



# D5 Series

BASIC. VARIO. STRONG. SOLAR.

An entirely new generation of pumps, with minimum energy consumption, a shaft-less spherical motor and permanent magnet technology

BR-19A

Laing Thermotech  
a **xylem** brand

# D5 Series

basic. vario. strong. solar.

## Applications

- D5 pumps (basic, vario, strong and solar) can be used in a wide variety of DC applications where a highly efficient circulation pump is required.
- D5 pumps are used in a wide variety of applications such as medical devices, electronics cooling, chillers, laser cooling, RV hot water systems, battery cooling, and fuel cells.

## Design

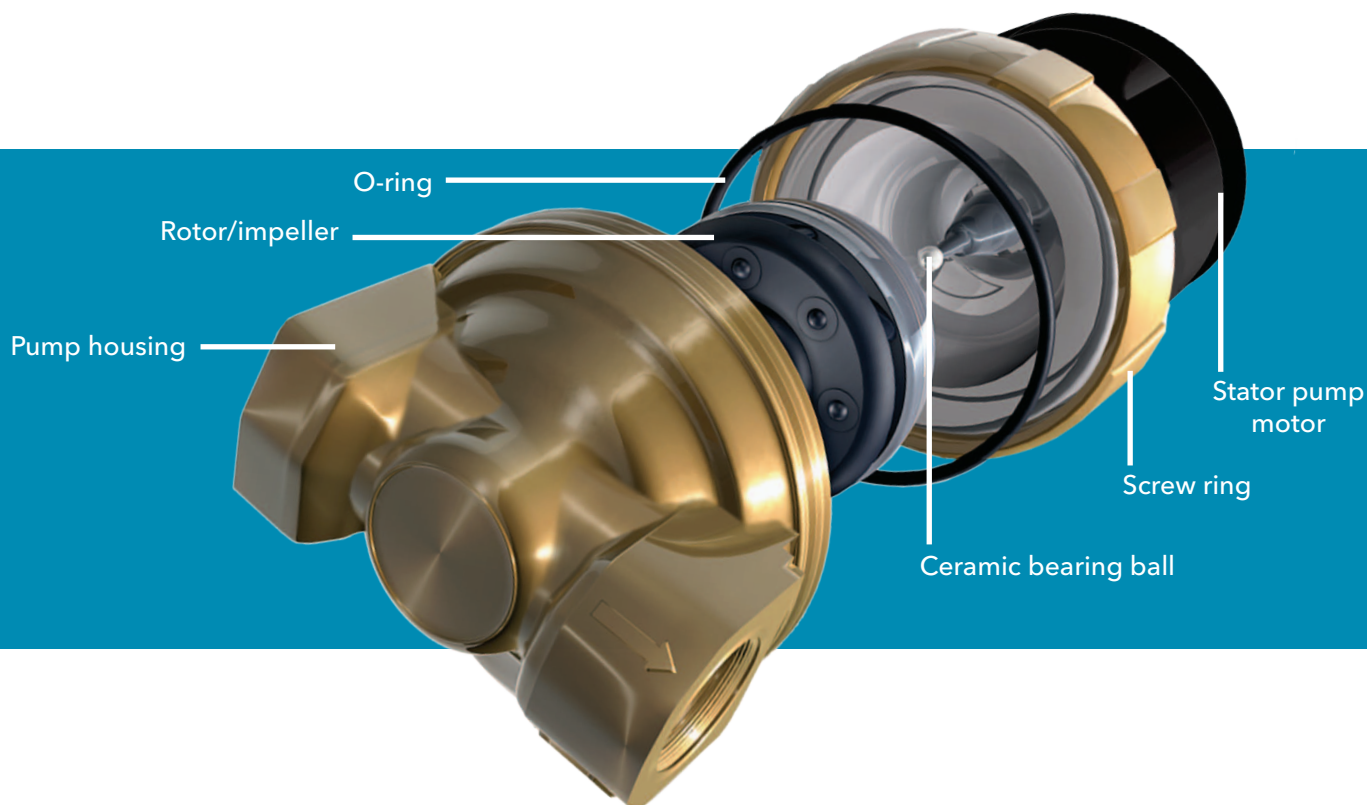
- The single moving part in a spherical motor is a hemispherical rotor/impeller unit. The rotor/impeller rides on an ultra-hard, wear-resistant ceramic ball.
- There are no conventional shaft bearings or seals. Eliminating the possibility of bearing-play and a potential leak path.
- Provide an exceptionally long service life in excess of 50,000 hours.
- Maintenance is not necessary under normal conditions. Even after lengthy shut down periods a reliable start-up is virtually guaranteed.
- Parts exposed to the fluid are completely corrosion resistant even with aggressive fluids.

## Speed controller

- Easily adjusts by turning a dial in the pump end. It can be adjusted to vary the hydraulic performance and/or the electrical power consumption.
- Regardless of the setting, the pump always starts with maximum torque. This ensures a reliable start even at the lowest speed.

