



品質、技術、服務

弘達儀器股份有限公司

HUNG TA INSTRUMENT CO., LTD.

包裝材料試驗儀器

Material Testing Machine

- 紙、紙板、紙漿、瓦楞紙板、纖維板、包裝材料....
Paper · Paper Boards · Pulp · Corrugated Paper
Boards · Fiber Boards · Packaging Materials...ETC.



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 1set, with excellent expanding feature, available to connect some load cells at a time—optional)					
試驗力測量 Measurement of test force	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					
放大倍率Load amplification	HT-2328BP型、HT-2328BI型使用HT-2010控制顯示器，可做x1,x2,x5,x10，等四段自動切換功能示值分辨率1/20000 Type HT-2328BP,HT-2328BI Equipped with HT-2010 control indicator, available with 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(裝置標準拉伸夾具約) 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-8506 MICRO-COMPUTER COMPRESSION TESTER FOR PACKAGE AND CONTAINERS 微電腦包裝容器壓縮試驗機

CNS-2956, JIS Z-0212

本機係用以測試瓦楞紙箱或包裝容器，其能負荷多重之壓力。
Micro-computer compress tester is applied to test the packing carton box or the container like commodities how heavy load it can afford. To determine the crack or collapse arose due to a positive, consistent pressure adding to the testing particles.

型式	Model	8506A	8506B	8506C
容量	Capacity	2000,5000 kg (任選) (select one)		
感應方式	Sensing method	高精度荷重元 High precision load cell		
顯示器	Indicator	HT-9635A (16位元) (16bits)		
解析度	Resolution	1/20000		
精度	Accuracy	within ±1 %		
測試區域	Compression area	100x100x100 cm	150X150X150 cm	200X200X200 cm
測試速度	Test speed	13 mm/min (5-100 mm/min可調adjustable)		
電源	Power	3phase, 220V, 50/60Hz (380V加變壓器)		
材積	Dimension	186(W)x100(D)x203(H) cm		
重量	New weight	480 kgs		

HT-8506



HT-8115 TENSILE STRENGTH TESTER 桌上型拉力機

CNC 1354, JIS-P8113

本機可用來測試較薄紙品之抗拉強度，日本原裝錶式，電子式顯示器。
The tensile strength tester is suitable for determination of the tensile strength of thinner paper products, Japan made analog / digital indicator.

形式 Model-	HT-8115A 手動錶式 Dial Manual	HT-8115B 電動錶式 Dial Motorized	HT-8115C 手動電子式 Digital Manual	HT-8115D 電動電子式 Digital Motorized
容量 Capacity available	1,2,5,10,20,50 kgf		2,20,50 kgf (selectable)	
解析度 Resolution	1/200	1/200	1/10000	
行程 Testing Stroke	150 mm	150 mm	150 mm	
速度 Testing Speed	For motorized:10-100 mm/min or 30-300 mm/min(optional)			
材積 Dimensions	28×35×87 cm			
重量 Net Weight	Appro × .25 kgs			

HT-8115A



HT-8115B



HT-8115C



HT-8115D



HT-8140A DUAL-ARM PACKAGE DROP TESTER 雙臂式包裝落下試驗機

此機台設計的目的，在針對包裝完整的產品，測試其包裝材料的防震、包覆能力的妥適、及內裝產品本身的耐衝擊程度，做實體上的檢測與評估，以了解何者為最佳的包裝方式。落方式，可執行紙箱落下衝擊之面、菱線或角之落下試驗。

During the transportation process, packed products unavoidably being dropped or accidentally impacted with hard substance. To prevent further damages in advance, this tester is designed to test and find out the ultimate solution for the package products with a purpose to reduce loss during transportation. Compared with our previous version of single arm design, this twin-arm type is easier and more convenient to use.

規格 Specifications		
落下測試高度	Drop height	40-176 cm
測試載重	Test load	60 Kg
測試空間	Test space(WxDxH)	(6-108)X76X(40-150) cm
托臂尺寸	Supporting area	30X76 cm
底板尺寸	Size of base board	120X140 cm
落下高度可上及下降自動控制	Auto control up/down for drop height	有(adjustable)
馬達控制系統	Motor control system	1組(set)
落下高度定位	Positioning of drop height	設定裝制1組 setup 1set
高度指示尺	Height indication ruler	1組(set)
支撐臂採用	Support arm	自動控制方式(較手動式省力) auto control (easier than manual control)
電源	Power	3 φ , 380/415V, 50/60 Hz
材積	Frame	228X140X225 cm
Dimensions(WxDxH)	Control	30X40X120 cm
底板		120X140 cm
重量	Weight	約350 kg

HT-8140A



HT-8140 PACKAGE DROP TESTER 包裝落下試驗機

CNS-2999 在運送過程當中，包裝後的產品無可避免地會遇到掉落或受到硬物的意外撞擊。為了事先預防損害，本機即用來測試，並找出最佳之解決方式，以利在運送途中能儘量減少損失。

In the transportation process, packed products might be unavoidably dropped or accidentally impacted with hard substance. To prevent further damages in advance, this tester is designed to test and find out the ultimate solution for the package products with a purpose to reduce loss during transportation.

