



品質、技術、服務

弘達儀器股份有限公司

HUNG TA INSTRUMENT CO., LTD.

適用於測試—

航太 · 國防工業 · 汽車 · 機車零件組

Suitable For Testing-
Parts And Components For Aero Space,
Defence, Automobile And Motorcycle



HT-9711 動態疲勞試驗機 DYNAMIC FATIGUE TESTING MACHINE

機型	Model		HT-9711-5 落地型		HT-9711-5 桌上型		
動力來源	Power source		電液伺服控制系統 (Electro-Hydraulic Servo Control System)				
最大出力	Force capacity	(Kg) (KN)	500		5		
工作振幅	Max. Stroke (mm)	靜態 (Static) 動態 (Dynamic)	±50		±25		
控制模式	Control mode		力量控制、行程控制 (force, displacement control)				
靜態力量感測容量	Static force sensor capacity		×120% ×100% · ×50% · ×20% · ×10% · 自倍率選擇 (Auto Gain selection)				
靜態力量感測精度	Static force sensing error		≤ ±1% 校正精度 (Calibration error)				
動態力量感測放大倍率	Dynamic force sensor capacity		100% , ×50% , ×20% , ×10%				
動態力量感測精度	Dynamic force sensing error		≤ ±1% 校正精度 (Calibration error)				
形式	Style		T type				
支柱有效寬度	Operating width(mm)		400				
支柱有效高度	Operating height(mm)		250~900				
外型尺寸	Dimension(cm)		120 (W) × 65 (D) × 220 (H)				
油壓源型式	Hydraulic powetyper		QR-10	QR-20	QR-40	QR-60	QR-80
最小需求流量	Minimum flow rate(l/min)		10	10	40	60	80
伺服閥額定流量	Servovalve rated flowrate(l/min)		15	15	45	80	120
位移感測器	Displacement sensor		1 L / 1 L (選配Option)		5 L / 5 L (選配Option)		
頻率範圍	Frequency range		內建差動電壓計於致動器後端 (LVDT built-in-actuator); 0.05~100Hz請參閱振幅頻率波德圖				
試驗波型	(Ramp) 正形波(Sine) 三角波(Triangular) 矩形波(Square)						

外形尺寸,工作臺面,行程及噸數可由客戶定義設計,本公司保有修改權利
Dimension, Table, Stroke and Capacity could be customer designed



HT-9711-10	HT-9711-25	HT-9711-50	HT-9711-100	HT-9711-200	HT-9711-300	HT-9711-500
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電液伺服控制系統 (Electro-Hydraulic Servo Control System)

1,000	2,500	5,000	10,000	20,000	30,000	50,000
10	25	50	100	200	300	500

±50

±25

力量控制，行程控制 (Force, Displacement Control)

×120%，×100%，×50%，×20%，×10%，自倍率選擇(Auto Gain selection)

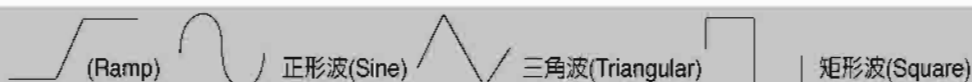
≤±1%校正精度 (Calibration error)

×100%，×50%，×20%，×10%

≤±1%校正精度 (Calibration error)

E type			D type		
530			750		
250~900			250~1100		
980 (W) x 610 (D) x 2350 (H)			1325 (W) x 750 (D) x 2650 (H)		
QR-10	QR-20	QR-40	QR-60	QR-80	
10	20	40	60	80	
15	30	45	80	120	
1 L / 1 L (選Option)			5 L / 5 L (選配Option)		

內建差動電壓計於致動器後端 (LVDT built-in-actuator);0.05~100Hz 請參閱振幅頻率波德圖



標準配件 Standard Accessories



平板拉力
Tensile for plane



圓棒拉力
Tensile for round



壓縮
Compression

選用配件
Optional Accessories



油壓夾具
Hydraulic Grips

HT-9760 衰減力試驗機 DAMPING TESTER

- 本機係用以測試避震器的衰減力，藉以判斷避震器的品質，本機適用所有的避震器，包括機車、汽車、甚或卡車，規格則互有變化。自行車則僅限於後避震器。以下為本機之一般規格，如需詳細規格請與本公司聯絡。
- This tester is for testing the damping strength of shock absorbers. Available to test the shock absorbers for car and motorcycle and even truck, but only for rear shock absorbers for bicycle. Normally the specifications are different depending on different test requirements. Hereunder are the standard specifications for this model.

容量	Vibrating load	1,2, 5 噸或依客戶指定 1,2,5 tons or upon request
線速度	Vibration acceleration(v)	0.05~1.0 m/sec (依主軸轉速而定depending on axle rotating speed)
主軸速度	Vibrating rotation (n)	1.5~400 rpm
行程	Vibration stroke (d)	0~80 mm
測試空間	Testing space	700 mm
上下速度調整	Up-down speed adjustment	300 mm/min
電源	Power	3Ø, 220 / 380 / 415 V, 50/60 Hz
重量	Weight	約around 1500 kgs
主機尺寸	Dimension of main frame	130 (W) x 110 (D) x 243 (H) cm



HT-8623 電子式定速摩擦試驗機 ELECTRONIC CONSTANT SPEED FRICTION TESTER

- 本機依JIS-D4411 CNS-2588 D2002設計製造，適用於各種汽車剎車系統來令片、離合器、磨擦片，試驗各種材料耐磨是否合乎標準，及各種來令材質合成樹脂之密度結構，硬度加熱過程之反應，以作為製程參考。
- Designed for testing the frictional performance of automotive brake linings and clutch facings as stipulated in JIS-D4411, CNS-2586 D2002 thus contributing to the improvement of quality. This tester was created under the guidance of the Machinery Research Division, the Agency of Industrial Science and Technology. Since introduced to the market, this tester has been received quite well and employed extensively in various fields and industries such as the manufacturing of linings, clutches, and plastics.

HT-8623



試片材質	Test material	橡膠模、樹脂模，特別處理編織物，塑膠鍛造件等。Rubber mold, resin mold, specially processed woven item, plastics, sintered metal, etc.
摩擦板	Friction disk	材質:鑄鐵 (FC-25) Material: Pearlitic cast iron (FC-25) 轉速: 450-500 rpm Revolutions: 450-500 rpm
試驗片	Test specimen	尺寸 Dimensions: 25 x 25 x 5 mm 數量 Pieces: 2 pcs 距桿心平均挾持距離 Avg. Clamping Distance from the shaft center: 150 mm
加壓部	Pressing part	最小表面壓力 Min. Facial Pressure: 3 kg/ sq. cm (37.5 kg) 最大表面壓力 Max. Facial Pressure: 10 kg/ sq. cm (125 kg) (in specific cases 20 kg/sq. cm) 附件重: 1.25 kg × 1 pc, 2.52 kg × 3 pcs. 加1.25 kg重增加表面壓力1 kg/sq. cm
計數器	Counter	電子式 digital display
加熱裝置	Heating device	摩擦碟底端配備加熱器below the bottom side of the friction disk is equipped with a circular pipeheater for necessary heating.
容量	Capacity	1.1 kw, 1 kw, 0.9 kw & 0.8 kw 一共total 3.8 kw
電壓	Voltage	110 V or 220 V
電源	Power	約7.5 kw 之六局馬達7.5 kw hex-pole motor (with base)
重量	Weight	約Appr. 350 kg
材積	Dimension	150x150x180 cm

HT-9756 電腦伺服式控制合綿硬度試驗機

COMPUTER SERVO CONTROL HARDNESS TESTER FOR COMPOUNDED FOAM

- 汽機車的座椅中，其填充物大抵為合綿，合綿品質的優劣事關駕駛人乘坐的舒適。本機係以電腦控制的方式，試驗前先量其厚度，先壓其原厚度75%，放開後再壓原厚度的25%，不動20秒後，記錄其力量，此力量即為所謂的合綿硬度。
- Inside the chairs of cars or motorcycles, the major filling is compounded foam. The quality of the foam matters the comfortability. This tester adopts the type of computer control to measure it original thickness of the foam. Compress 75% for its original thickness, release and then re-compress 25% for its original thickness and sustain for 20 seconds. After that, record its force and which is the hardness of this compounded foam.

容量	Capacity	200 kgs
馬達	Motor	伺服馬達控制系統 Servo motor control system
測試速度	Speed	0.6~600 mm/min (電腦控制 computer control)
測試空間	Test space	寬度width : 750 mm, 高度height : 540 mm
壓盤尺寸	Size of compression plate	Ø200, Ø150, 厚thickness 50 mm (鋁製aluminum)
工作檯板尺寸	Size of working table	70x70 cm, 厚thickness 15 mm (鋁製aluminum)
壓盤測試孔	Test vent of compression	Ø直徑 6 mm, 兩孔中心距 hole-center distance: 20 mm, 孔板尺寸 Vent table size: 400x400 mm
底板與工作檯板 垂直距離	Vertical dist. Between Base and working table	560 mm
測試行程	Testing stroke	390 mm
電源	Power source	1P 220 V 50 Hz /60 Hz



HT-2139 電腦伺服六軸座椅強度試驗機

COMPUTER SERVO HYDRAULIC SIX-AXIS SEAT STRENGTH TESTER

- 本機係用來測試作以各部位之強度。可個別控制各油壓缸之動作、設定各軸之荷重及測試條件。可設定初荷重,並可每支測試軸之初荷重到達時,再執行測試荷重動作。
- The machine is used for testing the seat strength at different part of seat, specially the extended seat for van or pickups. It is available to individually control the each oil pressure vat action, set up each axes loading and test condition。But set up at the beginning of loading, and can each test axes at the beginning of loading arrive time, execute test loading action again.

