

labtone 莱伯通®

SINCE 2002

FOCUS ON MECHANICAL
ENVIRONMENTAL TESTING
EQUIPMENT



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Ver.2024

LABTONE TEST EQUIPMENT CO.,LTD.





SERVICE HOTLINE

| 0769 8537 0090



PRE SALE

When a fault report received from customer (including telephone, fax and email):

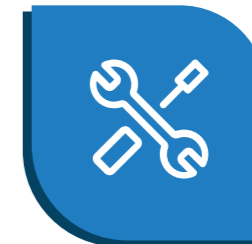
LABTONE will respond within 4-8 hours (working time), provide solutions and eliminate fault within 12-24 hours after the equipment guarantee period supplier still has obligation to provide users with technical support and after-sales service.

- 1. Technical consultation test method, laboratory planning and suggestion.
- 2. Equipment selection scheme FAQ
- 3. Product testing scheme.



UNDER SALE

- 1. Customer communication and progress report.
- 2. Guidance for pre-installation preparation, equipment commissioning and test run.
- 3. Calibration (when Third Party's verification is required).



AFTER SALE

- 1. Technical training: operation of equipment, daily maintenance, common fault diagnosis and troubleshooting.
- 2. Scheduled on-site service: Detection of problem as soon as possible in order to eliminate equipment operation as well as delivery of latest technical information.
- 3. Technical support: special paid services are provided according to customer's needs.

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Company profile

01

- >> High Quality
- >> High Value
- >> Test Equipment



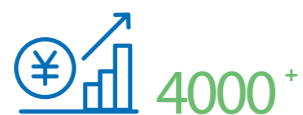
PROFILE

Labtone Test Equipment Co., Ltd. is a +20 year China **Manufacturer** of reliable, cost-effective equipment. Our superior products mainly include: Vibration Test Systems, Shock Test Systems, Bump Test Systems, Drop Tester, Packaging Transportation Simulators, and Combined Environmental Test Chambers.

Labtone started business in 2002 in a plant located in Shenzhen and moved to our new, expanded 6,000 square meter facility in Dongguan, Guangdong in 2015. Today, our products are found around the world in electronics, automotive, new energy, military, aerospace, packaging transportation, telecommunication, optoelectronics instrument and industrial machinery applications. Our experience and commitment to new product development has resulted in products that are easy to use, accurate and designed for decades of service.

Labtone products carry a one-year(12months) warranty. We provide comprehensive factory services and supports, technical literatures, manuals and guides as well as having qualified staffs and experts to solve your problems.

We sincerely invite you to visit our factory.



CORPORATE CULTURE



Management Idea

Survive by quality, win customers by service.



We Hope

To provide the best solutions rather than selling products.



Our Vision

To be the well-known brand in the industry of environment and reliability test equipment, and win the respect and trust from customers around the world.



Our Mission

To provide the most advanced technology and the most reliable environmental testing equipment to customers.



Our Social Responsibility

Honest to customers, cherish the employees, grateful to the society and protect the environment.

WORKSHOP



DEVELOPMENT
HISTORY



GROW

COOPERATIVE PARTNER



QUALIFICATIONS

- Obtained ISO9001,1S014001,1S045001 quality system certificates
- Passed the intellectual property management system certification
- Member of TC8 and SC1 Standardization Administration
- Obtained a number of patent
- Member of Guangdong Quality Inspection Association
- Rated as a trustworthy enterprise in Guangdong Province by the government
- High-tech enterprise of Guangdong
- Others... ..



VIBRATION TEST SYSTEM SERIES

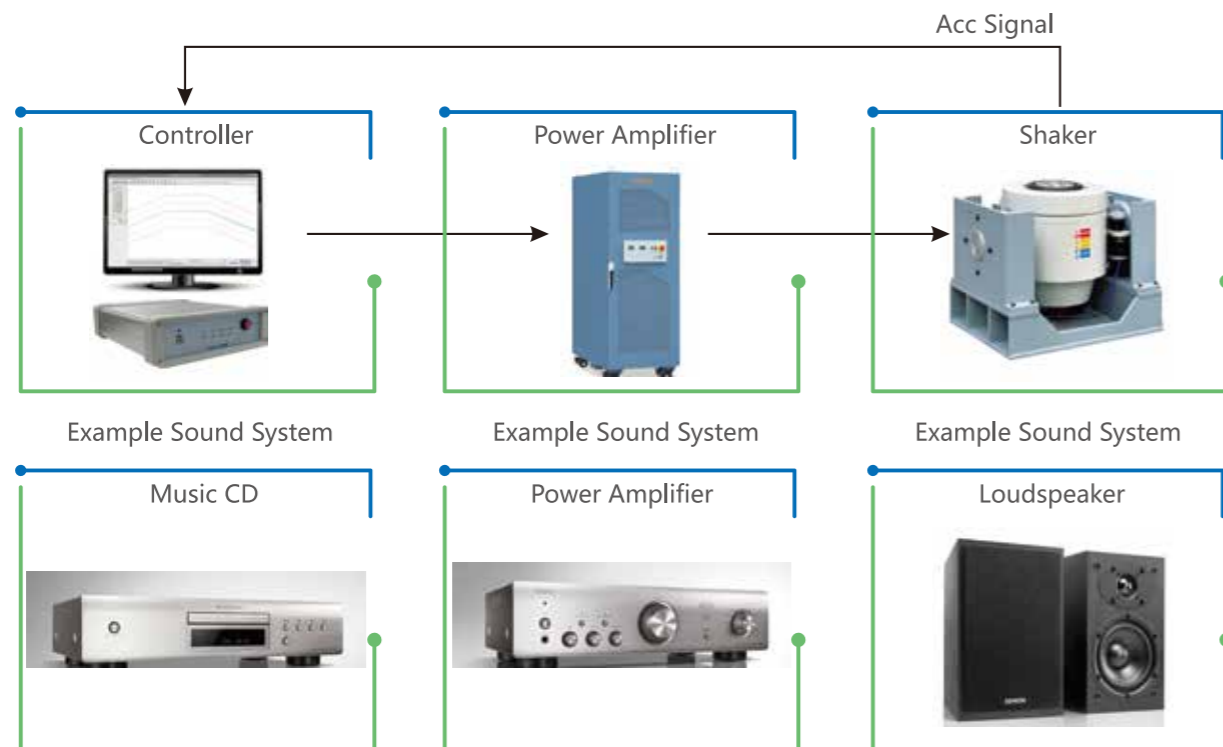
02

- >> Working Principle and Model Selection
- >> Air Cooled Vibration Test System
- >> Water Cooled Vibration Test System
- >> Vibration Combined Environmental Test System
- >> Standard Vibration Test Systems

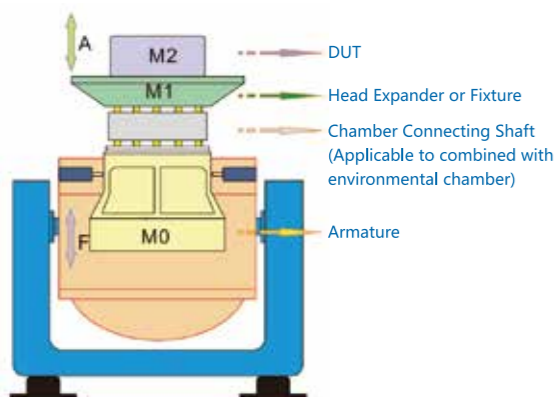


Principle and model selection

THE WORKING PRINCIPLE OF VIBRATION EXCITER



CALCULATE THE REQUIRED EXCITATION FORCE



$F=(M0+M1+M2) \times A \times 1.3$

Sine Force (p-p)
 F Exciting Force (kgf)
 M0 Armature mass (kg)
 M1 Auxiliary table or Fixture
 M2 Specimen (kg)
 A acceleration (g)

1.3: Safety Factor
 Random Force (Rms)
 =sine Force/ $\sqrt{2}$
 Shock Force
 =Sine Force*2

When using gravity as unit, the acceleration unit is g, exciting force unit is kgf, 1g=9.8m/s²;

TEST REQUIREMENTS AND MODEL SELECTION GUIDE

To choose a suitable vibration test system, the most important thing is to know the exciting force required to perform the vibration test. To evaluate and calculate the exciting force, the following test specifications should be known:

- Clear Testing Requirements
- Frequency (Frequency Range)
- Maximum Acceleration
- Maximum Displacement
- Maximum Velocity
- Specimen Mass and Fixation

The specimen fixture is selected based on the upper limit of test frequency and specimen size, either vertical expansion platform or horizontal sliptable. Specimen mass is needed to evaluate the required exciting force for vibration test.

(EVALUATION OF ARMATURE MASS)

When evaluating the exciting force needed for vibration test, you can choose a temporary armature mass (according to the model of EV series).

VIBRATION TEST MACHINE SELECTION GUIDE

EV_Model Rule
 For Example:EVW360

EV	W	3	60
Model Number : Electrodynamic vibration system			
		Shaker : 60--60KN	
		Displacement : 2--2 inch(51mm) 3--3 inch(76mm) 4--4 inch(100mm)	
		Cooling Mode : __ Air Cooling W Water Cooling	

AIR COOLED VIBRATION TEST SYSTEM

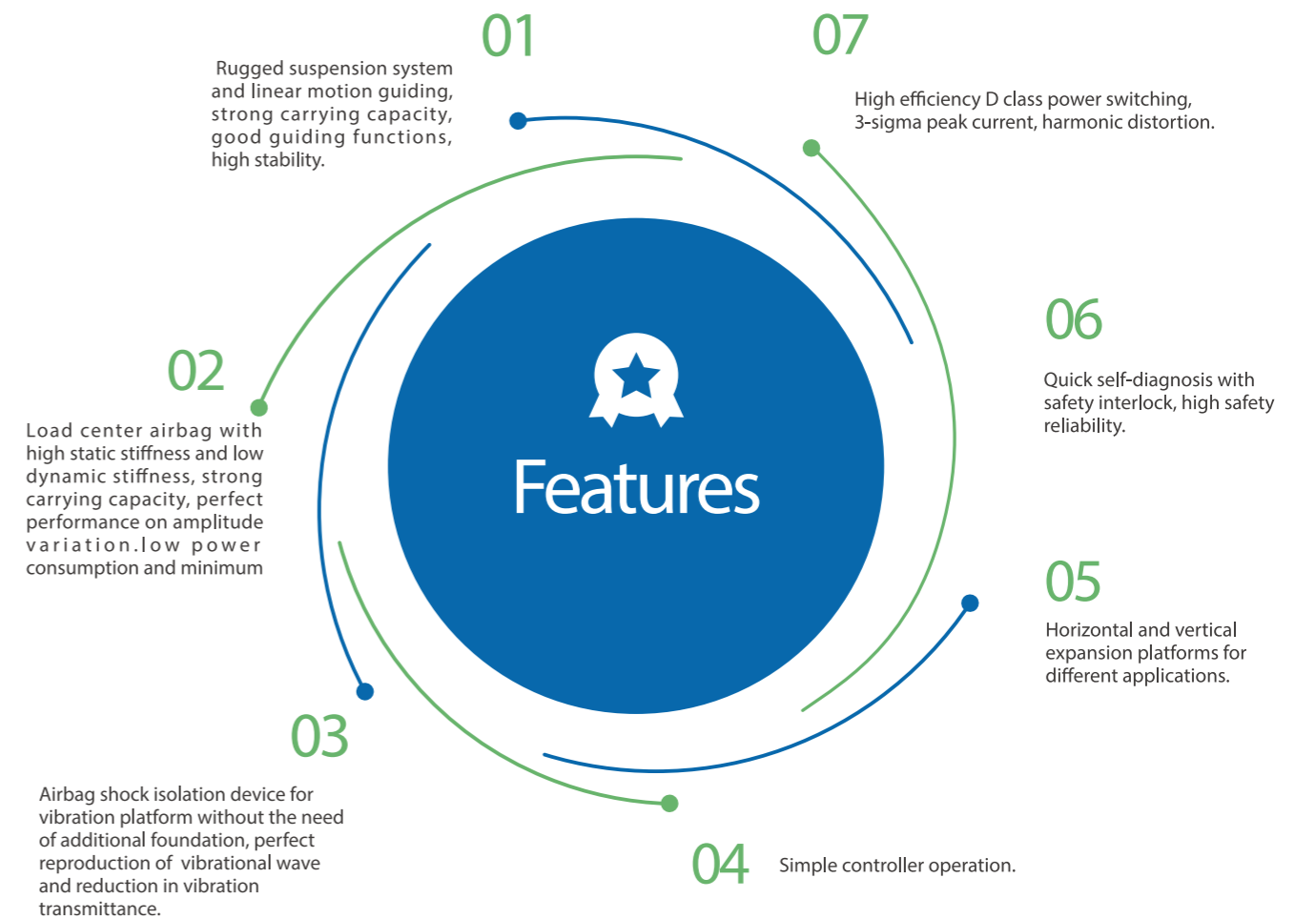
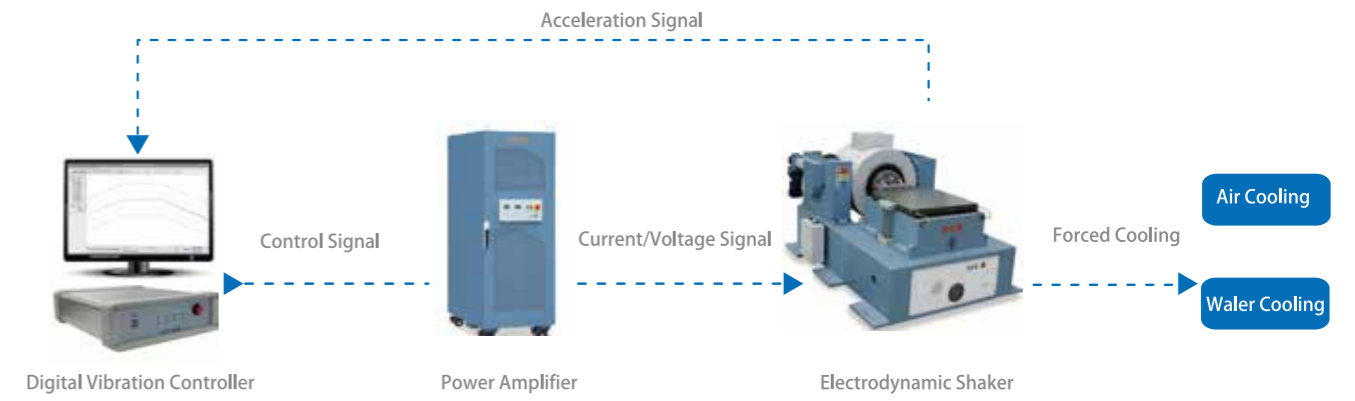
EV series of electromagnetic vibration testing system simulate the vibration environment under the laboratory condition, and test the impact strength as well as reliability of various vibration test applications. In the laboratory, with the aid of vibration testing system, simulations of reproduction of sinusoidal, random, resonant search and dwell, classical shock and road models, etc. can be achieved. It is essential for product quality assurance, new product research and development.

