

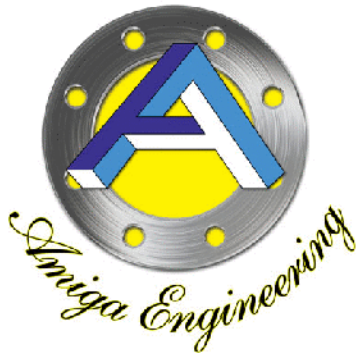
Amiga Engineering Pty. Ltd.

**PROUD AUSTRALIAN MANUFACTURER
OF PIPE FLANGES AND SPECIAL FITTINGS**



- MANUFACTURERS OF FORGED AND PLATE FLANGES AND FITTINGS USED WHERE EVER A CONNECTOIN IS MADE
- WELDNECKS, SLIP-ONS, SOCKET-WELDS, BLINDS, (TO ALL STANDARDS USED IN THE INDUSTRY)
- LONGWELDNECKS, SPECIAL NOZZLES, SWIVEL JOINT FLANGES
- TUBESHEETS, NUMERICAL CONTROL DRILLING OF COMPLICATED ITEMS
- PLATE FLANGES, TEST INSERTS, SPECTACLE BLINDS, BLEED RINGS, WELDOLETS etc.
- ALL GRADES OF MATERIAL FROM; ASTM A105N; A350-LF1,2,3; A182-F1,5,11,22; A182 F304,316 TO DUPLEX UNS31803; SAF2205,2507; MONEL; INCALLOY; etc.

"Amiga Engineering Pty Ltd is the World's Best Kept Secret, Where the Impossible is Possible"



Amiga Engineering Pty. Ltd.

9-11 Silicon Place, Tullamarine, Victoria, 3043.

Tel: +61 3 9330 0688 Fax: +61 3 9335 5607

Web site: www.amigaeng.com.au Email: sales@amigaeng.com.au
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Amiga Engineering™ Pty Ltd

Amiga Engineering was established in July 1988, having grown through the manufacturing of products for the Oil & Gas, Mining, Petrochemical, Marine, Medicinal and Defense industries.

Amiga Engineering's comprehensive machine shop and annexed companies affords it the ability to offer the best service in a wide field of expertise at competitive rates.

Amiga Engineering manufactures and supplies a full range of pipe flanges, swivel flanges, self-reinforced nozzles, long weld necks, butt-weld fittings, tube plates, hydrocyclone plates and special fasteners in a range of forged materials including carbon steel, stainless steel, high nickel alloys, Incolloy, Hest alloy and a full range of plate materials including titanium, mild steel and stainless steel used for both the onshore, offshore and subsea requirements of the oil & gas industry.

The industries in which Amiga Engineering has experience include: Oil & Gas, Food, Wine & Beverage Processing and Production, General Manufacturing, Energy, Water, Waste Treatment, Medical and Scientific Equipment, Material Handling, Mining, Petrochemical and Defense. Amiga Engineering also prides itself in the general "Job-in" work, including Emergency and Shut Down situations.

Amiga Engineering is the World's best kept secret. Since inception, Amiga Engineering has prospered as a 2nd tier supplier of finished and semi-finished products to large, major, minor and small corporations. Amiga Engineering also welcomes 1st tier customer contact and supports all customers to a very high standard, comfortably going above and beyond to meet customer requirements and expectations.

Amiga Engineering boasts the following, regular consumers of its products: Australian Submarine Corporation, BHP Petroleum, BHP Nickelwest, Santos, Shell Refinery Geelong, Woodside Group, Worley Ltd, Clough, Fluor Daniel, Yarra Trams, Iveco, other EPC contractors etc. Amiga Engineering products can be found on almost every oil platform or refinery across Australia.

Amiga Engineering is proudly Australian, with the vast majority of its products manufactured in Australia and with Australian material (wherever possible).



Amiga Engineering™ Pty Ltd Supports Local Business, Do You?