荷重出力	Capacity	30 kN		
油壓缸	Hydraulic cylinder	6支 pcs		
力量感應器	Load cell	六只 sets		
油壓伺服閥	Servo valve	六組 pcs		
T型槽座椅固定平台	Seat fastening bench	500 cm×200 cm, 高度200 cm height		
油壓缸上下移動距離	Vertical moving distance of cylinder	± 100 mm		
油壓缸左右移動距離	Horizontal moving distance of cylinder	± 100 mm		
油箱及伺服油壓控制系統	Power package and servo hydraulic Control system	1套 set		
T型槽座椅固定平台	Seat fastening bench	500 cm×200 cm, 高度200 cm height		
油壓缸上下移動油壓缸作動控制	Control method of hydraulic cylinder	6支油壓缸可個別控制動作 6 hydraulic cylinders can be controlled separately		
每支油壓缸出力	Capacity of each hydraulic cylinder r	30 kN		
油壓缸行程約	Stroke of hydraulic cylinder	1000 mm		
拉線式位移感應器	Encoder	6組,固定座6只 6 sets, with fasteners		
電源	Power	3Ø; 220 V / 380 V / 415 V ; 50/60 Hz		
材積	主機	Weight main body	Dimensions	695x241x274 cm
	控制箱	Control box		148x84x172 cm
	油箱	Power package		170x141x150 cm
重量	主機	Main body	Weight	18000 kg
	控制箱	Control box		200 kg
	油箱	Power package		900 kg



HT-2120 電腦伺服控制枕頭衝擊試驗機 COMPUTER SERVO HEADREST IMPACT TESTER

- 本機用於汽車座椅枕頭之動態測試（發射式或衝擊式）之試驗，可以與枕頭不同角度作衝擊試驗。
- This tester is used to conduct dynamic test (launch or impact method) upon the headrest assembly. The impact angle can be different from the angel of headrest.

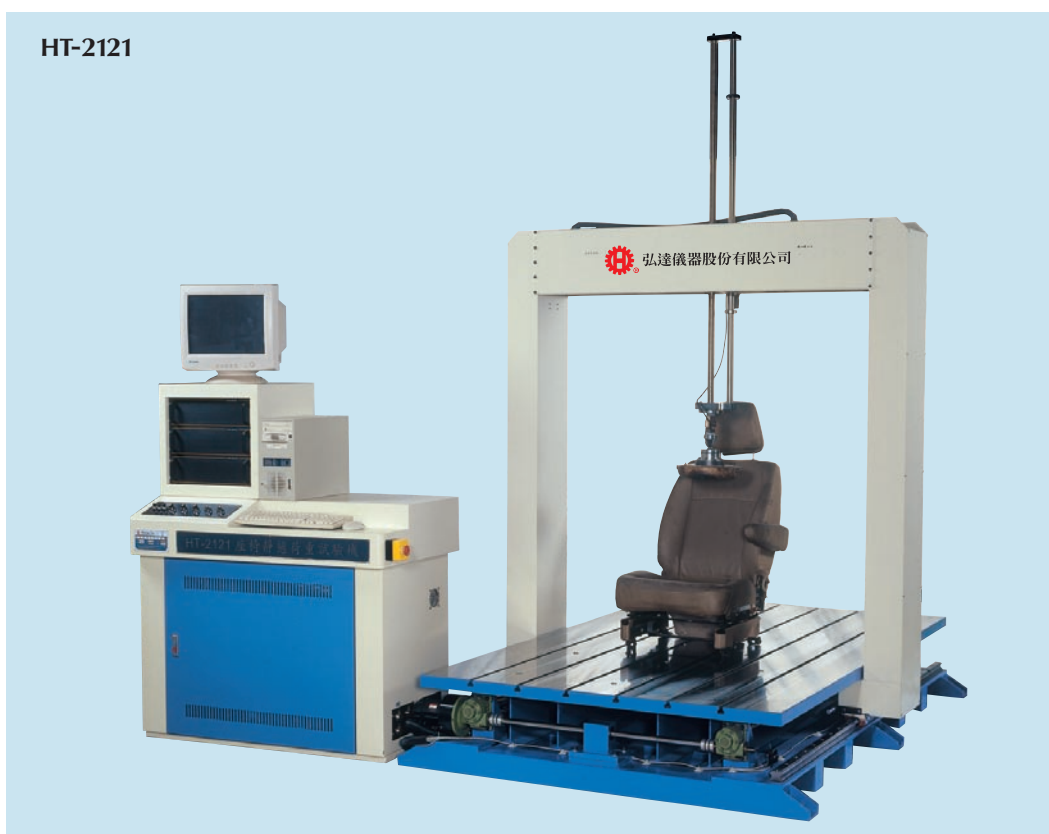
控制方式	Vibrating load	電腦系統 Computer system
測試速度	Vibration acceleration	最快 Max 30 km/hr
行程	Vibrating rotation	最大 Max.600 mm
加速度	Vibration stroke	最大 Max 30 g
衝擊角度	Testing space	(水平horizontal) $\pm 60^\circ$ (可調 adjustable)
衝擊頭尺寸	Up-down speed	R165, 6.8 kgs
平台尺寸	Power	2000×1000 mm
電源	Weight	3 phase, 380 V, 50 Hz
重量	Dimension of main frame	2000 kgs (主機 main body) · 100 kgs (控制箱 control box)
材積	Dimension	286 (W) × 150 (D) × 210 (H) cm (主機 main body) 140 (W) × 80 (D) × 149 (H) cm (控制箱 control box)



HT-2121 電腦伺服控制座椅靜態荷重試驗機 COMPUTER SERVO CONTROL SEAT STATIC LOAD TESTER

- 本機用於測試汽車座椅成型後,座面各點荷重之平均值,確保座椅乘坐時,各點壓力均勻,以達到乘坐舒適性之要求。
- This tester is used to measure the load value of each point on a seat and get an average value, in order to make sure the seat can has even load on each point so as to achieve comfortable sitting.durability test for the seat sponge of car seats.

行程	Stroke	X軸X-axis: 1000 mm Y軸Y-axis: 2000 mm Z軸Z-axis: 1200 mm
傳動方式	Driving method	AC伺服馬達+滾珠螺桿×3套 AC servo motor + ball screws × 3 sets
速度	Speed	10~1000 mm/min
譯碼器	Optical encoder	(1000P/R): 3 套 sets
荷重元	Load cell	20 kN×1 set, 1kN×1 set
電源	Power	1 phase, 220 V , 50 Hz
重量	Weight	3000 kgs (主機main body) 100 kgs (控制箱control box)
材積	Dimension	310 (W) × 194 (D) × 300 (H) cm (主機 main body) 140 (W) × 80 (D) × 149 (H) cm (控制箱 control box)



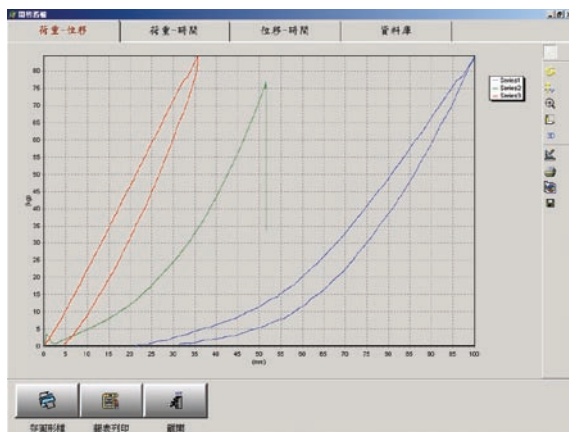
HT-2396 枕頭衝擊強度試驗機(靜態) HEADREST IMPACT TESTER (STATIC)

- 本機用於測試汽車座椅之頭枕靜強度測試。試驗時先將椅背施加一定力距,再施加一定力距於頭枕處,檢查其變形量。
- This tester is used to conduct static impact test upon head-rest of car seats. While testing, apply a force torque upon the seat back, and then apply another force upon head-rest and then measure its displacement.

