



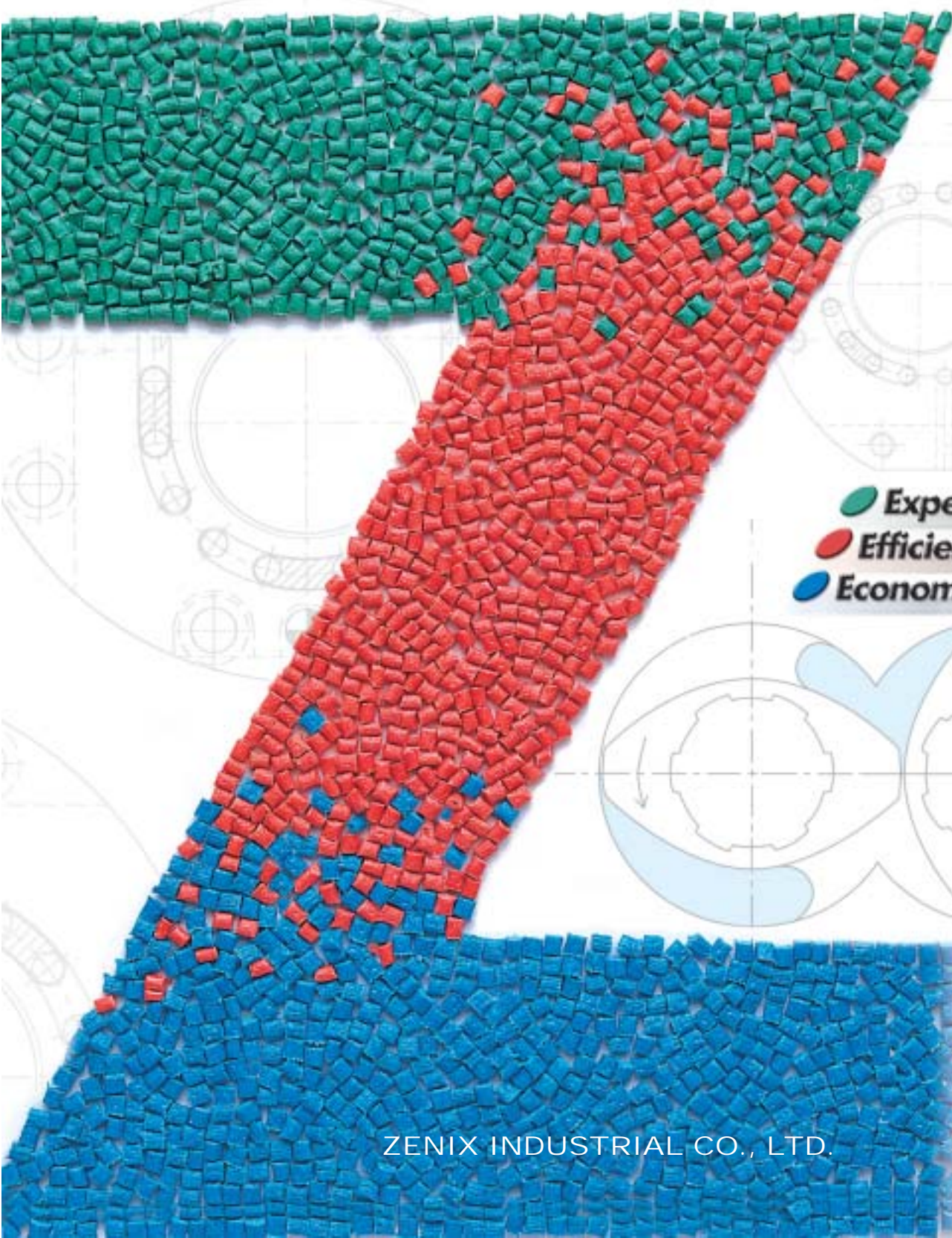
ZENIX'S ZPT-HT SERIES

TWIN SCREW EXTRUDER

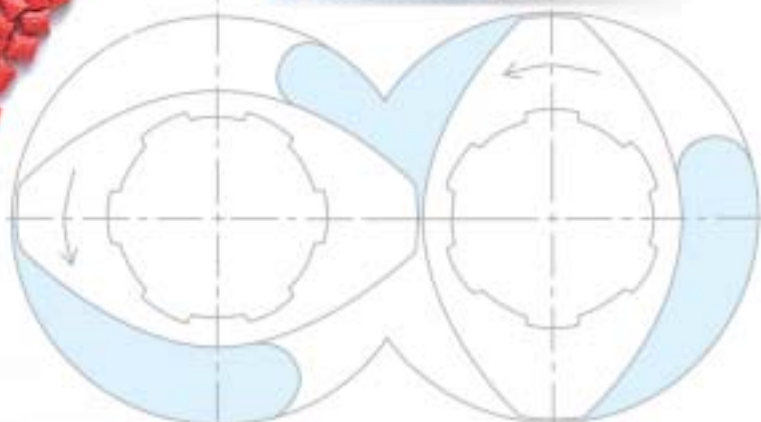
CO-ROTATING & HIGH PERFORMANCE

Advanced models

全新世代 高扭矩雙軸押出機



-  Experience
-  Efficient
-  Economy



ZENIX INDUSTRIAL CO., LTD.

Plastics-Chemicals-Foods

ZPT-HT SERIES

Twin Screw Extruder

SINCE 1979

In Taiwan, ZENIX has the first manufactured and is a recognized leader in the supply of CO-ROTATING TWIN SCREW EXTRUDER. The ZPT-HT series is a newly excellent and compact design of the 5th ZPT generation with the important CHARACTERISTICS:

- ❖ Robust duo-gearbox with high torque.(supplied by zambello)
- ❖ Top quality DCdrive-stable &. reliable.
- ❖ Optimized modular system of barrels and screw segments.
- ❖ Wear and corrosion protection according to the process'g task.
