

With additional PWM and CAN versions

SPUMP FAMILY



Speed pumping intelligent and flexible

New versions with PWM and CAN feature variable speed control, save energy, reduce noise emission and always provide outstanding performance required for electrically powered vehicles. The SPump S120 and S200 are the lightest weight and most compact circulation pumps of their kind within the product family. The 500 W variant convinces with a high flow rate at high counter pressure. With an extended ambient temperature range of up to 95 °C at the highest level of reliability, the SPump is the best solution for water pumps in comfort application and component cooling worldwide.

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SPHEROS

SPUMP FAMILY

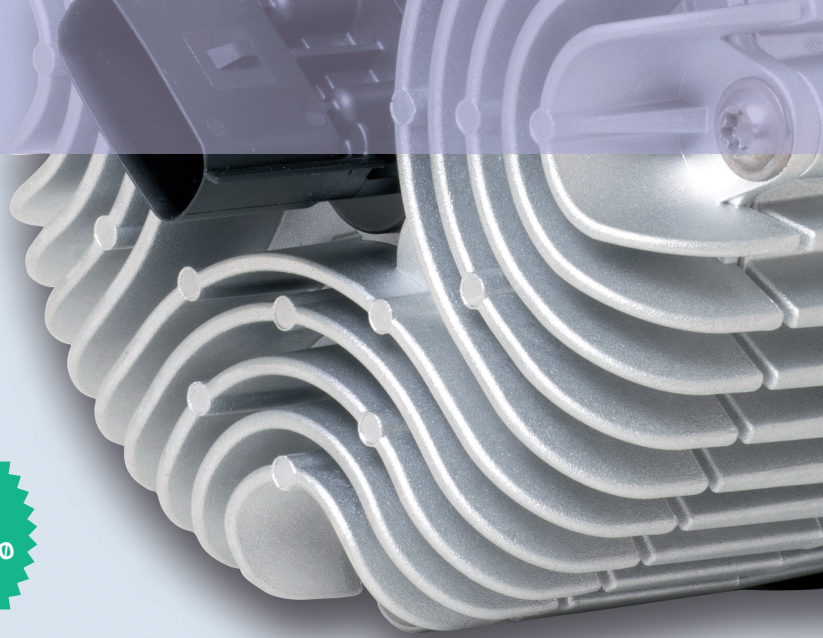
SPUMP S120

SPUMP S200

SPUMP 260

SPUMP 500

NEW
SPUMP S200



► SPump Family: Always the best solution for any application

Spheros has become a leading manufacturer of high-end water pumps for bus and truck, agricultural and construction machinery, off-highway and commercial vehicles. With the smart SPump family, comprising four different performance variants with 120 W, 200 W, 260 W and 500 W, we offer our clients the best solution for almost every application to cool the passenger compartment or components (e.g. the battery).

In addition to vehicles with diesel drive the series has been developed for vehicles with a hybrid, plug-in or electric drive that are reliant on efficient energy management at

highest demands. Even shorter dimensions and an extended outside temperature range between -40 °C and +95 °C allow for a variety of installation options.

PWM and CAN (interface) versions offer decisive advantages for the customer: variable speed control, enabling optimal coordination with the main vehicle system and reducing energy consumption while increasing the vehicle's range. In addition, an intelligent diagnostic function within the CAN variant sends early warning signals by automatic error detection and transmits key operating data.

A 120 W version for 12 and 24 V with a flow rate of 4,000 l/h at 0.35 bar is particularly suitable for smaller water circuits. The 200 W version with a flow rate of 5,000 l/h at 0.65 bar is suitable for mid-sized and larger water circuits. The canned motor model of both pumps (120 & 200 W) has a small number of individual parts, making them the lightest weight and most compact circulation pumps of its kind within the product family. With these benefits they are designed for future applications.

