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# SCREW & BARREL



**VISHWAKARMA**  
PLAST



## About Us

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Welcome to Vishwakarma Plast, We are leading innovator in the screw barrel manufacturing industry. As a newly established company, we bring fresh energy, cutting-edge technology, and a commitment to excellence to every product we create.

At Vishwakarma Plast, we are specialize in designing and manufacturing high-quality screw barrels for a wide range of plastic and rubber applications. From injection to extrusion molding and beyond, our products are engineered for optimal performance, durability, and precision. Our team consists of experienced engineers and skilled technicians dedicated to producing solutions that meet the highest industry standards. We use advanced materials and the latest manufacturing techniques to ensure that every screw barrel we produce delivers exceptional reliability and long-lasting performance.

## Manufacturing Facility

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At Vishwakarma Plast, we take pride in our state-of-the-art manufacturing facility, which is designed to meet the highest standards of quality and efficiency. Located in Vatva, Ahmedabad, our facility is equipped with the latest technology and machinery to produce screw barrels that are precise, durable, and built for performance. Our manufacturing plant houses advanced machines and precision testing equipment, allowing us to maintain exacting tolerances for every screw barrel we produce. We utilize cutting-edge software for design and simulation, ensuring that our products are optimized for performance across a wide range of applications.

## Quality Policy

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Quality is at the core of everything we do. Our facility includes dedicated testing areas where every screw barrel undergoes rigorous quality control measures, including dimensional checks & material analysis. This ensures that all products meet screw barrel standards and the specific requirements of our clients, with a focus on durability and longevity.

