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# Customer Satisfaction Quality Satisfaction Thorough Follow-up Management

# Greetings

We would like to sincerely appreciate our clients' loyalty to MS Tech.

Established in 2002, we are specialized in test equipment, designing and manufacturing the test machine to meet the standards of ISO9000, ISO1400, JIG and KS in metal materials, rubber, plastic, construction material, electricity and electronics, automobile durable industry tester, chemical related field.

Based on our outstanding technology and thorough quality control we are doing our best to produce the test equipment which has been heavily relied on expensive foreign manufacturer, due to distrust and prejudice against domestic test equipment make. We are proud of our products whose quality is never behind that of other competitors,

In 2012, we expanded our business area into processing and testing test specimens to obtain various machine and testing equipment and, based on our best technology and abundant knowledge, perform mechanical test, analysis test, tissue test, and c orrosion test in mechanics field. For more reliable reputation of a testing organization, We have been acknowledged by Korea Laboratory Accreditation Scheme (KOLAS) as an "internationally recognized testing institution" in 2014.

We promise to continually research and develop our products, striving to 'inspire clients'.

Thank you and we wish you a prosperous future.

- All employees of MS Tech Co., Ltd. -



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Testing Solution Provider- MS — tech Testing Solution Provider- MS tech http://www.mstech114.com

## MECHANICAL TESTING SERVICES

## MECHANICAL TESTING SERVICES

# **Universal Testing Machine**

## Test Items

- Tensile test
- Tensile strength, elongation, yield strength (0.02% to 2%)
- · Compression test, bend test, flat test, widening test,

## Test standards

- KS B 0802, KS B 0804, KS B 0832, KS B 0833
- ISO 6892-1, ISO 4136, ISO 5173, ISO 7438
- ASTM A370, ASTM E8, ASTM E190, ASTM E290
- ASME SEC IX. QW150, ASME SEC IX. QW160
- ASME SEC II-A SA370
- JIS Z 2241, JIS Z 3121, JIS Z 2248, JIS Z 3122

## Capability

• Manufacturer : Shimazu • Equipment capability : Max, 1000 kN



# **High Temperature Tensile Tester**

## Test Items

- High temperature tensile test Tensile strength, elongation, yield strength (0.02% to 2%)
- Test standards
  - KS D 0026
  - ASTM E21

#### Capability

- Manufacturer : Shimazu
- Equipment capability
- Max, 100 kN
- Temperature : Max. 1200 °C



## **Charphy Impact Tester**

## Test Items

- Impact absorbed energy
- · Lateral expansion, Percent shear fracture

#### Test standards

- KSB 0810
- ASME SEC IX. QW170
- ISO 148-1
- ASME SEC II—A SA370
- ASTM A370, ASTM E23 • JIS Z 2242

## Capability

- Impact test (R.T to -196 °C)



# **Rockwell Hardness**



## Test Items

Rockwell hardness
 Surface hardness

JIS Z 2245

#### Test standards

- KS B 0806 ASME SEC II
- ISO 6508-1
- ASTM A370, ASTM E18

## Capability

- Scale : B, C
- reference load: 10 kgf
- test load: 60, 100 150 kgf

# **Brinell Hardness**



#### Test Items

- Brinell hardness
- Test standards

  - KS B 0805
    - ASTM A370, ASTM E10 • ISO 6506-1
  - ASME SEC II JIS Z 2243
- Capability
  - test load 500 kgf  $\sim$  3000kgf

# **Vickers Hardness**



#### Test Items

- Vickers hardness Plating layer hardness Surface hardness
- Effective hardened layer depth
   Hardness of weld

## Test standards

- KS B 0811 ISO 6507-1 ASTM E384
- JIS Z 2244

## Capability

- Measuring load : 1 kg  $\sim$  50 kg Resolution : 0.1  $\mu$ m
- · Automatic measuring system

## Non Destructive Testing Services / Metal Structures Testing Services

## **Corrosion Testing Services**

# **Non Destructive Testing Services**



## Test Items

- 2D CT analysis 3D CT analysis Tomography
- · Auto Parts / Casting / Die Casting

#### Test standards

• No special regulations (subject to customer requirements)

## Capability

- Daul(240kv) type
- Maximum scan size (300mm x 300mm)
- Internal Bubble Automatic Rating Tool

# **Inverted Metallurgical Microscope**



#### Test Items

- Microstructure
- Ferrite content, crystal grain size
- Banding microstructure test
- Graphite crystallization rate

## Test standards

- KS D 0246
   ASTM A262, ASTM A923
   ASTM B504
- ASTM B487
   ASTM E407, ASTM E562
   ASTM E1268
- ASTM E112, ASTM E45 ISO 1463

