

SCREW & BARREL

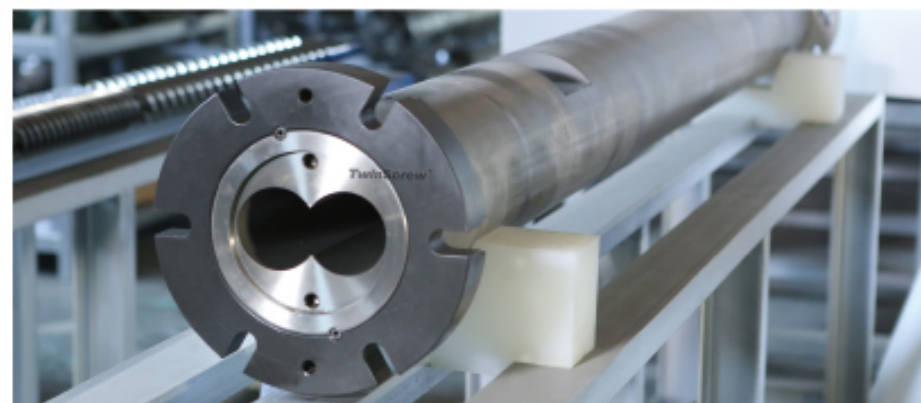
螺桿/套筒

***TwinScrew***<sup>®</sup>

The Pioneer of Twin-Screw Extruders

# The Pioneer of Twin-Screw Extruders

## 雙螺桿押出機的創始先驅



## Services for Screw & Barrel

- 1997 the latest generation of CNC Milling & Drilling machine from German Waldrich Coburg processing is proved to be constant the quality to suit all your requirement.
- Adequate screw processing with advanced twin screw milling machine to optimize the screw geometry.
- Test plant production with suitable suggestion of screw geometry design for better performance of the processing unit.
- All materials are imported from German or Japan for quality and proved by original.
- All types of twin screws & barrels are available from our experienced technicians.
- Guarantee of urgent orders and fast delivery apply to cases while necessary.

## Main Products Specification 主要產品規格

### SCREW 螺桿

TYPE / 型式	OUTSIDE DIAMETER / 外徑尺寸	LENGTH / 長度
Single Screw / 單螺桿	φ30 ~ φ370 mm	5000 mm
Twin Screw / 雙螺桿	φ30 ~ φ150 mm	5000 mm

### BARREL 套筒

TYPE / 型式	INSIDE DIAMETER / 內徑尺寸	LENGTH / 長度
Single Hole Barrel / 單孔套筒	φ60 ~ φ370 mm	5000 mm
Twin Hole Barrel / 雙孔套筒	φ30 ~ φ150 mm	4000 mm

### QUALITY 品質

MATERIAL / 材質	NITRIDED STEEL JIS SACM 645 OR DIN 34 CrAlNi 7
Surface Roughness / 表面粗糙度	Screw 螺桿: Ra 0.8 μm ↓ Barrel 套筒: Ra 0.4 μm ↓
Straightness / 直度	0.05 mm ↓
Treatment / 表面硬化處理	Long Time Gas Nitrided or Ion Nitrided
Surface Hardness / 表面硬度	HRC 65 ↑ [HV900 ↑]
Depth of Hardening / 硬化深度	0.6 mm ↑

## 提供高品質螺桿套筒製作與維修

- 1997年自德國進口一台 CNC 螺桿加工機，除了解決傳統加工螺桿的缺點，更因本機台軟體功能之強大，可預視加工後螺桿之牙型，以確保產品之高品質。
- 所有素材均由德國或日本一流廠商，品質保證進口。
- 螺桿、套筒均經過一系列高品質的熱處理、氮化、拋光處理，不易磨損。
- 600套以上之製作經驗，並擁有實驗工廠、生產膠粒、異型材，能為客戶提供各式性能之螺桿組合。
- 擁有十五年以上經驗之專業螺桿套筒製作人才、經驗豐富之PVC配方操作人才，提供用戶軟體建議及諮詢。
- 快速交貨及製作工時之保證，配合用戶各式歐、美、日廠牌螺桿套筒之訂作替換服務。





# SCREW

## 螺桿

We develop and produce single screws and twin-screws, their diameter ranges up to 132mm and their length to 3700mm. We only use materials that imported from Germany or Japan once the geometry has been determined.