## Injection Applications



Automotive Products



Electronics & Electrical Products



Household Products



Furniture Products



Cosmetic Products



Sporting Goods



Collapsible Tube Plants



Industrial Products

## Blow Molding Applications



Container



Bottle Plant



Drum Plant



Tank Plant

## Extrusion Applications



Mono & Multilayer Blown Film Plant



Sutli Plant



Sheets & Profile Plant



Box Strapping Plant



Mono/Multi Filament Yarn



PVC Pipe Plant



HDPE Pipe Plant



Thermoforming Plant



Rubber Cold/Hot Feed Plant



Cable Plant



Compounding Plant



Masterbatch Plant



Raffia Woven Sacks Plant



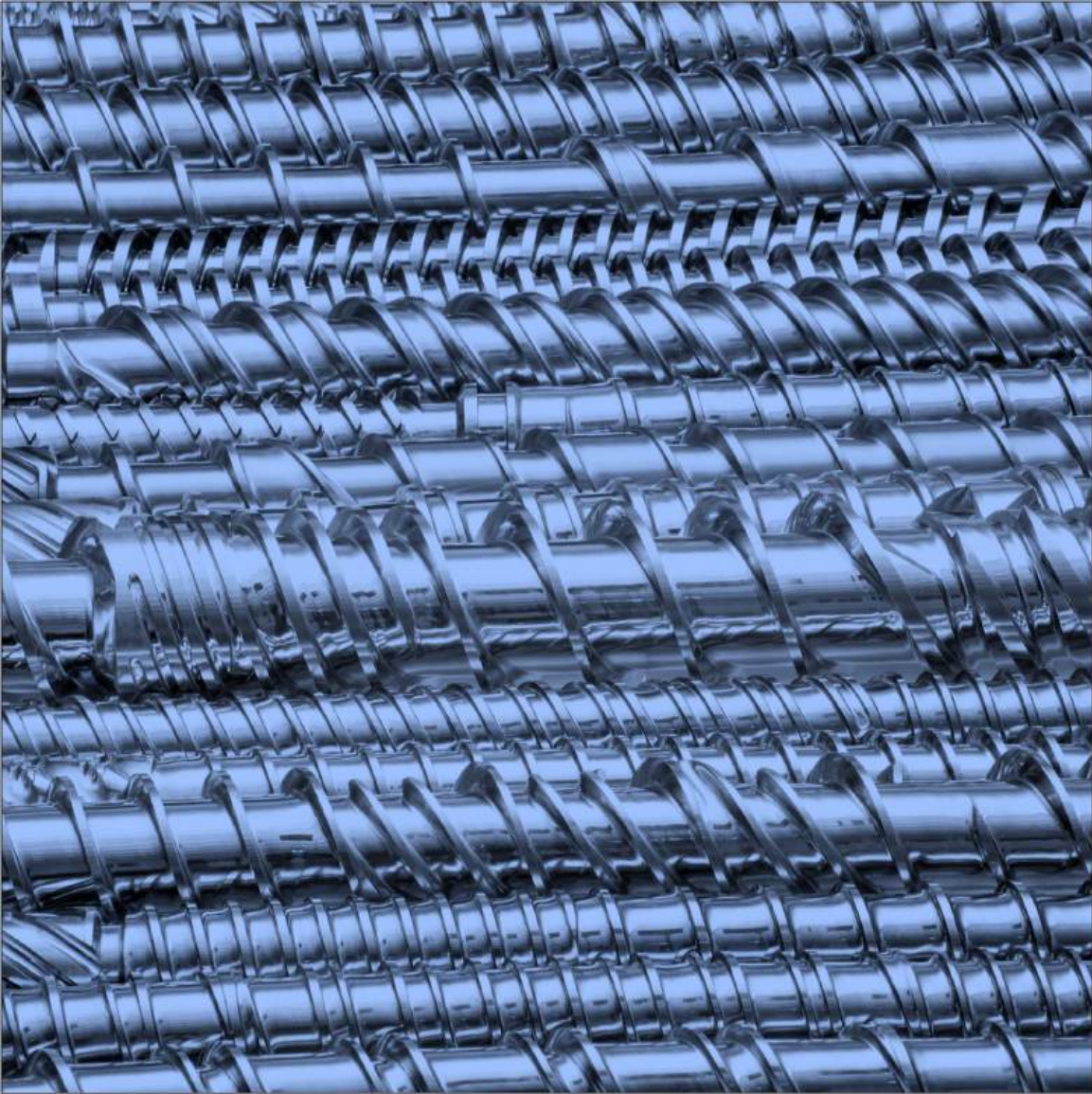
Recycling Plant



Pencil Plant



Food Processing Plant



## Product Array

# PRODUCT

- Single Screw Barrel Set (Injection & Extrusion)
- Barrier Screw Barrel Set (Injection & Extrusion)
- Groovefeed Extrusion Screw Barrel Set
- Housing & Groovefeed Bush (Sleeve)
- Parallel Twin Screw Barrel Set
- Conical Twin Screw Barrel Set
- Segmented Twin Screw Barrel Set
- Vented Screw Barrel Set
- Rubber Hot & Cold Feed Screw Barrel Set
- Food Processing Screw Barrel Set
- Refurbishment Screw Barrel Set
