Repair/Parts

MASTER™ VAPOR PUMPS

MODEL MVP-150
VAPOR RECOVERY PUMP

3A6340A EN

Designed for hydrocarbon extraction processing.

For LP-Gas Recovery

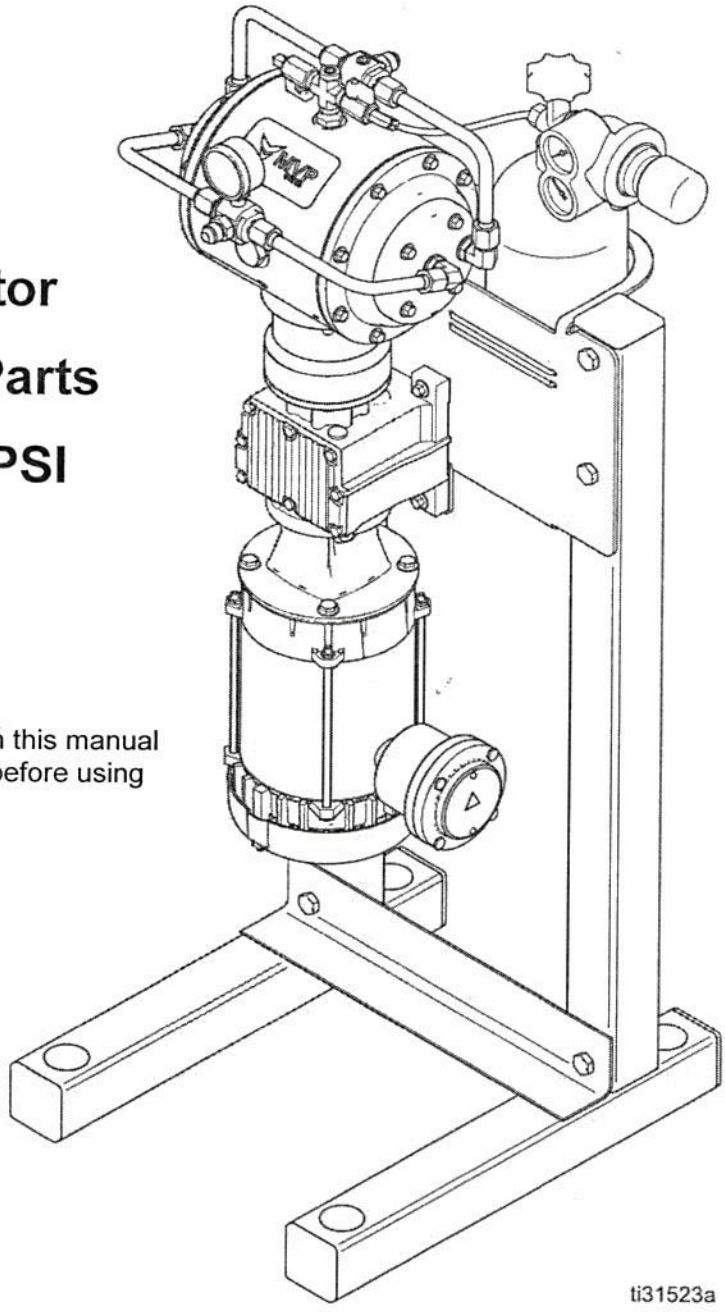
Electric-Powered

Dual-Diaphragm

Hazardous Location Motor

Stainless Steel Wetted Parts

Rated MAWP: LPG-375-PSI



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For professional use only.

Important Safety Instructions
Read all warnings and instructions in this manual and in the pump Operation manual before using the equipment.
Save these instructions.

Contents

Models

Model	Includes:		
	Motor	Pump	CO_2 Cylinder
MVP-150-1PH	2 HP 1 Phase	yes	no
MVP-150-3PH	2 HP 3 Phase	yes	no
MVP-150-ATEX			

Related Manuals

Manual Number	Title
3A6339	Model MVP-150 Vapor Recovery Pump, Operation

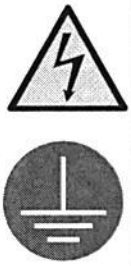
Approvals

Approvals	
Motors on pump models MVP-150-1PH, MVP-150-3PH certified to:	UL LISTED, CSA® Class I Group C&D, Class II Group F&G, T3B
Pump model MVP-150-ATEX certified to:	CE, Ex II 2 G Ex d h IIB T3 Gb

Warnings

The following warnings are for the setup, use, grounding, maintenance, and repair of this equipment. The exclamation point symbol alerts you to a general warning and the hazard symbols refer to procedure-specific risks. When these symbols appear in the body of this manual or on warning labels, refer back to these Warnings. Product-specific hazard symbols and warnings not covered in this section may appear throughout the body of this manual where applicable.

⚠ WARNING



ELECTRIC SHOCK HAZARD

This equipment must be grounded. Improper grounding, setup, or usage of the system can cause electric shock.

- Turn off and disconnect power at main switch before disconnecting any cables and before servicing or installing equipment.
- Connect only to grounded power source.
- All electrical wiring must be done by a qualified electrician and comply with all local codes and regulations.

FIRE AND EXPLOSION HAZARD

Flammable fumes in **work area** can ignite or explode. Vapor or solvent flowing through the equipment can cause static sparking. To help prevent fire and explosion:

- Use equipment only in well ventilated area.
- Eliminate all ignition sources; such as pilot lights, cigarettes, portable electric lamps, and plastic drop cloths (potential static arc).
- Ground all equipment in the work area. See **Grounding** instructions.
- Keep work area free of debris, including solvent, rags and gasoline.
- Do not plug or unplug power cords, or turn power or light switches on or off when flammable fumes are present.
- **Stop operation immediately** if static sparking occurs or you feel a shock. Do not use equipment until you identify and correct the problem.
- Keep a working fire extinguisher in the work area.

PRESSURIZED EQUIPMENT HAZARD

Vapor or solvent from the equipment, leaks, or ruptured components can splash in the eyes or on skin and cause serious injury.

- Follow the **Pressure Relief Procedure** when you stop operation and before cleaning, checking, or servicing equipment.
- Tighten all hose and pressure connections before operating the equipment.
- Check hoses, tubes, and couplings daily. Replace worn or damaged parts immediately.

⚠ WARNING

EQUIPMENT MISUSE HAZARD

Misuse can cause death or serious injury.

