

THERMAL LINES



Grayson
THERMAL SYSTEMS

NEWS FROM GRAYSON THERMAL SYSTEMS
AUTUMN 2017



SPECIALIST ENGINEERING COMPANY OF THE MONTH

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A WORD FROM STUART HATELEY MANAGING DIRECTOR

"We are now entering the show period, and it helps me reflect on how Grayson has become global partner to the Bus, Coach & Specialist vehicle builders. I will be heading out to APTA in Atlanta Georgia at the beginning of October, arrive back in Europe and head the following week to the Busworld in Kortrijk Belgium. It is often difficult to assess the real value of show casing our business in two different continents, but I see this as a tremendous platform to present new products, meet with long established partners and clients, whilst having the opportunity to meet with new customers helping us grow as the premier Vehicle Thermal Management provider to the Transit Bus & Coach industry. Our success comes from listening to our customers and working everyday within GTS to deliver excellence, whilst working on the aspects of our business where our customers tell us we need to improve.

We will show case the fruits of an ambitious New Product Development program, creating unique and innovative products for the next chapter in vehicle thermal management for the next generation of zero emission vehicles. Complete battery, driver and passenger heating and cooling has been at the heart of this program, with numerous test systems across 20 countries, on 4 different continents, whilst entering the production phase on BTMS and our eComfort 100 driver Heat / Cool electric AC and Reverse Heat pump technology. We believe we have lived by our company vision and created total innovation and reliability in the new product line up for the next millennium. My ambitious team have not stopped here and are bursting with new ideas for the next phase of the electric vehicle development program, so we look forward to meeting with you in the coming weeks, and continuing our journey to establish ourselves firmly as the Premier Thermal Management supplier to the transit bus & coach industry."

PROTERRA TRAINING SUCCESS



A huge Thank you to those who attended the BTMS training for Proterra in America.

The course was put together to inform Proterra engineers about the BTMS product recently purchased by them, cover how it works and servicing requirements. The training was professionally prepared and presented which came through in feedback given by those Proterra staff attending the course.

Further courses will now be booked due to the all-round success.

NEW PRODUCT | BTMS BATTERY THERMAL MANAGEMENT SYSTEM

TEMPERATURE CONTROLS ARE CRITICAL TO THE FUNCTION & LIFE OF THE BATTERY CELL

Electric vehicle development is now accelerating and by 2020 it is expected that there will be significant number of electric vehicles built throughout the next decade. The key driver of the system is electrical energy storage and charging which is carried out by installing high value, large capacity batteries.

Our newly developed BTMS will heat & cool electric vehicle batteries efficiently and will be one of the best assets for your cooling needs.

Find out more on our website now
www.graysonts.com



BTMS



ISO 14001:2017

RAISING THE STANDARDS

Grayson Thermal Systems have set the course to become ISO 14001:2017 Accredited.

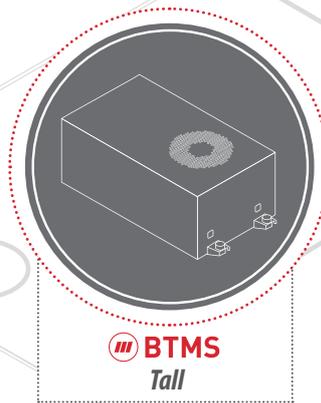
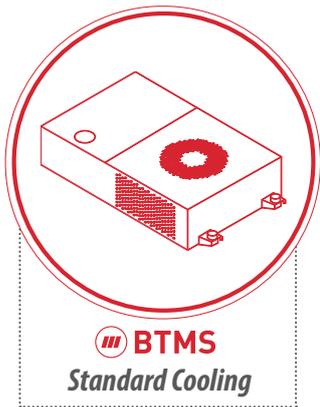
It requires that an organization considers all environmental issues relevant to its operations, such as air pollution, water and sewage issues, waste management, soil contamination, climate change mitigation and adaptation and resource use and efficiency. Like all ISO management system standards, ISO 14001 includes the need for continual improvement of an organization's systems and approach to environmental concerns.

We will review all our waste, put plans in place to reduce our waste wherever practicable, control where our waste goes, who handles our waste on our behalf; and

ultimately have a system of waste stream mapping in place on every item that we dispose of, through external commercial organisations and controlled by GTS personnel.

The board of directors fully understands the business requirements to support the environmental concerns we all face; in doing so, their commitment to achieve a higher level of understanding, will be supported by a company funded training package for delegates within the company.

These delegates, will assist in the communication and education programme that all employees, within GTS needs to understand, to both achieve the accreditation and maintain stringent controls as part of our day to day GTS business.



