Dodge® Quantis® MSM/RHB Reducer Instruction Manual

Screw Conveyor Sizes 38 through 128

These instructions must be read thoroughly before installation or operation. This instruction manual was accurate at the time of printing. Please see www.baldor.com for updated instruction manuals.

WARNING: To ensure the drive is not unexpectedly started, turn off and lock-out or tag power source before proceeding. Failure to observe these precautions could result in bodily injury.

WARNING: All products over 25 kg (55 lbs) are noted on the shipping package. Proper lifting practices are required for these products.

NOTE: See Manual MN1617 for MSM Reducer standard installation. See Manual MN1618 for RHB Reducer standard installation

INSTALLATION

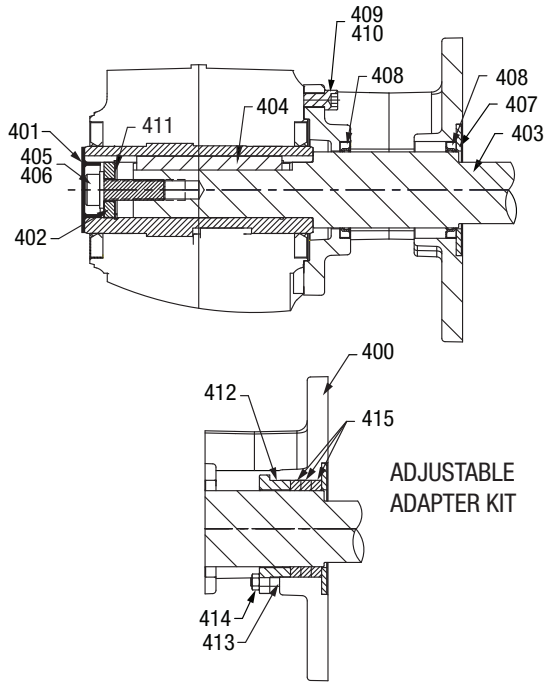

Figure 1 - Screw Conveyor Adapter Assembly

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.

1. Install seals (408) into adapter housing as shown in Figure 1. If the optional packing adapter is to be used, install only one seal in the small end of the adapter. Use extreme care when installing seals to avoid damage to the seals. Press or tap seals into place by applying pressure only on the outer edge of the seal. Make sure seals are installed evenly and are not titled.
2. If using the optional packing adapter, install the two studs (413), retaining ring (412), and two nuts (414). Thread the nuts onto the studs about 4-5 threads. Install the three braided type seals (415) in a circular direction into the adapter cavity. Shoulder the braided seals against the adjustable retaining ring (412). To aid in installation of the driveshaft in step 7, the braided seals can be flattened out slightly with a soft hammer prior to installation. When installing the braided seals offset the joints from one another.
3. Lightly tap the large washer (407) into the counter bore on the large end of the adapter to seal the braided material installed in Step 2 or the seal installed in Step 1.
4. Place reducer on block so that it lays flat with the output shaft up.
5. Position screw conveyor adapter (400) on the reducer output hub so that the small end (end with 6 through holes) rest on the reducer.
6. Place six adapter screws (409) and lock washers (410) through the adapter and thread into the reducer. Tighten four cap screws (409) to the torque specified in Table 1.

Table 1 - Tightening Torques for Adapter Assembly

Recommended Tightening Torque for Adapter Assembly			
Unit Size	**Bolt Thread Size**	**Tightening Torque**	
MSM/RHB 38	M8	25 Nm	18 ft-lb
MSM/RHB 48	M10	50 NM	37 ft-lb
MSM/RHB 68	M12	90 Nm	66 ft-lb
MSM/RHB 88	M12	90 Nm	66 ft-lb
MSM/RHB 108	M16	210 Nm	155 ft-lb
MSM/RHB 128	M16	210 Nm	155 ft-lb

7. Turn reducer upright or on its side. Use caution not to damage either type of seals and install drive shaft through the adapter housing into the reducer. Line up the keyway in the drive shaft with the keyway in the reducer hub bore. Slide or gently tap key into reducer through the input shaft side of the output hub.
8. Install the retaining ring (411) into the snap ring groove. Install keeper plate (402) flush against retaining ring.
9. Install spring washer (406) and retaining bolt (405) making sure the drive shaft is fully seated into the reducer. Tighten retaining bolt to the tightening torque specified in Table 2. Install dust cap (401).