- Do not operate the unit when fatigued or under the influence of drugs or alcohol.
- Do not exceed the maximum working pressure or temperature rating of the lowest rated system component. See **Technical Data** in all equipment manuals.
- Use solvents that are compatible with equipment wetted parts. See **Technical Data** in all equipment manuals. Read solvent manufacturer's warnings. For complete information about your material, request Safety Data Sheet (SDS) from distributor or retailer.
- Turn off all equipment and follow the **Pressure Relief Procedure** when equipment is not in use.
- Check equipment daily. Repair or replace worn or damaged parts immediately with genuine manufacturer's replacement parts only.
- Do not alter or modify equipment. Alterations or modifications may void agency approvals and create safety hazards.
- Make sure all equipment is rated and approved for the environment in which you are using it.
- Use equipment only for its intended purpose. Call your distributor for information.
- Route hoses and cables away from traffic areas, sharp edges, moving parts, and hot surfaces.
- Do not kink or over bend hoses or use hoses to pull equipment.
- Keep children and animals away from work area.
- Comply with all applicable safety regulations.

THERMAL EXPANSION HAZARD

Liquids subjected to heat in confined spaces,especially in hoses and pipes, can create a rapid rise in pressure due to the thermal expansion. Over-pressurization can result in equipment rupture and serious injury.

- All hoses and pipes possibly exposed to liquid LP-Gas must be fitted with proper hydrostatic relief valves to prevent over-pressurization.
- Replace hoses proactively at regular intervals based on your operating conditions.

LP-GAS HAZARD

LP-Gas can cause serious injury or death if splashed in the eyes or on skin, inhaled, or ignited.

- Read Safety Data Sheet (SDS) to know the specific hazards of the solvents you are using.
- Store hazardous solvent in approved containers, and dispose of it according to applicable guidelines.

⚠ WARNING

BURN HAZARD

Equipment surfaces can become very hot during operation. To avoid severe burns:

- Do not touch hot equipment.

PERSONAL PROTECTIVE EQUIPMENT

Wear appropriate protective equipment when in the work area to help prevent serious injury, including eye injury, hearing loss, inhalation of fumes, and burns. This protective equipment includes but is not limited to:

- Protective eyewear, and hearing protection.
- Respirators, protective clothing, and gloves as recommended by the solvent manufacturer.

Troubleshooting

- Follow the Pressure Relief Procedure, page 7, before checking or servicing the equipment.
- Check all possible problems and causes before disassembly.

Problem	Cause	Solution
Pump cycles but will not prime and/or pump.	Pump head center section has no CO_2 pressure, or CO_2 pressure is too low.	Check CO_2 supply, adjust CO_2 to 150 psi.
	Check valves are worn or damaged.	Replace the check valves.
	Inlet or outlet hose is shut off.	Remove the restriction.
The center section is excessively hot.	The drive shaft is broken.	Replace.
Motor will not run.	Motor or controller is wired improperly.	Wire per manual.
	No power to motor.	Check electrical circuit.
The motor is operating, but the pump will not cycle.	The jaw coupling between the motor and gearbox is not connected properly.	Check the motor coupling.
Pump flow rate is erratic.	Inlet or outlet hose is pinched.	Inspect hoses.
	Check valves are sticky or bent.	Clean or replace check valves.
	Diaphragm ruptured.	Replace diaphragms.
CO_2 consumption is higher than expected.	CO_2 fitting is loose or hose damaged.	Inspect CO_2 fittings and hoses.
	Loose or damaged o-rings or shaft seal in center section.	Rebuild center section.
	Diaphragm ruptured.	Replace diaphragms.
Pump leaks externally from joints.	Loose diaphragm cover screws or fittings.	Check screws and fittings for tightness.

NOTE: For problems with a Variable Frequency Drive (VFD), see your VFD manual.

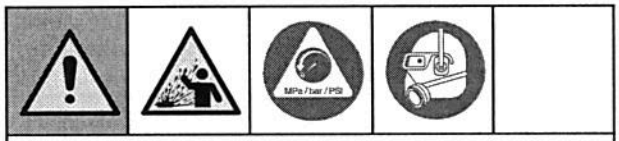
Repair

To avoid serious injury or death from fumes or fluids:

- Never move or lift a pump under pressure. If dropped, the center section may rupture. Always follow the Pressure Relief Procedure, page 7 , before moving or lifting the pump.

Pressure Relief Procedure

Follow the Pressure Relief Procedure whenever you see this symbol.

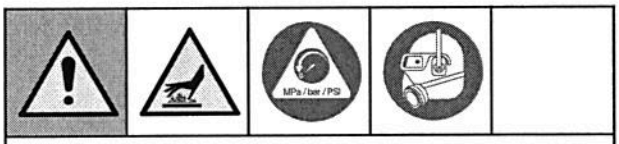


This equipment stays pressurized until pressure is relieved manually. To help prevent serious injury from pressurized vapor, follow the Pressure Relief Procedure when you stop pumping for an extended period of time, and before you clean, check, or service the equipment.

1. Remove electric power from the system.
2. Vent all LP-Gas vapor from the pump and hoses according to extractor system instructions.
3. Close the shutoff valve on the CO_2 cylinder.
4. On CO_2 port (E), open the pump CO_2 bleed valve and CO_2 supply valve.

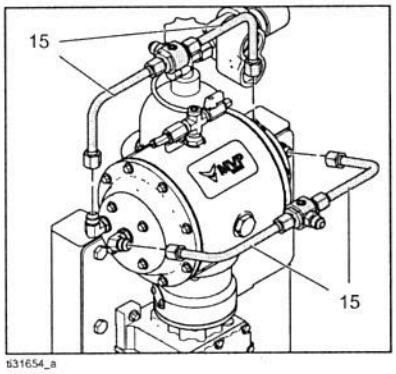
   NOTE: In the event of a diaphragm rupture, LP-Gas may be present in the pump center section. Always vent all LP-Gas according to extractor system instructions.
5. If performing repairs, remove CO_2 regulator and tank from the pump prior to performing the work.

Check Valve Repair

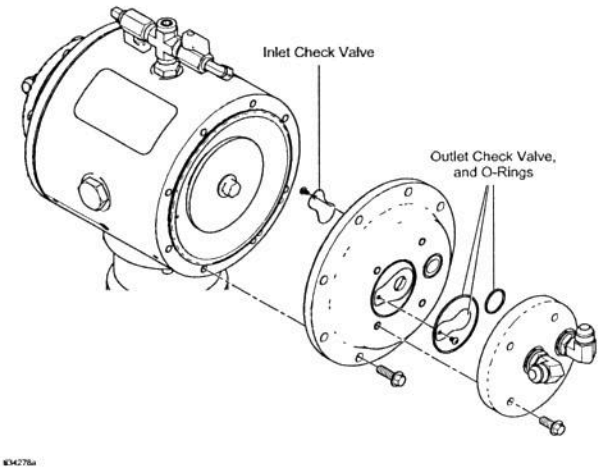


Manifold tubing may become hot during operation. Prior to removal, ensure that tubing has cooled enough to handle safely.

