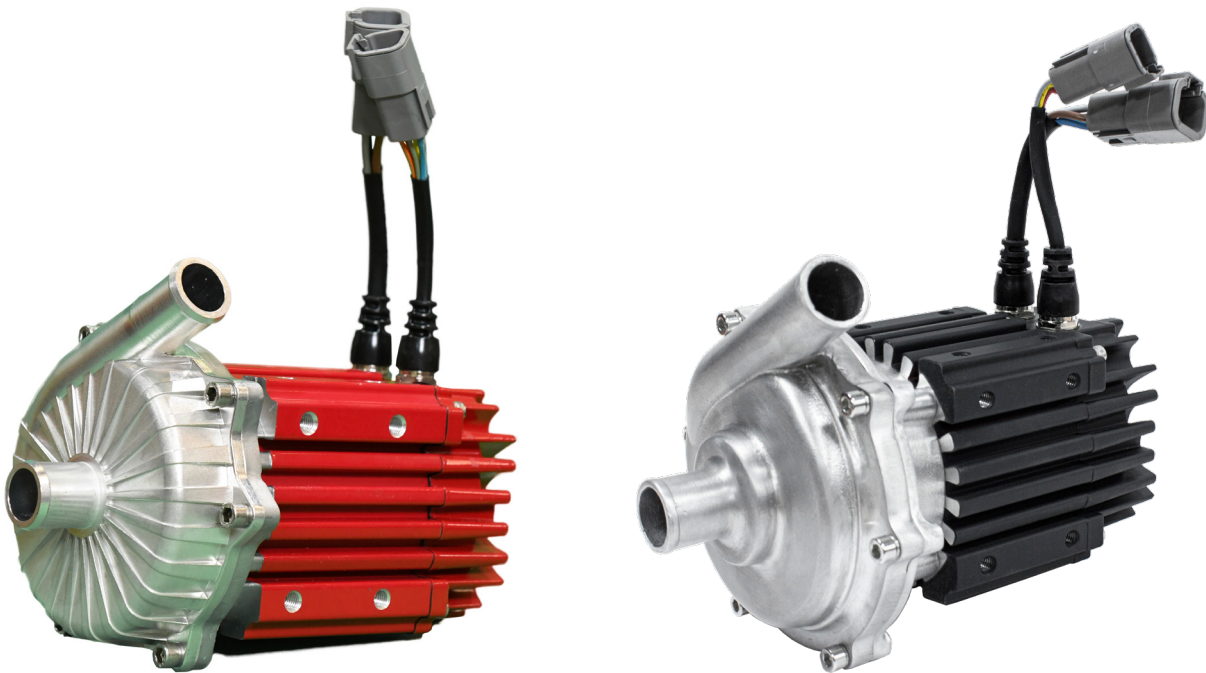


# ELECTRIC WATER PUMP (EWP) RANGE

generations of knowledge



SPECIFICATION & TECHNICAL INFORMATION

# Designed to the highest standards Built to deliver



Voltage range  
18V-32V



Up to 40,000  
hours motor life



>2bar maximum  
System Pressure



Compatible with  
de-ionised water



Suitable for fuel  
cell application



Compatible with  
BTMS & electric  
motor cooling



## MAGNETIC DRIVE ELECTRIC WATER PUMP

5A-6792 (Base Model)

For superior reliability, low maintenance and high flow vs pressure performance for your hybrid, electric, hydrogen or internal combustion application, our Magnetic Drive Electric Water Pump is your ideal solution.

Magnetic Drive Electric Water Pump provides you with a robust and reliable solution that uses advanced magnetic drive technology to circulate coolant through the pump head and around the circuit.

Its heavy-duty and high-strength magnetic coupling means no connection between the electric motor shaft and the impeller is required, removing the need for a seal – and significantly reducing the risk of coolant leakage – alongside removing the need for a lubricant.

