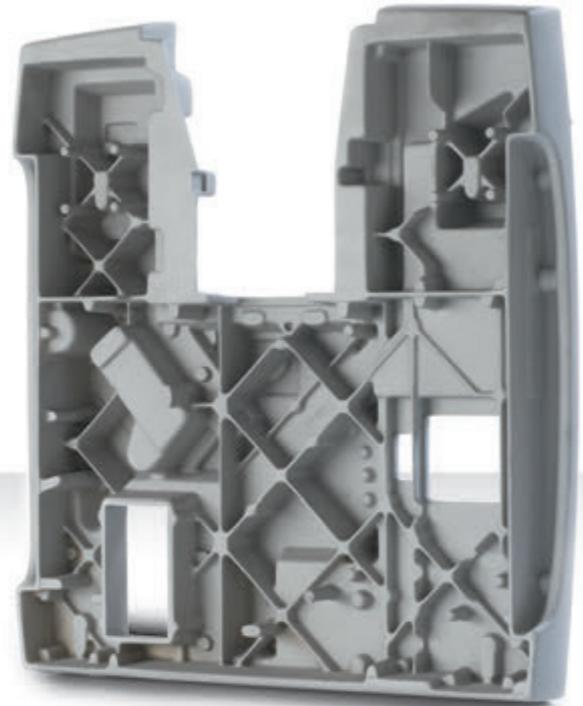
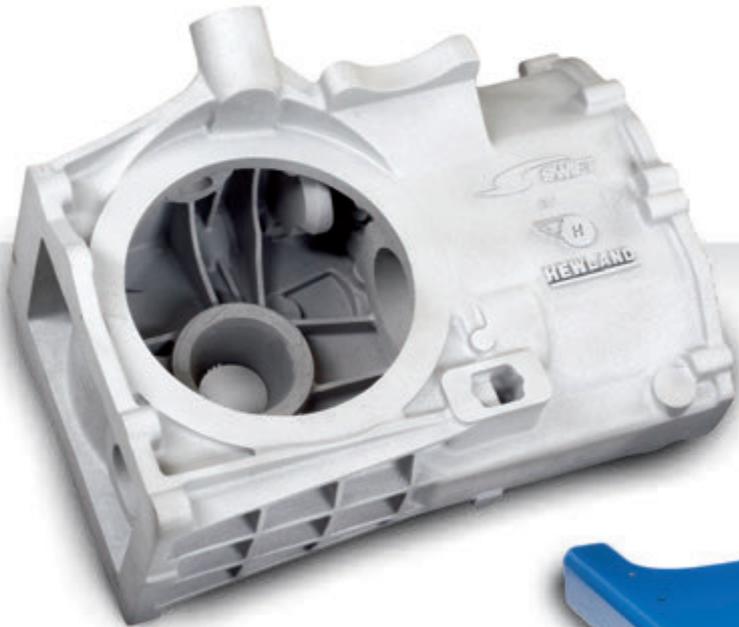




Global **cast** aluminium products and solutions

## Our Vision

We will exceed customer expectations by continuous innovation, teamwork and investment.



### **Cover Shot** - V10 Block & Volute Pump

These are 3D printed rapid castings -  
The **Bracket** with C.A.R.C. Coating & Anodise.

# Welcome



Established over 50 years with a long standing reputation as a leading UK **aluminium foundry**, we recognise that our most important asset is our customer. It is our first priority, therefore to provide value, reliability, manufacturing expertise, advanced technology and quality of product to achieve complete customer satisfaction.

Our aluminium casting technology is comprehensive and includes **CAD CAM, Pattern Making, Boxless Sand Moulding, Precision Sand Casting, Gravity Die-Casting, CNC Machining**, extensive **Inspection Facilities** both dimensional and physical, **Final Finishing** and **Assembled Product**.

The industries we serve include Aerospace, Automotive, Rail, Marine, Motorcycle, Defence, Life Sciences, Communications, Environmental and Test and Measurement.



# Capabilities

At Hadleigh Castings Ltd the process begins with our customers with whom we set the agreed performance criteria.

Our **sales and technical engineers** will discuss the proposal and if required will help determine the most appropriate alloy and **casting technique** to suit the application. Cast weights range from a few grams to over 300 kilograms.