1. Follow the Pressure Relief Procedure, page 7 . Remove power from the motor. Disconnect all hoses.
2. Remove manifold tubing (15).

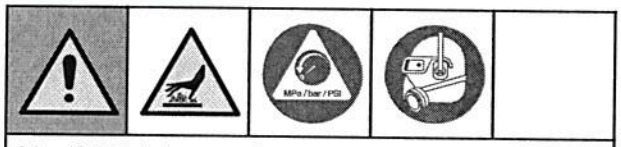


3. Use 10 mm (M8) socket wrench to remove the 8 diaphragm cover screws (13) and the diaphragm cover.
4. Use 10 mm (M8) socket wrench to remove the 4 vapor cap screws (13) and the vapor cap.
5. Inspect the o-rings between the diaphragm cover and the vapor cap for damage. Replace if needed.
6. Use a screwdriver to remove the inlet check valve screw. Repeat for the outlet check valve.



7. Inspect the valve screw for damage. Replace if needed. Clean the inlet valve area and install the new check valve. Repeat for the outlet check valve.
8. Install the vapor cap and loosely install the 4 screws (13).
9. Torque the vapor cap screws as described in Torque Instructions, page 15.
10. Install the diaphragm cover and loosely install the 8 screws (13).
11. Torque the diaphragm cover screws as described in Torque Instructions, page 15
12. Repeat steps 2-11 for other side of the pump.
13. Restore all manifold tubing.

Diaphragm Repair

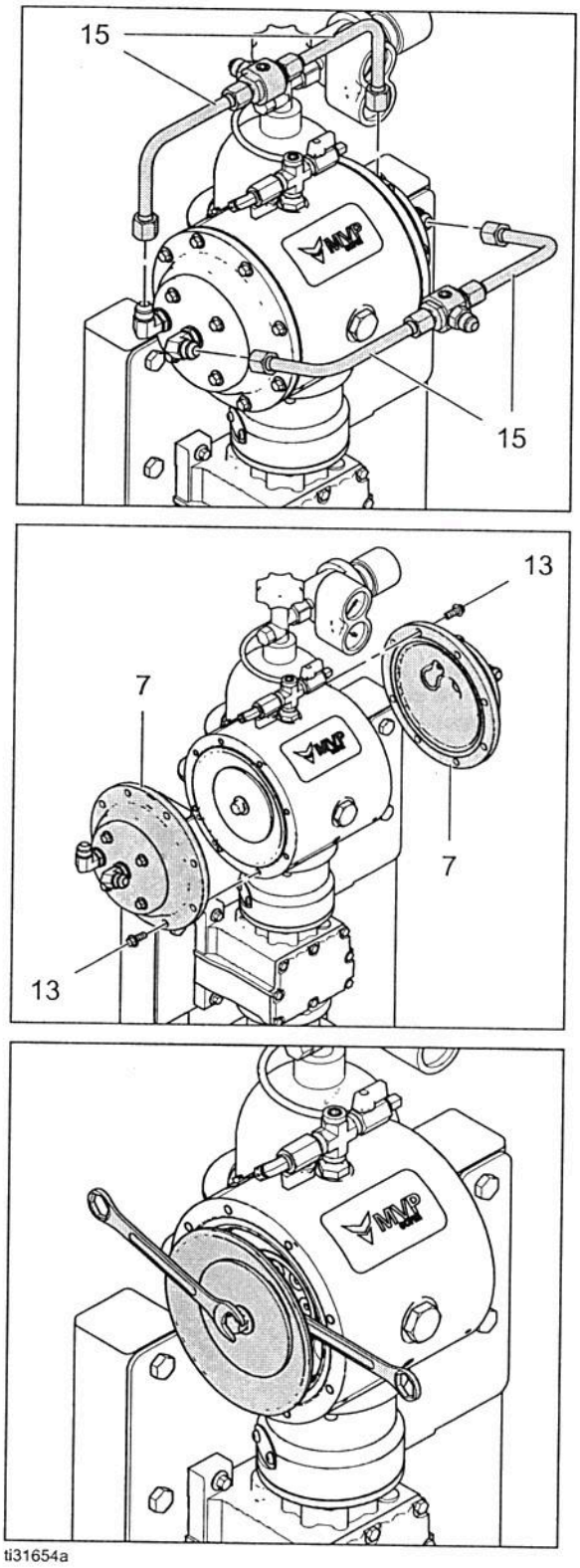


Manifold tubing may become hot during operation. Prior to removal, ensure that tubing has cooled enough to handle safely.

Disassemble the Diaphragms

NOTE: Diaphragm kit is available. See Parts section.

1. Follow the Pressure Relief Procedure, page 7 . Remove power from the motor. Disconnect all hoses.
2. Remove the manifold tubing (15).
3. Use a 10 mm socket wrench to remove the 8 screws (13) from the diaphragm covers (7), then pull the covers off of the pump.
4. To remove the diaphragms, the piston must be moved fully to the side toward the diaphragm to be removed. If the pump is not attached to the motor, turn the shaft by hand to move the piston. If the pump is still attached to the motor, loosen the screws and remove the motor fan cover. Turn the fan by hand in one direction to rotate the shaft to shift the piston to one side.
5. Hold a 16 mm wrench on the wrench flats of the exposed piston shaft. Use another wrench (15 mm) on the shaft bolt to remove it. Then remove all parts of the diaphragm assembly.
6. Rotate the drive shaft to move the piston fully to the opposite side, as described in step 4. Then remove the other diaphragm. assembly.
7. To continue with disassembly, see Disassemble the Center Section, page 11.



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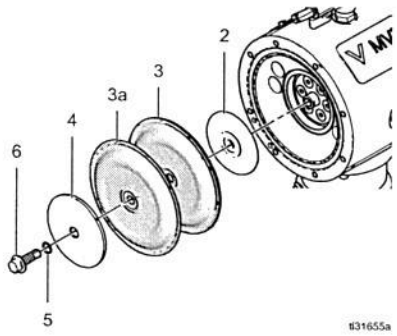
Reassemble the Diaphragms

TIP: If you are also repairing or servicing the center section (drive shaft, piston, etc.), see Center Section Repair, page 11, before you put the diaphragms back on.

