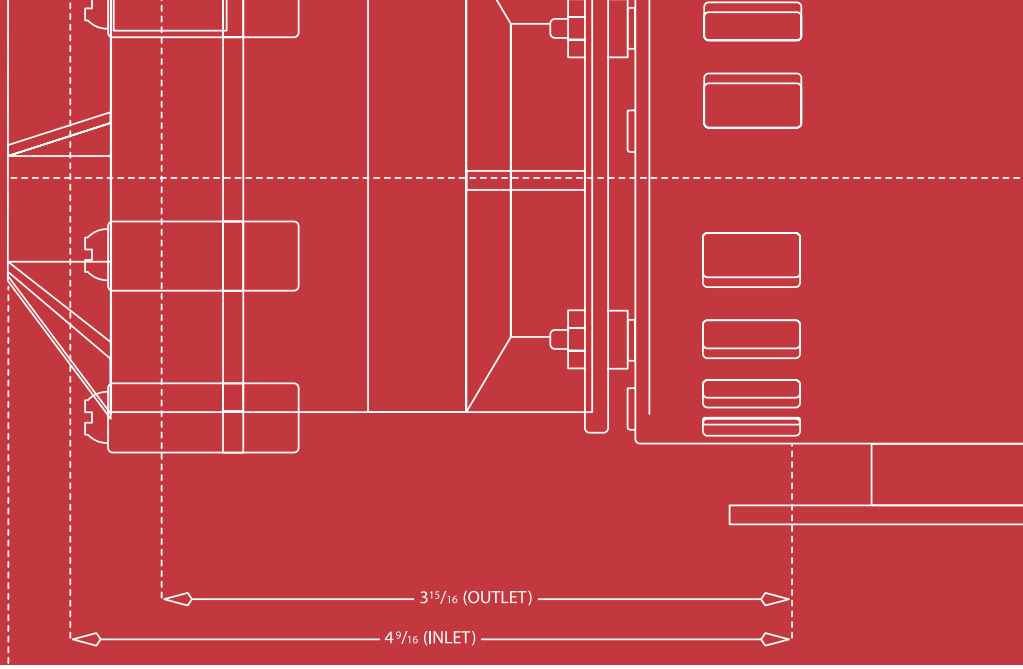
CATALOG

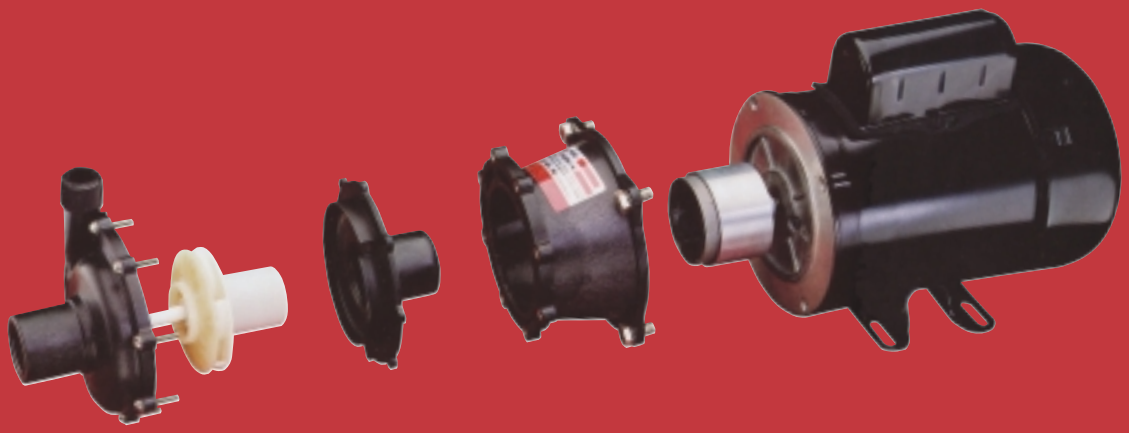


MARCH PUMPS

CHEMICAL • OEM • INDUSTRIAL • HYDRONIC • SOLAR

MARCH MANUFACTURING INC.

