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INSTALLATION AND MAINTENANCE MANUAL



SSHdR SERIES PROGRAM WORM GEAR SPEED REDUCERS



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WORLDWIDE ELECTRIC CORPORATION
SSHdR SERIES PROGRAM - WORM GEAR SPEED REDUCERS
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MOUNTING INSTRUCTIONS / GENERAL INFORMATION

MOUNTING INSTRUCTIONS:

1. Leave protective sleeves on shafts for safe handling of speed reducer during installation. The sleeves are provided also to protect your hands from potential sharp edges and keyways.
2. Align all shafts accurately. Improper alignment can result in failure. Use flexible couplings to help compensate for slight misalignment.
3. When mounting, use maximum possible bolt size and secure reducer to a rigid foundation. Periodic inspection of all bolts is recommended.
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 overhung loads. Avoid force fits that might damage bearings or gears.
5. For hollow-shaft speed reducers, place speed reducer as close as possible to supporting bearing on driven shaft. Spot-drill driven shaft for setscrews in severe applications.
6. Check and record gear backlash at installation and again at regular intervals. This should be done by measuring the rotary movement of the output shaft (rotating alternately clockwise and counterclockwise) at a suitable radius while holding the input shaft stationary. Gears should be replaced when the backlash exceeds four times the measurement taken at installation.
7. Gear drives are rated for 1750 input RPM and Class 1 Service (Service Factor 1.00), using Mobile CIBUS 460 H1 food grade lubricant.
8. Initial operating temperatures may be higher than normal during the break-in period of the gear set. For maximum life do not allow the speed reducer to operate continuously above 225°F at the gear case. In the event of overheating, check for overloads or high ambient temperatures. Keep shafts and vent plugs clean to prevent foreign particles from entering seals or gear housings.

VENT PLUG INFORMATION:



1. The vent plug is fixed/non-adjustable from the factory for all suitable mounting positions.
2. To ensure leak free operation do not adjust breather nut. The nut maintains positive pressure against the O-ring to prevent oil from leaking.
3. Internal baffles assure positive, leak-free venting.
4. Bladder functions as a breather and effectively expels heat out but also prevents leaking or moisture/particle entrapping caused by traditional open air breather plug designs.

CAUTION:

- Worm Gear Reducers Are Not To Be Considered Fail Safe Or Self-Locking Devices. If These Features Are Required, A Properly Sized Independent Holding Device Should Be Utilized.
- Depending Upon Gear Geometry and Operating Conditions, Worm Gear Reducers May Or May Not Backdrive. Special Consideration Should Be Given To High Inertia Loads Connected To The Reducer Output Shaft. Consult Factory For Further Details.
- Reducers Driven By Brake Motors Must Be Sized To Accommodate Motor Driving, Brake and Inertia Loads To Prevent The Braking Torque Or Inertia Loads From Exceeding The Motor Rating.

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ENGINEERING DATA

CLASSES OF SERVICE:

All WorldWide SSHdR Series Worm Gear Reducers Are For A 1.00 Service Factor Or Class I Service. A 1.00 Service Factor Applied When The Use Of The Reducer Is For Continuous Service Free From Recurrent Shock Loading and Does Not Exceed 10 Hours Per Day. When Operating Conditions Are Different From Those Described Above, The Input Horsepower and Torque Ratings Shown Must Be Divided By The Appropriate Service Factor Indicated In The Table Below. The Catalog Ratings May Be Used Without Adjustments If The Actual Driven Machine Horsepower and Torque Requirements Are Multiplied By The Appropriate Service Factor Indicated In The Table Below.

SERVICE FACTORS:

Service Factors For Electric and Hydraulic Motors
(For Service Factors For Single Or Multi-Cylinder Engines, See Below)

Duration Of Service (Hours Per Day)	Uniform Load	Moderate Shock	Heavy Shock	Extreme Shock
Occasional 1/2 Hour	--- *	--- *	1.00	1.25
Less Than 3 Hours	1.00	1.00	1.25	1.50
3 - 10 Hours	1.00	1.25	1.50	1.75
Over 10 Hours	1.25	1.50	1.75	2.00
* Unspecified Service Factors Should Be 1.00 Or Agreed Upon By The User and Manufacturer				

Conversion Table For Single Or Multi-Cylinder Engines
To Find Equivalent Single Or Multi-Cylinder Service Factor

Hydraulic Or Electric Motor	Single Cylinder Engines	Multi-Cylinder Engines
1.00	1.50	1.25
1.25	1.75	1.50
1.50	2.00	1.75
1.75	2.25	2.00
2.00	2.50	2.25

Normal Starting Or Occasional Peak Loads, Two Or Three Times Per Day, Up To 300% Of Catalog Rating At 1800 RPM Are Permissible. If Either The Frequency Or The Magnitude Of These Loads Exceed The Above Limits, A Higher Service Factor Is Required and The Application Should Be Referred To The Factory.