- ❖ Intensive cooling &. cartridge heating inside the barrels.
- ❖ Excellent productivity at competitive prices.

ZPT-92HT

Twin Screw Extruder/
Compounder/Reactor
高混鍊雙軸押出機

up to 600rpm.
specific torque: 11.0
cartridge heating.



ZPT-77HT

Twin-Screw Exeruder/
Compounder/Reactor
高混鍊雙軸押出機

up to 600rpm.
specific torque: 11.9
cartridge heating.



ZPT-32HT

Twin Screw Extruder/
Compounder
高混鍊雙軸押出機

up to 600rpm.
specific torque: 10.9
cartridge heating.



SINCE 1979

澤機於民國 68 年（1979）即專業從事同向雙軸押出機之設計、製造、推廣，是國內公認第一家領導品牌供應商，ZPT-HT 系列則為最新設計推出的第五代改良產品。
重點特徵有：

- ❖ 整組歐洲進口之 H.T.（高扭矩）級齒輪箱。
- ❖ 知名高級 DC 馬達傳動，穩定、有力。
- ❖ 針對加工條件選用適當耐磨抗蝕合金。
- ❖ 料缸、螺桿模組化設計，可任意變換組合。
- ❖ 合金料缸內部直接冷卻及加熱，熱效最佳。
- ❖ 國際水準產品、國產低廉售價，成本效益最高。

素食蛋白

TVP (Textured Vegetable Protein)



ZPT-58

Twin Screw Extruder/Cooker (S. S. Frame) 素食蛋白組織化押出機



up to 600rpm.
specific torque: 11.2
cartridge heating.

