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HEATRAE SADIA

The quality name in water heating

Megaflow HE

Unvented water heating



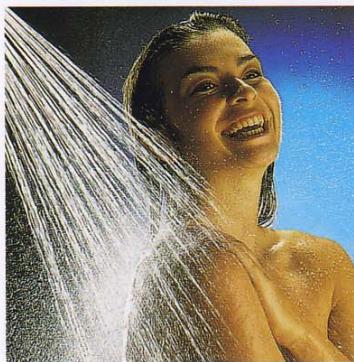
No.1 in Unvented water heating

Megaflo HE

Unvented water heating

The warm welcome

Nothing quite matches the warm welcome offered to you by the outstanding range of unvented water heating systems from Heatrae Sadia.



New Megaflo HE hot water units are built for high performance and energy efficiency, as well as the quality and reliability for which the Megaflo name is famous.

As Megaflo products play such a major part in many aspects of people's everyday lives, Heatrae Sadia continually adapt and improve their products to meet the ever-changing needs of today's market.



That's why Megaflo continues to enjoy the No.1 position in unvented water heating.



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New and improved

All Megaflo HE units are designed and manufactured to a very high quality using the latest manufacturing techniques. They boast numerous innovative features designed to ensure high levels of operating efficiency.

- High performance 'coil in coil' heat exchanger
- Exceeds CHeSS[®] Best Practice for recovery times and insulation
- Improved insulation for maximum heat retention
- New water inlet controls increase flow rates by up to 35%
- Improved performance at low pressures down to 1 bar
- New installer friendly design



Hot water for life

In addition to the advantages of unvented systems Megaflo HE offers a number of features that place it well ahead of the competition in terms of performance, quality and reliability.

So, whether it's for the home environment, the workplace or demanding applications such as sports and health club shower rooms, there's a model to suit your needs.

- Powerful mains pressure showering
- Faster filling baths
- Constructed in Duplex stainless steel for maximum strength - pressure tested to 15 bar
- Patented internal floating baffle system to accommodate water expansion
- No anode - eliminates costly anode maintenance
- CFC-free (ODP zero) foam injected insulation for maximum heat retention
- Unique 'L-shaped' long-life Superloy immersion heater reaches deeper into the tank giving more hot water
- Smart and attractive appliance-like finish designed with the home owner in mind
- Patented cold water inlet diffuser minimises mixing of cold and hot water

Minimal heat loss

A void-free layer of high-performance polyurethane foam fills the space between the inner vessel and outer casing for maximum insulation efficiency.

Megaflo HE's carefully moulded one-piece insulation cannot separate in transit to reduce its effectiveness, unlike other designs, which rely on the butt jointing of sheet materials.

The base is fully insulated and the unit stands on three moulded feet to minimise heat losses to the supporting floor. Immersion heaters and controls are fully integrated - no large external bosses to radiate heat.

25-year transferable guarantee**

Megaflo HE is guaranteed a long operational life and with no anode to inspect or replace maintenance costs are reduced.

All Megaflo HE units are backed by our 25-year transferable cylinder guarantee as part of Heatrae Sadia's 'fit and forget' product programme.

* Energy Efficiency Partnership: Central Heating System Specifications.
** Guarantee applies to UK installations only.

Megaflo HE

Unvented water heating

No sacrificial anodes

Sacrificial anodes are used with inferior grades of stainless steel, glass-lined steel and copper to achieve a degree of corrosion resistance. However they require regular replacement which, if not carried out can result in premature cylinder failure.

Megaflo HE overcomes any need for sacrificial anodes and associated maintenance by using top quality Duplex stainless steel.

Why Duplex stainless steel?

Duplex stainless steel offers a superior resistance to corrosion especially in aggressive water areas, compared with copper, glass-lined steel and some grades of stainless steel.

Because Duplex is a low carbon, high chromium content alloy, it resists all forms of corrosion including pitting, crevice corrosion, uniform corrosion and stress corrosion cracking, without the use of a sacrificial anode. In addition, the tungsten inert gas welding coupled with the special post weld processes ensures the same level of corrosion resistance and mechanical strength as the parent metal. This ensures the longest possible working life for every cylinder.

