



**PRECISION & AUTOMATION**  
OF GEAR MANUFACTURER



*Think Above.*

**ABOVEGEAR CO.,LTD**

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# Company Profile

Focus Our Minds



**ABOVEGEAR**

## Made in Taiwan

### Milestone of ABOVEGEAR Co., Ltd

- 1999 – The company was established in Taichung, Taiwan by President Lin Ciou-cheng and General manager Wu Chung-yi. Initial invested capital with 1 million USD. Major business scope was gear manufacturing with 5 employees.
- 2000 – Introduced CNC gear machining equipments from U.S.A., Germany and Switzerland to upgrade products accuracy and production efficiency.
- 2002 – Receives ISO 9001 : 2000 certification to upgrade quality management and acquires the first patent certificate.
- 2004 – Completion of the second new factory with consecutive gear production processes for overseas business. The employees were 70 in total.
- 2006 – Set up dedicated precision gauging room with Swaziland, Germany and Japan made high precision measurement apparatus to level up quality control technologies.
- 2007 – Introduced Germany made skiving machines, allowing gear machining accuracy up to higher than JIS 0, DIN 4 and AGMA 12 grades. Receives ISO 9001 : 2008 certification.
- 2008 – Introduced Japan made comprehensive machine centers, CNC center and centerless grinding machines to complete the first phase CNC machining shop. The employees were up to 150.
- 2010 – Sister company ABOVEHEAT Co., Ltd was established to specialize in gear and machining components heat treatment process to achieve an integrated production system to have better delivery performance.
- 2012 – Increased capital to 10 million and completed the second phase investment to increase monthly production capacity to 1.5 million gears. Over 70% of products were overseas business to China, Japan, USA, Europe, South-east China and India, etc.
- 2013 – Introduced the consulting project of ISO/TS 16949 quality management system to meet automobile industry requirements. The number of employee expanded to meet business increasing.
- 2014 – Establishing new 5 floors, 9000 square meters production facility to increase production capacity to serve business requirements.
- 2015 – Receives TS16949 Certification to upgrade quality management.





# Products Application



GREAT SILL AND  
COMPETITIVENESS

## ATTENTION TO DETAIL • TO STAY COMPETITIVE

Till now, ABOVEGEAR has offered various kinds of products and has obtained a number of patents. The gears and machine parts from ABOVEGEAR are primarily applied in the automotive and motorcycle industries, household appliances, power tools, robots and high precision electronic industries.

ABOVEGEAR product sales network is extended from domestic to global market. Our major customers come from high-tech developed countries, such as Japan, Germany and USA, etc. In addition, the transnational enterprises for application industries are also our sales clients.

### Product Applications:

- High Precision Gear**  
 Applicable to servo motors, robots, optics, electronic industry and electric vehicles.  
 ACCURACY { DIN 4  
                   JIS 0、AGMA 12
- Motor Shaft**  
 Applicable to power tools, household appliances, automotive/motorcycle industries and speed reducing mechanisms, etc.  
 ACCURACY { DIN 5~7  
                   JIS 1~3、AGMA 7~10
- Worm & Worm Gear Set**  
 Applicable to gear reducers, power tools and industrial machinery, etc.  
 ACCURACY { DIN 5~7  
                   JIS 1~3、AGMA 8~12
- Spur Gear & Helical Gear**  
 Applicable to power tools, automotive industries and machine tools, etc.  
 ACCURACY { DIN 5~8  
                   JIS 1~4、AGMA 7~10
- Yoke Rotor**  
 Applicable to heavy - duty motorcycle AC Generator

### Patent Certificates :





## Process Development

# ABOVEGEAR



### RESEARCH, INNOVATION & TEAMWORK

ABOVEGEAR deeply believes in outstanding processes development capabilities are the motivation that drives the company's growth, while good products depend on accumulated experiences and constant research and innovation. Over the years, customers' requirements and expectations have been our guidelines; we provide outstanding and robust manufacturing capabilities, enabling customized and specific parts to be produced perfectly.