KEY FEATURES:

- ❖ Co-rotating & intermeshing/self cleaning
- ❖ DC P. I.V. driving: 0~600 rpm
- ❖ High torque gear-trains
- ❖ Flexible modular design (many processing possibilities)
- ❖ Involute Spline shafts
- ❖ Seamless bi-metal barrels
- ❖ Intensive cooling & cartridge heating
- ❖ Full-hardened screw elements
- ❖ Advanced control systems
- ❖ Excellent productivity
- ❖ Easy operation
- ❖ Easy maintenance
- ❖ Experienced
- ❖ Economical

ZPT-65

Side Feeder 側邊餵料機



Side Feeder 側邊餵料機特寫



技術特徵：

- ❖ 同向密嚙，自清功能
- ❖ DC馬達無段變速：0~600 rpm
- ❖ 高扭矩傳動機構
- ❖ 積木式組塊設計，任意變換組裝
- ❖ 梅花鍵槽軸心
- ❖ 無縫雙合金料缸
- ❖ 缸體直接插管加熱，升溫最快
- ❖ 全硬化螺旋對（元件）
- ❖ 創新控制技術
- ❖ 高質量產優勢
- ❖ 操作容易
- ❖ 維修簡單
- ❖ 經驗豐富
- ❖ 國產價格



Advanced Control System 人機控制系統



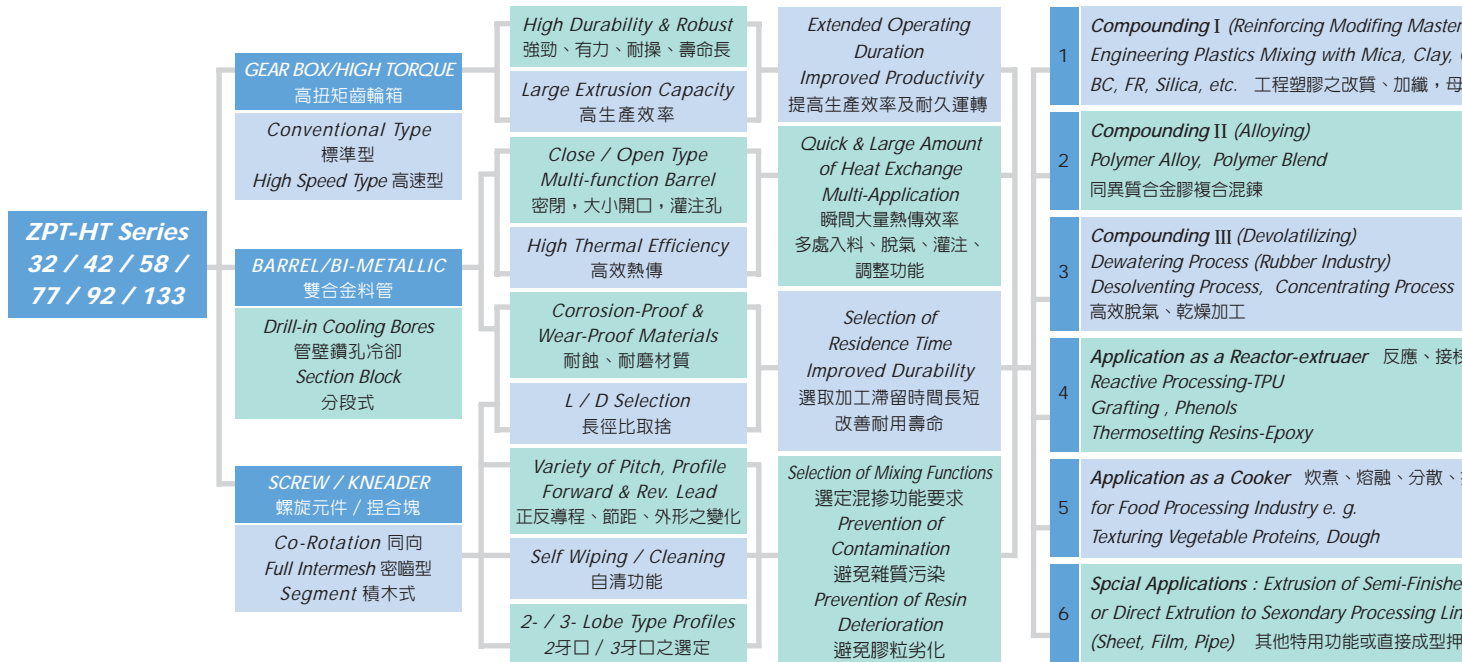
Some Engineering Plastics Application.



