



- 了解客戶的需求，超越顧客的期望 ●
Understand customers' requirements
Transcend customers' expectations.

02. 公司沿革 Company Profile

03. 影像篩選機-可篩選項目參考圖樣(1~3) Ref. Illustrations for available sorting items

06. 影像篩選機-可篩選物件 Ref. sorting objects

各機型介紹 Machine Introduction

- **PS-1500標準型分度盤影像篩選機** ————— **07**
PS-1500 Rotary Disk Sorting Machine
- **PSL-1500加大型分度盤影像篩選機** ————— **08**
PSL-1500 Rotary Disk Sorting Machine
- **PSR-1500 連續式影像篩選機** ————— **09**
PSR-1500 Rotary Disk Sorting Machine(Continuous Running)
- **PSD-1500 加長型分度盤影像篩選機** ————— **10**
PSD-1500 Rotary Disk Sorting Machine for Long Screws
- **PSE-1500 渦電流篩選機** ————— **11**
PSE-1500 Eddy Current Sorting Machine
- **PSC-3500 輸送帶渦電流篩選機** ————— **12**
PSC-3500 Conveyor Sorting Machine
- **PSG-1500/1700 玻璃盤影像篩選機** ————— **13**
PSG-1500/1700 Glass Dial Sorting Machine
- **PSG-2500/2700 玻璃盤影像篩選機** ————— **14**
PSG-2500/2700 Glass Dial Sorting Machine
- **PSG-6500 雙玻璃盤影像篩選機** ————— **15**
PSG-6500 Dual Glass Dial Sorting Machine
- **PSC-2500 輸送帶影像篩選機** ————— **16**
PSC-2500 Conveyor Sorting Machine
- **PSV-1500 V型軌道影像篩選機** ————— **17**
PSV-1500 V-Rail Type Sorting Machine

18. 影像篩選機-規格表

Sorting machine specifications

19. 影像篩選機-週邊選擇配備

Peripheral Equipments for Sorting Machine

20. 震動盤規格介紹-螺絲、螺帽、震動送料機、標準規格機種

Standard Size for Screw & Nut Vibration Feeder

21. 影像篩選機-篩選項目(1-2)

Sorting machine sorting items(1-2)

23. 影像篩選機-零附件選擇配備

Accessories for sorting machine

24. 台灣、大陸各據點、代工廠資訊

Branch offices and sorting centers

25. 專利、CE及ISO證書

Patents, CE and ISO certificates

26. 全球代理 Global Agents



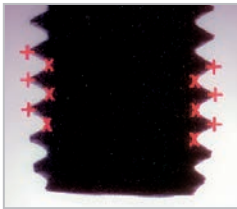
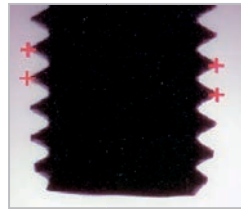
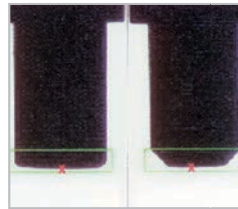
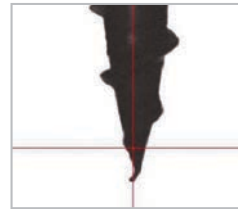
1992 / 09 川田公司成立，由兩人開始創業，專業創業資金 NTD 40 萬，設計、生產振動送料機等相關機械。
 1999 / 03 開始從事各種螺絲螺帽包裝機之事業。
 2000 / 04 開始螺絲影像篩選機之研發。
 2003 / 07 成立螺絲篩選代工廠，服務國內客戶之品質管制。
 2004 / 09 擴建廠房總面積1,600坪，螺絲篩選機由15台增至30台來服務螺絲業。
 / 10 開始銷售 PS-1500-C2 影像篩選機至國內外螺絲工廠。
 2005 / 02 ISO 9001-2000 認證取得。
 2006 / 10 成立精湛東莞機械公司。
 2007 / 02 取得CE認證。
 / 04 成功研發LS-1501螺絲輪裂技術並取得多國專利。
 / 09 成立昆山精湛新自動化設備有限公司。
 2008 / 12 螺絲影像篩選機之銷售達到350台。
 2009 / 03 台灣新辦公大樓啟用。
 / 11 榮獲第16屆經濟部中小企業創新研究獎。
 2010 / 03 昆山精湛新廠落成典禮暨新機發表會。
 / 12 影像篩選機之累積銷售達到600台。
 2011 / 04 「精湛機械有限公司」正式更名為「精湛光學科技股份有限公司」。
 / 11 成立北部分公司，服務北部客戶。
 2012 / 05 中國寧波分公司成立，以服務中國內陸客戶群為主。
 / 12 精湛成立20週年，台灣加大陸同仁人數達160人，篩選機累計銷售突破1000台。
 2013 / 03 斥資3.5億興建高雄湖內廠辦，總部大樓，占地3000坪，建坪4000坪。
 / 12 成立中部辦事處，服務台灣的中部客戶。
 2014 / 04 中國重慶辦事處成立，以服務中國內陸客戶群為主。
 / 08 成立成型機事業部。
 / 11 再次榮獲第21屆經濟部中小企業創新研究獎。
 / 12 篩選機累計銷售1700台，台灣加大陸同仁人數320人。
 2015 / 01 台灣總部廠辦大樓落成典禮暨篩選、成型新機發表會。
 / 12 吳俊男董事長榮獲第38屆創業楷模。
 2016 / 04 精湛(2070)正式登錄興櫃。
 / 10 榮獲第25屆國家磐石獎。
 / 12 評選榮獲經濟部螺絲螺帽產業NICE升級轉型輔導計畫。
 2017 / 10 ISO 9001:2015 認證取得。
 2018 / 01 篩選機累計銷售3,300台。
 / 02 柳營成型機製造廠正式啟用，占地58,195平方公尺；舉行自動化智慧整合產線新技術發表會。
 / 11 榮獲智慧機械金質獎。
 / 12 精湛光學科技股份有限公司正式上櫃(代號：2070)。
 2020 / 01 收購先聯科技-進軍被動元件產業。