1. Clean all parts and inspect for wear or damage. Replace parts as needed. Be sure the center section is clean and dry.
2. Thoroughly clean or replace the piston shaft bolt (6). Install the o-ring (5).
3. Assemble the vapor side plate (4), the diaphragms (3, 3a), and the CO_2 side diaphragm plate (2) on the bolt exactly as shown.
4. Clean the female threads of the piston shaft with a wire brush dipped in solvent to remove any residual thread locker. Apply thread-locking primer and allow it to dry.
5. Apply medium-strength (blue) thread locker to the threads of the bolt.
6. Rotate the drive shaft to move the piston fully to one side. See instructions in step 4 of Disassemble the Diaphragms, page 9.
7. On the side where the shaft extends outward the farthest from the center section, hold a 16 mm wrench on the wrench flats of the piston shaft. Screw the bolt onto the shaft and torque to 20–25 ft-lb (27–34 N•m).
8. Repeat to install the other diaphragm assembly.
9. Attach the diaphragm covers and vapor caps. Apply medium-strength (blue) thread locker to the screw threads. See Torque Instructions, page 15, to tighten.

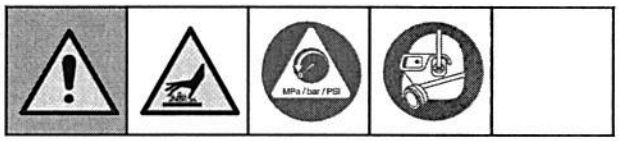


NOTICE

- After reassembly, allow the thread locker to cure for 12 hours, or according to manufacturer's instructions, prior to operating the pump. Damage to the pump will occur if the diaphragm shaft bolt loosens.
- Apply anti-seize to threads on stainless steel fittings used on the manifold tubes.

10. Attach all manifold tubing.

Center Section Repair



Disassemble the Center Section

See the illustrations on page 18.

1. Follow the Pressure Relief Procedure, page 7. Remove power from the motor. Disconnect all hoses.
2. Remove the manifolds.
3. Remove the covers and diaphragms as directed in Disassemble the Diaphragms, page 9.

   TIP: Remove pump from stand and secure gearbox to bench. Leave the pump connected to the motor.
4. Remove the drive shaft:
   a. Use a 10 mm (M8) socket wrench to remove 4 bolts (117). Pull the pump off of the alignment housing (116).

      TIP: It may be necessary to tap the pump with a rubber mallet to disengage the coupler.
   b. Remove CO_2 inlet fittings. Use a 30 mm socket wrench to remove the bearing bolt (106) and the o-ring (108).
   c. Turn the shaft so the groove on the shaft is in line with the alignment markings on the center section.
   d. Use a 3/4–16 bolt to push out the drive shaft assembly (112). You can also use the bearing bolt (106), but remove the bearing (107) first. Be sure that the groove on the drive shaft remains aligned with the markings in the center section.

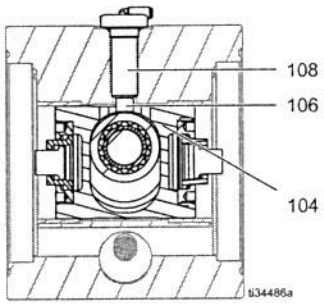
NOTICE

Proper alignment is essential. Do not apply more than about 10 in-lb (1.1 N•m) of torque. Excessive torque could strip the housing thread. If you encounter resistance, check alignment or contact your distributor.

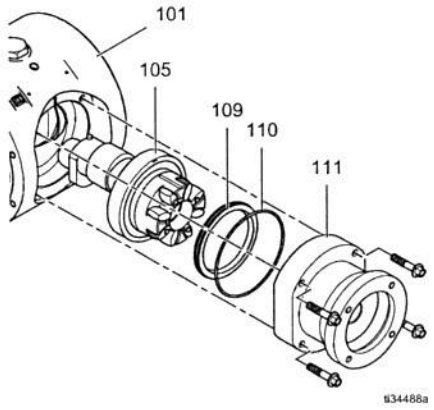
   e. The shaft coupler (113) might come out with the drive shaft assembly. If not, reach into the alignment housing (116) and remove the shaft coupler (113).
   f. Remove the o-ring (109) and the radial seal (111) with o-ring (111a) from the drive shaft assembly.
5. Slide the piston assembly (102) out of the center.

Reassemble the Center Section

1. Clean and dry the center housing (101), the center of the piston (104) and the drive shaft (105).
2. Inspect the piston for excessive wear and replace if needed. Grease the piston as shown and install it in the center section with the groove in line with the alignment markings on the center section.
3. Install the o-ring (107) and the bearing bolt (108). Apply medium-strength (blue) thread locker and torque the bolt to 15–25 ft-lb (20–34 N•m). Be sure that the bearing (106) is in the groove on the piston, as shown. Be sure that the piston moves freely.



4. Install the drive shaft:
   a. Be sure the sealing surface of the drive shaft (105) is clean. Install the radial seal (109) on the drive shaft. The lips on the radial seal (109) must face **IN** toward the center.



   b. Install o-ring (110) on the alignment housing (111).
   c. Apply anti-seize lubricant on the mating edges of the drive shaft, as shown in the illustration, page 18.
   d. Center the piston in the housing and install the drive shaft assembly (105) into the center housing (101) with the groove facing up.
   e. Inspect the shaft coupler (113) for wear and replace if needed. Install on the drive shaft.
5. Be sure the gearbox coupler (115) is aligned properly. Turn by hand if needed. Connect the pump to the gearbox assembly, engaging the couplers.
6. Apply medium-strength (blue) thread locker and install the housing screws (112). Tighten about 5 turns at a time, in a crisscross pattern, to fully engage the coupler. Torque to 130–160 in-lb (15–18 N•m).
7. Install CO_2 inlet fittings.
8. See Reassemble the Diaphragms, page 10, and Check Valve Repair, page 8 .

△1 Apply medium-strength (blue) thread locker to threads.

△2 Torque to 15–25 ft-lb (20–34 N•m).

