

# BALDOR IN-LINE HELICAL REDUCER

Sizes 38 thru 83

These instructions should be read thoroughly before installation or operation.

**WARNING:** High voltage and rotating parts can cause serious or fatal injury and property damage. The use of electrical machinery, like all other utilization of concentrated power and rotating equipment, can be hazardous. Installation, operation and maintenance should be performed only by qualified electrical and mechanical maintenance personnel familiar with NEMA safety standards, the National Electrical Code and sound local practices. The manual is to be studied thoroughly by personnel responsible for the installation and maintenance of this equipment before installation is begun. Personnel must be familiar with the potential hazards involved. If this warning is not observed, personal injury and/or property damage may result. Keep this document for future reference.

## GENERAL

Please read these instructions carefully. They contain vital information on proper installation, operation, maintenance and service for the Baldor gear reducer.

Each Baldor gear reducer is thoroughly inspected and tested at the factory prior to shipment. Care is taken in packing of each gear reducer. However, each gear reducer should be thoroughly inspected before it is accepted for the transportation company. If any of the goods called for in the bill of lading are damaged or missing, do not accept the shipment until the freight agent makes appropriate notation on your freight bill. If any loss or damage is discovered later, notify the agent at once and request an inspection. Though Baldor will be happy to assist you with claims for loss or damage in shipment, the transportation company is responsible for reimbursing you for such claims. Claims for loss or damage in shipment must not be deducted from the Baldor invoice, nor should payment of the Baldor invoice be withheld awaiting claims adjustment. The carrier, not Baldor, guarantees safe delivery. If considerable damage or shortage has occurred and the situation is urgent, contact the nearest Baldor Sales Office.

The Baldor reducer is warranted under the Baldor "Standard Terms and Conditions of Sale". Warranty claims must be submitted to Baldor within one year from the date of installation or within three years from the date of manufacture, whichever comes first. The warranty does not extend to failures induced by misuse, improper storage or handling, abuse, or misapplication.

**WARNING:** Because of the possible danger to person(s) or property from accidents which may result from the improper use of products, it is important that correct procedures be followed. Products must be used in accordance with the engineering information specified in the catalog. Proper installation, maintenance and operation procedures must be observed. The instructions in the instruction manuals must be followed. Inspections should be made as necessary to assure safe operation under prevailing conditions. Proper guards and other suitable safety devices or procedures as may be desirable or as may be specified in safety codes should be provided, and are neither provided by Baldor Electric Company nor are the responsibility of Baldor Electric Company. This unit and its associated equipment must be installed, adjusted and maintained by qualified personnel who are familiar with the construction and operation of all equipment in the system and the potential hazards involved. When risk to persons or property may be involved, a holding device must be an integral part of the driven equipment beyond the speed reducer output shaft.

## LUBRICATION OF THE BALDOR IH GEAR REDUCER

The Baldor gear reducer is factory filled with ISO 220 EP type mineral oil to the correct oil level for the specified mounting position. Changes in the mounting position will require relocation of the oil level and vent plugs. Oil may have to be added or drained to get to the correct oil level in the new mounting position. See the Mounting Position Diagrams on Pages 2 and 3 for the correct plug locations for various mounting positions of the Baldor reducer. The oil level should be checked before startup and frequently thereafter, preferably with the unit at operating temperature.

The Baldor gearbox is factory filled with lubricant. The factory fill lubricant is suitable for use at all output speeds and in ambient temperatures from +10°F to +105°F (-12°C to +41°C). No initial oil change after break in is needed. The initial factory oil fill is good for up to 10000 hours or 3 years of service, whichever comes first, in normal industrial environments.

Normal operating conditions are defined as steady loads not exceeding normal ratings and running conditions as defined in the Baldor catalog. Oil quantity and levels should be checked at frequent intervals, depending on usage. Oil changes are required after 10000 operating hours, or three years whichever comes first. The period can be extended to 20000 operating hours, or six years, if a synthetic lubricant is used. The lubricant should be changed more frequently if the unit is operating in a hostile environment. In those mountings that require grease lubrication for specific bearings, relubricate the affected bearings every year, or every 2000 operating hours whichever comes first. Use a grease with a lithium complex thickener and ISO 220 viscosity mineral oil base lubricant. Add 5 pumps of grease from a hand-held grease gun.

