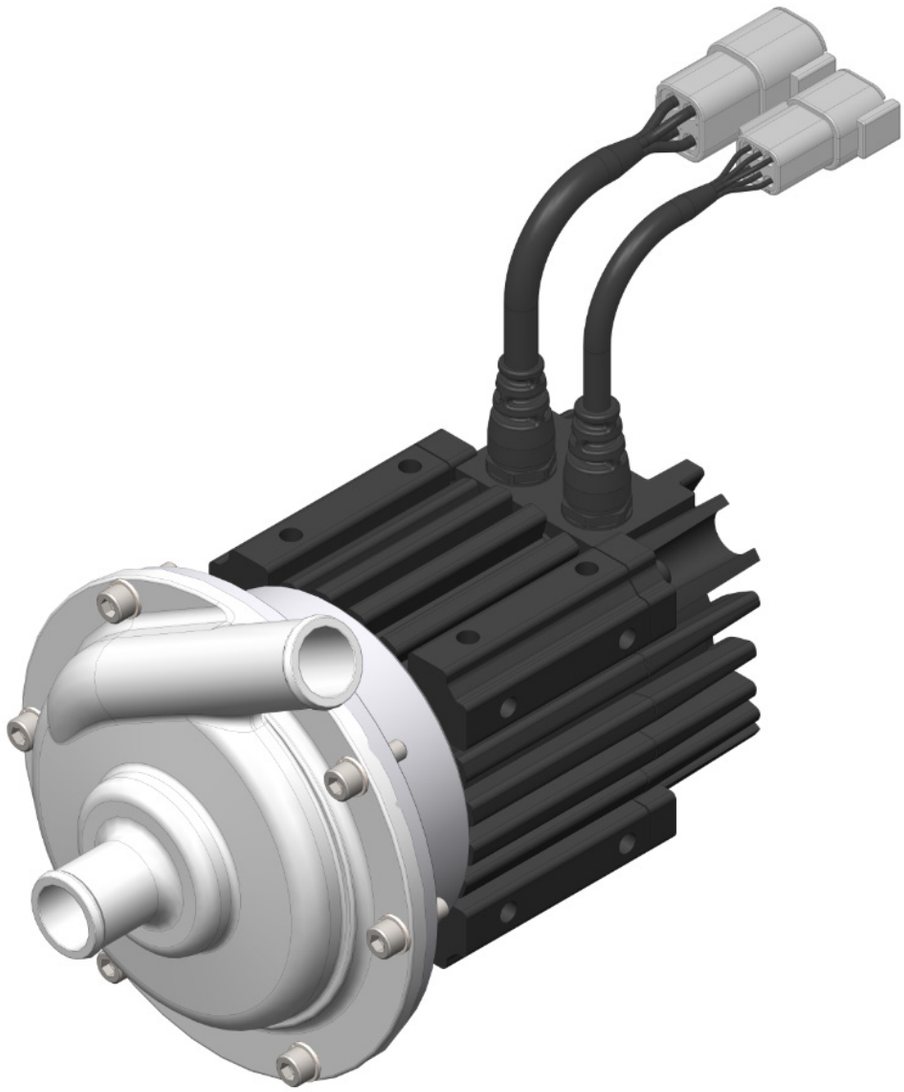
GRAYSON MAGDRIVE PUMP

generations of knowledge



SPECIFICATION & TECHNICAL INFORMATION

Grayson
Thermal Systems

GRAYSON MAGDRIVE PUMP

The Grayson Thermal Systems MagDrive Pump has been developed for fuel cell applications using de-ionised water. It is also compatible with glycol based mediums and dielectric fluids.

This allows our MagDrive Pump to be used in hybrid, electric hydrogen and ICE vehicle applications. It is suitable in a variety of operating and environmental territories, is lightweight and offers a long motor life, variable control and exceptional corrosion and water resistance.

It can be mounted in a number of orientations, without impacting reliability and performance.

FEATURES & BENEFITS

- High flow/ pressure at love pump speed
- Can be mounted in various orientations
- Up to 40,000 hour life (motor)
- 2year warranty
- Extremely robust design
- Quiet operation
- Various methods of control
- Corrosion and coolant resistant
- Integrated controller & power electronics
- Brushless DC permanent magnet motor
- Designed to match industry standard control protocols
- De-ionised water compatible
- Run dry - up to 30 minutes
- No mechanical seal
- Reduced maintenance
- 3nm magnet
- No media function - run dry protection
- Heavy duty bearings
- EMC certified
- Integrated voltage protection
- Intergrated thermal protection
- Stand alone/ PWM/ CAN control configurations
- Motor manufactured to Class F temperature rating
- Multiple pump operation on single CAN network through addressing
- Heavy duty magnet configuration

WHY A GRAYSON MAGDRIVE?