### FEATURES

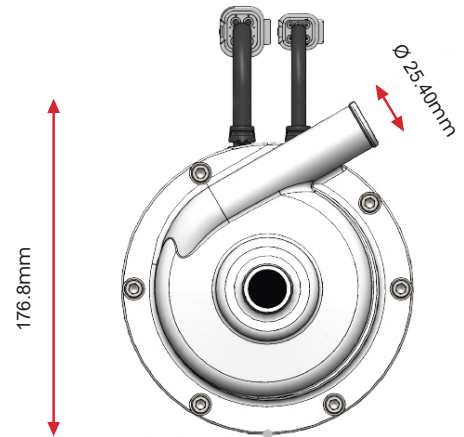
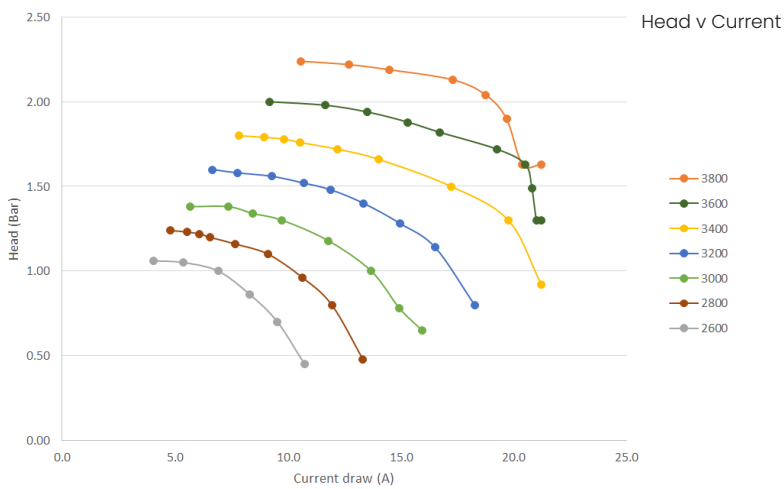
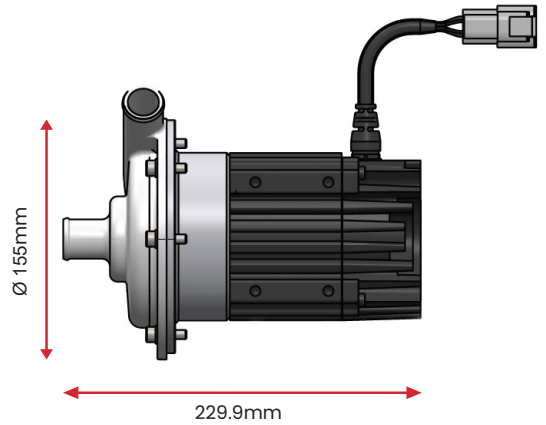
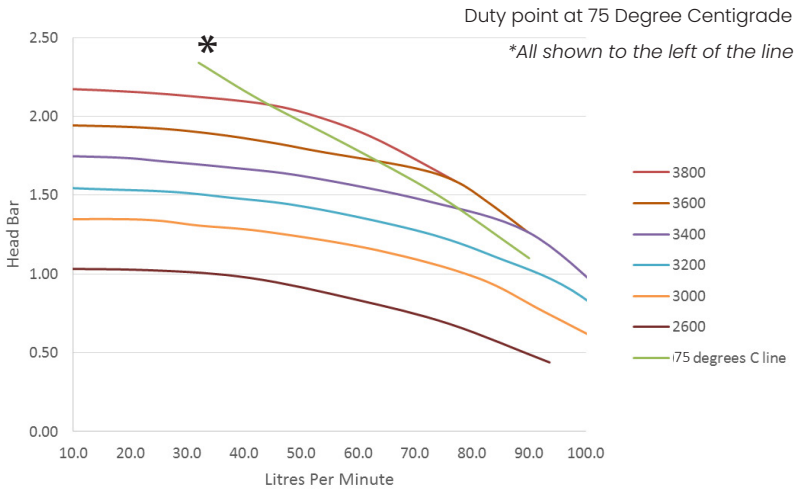
- High flow/ pressure at low pump speed
- Can be mounted in various orientations
- Up to 40,000 hour life (motor)
- Extended warranty options
- Extremely robust design
- Quiet operation
- Various methods of control
- Corrosion resistant
- Integrated controller & power electronics
- Brushless DC permanent magnet motor
- De-ionised water compatible
- No mechanical seal
- Reduced maintenance
- 3Nm magnet
- No media function – run dry protection
- Heavy duty bearings
- EMC certified
- Integrated voltage protection
- Integrated thermal protection
- Standalone/ PWM/ CAN control configurations
- Motor manufactured to Class F temperature rating
- Multiple pump operation on single CAN network through addressing
- Heavy-duty magnet coupling