## Integrated over-temperature protection

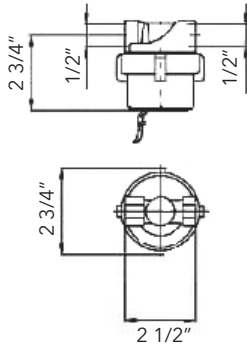
- Each pump has an integrated over-temperature safety device that shuts the pumps electronics off when reaching the temperature limit of +203°F.
- If the over-temperature safety device is activated the pump will restart automatically after the pump has cooled completely.



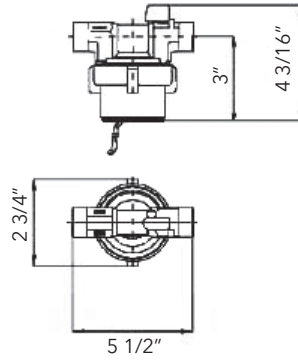
# Dimensional Drawings

## D5 Bronze

D5 710B/ D5 720B

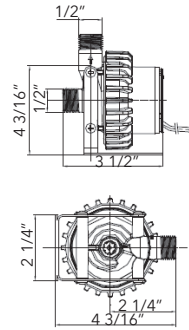


D5 090B

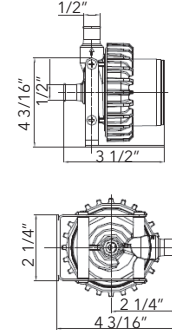


## D5 Plastic

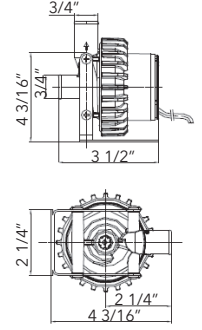
D5 850N



D5 810N



D5 790N



Model	Connection	Power Consumption	Housing Material
D5 710 B	1/2" female thread	8-25 Volt DC 3-35 Watts, 0.30-1.50 Amps D5 strong: 3-55 Watts, 0.13-2.1 Amps	Bronze
D5 720 B	1/2" sweat		
D5 090 B	1/2" sweat union w/check valve		



Model	Connection	Power Consumption	Housing Material
D5 850 N	1/2" MPT	8-24 Volt DC, 3-35 Watts, 0.30-1.50 Amps D5 strong: 3-55 Watts, 0.13-2.1 Amps	Plastic (Noryl)
D5 810 N	1/2" hose barb		
D5 790 N	3/4" hose barb		

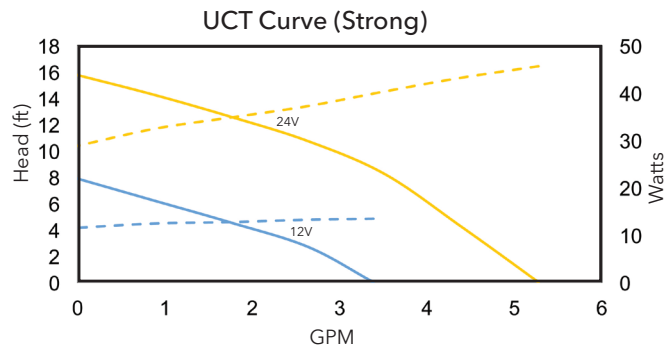
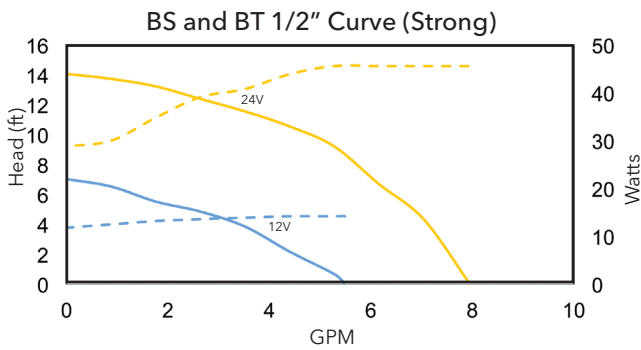
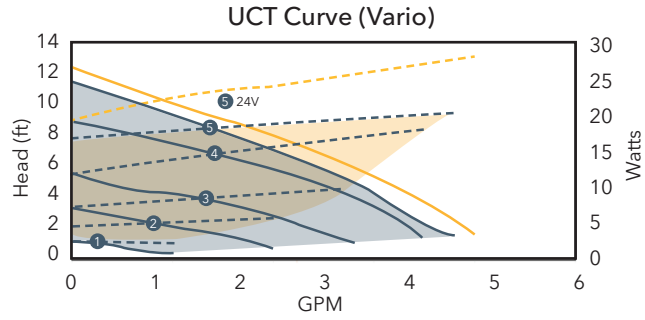
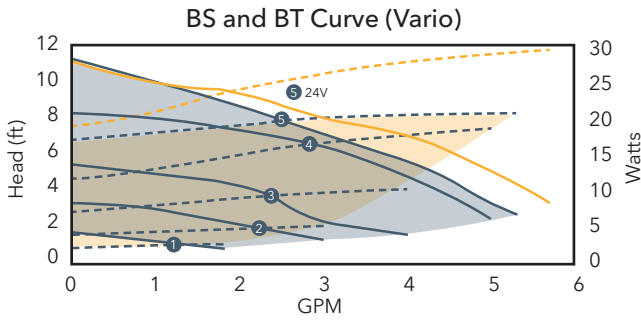
## Technical Data