The combination of its lightweight and very strong construction makes Megaflo HE easier to handle on site. Every unit is pressure tested in the factory to 15 bar - five times the normal operating pressure - making Megaflo HE suitable for all domestic and commercial applications.

Specification comparison to a copper unit with air gap

	Megaflo	Copper
Maximum working pressure	10.0 bar	4.5 bar*
Operating pressure	3.0 bar	2.1 bar*
Material	Duplex Stainless Steel	Copper

*Source WRC July 1992

Internal expansion system

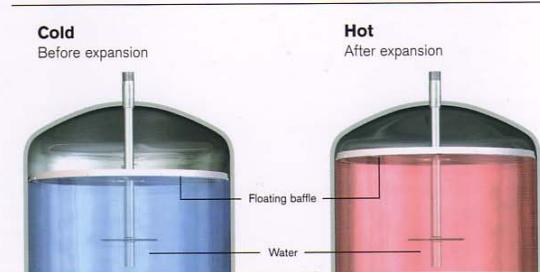
With Megaflo HE, expanded water is accommodated within the cylinder using an internal air gap maintained by a patented floating baffle.

This baffle floats on the surface of the water within the cylinder to maintain the integrity of the air gap.



The internal air gap and floating baffle system allows for a compact self contained unit which eliminates the need for an external expansion vessel and allows for a quicker and simplified installation.

Megaflo HE meets the BBA internal expansion volume endurance test with no reduction in operating pressure or flow rates.



The 'coil in coil' heat exchanger

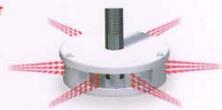
Thanks to the new high performance 'coil in coil' heat exchanger, hot water is available quicker and more efficiently than ever before.

- High output ratings 15.4kW to 24.5kW
- Efficient transfer of energy
- Fast heat recovery
- Positioned low in the cylinder for more usable hot water
- Promotes boiler efficiency
 - especially condensing types
 - significantly reduces cycling time



The patented cold water inlet diffuser

The patented cold water inlet diffuser reduces turbulence to minimise the mixing of cold and hot water.



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Megaflo[®] HIGH EFFICIENCY
HEATRAE SADIA

Megaflo HE system benefits

- Higher flow rates for efficient hot water delivery
- High performance showering - throughout the home
- Fast-filling baths
- Quieter mains pressure system (no noisy cistern in the loft)
- Balanced water pressure - no surprises
- Exceeds CHeSS^{*} Best Practice for heat recovery
- Fast recovery rates (eg. 15 minutes for CL125 unit)
- CFC free (ODP zero) insulation for maximum heat retention
- No fear of frozen loft pipes**
- No anode to check or replace
- Mains fed hygienic hot water
- Appliance quality, easy-clean finish
- Long-life Duplex stainless steel interior
- 25-year transferable cylinder guarantee
- Patented internal expansion system
- Meets BBA Internal Expansion Volume Endurance Test
- No external expansion vessel
- Complete with mains water isolating valve
- Flexibility in cylinder siting***
- Dry roof space increases design options***
- Cost effective installer friendly connections
- No reduction in operating pressure or flow rates
- Fully indemnified design service
- Supplied with safety and hot water controls
- No cold feed cistern to install for the hot water supply
- Neater and quicker installation
- Easy to commission
- No costly shower pump to install
- Lightweight, installer friendly design
- Stronger construction for durability and high pressure performance
- All units fully factory tested to ensure reliability
- Fully indemnified design service. Conditions apply
- Patented cold water inlet diffuser minimises mixing of cold and hot water

KEY

- Flow Return } Central Heating System
- Hot Cold } Domestic Water System

* Energy Efficiency Partnership: Central Heating System Specifications.
** Assumes sealed system boiler with Megaflo in frost free position.
*** Assumes no loft conversion.

Specification Advice Line Tel: 01603 420220 Fax: 01603 420229 E-mail: specifier@heatraesadia.com

Megaflo HE

Unvented water heating

Installer friendly design

New Megaflo HE has been designed to facilitate a trouble-free installation. Compact and rounded in design, with all connections accessible at the front of the unit. Megaflo HE's lightweight construction means it's easy to handle and convenient to site almost anywhere in the home.