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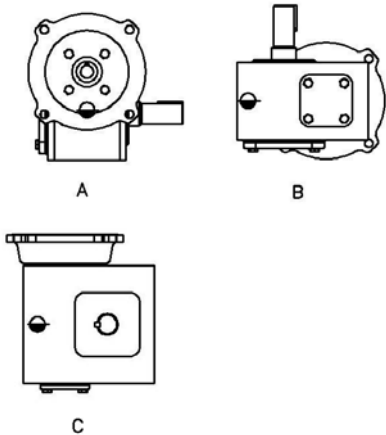
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LUBRICATION VOLUME BY

Size	Position A				Position B				Position C			
	L	fl. oz.	CC	qt.	L	fl. oz.	CC	qt.	L	fl. oz.	CC	qt.
175	0.37	12.51	370	0.39	0.44	14.88	440	0.47	0.42	14.20	420	0.44
206	0.60	20.29	600	0.63	0.98	33.14	980	1.04	0.91	30.77	910	0.96
237	0.70	23.67	700	0.74	1.40	47.34	1400	1.48	1.20	40.58	1200	1.27
262	1.10	37.20	1100	1.16	2.18	73.71	2180	2.30	1.68	56.81	1680	1.78
325	2.15	72.70	2150	2.27	3.83	129.51	3830	4.05	2.05	69.32	2050	2.17

OIL FILL LEVEL

This unit ships prefilled for Position A. Mounting in any position other than A will require adjustment to the oil level. Refer to the chart above for appropriate oil levels for other mounting positions.



● Indicates proper oil level

LUBRICANT RECOMMENDATION

WorldWide recommends **MOBIL CIBUS™ 460** or **SHELL CASSIDA™ 460**, H1 Food Grade Lubricating Oils.

Mobil SHC Cibus™ series lubricants are recommended for use in a wide variety of hydraulic, compressor, gear and bearing applications within food and beverage processing, packaging and pharmaceuticals. Cibus™ series lubricants are effective in many areas, including those where the maintenance costs of component replacement, system cleaning, and lubricant changes are high.

- » Mobil SHC Cibus™ 32, 46 and 68 are high performance fluids intended for hydraulic, circulating, compressor and vacuum pump applications
- » Mobil SHC Cibus™ 100, 150, 220, 320 and 460 are intended for gear, bearing and circulating systems

A suitable used oil program, such as Signum from ExxonMobil, can help monitor the concentration of wear metals and provide information on appropriate actions

Incidental Food Contact Only per FDA 21CFR 178.3570

Mobil SHC Cibus™ series lubricants are registered to the requirements of NSF H1 for incidental food contact only which indicates a limitation of 10ppm oil in finished food product. Mobil SHC Cibus™ series lubricants are not to be used as direct food contact lubricants.

Mobil SHC Cibus™ 460	
ISO Grade	460
Viscosity, ASTM D455	
cSt @ 40°C	458
cSt @ 100°C	43.6
Viscosity Index, ASTM D 2270	148
Specific Gravity @ 15.6°C, ASTM D 4052	0.856
Copper Strip Corrosion, ASTM D 130	1B
Rust Characteristics Proc. A, ASTM D 665	Pass
Pour Point, °C, ASTM D 97	-42
Flash Point, °C, ASTM D 92	294
FZG, DIN 51354, Fail Stage	>13

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LIMITED WARRANTY

WorldWide Electric Corporation (The Company) Warranties It's Products To Be Free From Defects In Materials Or Workmanship To The Original Purchaser For A Period Of One (1) Year From The Date Of Purchase. For This Warranty To Be Effective, This Product Must Be Installed, Used and Maintained By The Original Purchaser In Accordance With Good Industry Standards. The Warranty Does Not Cover Normal Wear, Tear and Erosion From Use, Mis-use, Abuse Or Corrosion.

In The Event Of Failure, It Shall Be The Responsibility Of The Original Purchaser To Notify The Company Either In Writing Or By Telephone To Make Arrangements For The Correction Of The Problem. The Purchaser Shall Be Responsible For Transportation Charges Connected With The Return, Exchange Or Repair Of Parts. Returns Found Defective Upon Inspection By Our Warranty Department Or Authorized Warranty Service Agent Will Be Replaced Free Of Charge.

The Company Shall Not Be Liable For Any Labor Cost Connected With The Replacement Of The Equipment, The Replacement Of The Parts Or Adjustments To The Equipment By The Purchaser Or Their Contractor Without The Company's Prior Written Approval.

The Company, As The Exclusive Remedy Under This Warranty, Shall At It's Option Repair Or Replace Defective Items Or, If Agreed Upon, Refund The Purchase Price Less Reasonable Allowance For Depreciation In Exchange For The Product.

THE COMPANY MAKES NO OTHER WARRANTIES AND ALL IMPLIED OR EXPRESSED WARRANTIES AND REPRESENTATIONS, EXCEPT THAT OF TITLE, ARE DISCLAIMED. ALL IMPLIED WARRANTIES INCLUDING MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR USE BUT NOT LIMITED TO JUST THOSE THAT ARE DISCLAIMED. LIABILITY FOR CONSEQUENTIAL, INCIDENTAL OR SPECIAL DAMAGES AND LOSSES UNDER ANY AND ALL WARRANTIES WHETHER IN CONTRACT, TORT OR OTHERWISE ARE EXCLUDED TO THE EXTENT EXCLUSION IS PERMITTED BY LAW.

