



PUSHPAK
TRADEMECH LTD



GO BEYOND THE TRANSMISSION

www.pushpakgear.co.in



ABOUT US

Gujarat leading gear manufacturing company has been an integral part of gear manufacturing industry for last 30 years. The range of products from Pushpak is driven by end user needs. This is the reason for us to immerse ourselves in the demands you face. Pushpak has always of the opinion that the best way to solve a problem is to look at it from every possible aspect.

We have establishments all over INDIA , Australia and South Africa. Our engineers are well acquainted in finding solutions to match different client requirements.



VISION

Our vision is to be the 'Gear Manufacturer of choice' for all types of Industry, the communities in which we operate. Social responsibility, safety and sustainability are the fundamental guide-posts to our vision.

Pushpak is focused on maintaining a safe environment for its employees and developing substantial client network.

Our mission is to embrace a strong sense of commitment to the gear manufacturing industry. We can achieve this only through genuine partnerships with employees, customers, local communities and other stakeholders, which are based on integrity, co-operation, transparency and mutual value-creation.



QUALITY

► Quality Policy

We strive for 'excellence' by providing customized solutions, products & services that best satisfies the requirements of our customers and continuously Improve Quality, Reliability & Service with the help of an effective quality management system, encompassing all Statutory, Regulatory, Health, Safety & Environment Requirements at our work place.

► Quality Objectives

- Maintain improving trend of customer satisfaction
- Continual improvement in 'on-time delivery' of products as per customer requirements
- Adherence to applicable statutory & regulatory requirements
- Adherence to health, safety & environment (HSE) requirements at workplace & continuous improvement in house-keeping
- Constantly monitor suppliers' quality and guide them in improvements

► ISO-9001, ISO-14001, OHSAS: 18001 Certification





INDUSTRIAL FIELDS

We would like to introduce "Pushpak Trademach Limited" which has appeared a long way ever since it's establishment in the year 1980. Pushpak established a strong foothold in the precession engineering and Gear manufacturing market. We are recognized as an eminent manufacture, Exporter and Supplier of wide range of engineering Products in accordance with its applications in the following fields.

INDUSTRIAL - HIGH PRECISION - COMPOSITES

THERMAL, HYDRO, NUCLEAR, DEFENCE, WIND MILL, MINING, PROCESS, MILLS, CEMENT, SUGAR, STEEL, PAPER, OIL & GAS, RUBBER, MARINE, AEROSPACE, RAILWAY, AUTOMOTIVE



PRODUCTS LIST

▶ Girth Gear & Pinion

For Sag Mill / Ball Mill & Rod Mill / Kiln Mill Assemblies.

▶ Worm Gear Set

For Large To Medium Applications, Mainly Consume In Bowl Mill & Coal Mill For Coal Grinding Mill.

▶ Bevel Gear Pair

(Straight / Helical / Spiral) Mainly usage in Mining Crushers and Automotive Industries.

▶ Spur & Helical Gears And Gear Boxes

For Each and Every Transmission Applications. Large 100 Module Toothed Gear Sets are casually consume in Oil & Gas Fields for Transmitting the Oil Field Platforms.

▶ Internal Toothed Gears (Annulus Rings)

Mainly Usage In Speed Increasing Such as Wind Mill Planetary Gear Box Units and Swing Assemblies for Mining Equipment.

▶ Herringbone Gear

Herringbone Gear Set (Double Helical Without GAP between Teeth) Casually usage in Mining and Cement Industries for Heavy Torque Moving Applications.

▶ Rack & Pinion

A Special Type of Gear Systems which mainly usage in Linear Motion Application.

▶ Thermal Power Plant Equipment

Bowl & Coal Mill Assemblies and Its Spares like Worm Gear Set, Mill Housing Bodies, Journal Shafts, Classifier Cones, Coal Nozzle Tips, Wagon Tippler Assemblies & Spares.