1992 / 09 Chuan Tian was established with only 2 persons and US \$ 12,000 capital ,mainly on vibratory-feeder design and production.
 1999 / 03 Started Packing Machine business.
 2000 / 04 Started R&D on Optical Screw Sorting Machine.
 2003 / 07 Set up a sorting center to serve local fastener customers on quality control.
 2004 / 09 The factory site was expanded up to total 5,300 square meters. And the screw machines were increased to total 30 sets for serving fastener industry.
 / 10 Launched PS-1500-C2 Screw Sorting Machines into the market.
 2005 / 02 Acquired "Certificate of ISO 9001-2000."
 2006 / 10 CCM DonGuang branch set up in China.
 2007 / 02 Acquired "Certificate of CE".
 / 04 Upgraded the sorting technology of LS-1501 for sorting Screw Wheel Crack and got global patents.
 / 09 CCM KunShan branch set up in China.
 2008 / 12 More than 350 Screw sorting Machines were installed in the world since 2004.
 2009 / 03 Inauguration of Taiwan New office.
 / 11 Awarded The 16th SMEs Innovation and Research Award from Taiwan Government.
 2010 / 03 CCM KunShan new factory grand opened.
 / 12 Machine worldwide sales reached 600 sets.
 2011 / 04 Renamed to "CHING CHAN OPTICAL TECHNOLOGY CO., LTD.".
 / 11 CCM Taoyuan branch set up in north of Taiwan.
 2012 / 05 CCM NingBo Branch set up in China, to serve inland customers.
 / 12 The 20th anniversary. Employment including Taiwan and China reaches 160 peoples and sales record breaks 1000 sets.
 2013 / 03 Invested 350 million NT dollars on new factory and building ,land occupied 10,000 sq. meters.
 / 12 CCM TaiChung branch set up in middle of Taiwan.
 2014 / 04 CCM ChongQing branch set up in China for customers located in inland of China.
 / 08 Started business of bolt forming machine.
 / 11 Awarded The 21st SMEs Innovation and Research Award from Taiwan Government.
 / 12 On Dec. 2014, the total sales reach 1,700 sets, and there are 320 employees in total including Taiwan and China
 2015 / 01 New Taiwan headquarter inauguration; new product launches of sorting machines and formers.
 / 12 President Alex Wu won the 38th entrepreneurial model.
 2016 / 04 CCM (2070) has become officially listed company at emerging stock market.
 / 10 CCM wins the 25th SMEA award.
 / 12 Awarded by Economic department screw/nut Industry, Project Nice for Transformation Guidance.
 2017 / 10 Acquired "Certificate ISO 9001-2015".
 2018 / 01 Accumulated sales in optical sorting machine was reached 3300 sets.
 / 02 Bolt Former Manufacture Factory in Liuying officially takes off.
 / 11 CCM won Smart Machinery Golden Awards.
 / 12 CCM (2070) has become officially public company at emerging stock market.
 2020 / 01 Merge TFCT to explore new field of subject- Passive Component.



側視(牙)檢測功能

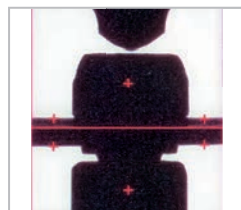
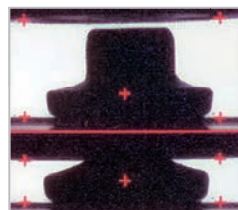
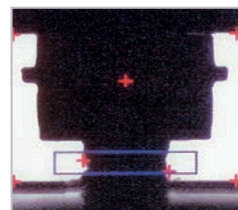
Side View(thread) Inspection Items


螺牙內外徑/牙距/牙角
Major , Minor Diameter /
Pitch / Thread Angle

搓牙不良/牙品質
Thread quality

底部形狀/桿徑/頸下長度
Point shape / Shank
Dia /Length under head

拖尾/彎曲
bend point

高低牙
High-Low Thread

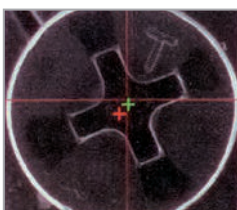
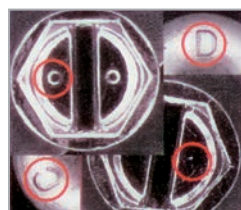

側視(頭部)檢測功能

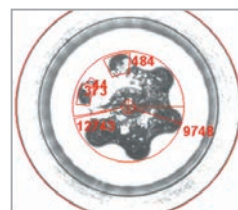
Side View(head) Inspection Items


頭部高度、寬度
Screw-head height, width

斷針、針深(旋轉式)
Broken Pin&
Recess Depth(Rotating)

頭部套筒(旋轉式)
Head Socket (Rotating)

無效長(頸下牙高)
Ineffective Thread Length


上視檢測功能

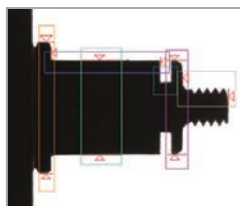
Top View Inspection Items


針孔同心度/真圓度
Pinhole alignment/Roundness

頭部文字、形狀
Head Mark

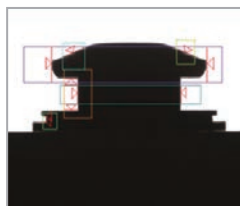
頭上裂痕
Head Crack

塞孔
Excess Material

對邊/對角/外徑
AF/AC/OD

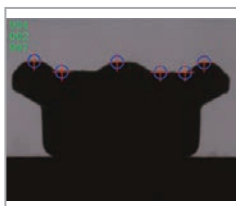
側視CCD檢測功能 Side View CCD Inspection Items



