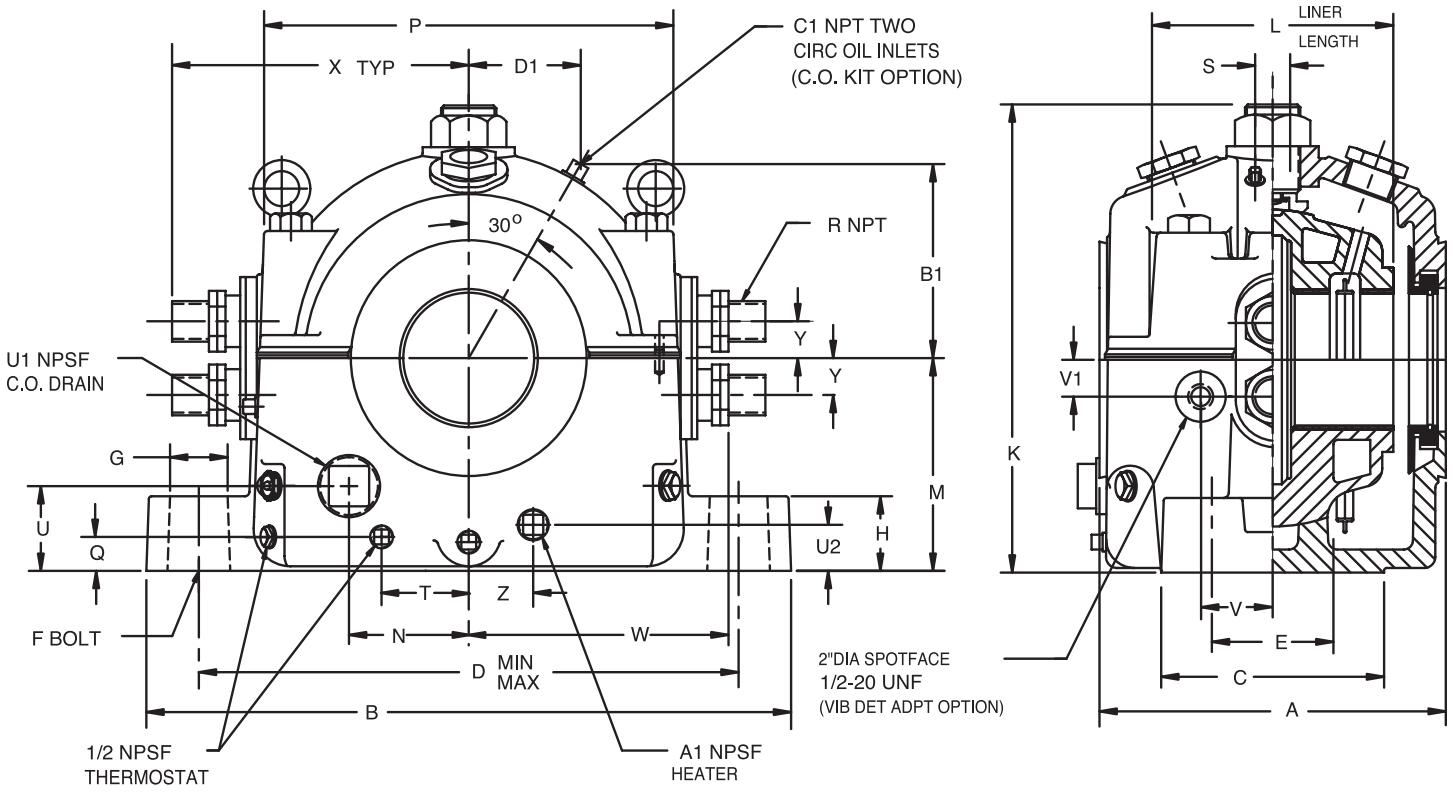
Dodge® Sleevoil® RTL Series Hydrodynamic Bearings

Dodge® Sleevoil® RTL Series hydrodynamic bearings provide exceptionally strong performance in high heat applications. The liner design offers excellent radial and thrust load capacities. Coolant chambers directly in the liner provide especially effective heat dissipation and cool both the thrust plates and radial load sections as close to the heat source as possible. The coolant chambers are of sufficient size to allow the use of water, oil, or air as the internal coolant. All components are fully split. Housings are pre-machined for thermocouples, circulating oil, heaters and thermostats. The Dodge RTL design accommodates shaft diameters from 3-7/16” to 12”. Dodge RTL Series is used on motors, generators, fans, test stands, dynamometers, pumps, compressors and other turbomachinery.

