



品質、技術、服務

弘達儀器股份有限公司

HUNG TA INSTRUMENT CO., LTD.

光電通訊產業試驗儀器

Professional Testing Machines for Optic-
Electric Tele-Communication Industries

- 電線電纜 Electric cords, Cables
- 光纖電纜 Optic Fiber Cables



HT-E2000 CCL LASER THICKNESS MEASURING SYSTEM 銅箔基板雷射測厚儀



產品緣由：

- 製程改變，提高目前產品的精度要求
- 為量產品質的穩定要求，必須能立即檢出瑕疵，並回歸矯正系統
- 檢測速度的提昇
- 數據合理化的管理要求
- 量測品質的要求
- 檢測成本的降低
- 競爭力的提昇
- 降低人工量測的不穩定性
- 達成量測自動化的目標

- Requirements for improving the accuracy of existing products
- For quality stability request of mass-production products, must be able to detect defects and to regress correct system immediately
- Improvement of detection speed
- Administration requests for data rationalization
- Requests for measurement quality
- Decrease of detection costs
- Promotion of competition
- Decrease the instability of artificial measurements
- Reach the target of measurement automation

規格 SPECIFICATIONS

規格項目 Accuracy of measurement	品質標準
測量精度 Accuracy of measurement	靜態量測±4 μ、線上量測±6 μ
測量厚度範圍 Measuring thickness range	0.05~3.0mm
感測器 Sensor	非接觸式雷射測厚元件
測量間距調整 Adjustment of measuring distance	採固定式及非固定式
量測速度 Measuring speed	0.3 sec/點以下
量測點設定 Setup of measuring points	1~9點自由設定
控制模式 Control mode	PC Base Windows作業系統
資料庫管理 Database management	a.以Barcode及鍵盤輸入、檢測公差設定 b.基材尺寸設定、產品別 c.項目可依需求自由增減
單位換算 Unit conversion	mm、μm、mil
資料處理 Data processing	a.可輸出excel檔案 b.提供報表編輯器供使用者新增或修改 c.良率分布圖、板厚分布圖、品質分布圖 d.立體3D顯示
量測基板寬度 Measuring width of board	35~50 inch (1120~1250 mm)
量測基板長度 Measuring length of board	40~50 inch
量測高度 Measuring height	1000~1200 mm (可調)
機台尺寸 Dimensions	2050 (L) × 1509 (H) × 300 (W) mm
承板尺寸 Size of support board	1500 (L) × 250 (W) × 3 (T) mm

HT-E2100 IMAGE IDENTIFICATION SYSTEM 影像辨識系統

- 影像分為數位與類比兩種，類比就是傳統的照片或影片，以化學的方式加上光影技術形成可見的影像；相對的，數位影像則將影像透過電腦科技切割為像素(Pixel)，所有資料以數字加以表達。利用影像分割技術(Segmentation)，邊緣檢測(Edge detection)，線條粗細調整(Thinning)等技術手段應用在零件外形辨識上，直接使用於生產線上代替人工檢測更可以提昇生產速度與提高產品良率，在工業自動化的應用上越.越廣泛。

影像系統的組成與應用例：

系統架構如下所示：

- 自動檢測產品缺陷的有無如鍵槽有無、邊角缺損、表面凹陷等。
- 自動測量特定的精密尺寸。
- 自動匹配產品形狀。
- 檢測的非接觸性。
- 尺寸測量的精確性，對於一些微小精密尺寸精度達到微米級。
- 檢測的快速性與一致性，不會如人工檢測因長時間工作而造成檢查標準變動，可以滿足流水線在線檢測。

- There are two types of images, digital and analog images.

Analog images are commonly known as traditional photographs or video footages, which are chemically generated with shading technique. On the other hand, digital images are those that are broken down into small individual components called pixels by computer technology, and all the data are expressed in digits. In the identification on the appearance of parts using techniques such as segmentation, edge detection and thinning, the direct use on production lines in place of manual inspections improves the production rate, as well as increases the acceptable percentage of the product. These techniques are more and more widely in industrial automation.

Composition and examples of imaging systems:

The system structure is shown as follows:

- Automatic detection of defects on product, such as missing keys, damaged edges or corners, and dents on the surface, etc.
- Automatic measurement of specific accurate dimensions.
- Automatic matching of the product's shape.



- Non-contact inspections.

- The accuracy of dimensional measurement. The accuracy can reach the level of micrometer for certain tiny and precision measurements.

- Fast and consistent detection. The inspection standard does not change as it does under long hours of manual inspection, which satisfy the on-line inspection of a production line.

影像擷取卡 Image capture card

打光設備 Lighting

影像處理軟體 Image processing software

HT-2530 MECHANICAL DETERIORATION TESTER 機械劣化試驗機

用途：本試驗機用於執行車燈塑膠材質驗證、手持式通訊器材、汽車底盤組件、自行車零件之機械劣化測試。

Purpose：Use this tester to perform material verification tests of vehicle's lamps, and mechanical property degradation tests of hand-carried communication devices, vehicle's chassis parts and bike's parts.

試驗槽尺寸：800 * 1400 * 1400mm(W * D * H) Dimension of test trough：800*1400*1400mm (W*D*H)

試樣掛板使用面積：1000 * 1000 mm(D * H) Area occupied by hanging board of test specimens：100*1000MM(D*H)

性能：指在室溫25°C ± 5°C時，機台空載時 Performance：Room temperature 25°C ± 5°C and empty load on machine unit.

噴灑測試方法
Spray test method

噴槍：使用之噴槍須具有直徑1.3mm之噴嘴，液體在6~6.5 bar操作壓力下，流量為0.24 ± 0.02升 / 分鐘。在距噴嘴380 ± 10mm進行劣化之表面受影響區直徑應在170 ± 50mm。

The spray gun used shall be equipped with a nozzle 1.3mm in diameter allowing a liquid flow rate of 0.24 ± 0.02 liter/minute at an operating pressure of 6.0 bars - 6.5 bars. The jet shall be sprayed the mud & water almost perpendicular to the surface to be tested at a distance of 380 mm ± 10mm from the samples and the area impacted on the surface shall be 170 ± 50mm

測試混合物(泥水沙)：測試混合物組成如下：
Test mixture (mud and sands)：Contents of test mixture are as follows

試驗用砂(**PS：客戶提供)莫氏硬度7之矽砂，晶粒尺寸介於0及0.2mm呈常態分佈，角度係數為1.8至2.0
Sands for test (**PS：supplied by customer) - silica sands at a hardness of 7 in Mohs scale, a grain size in between 0 and 0.2mm in normal distribution and an angular coefficient ranging from 1.8 to 2.0.
每公升含砂25克後硬度不超過205g / m³
The hardness shall not exceed 205g/m³ when 25g of sand contained in a liter of mixture.

機台結構及使用材質
Structure and material of machine unit

內部使用材質-不鏽鋼板製品(SUS#316) Materials for interior parts - stainless steel plate (SUS#316)

外部使用材質-鐵板製品粉體塗裝 Materials for exterior parts - iron plate with powder coating

保溫使用材質-PU發泡保溫棉 Materials for thermal insulation - PU foam cotton used for thermal insulation

泥沙水加壓水泵-高壓型定量水泵 Mud & water boost pump - high-pressure metering water pump

使用材質-耐蝕耐磨型塑鋼材質 Material - Plastic steel material resistant to corrosion and wear.

最高使用壓力 8kg / cm²，(常用壓力為 6kg / cm²) Max. working pressure - 8 kg/cm², (commonly used pressure：6 kg/cm²)

最大使用流量 0.3L / min，(常用流量為0.24 L / min)，可分為10段調節

Max. flow rate - 0.3 L/min, (commonly used flow rate：0.24L/min) 10 stages adjustable.

流量計-耐高壓型流量計 Flow meter - Flow meter of high pressure type

使用材質-耐蝕耐磨型塑鋼材質 Material - Plastic steel material resistant to corrosion and wear.

最高承受壓力--8 kg / cm²，(常用壓力為 6kg / cm²) Max. working pressure - 8 kg/cm², (commonly used pressure：6 kg/cm²)

最大計測流量 0.3L / min，(常用流量為0.24 L / min) Max. flow rate - 0.3 L/min, (commonly used flow rate：0.24L/min)

■ 噴嘴-高壓型噴嘴 Nozzle - Nozzle of high pressure type

使用材質-耐蝕耐磨型鎢鋼材質 Material - Tungsten steel resistant to corrosion and wear.

噴嘴口徑尺寸 1.3mm Φ，圓錐型噴灑體，噴距為380mm時噴灑面積為直徑170 ± 50mm之圓面

Jet diameter - 1.3mmΦ, conically shaped spray structure, able to spray an area in a diameter of 170±50mm at 380mm distant to the nozzle.

儲蓄水槽-不鏽鋼板製品，容量約100公升，含泥沙之比率為25克/升，附加混合攪伴裝置(噴灑前)，及泥砂回收裝置(噴灑後)

Water reservoir - Made of stainless steel plate, able to receive a water volume about 100 liters at a proportioning rate of 25g/liter of mud and sand, accessorized with mixing device (to be operated before spraying) and recovery device of mud & sand (to be operated after spraying).

清理用之水泵-不鏽鋼製品，噴灑試驗完成後，分兩回路 清理噴槍及試驗槽。

Water pump for cleaning - made of stainless steel, can be applied to clean the spraying gun and test trough individually in two water circuits after the completion of spraying test.

噴槍用之三軸型傳動軌道-不鏽鋼製品，分X、Y、Z三軸執行 3-dimensional conveying rails for spray gun - made of stainless steel, can be run along X, Y, Z axes respectively.

Z軸(前後進退)：行程600mm，可設定之最小單位為1mm，單一式定位動作。

Z axis (move forward and backward)：Travel 600mm, minimum designated unit：1mm, single acting movement for alignment.

X軸(左右移動)：行程1000mm，可設定之最小單位為1mm，移動速率(50~500mm/sec)

X axis (move leftward and rightward)：Travel 1000mm, minimum designated unit 1mm, moving speed (50 ~ 500 mm/sec)

Y軸(上下移動)：行程1000mm，可設定之最小單位為1mm，移動速率(50~500mm/sec)

Y axis (move upward and downward)：Travel 1000mm, minimum designated unit 1mm, moving speed (50 ~ 500 mm/sec)

試樣掛架 -- 不鏽鋼製品，最大承載重量50kg Hanging rack for test sample Made of stainless steel, maximum load 50kg.

試驗槽片 -- 單門式，附加玻璃視窗及照明燈 Test trough plate single-door model, accessorized with sight glass window and lamp for illumination.