Various methods of control: On/Off – PWM – CAN

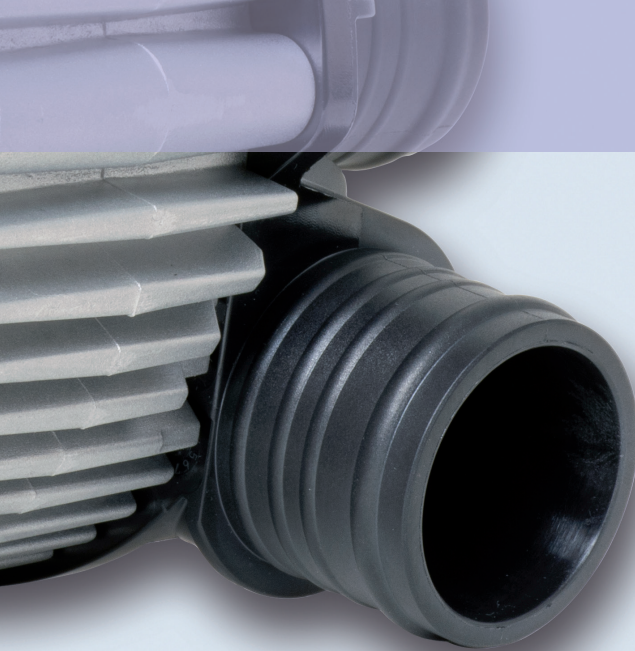
Variable speed control PWM and CAN

- Optimally tuned to the customer's system
- Optimised power consumption and energy-safe
- Extended range

Spheros Flexible CAN

- Complies with SAE 1939 standard – other CAN communication parameters on request
- Modular concept
 - Up to nine pumps in one system, independently controllable
 - Fast and easy installation due to reduced wiring effort
- Intelligent diagnosis





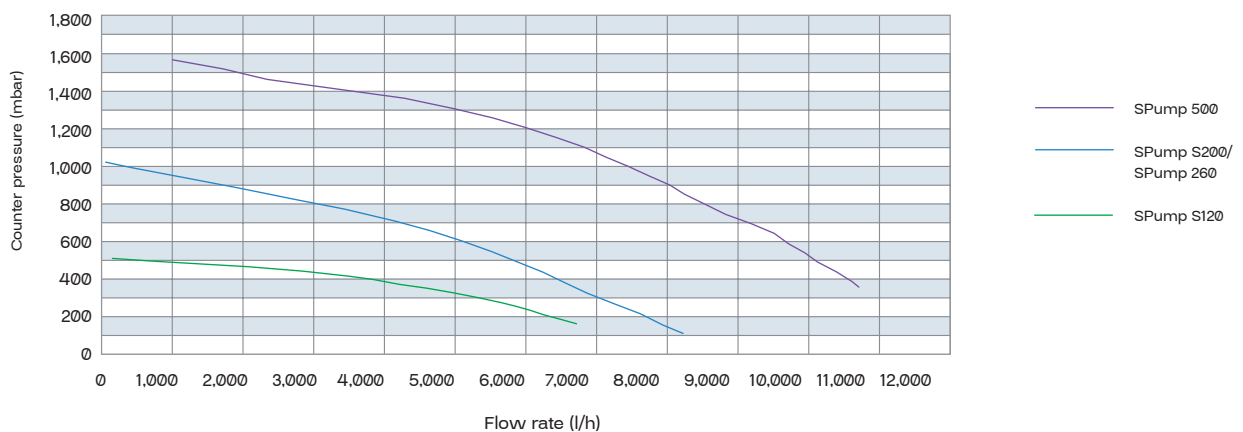
► Full PROTECTION Package (CAN variants)

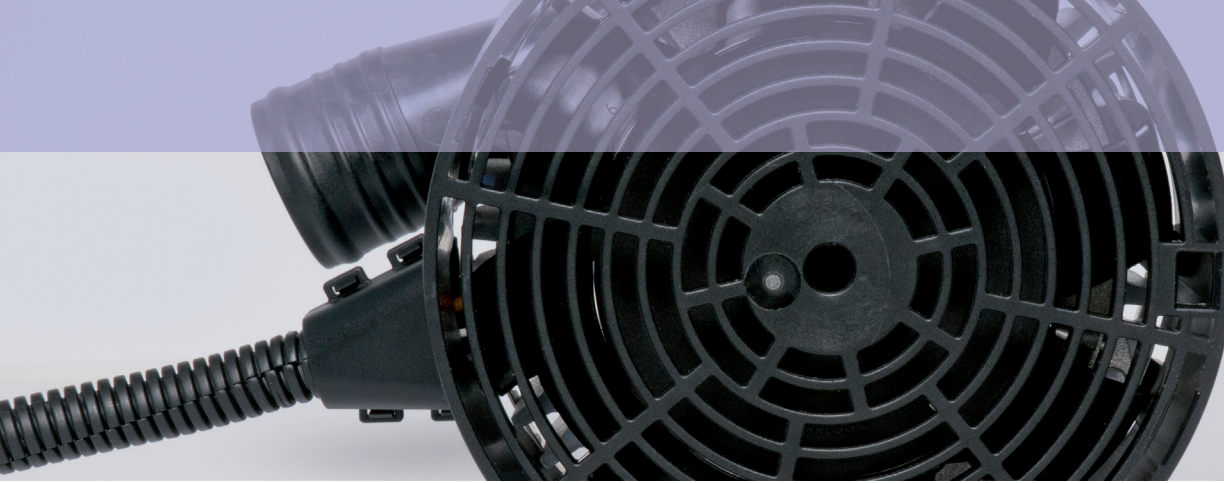
- Dry-run protection
- Stall protection
- Overcurrent protection
- Overtemperature protection
- Overload protection
- Low-voltage protection
- Overvoltage protection
- Reverse polarity protection via coded plug
- Supply voltage current limit

