Amiga™
ENGINEERING EST. 1988

ENGINEERING SOLUTIONS TO EMPOWER YOUR IDEAS

MACHINES, CAPACITY + QUALITY QUICK GUIDE

AMIGAENG.COM.AU

AS9100D:2016 ISO9001:2015

DISCRIMINATORS

OVERVIEW

Amiga Engineering Pty Ltd: Your All-in-One Solution for Advanced Manufacturing!

Discover the power of being Australian-Owned with unmatched Sovereign Capabilities since 1988. From Metal & Polymer 3D Printing, CNC Machining, Fabrication, Welding, Industrial Gearboxes, Industrial Maintenance, 3D Scanning, to Metal Powder Manufacturing and 3D Printer Equipment Sales - We have you covered!

Experience the advantage of a single location where innovation and expertise converge

ADDITIVE MANUFACTURING

- Largest service bureau in Australia for metal and polymer additive manufacturing.
- The only company in Australia with capability of printing in W-45 Tungsten and now Scalmalloy. Alongisde Titanium Gr23, Aluminium, Inconel 718, 316L Stainless Steel, 17-4PH Stainless, H13 Tool Steel
- Amiga sell the same 3D Printing equipment that it uses in-house for client manufacturing
- Australia's first metal powder atomizing machine to manufacture custom and traditional metal powder used in powder bed fusion technology for Additive Manufacturing

CNC MACHINING

- Large build envelopes and precision machining capabilities.
- One of the largest vertical borers available in Australia
- Turning diameters up to 2800mm, milling lengths up to 6000mm and wash grind up to 1200mm

INDUSTRIAL GEARBOXES

Amiga - shaping Australian industry with unmatched Gearbox excellence.

Proudly manufacturing the sole Australian Made brand, 'Genat and Wood,' we stand by its legacy by offering a 5-Year Warranty on all new Genat and Wood inline helical gearboxes, ensuring reliability and longevity.

AUSTRALIAN MADE AND OWNED

Amiga specifically chose premier brands to serve as the official agents in Australia.

Varmec - Italian Ingenuity in motion control solutions. Lineup of Inline Helical, Friction Disc Speed Variators, and Variable Pulley Speed Drives. In Australia, Amiga exclusively selects the robust cast iron exterior versions, lasting longer in more demanding environments compared to Aluminium

Tramec - Elevating performance and precision in gear gechnology. Explore the distinctive range of Worm, Bevel Helical, Planetary, Parallel, Right Angle, and Variators - Engineered with Italian Excellence

Motomeccanica - Setting the Bar as the World's Exclusive Provider of Tailor-Made Large Gearboxes

Speed Selector - The Unrivaled Source of American Excellence in Variable Speed Pulleys and Belts

INDUSTRIAL MAINTENANCE SERVICES

Empowering Industrial Excellence. With our on-site Industrial Maintenance Services, we go the extra mile, handpicking the Finest Tradespeople to Tackle Every Task, Ensuring Unmatched Precision and Optimal Performance for Your Operations

SMALL AUSTRALIAN BUSINESS WITH LARGE CAPABILITIES
BUILDING BOUNDLESS POSSIBILITIES WITH PRECISION AND INNOVATION

MACHINES & CAPACITY

ADDITIVE MANUFACTURING

METAL 3D PRINTING

2 x **ProX 320 DMP** (3D Systems): 275mm x 275mm x 420mm
2 x **DMP Factory 350** (3D Systems): 275mm x 275mm x 420mm high
1 x **SLM280H** (SLM Solutions): 280mm x 280mm x 350mm high

Materials (not limited to):
Scalmalloy®, Tungsten, Titanium, Ballistic Titanium Armour, Inconel, Stainless Steel, Aluminium, H13 Tool Steel,

POLYMER 3D PRINTING

1 x **SLS SPro60** - Nylon materials, Elastomer materials
3 x **Figure 4 Modular**: 124.8mm x 70.2mm x 346mm high
1 x **Figure 4 Standalone**: 125mm x 70mm x 196mm high
1 x **Mimaki - Full colour** 3D printing: 500mm x 500mm x 300mm high