▶ Hydro Power Plant Equipment

Hydro Turbine Runner Blades (Kaplan / Francis / Pelton), Main Rotor Shafts, Francis Runner Assemblies, Wicket Gates for Turbine Assemblies.

▶ Composites

Wind Mill Mould Plugs, Nacelle Covers and Fabricated Structures of various fields by using the based material as Composite Fiber Glass, Epoxy Paste, Glass Wood Etc. Normally used in the Windmill Blades Mould Plug and Aeronautics Components Mould Plugs.

▶ Precision

High Precision Components like Turbine Runner Blades, Roller Guides, Die Mould of Windmill Blades, Mould of Automobile Components, Aircraft Body Machining, High Accuracy Gears, Reflector Dies, Tyre Moulds Etc. Through Highly Advanced 5-Axis CNC Machining Technology and Accurate Inspection Facility.

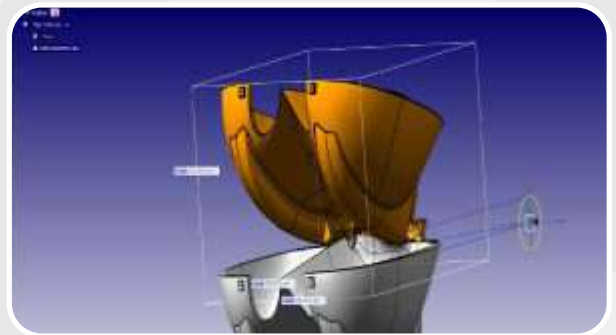
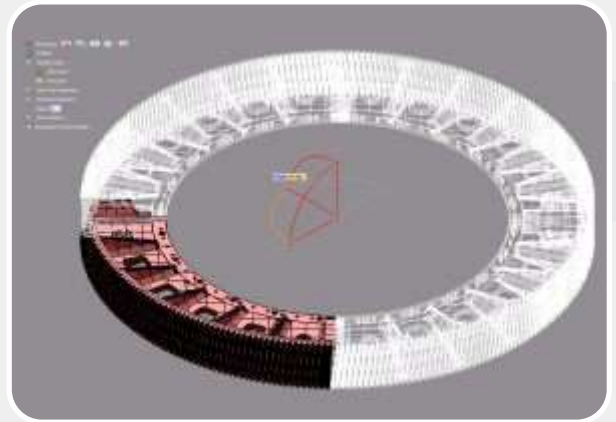
▶ Fabrication

Large & Heavy fabrication works for Energy Generation Sectors, Mainly Such Wind Mill Towers / Wagon Tipplers / Mill Housing Bodies / Ball Mill & Rod Mill With End Spigots.

MANUFACTURING FACILITIES

DESIGN

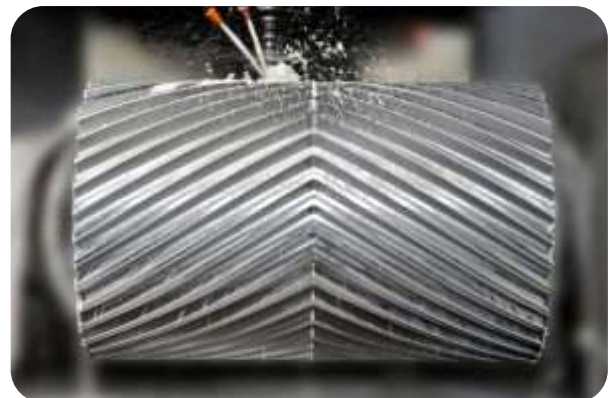
Working with expertise manpower and worlds leading CAM services, Pushpak facilitate with HYPER-MILL5-axis think-3 CAM software which acquire both simple and complex geometries can be programmed efficiently. Work pieces can be completely machined in a single setup thanks to the broad range of machining strategies. The advantages: continuous and more efficient processes, reduced processing times and higher reliability. In addition this can offers several options for automated programming, reducing machine cycle times and optimizing processes. Examples of this include sophisticated feature and macro technology, automated functions such as mirroring and transforming, functions that minimize auxiliary processing times such as job linking or production mode, and fully automated collision checking and avoidance.