EV series of electromagnetic vibration testing system is specially designed to meet the need for long time operation. Vertical and horizontal vibrations can be achieved by the installation of vibration resistant base. The standard platform is equipped with high efficiency airbag shock isolation device, so that the vibration transmitted to the building can be minimized. There is no need for additional foundation in most of the cases.

A complete set of vibration testing system is composed of shaker, power amplifier and vibration measuring control system, in accordance with the relevant national and international standards (such as: MIL-STD, DIN, ISO, ASTM, IEC, ISTA, GB, GJB, JIS, BS, etc.) to provide technical support for establishing product quality inspection.



THE PRINCIPLES OF OPERATION



AIR COOLED SHAKER SYSTEM

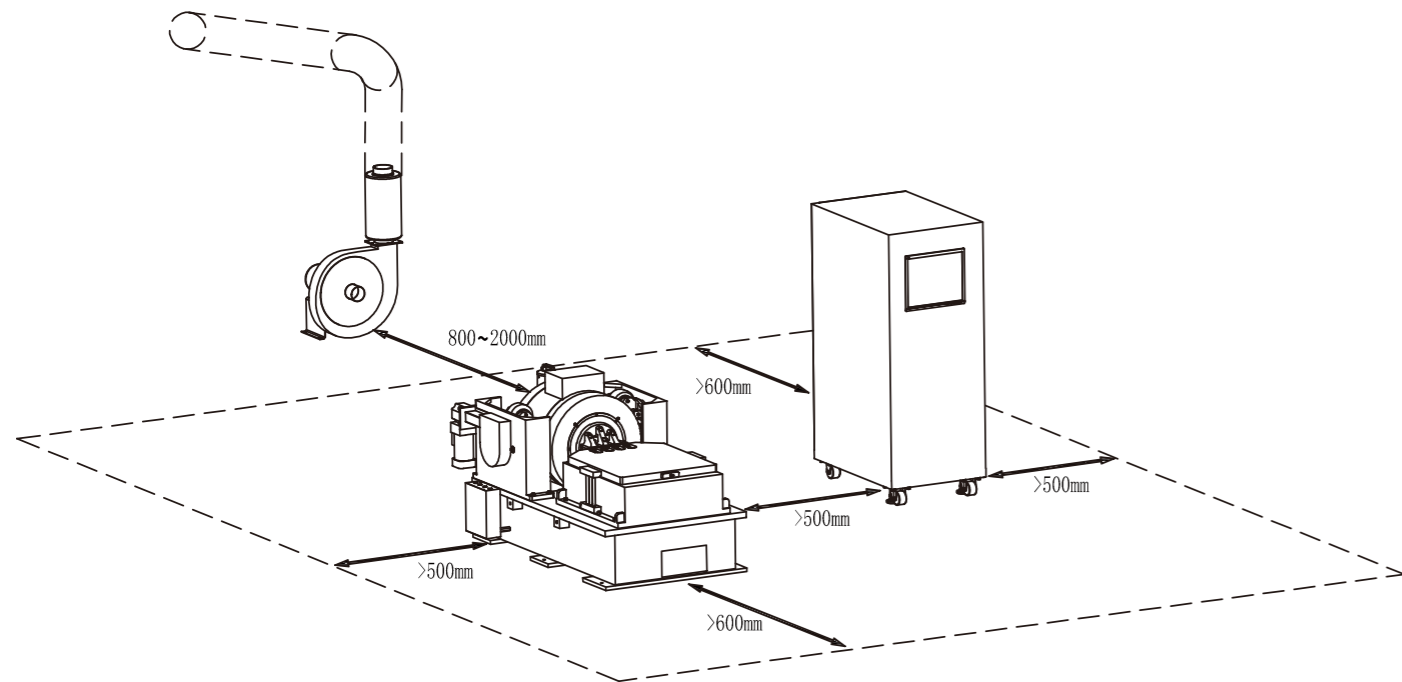
System Model	EV101	EV203	EV207	EV211	EV222	EV232/B	EV240/B	EV250	EV260	EV311	EV322	EV332	EV340	EV350	EV360	EV370	EV422	EV432	EV440	EV450	EV460	EV470
Frequency Range (Hz)	1-6000	1-4500	1-4500	1-3300	1-3000	1-3000	1-3000	1-2700	1-2700	1-3000	1-3000	1-3000	1-3000	1-2600	1-2600	1-2500	1-3000	1-3000	1-3000	1-2500	1-2500	1-2500
Max Sine Force kg.f(KN)	100(0.98)	300(2.94)	700(6.9)	1100(1.2)	2200(21.56)	3200(31.36)	4000(39.2)	5000(49)	6000(58.8)	1100(1.2)	2200(22.4)	3200(31.36)	4000(39.2)	5000(49)	6000(58.8)	7000(71.4)	2200(22.4)	3200(31.36)	4000(39.2)	5000(49)	6000(58.8)	7000(71.4)
Max Displacement (mm p-p)	25	40	51	51	51	51	51	51	51	76	76	76	76	76	76	76	100	100	100	100	100	100
Max Acceleration (g)	60	100	100	100	100	100	100	100	100	85	90	95	100	90	100	100	75	85	100	85	100	100
Max Velocity (m/s)	1.3	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Max Load (kg)	50	120	300	300	400	400	500	1000(2000)	1000(2000)	300	400	400	500	1000(2000)	1000(2000)	1000(2000)	400	500	500	500	500	500
Shaker Model	A01S12	A03S15	A07S23	A11S24	A20S34	A30S34/A30S44	A30S34/A30S44	A60S44	A60S44	A10T24	A20T34	A30T34	A30T44	A60T44	A60T44	A70T45	A20F34	A30F44	A30F44	A60F44	A60F44	A70F45
Armature Weight	1.5	3	7	11	22	32	40	50	50	13	25	33	35	55	55	65	30	35	35	60	60	70
Armature Diameter (mm)	120	150	230	240	340	340/440	340/440	440	440	240	340	340	440	440	440	450	340	440	440	440	440	450
Shaker Weight (kg)	180	460	920	1100	1900	2800	2800	4800	4800	1020	1900	2800	2800	4800	4800	7500	1900	2800	2800	4800	4800	7500
Shaker Dimensions(L*W*H) (mm)	370×460×500	780×570×670	920×740×780	920×740×785	1080×920×1050	1270×980×1140	1400×980×1140	1600×1180×1280	1650×1180×1280	920×740×790	1200×870×1130	1400×920×1050	1400×920×1050	1650×1150×1300	1650×1150×1300	1650×1150×1300	1080×920×1050	1400×980×1230	1400×980×1230	1650×1150×1300	1650×1150×1300	1650×1150×1300
Power Amplifier Model	PA122E	SA03K	SA07K	LA12K	LA24K	LA30K	LA40K	LA50K	LA60K	LA10K	LA22K	LA30K	LA40K	LA50K	LA60K	LA70K	LA22K	LA30K	LA40K	LA50K	LA60K	LA70K
Power Amplifier Weight (kg)	35	330	390	400	470	520	540	560	630	400	470	520	540	630	630	660	470	520	540	570	630	660
Power Amp Dimensions(L*W*H) (mm)	430×365×160	910×610×1150	910×610×1150	910×610×1150	910×610×1150	910×610×1150	910×620×2000	910×620×2000	910×620×2000	910×610×1550	910×610×1550	910×610×1550	910×620×2000	910×620×2000	910×620×2000	910×620×2000	910×610×1550	910×610×1550	910×620×2050	910×620×2000	910×620×2000	910×620×2000
Cooling unit	B401D(400w)	B751D(750w)	B402S(4kw)		B752S(7.5kw)		B152S(15kw)		B223S(22kw)	B402S	B752S		B153S		B223S		B752S		B153S		B223S	
Cooling unit Dimensions(L*W*H) (mm)	500×630×850		760×600×1350		900×680×1450		1060×910×1980		1000×1370×2270	760×600×1350	900×680×1450		1060×910×1980		1000×1370×2270		900×680×1450		1060×910×1980		1000×1370×2270	
Cooling unit Weight (kg)	15	45	130		200		330		420	130	200		330		420		200		330		420	
Power Suooly	AC 220V±10% 50Hz		AC 380V±10% 50Hz																			
Aggregate Capacity (KVA)	2	7	17	23	42	56	76	95	105	23	42	56	76	95	115	115	42	56	75	95	115	115

Note: In addition to the above model specification list, other models need to contact the manufacturer for consultation.

Options:

Slip Table	33-34
Head Expanders	35
Auxiliary device	36
Vibration controller	41-43

INSTALLATION REFERENCE DRAWING



The air blower is recommended to be placed outdoors

Power supply requirements: three-phase, five-wire, AC380V, 50/60Hz, air switch (the size is determined by the actual device model)

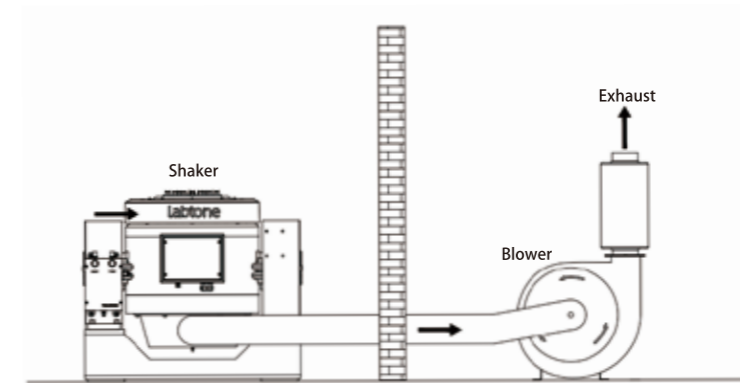
Air Supply requirements: 0.6-0.8 Mpa

Note: independent grounding, connection resistance is less than 4Ω , if the power supply voltage change is larger than $380V \pm 10\%$, please provide your own voltage regulator

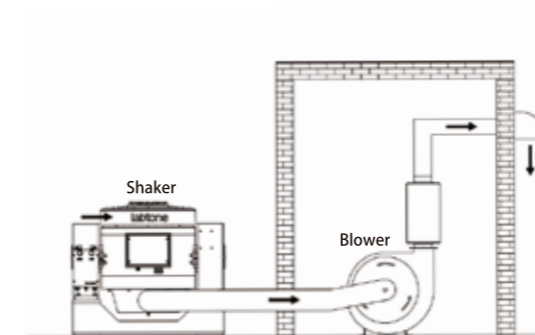
DIAGRAM DRAWING OF COOLING BLOWER PLACEMENT

During the vibration test, noise will be generated. The noise of the vibration test can be divided into the vibration noise, the air intake noise of the vibration generator, the cooling fan, the cooling fan discharge noise, and the fan noise of the power amplifier.

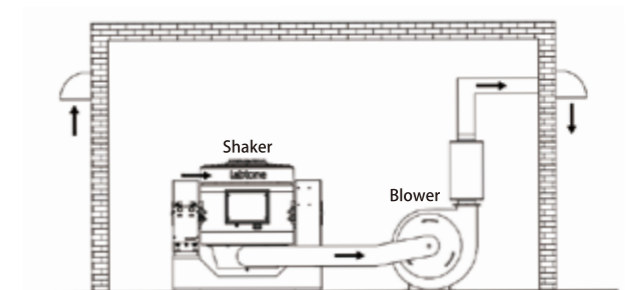
OUTDOOR SCHEMATIC DIAGRAM OF FAN PLACEMENT



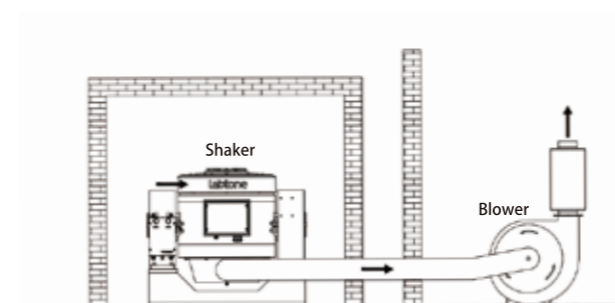
NOISE REDUCTION METHODS



① Blower sound insulation



② Sound insulation room



③ Sound insulation room & Blower outdoors

WATER COOLED VIBRATION TEST SYSTEM



WATER-COOLED SHAKER SYSTEM

System Model	EVW360	EVW390	EVW3120	EVW3160	EVW3200	EVW3250	EVW3300	EVW3350
Frequency Range (Hz)	1-3000	1-2700	1-2500	1-2200	1-2200	1-2000	1-1700	1-1700
Max Sine Force kg.f(KN)	6000(60)	9000(90)	12000(120)	16000(160)	20000(200)	25000(250)	30000(300)	35000(350)
Max Displacement (mm p-p)	76	76	76	76	76	76	76	76
Max Acceleration (g)	120	125	100	100	100	100	100	100
Max Velocity (m/s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Maximum static load (kg)	500	1000(2000)	1000(2000)	1400(2500)	1400(2500)	1400(2500)	5000	5000
Shaker Model	E60T45	E90T45	E120T55	E160T65	E200T65	E250T67	E350T82	E350T82
Armature Weight	50	70	90	150	150	180	300	350
Armature Diameter (mm)	Φ 450	Φ 450	Φ 550	Φ 650	Φ 650	Φ 670	Φ 820	Φ 820
Shaker Weight (kg)	4200	5200	6000	12000	12000	14000	23000	23000
Shaker Dimensions(L*W*H) (mm)	1280 x 910 x 1480	1600 x 1100 x 1380	1660 x 1100 x 1380	1670 x 1100 x 1480	1670 x 1100 x 1480	2000 x 1380 x 1540	2700 x 1800 x 1900	2700 x 1800 x 1900
Power Amplifier Model	ELA60K	ELA90K	ELA120K	ELA160K	ELA200K	ELA250K	ELA300K	ELA350K
Power Amplifier Weight (kg)	1200	1200	1800	3000	3000	3000	4000	4600
Power Amp Dimensions(L*W*H) (mm)	910 x 1220 x 2050	910 x 1220 x 2050	910 x 1830 x 2050	9100 x 1830 x 2050	9100 x 2450 x 2050	9100 x 2450 x 2050	9100 x 30500 x 2050	9100 x 3050 x 2050
Cooling Unit	C00	C01		C02			C03	
Internal Circulating Water Pressure	1.2							
Heat Exchange Capacity	70	100		160	220		350	
External Circulating Water Pressure	120L/min0.3-0.4Mpa	150L/min0.3-0.4Mpa	200L/min0.3-0.4Mpa	200L/min0.3-0.4Mpa	300L/min0.3-0.4Mpa	300L/min0.3-0.4Mpa	450L/min0.3-0.4Mpa	5000L/min0.3-0.4Mpa
External Circulating Water Pressure	11-1/4 OR DN32							
Cooling Unit Dimensions(L*W*H)	610 x 900 x 2000							
Cooling Unit Weight(kg)	260	280		290			300	
Operating Ambient	T: 0~40°C; RH: 0~90%, No condensation							
Power Suooly	AC 380V±10% 50Hz							
Aggregate Capacity (KVA)	125	160	200	230	250	320	390	440

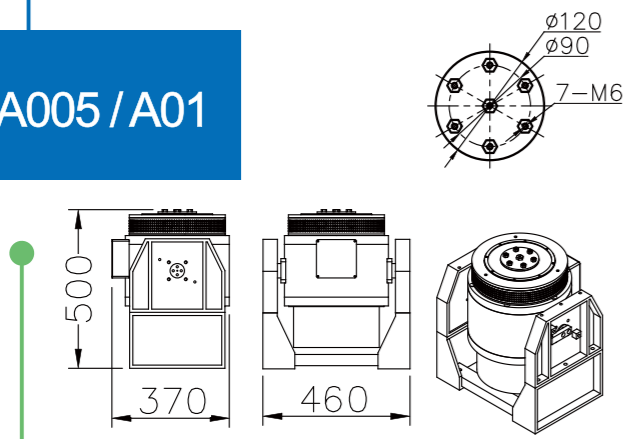
Note: In addition to the above model specification list, other models need to contact the manufacturer for consultation.