SEAL-LESS MAGNETIC DRIVE PUMPS



MARCH SEAL-LESS MAGNETIC DRIVE PUMPS

The ultimate in reliable performance for chemical, OEM, industrial, hydronic and solar applications.

March specializes in a wide range of precise, highly reliable magnetic drive centrifugal pumps. March pumps are designed for virtually any application, from aquariums and icemakers, to chemical and processing equipment, to one-of-a-kind special applications such as the United States space shuttle program. These include pumps for handling a virtually unlimited array of fluids from water to highly corrosive or acidic solutions, as well as high temperature liquids. Various designs range from air-cooled to fully submersible electric-powered unit motors to air motor-driven models for certain environments.

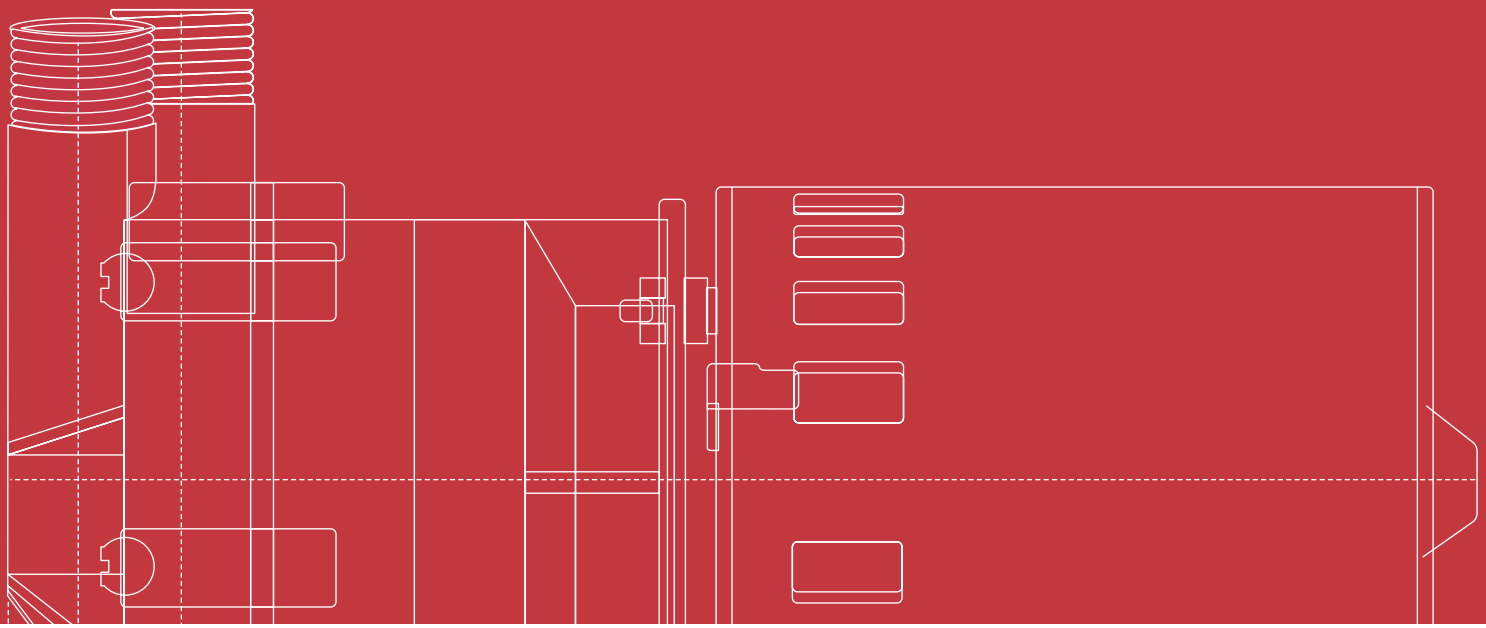
Whether it's a special pump design for an OEM application, or for a unique industrial process, March is your source for reliable, efficient solutions to difficult pumping problems. For worldwide availability and unparalleled service, contact March.