The screws are produced by the following individual processes.

- The blanks are prepared and annealed.
- Modern CNC-lathes ensure a high degree of constant quality.
- Well-Proven special boring systems are used for producing the cooling channels.
- The screw geometry is milled out by computer numerically controlled machines.
- Before they undergo heat treatment, the workpieces are checked for warpage. Deviations are corrected immediately.
- The screw flights are polished by several stages, surface roughness below  $Ra\ 0.8\mu m$ .
- An acceptance report is written out of each screw during final inspection.

我們研發製造單螺桿及雙螺桿，其外徑已達 132 mm，其長度已達 3700 mm，我們使用之材料皆由德國或日本一流廠商進口，待螺桿設計完成後，螺桿將依下列製程加工製造：

- 素材需作調質處理。
- CNC 車床加工外型，以確保優良品質。
- 以深孔加工機，加工螺桿冷卻內孔。
- 以 CNC 螺桿加工機銑牙型。
- 螺桿作熱處理前需作變形檢測，若變形則需作矯正。
- 螺桿牙型及牙溝需作拋光及表面粗度處理  $Ra0.8\ \mu m$  以下。
- 螺桿完成時需作檢測報告。



Screw roughness test / 螺桿表面粗度測量



Finishing of the screw flights on a CNC thread milling machine / CNC螺桿加工機加工牙型



Screw straightness test / 螺桿真直度測量



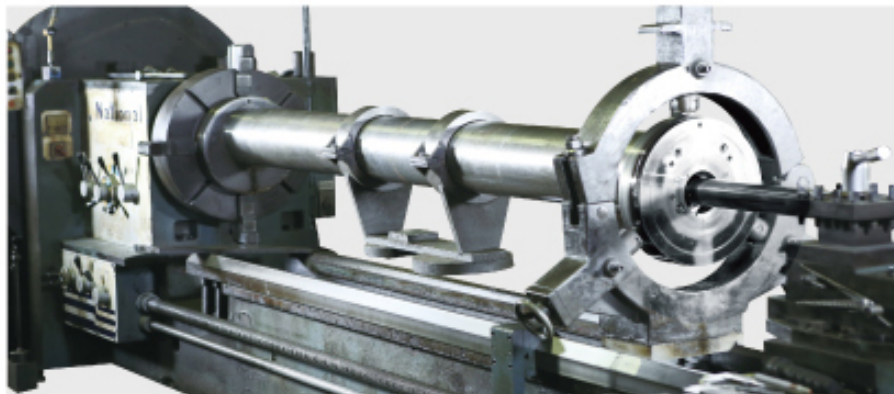
CNC thread milling machine / CNC螺桿加工機

# BARREL

## 套筒

Our program comprises barrels of diameters up to 132mm and length of up to 4000mm. We use materials that imported from Germany or Japan. We supply barrels for single-screw or twin-screws that are produced by the following individual processes.

- Precise positioning of the barrel bores. The latest special boring machines are employed.
- Finishing the bore of barrels by CNC lathe.
- Highest surface quality through honing of the barrel bores.
- Even the most difficult shapes can be machined to accepted finishes on CNC machines.
- Highest wear-resistance is obtained by deep Nitriding of the barrel bores.
- Completed barrel is checked by gauging machine before delivery.
- An acceptance report is written out of each barrel during final inspection.



