

鑄造認證、品質奠基

台中精機・鑄造事業處



沿革 Development

● 1973-1976

台中精機鑄造廠成立。以生產鑄鐵鑄件，專供台中精機製造工具機使用。此階段利用天然砂做外模，合成砂做砂心，以一噸的化鐵爐熔解，月產能約27 噸。隨著公司的成長，奠定了發展的基礎。

Recognizing the importance of castings quality, Victor Taichung established Foundry workshop in early 1973 to support its own utilization and assure the products in constant fundamental.

● 1977-1983

引進CO2 造模法，並將化鐵爐改為3 噸，遭到清砂困難的問題，此時期月產能70 噸。1979 年引進水泥模法來解決CO2 造模法的缺點，並試做口夫喃樹脂造模法，月產能120 噸。1980 年購進六部混砂機，全面實施口夫喃樹脂造模法，月產能270 噸。

Entirely adopting Furan no-bake molding system instead of using traditional CO2 or Cement molding to extend productivity from 70 tons to 270 tons per month.

● 1984

購進日本之砂回收、再生及混鍊設備一套，並積極開發水性鋳系塗料成功，解決口夫喃樹脂造模較易發生透、裂縫及燒結問題，此時期月產能350 噸。

Importing processing equipments from Japan to increase product capacity to 350 tons per month and to result some processing problems of the Furan no-bake molding system.

● 1986

與米漢納鑄鐵公司技術合作，引進米漢納製程管理，以減少鑄疵的發生，提高鑄件的品質等級。達到提昇、符合各種嚴格的機械性能要求。

Cooperating with meehanite metal co; to adopt advanced techniques, process management to upgrade the castings quality.

● 1987

改制為鑄造事業部。開始對外推展業務、服務業界。

Reorganized and renamed as foundry department of Victor Taichung, and start to serve public.

● 1992

配合業務需要，經規劃後工廠遷入后里新廠，建地7500 坪，廠房佔地4500 坪。

Victor Foundry Factory moved to Hou-Li adding Dewax castings to General castings in 1992.

● 1996

與本公司加工事業部結合提供客戶從鑄造到加工成品一貫作業的服務。

With own foundry and Department of Machining to produce a range of ready-machined castings for the Japanese machine tool industry.

● 1998-1999

增設1500kw 3 噸高週波感應爐體兩座。由技術部門研發合金鑄鐵(即耐磨鋼)，提供鑄造設備製造廠及同業使用。1999 年為增加產能增設每小時20 噸攪拌機一台。

Reinforcing the processing equipments and extending the serving field to the alloy steel castings.

● 2006

台灣區鑄造品同業公會由林文斌理事長率領一百餘家同業來廠觀摩，勞工安全衛生及6S等相關措施，堪為同業楷模。

Due to the achievement of labor health and safety control, and relative 6S management, the Taiwan Casting Association led hundreds of peer to factory to make a learn by sight.

● 2009

榮獲行政院勞工委員會「無災害工時」(連續20萬小時)頒獎表揚。

Be proud to award "none serious disabling injury" (the statistic record of continuous 200,000 working hours) in recognition of the Council of Labor Affairs of the Executive Yuan.

● 2010

為培養鑄造專業人才，落實技術生根，配合行政院勞委會職訓局中區職訓中心辦理「青年人才培訓深耕方案-產學訓攜手合作計劃」，引進產學學生投入鑄造產業共創未來。

For developing, training casting professional personnel and technical implement, participate in the "young talent and training programs" plan by Executive Yuan's labor force of Vocational Training Council (VTC), District Officer Training Center. Introduce academia school students into casting industry to create innovative future.

● 2013

為提高生產效率，推動雇用外籍員工多國化，本年度除原有泰籍勞工外，新增印尼籍勞工，共同投入鑄造生產行列。

In order to increase the production efficiency and promote multinational employment, recruiting Indonesian laborers joint with current Thailand laborers into the production line this year.



