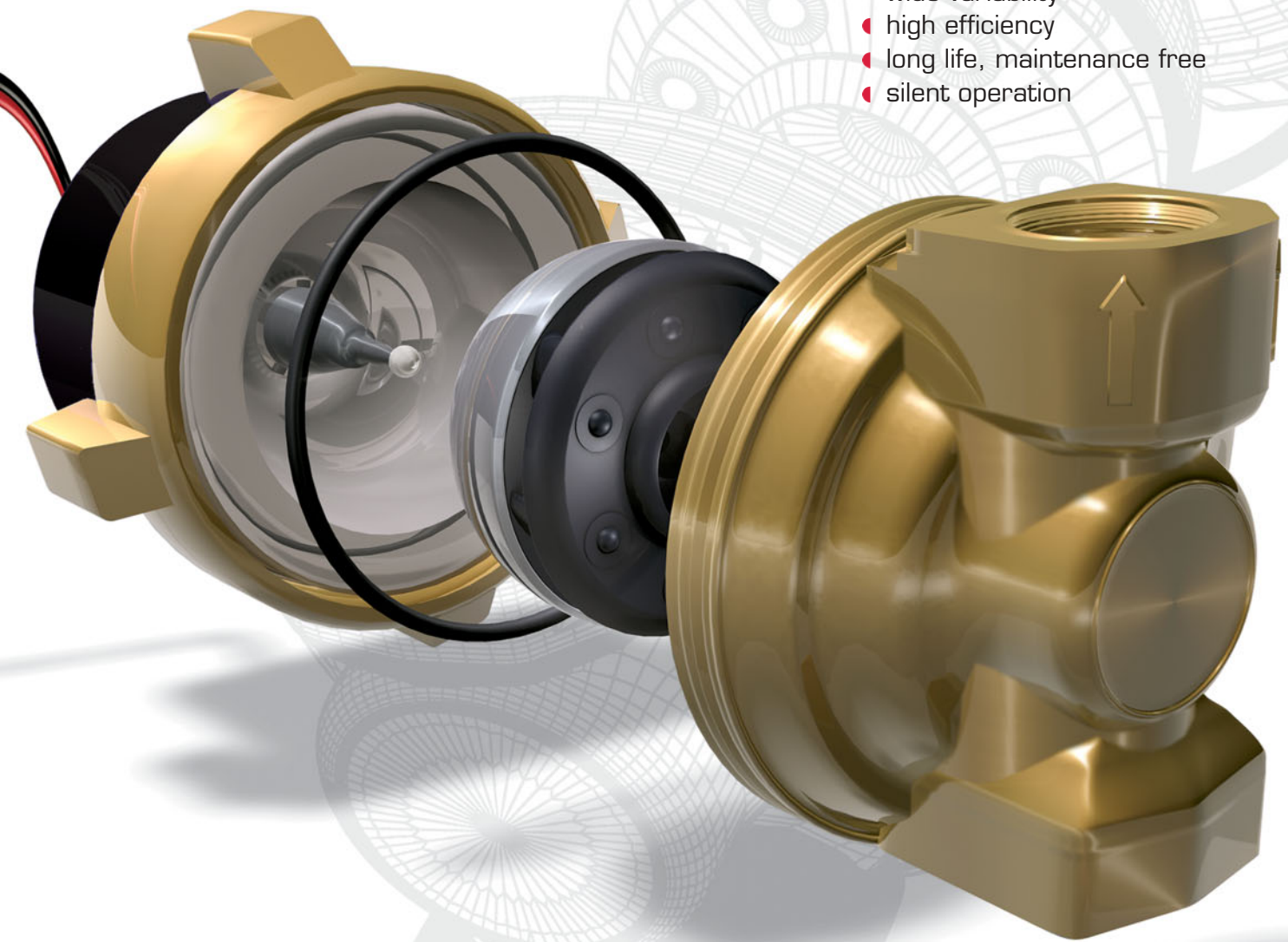


DC pumps **ecocirc**® vario

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

- economic and powerful
- step-less speed control
- wide variability
- high efficiency
- long life, maintenance free
- silent operation



LAING

simply the best · by design

DC pumps ecocirc® vario

Applications

Ecocirc vario pumps can be used in applications where a highly efficient circulation pump is needed, without a direct connection to AC power. Ecocirc pumps are very small, highly efficient and have very low power consumption. The shaftless spherical motor technology enables a quiet, maintenance free service life. Ecocirc pumps are frequently used in circulating systems for industrial or medical applications; computer and laser cooling; hot water heating in a mobile home; weekend homes or boats that require battery or solar powered pumps; ponds and aquariums; domestic hot water systems and car heaters.