No shaft, no seals, no seal problems.

Introduced in 1963, March's patented magnetically coupled drive designs eliminate shaft seals and the many problems they can cause. Torque is transmitted by a magnetic field from the magnet attached to the motor, through the solid body, to the magnet attached to the impeller. Benefits of magnetically coupled pumps include:

- **Leak-proof** No maintenance associated with seal wear.
- **Efficient** Friction-free operation reduces power consumption. Full motor horsepower is transferred to pumping power with no power loss.
- **Built-in overload protection** The magnetic coupling acts as a clutch to provide overload protection and prevent motor burnouts under heavy loads from high specific gravity liquids.

See Pump Directory on page 35



- **Easily maintained** Many models are designed so that the motor can be removed from the pump housing, inspected and replaced without draining the system. No special tools or training are required.
- **Reliable** Magnetic drive pumps offer trouble-free performance over many years of service life.

High-performance designs.

All pump parts are designed to meet or exceed potential job demands. In pumps intended for use with highly corrosive fluids, all components to be exposed to the liquid (often referred to as “wetted materials”) are either encapsulated or molded of appropriately resistant plastics. Metals are used where plastics are incompatible with the solution to be handled. Proven materials such as polypropylene, Ryton®, polyvinylidene fluoride resin (PVDF or Kynar®), stainless steel and Hastelloy® cover a broad range of applications. UL-recognized components are used throughout, and many models are UL-listed.

March also specializes in custom designs for unique applications. Contact a March engineer for a pump with the performance and materials required for your special project. Chances are there’s a March pump that’s right for you…if not, we’ll build it!

Internal component sourcing for enhanced quality control.

The breadth and depth of March’s product scope is unmatched. In addition to pumps, our manufactured products include some fractional horsepower motors and all injection-molded plastic components.

This unrivaled level of “in-house” component manufacturing capability not only results in designs with the ideal combination of serviceable features and optimized performance, it also forms an effective, start-to-finish quality control umbrella for the entire finished product with no compromise in quality, reliability and durability.

Wide selection of motors for different applications.

Most March pumps utilize fan-cooled motors for long life under continuous operating conditions. Blast-cooled, totally enclosed, submersible, drip-proof and ball bearing motors are also available with various models, depending on the intended use. Many models are available with air motors, particularly recommended for use in explosive environments. All motors are UL listed.

Fast, easy access to products and service.

A full stock of pumps, parts and technical support is available worldwide from more than 150 stocking sales and service locations.

The March line includes more than 200 standard pumps with capacities from 3 gpm on 60hz (9 LPM on 50 hz) to 210 gpm on 60 hz (680 LPM on 50 hz). The flow, head and electrical data listed in metric LPM, meters, bars etc. are based on 50 hz operation. All other data is based on 60 hz operation.

Material Selection Guidelines

Chemical Compatibility Care must be exercised in selecting the proper materials for pump components that will be exposed to the fluid being handled. Nitric, chromic, hydrochloric and sulfuric acids as well as benzene, alcohol, freon, kerosene and other solvents are some of the more common highly corrosive chemicals that March pumps are designed to withstand. In all cases, consult a March engineer regarding materials for various chemicals and solution concentrations.

Specifications

All performance specifications and test data shown in this catalog are based on pumping water and are intended as guidelines only. Specifications will vary depending on specific fluid, temperatures and other operating conditions.

Warranty

March pumps are guaranteed against defects in materials or workmanship for one year from the date of manufacture. Warranty will be extended for up to one year from the date of purchase, provided that the warranty card is returned to the factory within 10 days of the purchase date. In all events, liability is limited to the purchase price and to the replacement or repair of any pump or parts defective in

materials or workmanship. All pumps for which a warranty claim is made must be returned to the factory with shipping costs prepaid. This warranty is void if the pump has been subjected to misuse or negligence.