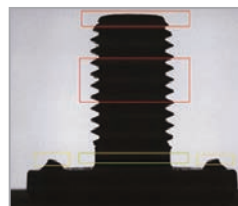
多段高度/寬度/厚度
Multi-Height/Width



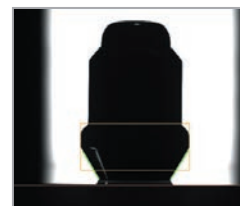
倒角/夾角
Chamfer Comparison



焊接螺帽三&四點獨立檢測
3 or 4 Welding Points



焊點高度/桿徑/螺牙
welding points /
shank OD / thread /
pitch

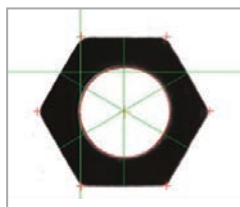


角度比對
Angle Comparison

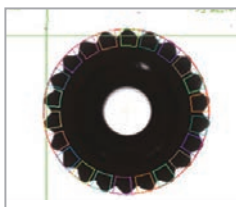
上下視CCD檢測功能 Top View/Bottom View CCD Inspection Items



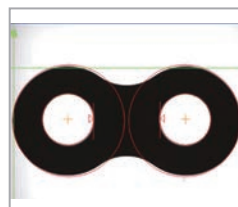
內外徑/同心度
OD, ID/ Concentricity



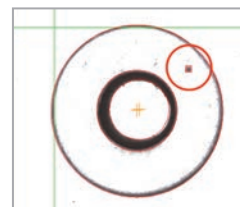
對邊/對角
AF/AC



齒數/牙距
Pitch number /
Pitch Distance



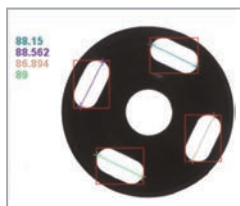
外型尺寸/兩圓孔距
Dimension / hole distance



表面瑕疵
Surface Flaw



頭裂
Head Crack



表面特徵(有無/直徑/
寬度/到中心距離)
Feature(presence/
diameter/Width/center distance)



印記有無
Mark presence



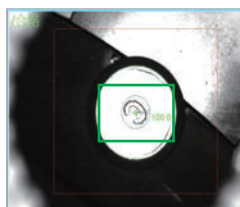
側邊特徵
Side Feature



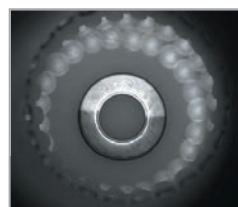
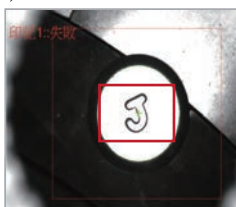
螺帽毛邊
Burr



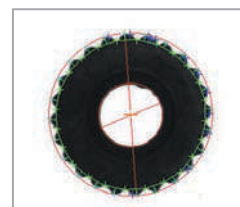
偏心
Off Center



印記混料
Mark / Material-Mix



電鍍不良
Plating quality

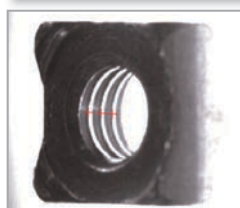


滾花齒數/牙高/面積
Knurl Number/Height /Area



斷針
Broken Pin

45° CCD檢測功能 45° CCD Inspection Items



有無牙
Thread: Yes or No



PS/PSL選配檢測功能

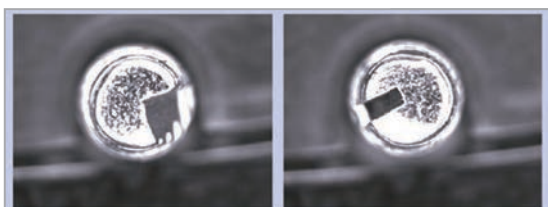
PS/PSL Optional Inspection Items



螺絲螺栓的輪裂
Wheel Crack of Bolts and Screw



電鍍螺絲的輪裂
Wheel crack of plated bolts



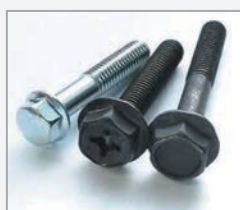
有無割尾
Cutter: Yes or No



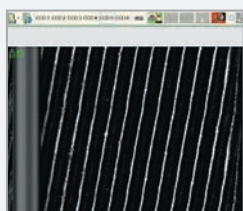
彎曲
Bending



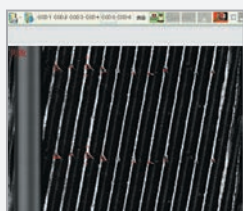
牙線角度
Helix Angle



螺絲牙傷(360°旋轉模組)
Thread Damage
(360° rotation module)



合格
OK

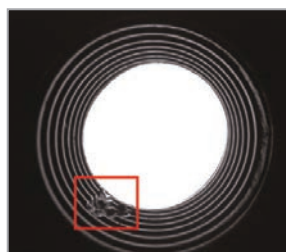


不合格
NO



PSG/PSC 360° 內部牙傷檢測

PSG/PSC 360° Internal thread inspection



360° 內螺牙牙傷
360° Internal Thread Damage

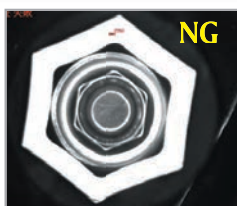


PSG/PSC 360° 外部特徵/瑕疵檢測

PSG/PSC 360° External feature / defect inspection



OK

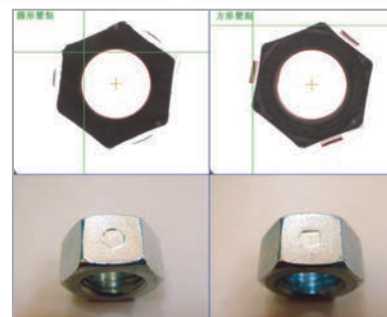


NG

外部瑕疵檢測
External defect Inspection

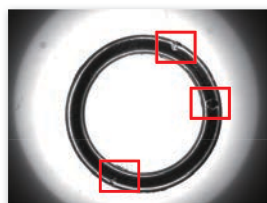


凸緣螺帽輪裂 Wheel crack of flange nut



360° 外部檢測
360° External Inspection

其他物件檢測功能 The Other Kind of Parts' Inspection Items.