MACHINING

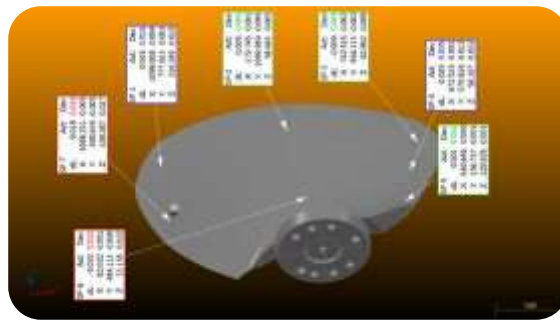
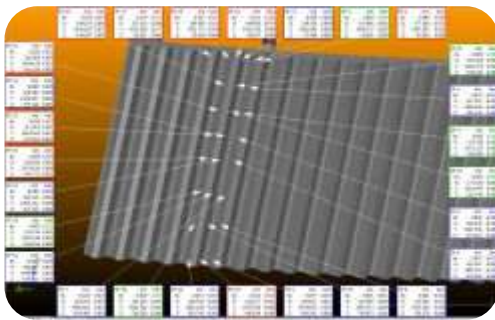
Precision machining achieving through highly advanced CNC machine shop, connected with sophisticated design and cam software's.

With over 30 years of machining experience PUSHPAK have the right machines for do the right job, and the right technology for the right situation. PUSHPAK expertise in innovation and creativity for precision machining and support equipments for the various energy sectors. It's more than manufacturing that PUSHPAK has established a strong foot hold in precision machining industry.



INSPECTION

Pushpak's advanced inspection technology is comply with the RENISHAW RMP600, a compact, high accuracy touch probe with radio signal transmission, offering all the benefits of automated job set-up, plus the ability to measure complex 3D part geometries on all sizes of 5-axis machine.the most advanced points is that the RENISHAW-RMP600 is inbuilt with Pushpak's machine control, and having the facility of "OMV" on machine verification of the component, RMP600 brings unrivalled performance in terms of 3D measurement. Use the renishaw OMV for advanced on-machine verification when machining contoured surfaces, complex shapes and critical profiles of the work piece. As the result of OMV the user get software generated dimensional reports, means less human interface will achieves the better quality.



RENISHAW
apply Innovation™

Renishaw plc
The Mill, Watlington Way, Watlington, Oxford, OX9 2EJ, UK
Tel: +44 (0)185 4750000
Fax: +44 (0)185 4750001
Email: sales@renishaw.com

Part Name	Part Number	Part Description	Part Material	Part Quantity
Part 1	Part 1	Part 1	Part 1	Part 1
Part 2	Part 2	Part 2	Part 2	Part 2
Part 3	Part 3	Part 3	Part 3	Part 3
Part 4	Part 4	Part 4	Part 4	Part 4
Part 5	Part 5	Part 5	Part 5	Part 5
Part 6	Part 6	Part 6	Part 6	Part 6
Part 7	Part 7	Part 7	Part 7	Part 7
Part 8	Part 8	Part 8	Part 8	Part 8
Part 9	Part 9	Part 9	Part 9	Part 9
Part 10	Part 10	Part 10	Part 10	Part 10

Dimensional Report 1

Feature	Dimension	Value	Tolerance	Status
Feature 1	Dimension 1	Value 1	Tolerance 1	Status 1
Feature 2	Dimension 2	Value 2	Tolerance 2	Status 2
Feature 3	Dimension 3	Value 3	Tolerance 3	Status 3
Feature 4	Dimension 4	Value 4	Tolerance 4	Status 4
Feature 5	Dimension 5	Value 5	Tolerance 5	Status 5
Feature 6	Dimension 6	Value 6	Tolerance 6	Status 6
Feature 7	Dimension 7	Value 7	Tolerance 7	Status 7
Feature 8	Dimension 8	Value 8	Tolerance 8	Status 8
Feature 9	Dimension 9	Value 9	Tolerance 9	Status 9
Feature 10	Dimension 10	Value 10	Tolerance 10	Status 10