使用電源：AC 3 Φ 220V 60/50Hz 50A Power supply：AC 3Φ 220V 60/50Hz 50A AC 3Φ 380V 60/50Hz 40A

HT-2530



HT-2328,HT-2328BP,HT-2328BI SINGLE COLUMN UNIVERSAL MATERIALS TESTING MACHINE 單柱形拉力試驗機



主機規格CONSOLE SPECIFICATIONS

型號Models	HT-2328型、HT-2328BP型、HT-2328BI型					
容量選擇Capacity	kN	2	1	0.5	0.2	0.1
標準精度型 Standard-accuracy type	在負荷感應器容量的2%-100%範圍內，試驗力示值準確度優於±1% Accuracy of test force is better than ±1% within the range 1/1-1/50 of full scale of load cell					
負荷感應器Load cell	標準配裝HT-8336高精度拉壓傳感器(最大試驗力X1個，可擴充性優，可同時配裝多個感應器-選購) HT-8336 High precision tension/compression load cell as standard (maximum force X 1 set, with excellent expanding feature, available to connect some load cells at a time-optional)					
試驗力測量 Measurement of test force	放大倍率Load amplification	HT-2328型使用HUNG TA介面，可做：(A) x1, x2, x5, x10, x20, x50, x100 等七段自動切換功能，示值分辨率1/2000 (B) x1, x2, x5, x10 等四段自動切換功能，示值分辨率1/20000 (A,B二擇一) Type HT-2328 equipped with HUNG TA interface system, available with: (A,B select one) (A)x1, x2, x5, x10, x20, x50, x100 seven scales with auto range function, resolution 1/2000 (B)x1, x2, x5, x10 four scales with auto range function, resolution 1/20000				
	單位選擇Selection of force units	N, kN				
測試速度範圍 (A,B,C,D,E,F 六擇一) Test speed range (select one)		A: 伺服馬達型：0.005-1000 mm/min(限於HT-2328 機種使用) A: Servo motor type: 0.005-1000 mm/min(Suitable for HT-2328 only) B: 伺服馬達型：0.05-1000 mm/min(限於HT-2328BP 機種使用) B: Servo motor type: 0.05-1000 mm/min(Suitable for HT-2328BP only) C: DC 馬達型：10-500 mm/min(限於HT-2328BP 機種使用) C: DC motor type: 10-500 mm/min(Suitable for HT-2328BP only) D: DC 馬達型：10-1000 mm/min (限於HT-2328BP 機種使用) D: DC motor type: 10-1000 mm/min(Suitable for HT-2328BP only) E: DC 馬達型：0.5-1000 mm/min(限於HT-2328 機種使用)E: DC motor type: 0.5-1000 mm/min(Suitable for HT-2328 only) F: DC 馬達型：100-1000 mm/min F: DC motor type: 100-1000 mm/min				
試驗有效深度Effective test depth		125 mm (夾持中心到支柱邊距)	125 mm (distance of clamping center to column side)			
橫梁工作台距離 Crosshead working table distance		標準型：750 mm 特殊型：1150 mm	standard type: 750 mm special type: 1150 mm			
試驗行程(裝置標準拉伸夾具) Test stroke (equipped with standard tensile grips)		標準型：560 mm 特殊型：960 mm	standard type: 560 mm special type: 960 mm			
超行程、超負荷設定保護功能 Over-travel & Overload protection function		行程上、下限位置設定保護，超過設定試驗力的10%時，系統自動停機保護Stroke up & down position protection setting, when test force exceeds 10% of full scale, system auto stop to protection the system from overloaded.				
動力系統Power	耗電量Consumption	0.5 kVA				
	電源Power source	1Ø, 220VAC, 50/60 Hz				
體積	主機 WxDxH Console WxDxH	標準型：56x50x126 cm 特殊型：56x50x166 cm standard type: 56x50x126 cm special type: 56x50x166 cm				
	電腦系統Unit	100x48x42 cm (電腦主機+螢幕+列表機)100x48x42 cm (computer hardware + monitor + printer)				
主機重量Weight		標準型：56 kg, 特殊型：60kg standard type:54 kg, special type: 60 kg				
標準配備附件Standard accessories		拉力夾具一組、使用工具一組、說明書一份、校正報告一份、保固書一份 Tensile grips x 1 set, tool kit x 1 set, operation manual x 1 set, certificate of calibration x 1 set				

HT-2531 GLASS SURFACE COMPRESSING STRENGTH TESTER 玻璃面壓強度試驗機

測試功能：將液晶螢幕固定於測試機台上，由電腦控制，自動下壓測試左上，右上，右下三個角落之玻璃層間黏著強度

Testing capability: hold LCD specimen on the tester's bench, automatically press down to test the adhesion strength between glass sheet pair at up-right, up-left and down-right corner of the specimen, controlled by computer program.

規格：可測試20"吋至52"吋之液晶螢幕 Specification: capable to test LCD sized within 20" ~52" .	
主機結構 Machine's structure	測試工作台2000 X 1000 mm Test bench: 2000 X 1000 mm
測試行程 Testing stroke	X軸：950 mm (移動軸) X-axle: 950 mm (moving axle) Y軸：950 mm (移動軸) Y-axle: 950 mm (moving axle) Z軸：400 mm (垂直施力軸) Z-axle: 400 mm (vertically force-exerted axle)
測試速度 Test speed	移動軸：5-200 mm/min Moving axle: 5-200 mm/min 垂直施力軸：5-1000 mm/min Vertically force-exerted: 5-1000 mm/min
傳動系統：採三組伺服馬達，配合精密滑座傳動 Transmission system: by three sets of servomotors plus precise sliding seat 50 kg 荷重元：拉壓兩用精度± 0.5% 50 kg loading device: for both tension & compression use, accuracy = ± 0.5%	
控制顯示系統 Control displaying system	採用電腦直接顯示及控制 Directly displayed and controlled by computer. 採用HT-9606放大器及介面卡 Apply HT-9606 amplifier and interfacing card 可由電腦自動測定一點，或二點，或三點(可設定) Can test one, two or three points by computer (from different setting). 需能手動/自動控制 X/Y/Z三軸動作及調速 Can control X/Y/Z -axle movement and speed by auto or manual mode. 電源：1Φ/200V/20A Power source: 1Φ/200V/20A
軟體系統 Software system	可做單點及多點測試(可預先模組化設定) (最多四點) Can test single or multi points (making module setting prior to the test) (four) 試驗條件及試品規格，可預先模組化設定，節省時間 Can make module setting of test condition and specimen specification that may

HT-2531



HT-8115 TENSILE STRENGTH TESTER 桌上型拉力機

CNC 1354, JIS-P8113

■ HT-8115系列桌上型拉力機可適用塑膠、橡膠、電子零件，等小零件之拉力測驗。

■ The tensile strength tester is suitable for determination of the tensile strength of plastics, rubbers, electronic parts,...etc.

HT-8115 規格 SPECIFICATIONS

型式 Model	HT-8115A 錶式手動 Dial Manual	HT-8115B 錶式電動 Dial Motorized	HT-8115C 電子式手動 Digital Manual	HT-8115D 電子式電動 Digital Motorized
容量 Capacity	1,2,5,10,20,50 kg		2,20,50 kg (selectable)	
解析度 Resolution	1/200	1/200	1/10000	
行程 Testing Stroke	150mm	150mm	150mm	
速度 Testing Speed	For motorized:0-100mm/min or 0-300mm/min(optional)			
材積 Dimensions	28×35×87cm			
重量 Net Weight	Appro×.25 kg			

HT-8115A



HT-8115B



HT-8115C



HT-8115D



HT-8116 TENSILE / COMPRESSION STRENGTH TESTER 桌上型拉力壓力試驗機

- 本機係用以測試紙板或紙管的拉/壓力強度。
- The tensile strength tester is applied to test the tensile strength of papers and paper cones.

HT-8116 規格 SPECIFICATIONS

容量	Capacity	20,50,100,200kgs(任選) (selectable)
力量顯示器	Force Indicator	HT-9535SA(16 bits amp)
解析度	Resolution	1/20000
行程	Stroke	150mm
支柱長	Length of support post	600mm
支柱直徑	Dia. Of support post	40mm
支柱間空間	Interval between support post	250mm
測試速度	Test speed	(a)10~80mm/min or (b)5~40mm/min
工作檯空間	Working table space	Diameter 200mm
電源	Power source	220V 50/60Hz
材質	Dimension	35(W)x25(D)x96(H)cm
重量	New weight	Apr. 80kgs

HT-8116



HT-8296B BENCH TOP HORIZONTAL TENSILE TESTER 桌上型臥式拉力機

- 各種插頭、插座、燈座、電子組件等，凡是附有套合裝置的部位，其緊密度是否足夠，必須依標準規範測定其推入力與拔出力。本機採推拉兩用式顯示器，並附有無段變速控制，可滿足多方面的測試需求。
- This tester is suitable for testing various attachments such as plug, cord connector, lamp socket and electrical assembly that equipped with hitch-receptacle devices. It is necessary to measure its jointing steadiness by measuring the force of insertion and withdrawal according to some certain standards. This tester is equipped with insertion and withdrawal dual function design, and adjustable speed control to conform to various kinds of test requirements.

HT-8296B 規格 SPECIFICATIONS

容量 Capacity	500 g, 2, 5, 20, 50 kg
測試速度 Test speed	Max. 100 mm/min
試件長度 Sample length	200 mm
電源 Power	1Ø, 110/220V, 50/60 Hz
材積 Dimensions	48(W)×36(D)×45(H) cm
重量 Weight	45 kg

HT-8296B



HT-9363 ELECTRO DYNAMIC TYPE VIBRATION TESTER 動電式振動試驗機



振動試驗機之特點說明如下 FEATURES

- 激振器之出力軸質量輕，剛性強，軸向共振頻率達2000 Hz以上。
- 機台利用電腦連線控制，資料輸入立即儲存，可精確達到控制效果。
- 台面之各種控制條件，可於運轉中由螢幕監視之，如振動頻率值，振幅量，速度及加速度等。
- 本機台採低阻抗高性能之設計方式，可提高機台效率及降低測試產品之成本。
- 本機台之機體漏磁隔離效果佳，可避免干擾測試產品。
- 本機台控制器採PC BASED，具15"顯示畫面且使用操作容易。
- PC BASED 畫面具顯示控制曲線 (Curve) 之功能。
- 本機台可列印彩色螢幕之測試報告，及儲存無窮記憶空間。
- 本公司提供夾(治)具動態分析圖，以確保實驗之可靠度。
- The output axle of exciter is light in weight & high stiffness; the axial resonant frequency is above 2000 Hz.
- On-line to computer, data inputted is stored right away; precise control can be reached.
- Can monitor the control conditions (vibration frequency, amplitude, velocity and acceleration) of operation on display.
- Apply low-resistance & high-performance design to elevate machine's efficiency and reduce the test cost.
- Excellent magnetic-flux-leakage-blocking effect that can prevent from disturbing products under test.
- Apply PC based controller, 15" display, easy to operate.
- PC based display can display the control curve.
- Can print out test report from colored screen; and have infinite storage space.
- Provide dynamic analysis diagram to jigs and fixtures to ensure test's reliability.

標準配備 STANDARD EQUIPMENT

控制用工業電腦 (for 19" 機架)	Industrial computer for control use(for 19"frame)	
振動感測器：PCB 353B32 (ICP TYPE 鈦合金外殼)	Vibration sensor : PCB 353B32 (ICP type titanium alloy shell)	
電壓靈敏度：50 mV/g	Voltage sensitivity : 50 mV/g	頻率範圍：0.7-8k Hz Frequency range : 0.7-8k Hz
重量：20 grams	Weight : 20 grams	振幅範圍：±100G (PEAK) Vibration range : ±100G (peak)
附6m長 鐵氟龍被覆低雜訊訊號線	6m Teflon-covered low-noise signal cable	
出廠檢驗校正報告。 (追溯度量衡國家標準實驗室)	Factory calibration report (tracing to National Standard Lab)	
中/英文版操作保養手冊	Chinese/English Operation & Maintenance Manual	
水平式振動主機尺寸： 2000mm(L)×1400mm(W)×950mm(H)	Horizontal vibration primer's dimension : 2000mm(L)×1400mm(W)×950mm(H)	
水平式振動主機重量：2100Kg	Horizontal vibration primer's weight : 2100Kg	

激振器 (VS - 600VH-51) (垂直+水平式) Exciter (VS - 600VH-51) (vertical + horizontal)

額定正弦峰值力 Rated peak sine force	6000 N (600kgf)
額定隨機激振力 Rated random excited force	6000 Nrms (600Kgf rms)
頻率範圍 Frequency range	2 - 2000 Hz
最大位移 (振幅) Max. displacement (amplitude)	51 mm (PEAK - PEAK)
空載加速度 No-load accelerate	50 G (PEAK)
最大負載能力 Max.loading capacity	300 kgw
動態質量 Dynamic coil's mass	12Kg
台面運動不均勻度 Non-uniformity on bench movement	± 5% 以下(± 5% or less)
橫向運動 Transversal movement	小於 ± 5% (less than ± 5%)
漏磁量 Magnetic flux leakage	小於 0.01 GAUSS 動態台面上方10 CM處 less than 0.01 GAUSS, measured 10 CM above the dynamic coil bench

功率放大器 Power amplifier

額定輸出 Rated output	6 KVA
失真度 Distortion	小於 5% (less than 5%)
頻率範圍 Frequency range	2 - 2000 Hz
功率放大器效率達95%以上 Efficiency of power amplifier is above 95%	
含伺服保護系統一套 One set of servo protecting system	

激磁電源供應器 Exciting power supply

輸出功率 Ripple percentage	5000 W
紋波比 (RIPPLE PERCENTAGE)	小於 10% (less than 10%)
本機台符合ISO 5344 規範 (此項目已包含標準配備之費用) This machine conforms to ISO 5344 Spec.(Cost has included the standard equipment)	

數位正弦、隨機振動控制器 (DVC - 4 - SINE)、(DVC - 4 - RANDOM) Digital sine & random vibration controller (DVC - 4 - SINE), (DVC - 4 - RANDOM)