Design

Invented by Laing, the principle of the spherical motor is fundamentally different from conventional canned motor pumps. The single moving part in a spherical motor is a hemispherical rotor/impeller unit, which sits on an ultra-hard, wear-resistant ceramic sphere. There are no conventional shaft bearings or seals. This eliminates the possibility of bearing-play which is commonly associated with increased noise. These pumps are particularly robust and provide exceptionally long service life. The new Ecocirc vario uses sine wave commutation, which works silently, even at high output levels. The self-realigning bearing is lubricated and cooled by the fluid media. Maintenance is not necessary under normal conditions and even after lengthy shutdown periods a reliable start-up is virtually guaranteed. The parts exposed to the fluid are completely corrosion resistant and ensure safe application even with aggressive media. All Ecocirc vario pumps have an adjustable range of control for a wide variety of applications and can be easily adjusted, via the integrated speed controller in the pump end cap.

Speed controller

The integrated speed controller provides a wide range of control. 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 safe start even at the lowest speed. In a 24 Volt operation mode, while at the highest setting, the maximum speed is maintained over the entire performance curve. The pump performance changes according to voltage. If the voltage is varied during operation (for example when connected to a solar panel), the pump will retain the adjusted speed as long

as the voltage will allow. In this case, the current draw is altered, accordingly. This is advantageous in applications where a defined pump performance is required, despite a varying voltage supply.

Integrated over-temperature protection

The pump has an integrated over-temperature safety device which can shut the pump electronics off when reaching the temperature limit of +203° F. As a complete shutdown of the pump may result in adverse effects on a circulating system, prior to this, the electronics can reduce the pump speed in order to compensate for heat gain. However, if the temperature continues to rise (i.e. the fluid media is too hot), the pump will eventually shut down completely. After cooling, the pump will restart automatically.

Technical data

Motor design	Electronically commutated spherical motor with permanent magnet rotor/impeller
Voltage	8 - 24 Volt
Power consumption	see pump curves
Current draw	0.25 – 1.46 A
Acceptable media	domestic hot water, water/glycol mixtures, other media on request*.
Insulation class	IP 42 / Class F
Max. system pressure	150 PSI - 1.0 MPa (10 bar) for pumps with brass housings 21 PSI - 0.15 MPa (1.5 bar) for pumps with plastic housing
Max. system temperature	-10° F to +203° F (-10 to + 95°C) for pumps with brass housing (non-freezing) +/- 32° F to +140°f (+/- 0 to + 60°C) for pumps with plastic housing (non-freezing)

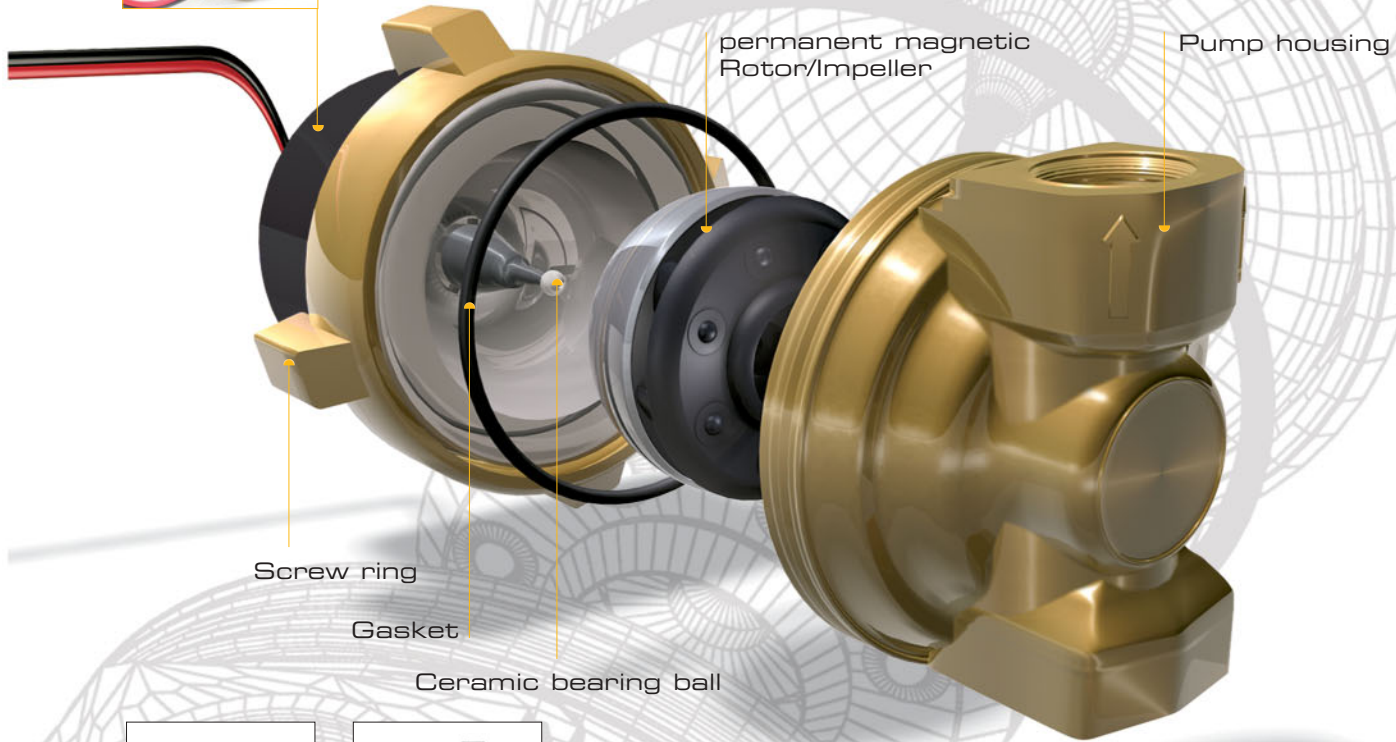
Weight
1.54 LBS. (0.7 kg) for pumps with brass housing
.77 LBS. (0.35 kg) for pumps with plastic housing