CNC MILLING

5 axis simultaneous machining:
Mazak Integrex i200S
Mazak Integrex i250HS
Horizontal Milling
CNC Zayer: 6000 x 2000 x 1500 mm Full 3D capability
CNC Twin Pallet changer
1050 x 1050 x 1250 mm
CNC Milling Centres (All with full 3D capability)
750 x 360 x 300 mm
1250 x 360 x 660 mm
1530 x 800 x 660 mm
3200 x 1480 x 660 mm

CNC & MANUAL LATHES

Multiple CNC and manual machines 10-off
CNC Turning: up to Ø695 mm DIA x 1500 mm long
Manual turning: up to Ø300 mm DIA x 3000 mm long

VERTICAL BORING

Up to Ø2800 mm DIA x 1800 mm high (10 Tonne capacity)
Up to Ø1900 mm DIA x 860 mm high (3 Tonne capacity)
Up to Ø1200 mm DIA x 860 mm high (3 Tonne capacity)

WELDING, FABRICATION & OTHER SERVICES

Wire Cutting: Fanuc Alpha-C800iC (1250 x 975 x 500mm) Cutting Capability 800x600x500
Welding: Laser, GTAW, GMAW (Pulse), Plasma, Arc, Robot Welder (2500mm reach)
Laser Cutting
Brake Press & Rolling (100 T Press for bearings and shafts)
Blasting - Bead, Sand, Glass Bead
Painting and coating (Plating & Special coatings via subcontract)
Heat treatment: In-house stress relief up to 300mm3; Sub-contract upt o 6m3

QUALITY & EXPERIENCE

QUALITY ASSURANCE & GENERAL INSPECTION OF PRODUCT

Accredited to AS9100D for Aerospace, Space and Defence, and all other manufacturing to ISO 9001:2015

All items manufactured by Amiga Engineering™ are dispatched complete with EN10204 3.1 Material certificates. NATA approved NDT testing can be arranged on request. Third party witnessing for more stringent traceability & individual customer specifications is also available.

A quality assurance audit is available on request.

INSPECTION

Company products are thoroughly tested and inspected to rigorous standards and client requirements such as magnetic particle inspection, ultrasonic inspection, G48 corrosion and pitting test, and more (available on request) All testing and heat treatment records are stored for traceability requirements at any time. All NDT testing is carried out by NATA Qualified and endorsed personnel.

TESTING & INSPECTION

Tests can be carried out for you – must be advised at time of quoting and ordering if required)

Non-destructive testing NDT (UT, DPI, and MPI) Qualified Personnel NATA endorsed

Ultrasonic Inspection

Magnetic Particle Inspection

G48 Corrosion and Pitting test

Sigma Phase testing

Visual & dimensional testing is carried out on forgings before, during and after manufacture; to customer needs

Charpy Impact and **Hardness Testing** of materials is carried out on all materials prior to machining where required. This is an extra charge.

Tensile and Chemical Analysis

Heat Treatment Records

Ferrite Count

Micro graphical Analysis,

Ferrite Scope and other tests available if required

Full MDR can be supplied for project work – with complete traceability

MATERIAL RANGE

FORGINGS

ASTM A105N, A350, LF1, 2 & 3

ASTM A182 F5, F11, F22

ASTM A182 F304, 304L, 315, 315L, 321, 310

ASTM A694 / MSS SP44 F35, F42, F52, F60, F65, F70

Duplex Stainless Steel A182-F51 UNS 31803, SAF2205,

Super Duplex 2507 & ZERON 100

Monel 400, Incalloy 800, Hesalloy, etc.