Features and Benefits

- Fully split housing for trouble-free assembly and disassembly
- Rugged construction using gray iron housing and liner for durability
- Babbitt lining offers conformability and shaft protection
- Completely self-aligning as a result of ball and socket mounting between liner and base
- Dependable oil ring lubrication with self-contained oil supply
- Convenient oil gage can be positioned on either side of housing
- Proven reliability and dependable performance guard against catastrophic failures
- Extended life is a plus with no metal-to-metal contact during operation—more than ten times the theoretical life of anti-friction bearings
- High speed capabilities because of self-pressurized full oil film
- Adequate vibration dampening is handled by the hydrodynamic oil film which absorbs shock
- Effective heat transfer accomplished by journal surrounded by improved coolant chambers
- Quiet operation accomplished by full separation of mating parts
- Pre-machined for thermocouples, circulating oil kit, vibration detector adapter kit, auxiliary seal kits, end cap kit, heater and thermostat



Shaft Size	A	B	C	D (Max.-Min.)	E	F Dia. Bolt	G	H	K	L	M	N	P	Q	R
3-7/16	10	18-3/4	6	16-1/8 - 14-7/8	3	3/4	1-1/2	2	12-9/16	6-3/4	5-7/8	3-5/8	11-5/8	1-1/8	3/4
3-15/16	10-3/4	20-3/4	7	18 - 16-1/2	3-1/2	7/8	1-3/4	2-1/4	13-5/8	7-1/4	6-1/2	4-3/8	12-7/8	1-1/8	1
4-7/16	11-3/4	21-3/4	7-1/2	18-7/8 - 17-1/8	4	1	2	2-1/2	15-1/4	8	7	4-1/2	13-3/4	1-1/4	1
4-15/16	12-3/4	24-1/4	8-1/2	21-3/8 - 19-5/8	4-1/2	1	2	2-3/4	17-3/8	8-7/8	7-3/4	5-1/8	16	1-1/4	1-1/4
5-7/16	14	26-3/4	9-1/2	23-1/4 - 21-1/4	5	1-1/8	2-1/4	3-1/4	18-7/8	10	8-3/4	5-3/4	17-1/4	1-5/8	1-1/4
6	16	29	10-1/2	25-1/8 - 22-7/8	5-1/2	1-1/4	2-1/2	3-1/2	20-1/8	10-7/8	9-1/2	6-1/4	18-3/4	1-5/8	1-1/4
7	18	33	12-1/2	28-7/8 - 26-1/8	6-1/2	1-1/2	3	4	22-3/8	12-1/2	10-3/4	6-7/8	21-1/4	2	1-1/4
8	19-3/4	38	14	33-1/8 - 29-7/83	7-1/2	1-3/4	3-1/2	4-1/2	25-13/16	14-1/8	12-1/4	8-1/2	24-1/4	2-1/4	2
9	22-3/4	41-1/2	15-1/2	6-5/8 - 33-3/8	8	1-3/4	3-1/2	5	28-1/4	16-1/4	13-1/2	9-3/16	27-1/4	2-1/4	2
10	24-1/2	47-1/2	17	41-7/8 - 38-1/8	9	2	4	6	33-7/8	17-3/4	16	11	31	2-7/8	2-1/2
12	29	49	18	43-5/8 - 41-7/8	10	2	3	6-1/2	37	20-3/4	17-3/4	12-7/16	35-1/2	3-1/8	3