## Capability

• Manufacturer : NIKON • Measurement scale :  $50 \sim 1000 \, (x50 \sim x1000)$ 

# Stereo Zoom Scope



## Test Items

· Macro-structure, surface observation

### Test standards

- KS D 0246 ASTM A262 ASTM G48 ASTM E340
- ASTM A923

## Capability

Manufacturer: Huvitz

# **Corrosion Testing**



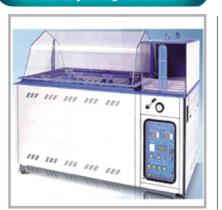
#### Test Items

- Intergranular corrosion test Ferric Chloride Corrosion Test
- Test standards
  - KS D 0201 ASTM A262 ASTM G28
  - ASTM A923 ASTM A90 / A90M ASTM G48
  - ISO 3651-2

## Capability

- · Manufacturer : MS tech
- 1/2 HP

## Salt Spray Tester



## Test Items

• Salt spray test - Metal, organic coating

## Test standards

- KS D 9502 ASTM E
  - ASTM B117
     ISO 9227
- MIL-STD-810F,G

## Capability

- Manufacturer : MS tech WATER SPRAY TYPE
- Temperature range 35 °C

# **Chemical Composition Analysis Services**

#### [Spark Emission Spectrometer]



#### Test Items

- Chemical composition analysis (dry)
- C, Si, Mn, P, S, etc. (30 elements)

#### Test standards

- KS D 1652, KS M 0028
  - 0028 ASTM A751, ASTM E415
- ASTM E1251
   ASTM E1086

## Capability

- 50 Channels
- Fe base, Ni base, Cu base, Al base, Sn base, Pd base

## **Universal Testing Machine**

## **Universal Testing Machine**

# **Mechanical Universal Testing Machine**



Controlled by AC SERVOMOTOR drive method COMPUTER control and panel manual control mode operable, and test load and distance detection are tested by precision LOAD CELL and encoder (Lineargauge).

It is a device that can perform tensile, compression, and bending tests of all kinds of materials such as metals, nonmetals, rubber, fibers, plastics, etc. All driving operations use remote control and keyboard.

#### Specifications

Model	MSTSUT- 100	MSTSUT- 200	MSTSUT- 500	MSTSUT- 1000	MSTSUT- 2000	MSTSUT- 5000	MSTSUT- 10000	MSTSUT- 20000	MSTSUT- 30000	MSTSUT- 50000
Max Capacity	100Kg,f	200Kg,f	500Kg,f	1000Kg.f	2000Kg,f	5000Kg,f	10000Kg.f	20000Kg,f	30000Kg,f	50000Kg,f
Max Capacity					Min S	Scale				
Accuracy			0.01~600mm/min			0.01~300mm/min				
Cross-Head				Min Scale						
Speed Control		Load Cell								
Indicator	Load & Elongation Indicator									
Accuracy		0.5%								
Motor Capacity	0.2	²Kw	200Kg,f 500Kg,f 1000Kg,f		2000Kg,f	5000Kg,f	10000Kg,f			
AC Servo Motor				MITSUBISHI(JAPAN)						
Load Cell		BONGSHIN(KOREA)								
Screw		Ball Screw, SKF(JAPAN)								
Dimension		770W	X 560D X 170	0(mm)		1000W	X 640D X 170	00(mm)	1300W X 700	D X 1200(mm)
Weight			500kg			700kg	1000kg	1800kg	2200kg	3000kg

# **Charphy Impact Tester**



This is a hydraulic universal material tester beyond the conventional analog method and adopts a load detection sensorhigh precision LOAD CELL or PRESSURE TRANSDUCER to digitally display the test load value and displacement; and it is also equipped with the computer to identify the test progress, analyze input and output data for efficient test and data management.

#### Specifications

MODEL	MSTUT-20T	MSTUT-30T	MSTUT-50T	MSTUT-100T	MSTUT -200T
FORM	HYDRAULIC SERVO OPERATION WITH COMPUTER CONTRO			OL TYPE	
MAXIMUM CAPACITY	30Ton	30Ton	50Ton	100Ton	200Ton
RESOLUTION	1	/4,0001/5,00	01/6,0001/10	,000	
MINIMUM SCALE	1kg	5kg	5kg	10kg	20kg
DISPLAY		LEC	DIGITAL DISP	LAY	
LOAD SENSOR		LOAD CELL	OR PRESSURE	TRANSDUCER	
LOAD VALVE		LOAI	D CONTROL VA	ALVE	
TENSILE TEST INTERVAL	600mm	600mm	700mm	700mm	800mm
ROUND BAR	8~20~30	8~25~40	8~25~60	8~40~70	10~40~80
A FLAT PLATE	0~10~25	0~15~30	0~15~40	5~45~65	10~50~70
	(50mm Wide)	(60m	m Wide)	(70mm Wide)	(90mm Wide)
COMPRESSION TEST INTERVAL		600		700	800
PLATEN DIAMETER	100	120	160	160	200
BENDING TEST INTERVAL		450			500
FLEXING ROLLER DIAMETER / WIDTH	30×120	30×150	50>	<150	70×150
PUNCH TIP RADIUS	12R	16R	16R	25R	25R
SPACING	560	560	560	610	740
EFFECTIVE TABLE SIZE	650×500	800×560	860×560	900×600	970×730
HYDRAULIC PUMP	ROTARY PLUNGER PUMP AC220V OR 380V 3Ø 0.75kw~1.5kw			w~1.5kw	
POWER	AC 220V ~ 440V 3Ø 60Hz				
WEIGHT	1.6	2.1	2.5	2.7	3.5