Enquire today

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# 5A-6792 PERFORMANCE & SIZE



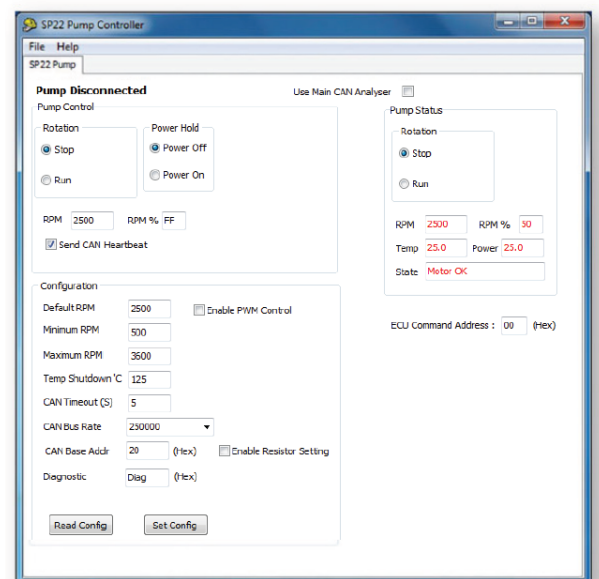
## CONFIGURATION AND CONTROL

### Easy configuration

- 1 PC-based app to configure the pump (free app)
- 2 Run the pump for test purposes
- 3 Used in conjunction with CAN interface

### Easy control

- 1 Default (On/Off)
- 2 CAN SAE J1939
- 3 PWM



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## TECHNICAL SPECIFICATIONS

	MINIMUM	TYPICAL	MAXIMUM	UNITS
Voltage	18	27.2	32	V DC
Current	-	16	19	A
Target life	10,000	-	40,000	Hours
Fluid temperature	-20	-	75	°C
Ambient temperature	-40	-	85	°C
Storage temperature	-40	-	95	°C
Wetted materials	Cast aluminium & stainless steel			
Pressure	-	1.6	2.2	bar
Flow rate	-	45	100	l/min
Motor IP	-	-	69K	IP
Weight	-	4.5/ 9.9	-	kg/lb

## TECHNICAL PARAMETERS

Geometry	X = 229.9mm Y= 176.8mm Z= 155mm
Core materials	Aluminium body, aluminium head and brushless motor
Connectors	DTM and DTP connectors 6 and 4 Pin, heavy duty vehicle approved cable
Fuse size	25A recommended
Current / Maximum current	Rated current 16A / Maximum self-regulating at 19A, operational 3A - 17A
Flow / Maximum flow	Rated 45 l/min (11.8 US gpm) / Maximum 120 l/min (32.5 US gpm)
Pressure / Maximum pressure	Rated 1.6 bar (24 psi) / Maximum 2.2 bar (33 psi)
Inlet pressure	Grayson Thermal Systems Electric Pump requires inlet pressure greater than +0.03bar (+0.45psi) at the operating speed under all operating conditions
Weight	4.5kg/ 9.9lb
Motor life	Up to 40,000 hours design life
Head orientation	170° x 2 options via inbuilt motor mountings, please ask advice for other options
Outlet size	25.4mm O.D. (1") / 20mm I.D. (3/4")
Ambient temperature	-40 to 85°C
Voltage	24V, (operational range 18V - 32V) (Absolute maximum) Optimised to 27.2 V DC
Relevant standards	J1939, ISO7637, ISO16750, IP69K
Testing	HALT (Highly Accelerated Life Testing). Including arduous cold, hot and vibration testing from -60°C to 125°C combined with vibration inputs from 2.5g RMS to 11.45g RMS
Control capability	CAN J1939 / PWM / Standalone
Electronics	Fully encapsulated, protected against voltage transients and reverse polarity connection
Storage temperature	-40 to 95°C
No media function	Run Dry Protection