- Bimetallic Screw: PTA, PVD, HVOF, HVOF
- Bimetallic Barrel: Spin Cast(up to 35% WC)
- Through Harden: Screw, Barrel, Sleeve, Liners



## Injection Screw & Barrel Set

Injection screw barrel has been closely linked to our life, from private to professional, from down to the earth to the air space, nobody is leading their life without a product made from injection moulding machine, starting from toothbrush to your phone chargers, computer components, stationery, buttons, gears, electric appliances, car components, cosmetic bottles, switches, buckets, basins, trash cans, shoes, etc.

### Technical Specification:

Ranging screw diameters from 18mm to 300mm & Length up to 5000mm

Screw & Barrel Base Material: EN41B, D2, M2, H13, 17.4PH, AISI4340, AISI4140

Surface Treatment: Gas/Ion Nitriding, Vacuum Hardening, Chrome Plating,

Through Harden, Bimetallic Alloy Coating

Nitriding Layer Depth: 0.4 to 0.5mm

Nitriding Skin Hardness: 62 to 65 HRC

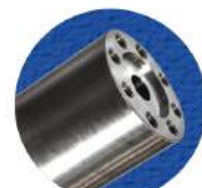
Bimetallic Coating Layer: 1.5 to 2mm

Bimetallic Coating Hardness: 65 to 68 HRC

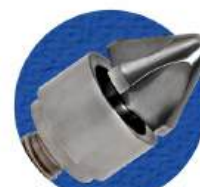
Bimetallic Coating Alloy: Wc(Tungston Carbide), Ni, B, Cr