油封內唇及表面NG檢測

Inspection for Oil Sealing Innerlip and Surface Defects



夾片尺寸及開口檢測

Dimension Inspection for Clamping Piece and Jaw Opening



粉末冶金表面檢測

Surface Inspection for Powder Metallurgy



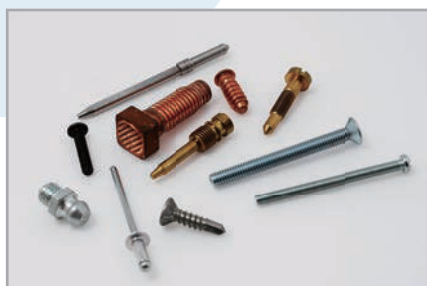
起子頭頭部梅花是否缺料

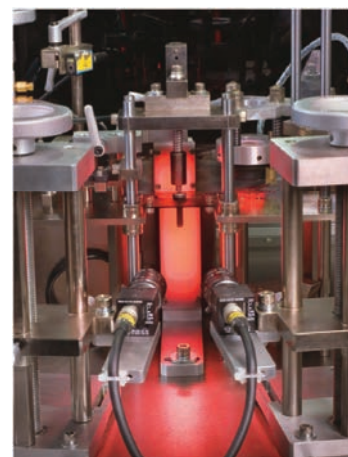
Bit Inspection for Lobe Drive Short of Material or Not



O型環尺寸檢測

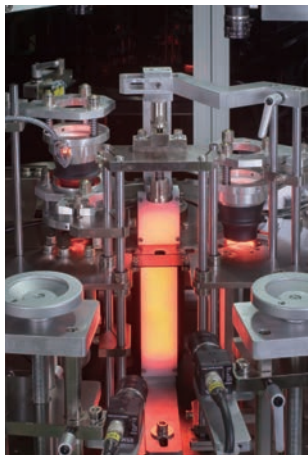
Dimension Inspection for O-ring



針孔檢測
Pinhole Inspection針孔檢測機構
Pinhole Inspection mechanism

專利機台・仿冒必究

- 適用M3~M8螺絲螺栓，頸下長80mm以內。
- 可加裝2~5支相機。
- 可加裝旋轉機構檢測針深或斷針。
- 可加裝輪裂檢測系統。
- 可加裝底部檢測系統，檢測有無割尾。
- 可加裝彎曲檢測模組檢測彎曲。
- 可加裝渦電流檢測模組，檢測材質混料與熱處理有無。
- For M3~M8 Screws and bolts, under head length less than 80mm.
- Available for 2~5 cameras.
- Can install rotating mechanism to inspect recess depth or broken pin.
- Optional : wheel crack checking system (LS-1501)for head crack inspection.
- Optional : bottom sorting system(LS-1503)for inspecting cutter presence.
- Optional : Bending checking module.
- Optional : Eddy current system for material mixup or heat-treatment or not.



螺絲螺栓的輪裂檢測
Wheel crack of bolts



LS-1501 輪裂檢測系統
LS-1501 Wheel Crack Sorting System



Patented Machine.
Counterfeit will be sued.

- 適用M8~M16螺絲螺栓，額下長150mm以內。
- 可加裝2~8支相機。
- 法蘭螺帽與拉帽也適用，可以加裝雷射檢測有無牙。
- 可加裝輪裂檢測系統。
- 可加裝旋轉機構檢測針深或斷針。
- 可裝底部檢測系統，檢測有無割尾。
- 可加裝彎曲檢測模組檢測彎曲。
- 可加裝360度牙傷檢測模組。
- 可加裝渦電流檢測模組，做裂痕檢測或是材質混料與熱處理有無。
- For M8~M16 Screws and bolts, under head length less than 150mm.
- Available for 2~8 cameras.
- Can install rotating mechanism to inspect recess depth or broken pin.
- Optional: wheel crack checking system (LS-1501) for head crack inspection.
- Optional: bottom sorting system (LS-1503) for inspecting cutter presence.
- Optional: Bending checking module.
- Optional: 360° rotation module for thread damage inspection.
- Optional: two kinds of Eddy current systems:
 1. for head open crack inspection.
 2. material mixup or W/WO heat-treatment.



可篩選物件
Sorting Objects

專利機台・仿冒必究

- 適用M5~M16螺絲螺栓，頸下長80mm以內。
- 可加裝2~4支相機。
- 螺絲、拉帽可懸吊之扣件高速檢測。
- 確保良品的排料設計與擋料機構。
- 可加裝渦電流檢測模組，檢測材質混料與熱處理有無。
- For M5~M16 Screws and bolts, under head length less than 80mm.
- Available for 2~4 cameras.
- High speed checking for screws, rivets which can be hung on the metal disc.
- Thoughtful design to secure accepted parts not being mixed with NG parts.
- Optional : Eddy current system for material mixup or heat-treatment or not.

加長型分度盤影像篩選機
Rotary Disk Sorting Machine
for Long Screws

PSD-1500

10



內部特寫
Internal View

Patented Machine.
Counterfeit will be sued.

- 適用M8~M16螺絲螺栓，頸下長125~250mm。
- 可加裝2~7支相機。
- 可加裝輪裂檢測系統。
- 可加裝彎曲檢測模組檢測彎曲。
- 可加裝360度牙傷檢測模組。
- 可加裝渦電流檢測模組，做裂痕檢測或是材質混料與熱處理有無。

- For M8~M16 Screws and bolts, under head length 125~250mm.
- Available for 2~7 cameras.
- Optional : wheel crack checking system (LS-1501) for head crack inspection.
- Optional : Bending checking module.
- Optional : 360° rotation module for thread damage inspection.
- Optional : two kinds of Eddy current systems:
1. for head open crack inspection.
2. material mixup or W/WO heat-treatment.