含控制盒,PCI介面卡,程式及訊號線等 Include control box, PCI interface card, program and signal cable, etc.	
PC BASE,具15"顯示畫面,操作容易 PC-base configuration, 15" monitor, easy to operate.	
頻率範圍 Frequency range	2~10000 Hz
畫面具顯示控制曲線功能 Can display the control curve.	
控制曲線 Control curve	32轉折點,具定位移,定速度,定加速度設定 32 turn points; can set up displacement, velocity and acceleration.
使用單位 Unit	公制或英制 SI or British Unit
輸入頻道數 Input channels	四頻道
輸入靈敏度 Input sensitivity	5~1000 mV/g, 20 V (P-P) max
掃頻模式 Scan model	線性掃頻或對數掃頻 Linear or log frequency sweeping
掃頻速率 Frequency sweeping speed	對數 Log : 0.1-9.99 Oct / Min 線性 Linear : 0.1-99.9 Hz / Sec
輸出頻道電壓 Output channel voltage	0 - 5 Vrms
控制方式 Control method	閉迴路控制 closed circuit
具軟體自動檢驗振動參數設定功能 Apply program to auto inspect the vibration parameter setting	

水平振動滑台 (可依照客戶實際需求尺寸) Horizontal vibration sliding table (can follow client's dimension to produce the table)

水平底座(採用高強度鋼材) Horizontal seat (made by high-strength steel)
台面採用高精度花崗岩石 Apply high-precision granite to build the table seat.
水平振動滑板尺寸：1200×1200 mm, 重量：126 kg Sliding plate's dimension : 1200×1200 mm, weight : 126 kg
水平振動滑板使用頻率達500 Hz以上 Frequency of horizontal vibration sliding table is above 500 Hz

垂直輔助振動平台 (可依照客戶實際需求尺寸) Auxiliary vertical vibration sliding table (can follow client's dimension to produce the table)

尺寸：1200×1200 mm, 重量：110Kg Dimension : 1200×1200 mm, weight : 110Kg
共振頻率達100 Hz以上 Resonant frequency exceeds 100 Hz.

HT-8760 COMPUTER FIBER TENSILE SQUEEZE TESTER 光纖拉伸擠壓試驗機

- 用於測試光纖電纜之拉伸及擠壓測試。
 - 本機可單獨手動測試，亦可與其他光纖電纜測試儀器一併電腦連線。
 - 測試軟體由本公司自行開發，操作簡便。客戶必須自行購買 power meter，以便和電腦連線測試。
- Specially designed for conducting the tensile and squeeze test of optical fiber cables. Completed with leading wheel and winding roller, the space of test location can be minimized.
 - This machine can be operated independently or got on line with the computer for the mode of automatic operation.
 - User-friendly Test program is developed by Hung Ta, which is easy to be operated. Client has to purchase power meter so that it can get on-line with the computer system.

標準附件 STANDARD ACCESSORIES

1. 反拉夾具
 2. 導輪座
 3. 滑輪組
 - 二組式滑輪組 (依需求而定)
 - 二組式滑輪組
 - 二組式滑輪組
 4. 滑輪整理架
 5. 電腦系統 (不含Power Meter)—硬體規格變化快，依訂約時而論
 6. 彩色噴墨列表機
 7. 電腦桌
 8. 註：訂約時須貴客提供Power Meter 及試件，以利試車。
1. Compression cage
 2. Winding roller and base
 3. Leading wheel set (depending on the cable diameters)
 - Duplicate (depends on actual requirements)
 - Triple
 - Quadruplicate
 4. Leading wheel collect racket
 5. Computer System(Power Meter excluded)— Hardware's specifications would be determined at the time of order.
 6. Color ink jet printer
 7. Computer table
 8. Remark : The Power Meter and some samples have to be supplied by buyer for a trial running before delivery.



HT-8760 規格 SPECIFICATIONS

依據標準 Standards applied	IEC794-1-E1 & E3, FOTP-33 & 41, CNS 12083-C6297
容量 Capacity	500,1000 or 2000 kgs
試片長度 Specimen length	150 Meter
導輪直徑 Diameter of leading wheel	20D (optional 24D or 30D)
測試時間 Test time	10 min, settable可設定, max. 99 min
驅動方式 Method of driving	伺服馬達驅動系統 Servo motor driving system
最大測試行程 Max. test stroke	1000 mm, 含拉伸夾具、二組式滑輪組、三組式滑輪組、四組式滑輪組、出力導輪 including tensile grips, duplicate wheel set, triple wheel set, quadruplicate wheel set and winding roller
擠壓力量 Squeeze force	0~200 kg/mm settable 可設定
擠壓速度 Squeeze speed	2.54~38 mm/min
壓縮盤尺寸 Size of compression platens	100×100 mm
壓縮盤硬度 Hardness of compression platens	HRB 90°, 雙邊R6 at both ends
電源 Power	1phase, 220v, 50/60 Hz

HT-8761 FIBER CONTINUOUS FLEXING TESTER 光纜連續彎曲試驗機

- 用於測試光纖電纜之連續彎曲測試
- 本機可單獨手動測試，亦可與其他光纖電纜測試儀器一併電腦連線
- Specially designed for conducting the continuous flexing test of optical fiber cables.
- This machine can be operated independently or got on line with the computer for the mode of automatic operation.



HT-8761 規格 SPECIFICATIONS

依據標準 Standards applied	IEC794-1-E6, FOTP-104
彎曲速度 Flexing frequency	30 ± 1 times/min.
彎曲角度 Flexing angle	± 90°
彎曲時間 Flexing time	2 min. Holding for 40 sec.
支持端線長 Cable length of supporting side	216 mm
砝碼端線長 Cable length of reference weight side	457 mm
砝碼 Reference weight	Outer dia. of sample 5.0 kg (9 mm < D ≤ 13 mm) , 5.5 kg (13 mm < D ≤ 18 mm) 6.5 kg (18 mm < D ≤ 24 mm) , 7.0 kg (24 mm < D ≤ 30 mm)
材積 Dimension	1700 × 660 × 1700 mm
電源 Power	3 phase/380V/50 Hz
馬達規格 Motor	3 HP/6 Pole

HT-8762 FIBER CONTINUOUS IMPACT TESTER 光纜連續衝擊試驗機

- 用於測試光纖電纜之連續衝擊測試
- 本機可單獨手動測試，亦可與其他光纖電纜測試儀器一併電腦連線
- Specially designed for conducting the continuous impact test of optical fiber cables.
- This machine can be operated independently or got on line with the computer for the mode of automatic operation.

HT-8762 規格 SPECIFICATIONS

依據標準 Standards applied	IEC794-1-E4, FOTP-25
衝擊高度 Impact height	150 ± 5 mm (from the bottom of impact head to the upper part of cable sample).
夾持間距 Grip distance	100 ± 5 mm
夾持寬度 Grip width	60 ± 2 mm
衝擊頭 Impact head	R90 mm
衝擊次數 Impact times	20 times (settable)
衝擊速度 Impact frequency	30 ± 1 times/min
砝碼 Weight	依線徑範圍而定 depending on the diameter range of optic fiber cable
材積 Dimension	1500 × 600 × 1800 mm
電源 Power	1 phase/220V/50 Hz



HT-8762E FIBER CONTINUOUS IMPACT TESTER 光纖連續衝擊試驗機

- 用於測試光纖電纜之連續衝擊測試
- 本機可單獨手動測試，亦可與其他光纖電纜測試儀器一併電腦連線
- Specially designed for conducting the continuous impact test of optical fiber cables.
- This machine can be operated independently or got on line with the computer for the mode of automatic operation.

HT-8762E 規格 SPECIFICATIONS

依據標準 Standards applied	IEC794-1-E4
彎曲速度 Impact height	1000 ± 5 mm (from the bottom of impact head to the upper part of cable sample).
彎曲角度 Grip distance	100 ± 5 mm
彎曲時間 Grip width	60 ± 2 mm
支撐端線長 Impact head	R300 mm
法碼端線長 Impact times	10 times (settable)
砝碼 Weight	1.5 kg, with 500 g × 2 pcs extra
材積 Dimension	500 × 600 × 2140 mm
電源 Power	1 phase/220V/50 Hz

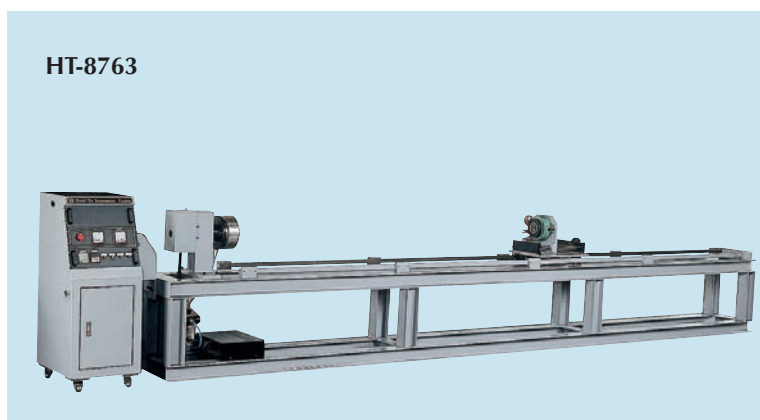
HT-8762E



HT-8763 FIBER AUTO TORSION TESTER 光纖連續扭轉試驗機

- 用於測試光纖電纜之連續扭曲測試
- 本機可單獨手動測試，亦可與其他光纖電纜測試儀器一併電腦連線
- Specially designed for conducting the Automatic torsion test of optical fiber cables.
- This machine can be operated independently or got on line with the computer for the mode of automatic operation.

HT-8763



HT-8763 規格 SPECIFICATIONS

依據標準 Standards applied	IEC794-1 E7			
最大測量距離 Max. test distance	4 m, adjustable ± 180,			
扭轉角度 Torsion angle	A-->B c.w.	B-->A c.w.	A-->B c.c.	B-->A c.c.
	as 1 cycle c.w.: clockwise c.c. : counter clockwise			
測試速度 Test speed	1~10 cycle/min			
計時器 Timer	Digital			
計數器 Counter	Digital			
砝碼 Weight	75 Newton			
附三爪式夾具一組，一端固定，另一端可調。 Three-jaw type grip heads. Left one is fixed, but right one is adjustable.				
控制系統附緊急開關及暫停開關。 Emergency and pause buttons are equipped with the controlling system.				
電源 Power	1 phase/220V/50 Hz			

HT-9431 MELT FLOW INDEXER 融溶指數試驗機

JIS K6719, 6758, 6760, 6870, 7120, ASTM D1238, ISO R-1133

- 本機係用來了解熱塑 塑膠材料形成過程當中的流動特性。在適當的材料對應溫度之下，施加一定壓力後，求每10分鐘內所流出的重量，以知其流動率(性)即其品質的優劣。
- It is necessary for measuring the melt index and flow index as an indication of flow properties when forming thermoplastics. This tester is mostly suitable for these purposes featuring the extrusion type electric furnace to and is widely. Adopted for testing various raw materials such as PVC, TPR...etc. Weight of specimen to be extruded through a specified orifice for a specified period of time under proscribed conditions of pressure and temperature is measured and expressed as the flow rate.

HT-9431 規格 SPECIFICATIONS

溫度範圍 Temperature range	Rt~+300°C
溫度精度 Temperature accuracy	±0.1°C
計時器 Timer	30 min
水銀溫度計 Mercury thermometer	190±1°C
砝碼 Load	2160 g (或由客戶指定 or requested by client)
圓柱筒 Cylinder	Ø 9.5504±0.0076 mm
活塞 Piston	Ø 9.4742±0.0076 mm
細孔模 Die	外徑9.5±0.02 mm, 孔徑2.0955±0.0051 mm, 長度8.00±0.02 mm Outer diameter 9.5±0.02 mm, inner diameter 2.0955±0.0051 mm, Length 8.00±0.02 mm
自動切料裝置 (選配) Automatic cutting device (optional)	自動/手動切料可選擇，切料時間0.1~999.9 min 可設定 Auto/manual selectable, timer 0.1~999.9 min
材積 Dimension	35×50×70 cm
重量(約) Weight	55 kg
電源 Power	1 phase, 110/220V
附件 Accessories	<ul style="list-style-type: none"> ● 水銀溫度計 Mercury thermometer ● 清潔刷一支 cleaning brush for die ● 通管器一支 cleaning brush for cylinder ● 搥料棒一支 stirrer ● 電木進料漏斗一個 Bakelite funnel for feeding sample



HT-8779 SPARK TESTER 火花試驗機

JIS C3004, UL-62-1581

- 本機係用來測試電線被覆線或絕緣體的品質。測試時，施一定電壓於導體與電極間一定時間，再檢查是否耐此電壓值。系統可同時指示針孔所在，並可自動計數。
- This tester is used to determine the quality of sheath or insulating material of cords. While testing, apply a certain voltage upon the conductor and the electrode for a certain period of time. Then, inspect if the sample can withstand this voltage value. The system is able to indicate the position of the pin holes and to count automatically the number of the pin hole.

