
420	01 B 420M	16
	02 B 420M	16
	03E B 420M	24
440	01 B 440M	16
	02 B 440M	24
	03E B 440M	32
460	01 B 460M	16
	02 B 460M	24
	03E B 460M	32
	03X B 460M	32
480	01 B 480M	16
	02 B 480M	24
	03X B 480M	32
500	01 B 500M	16
	02 B 500M	24
	03 B 500M	32

Shaft Diam. d	Bearing Reference	Routine Grease Volume (ml)
530	01 B 530M	16
	02 B 530M	24
	03 B 530M	32
560	01 B 560M	16
	02 B 560M	24
	03E B 560M	32
580	01 B 580M	16
	02 B 580M	24
600	01 B 600M	16
	02 B 600M	24
	03E B 600M	32

08 SDC Series

Expansion bearings (EX): Lubricate every 400 hours. This frequency may be increased to weekly if desired. For 150mm and 160mm sizes use approximately 4ml of grease (generally 2 shots of grease from a conventional grease gun) For larger sizes use approximately 8ml of grease (generally 4 shots).

Fixed bearing (GR): Lubricate the bearing weekly (i.e. approximately every 150hours operation). For 150mm and 160mm sizes use approximately 4ml of grease (generally 2 shots of grease from a conventional grease gun). For larger sizes use approximately 8ml of grease (generally 4 shots). If the bearing is used for location only (i.e. there is no nominal axial load) it may be treated as per the expansion bearing of the same size for lubrication purposes.

IDTB Series

Relubricate the bearing weekly or every 150 hours of operation. Sizes up to and including 120mm bore size: Use 2ml of fresh grease. Sizes over 120mm bore size: Use 4ml of fresh grease.