PLATE

AS 3678 250, AS 1548 7 460R, 490 460NL40, 460NL50 (equivalent to A516-60, 70 etc)

ASTM A240/480 304, 304L, 315, 315L, 316, 316L, SAF 2205, SAF 2507, UNS S31803, 3CR12, 253MA, Aluminium and more

STANDARDS USED

ASA ANSI B16.5, B15.47A, B16.47B, B16.31, AS2129, AS4087, MSS SP44, MSS SP79, NACE MR0175, DIN, API605, API6A, BS10, API17D, API16D, BS 3293, BS 4504, JIS, AWWA, AS4087

B16.25 B16.20 and more

3D SCANNING

NEW TECHNOLOGY DEMANDS AN ADVANCED QC PROCESS

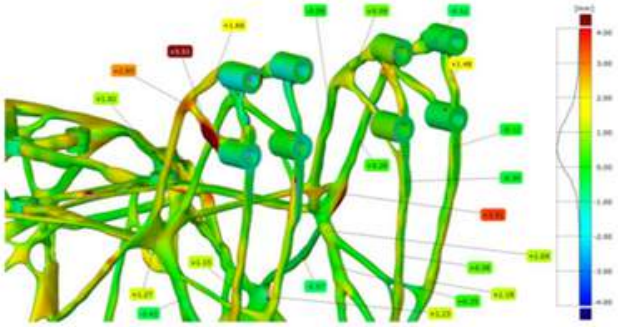
Detailed and organic geometries designed in DTO or generatively designed parts enabled by DMP and our other additive processes' are impossible to measure traditionally,

WITH A CONSTANT DRIVE TO INSURE QUALITY FOR AM PARTS AND PROVIDE AN EVOLVED DESIGN SERVICE

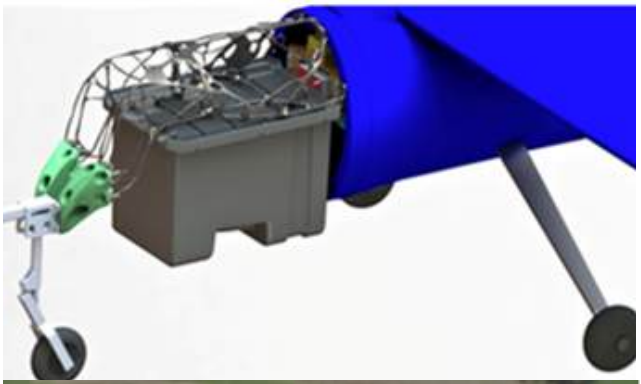
GOM-Atos-Q 8M 3D scanning technology in-house, for QC of Your Additive Parts, Machined and Fabricated parts.

The design shown below is a critical pannier bracket and has been designed and optimized via DTO, Printed in Ti6Al4V Grade 23, and used in a UAV to hold vital Lidar equipment that cannot afford to fail. The images below are showing the best fit analysis using GOM inspect comparing CAD and AM print to prove accuracy to CAD.

The high-resolution scan data (grey) can be aligned and overlayed with CAD model



Surface Deviations can be calculated and displayed on a colour plot



METAL 3D MATERIALS ONLY AVAILABLE IN AUSTRALIA WITH AMIGA

DMP (DIRECT METAL PRINTING) - 3D SYSTEMS METAL POWDER BED FUSION TECHNOLOGY

- TUNGSTEN: HIGH-DENSITY, ROBUST CHOICE
- SCALMALLOY: LIGHTWEIGHT, AEROSPACE-GRADE MATERIAL
- DEFENCE-GRADE METAL OPTIONS
- ADVANCED METAL MATERIALS
- STRATEGIC DEFENCE SOLUTIONS WITH AMIGA
- TAILORED SOLUTIONS FOR DEFENCE INDUSTRY APPLICATIONS

AMIGA - THE AUSTRALIAN METAL AM EXPERTS
We use the 3d Systems DMP ProX320 AND DMP350 FACTORY + SLM280H

W-45 – TUNGSTEN

- High temperature applications
- Electrical and Thermal conductivity
- Radiation shielding capabilities
- Nuclear industry capable – to withstand extreme high-temp and corrosive working environments
- Highest melting point 3422°C
- Yields radiation absorption properties (X-ray, gamma radiation)
- Heat and Corrosion resistant