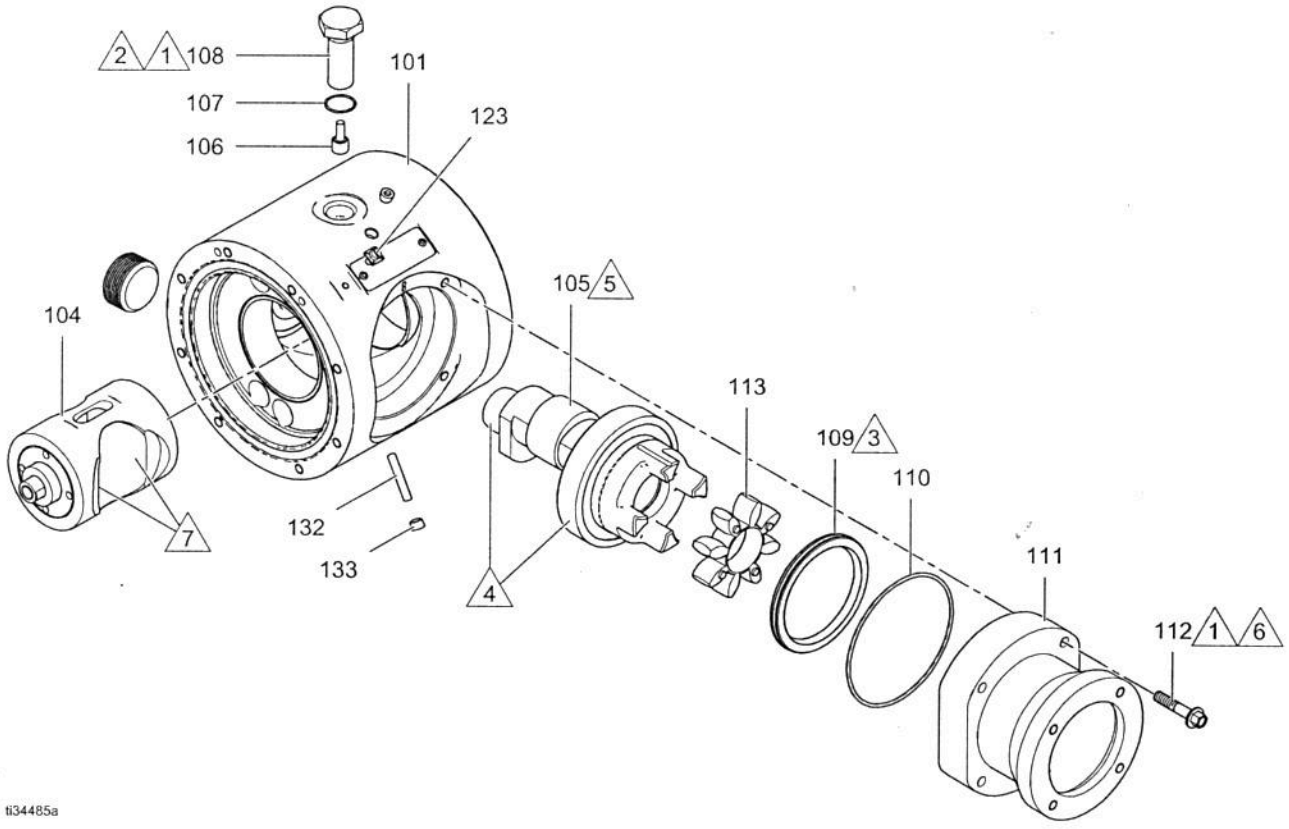
△3 Lips must face **IN** toward the center.

△4 Apply anti-seize lubricant liberally on the radial surfaces of the drive shaft assembly.

△5 Install the drive shaft assembly with the groove facing up.

△6 Tighten screws in a crisscross pattern, 5 turns at a time, to engage the coupler evenly. Torque to 130–160 in-lb (15–18 N•m).

△7 Apply lubricant to inner mating surface.



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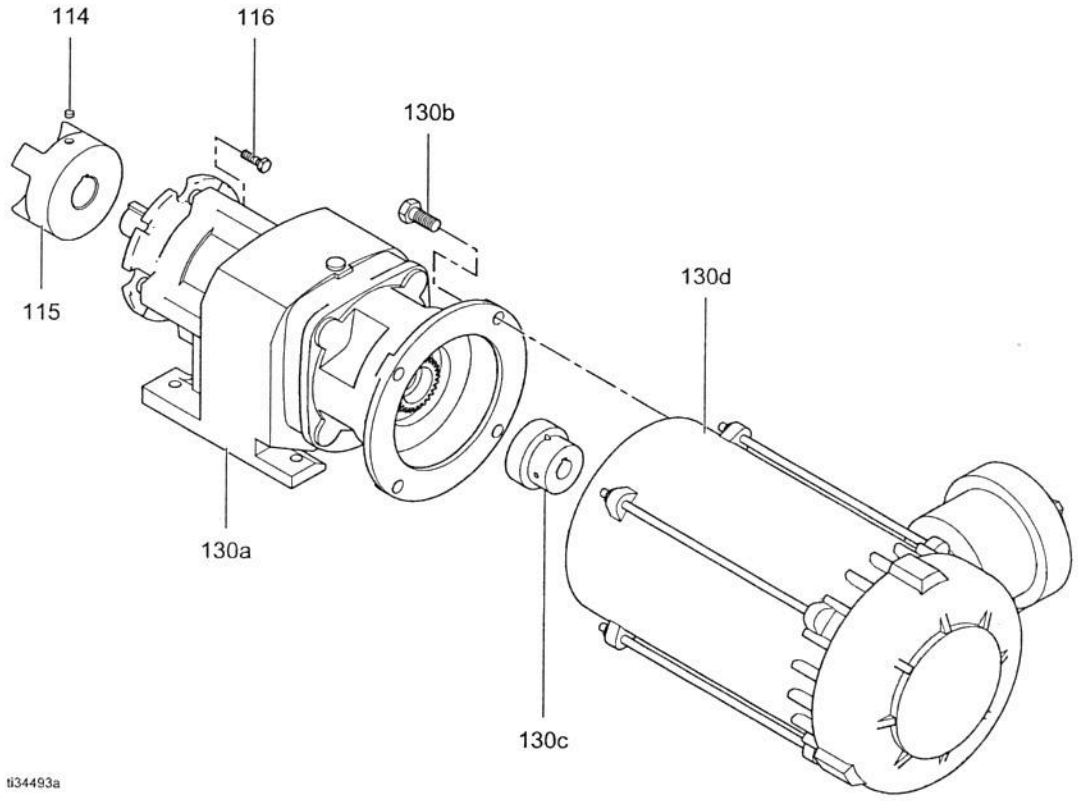
Disconnect the Motor and Gearbox

NOTE: Normally, the motor remains connected to the gearbox. Disconnect the motor only if you suspect that the motor or gearbox must be replaced.

1. Remove the pump from the stand.
2. Use a 9/16 in. socket wrench to remove 4 screws (130b).
3. Pull the motor (130d) straight off of the gearbox (130a).
4. Use a 10 mm socket wrench to remove 4 screws (116). Pull the gearbox off of the alignment housing.



