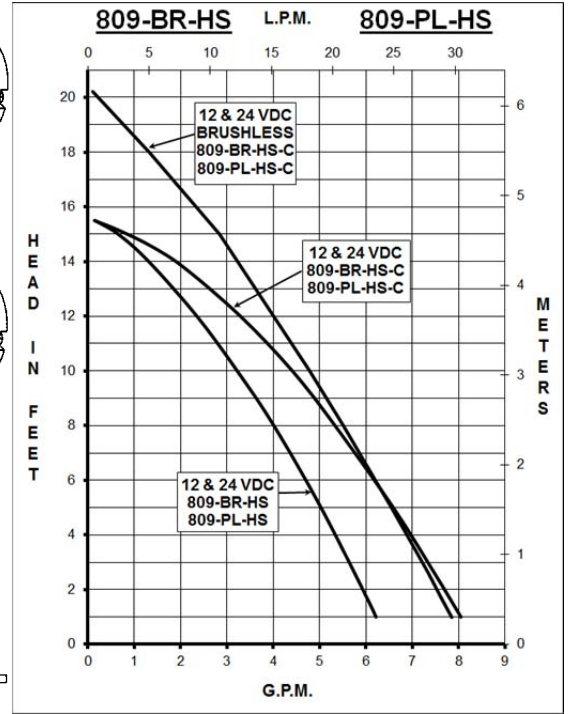
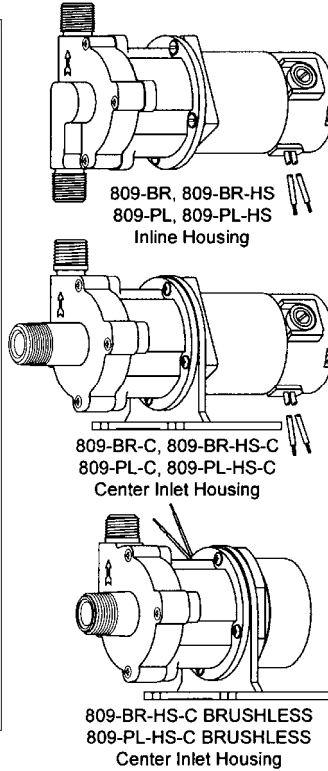
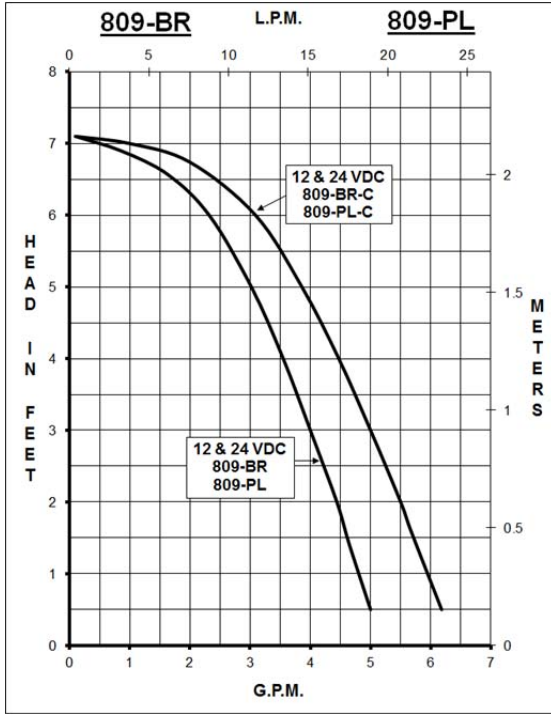




# MARCH PUMPS

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## 809 12 & 24 VDC 809-HS 12 & 24 VDC HOT WATER PUMPS