Scalmalloy

- High strength to weight ratio
- Durable and lightweight
- Corrosion resistant
- Fluid Flow Applications
- Aerospace, Space, Motorsports, Semiconductor Machinery
- Satellite Components
- Rocket and Missile Housings

APPLICATIONS IN DEFENCE

W-45 TUNGSTEN

- Hot-leading edges and nose-cones for hypersonic vehicles
- High-density armour-piercing projectiles.
- Radiation shielding for sensitive equipment.
- Aircraft and missile components reinforcement.
- Robust artillery and tank parts.
- Precision Aerospace counterweights.

SCALMALLOY

- Lightweight Aircraft Components with Scalmalloy
- Enhanced Defence Structures with increased strength, reduced weight
- Improved durability with resistance to specific environmental factors
- Spacecraft Innovation with reducing weight for increased payload capacity
- Aerospace Advancements Using Scalmalloy Technology
- Scalmalloy: A Space-Grade Material Choice - withstanding harsh conditions including extreme temperatures and radiation while maintaining structure integrity

STANDARD METAL 3D MATERIALS AVAILABLE WITH AMIGA

DMP (DIRECT METAL PRINTING) - 3D SYSTEMS METAL POWDER BED FUSION TECHNOLOGY

- CORROSION-RESISTANT STAINLESS STEEL
- AEROSPACE-GRADE TITANIUM
- DURABLE TOOL STEEL CHOICE
- STRONG STAINLESS FOR DEFENCE
- LIGHTWEIGHT ALUMINIUM OPTION
- HIGH STRENGTH NICKEL ALLOY

AMIGA - THE AUSTRALIAN METAL AM EXPERTS
We use the **3d Systems DMP ProX320 AND DMP350 FACTORY + SLM280H**

Ni718 - NICKEL SUPER ALLOY

- Corrosion Resistant
- Chemical Resistant
- Cryogenics
- High Temp
- Fuel Nozzles

AlSi10Mg ALUMINIUM

- Lightweight
- Great Thermal Conductivity
- Heat Sink/Exchangers
- Automotive and Aerospace

SS316L - STAINLESS STEEL

- High Corrosion Resistant
- Great Weldability and processing
- Sterializable
- F & B - Pharma - Medical Instruments

Ti6Al4v Grade 23

- Industrial applications where light weight at high strenght is key
- Medical Implants
- Medical tools and devices
- High strength to weight ratio
- Optimized structures

H13 TOOL STEEL

- Very hard 55 HRC as printed
- Fine details that are strong
- High rigidity
- Abrasian resilient
- Injection mould inserts with conformal cooling

17-4PH Stainless

- High Corrosion Resistance
- Great Mechanical properties
- Aerospace
- Petrochemical environments

ACCESS TO A VARIETY OF MATERIALS SUITABLE FOR DEFENCE APPLICATIONS

NICKEL ALLOYS AND STAINLESS STEEL:

- Superior Strength, Corrosion Resistance
- High-Performance Nickel Alloy
- Resilient Stainless Steel Choices
- Precision with 3D Printing
- Amiga's Defense-Grade Materials

METAL ALLOYS AND TOOL STEEL:

- Superior Strength and Durability
- High-Performance Metal Alloys
- Precision-Engineered Tool Steel Parts
- Enhanced Defense Component Production
- Cutting-Edge Metal 3D Printing

TITANIUM BALLISTIC ARMOUR

FORGING THE FUTURE OF DEFENCE:
Unveiling Metal 3D Printing (DMP) Breakthroughs in Armour Manufacturing

In an era of ever-evolving threats and technologies, the Defence industry constantly seeks innovative solutions to enhance the protection and capabilities of our armed forces. One such innovation is Metal 3D Printing (Direct Metal Printing - DMP), a cutting-edge manufacturing process that Amiga Engineering is revolutionizing the production of custom-formed ballistic armour.