## Pretreatment tester

## Physics and chemistry tester

# **Grinders / Mounting Presses**

#### [Entry-level grinding machine]



Model MST-IU	
spring type pressure	
4hole for sample	
25 to 50mm hole dimeter	

Plate can be exchanged and rotated forward / backward. Variable speed function allows an operator to deal with polishing widely.

#### [Metal Specimen Grinder]



It is widely used to polish metal or implement consistent thickness.

#### [Mounting press]



Model	Model BP-200
input	220v, 1phaes
Heater	1500 watts
MMold diameter	25.4, 30, 31,7 and 40mm

Full automatic system completes heating and cooling cycles in 15 minutes.

# Pretreatment tester / Specimen cutter

#### [Jarket type cutter]



It is easy to operate and cut the sample, Durability is excellent and it and the specimen blade is exchangeable is easy to support and fix to use.

#### [Press type cutter]



specimen.

MSTAPT-300 0,1~2000mm 200g, 300g, 500g

20 X 20mmR 45mm

100, 200

1,2R3,0mm

900 X 550 X 600

30kg

#### [Metal Specimen Cutting Machine]



It can be used to cut hard metal and ore; it can be designed by capacity, material and size.

## Abrasion testing machine

#### [Abrasion / internal surface damage composite tester]

Weiaht

Ruber size

Street

Scratch Size

Size

Weight



It is a device to visually check the degree of wear and tear after wear-testing the specimen on the canvas and sapphire.

## [Pencil hardness tester]



MSTPSH-100	
200g, 300g, 500g	
45	
0~50mm/min	
100mm	

It is a device to observe the degree of wear and tear of the product after wearing the with a pencil,

# Complex environmental tester



It is a test device combined with infrared heat resistance test and constant temperature and humidity test of various materials and products. It tests the heat resistance, light resistance and durability of products. The heat resistance test using an infrared lamp can be arbitrarily adjusted from 90°C to 120°C by controlling the infrared heat quantity.

Model	MSTEC-2000W	MSTA-2500W	
Main Controller	Touch Screen Control IPC1000		
Temp, Range	-50°C ∼ 180°C		
Temp, Accuracy	0.5	S <sub>C</sub>	
Humid, Range	30% ~	98% RH	
Humid, Accuracy	0.5	°C	
IR Lamp Control	Microprocessor	PID Controller	
Lamp	Infra-red Lamp	375W x 120EA	
Lamp Power	SCR Wattage Controller		
Dimension (IN)	2000x2000x2000(H)mm	2500x2300x1800(H)mm	
(OUT)	2700x2700x2600(H)mm	3250x3050x2500(H)mm	
Temp Down Time	20°C ~ −40°C / 60Min Approx		
Temp Up Time	20°C ~ 150°C / 60Min Approx		
Material (IN)	SUS 304 Polishing Plate		
(OUT)	SCP-1 Powder Coating		
(DOOR)	Silicon Packing Door With View Window		
Recorder	12 CHannel Recorder 180mm Chart Paper		
Safety Device	High / Low Limit S/W. Earth Leakage Breaker, EOCR, Water Level		
Power	AC 220V/AAC380V 3P 60Hz		
Optional Accessory	Computer Control Software		

# **Thermal Shock Tester**



It is a device for testing the reliability of various parts and products, It tests thermal characteristics of a component and product by rapid temperature change.

Model	MSTSC-300	MSTSC-500		
Test Area Dimension	350x350x450(H)mm	500x500x500(H)mm		
emp, Range(Heating Chamber)	+60°C to +150°C			
(Cooling Chamber)	−65°C to RT			
Heat-UP time	Approx, 20Min fro	m 60°C to +150°C		
Pull-Down Time	Approx, 30Min fi	rom TR to −65°C		
Temp, Controller	PID Control by Programmable Controller And menual Controller			
Temp, Recorde	100mm 6Point Hybrid Recorder			
Power	220V AC 3 60Hz			
Driving	Air Cylinder Elevation System			
	Circuit Breaker, Motor Over-Load Relay			
	Over Heat Protector FOr Heat Chamber			
O-fata Davida	Over Cooling Protector for Cooling Chamber			
Safety Devic	High-Low Pressure Switch for refrigeration System			
	Various Fuse			
	Alarm Mode			

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## Physics and chemistry tester

## Physics and chemistry tester

# Salt spray testing machine



It is designed and manufactured for corrosion resistance, taking preventive measures to fulfill the original product life time as product life time can be shortened when the material coat is aged or a fine pinhole or crack may occur in the coating layer.