S	T	U	U1	U2	V	V1	W ±3/16	X	Y	Z	A1	B1	C1	D1	Thrust Collar Dia. x Width	Oil (fl. oz.)
1-3/8	....	2-3/4	1-1/2	1-1/8	3-1/4	3/4	7-5/8	8-3/4	1-1/4	3-9/16	3/4	7-1/4	1/4	4-3/16	5-1/2 x 3/4	56
1-1/2	....	2-15/16	1-1/2	1-1/4	3	1-1/2	8-11/16	9-13/16	1-1/4	4-1/16	1	7-11/16	1/4	4-9/16	6-1/4 x 3/4	64
1-1/2	....	2-15/16	1-1/2	1-3/8	3-1/4	1-5/8	9-1/8	10-1/4	1-1/4	4-7/16	1	8-1/8	1/4	4-5/8	7 x 3/4	80
1-5/8	....	3-1/4	2	1-1/2	3-3/4	1-3/4	10-3/4	12-7/16	1-7/8	5-3/8	1-1/4	8-1/2	1/4	4-15/16	8 x 7/8	128
2	2-15/16	3-3/4	2	1-7/8	4	1-3/4	11-7/16	12-7/8	1-7/8	5-5/8	1-1/4	9-1/16	1/4	5-1/4	8-1/2 x 1	152
2-1/8	3-1/2	4	2	1-7/8	3-3/4	2	12-3/16	13-1/2	1-7/8	6-1/8	1-1/4	10-7/8	3/8	6- 5/16	9-11/16 x1-1/8	224
2-1/4	4	4-1/4	2	2	4-1/2	2	13-3/16	14-5/8	1-7/8	6-7/8	1-1/4	12-1/16	3/8	6-15/16	11-1/4 x 1-1/4	336
2-3/8	5-1/2	4-3/4	2	2-1/4	5	2	15-11/16	17-7/8	2-1/4	8-3/8	1-1/4	13-1/8	3/8	7-3/16	13 x 1-3/8	416
3	5-1/2	5-1/16	2	2-1/4	5-1/2	2	17-1/8	19-1/4	2-1/4	9-1/16	1-1/4	14-3/16	3/8	8-3/16	14-1/2 x 1-1/2	608
3-1/8	8-1/2	5-9/16	2-1/2	2-7/8	6	2	19-13/16	22-1/2	2-3/4	10-5/8	1-1/4	15-1/8	3/8	8-3/4	16 x 1-5/8	896
3-1/4	9	6-1/8	2-1/2	3-1/8	6-1/2	2	22	24-1/4	3-1/2	12-1/8	1-1/4	19-1/2	3/8	9-9/16	19-1/2 x 1-3/4	1440

Optional Accessories

A number of standard options are available for Sleevoil RTL bearings. These non-standard components can be used to enhance overall bearing performance in a number of ways, including significant expansion of the bearing's operating envelope, maintaining consistent performance in extremely changeable or hostile surroundings, improved system diagnostic capabilities, and more. (Note: Additional modifications can be designed for special applications.)

RTD/Thermocouple

Monitors bearing's babbitt temperature to help protect system against abnormal operating conditions

Circulating Oil Kit

Provides controlled delivery of oil regardless of shaft surface speed. Provides more rapid heat dissipation, constantly cleans oil, and floods bearing journal, all of which allow significantly higher speed operation.

Heater & Thermostat

Maintains consistent bearing oil sump temperature on startup in cold environments.

Vibration Detector Kit

Attaches vibration sensors to bearing housing to allow constant monitoring of system balance.

Auxiliary Seals

Provide additional protection from environmental contaminants and locations where high velocity air flows over the bearing.

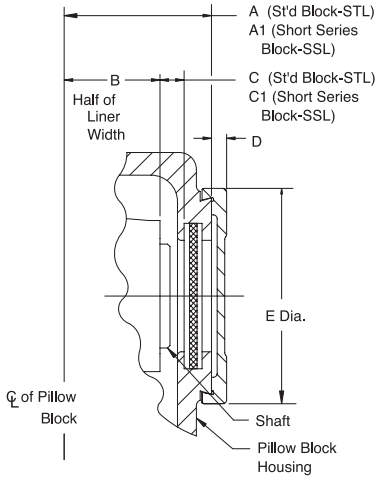
End Cap Kit

Closes off bearing housing in short shafted applications.