Our services include-

- **Rapid Prototyping**
- **Solidification Modelling**
- **Functional Prototypes**
- **Precision Sand Castings**
- **Gravity Die Casting**
- **Fully Machined Castings**
- **Sub Assembly Products**
- **CMM & CNC CMM Inspection**
- **Non Contact Laser Scanning**
- **Reverse Engineering**
- **3D Printed Moulds & Cores for Prototypes & Production**



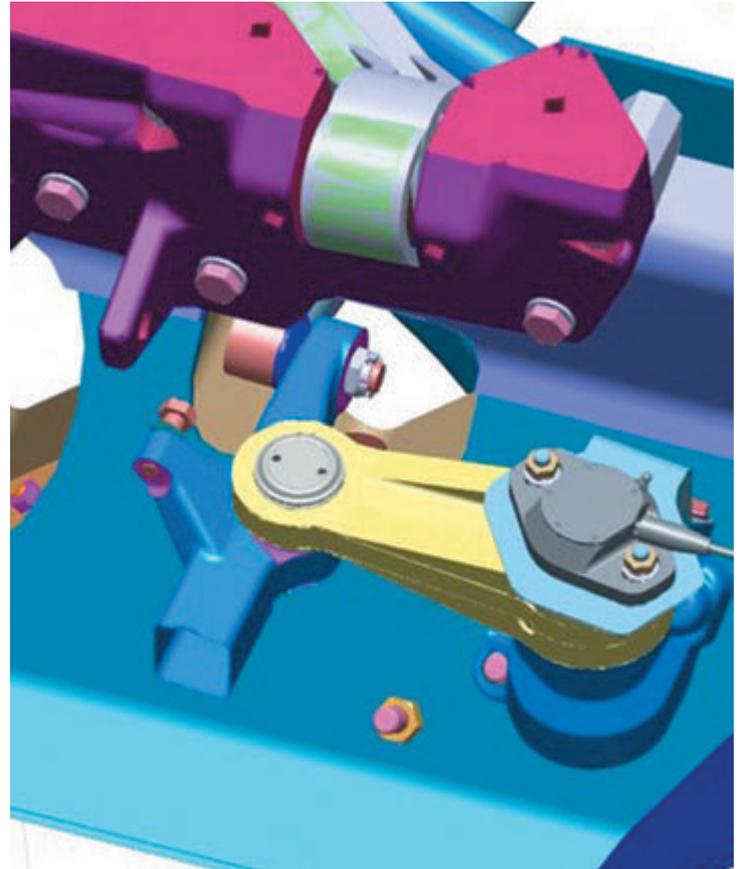


## CAD / CAM Suite

The CAD / CAM department is housed in a purpose built suite at the core of the machining resource. Investment includes state of the art computer hardware and software which is administered by our fully trained operators. We see this facility as vital in the development and production of our castings from pattern making through to final finishing. It is also a centre for continuous improvement, through reviewing and re-engineering machining methods and programmes to assist in our Lean Manufacturing and Cost Down initiatives.

During the early planning phase our highly skilled CAD Engineers can create virtual scenarios to advise on production and machining strategy to avoid future production inefficiency benefiting both customers and Hadleigh Castings.

We can accept electronic data in a variety of formats and from captured information we can produce paper drawings. In most cases we can interrogate, and subsequently complete or repair missing data in order to allow us to produce models. The most common file types accepted are: IGES, CATIA, DXF, PDF, DWG, STEP, E.DRGS, TIF.