Model	MSTSST-900	MSTSST-1500	MSTSST-2000		
Dimension(N)	900x600x600(H)mm	1500x1000x600(H)mm	2000x1200x600(H)mm		
Temp. Control	P.I.D. TYPE				
Temp, Range		55±2℃			
Temp, Accuracy	±0.5°C				
HUmid, Range	30∼99% R,H				
Material(N)	PVC				
(OUT) PVC & SUS304		PVC & SUS304			
DOOR	PVC & ACRYL 8T				
HEATING VELOCITY		RT~45°C/20Min			

TOTOLOLOLO

## Thermo-hygrostat



It is widely used for reliability test of various parts materials and products, e.g., durability test, physical property test, deterioration test of food / medicines and corrosion test of metal.

Model		MSTHC-150	MSTHC-216	MSTHC-350	
Capacity		150 liter	216 liter	350 liter	
Chamber size(mm)		500Wx500Bx600H	600Wx600Bx600H	600Wx700Bx800H	
	Range	−20°C to + 120°C			
Temp.	Accuracy		±0.5℃		
	Controller	Dig	gital PID Program contro	ller	
	Range		35% to 98% RH		
Humidity	Accuracy		±3%, 70%		
Controller		Digital PID Program controller			
Timer		99 hr, 59 min			
Material In		Stainless steel			
	Out	Steel plate with powder doating			
	Shelves	Stainless steel, Adjustable/3EA			
	Door	Silicon packing door			
Air Cor	vection	Tangent flow fan with AC-motor			
Freezer Comp		Air cooling unit system			
Inner Lamp		Wather-proofed Halogen lamp 12DVC			
Safety Device		Over, Under temp, Potector			
Power	Source	220VAC, 60Hz, 1			

# Hot air dryer



It is used for various purposes such as the drying of the vitreous mechanism, the thermal deformation test of the sample, heat strengthening test, and removing moisture from the sample. Temperature control is highly accurate using Digital P.I.D Controller.

Model		MSTFCDO-91	MSTFCDO-150	MSTFCDO-250	MSTFCDO-512		
Capacity		91 liter	150 liter	250 liter	512 liter		
In Size(W	/xDxH)mm	450x450x450	500x500x600	600x500x1000	800x800x800		
Out Size(V	VxDxH)mm	600x600x820	890x650x830				
Heater (	Capacity	1,2KW	1,4KW	3KW	4.5KW		
She	elves	2	3	3	3		
Type			Forced convecition ovem				
	Range	Amb +10℃ to 200℃, MAX 250℃					
_	Accuracy	±1℃					
Temp	Controller	Digital PID controller					
	Regulator	S.S.R controller					
Thermo	ocouple	K(CA type)					
_	Range	99 hr 59 min					
Timer	Controller	Digital display					
Safety Device		Over current circuit hreaker					
Freezer Comp		Air cooling unit system					
Fan motor		1/16HP					
Power		AC 220V 60Hz					

# Oil resistance tester



It is to test the quality and properties of various materials by heating a specimen while being stirred in oil and at a high-temperature; it consists of four test tubes, and four specimens can be measured at the same time.

Model		MSTWR-C-6	
Dimension(IN)		460x460x250(H)mm	
(OU	T( <del>₩</del> )	500x500x400(H)mm	
Cont	troller	Digital PID Controller Digital Timer 99hr 59min	
	Range	Ambient +20 to 300°C	
Temp	Accuracy	0,1°C at 120°C	
	Uniformity	0,5°C at 120°C	
	ln	Stainless Steel(SUS-304)	
Material	Out	Steel Plate With Powder Coating	
He	ater	Pin Type Incoloy Sheath Heater 4kw	
Sa	fety	Over Temp Limit Low Level Switch, NO Fuse Breaker	
Temperati	ure senser	PT-100 Ohm	
Overfeed protection		320℃	
Test Hole		6ea or 10ea	
Ele	ctric	AC 220V, 60Hz	

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## Physics & Chemistry Tester / Rubber Related Tester

## Rubber Related Tester

# Water resistance testing machine



It is a tester for the quality and physical properties of various materials at a high temperature in water, and it is possible to control the temperature accurately by Digital P.I.D Controller system.