Screw



Barrel



Ring Plunger Set



Head



Nozzle

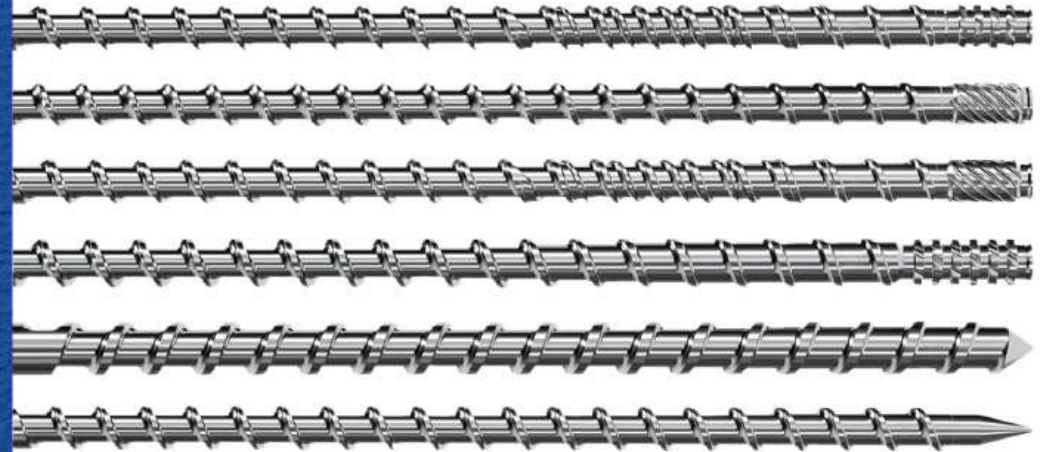


## Plain Screw & Barrel Set

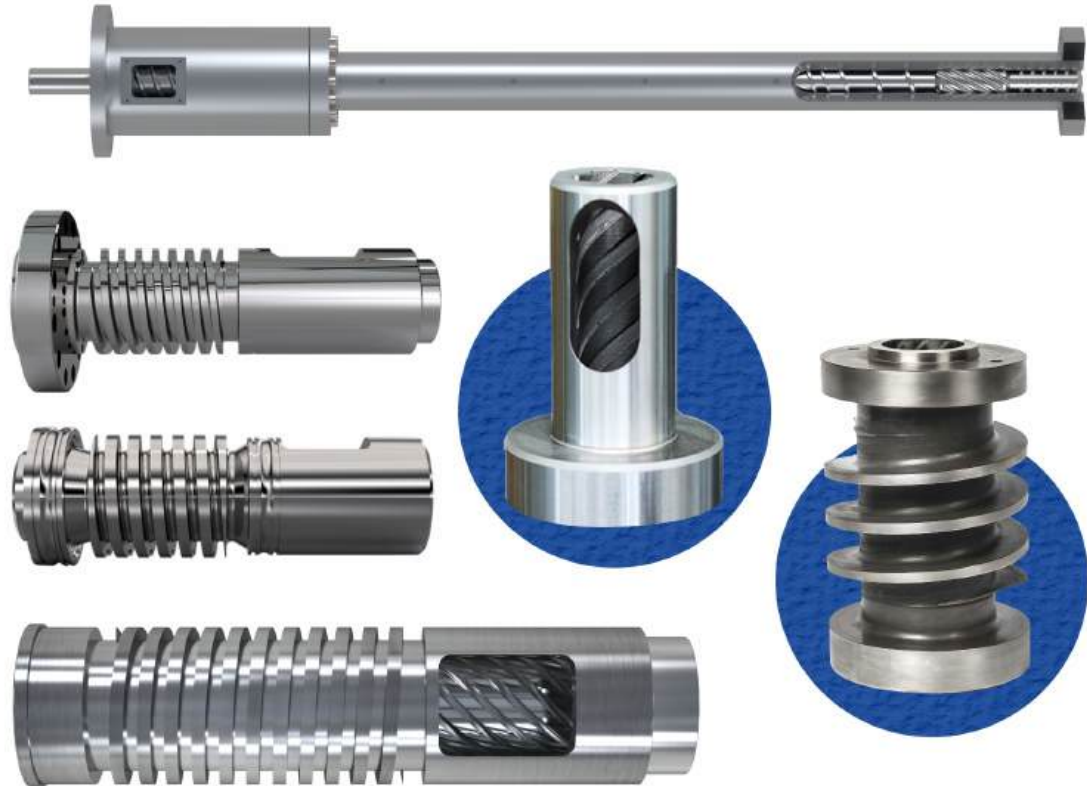
Plain screw barrel is a critical component in plastic processing and extrusion systems. It's typically used in extruder machines, where it plays a key role in mixing, melting, and conveying materials.