載重	Load weight	60 kgs
測試高度	Test height	40-150 cm
測試空間	Test space	60x60x60 cm
單臂支撐長度	Length of single arm bracket	30 cm
電源	Power	3 φ , 220V/380V/415V
材積	Dimension (cm)	157(W)X100(D)X209(H)
重量	Weight (kg)	200

HT-8140



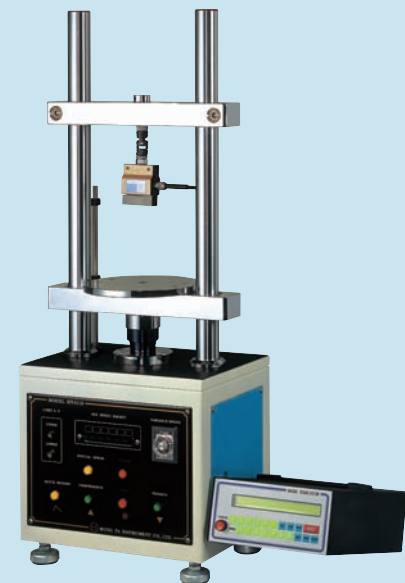
HT-8116 TENSILE / COMPRESSION STRENGTH TESTER 桌上型拉力壓力試驗機

- 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-8056 VIBRATION TESTER 震動試驗機

本機係用來做機械及電子電機零件、通訊器材、電腦及汽機車零件的震動試驗，用來觀察其耐運輸效果或耐久性均可。

This machine is for vibration test of mechanical, electronic, electrical parts, telecommunications, computer and auto parts. It's available to conduct transportation test and durability test.

型式	Model	HT-8056	HT-8056A
試驗方向	Vibration direction	上下及左右 up/down & left/right	上下或左右 (選一) up/down or left/right
試驗循環數	Cycle	300-3300, 300-1500 c.p.m.	
試驗速度	Vibration speed	600-3300 cpm(adjustable)	
試驗幅度	Vibration capacity	0-7 mm可調 adjustable, 1.5 or 2.0 mm常用 normal	
載重	Capacity	60 kgs	
試驗台	Testing table	50x60 cm	
計時器	Timer	0-6 hours (雙區可調 djustable,two sections)	0-6 hours (單區可調 djustable, one section)
變化方向	Changing direction	上下及左右 up/down & left/right	上下或左右 up/down or left/right
馬達	Motor	Two 2HP DC stepless motors	One 2HP DC stepless motor
電源	Power	3ø, 220V/380V/415V	
材積	Dimension cm	105(W)x95(D)x55(H)	70(W)x80(D)x55(H)
重量	New weight	300 kg	200 kg

HT-8056



HT-8056A



HT-8507 PUNCTURE TESTER 衝孔強度試驗機

CNS 11484, JIS P8134, TAPPI T803

配合破裂強度試驗機使用，本機係檢查瓦楞紙板成品之結構強度所不可或缺的儀器。實際上，破裂強度試驗機屬靜態試驗，衝孔強度則屬動態試驗。兩者互有關連或又一不可。

本機可測試一般紙板、瓦楞紙板、三合板、塑膠板及纖維板等等。衝擊頭為一角錐體，用以衝破試片。

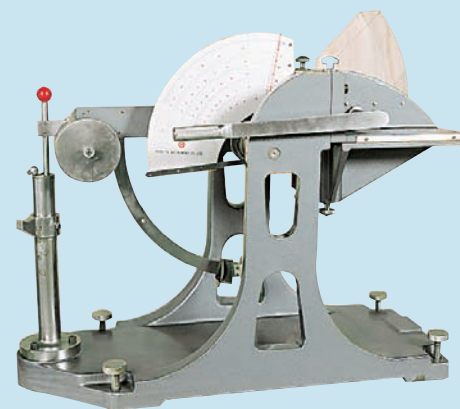
In combination with the use of bursting strength tester, Puncture Tester turns to be an indispensable instrument for inspecting the structural strength of the finished corrugated paper board. In fact, Puncture Tester is a dynamic way to test the quality of the paper board whereas the bursting strength tester is a static method. Both of them are interrelated and neither of them can be neglected.

It is suitable for testing general paper boards, corrugated paper boards, plywood board, plastic boards and fiber boards.