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JAS-ANZ



Genat & Wood™ Pty Ltd and Amiga Engineering™ Pty Ltd Summary

Amiga Engineering™ Pty Ltd acquired Genat & Wood™ Pty Ltd in 2009. Genat & Wood was a pioneer of Australian designed and manufactured gearboxes, having been established to support Australian industry through the design, development & manufacture of helical gear motors and reducers. Genat & Wood gearboxes and gearbox parts are now found world-wide and continue to be proudly manufactured in Australia earning official status as Australian Made and Owned.

The comprehensive Genat & Wood range includes mechanical friction-disc and belt-type variable speed drives, together with specialized units such as surface aerator gearboxes for waste water treatment etc. Input power ratings range from 0.37Kw through to 132Kw, with an output torque capacity of up to 18000Nm.

Genat & Wood gearboxes are of modular construction and employ readily available components, ensuring minimum service downtime. This also affords designers:

- Mountings in either foot or flange, in a variety of mounting positions.
- The interchangeability of gear sets across common housings enabling the modulation of input and output power and torque.

Genat & Wood gearboxes can be factory coupled to brake, two speed, single phase and D.C. electric motors. The standard metric motor mount flanges enable rapid motor refitting and permits the flexibility of fitting alternative client-specified motors. Optional extra include Clutch/brake, and run back bearings and external cooling.

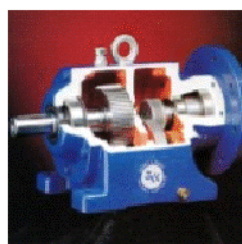
Genat & Wood's in-house design means a constantly expanding range and both updated and refined designs enabling it to remain competitive in the global arena. The manufacturing facility boasts CNC lathes for shafts, gearing blanks and adaptors, CNC machining centers for housings and CNC grinders for optimum gear finish.

The Australian-made quality inherent in Genat & Wood gearboxes means proven longevity, sturdiness often seeing gearboxes endure more than 30 years' service. Why risk a cheap throwaway item instead of investing to gain reduction of costly failures and downtime?

Genat and Wood™ are Australian Made tough boxes for tough industry.



GENAT & WOOD™
Aerator Reducers



GENAT & WOOD™
In-line Helical Geared

GENAT & WOOD™
Fixed Centre Belt
Variators (181 VC20)





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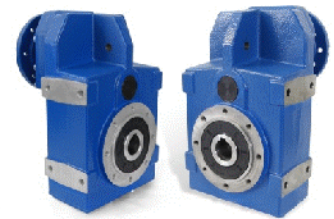
Amiga Engineering™ Pty Ltd Proudly Assembles and Distributes Varmec Gearbox Products



RCV & CV Series
2 Stages and 3 Stages
Helical Reducers



RCV & CV Series
Single Stage
Helical Reducers



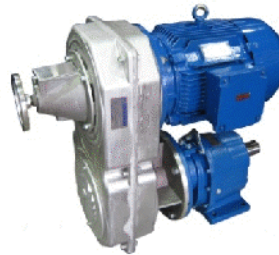
Brand New Series
Shaft Mounted Drives



VAR Series
Variator
(Without Gearhead)



Genat and Wood
Gearboxes with VAR
Series Variator



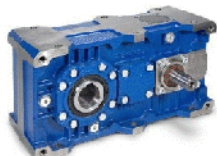
RGAE Series
& RCV Series



RGAE Series
Variator
(Without Gearhead)



