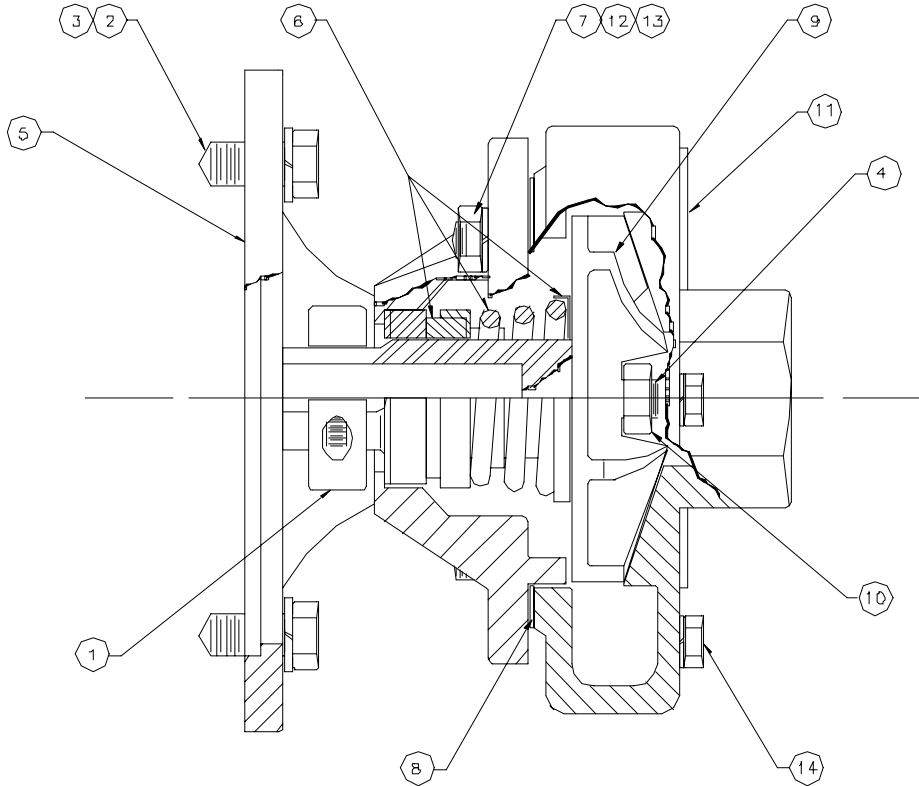


4.4 – SUPPLY PUMPAK ASSEMBLY

NOTE: This section applies only to systems, which include a supply pumpak. Only the H6, XA, and XC series systems contain a supply pumpak. If your system is a single zone, H6 Unit, 24 KW or less, skip to Section 4.6.



REF. NO.	QTY.	MOKON NUMBER	DESCRIPTION
1	1	034-020	Clamp Assembly
2	4	034-004	S.S. Lock-washer 3/8 x 1/8
3	4	034-009	S.S. Bolt 3/8 - 16 x 3/4 LG
4	1	034-040	S.S. 5/8 Bore Drive Sleeve
5	1	034-048	Adaptor Frame
6	1	034-022	Seal Assy. 1" Viton Niresist o-ring, seat
7	4	034-043	S.S. Stud 5/16"

REF. NO.	QTY.	MOKON NUMBER	DESCRIPTION
8	1 set	034-039	Gasket (4 per set)
9	1	034-046	Brass Impeller 3.25"
10	1	034-047	S. S. Lock Nut 3/8"
11	1	034-042	Housing
12	4	034-044	Brass Hex Nut 5/16"
13	4	034-045	Brass Washer 5/8"
14	1	017-044	Brass Pipe Plug 1/8"

4.4 – SUPPLY PUMPAK MAINTENANCE & INSTALLATION

NOTE: This section applies only to systems, which include a supply pumpak. Only the H6, XA, and XC series systems contain a supply pumpak.

The supply pumpak consists of a housing, adaptor frame, stainless steel sleeve, shaft seal, seal spring, impeller, drive clamp, gaskets, impeller lock nut, and stainless steel fasteners. See the previous page for a drawing and a parts breakdown.