工作台尺寸	Size of working table	130 x 100 cm (前後座椅測試用),離地高度 70 cm, 可調水平,T槽(M12牙),十字溝,間隔 200 x 100 cm 130 x 100 cm (used for testing front and rear seats), T slot (with M12 thread), transverse direction, distance 200 mm
試驗方式	Test method	<p>A. 與椅背垂直方向,向後施加 38 kgf-m之力距於椅背之背型盤上後,施壓螺桿停止,此位置固定不動, Step A, apply 38 kgf-m force torque backwards upon sample by its back disk at the direction vertical to the seat back, then stop the loading screw and hold at this position.</p> <p>B.再與椅背垂直方向,以$\varnothing 165$ mm 之半球型模,施加 42 kgf-m之力距於頭枕下端 65 mm處,停止。或停止後再施力直至破壞。 Step B. Then use the semi-sphere mould to apply 42 kgf-m force torque backwards upon sample at the direction vertical to the seat back at 65 mm position below the head-rest, then stop. Or, after stop, apply another force until sample breaks.</p> <p>A 至 B 自動連續一次循環,完成測試 Repeat step A and B and then test finishes.</p> <p>以上力距、角度均可依不同車種形式之規格來設定。 The above-mentioned force torque, angle can be modified as per different car types.</p>
試驗速度	Test speed	3 ~ 8 mm/sec 可設定available to preset (或指定速度 or as requested)
荷重元	Load cell	5 kN x 2 個 pcs
電源	Power	3 \varnothing , 380 V, 50 Hz or 3 \varnothing 220 V, 60 Hz
材積	Dimensions	主機 main body: 120x130x250 cm (WxDxH) 控制箱 control box: 125x65x139 cm (WxDxH)
重量	Weight	1420 kg (主機 main body) / 200 kg (控制箱 control box)

HT-2396 枕頭衝擊強度試驗機(靜態) HEADREST IMPACT TESTER (STATIC)

HT-2396



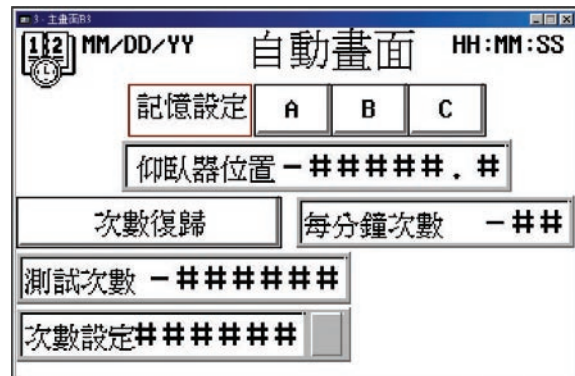
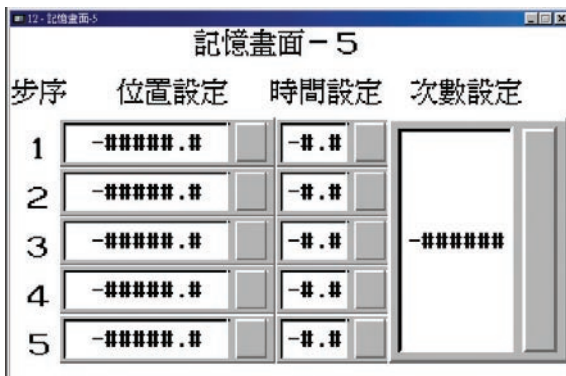
HT-2128 仰臥器耐久試驗機 RECLINER DURABILITY TESTER

- 乘坐汽車時,經常須要調整座椅之仰臥角度。本機用於汽車座椅仰臥器之耐久測試,在完成設定之作動次數後,觀察其仰臥器之磨損程度,藉以判定其品質。
- When sitting in cars, we have often to adjust the angel of seat-back in order to have the most comfortable sitting. This machine is used to conduct durability test for the reclining switch of car seats. After finishing the preset testing cycles, observe the test sample and see how it get worn out , so as to judge its quality.

工作台	Working table	120x100 cm (前座椅測試用), 離地高度 : 70 cm (底座須以鐵板密封),T槽, 橫向溝, 200 mm 間隔 120x100 cm (suitable for testing front seats), 70 cm distance from ground (base should be sealed by metal board), T slot, transverse direction, 200 mm distance
試驗方式	Testing methods	(1)椅背由最前段→最後段→設計位置為一回,共操作12,000回。 (1)Moving seat back to the front end→rear end→design position as 1 cycle. Testing cycle 12,000 cycles needed. (2)椅背由最前段→第一段LOCK位置→最前段位置為一回,共操作2,000回。 (2) Moving seat back to the front end→First LOCK position →Front end as 1 cycle. Testing 2,000 cycles needed. (3)椅背由最前段→第一段LOCK位置→最後段段位置→最前段位置為一回,共操作10,000回。 Moving seat back to the front end→first LOCK position →Rear end→Front end as 1 cycle. Testing cycle 10,000 cycles needed.
試驗速度	Test speed	1.3~1.5 m/sec (於椅背旋轉中心上方 600mm處施加)。 1.3~1.5 m/sec (apply 600 mm above the rotating center of seat back)
暫停功能	Pause function	試驗 1/3 回時,需可暫停檢查樣品 Available to pause and observe the sample at 1/3 of test
控制元件	Control method	PLC 控制器controller
電源	Power	1Ø, 220 V, 50/60 Hz
材積	Dimensions	主機main body: 119x120x175 cm (WxDxH) 控制箱 control box: 125x65x139 cm (WxDxH)
重量	Weight	600 kg (主機main body) / 200 kg (控制箱 control box)

HT-2128 仰臥器耐久試驗機
RECLINER DURABILITY TESTER

HT-2128



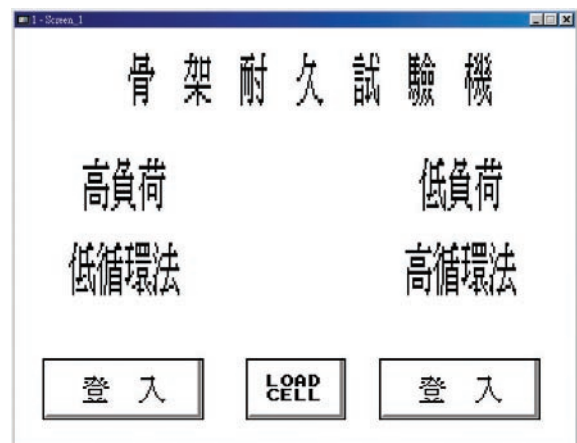
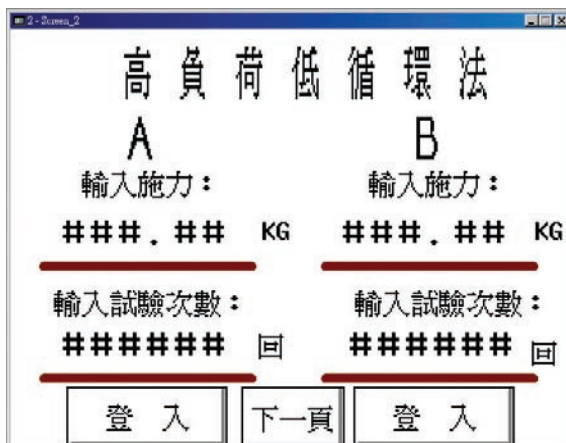
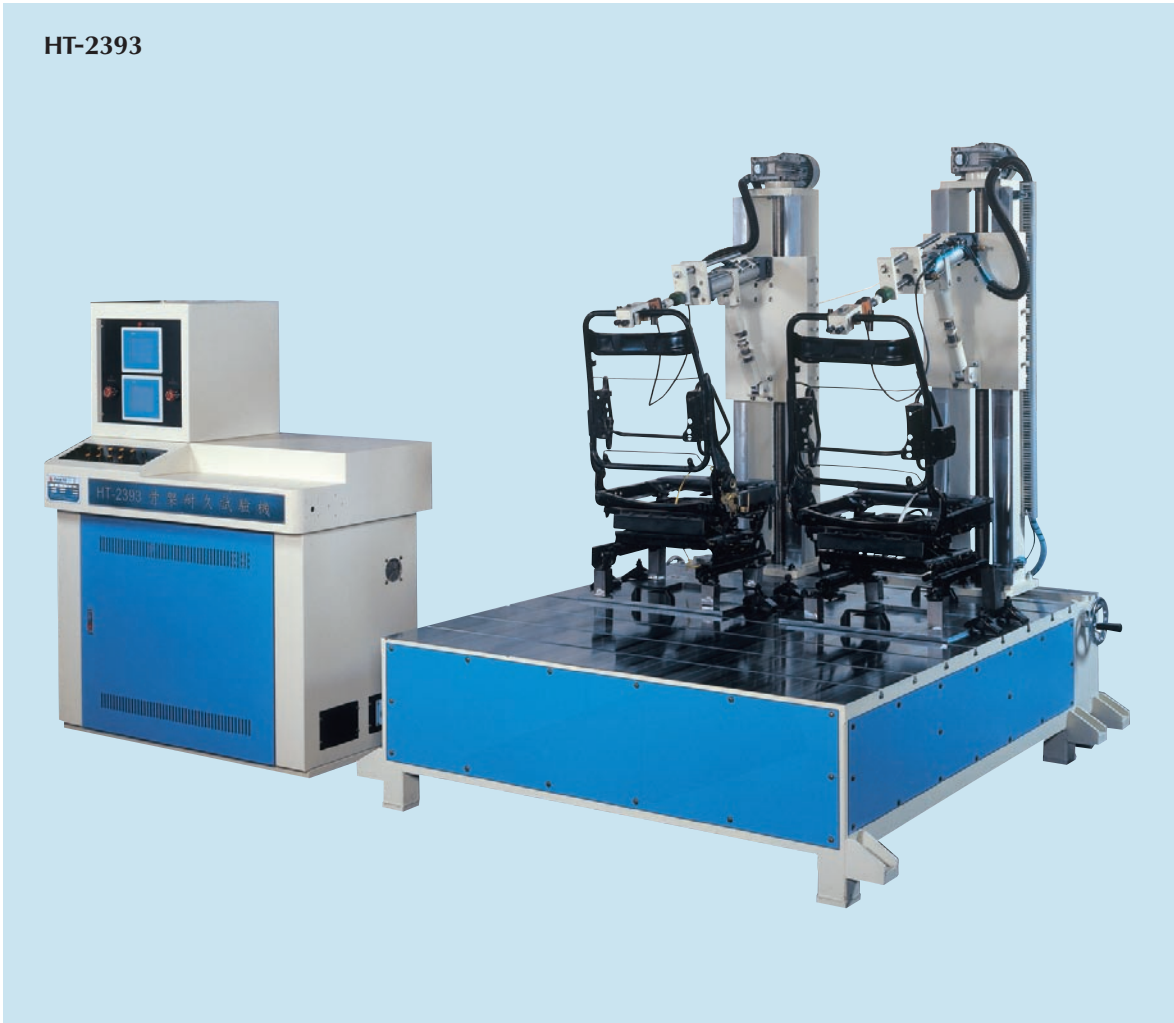
HT-2393 骨架耐久試驗機 SEAT FRAME DURABILITY TESTER

- 本機用於測試汽車座椅骨架之耐久強度。試驗時,連續向後或向前施加一定之負載,做疲勞耐久試驗。
- This machine is used to measure the durability strength of seat frame. While testing, apply a certain force forwards or backwards upon the sample. Different test methods can be preset to perform the test. After that, observe the sample to judge its quality which is a good reference for product improvements.