Torque Instructions

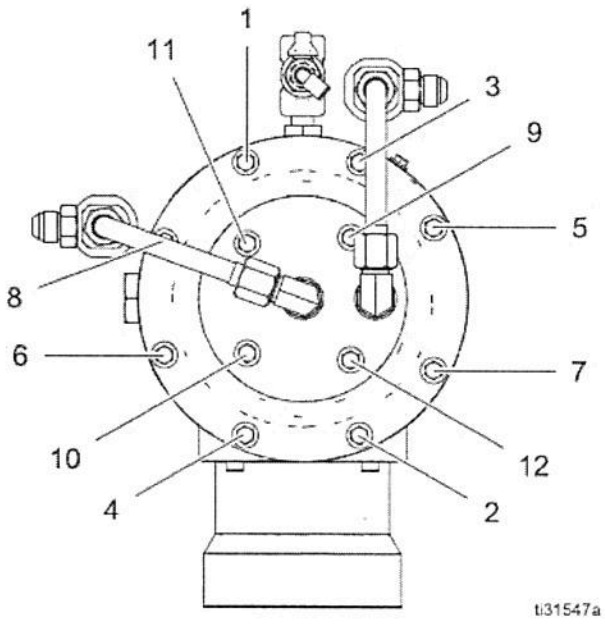
If diaphragm cover or vapor cap fasteners have been loosened, it is important to torque them using the following procedure to improve sealing.

NOTE: Cover and cap screws have a thread-locking adhesive patch applied to the threads. If this patch is excessively worn, the screws may loosen during operation. Replace screws with new ones or apply medium-strength (blue) thread locker to the threads.

NOTE: Always completely torque covers and caps before tightening manifolds.

1. Start all screws a few turns. Then, turn down each screw just until head contacts cover.
2. Turn each screw by 1/2 turn or less working in a crisscross pattern in the order shown to specified torque.

   Diaphragm covers and vapor cap screws: 90 in-lb (10.2 Nm)



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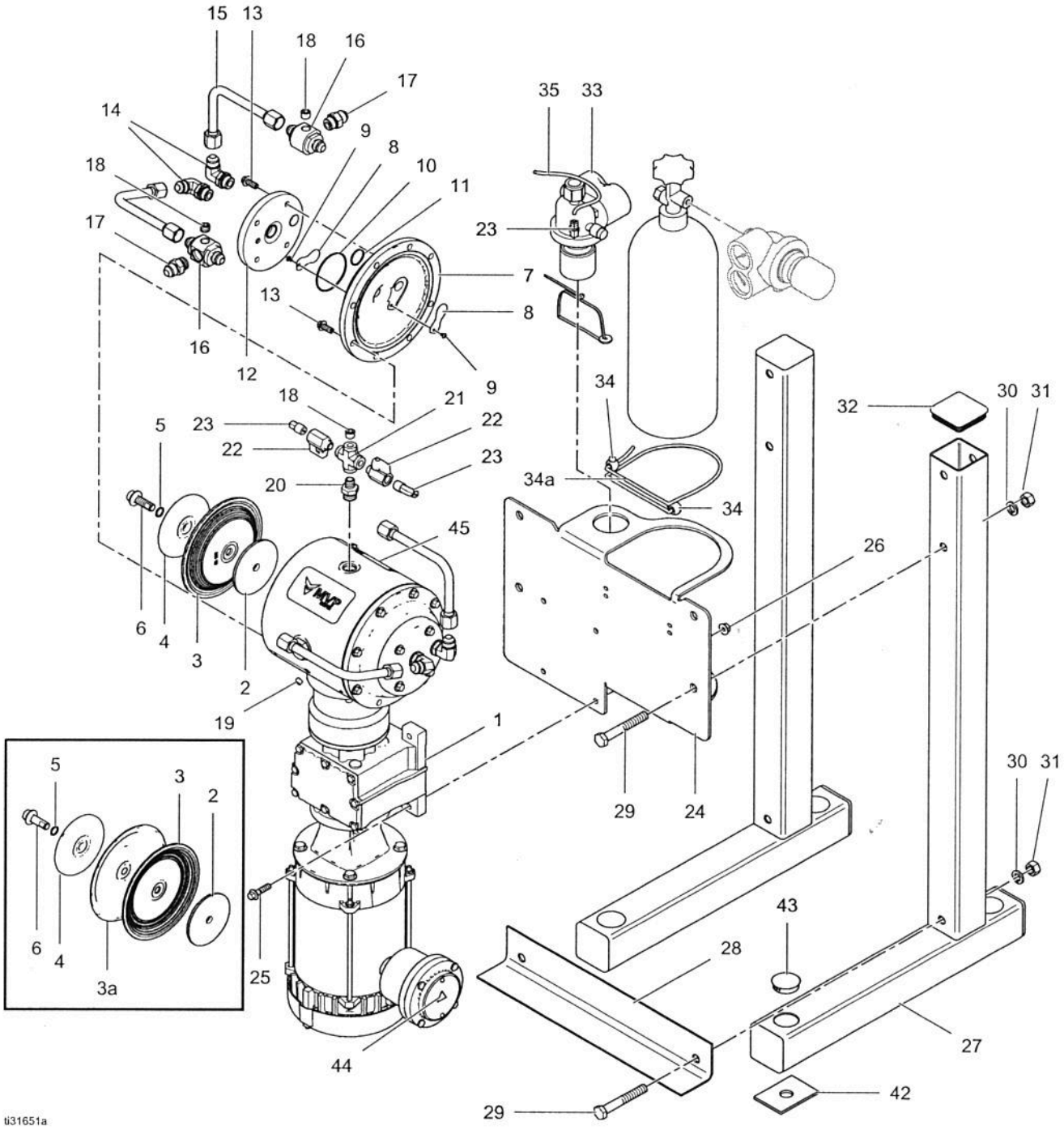
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Parts/Kits Quick Reference

Use this table as a quick reference for kits. Go to the kit table on page 20 for a full description of kit contents.

