

Installing Your PROCON Pump

Your PROCON pump is a precision-built piece of equipment. Handle it carefully. PROCON pumps should be installed only by qualified technicians.

NOTICE

When you install your pump, follow these guidelines:

- Do not hammer or mishandle your pump.
- Keep all foreign materials out of your pump.
- Never vise or grip the round body portion of the pump housing. Grip only the square inlet/outlet bosses when you install fittings. Always support the pump when you install fittings to avoid bending the V-band clamp even if the pump is already mounted to the motor.
- Make sure the power is off before working with an electric motor. If possible, lock out the power at a disconnect.
- Make sure you have an adequate, well-lit work space and use the correct tools.
- Do not use any components that are damaged or deformed. You should not have to force any parts together. If you receive parts that are damaged or deformed, call your PROCON factory representative.

We test every PROCON pump at the factory for pressure and flow. If the pump has a relief valve, we set it to your specifications.

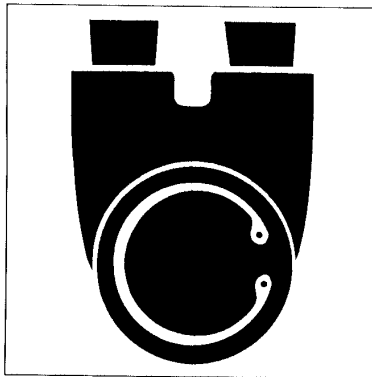
CAUTION

Do not tamper with the relief valve on your pump. If you think the relief valve needs to be reset, contact your PROCON factory representative.

We make every effort to ensure that your pump is of the highest quality. To get the most out of your pump, **read and follow these instructions carefully.**

For all motors--examining your pump before you get started

Before you install your pump, you must carefully unpack the pump and examine and prepare it to be installed. Follow these steps for all types of motors.



Do not remove the shipping plugs from the ports at the top of the pump until time to install fittings.

NOTICE

Do not exchange one pump model for another. Pumps are carefully engineered to meet specific requirements and flow rates.

All pumps within a series have the same housing. They may look alike, but they perform differently. Check the model number to make sure you have the correct pump before you install it.

Using the wrong pump may damage your pump, your system, or your electric motor.

- 1 Take the pump out of its shipping container.

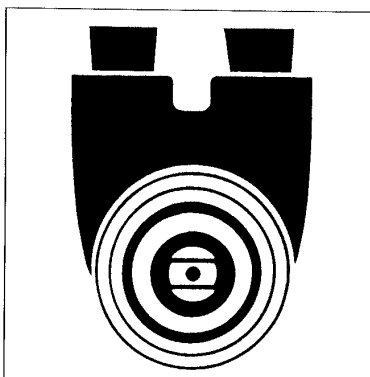
Do not remove the shipping plugs from the port until the fittings are ready to be installed. This will keep debris out of the pump.

If the pump has a shaft coupling, remove the coupling and discard the foam shipping strip. Reinsert the coupling.

Be careful when handling the pump; do not drop it or bang it. If you mishandle the pump, especially the shaft end, you can disrupt or damage internal clearances and impair performance of your pump.

- 2 Examine the mounting surfaces.

Carefully remove any burrs or raised metal which may have occurred during unpacking and handling to make sure the pump will sit and be aligned properly.



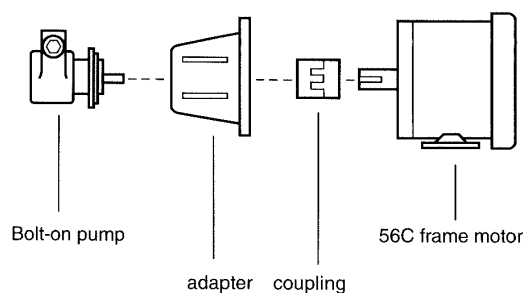
Examine the mounting surfaces on the pump.

Now you are ready to mount the pump to a motor. PROCON pumps work with two types of electric motors -- a carbonator style motor (NEMA 48YZ frame) and a C-frame motor (NEMA 56C frame). Follow the steps for the type of motor you are using.

Mounting your pump on a 56C frame motor

You should have these parts:

- bolt-on PROCON pump
- PROCON motor adapter
- 3-piece drive shaft coupling
- 56C frame motor



Correctly assembling the coupling and the adapter, and mounting the pump is a trial and error process. You may have to try several times before you get it right. Follow these steps after you have examined your pump.