Excellent workforce is our competitive advantage; ABOVEGEAR has gone to great time and expense in intensive vocation training for our employees. Meanwhile, we also introduced ERP system, 3D CAD system and gear analysis software, which allow us to assure product quality, reduce production costs and optimize production processes. Focusing on teamwork and introducing new technologies are our significant goals at each stage.

BE OCCUPIED IN TECHNOLOGY  
SINCERITY PRODUCTIONS





# Manufacture



ARTISAN SPIRIT  
PURSUE THE ACME

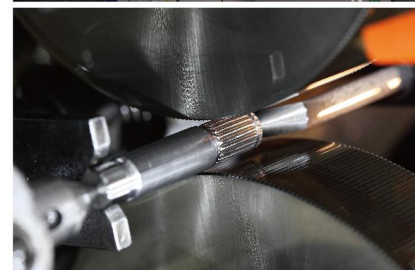
## EXTRA FINE CRAFTSMANSHIP • PURSUIT OF THE ULTIMATE

In order to ensure excellent products quality, ABOVEGEAR's production floor is fully equipped with a wide variety of advanced CNC machining equipments. We have introduced overall machining equipments for the entire manufacturing processes of gears, such as fully automatic CNC lathes, CNC center/centerless grinders and comprehensive machine centers with automatic parts feeding systems. With these advanced equipments ABOVEGEAR is capable of dramatically reducing production costs while increasing throughput.

All parts produced in house are fully controlled in quality. Meanwhile, we have always done the best at each process and control quality rigorously. Based on our total dedication with intention and circumspection, we are committed to achieve the highest quality level and required specifications for each part produced by ABOVEGEAR.

### Manufacturing Capabilities :

- |   |  |  |
|---|--|--|
| <p><b>1. Comprehensive Turning achine Centers</b><br/>                 Functions: Turning, drilling and milling<br/>                 Max. diameter: Ø 250mm<br/>                 No. of equipments: 14 sets</p>                   | <p><b>3. Outside diameter center grinding machines</b><br/>                 Function: Step grinding<br/>                 Max. diameter: Ø 200mm<br/>                 No. of equipments: 8 sets</p> | <p><b>5. Other machining machines</b><br/>                 Broaching machine, gear chamfering machine, rolling machine and fully automatic washing machine, etc.</p> |
| <p><b>2. Sliding Headstock Turning Milling Complex Machines</b><br/>                 Function: Shaft turning, drilling and milling<br/>                 Max. diameter: Ø 25mm<br/>                 No. of equipments: 15 sets</p> | <p><b>4. Centerless Grinding Machines</b><br/>                 Function: Centerless step grinding<br/>                 Max. diameter: Ø 100mm<br/>                 No. of equipments: 4 sets</p>   |  |





# Gear Technology



## STATE-OF-THE-ART TECHNIQUES • ULTRA-HIGH PRECISION

ABOVEGEAR introduced the world-famous CNC gear manufacturing equipments, providing manufacturing capabilities of M0.3~M5/DP80~DP5 for Maximum diameter of 300mm with 1.5 millions monthly capability. ABOVEGEAR always pay special attention to every detail during the manufacturing processes. This combined with our highly experienced technicians who can fully control the gear machining features and accuracy, and they spare no effort to offer customers "Zero Defect Products".