Options:

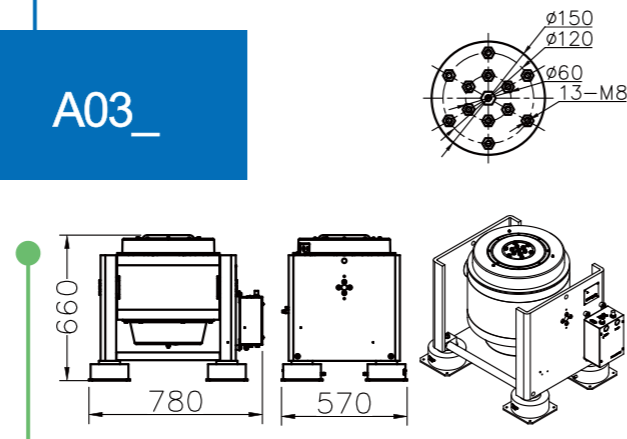
- Slip Table33-34
- Head Expanders 35
- Auxiliary device 36
- Vibration controller41-43

Air Cooled Shaker SIZE

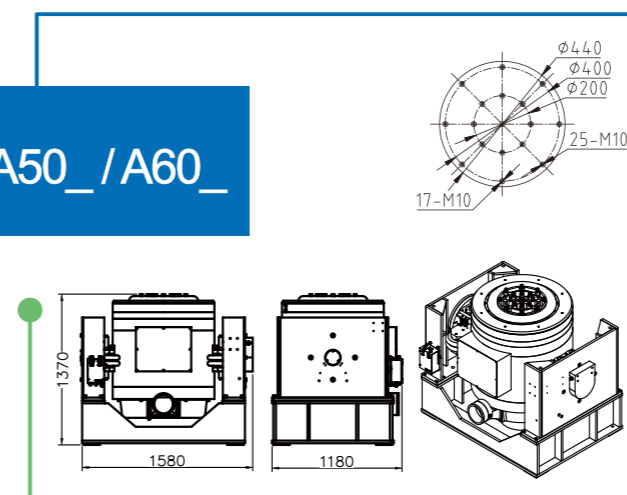
A005 / A01



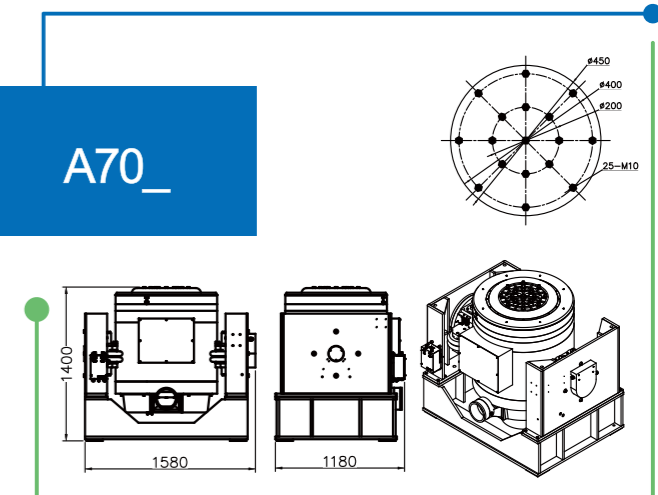
A03_



A50_ / A60_

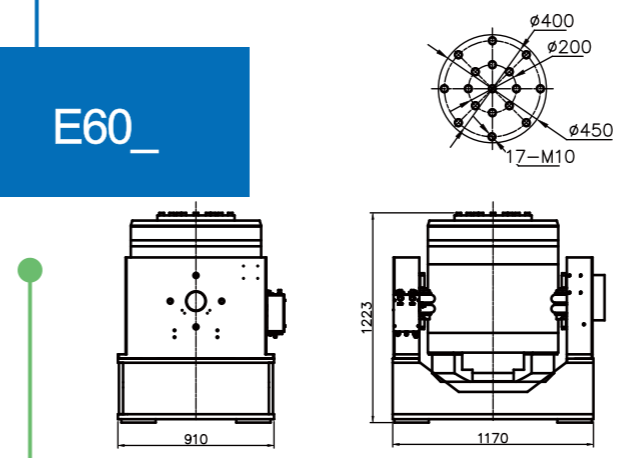


A70_

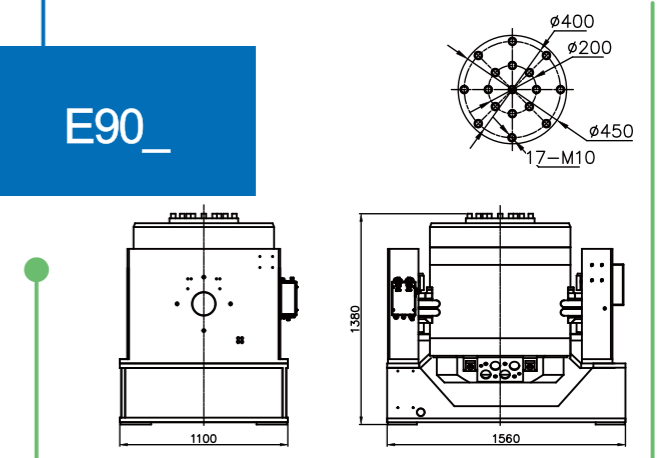


Water-Cooled Shaker SIZE

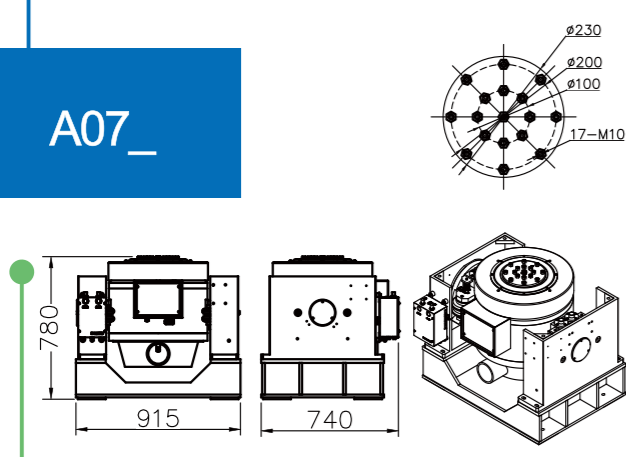
E60_



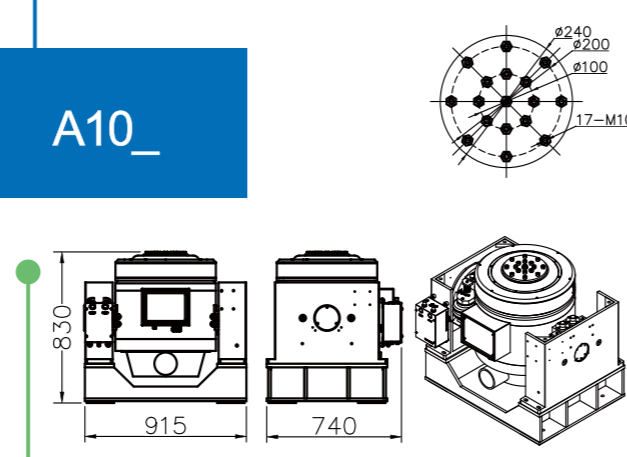
E90_



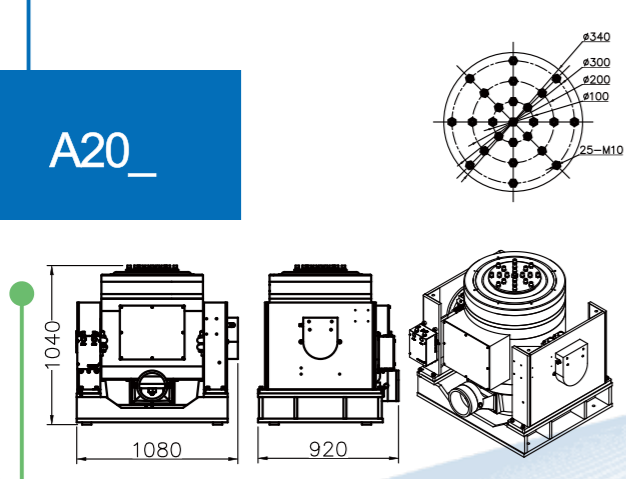
A07_



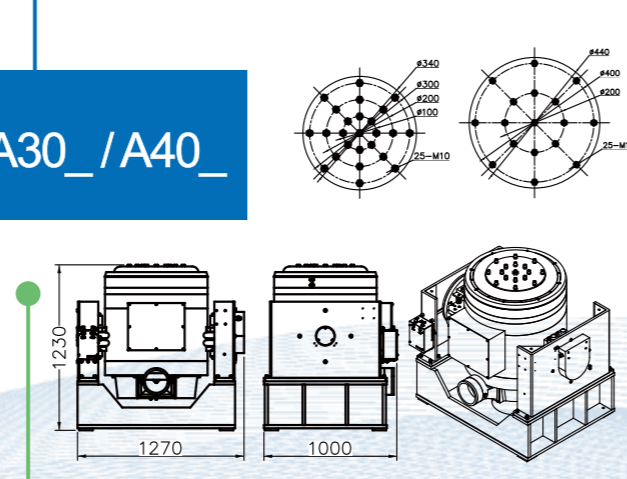
A10_



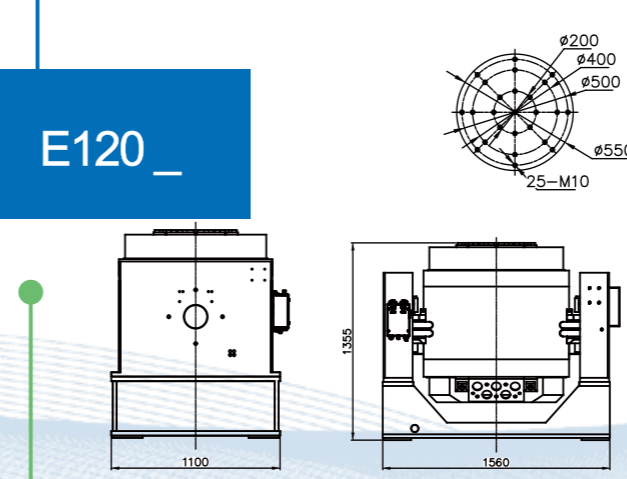
A20_



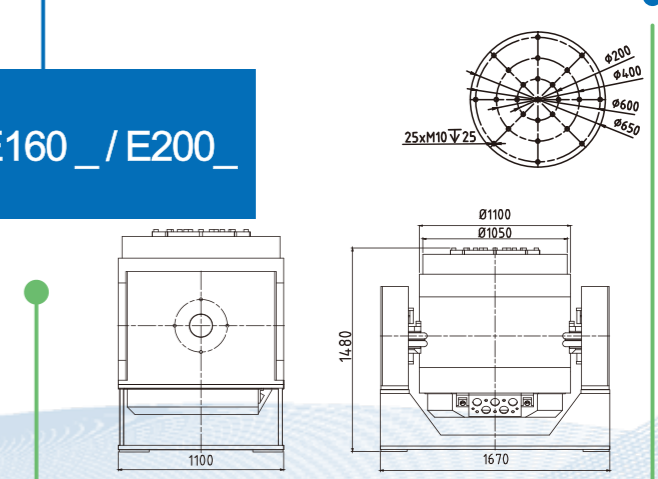
A30_ / A40_



E120_



E160_ / E200_



HORIZONTAL SLIP TABLE(HST)

The Horizontal slip Table (HST) can be matched with various specifications of the shaker to achieve horizontal direction test.

The shaker uses a electric rotation system, and individuals can easily rotate the vibration exciter and connect the slip table

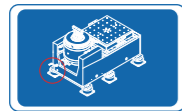
The mechanical limit device can ensure the connection between the vibration exciter and the sliding plate.

The HST is mainly composed of a horizontal module, a connecting head, a HST base and a medium/high pressure oil source.

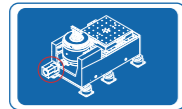
HG series HST is suitable for conventional load specimens.

HB series HST has high overturning moment and lateral limit, which is suitable for testing load specimens with high center of gravity and large weight.

HT series HST is mainly suitable for horizontal vibration test of large size test pieces, which can provide greater bearing capacity and anti-overturning moment than HB series.



Manual turbine steering device



Electric steering device



Oil film slip table is composed of a precisely ground natural granite and magnesium alloy



LP guideway



Hp bearing



MP Bearing

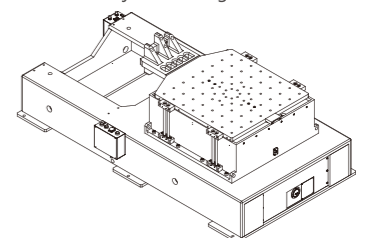
HG Regular Slip Table						
Armature Diameter	120/150mm	240mm	340mm	450mm	550mm	650mm
Model	25 2000	—	—	—	—	—
HN20_	10/8	—	—	—	—	—
HN30_	25 2000	—	—	—	—	—
	14/11	—	—	—	—	—
HG40_	30 2000	—	—	—	—	—
	25/18	—	—	—	—	—
HG50_	40 2000	40 2000	40 2000	—	—	—
	39/26	42/29	47/34	—	—	—
HG60_	40 2000	40 2000	40 2000	40 2000	40 2000	40 2000
	54/36	57/39	62/44	67/49	77/59	92/74
HG70_	40 2000	40 2000	40 2000	40 2000	40 2000	40 2000
	71/43	74/50	79/55	84/60	94/70	109/85
HG80_	—	45 2000	45 2000	45 2000	45 2000	45 2000
	—	105/70	110/75	115/80	125/90	140/105
HG90_	—	45 2000	45 2000	45 2000	45 2000	45 2000
	—	130/86	135/91	140/96	150/106	165/121
HG100_	—	45 2000	45 2000	45 2000	45 2000	45 2000
	—	158/104	163/109	168/114	178/124	193/139
HG110_	—	—	45 2000	45 2000	45 2000	45 2000
	—	—	194/129	199/134	209/144	224/159
HG120_	—	—	45 2000	45 2000	45 2000	45 2000
	—	—	227/151	232/156	242/166	257/181
HG130_	—	—	45 2000	45 2000	45 2000	45 2000
	—	—	263/174	268/179	278/189	293/204
HG140_	—	—	45 2000	45 2000	45 2000	45 2000
	—	—	302/199	307/204	317/214	332/229
HG150_	—	—	45 2000	45 2000	45 2000	45 2000
	—	—	344/226	349/231	359/241	374/256
Working Environment	Temperature Range: 5~40°C, Humidity Range: ≤90% (no condensation).					
Remark	① The equivalent mass of moving parts is the sum of the masses of the horizontal table, driving bars, guide rails and reciprocating structure. (Excluding moving coil mass and guide rail mass, guide rail mass 0.6kg/pcs) ② The equivalent mass of the moving parts in this table is the equivalent mass during conventional design. If there are special needs and special designs, the equivalent mass of the moving parts needs to be recalculated.					

