

OPERATING INSTRUCTIONS & PARTS MANUAL

MAGNETIC DRIVE PUMPS

MODELS 1P676A AND 1P677A

FORM 5S1333

05825
1292/393/3M

READ CAREFULLY BEFORE ATTEMPTING TO ASSEMBLE, INSTALL, OPERATE OR MAINTAIN THE PRODUCT DESCRIBED. PROTECT YOURSELF AND OTHERS BY OBSERVING ALL SAFETY INFORMATION. FAILURE TO COMPLY WITH INSTRUCTIONS COULD RESULT IN PERSONAL INJURY AND/OR PROPERTY DAMAGE! RETAIN INSTRUCTIONS FOR FUTURE REFERENCE.

Description

Teel magnetic drive pumps are used for applications involving photographic and plating solutions, mild acids and alkalis, salt solutions, etc. Orbital magnetic drive design has no interconnecting shaft and seal, eliminating seal-related friction loss and leakage. Pump housing and impeller are made of glass-filled polypropylene. Spindle housing is made of carbon filled Kynar® (PVDF). The fan-cooled motor has automatic-reset thermal protection and a 3 ft., 3-conductor SJO cord.

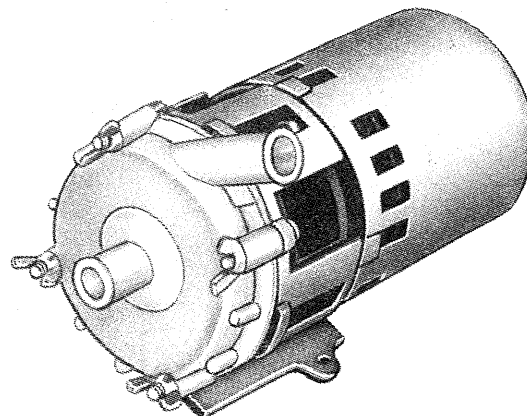


Figure 1

Unpacking

After unpacking the unit inspect carefully for any damage that may have occurred during transit. Check for loose, missing or damaged parts.

Specifications and Performance

MODEL	SPECIFICATIONS								PERFORMANCE								
	MOTOR RPM HP		VOLTS 60HZ	INLET & OUTLET	DIMENSIONS H W D			RUNNING AMPS WATTS		FLOW, GPM					MAX. HEAD	MAX. PSI	MAX. TEMP.
										1 Ft	3 Ft	6 Ft	9 Ft	12 Ft			
1P676A	1750	1/55	60	5/8" O.D.	5"	3 1/2"	7 1/4"	0.85	64	5.5	4.0	1.5	—	—	7 Ft.	3.0	180°F
1P677A	3500	1/25	50/60	5/8 O.D.	5	3 1/2	7 3/4	1.40	108	6.7	6.0	5.3	4.2	2.9	16 Ft.	7.0	180°F

General Safety Information

1. Know the pump application, limitations, and potential hazards.

▲ WARNING ▲

DO NOT USE TO PUMP FLAMMABLE OR EXPLOSIVE FLUIDS SUCH AS GASOLINE, FUEL OIL, KEROSENE, ETC. DO NOT USE IN FLAMMABLE AND/OR EXPLOSIVE ATMOSPHERES. PUMP SHOULD ONLY BE USED WITH LIQUIDS COMPATIBLE WITH PUMP COMPONENT MATERIALS. FAILURE TO FOLLOW THIS WARNING CAN RESULT IN PERSONAL INJURY AND/OR PROPERTY DAMAGE.

2. Make certain that the power source (electric motor) conforms to the requirements of your equipment.
3. Provide adequate protection and guarding around moving parts.
4. Disconnect power before servicing.
5. Release all pressure within the system before servicing any component.
6. Drain all liquids from the system before servicing.

7. Secure the discharge line before starting the pump. An unsecured discharge line will whip, possibly causing personal injury and/or property damage.
8. Check hoses for weak or worn condition before each use, making certain that all connections are secure.
9. Periodically inspect pump and system components. Perform routine maintenance as required. (See Maintenance section).
10. Provide a means of pressure relief for pumps whose discharge line can be shut off or obstructed.
11. **Personal Safety:**
 - a. Wear safety glasses at all times when working with pumps.
 - b. Wear a face shield and proper apparel when pumping hazardous chemicals.
 - c. Keep work area clean, uncluttered, and properly lighted — replace all unused tools and equipment.
 - d. Keep visitors at a safe distance from the work area.