Model		MSTCWB-11	MSTCWB-22	
Capacity		11 liter 22 liter		
Bath Size (	WxDxH)mm	130x250x150 (cover/300)	330x300x150 (cover/500)	
Out Size (V	VxDxH)mm	340x290x450	540x340x450	
Heater (	Capacity	800W	1,200W	
	Range	Amb,to	100℃	
Temp	Controller	Digital PID controller		
	Sensor	PT-100 Ohm		
Ti	Controller	Digital display		
Timer	Range	99hr 59min		
	Bath	Stainless steel		
Material	Out	Steel plate with powder coating		
	Heater	Stainless steel		
Low Level		Level switch		
Pump Capacity		14 liter/min		
Safety		Over current glass fuse		
Pov	wer	AC 220V, 60Hz, 1		

# Pattern viscometer



This test machine measures the Mooney viscosity, the lowest pattern viscosity and the scorch test of rubber based on the ASTM standard test method.

Model	MSTMV-2000	
Temp, range	100°C ~ 200°C	
Temp, control	Digital P.I.D Control	
Temp. stability	PID, ±0.5℃	
Rotor speed	2 rpm	
Rotor size	Small, Large	
Mooney Range	100∼200 MU	
Preheat Time	0~600 sec	
Decay Time	30 min	
Data Report	T3, T15, T18, T5, T30, T35, MI, ML, ML 10+4	
Compressed Air	4,2kg/60psi	
Display	interl chipset computer	
Power	AC 220V, 10A, 50/60Hz	
Net Weigut	260kg	

# Rheometer



This tester shows continuous and stable curves in evaluating the properties of rubber, especially excellent in reproducibility of temperature,

Model	MSTR2000
Temp, range	100°C ~ 200°C(Option 250°C)
Temp, control	Digital P.I.D Control
Temp. stability	PID, ±0.5℃
Rotor speed	100 rpm
Oscillating Amplitude	0.5, 1, 3
Data Report	ts1, ts2, ts5, tc10, tc50, tc90, ML, MH, S
Compressed Air	4.2kg/60psi
Display	intel chipset computer
Power	AC 220V, 10A, 50/60Hz
Net Weigut	250kg

# Cold resistance tester



This device inspects the crack the sample in an experiment at low temperature. Through the sight window the inside can be observed.

Model	Cold resistance tester
Temp, range	−30°C ~ 50°C
Temp, control	PID Controller
Heater	Elpin Type 220V 2KW
Fan Motor	Brushless DC Motor
Shelve	2 pcs
Refrigerator	2 Stage 1/2HP + 3/4HP
Dimensions	500W x 500D x 500Dmm(available)
Power	220 VAC, 60Hz
Net Weight	70kg

## Ozone tester



It has been designed / manufactured for the purpose of measuring heat deterioration of vulcanized rubber caused by ozone in the atmosphere and investigating / testing ozone resistance.

Model	MSTOT-500
Chamber Size	500 x 500 x 500(w x d x h)
Ozone Range	Max, 250 pphm
Ozone Tolerance	±5%
Temperature Range	Amb to Max, 90°C
Temperature Tolerance	±5%
Power	220V, 50/60Hz Single Phase
Dimensions	1,500W x 700 x 1,200(w x d x h)
Weight	150Kg
Dynamic Test	Option

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## **Automotive Durability Tester**

## **Automotive Durability Tester**

# Aging tester



Equipment to test shrinkage and aging of test specimens such as rubber, plastic, and wires by heating them at a high temperature

Model	Rubber aging tester
Temp, range	Amb.5°C ~ 250°C
Temp, control	Digital P.I.D Control
Temp, stability	±0.5°C at 150°C
Material	In;SUS #304, Out;SS #41
Motor	Fan (1/4HP), Drive(1/20HP)
Sample holder speed	5~8 rpm(Digital)
Heater	3kw
Timer	24hr(Auto timer)
Dimensions(in)	500W x 500D x 600H mm
Dunensions(outer)	1000W x 800D x 1500H mm
Power	AC 220V, 60Hz
Net Weigut	120kg

# Sheet pad hardness tester



Model	MSTSST-061120
MAIN ELECTRIC SOURCE	AC 220 Volt ±10%, 60 Hz ±5%
Drive system	SERVO MOTOR
POSITION CHECK	ENCODER
CONTROL	PC CONTROL
TEST MAX SPEED	500mm/min
Maximum load	200kgf
FRAME SIZE	(W)800*(D)700*(H)1430

A device that measures the difference in displacement by controlling the position of the pressure chamber with the servo motor to apply static load to the car seat

# **Hose Impulse Tester**



A comprehensive testing machine that measures the performance and analyzes the data by various tests such as the operating torque and rotation angle of the car, other cargoes and door

Model	DS-DFT-100
POWER	AC 220V 3P/60Hz
TORQUE	50kg.f
ANGLE	0~180
MOVEMENT MOTOR	AC Servo Motor 500w∼3KLw
REDUCER	1/50, 1/100, 1/150
TORQUE METER	Rotary Type
ENCODER	Rotary Encoker 3000pulse, 6000pulse
CONTROL	PC Monitoring Control
IN/OUT CARD	Analog 8ch 168Bit, Digital card
WEIGHT	Ap 300kg
	① Torque Limit
	② Servo Motor Over Load Protector
SAFETY DEVICE	③ Noise Filter
	Emergency Switch
	⑤ None Fuse Breaker
	Main fuse