HT/HB Hydrostatic Bearing Slip Table					
Armature Diameter	340mm	450	550mm	650mm	820mm
Model	40 2000	40 2000	—	—	—
HB(T)60_	62/44	67/49	—	—	—
HB(T)70_	45 2000	45 2000	—	—	—
	88/60	93/65	—	—	—
HB(T)80_	45 2000	45 2000	45 2000	45 2000	45 2000
	110/75	115/80	125/90	140/105	180/145
HB(T)90_	45 2000	45 2000	45 2000	45 2000	45 2000
	135/91	140/96	150/106	165/121	205/161
HB(T)100_	45 2000	45 2000	45 2000	45 2000	45 2000
	163/109	168/114	178/124	193/139	233/179
HB(T)110_	45 2000	45 2000	45 2000	45 2000	45 2000
	194/129	199/134	209/144	224/159	264/199
HB(T)120_	45 2000	45 2000	45 2000	45 2000	45 2000
	227/151	232/156	242/166	257/181	297/221
HB(T)130_	50 2000	50 2000	50 2000	50 2000	50 2000
	291/192	296/197	306/207	321/222	361/262
HB(T)140_	50 1600	50 1600	50 1600	50 1600	50 1600
	335/220	340/225	350/235	365/250	405/290
HB(T)150_	50 1200	50 1200	50 1200	50 1200	50 1200
	381/250	386/255	396/265	411/280	451/320
HB(T)160_	50 1000	50 1000	50 1000	50 1000	50 1000
	430/282	435/287	445/297	460/312	500/352
HB(T)170_	50 1000	50 1000	50 1000	50 1000	50 1000
	483/316	488/321	498/331	513/346	553/386
HB(T)180_	50 1000	50 1000	50 1000	50 1000	50 1000
	539/352	544/357	554/367	569/382	609/422
HB(T)190_	50 1000	50 1000	50 1000	50 1000	50 1000
	597/390	602/395	612/405	627/420	667/460
HB(T)200_	50 1000	50 1000	50 1000	50 1000	50 1000
	659/430	664/435	674/445	689/460	729/500
Working Environment	Temperature Range: 5~40°C, Humidity Range: ≤90% (no condensation).				
Remark	① The equivalent mass of the moving parts is the sum of the masses of the horizontal table, the driving bar and the reciprocating structure. ② The above equivalent mass of moving parts does not include armature and bearings. (O type static pressure bearing 5kg/pcs; T type medium pressure bearing 5.5kg/pcs)				

Subject to special customization. Note: Due to continuous technological updates, the above product information will be subject to change without notice!

Model Rule For Example: H G 100 M

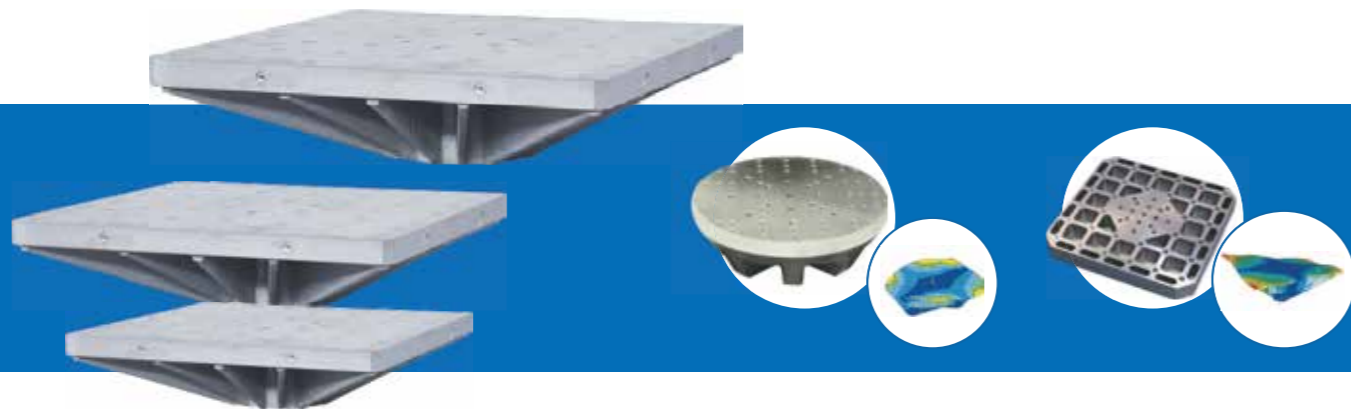
- Material: M: Magnesium A:Aluminium(Al)
- Dimension: Regular Square LXW for example:100 100cm x100cm
Unconventional Long Strip LXW for example:1512 150cm x120cm
- Guide Type: G--T T-type Guide slide rail
B--B B-type High-pressure bearing
T--T T-type Medium pressure bearing
- Table Type: H--H H-type Horizontal sliding table



HEAD EXPANDERS(HE)

The VT Series HE provides a larger mounting table than the armature for vertical test. The HE is made of lighter weight magnesium or aluminum alloy material and has a high strength-to-weight ratio.

HE with load support guides enable reliable installation and testing of large specimens, reducing the risk of damage to the vibrator suspension system. Guided HE can be used to simulate the testing of large and heavy equipment under harsh transportation conditions, as well as testing of more demanding equipment with additional constraints and loads. Fixture is generally customized according to the installation requirements of the test sample. Conventional cubed, L-shaped and T-shaped fixtures can be used to test multiple small size specimens. Cubed, L and T fixtures are also preferred for triaxial testing by changing the orientation of the specimen without the need to add a Horizontal Slide Table.



Head Expander							
Armature Diameter Model	150mm	240mm	320mm	340mm	450mm	550mm	650mm
VT30C_	6 100 2000	9 100 2000	—	—	—	equivalent mass (kg)	height(mm)
VT40C_	9 150 2000(1500)	15 150 2000	—	—	—	Upper limit frequency(Hz)	
VT50C_	18 200 1800	23 200 2000	23 150 2000	22 150 2000	—	—	—
VT60C_	18 200 600	30 230 2000	29 200 2000	33 200 2000	35 150 2000	—	—
VT70C_	24 250 1000	36 250 1000	45 200 1500	45 200 1800	45 200 1500	—	—
VT80C_	—	45 250 1000	48 250 1000	48 250 1300	55 250 1500	82 270 1800	—
VT90C_	—	52 250 600	70 300 1200	70 300 1200	68 270 1200	90 270 1000	—
VT100C_	—	56 250 500	90 300 1000	90 300 1000	135 350 900	140 350 900	150 350 1200
VT120C_	—	120 250 400	120 300 350	145 300 350	165 350 500	180 350 500	190 350 450
VT150C_	—	—	250 300 300	245 400 400	245 400 400	260 400 400	265 400 500
VT180C_	—	—	—	—	520 500 300	540 500 300	540 500 300
VT200C_	—	—	—	—	590 400 300	630 400 300	640 400 300

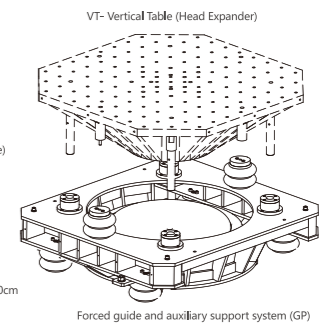
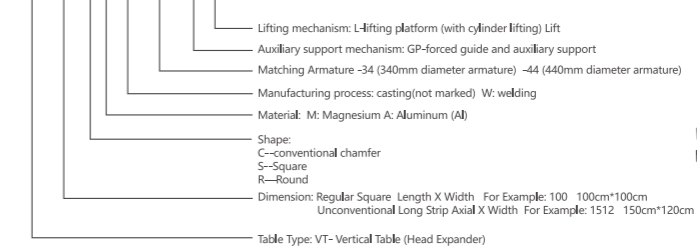
Note: Due to continuous technological updates, the above product information will be subject to change without notice!

Circular Head Expander

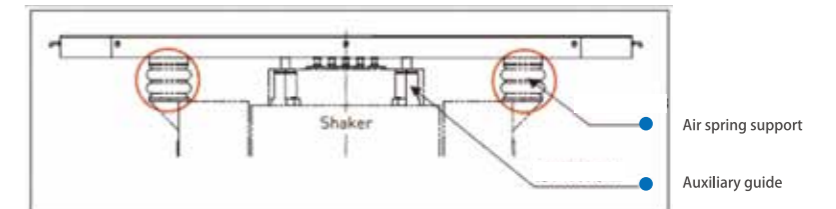
Armature Diameter Model	150mm	240mm	320mm	340mm	440/450mm	550mm	650mm
VT30R_	5 100 2000	—	—	—	—	equivalent mass (kg)	height(mm)
VT40R_	8 150 2000	10 100 2500	12 50 2000	13 50 2000	—	—	Upper limit frequency(Hz)
VT50R_	14 180 2000	17 150 2200	20 150 2000	20 150 2000	—	—	—
VT60R_	20 250 800	20 150 1200	24 150 2000	24 150 2000	25 120 2000	—	—
VT70R_	—	24 200 900	45 250 2000	45 250 2000	45 200 2000	—	—
VT80R_	—	40 250 1100	48 250 1400	48 250 1400	55 200 1500	56 200 1800	—
VT90R_	—	—	65 300 1200	65 300 1200	60 240 1200	65 240 1200	—
VT100R_	—	—	90 300 1000	90 300 1000	95 350 1200	104 350 1100	117 350 1100
VT120R_	—	—	—	—	163 400 500	169 400 600	189 400 600
VT150R_	—	—	—	—	220 400 400	230 400 400	310 400 400

Note: 1. The table material in the above equivalent mass and usage frequency range is magnesium. The equivalent mass of aluminum material is 1.5 times that of the magnesium extension table of the same model, and the usage frequency is 1.1 times that of the magnesium extension table of the same model.

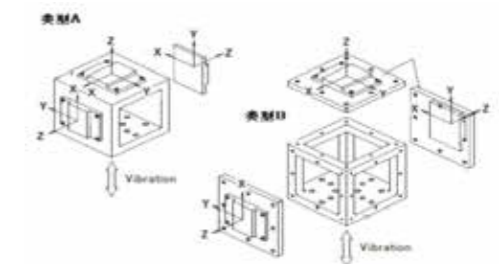
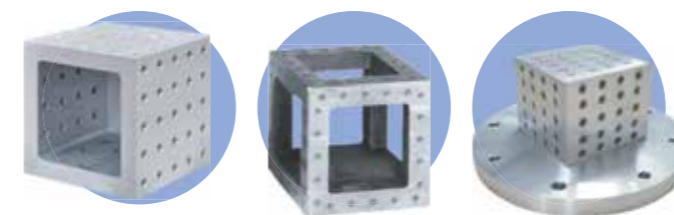
Model Rule For Example: VT150CMW-34-GPL



AUXILIARY DEVICE



FIXTURE



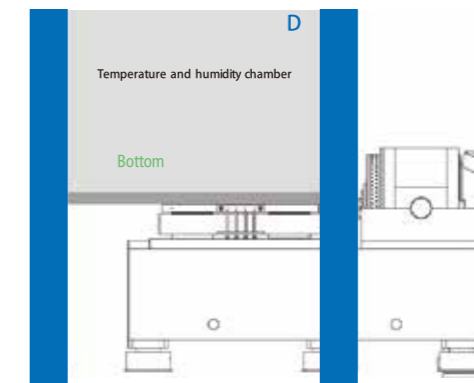
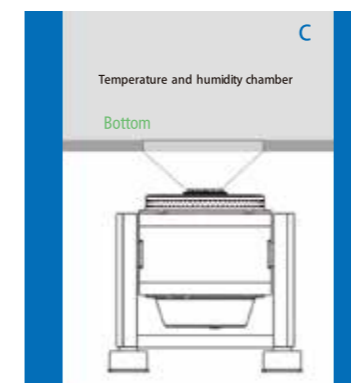
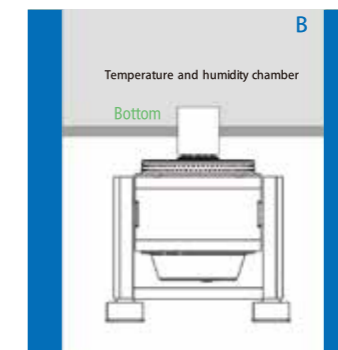
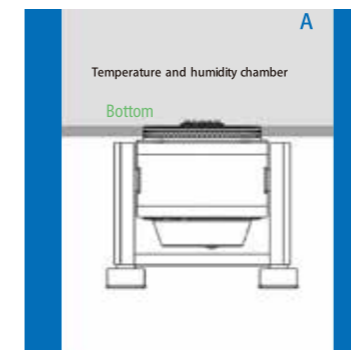
According to customers actual demand , we can offer different shapes of fixture, such as three-dimenesional square,L and T shape.

VIBRATION COMBINED ENVIRONMENTAL TEST SYSTEM

The Combined Environmental Test System is a combination of test chamber and vibration test system, whereby different temperature (high/low temperature), humidity, vibration (sinusoidal/random) and electrical stress are applied on the specimen according to the preset period to perform "Environmental Simulation" of temperature, humidity and vibration. As compared to single environmental factor test, this test can simulate the products in transport and operation environments more realistically. It is an important test method for the whole process of new product research and development, identification and mass production. We can provide a wide range of comprehensive environmental test system according to different test needs of customers. Such as three comprehensive, four comprehensive test equipment scheme (air-cooled vibration test system with low pressure test chamber), multi-axis vibration test system and the latest test technology.

