

## ENGINEERING DESIGN AND MANUFACTURING CAPABILITIES

Based in Wellington, Windsor's experience with unique designs enables us to solve detailed engineering problems and turn concepts into reality. The Engineering, design and manufacturing facilities at Windsor Engineering are first class. Our highly skilled staff provides a versatile, professional and high quality service at a competitive rate. From outsourced design work to engineering consultancy through to jobbing work and short production runs, Windsor can help alleviate project overload situations.

### Design and Engineering

- Computer Aided Design capability including:
  - Draughting / Design – AutoCAD
  - Solid Modeling – Solidworks
  - Finite Element Analysis - Cosmos Works
  - Structural Frame Analysis - Space gass
- Project staff 20+ able to assist in any aspect of Project Management, engineering and design with specialist skills in many fields including:

Air movement and filtration

Specialist purpose machinery development

Heat transfer and pipe work

Sheet metal and steel plate design

Prototype and development work

Dust and fume control

Fan design

Noise control

Pneumatic conveying

### Plant and Equipment

- Fully equipped factory of 20 – 30 trade staff
- Floor area: 3375m<sup>2</sup> with an additional 2100m<sup>2</sup> secure yard space
- Lifting: 2 x 5 tonne overhead cranes, max working height 4.8m
- Guillotine: 6 mm x 3.6m mild steel, 3 mm x 3.6m stainless steel
- Folding: 4.8m CNC Press brake - 220 tonne.
- Welding: MIG / TIG / MMAW
  - Carbon Steel, Stainless steel and Duplex
  - Pressure vessel welding to ASME 9
  - Structural welding to NZS 4711
  - Aluminium welding to AS 1665

#### Machine shop:

- Lathes: maximum swing: 400 mm over bed, 1000mm in gap  
maximum length: 3000 mm between centres
- Grinding: Cincinnati universal, dividing head/table  
surface and internal grinding
- Plasma: 2 m x 6 m bed  
16 mm max mild steel  
12 mm max stainless steel / aluminium  
holes in pipe and beams
- Rolling: 10 mm MS x 2 m

#### Rapid prototyping:

- Plasma / folding / welding
- Developed / welded sheet metal
- Finned tube fluid / air heat exchangers
- Shafts / bearing assemblies
- Ducting.



## CNC PRESS BRAKE



- 220 tonne 5-axis Dye NGX Press Brake with high precision synchronization of Y1 & Y2 axis using encoders with a resolution of 0.005mm.
- 4.44m between frames
- 4.8m maximum bed length
- 400 mm throat
- Cybelec NC880S 2D colour controller
- ADS anti-deflection capability
- CNC Controlled 3 axis back gauge
- Extensive tool set.

## PLASMA CUTTING SERVICE



Windsor's extensive manufacturing services include a **HD 3070 HyDefinition** plasma profile cutting machine. The HD 3070 is available for sub-contract manufacture of suitable components including a design and programming service.

Capabilities:

- Will handle mild steel, galvanised steel, stainless steel, aluminium and copper.
- Will cut material up to 12.5 mm thick.
- Large (6m x 2m) work table.
- High quality of cut finish at the lowest possible price.
- Highly complex shapes including slots and holes handled with ease.
- 'Arc writing' of fold lines, company names onto components.
- Design and engineering service.
- dxf or Autocad filing service.
- Material supplied by Windsor or free issue.
- Subsequent fabrication service (welding, assembly, drilling, surfacing etc.)
- Guaranteed high quality work by experienced operators.
- Fast response and guaranteed delivery.

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