HT-8779 規格 SPECIFICATIONS

型式 Type	A	B	C
高壓變壓器容量 TRS. capacity	300 VA	500 VA	1000 VA
輸出電壓 Output Voltage	0-7.5 kV 0-15 kV	0-7.5 kV 0-15 kV	0-15 kV 0-30 kV
電極長度 Length of electrode	600 mm Stainless Steel Bead	600 mm Stainless Steel Bead	600 mm Stainless Steel Bead/Spring(alternative)
材積 Dimension	95×35×120 cm	95×35×120 cm	120×45×130 cm
重量(約) Weight (about)	75 kg	80 kg	110 kg
電源 Power	1Ø, 50/60 Hz AC110V, 3.2A/220V, 1.6A	1Ø, 50/60 Hz AC110V, 4.5A/220V, 2.3A	1Ø, 50/60 Hz 4.5A AC110V, 9.1A/220V, 4.5A



HT-9761 FLEXIBLE CABLE FLEXING TESTER 可撓電線柔軟度試驗機

- 以5M長之試件捲繞於兩特定直徑之輪上，兩端施以荷重，並加以通電，兩端固定座以1M之行程，0.33m/sec之速度往復移動，使試件做往復的彎曲。當試件斷裂或設定次數到達時，機台自 停機。取下試件，觀察其破損情形。
- Cable sample is wound on two wheels with the certain diameter, apply force on both sides and feed it with power. Move reciprocally at both ends holder with the stroke of 1 meter and the speed of 0.33m/sec to make the sample bended back and forth. When the cable sample fails or the preset bending time up, the system shut off automatically. Discharge the sample and see the situation of failure of the sample.

HT-9761 規格 SPECIFICATIONS

荷重 Load	1 or 1.5 kgs
測試電流 Test ampere	1.~2.5A (選用optional 3~32A)
測試電壓 Test voltage	1 phase 220V 50Hz or 3 phase 380V50Hz
計數器 Counter	Electric 6 digits
材積 Dimension	190×55×150 cm
重量(約) Weight (about)	500 kg



HT-8644 DIELECTRIC WITHSTANDING TESTER 耐電壓試驗機

- 本機專供電線電纜成品測試其導體與導體間，或導體與被覆材料間的絕緣體。操作時施加電壓於試件上，徐徐上升至所需電壓值，檢查是否試件可以忍受該電壓值。
- This is to test the insulating characters between the conductors of the cable or the conductor with sheath by applying voltage slowly increasing upon the specimen to a certain level and see if the specimen can withstand that level of voltage.

HT-8644 規格 SPECIFICATIONS

型式 Type	A	B	C
容量 Capacity	5kVA	10kVA	0.5kVA
輸入電壓 Input voltage	AC220V	AC220V	AC110V or 220V
輸出電壓 Output voltage	AC 7.5/15 KV	AC 10/20 KV	AC 5/10 KV
材積 Dimension	85×105×150 cm	90×105×150 cm	60×40×75 cm
重量(約) Weight (about)	270 kgs	310 kgs	45 kgs
電源 Power	1Ø,220V, 50/60 Hz, 2.5A	1Ø,220V, 50/60 Hz, 50A	1Ø,50/60 Hz, 5A (110V) or 2.5A (220V)



HT-8655 FLAME TESTER 耐燃燒試驗機

- 本機適用於各種電線電纜絕緣被覆材料、印刷電路板材料、IC絕緣體...等有機材料之耐燃性試驗。試驗時，將試件置於火燄頂端，燃燒15秒，熄滅15秒，重複5次後檢查試件被焚情形。Type A 為自動型，可設定燃燒、熄滅時間及重複次數，並可自動操作。
- This machine is used to test the fire resistance of organic materials like various wire and cables, PC boards, IC insulating sheath...etc. While testing, put sample at the tip of the flame that won't swing owing to the breeze). Let the flame burn for 15 seconds and out for another 15 seconds. Repeat another four times (total five times) and check the burning situation of the sample. Type A is of automatic model that is available to freely set the burning time, out time, repeat times and even available to be operated automatically.

HT-8655A



HT-8655C



HT-8655B



HT-8655 規格 SPECIFICATIONS

型式 Model	HT-8655A (自 Automatic type)	HT-8655B (臥式 horizontal type)	HT-8655C (立式 vertical type)
試件長度 sample length	300, 457 mm		
燃料 Fuel	瓦斯、甲烷(須由客戶自備) gas, Methane(responsible by client)		
計時器 Timer	電子式四位數 Electric 4 digits		
材積 Dimension	=Horizontal + vertical + control box Control box 31×25×35 cm	65×35×35 cm	35×40×68 cm
重量(約) Weight	30 kg	11 kg	13 kg
電源 Power	1Ø, 110V/220V	-	-

HT-8768 CORD FLEXIBILITY TESTER

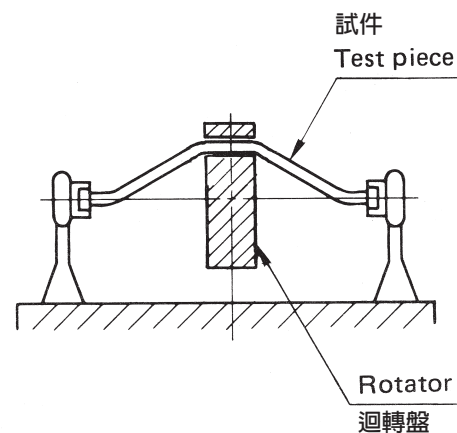
電纜電線彎曲試驗機

JIS C3005

- 試件穿過不同試孔，因與迴轉盤中心距不同，會產生不同的彎曲程度，本機在試件穿入試孔，並旋轉200次之後，取下試件，觀察其破壞程度。
- This is used to test bending resistance of rubber insulated wire. A certain length of sample is cut from a finished product and put through a related hole depending on the cable diameter. After rotating 200 rounds at the speed of 20 rpm, discharge the sample and see the failure of the cable.

HT-8768 規格 SPECIFICATIONS

圓徑轉盤中八個口徑至迴轉盤中心距離 Distance between rotor center and specimen hole center	100 and 150 mm
圓徑轉盤至中心至夾具距 Distance between rotor and chuck	200 and 300 mm
試件孔 Specimen holes	8 options 100 mm - dia. 15, 20, 25, 30 150 mm - dia. 10, 12, 15, 20
速度 Speed	20 rpm
馬達 Motor	0.75 kW, AC220V, 1/3 HP
材積 Dimension	100×65×65 cm
重量 Weight	230 kg



HT-8769 WIRE TORSION TESTER

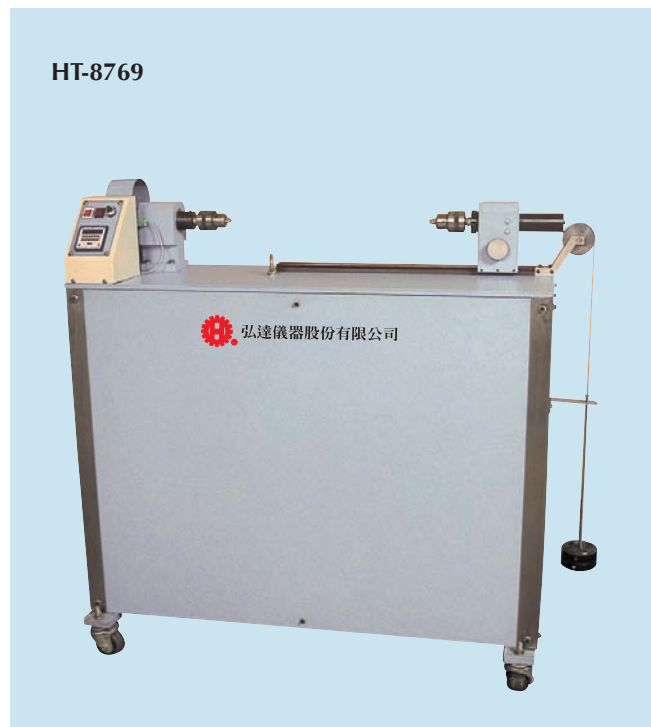
電線扭轉試驗機

CNS 675,1111,8938

- 本機係用以測試各類金屬線之耐扭程度與漆包線之耐扭次數。試件一端固定，另一端連續扭轉直到試件扭斷，求其扭轉次數。
- This tester is used to test the torsion resistance of metal wire or rubber insulated cable. One end is fixed and the other is under continuous torsion till specimen breaks. Get the rotation of this torsion.

HT-8769 規格 SPECIFICATIONS

速度 Speed	60 rpm
夾具間距 Grips distance	200 mm, 線徑 cable dia. ≥ 2.8 mm (steel wire) 150 mm, 線徑 cable dia. < 2.8 mm (steel wire) 150 mm, 線徑 cable dia. ≤ 1 mm (copper & lead wire)
材積 Dimension	110×45×100 cm



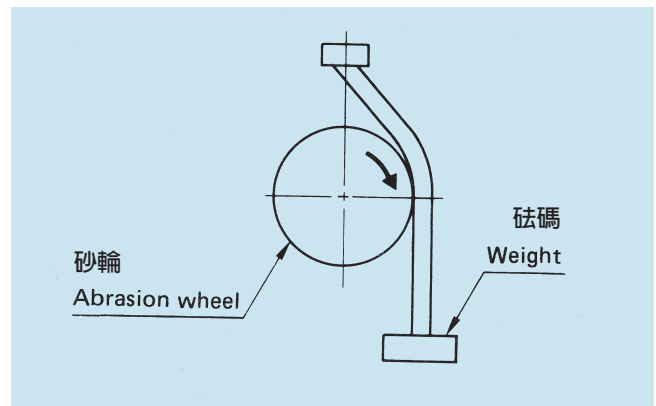
HT-8773 CORD ABRASION TESTER 電線耐磨試驗機

JIS C3004

- 本機係用來測試電線的耐磨強度。試件一端固定於夾具，另一端掛以砝碼，使與砂輪接觸，開始測試。達到所需轉數後，檢查試件磨損情形。
- This is tester is used to test the abrasion resistance of rubber insulated cable. A certain length of cable sample is fetched. One end is fixed; the other is applied with a force to make the surface of the cable sample contact with the abrasive wheel. Then the wheel is rotated at the rate of around 60 rpm. Then, see when the preset turning number is reached; observe whether the coating of the cable is abraded and so to expose the conducting wire inside or not.

HT-8773 規格 SPECIFICATIONS

測試速度 Test speed	60 rpm
砝碼 Load	5, 6, 7 kg one piece each
砂輪 Abrasive wheel	Ø350 mm × 50 mm(W), grit 36
砂輪與夾具中心距 Distance between Abrasive wheel and center of grips	30 cm
材積 Dimension	190 × 55 × 150 cm
重量(約) Weight (about)	105 kg



HT-8774 PARALLEL PLATE PLASTOMETER 電線加熱變形試驗機

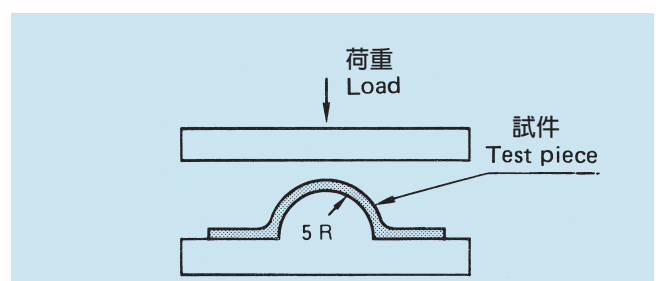
JIS C3005, K6723

- 本機係用來測試塑膠及電線皮等的熱變形程度。
- 試件於特定溫度下，自由置放30分鐘後，再加荷重於平行板間，同溫度再置放30分鐘，其加熱前後之厚度比即為變形率。
- This is used to measure the heat deformation of plastics, cable sheath and so on.
- Put the specimen on the pressing plate. Apply a suitable temperature and load on it. After the preset time is reached, measure the thickness of the specimen. And then calculate the heat deformation rate.