- 1 Mount the drive shaft coupling.
 - a. Make sure motor is electrically disconnected and cannot accidentally turn on.
 - b. Mount the half of the coupling for the motor onto the motor shaft and tighten the set screw.
 - c. Insert the elastomer piece onto the motor piece.
 - d. Mount the half of the coupling for the pump onto the pump shaft, but do not tighten the set screw.

Make sure the coupling slides easily onto the pump and the motor shaft -- do not force it. Make sure the shaft does not protrude into the space occupied by the elastomer piece. Series 6 pumps require a shaft key.

- 2 Mount the motor adapter onto the motor using four 3/8 inch dia. by 1 inch long bolts (16 threads/inch) and lock washers.

Rotate the pump to orient the inlet/outlet ports as desired.
- 3 Trial mount the pump onto the motor adapter while simultaneously engaging the coupling pieces.
- 4 Check to make sure that the coupling is properly engaged.
- 5 Tighten the set screw on the pump coupling half.
- 6 Check your assembly.

The elastomer coupling piece should have about 1/16 inch of play between the two metal pieces.

If it does, go to step 7.

If it does not, repeat steps 1 through 5, until the assembly is correct.
- 7 Fasten the pump to the adapter using three 1/4 inch dia. by 3/4 inch bolts (20 threads/inch) and lock washers. For Series 6 pumps, use two 3/8 inch dia. by 1 inch bolts (16 threads/inch).

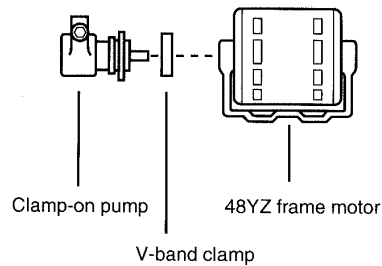
8 Check to make sure that your motor rotates correctly.

Motor rotation must correspond to the rotation arrow on the nameplate of the pump.

Mounting your pump on a 48YZ frame motor

You should have these parts:

- clamp-on PROCON pump
- PROCON V-band clamp
- 48YZ frame motor

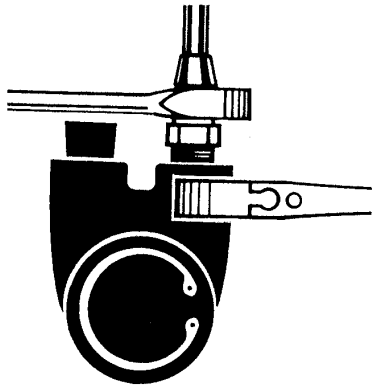


After you have examined your pump for damage, follow these steps.

- 1 Make sure motor is electrically disconnected and cannot accidentally turn on.
- 2 Slip the V-band onto the motor ring flange.
- 3 Mount the pump to the motor by inserting the tang (shaft) of the pump into the slot on the motor.
- 4 Rotate the pump to orient the inlet/outlet ports as desired.
- 5 Make sure the ring flanges on the pump and on the motor are properly engaged and flush against one another.
- 6 Make sure the clamp is fully seated around the entire circumference of the pump and motor flanges.
- 7 Tighten the V-band clamp using 15 to 30 inch-pounds of torque.

Note: Do not over tighten the clamp. The V-band clamp is designed to support the pump and fittings only. Loads caused by rigid plumbing or heavy attachments may result in misalignment.

For all motors--installing the plumbing



Use a backup wrench on the square port boss to support the pump.

When you finish mounting your pump on a motor, you must install the plumbing for the pump. Follow these steps after you have mounted your pump.

- 1 Install the inlet and outlet fittings.

Support the pump by using a backup wrench on the square port bosses. Do not put any strain on the V-band clamp.

Use brass fittings or plastic fittings on a brass pump. Use stainless steel or plastic fittings on a stainless steel pump. Using dissimilar metals can cause corrosion, which may get into the pump and cause damage.

Use Teflon thread tape to install the fittings. Do not let any thread tape get into the pump and do not over-tighten the fittings.

- 2 Check the inlet line.

Make sure that the inlet line is big enough to allow adequate flow to the inlet port of the pump (3/8 inch internal diameter for Series 1, 2, & 3 ; 1/2 inch internal diameter for Series 4 & 5; 1 inch internal diameter for the Series 6; all elevated temperature applications above 150°F must have oversized inlet piping).

Make sure that the inlet line is clean and properly flushed out. Protect the pump with a 100 mesh or finer strainer or filter.

- 3 Connect the inlet line to the fitting on the pump.
- 4 Connect the outlet line to the fitting on the pump.