* when using more than 20 % glycol, check pump performance

Design



Stator / Pump motor with red speed controller in the end cap



permanent magnetic Rotor/Impeller

Pump housing

Screw ring

Gasket

Ceramic bearing ball



D5-38/720 B



D5-38/090 B

ecocirc® vario Bronze series

Model	Voltage Power Consumption / Current	Pump housing material	Connection	Shipping Weight
D5-38/720 B	8-24 Volt DC, 3-35 Watts, 0,30-1,50 Amps	Bronze	1/2" female thread	3,0
D5-38/090 B			1/2" Sweat Union Connection w/Check Valve	



D5-38/850 N



D5-38/810 N

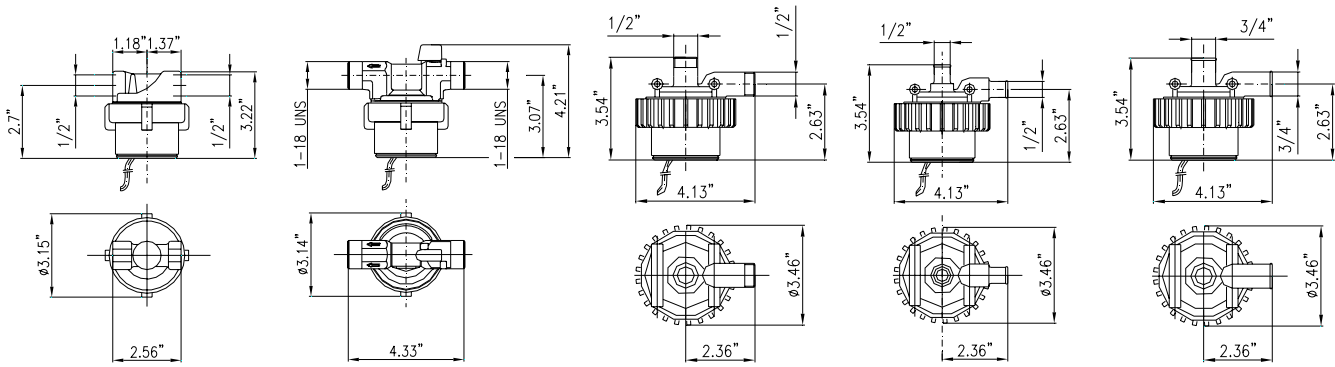


D5-38/790 N

ecocirc® vario Plastic series

Model	Voltage Power Consumption / Current	Pump housing material	Connection	Brackets	Shipping Weight
D5-38/850 N	8-24 Volt DC, 3-35 Watts, 0,30-1,50 Amps	Plastic (Noryl)	1/2" male thread		2,0
D5-38/810 N			1/2" hose barb		
D5-38/790 N			3/4" hose barb		
D5-38/850 N	8-24 Volt DC, 3-35 Watts, 0,30-1,50 Amps	Plastic (Noryl)	1/2" male thread	●	2,0
D5-38/810 N			1/2" hose barb	●	
D5-38/790 N			3/4" hose barb	●	