# High-pressure car wash tester / water tester

#### [High-pressure car wash tester]



Equipment to check the surface condition of specimen by spraying water on painted specimen; it has been designed for a test at various angles

OPERATION CONDITION	MAIN ELECTRIC SOURCE	AC 440 Volt ±10%, 60Hz ±5%
GENERAL DESCRIOTION	TEST METHOD	HIGH PRESSURE PUMO
	TEST TIME	30 SEC
	TEST PRESSURE	70kgf/1
	TEST DISTANCE	100mm±5
	TEST ANGLE	TYPE 1-90, TYPE 2-45
	NOZZLE ANGLE	25±5
	TEST WATER FLOW	12,5±2,5
FRAME SIZE		(W)800*(D)700*(H)1430

#### [Water tester]



Equipment to check the surface condition of specimen by spraying water of 10 bar in four directions while moving specimen table up and down and constant rotating

TEST Q' TY	4EA
Tabe Testing Speed	10±2PRM
Tabe Stroke	40mm
Water Pressure	5-10bar

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## **Automotive Durability Tester**

## **Automotive Durability Tester / Impact Tester**

# **Burst pressure tester**



Items	Description
Dimention	1870(W)x980(D)x1418(H)
Type of Door	Single Open / Shock absorber Type
Sliding Distace of JIG	700~1000L
Safety Device	1st Outside Door/2nd Protective Device for Burs
Range of Prossure	1500bar(Max)
Velocity of Pressure	1000~3000bar/min
Test Cyde	Apply Pressure ≥ 2~3min main tenance ≥ Burs
Kind of Oil	Power Steering Oil(DEXSLON)
Electric Power	AC 220V, 3, 60Hz, 5,5kw

In order to increase the efficiency of generating burst pressure, the efficiency of generating force was achieved by the operation of the BOOSTER CYLINDER via the hydraulic drive, and the safety of the test maker has considered by devising the safety device for the high rupture pressure.

# **Sheet Molding Tester / Door Tester**

Items

Shared pressure

pressure

stroke

Press part

External size



Classification

Air booster cylinder

Dimensions

#### [Sheet Molding Tester]

Burst pressure generation detectible

Description

1:25

125kgf

250mm

500x400x900

730x400x1520



## [Door Tester]

Туре	Table Type
Drive system	Motor
Load Weight	1kg, 5kg, 10kg
DOOR Weight	21,5kg ±0,5kg
Dimensions	Press part
Power	220V 60Hz
Angle limit value	Up / Down ±30, Right and left ±30
Door center of gravity	800 mm

Structure to indicate

measurement value, using rotary encoder with AC MOTOR BALL SCREW TYPE

# Spoiler & Door Tester / Life Cycle

#### [Spoiler & Door Tester]



The test speed and position of the product check out the control and number of times.

Model	MSTSP1000
Test Method	Servo Motor & Vacuum Unit
Test Speed(Open/Closed)	1,6m/sec, 10 SPM
Cycle	30,000
Control	Electrotype Control

#### [Life cycle]



Equipment for inspecting disconnection, short circuit, overheating of the heater wire components mounted on a vehicle seat

Classification	Items	Description	
Air booster cylinder	Shared pressure	1:25	
	pressure	125kgf	
	stroke	250mm	
Dimensions	Press part	500x400x900	
	External size	730x400x1520	

## Impact tester

#### [DuPont Impact Tester]



Used to evaluate the bond strength by applying impact to paint film and film.

#### [Izod impact tester]



A device to measure the impact strength, a measure of tension

#### [Free drop impact tester]



Test equipment to check the fracture of a specimen by thrusting the weight at a certain height

18 MS-tech

# **Charpy impact tester**



Test equipment to measure energy absorption

Model	MSTI-100
Туре	Charpy & Izod for metals
Capacity(Max)	(10~75)kgf.m / (100~750)
Readout	Digital display
Raised angle	140
Pendulum weight(App)	20 kg(44.1 lbs) or more
Standards Compliance / Accuracy	Exceeds ASTM E23, ASTM D6110(Charpy), ASTM D256(Izod)
Power Supply	ISO 179(Charpy) and ISO 17025
	200 V, 50/60 Hz, 4A
	1550x1000x1500mm
Machine Dimension	61,02x39,37x59,06 in
Machine Weight	1100 kg(2425, 1 lbs)