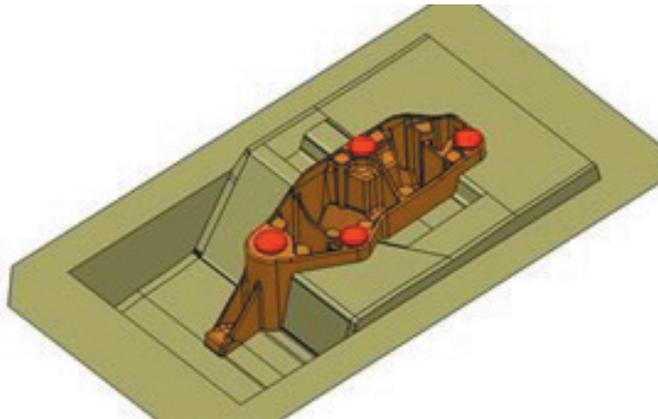
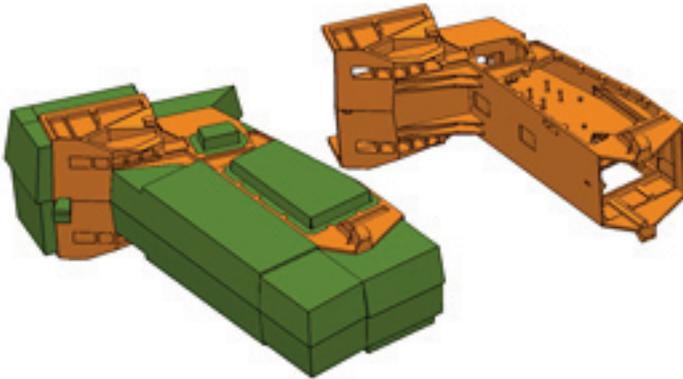


## Patternmaking & Tooling

Excellent facilities allow for consistently accurate and well finished patterns to be produced in wood, metal, or epoxy resin resulting in prototypes and often complex production castings with minimum draft angles in both thick and thin wall sections.

Feeding systems are designed by our Methods Engineers and built into critical positions to allow consistent repeatable performance during the manufacturing process.

We are able to offer a very wide range of skills and can react quickly to the benefit of Customers who need urgent changes to tooling through the prototype or development phase of their projects. We are of the view that repeating high standards in Casting production can only be achieved from well designed, high quality tooling. We therefore only construct robust top quality Patterns, built to endure the harshness of the process with minimal degradation. Our Customers can therefore expect to pay our Company, less than average for Pattern refurbishment, under normal circumstances.



# Precision Sand Casting

We have been producing quality **Precision Sand Castings** using **Boxless Moulding** for over 50 years.

During this period we have consistently improved techniques and equipment enabling us to combine a variety of sand grades with modern resin systems and sophisticated mixer technology.

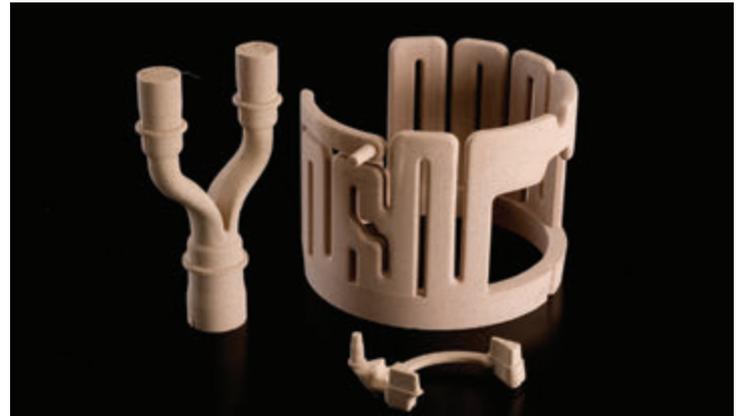
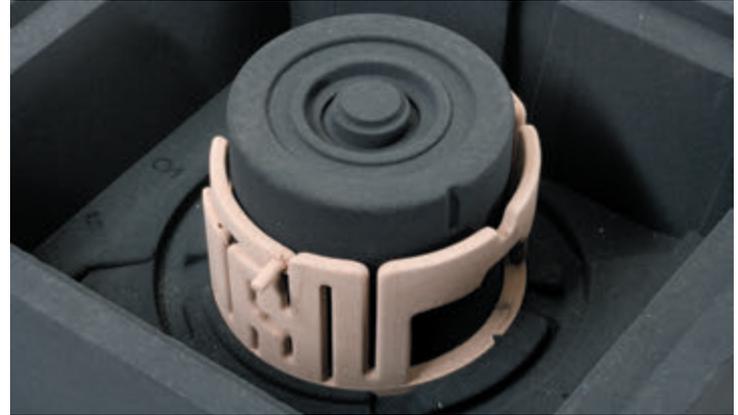
This allows us to tailor mould size, surface finish and create complex core arrangements to produce castings of a high integrity to satisfy the most demanding specifications.