可檢測 ▶ 不同材質混料
有無熱處理混料

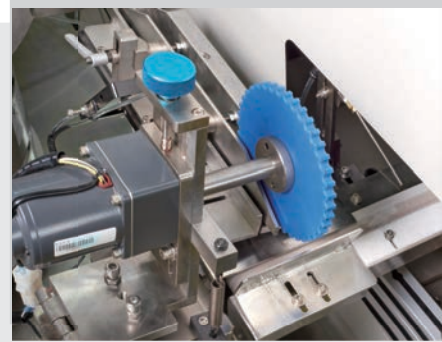
Available Sorting Items ▶
Material Mixedup
Mixup of Heat treatment and non-heat-treatment



專利機台・仿冒必究

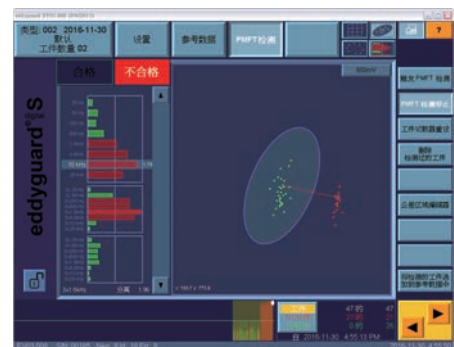
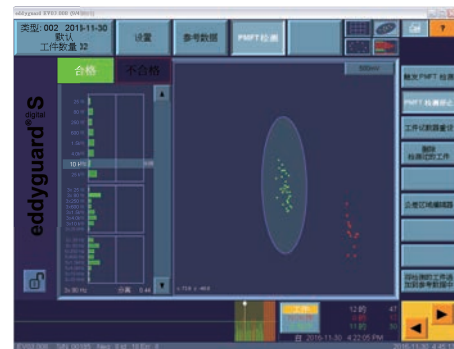
- 適用M3~M16螺絲或圓棒物件，
長度115mm以內。
- 貫穿式探頭，檢測全部，自由落體速度。
- 渦電流檢測材質混料或是熱處理有無。

- Suitable for M3~M16 screws, studs or cylinder-type objects.
- Coil type probe, testing whole piece, speed of free fall
- Eddy current system checking material mixup or W/WO heat-treatment.



送料

Feeding mechanism



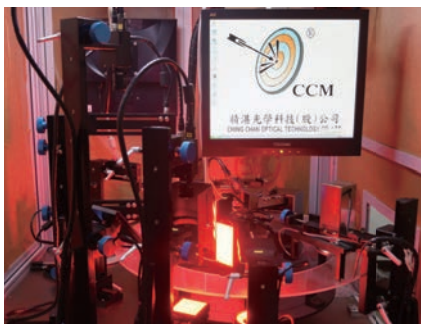
熱處理有無檢測畫面

W/WO heat-treatment inspection

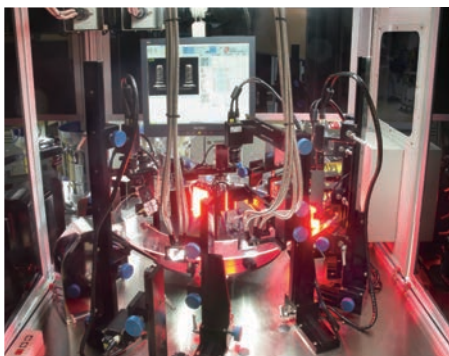
Patented Machine.
Counterfeit will be sued.

- 適用螺絲、螺帽或圓棒物件。
- 貫穿式探頭，檢測全部，可以控制速度。
- 渦電流檢測材質混料或是熱處理有無。

- Suitable for screws, bolts, nuts, pins objects.
- Coil type probe, testing whole piece, speed is adjustable by conveyor.
- Eddy current system checking material mixup or W/WO heat-treatment.



PSG-1700內部(近)
 PSG-1700 Internal view



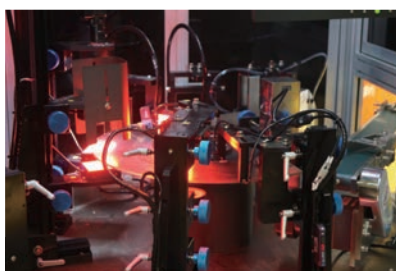
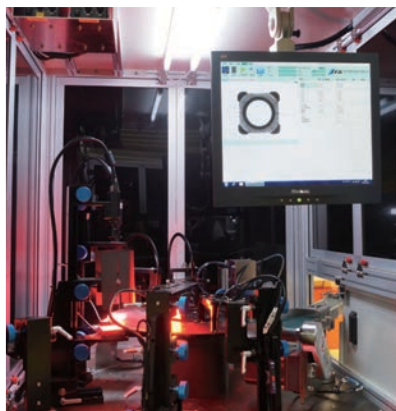
PSG-1700內部(遠)
 PSG-1700 Internal View



專利機台・仿冒必究

- PSG-1500可加裝2~4支相機, PSG-1700可加裝2~8支相機。
- 利用玻璃高透光性, 物件可以平穩放在盤面上者, 皆可檢測。
- 玻璃下可加相機, 檢測該面尺寸、特徵或瑕疵。
- 可加裝渦電流檢測模組, 檢測材質混料與熱處理有無。
- 可加裝菱鏡檢測模組檢測螺栓的牙傷。
- 可加裝外360或內360度鏡頭, 檢測牙傷或特徵或表面瑕疵。

- Available for 2~4 cameras for PSG-1500 and 2~8 cameras for PSG-1700.
- High transparent glass dial. Fit for grease-free parts which can be placed on the glass plate steadily.
- Can place camera under glass to inspect dimension, feature and defects.
- Optional: Eddy current system for material mixup or heat-treatment or not.
- Optional: Prism system to inspect thread damage of bolts.
- Optional: external / internal 360° lens to inspect thread damage, feature or surface defects.

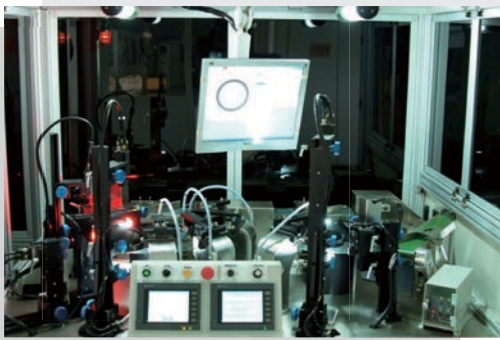


內部特寫
Internal View



Patented Machine.
Counterfeit will be sued.