工作台	Working table	150x150 cm (前後座椅測試用), T槽, 橫向溝, 200 mm 間隔, 平台高度: 500 mm 內 150x150 cm (for testing front & rear seats), T slot, transverse direction, 200 mm distance, height of platform: within 500 mm
試驗方式	Testing methods	以模型施加負荷於椅墊上 Mount load on frame sample
		A法: 以水平向下30度之方向,在椅背骨架中央上方向後施加46 kgf-m (或指定)之力距,再釋放回0,此視為一回,共需 16,000 回(或指定) Method A: Apply 46 kgf-m force torque 30° downwards from horizontal line upon the frame sample at its upper point of central part, and then release to 0. This is regarded as one cycle. Total 16,000 cycles (or as requested) is needed.
		B法: 以水平向下30度之方向,在椅背骨架中央上方向後施加 53.5 kgf-m(或指定)之力距,再釋放回0,此視為一回,共需 50,000 回(或指定) Method B: Apply 53.5 kgf-m force torque 30° downwards from horizontal line upon the frame sample at its upper point of central part, and then release to 0. This is regarded as one cycle. Total 50,000 cycles (or as requested) is needed.
		C法: 以水平向下30度之方向,在椅背骨架中央上方向後施加 53.5 kgf-m (或指定)之力距,再向前施加 53.5 kgf-m 之力距,此視為一回,共需 50,000 回(或指定) Method A: Apply 53.5 kgf-m force torque 30° downwards from horizontal line upon the frame sample at its upper point of central part, and then apply 53.5 kgf-m force torque more. This is regarded as one cycle. Total 50,000 cycles (or as requested) is needed.
		A法、B法及C法須分別測定 Methods A, B and C should be tested separately.
試驗速度	Test speed	10~20 次/分 (常用 12 次/分,或指定) 10~20 times/min (normal 12 times/min, or as requested)
電源	Power	3Ø; 220 V ;60 Hz or 3Ø 220 V / 60 Hz
材積	Dimensions	主機 main body : 173x216x198 cm (WxDxH) 控制箱 control box : 125 x 65 x 139 cm (WxDxH)
重量	Weight	1800 kg (主機 main body) / 200 kg (控制箱 control box)

HT-2393 骨架耐久試驗機 SEAT FRAME DURABILITY TESTER

HT-2393



HT-2394 座椅乘降耐久試驗機

GETTING IN/OUT DURABILITY OF SEAT CUSHION TESTER

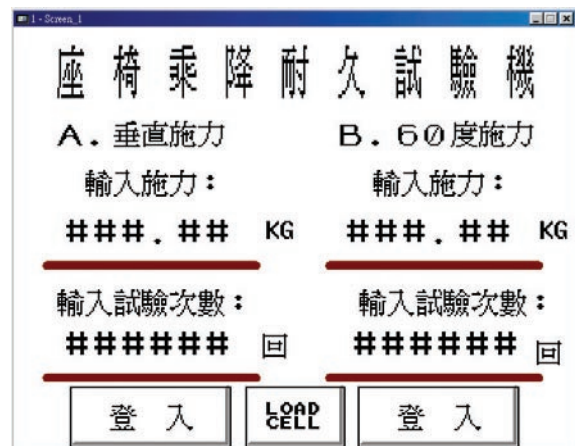
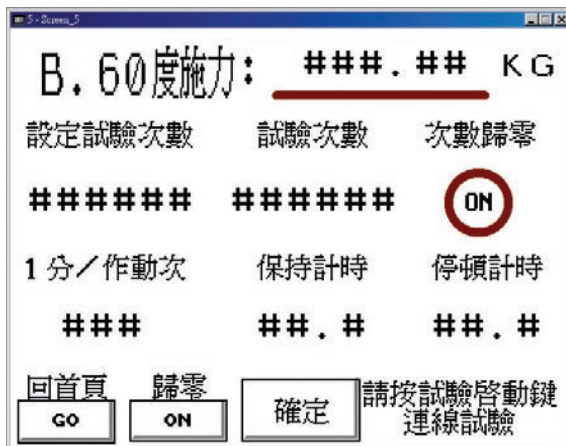
- 本機用於測試汽車座椅來回乘降之耐久強度,試驗時連續依水平或垂直或指定角度,加一定之負載,做疲勞耐久試驗。
- This machine is used to measure the durability of car seats, under continuously horizontal, vertical or a given degree, and a given load, for fatigue durability test.

工作台尺寸	Working table size	150x150 cm (前後座椅測試用) 150x150 cm (for testing front & rear seats)
工作台離地高度	Distance of working table from ground	70 cm, 可調水平 horizontal level adjustable
工作台板	Working table platform	T槽, 橫向溝, 200 mm 間隔 T slot, transverse direction, 200 mm distance
試驗方式	Testing methods	以模型接觸座墊 Put load mould on the seat cushion
		A. 垂直施力130 kg * 5000 回 Method A: Apply vertical force 130 kg for 5,000 cycles
		B. 60度施力100 kg * 10000 回 Method B: Apply 100 kg force at an angle of 60° for 10,000 cycles
		A 及 B 個別分開試驗 (採移動座椅固定位置之方式設計試驗), Method A and B should be tested separately (by changing fastening the sample)
		以上力量及回數及角度 均可依不同車種形式之規格來設定 The above-mentioned force, angle and cycle can be modified as per different car types.
試驗速度	Test speed	8 - 12 次/分 times/min (常用normal 12 次/分 times/min) 可設定 available to preset (或指定速度 or as requested)
空壓	Air source	7 kg/cm ² , 氣壓管 air pipe: 1/2" x 1條piece
電源	Power	3Ø, 380 V, 50 Hz or 3Ø 220 V, 60 Hz
材積	Dimensions	主機 main body: 117 x 200 x 210 cm (WxDxH)
控制箱	Control box	125 x 65 x 139 cm (WxDxH)
重量	Weight	1500 kg (主機 main body) / 200 kg (控制箱 control box)