Summary of results

Measurements: 10
Pass: 10
Fail: 0
Total: 10

Dimensional Report 2

ZEISS 3D OPTICAL BLUE LIGHT SCANNER

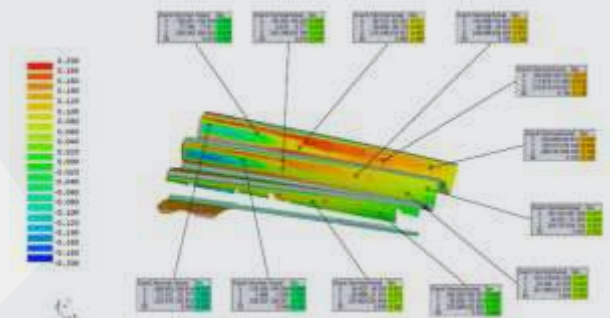
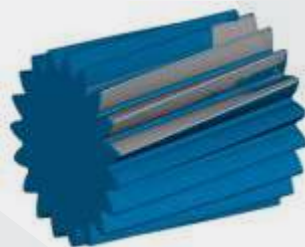
Features of Scanner

- New and unique led pulse mode delivering a high light output.
- The system guarantees excellent measurement results even in difficult ambient conditions.
- The sensor housing with the proven single-camera technology from Zeiss Steinbichler.
- The complete measurement setup are ultra compact and lightweight for easy portability.
- Delivering excellent data quality and highly accurate results.
- Scanner is also ideal for demanding applications in quality assurance.
- 3d data acquisition with the scanner is sensationally fast.
- The extremely short measurement time and the simple-to-use software allow efficient measurements.
- The quick and easy installation and removal of the system makes it versatile for use.
- The output of scan data is in stl format.
- No size Limitation for the scanning.



Areas of Application

- QUALITY CONTROL / INSPECTION
- MOLD AND TOOL MAKING
- DESIGN
- RAPID MANUFACTURING
- REVERSE ENGINEERING
- ARCHAEOLOGY scanning of art/historical objects, etc.



UNDER ONE ROOF

▶ 5 AXIS - GANTRY MOVING VERTICAL MACHINING CENTER

- X - Axis Travel : 4000 mm
- Y - Axis Travel : 8500 mm
- Z - Axis Travel : 2600 mm
- A - Axis Travel : $\pm 120^\circ$
- C - Axis Travel : 360° Continuous.
- Accuracy : ± 0.005 mm/meter.
- Spindle : 18,000 RPM.
- Feed Rate : 40,000 mm/min.
- Table Capacity : 320 M.T.
- Make : BRETON (ITALY)

▶ 3 AXIS DOUBLE COLUMN VERTICAL MACHINING CENTER

- X - Axis Travel : 4000 mm
- Y - Axis Travel : 2200 mm
- Z - Axis Travel : 1000 mm
- MAKE : JYOTI (INDIA)
- QUANTITY : 02 Nos.

▶ 3 AXIS GANTRY MOVING VERTICAL MACHINING CENTER

- X - Axis Travel : 3000 mm
- Y - Axis Travel : 1500 mm
- Z - Axis Travel : 800 mm

▶ 3 AXIS VERTICL MACHINING CENTER

- X - Axis Travel : 2000 mm
- Y - Axis Travel : 1000 mm
- Z - Axis Travel : 600 mm

Attachment:

With 4 axis rotary table dia. 300 mm.
With 5 axis tilting rotary table.