# Horizontal and Vertical flame resistance tester

#### [Horizontal flame resistance tester]



Model	MST 110V
Specimen Size	70x300mm
Bunsen Burner	Micro Burner 9,5dia mm
Flame Height	Variable Gas Flow Meter Type
Timer	999,9 sec
Dimensions	700W x 350D x 700H mm
Power	220 VAC, 60Hz
Net Weight	20kg
Standard Method	JIS L 1091, KS K 0585



# Model MST 110H

[Vertical flame resistance tester]

Specimen Size	114x318mm
Bunsen Burner	Micro Burner 9,5dia mm
Flame Height	Variable Gas Flow Meter Type
Timer	999.9 sec
Dimensions	450W x 350D x 500H mm
Power	220 VAC, 60Hz
Net Weight	10kg
Standard Method	JIS D 1201, KS K 0582

Equipment to check flammability of automobile products, e.g., plastic, synthetic resin, urethane, and building materials

# I.R dyeing machine / Normal pressure dyeing machine

#### [I.R dyeing machine]



Economical model using 100% space

Model	MST-6000T
Pot	150ml x 16EA x 2Chamber
Max, Temperature	RT ~ 150℃
Speed Control	inverter(CW,CCW)
Heater	Ceramic Infrared Heater
Cooling System	Water Air Circulation System
Chamber Size(in)	420 x 312 x 800 x 2Chamber
Chamber Size(out)	11300 x 830 x 800mm
Power	220V 50/60Hz, IP

#### [Normal pressure dyeing machine]



Semi-permanent finest model made of ALL SUS Mirror plate

Model	MST-34
Number of Beakers	30EA x 25ml x 2Chamber
R.P.M	20~300rpm
Power Source	220V, 4kw
Stroke	35mm
Material	All SUS Mirror
Dimension	500 x 1900 x 750mm

# **Experimental Auto Dyeing / Lift Dyeing Machine**

#### [Experimental Auto Dyeing]



High reproducibility of on-site dyeing process with excellent heating and cooling ability as well as microprocessor program



[Lift Dyeing Machine]

It minimizes mechanical failure due to moisture

Model	MST-24	MST-16	MST-8
Number of Beakers	24EA	16EA	8EA
Capacity of Beakers	140ml	250ml	450ml
Max, Temp	140°C	140°C	140°C
R.P.M	40rpm	40rpm	40rpm
Heating Time	20min	20min	20min
Heating Power	6kw	6.6kw	6.6kw
Cooling System	Cooling Water	Cooling Water	Cooling Water
V,A Meter	Digital	Digital	Digital

Model	MST-23
Beaker	30 x 250mm x 23EA
Temp range	RT ∼ 95°C
Size(in)	600 x 250 x 320mm
Size(out)	900 x 380 x 950mm
Controller	Digital
Material	ALL SUS 304
Motor	3 Phase 0.4kw
Power	220V 60Hz

## Wire & Plastic Tester / Inspection Equipment

## **Inspection Equipment**

# Fluidity tester



Temperature	Digital P.I.D controller
Temperature range	25°C ∼ 350°C
Motor	220V, 15W
Cylinder	160mm / 9,550±0,007mm
Piston Head	9.474±0,007mm
Power	AC 220V, 50/60 Hz
Net Weight	50kg

A device to measure the compression rate when a molten thermoplastic is compressed through a die of specific length and diameter under designated temperature and pressure conditions.

# Planar / Air leak measuring instrument



#### [Planar]

Equipment to measure the assembly tolerance of components mounted on a vehicle engine part

#### [Air leak measuring instrument]



Equi	ipment to	iden-
tify	leakage	with
AIR	LEAK TES	STER

Classification Items		Description	
Air Booster Cylinder	Stroke	30mm / 40mm / 50mm	
	Pressure	6kgf	
Dimensions	External size	500x400x900	

# Model Air Leak Tester Movable stroke 200mm Pressure 140kgf Dimensions External size 2200 x 800 x 2200

# LCD panel thickness and flatness inspection equipment





- This inspection equipment is a total inspection of 146 points (flatness thickness), and the product is panel of PDP panel.
- The MODEL of the product is designed to measure three types of equipment.
- The operation of the product is manual unloading, and the inspection is automatically checked.

# SHAFT OD / RUN-OUT Inspection Equipment



## SHAFT DIA, RUN-OUT Inspection Equipment

This equipment is an inspection equipment to measure outer diameter and run-out of shaft. It is a device to measure manually by replacing 12 SHAFT.

- Product input: Manual UNLOADING
- Product Inspection: AUTO MEASURING SYSTEM

# **LEAK & OIL injection TESTER**



This equipment tests the LEAK of the AL housing part of the reducer and automatically applies the grease to the BEARING part of the second gear.

12 types of reducer are used to replace the seat JIG, and the coating of grease is also a device to adjust the amount of injection according to the capacity of the reducer.

**Inspection Equipment** 

## Inspection Equipment

# **Press Chassis Flatness Inspection System**







DISPLAY on the LCD screen to display the data on the measurement area.

