

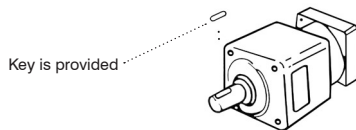
Installation & Instruction Sheet

ABLE SERVO PLANETARY GEAR REDUCER VRAF/VRSF/NEVAF/NEVSF SERIES

Thank you for purchasing the ABLE Servo Planetary Gear Reducer. We recommend you read this installation and instruction sheet before operation to ensure proper performance. For wet environments, please follow the IP65 Rating procedures on the reverse side.

A. Inspection

1. Unpack the ABLE and check to see that it is identical to what is specified in the purchase order. Inspect for shipping damage. Notify the shipping agent immediately if damage is discovered.
2. Remove the protective tape from the output shaft and clean the rust proof material with light oil.
3. An output shaft key is provided.



4. For some configurations, a shaft bushing (or sleeve) is included to adapt the motor shaft to the reducer hub. If included, the bushing is attached to the top of the reducer with red tape. *Do not lose the bushing, as it is required for proper operation.*

The ABLE Servo Planetary Gear Reducer is grease lubricated at the factory prior to shipment. No additional lubrication is required.

B. Mounting the Motor

The motor attachment flange, quill, shaft, and bushing (if included) are machined for a specific servo motor size. Do Not attempt to mount the ABLE reducer to a different motor than the one for which it is manufactured.

Motors with or without Keys

1. Clean the machine surfaces of the motor attachment flange with light oil, being careful not to disturb the position of the O-Ring (if supplied).
2. Remove the plug from the access hole.
3. Position the unit vertically output shaft down.
4. Rotate the quill shaft until the clamp bolt in the collet hub is aligned with the access hole.
5. Loosen the clamp bolt.
6. Insert the bushing (if supplied) into the quill shaft aligning the bushing slit with the slit in the collet hub.
7. Remove the motor key (if supplied) as it is not required for proper installation and operation.
8. Insert the servo motor, making sure the motor keyway (if supplied) is aligned with the slits in the collet hub and bushing (if supplied).

9. Tighten the bolts for servo motor installation to the torque specified in Table 1.

Table 1: Tightening Torque for Servo Motor Mounting

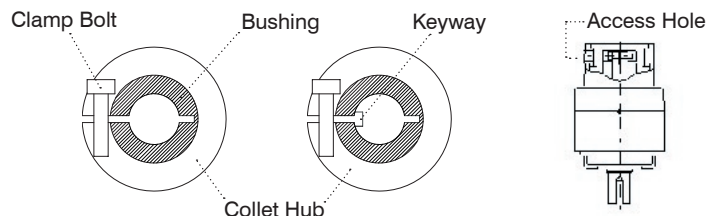
Motor Installation Bolt Size	Tightening Torque	
	(Nm)	(in lbs)
M3	1.3	12
M4	3.0	27
M5	6.0	53
M6	10	89
M8	20	171

10. Tighten the clamp bolt in the collet hub to the torque specified in Table 2.

Table 2: Tightening Torque for Clamp Bolt

Clamp Bolt Size	Tightening Torque	
	(Nm)	(in lbs)
M3	2.0	18
M4	4.5	40
M5	9.0	80
M8	16.8	145

11. Install the plug into the access hole, insuring that the plug does not hit the clamp bolt in the collet hub.

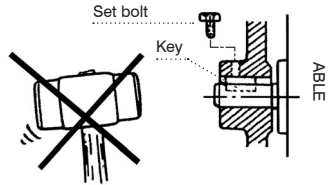


C. Installation

1. Install the ABLE in a location with plenty of ventilation.
2. Proper ambient temperature is 32°F - 104°F (0°C - 40°C). Contact SHIMPO Drives Customer Service if the unit must operate outside of this temperature range.
3. The ABLE should be bolted to a rigid, vibration free frame.
4. The installation location should be convenient for maintenance and inspection.

D. Connection to Load

1. When installing couplings, pulleys, gears, etc. on the shafts, do not apply impact or excessive thrust loads to the output shaft. Mount all components as close to the reducer housing as possible.
2. Shafts must be free from vibration, excessive impact, radial, or thrust loads transmitted from the machine.



E. Operation

1. When starting, check for correct rotational direction of the output shaft and apply the load gradually.
2. Pay careful attention not to overload the unit.
3. Periodically inspect the unit. Stop the unit for inspection if the following should occur:
 - a) Case temperature suddenly rises, or exceeds the ambient temperature by 122° F (50° C)
 - b) Noise from the unit becomes louder
 - c) Vibration becomes abnormal
 - d) Rotational speed becomes unstable
 - e) Lubricant leaks from the reducer
 - f) Other faults or defects are found
4. The following are possible causes of improper operating conditions:
 - a) Faulty operation of the servo motor
 - b) Unit has become overloaded
 - c) Lubrication has deteriorated
 - d) Bearings or gears have been damaged
 - e) Connection between the ABL and the servo motor is improper (the clamp bolt on the ABL quill shaft has become loose)
 - f) Connection between the ABL and the machine is improper (set bolts on pulleys, couplings, etc. have become loose)

F. Lubrication

The standard grease specification is shown in Table 3. Grease replenishment is not required.

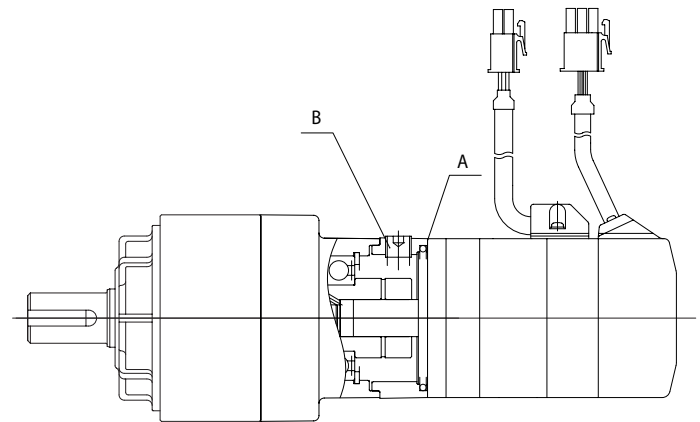
Table 3: Standard Grease Specification

ABLE Reducer Frame Type	Grease Specification*
VRAF/VRSF	Kyodo Yushi Multi-Temp AC-D
NEVAF/NEVSF	Kyodo Yushi GM Grease S

*These specially formulated greases must be used to ensure proper performance.

G. IP65 Rating

The last three digits of the ABL part number indicate factory modifications. If the digits include I, F, G, S, W, or X, the reducer is rated for IP65 environments. Apply ThreeBond 1121 or equivalent liquid sealant at position "A" (between the motor attachment flange and the servo motor flange) and position "B" (on the threads of the access hole plug) to complete the IP65 rating.



SHIMPO DRIVES, INC.

A SUBSIDIARY OF NIDEC-SHIMPO AMERICA CORPORATION

1701 Glenlake Avenue

Itasca, IL 60143 USA

Phone: (800) 842-1479 | (630) 924-7138

Fax: (630) 924-7382

www.shimpodrives.com

Email: info@shimpodrives.com