▶ 5 AXIS - GANTRY MOVING VERTICAL MACHINING CENTER

- X - Axis Travel : 6000 mm
- Y - Axis Travel : 2700 mm
- Z - Axis Travel : 1450 mm
- Make : JOBS (ITALY)

▶ 5 AXIS CNC HORIZONTAL FLOOR MILLING MACHINE

- X - Axis Travel : 6000 mm
- Y - Axis Travel : 3200 mm
- Z - Axis Travel : 1500 mm
- With Horizontal & Verticle Rotary Table
- Make : SORALUCE - SPAIN

▶ 3 AXIS VERTICLE MACHINING CENTER

- X - Axis Travel : 800 mm
- Y - Axis Travel : 300 mm
- Z - Axis Travel : 400 mm

▶ HORIZONTAL LATHE CONVENTIONAL

- Length : Upto 12,000 mm
- Turning Dia. : Upto 2000 mm

▶ GEAR HOBBER/SHAPPER

- Module : 8,16,25,35

▶ VERTICAL LATHE

- Turning Dia. : $\varnothing 7000$ mm.

Girth Gear & Pinion:

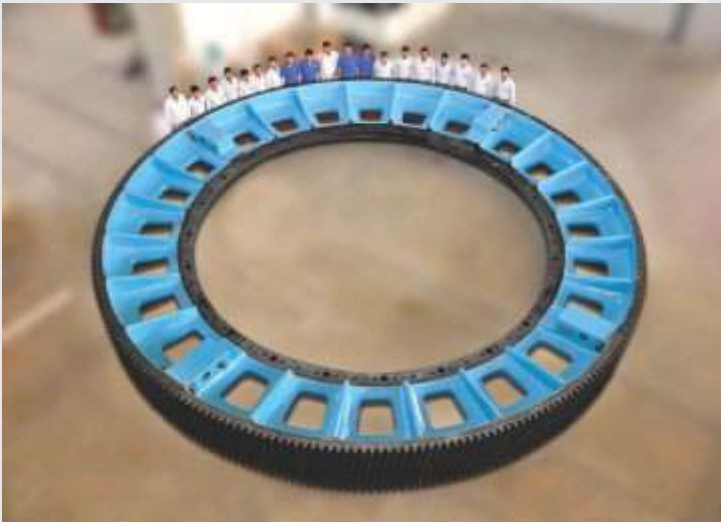
Over the 30 Years of experience in Gear Manufacturing industries, PUSHPAK has come to know as Eminent Manufacturer and supplier of Gigantic Gears and Its applications, PUSHPAK's high reliability Girth Gears are used to drive horizontal Ball Mill / SAG Mill / Rod Mill and designed for ultimate strength and reliability in service. PUSHPAK has enormous experience to provide a base for Girth Gears with applications in mineral excavations and smelting plants for Copper, Iron-ore, Cement, and Coal Mining.

► Key Features

- Girth Gear design and manufactured for 5.5 MW and can be attain upto 30 MW.
- Manufacturing capabilities to supply Girth Gear upto Dia. 30 Mtr. in segments.
- Design & Manufacturing through highly advanced CAD and 5-Axis CNC machining technology.

► Specifications

- Girth Gear can manufacture and supply in the manner of multi segments depended accordingly as per its application in both type of design like "T" and "Y" Shape.
- Girth Gear can be attaining Upto 100 Module and above at any Helix Angle.
- Gear Manufacturing as per International Standard like AGMA/DIN.



WORM GEAR & WORM SHAFT

PUSHPAK's high reliability Worm Gear & Worm Shaft (Set) are used to drive vertical pulverisers like Bowl Mills / Coal Mills and Vertical Gear Drive Systems for various application, Worm Set are designed for ultimate strength and reliability in service. PUSHPAK has enormous experience to provide a base for Worm Gear & Worm Shaft with applications in thermal powerplants for pulverisers and coal grinding mills.

► Key Features

- Manufacturing capabilities to supply Worm Gear & Worm Shaft upto Dia. 4500mm. In Single Piece.
- Design & Manufacturing through highly advanced CAD and 5-Axis CNC Machining Technology.
- Worm Set supply in the manner of its application in Single Start to Multi Start operation.
- In House foundry facility upto 2.5 M.T CentrifugalCasting for Pb2 and Nickel Base MOC.
- Design and Manufacture for Thermal Power Plant Pulverisers like Bowl Mills / Coal Mills & Grind Mills at all Centre Distance.
- Suitable for XRP – XRP – HP type 563 / 603 / 623 / 763 / 783 / 803 / 883 / 903 / 1003 / 1043 / 1103 / 1203 Mills for 110/120/210/220/500/800 MW.