EXAMPLES OF PRINCIPAL APPLICATIONS For Plastics-Chemical

DESIGN & CHECK for SOME PRINCIPAL APPLICATIONS 雙軸押出機之評估要項及主要用途

It's 「A state of the art」 technology. 可量身訂製，彈性選擇，滿足各種需求。



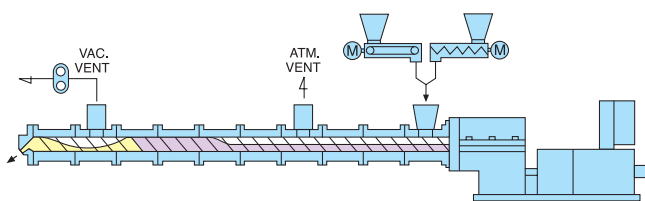
ZENIX's Main Frame Extruder Configuration/Specification 澤機押出主機結構配備規範

STD. (Standard) : 標準配備 OPT. (Optional) : 選配

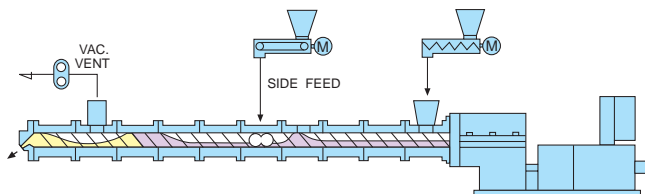
ITEM	SPECIFICATIONS	STD.	OPT.	REMARKS	ITEM	SPECIFICATIONS	STD.	OPT.	REMARKS	
* SCREW MATERIAL 螺桿材質	NS 1		★		ELECTRICAL CONTROL 機電控制	Electro-Magnetic Control Panel	★		With Operation	
	TS 1	★		Tool Steel		Main Drive Control Panel 主機控制盤	★		For Drive Motor	
	SS 1		★			Temperature Controller 溫控系統		★	K or J, PT 100 Du (Heat/Cool) 2-Ala	
	SS 2/PM (粉末)		★			PC-Based Process Controller 人機界面	Operation Desk		★	AI-40 Points, AO-8 DI-80 Points, DO-RS232, RS-422
	PS 9/PM (粉末)		★			Metering Feeder (Main Feeder) 定量下料			★	Volumetric or Lo Weight 體積式或流
* BARREL MATERIAL 料管材質	NB 1 (氮化鋼)	(◆)	★	◆ for Open Sec. 開口缸可用	Twin-Screw Side Feeder (Down Stream Feeder) 側邊進料			★		
	BB 1		★		Barrel Cooling Unit 冷卻組合	★			Trolley Type 活動	
	BB 2		★		Vent Vacuum Unit 真空組合			★		
	SB-HT (無縫雙合金)	★		Seamless	Liquid Injection Unit 灌注系統			★		
HEAD / DIE 模頭	Orifice Plate (大孔板)	★			Screw Extracting Unit 螺桿拔出器			★		
	Break Plate (蜂巢板)	★			Screen Changer 過濾器			★	Continuous Type	
	Spacer Ring (隔環)		★		Start-Up Diverter 三通排放閥			★	Manual Type 人工 Auto-Act Type 自	
	Resin Temperature Sensor (熔壓感測)		★		Pelletizer 切粒機			★	Hot Face Water- Under Water Typ	
	Resin Pressure Sensor (熔壓感測)		★		Strand / Face 拉條切 / 模頭切			★		
COOLING UNIT 冷卻功能	Drill-in Barrel Cooling Bores 缸體內多孔直接冷卻	★		Direct-Cooling 直接冷卻						
	Separated		★							
	Not Available	★								
	Available		★							
HEATER 加熱器	Cartridge S. S. 不鏽鋼	★		Pipe Type 插管式						
	Cast Aluminum 鑄鋁		★	Plate Type 板式						
	Cast Brass 鑄銅		★	Plate Type 板式						
	Oil 熱煤油		★	Fluid Type 流體式						
	Steam 蒸氣		★	Fluid Type 流體式						
DRIVE 驅動	Direct Drive 有結式	★		DC Motor/AC Motor						
	V-Belt Drive 皮帶式		★	DC Motor/AC Motor						