AMIGA'S CUTTING-EDGE METAL 3D PRINTING ELEVATES BALLISTIC TITANIUM ARMOUR, DELIVERING UNMATCHED DENSITY, PRECISION, AND STRUCTURAL INTEGRITY FOR DEFENCE.

- Cutting-edge Ballistic Titanium Armour
- **MIL-DTL-46077G V50**
- **Tested with .30-06 M2 AP Round**
- Metal Additive Manufacturing Excellence
- DMP 3D Systems Technology Advancement
- Superior Protection for the global Defence Industry
- Amiga's innovative Armour solutions

WHY CUSTOM BALISTIC ARMOUR?

Metal 3D Printing allows for unparalleled precision and intricacy in designing and manufacturing Titanium ballistic armour components.

Each piece can be custom-made to exact specifications, ensuring a perfect fit for the wearer or vehicle component and optimal protection.

BESPOKE PROTECTION

The capability to create custom-formed Titanium Ballistic Armour means that each piece can be uniquely designed for individual soldiers or critical component protection.
This level of customization maximizes comfort and protection, improving overall combat effectiveness.

Specialised components including interior fixtures, brackets and housings for communication and navigation equipment can benefit from 3D printed ballistic armour.

OTHER MATERIALS AVAILABLE FOR METAL 3D PRINTING

Titanium Ti6Al4v Gr 23
Tungsten W-45
Scalmalloy
316L Stainless Steel
H13 Tool Steel
17-4PH SS
Ni718 Inconel 718
Alsi10mg Aluminium

MATERIAL VERSATILITY

DMP technology supports a wide range of materials, including high-strength alloys and composite materials.

This versatility enables the creation of armour or covers with exceptional resistance to various threats, such as bullets, shrapnel, and explosives.

WIRE CUTTING

PRECISION WIRE CUTTING AT SCALE

Amiga Engineering's wire cutting capabilities are powered by the state-of-the-art Fanuc ROBOCUT α-C800iC, one of only three in Australia. With an upgraded height capacity of 500 mm, this advanced machine delivers exceptional accuracy and versatility, making it ideal for complex and high-precision cutting tasks.

PRECISION AT SCALE: ONE OF AUSTRALIA'S LARGEST AND MOST ADVANCED WIRE CUTTERS

Superior Cutting for 3D Printed Metal Parts

- Precision Build Plate Separation – Delivers clean, accurate cuts without compromising part integrity.
- Minimal Post-Processing – Achieves smooth surface finishes, reducing additional machining time.
- Enhanced Structural Integrity – Non-contact cutting method prevents warping or material stress

Holding envelope of 1250 x 975 x 500 mm, with a Cutting capacity of 800 x 600 x 500 mm for precise and efficient machining,

The α-C800iC can accommodate both large-scale components and intricate, high-precision parts, making it the ideal choice for industries such as aerospace, medical, and advanced manufacturing.

WHY CHOOSE WIRE CUTTING?

Achieve tight tolerances and superior surface finishes for intricate geometries.
Stress-Free Cutting – Wire cutting eliminates material stress, preserving part integrity.
Optimized for Metal 3D Printing – Perfect for build plate separation and post-processing high-value components.
Versatile Applications – Works with hard metals, conductive materials, and complex designs with ease.

HERO CUSTOMERS & INDUSTRY PARTNERS

OUR BRANDS

INDUSTRY PARTNERS

HERO CUSTOMERS WE ARE ALLOWED TO MENTION

Amiga Engineering takes pride in serving a prestigious clientele, collaborating with industry partners, and representing renowned brands. However, due to our commitment to confidentiality and NDAs, we are unable to mention all of our esteemed hero clients in this context. Rest assured, the above-mentioned clients, industry partners, and brands are among those we can proudly acknowledge. We value the trust placed in us and remain dedicated to delivering exceptional solutions and maintaining the highest level of confidentiality for all our valued patrons.

CONNECT TO OUR TECHNICAL TEAM