This warranty applies only to pumps used to pump water. For applications with all other solutions, contact the factory for verification of warranty terms before the pump is installed.

Model Nomenclature

Because components and materials of construction vary widely and are unique to each model, model nomenclature is not standardized. The following are some typical abbreviations used in model numbers:

	MOTOR-TYPE ABBREVIATIONS
AC	air cooled
AM	air motor
BC	blast cooled
BB	ball bearing
DP	drip proof
SUB	submersible (blue epoxy color)
TEFC	totally enclosed/fan cooled
TE/SUB	totally enclosed/submersible (maroon color = can run in open air or submerged)
	As with all MARCH pumps, the latter two letters of the model number (MD) indicate that the pump is magnetically coupled to the motor.

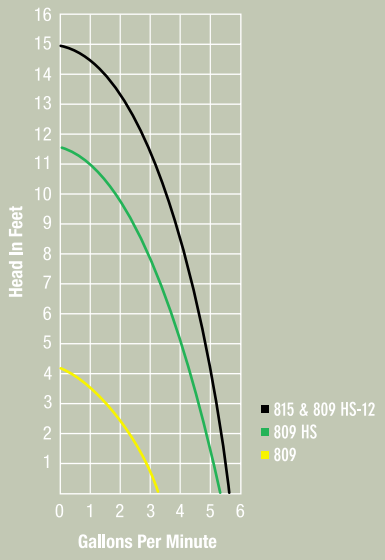
In some cases, letter portions of the nomenclature are a designation of the material that will come in contact with the solution that is to be pumped, such as bushings and "O" rings. For example, a "K" indicates Kynar® PVDF and "S" signifies a metallic pump head and impeller magnet assembly made of 316 stainless steel. A "C" in the model number indicates that the pump wet end is made of glass filled polypropylene, and the impeller assembly and bushing material are made of polypropylene. Both the spindle and the front thrust washer are of high grade ceramic. The standard "O" ring for this model is made of Viton®.

For complete flow curves and dimensional assembly drawings, visit our Web Site - www.marchpump.com.