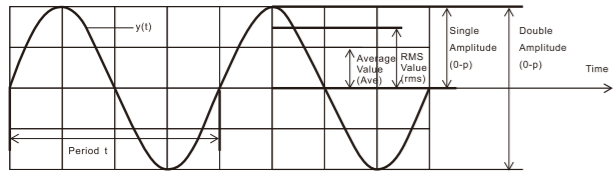


CONNECTION MODE BETWEEN SHAKER AND CHAMBER



- A** Shaker connected with chamber directly
- B** Shaker connected with chamber by a transition connection
- C** Shaker connected with chamber by a table
- D** Vibration horizontal direction connected with chamber

BASIC KNOWLEDGE VIBRATION

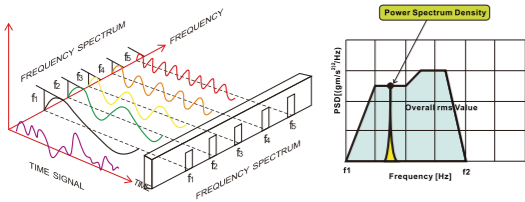


Vibration principle

The basic principle is the amplitude of the vibration of a sine function with time, usually with an acceleration; displacement; speed, these quantities to represent the vibration is horizontal.

Parameters of sine curve

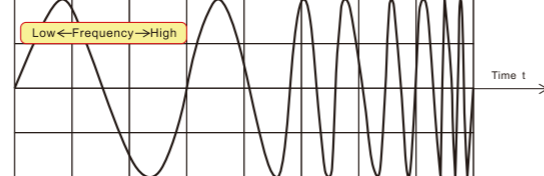
- Period $t=1/f$ (f: Frequency)
- Single Amplitude (0-p)
- Double Amplitude (p-p)=Single Amplitude (0-p) × 2
- Root-mean-square Value (rms)=Single Amplitude (0-p) × 1/√2
- Average Value (Ave)=Single Amplitude (0-p) × 2/π
- $y(t)=A \sin \omega t$ (w: Angular Frequency)



The vibration experienced by electrical and electronic products during transportation is mainly random type. The random vibration has wider frequency domain than sinusoidal vibration and it is a continuous spectrum. It can simultaneously excite the products using vibration of all frequency and clone the real environment.

Main parameter

- Overall RMS Value(rms) [Grms]
- Power Spectral Density(PSD) [g2/Hz]
- Test Time[t]

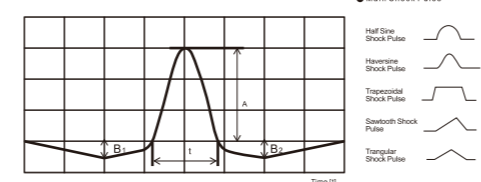


Sine sweep test

Some law continuously changing frequency of the excitation test product, aimed at the assessment of the frequency range to find cause-specific resonance frequency.

Main parameter

- Frequency [Hz] . Test Time [t]
- Acceleration [m/s²]
- Sweep Rate (oct/min),[Hz/min]



The impact and collision impact all belong to the category, provisions of shock pulse impact test is used to determine the main components' equipment and other products in the use and transportation process subjected to repeated (collision is repeated) and evaluate the applicability of packaging to protect the mechanical shock.

Main parameter

- Main Shock Pulse
- Pre-load[%] P1 $p1=B1/A * 100[\%]$
- Shock Pulse Duration[s] t
- Post-load[%] P2 $p2=B2/A * 100[\%]$
- Velocity[m/s] V
- Acceleration [m/s²] A

UNIVERSAL INTERNATIONAL UNITS

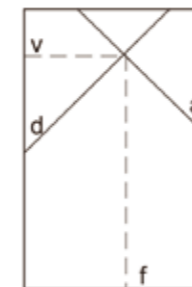
THE TERM

Measure name	Unit name	Unit abbreviation
length	Meter	m
Mass	Kilogram	Kg
Time	Second	S
Velocity	Meter per second	m/s
Acceleration	Meter per second square	m/s ²
Force	Newton	N
Moment, Torque	Newton-meter	N/m

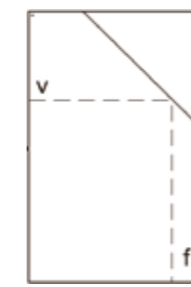
Conversion formula
 (F) Force: 1kgf = 9.80665N 1kgf = 2.2lbf Length: 1inch = 25.4mm
 (kg)Weight: 1kg = 2.2lbs Velocity: 1m/s = 39.37in
 Acceleration: 1g = 9.80665m/s²

- The average energy of Power Spectral Density has the units of bandwidth, which describes the process in the vibration energy distribution in different frequency bands;
- Overall rms Value curve in its predetermined test frequency range (powerspectrum) under the square root of the area, but do it with the peak sinusoidal vibration were compared, there is no relationship between them;
- Pre-Pulse, post-pulse, respectively, before and after the increase in the compensation pulse before and after the main pulse is the role of the velocity and displacement finally return to the zero position.

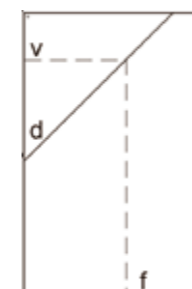
Guidance



The relationship among displacement, acceleration and frequency.

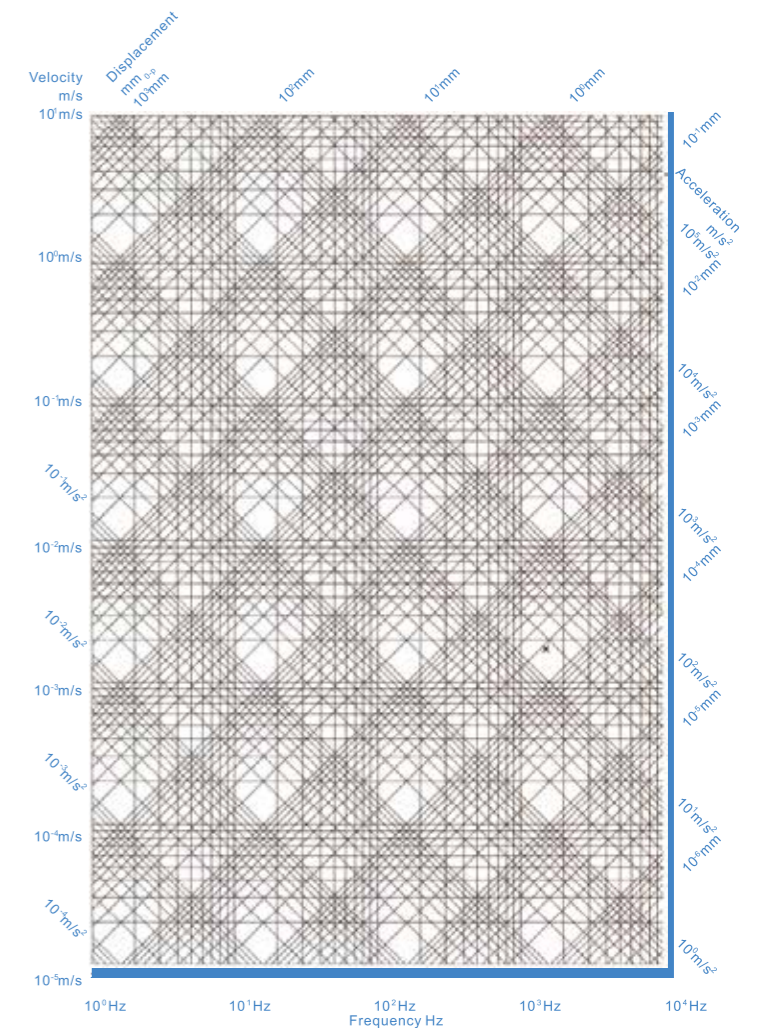


The relationship among velocity, frequency and acceleration.



The relationship among velocity, frequency and displacement .

- D: Displacement
- v: Velocity
- a: Acceleration
- f: Frequency



RELATION AMONG ACCLERATION,VELOCITY AND DISPLACEMENT

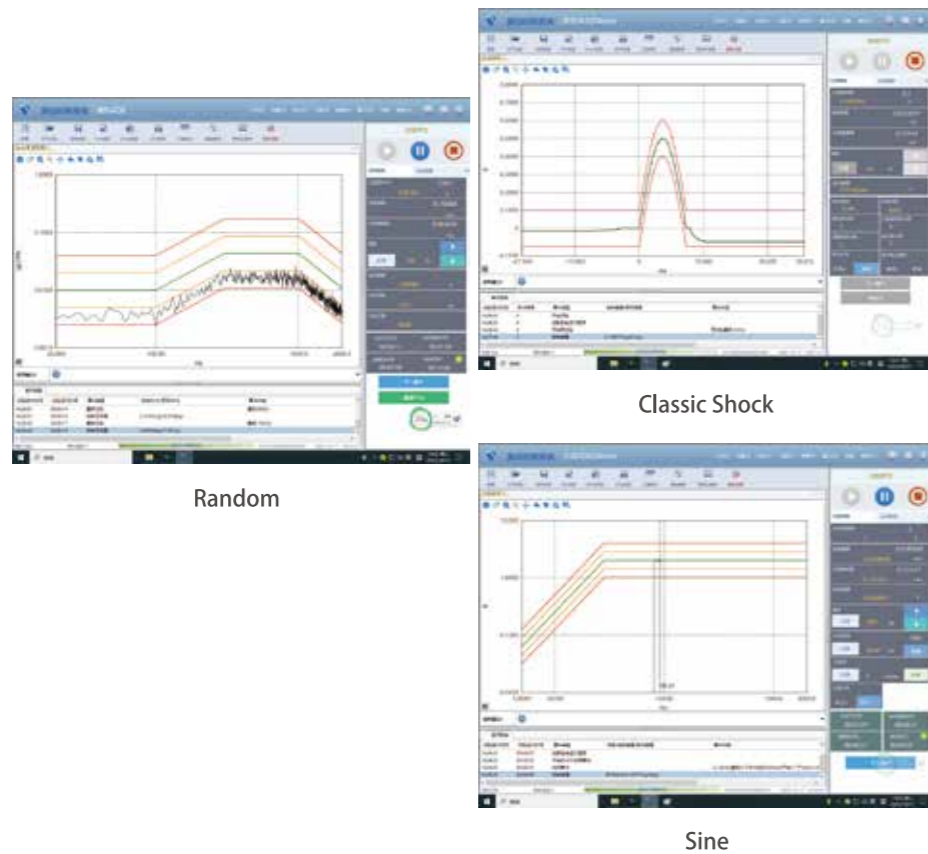
Relation	Equation for Estimation
Acceleration $a[m/s^2]=(2\pi f)d/1000=2\pi fv$	$A[m/s^2]0.0394df \times 1$ $6.28fv \times 1$
Velocity $v[m/s]=2\pi fd/1000=a/2\pi f$	$V[m/s]0.00628fd$ $0.159a/f \times 1$
Displacement $d[mm]=1000a/(2\pi f)=1000v/2f$	$d[mm]25.5a/f \times 2$ $159.2v/f$

Divide the acceleration value by 9.8when its unit is G
 2 Multiply the acceleration value by 9.8 when its unit is G

DIGITAL VIBRATION CONTROLLER

VCS series vibration controller has the full range of vibration test function, which can achieve vibration tests, such as random, sinusoidal sweep, resonance search and dwell, classical shock, sinusoidal-random, random-random, narrowband random-sinusoidal, shock response spectrum control, transient simulation, and road spectrum simulation on electro-dynamic or hydraulic vibration table. Control software is performed in Windows with friendly interface and convenient operation. At the same time, the system also provides perfect testing process management, data instructions and test report generation, making the test more convenient and reliable.

Vibration control system adopts modular design and distributed data processing program to carry out the expansion of the channel and test function easily. Composed of 32-bit high speed DSP processing structure, low noise circuit design technology, 24 bit A/D and D/A hardware, high-speed data communication circuit. The control software of the adaptive control algorithm is powerful, and promotes the technical performance of vibrational control system to a new level.



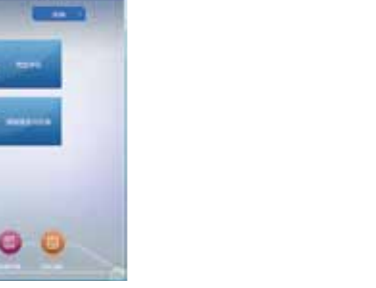
Help function



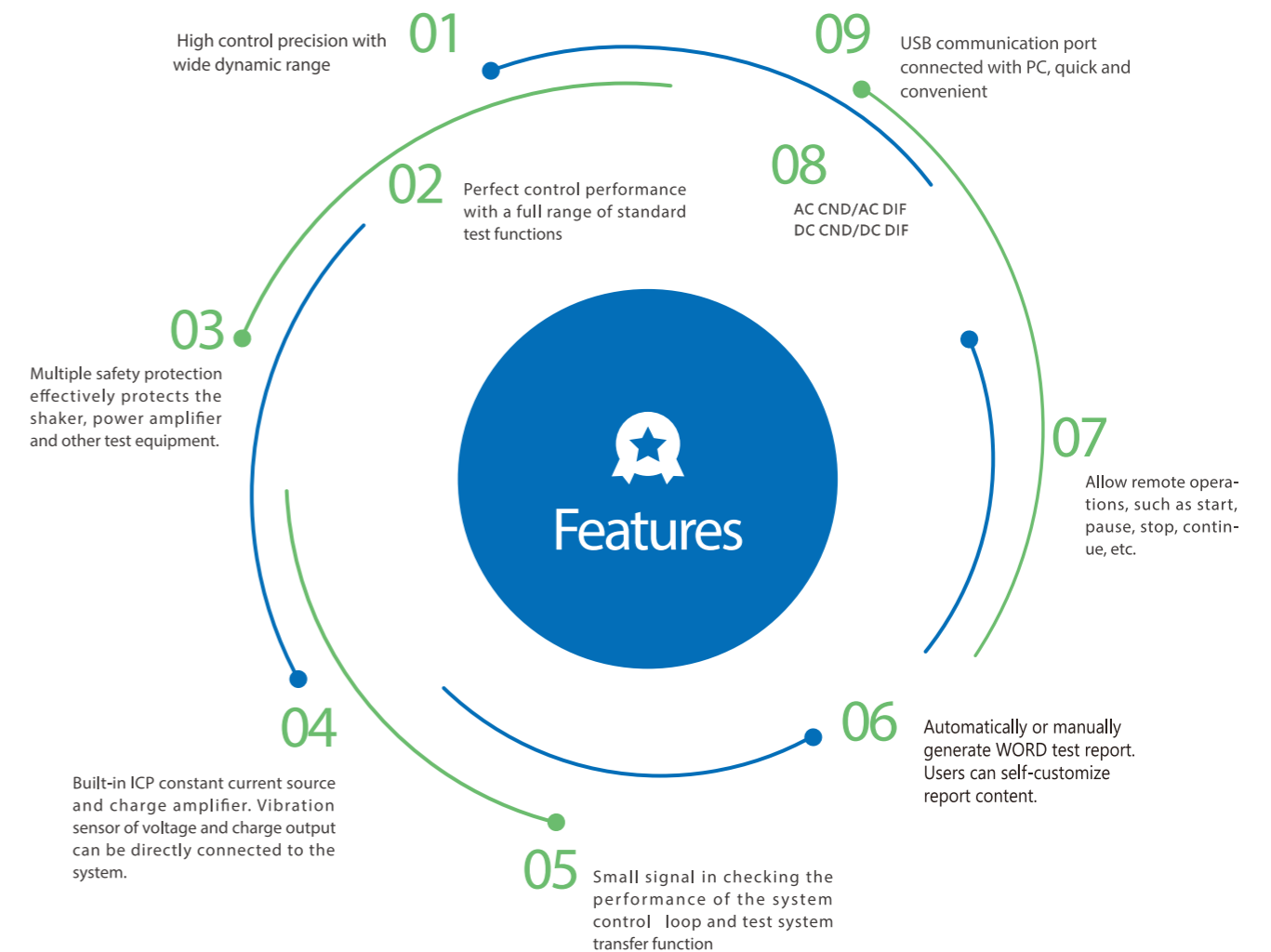
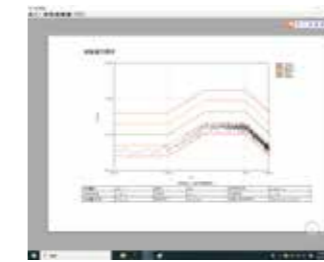
Word test report automatically generated