<b>Motor design</b>	Electronically commutated spherical motor with permanent magnet rotor/impeller
<b>Voltage</b>	8 - 25 Volt
<b>Power consumption</b>	See pump curves
<b>Current draw</b>	D5 basic and vario: 0.25 - 1.46 A D5 strong: 0.13 - 2.1 A
<b>Acceptable media</b>	Domestic hot water, water/glycol mixtures, other media on request
<b>Insulation class</b>	IP 42 / Class F
<b>Max. system pressure</b>	150 PSI - 1.0 MPa (10 bar) for pumps with brass housings 50 PSI - 0.35 MPa (3.5 bar) for pumps with plastic housing
<b>Max. system temperature</b>	-10°F to +203°F (-10°C to + 95°C) for pumps with brass housing (non-freezing) +32°F to +140°F (+/- 0°C to + 60°C) for pumps with plastic housing (non-freezing)
<b>Weight</b>	1.54 LBS. (0.7 kg) for pumps with brass housing. 77 LBS. (0.35 kg) for pumps with plastic housing when using more than 20 % glycol, check pump performance

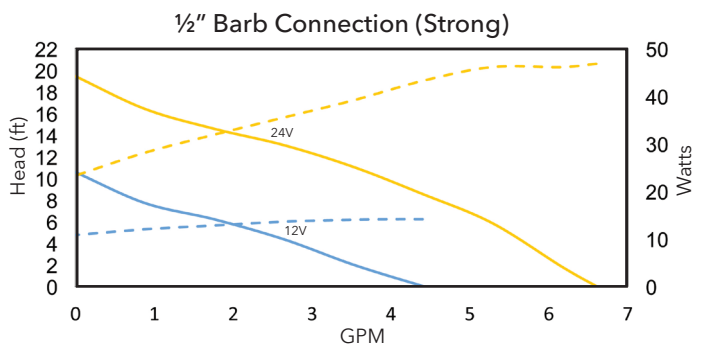
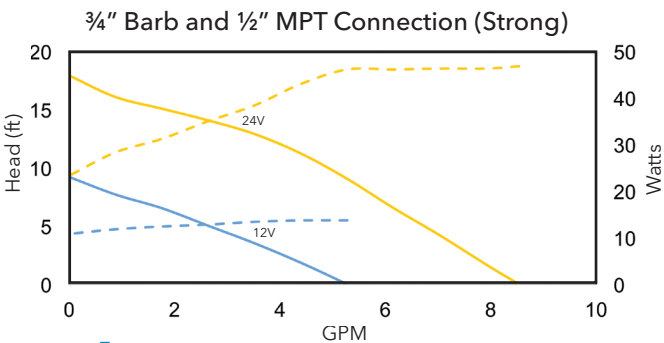
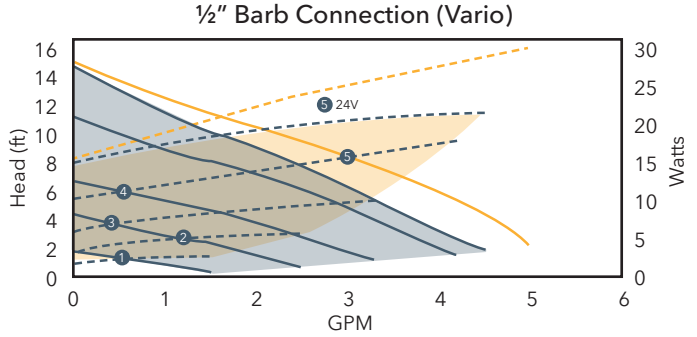
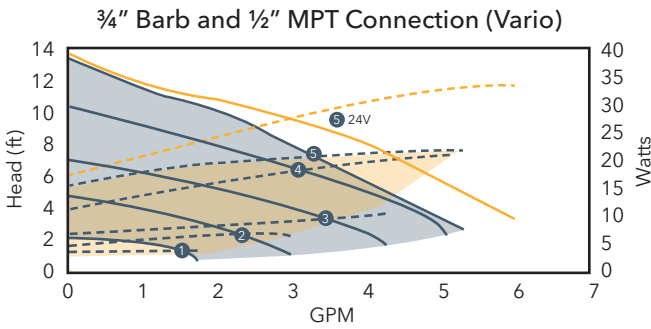
**Note: Pump curves vary depending on pump housing, speed control setting and supply voltage.**

The **D5 Vario** will vary based on the speed control setting. The curves in blue ⑤④③②① are for supply voltage range 12-23 volts. For maximum performance for the **D5 Vario** (shown in yellow), the supply voltage must be 24 volts and speed control setting at maximum. The **D5 Basic** have a fixed performance curve for a supply voltage range 12-24 volts, the curve is shown as ④ setting of the Vario charts. The **D5 Strong** will vary based on the supply voltage. The maximum performance is shown in yellow with 24 volts supply and the 12 volts supply performance curve is shown in blue.

## D5 Series Pump Curves - Brass



## D5 Series Pump Curves - Plastic



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