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Table 2 - Tightening Torques for Retaining Bolt

Recommended Tightening Torque for Retaining Bolt		
Unit Size	**Bolt Thread Size**	**Torque**
MSM/RHB 38	3/8-16	248 ft-lb
MSM/RHB 48	3/8-16	248 ft-lb
MSM/RHB 68	5/8-11	611 ft-lb
MSM/RHB 88	3/4-10	1221 ft-lb
MSM/RHB 108	3/4-10	1221 ft-lb
MSM/RHB 128	3/4-10	1221 ft-lb

DRIVE SHAFT REMOVAL

To remove the drive shaft from the reducer, the following steps are required. Reference Fig 2 for disassembly arrangement.

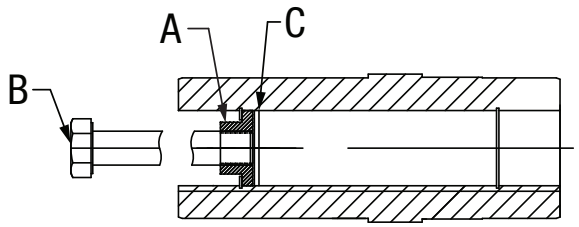
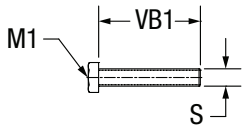


Figure 2 - Screw Conveyor Disassembly

1. Remove the dust cap (401), the driveshaft retaining bolt (405) and lock washer (406), the keeper plate (401) and the retaining ring (411)
2. For ease of disassembly, it is recommended that the following tools be made and used as described: (A) Round Keyed Nut, dimensions in Table 3 (B) Removal Bolt, dimensions in Table 4
3. The round keyed nut (A) is inserted into the free space between the retaining ring in the gear unit's hollow shaft and the end of the machine's drive shaft.
4. The removal bolt (B) is screwed into the nut (A) which presses a disk (C) against the screw conveyor drive shaft. The resulting force pushes the gearbox off of the drive shaft.
5. The driveshaft can now be easily removed from the reducer by pulling the driveshaft straight out.

Table 3 - Removal Bolt Dimensions

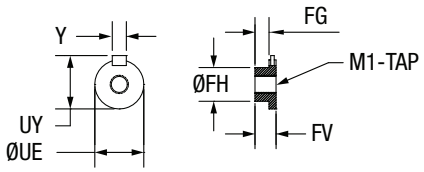


REMOVAL BOLT

Removal Bolt Dimensions			
Unit Size	**M1**	**VB1**	**S**
MSM/RHB 38	3/8-16	6.00	0.31
MSM/RHB 48	5/8-18	7.00	0.5
MSM/RHB 68	3/4-10	8.00	0.63
MSM/RHB 88	7/8-14	9.50	0.81
MSM/RHB 108	7/8-14	12.50	0.81
MSM/RHB 128	7/8-14	14.00	0.81

*Please note: The retaining bolt supplied with the gear unit cannot be used for the purpose of disassembly and must be replaced by the bolt in table 3. The round keyed nut and disk should be made from 1045 steel and the removal bolt should be a minimum of SAE Grade 5.

Table 4 - Removal Rounded Key Nut Dimensions



ROUND KEYED NUT DISK

Rounded Key Nut and Disk				
Unit Size	**Y Max**	**UY Max**	**ØUE**	**GF**
MSM/RHB 38	0.250	1.367	1.245	0.12
MSM/RHB 48	0.312	1.52	1.370	0.12
MSM/RHB 68	0.375	1.669	1.495	0.25
MSM/RHB 88	0.500	2.22	1.995	0.25
MSM/RHB 108	0.625	2.65	2.370	0.31
MSM/RHB 128	0.625	3.03	2.745	0.31

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