EP and REP
Series
Planetary
Gearboxes



Z Series Parallel
Shaft Mounted



Amiga Engineering™
Proudly Distributes
Tramec Gearbox Products



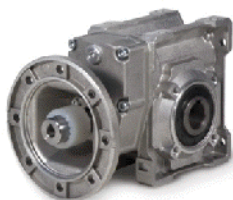
R Series
Right Angle



P Series
Shaft Mounted



T Series
Bevel Helical



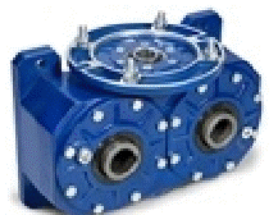
H Series
Worm Drives



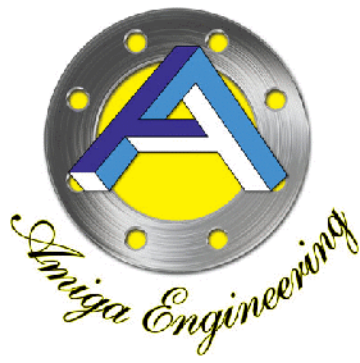
K Series
Worm Drives



X Series
Worm Drives



VM Series
Double Output
Worm Drives



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Amiga Engineering™ Pty Ltd Capabilities & Experience

Amiga Engineering™ Pty Ltd provides Quick turn around, breakdown and emergency situations are part and parcel of our ability to service whenever it is required.

With manufacturing and sales office located in Tullamarine, Victoria, Amiga is perfectly situated, being only minutes away from air, road and sea transport.

QUALITY ASSURANCE

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 and individual customer specifications is also available.

A quality assurance audit is available on request. We are accredited to ISO 9001:2008. The Oil, Gas, Petrochemical, Mining, Defense, Automotive, Medical and manufacturing industries are the sectors supplied by Amiga Engineering™ Pty Ltd.

Inspection

All the company's products are thoroughly tested and inspected to rigorous standards and client requirements such as magnetic particle inspection, ultrasonic inspection, G48 corrosion and pitting test, sigma phase testing, charpy impact testing, tensile testing and chemical analysis. 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.

MACHINE CAPACITY

New State of the art **Mazak Integrex i200S**: 5 axis machining centre – to do new work as well as manufacture some of its already complex components in 1 operations (instead of some 4 processes)

Vertical Boring

Vertical Boring up to 110: (2.800 meters) diameter up to 10 Tonne.

3 off: Vertical Borers flange 72" (1.900 meters) diameter up to 3 Tonne

CNC Milling

Mazak Integrex: 5 Axis Machining Centre

CNC Twin Pallet changer – used for gearboxes and other

2 off CNC ZAYER Horizontal Milling 4300 x 2000 x 1500 Full 3D capability, Dia to 4300

5 off CNC Milling 750 x 360 x 300. Full 3D capability

4 off CNC Milling 1530 x 800 x 660. Full 3D capability

3 off CNC Milling 3200 x 1480 x 660 Full 3D capability

CNC Horizontal Borer 1600 x 1200 x 1200 Full 3D capability

Sheet Metal Fabrication

Break Press – up to 2.3 Metres

Guillotine – 2.3 Metres. Can take up to 3mm thick for mild steel, or 6mm thick in Aluminium.

Rolling Machine – can take up to 4mm thick and associates 25mm thick

Lathes

CNC lathes used for shafts, gearing blanks and adaptors along with CNC machining centres for housings and CNC grinder for optimum gear finish.

3 x Okuma Lathes – used for standard CNC Turning from 2mm Dia – 695mm Dia

2x Okuma Bar Feeders

Other Services

Profile cutting

Plasma cutting of Stainless and alloy steel

Laser Cutting.

Guillotining up to 5mm thick

Sandblasting booth 36cu mt capacity.

Various other drilling and General Engineering machinery

FLANGE RANGE

Compact, Weldneck, Slip On, Blind, Orifice, Spectacle Blind, Paddle Blinds & Spacers, Raise Face, Full Face, Smooth & Standard Faces, Screwed, Socket Weld, Swivel Joint, RTJ etc

Swivel Flanges

Swivel flanges from Amiga Engineering™ are fully engineered to suit the most demanding applications, taking into account moments and forces on subsea equipment and pipelines.

Hydrocyclone Plates

Specialized tube plates with porting and integral outlets for cyclones are also available from Amiga Engineering™ Pty Ltd.