- Integral wiring centre for controls
- Strong feet for additional stability
- All plumbing connections are colour coded and accessible at the front of the cylinder
- Lightweight construction
- Megaflo HE base moulding with integral hand grips
- Detachable lifting handle

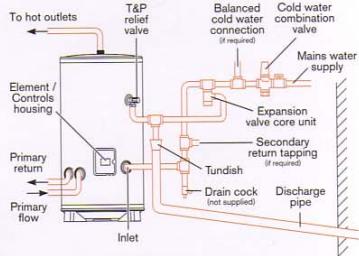


Megaflo HE is supplied complete with:

- $\frac{3}{4}$ " BSP threaded connections and 22mm compression nuts and olives
- HiFlo cold water valve set complete with integral isolating valve
 - Increased flow rates by up to 35%
 - Improved performance at low pressures down to 1 bar
- 15mm x 22mm tundish
- Factory fitted 15mm Temperature and Pressure Relief Valve
- Expansion relief valve - 8 bar factory setting
- Pressure reducing valve - 3 bar factory setting



Typical installation of an indirect Megaflo HE



Installer training

CITB approved courses are available nationwide for operative training.

For further details of such courses, contact Heatrae Sadia on Tel: 01603 420220.



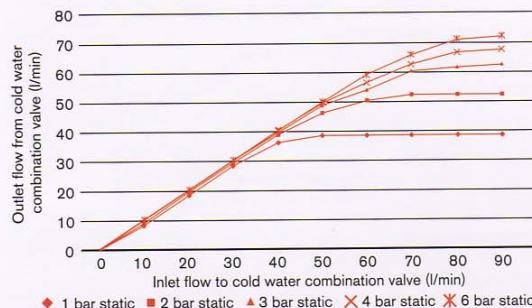
Performance and specification

Whether you're at home, at work or at your local sports centre, it's good to know that when it's needed Megaflo HE is more than capable of meeting your requirements.

Megaflo HE's pressure and flow rate performance will exceed those available from comparable vented systems, thermal store units, multi-point instantaneous gas heaters or combination boilers. It offers flexibility in cylinder siting as it can be positioned in any convenient location that allows a suitable routing of the discharge pipe from its safety valve. It should not be installed in areas that are subject to freezing.

Megaflo HE unvented water systems deliver hot water at flow rates up to 72 litres/min and offer one of the most rapid heat-up and recovery rates available, making it ideally suited to a wide variety of applications. Available in seven capacities, ranging from 70 to 300 litres, in both direct and indirect systems, there is a model to suit every environment.

Megaflo HE cold water combination valve Flow in v Flow out for various static inlet pressures





Typical applications

Whatever the need, Megaflow HE is the natural choice. From starter homes through to commercial and light industrial users, Megaflow HE is the perfect solution.

Which unit to use

	Indirect	Direct
Bedsit	CL70HE	D70HE
1 bed 1 bath & shower	CL125HE	DD125/DD145HE
2 bed 1 bath & shower	CL125HE	DD145/DD170HE
3 bed 1 bath & shower	CL145HE	DD210HE
4 bed 1 bath & shower	CL170HE	DD210HE
4/5 bed 2 bath & shower	CL210HE	DD250HE
4/5 bed 3 bath & shower	CL250HE	DD300HE
Light commercial usage †	CL250HE	DDD250/DDD300HE
Other commercial uses †	CL300HE	DDD250/DDD300HE

Figures are for guidance only and are based on BS 6700 recommendations.

D = One element
 DD = Two elements
 DDD = Three elements
 CL = Indirect with one element supplied

† DDD cylinders are supplied with three elements and a blanking plug which can be fitted as required to 4 bosses, one at the boost position and three near the base of the unit. This gives a choice of heating options dependent on application. CL210HE, CL250HE and CL300HE have boost upper element boss blanked off.

For additional immersion heater with thermostat, please order: Upper 'straight' **95:970:510**

Note

Heatrae Sadia's Specification Advice team should be contacted to discuss requirements and designs for specific sites.

Extra loading options

Model	Bottom	Top
D	1 x 3kW	1
DD	2 x 3kW	1
DDD	3 x 3kW	2
DDD*	3 x 3kW	3
CL	4 x 3kW	1
CL†	2 x 3kW	1

†† (additional element option on 210, 250, 300 CL models only).