The punch head is a triangle pyramid to break the specimen.

容量	Capacity	(a) Scale 0~53.5 kg-cm (b) Scale 0~107 kg-cm (c) Scale 0~214 kg-cm (d) Scale 0~428 kg-cm (e) Scale 0~26.75 kg-cm
試片尺寸	Specimen size	25.4x25.4 cm
衝擊頭	Punch head	半徑 R 1.5 mm , 高度 height 25.4 mm
材積	Dimension	87x41x74 cm
重量	New weight	150 kg

HT-8507



HT-9745 PROGRAMMABLE TEMPERATURE & HUMIDITY WALK-IN CHAMBER 大型恆溫恆溼試驗機

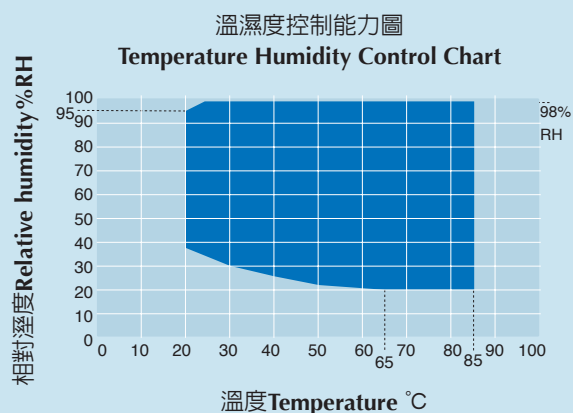
本機適用測試大型零件或成品之用，溫溼度範圍及內部空間可依被測物大小或需求而調整規格。

This chamber is suitable for testing parts or products of bulky size. All ranges of temperature and humidity and inside dimension can be adjustable to meet your requirements.

型號 Model	AD	AE	AF	AG	H	I	J
系統 System	平衡調溫調濕控制系統 Balanced Temperature & Humidity Control System						
控制器 Controller	LCD display 0.01°C, 0.1%RH, 1 min resolution 100 programs, 800 steps, 999 cycles Hold, Advance, wait, time signal function				LED display, 0.1°C, 1 min resolution RS-232, Interface		
溫度範圍 Temp. range	-40~+80°C	-30~+80°C	-10~+80°C	+5~+80°C	-40~+80°C	-30~+80°C	-10~+80°C
濕度範圍 Humi. range	35-95%RH			60-95%RH		-	
溫度精度 Temp. constancy	±0.5°C				±0.5°C		
濕度精度 Humi. constancy	±3%RH						
溫度分佈均度 Temp. uniformity	±1.0°C				±1.0°C		
濕度分佈均度 Humi. uniformity	±5%RH						
升溫速度 Heat-up time	+20 to +80°C within 60 min				+20 to +80°C within 60 min		
降溫速度 Pull-down time	+20 to -40°C within 180 min	+20 to -30°C (-10°C, +5°C) within 120 min			+20 to -40°C within 180 min	+20 to -30°C (-10°C) within 120 min	
內箱材質 Interior material	不鏽鋼一級鏡面鋼板 SUS304 Stainless Steel Plate						
外箱材質 Exterior material	PVC鋼鍍層板 PVC/Steel plate laminate						
保溫材質 Insulation material	Urethane發泡材質 Urethane foam 100 mm (150 mm, 42 mm)						
地板負荷 Floor load	600 kg/m ²						
門板尺寸 Door size	單門式 Single opening door 80(W)×180(H) cm 視窗尺寸 Window size: 25(W)×35(H) cm						
冷凍系統 Refrigeration system	水冷式單段全氣密式壓縮機 Water-cooled hermetically sealed single stage compressor system (cascade refrigeration for HL & TL) 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, 陶瓷保險絲, 水盤 水保護開關, 電磁保護開關, 故障警告系統, 警報器						
保護裝置 Safety devices	No fuse breaker, refrigerator overload relay, high pressure switch, air circulator thermal switch, protection relay, protection fuse, boil dry protector, system trouble monitor, alarm						
配件 Accessories	觀視窗 Viewing window, 測試孔(50mm) cable port (50mm), 箱內燈 chamber lamp						
電源 Power supply	3Ø, 220/380/415V ± 10%, 50/60Hz						
尺寸 Size	Volume(m ³)	Square measure(m ²)		Inside dimensions(WxHxD cm)		Outside dimensions(WxHxD cm)	
S	9.0	4.3		210x210x205		325x236x225	
M	12.9	6.1		300x210x205		415x236x225	
L	16.8	8.1		390x210x430		505x236x225	

※其他規格另議：Other specifications available upon request

HT-9745



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

程式容量值 Program capacity:

1. 設定值最大1 PATTERNx99 STEP x99次循環功能，可任意分割成若干小程序，個別設定循環次數。
 2. 各段程式時間設定可達99hrs 59min。
 3. 本控制器具有斷電記憶功能，復電後可斷續執行剩餘之程式。
 4. 可做程式循環或做單一溫濕度控制。
 5. 程式執行中可顯示該段剩餘之時間。
1. Set max. 1 pattern×99 steps×99 cycles. You can set arbitrarily by dividing into subprograms and set individually the number of cycles.
 2. The time of each program can reach up to 99 hr 59 min.
 3. This controller provides memory recovery shut down. If the power interrupts while testing, the rest of the program can be executed continuously after the power recovers.
 4. This is available both for programmable and direct display (for single temperature and humidity).
 5. While testing, it can display the rest of testing time.

HT-8045A


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，全密閉式壓縮機 hermetic compressor, single stage refrigeration system			二段式，全密閉式壓縮機 hermetic compressor,cascade refrigeration system				單段式，全密閉式壓縮機 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										

*另售：溫濕度記錄器（六打點·紙寬100mm） Optional:6pens recorder,paper width 100mm

HT-8047 老化試驗機（烘箱）AGING OVEN TESTER

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

■本烘箱係用來研究紙品等試片在固定時間內，以迴轉方式受熱下的變化。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 paper products when subjected to heat in a rotational condition for a pecified time. The machine is equipped with a motor-driven rotary plate. Hot air circulation will ensure even temperature distribution.

型式	TYPE	A	B
內徑	Inner dimension	40x40x45 cm	50x50x60 cm
電熱	Heat	1.8 KW	3.2 KW
溫度	Temperature	RT-200 or 300 degree ceisius	
馬達速度	Motor(speed)	8-10 rpm	
馬達	Motor	1/4 HP	1/2 HP
材積	Dimension (cm)	84x54x100	95x65x118
重量	Net weight (kg)	80	120

HT-8047


HT-8020A, HT-8020B BURSTING STRENGTH TESTER 破裂強度試驗機

CNS-2054 3479 JIS-L1004, L1018, L1031, K6328, P8131, P8112, ASTM-D2210, TAPPI T403ts-63

本機在試驗紙、瓦楞紙板之抗破裂強度，為驗證裱面紙及蕊紙品質不可或缺的設備。

This tester is used to determine the bursting strength of paper and corrugated board. It is an essential equipment for quality control.



規格 SPECIFICATION

Type 型式	HT-8020A	HT-8020B
特點 Features	電子式顯示器 digital display 夾持壓力錶 Clamping pressure gauge	夾具壓力表 Clamping pressure gauge
容量 Capacity	100 kg/cm ²	20/50, 50/100 kg/cm ² (selectable)(任選一)
夾持盤直徑 Diameter of clamping plate	高壓 High pressure : 上 Upper : 31.5+/-0.05 mm dia. 下 Lower : 31.5+/-0.05 mm dia. 低壓 Low pressure : 上 Upper : 30.48+/-0.03 mm dia. 下 Lower : 31.75+/-0.25 mm dia.	
加壓速度 Speed of pressurization	高壓 High pressure : 170+/-20 ml/min 低壓 Low pressure : 95+/-10 ml/min	
顯示精度 Precision of display	0.1 kg/cm ²	
退壓速度 Speed of depressurization	高壓 High pressure : 340+/-20 ml/min 低壓 Low pressure : 190+/-10 ml/min	
馬達 Motor	1/4 or 1/3 HP, 50/60Hz	
顯示 Display	Digital Indicator 電子顯示器	3 pcs. of pressure gauge
電源 Power source	110V or 220V	
材積 Dimensions (approx)	cm 53 x 36 x 63	64 x 35 x 50
重量 Net weight (approx)	kg 110	100

HT-8320, HT-8321, HT-8321A BURSTING STRENGTH TESTER 破裂強度試驗機

HT-8320



HT-8320A



HT-8321



規格 SPECIFICATION

Type 型式	HT-8320	HT-8320A	HT-8321
容量 Capacity	20/50, 50/100 kg/cm ² (selectable) (任選一)	100 kg/cm ²	20/50, 50/100 kg/cm ² (selectable) (任選一)
夾持盤直徑 Diameter of clamping	高壓 High pressure : 上 Upper : 31.5+/-0.05 mm dia. 下 Lower : 31.5+/-0.05 mm dia. 低壓 Low pressure : 上 Upper : 30.48+/-0.03 mm dia. 下 Lower : 31.5+/-0.05 mm dia.		
加壓速度 Speed of pressurization	高壓 High pressure : 170+/-20 ml/min 低壓 Low pressure : 95+/-10 ml/min		
顯示精度 Precision of display	0.1 kg/cm ²		
退壓速度 Speed of depressurization	高壓 High pressure: 340+/-20 ml/min 低壓 Low pressure: 190+/-10 ml/min		
馬達 Motor	1/4 or 1/3 HP, 50/60Hz		
顯示 Display	3 pcs. of pressure gauge	Digital indicator 電子顯示器	3 pcs. of pressure gauge
電源 Power source	110V or 220V		
材積 Dimensions (approx) cm	64 x 35 x 62	64 x 35 x 75	92 x 34 x 72
重量 Net weight (approx) kg	120 kg	130 kg	120 kg

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

HT-9363



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.