Voltage Range 18v-32v

Compatible with de-ionised water

Up to 40,000 Hours Motor Life

Suitable for fuel cell application

>2bar Maximum System Pressure

Compatible with BTMS & electric motor cooling

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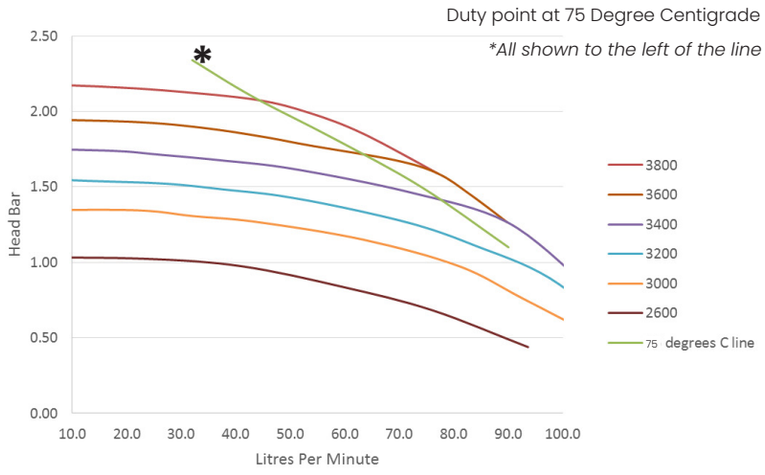
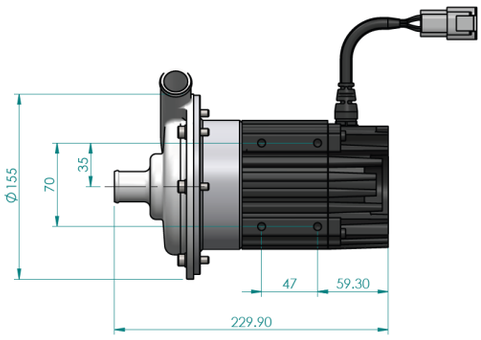
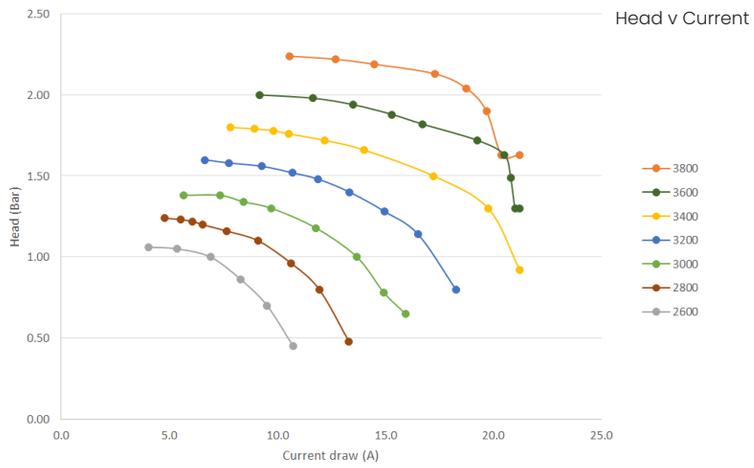
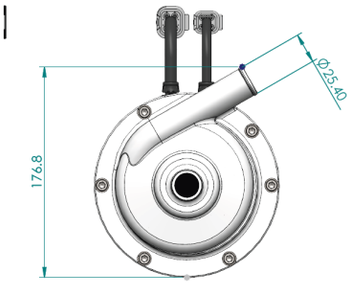
PERFORMANCE & SIZE









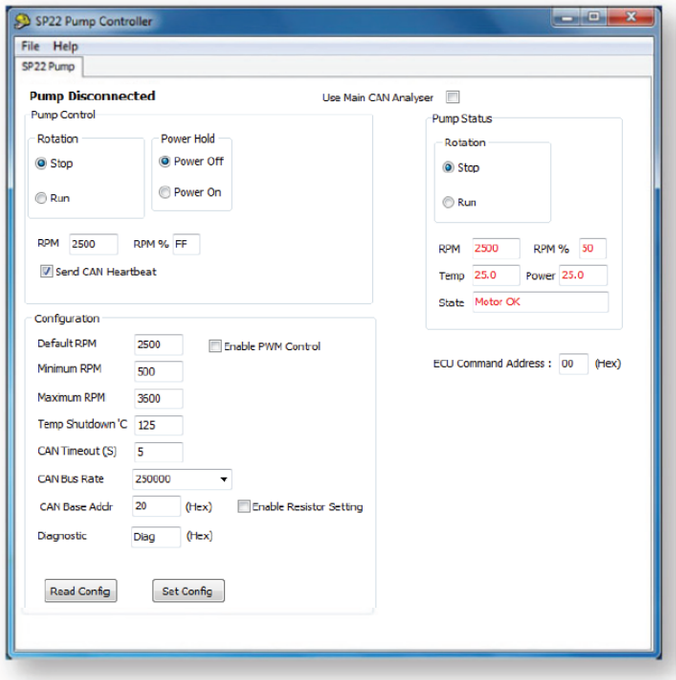
CONFIGURATION & CONTROL

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



PERFORMANCE & SIZE

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	-	5A-6792-000: 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 (estimated)	-	4.5/ 9.9	-	kg/lb

Technical parameters

GEOMETRY	5A-6792-000: 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 (estimated)	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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