* When fitted with additional immersion heater: **95:970:510**.

High usage applications

When it comes to meeting the needs of demanding applications, e.g. rugby club shower rooms, two or more Megaflow HE units can be installed in parallel.

Detailed specifications and designs, including comprehensive plumbing information, are available by contacting our Specifier Advice Team on Tel: 01603 420220 or by Fax: 01603 420229.

Examples of installations using Megaflow HE units in parallel

Application	Indirect Units in Parallel	Direct Units in Parallel
Nursing home (27 beds)		3 x DDD250HE
Student accommodation (18 showers)	2 x CL300HE	
Sports club (13 showers)	6 x CL210HE (2 x 3)	
Rugby club (max. 80 showers per hour)		6 x DDD300HE (2 x 3)
House (5 bed + 5 bath)	2 x CL250HE	
Bar with food servery (300 persons)	3 x CL300HE	
Hotel (8 bed + 6 bath)	2 x CL300HE	
Guest house (4 baths + 3 showers)	3 x CL145HE	



Illustration showing two Megaflow HE in parallel for high usage applications.

Photograph for illustrative purposes only - bespoke pipework required for specific application.

Megaflow HE

Unvented water heating



Unique internal air gap system

- 1 Internal air gap to accommodate expanded water
- 2 Patented floating baffle maintains the air gap

Stainless steel construction

- 3 22mm compression / ¾" BSP hot water outlet
- 4 Cylinder manufactured from top grade Duplex 2304 stainless steel - specially selected for its high resistance to stress and crevice corrosion
- 5 22mm compression / ¾" BSP cold water inlet
- 6 Integral feet
- 7 22mm compression / ¾" BSP primary flow
- 8 22mm compression / ¾" BSP primary return
- 9 Primary heating coil for use with indirect systems (CL models only)
- 10 Patented cold water diffuser

Appliance-quality finish

- 11 White plastic-coated corrosion proofed outer case with grey moulded top cover for neat and attractive finish

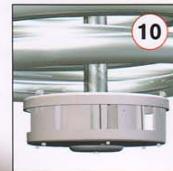
- 12 Grommets on indirect pipework for professional finish

High performance

- 13 Totally insulated with 100% CFC-free (ODP zero) polyurethane to minimise heat loss
- 14 Wide choice of products from 70 litre to 300 litre
- 15 Long-life 3kW Superloy 825 immersion heater

Safety controls

- 16 ¼" Temperature and Pressure Relief Valve, operating at 90°C/10 bar
- 17 Indirect thermal controls (CL models)



In built quality

Megaflow units are manufactured in the UK in a BS EN ISO 9002 registered factory. All Megaflow units are fully BBA, WRAS and CE approved with full BEAB approval on all electrical components. Copies of certificates are available on request.

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Specification and ordering guide

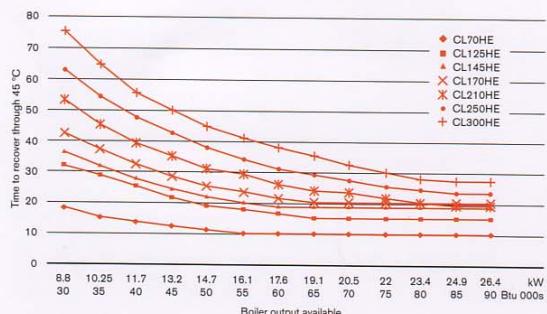
Megaflow	Nominal Capacity (litre)	Element Rating @ 240V (kW)	Coil Rating (kW)	Weight empty (kg)	Weight full (kg)	Product Code
D70HE	70	1 x 3		23	123	95:050:360
CL70HE	70	1 x 3	15.4	25	125	95:050:361
DD125HE	125	2 x 3		25	174	95:050:362
CL125HE	125	1 x 3	18.3	27	176	95:050:363
DD145HE	145	2 x 3		32	201	95:050:364
CL145HE	145	1 x 3	17.7	36	205	95:050:365
DD170HE	170	2 x 3		34	228	95:050:366
CL170HE	170	1 x 3	18.7	39	233	95:050:367
DD210HE	210	2 x 3		38	248	95:050:368
DD210HE	210	3 x 3		39	249	95:050:380
CL210HE	210	1 x 3	24.4	43	253	95:050:369
DD250HE	250	2 x 3		45	295	95:050:370
DD250HE	250	3 x 3		46	296	95:050:371
CL250HE	250	1 x 3	23.9	50	300	95:050:372
DD300HE	300	2 x 3		55	355	95:050:373
DD300HE	300	3 x 3		56	356	95:050:374
CL300HE	300	1 x 3	24.5	60	360	95:050:375
Accessories						
Megaflow HE immersion heater with thermostat - upper 'straight'						
Swept tee (22x15x22)						
95:970:510						
95:970:509						