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

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
動圈質量 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 動圈台面上方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)	
台座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	

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：2100Kgw	Horizontal vibration primer's weight : 2100Kgw	

HT-9363SP,HT-9363AM,HT-9363M VIBRATION TESTER 振動試驗機



型式 Model	HT-9363SP	HT-9363AM	HT-9363M
頻率範圍 Frequency range	5-100 Hz, 1 Hz/step	5-100 Hz, 1 Hz/step	5-60 Hz, 1 Hz/step
多功能測試模式 Versatile testing mode	1.Manual 2.Auto-Linear Log Octave Free random Cycle random	1.Manual 2.Auto-Linea	Manual
測試程式 Testing program	9 sets	7 sets	
總循環時間 Total cycle time	10-9999 min, 1 min/step	10-999 min, 1 min/step	1-15 min, 1 min/step
程式小段設定 Sub-cycle step	9 sets	7 sets	
程式小段時間 Sub-cycle time	10-9999 sec, 1 sec/step	10-999 min, 1 min/step	1-15 min, 1 min/step
顯示 Display	16x1 Dot matrix LCD 2 sets	7 segment red display 13 sets	7 segment red display 3 sets
設定鍵 Setting key	24 pcs	5 pcs	8 pcs
電源 Power requirement	AC 220 V ± 10%, single phase, 50/60 Hz		

VIBRATION TABLE

型式 Type	S type	L type
材積 Dimension	450(W)X450(D)X250(H) mm	550(W)X700(D)X300(H) mm
振幅 Amplitude p-p	0.35-2.5 mm ± 1.5%	0.35-2.5 mm ± 1.5%
最大加速度 Max. acceleration	100 Hz:14 G, 60 Hz:10 G	100 Hz:12 G, 60 Hz:9 G
最大載重 Max.loading	100 kg	200 kg

HT-8380 MICRO-COMPUTER RING CRUSH TESTER 環壓強度試驗機

CNS 2956, JIS P8126, TAPPI T472

因為運送上的需要，紙箱被向上堆積起來，而此重量負荷的忍受度則取決於紙板的組成。欲分辨此負荷強度，環壓強度試驗機則為不可或的機種。

Owing to the transportation needs, stacks of the carton boxes being piled upward, the endurance of such heavy load is determined by the composition of the paper board. To tell the difference of the burden strength, Micro-computer Ring Crush Tester is inevitable, useful and helpful.

容量	Capacity	50, 100, kg
力量顯示器	Force indicator	HT-9635A for force display only 僅供力量顯示用
壓盤尺寸	Size of test plate	100x100 mm(或依客戶指定) (or upon request)
測試速度	Test speed	constant 12.7 ± 3 mm/min or 5-100 mm/min (任選 selectable)
電源	Power source	1 phase, 220V, 50/60Hz
材積	Dimension	48(W)x48(D)x103(H) cm
重量	Net weight	80 kg



HT-8380

HT-8380A HT-8380B SAMPLE CUTTER FOR COLUMN COMPRESSION TESTER 豎壓試樣裁切機

JIS Z0401

本裁切機為裁切適當尺寸之紙板試片，否則，不規則的試片或不正當的使用試片會導致不正確的測試。裁切機有兩種：HT-8380A為切四角形用，HT-8380B為切角用。

附有清楚的刻度，可精細地裁切直線條。

To cut the paper board which is suitable for testing purpose, otherwise irregular or misuse of the improper paper board may result of the incorrect test. There are two: Parallel Cutter and Corner Cutter.

HT-8380A Parallel cutter : With clear graduation, it cuts paper board in precision and in straight parallel line.

附有清楚的刻度，可精細地裁切直線條的四角型試片

可調刻度	Adjustable space	30,50,60,80,100,150 mm
材積	Dimension	Apr. 48 × 62 × 16 cm
重量	New weight	Apr. 25 kg

HT-8380B Corner cutter : It can cut off one corner of paper boards to facilitate the operation of vertical compression testing.