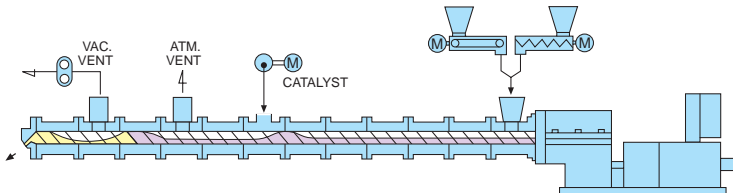
■ For Compounding: Coloring, Alloying, Devolatilizing. 一般混鍊，脫氣造粒



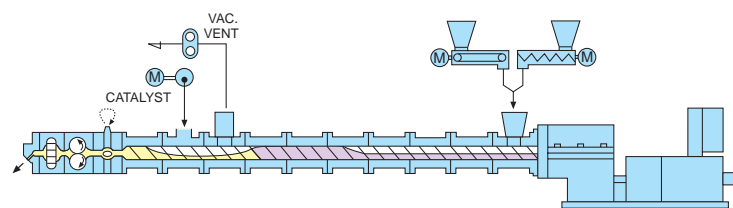
■ For Side Feed of Reinforcing Agent, etc. 側邊加纖維強化混鍊



■ For Reactive Processing 反應、接枝



■ Special Applications · Semi-Finished Product Extrusion 特殊加工，成品直接押出



DRIVES/COUPLING/GEARING

主傳動及齒輪箱

The DUO-GEARBOX coupled to the process unit of the ZPT compounder is normally driven by a DC motor with a SAFETY COUPLING.

Driving speed is positively infinite variable (PIV).

The installed SAFETY COUPLING, as a mechanical torque limiting device, protects the process unit from a torque overload.

The DUO-GEARBOX is designed according to the strict and recognized AGMA standards-the products with maximum durability, safety margins and noise free, forced lubricating unit is also integrated.

The back pressure created by extruding discharge devices (filtering screen, start-up valve, strand dies etc.) is balanced by a special tandem thrust bearings. The max. value for conventional use is 150 BARS. But up to 300 BARS can be supplied in special requested.