The impeller is threaded onto the shaft sleeve and locked in place by a lock nut. The shaft sleeve is machined to precisely fit the shaft on the recommended motor. No provision is made for an internal drive key and none is required. The drive clamp assembly replaces internal drive keys, securely locks the shaft sleeve to the motor shaft, and serves additionally as a liquid slinger to protect your motor.

The mechanical seal is the self-adjusting, greaseless type being lubricated by the liquid in the pump. It requires no maintenance and provides long and trouble-free operation. Because the seal is lubricated by liquid in the pump, **THE PUMP SHOULD NEVER BE OPERATED WITHOUT LIQUID IN THE HOUSING.**

4.4.1 – MOUNTING MOTOR TO PUMPAK

1. Check the rotation of the motor to be sure it coincides with the required rotation of the PUMPAK assembly.
2. Loosen the drive clamp assembly (1) but do not remove.

NOTE: If the motor shaft is a keyed shaft, remove the key before installing the Mokon Pumpak. The drive clamp assembly on the Mokon Pumpak is all that is required to drive the pump.

3. Slide the Pumpak assembly onto the motor drive shaft (4), aligning the holes in the adaptor frame (5) with tapped holes in the motor mounting face, until adaptor frame (5) contacts the motor mounting face.
4. Install two S.S. bolts (3) (diagonally opposite) and tighten to secure the Pumpak assembly to the motor.
5. Center the drive clamp assembly (1) and tighten.
6. Proceed to section 4.3.2 to check the impeller clearance.

4.4.2 – SUPPLY PUMPAK IMPELLER CLEARANCE ADJUSTMENT

Remove the strip stock shim from the suction eye of the pump housing. This shim was inserted to establish clearance between the face of the impeller and the housing. Rotate the motor slowly, by hand, to make certain that the impeller does not rub the housing or the adaptor frame. If the impeller does not rub install and tighten the remaining S.S. bolts to secure the Pumpak to the motor.

If the impeller rubs, the impeller clearance can be adjusted by the following procedure:

1. Loosen the drive clamp assembly (1), but do not remove.
2. Move the impeller (9) either forward or backward using a screwdriver or move impeller drive sleeve forward.

If the impeller still rubs after using the above procedure, it can then be adjusted as follows:

1. Remove the S.S. studs (7) and the housing (11).
2. Loosen the drive clamp assembly (1), but do not remove.
3. Remove the gaskets (8) from the housing (11).
4. Replace the housing (11), pushing against the impeller face. Secure the housing with two S.S. studs (7), 180° apart.
5. Tighten the drive clamp assembly.
6. Remove the housing (11) and install one gasket (8).
7. Replace the housing (11) securing with two S.S. studs (7) 180° apart.
8. Rotate the motor shaft to check that the impeller does not rub. If it does, return to step 6 and add another gasket. If not, install and tighten all remaining S.S. studs (7).

If none of above procedure stops the impeller from rubbing, CONSULT THE FACTORY.

4.4.3 – SUPPLY PUMPAK INSTALLATION

Use high temperature Teflon tape or high temperature RTV on all connections and be sure all fittings are airtight, especially on the suction side of the pump. An air leak on the suction side of the pump will prevent proper operation.

4.4.4 – SUPPLY PUMPAK DISASSEMBLY

1. Close the gate valve on the reservoir tank.
2. Remove the S.S. studs (7) holding the housing (11) to the adaptor.
3. Remove S.S. bolts (3) which hold the adaptor frame (5) to the motor.
4. Loosen the drive clamp assembly (1) and remove the PUMPAK.

The seal seat and seal cup will remain in the pump adaptor frame. If not damaged or worn, do not remove. If necessary, remove the adaptor frame counter bore with a piece of wood or a screwdriver handle inserted through the adaptor frame from the drive end. A sharp tap or two is usually sufficient to knock out the seal seat. Use caution when removing the seal seat so as not to damage the face or distort the metal seat.

4.4.5 – SUPPLY PUMPAK IMPELLER REMOVAL

1. Remove the seal bellows and the spring assembly (6).
2. NOTE: The seal bellows will be bonded to the shaft sleeve and will require some patience and caution to remove in order not to damage the seal bellows and cage.
3. Place the impeller drive sleeve (4) between two pieces of wood in a vise. Take care so as not to damage sleeve.
4. Remove the impeller S.S. lock nut (10) from the end of the shaft sleeve. Unthread the impeller (9) by turning counterclockwise (left hand).