HT-2394 座椅乘降耐久試驗機

GETTING IN/OUT DURABILITY OF SEAT CUSHION TESTER

HT-2394



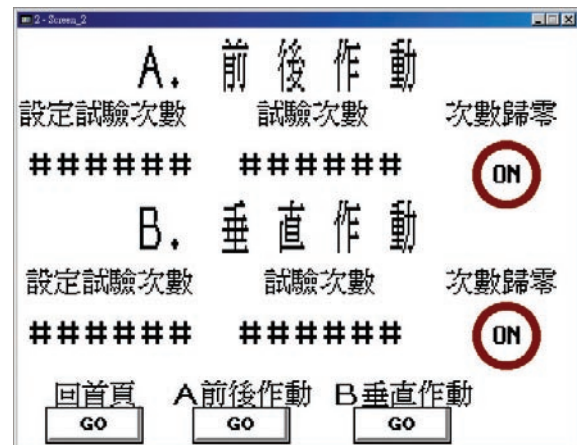
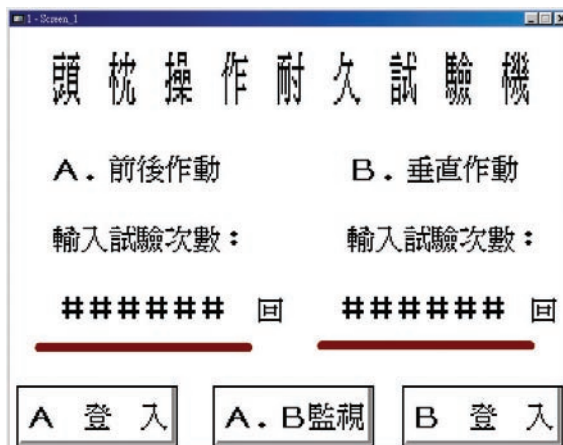
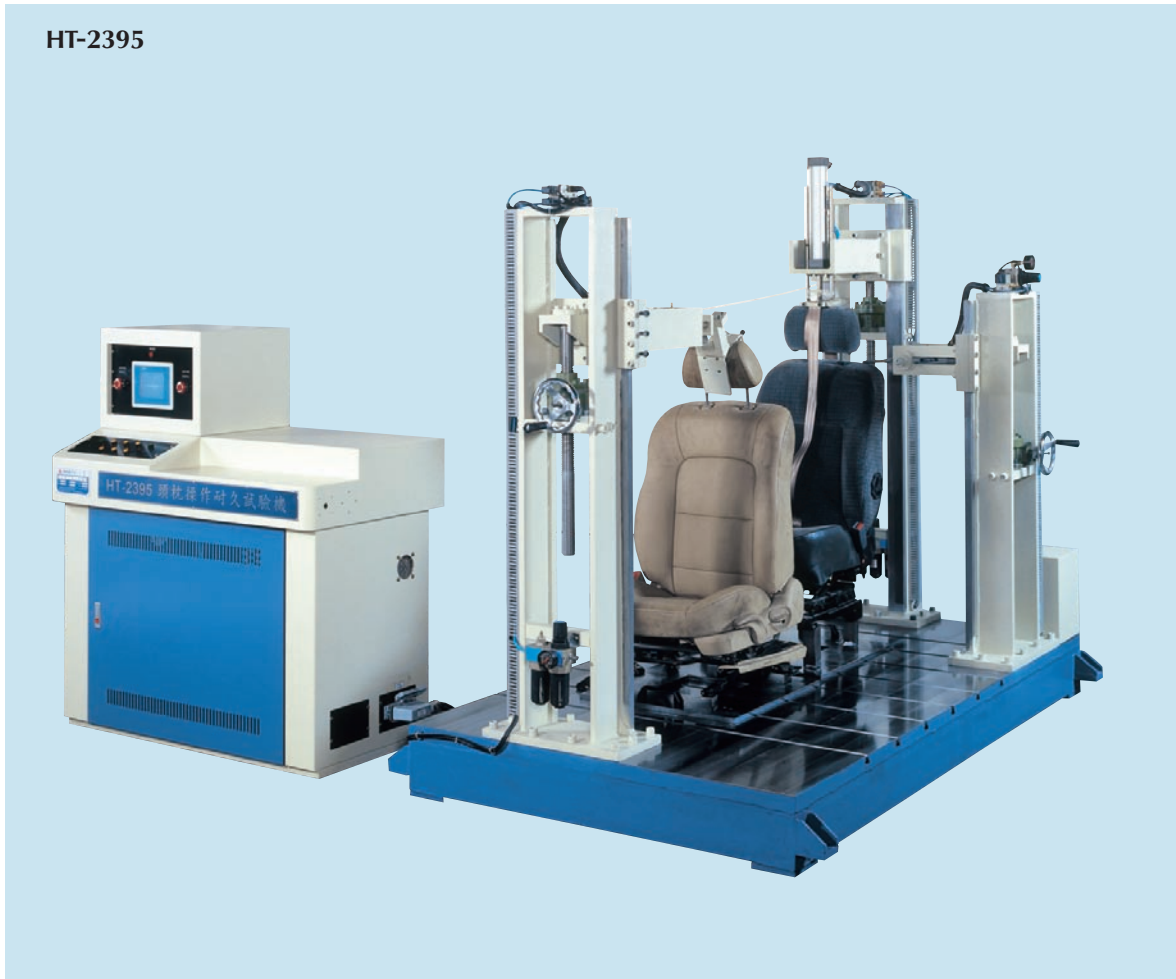
HT-2395 頭枕操作耐久試驗機 HEADREST OPERATION DURABILITY TESTER

- 本機用於測試汽車座椅之頭枕耐久強度。試驗時,將頭枕往復上下運動,或將頭枕往復前後運動,以測試其耐久特性。
- This tester is used to measure the durability character of head-rest of car seats. This machine can conduct the test of vertical movement of head-rest assembly, or push the head-rest back and forth, in order to evaluate its quality.

工作台尺寸	Size of working table	120x100 cm, T槽(M12牙), 橫向溝, 200 mm 間隔 120x100 cm, T slot (with M12 thread), transverse direction, distance 200 mm
試驗方式	Test methods	A.垂直作動: 頭枕由最低點位置至最高點位置,操作 1,000 回 (上往下動作時需壓卡筍,下往上不用壓卡筍) Method A: Vertical test: Pull head-rest from its lowest to the highest position, and then push downwards for 1,000 cycles (pressing the fix button is needed for pushing downwards)
		B.前後作動: 頭枕往前 30 度再往後 45 度,共 2,000 回 Method B: Swing test: Push head-rest 30° forward and 45° backward for 2,000 cycles
		A 及 B 個別測試 Method A and B should be tested separately 以上行程,角度及回數均可依不同車種形式之規格來設定 All above-mentioned stroke, angle and number of cycles can be determined as per different car types
試驗速度	Test speed	10-20 次/分 times/min (常用 normal 12 次/分 times/min) 可設定 available to preset (或指定速度 or as requested)
空壓	Air source	7 kg/cm ² , air pipe 3/8"x2條 pcs
電源	Power	3Ø, 380 V, 50 Hz or 3Ø 220 V, 60 Hz
材積	Dimensions	主機 main body: 146 x 237 x 185 cm (WxDxH)
控制箱	Control box	125 x 65 x 139 cm (WxDxH)
重量	Weight	2200 kg (主機main body) / 200 kg (控制箱control box)

HT-2395 頭枕操作耐久試驗機
HEADREST OPERATION DURABILITY TESTER

HT-2395



HT-2122 電腦伺服控制座椅強度試驗機 COMPUTER SERVO CONTROL SEAT STRENGTH TESTER

- 本機用於測試汽車座椅成型後及未成型前之骨架焊接點之強度及變形量。
- This tester is used to test the strength and deformation of welding points for the frame of car seats before or after forming.

容量	Capacity	20 kN (2000 kgs)
固定平台底座	Platform base	2000×1000 mm, T形槽 T-shape groove × 8 條 pcs
主體	Main frame	拉力傳動機構 Tensile-driven mechanism 滾珠螺桿 ball screw Class C8級×2支 pcs + 防塵套 anti-dust cover
定位調整	Positioning adjustment	前後位移機構 Front-rear displacement mechanism 上下位移機構 Upper-lower displacement mechanism
拉力傳動機構	Tensile-driven mechanism	AC伺服馬達驅 AC servo motor driven, 速度speed 0.5~200 mm/min
水平作	Horizontal movement	AC馬達 AC motor +減速機gear box, 速度speed Max. 200 mm/min
上升作	Ascendingl movemet	AC馬達 AC motor +減速機gear box, 速度speed Max. 500 mm/min
資料擷取系統	Data acquisition system	電腦系統軟硬體 Computer system (hardware & software)
電源	Power	1 phase, 220 V, 50 Hz
重量	Weight	3000 kgs (主機 main body) 100 kgs (控制箱 control box)
材積	Dimension	295 (W) × 156 (D) × 220 (H) cm (主機 main body) 140 (W) × 80 (D) × 149 (H) cm (控制箱 control box)

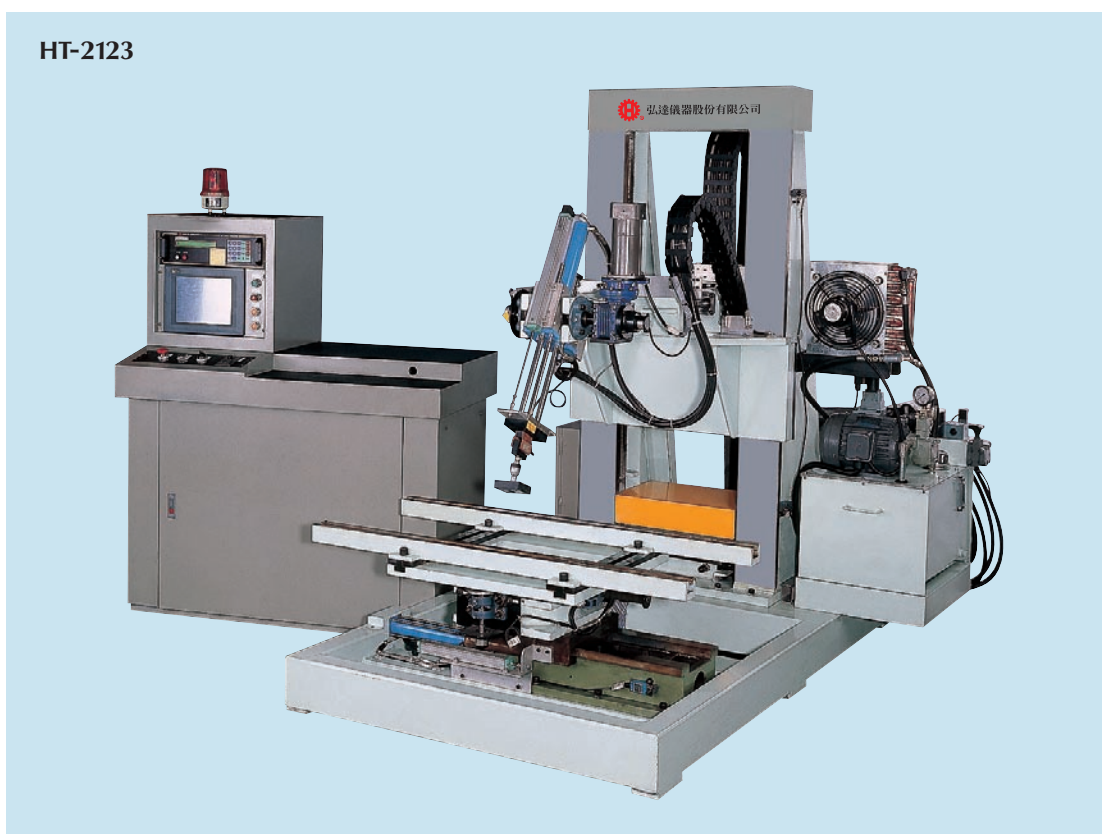


HT-2123 座椅乘降耐久試驗機

GETTING IN/OUT DURABILITY OF SEAT CUSHION TESTER

- 本機用於測試成型之汽車座椅之各項測試，藉以確保座椅之壽命。各項測試包括椅背正反面強度測試、椅背作動耐久測試、座面強度測試及座面作動耐久測試等。
- This tester is used to test various items upon formed car seats in order to ensure the lifetime of car seats. Those tests include strength test of backrest of both sides, durability test of backrest, strength test of seat and durability test of seat.