### Single Screw with Mixer Design:



# GROOVEFEED

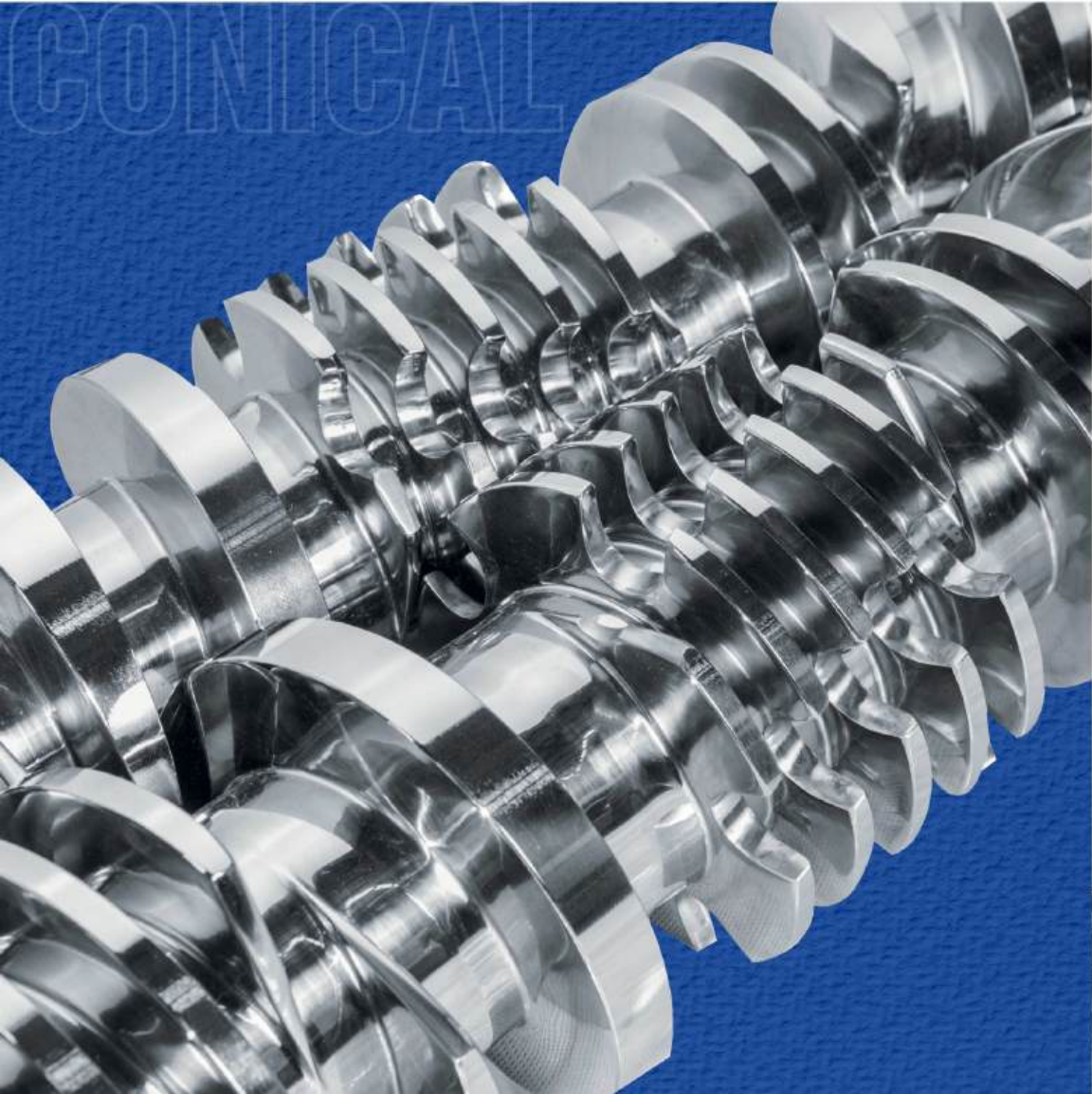




## Twin Parallel Screw & Barrel Set

Twin parallel screw barrel is a critical component used in plastic extrusion machines. It consists of two screws counter rotate to each other inside a barrel, enabling efficient mixing, melting, and conveying of polymer materials. In metering zone of barrel or up to vent hole we will insert tool steel material sleeve due to its excellent wear and corrosion resistance with proper vacuum harden ensuring a longer lifespan. Twin parallel screw barrel is used in pvc pipe, profile, granulation, pelletizing etc. For a proper working of twin screw extruder, the precisely machined barrel has importance. Axis distance between the holes, parallelism, linearity and the diameters of the holes has high tolerances.





## Twin Conical Screw & Barrel Set

Twin conical screw barrel is consisting of two screws arranged in a conical shape within a barrel, ensuring efficient material processing. The conical screw barrel for better shearing, mixing, and plasticizing of materials. Conical Screw Barrel are widely used in PVC Pipe & Profile Extrusion, WPC (Wood-Plastic Composite) Extrusion, PVC Cable Coating & Wire Extrusion, PVC Granulation & Compounding.

### Technical Specification:

Screw Diameter: 45/90mm to 92/188mm, customized as per machine requirements  
L/D Ratio: Ranges from 16:1 to 26:1 based on processing needs





## Twin Segmented Screw & Barrel Set

Twin Segmented screw barrel is used to precisely control the mixing and processing of materials by dividing the barrel into sections with different screw configurations, allowing for customized heating, cooling, and shear rates along the material flow, which is particularly valuable for complex compounding applications where different components need to be added or processed at specific stages. Segmented Screw Barrel is commonly seen in the plastics and food industries.