Baldor reducers are shipped with filling, oil level and drain plugs in place. A separate breather is included with the unit. Before putting the unit into service the filling plug must be replaced with the breather. HB38 and HF38 (1, 2 and 3 stage gear units) have one oil plug; ventilation is not necessary.

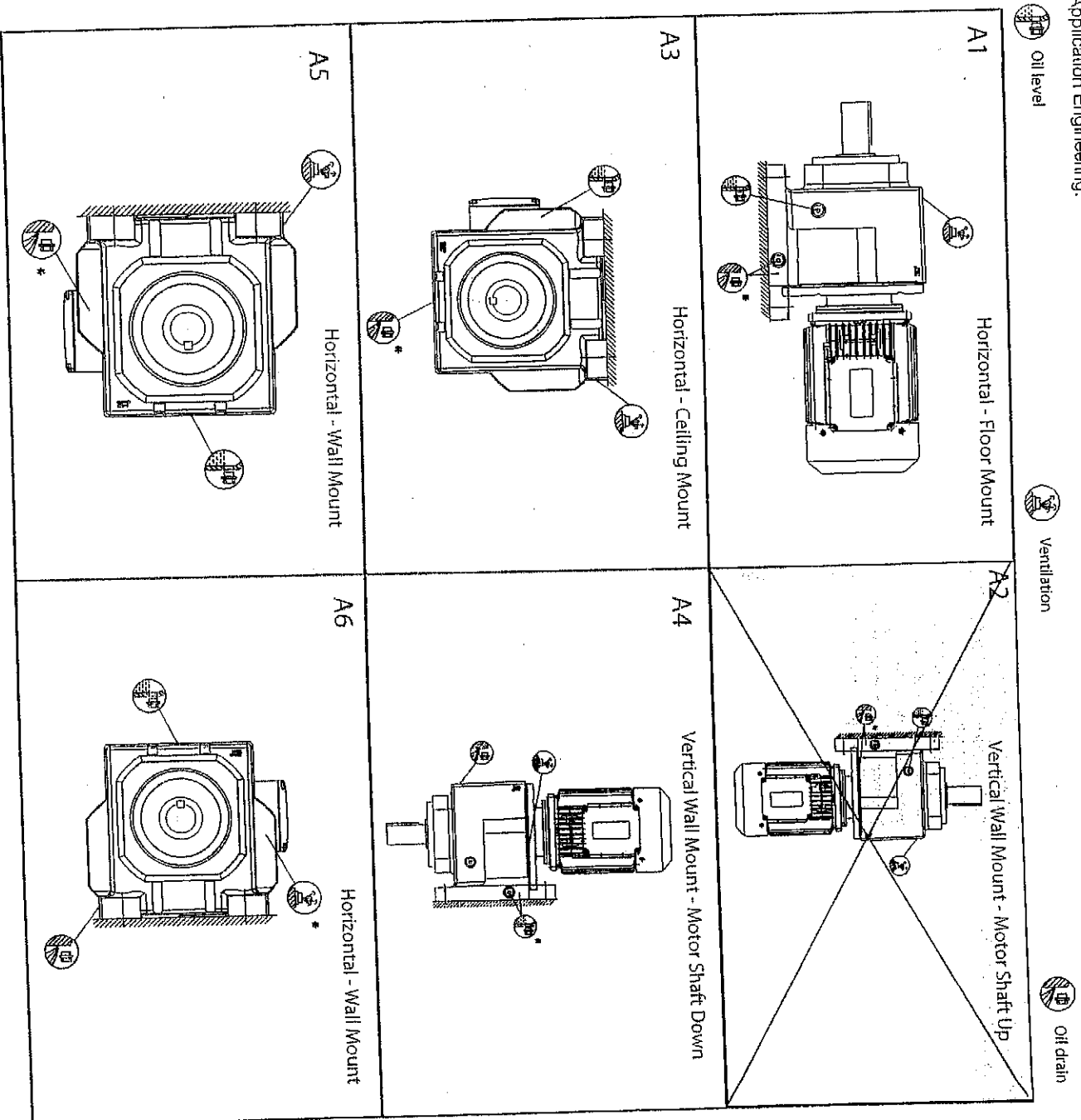
**NOTE:** For ambient temperatures below -30°F (-34°C) special oil seals are required. Consult Application Engineering.