Self-reinforced Nozzles

With integral weld preparation to suit side intrusions into vessels taking up stress due to material removal, self-reinforced nozzles from Amiga Engineering™ are ideally suited on and offshore applications.

MATERIAL RANGE

Forgings to:

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, SAF 2205, Super Duplex 2507 & ZERON 100

Monel 400, Incalloy 800, Heralloy, 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, AS 2129, AS 4087, MSS SP44, MSS SP79, NACE MR0175, DIN, API 605, API 6A, BS 10, API 17D, API 16D, BS 3293, BS 4504, JIS, AWWA, AS4087 B16.25 B16.20 and more

Amiga Engineering™ Pty Ltd is renowned Australia wide for its expertise and ability to manufacture to all types of *extraordinary customer requirements*, **giving life back to dead metal**. We hope that this can be of service to you and your company. We believe our “hands on” situation is the best way of ensuring the highest quality and delivery of customer’s goods.

Testing & Inspection

(These 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 and dimensional testing is carried out on forgings before, during and after manufacture; to customer requirements

Charpy Impact and Hardness Testing of materials I carried out on all materials prior to machining where required.

Tensile and Chemical Analysis

Heat Treatment Records

Ferrite Count

Micro graphical Analysis,

Ferrite Scope and other tests available if required

Full MDR (Material Data Records) can be supplied for project work – with complete traceability

REFERENCES

Amiga Engineering™ has extensive experience supplying products to many high profile projects, including:

- Woodside-Train 4
 - Santos-Moomba
 - Apache-Gibson Plato
 - Apache-Simpson Development
 - Duke Energy-Bass Gas
 - ESSO-Longford Extension
 - Transfield Worley-Maintenance
 - QLD Power
 - Quenos-Maintenance
 - BP-Bullwer
 - Modec-Indonesia
 - PT Pro-Indonesia
 - Bayu Undan-Finals
 - Shell refinery-Corio-Cracker
 - BHP-HBI Port Hedland
 - Clough Offshore-Apache
 - Clough Offshore-Wonmich
 - East Spar Alliance-Varinus
 - ESSO-Longford Restoration
 - Murrin Murrin
 - Olympic Dam-Expansion
 - Woodside-Cossack Pioneer
 - Woodside-Train 3
 - Woodside-Goodwin A
 - APM-Chlorine storage
 - Bayu Undan
 - Technip-Kupe
 - Worley Parsons-Stabilizer 6
 - Worley Parsons-Vapor Line
 - Woodside-Phase V Expansion
 - PETRONAS Malaysia - AMC
 - Bechtel
- Various Flanges A105, F316L, LF2
Orifice Flanges, A105N, LF2
1500# Sub sea Flanges F65
1500# RTJWN Swivels F65/F52
600# Flanges, Weldolets
Flanges, Nozzles, Bleed inserts, Spec blinds
Various Flanges, Orifice, Nippo's
Various Flanges F316L, A105N
Flanges A105N, Fittings NPT
Nozzle necks and Flanges Various
Large Flanges and Swivels
Hydrocyclone Plates, Flanges Duplex
Flanges, Specblinds, Orifice plates, 316L and Duplex
Various Flanges F316L, F11, A105
Orifice Flanges, A105N, LF2
16" #1500 Sub sea Flanges F65
8" #1500 RTJWN F65/F52
14" #1500 Sub sea Swivels & Flanges
Flanges, Heavy Nozzles, Bleed inserts etc
Inconel, Titanium Machining
Various Flanges F316L, A105N
Din Flanges A105N
Nozzle necks and Flanges Various
Large Flanges and Nozzles
Cover Plates, Flanges Duplex
Flanges, Specblinds, Orifice plates, 316L and Duplex
F65 RTJWN Sub sea Riser with overlay
Specblinds, spades, spacers and bleed rings
Spades and Spacers A240-316L
300NB Lateral Tees A182-304L
50NB – 1500NB Self reinforced Nozzles carbon/ alloy
Hi Chrome Liners and retaining flanges/cones-Comalco

Amiga Engineering™ Pty Ltd Supports Local Business, Do You?