- PSG-2500可加裝2~4支相機, PSG-2700可加裝2~8支相機。
- 利用玻璃高透光性, 物件可以平穩放在盤面上者, 皆可檢測。
- 玻璃下可加相機, 檢測該面尺寸、特徵或瑕疵。
- 可加裝渦電流檢測模組, 檢測材質混料與熱處理有無。
- 可加裝外360或內360度鏡頭, 檢測牙傷或特徵或表面瑕疵。
- Available for 2~4 cameras for PSG-2500 and 2~8 cameras for PSG-2700.
- High transparent glass dial. Fit for grease-free parts which can be placed on the glass plate steadily.
- Can place camera under glass to inspect dimension, feature and defects.
- Optional: Eddy current system for material mixup or heat-treatment or not.
- Optional: external / internal 360° lens to inspect thread damage, feature or surface defects.



內部特寫

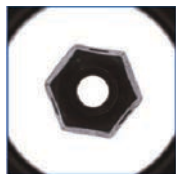
Internal View



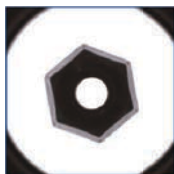
專利機台・仿冒必究

- 依檢測項目多寡，可選配2~6支相機。
- 使用翻轉機構將檢測物件做雙面檢測，不透過玻璃，可提升檢測準確度。
- 適用於需做雙面高規格檢查之平面形狀物件，如：螺帽、墊片、油封、O型環等。
- 檢查速率最快可達每分鐘500個。
- Available for 2~6 cameras.
- By-pass glass dial, reversal system enables double-side inspection with high inspection precision.
- Highly recommended for products requiring inspection on both sides, such as nuts, gaskets, oil seals and O-rings.
- Inspection Speed can reach 500pcs/min.

外部360° 檢測圖像
360° External Inspection Image

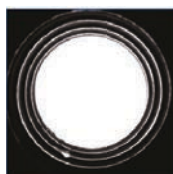


有壓點
With Crimp



無壓點
Without Crimp

內部螺牙360° 檢測圖像
360° Internal Inspection Image for Thread



牙傷
Thread Damage



正常
Standard



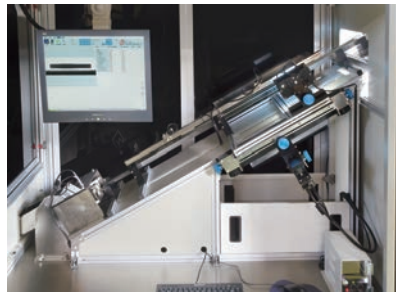
內部
Internal view

Patented Machine.
Counterfeit will be sued.

- 依檢測項目多寡，可選配 2 ~ 4 支相機。
- 平面式輸送帶設計，適用於螺帽類之檢測件。
- 內外 360 度檢測（選配）
- 人性化操作介面，功能最先進。
- Available for 2~4 cameras.
- Flat-conveyor design for nuts.
- Option: 360 degree inspection internal & external parts of nuts(optional devices).
- User-friendly operation interface, the most advanced functions.



送料
Feeding mechanism



V軌
Internal view of V-Rail



專利機台・仿冒必究
Patented Machine. Counterfeit will be sued.

- 依檢測項目多寡，可選配1~3支相機。
- 可檢測無頭螺絲、圓棒之類緊固件。
- Available for 1~3 cameras.
- Suitable for rod, studs checking.



機械尺寸規格表 Specifications

機型 Type 項目 Item	PS-1500	PSL-1500	PSD-1500	PSE-1500	PSC-2500	PSC-3500	PSG-1500 1700	PSG-2500 2700	PSG-6500	PSV-1500	PSR-1500
螺絲線徑 mm Wire Diameter	φ 3.0 φ 8.0	φ 8.0 φ 16.0	φ 8.0 φ 16.0	φ 3.0 φ 16.0			φ 1.2 φ 3.0			φ 5 φ 15	φ 5 φ 16
頭部外徑 mm Head Width	5~15	10~25	10~35	5~25	10~35	5~40	2.5~8	10~35	10~35		5~25
頭部厚度 mm Head Height	2~10	2~25	5~30	3~25	2~25		0.5~7	2~25	2~25		2 ~ 25
總長 mm Full Length										15~75	
頸下長度 mm Length Under Head	5~80	15~150	60~250	15~115		5~45	1.5~12				15~80
篩選精度 pixel Sorting Precision	±1	±1	±1		±1		±1	±1	±1	±1	± 1.5
篩選速度 Sorting Speed (Mxa PPM)	100 600	100 400	60 100	100 300	100 450	100 400	100 900	100 900	100 350	90 300	100 800
數位相機 Digital Camera	BASLER	BASLER	BASLER		BASLER	BASLER	BASLER	BASLER	BASLER	BASLER	BASLER
機型 Type 項目 Item	PS-1500	PSL-1500	PSD-1500	PSE-1500	PSC-2500	PSC-3500	PSG-1500 2500	PSG-1700 2700	PSG-6500	PSV-1500	PSR-1500
淨重/毛重 kgs Net/Gross Weight	776/ 1,243	1,078/ 1,526	1,800/ 2,192	1,060/ 1,507	833/ 1,085	300/ 502	PSG-15 730/1,035 PSG-25 750/1,183	PSG-17 793/1,161 PSG-27 872/1,261	1,100/ 1,492	738/ 877	871/ 1,271
機台尺寸 L : Machine W : Dimension H :	890 890 1,800	1,400 1,500 1,750	1,215 1,700 1,960	1,815 800 1,845	1,430 1,030 1,900	1,250 1,000 1,900	1,000 930 1,945	1,200 1,130 2,245	2,500 1,850 2,130	1,350 900 1,900	1,400 1,350 1,900
機台 裝箱後材積 L : Dimension W : after crating H :	1,440 1,560 1,440 1,080 2,200 2,040	1,780 1,810 1,630 1,140 2,230 1,990	2,420 1,450 1,850 1,450 2,240 1,400	1,860 1,860 1,350 1,350 2,240 2,240	2,220 1,690 2,220	1,570 1,270 2,220	2,240 1,600 2,240	1,690 1,440 1,690 1,170 2,220 1,630	2,020 2,080 1,470 1,020 2,210 1,670	1,290 1,290 2,200 1,170 2,210 2,240	1,580 1,430 1,500 1,220 2,250 1,980

以上數據僅供參考，如有變動不另行通知。

★¹ 機台使用氣壓均為5(kg/cm²)。

★² 電腦主機均搭配工業用電腦。

註：使用PSG篩選時：

- 其工件必須能站立。
- 頭部直徑：頸下長度為2:1時，為最佳物件比例。
- 精度依物體實際尺寸：
如果3mm物件，精度約±0.01mm。
10mm物件，精度約±0.03mm。
如需要更高精度，可換高畫素相機與鏡頭。
- 也可以針對較大顆物件客製PSG

CCM reserves the right for specification amendment without prior notice.