Reference oil volumes for each Baldor gear reducer unit are listed on page 3.

# BALDOR®

# MOUNTING POSITIONS IN LINE HELICAL C-FACE REDUCERS & SIZES 38-88

These mounting arrangements are for all output configurations and output shaft types. When ordering, please specify mounting position for correct oil quantity. In cases of mounting position other than shown here with regard to the oil quantity, please contact Application Engineering.



\* On opposite side  
HB38 and HF38 units are sealed and furnished with only one plug for the purpose of filling and draining.

Shaded mounting position not recommended. Use of product in positions not recommended negates the time-in-use warranty.

Figure 1 - Mounting Positions

Table 1 - Approximate Lubricant Amount

Type	Red. Stage	Mounting Position					
		A1 Pints	A2 Pints	A3 Pints	A4 Pints	A5 Pints	A6 Pints
H_38	2	1.1	2.5	1.3	1.5	1.3	1.3
	3	1.1	2.3	1.3	1.9	1.3	1.9
H_43	2	2.3	5.1	3.2	3.8	3.4	2.7
	3	2.3	5.1	3.2	4.9	3.2	3.0
H_63	2	3.8	8.7	5.3	6.8	5.7	4.9
	3	3.6	8.5	5.5	8.5	5.5	5.1
H_88	2	8.7	18.6	12.0	15.9	12.9	11.2
	3	8.5	18.8	12.5	19.7	12.5	11.4

**NOTE:** Do not mix oils from different manufacturers. If a change to another type or brand of oil is made, the existing lubricant should be drained and the gearcase flushed with a small quantity of the new lubricant before refilling with the new lubricant. This is necessary to avoid possible incompatibility problems between the two lubricants. The list below gives approved alternative lubricants. This is not an exclusive list. Equivalent lubricants from other manufacturers may be used.

Table 2 - Lubricant Selection Table

Ambient Temperature*	Oil Type	ISO Viscosity Grade	Examples of Lubricants	
			Mobil	
10°F to 105°F (-12° C to 41° C)	Mineral Oil	220	Mobilgear 600 XP 220	
0° F to 70° F (-18° C to 21° C)	Mineral Oil	100	Mobilgear 600 XP 100	
-10° F to 115° F (-23° C to 46° C)	Synthetic Oil	220	Mobil SHC 630**	

Other brand recommendations are available upon request. For assistance contact Application Engineering.

\* Ambient temperatures listed are for lubricant only and do not indicate a particular gear unit's suitability to run in that ambient. Recommendations will be made based on specific application details.

\*\* Requires Vinton Seals

## LONG TERM STORAGE

**NOTE:** Unless an extended warranty has been negotiated prior to sale, time in storage is considered time in service for warranty purposes.

If the drive is not installed immediately, it should be stored in a clean, dry, protected area. During periods of long term storage (six months or longer) special procedures must be followed. The unit should be filled to the highest oil level hole with an approved lubricant blended with 2%, by volume, of Daubert Chemical Co. Nox-Rust VCI-105\* oil. Apply a thick coating of rust preventative on all unpainted surfaces including threads, bores, keyways, and shafts. Apply a thick coating of chassis-type grease to all exposed shaft seals. If the unit is to be stored outdoors or in a damp, unheated area indoors, cover the entire exterior with a rust preventative. Seal the unit in a moisture proof container or wrapping with a desiccant inside. Shade the enclosure from direct sunlight. Rotate the input shaft at least 60 revolutions once a month to redistribute the lubricant and prevent brinnelling of bearings and drying of seals.

Upon removal from storage, remove all protective coatings applied for protection during storage. Check all hardware for proper tightness. Drain and refill the gear reducer with a recommended lubricant. If the gear reducer has been stored for more than three years or in an area with high ambient temperatures, replace the oil seals.