model 809-BR-HS-C

model 809-BR

model 809-BR-12



SERIES 809 & 815

		809-BR	809-PL	809-BR-C	809-BR-12 •	809-BR-24	809-BR-HS	809-PL-HS	809-PL-HS-C	809-BR-HS-12 ◇	809-BR-HS-24	815-BR	815-BR-C
max. flow	gpm	4.5	4.5	4.5	5.5	5.5	7.2	7.2	7.2	7.5	7.5	8	8
	lpm	13.7	13.7	13.7	16.5	16.5	21	21	21	22	22	28	28
max. head	ft.	4.3	4.3	4.3	7.1	7.1	12.1	12.1	12.1	15.5	15.5	18.6	18.6
	m	.6	.6	.6	2.3	2.3	2.7	2.7	2.7	4.5	4.5	4.1	4.1
inlet (C = center inlet) ✪		1/2" MPT	1/2" MPT	C 3/4" MPT	1/2" MPT	1/2" MPT	1/2" MPT	1/2" MPT	C 3/4" MPT	1/2" MPT	1/2" MPT	1/2" MPT	C 3/4" MPT
outlet ✪		1/2" MPT	1/2" MPT	1/2" MPT	1/2" MPT	1/2" MPT	1/2" MPT	1/2" MPT	1/2" MPT	1/2" MPT	1/2" MPT	1/2" MPT	1/2" MPT
hp		1/100	1/100	1/100	1/100	1/100	1/25	1/25	1/25	1/25	1/25	1/25	1/25
kw		.007	.007	.007	.007	.007	.029	.029	.029	.029	.029	.029	.029
rpm ⊛	us	1700	1700	1700	1950	1950	3400	3400	3400	3600	3600	3400	3400
	metric	1400	1400	1400	1950	1950	2750	2750	2750	3600	3600	2750	2750
volts ◎	us	115	115	115	12	24	115	115	115	12	24	115	115
	metric	230	230	230	12	24	230	230	230	12	24	230	230
ph		1	1	1	-	-	1	1	1	-	-	1	1
hz	us	60	60	60	DC	DC	60	60	60	DC	DC	60	60
	metric	50	50	50	DC	DC	50	50	50	DC	DC	50	50
watts	us	30	30	30	18	18	90	90	90	48	48	105	105
	metric	28	28	28	18	18	103	103	103	48	48	118	118
amp	us	.4	.4	.4	1.5	.75	1.2	1.2	1.2	3.8	1.9	1.3	1.3
	metric	.20	.20	.20	1.5	.75	.69	.69	.69	3.8	1.9	.75	.75
motor type		AC	AC	AC	AC	AC	AC	AC	AC	AC	AC	AC	AC
electrical connection		Conduit Box	Conduit Box	3 ft. SJO	Terminals	Terminals	Conduit Box	Conduit Box	3 ft. SJO	Terminals	Terminals	Conduit Box	3 ft. SJO
max. int. pressure	psi	150	50	150	150	150	150	50	150	150	150	150	150
	bar	10	3.4	10	10	10	10	3.4	10	10	10	10	10
max. liquid temp.	°f	250	250	250	250	250	250	250	250	250	250	250	250
	°c	121	121	121	121	121	121	121	121	121	121	121	121
weight packed	lbs.	5	4	6	4 1/2	4 1/2	5 1/2	5	6 1/2	4 1/2	4 1/2	5 1/2	6
	kg.	2.3	1.8	2.7	2	2	2.5	2.3	3	2	2	2.5	2.7
materials in contact with solution ⊛		PUMP HOUSING: BR is Bronze, PL is Polysulfil Plastic. 316 Stainless Steel, Silicon rubber "O" ring, Ryton® and Teflon® plastic impeller.											