HT-8774 規格 SPECIFICATIONS

試件數 Number of sample	1 or 3 (擇一 select one)
溫度 Temperature	Rt ~ +200°C
砝碼 Load	50, 100, 200, 500, 1000 g
分表 Micrometer	0.01 ~ 10 mm
電源 Power	1Ø, 220V, 50/60 Hz
材積 Dimension	120 × 55 × 160 cm
重量(約) Weight (about)	170 kg



HT-2528 PCB ADHESION STRENGTH TESTER PCB板剝離強度測試機

用途：本機用於PC面板膜之剝離強度試驗或拉壓測試

■ 主機規格

- 1.工作台板尺寸50" X 26" ,附T型槽固定試片壓塊及定位設定塊
- 2.X軸滑台手動式移動, MAX : 400 mm
- 3.Y軸滑台移動與聯板同步聯動移位, MAX : 50 mm
- 4.Z軸移動行程, MAX : 400 mm, 移動速率30-300 mm/min
- 5.電壓60HZ X 110V

■ 感測計：電子式拉壓立計：10kg

■ 夾具：鉗型剝離治具一組

Purpose : use this tester to test the film' s adhesion strength or tensile/compressive strength on PCB surface

■ Machine specification

- 1.Bench' s dimension: 50" X 26" , attached with T-slot specimen-holding block and positioning block.
- 2.X-axle manual sliding table, maximum shifting distance = 400 mm.
- 3.Y-axle sliding table moved along with the connection plate (聯板), maximum shifting distance = 50 mm.
- 4.Maximum Z-axle shifting distance = 400 mm, moving speed = 30-300 mm/min.
- 5.Voltage = 60HZ X 110V

■ Sensor: electronic type tension/compression pressure gauge: 10kg

■ Jig: one set of pincer-type peel-off jig/fixture.

HT-2528



HT-8778 PLUG BENDING TESTER 插頭引線彎曲試驗機

UL-817

■ 本機可測試插頭引線及電線之耐折強度，當試件斷裂，無法通電，或到達設定次數，則機台自動停機。

■ This machine is available to test the bending resistance of plug cable. When the sample breaks or achieves the preset times, the machine would stop automatically.

HT-8778 規格 SPECIFICATIONS

試件數 Number of specimen	5
測試速度 Test speed	最大Max. 30 rpm
測試角度 Test angle	45°, 60°, 90° & 180° 可調
計時器 Timer	adjustable 個別計時器×5，總計時器×1 5 individual and 1 overall
夾具 Testing fixtures	5組 sets
荷重砝碼 Load weight	5組 sets
電源 Power	110/220VAC, 50/60 Hz

HT-8778



HT-8775A HANDSET CORD FLEXING FATIGUE TESTER 聽筒線伸縮疲勞試驗機

UL 817

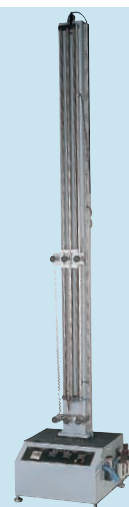
■ 聽筒線試件通以電源，並以氣壓動力作往復拉伸，記錄其試驗次數，並檢查其受損部位。

■ Feed the handset cord with power, and apply cyclic tensile test on it with pneumatic source. Record the test times and check the damaged portion.

HT-8775A 規格 SPECIFICATIONS

試件數 Number of specimen	3
測試行程 Test stroke	300~1500 mm
測試速度 Test speed	10~30 cpm
計數器 Counter	6位數 electric 6 digits
電源 Power	110/220VAC, 50/60 Hz
材積 Dimension	280×60×52 cm
重量(約) Weight (about)	150 kg

HT-8775A



HT-8780 ABRUPT PULL TESTER 插頭線突拉試驗機

UL 817

- 本機係用來測試插頭刀與導線間之接合強度、塑膠被覆強度、扭曲強度、及接地極耐電流等多功能試驗。導線與導線間之接合強度。
- This machine is suitable for testing the abrupt pull test of power cord sets. Sampling six samples from finish product and testing conductor joint strength of plug, security of insulation, torsion strength and grounding conductor current-resistance...etc.

HT-8780 規格 SPECIFICATIONS

試件數 Number of specimen	6
突拉速度 Abrupt pull speed	10 times/min
扭曲速度 Torsion speed	4 times/min
荷重時間 Loading time	3 min
夾具 Testing fixtures	6組 sets
荷重砝碼 Load weight	21/2LB, 3LB, 15LB 各6個 6 pieces each
電源 Power	110/220VAC, 50/60Hz
材積 Dimension	125(L)×63(D)×180(H)CM
重量(約) Weight (about)	260kgs

HT-8780



HT-8781 PLUG STATIC PULL TESTER 插頭線靜態拉力試驗機

UL 817

- 本機係用來測試各種插頭刀、端子及其外殼被覆線等之耐荷重強度。可同時間測試6個試件。插頭刀固定於機台上方，再將砝碼懸於電源線上，緩緩降下聯板，使砝碼底部懸空，而施力於試件上一段時間。
- His tester is used to determine the tensile force of power cable sets on male blade, joint, insulation sheath...etc. This tester is able to test 6 samples simultaneously by hanging the male blade fixed on the top of the tester. Apply load upon the power cable. Move slowly downward the crosshead to make the weight fall freely and so pull the power cable for a certain period of time.

HT-8781 規格 SPECIFICATIONS

試件數 Number of specime	6
測試速度 Test speed	530 ± 5mm/min
荷重砝碼 Load weight	10LB, 20LB 各6個 6 pieces each
電源 Power	110/220VAC, 50/60Hz
材積 Dimension	115(L)×50(D)×160(H)CM
重量(約) Weight (about)	300kgs

HT-8781



HT-8901 MICROPHONE CURVED-ROD BENDING TESTER 麥克風彎桿彎曲試驗機

- 彎曲速度: 5~20 次/min (無速度顯示), 可調。
- 彎曲次數: 電子式6位數, 可設定
- 麥克風試件彎桿長: 可測20cm~240cm
- 彎曲動力源: 採用DC馬達
- 作動角度: 180度可調(左右各90度), 可延遲時間設定
- 可測試直徑範圍: $\phi 5 \sim \phi 25\text{mm}$
- 靠輪軸直徑: $\phi 120$ 、 $\phi 80$ 、 $\phi 60$ 、 $\phi 45$ 各兩個, 可設定
- 活動下固定座: 可測試麥克風彎桿 $\phi 6 \sim \phi 20$
- 角度指示尺
- 使用電源: 1 ϕ /200V
- Bending speed: 5~20 cycle/min (no speed display), adjustable.
- Bending cycle: to six digits in electronic type, adjustable.
- Applicable microphone curved rod specimen length: 20cm~240cm
- Bending power source: by DC motor.
- Activating angle: 180o, adjustable (90 o in both positive/negative direction), can make time-delay setting on it.
- Applicable diameter range under test: $\phi 5 \sim \phi 25\text{mm}$
- Wheel diameters: $\phi 120$, $\phi 80$, $\phi 60$ and $\phi 45$, two pieces each, and can make setting on it.

- Movable lower seat: can test $\phi 6 \sim \phi 20$ microphone curved rod.
- Angle indicating feet
- Power source: 1 ϕ /200V



HT-8802 CORD SETS TEMPERATURE RISING TESTER 插頭線電流負載溫昇試驗機

UL 817

- 本機是利用高於安全使用電流之負載, 印加於被測試之插頭線以測定其溫昇值, 判定其導體及端子接點之導線效。
- This machine provides the current greater than the capacity of the cord that applies to the sample of cord sets. Temperature is to be measured by means of thermocouples with placed in contact with the joint adjacent to the conductor.

HT-8802 規格 SPECIFICATIONS

電流錶 Ampere meter	50A
工作電流 Working meter	0~40A
溫度指示計 Thermometer	0~99.9°C LED
試件數 Number of samples	6
計時器 Timer	99.9S (or 999M or 999H)
電源 Power	AC 1 ϕ , 220V, 50/60 Hz
材積 (約) Dimensions (about)	55(W)×50(D)×60(H) cm
重量 Weight	55 kg



HT-8801 DIELECTRIC & INSULATION & TESTER 絕緣耐電壓試驗機

- 本機是專供電線電纜成品作導體芯線間或導體芯線與外被絕緣體間之絕緣耐力測定, 其他絕緣材料皆可使用, 同時可作絕緣破壞測定, 破壞時電壓值可讀出。
- This tester is special used to measure voltage-withstand characteristic of completed finish cables. The applied potential is to be subject to the core-to-core or core-to-sheath of the cable. Other insulation material can also be determined. At the same time, breakdown potential can be detected and recognized.

HT-8801 規格 SPECIFICATIONS

型號 Model	YH-1501T
測試電壓 Test voltage	0~5 kV AC
輸出電壓 Output voltage	500 VA
輸入電壓 Input voltage	110/220V
電壓錶 Voltage meter	滿刻度5 kV full scale
絕緣錶 Insulation meter	500V 250m Ω , 1000V 500m Ω
遮斷電流 Cover current	0.5, 1, 3, 5, 20mA 5 段(stages)
計時器 Timer	0~3 minutes
材積 Dimension	380(W)×260(D)×140(H) mm
重量(約) Weight (about)	16 kg



HT-8807 LABORATORY ROLL MILL 試驗用雙滾筒混合機

- 本機為橡膠工業重要實驗設備之一，其主要的功能在於使產品能符合客戶所要求的品質及顏色，為了達到客戶的要求，再將實驗的結果及其比率用於生產線，而本機也就是將試驗用原料及配合劑加以混合均勻之設備。
- This laboratory roll mill is applied throughout the experiment of rubber & plastic industry. Owing to its small feeding, it's advantageous for keeping from the great losses for the experiment failed of success. It's used for masticating or breaking down various kinds of natural and synthetic rubber. For the application range of rubber shoes, soles and heels tire and tubes, as well as PVC, EVA sheet, extending to chemical industry.

HT-8807 規格 SPECIFICATIONS

型式 Type	A	B	C
規格尺寸 Size of rolls	6"Ø × 13"(L)	8"Ø × 20"(L)	10"Ø × 24"(L)
力需求 Power required	5 HP	7.5 HP	15 HP
混合容量 Capacity	0.5~1 kg	2~3 kg	5~7 kg



HT-8187 BALANCE 電子天平 (比重用)

HT-8187 規格 SPECIFICATIONS

型式 Model	200D	125A
容量 Capacity	210 g	125 g
解析度 Resolution	0.001 g	0.0001 g
比重解析度 Density resolution	0.001	
材積 Dimension	3.8 kg	25x30x35 cm
電源 Power	110 / 220V	110/220 V
	(supplied with AC adapter附變壓器)	



HT-8804 CONDUCTOR ELONGATION TESTER 線材測長率試驗機

- 本試驗器適合鋁、銅...等金屬材料作伸長特之測試。
- This tester is suitable for measuring the elongation characteristic of various metals such as copper, aluminum...etc.

HT-8804 規格 SPECIFICATIONS

試件長度 Sample length	250 mm
試件線徑範圍 Range of sample diameter	Ø0.08 ~ Ø0.8 mm
延伸範圍 Range of elongation	0~100 mm (40%)
量測精度 Measuring accuracy	± 1% (± 2.5 mm)
電源 Power	1Ø, 110/220V, 50/60 Hz
材積 Dimensions	50(W) × 21(D) × 24(H) mm
重量 Weight	12 kg



HT-8028 CORD WINDING CRACK TESTER 電線低溫冷撓試驗機

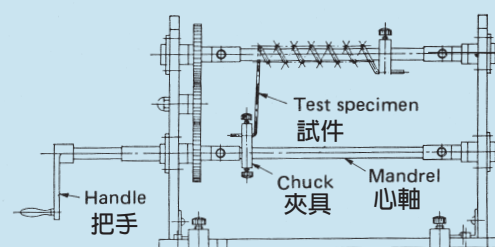
JIS C3005

- 試件在特定低溫環境下，依不同棒徑作捲繞，以檢查其表面是否產生龜裂。
- This tester is used to test the crack resistance of electric cord under low temperature. It is tested by winding the cord around a certain diameter of mandrel under a low temperature. Then, discharge the specimen and check if it cracks or not.