Test interface



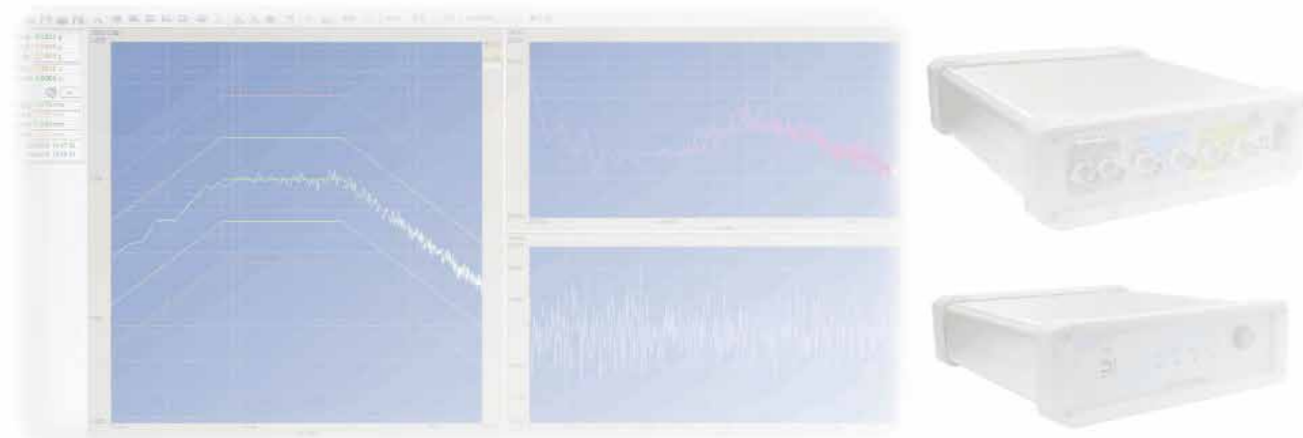
Simple parameter settings



SPECIFICATIONS

Model		VCS_X-02	VCS_X-08	
Control Channel		1	2 (1 DIRVE+1 COLA)	
Measure Channel		2 Expandable to 4	8 Expandable to 16	
Input Impedance		300KΩ	300KΩ	
Output Impedance		30Ω	30Ω	
Output Voltage rang		±10V Peak Voltage	±10V Peak Voltage	
		24-bit ADC	24-bit ADC	
Input Type		AC、DC、IEPE、Charge	AC、DC、IEPE、Charge	
Sine	Dynamic Rang	>110dB	>110dB	
	Control Time	<10ms	<10ms	
	Control Accuracy	±1 dB 200 degrees of freedom to 90% confidence level		
	Frequency Range	1~4680Hz	0.4~12000Hz	
	Scanning rate	Logarithm	0~100 Oct/min	0~100 Oct/min
		Linear	0~6000Hz/s	0~6000Hz/s
Scan type	Logarithmic/Linea			
Random	Dynamic Rang	>100dB	>100dB	
	Control Accuracy	±1 dB(200 degrees of freedom)		
	Frequency Range	1~4680Hz	DC~12KHz	
	Spectrum line	100/200/400/800/1600/3200	100/200/400/800/1600/3200 Expandable to 25600	
	Freedom	2~1000	2~1000	
Classic Shock	Pulse Duration	0.5~3000ms	0.5~3000ms	
	Frequency Range	DC~22000Hz	DC~22000Hz	
	Tolerance Type	MIL-STD-810 / IEC / GJB		
	Shock Wave	Half sine, Front peak saw tooth , Triangle, Rectangle, Trapezoid or user-defined		
	Frame Length	128~16384		
	Average Times	1~500		
	Compensation Method	Front and back pulse compensation, Front pulse compensation, Back pulse compensation		
Others	(RSTD)	(SOR) (ROR) (SOROR) (SRS) (FDR-LTH) (RSTD) (FDR-TTH) (Vibro-shock) (FDS)		
Operating Platform	Windows 7/10/11			

The controller can be configured from well-known brands at domestic and abroad. The “-” indicates that different types of controllers can be configured.



STANDARD VIBRATION TEST SYSTEMS



With light weight, small volume, convenient to move, ET series standard vibration table is widely used in the acceleration sensor calibration; vibration test, fatigue test and mechanical impedance test of micro parts; at the same time, the ET series can also be used for teaching and scientific research and laboratory.

FEATHRES

- 01 Apply to the calibration of high precision vibration meter, mechanical impedance test, and vibration analysis of the vibration source.
- 02 Apply to the vibration test of various small and lightweight parts such as sensor, electronic, electric machines and etc.
- 03 Apply to educational equipment for the basic test of vibration engineering.

SPECIFICATIONS

System Mode	EV1005	ET30	ET10
Max Sine Force Kg.f (N)	55(550)	30(300)	10(100)
Frequency Range (Hz)	5~6000 (10000)	5~7000	5~10000
Max Acceleration (g)	30	35	35
Max Velocity (m/s)	1.3	1.5	1.5
Max Displacement (mm p-p)	20	12	10
Max Load (kg)	30	1	1
Armature Diameter (kg)	1.8	0.45	0.3
Shaker Dimensions(L x W x H) (mm)	380X330X445	200X265X200	184X95X188
Shaker Weight (kg)	100	16	15
Cooling Method	Forced air cooling	Forced air cooling	natural cooling
Power Amplifier Model	PA501E	PAS301E	PAS201E
Power Supply	AC230V±10%、50Hz (AC110V Optional)		

Note: Due to continuous technological updates, the above product information will be subject to change without notice!

SHOCK TEST SYSTEMS SERIES

03

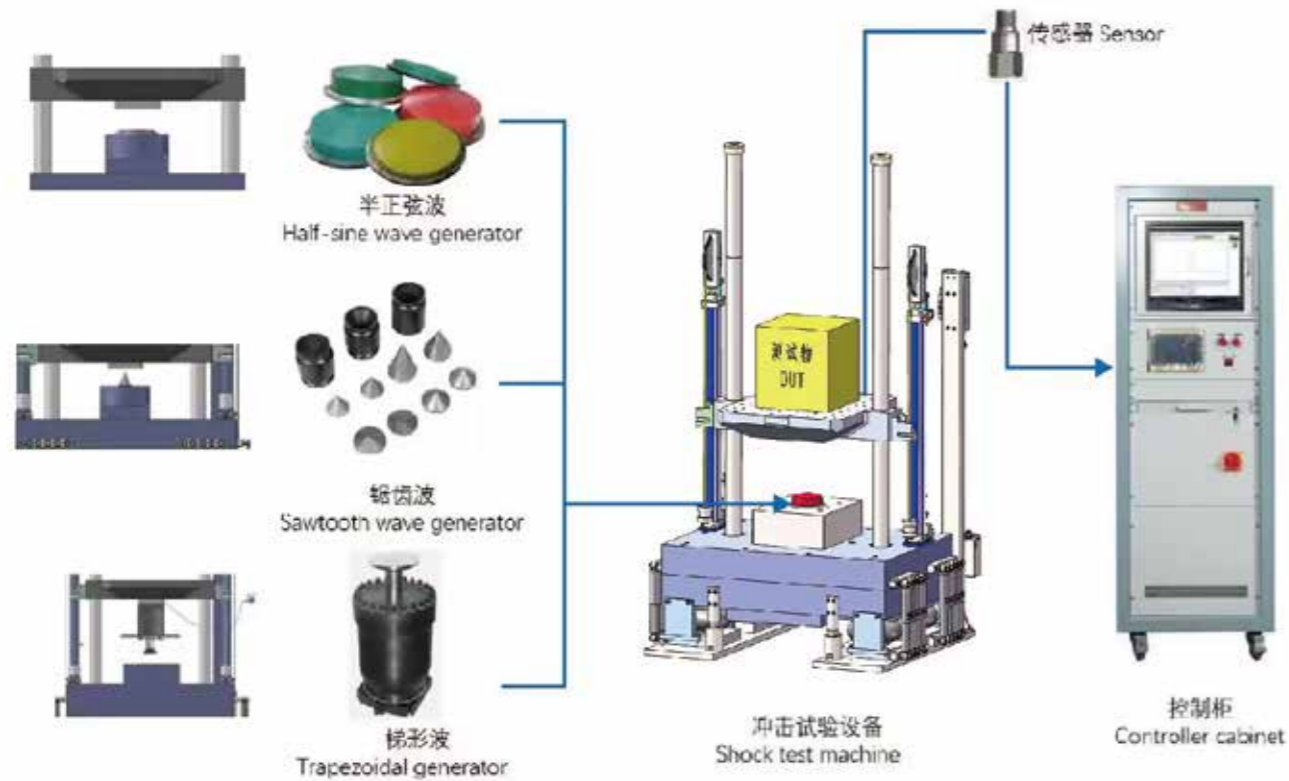
- >> Shock Test Systems
- >> High Acceleration Shock Test System
- >> Incline Impact Test Systems
- >> Bump Test Systems
- >> Shock/Drop Measurement Systems



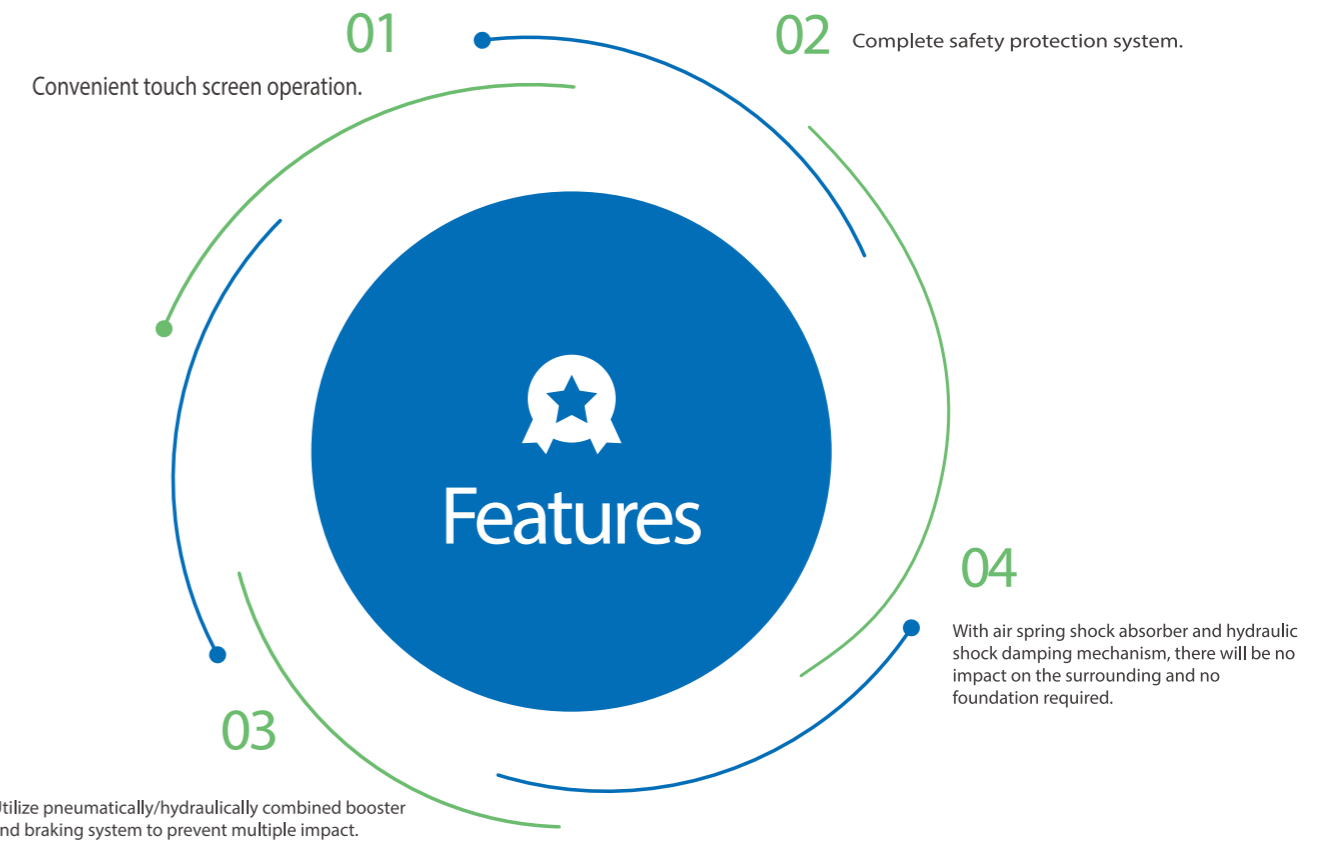
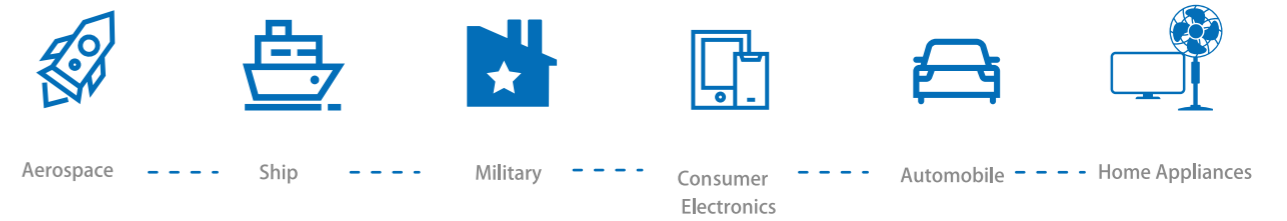
SHOCK TEST SYSTEMS

Products are inevitably affected by impact, bump, free fall, tumbling, etc. during production, transportation, loading and unloading as well as during the use of the products. All of these are transient excitation on the object, causing the object to produce mechanical characteristics of high speed, acceleration, strain rate, etc instantly. These kind of characteristics are completely different from that in static load, and may cause problems to the object in terms of structural strength and stability and sometimes the object may fail. Therefore, it is necessary to study the effect of impact and reproduce the shock environment, to assess the structural strength and performance of the object under shock environment.