控制方式	Method of control	PLC 及人機介面 & Conversational interface
測試速度	Test speed	3Ø; 220 V ; 60 Hz or 3Ø 220 V / 60 Hz
行程	Stroke	主機 main body: 173 x 216 x 198 cm (WxDxH)
荷重	Load	125 x 65 x 139 cm (WxDxH)
控制座標	Coordinate of control	1800 kg (主機 main body) / 200 kg (控制箱 control box)
電源	Power	3 phase, 220 V / 380 V / 415 V , 50/60 Hz
重量	Weight	2000 kgs (主機 main body) / 100 kgs (控制箱 control box)
材積	Dimension	207 (W) × 140 (D) × 180 (H) cm (主機 main body) 120 (W) × 65 (D) × 129 (H) cm (控制箱 control box)



HT-2123A 座椅乘降耐久試驗機

GETTING IN/OUT DURABILITY OF SEAT CUSHION TESTER

- 本機用於測試成型之汽車座椅之各項測試,藉以確保座椅之壽命。各項測試包括椅背正反面強度測試、椅背作動耐久測試、座面強度測試及座面作動耐久測試等。此機與HT-2123機台作動方式完全不同,如再有不同測試方式,歡迎來電洽詢。
- This tester is used to test various items upon formed car seats in order to ensure the lifetime of car seats. Those tests include strength test of backrest of both sides, durability test of backrest, strength test of seat and durability test of seat. The testing method is different from the one of HT-2123. If both test methods are different from your requirements, further discussion is welcome.

控制方式	Method of control	PLC 及人機介面 & Conversational interface
測試軸數	Test axles	2
油壓缸	Hydraulic cylinder	2 sets
油壓缸行程	Stroke of hydraulic cylinder	300 mm
動作	Hydraulic test	30-50 cycles 可調整 adjustable
荷重	Loading	30-80 kgf 可調整 adjustable
測試速度	Test speed	Max. 5 cpm 可調整 adjustable
上下間距	Up/down distance	約about 600 mm
電源	Power	3 phase, 220 V / 380 V / 415 V , 50/60 Hz
材積	Dimension	100 (W) × 160 (D) × 160 (H) cm (主機 main body) 60 (W) × 60 (D) × 120 (H) cm (控制箱 control box)
重量	Weight	1200 kgs (主機 main body) 60 kgs (控制箱 control box)



HT-2124 座椅振動耐久試驗機 SEAT ASSY VIBRATION & DURABILITY TESTER

- 本機採用機械式之動作,用於測試成型汽車座椅之座面發泡棉之反覆彈性耐久測試。
- This tester adopts mechanical movement to measure the repetitious rebound resilience and durability test for the seat sponge of car seats.

頻率	Frequency	0.2~5 Hz
振幅	Amplitude	Max. 20 mm 可調 adjustable
砝碼	Load	75 kg × 2 pcs (含基重 including basic weight)
馬達	Motor	3 HP
電源	Power	3 phase, 380 V, 50 Hz, 30 A
重量	Weight	2000 kg
材積	Dimension	200 (W) × 100 (D) × 190 (H) cm / 200 kg (控制箱 control box)



HT-2125 電腦伺服油壓軸承疲勞試驗機 COMPUTER SERVO HYDRAULIC BALL JOINT FATIGUE TESTER

- 當汽車行進時，軸承承受多方向的荷重，特別是在顛簸的路面上，更是如此。所以，軸承的耐久性對其生產者，甚或汽車製造商來講，是非常重要的。因本試驗機採嚴苛之測試條件，使結果成為產品改良上不可或缺的參考依據。
- The ball joints undergo multi-functional loads while the automobile is running on the way, especially when the road surface is bumpy. Therefore, the durability of ball joints becomes an important issue for ball joint producers and car makers. This tester set a strict level of testing conditions and so the test results of this tester are highly essential information for product improvement.

下壓力量	Push down force	20 kN、50 kN，可設定 (settable)	
測試角度	Test angle	前後 Front/rear	±10°，速度 speed 60 rpm
		左右 Right/left	±20°，速度 speed 32 rpm
測試速度	Test speed	前後 Front/rear	10~70 rpm可調 (adjustable)
		左右 Right/left	10~40 rpm可調 (adjustable)
測試夾具	Test fixture	一組，距離可調 1 set, distance adjustable	
伺服油壓系統	Servo hydraulic system 1 set	(1) 伺服閥 Servo valve 1 set (3) 邦浦 Pump motor 1 set	(2) 油箱 Oil tank 1 set (4) 過濾器 Filter 1 set
荷重元容量	Load cell capacity	50 kN (5000 kgs)	
電腦系統	Computer system	1 set	



HT-2126 電腦伺服油壓扭力試驗機 COMPUTER SERVO HYDRAULIC TORQUE TESTER

- 本機可執行扳手，螺絲起子，螺絲及汽車傳動軸等之扭力強度測試，可設定定扭力，定角度，及最大破壞扭力，藉以判斷產品品質，進而作為產品改善或更新的參考。
- This tester can test the torque strength of wrench, screwdriver, screw and transmission shaft ...etc. It is available to preset the torque force, test angle and maximum break force, in order to understand the quality of your products, and which is an important reference for your product improvement or updating.

傳動方式	Method of driving	伺服馬達/伺服油壓系統 servo motor or servo hydraulic system
容量	Capacity	最大max. 100 kgf-m 或指定 or upon request
角度感應器	Angle sensor	1只 set
電腦硬體	Computer hardware	1套 set
Windows	Windows based test	可輸入試品資料，測試標準，測試日期等。 Available to input specimen information, test standard, test date...etc. information, test standard, test date...etc.
扭力測試軟體1套	Program for torque 1 set	可顯示及列印測試報表，最大扭力，最大角度，扭力-角度，扭力-時間，角度-時間等之圖形。 Available to display and print out report, max. torque, max. angle, graphs of torque-angle, torque-time, angle-time...etc.
測試治具	Test grips	1組 set
安全護網	Protection shield	1組 set
治具固定滑座	Grips fastening track	1組 set



HT-2126

HT-2127 座椅滑軌耐久試驗機 SEAT SLIDE DURABILITY TESTER

- 乘坐汽車時，經常需要移動座椅滑軌來調整腿部空間。本機用於汽車座椅滑軌之耐久測試，在完成設定之動作次數後，觀察其（座椅滑軌）磨損程度，藉以判斷其品質。
- Every time we sit on the car chair, we move the seat along the slide to adjust the space for legs. This tester is for testing the durability of car seat. After finishing the preset test cycles, observe how the seat slide is worn out in order to judge its quality.

荷重(選配)	Load (optional)	68 kg (10 kg×5 pcs, 5 kg×5 pcs 或依客戶指定 or upon request)
夾持機構	Load weight up/down mechanism	由螺桿手輪傳 方式上下調整 Driven by manual wheel and screw
測試行程	Test stroke	約about 800 mm (可調Adjustable)
驅方式	Driving method	氣壓缸及氣壓系統 air cylinder & pneumatic system
測試速度	Test speed	5-30 c.p.m.(可調Adjustable)
力量感應器	Load cell	200 kgs×1 set
線滑軌及汽缸最大推力	Linear slide & air cylinder control system	200 kgs
控制系統	Control system	PLC 及人機介面 & interface
電源	Power	1 phase, 220 V, 50/60 Hz
重量	Weight	約about 800 kgs
尺寸	Dimensions	180(W)×100(D)×120(H) cm / 200 kg (控制箱 control box)



HT-8355C 反撥彈性試驗機 VERTICAL REBOUND RESILIENCE TESTER

- 本機用於測試汽車座椅之泡棉當承受一定荷重之衝擊後之反彈高度
- This machine is used to measure the rebounded height of seat foam after undergoing a certain force of impact.

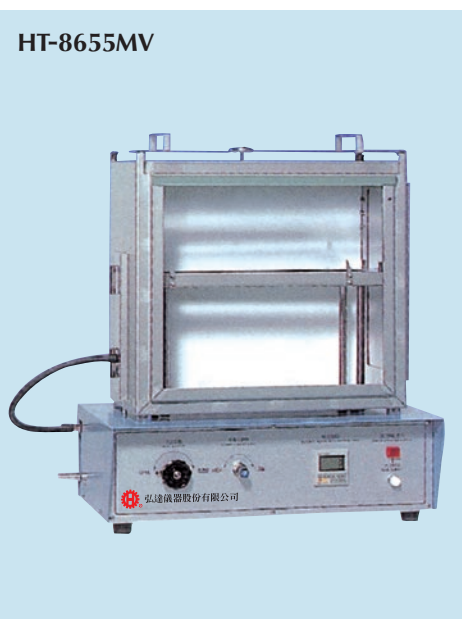
工作台	Working table	離地高度 70 cm, 可調水平 70 cm
落下高度	Falling height	460 mm
落球直徑	Diameter of falling ball	5/8 英寸 鋼球 5/8" steel ball
落下方式	Falling method	採電磁式設計 magnetic design 落球導管 Guide of falling ball 透明壓克力管 transparent acry tube (內徑 inner diameter 40 mm, 厚 2 mm thick)
感應器高度	Height of sensor	0 — 460 mm 手動/可調 manual / adjustable
電源	Power	1Ø ; 220 V ; 50 Hz ; 0.5 A
材積	Dimensions	51 (W) x 62 (D) x 132 (H) cm
重量	Weight	80 kg



HT-8655MV 車輛內裝材料耐燃燒試驗機 CAR INTERIOR MATERIAL FLAME TESTER

- 本機依CNS 13387 D3195設計製作，可適用於客車、貨車、客貨兩用車、代用客車及特種車等車輛之內裝材料的耐燃燒試驗。
- This tester is designed and manufactured to conduct flame testing for interior materials of vehicles like passenger cars, trucks, multi-purpose and other special vehicles.