HT-8028 規格 SPECIFICATIONS

型式 Type	A	B
溫度 Temperature	-30°C	-50°C
低溫箱材質 Chamber material	SUS #304	
內徑 Chamber size	50×60×60 cm	
軸心數 Number of mandrel	3組sets (每組軸心可配3種尺寸) (each mandrel contains 3 sizes of samples)	
試件數 Number of specimen	9件 pieces	
電源 Power	1Ø, 220V, 50/60 Hz	
材積 Dimension	148×83×850 cm	
重量(約) Weight (about)	300 kg	

HT-8028



HT-8047 AGING OVEN TESTER 老化試驗機

JIS K-630, K-7212, ASTM D-2436, E-145, JTTC SPEC.-151 CNS 3556

- 本烘箱係用來研究橡塑膠等試片在固定時間內，以迴轉方式受熱下的變化。在70°C下測試1天，理論上相當於曝露在大氣中6個月的時間，本烘箱配備有馬達驅式迴轉盤。熱風循環的功能可以確保溫度的均勻分佈。
- The oven is used for degradation study of plastics & rubber when subjected to heat in a rotational condition for a specified time. One day test at 70°C is theoretically equivalent to a six-month usage in normal environmental condition. The machine is equipped with a motor-driven rotary plate. Hot air circulation will ensure even temperature distribution.

HT-8047 規格 SPECIFICATIONS

型式 Type	A	B
內徑 Inside Dimension (cm)	40x40x45	50x50x60
電熱 Heat	1.8 kw	3.2 kw
溫度 Temperature	RT~200 or 300 degree ceisius °C	
馬達速度 Motor(Speed)	8-10 rpm	
重量 Net Weight	80	120
材積 Dimension (cm)	84x54x100	95x65x118
馬達 Motor	1/4HP	1/2HP

HT-8047



HT-8805 CORD INSULATOR THICKNESS GAUGE 電線絕緣皮厚度計

- 本計適用於電線絕緣皮之圓管狀及畸形管狀物等之厚度量測。
- This gauge is used to measure the thickness of insulation and jackets that removed from slender cables. The thickness of tubular or freak tubular samples can also be determined by this gauge at any position.

HT-8805 規格 SPECIFICATIONS

測微錶 Micrometer	0.01~10 mm
量測試件內徑 Range of inner diameter	0.4~30 mm
針規 Pin gauge	0.4~1.0 m
測模 Rectangular pressure foot	1.09×7.95 mm
砝碼 Load	25 g
重量 Weight	2.5 kg
尺寸 Dimension	90(W)×180(D)×230(H) mm

HT-8805



HT-8150 LOW TEMPERATURE BRITTLENESS TESTER 低溫脆化試驗機

IEC K6301,UL-1581

- 取五個試件固定在懸桁夾具上，並浸泡於低溫槽中。以定速旋轉之擺槌敲擊，檢查試件是否龜裂。
- This tester uses liquid media such as dry ice or alcohol as refrigerant. The specimen is mounted to a cantilever grips and soaked in a low temperature bath for 2.5minutes (3 minutes for rubber) than strike the specimen with the tip of hammers to see whether it comes to be fracture or not.

HT-8150 規格 SPECIFICATIONS

溫度 Temperature	Rt ~ -70°C
速度 Speed	6.5 ± 0.5ft/sec
試件數 Number of specimen	5
試件尺寸 Size of specimen	Plastic: 38 × 6 × 2 mm Rubber: 32 × 6 × 2 mm
冷媒 Refrigerant	客戶自備 responsible by client
撞擊頭半徑 Radius of impact head	1.57 mm
馬達 Motor	1/4 HP
材積 Dimension	60 × 85 × 60 cm
重量(約) Weight	120 kg
電源 Power	1 phase, 110V/6A, 220V/3A



HT-8046 GEER'S AGING OVEN TESTER 換氣式老化試驗機

- 本機專門針對橡膠、塑膠及各種絕緣材料之熱老化做測試，其能與一般老化爐不同，本機之設計具備有：

- This tester is designed to test the aging resistance specially for rubber, plastic and some insulator materials. Different from normal aging oven, this tester has:

- 溫度調節精度。Temperature constancy
- 溫度分佈均勻。Temperature uniformity
- 開門後溫度回升速率。Heat-up speed after door open.
- 試驗槽內之風速及換氣率。

Wind speed & air exchange rate of testing chamber.

- 試驗槽內之隔熱密。

Seal of heat-isolation of testing chamber.

- 特殊換氣率調整裝置。

Special adjusting apparatus of air exchange.

- 依據測試標準 IEC-540, BS-903, ISO/DIS 4577

Conform to testing norms: IEC-540, BS-903, ISO/DIS 4577



Item	Model	A	B
Inside Dimension (WxHxD) 內徑尺寸		450x450x450(mm)	600x600x600(mm)
Temperature Range 溫度範圍		Rt~200°C	Rt~300°C
Temperature 溫度	Indicator 顯示 Uniformity 精確度	±0.3°C ±0.5%	
Rotation Speed 迴轉速度		8~10 RPM	
Air Refresh 空氣循環		Option1 : 1-10 time/hour	Option2 : 10-200 time/hour
Accessories 附件		1.Square Shelves 2pcs 2.Test Specimen 2pcs 3.Running Meter 1pcs 4.Time Meter 1pcs	
Power Consumption 電源供應		220V Single Phase 5 kw 220V Single Phase 7kw	
Option		Air Flow Meter *(Recorder)	

MEASURING METHOD OF AIR CHANGE 換氣率測定方法

計算每小時換氣次數公式

$$N = \frac{3590(X-Y)}{VD \Delta T}$$

N : 每小時換氣次數

X : 換氣時，電力(W)消耗

$$W = \frac{\text{消耗電力wh讀值}}{\text{時間(小時)}}$$

Y : 不換氣時，電力(W)消耗

V : 箱內容積(cm³)

D : 測試時室內空氣密度(g/cm³)

ΔT : 箱內與箱外之溫度差

Where: N=number of air changes per hour

X=average power consumption in watts during ventilation, obtained by dividing the energy consumption determined from the watt-hour meter readings by the duration of the test in hours.

Y=average power consumption W, with no ventilation, computed in the same manner.

V=volume of the testing chamber, cm³.

D=density of the ambient room air during the test, g/cm³.

ΔT=difference in temperature between the testing chamber and the ambient room air, °C.

註：D(空氣密度)：

0°C	0.001293 g/cm ³
5°C	0.001270 g/cm ³
10°C	0.001247 g/cm ³
15°C	0.001226 g/cm ³
20°C	0.001205 g/cm ³
25°C	0.001184 g/cm ³
30°C	0.001165 g/cm ³

HT-2360A MOISTURE ANALYZERS 電子式水份分析儀

- 測定方式：400W鹵素燈加熱乾燥重量方式
- 秤量精度：51g / 1mg反應速度快可當一般電子秤使用
- 含水率顯示：0.01% 精確度0.1% (試料 > 1g) / 0.02% (試料 > 5g)
- 測試條件：標準 / 自動 / 快速 / 時間 / 手動模式
- 顯示方式：VFD 顯示面板清晰明亮，暗處亦可以使用
- 濕度設定範圍：50°C~200°C (每1°C增加)
- 測試條件記憶體數：20組
- 通訊功能：RS-232及WinCT-moisture軟體標準配備
- 秤盤尺寸：Ø85mm
- 電源：AC 100~240V 50 / 60 HZ
- 體積：215(W)*320(D)*173(H) / 約6kg重
- 附件：試料盤 85mm * 20 支撐架* 1 秤盤手把*2 湯匙*1 鑷子*1 RS-232連接線1

- Measurement Method:400W straight halogen lamp heating system with SRA filter and SHS weighing technology
- Max sample Weight Capacity:51g/1mg
- Moisture Content Accuracy(Standard Deviation):0.10% over 1g 0.02% over 5g
- Measurement Programs:Standard Mode/Automatic Mode/Quick Mode/Timer Mode/Manual Mode
- Display Type: Large VFD
- Drying Temperature(1°Cincrement):50-200°C
- Memory of Measurement Programs:20 sets



- Communication Software: WinCT-Moisture standard/RS-232C standard
- Sample Pan Size: Ø85mm
- Power: AC 100V to 120V(3A)or AC 200V to 240V(1.5A),50/60Hz,Approx
- Physical Dimention/Weight:215(W)*320(D)*173(H)/Approx.6kg
- Standard Accessories:Sample Pans *20,Pan Handles*2,Tweezers*1,Spoon*1,RS-232C Cable*1

HT-8636A MIT FOLDING ENDURANCE TESTER MIT式耐折強度試驗機

CNS-10378, JIS P815, TAPPI T423PM, ASTM D2176
耐折強度試驗是紙類疲勞試驗中最典型的一種。反覆曲折15mm寬的試片左右各135度，計數器便會將試驗次數記錄下來。
Folding endurance tester is a typical way of fatigue test for the paper. Repeatedly folding the 15mm width specimen to 135 degrees and the counter automatically records down the consistent folding operation frequency.

HT-8636A 規格 SPECIFICATIONS

試驗速度 Folding speed	175 ± 5 cpm
試驗角度 Folding angle	135 ± 5 degrees (both right & left)
試片尺寸 Specimen size	140x15 mm
電源 Power	1 phase, 220 V, 50/60 Hz
材積 Dimension	57(W)x34(D)x56(H) cm
重量 Net weight	Apr. 90 kg



HT-2151 FLUORESCENT UV CONDENSATION WEATHERING DEVIC 紫外光耐候試驗機

ASTM G53, D4587, D4799, ISO 4892, SAE J2020, BS 27282

- 美製QUV耐候試驗機係模仿大自然界之天然條件，來測試各種物料對抗大自然惡劣氣候條件之精密儀器。為本機之模擬可縮短實際曝曬於大氣中之時間，可提前了解試片長期在大自然中老化、褪色、氧化、龜裂、剝落、衰竭等現象，對於產品的品質控制及研發、改善等有極重要之參考價值。
- This QUV weather tester (made in USA) is to imitate the natural condition of climate in order to understand the weather resistance for the samples exposed in the normal circumstance for a long time. This would be helpful for us to be able to make out in advance how the samples would get aged, fade, oxidation, crack, blister, deteriorate...etc. This would be a very useful and important for quality control for product development and improvement.

型式 Type	UV 2000/SPRAY	UV 2000
UV照射 UV exposure	-	-
觸控式螢幕 Touch screen panel	-	-
冷凝 Condensation	-	-
光照控制 Irradiance control	-	-
可調光線 Adjustable irradiance	-	-
噴水 Water Spray	-	-
自我偵錯功能 Self-diagnostic function	-	-
輻射計 Calibration Radiometer	選配 Optional	
試片數 Number of sample	46片 pcs (75×150mm) + 黑盤溫度計 Black panel thermometer	
溫度範圍 Temperature Range	UV 溫度temp.	50~80°C
	冷凝溫度 condensing temp.	40~60°C
紫外線燈管數 Number of UV lamp	8 pcs, (備用4支 4 pcs for spare)	
用水種類 Source of water	蒸餾水 Distilled water	
耗水量 Water consumption	7公升/分 liter/min	8公升/日 liter/day
電源 Power	1, 220V, 50/60Hz	
重量 Net weight	約 About 155 kgs	
材積 Dimension	約 About 135X51X155	

HT-2151



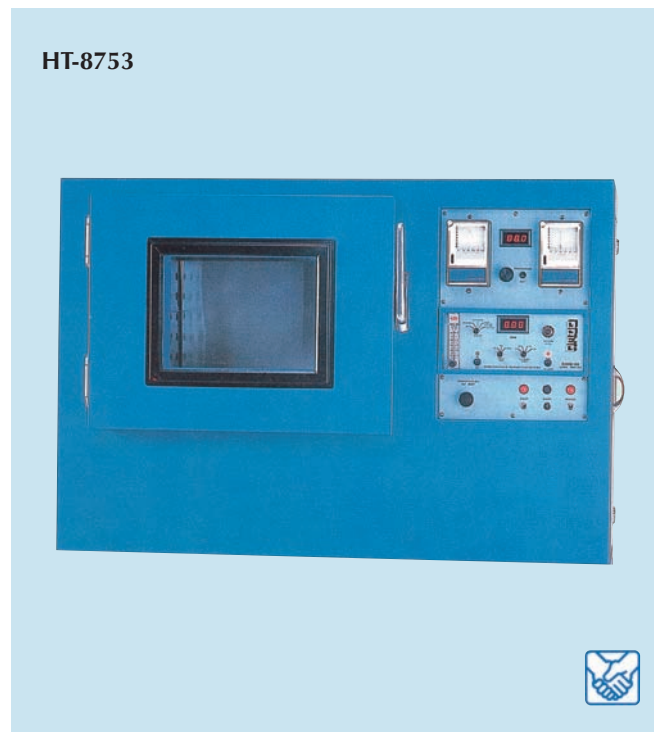
HT-8753 OZONE TEST CHAMBER 耐臭氧試驗機

ASTM D1149, D1171, D3041 / ASTM D470, D1352, D1373

- 本機係用來測試在臭氧的環境下，橡膠製品耐龜裂的特性。
- The chamber is used to determine the crack resistance for rubber products under ozone circumstance.