**Precision Sand Casting** is particularly helpful to the designer who needs minimal draft angles, wall sections down to 2.5mm locally and up to 350 Kilograms in weight.

## Shot Cores

Blown or bench made cores are utilised, using CO<sub>2</sub>, Furane Resin and Amine Resin systems. Shot Cores can be produced up to 1m x 1m x 300mm deep.

3D Printed Moulds and Cores, available in 8 days.



## Gravity Die Casting



Our capability in this very long established casting method has been honed over the last 50 years. We comprehensively engineer our tooling for long life to produce high quality Aluminium Castings in a variety of alloys to suit their final use. Cast weights range from a few grams to 25 kilograms or more.

This method produces very accurate castings with a good surface finish when larger volumes are required with a lower unit price. The close tolerances, which can be achieved make Gravity Die Castings very suitable for machining using CNC equipment.

Complex internally cored castings are achieved using handmade or blown sand cores. These are produced from semi automatic machines incorporating wood or epoxy resin/aluminium/cast iron core boxes which give accuracy, intricate detailing and fine core surface. Cores are produced in a variety of sand medias to suit the parts requirements.



# CNC Machining

Our comprehensive machining resource has its own dedicated area adjacent to the Foundry. We continually invest in new high speed multi-tool equipment and operator training in order to support this highly important production facility.

Our CNC Machining Centres (Horizontal / Vertical) and Lathes mean that we can offer complex finishing to very high standards and tolerances, particularly for work within the X, Y & Z ranges of 1626mm, 1016mm and 762mm respectively.

Dedicated 3 axis CNC co-ordinate machines and regular maintenance and calibration, support our confidence in being able to meet the stringent parameters we set throughout our Manufacturing Processes.

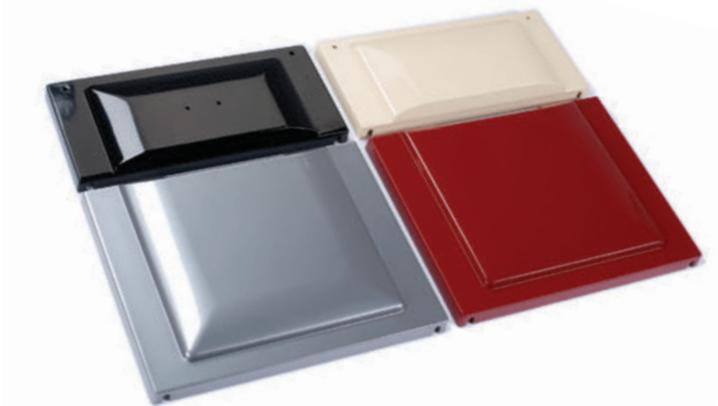


## Fettling & Finishing

**Fettling:** Our finishing department deals with the removal of runners and risers which are surplus to the casting process. The department is well equipped with both hand and air-operated tooling and also deals with any straightening or final dressing which may be necessary prior to **Heat Treatment or CNC Machining** for example. We also have blasting cabinets which can treat casting surfaces with a variety of grades of different media, either for aesthetic or functional needs.

**Final Finishing:** There are also a large number of other finishes or services which we provide as part of our commitment to supply 'bought out finished products'. All approved sub contractors are regularly audited by our ISO 9001:2008 processes. Example processes shown below:

Anodise, Hard, Sulphuric, Chromic and Decorative Achrom 1200-1000 R.O.S.H. Compliant Trivalent Pretreatments PAINT: Powder, Wet, Nylon Silk Screening.



# Assembly

Wherever practical we strive to keep all our production facilities within our existing site and assembly is no exception. Customers who have specific requirements will find Hadleigh Castings willing to assemble products we have manufactured and also to include items which we have had to purchase on their behalf. Complete assemblies can also be finally inspected or tested and delivered in dedicated packaging.

By co-ordinating these diverse services on site our Customers can be secure in the knowledge that their products will arrive at their final destination on time and in prime condition. From drawing to delivery we aim to take the headache away from component sourcing.