FLANGE MANUFACTURE AND FITTING SUPPLY



**Drive Couplings
Manufactured to
Customer Spec.**

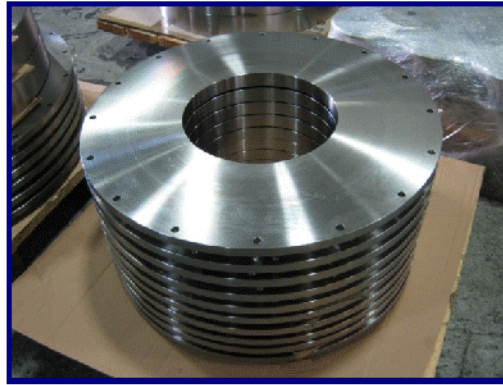


FLANGES AND SPECIAL FITTINGS TO *YOUR* REQUIREMENTS.

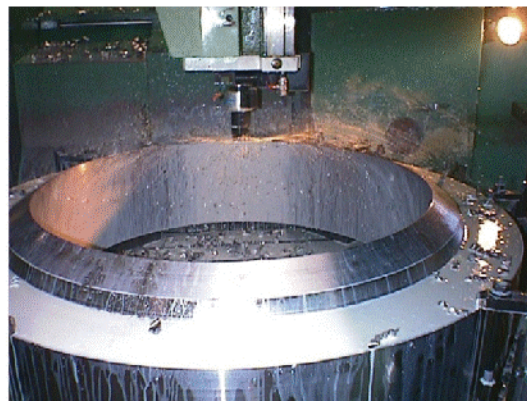
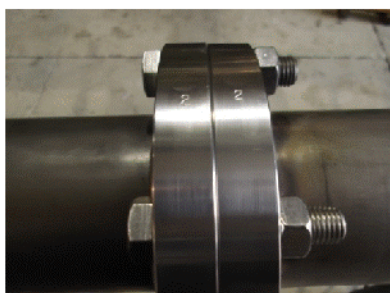
We manufacture from Australian forgings, all types of flanges to ANSI B16.5, AS2129, BS3293, MSS SP44, ANSI B16.47, API 605, BS4504, DIN and many other specifications in Stainless, Carbon and Alloy Steel.



Above is a large Pressure Vessel fitting approx 1200mm Dia, forged from one piece of ASTM A105N.