澤機押出機藉由直流馬達、扭力限制聯軸器及雙軸齒箱來驅動，轉速能準確無段調控。

為避免扭力過載，機械式扭力限制器是必備機構。

雙軸齒輪箱嚴格遵照AGMA國際標準設計製造一

耐用、強勁、高扭矩且為低噪音，並附強制潤滑系統。

押出機之巨大背向推力則用特殊串疊型止推軸承組所平衡吸收，一般常時運轉一150BARS一之抗壓極限是合適的上限值，若有必要，300BARS級者亦可接受指定。

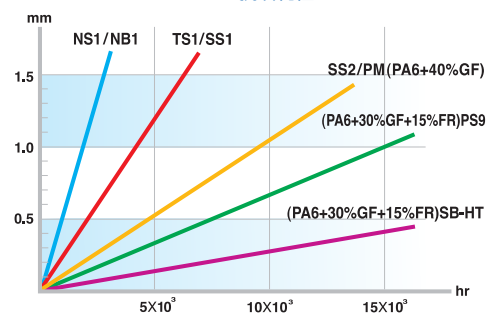


※ Materials for ZENIX's Barrel & Screw Elements 螺旋、料管材質種類

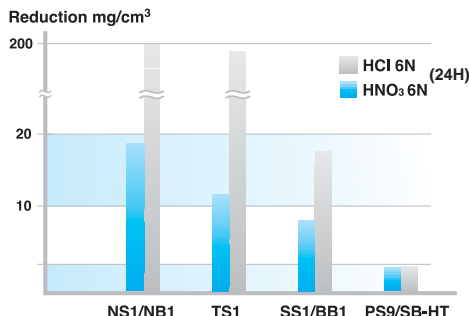
ITEM	MATERIAL	CODE	WEAR RESISTANCE 耐磨性能	CORROSION RESISTANCE 抗蝕性
SCREW 螺旋 元件	Nitrided Steel 氮化鋼	NS 1	▲	×
	Full Hardened Tool Steel 全硬化工具鋼	TS 1	★	▲
	Stainless Steel 不鏽鋼	SS 1	▲	★
	Stainless Steel PM 粉末不鏽鋼	SS 2	◎	★
	Super Alloy 粉末超合金 Bi-Metal PM 雙金屬	PS 9	◎	◎
BARREL 料管	Nitrided Steel 氮化鋼	NB 1	▲	×
	Press Fit 耐磨雙合金 Bi-Metal Liner 有縫套層	BB 1	◎	▲
	Press Fit 耐腐蝕雙合金 Bi-Metal Liner 有縫套層	BB 2	★	★
	Seamless Conformaclad Super Alloy Liner 無縫超合金雙金屬	SB-HT	◎	◎

◎: Excellent ★: Good ▲: Fair ×: Poor

WEAR RESISTANCE LIFE 抗磨耗性



CORROSIVE CONDITION 抗腐蝕性





2-Lobe Right-Hand



2-Lobe Left-Hand



2-Lobe Right-Hand



2-Lobe Right-Hand Deep Channel



2-Lobe Left-Hand Pine-Cone



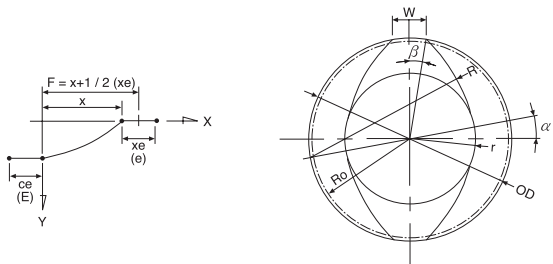
2-Lobe Left-Hand Kneader



2-Lobe Right-Hand Kneader



3-Lobe Right-Hand Kneader



ZPT-77 / 77HT SCREW ELEMENT PROFILE 螺旋元件剖面規格

OD	α	β	W	R	R ₀	γ
76.4	11,443	10,629	14,173	62,619	37,219	25,40

TYPE	"A" (2-LOBE TYPE)	"B" (3-LOBE TYPE)
Polymer Flow		
Acting Angle	$\theta_1 < \pi/4$	$\theta_2 < \pi/6$
Delivery Capacity	Large	Small
Flight Depth	Deep	Shallow
Shearing	Weak	Strong



MAIN CHARACTERISTICS 特色

Fully intermeshing screw profile with self cleaning effect. Many possibilities for screw elements, kneading discs and mixing elements.

Design of barrels and screws is segmented, allowing many processing possibilities, e. g. to be operated as a mixer, devolatilizer or reactor

Inside the barrel, a heating cartridge & intensive cooling technology is employed for precise temperature control in the most effective & fastest way.