一般鑄造 General casting

每月產能高達1200 噸的高級鑄件其製造流程包括造模、澆鑄、後處理，其設備有高週波感應爐、自硬性呋喃造模機、造模線、噴洗機及環保回收設施等。

檢驗設備包括以碳當量測定儀來測定碳矽成份及CE值，以一般的粗胚硬度試驗機、拉力試驗機等，來測定鑄件之機械性質以便做爐前管制。並以金相分析儀、分光分析儀及球墨鑄鐵影相分析儀來透視鑄件組織。以爐號管制來做品質追蹤及操作修正，以達到品質一致的要求。

The processes of General castings including molding, melting and induction are carried out by Furan no-bake molding system, Cupola, and High frequency induction furnace to offer an output capability of 1200 tons per month.

The melting composition and specifications are subjected to take C, Si, CE value, wedge inspection and physical testing, in addition to penetrate casting texture vacuum emission spectrometer and metallurgical microscope.

The results procure quality tracing and operation regulating to achieve quality stability.

主要生產設備 | Main equipments

設備名稱	數量
濾帶噴氣式污染防治設備 / Dust collecting air pollution preventive system	一套 / 1 Set
水冷式化鐵爐(4噸) / Water cool type cupola (4 ton)	一套 / 1 Set
高週波感應爐(3噸)1500kw / High frequency induction furnace (3 ton) 1500 kw	二組 / 2 Set
高週波感應爐(200kg) / High frequency induction furnace (200 kg)	二組 / 2 Set
自硬性呋喃造模機(10噸) / Furan no-bake molding system (10 ton)	二台 / 2 Set
自硬性呋喃造模機(20噸) / Furan no-bake molding system (20 ton)	一台 / 1 Set
滾輪輸送噴砂機 / Roller sand blast apparatus	一台 / 1 Set
滾筒噴砂機 / Blast with tumbling barrel	一台 / 1 Set
應力退火爐 / Stress annealing furnace	一座 / 1 Set

檢驗設備 | Q.C. Apparatus

分光分析儀 / Spectro analyzer	一套 / 1 Set
金相顯微鏡 / Metallographic microscope	一套 / 1 Set
球墨鑄鐵影相分析儀 / Ductile cast iron image spectro analyzer	一套 / 1 Set
碳當量測定儀 / Carbon equivalent measuring instrument	二套 / 1 Set
里氏硬度計 / Li hardness tester	一台 / 1 Set
蕭氏硬度計 / Shore hardness tester	一台 / 1 Set
100噸拉力試驗機 / Universal tensile strength tester 100T	一台 / 1 Set

一般鑄造服務範圍 | General castings service range

片狀石墨鑄件(FC) / Grey cast iron castings (FC) with max. size 10 ton
工具機鑄件 / Machine tool castings
產業機械鑄件 / General machine castings
空油壓機鑄件 / Air, hydraulic machine castings
球狀石墨鑄件(FCD) / Nodular castings with max. size 5 ton
米漢納強韌鑄件 / Meehanite castings
合金鑄鐵(即耐磨鋼) Alloy castings



"工作台"專業鑄造廠(含工具機及傳統機械)

Expertise in "Pallet" casting for machine tools and conventional machinery

工作台的重要性身繫著機台精密度與客戶第一印象(外觀)的關鍵，它的鑄件品質穩定性、強度、結構與剛性更是決定機台加工時的精度與使用壽命。

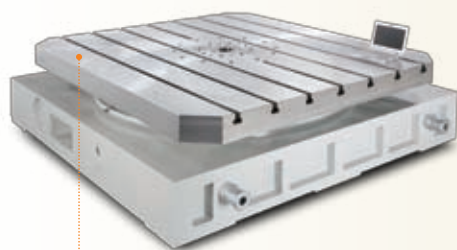
以往機械同業所面臨的最大困擾是工作台變形，甚至如氣孔、砂孔、針孔或縮孔等問題束手無策；針對此類鑄疵現象，台中精機鑄造事業處，將提供完善的鑄造技術，服務業界。

Pallets feature the machining accuracy. In addition to the fine surface finish for the first image for high quality, Victor Taichung's casting includes guarantees no defective holes included in the pallets with minimizes surface deformation to assure high stiffness and high reliability.