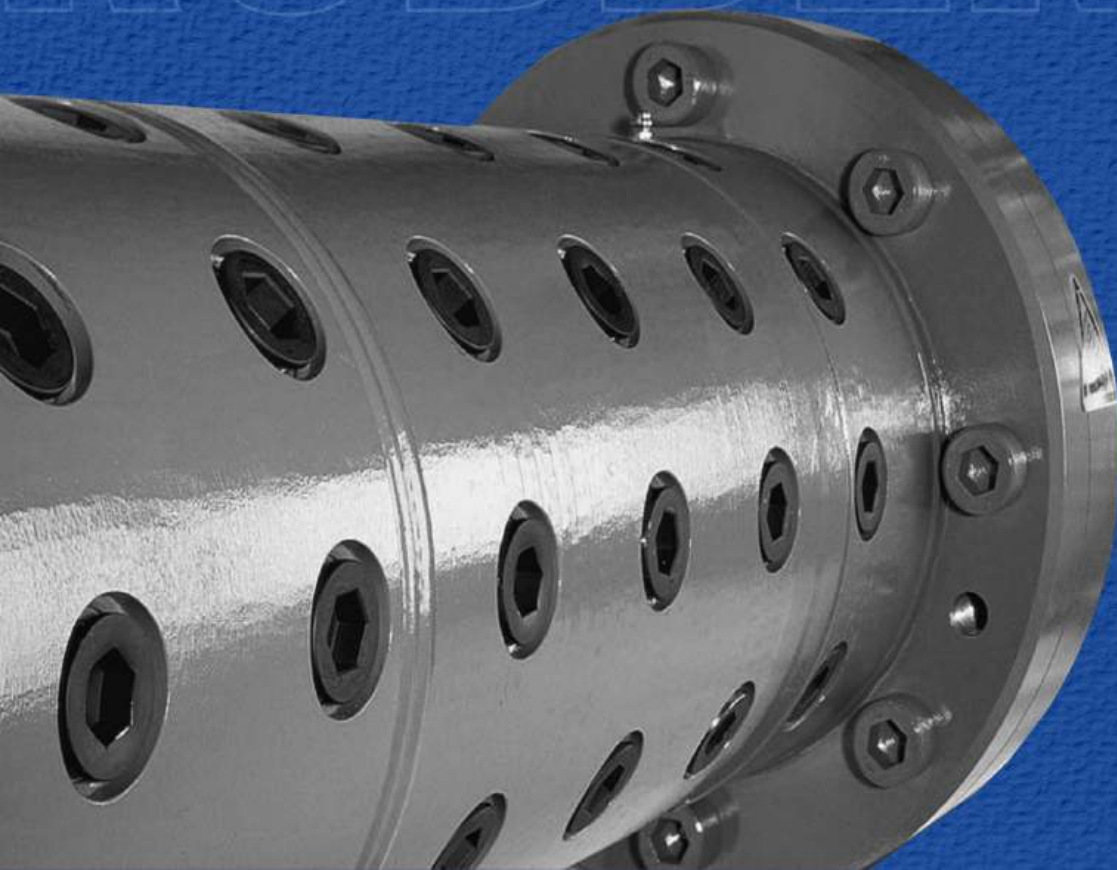


## Vented Screw & Barrel Set

Vented screw barrel is specially designed section with vents. Screw is two stage screw which works to remove moisture and volatile gases of processing polymers during extrusion of different plastic. The position of vent in the barrel is very important, but the most important things is to design both stages according to customer's need. It enhances product quality by preventing defects like bubbles, burn marks and degradation.



# RUBBER



## Rubber Hot & Cold Feed Screw & Barrel Set

Rubber screw barrel are used to make rubber tubes, seals, profiles and tires, particularly in rubber extruders, injection molding machines and rubber kneaders. It is responsible for conveying, mixing, and plasticizing rubber compounds to ensure uniformity and high-quality output. We can design variable pitch, deeper flight depth, or special mixing elements to enhance rubber dispersion and uniformity for high-performance products.

### Technical Specification:

Diameter Range: Commonly between 38 mm to 350 mm, depending on the application

Length-to-Diameter (L/D) Ratio: Typically varies from 4:1 to 20:1

Cold Feed Rubber Extruders: L/D ratios of 8:1 to 20:1

Hot Feed Rubber Extruders: L/D ratios of 4:1 to 6:1

Pin-Type Rubber Extruders: L/D ratios of 12:1 to 18:1





## Food Processing Screw & Barrel Set

Food processing screw barrel are used for conveying, mixing and shaping food materials. The screw barrels ensure hygienic, efficient and consistent processing in industries such as snack foods, pasta, pet food, meat processing and dairy production. Food processing screw barrels are made from stainless steel (SS304, SS316) to prevent contamination and ensure food safety. Corrosion resistant and easy to clean for compliance with FDA and food industry regulations. Designed for optimal material flow, reduced wastage and uniform mixing of food ingredients. Customizable in diameter, length, compression ratio and pitch based on specific food applications. Screw are polished, mirror-finish surfaces to prevent food sticking and bacterial growth.



## Customized Screw & Barrel Set





## Refurbishment of Screw & Barrel Set

Refurbishment of screw & barrel is a cost-effective solution to restore worn-out, damaged, or corroded screw and barrel used in injection and extrusion. Instead of replacing the entire screw, rebuilding extends its life by repairing wear, restoring geometry and applying protective coatings to enhance durability.

### Screw Rebuilding Process:

Screw inspection & damage assessment | Ultrasonic test to check crack | Inspection report submit to customer | Even OD grinding for welding | Rebuild with hard facing rods | Flight side machining & grinding | Flight OD grinding | Bimetallic alloy coating | Flight OD grinding with diamond wheel | Polishing | Nitriding | Straightening | Grinding | De-crome | Polishing | Hard chrome plating | Final grinding | Polishing | Buffing | Final Inspection | Dispatch.

### Barrel Refurbishing Process:

Barrel inspection | Ultrasonic test to check crack | Inspection report submit to customer | Barrel clean cut ID boaring & honning | Nitriding | Tool steel(D2, M2, H13) liner fitting | Honning | Final Inspection | Dispatch.



Before

After



Before

After