Dimensional drawings DC pumps Ecocirc® vario



D5-38/720 B

D5-38/090 B

D5-38/850 N

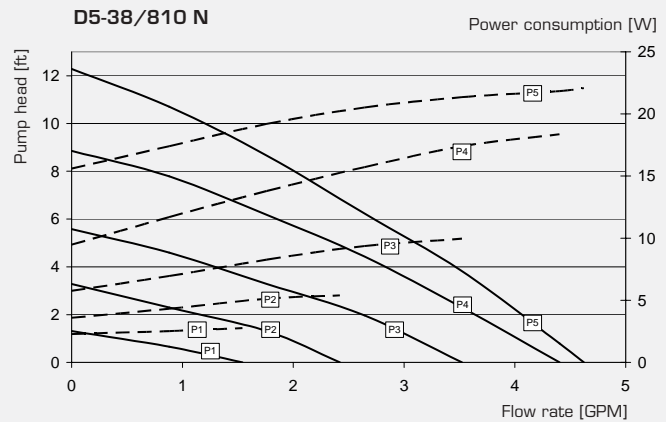
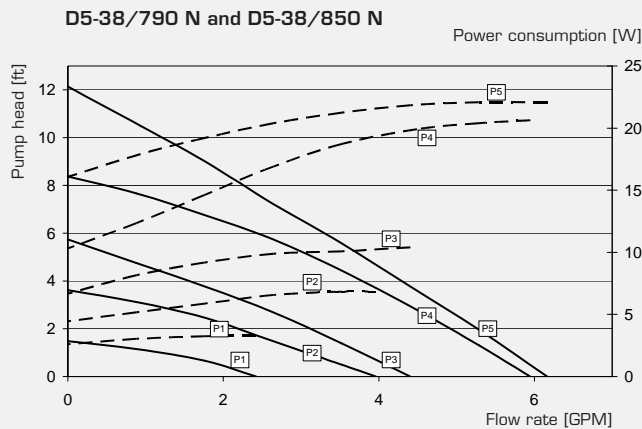
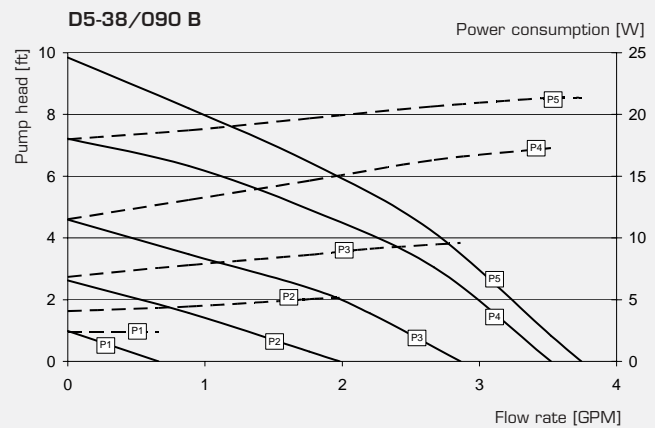
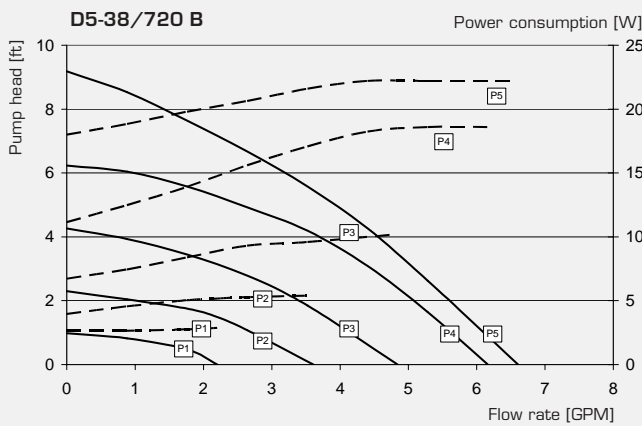
D5-38/810 N

D5-38/790 N

Pump curves



Please note that pump curves vary depending on the pump housing, the speed control setting and the supply voltage. More detailed information is available on request. All pump curves shown are at 12 Volts and at different speed controller settings.



1.207/2006 Subject to change without notice