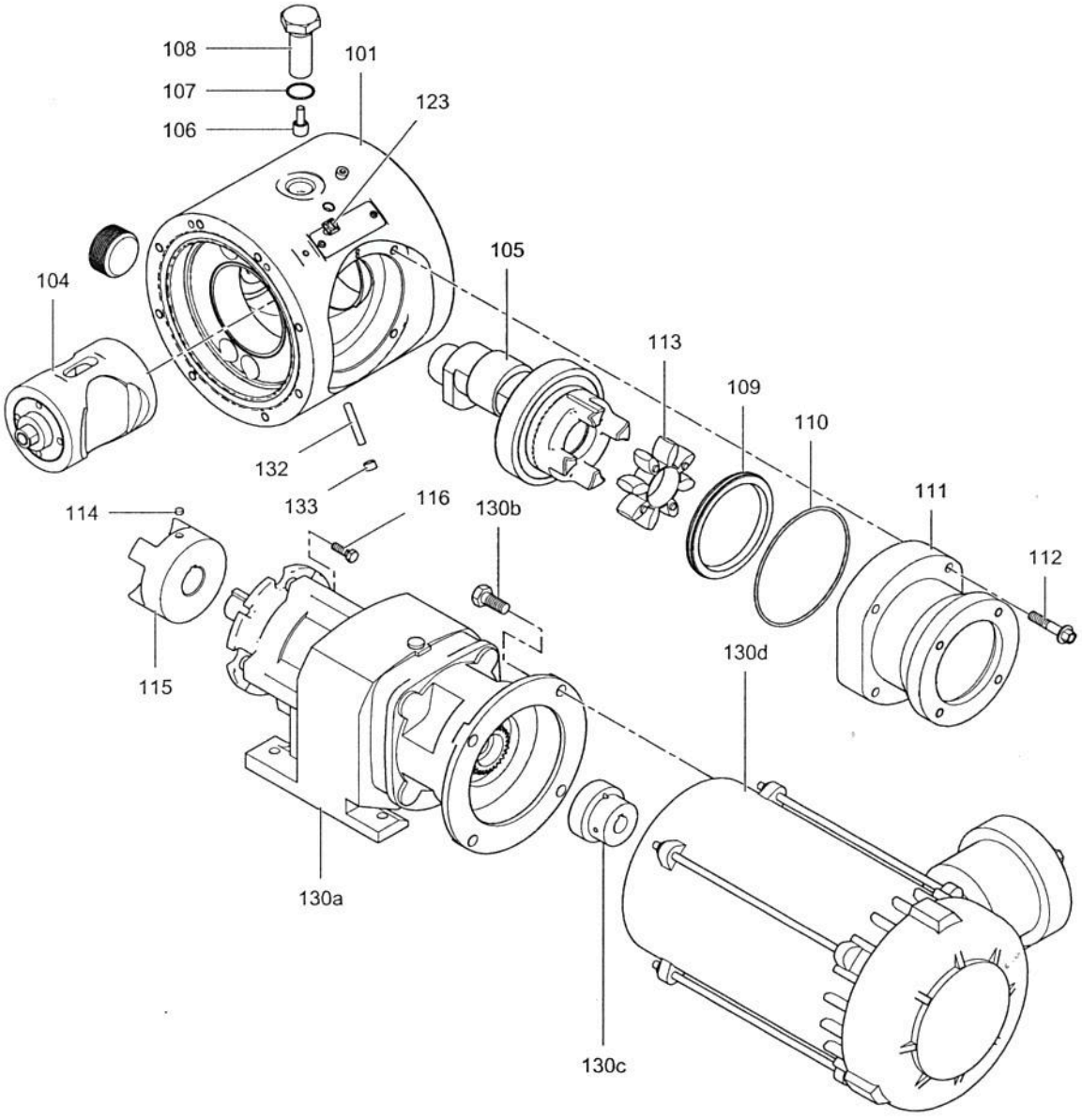
Ref.	Kit Ref	Description	Qty.
1	— — —	MODULE, drive; *See page 18.*	1
2	— — —	PLATE, CO_2 side	2
3	207 208	DIAPHRAGM	2
3a	207	DIAPHRAGM, backer	2
4	— — —	PLATE, vapor side	2
5	207 208	O-RING, for diaphragm shaft bolt	2
6	207 208	BOLT, shaft	2
7	217	DIAPHRAGM COVER, SST	2
8	216 217	CHECK VALVE, reed	4
9	216 217	SCREW, M4 x 6	4
10	216 217	O-RING	2
11	216 217	O-RING	2
12	217	VAPOR CAP, SST	2
13	217	SCREWS, cover, M8 x 1.25 x 25 mm	24
14	215	FITTING, elbow, 3/4	4
15	215	TUBE, manifold	4
16	215	FITTING, JIC x 3/4	2
17	215	FITTING, adapter	2
18	215 221	PLUG	3
20	221	FITTING, adapter	1
21	221	CROSS, pipe	1

Ref.	Kit Ref	Description	Qty.
22	221	VALVE, ball	2
23	218 221	FITTING, elbow, 3/16	3
24	220	BRACKET	1
25	214	BOLT, M8 x 1.25	4
26	214	NUT	4
27	219	FRAME, leg	2
28	219	BRACE, frame	1
29	219 220	SCREW	6
30	219 220	WASHER, lock	6
31	219	NUT	6
32	219 220	PLUG	6
33	218	REGULATOR, CO_2	1
34	— — —	CLAMP, ball, cord lock	2
34a	— — —	CORD	1
41	— — —	PAD, cylinder (not shown)	1
42	219	PAD, frame	4
43	219	CAP	4
44	25D054▲	LABEL, caution, electric shock	1
45	25D054▲	LABEL, warning, fire and explosion	1

— — — *Not sold separately.*

▲ Replacement Warning labels, signs, tags, and cards are available at no cost.

Drive Section



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Ref	Kit Ref	Description	Qty
101	209	HOUSING, center, assembly; *includes plugs (Ref. 123)*	1
104	— — —	PISTON, assembly	1
105	204	SHAFT, drive	1
106	— — —	BEARING, cam follower	1
107	— — —	O-RING, Size 019, Fluoroelastomer	1
108	— — —	BOLT, bearing	1
109	204 205	SEAL, radial	1
109a	204 205	O-RING, seal	1
110	204 205	O-RING, Size 156, FKM	1
111	210	HOUSING, alignment	1
112	— — —	SCREW	4
113	203	COUPLER, shaft	1
114	— — —	MAGNET	1
115	— — —	COUPLER, gearbox	1
116	214	SCREW, cap, hex head, M6 x 20 mm	4
122	212 213 214	SCREW, cap, hex head, 3/8 X 7/8	4
123	— — —	SCREW, ground, M5 x 0.8	1
130a	214	GEARBOX	1
130c	— — —	COUPLER	
130d	212 213	MOTOR	1
133	209	PLUG, pipe, headless	1
116	— — —	SCREW, socket head, M10 x 30 mm	1
117	210	SCREW, socket head, M6 x 40 mm	4