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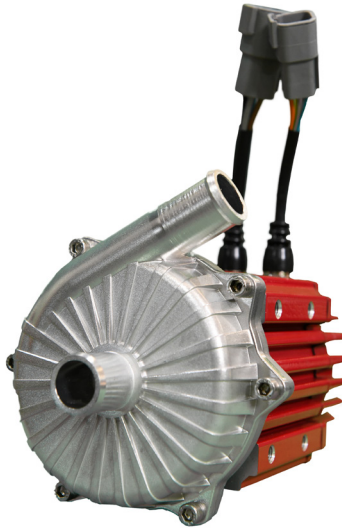
# Designed to the highest standards Built to deliver



Built to deliver



Higher flow at  
lower pump speed



Up to 40,000  
hour motor life



Quieter  
operation



## MECHANICAL SEAL ELECTRIC WATER PUMPS 5A-3970 & 5A-6550 (Base Models)

Grayson Thermal Systems 24V mechanical seal electric water ethylene-glycol (WEG) pump range has been developed specifically for hybrid, electric, hydrogen and ICE vehicle applications.

The pumps, suitable for global use in a variety of operating and environmental territories, are lightweight whilst offering long motor life, variable flow control and exceptional corrosion and water resistance. Mounted in a number of orientations, without impacting reliability or performance.

### BENEFITS

- High flow / pressure at low pump speed
- Can be mounted in various orientations
- Up to 40,000 hour life (motor)
- 2 year warranty
- Extremely robust design
- Quiet operation
- Various methods of control
- Corrosion and coolant resistant
- Integrated controller and power electronics
- Brushless DC permanent magnet motor
- Designed to match industry standard control protocols

### FEATURES

- No Media Function - Run Dry Protection
- Triple 'O' Ring seal design with EU high quality spring
- Long life SIC / EPDM sealing
- Heavy duty bearings
- EMC certified
- Integrated overvoltage protection
- Integrated thermal protection
- Stand alone / PWM / CAN control configurations
- Motor manufactured to Class F temperature rating
- Multiple pump operation on single CAN network through addressing

### Additional benefits of 5A-6550

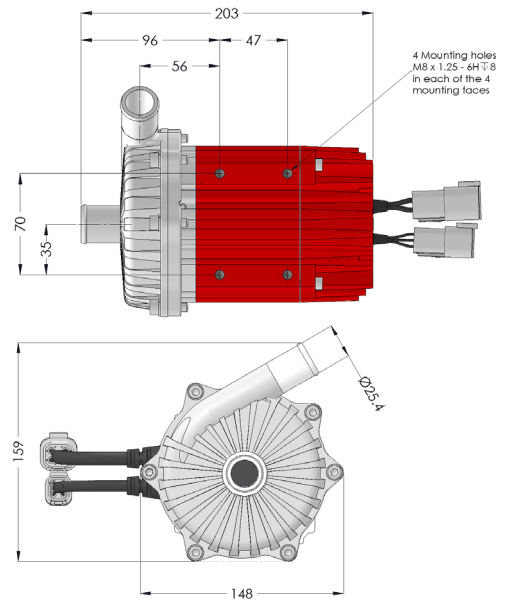
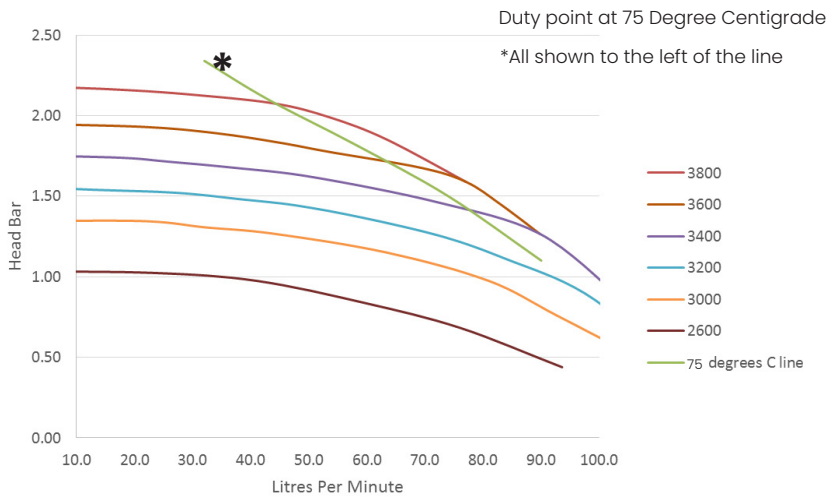
- Operates at a higher duty temperature