SPUR & HELICAL GEAR

At PUSHPAK, We Manufacture External Spur / Helical and Double Helical Gears Upto 4500mm Diameter with face lengths Upto 1600mm. depending on the outside diameter and the diametral pitch. Using the advance CNC Gear Cutting Machinery, We are capable to manufacturing Gears as per International Standards like AGMA/DIN for all those High Speed / High accuracy Gear requirements.

► Specifications

- Manufacturing Capabilities to supply Helical / Spur and Double Helical Gears at any Module Upto Dia. 4500mm In Single Piece. Upto 100 Modules at any Helix Angle.
- Design and Manufacture for every Transmission applications in any Heavy Industries such as Power / Mining / Cement / Sugar and Fertilizers etc.

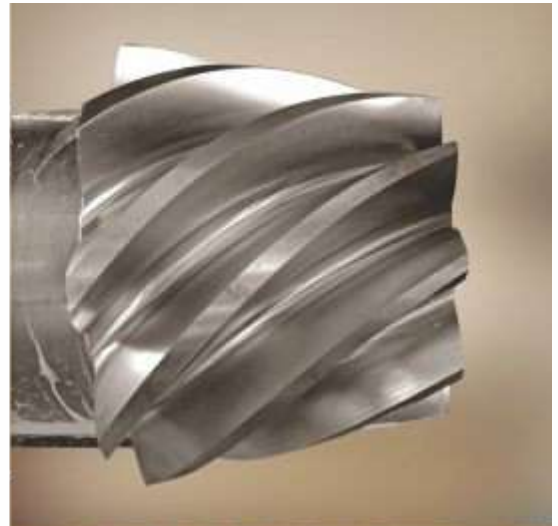


BEVEL GEAR

At PUSHPAK, We manufacture Straight Bevel / Helical Bevel and Spiral Bevel Gears upto 4500mm diameter with face lengths upto 1600mm. depending on the outside diameter and the diametral pitch. Using the advance CNC Gear Cutting Machinery, We are capable to manufacturing Gears as per International Standards like AGMA/DIN for all High Speed / High accuracy Gear requirement.

► Specifications

- Manufacturing Capabilities to supply Straight / Helical and Spiral Bevel Gear at any Module upto Dia. 4500mm. In Single Piece.
- Design and Manufacture for Power / Mining / Cement / Automobile Industries.



INTERNAL GEAR

At PUSHPAK, We manufacture Internal Helical Gears upto 4500mm diameter with face lengths upto 1600mm. depending on the Inside Diameter and the diametral pitch and joint Planetary Gear. Using the advance CNC Machinery, We are capable to Manufacturing Gears as per International Standards like AGMA /DINfor all High Speed / High Accuracy Gear requirements.

► Specifications

- Manufacturing Capabilities to supply Internal Helical Gear also known as (Annulus Ring) upto Dia. 4500mm. In Single Piece.
- Design and Manufacture for Wind Mill / Mining / Cement / Sugar and Fertilizers Industries.