Housing End Cap Kits

Bore Size	Part Number	Wt. (lbs.)	D	E	A STL	B# One Half Liner	C# STL
3-7/16	132542	4.9	1/2	7-1/8	5	3-3/8	27/32
3-15/16	432190	6.4	1/2	8	5-3/8	3-5/8	29/32
4-7/16	432193	7.0	1/2	8-3/4	5-7/8	4	1-1/32
4-15/16	432196	7.5	1/2	9-1/8	6-3/8	4-7/16	1-3/32
5-7/16	132546	12.4	1/2	10-1/2	7	5	1-5/32
6	132547	14.8	1/2	11-1/2	8	5-7/16	1-11/32
7	132548	19.0	1/2	12-9/16	9	6-1/4	1-17/32
8	132549	24.9	1/2	14-1/2	9-7/8	7-1/16	1-19/32
9	132564	15.9	1/2	14-1/2	11-3/8	8-1/8	2-1/32
10	132565	16.4	1/2	14-1/2	12-1/4	8-7/8	2-1/32
12	132566	26	1/2	18-3/4	14-1/2	10-3/8	2-25/32

B+C (OR B+C1) = max. shaft penetration from center line of pillow block

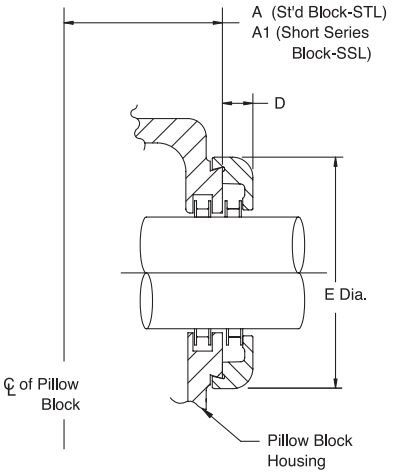


END CAP KIT

Auxiliary seal kits

Bore Size	Part Number	Wt. (lbs.)	D	E	A STL	B # One Half Liner	C # STL
3-7/16	132811	4.9	15/16	7-1/8	5	3-3/8	27/32
3-15/16	432181	6.4	15/16	8	5-3/8	3-5/8	29/32
4-7/16	432184	7.0	1	3-3/4	5-7/8	4	1-1/32
4-15/16	432187	7.5	1	9-1/8	6-3/8	4-7/16	1-3/32
5-7/16	133932	12.4	1-5/16	10-1/2	7	5	1-5/32
6	133933	14.8	1-5/16	11-1/2	8	5-7/16	1-11/32
7	133937	19.0	1-7/16	12-9/16	9	6-1/4	1-17/32
8	133938	24.9	1-7/16	14-1/2	9-7/8	7-1/16	1-19/32
9	132814	23.1	1-5/16	14-1/2	11-3/8	8-1/8	2-1/32
10	132816	22	1-5/16	14-1/2	12-1/4	8-7/8	2-1/32
12	132819	32	1-5/16	18-3/4	14-1/2	10-3/8	2-25/32

One required per pillow block end
B+C (OR B+C1) = max. shaft penetration from center line of pillow block



AUXILIARY SEAL KIT

Bearings

Shaft Size	Non-Expansion Pillow Blocks++		Expansion Pillow Blocks ■		Required to Make-Up Non-Expansion Pillow Blocks>>•			
					Thrust Plate Kits		Split Thrust Collar◆	
	Part No.	Wt. (lbs.)	Part No.	Wt. (lbs.)	Part No.	Wt. (lbs.)	Part No.	Wt. (lbs.)
3-7/16	132362	195	132474	190	137101	2.5	132151	2.6
3-15/16	132363	238	132475	230	137102	4.3	132152	4.2
4-7/16	132364	311	132476	300	137103	5.4	132153	5.6
4-15/16	132365	441	132477	425	137104	6.9	132154	8.7
5-7/16	132366	521	132383	500	137105	10.2	132155	10.8
6	132367	854	132384	825	137106	12.7	132156	15.9
7	132368	1018	132385	978	137107	17.6	132157	22.4
8	132369	1368	132386	1310	137108	23.1	132158	34.5
9	132370	1738	132387	1650	137109	42.6	132159	45.9
10	132371	2262	132388	2150	137110	52.7	132160	59.8
12	132372	3670	132389	3500	137111	74.1	132161	96.4