★¹ Air Pressure for sorting machine is five kgs/cm square.

★² All host for the sorting machine are industrial computer.

Remarks: when using PSG sorting machine, please note conditions below.

- Sorting objects must be able to stand on glass dial.
- Part best proportion: head width : length under head = 2 : 1
- Sorting precision: actual value depends upon parts sizes.
eg. object with 3 mm, pixel value is ca. 0.01mm, with 10mm, pixel value is ca. 0.03mm.
Shall higher precision is required, higher resolution camera, special lens might be required.
- Customized PSG for bigger objects is available.


DS-510

自動進出輸送系統(雙層)
Automatic Packing System
(Double Layers)


DS-610

自動進出箱輸送系統
Automatic Packing System


DS-701

袋裝包裝機
Bag Packing Machine


HS-800

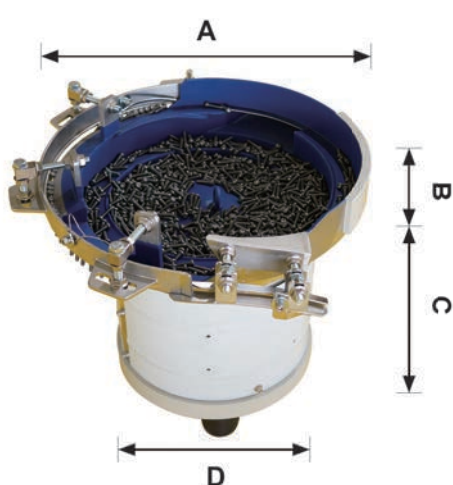
自動補料儲料斗
Automatic Hopper


HS-300

儲料斗
Hopper for
small objects

規格表 Specifications

機型 Type 項目 Item	DS-510 自動進出輸送系統(雙層)	DS-610 自動進出箱輸送系統	DS-701 袋裝包裝機	HS-800 自動補料儲料斗	HS-300 儲料斗
機器尺寸 Machine Size	長：(L) 2,750 mm 寬：(W) 1,450 mm 高：(H) 1,470 mm	長：(L) 1,420 mm 寬：(W) 960 mm 高：(H) 360 mm	長：(L) 1,300 mm 寬：(W) 600 mm 高：(H) 641 mm	長：(L) 1,700 mm 寬：(W) 1,600 mm 高：(H) 2,700 mm	長：(L) 500 mm 寬：(W) 350 mm 高：(H) 660 mm
淨重 / 毛重 NW / GW	511 / 946 kg	162 / 295 kg	150 / 230 kg	278 / 422 kg	25 / 64 kg
振動馬達 Vibrating Motor	×	×	×	1 / 3 HP	×
馬達 Motor	×	輸送帶 (Conveyer) 90W×2台	×	×	×
規格 Specification	×	×	計量容器(capacity)：Max 1kg 速度(speed)：Max 10包/分 厚度(thickness)：0.06~0.09mm 尺寸(bag size)：寬度(W)80~200mm 長度(L)100~250mm	×	×
裝箱後材積 Dimension after crating	長：(L) 2,440 mm 寬：(W) 2,230 mm 高：(H) 1,970 mm	長：(L) 1,570 mm 寬：(W) 1,390 mm 高：(H) 970 mm	長：(L) 1,300 mm 寬：(W) 600 mm 高：(H) 641 mm	長：(L) 1,820 mm 寬：(W) 1,820 mm	長：(L) 600 mm 寬：(W) 530 mm 高：(H) 940 mm



範例
Example



螺絲震動送料機
Screw Vibration Feeder

螺帽震動送料機
Nut Vibration Feeder

項目 Item 型式 Type	盤面直徑 Bowl diameter A	盤面高度 Bowl height B	出口高度 Exit height C	本體寬度 Body Diameter D	電壓 Voltage (V)	周波數 Cycle (HZ)	電流 Electric current (A)	機器重量 Machine weight (KG)
KS - 200	φ 200	80	200	200	220 / 380	50 / 60	0.5A	22
KS - 300	φ 300	100	300	270	220 / 380	50 / 60	1A	48
KS - 400	φ 400	120	370	330	220 / 380	50 / 60	2A	75
KS - 520	φ 520	140	430	370	220 / 380	50 / 60	3A	105
KS - 620	φ 620	140	430	450	220 / 380	50 / 60	4A	136
KS - 720	φ 720	160	460	560	220 / 380	50 / 60	6A	265
KS - 850	φ 850	160	460	560	220 / 380	50 / 60	8A	300
KS - 1000	φ 1000	200	480	670	220 / 380	50 / 60	10A	450

標準振動盤適用規格表
Application Product Range
螺絲 Screw

適用機型 Type	PS	PS	PSL	PSL	PSL	PSD
項目 Item 型式 Type	KS-400	KS-520	KS-620	KS-720	KS-850	KS-1000
螺絲線徑 Wire Diameter	φ 2 ~ φ 6	φ 3 ~ φ 8	φ 8 ~ φ 12	φ 8 ~ φ 16	φ 8 ~ φ 16	φ 8 ~ φ 16
頭部外徑 Head Width	4 ~ 12	5 ~ 15	10 ~ 25	10 ~ 25	10 ~ 25	10 ~ 35
頭部厚度 Head Height	1.5 ~ 8	2 ~ 10	2 ~ 25	2 ~ 25	2 ~ 25	5 ~ 30
頸下長度 Length Under Head	8 ~ 40	5 ~ 80	15 ~ 115	25 ~ 150	30 ~ 170	125 ~ 250