完全密嚙自清功能之螺旋外型設計。

多種選擇之螺旋節，捏合對，混鍊元件，功能廣泛完整。

料管及螺旋皆積木組合式，針對各類加工條件皆足彈性應付。

缸體內部直接插管加熱搭配多重水路冷卻，溫升最快，溫控精確、靈敏。



ZENIX's 「SEAMIESS」 Bi-Metallic Barrels- No Weld. No Gap To Prohibit Heat Transfer. No Leakage of Extruded Material or Vapour. The 1.5~2m/m Conforma-clad Inner Surface Protects From Abrasion And Corrosion is overlaid directly and Metallurgical Diffusion Bonded to the necessary area. It's being 「SEAMIESS」, excellent Heat Conductivity plus enormous BONDING STRENGTH is obtained, so it provide high productivity and satisfaction.

澤機全面裝用之「無縫」雙金屬料缸，其1.5~2m/m厚之超合金層係直接熔融於缸體孔內全周，藉特高溫時微細金屬晶粒之擴散熔合而成，熱傳直接快速，不龜裂不漏洩，充分滿足客戶高溫時耐磨抗蝕苛求。

COMPOUNDING LINE 混鍊、押出、造粒生產線



Hot-face cutting type 模頭熱切生產線



Water-Ring Pelletizing type 水環切粒生產線



ZPT-32 Experimental testing Line 實驗機使用中



ZPT-77HT Strand Cutting Type 膠條過水切粒生產線



Variety of Barrels 料缸種類(密閉型、上開口、側開口、灌注孔)

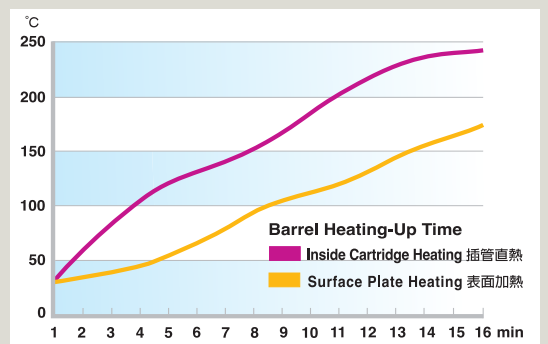
From One Machine To Turn Key Production Lines Service

With more than 20 years experience in twin-screw extruders, ZENIX is your reliable source for extrusion processing systems.

20餘年豐富經驗 一單機至整廠設備規劃服務

Our offer includes 服務範圍:

- ❖ Process engineering and design. 生產線規劃設計
- ❖ On-site process and technical assistance. 現場技術支援
- ❖ Commissioning and start-up. 諮商研討與試機
- ❖ Automation control 自動化控制 (inc. hardware & software).
- ❖ Staff training. 工作人員教育訓練
- ❖ After sales support. 售後服務
Equipment maintenance/spare parts service. 硬體維修·零件供應
- ❖ 24/7 emergency support hotline. 全時段緊急叫修



TECHNICAL SPECIFICATIONS 技術規範

(Note: Data & features are not binding and may be modified and improved.)

MODEL 機型	ZPT32/32HT	ZPT42HT	ZPT58/58HT	ZPT77/77HT	ZPT92/92HT	ZPT133
Screw Diameter 螺旋外徑 (mm)	32	42	57.6	76.4	92	133
Channel Depth 槽深 (mm)	5.7	7	9.4	12.5	16.1	22.2
Drive Power 主動力 (kw)	11/20	33~66	60~130	155~348	240~520	730
Screw Speed 螺桿轉速 (rpm)	360/600	600	360/600	360/600	360/600	300
Diameter Ratio 齒合比 (D/d)	1.57	1.53	1.53	1.50	1.53	1.53
Torque per screw 螺桿扭矩 (Nm)	310~400	1,005	2,100/2,540	4,900/6,200	7,750/9,900	23,200
Specific Torque 扭矩指數 (Nm/cm ³)	8.6/10.9	11.4	9.3/11.2	9.1/11.9	8.6/11.05	8.5
L/D 長徑比 (~)	16~48	16~52	16~52	16~48	16~48	36
Center Line Height 中心高 (mm)	1,050	1,050	1,050	1,050	1,100	1,100
Approx Wt 40:1 L/D 機台毛重 (kg)	~920/1,050	~2,400	~3,200/3,600	~5,200/5,900	~7,000/7,800	~16,000
Heating Cap. 40:1 L/D 加熱容量 (kw)	10	25	36	65	95	130
Cooling Water 20°C 冷卻水 (L/min)	30	35	45	75	105	200