可將紙板切角，以做豎壓測試

試片尺寸	Specimen size	4" × 2.5"
材積	Dimension	Apr. 23 × 20 × 25 cm
重量	New weight	Apr. 5 kg



HT-8380A



HT-8380B

HT-8380C COLUMN COMPRESSION TESTING GRIP 豎壓試驗夾具

此夾具可夾住試片上下端以確定試片垂直站立，並進而做紙板的垂直壓縮試驗。本夾具應置入環壓強度試驗機中一起使用。

This grip is for chucking the upper and lower ends of sample paper boards to make sure specimen stands vertically, thereby facilitating the vertical compression testing of the paper boards. The grip should be used together with ring crush tester.

公式	Formula	$\frac{\text{Max. force}}{50}$ (kgf/mm)
材積	Dimension cm	Apr. 17(W)x11(D)x7(H)
重量	Net weight	Apr. 2 kgs

HT-8380C



HT-8380D FLAT CRUSH CUTTER 平壓試驗裁割器

本裁割器係切出圓形的紙板試片，置入環壓強度試驗機的上下壓盤中做平壓測試。必須與環壓強度試驗機一起使用。

This cutter is round in shape and is used for cutting corrugated paper boards bearing a plane surface pressure of 38.5×38.5c., thereby facilitating the testing of pressure resistance of the boards. It should be used together with ring crush tester.

Size of sample : (a) 38.5 cm²
(b) 100 cm²

裁割直徑	Dia.after cutting	ø64 mm	ø112.8 mm
試片面積	Area of specimen	38.5 cm ²	100 cm ²
材積	Dimension	ø20 cm,H20 cm	ø30 cm,H20 cm
重量	Weight (約)	1.5 kg	3.5 kg

HT-8380D



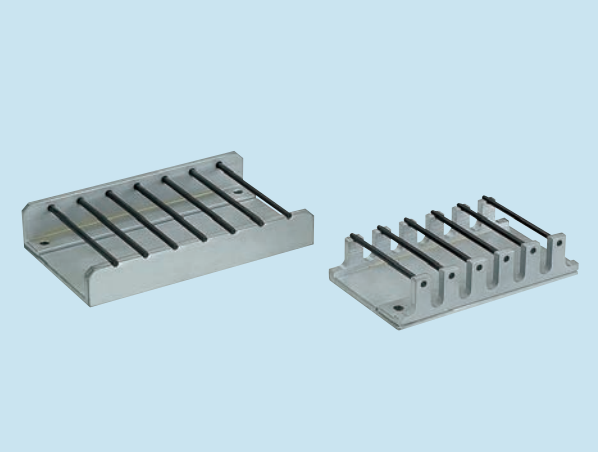
HT-8380E PIN ADHESION TEST/JOIN ADHESION TEST 黏著度試驗器

本試驗係用以剝離上完膠後之瓦楞紙板的浪層，以便試驗浪層與平紙板間的黏著強度。

This tester is applied to tear away the corrugated fiber boards with pins inserting into the flute of the fiber boards to test the adhesive strength between the flute and flat paper board of corrugated board.

	試片尺寸 Specimen size	針徑 Dia. Of pin	針距 Pitch	材積 Dimension	重量 Weight
A		3.5±0.1 mm	17.6±0.1 mm	125x76x30 mm	500 g
B	50x150 mm	2.0±0.1 mm	12.0±0.1 mm	91x76x30 mm	350 g
C		3.0±0.1 mm	15.0±0.1 mm	109x76x30 mm	400 g

HT-8380E



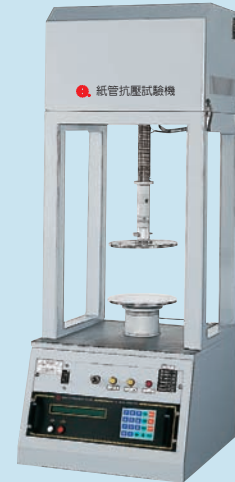
HT-8380H COMPRESSION TESTER FOR PAPER CONES 紙管抗壓試驗機

本機係用來測試紙管、膠帶管、紗管、紙罐、合成紙罐的橫壓強度，亦可測試錐形管。

This tester is for testing the transverse compression strength of paper tubes, bobbins, paper cans, composite cans, paper cones and so on. It can also be used for testing taper tubes.

容量	Capacity	200,500,1000 kg
感應方式	Sensing method	High precision load cell
顯示器	Std. Indicator	HT-9635A(16 bits amp)
解析度	Resolution	1/20000
精度	Accuracy	within $\pm 1\%$
壓縮盤尺寸	Compress plate	300x300 mm
壓縮行程	Compress travel	300 mm (or as request)
測試速度	Test speed	13 mm/min (Max. 50 mm/min)
馬力	Motor	1/4 HP
材積	Dimension	48(W)x47(D)x116(H) cm
重量	Net weight	Apr. 110 kg

HT-8380H



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
- 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

HT-2360A



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.