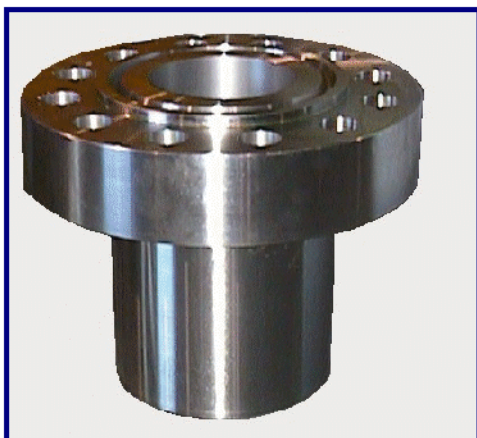
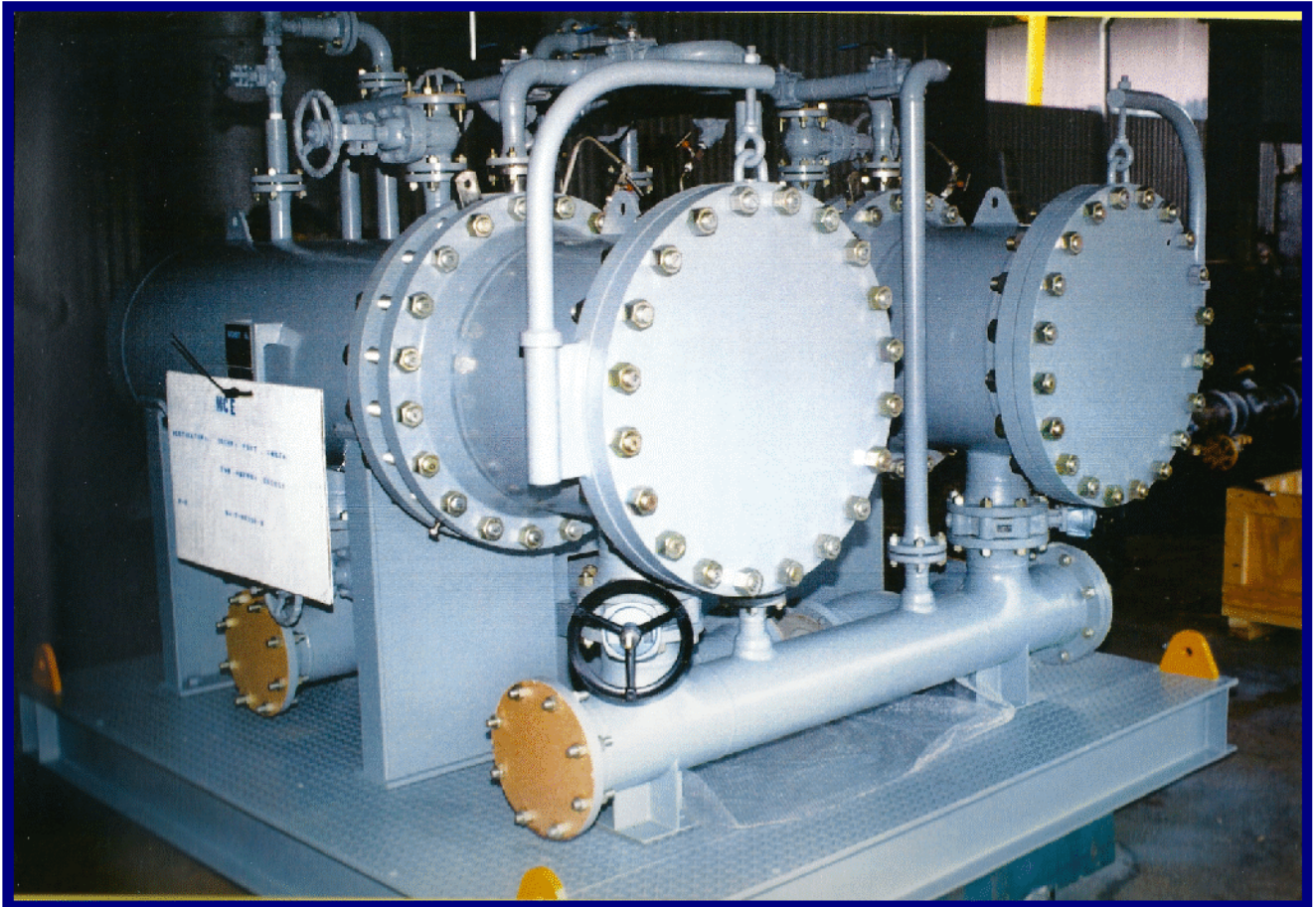


Spectacle Blinds are another one of Amiga Engineering's specialties that past customers are not aware we still manufacture. Made from Boiler plate or Plasma cut on our own plasma from stainless steel.



Inners of Swivel Flanges

ANY PRODUCT OUT OF ANY METAL, WE CAN MANUFACTURE FOR YOU!
Any Size, Large or Small we can do it!