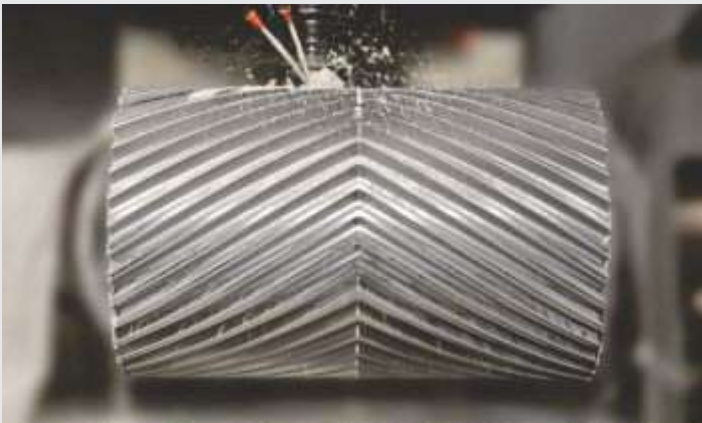


HERRINGBONE & DOUBLE HELICAL

At PUSHPAK, We manufacture Herringbone Gears Upto 4500mm diameter with face lengths upto 1600mm In Single Piece. A Herringbone Gear, A specific type of Double Helical Gear is a special type of Gear, from the top Helical Grooves of this Gear looks like letter "V". Herringbone Gears does not produce an additional axial load like Helical Gears, they have the advantage of transferring power smoothly because more than two teeth are in mesh at a moment. Precision Herringbone Gears are more difficult to manufacture than equivalent spur or Helical Gears. They are used in heavy machinery. PUSHPAK is one of the Manufacturer who have this quality aspect in their In-House Machine Shop.

► Specifications

- Manufacturing capabilities to supply Herringbone Gear upto Dia. 4500mm. In Single Piece.
- Design and Manufacture for Heavy Machineries which applied in Power / Mining and Cement Industries.



RACK & PINION

At PUSHPAK, We Design, Manufacture and Supply the Rack and Pinion in accordance with its applications, Is a special type of Gear system which mainly used in the Linear Motion applications.

► Specifications

- Manufacturing Capabilities to supply Rack Gear upto 10000mm Length. In Single Piece.
- Design and Manufacture for Heavy Machineries which applied in Power / Mining / Cement and Tube / Metal Industries.



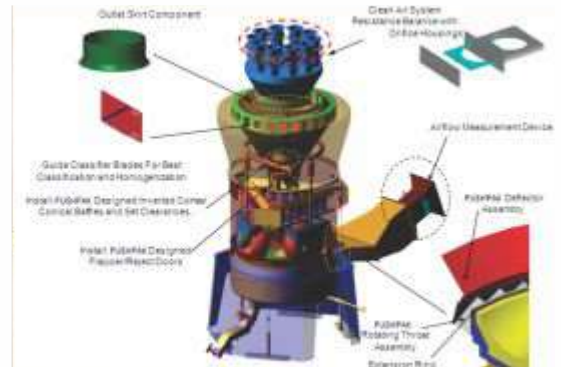
HIGH PRECISION

- Consider the Production of High Accuracy Components, as Castings or Forgings, and similar High Volume Machining applications. One trend in recent years has been come around to move away from dedicated transfer systems toward machining these parts on CNC machining centers.
- At PUSHPAK, We manufacture the High Precision Components like **Turbine Runner Blades, Roller Guides, Die Mould of Windmill Blades, Mould of Automobile Components, Aircraft Body Machining, High Accuracy Gears, Reflector Dies, and Tyre Moulds Etc.** through Highly Advanced 5-AXIS CNC Machining Technology and Accurate Inspection Facility.



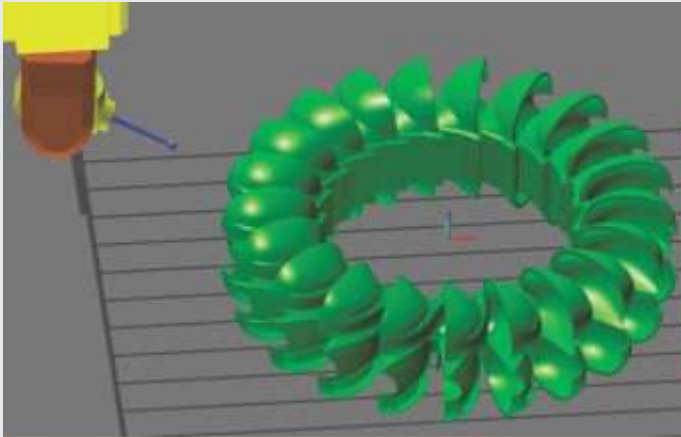
PUSHPAK's essential of manufacturing the Power Plant Equipment, however its thermal or hydro. From the starting of its business PUSHPAK has established the strong presence by serving the uninterrupted service to the energy sector. Now passing the two decades PUSHPAK has well equipped with advance machining technology & designing facility. PUSHPAK is contented to provide the trusted service to its entire customer.