4.4.6 – SUPPLY PUMPAK INSPECTION

Check all parts for wear. For ease of reassembly, the shaft sleeve should have all nicks and burns removed. Replace damage parts with new parts. Inspect the seal seat and seal cup for grooves, scuff marks, or other deterioration. If a perfect lapped surface remains on the seal seat, it may be reused. If the seal cup is in good condition it may be reused. If the seal seat, cup, washer, or bellows are damaged or worn, a new seal assembly should be installed. (see section 4.4)

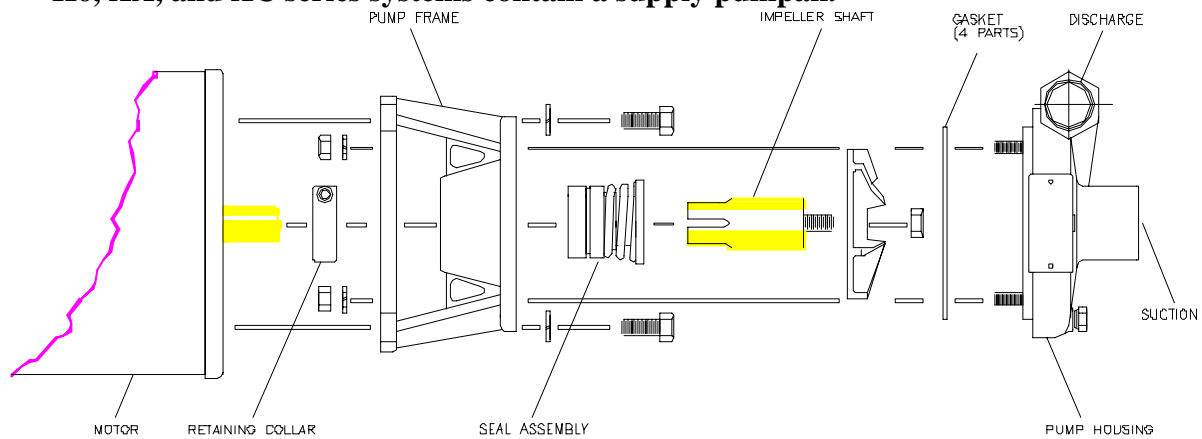
4.4.7 – SUPPLY PUMPAK REASSEMBLY

Clean all castings with mild solvent such as kerosene. All dirt and foreign matter should be removed.

Reassemble the Pumpak. See section 4.3.1 for instructions on mounting the motor to the Pumpak.

4.5 – SEAL ASSEMBLY REPLACEMENT

NOTE: This section applies only to systems, which include a supply pumpak. Only the H6, XA, and XC series systems contain a supply pumpak.



1. Make sure impeller shaft is **CLEAN** and free of nicks or burns. Use fine steel wool to polish sleeve.
2. Lubricate the shaft with any good grade of water pump grease.
3. Lightly lubricate all internal surfaces of the seal spring with grease.

NOTE: DO NOT USE OILS OR S.T.P. They allow the seal bellows to set up too quickly on the sleeve thus preventing free movement of the seal cage after assembly.

4. Place the spring over the impeller shaft (large diameter end) against the impeller hub. Place the seal cage over the sleeve with carbon washer facing away from the impeller.
5. Press the seal assembly down far enough to compress spring and release. The seal assembly will return to free height.
6. Lubricate the seal seat cavity in the pump frame with grease.
7. Lubricate the seal seat gasket with grease.
8. Use a wood dowel of sufficient diameter to press the seal seat squarely into cavity on pump frame. **HAND PRESSURE ONLY.**

NOTE: Polished metal surface must face opposite the seal seat cavity on pump frame. Optional ceramic seal assemblies require less pressure to seat squarely, too much pressure will crack ceramic seal.

4.5 – SEAL ASSEMBLY REPLACEMENT CONT.

- 9.** Place the impeller and the seal assembly in the pump housing. Affix the gasket on the frame over the drive sleeve onto the housing.
- 10.** Attach the pump frame to pump head with bolts and secure evenly. Install the shaft retaining collar onto the shaft and attach entire assembly to motor. Tighten the retaining collar with Allen wrench.
- 11.** See maintenance section 4.2.2 to adjust impeller clearance.