

# Heavy-duty Circulation Pump

A MAGNETIC DRIVE SEAL-LESS PUMP WITH BRUSHLESS ELECTRIC MOTOR  
20 OR 38 MM PORTS, DESIGNED FOR A MAXIMUM FLOW OF 55 OR 115 LITRES/MIN

The high performance CM90 BL circulation pump has been designed for a significantly longer service life, compared to pumps with a traditional brush motor. The pump is electronically controlled and fitted with a brushless electric motor with fewer wear parts. The CM90 BL is developed primarily for heating and cooling applications in busses, trains and boats, suitable for circulation of glycol mixture or fresh water; but it is much more. In closed systems or wherever else self-priming is not required, the CM90 BL is an all-round pump that distinguishes itself for its dependability, capacity and long service life.

The CM90 BL pump has a magnetic drive, which means that no shaft seal is necessary, as the motor shaft does not penetrate the pump house. With no mechanical seal, longer service life is assured.

Heat flanges on both the motor and the pump also increase service life as they dissipate heat from the unit, which can pump liquids efficiently at a very wide range of temperatures. The CM90 BL also features integral thermal overload protection and is EMC approved according to EN 55014 standards.

The CM90 BL magnetic driven centrifugal pump combines a high flow rate with very low electricity consumption, making it ideal for vehicular heating and cooling systems.

With the high performance of the CM90 BL you also get a smooth design with almost identical dimensions as the original CM90. This makes it easy to install on any flat horizontal or vertical surface.



## Features & Benefits

- Maximum flow @ 0.1 bar
  - 55 l/min (14.5 GPM) with connection Ø20 mm (3/4")
  - 115 l/min (30.4 GPM) with connection Ø38 mm (1 1/2")
- Ball bearing brushless motor - Enclosure IP67
- Designed for liquid temperatures of -40 °C to +100 °C (-40 °F to +212 °F)
- Seal-less magnetic drive
- Specifically engineered for continuous operation
- Extended service life
- Easily maintained
- Equipped with heat flanges for improved cooling
- Built-in thermal overload protection
- 12V or 24V motors
- Universal mounting bracket for easy installation
- Industry standard ports
- Complies with Recreational Craft Directive 94/25/EEC: (ISO 8846), (ISO 10133)
- Complies with Electromagnetic Compatibility Directive 2004/108/EC: (EN55014-1: 2006), (EN55014-2: 1997 +A1: 2001), (EN61000-6-3: 2007 + A1: 2011), UN Regulation 10. (EN 61000-6-2: 2005), (EN55014-1:2006 + A1: 2009 + A2:2011)

# CM90 BL – Brushless DC electromotor powered, centrifugal pump with magnetic transmission

The CM90 BL has been designed to circulate water or a water/antifreeze mixture in the heating systems of busses, trains and boats.

## Technical specifications:

### Capacity:

20 mm (3/4") port 55 l/min (14.5 GPM) at 0.1 bar  
 38 mm (1.1/2") port 115 l/min (30.4 GPM) at 0.1 bar

System pressure: -0.2 to +2.5 bar at 100°C

Liquid: water/glycol mixture; max. 60% glycol

Motor service life: More than 20,000 hours at nominal voltage (and 30°C ambient temperature)  
 40,000 start/stops. Interchangeable motor.

Motor, voltage: Nominal 13.6V DC for use between 10-16V  
 Nominal 27.2V DC for use between 20-32V

Motor: enclosed (as per IP67) permanent magnet, ball bearing mounted brushless motor, designed for continuous operation

Input power: Max. 125 W

Dry running: 30 minutes

Ports: 20 mm (3/4") or 38 mm (1 1/2") diameter

Weight: 3.0 kg (6.6 pounds) with motor bracket, 2.8 kg (6.1 pounds) without bracket

Body: PPA, fiberglass reinforced

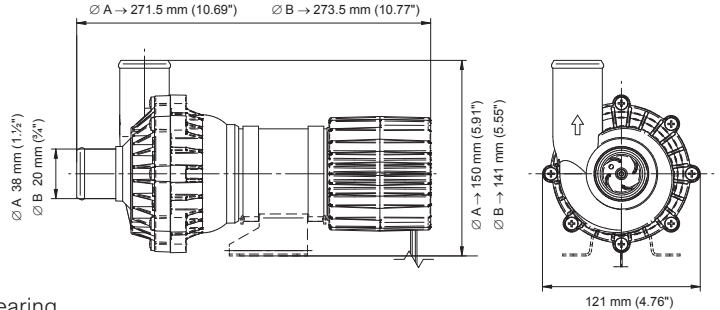
Mounting: Separate universal bracket for flat surfaces

### Directives:

Recreational Craft Directive 94/25/EEC  
 (ISO 8846), (ISO 10133)

Electromagnetic Compatibility Directive 2004/108/EC  
 (EN55014-1: 2006), (EN55014-2: 1997 +A1: 2001), (EN61000-6-3: 2007 + A1: 2011),  
 UN Regulation 10. (EN 61000-6-2: 2005), (EN55014-1:2006 + A1: 2009 + A2:2011)

### Dimensions



## Pressure and capacity data

Based on water at 20°C/68°F (and recommended hose)

HOSE CONNECTION	BACK PRESSURE			FLOW		AMPERAGE	
	BAR	kPA	FT	L/MIN	USGPM	13.6V	27.2V
∅ 38 mm (1 1/2")	0.1	10	3.4	115	30.4	10	4.5
	0.25	25	8.4	90	23.8	9.5	4.5
	0.4	40	13.4	50	13.2	9	4.2
∅ 20 mm (3/4")	0.1	10	3.4	55	14.5	8.5	4.7
	0.25	25	8.4	50	13.2	8	4.8
	0.4	40	13.4	35	9.2	7.5	4
FUSE REQUIRED						12	6

DESCRIPTION	ORDER NO	WITH UNIVERSAL BRACKET	WITHOUT UNIVERSAL BRACKET
CM90P7-1 BL 13.6V DIA 38		10-24898-01	10-24898-03
CM90P7-1 BL 27.2V DIA 38		10-24898-02	10-24898-04
CM90P7-1 BL 13.6V DIA 20		10-24901-01	10-24901-03
CM90P7-1 BL 27.2V DIA 20		10-24901-02	10-24901-04



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