• 工作台

(先捷公司提供，單重6020 KG)



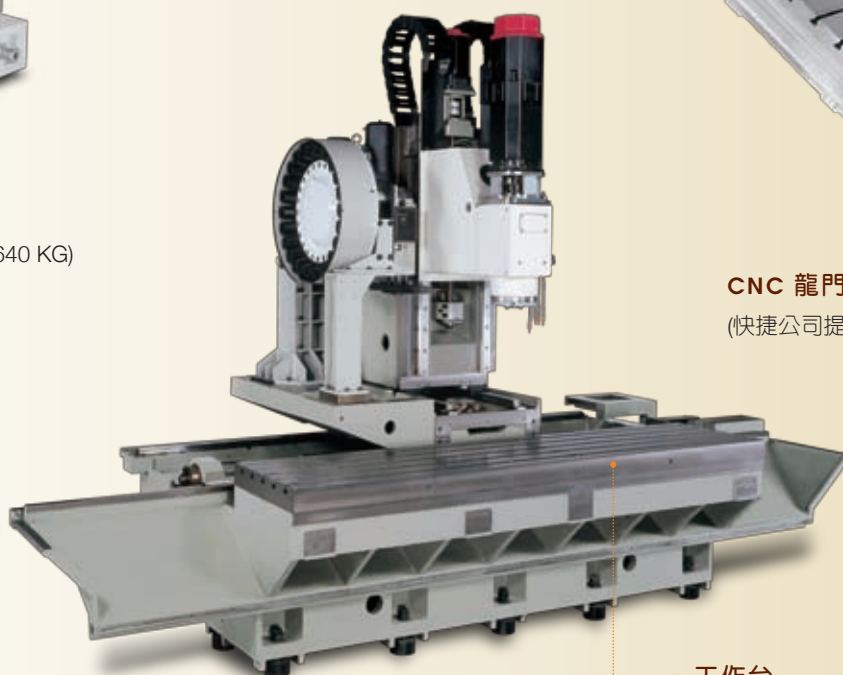
• 頂座

(世聖公司提供，單重1640 KG)



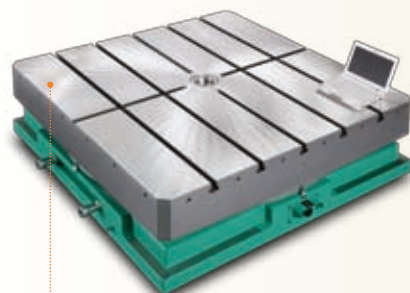
CNC 龍門工作台

(快捷公司提供，單重8240 KG)



• 工作台

(台中精機公司提供，單重889 KG)



• 頂座

(世聖公司提供，單重1640 KG)

米漢納鑄鐵規格

Meehanite castings specifications

片墨鑄鐵 | Grey cast iron

機械性質/Mechanical properties		GM400	GA350	GB300	GC275	GD250	GE200
抗拉強度(以上) Tensile strength	kgf/mm ² / (min)	40	35	30	28	25	20
抗折最大荷重(以上) Max bending resistance load	kgm / (min)	1420	1340	1300	1250	1130	1120
抗折彎曲度(以上) Bending resistance value	mm / (min)	6.8	6.8	6.8	6.3	5.4	4.9
布氏硬度Brinell hardness	HB	210/280	200/240	190/230	180/225	180/220	170/210
比重(20度) Specific gravity	g/ cm ²	7.4	7.3	7.3	7.25	7.2	7.1

米漢納/Meehanite	特性/Features	應用/Applications					
GM-GA	在所有片墨鑄鐵中，強度最高且淬火性佳，適用大型厚壁鑄件。 Featuring max. strength in all of the grey castings, good in quenching property, applied for large size castings with thick wall.	產業機械及汽車用汽缸齒輪，軸承，工具機底座，支柱鞍座，各種轉輪、閥、及一般機械用鑄件。 For industrial machine and automotive, applied in cylinder, gear, bearing, machine tool bed, saddle etc, and general machine castings.					
GB-GC	抗拉強度大，耐壓性高，適於耐壓性鑄件。 High tensile strength and pressure tight, suit for pressure tight castings.						
GD-GE	具普通強度，適用於一般機械用鑄件，切削性佳，制振能高。 Common strength, applied for general machine castings, good in cutting property and anti-vibration.						