試驗速度	Folding speed	175 \pm 5 cpm
試驗角度	Folding angle	135 \pm 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-8636A

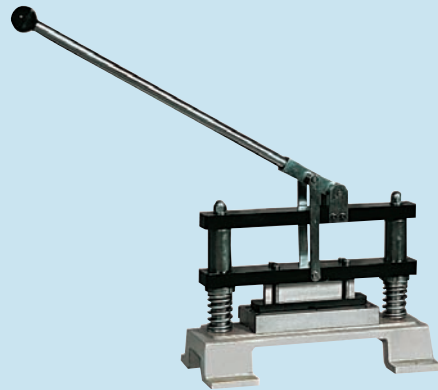


HT-8381 DIE CUTTER 環壓試材切片機**CNS 2956-3, JIS P8111**

本切片機係用來裁切紙板、紙片成長條狀，再將之放入環壓強度試驗機中做測試。

The die cutter is used to cut a specimen into a long narrow stripe, and then place the stripe specimen into a round feature jig (of ring crush tester) for the operation of testing procedures.

試片尺寸	Size of sample	12.7x152.4mm
材積	Dimension	65x24x60 cm
重量	Net weight	25 kg

HT-8381**HT-8382 SPRAY TESTER FOR CARDBOARD****撥水度試驗機****CNS 3687, JIS P8137**

本機在測試紙板於戶外時，雨水或水滴突然掉落在紙板上，未被吸收而流走，留下流經的水痕，由其判斷紙板的撥水度之良劣。

In order to test the corrugated fiberboard, under the precipitate conditions, rain may occasionally drop in outdoor on the paper board and fall away without being absorbed. Water tracks leave behind.

As a result standard test outcomes layout as 8 categories. R0, R2, R4,...R10.

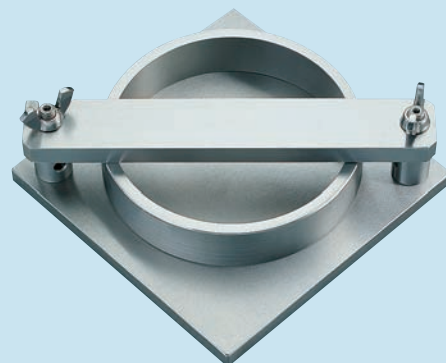
試片尺寸	Sample size	300x200 mm
測試板尺寸	Size of testing table	350x200 mm
測試板傾斜角	Slant degree of testing table	45 degrees
滴管與試片距離	Distance between dropper and sample	10 mm
滴管容量	Dropper capacity	50 c.c.
滴水量	Unit drop volume	每滴0.1 ml each
流程距離	Flow length	250 mm
材積	Dimension	22x38x100 cm
重量	Net weight	15 kg

HT-8382**HT-8383 WATER ABSORPTION TESTER****吸水度試驗機****CNS 3318, JIS P8140**

將50~100ml的蒸餾水直接滴在試片上，經過一段時間後，水會被紙吸收，藉此測試紙品構造對水的敏感度。

Dropping 50~100 ml distilled water directly on the specimen, after a certain period of time, water being absorbed by the paper. That is the way to test paper texture of its sensibility to water.

內徑	Internal diameter	112.8±0.1 mm
高度	Height	25 mm
厚度	Thickness	6 mm
試片尺寸	Sample size	130x130 mm
材積	Dimension	150x150x60 mm
重量	Net weight	2 kg

HT-8383

HT-8136 DAYLIGHT 標準光源箱

在產品的對色或配色上，不同的光源、照度或環境會使肉眼對色彩產生錯誤的判斷。本儀器可提供標準客觀的光源使得原料及產品顏色的對比，能有一精確的控制。

During the process of color identifying or matching, different light source, daylight or environment would cause incorrect recognizing upon color. With standard and objective light source, this apparatus provides precise control upon the contrast of the color of material or products.

光源 Light source	D ₆₅ 標準太陽光源(Artificial daylight to D ₆₅) 色溫 6500°K(color temp) A 夕陽光室內光源 Standard light Type A) 色溫 2800°K(color temp) F 高效能日光燈光源(High energy Fluorescent light TL 84) 色溫 4000°K(color temp) UR 紫外線光源(Ultra-Violet light long wave) 波長 360mm(wave length)
內徑 Test chamber	54x70x35 cm
材積 Dimensions	72x57x56 cm
重量 New weight	26 kg

HT-8136**HT-0041 ELECTRIC STIRRER 自動攪拌器**

本機在攪拌混合溶液，使之均勻。

This stirrer is used to make even the blended resolution.