### Gear Manufacturing Equipments:

- |  |   |  |
|--|---|--|
| <p><b>1. Gear Grinding Machines</b><br/>Accuracy: DIN 0<br/>Capability: M5<br/>Max.diameter: Ø 300mm<br/>No. of equipments : 3 sets</p>  | <p><b>3. Horizontal Hobbing Machines</b><br/>Accuracy: DIN 5 (Skiving)<br/>Capability: M3<br/>Max.diameter: Ø 300mm<br/>No. of equipment: 15 sets</p> | <p><b>5. Gear Shapers</b><br/>Accuracy: DIN 5<br/>Capability: M5<br/>Max.diameter: Ø 300mm<br/>No. of equipment: 5 sets</p>                      |
| <p><b>2. Vertical Hobbing Machines</b><br/>Accuracy: DIN 6<br/>Capability: M5<br/>Max.diameter: Ø 300mm<br/>No. of equipment: 8 sets</p> | <p><b>4. Gear Measuring Machines</b><br/>Accuracy: DIN 0<br/>Capability: M10<br/>Max.diameter: Ø 400mm<br/>No. of equipment: 5 sets</p>               | <p><b>6. Spiral Bevel Gear Making Machines</b><br/>Accuracy: DIN 5<br/>Capability: M6<br/>Max.diameter: Ø 300mm<br/>No. of equipment: 3 sets</p> |



OUTSTANDING  
HIGH PRECISION





# Heat Treatment ( Sister Company )



EXACT PROCESSING  
METAL EVOLUTION



## ATTENTIVE ENGINEERING • OPTIMAL PROCESSING

In 2010, ABOVEGEAR also established an affiliated enterprise, ABOVEHEAT Co., Ltd, specializing in heat treatment service. We introduced advanced heat treatment technologies and equipments, which enables us to achieve an integrated production system for all products. With the technological innovation and highly skilled technicians, we have stable manufacturing processes, machining management system and rigorous inspection standards. As a result, we can fully control "self-production, Quality Consistency "and provide dependable and expertise services for our customers.

### Heat Treatment Sectors

#### 1. Carburizing & Refining

We employ Japan-made box type carburizing furnace integrated with automated guided vehicle and its application including Carburizing , Refining , Carbonitriding, tempering. Daily processing capacity can reach 10, 000kg. The high efficiency vacuum furnace body features environmental protection and high efficiency heating to minimize the work piece deformation.

#### 2. Induction Heat Treating

ABOVEHEAT's high frequency PLC programmable equipments provide various frequencies 10KHz, 25 KHz, 30 KHz, 100 KHz, 200 KHz, 250 KHz and 300 KHz for in shallow and in deep heat treated requirements of shafts and gears. Also, specific frequency for small-volume large-variety processing is available.

#### 3. Thermal Refining

To gain better overall mechanical properties for steel, like strength, ductility and toughness.

#### 4. Fully Automatic Straightening Machine

We also offer straightening service for bent shafts after heat treatment that help to save the quality cost of post processes.

#### 5. Sand Blasting Machine

We use fine sands of aluminum oxide or fiber glass in combination with high pressure air to remove the decarbonized layer after induction heat treating.

#### 6. Shot Peening Machine

The machine employs steel balls with diameter smaller than 0.5mm to impact the work piece surface for stress-relieving.



# Quality Control



HIGH STANDARD  
QUALITY ASSURANCE

ABOVEGEAR

## RIGOROUS QUALITY CONTROL • SURPASSING STANDARD

To ensure high product quality, advanced machining equipments in combination with sophisticated inspection instruments are required. At ABOVEGEAR, we have set up a top class inspection department which is fully equipped with a wide range of high precision instruments. With these instruments, we can rigorously control quality for each process through comprehensive measurement and record made according to the standards.

Our technical department also set up product standards and introduced ISO/TS16949 quality management system into each stage throughout the entire manufacturing processes. Additionally, manufacturing quality is fully monitored: Starting from raw material production, finished product to packing, detailed inspections are conducted, including self-inspection, standardized operation process sampling inspection and 100% inspection. All these processes allow us to thoroughly control quality and to achieve the highest level of quality, which gain confidence and recognition from our customers.

## INSPECTION INSTRUMENTS

Spectrometer, Coordinate Measuring Machine, Overhead projector, Gear tester, Roundness tester, Surface roughness tester, Profile meter, Rockwell hardness tester, Vickers hardness tester, Microscope, Double Flank Gear Rolling TESTER, Universal tester and Magnetic particle tester.