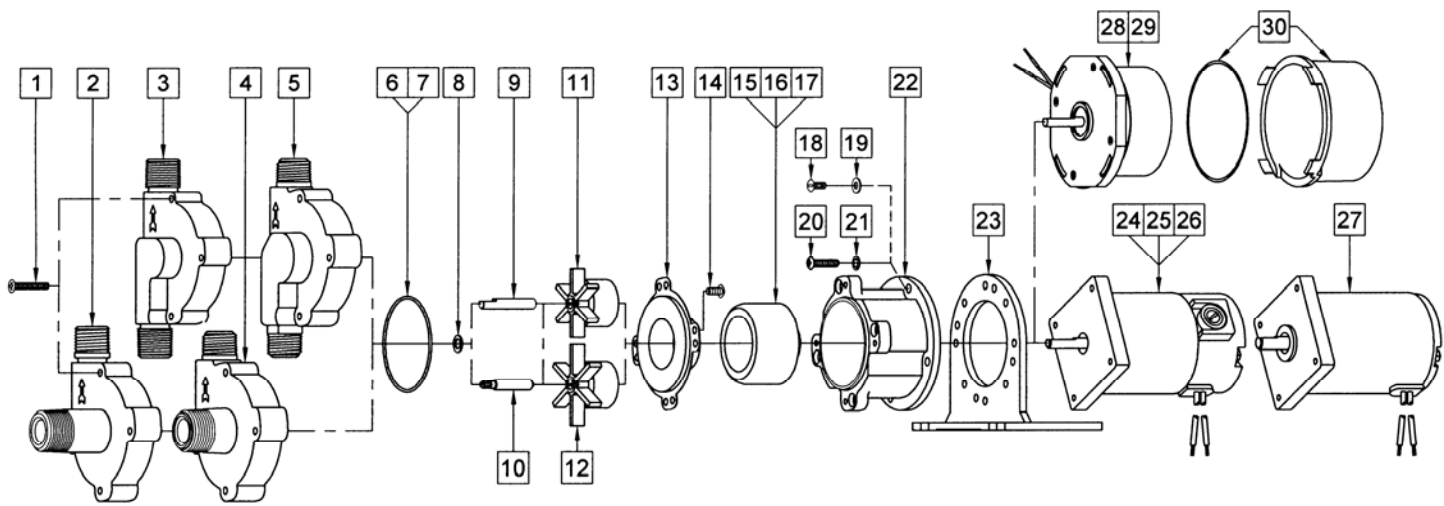
**ABBREVIATIONS:** BR = Bronze, PL = Polysulfone Plastic, C = Center Inlet, HS = High Speed

**DESCRIPTION:** The March 809 Series hot water booster centrifugal magnetic drive pumps are built to handle liquid transfer in heating and cooling operations. Contact the factory for application assistance.

**INSTALLATION:** Pumps are not self-priming, lack a suction lift, and thus require a flooded suction. These pumps cannot be run dry. The 809 Series pumps should be installed with the pump housing arrow pointing in the direction of flow within the system. If the arrow indicating flow is not in the direction required, remove the housing screws (Item 1) holding the housing to the motor bracket and rotate the housing assembly as required. Replace the screws and tighten. The pump is composed of a wet end assembly which can be separated by unscrewing the screws (Item 1). The pump will then separate into 2 parts. The liquid will be contained within the wet end assembly unless the screws (Item 14) on the rear housing are loosened.

**ELECTRICAL:** Brushless motors must be operated within a restricted voltage range due to the electronics in the motor. The red lead is positive & blue lead is negative. The range for 12 V.D.C. motors is 10V to 14V and the range for 24 V.D.C. motors is 20V to 28V.

