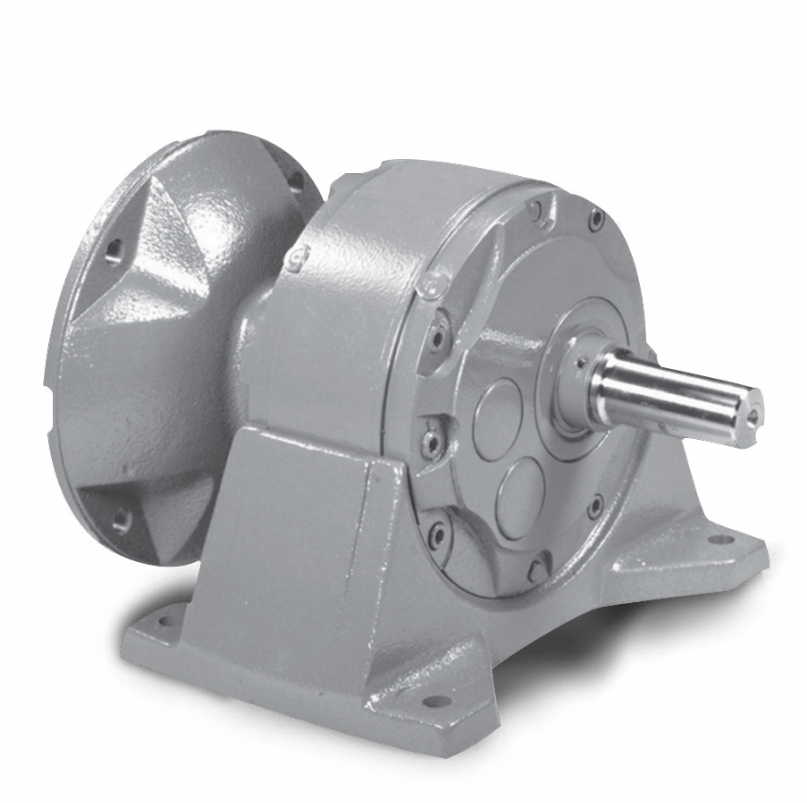
200 Series Optimount®
Enclosed Helical Gear Drives

Installation and Operation Manual

P-3008-BG
Doc. No. 57655



Boston Gear®
Altra Industrial Motion

These instructions must be read thoroughly before installing or operating speed reducers. File instructions for future reference.

⚠CAUTION

- For safe operation of any gear drive, all rotating shafts and auxiliary components must be shielded to conform with applicable safety standards. You must consider overall operational system safety at all times.
- When using a gear drive to raise or lower a load, such as in hoisting applications, provision must be made for external braking. Under no conditions should a gear drive be considered self-locking.
- Mounting of gear drives in overhead positions may be hazardous. Use of external guides or supports is strongly recommended for overhead mounting.

General Instructions

1. When mounting, use maximum possible bolt size and secure gear drive to a rigid foundation. Periodic inspection of all bolts is recommended.

2. Align all shafts accurately. Improper alignment can result in failure. Use of flexible couplings is recommended to compensate for slight misalignment.

3. Arrange the drain and breather plug per your mounting position as indicated on the reverse side. The breather plug should also be located in the FILL position.

4. Auxiliary drive components (such as sprockets, gears and pulleys) should be mounted on the shafts as close as possible to the housing to minimize effects of over hung loads. Avoid force fits that might damage bearings or gears.

5. Gear drives are nameplated for 1750 RPM Input Speed and Class I Service. For lower Input Speeds and other Service Class, refer to catalog rating information.

6. Input Speeds of 1750 and lower are shown in catalog rating tables for speed reducing applications. This does not represent the maximum speed, since speed limitation is based on pitching velocity and varies with size and ratio.

Shaft Mounted Installation

Mount reducer on the shaft to be driven, as close to the supporting bearing as possible, and tighten end setscrews. For installations requiring an adapter bushing, the setscrews must pass through clearance holes in the bushing. For severe applications, the driven shaft should be spot drilled for these setscrews.

Instructions for Flanged Models F200 (Quill Type Input)

1. Assemble the key to the motor shaft and coat the shaft with anti-seize compound. Insert the motor shaft into the reducer input shaft.

2. Rotate the motor to proper position and firmly secure to flange with four hex-head cap screws.

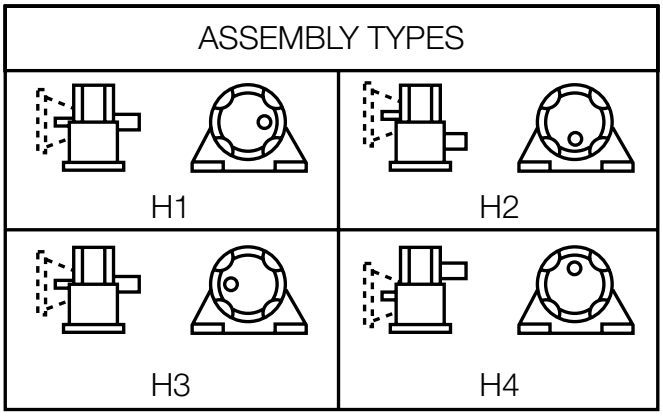
⚠CAUTION If the motor does not readily seat itself, check to determine if key has moved axially along motor shaft, causing interference. Staking of the keyway adjacent to the motor key will facilitate this procedure.