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General Safety Information (Continued)

- e. Make workshop child proof—with padlocks, master switches, and by removing starter keys.
- 12. When wiring an electrically driven pump, follow all electrical and safety codes; the most recent National Electrical Code (NEC) and the Occupational Safety and Health Act (OSHA).

⚠ WARNING ⚠

RISK OF ELECTRIC SHOCK! NEVER CONNECT THE GREEN (OR GREEN AND YELLOW) WIRE TO A LIVE TERMINAL!

- 13. To reduce the risk of electric shock, the unit should be plugged directly into a properly installed and grounded 3-prong grounding-type receptacle, as shown in Figure 2. The green (or green and yellow) conductor in the cord is the grounding wire. The motor must be securely and adequately grounded for your protection against shock hazards!

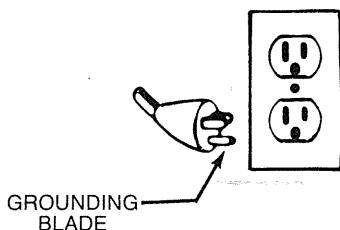


Figure 2 — Grounding Method

Where a 2-prong wall receptacle is encountered, it must be replaced with a properly grounded 3-prong receptacle installed in accordance with the National Electrical Code and local codes and ordinances. To ensure a proper ground, the grounding means must be tested by a qualified electrician.

Use only 3-wire extension cords that have 3-prong, grounding-type plug, and 3-pole receptacles that accept the equipment plug.

- 14. All wiring should be performed by a qualified electrician.
- 15. Protect electrical cord from sharp objects, hot surfaces, oil, and chemicals. Avoid kinking the cord. Replace or repair damaged or worn cords immediately.
- 16. Provide safety shields on all moving and electrical parts to prevent personal injury.
- 17. Keep fingers and foreign objects away from ventilation and other openings. Do not insert any objects into the motor.
- 18. Use wire of adequate size to minimize voltage drop at the motor.
- 19. Disconnect power before servicing a motor or its load. If the power disconnect is out-of-sight, lock it

in the open position and tag it to prevent unexpected application of power.

- 20. Do not touch an operating motor. Modern motors are designed to operate at high temperatures.

⚠ WARNING ⚠

DO NOT HANDLE A PUMP OR PUMP MOTOR WITH WET HANDS OR WHEN STANDING ON A WET OR DAMP SURFACE, OR IN WATER.

THE PUMP MOTOR IS EQUIPPED WITH AN AUTOMATIC RESETTING THERMAL PROTECTOR AND MAY RESTART UNEXPECTEDLY. PROTECTOR TRIPPING IS AN INDICATION OF MOTOR OVERLOADING AS A RESULT OF OPERATING THE PUMP AT LOW HEADS (LOW DISCHARGE RESTRICTION), EXCESSIVELY HIGH OR LOW VOLTAGE, INADEQUATE WIRING, INCORRECT MOTOR CONNECTIONS, OR A DEFECTIVE MOTOR OR PUMP.

Installation**⚠ WARNING ⚠**

IN ORDER TO SAFELY USE THIS PRODUCT, FAMILIARIZE YOURSELF WITH THIS PUMP AND ALSO WITH THE LIQUID (CHEMICAL, ETC.) THAT IS GOING TO BE PUMPED THRU THE UNIT. THIS PUMP IS NOT SUITABLE FOR MANY LIQUIDS.

IN ANY INSTALLATIONS WHERE PROPERTY DAMAGE AND/OR PERSONAL INJURY MIGHT RESULT FROM AN INOPERATIVE OR LEAKING PUMP DUE TO POWER OUTAGES, DISCHARGE LINE BLOCKAGE, OR ANY OTHER REASON, A BACKUP SYSTEM(S) SHOULD BE USED.

- 1. Mount pump on a level and solid foundation with the outlet port up.

IMPORTANT: DO NOT SUSPEND PUMP BY MEANS OF THE DISCHARGE PIPING. PUMPS ARE GRAVITY-FEED TYPE AND PUMP INLET PORT MUST BE BELOW LEVEL OF LIQUID. OIL FILL TUBES (LOCATED ON TOP OF THE MOTOR), MUST ALWAYS POINT UPWARD.