THE PRINCIPLES OF OPERATION



FIELD OF APPLICATION



THE APPLICATION OF SHOCK TEST

Shock test is used to accurately measure the product fragility and evaluate the protective ability of product packaging. To do a boundary assessment on complete product breakage, industrial standard shock pulse or company's internal standards, we can provide the most advanced shock test system to meet your application requirements.

It is suitable for shock test in the fields of aviation, aerospace, shipbuilding, military industry, consumer electronics, automobiles, home appliances and display equipment.

By selecting different waveform generators, it can perform half sinusoidal wave, sawtooth wave, or trapezoidal wave.



SPECIFICATIONS

Model		SKT30	SKT50	SKT100	SKT200	SKT300	SKT600	SKT1000
Table Size (cm)		40 x 40	50 x 60	70 x 80	100 x 100	120 x 120	150 x 150	200 x 200
Max. Specimen Weight(kg)		30	50	100	200	300	600	1000
Max. Acceleration (G)	Half Sine	1000	600	600	500	300	200	150
	Saw-tooth	100	100	100	100	50	50	50
	Square	100	100	100	60	50	50	50
Pulse duration (ms)	Half Sine	30~1	30~2	30~3	30~3	30~4	30~5	30~8
	Saw-tooth	18~3	18~3	18~3	18~6	18~6	18~6	18~8
	Square	30~3	30~3	30~3	30~6	30~6	18~6	18~8
Machine dimension(cm)		123x112x233	123x112x240	138x149x245	178x147x245	194x165x245	220x195x290	270x245x300
Controller cabinet dimension (mm)		W600*D900*H1800						
Machine weight(Kg)		1750	2100	3800	5500	6500	16000	21500
Power supply		3φ AC380V 50/60HZ Compressed air 0.5-0.8Mpa 2L/min						
Standards		GB/T2423 GIB1217 GJB150 GJB548 MIL-202F IEC-68-2-27 MIL-STD-883E MIL-STD-810F ISTA UL						

Note: Due to continuous technological updates, the above product information will be subject to change without notice!

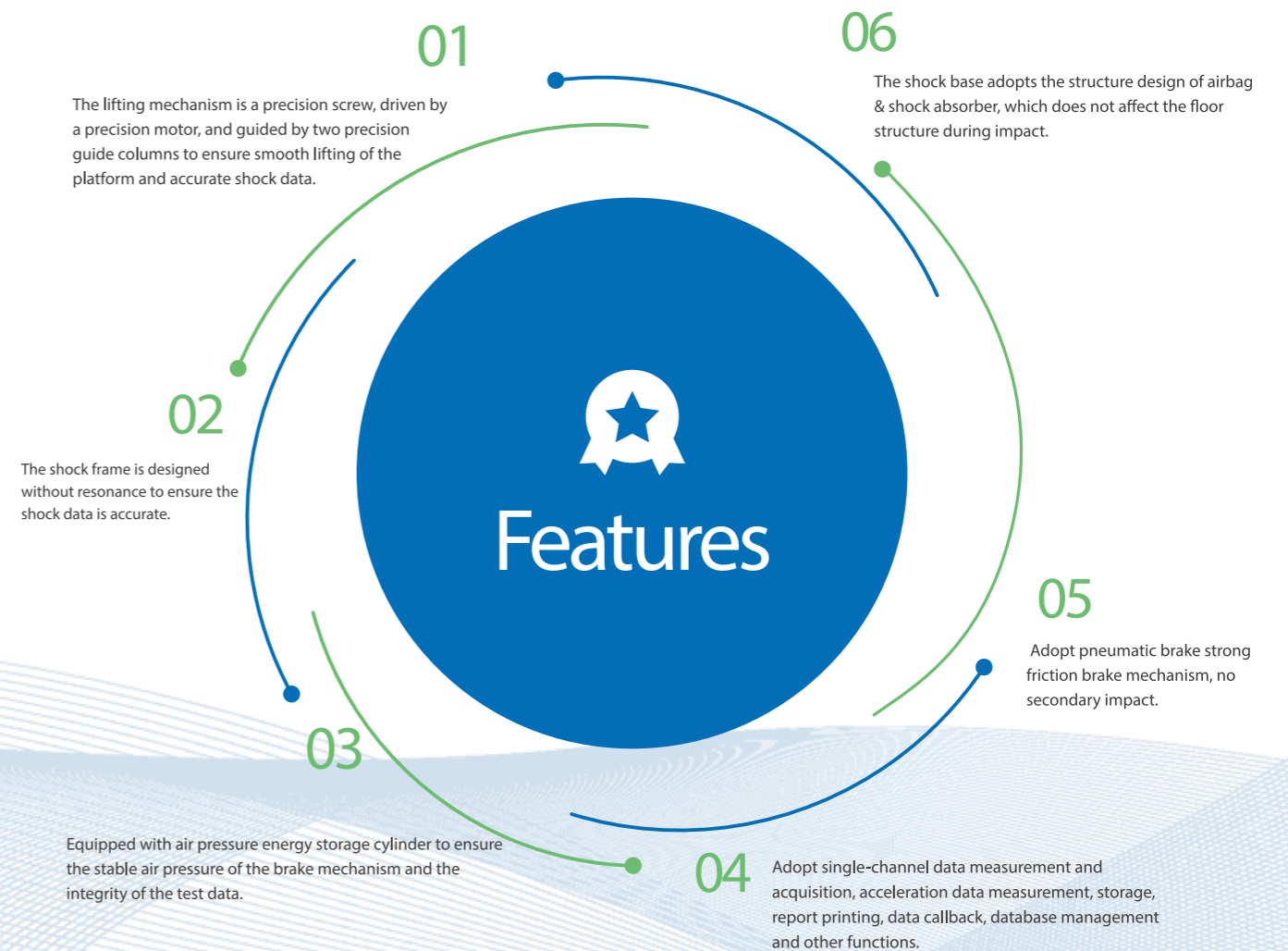
HIGH ACCELERATION SHOCK TEST SYSTEM

Main applications: mobile phones, computer components, optical components, connectors, etc, also used to test the shock absorbance ability of materials.



SPECIFICATIONS

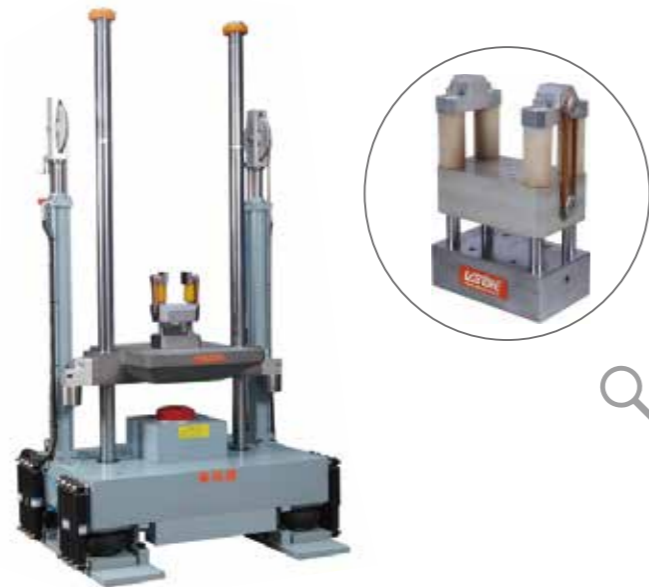
Model	HSKT10	HSKT30	GSKA30
Table Size(mm)	200 × 250	300×300	300×300
Max. Payload(Kg)	10	30	30
Shock Pulse	Half Sine Wave	Half Sine Wave	Half Sine Wave
Acceleration Range(G)	20~2000 (bare table)	20~1500(bare table)	20~10000(bare table)
Pulse Duration(ms)	0.5~18	0.5~30	0.2~18
Max. Drop Height(mm)	1500	1500	1200
(W*D*H) Machine Dimension(mm)	660×700×2380	1240 × 1300 × 2800	920 × 1600 × 2850
Power Supply	AC220V 50Hz 5A, Compressed Air: more than 0.5Mpa		3ph, AC380V 50Hz
Machine Weight(kg)	550	1050kg	1900



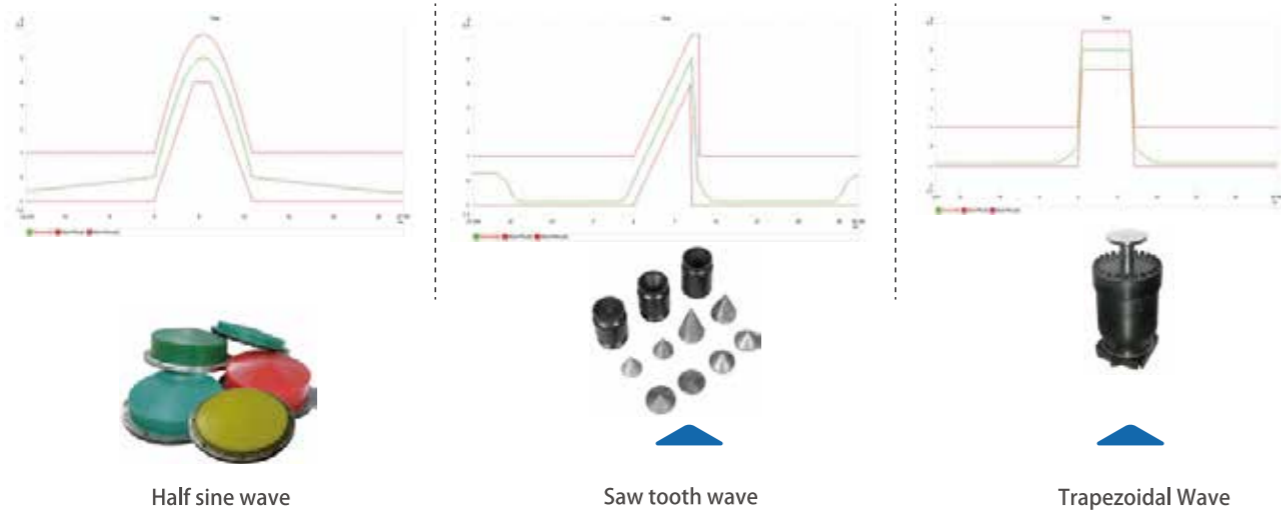
AUXILIARY DEVICE

DUAL MASS SHOCK AMPLIFIER(DMSA)

Shock Pulse	Half Sine Wave	
Table Size(mm)	125×150	180×180
Max.weight of specimen(kg)	3	5
Acceleration Range(G)	300-100000	300-50000
Pulse Duration(ms)	0.1-2.0	0.1-2.0



WAVEFORM GENERATOR



SAFETY DEVICES

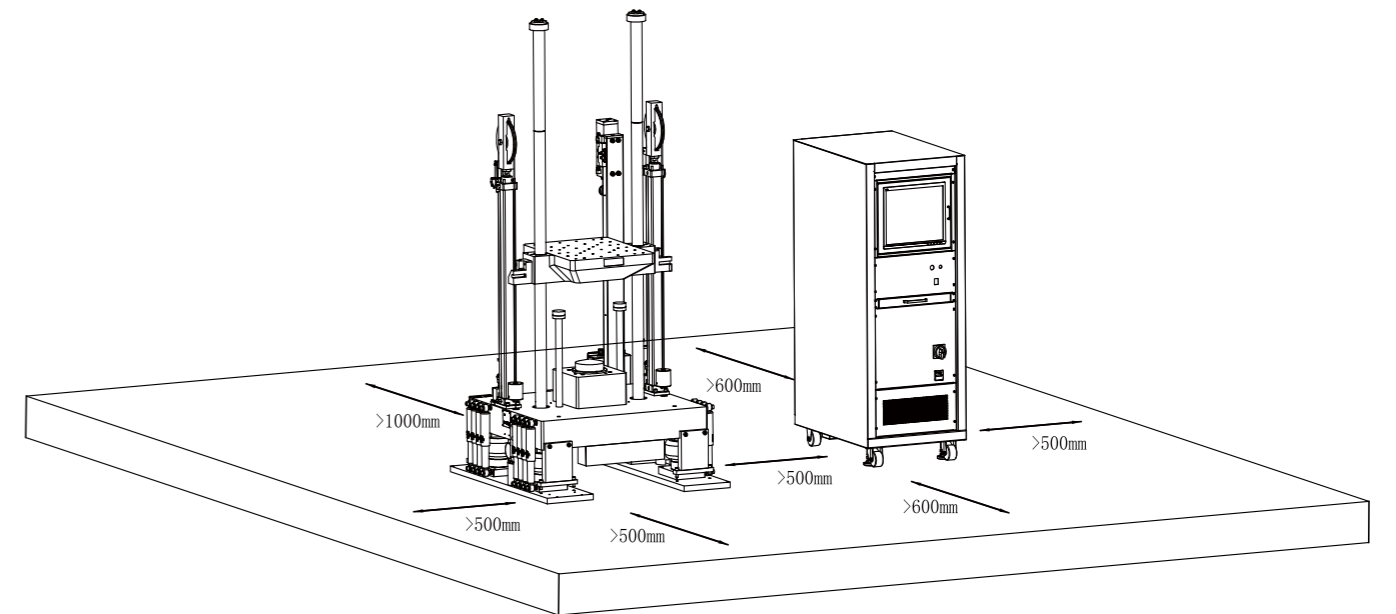
1. A device used for ground protection in hazardous areas, which generates a switch signal by detecting the pressure of the trip to achieve area safety protection.
2. When the human body strays into the dangerous area, the light receiver and luminizer will automatically detect and stop the equipment to protect human safety.