BTMS Benefits

- Flexible bespoke solutions for maximum compatibility
- Plug & play to reduce installation time and cost
- Fully integrated components maximising efficiency
- High capacity heating capability offering rapid warm up allowing batteries to reach operating temperature quickly
- Energy saving passive ambient cooling
- Single unit is capable of thermally managing (cool/heat) up to a 18m length electric bus' typical battery packs
- Supplied fully charged, with fast coolant and electrical connections
- Brushless fans, scroll compressor, brushless pump provide long life & reliable performance
- Active refrigerant cooling allowing tropical cooling capacity



B&IT SPECIALIST ENGINEERING COMPANY OF THE MONTH

We are pleased to report that Business and Industry Today have awarded Grayson Thermal Systems their prestigious Specialised Engineering Company of the Month profile.

The Article was published on Friday 25th August and reads as below!

'The privately owned, family run organisation was established in 1978 where it started out as a radiator repair shop and progressively diversified across the decades to become a foremost supplier of cooling, heating and air conditioning products. The business is now operational across the world; exporting to 26 countries whilst servicing a wide range of customers.

Although primarily targeting the commercial and specialist vehicle industry sectors, the dedicated designer, manufacturer and supplier can turn its hand to a variety of projects, providing solutions suitable for a myriad of applications.

Grayson Thermal Systems has facilitated thermal management for off/on highway heavy duty vehicle requirements throughout various markets, whether for the purpose of passenger comfort or engine cooling etc.

According to Stuart Hateley of Grayson Thermal Systems, an area of recent growth is the battery thermal management segment. The Managing Director also told us that the adaptable approach employed by the workforce makes the company an ideal supplier: "Because we are placed in a relatively niche market we can place a better focus on the sectors that we operate in," he commented. "Our competitors have a broader reach and so they don't have the same level of flexibility as we do (in terms of design or production) - much of what we provide is bespoke, however the development of standard components for electric vehicles is bringing some standardisation to our range - High flow/pressure electric water pumps, and battery thermal management systems being a case in point."

"Our ethic strongly revolves around value - valuing our staff and our customers - and although this is a simple philosophy it is one I find to be incredibly important and insist on using in business. Every person is treated equally and with respect when working with us."

This customer-oriented focus is supported by a service that centres on developing client relationships during the sourcing of aftermarket cooling and heating systems

strategically made for buses, coaches and other vehicles. This approach is proving to be invaluable during meetings to enter new markets as well, with opportunities opening to the company all of the time.

Working alongside different individuals on a consultative basis ensures they can offer the best system for singular applications; the development of unique ways to enhance vehicle performance and reliability is vastly appreciated by those seeking innovative products that can fulfil their specific business demands.

Upon discussing plans for the future, Stuart referred to global expansion and additions to the workforce whilst expressing his thoughts on change: "When any company experiences growth I believe an adjustment in its infrastructure is inevitable. This is indeed the case with Grayson Thermal Systems; we have, following the ongoing success of our business, strengthened our management base and sourced new talent with significant skill-sets and restructured our board responsibilities to ensure there is a more corporate focus.



"We have progressed from being solely a UK supplier, on into Europe and are now a leading global supplier, continually conducting market research for expansion, whilst securing major investments in North America. Our overall plan is to continue expanding at a steady pace whilst arranging monthly product launches."

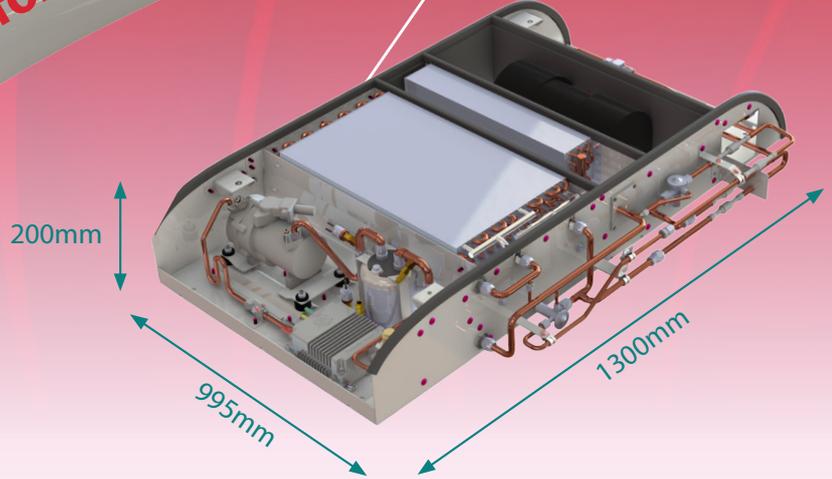
The Birmingham-based business, which is supported by Grayson North America and Grayson Poland, is eager to hear from anyone looking for a specialist engineering solution. Please get in touch if you would like to enquire.'

e info@graysonts.com

t 0121 700 5600



Approx. Weight:
49Kg



eComfort

Turning up the heat on electric vehicle driver comfort

Our latest technology optimises driver environment whilst delivering outstanding performance in efficiency and environmental impact.