| 12V DC & 24V DC SPECIFICATIONS   |        | Brush Motors |            |            |            |            |            |            |            | Brushless Motors |            |                                  |                              |             |             |             |             |             |             |             |             |             |             |
|----------------------------------|--------|--------------|------------|------------|------------|------------|------------|------------|------------|------------------|------------|----------------------------------|------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
|                                  |        | 809-BR       |            | 809-PL     |            | 809-BR-C   |            | 809-PL-C   |            | 809-BR-HS        |            | 809-PL-HS                        |                              | 809-BR-HS-C |             | 809-PL-HS-C |             |             |             |             |             |             |             |
| Max Flow                         | lpm    | 18.9         | 18.9       | 22.7       | 22.7       | 22.7       | 22.7       | 30.2       | 30.2       | 28.3             | 28.3       | Max Head                         | ft (psi)                     | 7.1 (3.07)  | 7.1 (3.07)  | 7.1 (3.07)  | 7.1 (3.07)  | 15.5 (6.7)  | 15.5 (6.7)  | 15.5 (6.7)  | 15.5 (6.7)  | 20.2        | 20.2        |
|                                  | gpm    | 5            | 5          | 6          | 6          | 6          | 6          | 8          | 8          | 7.5              | 7.5        |                                  | ft (psi)                     | 7.1 (3.07)  | 7.1 (3.07)  | 7.1 (3.07)  | 7.1 (3.07)  | 15.5 (6.7)  | 15.5 (6.7)  | 15.5 (6.7)  | 15.5 (6.7)  | 20.2        | 20.2        |
| Max Head                         | m      | 2.1          | 2.1        | 2.1        | 2.1        | 2.1        | 2.1        | 4.7        | 4.7        | 6.1              | 6.1        | Inlet                            | ft (psi)                     | 7.1 (3.07)  | 7.1 (3.07)  | 7.1 (3.07)  | 7.1 (3.07)  | 15.5 (6.7)  | 15.5 (6.7)  | 15.5 (6.7)  | 15.5 (6.7)  | 20.2        | 20.2        |
|                                  | psi)   | 7.1 (3.07)   | 7.1 (3.07) | 7.1 (3.07) | 7.1 (3.07) | 7.1 (3.07) | 7.1 (3.07) | 15.5 (6.7) | 15.5 (6.7) | 15.5 (6.7)       | 15.5 (6.7) |                                  | 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    |
| Max Internal Pressure            | psi    | 150          | 50         | 150        | 50         | 150        | 50         | 150        | 50         | 150              | 50         | Max Liquid Temperature           | psi                          | 150         | 50          | 150         | 50          | 150         | 50          | 150         | 50          | 150         | 50          |
|                                  | bar    | 10           | 3.4        | 10         | 3.4        | 10         | 3.4        | 10         | 3.4        | 10               | 3.4        |                                  | °F                           | 250         | 250         | 250         | 250         | 250         | 250         | 250         | 250         | 250         | 250         |
| Packed Weight                    | °C     | 121          | 121        | 121        | 121        | 121        | 121        | 121        | 121        | 121              | 121        | Motor Type                       | °C                           | 121         | 121         | 121         | 121         | 121         | 121         | 121         | 121         | 121         | 121         |
|                                  | kg/lbs | 2.5/5.5      | 2/4.5      | 2.5/5.5    | 2/4.5      | 2.5/5.5    | 2/4.5      | 2.5/5.5    | 2/4.5      | 2.5/5.5          | 2/4.5      |                                  | DC                           | 12V and 24V | 12V and 24V | 12V and 24V | 12V and 24V | 12V and 24V | 12V and 24V | 12V and 24V | 12V and 24V | 12V and 24V | 12V and 24V |
| Overall Pump Dimensions (Inches) | Volts  | 12           | 24         | 12         | 24         | 12         | 24         | 12         | 24         | 12               | 24         | Electrical Connection            | Volts                        | 12          | 24          | 12          | 24          | 12          | 24          | 12          | 24          | 12          | 24          |
