

# High Pressure Circulation Pump

A MAGNETIC DRIVE SEAL-LESS PUMP WITH BRUSHLESS ELECTRIC MOTOR  
25 OR 38 MM PORTS, DESIGNED FOR A NOMINAL FLOW OF 85 LITRES / MIN @ 1 BAR

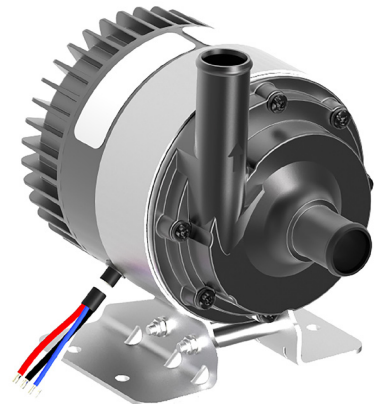
The CM100HP is a high-pressure, magnetically driven (seal-less), circulation pump with a DC motor designed for a 40 000 hour service life. The brushless motor of the CM100HP eliminates brush maintenance and related motor failures.

The CM100HP pump generates high flow, at a high pressure, for such demanding applications as cooling of electric circuits and batteries used on hybrid and full-electric buses, trains and other commercial vehicles. The durable design will also provide dependability on physically demanding applications such as agricultural equipment, construction and mining vehicles as well as on and off-road vehicles.

The CM100HP comes with IP6K9K and IP67 ratings to ensure the highest degree of reliability in the most demanding environmental conditions. These IP ratings ensure the pump to be waterproof, dustproof and to withstand salt and high-pressure/steam jet cleaning. The pump is also tested and approved to withstand shock and vibrations. The cast aluminium pump housing is available in 2 port diameters; 25mm (1") and 38mm (1 1/2"). The metal design of the CM100HP also allows us to meet the flammability rating UL 94 Class V0.

The CM100HP is designed for speed control with 0-10V or PWM (Puls Width Modulation) control and offers security features such as; built-in thermal overload protection, built-in temperature limitation function, reversed polarity protection, voltage transients protection, low voltage protection, internal current limitation and dry running protection.

The CM100HP will withstand ambient temperatures from -40° to +105°C (-40° to +220°F).



## Features & Benefits

- Nominal flow @ 1 bar
  - 85 l/min (22.5 GPM) with connection Ø25 mm (1")
  - 85 l/min (22.5 GPM) with connection Ø38 mm (1 1/2")
- Designed for ambient temperatures of -40°C to +105°C at liquid temperature +93°C (-40°F to +220°F at liquid temp +200°F)
- Magnetic drive (no shaft seal/ mechanical seal)
- Designed for continuous duty
- Long service life
- Wide temperature range
- Speed control
- Built-in thermal overload protection
- Derating, automatic speed control at overheating
- Tacho out signal
- Reversed polarity protection
- Low voltage protection
- Dry run protection
- Current limitation
- Voltage transients protection
- Enclosure; IP6K9K and IP67

# CM100HP – High Pressure Centrifugal Pump with Magnetic Transmission powered by a Brushless DC Electromotor

## Technical specifications:

### Capacity:

25 mm (1") port 85 l/min (22.5 GPM) at 1 bar (33.5 ftH<sub>2</sub>O)  
 38 mm (1 1/2") port 85 l/min (22.5 GPM) at 1 bar (33.5 ftH<sub>2</sub>O)

**System pressure:** -0.2 to +2.5 bar at 100°C (+212°F)

**Liquid:** Water/glycol mixture; max. 60% glycol

**Motor service life:** The motor is designed for a service life of 40,000 hours at nominal voltage and ambient temperature of +40°C (+104°F)

**Motor, voltage:** Nominal 27.2V DC for use between 16-32V DC

**Motor:** Enclosed (as per IP6K9K and IP67) permanent magnet, ball bearing mounted brushless motor, designed for continuous operation

**Input power:** Max. 475 W

**Dry running:** Max. 25 minutes

**Ports:** 25 mm (1") or 38 mm (1 1/2") diameter

**Weight:** 3.9 kg (8.5 lb)

**Pump Housing:** Aluminum, black anodized

**Impeller:** PPS GF

**Intermediate part:** PPA GF

**Mounting:** Separate universal bracket for flat surfaces. Pump is adjustable in bracket for universal application.

**Flammability:** UL94 Class V0 (external polymer materials meet same requirements)

**Degree of protection:** IP6K9K, IP67 (ISO 20653)

### EMC approved according to:

UN ECE R10 rev. 5, with references to CISPR 12, CISPR 25, ISO 11452-2, -3, -4, -5 and ISO 7637.