# Quality Control

Hadleigh Castings Ltd operates a system of **Quality Management** which is approved and certified to-

- **BS EN ISO 9001: 2015**
- **EN9100:2018** (Technically equivalent to AS 9100D)
- **IRIS Certification™ rules:2017** and based on **ISO/TS 22163:2017**
- **Cyber Essentials (CE) Compliant Certificate**
- **JOSCAR**

Throughout the production process we use modern analytical, measuring and inspection equipment which is regularly maintained and calibrated. This enables us to achieve the standards we have agreed with our Customers and Suppliers. Our Inspection Staff exercise control of all aspects of production and maintain documentation which is held for statutory periods to demonstrate traceability.

The Quality Department also has final responsibility for the despatch process ensuring components are suitably protected, packed and correctly documented in accordance with Purchase Order requirements.

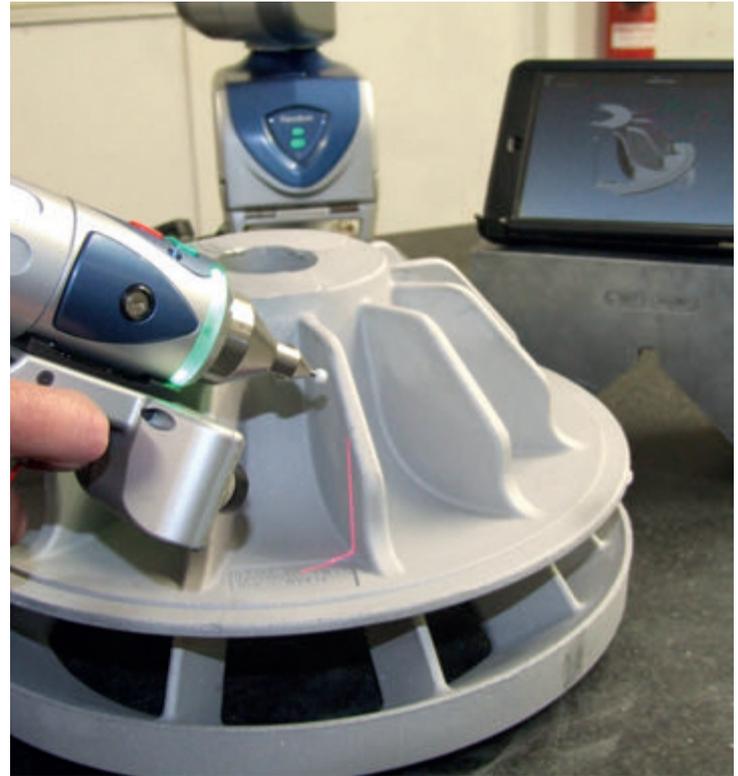
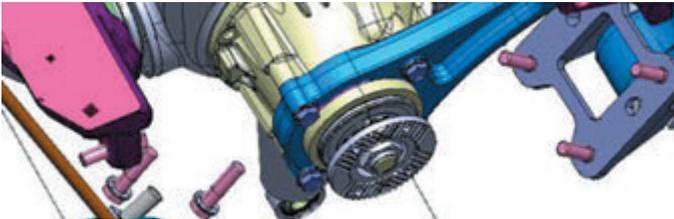


# Engineering Services

The very considerable experience and talents of our fully qualified engineering team are also available for the benefit of our customers. We can offer competitive quotations for reverse engineering services, predominantly where it will be used for casting projects all as part of our approach towards turnkey supply.

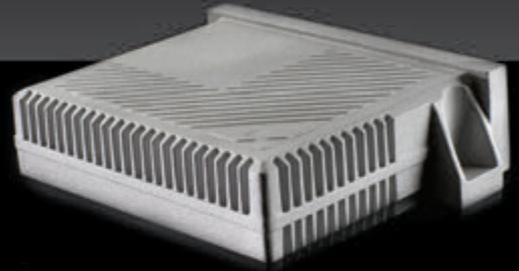
## Additional services regularly offered include-

- Materials Analysis Testing
- Pressure Testing and Fixtures/Design
- Inspection by CNC, CMM, Endoscope, Ultrasonic
- Radiographic or Dye Penetrant (Sentenced)
- Non Contact Laser Scanning and Reverse Engineering
- Appraisal of Casting Integrity using our in-house Digital X-Ray Facility



## Together We Can

- Achieve continuous improvement
- Implement cost reductions
- Be market leaders in our fields
- Grow in all areas
- Achieve what our competitors believe to be impossible





**Hadleigh Castings Ltd**

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