This equipment is to check the flatness and thickness of MAIN BASE PLATE such as VTR, DVD, CAR CD. A centralized, entry-level measurement instrument that manages and processes all measurements in an electronic micrometer after excluding existing expensive PC software.

# Inspection equipment for order making



## Engine cover inspection equipment

This equipment is to check the unevenness of the machined surface to leakage of OL when engine cover is stowed.

## Inspection items

- Group according to measuring point
- DATA management : SPC management using PC





## Copier FRAM inspection equipment

This equipment checks the overall check point of the internal FRAM before assembling the copier ASS'  $Y_{\cdot}$ 

#### Inspection items

- HOLE inspection
- Height and level difference inspection
- Assembly test

# PC INERFACE MODEL







## **Computer Interface Electronic Micrometer**

## Features High Speed

- Easy data Acquisition
- Paralel Commurication High Speed Data Transmission PCI / ISA Card Selectables
  Serial Commurication(Ra232c)—9600 / 19200bps, N81









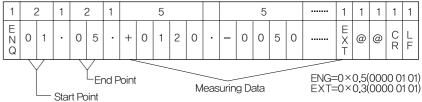
Model: ML-4P-CT1(1~4 Channel)

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Model: ML-32P-CT1(8~64 Channel)

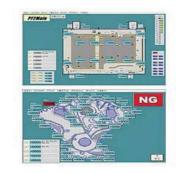
#### RS232C Specification

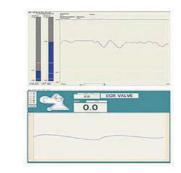
DMSION	SPECIFICATIONS	1	
■ Port ■ Method	-SERIAL(9Pin) -Asynchronous	E	
■ Character	<ul><li>Data Bit : 8Bit</li><li>Stop Bit : 1 Bit</li><li>No Parity Bit</li></ul>	Q	
■ Band Rate	9600/19200 bps		



#### Application







Inspection Equipment

## **Inspection Equipment**

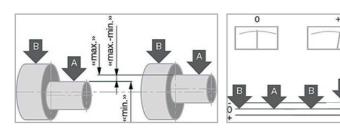
# ML-16PW5T(1~24 Multi channel)

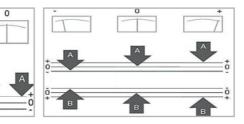


Display the shape of the product on the LCD screen and display the DATA on the measurement area. Product shape DISPLAY is OPTION.

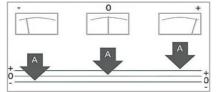


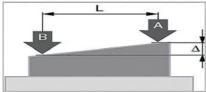


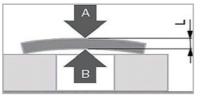




It is possible to measure (OK/NG) coinage by measuring many points at the same time.





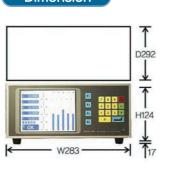


■ For measurement of outer diameter (D POINT) ■ POINT Flatness measurement ■ Multi—point thickness measurement ■ POINT RUN—OUT measurement is mainly used for many measurement points.

#### **Specifications**

	MODEL	ML <del>-</del>	ML-	ML-	ML-	ML-	ML-	ML <del>-</del>
DMSION		16PW4	16PW4-R	16PW4-G	16PW4-DF	16PW5-DF	16PW5-G	16PW5T-DF
Display	Graphic LCD	240×28				320×240, 256Color 640×480,TFT Color		
	Illuminator	LED TYPE				CCFL		
Channel		4~16	2~4	4	2	2	4	2
Measuring Range		± 2.0mm		± 1.0mm	4~	50mm	± 1.0mm	4~50mm
Dimension		W283, D292, H124						
Weight(kg)		5.7				6.2		
Outer Interface	RS232C Port	9600BPS, N81						
	I/O Port	PCL /I/F(IN:4OUT:6)						
	Printer Port	PARALLEL TYPE(Centronics Bus)						

#### Dimension



# SKEW adjustment and inspection equipment



This equipment is the equipment to inspect and adjust the image / sound of CD-ROM, CD-RW, DVD and other major products reproduce.

- Automatic adjustment using STEP MOTOR
- DATA management : SPC management using PC
- SKEW adjustment: classified into contact type and non-contact type.







# Inspection equipment for indentation (depth/load)



This equipment is used to simultaneously produce and inspect PIN with AL die casting products at a constant load / depth.

The press-fitting of this equipment can work simultaneously on the Z-axis and X-axis, and it is possible to check the failure of indentation load accurately.

■ User : CheonYang Industry

# Indentation depth and indentation load inspection equipment



This equipment is the inspection / production equipment that automatically inspects the indentation load / indentation depth.

The product is a system to press BEARING, PIN, and SLIP to the correct load and depth.