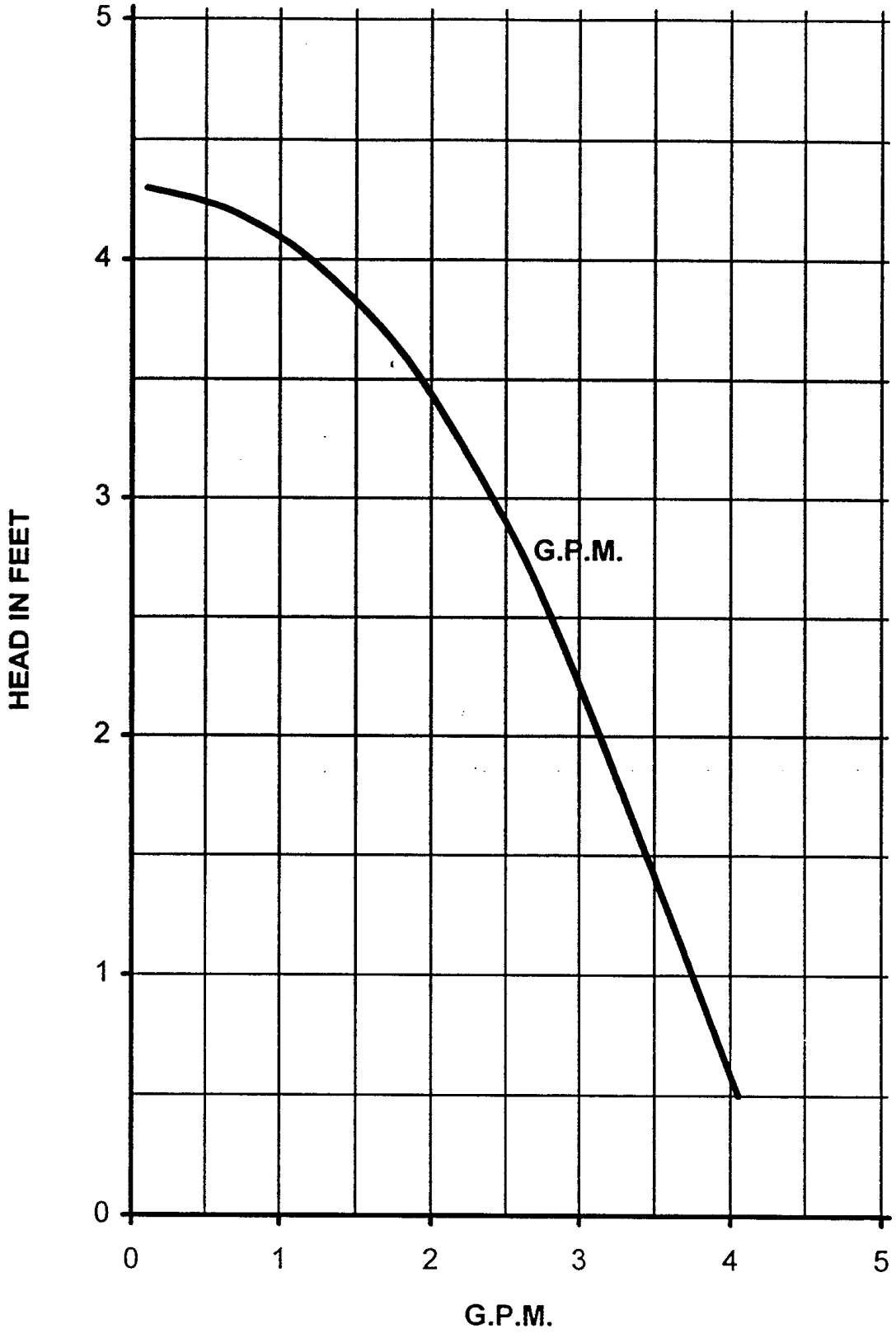
✪ Flare style and solder connections available on special order.
⊛ Other materials and voltages available on special order.
◎ RPM at wide open flow and 0 head, RPM increases as head is increased.
• Brush life is a minimum of 10,000 hours.
◇ Brush life is a minimum of 7,500 hours.

Center inlet housing for 809 series can be supplied in stainless steel.

MARCH MFG., INC.

115V 60HZ 1PH

809-BR



MARCH PUMPS
1819 PICKWICK AVE., GLENVIEW, IL 60026-1306, U.S.A
PHONE: (847) 729-5300 - FAX: (847) 729-7062
WWW.MARCHPUMP.COM

INSTRUCTIONS & REPAIR PARTS FOR MODEL 809 SERIES "MAGNE-BOOST" HOT WATER PUMP

DESCRIPTION: Your March hot water booster pump is a non-self priming unit build to handle liquid transfer in heating and cooling operations. Applications include home heating systems, solar heating systems, heat recovery systems and recirculating water in domestic and commercial hot water tanks.

Contact the factory for applications other than those listed, and for liquids other than water.

SPECIFICATIONS		
INLET AND OUTLET CONNECTIONS:		½" MPT or 5/8 Flare Tube Conn. Or Center Inlet Style
ELECTRICAL:	809	115 Volts, 60 Hz, 1 Phase, 30 Watts, 0.3 Amps, 1600 RPM, 1/100 HP
	809 HS	115 Volts, 60 Hz, 1 Phase, 80 Watts, 1.2 Amps, 3400 RPM, 1/25 HP
	809 HS-815	115 Volts, 60 Hz, 1 Phase, 85 Watts, 1.4 Amps, 3400 RPM, 1/25 HP
MAXIMUM LIQUID TEMPERATURE:		250ºF
CONSTRUCTION:		Bronze, Stainless Steel, Ryton Plastic
DIMENSIONS:		Height over Threads 4-7/8"
		Width 3-3/8"
		Length w/1600 RPM Mtr. 6-1/2"
		Length w/3400 RPM Mtr. 7-1/2"
CAPACITY:	809	1600 RPM 3.1 GPM Maximum and 1.8 PSI Maximum
	809 HS	3400 RPM 5.3 GPM Maximum and 5.0 PSI Maximum
	809 HS-815	3400 RPM 5.5 GPM and 6.53 PSI Maximum
APPROVAL:		Motors are U.L. Yellow Card listed, impedance protected or thermal overload Protected. Complete pump under U.L. file E80954.