可篩選項目表 Sorting Items

機型 Type 項目 Item	PSG-1500	PS-1500	PSD-1500	PSL-1500	PSR-1500
頭部高度、寬度 Head Height & Width	○	○	○	○	○
針深 Recess Depth		○	○	○	
無效牙長(頸下牙高) Ineffective Thread	○	○	○	○	○
牙底徑 Minor Dia.	○	○	○	○	○
牙外徑 Major Dia.	○	○	○	○	○
牙距檢測 Pitch Distance	○	○	○	○	○
斜牙 Bevel Thread	○	○	○	○	○
螺絲長度 Screw Length	○	○	○	○	○
尾部尖點 Cone Point	○	○	○	○	○
頭部有無電鍍 Plating Presence (Head Top View)	○	○	○	○	○
螺絲彎曲(多次取像) Screw Bending (Multi-Images)		▽	▽	▽	
針深同心度 Pinhole Alignment	○	○	○	○	○
頭上裂痕 Head Crack	○	○	○	○	○
頭部文字 Head Mark	○	○	○	○	○
真圓度 Roundness	○	○	○	○	○
頭部輪裂 Head Wheel Crack		▽	▽	▽	
底部檢測 Bottom Sorting	○	▽	▽	▽	
凸緣螺帽輪裂 Flange Nut Wheel Crack			▽	▽	
凸緣螺帽有無牙 Flange Nut Thread:Yes or No	○		▽	▽	

機型 Type 項目 Item	PSC-2500	PSG-2500
多段高度 Multi-Height	○	○
多段厚度 Multi-Width	○	○
對角/對邊 AC/AF	○	○
表面特徵 Surface Feature	○	○
內孔徑 Internal Dia.	○	○
外徑 External Dia.	○	○
有無牙 Thread:yes or no	○	○
表面瑕疵 Surface Flaw	○	○
孔內牙屑 Chips in hole	○	○
同心度 Concentricity	○	○
印記有無 Mark Presence	○	○
正面裂痕 Head Crack	○	○
倒角直徑 Chamfer Dia.	○	○
有無壓點 Crimp yes or no	▽	▽
獨立焊點高度 Welding Point Height	▽	▽
360° 內螺牙牙傷 360° Internal Thread Damage	▽	▽
360° 特徵或瑕疵 360° features or surface defects	▽	▽
底部檢測 Bottom Sorting		○

打○表示標準功能，打▽表示選配功能

○ : Standard function ▽ : Optional function

可篩選項目表 Sorting Items

機型 Type 項目 Item	PSG-1500	PS-1500	PSL-1500	PSD-1500	PSC-2500	PSR-1500
內孔徑真圓度 Inner Roundness	○	○	○	○	○	○
內孔同心度 Inner Concentricity	○	○	○	○	○	○
內孔徑塞孔 Inner Excess Material	○	○	○	○	○	○
短對邊 Shorten AF	○	○	○	○	○	○
針孔塞孔 Pinhole Excess Material	○	○	○	○		○
特徵數量 Feature No.	○	○	○	○	○	○
特徵角度 Feature Angle	○	○	○	○	○	○
特徵相似度 Feature Similarity	○	○	○	○	○	○
特徵長度 Feature Length	○	○	○	○	○	○
特徵至中心距離 Feature-Center Distance	○	○	○	○	○	○
滾花間距 Knurl Distance	○				○	
滾花高度 Knurl Height	○				○	
對邊對角 AC/AF	○	○	○	○	○	○
尺寸混料 Size Mix-up	○	○	○	○	○	○
斷針 Broken Pin	○	○	○	○		○
搓牙不良 Deformed Thread	○	○	○	○		○
360° 旋轉側牙傷 Thread Damage (by 360° Rotation)			▽			
菱鏡檢牙傷 Thread damage (by Prism)	▽					

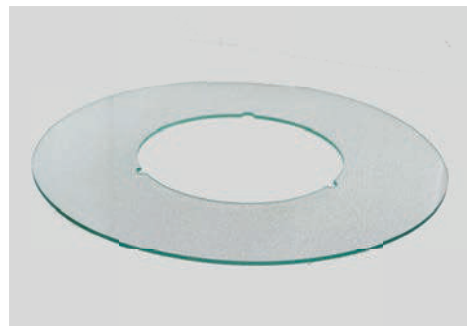
機型 Type 項目 Item	PSE-1500
硬度 Hardness	○
材質 Material	○

機型 Type 項目 Item	PSV-1500
總長 Full Length	○
中段長 Middle Length	○
牙外徑 Major Diameter	○
牙內徑 Minor Diameter	○
牙距 Pitch	○
牙谷距 Lead	○
牙角度 Thread Angle	○
螺旋角度 Spiral Angle	○
牙品質 Thread Quality	○
有效牙長 Thread Length	○
尾部長度 Tail Length	○
斜牙角度 Deform Thread Angle	○
形狀比對 Shape Match	○
圓弧半徑 Arc Radius	○

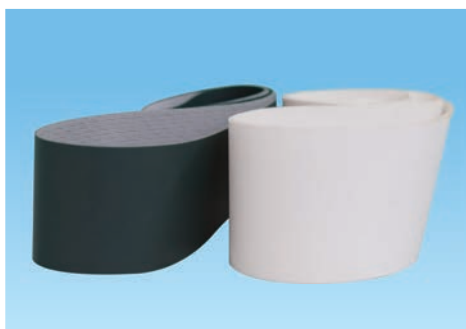
打○表示標準功能，打▽表示選配功能 ○：Standard function ▽：Optional function



分度盤 Rotary Disk
LS200、LS285、LS400



玻璃盤 Glass Dial
GD500、700



輸送皮帶 Conveyor Belt
CB-G25、CB-C25



錐形鏡 Cone Mirrors
CM1502



內、外360鏡頭
Internal & External 360 degree lens



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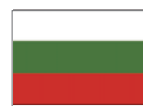
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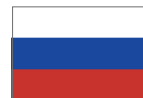
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