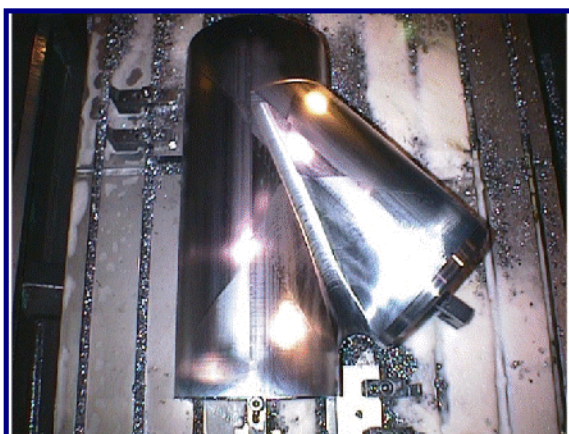
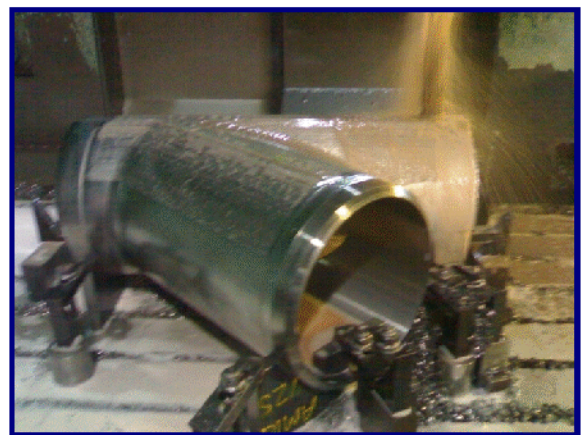
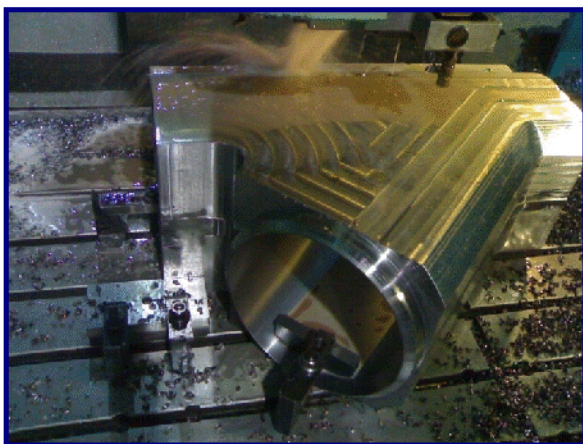


3D Machining

3D Machining plays part in Amiga Engineering's manufacturing. 3D machining has been utilized for small, med and large sized products. Amiga Engineering is proud of its 3D machining capabilities as it is preferred by many organizations as it is not as readily available from other engineering companies as it is at Amiga Engineering Pty Ltd. Below are some **700NB #600 RFSRFLWN** manufactured for a past project.



The below 300NB Lateral Tee was manufactured by using our CNC Zayer and then finished in the CNC Milling Wyntec.

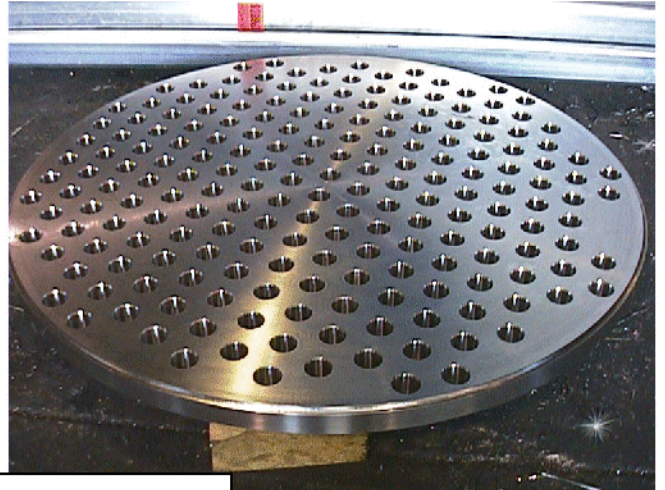


SPECIALISED AREAS

Ultrasonic and Magnetic Particle testing (UTI and MPI) are common requirements in project work, and are carried out by skilled technicians which are NATA endorsed.

This testing is to specifications and standards required for pressure vessel construction.

This testing is available on request and can be quoted prior to ordering.