++ Non-Expansion Pillow Blocks include: housing, liner, thrust plate kit and one split thrust collar
■ Expansion Pillow Blocks include: housing and liner
>> Not furnished unless specifically ordered
• One of each required for each expansion block when a non-expansion block is required
◆ For recessed shaft
All sizes are pre-machined for accessories: thermocouple, circulating oil, vibration detector, heater and thermostat

Liner Assemblies

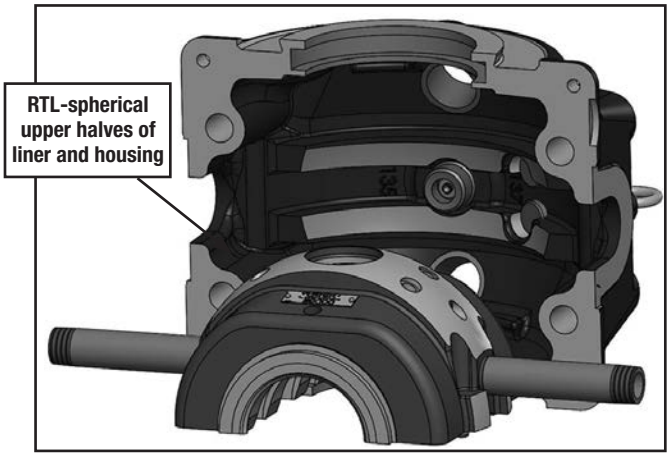
Shaft Size	Part No.	Wt. (lbs.)
3-7/16	132420	47
3-15/16	132421	65
4-7/16	132422	82
4-15/16	132423	113
5-7/16	132424	144
6	132425	182
7	132426	257
8	132427	412
9	132428	623
10	132429	955
12	132430	1405

RTL-Spherical vs. RTL Sleevoil bearings

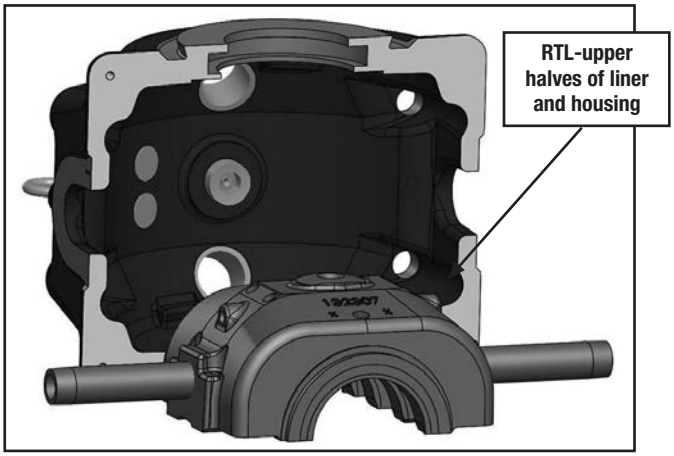
RTL-Spherical is an upgrade of RTL Series SLEEVOIL bearings with identical mounting dimensions.

- RTL-Spherical pillow block has self-aligning spherical seats on both lower and upper halves of housing and liner.
- RTL-Spherical liner will fit inside the RTL housing.
- Use new instructions manual for complete RTL-Spherical bearing.
- RTL bearing has self-aligning spherical seats only on lower halves of bearing housing and liner.
- RTL liner will not fit inside the RTL-Spherical housing.
- Use RTL instructions manual with RTL housing using RTL-Spherical liner.

RTL- Spherical



RTL



Please Note: RTL bearing part numbers will not change. The RTL-Spherical bearing will replace the RTL bearing as RTL bearing inventories are depleted. For specific information, please contact your Baldor-Dodge Sales Engineer.

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