CNC Cutting Job-Shop









"The Exclusive Enterprise For Complete Engineering Solutions Through World Class CNC Technology"

M.B.ENGINEERING INDUSTRIES PVT. LTD.



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MB Engineering (MBEI) is your one stop shop for a complete range of services in high precision CNC Laser cutting, Waterjet cutting, plasma/oxyfuel cutting, turret punching, bending and Metal Fabrication, Promoted by thoroughbred engineering professionals, MBEI commands world class infrastructure through installed capacity and engineering capability of a high level technology driven enterprise and also bears ISO 9001:2008 certification. Our capability and professionalism puts us in the league of the best known engineering service providers in Hyderabad. Enveloping most current business strategies, operating procedures and safety systems, MBEI has begun

contemplating overseas business opportunities through meaningful and highly productive partnerships.



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SOLUTION FOR
ALL YOUR SHEET-METAL
FABRICATION AND
ENGINEERING
NEEDS

Infrastructure, Technology & Team

MBEI has built magnificent infrastructure that integrates the use of high class technology, through machinery from the world's best known brands in CNC. Intelligently planned for optimum productivity, our infrastructure consolidates the most update and superior technology spread over 22000 sft. working space. Our team of dynamic engineering professionals is ably supported by a marketing division while all our operations imbibe an exemplary work culture.

Mobile: +91 809 655 9111 Email: info@mbeipl.com

www.mbeipl.com



CNC LASER CUTTING

MBEI employs some of the most advanced CNC Laser Cutting machinery to cut through sheet metal. Aided by a sophisticated programming system, high precision cutting in the metal sheets is assured. Our laser cutting service offers the following advantages:

Advantages

- Suitable for Stainless Steel (up to 16mm), Aluminium (up to 10mm), Mild Steel (up to 25mm), etc.
- Consistent, intricate and accurate shapes
- Finished Product no additional machining needed
- Fast and inexpensive prototyping due to little or no hard tooling
- Rapid design changes possible

- Laser beams, as small as 0.2mm produce intricate detail and sharp edges
- Increased per part savings due to low fixture costs, high feed rates etc.
- Increased saving due to more efficient utilization of materials
- Improved yield, more parts per sheet with less scrap
- Reduced expense and increased efficiency producing prototypes, small runs, and Large runs since--there is no tooling involved
- Improved accuracy, consistency, control, and flexibility
- Increased speed and higher cutter throughput in most circumstances
- Multiple jobs combined and cut in a single batch

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CNC WATERJET CUTTING

MBEI uses modern Waterjet technology for precision cutting and design engraving in stone, glass, synthetic or such other material where laser heat cannot be applied. However even metal can be cut wherever necessary. Waterjet technology is used extensively over several applications either in engineering or architectural requirements. Aided through a programme guided operation, Waterjet technology enables sculpting a repertoire of wonders out of metal, glass, wood,

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stone and even laminates and veneers, through innovative computer crafted and carved designs that greatly enhance the visual

Advatntages

- Can cut virtually any material including metal, stone, synthet wood, etc.
- Can be used for a variety of uses including regular cutting and architectural designs
- Can cut ma'terial upto thickness of 300 mm
- Relatively less expensive in comparison to laser cutting





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CNC PLASMA / OXY FUL CUTING

CNC Plasma cutting machines typically operate through the usage of a plasma torch. Producing compressed gas or compressed air at a high speed out of a nozzle while simultaneously allowing an electrical arc the torch turns the gas to plasma which in turn is hot enough to melt the metal being cut to high precision, really fast. MBEI's CNC Plasma machines allow computers to control the cutting torch head allowing clean and precise cuts. Our advanced CNC plasma machines are capable of multi-axis cutting facilitating complex welding seams which are otherwise impossible.

Plasma Advantages

- Faster than conventional manual plasma cutting
- Materials upto one inch thickness can be cut
- Can cut through conductive metals like Stainless
 Steel, Mild Steel, Aluminium, Copper etc.
- Less expensive than CNC laser cutting or Water Jet methods



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Oxy-fuel Advatntages

- Most economical in comparison to any other CNC cutting processes
- Mild Steel upto 300mm thickness can be cut
- Sharp and precise cuts ensuring neat and clear finishes



CNC TURRET PUNCH PRESS

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The CNC Turret Punch Press is the perfect solution for large, medium or small-run sheet metal fabrication projects. This powerful machine is the alternative to constructing tooling and stamping parts which is an excellent aid to speed up the process. It can handle press cutting jobs up to 6mm thick steel and 6mm thick aluminium on a 1250 X2500 high density brush table. For most projects, the CNC Turret Punch Press can perform up to 1,200 hits every minute. It has an automated loading system designed to operate the machine continuously.