— — — *Not sold separately.*

Kit Table

Ref.	Kit	Description	Qty.
202	25E496	Kit, VFD, 2 HP	1
203	25E497	Kit, coupler, includes:Ref 113	1
204	25E498	Kit, shaft assembly, includes: Ref 105, 109, 110	 1 ea
205	25E499	Kit, shaft seal, includes: Ref 109, 110	 1 ea
206	25E500	Kit, piston, includes Ref 104	1
207	25D038	Kit, diaphragm, 2–piece PTFE, includes:Ref 3, 3a, 5, 6	2 ea
208	25D039	Kit, diaphragm, fluoroelastomer, includes: Ref 3, 5, 6	2 ea
209	25E501	Kit, center section, includes: Ref 101	 1
210	25E502	Kit, alignment housing, includes: Ref 111 Ref 112	 1 4 ea
212	25E504	Kit, motor, 2 HP, 3 Phase, includes: Ref 130d	 1
213	25E503	Kit, motor, 2 HP, 1 Phase, includes: Ref 130d	 1
214	25E505	Kit, gear reducer, includes: Ref 130a Ref 116	 1 ea 4 ea
215	25D046	Kit, manifold assembly, includes: Ref 16, 17, 18 Ref 14, 15	 1 ea 2 ea
216	25D047	Kit, check valves, includes Ref 8, 9 Ref 10, 11	 4 ea 2 ea
217	25D048	Kit, fluid cover, includes: Ref 7, 10, 11, 12 Ref 8, 9 Ref 13	 1 ea 2 ea 4 ea
218	25D049	Kit, CO_2 regulator, includes: Ref 23, 33	 1 ea
219	25E506	Kit, stand legs, includes: Ref 28 Ref 27 Ref 42, 43 Ref 29-32	 1 ea 2 ea 4 ea 6 ea
220	25E507	Kit, stand bracket, includes: Ref 24 Ref 29-31	 1 ea 4 ea
221	25D052	Kit, fill/vent fittings, includes: Ref 18, 20, 21 Ref 22, 23	 1 ea 2 ea
222	25D053	Kit, fitting, includes Ref 17	2

Technical Data

	US	Metric
Model MVP-150 Vapor Recovery Pump		
LP-Gas vapor recovery rate	6 cfm	0.17 m^3/min
Butane recovery rate	1.5 lb/min	0.68 kg/min
Butane recovery and re-condense rate	18 GPH	68.1 L/hour
Propane recovery rate	2 lb/min	0.9 kg/min
Propane recovery and re-condense rate	24 GPH	90.8 L/hour
Maximum pumping outlet pressure	150 psi	1.03 MPa, 10.3 bar
Maximum pumping inlet vacuum produced	27 inHg	91 kPa, 0.91 bar
Maximum center section CO_2 charge	150 psi	1.03 MPa, 10.3 bar
Equipment Withstand Pressure	375 psi	2.59 MPa, 25.9 bar
Maximum CO_2 consumption	<0.2 scfh	<0.006 cubic meters/hour
CO_2 inlet size	1/4 in. npt(f)	
Maximum pump speed	220 cpm	
Process Inlet and Outlet Size	1/2 in. JIC male	
Optional pressure gauge ports: inlet and outlet	1/4 in. npt(f)	
Weight	182.5 lb	82.8 kg
Electric Motor: Explosionproof for hazardous areas (see approvals page)		
Model MVP-150-3PH, inverter rated		
Power	2 Hp	1.5 kW
Speed	3600 rpm (60 Hz)	
Gear Ratio	16.5:1	
Voltage	3–phase 208-230/460V	
Maximum Amperage Load	5.2 A (230V) / 2.6 A (460V)	
Model MVP-150-1PH		
Power	2 Hp	1.5 kW
Speed	3600 rpm (60 Hz)	
Gear Ratio	16.5:1	
Voltage	1–phase 115/208-230V	
Maximum Amperage Load	20 A (115V) / 10 A (230V)	
Model MVP-150-ATEX		
Power	2 HP	1.5 kW
Speed	3420 rpm (60 Hz) or 2850 rpm (50 Hz)	
Gear Ratio	16.5:1	
Voltage	3–phase 240V / 3–Phase 415V	
Maximum Amperage Load	5.44 A (230V) / 3.14 A (460V)	
Noise Data		
Sound Power (measured per ISO-9614–2)	88.5 dBa	
Sound Pressure [tested 3.28 ft (1 m) from equipment]	80.5 dBa	

	US	Metric
Materials		
Process Pressure Section and Reed Valves	stainless steel	
Diaphragms	standard: PTFE optional: FKM fluoroelastomer	
Process Vapor Temperature Range	FKM: -40° to 275°F (-40° to 135°C) PTFE: +40° to 220°F (+4° to 104°C)	

MVP Standard Warranty

MVP warrants all equipment referenced in this document which is manufactured by MVP and bearing its name to be free from defects in material and workmanship on the date of sale to the original purchaser for use. With the exception of any special, extended, or limited warranty published by MVP, MVP will, for a period of twelve months from the date of sale, repair or replace any part of the equipment determined by MVP to be defective. This warranty applies only when the equipment is installed, operated and maintained in accordance with MVP's written recommendations.

This warranty does not cover, and MVP shall not be liable for general wear and tear, or any malfunction, damage or wear caused by faulty installation, misapplication, abrasion, corrosion, inadequate or improper maintenance, negligence, accident, tampering, or substitution of non-MVP component parts. Nor shall MVP be liable for malfunction, damage or wear caused by the incompatibility of MVP equipment with structures, accessories, equipment or materials not supplied by MVP, or the improper design, manufacture, installation, operation or maintenance of structures, accessories, equipment or materials not supplied by MVP.

This warranty is conditioned upon the prepaid return of the equipment claimed to be defective to an authorized MVP distributor for verification of the claimed defect. If the claimed defect is verified, MVP will repair or replace free of charge any defective parts. The equipment will be returned to the original purchaser transportation prepaid. If inspection of the equipment does not disclose any defect in material or workmanship, repairs will be made at a reasonable charge, which charges may include the costs of parts, labor, and transportation.

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MVP Information

For the latest information about MVP products, visit MasterVaporPumps.com.

Protected as patented technology.

To place an order, contact your MVP Distributor or call to identify the nearest distributor.

Toll Free: 1-888-502-3303

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All written and visual data contained in this document reflects the latest product information available at the time of publication.
MVP reserves the right to make changes at any time without notice.
Original Instructions. This manual contains English. MM 3A6340

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