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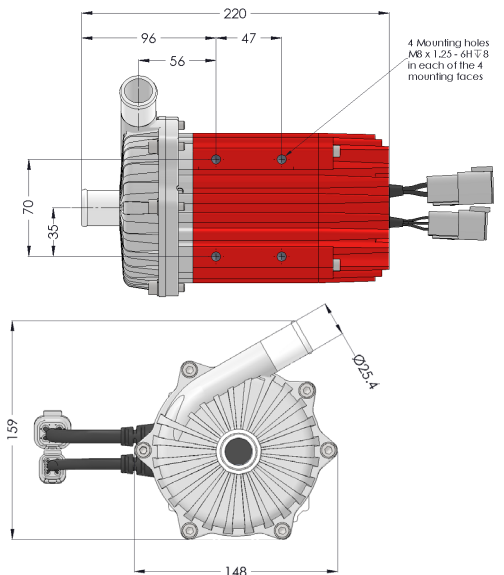
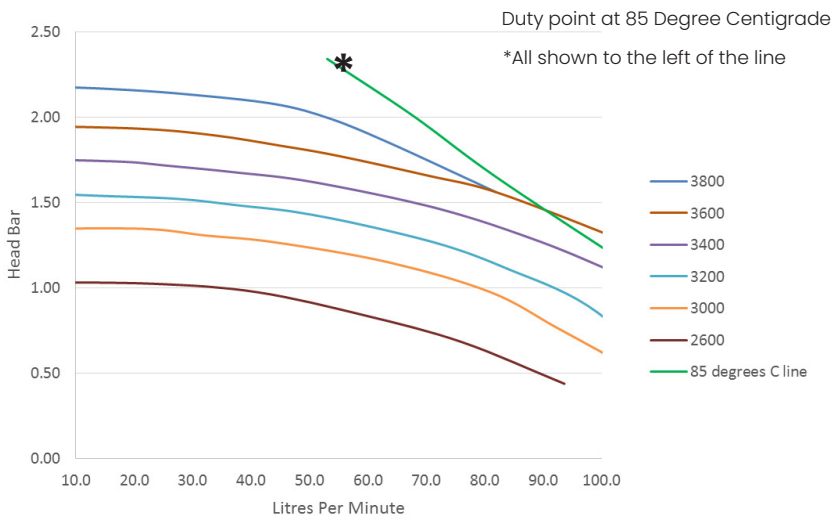
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## 5A-3970 PERFORMANCE & SIZE