EXPECTED THROUGHPUTS* For HT type (Conventional type: 50~60%) kg/hour 設計產能*

Polymer Alloying 合金膠	10~60	40~160	180~450	350~900	800~1,450	350~900
Dsgassing (Volatiles ~5~60%) 脫氣	5~40	30~100	100~300	250~700	500~1,200	900~2,000
Fiber Compounding (10~55%) 加纖	10~50	40~180	180~420	350~850	800~1,600	1,100~2,100
Mineral Filler Comp'g (5~85%) 填充	10~90	45~200	160~480	350~980	800~1,800	1,200~2,600
Masterbatches (Pigm't 10~50%) 母粒	5~35	35~160	100~300	300~700	650~1,400	950~2,000
Others(Grafting, Reaction, Powder Coating)	5~30	20~120	40~250	200~550	450~1,050	

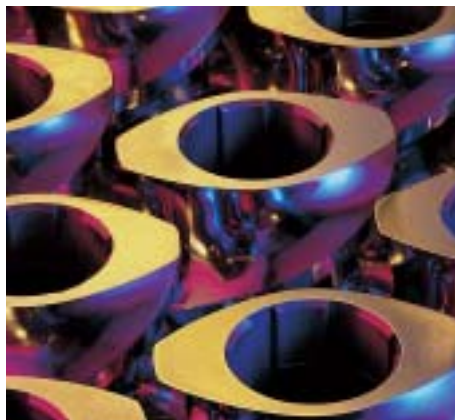
*The capacities are indicative and depend on the product being processed.

SCOPE OF SUPPLY 銷售供應範圍

- ❖ Raw Material Handling 生料處理設備
- ❖ Mixers 預混設備
- ❖ Metering Feeders 計量進料
- ❖ Side Feeders 側邊進料
- ❖ Twin Screw Extruders 雙螺桿主機
- ❖ Cooling/Heating Units 冷卻加熱單元
- ❖ Vacuum Pumps 真空脫氣泵組
- ❖ Diverter Valves 三通閥
- ❖ Gear Pumps 齒輪定壓泵
- ❖ Screen Changers 換網組合
- ❖ Metering Pumps 定量液體泵組
- ❖ Face-Cutting & Strand Dies 模頭組
- ❖ Water Baths + Air Knives 水槽 + 刮水器
- ❖ Pelletizers 切粒機
- ❖ Vibrating Sieves 震動篩網
- ❖ Conveying Systems 輸送系統
- ❖ Dryers (≤600~300 ppm) 乾燥設備
- ❖ Weighting & Bagging 秤重包裝
- ❖ Bulk Storage 產品儲存
- ❖ Additional Equipment as Required. 其他.....



Seamless Super Alloy Bi-Metal Barrel
無縫超合金料缸



Tempered & H.V.O.F Treated Screw Segments
耐磨抗蝕螺紋節【螺旋元件】



Complete Dispersing/Mixing
混鍊徹底，分散均勻



澤機工業有限公司

ZENIX INDUSTRIAL CO., LTD.

台灣桃園市蘆竹區338 龍安街二段1639巷122號

No. 122, Ln. 1639, Sec. 2, Long'an St.,

Lujhu Dist. 338, Taoyuan City, Taiwan

Tel: 886-3-3131306; Fax: 886-3-3139972