內箱尺寸	Chamber size	380 (W) × 205(D) × 355(H) mm
計時器	Timer	數字顯示，精度 0.1 秒 Digital display, accuracy 0.1 sec
火焰高度	Height of flame	可調 adjustable，標準為 38 mm
管口內徑	Inner size of pipe end	Ø9.5 mm
通風口	Ventilating hole	Ø13 mm
對流孔	Circulating hole	Ø19 mm
耐熱金屬線	Heat-resistant metal wire	Ø0.25 mm
U型鐵架	U-shape metal frame	2 sets
視窗	Window	耐熱玻璃heat-resistant glass
碼表	Meter	1 set
電源	Power	1 phase, 110/220 V, 50/60 Hz
重量	Weight	20 kg
材積	Dimensions	60(W) × 30(D) × 60(H) cm



HT-2397 升降機構耐久試驗機 LIFTING MECHANISM DURABILITY TESTER

- 本機用於測試汽車座椅之升降機構耐久強度試驗。
- This tester is used to conduct durability test for the lifting mechanism assembly of car seats.

工作台尺寸	Working table size	100 x 150 cm (手動式前座椅測試用) 100 x 150 cm (suitable for testing manual front seats)
工作台離地高度	Distance of working table from ground	70 cm, 可調水平 horizontal level adjustable
工作台板	Working table platform	T槽(M12牙), 橫向溝, 200 mm 間隔 T slot (with M12 thread), transverse direction, 200 mm distance
試驗方式	Testing method	A. 前升降器: 單獨上下作動 B. 前升降器上→後升降器上→後升降器下→前升降器下 B. Front lifter UP→rear lifter UP→rear lifter DOWN→front lifter DOWN A及 B 二種方式個別作實驗 Type A and B tested individually C. 壓動式機構採用氣壓作動試驗 C. Pushing mechanism driven by pneumatic source 以上行程及次數均可依不同車種形式之規格來設定 All above stroke and cycle can be preset as per different car types
空壓	Air source	6 kg/cm ² , 氣管 air pipe 1/2" x 1條 piece
電源	Power	1Ø, 220 V, 50/60 Hz
材積	Dimensions	115 x 122 x 70 cm (WxDxH)
重量	Weight	450 kg

HT-2397



HT-8759 油封試驗機 BEARING OIL SEAL TESTER

- 本機係用測試油封在各種溫度與轉速下，是否老化、劣化或損壞，造成漏油現象，來判定油封的品質，作為製程或品管上的參考。
- Bearing oil seal tester is designed for the testing of various load of springs, bearings, under the condition of continuous running, set different temperature and revolving speed to test durability and tightness of products.

依據標準	Standard	Conform to CNS B2702, JIS B2402-1976
試件範圍	Range of specimen	培林直徑 20~120 mm diameter of bearing 20-120 m/m
速度範圍	Range of speed	0~4000 rpm (可調 Adjustable)
溫度範圍	Range of temperature	Rt~+200°C
時間控制	Timing control	0~24 hr 小時，可循環控制 cyclic control
油品種類	Type of oil	符合 Conform to JIS K2216
迴轉軸材料	Raw material of revolving axle	S-45, 硬度 Hardness HRC40
馬力	Horse power	3 HP
電源	Weight	450 kgs
材積	Dimensions	97(W)x72(D)x170(H) cm

註：本機可依不同需求及時間控制條件加以設定。

Note: This machine is available to be set according to different requirements and macro-timing control system.

HT-8759



HT-9726 電腦伺服馬達控制扭力試驗機 COMPUTER SERVO MOTOR TORQUE TESTER

- 本機適用於金屬、複合材料、高爾夫球桿、網（羽）球拍等之最大扭力測試，並可記錄測試之變化圖形，以利材料之扭斷分析，並進一步提供產品改進之參考。
- This tester is used for measuring the maximum torque force for the materials of metal, polymer, the products of golf shaft, tennis (badminton) racket, and available to record the test graph in order to analyze the torque resistance of material, and so as to be a good reference for product improvement.

容量	Capacity	50 kgf-m
速度	Test speed	10° / sec
夾持範圍	Clamping range	MAX. 20 mm
測試距離	Test distance	500 mm (可調Adjustable)
軟體功能	Software available to display	扭力-角度 Torque-Angle 扭力-時間 Torque-Time 角度-時間 Angle-Time
電腦硬體	Computer hardware	依訂購時機而定 Up to timing of order
電源	Power	3Ø, 220 / 380 / 415 V, 50/60 Hz
重量	Weight	450 kg
主機尺寸	Dimension of main frame	300 (W) × 75 (D) × 150 (H) cm



HT-9311PC 電腦式捲收器捲收力試驗機 COMPUTER TYPE RETRACTIVE FORCE TESTER

- 本機係依標準製作CNS 4119，並參考JIS4604-1988, FMVSS No. 207, ECE No. 16-04, ADR 4100...等相關標準。本機係用在汽車安全帶之捲收器，其拉出力及捲收力之測試，以檢驗捲收器之品質，判定捲收器之允收標準。
- The design and test method is as per the norm of CNS 4119, and refer to JIS4604-1988, FMVSS No. 207, ECE No. 16-04, ADR 4100...etc. This applies pullout and retractive force on the retractor of the webbing of car seat in order to inspect its quality.

施力角度	Applying angle	45°
容量	Capacity	20 kgs
測試速度	Test speed	50-800 mm/min
測試行程	Test stroke	1850 mm
驅動方式	Method of driving	馬達帶動螺桿 Screw driven by motor
馬達	Motor	90 Watt, AC
電源	Power	1 phase, 220 V, 50/60 Hz
重量	Weight	Approx 約150 kgs
材積	Dimension	200 (W) × 60 (D) × 195 (H) cm

註：夾具可依客戶試片製作 Note: Grips can be made as per customer's specimen



HT-9316 捲收器耐塵試驗機 DUST RETRACTOR TESTER

- 耐塵試驗裝置之漏斗部內放入0.9kg所規定之 CNS噴砂，將捲收器置於棚架上，並將織帶之一部分以往復用固定器夾住後，拉出至試驗裝置內最上部。完成上述之準備工作後，經由直徑 $1.5 \pm 0.1\text{mm}$ 之孔口，每隔20分鐘以 $550 \pm 50\text{kPa}$ { $5.6 \pm 0.6 \text{ kgf /cm}^2$ } 之壓力，吹入油分及濕分均少之壓縮空氣於裝置內5秒鐘，使噴砂散飛，立即將織帶拉出300 mm以上，復予捲收。將此操作以每分鐘5次之速度施行2分鐘後，使織帶回復於最初位置休息18分鐘。將此操作反覆連續5小時之後，用手施行織帶全長之拉出及捲收動作各25次，以檢查動作狀態。
- This tester is to test the characteristics of fatigue resistance of belt under a dusty circumstance by repeatedly pulling out and retracted back. After test procedures (described below), manually pull out and retract back the webbing for 25 cycles to check if the retractor is still functional.



測試流程	Test procedures	1	噴砂 5 秒 spray standard sand for 5 seconds.
		2	拉出織帶 300 mm以上，以速度 5 次/分，施行 2 分鐘 Pull out webbing for over 300 mm by the speed of 5 cpm for 2 minutes
		3	停止 18 分鐘後再重覆 1、2、3之步驟，共進行 5 小時 Stay still for 18 minutes and repeat step 1, 2 & 3 for total 5 hours.

驅動方式	Tensile driven by	氣壓缸pneumatic cylinder×1 set
捲收固定夾具	Retractor fixing grips	1 set
測試速度	Testing speed	可調 adjustable
測試長度	Testing length	可調 adjustable
計時器	Timer	3 sets
自動/手動控制	Auto/manual control	可切換 interchangeable
六位數計數器	6-Digit counter	1 set
測試用砂	Testing powder	1 unit
室內燈	Indoor lamp	1 set
視窗	Viewing window	1 set

HT-9313 安全帶緊急自鎖試驗機 EMERGENCY AUTOMATIC LOCKING TESTER

- 本機可在50毫秒內產生一特定加速度，用以測定捲收器品質是否良好。
- This tester can generate an acceleration of the certain level within 50 mini-seconds in order to test if the retractor is of good quality.