*UL recognition on pumps, file E80954, is for water only.

INSTALLATIONS: The 809 Series pump is assembled and ready for installation. The pump should be mounted with the Electric Conduit Box (Item 15) on the bottom. The oil ports will then be on the top of the motor. The pump housing should be installed with the arrow on our housing pointing in the direction of the water flow within the system. If the arrow indicating water flow is not in the direction you require when the motor is in position, remove the four round housing screws (Item 1) holding the housing to the motor assembly and rotate the housing assembly as required. Replace the four screws and tighten.

The pump is made up of two basics sub-assemblies. They are the Wet End Assembly (Items 1-10); and the Drive Magnet, Bracket and Motor Assembly (Items 11-15). To separate the 2 assemblies, simply remove the 4 round head screws (Item 1). The pump will then separate into the 2 sub-assemblies. The water will still be contained within the Wet End assembly unless you loosen the screws (Item 10) on the rear of the Wet End assembly.

LUBRICATION: The motor should be oiled at least once a year at the start of the heating season with 4 or 5 drops of SAE 20 weight non-detergent oil in each bearing. If the pump is used year around it should be oiled every six months. Do not over oil. No oiling is required on the ball bearing motors.

GENERAL SAFETY INFORMATION: Follow all local electrical and safety codes, and the Occupational Safety and Health Act (OSHA). Make certain that the power source conforms to the requirements of your equipment. Always disconnect power source before performing any work on or near the electric motor. Caution must be exercised to relieve any pressure in the system and in draining hot water from the pump or the system.

DISASSEMBLY AND REASSEMBLY:
1—The motor assembly (Item 15) can be removed from the Wet End assembly without having to drain the liquid out of the system.

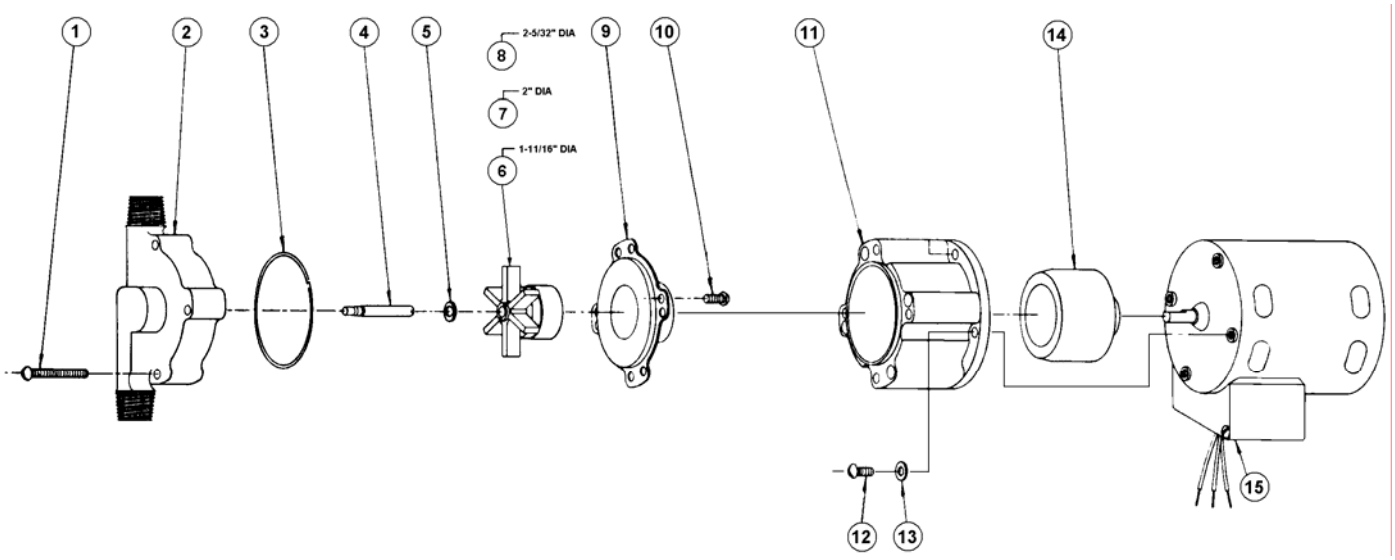
2—Remove four screws (Item 1) and slide the motor assembly away from the Wet End assembly.