Megaflow HE performance

Nominal Capacity (litre)	Recovery Model CL (Indirect) (minutes)	Heat up Direct 3kW (Model D) (minutes)	Heat up Direct 6kW (Model DD) (minutes)	Heat up Direct 9kW (Model DDD) (minutes)	Boost Heat top element (DD & DDD) (minutes)	Heat loss in 24 hrs. (kWh)
70	10	87	N/A	N/A	N/A	1.14
125	15	137	69	N/A	66	1.70
145	18	153	77	N/A	72	1.92
170	20	181	91	N/A	79	2.08
210	19	199	100	67	65	2.30
250	23	238	119	79	92	2.45
300	27	287	144	96	97	2.72

CL are indirect models with one electrical element.
CL210HE, CL250HE and CL300HE have additional boost upper element boss blanked off, additional immersion heater available.
See above.

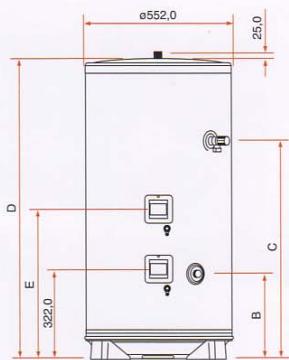
Recovery times for CL models with various boiler outputs (based on 70% recovery)



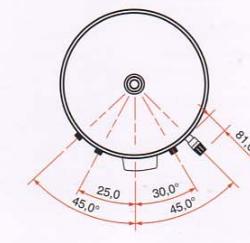
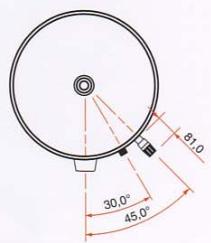
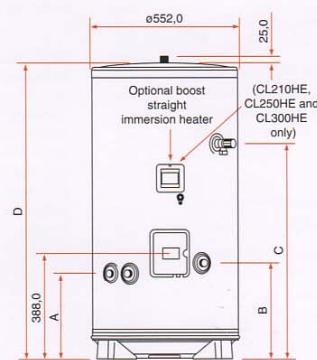
Megaflow HE

Unvented water heating

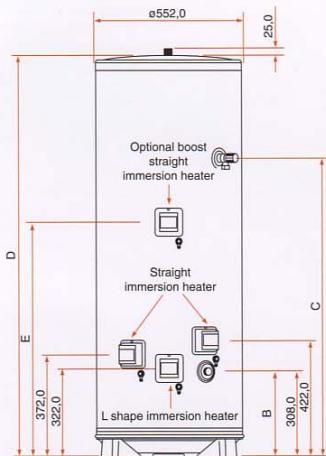
Direct (D,DD)



Indirect (CL)



Direct (DDD)



Dimensions table

Size	Type	Dimensions						
		Direct	Indirect	A	B	C	D	E
70	D	N/A		308	494	784	N/A	
70	CL	315		354	494	784	N/A	
125	D	N/A		308	793	1090	541	
125	CL	315		354	793	1090	N/A	
145	D	N/A		308	894	1215	642	
145	CL	315		354	894	1215	N/A	
170	D	N/A		308	1019	1372	767	
170	CL	315		354	1019	1372	N/A	
210	D	N/A		308	1095	1474	861	
210	CL	315		354	1095	1474	861	
250	D	N/A		308	1322	1726	1071	
250	CL	315		354	1322	1726	1071	
300	D	N/A		308	1573	2040	1375	
300	CL	315		354	1573	2040	1375	

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Specification

Nominal capacities

70, 125, 145, 170, 210, 250 and 300 litre.