## 5A-6550 PERFORMANCE & SIZE

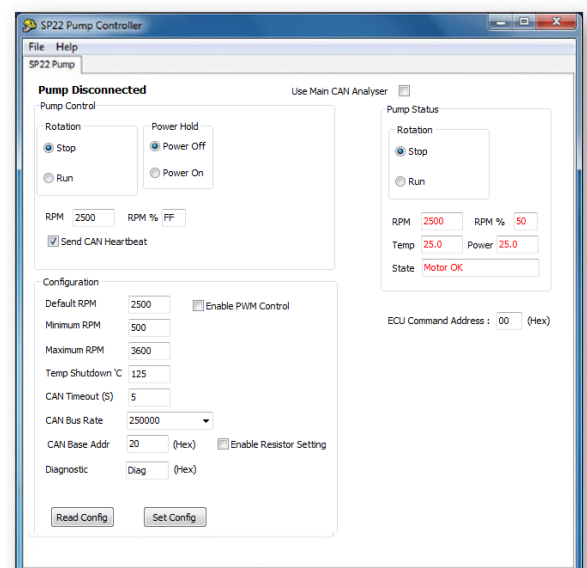


## EASY CONFIGURATION

- 1 PC based app to configure the pump (Free app)
- 2 Run the pump for test purposes
- 3 Used in conjunction with CAN interface

## EASY CONTROL

- 1 Default (On/Off)
- 2 CAN SAE J1939
- 3 PWM



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## TECHNICAL SPECIFICATIONS

	MINIMUM	TYPICAL	MAXIMUM	UNITS
VOLTAGE	18	27.2	32	V DC
CURRENT	-	16	19	A
TARGET LIFE	10,000	-	40,000	Hours
FLUID TEMPERATURE	-20	-	<b>5A-3970:</b> 75 <b>5A-6550:</b> 85	°C
AMBIENT TEMPERATURE	-40	-	85	°C
STORAGE TEMPERATURE	-40	-	95	°C
WETTED MATERIALS	Cast aluminium & stainless steel			
PRESSURE	-	1.6	2.2	bar
FLOW RATE	-	45	100	l/min
MOTOR IP	-	-	69K	IP
WEIGHT	-	<b>5A-3970:</b> 4.2/9.3 <b>5A-6550:</b> 4.6/10.1	-	kg/lb

## TECHNICAL PARAMETERS

GEOMETRY	<b>5A-3970:</b> X = 203mm Y= 159mm Z= 148mm <b>5A-6550:</b> X = 220mm Y= 159mm Z= 148mm	HEAD ORIENTATION	170° x 2 options via inbuilt motor mountings, please ask advice for other options
CORE MATERIALS	Aluminium body, aluminium head and brushless motor	OUTLET SIZE	25.4mm O.D. (1") / 20mm I.D. (3/4")
CONNECTORS	DTM and DTP connectors 6 and 4 Pin, heavy duty vehicle approved cable	FLUID TEMPERATURE	<b>5A-3970:</b> -20 to 75°C <b>5A-6550:</b> -20 to 85°C
FUSE SIZE	25A recommended	AMBIENT TEMPERATURE	-40 to 85°C
CURRENT / MAXIMUM CURRENT	Rated current 16A / maximum self-regulating at 19A, operational 3A - 17A	VOLTAGE	24V, (operational range 18V - 32V) (Absolute maximum) Optimised to 27.2 V DC
FLOW / MAXIMUM FLOW	Rated 45 l/min (11.8 US gpm) / maximum 120 l/min (32.5 US gpm)	RELEVANT STANDARDS	J1939, ISO7637, ISO16750, IP69K
PRESSURE / MAXIMUM PRESSURE	Rated 1.6 bar (24 psi) / maximum 2.2 bar (33 psi)	TESTING	HALT (Highly Accelerated Life Testing). Including arduous cold, hot and vibration testing from -60°C to 125°C combined with vibration inputs from 2.5g RMS to 11.45g RMS
INLET PRESSURE	Grayson Thermal Systems Electric Pump requires inlet pressure greater than +0.03bar (+0.45psi) at the operating speed under all operating conditions	CONTROL CAPABILITY	CAN J1939 / PWM / Standalone
WEIGHT	<b>5A-3970:</b> 4.2kg / 9.3lb <b>5A-6550:</b> 4.6kg / 10.1lb	ELECTRONICS	Fully encapsulated, protected against voltage transients and reverse polarity connection
MOTOR LIFE	Up to 40,000 hours design life	STORAGE TEMPERATURE	-40 to 95°C
		NO MEDIA FUNCTION	Run Dry Protection

## RECOMMENDED MOUNTING ORIENTATIONS

Vertical and Horizontal Mounting



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