- 2. Install piping (tubing) and other auxiliary components (switch, timer, etc.) which are used in your system.

NOTE: Inlet piping must be $\frac{5}{8}$ " I.D. or larger. Outlet piping must be $\frac{5}{8}$ " I.D. or smaller. Outlet piping I.D. should always be equal to or smaller than inlet pipe I.D., otherwise magnets will decouple and pumping will stop. If this occurs reduce output flow by reducing piping I.D. or by pinching tubing or partially closing valve on discharge line.

- 3. After all piping and controls have been installed, the unit is ready for operation.
- 4. It is strongly recommended that this unit is plugged into a G.F.I. (Ground Fault Interrupter circuit). Consult your local electrician for installation and availability.

Operation

1. Activate the unit.

⚠ WARNING ⚠

THE MOTOR IS DESIGNED TO RUN ON 115V, 60 Hz ONLY!

2. When pumping is completed, turn pump off immediately. Running the pump dry will cause excessive wear and possible damage to internal parts.

⚠ WARNING ⚠

THE PUMP MOTOR IS EQUIPPED WITH AN AUTOMATIC RESETTING THERMAL PROTECTOR AND MAY RESTART UNEXPECTEDLY. PROTECTOR TRIPPING IS AN INDICATION OF MOTOR OVERLOADING AS A RESULT OF OPERATING THE PUMP AT LOW HEADS (LOW DISCHARGE RESTRICTION), EXCESSIVELY HIGH OR LOW VOLTAGE, INADEQUATE WIRING, INCORRECT MOTOR CONNECTIONS, OR A DEFECTIVE PUMP OR MOTOR.

Maintenance**⚠ WARNING ⚠**

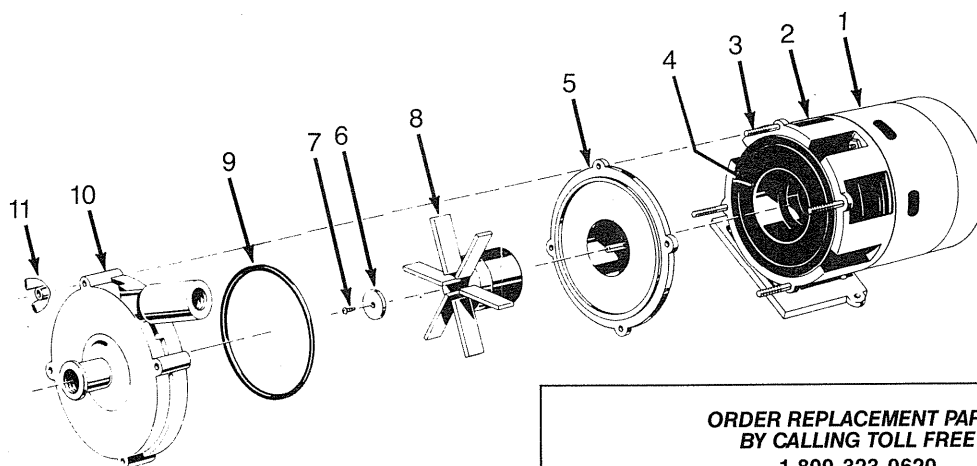
MAKE CERTAIN THAT THE UNIT IS DISCONNECTED FROM THE POWER SOURCE BEFORE ATTEMPTING TO SERVICE OR REMOVE ANY COMPONENT! FAILURE TO DO SO COULD RESULT IN ELECTRICAL SHOCK.

ROUTINE

Pump should be checked daily, weekly, monthly, etc. for proper operation. If anything has changed since unit was new, unit should be removed and repaired or replaced. Only qualified electricians or servicemen should attempt to repair this unit. Improper repair and/or assembly can cause an electrical shock hazard.

LUBRICATION

Oil motor every six months with a couple of drops of SAE 20W or its equivalent. Oil fill tubes are located at the top of and at each end of the motor.



**ORDER REPLACEMENT PARTS
BY CALLING TOLL FREE
1-800-323-0620**

Please provide following information:

- Model Number
- Serial Number (if any)
- Part Description and Number as shown in Parts List.