|                                  | Watts  | 13           | 13         | 13         | 13         | 13         | 13         | 13         | 13         | 38               | 38         |                                  | leads                        | leads       | leads       | leads       | leads       | leads       | leads       | leads       | leads       | leads       | leads       |
| Overall Pump Dimensions (cm)     | Amps   | 1.1          | 0.55       | 1.1        | 0.55       | 1.1        | 0.55       | 1.1        | 0.55       | 3.1              | 1.6        | Overall Pump Dimensions (Inches) | Amps                         | 1.1         | 0.55        | 1.1         | 0.55        | 1.1         | 0.55        | 1.1         | 0.55        | 3.1         | 1.6         |
|                                  | Hp     | 1/100        | 1/100      | 1/100      | 1/100      | 1/100      | 1/100      | 1/100      | 1/100      | 1/25             | 1/25       |                                  | Overall Pump Dimensions (cm) | Hp          | 1/100       | 1/100       | 1/100       | 1/100       | 1/100       | 1/100       | 1/100       | 1/100       | 1/25        |
| Overall Pump Dimensions (cm)     | Kw     | 0.007        | 0.007      | 0.007      | 0.007      | 0.007      | 0.007      | 0.029      | 0.029      | 0.029            | 0.029      | Overall Pump Dimensions (cm)     |                              | Kw          | 0.007       | 0.007       | 0.007       | 0.007       | 0.007       | 0.007       | 0.029       | 0.029       | 0.029       |
|                                  | Rpm    | 1850         | 1850       | 1850       | 1850       | 1850       | 1850       | 3650       | 3650       | 3650             | 3650       |                                  | Overall Pump Dimensions (cm) | Rpm         | 1850        | 1850        | 1850        | 1850        | 1850        | 1850        | 3650        | 3650        | 3650        |
| Overall Pump Dimensions (cm)     | Height | 4.87         | 4.87       | 4.88       | 4.88       | 4.69       | 4.69       | 4.56       | 4.56       | 4.87             | 4.87       | Overall Pump Dimensions (cm)     |                              | Height      | 4.87        | 4.87        | 4.88        | 4.88        | 4.69        | 4.69        | 4.56        | 4.56        | 4.69        |
|                                  | Width  | 3.31         | 3.31       | 3.38       | 3.38       | 4.50       | 4.50       | 4.50       | 4.50       | 3.31             | 3.38       |                                  | Overall Pump Dimensions (cm) | Width       | 3.31        | 3.31        | 3.38        | 3.38        | 4.50        | 4.50        | 4.50        | 4.50        | 4.50        |
| Overall Pump Dimensions (cm)     | Length | 6.94         | 6.96       | 6.94       | 6.96       | 8.33       | 8.35       | 7.83       | 7.85       | 6.94             | 6.94       | Overall Pump Dimensions (cm)     |                              | Length      | 6.94        | 6.96        | 6.94        | 6.96        | 8.33        | 8.35        | 7.83        | 7.85        | 6.17        |
|                                  | Height | 12.3         | 12.3       | 12.3       | 12.3       | 11.9       | 11.9       | 11.5       | 11.5       | 12.3             | 12.3       |                                  | Overall Pump Dimensions (cm) | Height      | 12.3        | 12.3        | 12.3        | 12.3        | 11.9        | 11.9        | 11.5        | 11.5        | 11.9        |
| Overall Pump Dimensions (cm)     | Width  | 8.4          | 8.4        | 8.5        | 8.5        | 11.4       | 11.4       | 11.4       | 11.4       | 8.4              | 8.5        | Overall Pump Dimensions (cm)     |                              | Width       | 8.4         | 8.4         | 8.5         | 8.5         | 11.4        | 11.4        | 11.4        | 11.4        | 11.4        |
|                                  | Length | 17.6         | 17.7       | 17.6       | 17.7       | 21.1       | 21.2       | 19.8       | 19.9       | 17.6             | 17.6       |                                  | Overall Pump Dimensions (cm) | Length      | 17.6        | 17.7        | 17.6        | 17.7        | 21.1        | 21.2        | 19.8        | 19.9        | 15.7        |