型式 Model	0500	0500A
臭氧濃度範圍 Ozone range	0-250 pphm/vol.	50-300 ppm/vol.
系統精度 System accuracy	量測讀值 3% of reading, 控制設定 4% of set-point	
溫度 Temperature	Up to 90°C 以上	
適用標準 Applied standards	ASTM D1149, D1171, D3041	ASTM D470, D1352, D1373
內部空間 Net oven dimensions	61×51×46 cm	
臭氧產生方式 Ozone generator	紫外線 Quartz Ultra Violet	靜電弧放電 Silent Arc Discharge
箱內空氣速度 Oven air velocity	In excess of 2 feet/sec以上	
入室空氣流量 Inlet air flow	0-6 cfm	10-20 cfm
附件 Accessories	Static stretching apparatus 靜態拉力夾具×4組 sets	
電源 Power	1, 220V, 50/60Hz	
重量 Weight	182 kg	186 kg
材積 Dimension	122×64×84 cm	

HT-8753



HT-9455 HIGH TEMPERATURE FURNACES 高溫爐

Max temp. 溫度(°C)	Model No. 型號	Style 設計型式	Inside size (mm) 內部加熱尺寸 (mm)			Heating rate 升溫速率	Heating element 加熱元件	Length of even temp. area 均溫區長	Heating element 加熱元件	Max power 功率
			diameter 直徑	Heating area 加熱區	Length of tube 管長	Max-100	Sensor	(mm)	Mounting mode 安裝模式	
1100	ELF 11/6	Economy	165	180	200	12	K	-	Two Sides+ Top	2.0
1100	ELF 11/14	Economy	210	220	300	13	K	-	Two Sides+ Top	2.0
1300	CWF 13/5	Wire	135	140	250	40	R	85 x 90 x 150	Two Sides	2.4
1400	RHF 14/3	Sic	120	120	200	33	R		Two Sides	4.5
1600	RHF 16/8	Sic	170	170	270	60	R	120 x 120 x 150	Two Sides	8.0
1800	HTF 18/3	MoSi2	150	150	150	55	2		Two Sides	5.6

HT-8045A

HT-9455

HT-8045A CONSTANT TEMPERATURE & HUMIDITY CHAMBER (PROGRAMMABLE) 可程式恆溫恆濕試驗機

型號Model	HTL-225A	HTL-408A	HTL-800A	HTM-150A	HTM-225A	HTM-408A	HTM-800A	HT-150A	HT-225A	HT-408A	HT-800A
系統System	平衡調溫調濕控制系統 Balanced temperature & humidity control system										
溫度範圍Temp. Range	-70~+100°C (+150°C optional)			-45~+100°C (+150°C optional)				-30~+100°C (+150°C optional)			
濕度範圍Humid Range	30~95% RH										
溫度精度Temp. Constancy	±0.3°C										
濕度精度Humid Constancy	±3% RH										
溫度分布均度Temp. Uniformity	±1.0°C										
濕度分布均度Humid Uniformity	±3% RH 中心點 (in the center)										
升溫時間Heat-up time	-70~+100°C 約需70分鐘 approx 70 min.			-45~+100°C約需45分鐘 approx 45 min.				-30~+100°C約需35分鐘 approx 35 min.			
降溫時間Cool down time	+20 to -70°C約需90分鐘 within 90min.			+20 to -45°C約需60分鐘 within 60min.				+20 to -30°C約需45分鐘 within 45min.			
內箱尺寸Inside Dimensions (WxHxD)cm	50x75x60	60x85x80	100x100x80	50x60x50	50x75x60	60x85x80	100x100x80	50x60x50	50x75x60	60x85x80	100x100x80
外箱尺寸Outside Dimensions	102x162x118	112x172x138	152x187x138	102x147x108	102x162x118	112x172x138	152x187x138	102x147x108	102x162x118	112x172x138	152x187x138
內箱材質Interior material	SUS#304 stainless steel plate 不銹鋼四號沙面光板										
外箱材質Exterior material	SUS#304 stainless steel plate 不銹鋼四號沙面光板										
保溫材質Insulation material	硬質PE發泡及玻璃棉 Rigid polyurethane foam & glass wool										
冷凍系統Refrigeration system	氣冷式Air cooled										
	二段式, 全密封式壓縮機 hermetic compressor, single stage refrigeration system			二段式, 全密封式壓縮機 hermetic compressor, cascade refrigeration system				單段式, 全密封式壓縮機 hermetic compressor, dual stage refrigeration system			
保護裝置Safety devices	無熔絲開關, 壓縮機過載保護開關, 冷媒高壓保護開關, 超高溫保護開關, 保險絲, 水盤 水保護開關, 電磁保護開關, 故障警告系統 no fuse breaker, refrigerator overload relay, refrigerator high pressure switch, over-temp. protector, protection fuse, water level protector, protection relay, system trouble monitor alarm										
配件Accessories	視窗, 上下可調隔板兩片, 測試孔Ø50mm, 室內燈 viewing window, shelves (freely adjustable 2 pcs), cable port (50 mm dia.) and chamber lamp										
使用電源Power supply	1Ø, AC220V ±10%, 50/60Hz										

HT-2451A XENON LONG LIFE WEATHER METER 氙弧燈耐候試驗機

HT-2451A



- 規格：6500W水冷式氙弧燈耐候試驗機
- 照射強度：於340nm時：0.5 ± 0.05 W/M²
於300nm---800 nm時：60 ± 6 W/M²
- 電 源：220V 單相 50/60HZ
- 實驗空間：1100 X 1000 X 1100 (W X H X D)M/M
- 外箱尺寸：1300 X 2050 X 1400 (W X H X D)M/M
- 重 量：750 KGS
- 使用材料：1.內桶採用SUS#304不鏽鋼板，1.0t 霧面處理。
2.外殼採用 SUS#304不鏽鋼板烤漆。
- 發光方式：6500W 水冷式氙弧燈。(保證使用2000H)
可選擇1/2點燈或全負荷點燈，具有DEW CYCLE
可設定點燈時間及暗黑週期等重複執行。
- 光譜範圍：依據法規標準區分為下列二種：
使用BORO濾光管時267-----800nm
使用SODALIME濾光管時300---800nm
- 使用材料：1.試驗架採用SUS#304不鏽鋼板製
直徑960 M/M ± 3M/M 壹組
可置放標準試片76片(含)以上
2.氙弧燈穩壓器壹套。(內含點燈啟動ICB)
3.以觸控式人機介面設定下列條件
A. 運轉畫面:試驗畫面進行測試
B. 條件設定:運轉條件設定，包含持續照射，暗黑週
期，降雨週期，總測試時間及總曝露能量
C. 日期&時間：系統時間及日期設定畫面
D. 趨勢圖：進入溫度，溼度，電壓，電流，照度
之目前及歷史趨勢圖監看
E. 控制工具：設定系統溫/溼度參數
F. 功能測試：做系統組件之手動測試
G. 警報訊息：查詢異常發生之時間及異常發生之
原因
4.氙弧燈水冷機組含冷卻及純水機組含：60L/H
逆滲透一組，除垢器一組活性碳過濾器，冷凝
熱交換器，無水保護器，水溫過高保護器，水
溫冷凝器，20L/M日機裝無軸循環泵浦
5. 弧光電壓保護器-1套。
(SAINT WIEN TYPE-PA-H2)
6. 降雨壓力表及調壓閥-壹套(德製) WIKA 0-2.5
kg/cm²
7. 降雨噴嘴4只，銅製品經電鍍。(降雨流量2.1
± 0.1 l/min)
8. 轉筒冷卻裝置-壹套，銅製品經電鍍。
9. 1/4HP動力旋轉機構試驗架旋轉盤1RPM，
220V 50/60HZ。
10. 空氣調節系統-壹套。(不鏽鋼製)
(試驗槽內風速1.5M/S)
11. 西德製抗紫外線觀測用玻璃-壹套。

12. 電源總開關 75A 2P 220V-壹套

■ 標準配備：

1. BORO外濾光管 1支。BORO內濾光管 1支。
2. SODA LIME外濾光管 一組。QURZE內濾光管 一組
3. 數字顯示黑球溫度計(BPT) 0.0-120.0 °C 壹套。
4. 試片架 38片鋁合金製，每片兩層，可放76 PCS。
5. 英國原裝照射強度計ELSEC-UV/VIS傳送器含數字顯示器，量測強度範圍290-400nm0---200W/M²波長量測範圍300-400nm
6. 系統冷卻機組 壹台
7. 樹脂型離子過濾器壹組
8. 逆滲透型離子過濾器壹組

■ Specification: 6500W water-cooled xenon arc weather meter

■ Emission density: at 340nm: 0.5 ± 0.05 W/M², at 300nm_800 nm: 60 ± 6 W/M²

■ Power source: 220V single-phase, 50/60HZ

■ Test space: 1100 X 1000 X 1100 (W X H X D) M/M Outer case dimension: 1300 X 2050 X 1400 (W X H X D) M/M

■ Weight: 750 kgs

■ Material applied:

1. SUS#304 x1.0t for inner tank wall, mist surface treatment.
2. SUS#304 for outer shell with painted coat.

■ Radiation source:

6500W water-cooled Xenon light (guaranteed for 2000H in operation).

Can select 1/2-load or full-load work.

Use dew cycle to set up emission time and dark cycle and perform repeatedly.

■ Spectrum range: classified to the following two range according to code requirement:

267--800nm while applying BORO tube.

300-800nm while applying SODALIME tube.

■ Material applied:

1. Test rack is made by SUS#304 plate, 960 mm ± 3mm, able to put 76 pieces or more standard specimens on it.
2. Stabilizer, one set (contains ICB starter).
3. Set up the following conditions by finger-touch operation interface:
 - A. Operation screen: make test under the monitoring screen
 - B. Operation condition: including constant emission, dark cycle, rainfall cycle, total test time and exposed energy.
 - C. Date & time: setting screen on system date & time
 - D. Trend chart: user can monitor the current and historic temperature, humidity, voltage, current & luminance trend charts.

E. Control tool: can set up system temperature/humid parameter.

F. Function test: perform manual test on system assemblies.

G. Alarm display: can query any abnormal time and reason causing it.

4. Xenon water-cooler with cooling water & pure water set; with:

60L/H RO device, dirt remover (one set for each), active carbon filter, condensate heat exchanger, water-free protector, overheated protector, water cooler, and 20L/M axle-less circulating pump (made in Japan).

5. Arc voltage protector, one set (SAINT WIEN TYPE/PA-H2).

6. Rainfall pressure gauge and regulator, one set (Germany) WIKE 0-2.5 kg/cm².

7. Rainfall nozzle, 4 pieces, copper & electroplated.

8. Rotary tank cooling device, one set, copper & electroplated.

9. 1/4HP power test rack rotary disc, 1RPM, 220V 50/60HZ.

10. Air conditioner, one set (made by stainless steel) (airflow speed maintained in the test tank is 1.5M/S).

11. Anti-UV observation glass (made in Germany), one set.

12. Main power switch, 75A, 2P-22V, one set.

■ Standard equipment:

1. BORO outer light-filtering tube, one piece. BORO inner light-filtering tube, one piece.

2. SODA LIME outer light-filtering tube, one set. QURZE inner light-filtering tube, one set.

3. Digital type black bulb temperature (BPT) 0.0-120.0 °C, one set.

4. Specimen rack, 38 pieces, made by of aluminum alloys, two layers per piece and thus can store 76 pieces of specimens in total.

5. Emission density meter transmitter ELSEC-UV/VIS, made in U.K. Graphic & numerical display: emission density under measurement: 290-400nm, 0---200W/M². Wavelength range under measurement: 300-400nm.