Address parts correspondence to:

Parts Company of America
1657 Shermer Road
Northbrook, IL 60062-5362

Figure 3 — Replacement Parts Illustration

Replacement Parts List

REF. NO.	DESCRIPTION	PART NO. FOR MODEL		QTY.
		1P676A	1P677A	
1	115V AC Motor	135-109-10	135-036-10	1
2	Motor housing bracket	135-168-10	135-168-10	1
3	Housing bracket screws	816-003-10	816-003-10	4
4	Drive magnet assembly	135-126-01	135-126-01	1
5	Spindle housing	802-043-10	802-043-10	1
6	Ryton thrust washer	NA	802-057-10	1
7	#8-32 Stainless steel thrust washer screw	NA	135-042-10	1
8	Impeller & magnet assembly	135-026-01	135-043-01	1
9	Buna N seal O-ring	135-007-10	135-007-10	1
10	Pump housing	135-117-10	135-117-10	1
11	#10-32 Wing nut	135-012-10	135-012-10	4

(NA) Not Applicable.

Troubleshooting Chart

SYMPTOM	POSSIBLE CAUSE(S)	CORRECTIVE ACTION
Pump will not start or run	<ol style="list-style-type: none"> 1. Improperly wired 2. Blown fuse or open circuit breaker 3. Loose, broken, or incorrect wiring 4. Defective drive magnet assembly or impeller magnet assembly 5. Motor shorted out. 6. Specific gravity of liquid over 1.2 or viscosity over 50 SSU 	<ol style="list-style-type: none"> 1. Check voltage supply outlet and re-wire motor connections, if necessary 2. Replace fuse or close circuit breaker 3. Rewire any incorrect circuits. Tighten connections, replace defective wires 4. Replace 5. Replace motor 6. Wrong pump for application, consult factory
Pump starts and stops pumping	<ol style="list-style-type: none"> 1. Fouled impeller 2. Leak in discharge side of system 3. Tubing I.D. too large 	<ol style="list-style-type: none"> 1. Clean 2. Repair 3. Pinch tubing to increase head (See "NOTE" under Installation)
Excessive noise while pump in operation	<ol style="list-style-type: none"> 1. Pump not secured to firm foundation 2. Piping not supported to relieve any strain on pump assembly 	<ol style="list-style-type: none"> 1. Secure properly 2. Make necessary adjustments
Flow rate is low	<ol style="list-style-type: none"> 1. Piping is fouled or damaged 2. Clogged impeller or worn impeller 	<ol style="list-style-type: none"> 1. Clean or replace 2. Clean or replace
Motor runs but no water output (pump does not spin)	<ol style="list-style-type: none"> 1. Head too low 2. Tubing I.D. too large 	<ol style="list-style-type: none"> 1. Increase head 2. Pinch tubing to increase head (See "NOTE" under Installation)

LIMITED WARRANTY

DAYTON ONE-YEAR LIMITED WARRANTY. Teel magnetic drive pumps, Models 1P676A & 1P677A, are warranted by Dayton Electric Mfg. Co. (Dayton) to the original user against defects in workmanship or materials under normal use for one year after date of purchase. Any part which is determined by Dayton to be defective in material or workmanship and returned to an authorized service location, as Dayton designates, shipping costs prepaid, will be, as the exclusive remedy, repaired or replaced at Dayton's option. For limited warranty claim procedures, see PROMPT DISPOSITION below. This limited warranty gives purchasers specific legal rights which vary from state to state.

LIMITATION OF LIABILITY. To the extent allowable under applicable law, Dayton's liability for consequential and incidental damages is expressly disclaimed. Dayton's liability in all events is limited to, and shall not exceed, the purchase price paid.

WARRANTY DISCLAIMER. Dayton has made a diligent effort to illustrate and describe the products in this literature accurately; however, such illustrations and descriptions are for the sole purpose of identification, and do not express or imply a warranty that the products are merchantable, or fit for a particular purpose, or that the products will necessarily conform to the illustrations or descriptions.

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PROMPT DISPOSITION. Dayton will make a good faith effort for prompt correction or other adjustment with respect to any product which proves to be defective within limited warranty. For any product believed to be defective within limited warranty, first write or call dealer from whom product was purchased. Dealer will give additional directions. If unable to resolve satisfactorily, write to Dayton at address below, giving dealer's name, address, date and number of dealer's invoice, and describing the nature of the defect. Title and risk of loss pass to buyer on delivery to common carrier. If product was damaged in transit to you, file claim with carrier.

Manufactured for Dayton Electric Mfg. Co., 5959 W. Howard St., Chicago, IL 60648