► Intelligent feedback for highest safety and comfort

Communication Type	SPump S120 / SPump S200			SPump 260 / SPump 500		
	On / Off	PWM	CAN	On / Off	PWM	CAN
Speed control		✓	✓		✓	✓
Soft start	✓	✓	✓	✓	✓	✓
Simple diagnosis		on request				
Full diagnosis			✓			✓
Energy consumption feedback			✓			✓
Addressability (up to 9 SPump with same part number on one CAN System)			✓			✓

► Flow rate





HIGHLIGHTS



Low Life-Cycle Costs

- Leak-free, wear-resistant and maintenance-free due to the magnetic drive
- Brushless EC-motor allows a long service lifetime of up to 40,000 h
- With the IP6k9k classification, the pump is dust and waterproof - ideal for demanding environmental conditions and other applications



Comfort

- Intelligent function - error diagnosis and function monitoring of CAN versions



Environmentally friendly

- Noise-optimized and ideally suited for use in electric or hybrid buses
- Optimized power consumption, high efficiency and energy savings through variable speed control in the PWM & CAN SPump versions
- Increased operational safety and comfort while reducing operating costs



Reliability & durability

- The extended temperature range up to 95 °C allows operation under hot ambient conditions in the bus
- Full Protection Package in CAN versions
- High EMC level

TECHNICAL DATA

	SPump S120	SPump S200	SPump 260	SPump 500
Power Consumption (W)	120	200	260	500
Flow Rate (l/h)	3,500 at 0.4 bar 1,000 at 0.5 bar	6,000 at 0.5 bar 1,000 at 1.0 bar	6,000 at 0.5 bar 1,000 at 1.0 bar	10,000 at 0.5 bar 1,500 at 1.5 bar
Rated Voltage (V)	12/24	24	24	24
Operating Voltage Range (V)	8...16 V (12 V) 16...32 V (24 V)	16...32	16.5...32	16.5...32
Temperature Range in Operation (°C)	-40 to +95	-40 to +85	-40 to +95	-40 to +85
Protection Class	IP6K9K ¹⁾ IP67 ¹⁾ (whole pump)	IP6K9K ¹⁾ IP67 ¹⁾ (whole pump)	IP6K9K (whole pump depending on the plug)	IP6K9K (whole pump)
Dimensions D / L (diameter / length in mm)	127 / 170	127 / 170	172 / 212	172 / 212
Weight (kg)	2.2	2.2	2.3 / 2.6 (CAN)	2.6
Lifetime (h)	40,000 ²⁾	35,000 ³⁾	40,000 ²⁾	40,000 ²⁾
Noise Level (dB), approx.	53 (in a distance of 1 m)	57 (in a distance of 1 m)	60 / 65 (CAN)	~ 65
Motor concept	canned motor	canned motor	magnetic coupling	magnetic coupling
Control	ON / OFF PWM (universal) CAN	ON / OFF CAN	ON / OFF PWM (active low) CAN	CAN
CAN-interface	Acc. to SAE J1939	Acc. to SAE J1939	Acc. to SAE J1939	Acc. to SAE J1939
Plug	integrated MOLEX MX150	integrated MOLEX MX150	watertight Plug on demand (ON/OFF)	watertight
Brine	at least 30 % commercial radiator antifreeze ⁴⁾	at least 30 % commercial radiator antifreeze ⁴⁾	at least 30 % commercial radiator antifreeze ⁴⁾	at least 30 % commercial radiator antifreeze ⁴⁾

¹⁾ with connected mating plug

²⁾ 40,000 h @ Tmax < 55 °C | 30,000 h @ Tmax < 65 °C | 10,000 h @ Tmax < 85 °C

³⁾ 35,000 h @ Tmax < 55 °C | 25,000 h @ Tmax < 65 °C | 10,000 h @ Tmax < 85 °C. Higher values possible under other conditions.

⁴⁾ 52 % at -40 °C