Location of Filler, Level and Drain Plugs

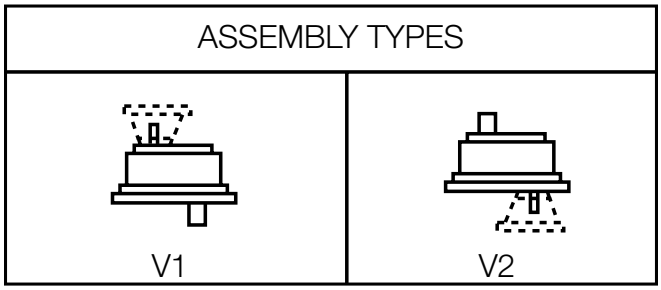
Optimount reducers may be mounted in any position shown with the following exceptions:

Filler, level and drain plugs are completely interchangeable and should be arranged to suit the required mounting positions. Four (4) pipe tapped holes for these plugs are located on the input shaft side of the housing and one (1) on the opposite side.

200 Series Horizontal Base



200 Series Vertical Base



Recommended Lubricants

The following tables indicate the type and viscosity of lubricant suitable for reducers operating at various temperatures.

Lubrication and maintenance instructions are provided with each speed reducer. These instructions should be followed for best results. It is important that the proper type of oil be used since many oils are not suitable for the lubrication of gears. Various types of gearing require different types of lubricants.

The lubricant must remain free from oxidation and contamination by water or debris since only a very thin film of oil stands between efficient operation and failure. To assure long service life, the reducer should be periodically drained (preferably while warm) and refilled to the proper level with a recommended gear oil. Under normal environmental conditions oil changes are suggested after the initial 250 hours of operation, and thereafter, at regular intervals of 2500 hours or every 6 months. Synthetic lubricants will allow extended lubrication intervals due to its increased resistance to thermal and oxidation degradation. It is suggested that the initial oil change be made at 1500 hours and, thereafter, at 5000 hour intervals.

During the initial period of operation, higher than normal operating temperatures may be seen. This is due to the initial break-in of the gear set. The temperature of Helical Gear Reducers may reach 160ºF.

Enclosed Helical

Ambient (Room) Temperature	Recommended Oil (or equivalent)	Viscosity Range S&S @ 100°F	ISO Viscosity Grade No.
-30º to 225ºF ‡ (-34ºC to 107ºC)	Klubersynth* UH1 6-460	1950/2500	460
-30º to 225ºF ‡ (-34ºC to 107ºC)	Mobil SHC634	1950/2500	320/460

Recommended Lubricant	Boston Gear Item Code
	Quart
Klubersynth UH1 6-460	65159
Mobil SHC634	51493

⚠CAUTION Relubricate more frequently, if drive is operated in high ambient temperatures or unusually contaminated atmospheres. High loads and operating temperatures will also require more frequent relubrication.

*** Synthetic recommendation is exclusively for Klubersynth UH1 6-460**

‡ Klubersynth UH1 6-460 lubricant will perform at temperatures considerably higher than 225ºF. However, the factory should always be consulted prior to operating at higher temperatures, as damage may occur to oil seals and other components.

Drain Plug must be installed in the lower most location of the housing. This plug will be on the input shaft side of the housing for positions H1, H3, H4 and V2. The opposite for position V1 and may be either side for H2.

The **Vented Filler Plug** should be installed in the uppermost location. This plug will be on the input shaft side for positions H1, H2, or H3, on either side for H4 and must be tightened into position with the arrow pointing upward.

For vertical mounting (V1 and V2), this plug must be tightened with arrow pointing toward the center.

Level Plug position will be as indicated for horizontal positions. For vertical positions the oil level is established by an oil level distance measured from the outer surface of the housing from the oil filler hole.

Size	Single Reduction		Double Reduction	
	Oil Dist. (Inches)	Capacity (Qts)	Oil Dist. (Inches)	Capacity (Qts)
221	1.25	.38	1.00	.50
226	1.62	.75	1.38	1.00
231	2.00	1.25	1.62	1.50
239	2.12	2.75	1.88	3.00
247	2.25	4.00	1.88	4.25

Scan to Watch Replacing the Radial Lip Seal on a Boston Gear Speed Reducer.
https://p.widencdn.net/bbgndd/V-0116-BG

Warranty Policy

Boston Gear warrants that products manufactured or sold by it shall be free from defects in material and workmanship. Any products which shall within one (1) year of delivery, be proved to the Company's satisfaction to have been defective at the time of delivery in these respects will be replaced or repaired by the Company at its option. Freight is the responsibility of the customer. The Company's liability under this limited warranty is limited to such replacement or repair and it shall not be held liable in any form of action for direct or consequential damages to property or person.THE FOREGOING LIMITED WARRANTY IS EXPRESSLY MADE IN LIEU OF ALL OTHER WARRANTIES WHATSOEVER, EXPRESS, IMPLIED AND STATUTORY AND INCLUDING WITHOUT LIMITATION THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS.

No employee, agent, distributor, or other person is authorized to give additional warranties on behalf of Boston Gear, nor to assume for Boston Gear any other liability in connection with any of its products, except an officer of Boston Gear by a signed writing.

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