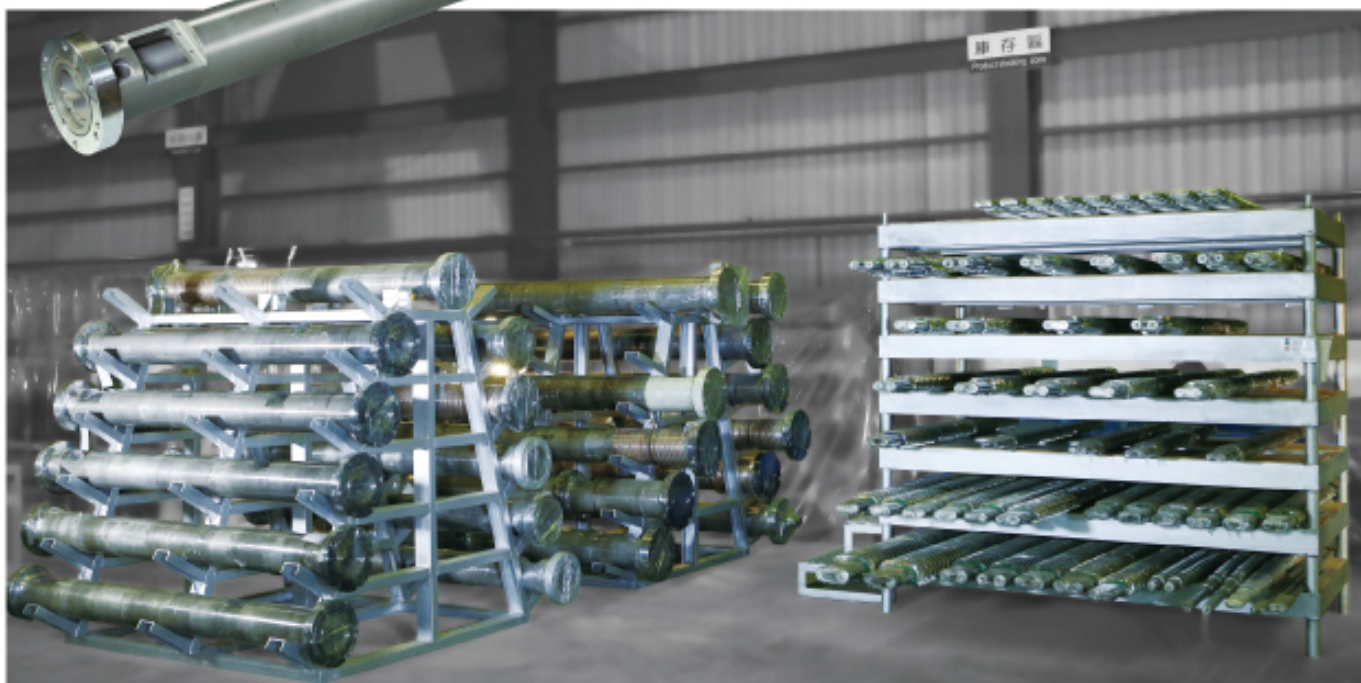
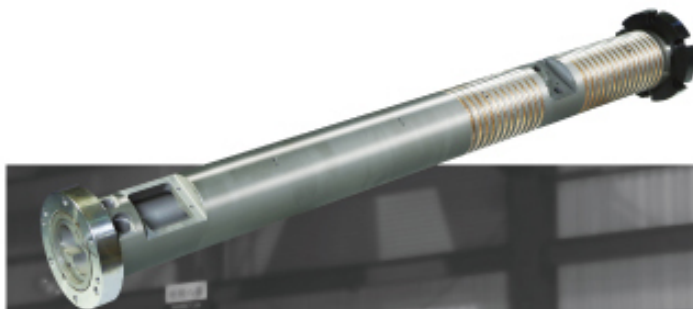
Producing the twin-barrel on a special boring machine / 深孔加工機加工直孔套筒

我們設計組配螺桿的套筒內孔，直徑已達 132 mm，長度已達 4000mm，套筒使用材料，均由德國或日本一流的廠商進口，所提供組配單螺桿、雙螺桿套筒，其加工程序如下：

- 以深孔加工機加工內孔。
- 以 CNC 車床精修內孔。
- 搪磨內孔。
- 以 CNC 機台加工套筒外部尺寸。
- 套筒內孔表面作氮化處理。
- 套筒完成時需做檢測報告。



Hardness of a twin-barrel test  
雙直孔套筒內孔硬度測量





A black and white close-up photograph of the intermeshing flutes of a twin-screw extruder. The screws are made of polished metal, likely stainless steel, and their curved, overlapping flutes create a complex, rhythmic pattern of light and shadow. The focus is sharp on the central part of the screws, with the foreground and background slightly blurred, emphasizing the mechanical detail and industrial nature of the equipment.

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