The eComfort 100 series is a Driver cabin reversible heat pump capable of heating, cooling and ventilating. A critical requirement for any transit bus operator of electric vehicles.

This lightweight solution is delivered in an extremely low package height of 200mm. Simple fit and forget system delivered fully charged and ready to go with 24V DC or 600V DC Compressor options.

Maximum comfort, minimum energy usage.

-   **Very low height**
-  **Driver Satisfaction**
-  **Up to 5 year warranty with service plan**
-  **Environmentally friendly solution**
-  **Lightweight solution**

GRAYSON ARE WITH YOU FROM CRADLE TO GRAVE



FIRST GROUP VISIT

GTS were approached by John Gray Technical Manager to host an Engineering meeting on our premises so that First Group could discuss important areas of their business within professional facilities.

This would be the first meeting to take place since Ian Warr took up the post as Engineering Director - UK Bus for First Group and would consist of 26 key members from the engineering team to include directors, managers, trainers and technical support.

The meeting was held over 2 days at GTS Wharfdale House and gave Grayson the opportunity to meet old friends and establish new contacts within the First Group. During this time Stuart Hateley presented, touching on new products in our E MOBILITY range, including BTMS, eComfort and the contract maintenance options Grayson are able to offer.

On the whole, it was a very successful couple of days,

giving us a lot of future opportunity across all areas of the business including E Drive, servicing options for heating, engine cooling, air conditioning and fire suppression.

John Gray commented 'Once again, many thanks to the Grayson organisation for hosting our meeting this week, it was greatly received and ensured that we had a very successful two days'.



First Group bus

GRAYSON PRODUCTS

24V ELECTRIC WATER PUMP



 **Quieter operation**

 **Higher flow at lower pump speed**

 **40,000 hour life**

ELECTRIC WATER HEATER



 **Faster engine warm up time**

 **Quieter operation**

 **Minimal maintenance**

e MOBILITY RANGE

THESE ARE JUST SOME OF THE PRODUCTS WE ARE SHOWING AT OUR **UPCOMING EXHIBITIONS.**

edrive ELECTRIC FAN COOLING SYSTEM



 **2 Year warranty**

 **Save on maintenance costs**

 **Proven technology**

SHOWCASING GRAYSON AROUND THE WORLD

We hope that this years shows will bring us together with new clients that we can build long term relationships with

As a company we represent ourselves at various shows throughout the year, on an international stage. With continuing growth of sales around the globe, our reputation for quality and innovation of products is now widely known, but showcasing just how good we are at what we do is incredibly important for the future of Grayson.

These exhibitions are prime opportunities for Grayson to show what we have achieved, how we can help our customers and to introduce our new range of products that we have all worked so hard to see through from conception and design, to build and delivery.

How we promote our products is now key to our continued success and shows like these are a great platform to do just that.

UPCOMING EXHIBITIONS

In October we are exhibiting at two shows

Come find us...

9th - 11th October 2017

APTA
Atlanta,
GA, USA



Hall C, Stand 8723

20th - 25th October 2017

**Bus World
Kortrijk**
Belgium



Hall 9, Stand 907B





CASE STUDY

AMERICAN COACH MEXICO

ACM plan to assemble 3 prototypes for testing and marketing purposes, as well as Cummins IQA validation. Production volumes for 2018 are predicted at 15 rising to 25 by 2020

It was more like *Mexi-Can* than *Mexi-Cant* for the Grayson team when approached by American Coach México (ACM) to design and produce an engine cooling system with Cooling Via E-drive, instead of the more Orthodox Hydraulic system - for their new Intercity Coach. The vehicle is powered by a Mammoth Cummins ISX 12 l engine, (400 HP) fuelled with CNG.

With the vehicle bound for operating territories such as Mexico, USA and Canada, the Grayson team have done a Sterling job in producing a module of this size and efficiency, a huge 10 Fan E-drive was developed to satisfy the high LAT and engine size.

A credit to all those involved, particularly production and engineering who have done a great job in designing and pulling the module together.



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