Rating

Immersion heater/s 3kW @ 240V. Up to four can be fitted dependent on model.

Outer casing

White plastic coated corrosion proofed steel.

Thermal insulation

CFC-free (ODP zero) fire-retardant expanded polyurethane (45mm thick).

Water container

Duplex 2304 (Grade 1.4362 EN 10088) stainless steel with internal air-gap system.

Pressure testing

To 15 bar.

Heat unit

Long-life Superloy 825 alloy sheathed element/s, incorporated into an easily removable heater plate, should replacement be necessary. Rated 3.0kW @ 240V.

Primary coil

22mm diameter stainless steel.

Thermostat

Direct models: Element thermostat adjustable from 10°C to 70°C.

Indirect models: Factory-fitted cylinder thermostat adjustable to 70°C.

Factory fitted safety features

Direct models: Manual re-settable cut-out on heating element operates at 85°C.

Indirect models: High limit thermal cut-out operates at 85°C. Wired in series with two-port motorised valve (supplied) to provide primary over temperature protection.

All models: Temperature and Pressure Relief Valve, factory set to operate at 10 bar and 90°C.

Anode

Not required.

Approvals

BBA, BEAB, CE and WRAS approved.

Manufactured in the UK in a BS EN ISO 9002 registered factory.



Guarantee terms

The Megaflo HE Duplex stainless steel vessel carries a 25-year transferable guarantee against faulty manufacture or materials provided that:

- It has been correctly installed as per the instructions contained in the instruction manual and all relevant Codes of Practice and Regulations in force at the time of installation.
- It has not been modified in any way, other than by Heatrae Sadia Heating.
- The damage is not due to scaling or frost.
- It has only been used for the storage of potable water.
- It has not been tampered with or been subjected to misuse or neglect.
- Within 60 days of installation the user completes and returns the certificate supplied along with the proof of purchase to register the product.

The Megaflo HE immersion heater and thermal controls are guaranteed for a period of 2 years from the date of purchase.

Evidence of purchase and date of supply must be submitted.

The unit is not guaranteed against damage due to scaling or frost.

The guarantee is transferable.

This guarantee does not affect your statutory rights.



Installation

Must be installed by a competent installer in accordance with Local Regulations, England and Wales - Building Regulations G3, Scotland - Technical Standards P3, N. Ireland - Building Regulations P5.

Fixing

For floor mounting.

Plumbing

Inlet/outlet: ¾" BSP male parallel and 22mm compression fittings supplied.

Indirect coil: ¾" BSP male parallel and 22mm compression fittings supplied.

¾" T&P Relief Valve: 15mm compression outlet supplied.

Cold water control

22mm HiFlo cold water valve assembly comprising 3 bar pressure reducer, ¼ turn isolating ball valve, line strainer, non-return valve and expansion valve (8 bar).

Cold water control valve (3 bar) is supplied for use with mains pressure of 20 bar to 1.5 bar, at the lower pressure, performance will be reduced accordingly. Normal working pressure is 3 bar.

Water expansion

Via air gap built into the top of the cylinder.

The patented floating baffle maintains the air gap.

Flow rates

Up to 72 litres per minute (depending on adequate supply conditions).

Minimum water supply requirements

20 litres per minute flow and 1.5 bar pressure.

(At lesser values, the unit will operate but outlet flow rates may be unacceptable, especially with multiple draw-offs).

Please contact our Specification Advice Team to discuss specific site conditions if the above minimum requirement cannot be met.

Secondary circulation

Via 22 x 15 x 22mm swept tee (not supplied, available as accessory 95.970.509).

Fitted to inlet pipework (circulating pump not supplied).

Compatible boilers

Gas or oil fired - sealed system or open vent type, fitted with integral control thermostat and thermal cut-out.

Tundish

15mm inlet and 22mm compression outlet.

Electrical

Connection is direct to terminals in the immersion heater which must be permanently connected to the supply through a double-pole linked isolating switch with a minimum breaking capacity of 13A.

On indirect models, controls should be wired to the boiler, programmer etc. in accordance with the control scheme being used. All electrical installations must conform to the latest IEE Wiring Regulations.

Heatrae Sadia's Specification Advice Team is available to discuss requirements for specific projects, applications and product selection on Tel: 01603 420220.