3—If you must replace parts inside the pump housing assembly, then first close off the valves that supply water to the heating system or to the hot water tank. Drain the system to relieve any pressure.

4—After the system is drained and cool enough to handle, then remove the four screws (Item 10) on the rear of the housing.

5—The impeller magnet housing (Item 9) can now be removed. It may be snug fit into the pump housing and it may be necessary to pry evenly, under the four ears to loosen it.

6—Remaining pump parts can now be lifted out in sequence as shown on the exploded view. Replace any worn or damaged parts. Replace the "O" ring (Item 3) anytime the impeller magnet housing is removed.



Note: Pumps with 12 and 24 volt motors are available.
Contact the factory for more information.

REPAIR PARTS LIST			
ITEM	**DESCRIPTION**	**QTY.**	**PART NO.**
1	#8 x 1-1/4 Long Rd. Hd. Screw	4	0923-0003-1000
2a	Pump Housing w/½" MPT	1	0809-0013-0000
2b	Pump Housing w/Center Inlet Style*	1	0809-0142-0000
2c	Pump Housing Plastic w/½" MPT*	1	0809-0079-1000
3a	"O" Ring, Silicon Rubber, used in bronze housing (2a & b)	1	0809-0165-1000
3b	"O" Ring, Silicon Rubber, used in plastic housing (2c)	1	0809-0027-1000
4a	Impeller Shaft w/Thread	1	0809-0008-1000
4b	Impeller Shaft w/"D" Flat	1	0809-0161-1000
5	Thrust Washer	1	0809-0043-1000
6	Impeller & Magnet Assembly 1-11/16 Dia. (3400 RPM) 809 HS	1	0809-0005-0200
7	Impeller & Magnet Assembly 2 Dia. (1600 RPM) 809	1	0809-0005-0100
8	Impeller & Magnet Assembly 2-5/32 Dia. (3400 RPM) 815	1	0809-0107-0200
9	Impeller Magnet Housing	1	0809-0012-1000
10	#8 x 3/8 Long Rd. Hd. Screw	4	0135-0040-1000
11	Connecting Bracket	1	0809-0058-1000
12	#8 x 3/8 Long Rd. Hd. Screw	4	0135-0040-1000
13	#8 Flat Washer	4	0858-0004-1000
14	Drive Magnet Assembly	1	0125-0083-0100
15a	Motor, 115 Volt, 1600 RPM	1	0809-0064-1000
15b	Motor, 115 Volt, 3400 RPM	1	0809-0090-1000

* Old Style Housings Require Threaded Imp. Shaft (4a)
New Housings Require Round Imp. Shaft with "D" Flat (4b)

LIMITED WARRANTY

March pumps are guaranteed only against defects in workmanship or materials for a period of one year from date of manufacture pumping water. On all other solutions, contact the factory for application assistance. March Pump Application Worksheet 750-130-10 is available for additional warranty information.