- Bowl Mill Spares.
- Coal Mill Spares.
- Spares for Wagon Tippers.
- Mill Housing Body.
- Classifier Cones.
- Ceramic Lined Coal Nozzle Tip.



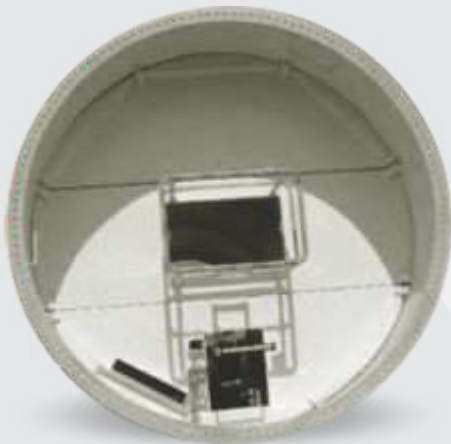
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- Pelton Runner.
- Kaplan Runner Blade.
- Wicket Gates.
- Frances Turbine Equipment.
- Main Rotor Shaft.
- Rotor House Equipment.



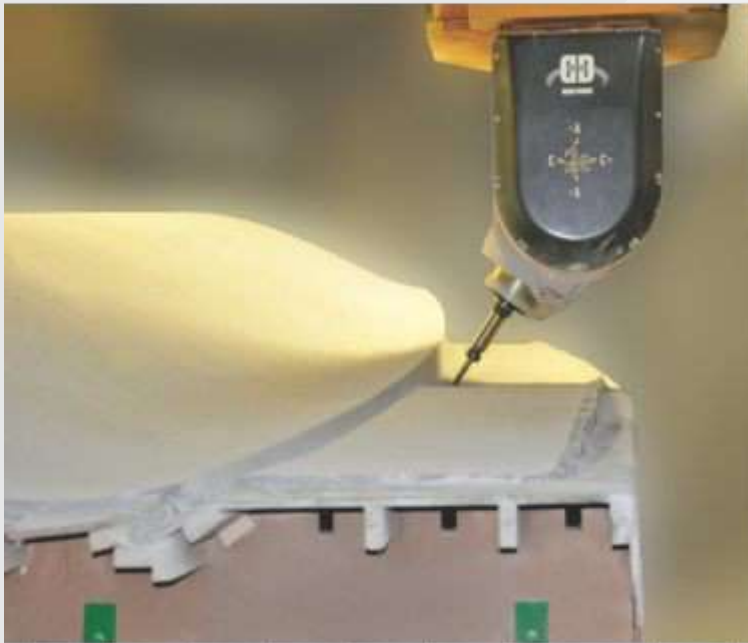
FABRICATION

This is our core business especially the heavy fabrication work of energy sector. We are very experienced in this type of work with well expertise manpower. We offer heavy fabrication project for various energy sectors in accordance with its applications with committed quality and reliability.



COMPOSITES

PUSHPAK Has achieving the new heights in composites machining technology, We are the regularly machining and supply the Mould Plugs and Fabricated Structures of various fields by using the based material as Composite Fiber Glass, Epoxy Paste, Glass Wood Etc. Normally used in the Windmill Blades Mould Plug and Aeronautics Components Mould Plugs.



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📍 Plot No. 538, Road No. 15,
G.I.D.C. Kathwada, Nr. Odhav Ring Road,
Ahmedabad-382 430, Gujarat - INDIA.

☎ +91 9328628601, 03, 07
+91 9376909339

✉ contact@pushpakgear.co.in

🌐 www.pushpakgear.co.in