測試方式	Type of test	織帶感應方式 Webbing sensing
測試範圍	Testing range	緊急鎖定試驗：將捲收器安裝具有在50 ms以內，能分別達到 2.94 m/s^2 {0.3G}、 6.86 m/s^2 {0.7G}、 14.7 m/s^2 {1.5G} 及 19.6 m/s^2 {2.0G} 等之要求
織帶感應方式	Webbing sensing method	捲收器之安裝角度為捲收軸對水平面成 0° 、 45° 、 90° 、 135° 及 180° retracting axle to horizontal level at 0° , 45° , 90° , 135° & 180°
織帶位置	Location of webbing	加速方向為織帶之拉出方向 Direction of acceleration: Pull out direction of webbings 應在有效長度捲收 25%之內 should be within 25% of its effective length
織帶感應試驗	Installing angle of retractor	捲收器之安裝角度為車輛之標準安裝角 standard angle of automobile 加速方向為織帶之拉出方向 Direction of acceleration: Pull out direction of webbings
裝車角度	Testing angle	$\pm 35^\circ$
氣壓缸	Air cylinder	1 set
行程	Stroke	100 mm
蓄壓器	Pressure accumulator	1 set
自鎖距離顯示	Display of locking distance	自鎖長度指示尺一組 distance ruler 1 set
選配項目	Optional items	電腦硬體一套 computer hardware 1 set G值感應器一組 G value sensor 1 set 鎖定感應器一套 Locking sensor 1 set 測試專用軟體一套 exclusive test program 1 set



HT-9314 捲收器耐久試驗機 RETRACTOR DURABILITY TESTER

- 本機以拉出及捲收之反覆操作試驗的方式，來測定捲收器之耐久性。將織帶完全自捲收器拉出，施予織帶90N {9kgf} 拉力，再使織帶全部捲收作為1循環。以每分鐘30循環以下之反覆速度，施行2,500循環之反覆操作後，檢查動作狀態。
- This tester is used to test the durability of retractor by making webbing pull out and retract back repeatedly. Pull out all webbing length and then apply the tensile force of 90N (9kgf). Then release it to retract back all the webbing and which is regarded as one cycle. Apply this test for 2,500 cycles by the speed of 30cycles per minute, and check test status.

拉出力	Pullout force	90 N
測試速度	Test speed	30 cycles/min (可調 adjustable)
測試循環	Test cycles	2500 cycles
測試行程	Test strok	約about 1000mm
試片數	Testing specimen	2 sets
驅動及控制方式	Driven and controlled by	氣壓缸 pneumatic cylinder × 2 sets
自動/手動控制	Auto/manual control	可替換 interchangeable
六位數計數器	Counter 6 digits	2 sets
緊急自鎖計數器	Self-lock counter	2 sets
拉伸距離	Tensile distance	可設定 Available to preset



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

- 本機係用於測試各種工業材料及製品之耐光/耐候，所使用的氙弧燈為長壽命、高效率型。
- This tester is used for testing the fade/weather resistance of various industrial materials or products. The light source of Xenon Arc is with long life and high efficiency.

特點 FEATURES

1. 目前所有模擬光源中最近似太陽光。
 2. 可連續長時間、高效率點燈。
 3. 將波長過短之紫外線過濾，以防止試片再老化。
 4. 安全便捷的長時間測試。
 5. 可選擇做耐光或耐候試驗。
1. Among all imitated light sources, Xenon Arc is the closest one to the sun light.
 2. Available to have high efficiency lighting under a long time.
 3. Filter the UV light out whose wavelength is too short, preventing test sample from being re-aged.
 4. Safe, prompt and convenient long-time test.
 5. Available to select Fade or Weather test.

規格 SPECIFICATION

型式 Type	A	B
光源 Light source	Xenon Arc	
黑球溫度範圍 Digital B.P.T.	Constantly $63 \pm 3^\circ$ $83 \pm 3^\circ\text{C}$ auto matically	
溫度範圍 Temperature range	$Rt+10^\circ\text{C} \sim 85^\circ\text{C}$	
溼度範圍 Humidity range	30% RH ~ 85% RH	
試片數 Number of specimen	76 pcs	
弧燈壽命 Lamp life	Above 2000 hr	
電源 Power source	$3\phi, 220 / 380 / 415 \text{ V}$	
冷卻方式 Cooling method	Air cooling	
過濾玻璃 Filter glass	BORO/SODA LIME	
氙弧燈 Xenon arc	2500W, 3500W, 4500W	
試片轉架 Specimen drum	508 mm	960 mm
轉架速度 Drum rotation speed	3 rpm	1 rpm
內徑 Inside dimension	700 x	1100 x
	700 x	1100 x
	900 mm	1100 mm

T-2451A



HT-2145A 冷熱衝擊試驗機

THERMAL SHOCK TESTING CHAMBER

- 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			+80° C ~ +200° 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	1 1/2 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

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

T-2145A



HT-9315 帶扣耐久試驗機 BUCKLE DURABILITY TESTER

- 依CNS 3973測試標準製造，以測試帶扣之耐久性。本機台可執行側壓及正壓式帶扣，藉以明瞭帶扣之疲勞耐久性。耐久性試驗：將帶扣與正常使用狀態相同方法，作5000次之扣合、開脫試驗，以檢查帶扣有無損傷或磨耗等現象。
- This tester is used to determine the durability of buckle for its front-press or lateral-press buckles. After testing for 5000 cycles of test, inspect the buckle if it is injured or worn.

驅動方式	Driving system	氣壓缸 pneumatic cylinder x 2 sets
自動/手動控制	Auto/manual control	可切換 interchangeable
測試速度	Test speed	可調 adjustable
測試方式	Testing method	垂直及水平 vertical & horizontal
試片數	Testing specimen	2 sets
測試夾具	Testing grips	8 sets
六位數計數器	Counter 6 digits	1 set



HT-2138 赤外線照射加熱變形試驗機(熱線試驗) INFRARED TESTING CHAMBER

- 本機係用來模擬皮革、皮椅及汽車內裝材料,在經太陽光紅外線的照射下,材料產生質變的程度,藉以作為材料分析與品質改善的參考。
- The machine is used to measure how materials get quality deteriorates under the infrared light of sunshine. This could be a good reference for your material analysis or quality improvement. The materials applicable to this machine can be leather, car seats or interior materials of automobiles.

乾燥空間	Chamber space	150 (W) x 230 (H) x 150 (D) cm
溫度範圍	Range of temperature	Rt+10° C ~ 120° C (物體表面溫度specimen surface temperature)
空間溫度	Space temperature	Rt+10° C ~ 100° C
使用材質	Material adopted	內箱:採用SUS#304 耐熱耐寒不鏽鋼板 Chamber Inside: SUS#304 heat-proof cold-resistant stainless steel plate
		外箱:採用SUS#304高張力不鏽鋼板,經霧面條紋處理 Chamber outside: SUS#304 high tension stainless steel plate, with fog-stripe treatment
		安全門: 67×170 cm 附多層式真空強化玻璃觀測窗 (40×20 cm) Exit: 67x170 cm, with multi-layer vacuum reinforced glass window for observation (40x20 cm)
		試驗台:不鏽鋼試驗架 Testing desk: stainless steel platform
		機台底部:不鏽鋼加工補強 Base of chamber: reinforced with stainless steel
感應方式	Sensor	保溫材質:進口高強度陶磁纖維絕緣材料 Material of heat insulation: High intensity ceramic-fiber insulation materials
		物體表面溫度量測法以T TYPE面積式幅射吸熱法專用SENSOR T type sensor is adopted to measure the surface temperature of object
溫度分佈均勻度	Uniformity of temperature	相同材質及相同顏色之溫差 ±2° C ±2° C for the same material and same color
加熱系統	Heating system	歐洲規格赤外線燈泡 220/250 W × 42只 European made infrared bulb 220/250 W × 42 pcs
光源	Light source	赤外線燈泡散熱系統可連續長時間照射鎢絲不熔斷 Cooling system for infrared bulb, can last continuously for a long time without burning tungsten
光源最大調整角度	Maximum adjusting angle of light source	45°
控制系統	Control system	觸摸式微電腦R.K.CF-9溫度控制器雙輸出式(4-20 MA)觸發SCR及HONEYWELL散熱風門並以面積式專用T TYPE SENSOR 量測溫度(各物體因材質吸熱程度不一樣難取得相同溫度值) micro-computer touch-panel type temperature controller
觀測窗	Observing window	雙層式強化玻璃 200×400 mmwith double-layer reinforced glass 200x400 mm
測試台	Test bench	可調整高度之置物架(螺桿調整式) with height adjustable object rack (Screw-adjusting type)
六點顯示	Six-dot display	物體表面溫度可由六點顯示器顯示 object surface temperature can be displayed by six-points indicator
		六點列點式以不同顏色區分 6-point display for different color 可直接顯示六點溫度並可記錄時間,日期及造字 Can directly display 6-point temperatures and can record time, date and wording
電源	Power	1Ø, 220 V, 50/60 Hz
外箱尺寸	Dimensions	(約about) 162(W)×275(H)×162(D) cm
重量	Weight	約 400 kg

HT-2138 赤外線照射加熱變形試驗機(熱線試驗) INFRARED TESTING CHAMBER

HT-2138



HT-9312 織帶耐磨試驗機 WEBBING ABRASION TESTER

- 本機係使織帶在六角棒上之兩稜角上往復磨擦，藉以判定織帶之耐磨。
- This machine is to test the webbing on two angular corners of a hexagonal rod, in order to determine the quality of the webbings.

荷重	Load	2.3±0.05 kg
六角棒	Testing hex rod	6.35±0.03 mm, Radius 0.5±0.1 mm
測試速度	Testing speed	30±1 times/min
測試行程	Test stroke	300±30 mm
控制方式	Control method	DC 馬達控制系統 DC motor control system
測試試片	Test specimen	可同時測試三組試片 Available to test 3 specimens simultaneously
計數器	Counter	六位數 6 Digits×1 set
測試滾輪	Rotation drum	Ø400 mm.
磨擦角度	Rubbing angle	85±2°
轉速表	Rpm meter	1 set

HT-9312





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Note: The specifications are subject to change without notice.