EN61000-6-3:2007 + A1:2011, +AC:2012 Class B.

EN 61000-6-2:2005 + AC: 2005 Industrial.

EN 60945:2002 Marine, Chapter 9 and 10.

EN 55014-1:2006 + A1:2009 + A2: 2011.

EN55014-2:1997 + A1:2001 + A2: 2008 + AC: 1997.



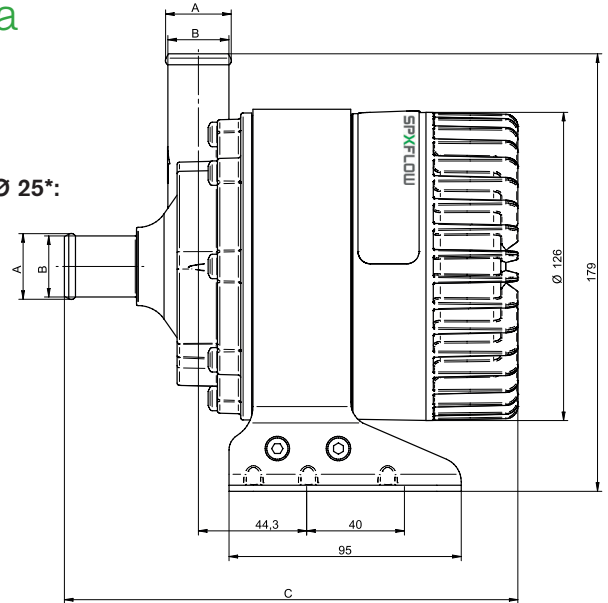
## Pressure and capacity data

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

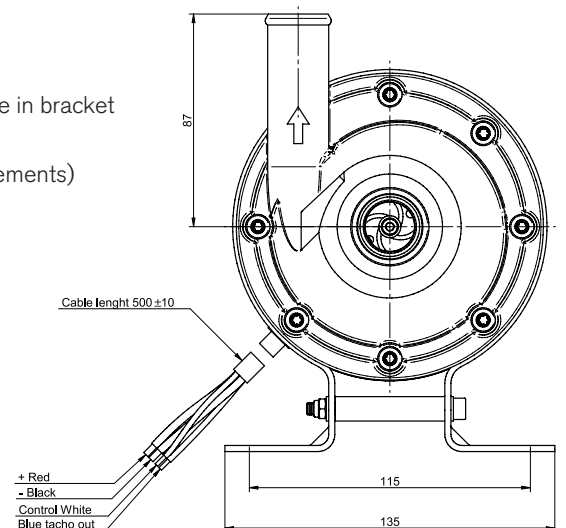
HOSE CONNECTION	BACK PRESSURE			FLOW		AMPERAGE
	BAR	kPA	FTH <sub>2</sub> O	L/MIN	USGPM	27.2V
Ø25 mm (1")	0.6	60	20.07	104	27.5	16.4
	1.0	100	33.46	85	22.5	16.4
Ø38 mm (1 1/2")	1.4	140	46.84	57	15.1	16
RECOMMENDED FUSE SIZE						25 – 30A

DESCRIPTION	PART NO.
CM100HP AL-1BL 27,2V D25	10-13576-02
CM100HP AL-1BL 27,2V D38	10-13577-02

Dimensions Ø 25\*:



	A	B	C
CM100HP AL-1BL 27.2V C PUMP Ø25	26,9	25	186
CM100HP AL-1BL 27.2V C PUMP Ø38	39,9	38	191



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