Large Tubeplate 210 Thick 1092
Holes in High Yield Material

Tube Plates, both floating and fixed, for use in Heat Exchangers in Carbon, Stainless and Alloy steels.

Shown are some special plates manufactured for Hydrocyclones used in the offshore separation of water from oil.

NOZZLES



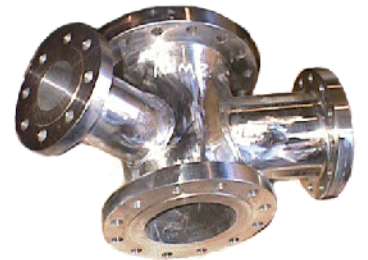
Angular Integral
Nozzle



Heavy Self-Reinforced
Nozzle mad to suit side
intrusion into Vessel (for
project)



3D Shaped Nozzle
for project

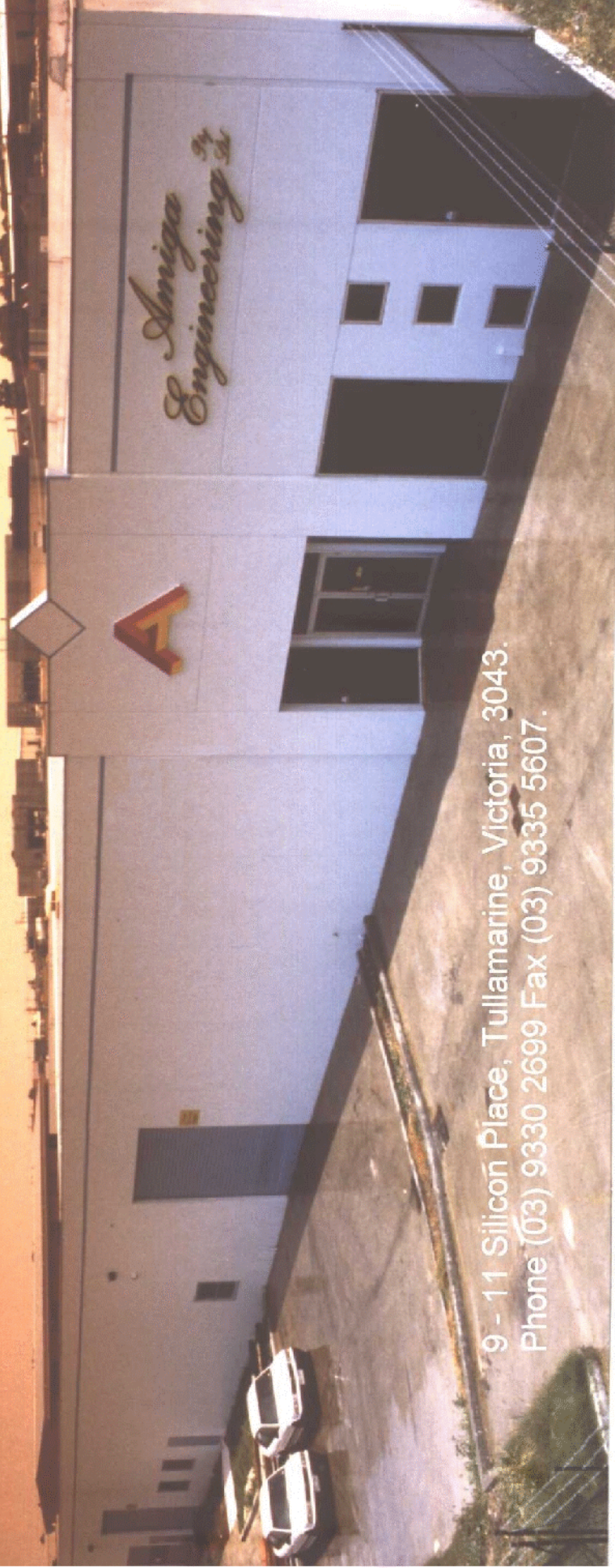


Duplex Digester
Nozzle

Below: Large Nozzle to Customer Spec



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