The operation of the CNC Turret Punch Press commences when engineers create a design that is presented in a 2D format such as a DXF. To ensure the most efficient layout of components on a given size of sheet metal, Nesting software is used. It is possible to upload an electronic design file into the machine and run parts the same day. The Turret Punch Press has many advantages when used for fabricating sheet metal tasks such as cabinet designing, conveyor machinery components, automobile bodies, air craft wings, medical tables, roofs for buildings (architecture) and many other applications.







SHEET METAL FABRICATION

Sheet metal fabrication is an engineering process that gives shape to a piece of sheet metal through resizing, cutting, bending, forming, or removing of superfluous material from the sheet. From use in machinery or as components of structures, automobile bodies, constructions, etc. fabricated sheet metal is also used in everyday objects such as household appliances, furniture, AC ducts, and thousands of other applications. Our sheet metal operations use advanced CNC programming machinery and outstanding engineering skills to give customers only products of the highest standard.

Uses and Advantages

- Machinery
- Components of Structures
- Automobile Bodies
- Furniture
- A/C Ducts



MBEIPL MACHINERY SPECIFICATION

DESCRIPTIONS	LASER	WATERJET	PLASMA	OXY-FUEL	TURRET PUNCH	BENDING
Model	AMADA (Japan) FO 3015NT	FLOW (USA) MACH 2	MESSER (Germany) Kjellbert	MESSER (Germany)	AMADA (Japan) AE 2510 NT	AMADA RG DC9-III
Type of Materials Cutting	MS, SS, AL, Brass, titanium, GI	metal, stone& Tile, plastic, composites, glass, ceramics & more	MS, SS, AL, Brass, Titanium, GI	MS, Low-Alloy Steel	MS, SS, AL, Brass, Titanium, Gl	MS, SS, AL, Brass, Titanium, GI
Cutting Capacity	Mild Steel - 20mm Stainless Steel - 16mm Aluminium - 8mm	Any Material upto 250mm thickness	Mild Steel - 32mm Stainless Steel - 25mm Aluminium - 30mm	Mild Steel - 300mm	Mild Steel - mm Stainless Steel - mm Aluminium - mm	Mild Steel - 10mm Stainless Steel - 5mm Aluminium - 12mm
Maximum Cutting Size	5' x 10' (1524mm x 3048mm)	10' x 7' (3048mm x 2134mm)	10' x 43' (3000mm x 13000mm)	10' x 43' (3000mm x 13000mm)	4' x 8' (1270mm x 2500mm)	Max bending length 10' 2" (3000mm)
Kerf width	0.2 - 0.5mm	1-3mm	3-5mm	4-5mm		-
Hole making possibility compare with thickness	0-6mm -60% 6-10mm - 80% 10-16mm - 1:1	As required	1:1 ratio	1:1 ratio	1:1 ratio	
Finishing	excellent	good	Fair/ good	Fair	excellent	excellent
Accuracy (+/-)	0.1mm	±0.127mm per 1m (.005in per 3ft)	0.6 - 1mm	0.6-1mm	±0.1mm/±0.004" and ±0.07mm/±0.002" (Fine accuracy mode)	0.01mm
Typical beam output at the work piece	4000 Watts	55000psi	35-160 amp	High pressure flame cutting	Turret rotation speed 30rpm	
Cutting feed rate	0-20m/min	-	0-4 m/min	0-1 m/min	X- axis -80m/min X- axis -60m/min	-
Z axis travelling	200mm(7.87 inch)	200mm	200 mm	170mm		
Thermal stress of material	Deformation, tem- pering and struc- tural changes may occur in the material	No thermal stress occure	Deformation, tempering and structural chang- es may occur in the material	Deformation, tempering and structural chang- es may occur in the material	No thermal stress occur	No thermal stress occur
Cutting waste produced by the process	Cutting waste is mainly in the form of dust requiring vaccume exraction and filtering	Large quantities of cutting waste occcur due to mixing water with abrasive	Cutting waste is mainly in the form of dust re- quiring vaccume extraction and filtering	Cutting waste is mainly in the form of dust re- quiring vaccume extraction and filtering	Large quantities of cutting waste occcur	\. ·

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Plot no. D.30 & 31 I.D.A, Phase V, Jeedimetla, Hyderabad-500 055, Andhra Pradesh, India.

Phone: +91-040-23097555, +91-040-23194052 Mobile: +91 809 655 9111

E-mail: info@mbeipl.com, mbeipl.ind@gmail.com, Website: www.mbeipl.com