球墨鑄鐵 | Ductile cast iron

機械性質/Mechanical properties		SFF350	SF400	SFP500	SPF600	SP700	SH800
抗拉強度(以上) Tensile strength	kgf/mm ² / (min)	35	40	50	60	70	80
0.2%降伏強度(以上) 0.2% Yield strength	kgf/mm ² / (min)	22	32	33	39	46	52
伸長率(以上) Elongation	% / (min)	20	15	10	4	2	2
布氏硬度Brinell hardness	HB	130/160	140/190	170/230	200/260	220/280	260/320
彈性係數Elastic modulus	x10 ³ kgf/ mm ²	16	17	17	18	18	18
比重(200C) Specific gravity	g/ cm ²	7.1	7.1	7.1	7.1	7.2	7.2

米漢納/Meehanite	特性/Features	應用/Applications					
SH-SP	球墨鑄件中，具最高抗拉強度，彈性係數，耐衝擊性及耐內應力性均佳。 Featuring the highest tensile strength, elastic modulus in ductile castings and good in impact resistance and internal stress resistance.	產業機械及汽車用汽缸曲柄軸，齒輪，軸承及塑膠機用泵，閥等。 For industrial machine and automotive, applied in cylinder, crank shaft, gear, bearing and injection machine parts in valve, pump.					
SPF-SFP	毛坯鑄件具高抗拉強度及韌性，適用於具強度與韌性之機械零組件。 Blank castings feature high tensile strength and toughness, suit for machine parts requiring strength and toughness.						
SF	具良好之延性，韌性及耐衝擊性，其切削性及耐壓性也均佳。 Featuring good extensivity, toughness and impact resistance, and cutting, pressure tight properties.						
SFF	韌性及耐衝擊性最佳，適用於低溫用鑄件。 Applicable in low temperature service, containing outstanding toughness and impact resistance.	各種機械另件，泵及鑄鋼代替品。 For all kinds of mechanical device, pump and casting steel replacer.					
		低溫用泵，閥，離合器等。 For pump, valve, clutch which served in low temperature environment.					

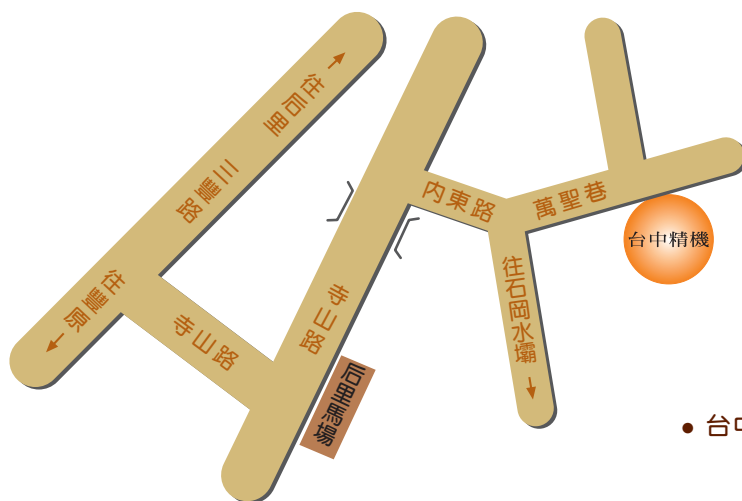
代表鑄件 Products



(快捷公司提供)



(漢鐘精機提供)



● 台中精機后里廠路線圖



台中精機·精機集團

台中精機廠股份有限公司

<http://www.or.com.tw>

台中精機廠股份有限公司

營運總部 台中市西屯區台灣大道四段2088號

總機：04-23592101 傳真：04-23592943

工業區廠 台中市西屯區工業區11路13號

總機：04-23590919 傳真：04-23592425

后里廠 台中市后里區廣福里內東路萬聖巷13號

總機：04-25571133 傳真：04-25572211

彰濱鹿港廠 彰化縣鹿港鎮東石里鹿工南六路5號

總機：04-7813633 傳真：04-7813630

建榮精密機械(上海)有限公司

上海廠 上海市青浦區徐涇鎮徐民路585號
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中台精密機械(廣州)有限公司

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