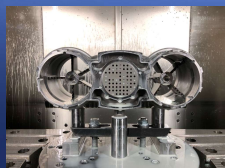
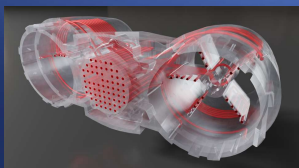


ARA PROTOTYPES

MANUFACTURING CAPABILITIES

Machining		
Machines	Capacity	Precision (inspected)
CNC 5-Axis Huron KX50M	X Travel = 2000mm	±0.01mm
CNC 5-Axis Hermle C400u	X Travel = 850mm	±0.01mm
CNC 5-Axis Hermle C250u	X Travel = 600mm	±0.01mm
CNC 3-Axis Doosan DNM	X Travel = 1050mm	±0.01mm
CNC Lathe Doosan including secondary drilling milling	Max component length 2100mm	±0.01mm
Manual Milling	1200 x 600mm	±0.01mm
Manual Lathe	Max. Dia. = 425mm, Max. Length = 2200mm	±0.01mm
Electro-Discharge Machining (Die Sink)	X = 750mm, Y = 650mm, Z = 600mm	±0.01mm
Electro-Discharge Machining (Wire Erosion)	X = 500mm, Y = 300mm, Z = 370mm	±0.01mm
Electro-Discharge Machining (Drilling)	X = 360mm, Y = 270mm, Z = 400mm with table or 500mm without	±0.01mm
Precision Jig Boring machine 1	Table Size 400mm x 200mm	±0.005mm
Precision Jig Boring machine 2	Table Size 900mm x 600mm	±0.005mm
Precision Jig Boring machine 3	Table Size 600mm x 500mm	±0.005mm
Surface Grinder (Small)	X = 450mm, Y = 150mm, Z = 200mm	±0.005mm
Surface Grinder (Large)	X = 600mm, Y = 300mm, Z = 250mm	±0.005mm
Cylindrical Grinding	Max. Dia. = 200mm, Max. Length = 750mm	±0.005mm

Additive Manufacture		
Process	Max Volume	Precision (as printed)
Direct Metal Laser Sintering	500mm x 280mm x 365mm	±0.2mm
Wire Arc Additive Manufacture	320mm x 132mm x 154mm	+2mm for final machining
Mark Forged Mark Two EDM 3D Printer	320mm x 132mm x 154mm	±0.1mm
Formlabs Form 3 LFS 3D printer	145mm x 145mm x 185mm	±0.025mm



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ARA PROTOTYPES MANUFACTURING CAPABILITIES

Fitting and Assembly	
Item	Precision (inspected)
Gaps at Joints	±0.005mm
Angles between Components with Assemblies	±0.1 deg
Surface Profile of Assemblies	±0.05mm
Surface Roughness - Hand finish	RA 0.4
Minimum Sharp Edge Thickness	0.25mm

Inspection		
Machines	Input / Output Files	Precision
Global Image CMM equipped with Renishaw SP25 analogue scanning probe	Input: STEP, IGES Output: STEP, IGES, XYZ	±0.005mm
Leica Optical Scanner	Input: STEP, IGES Output: STEP, IGES, XYZ, CATPart, STL	±0.05mm

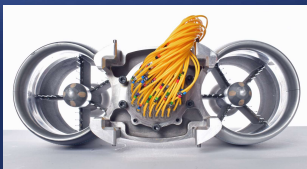
Strain Gauging	
Typical Strain Gauge Sensitivity	Gauge Factor = c.2.0
Bridge Thermal Compensation	0.05uV / V / °C (for 20-60 °C)
Service Life* (operating within design loads and without chemical contamination)	At least 10 years

* Maximum part volume for these capabilities is: 1200mm x 600mm x 600mm

We work with a wide variety of materials including: Titanium, Aluminium, Inconel, Stainless Steel, Tool Steel.

Please speak with us about your specific requirements and we will use the appropriate processes and standards to meet your needs.

If there is a capability you require which is not listed, please speak with us and we may be able to help.



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