共同規格 Common specifications

馬達 Motor	DC 100W
夾頭 Clamp	不鏽鋼材質 (Stainless steel) 0-10 m/m
攪拌棒 Stirring Rod	不鏽鋼 (Stainless steel) #304 80x500 L
葉片 Fan blade	不鏽鋼 (Stainless steel) #304 80x50Ø
支持夾 Fixture	不鏽鋼製 (Stainless steel)
電源 Power	AC110/220V 50/60Hz 1Ø

型式 MODEL	轉速 R.P.M.	減速比 Gear ratio	扭力kg-cm
DC-1S	80-1150	2.5:1	2.5
DC-2S	50-570	5:1	5
DC-3S	35-285	10:1	10
DC-1R	80-1150	2.5:1	2.5
DC-2R	50-570	5:1	5
DC-3R	35-285	10:1	10
DC-1RT	80-1150	2.5:1	2.5
DC-2RT	50-570	5:1	5
DC-3RT	35-285	10:1	10

附註(Note)：S 標準型 (Standard)

R 附轉速表型 (With rotating speed meter)

RT 附轉速表及扭力表型 (With speed & torque meter)

HT-0041**HT-0601 VISCOMETER 黏度計**

本機可測試化工溶液的黏度。

This tester is used to determine the viscosity of various chemical resolution.

型式 Motor	VT-03(低黏度用)Low Viscosity	VT-04(高黏度用)High Viscosity
黏度測定範圍 Test Range	2-33 CP;15-150 CP;50-330 CP	0.3-13 P;3-150 P;100-4000 P
電源 Power	3號乾電池4個或交流電源變壓器 (另售)。直流6V最大負載約300 mA #3batter 4 sets or AD transtormer (Additional Price)DC 6V Max load 300 mA.	
尺寸 size(LxWxH)	9x1x18 cm	
重量 Weight	0.6 kg	

HT-0601

HT-8181 ELMENDORF TEARING TESTER
撕裂試驗機
CNS 1353, JIS P8116, TAPPI T414

本機可做紡織、紙類及PVC材料的撕裂試驗。試片先切開一段，一端夾住，一端向前移，其撕裂強度可由指針加以顯示。

To test tearing strength of fabric, paper, PVC material etc. Specimen are being slightly split. One side is firmly gripped and the other is being gripped and moved forward to effect tearing action. Scale pointer indicates tearing strength.

型式	Model	A	B
容量	Capacity (g)	0~100 0~200	0~1600 0~3200
試片尺寸	Size of sample	63±0.15x76±2.0 mm	
參考標準	Reference standards	CNS 1355, JIS P8116, TAPPI T414, ISO 6383	
材積	Dimension (Apr.)	45x24x52 cm	60x40x50 cm
重量	Net weight	15 kg	35 kg

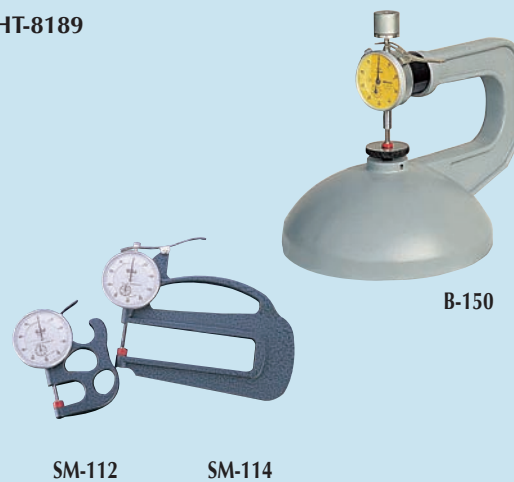
HT-8181

HT-8189 THICKNESS GAUGE 厚度計
CNS 3685

為避免印刷過程所引起的損害，確保其良好的黏著，紙張厚度應予以嚴密控制，本厚度計操作簡單。

To avoid damages caused by the printing process and to guarantee a satisfactory adhesion, it is much likely to fringe the measuring thickness range within ±10%.

型式	Model	SM-112	SM-114	B-150
精度	Precision	1/100 mm	1/100 mm	1/100 mm
測試盤表面內徑	Internal diameter of testing plane surface	10 mm	10 mm	10 mm
荷重	Loading capacity			0.55±0.05kg/cm
測試範圍	Testing range	10 mm	10 mm	10 mm
測試深度	Testing depth	20 mm	120 mm	160 mm
材積	Dimension (mm)	10.2x9x1.5 cm	13.2x18.3x1.5 cm	17x28x24 cm
重量	Net weight	160 g	270 g	4 kg

HT-8189

HT-8187 BALANCE 電子天平 (比重用)

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-8187


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