### REPAIR PARTS LIST

| ITEM | DESCRIPTION             | MATERIAL           | SIZE (Inches)         | QTY | PART #         | Brush  |        |          |          | Brushless |           |             |             |             |             |   |   |
|------|-------------------------|--------------------|-----------------------|-----|----------------|--------|--------|----------|----------|-----------|-----------|-------------|-------------|-------------|-------------|---|---|
|      |                         |                    |                       |     |                | 809-BR | 809-PL | 809-BR-C | 809-PL-C | 809-BR-HS | 809-PL-HS | 809-BR-HS-C | 809-PL-HS-C | 809-BR-HS-C | 809-PL-HS-C |   |   |
| 1    | Screw                   | Steel              | #8-32 x 1 Lg          | 4   | 0923-0003-1000 | S      | S      | S        | S        | S         | S         | S           | S           | S           | S           | S | S |
| 2    | Pump Housing            | Bronze             | Center Inlet          | 1   | 0809-0142-0000 |        |        | S        |          |           |           | S           |             |             |             |   | S |
| 3    | Pump Housing            | Bronze             | Inline Inlet & Outlet | 1   | 0809-0013-0000 | S      |        |          |          | S         |           |             |             |             |             |   |   |
| 4    | Pump Housing            | Polysulfone        | Center Inlet          | 1   | 0809-0179-0100 |        |        |          | S        |           |           | S           |             |             |             |   | S |
| 5    | Pump Housing            | Polysulfone        | Inline Inlet & Outlet | 1   | 0809-0079-0100 |        | S      |          |          | S         |           |             |             |             |             |   |   |
| 6    | "O" Ring                | Silicone           | 0.070 CS x 2.441 ID   | 1   | 0809-0165-1000 | S      |        | S        |          | S         | S         |             |             |             |             |   | S |
| 7    | "O" Ring                | Silicone           | 1/16 CS x 2-3/8 ID    | 1   | 0809-0027-1000 |        | S      |          | S        | S         |           | S           |             |             |             |   | S |
| 8    | Thrust Washer           | Teflon             |                       | 1   | 0809-0043-1000 | S      | S      | S        | S        | S         | S         | S           | S           | S           | S           | S | S |
| 9    | Shaft                   | Stainless          |                       | 1   | 0809-0161-1000 | S      | S      | S        | S        | S         | S         | S           | S           | S           | S           | S | S |
| 10   | Shaft (Old Style)       | Stainless          | Left-Hand Thread      | 1   | 0809-0008-1000 | O      |        |          |          | O         |           |             |             |             |             |   |   |
| 11   | Impeller                | Ryton/Teflon/Glass | 1-11/16 Dia.          | 1   | 0809-0005-0200 |        |        |          |          | S         | S         | S           | S           |             |             |   | S |
| 12   | Impeller                | Ryton/Teflon/Glass | 2 Dia.                | 1   | 0809-0005-0100 | S      | S      | S        | S        |           |           |             |             |             |             |   |   |
| 13   | Rear Housing            | Stainless          |                       | 1   | 0809-0012-1000 | S      | S      | S        | S        | S         | S         | S           | S           | S           | S           | S | S |
| 14   | Screw                   | Stainless          | #8-32 x 3/8 Lg        | 4   | 0135-0040-1000 | S      | S      | S        | S        | S         | S         | S           | S           | S           | S           | S | S |
| 15   | Drive Magnet            |                    | 0.250 Bore            | 1   | 0125-0083-0100 | S      | S      | S        | S        | S         | S         | S           | S           |             |             |   |   |
| 16   | Drive Magnet            |                    | 6mm Bore              | 1   | 0125-0083-0200 |        |        |          |          |           |           |             |             |             |             |   | S |
| 17   | Drive Magnet (24V ONLY) |                    | 0.312 Bore            | 1   | 0809-0117-0100 | S      | S      | S        | S        |           |           |             |             |             |             |   |   |
| 18   | Screw                   | Stainless          | #8-32 x 1/2 Lg        | 4   | 0150-0015-1000 | S      | S      |          |          | S         | S         |             |             |             |             |   |   |
| 19   | Washer                  | Stainless          | #8                    | 1   | 0858-0004-1000 | S      | S      |          |          | S         | S         |             |             |             |             |   |   |
| 20   | Screw                   | Stainless          | #8-32 x 3/4 Lg        | 4   | 0210-0036-1000 |        |        | S        | S        |           |           | S           | S           | S           | S           | S | S |
| 21   | Lock Washer             | Stainless          | #8                    | 4   | 0620-0010-1000 |        |        | S        | S        |           |           | S           | S           | S           | S           | S | S |
| 22   | Motor Bracket           | Plastic            |                       | 1   | 0809-0058-1000 | S      | S      | S        | S        | S         | S         | S           | S           | S           | S           | S | S |
| 23   | Base                    | Plastic            |                       | 1   | 0125-0106-1000 |        |        | S        | S        |           |           | S           | S           | S           | S           | S | S |
| 24   | Motor (12VDC Brush)     |                    | 3650 RPM              | 1   | 0809-0101-1000 |        |        |          |          | S         | S         | S           | S           |             |             |   |   |
| 25   | Motor (24VDC Brush)     |                    | 3650 RPM              | 1   | 0809-0103-1000 |        |        |          |          | S         | S         | S           | S           |             |             |   |   |
| 26   | Motor (12VDC Brush)     |                    | 1850 RPM              | 1   | 0809-0100-1000 | S      | S      | S        | S        |           |           |             |             |             |             |   |   |
| 27   | Motor (24VDC Brush)     |                    | 1850 RPM              | 1   | 0809-0102-1300 | S      | S      | S        | S        |           |           |             |             |             |             |   |   |
| 28   | Motor (12VDC Brushless) |                    | 3650 RPM              | 1   | 0125-0127-1000 |        |        |          |          |           |           |             |             |             |             |   | S |
| 29   | Motor (24VDC Brushless) |                    | 3650 RPM              | 1   | 0125-0128-1000 |        |        |          |          |           |           |             |             |             |             |   | S |
| 30   | Cover and "O" Ring      |                    | 1/16 CS x 2-7/8 ID    | 1   | 0125-0133-1000 |        |        |          |          |           |           |             |             |             |             |   | O |

NOTE: Contact Factory for other materials and/or parts not listed.

Legend: S = Standard, O = Optional

**NOTES:** All specifications & data are based on pumping water & are intended as a guideline only. Specifications may vary with different 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. March cannot recommend the 809 Series out of bronze where the liquid is used for human consumption per California Law due to the presence of lead.

**DISASSEMBLY AND REASSEMBLY:**

The motor can be removed from the wet end assembly without draining the liquid from the system. To do so remove four screws (Item 1) and slide the motor assembly away. If parts inside the wet end assembly must be removed, isolate the pump or drain the system. When the system is drained and cool, remove the four screws (Item 14) from the rear of the housing. The rear housing can now be removed. Remaining pump parts can be removed. Replace any worn or damaged parts. Replace the "O" ring anytime the rear housing is removed.

**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. For the complete warranty and to register online go to [www.marchpump.com/warranty-registration](http://www.marchpump.com/warranty-registration)