6. System cooler, one set

7. Resin ion filter, one set

8. RO ion filter, one set

HT-2451B SUNSHINE LONG LIFE WEATHER METER 日光式碳弧燈耐候試驗機

HT-2451B



- 規 格：日光式碳弧燈式耐候試驗機
- 電 源：220V 單相 50/60HZ
- 實驗空間：1100 X 900 X 1100 (W X H X D)M/M
- 外箱尺寸：1400 X 2000 X 1400 (W X H X D)M/M
- 重 量：400 KGS
- 使用材料：1.內桶採用SUS#304不鏽鋼板，1.0t 霧面處理。
2.外殼採用 1.2t 鋼板烤漆。
- 發光方式：日光式碳弧燈式單燈式。
- 使用材料：
 - 1.試驗架採用SUS#304不鏽鋼板製直徑 960 M/M ±3M/M 壹組
 - 2.碳弧燈穩壓器壹套。(200-240V)
 - 3.數字顯示溫度控制器 壹套。
(0- 99°C PT 100Ω TB-700)
 - 4.數字顯示濕度控制器 壹套。
(0- 99%RH PT 100Ω TB-700)
 - 5.溫濕度轉換器 TCE-HCVT-202 。
 - 6.弧光電壓表 0-100V 壹組，
放電壓為50 V ± 2% (數字顯式型)
 - 7.弧光電流表 0-100A 壹組，
放電流為 60A ± 2% (數字顯式型)
 - 8.電壓選擇器 200，210，220，230，240，兩
組 TEND TYPE AK 。
 - 9.照光式翹板開關7只，義大利製 T-120
 - 10.弧光電壓保護器-壹套。
(SAINT WIEN TYPE-PA-H2)
 - 11.累積計時器0-9999.9hr-壹套。
(NATIONAL TYPE-TH-248)
 - 12.降雨週期計時器-壹套。ANCY-AFRI
(降雨週期為60分鐘，噴雨為12分鐘)或
(降雨週期為120分鐘，噴雨為18分鐘)
 - 13.降雨壓力表及調壓閥-壹套
W-G (西德) WIKA 0-2.5 kg /cm²
 - 14.降雨噴嘴 4只，銅製品經電鍍。
 - 15.轉筒冷卻裝置 壹套，銅製品經電鍍。
 - 16.1/4HP動力旋轉機構試驗架旋轉盤1RPM
 - 17.減速馬達。
 - 18.空氣調節系統 壹套。
 - 19.西德製抗紫外線觀測用玻璃 壹套。
 - 20.電源總開關 75A 2P 220V 壹套。
- 標準配備：
 - 1.銅被覆日光碳棒 23Φ X 350 m/m 20支。
35Φ X 350m/m 20支。
 - 2.日本原裝濾光板 8片。
 - 3.黑球溫度計 KCI 0-120 °C 壹套。
 - 4.試片架 30片鋁合金製，每片兩層，可放60 PCS。

■ 本規格符合：

ASTM: D-529 , D-750 , D-822 , D-2263 , G-23 。
JIS: A-1415 , D-0205 , K-5400 , H-86885
B-7752 , Z-0236 。
CNS: Z-8015 , A-3076 , A-8910 ,
AATCC: 16 , 111 .. 等

■ Power source: 220V single-phase, 50/60HZ

■ Test space: 1100 X 900 X 1100 (W X H X D) M/M
Outer case dimension: 1400 X 2000 X 1400 (W X
H X D) M/M

■ Weight: 400 kgs

■ Material applied:

1. SUS#304 x1.0t for inner tank wall, mist surface treatment.
2. 1.2t steel sheet for outer shell with painted coat.

■ Emission type: Single-tube sun-shining light

■ Material applied:

1. Test rack is made by SUS#304 plate, 960 mm \pm 3mm, one set.
2. Tube stabilizer (200-240V), one set.
3. Digit-displayed temperature controller, one set (0-99°C, PT 100W TB-700).
4. RH digit-displayed humidity controller, one set (0-99%, PT 100W TB-700).
5. Temperature-humidity converter TCE-HCVT-202.
6. Arc-light voltage meter 0-100V, one set, discharged voltage is 50 V \pm 2% (digit-displayed).
7. Arc-light current meter 0-100A, one set, discharged current is 60A \pm 2% (digit-displayed).
8. Voltage selector (200, 210, 220, 230 & 240V), two sets, TEND TYPE AK.
9. Light-shined type switch, 7 pieces, T-120 made in Italy.
10. Arc voltage protector, one set (SAINT WIEN TYPE-TH-248).
11. Time accumulator, 0-9999.9hr, one set.
12. Rainfall cycle timer, one set. ANCY-AFRI (60 min for rainfall cycle, 12 min for rain spray cycle) or (120 min for rainfall cycle, 18 min for rain- spray cycle)
13. Rainfall pressure gauge & regulation valve, one set. W-G (Germany) WIKE 0-2.5 kg/cm².
14. Rainfall nozzle, 4 pieces, copper & electroplated.
15. Rotary tank cooling device, one set, copper & electroplated.

16. 1/4HP power test rack rotary disc, 1RPM.

17. Speed reducer & motor.

18. Air conditioner, one set.

19. Anti-UV observation glass, one set (made in Germany).

20. Main power switch, 75A, 2P-22V, one set.

■ Standard equipment:

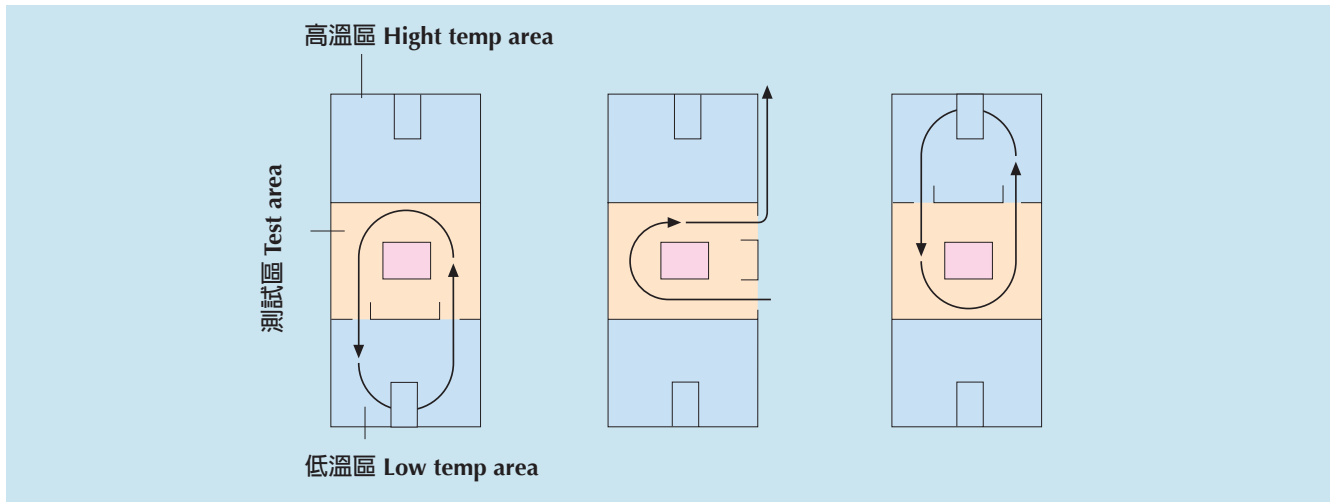
1. Copper-covered sun-shining carbon bar 23 Φ X 350 m/m, 20 pieces; 35 Φ X 350m/m, 20 pieces.
2. Light filtering sheet, 8 sheets, made in Japan.
3. Black bulb temperature KCI 0-120 °C, one set.
4. Specimen rack, 30 pieces, made by of aluminum alloys, two layers per piece and thus can store 60 pieces of specimens in total.

■ This specification conforms to:

ASTM: D-529, D-750, D-822, D-2263, G-23.
JIS: A-1415, D-0205, K-5400, H-86885, B-7752 ,
Z-0236.
CNS: Z-8015, A-3076, A-8910.
AATCC: 16 , 111, and etc.

HT-2145A THERMAL SHOCK TESTING CHAMBER 冷熱衝擊試驗機

- 本機分為高溫區、低溫區及測試區等三部份。利用獨特的迴路設計，將冷熱風路導入測試槽做冷熱衝擊試驗。
- This tester includes three areas: high temperature, low temperature and testing chamber. Hot or cold air would be led to the testing chamber through our unique circuit design for conducting thermal shock test.



HT-2145A



HT-2145A THERMAL SHOCK TESTING CHAMBER 冷熱衝擊試驗機

- 本冷熱衝擊試驗機的轉換時間是在10秒內,符合MIL, IEC, JIS等世界標準。復歸時間則不超出5分鐘,也符合多國的標準。LCD顯示控制器,並有中英文可供選擇。
- The transfer time of this Thermal Shock Test Chamber is within 10 seconds, meeting MIL, IEC, JIS standards. And the recovery time of this chamber is within 5 minutes, which is available to meet various international standards. Graphic LCD display with Chinese/English dual selection for direct operation.

型式	Type	401	402	403	501	502	503	601	602	603
測試區尺寸	Test area space (wxhxd) cm	35x35x40	50x40x40	60x50x50	35x35x40	50x40x40	60x50x50	35x35x40	50x40x40	60x50x50
高溫範圍	High temp. Range (wxhxd) cm	+80°C ~ +200°C			+80°C ~ +200°C			+80°C ~ +200°C		
低溫範圍	Low temp. Range (wxhxd) cm	-10°C ~ -45°C			-10°C ~ -60°C			-10°C ~ -70°C		
測試區溫度範圍	Test area temp. Range (wxhxd) cm	+60°C ~ +150°C 0°C ~ -40°C			+60°C ~ +150°C -10°C ~ -55°C			+60°C ~ +150°C -10°C ~ -65°C		
升溫時間	Heat-up speed	Rt ~ +200°C 約 about 25 min (室溫在 Room temp range 10°C ~ 30°C)								
降溫時間	Cool-down speed	Rt ~ -70°C 約 about 70 min (室溫在 Room temp range 10°C ~ 30°C)								
復歸時間	Recover speed	5分鐘內 Within 5 min								
溫度穩定度	Temp. Accuracy	±2°C								
冷凍系統	Refrigeration system	全密閉式壓縮機 full hermetic compressor			半密閉式壓縮機 semi hermetic compressor			全密閉式壓縮機 full hermetic compressor		半密閉式壓縮機 semi hermetic compressor
保溫材質	Insulation material	高溫槽:高密度玻璃棉 / 低溫槽:高強度PU發泡 / 測試區:高密度玻璃纖維棉 + 高強度PU發泡 High temp. area: High-density glass wool / Low tem. Area: rigid polyurethane foam / test area: high-density glass fiber wool + rigid Polyurethane foam								
閥門驅動裝置	Valve driving apparatus	氣壓缸 pneumatic cylinder								
控制器	Controller	FUJI 人機介面控制系統 7.7 吋彩色液晶顯示觸控式螢幕 FUJI user-friendly interface control system, 7.7" color LCD touch panel display								
保護裝置	Safety devices	蓄冷、蓄熱槽超溫保護,傳感器故障偵測器,壓縮機過載保護開關,氣壓保護開關,水流保護開關,歐製欠相保護開關,無熔絲開關 over-temperature protection for high/low temperature area, transducer trouble detector, compressor overload protecting switch, pneumatic protection switch, water flow protection switch, 3-phase monitoring relay, Non-fuse breaker								
供氣氣壓	Air pressure	5 ~ 8 kg/cm ²								
供水水壓	Water pressure	2 kg/cm ²								
供水水量	Water flow	進/出 in/out 4.2 m ³ /hr								
進出水口管徑	Water pipe diameter	11/2 英吋 inch								
電源	Power	3Ø, 220 V, 75 A 或 or 3Ø, 380 V, 60 A			3Ø, 220 V, 100 A 或 or 3Ø, 380 V, 75 A			3Ø, 220V, 75A 或 or 3Ø, 380V, 60A		3Ø, 220 V, 100 A 或 or 3Ø, 380 V, 75 A
外箱尺寸	Dimensions (wxhxd) cm	150x187x153	171x192x153	181x207x153	156x187x153	171x192x153	181x207x153	156x187x153	171x192x153	181x207x153
重量	Weight kg	900	1200	1500	900	1200	1500	900	1200	1500

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