Safety Protection Mats

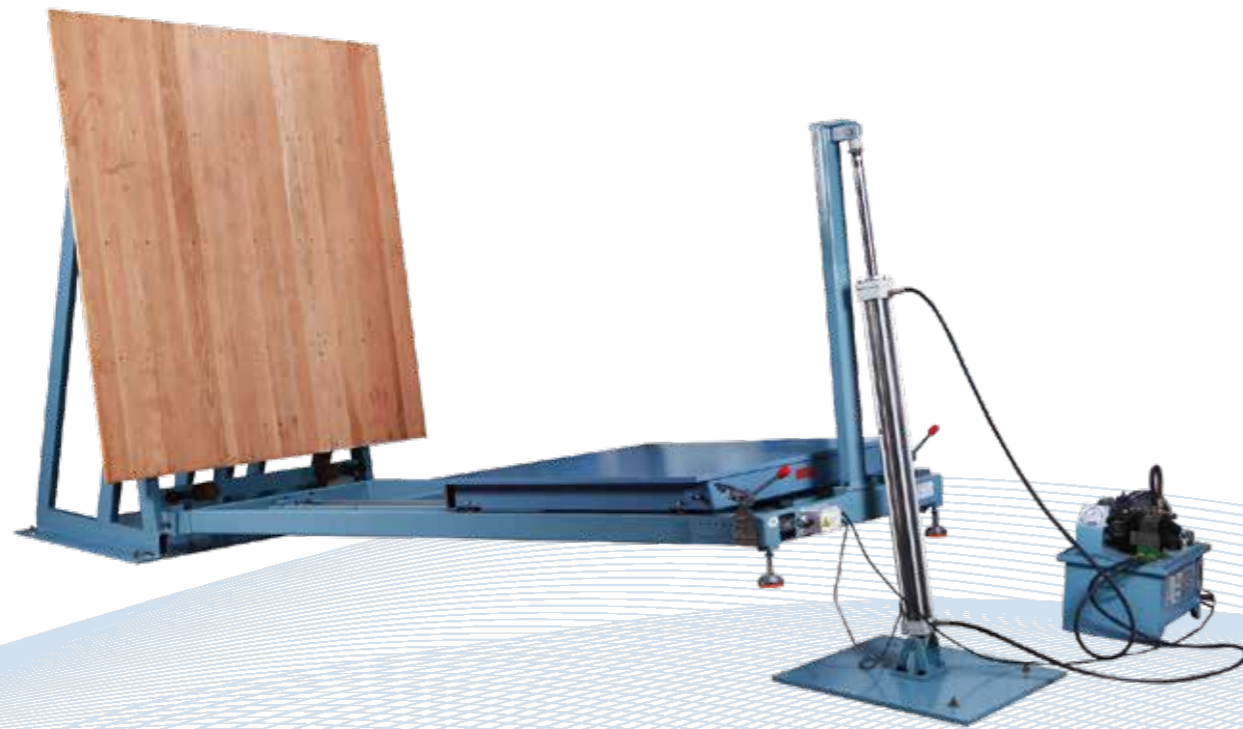
Grating Protection

INSTALLATION REFERENCE DRAWING



INCLINED IMPACT TEST MACHINE

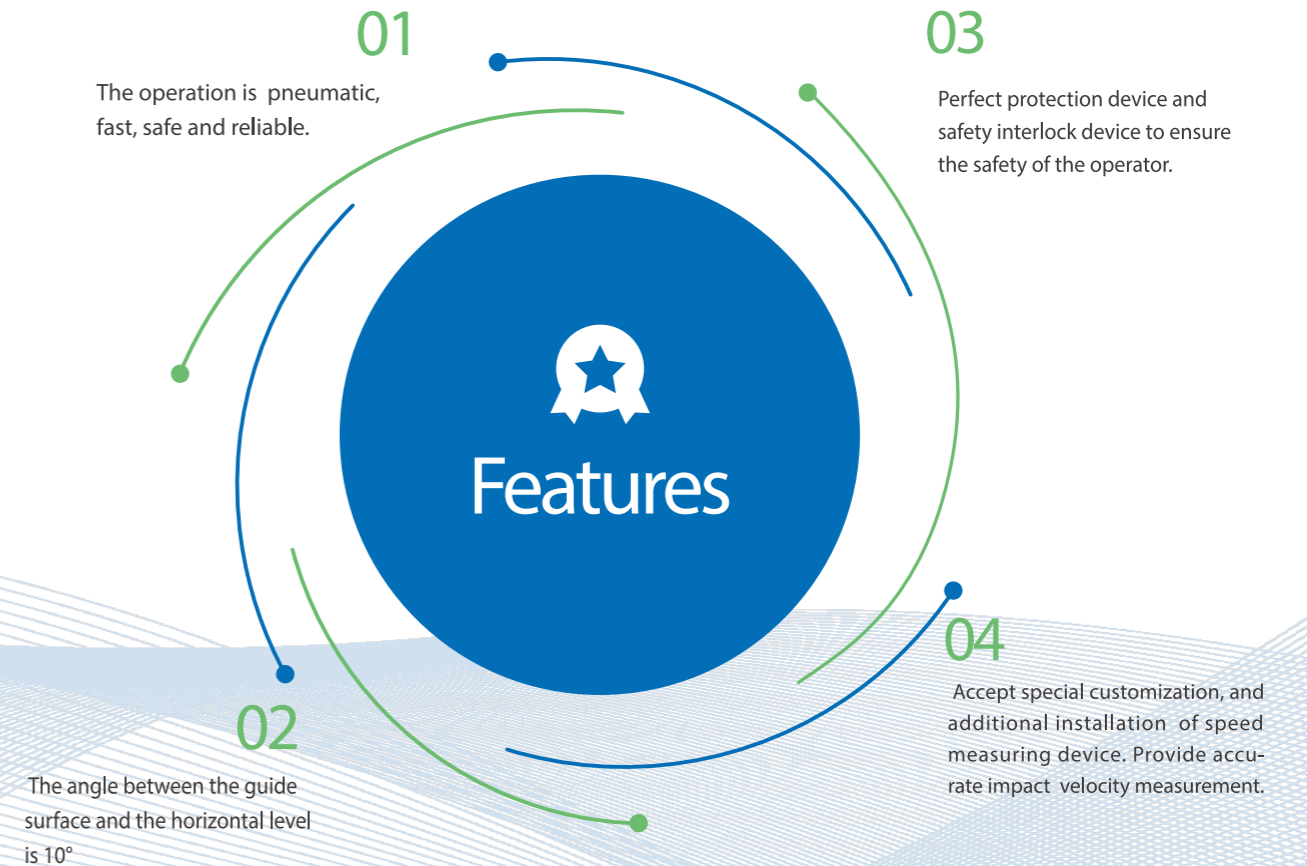
Inclined impact tester is mainly used to simulate the impact and damage resistance of product packaging in a real environment, such as handling, loading and unloading, impact during shifting from one cabin to another, and impact resulted from emergency brake during transport. Inclined shock tester satisfies industrial standards for packaging, such as ASTM, ISTA, ISO, and MIL-STD.



SPECIFICATIONS

Model	IPT-300	IPT-500
Max. Payload	300 KG	500KG
Max. Impact Velocity	2. 1m/s	
Tolerance of Shock Distance	±3%	
Max. Size of Specimen	1200×1200×1600 mm	
Sliding trolley	1200×1200 mm	
Impact base size	1600×2000 mm	
Power	3Φ 380v 50/60Hz	
Standards	JB/T6868-93 ISO2248-1972(E)	

Note: Due to continuous technological updates, the above product information will be subject to change without notice!

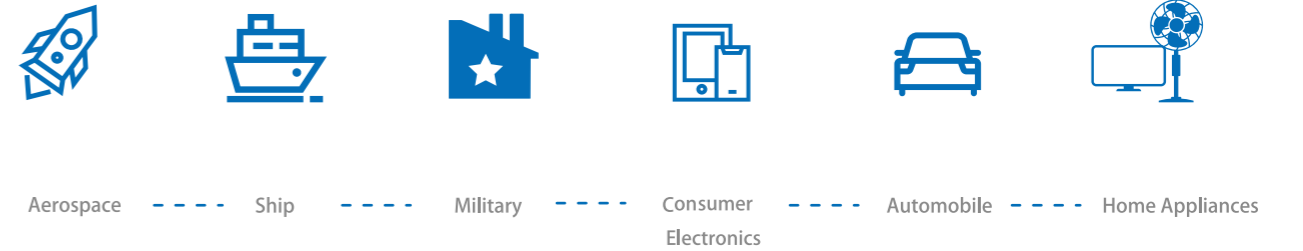


BUMP / SHOCK TEST MACHINE

Components and other electronic and electrical products may experience repeating impact during transportation or use. Bump test can be used as a method to ensure the satisfaction of design structure or as a quality assurance method. Specimen will experience regular peak acceleration and continuous impact with standard pulse during the bump test.



FIELD OF APPLICATION



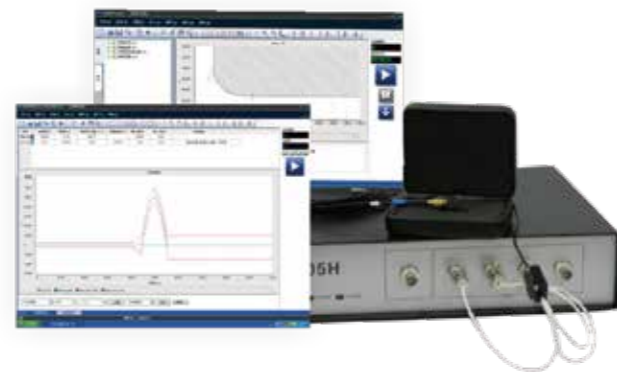
SPECIFICATIONS

Model	SKM500	SKM800	SKM1000	SKM1500
Table size(mm)	500x700	800x800	1000x1000	1500x1500
Max. Payload(kg)	50	200	500	1000
Wave form	Half sine pulse			
Acceleration range(G)	5~120	5~100	5~80	5~60
Pulse duration(ms)	3~18	4~18	5~18	6~18
Bump repetition frequency(Hz)	1~120		1~80	
Drop height range(mm)	350			
Maximum velocity change(m/s)	3.2			
Machine dimension(mm)	1200x1150x1250	1150x1200x1300	1170x1100x1270	1600x1650x1400
Machine weight(kg)	2500	3300	4500	7200
Power & Air supply	AC220V±10% 50Hz		Air supply (8kg 2-3m³ gasholder)	
Standards	GB/T2423.4 GB/T2423.6 IEC68-2-29 JJG497-2000 JIS C0042-1995 etc			

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SHOCK/DROP MEASUREMENT SYSTEMS

Shock measurement analyzer is specially used as a platform to capture and analyze shockwave. It is suitable for capturing, measurement and analysis of the events under normal or high impacts. It can meet ISO, GJB150, GJB360, GB2423, MIL-STD-810 and other shock test standards and is a professional tool for environmental shock testing, measurement and analysis.



SPECIFICATIONS

Model		ST-02	ST-04
Input	Channel	2	4, Expandable to 8/12/16 Can be extended to 8/12/16
	Sampling Frequency	192KHz	1MHz
	Voltage Range	-10V~+10V	
	Coupled Modes	AC, DC, ICP; built-in ICP constant current source, charge amplifier (1mV/pc and 0.1mV/pc range), compatible with TEDS sensors.	
Output	Channel	1	
	Bandwidth	For calibration only	
	Sampling Frequency	192KHz	
	Voltage Range	-10V~+10V	
General Indicators	Electricity Supply	AC220V	
	Power	40W	
	Communication Interface	USB2.0	
	Operating System	Microsoft Windows 7/10/11	
Support Standards	ISO,MIL-STD-810, or user defined		
Other Indicators	ADC Resolution Ratio	24 (bits)	16 (bits)
	Pulse Width	0.5~100ms	0.1~100ms
	Max. Acceleration	5,000gn	100,000gn
	Dynamic Range	110dB	80dB
	Harmonic Distortion	< -95dB	< -70dB
	Signal to noise ratio	> -95dB	> 70dB
	Input Type	Voltage, Charge	Voltage
	Frequency Accurate	0.01%	

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DROP TESTER FOR HEAVY PACKAGE

For large packaging with high mass, the vertical drop height during transport will be low and therefore they need drop test with relatively low drop height. Zero Height Drop Tester is mainly used for drop test of big package. It uses an E-shaped fork as a bracket that can move downward quickly and the specimen is placed in balance according to test requirement (surface, edge or corner drop test). During testing, the bracket moves downwards quickly ahead of specimen with acceleration greater than 3G to ensure the separation of bracket and specimen and achieve free fall. The standard fall distance is ranged between 2.54cm-120cm.



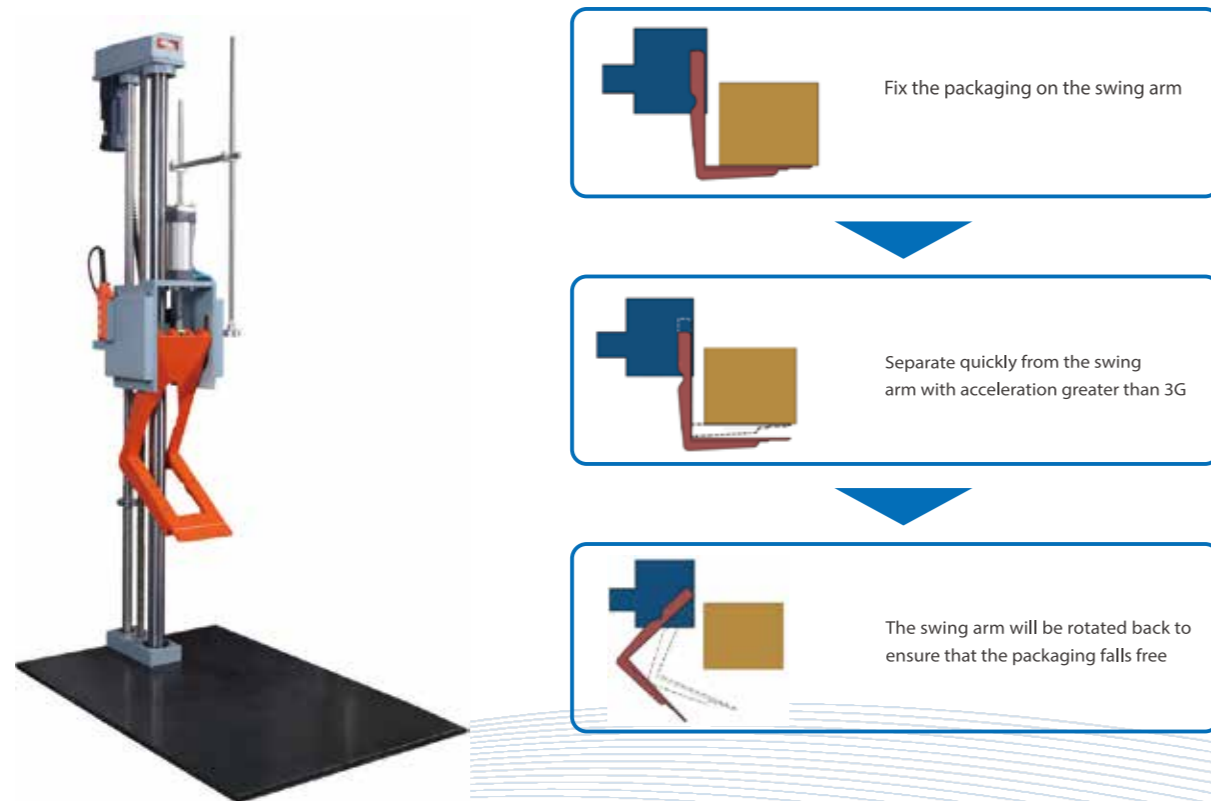
SPECIFICATIONS

Model	DT020	DT030	DT050
Drop Height(mm)	0~1200	0~1200	0~1200
Payload Capacity(kg)	200	300	500
Package Size(mm)	1700×1500×1200	1900×1500×1200	1900×1500×1200
Drop Mode	Free Fall Drop		
Machine Size(mm)	2100×1700×2800	2100×1700×2800	2100×1700×2800
Machine Weight(kg)	2350	2500	3200
Power/Air Supply	3Φ AC380V, 50Hz Compressed Air) 0.5~0.7Mpa		
Applicable Standards	ISO2248-72(E) GB/T4857.5 JISZ0202-87 IEC68-2-27		

DROP TEST MACHINE

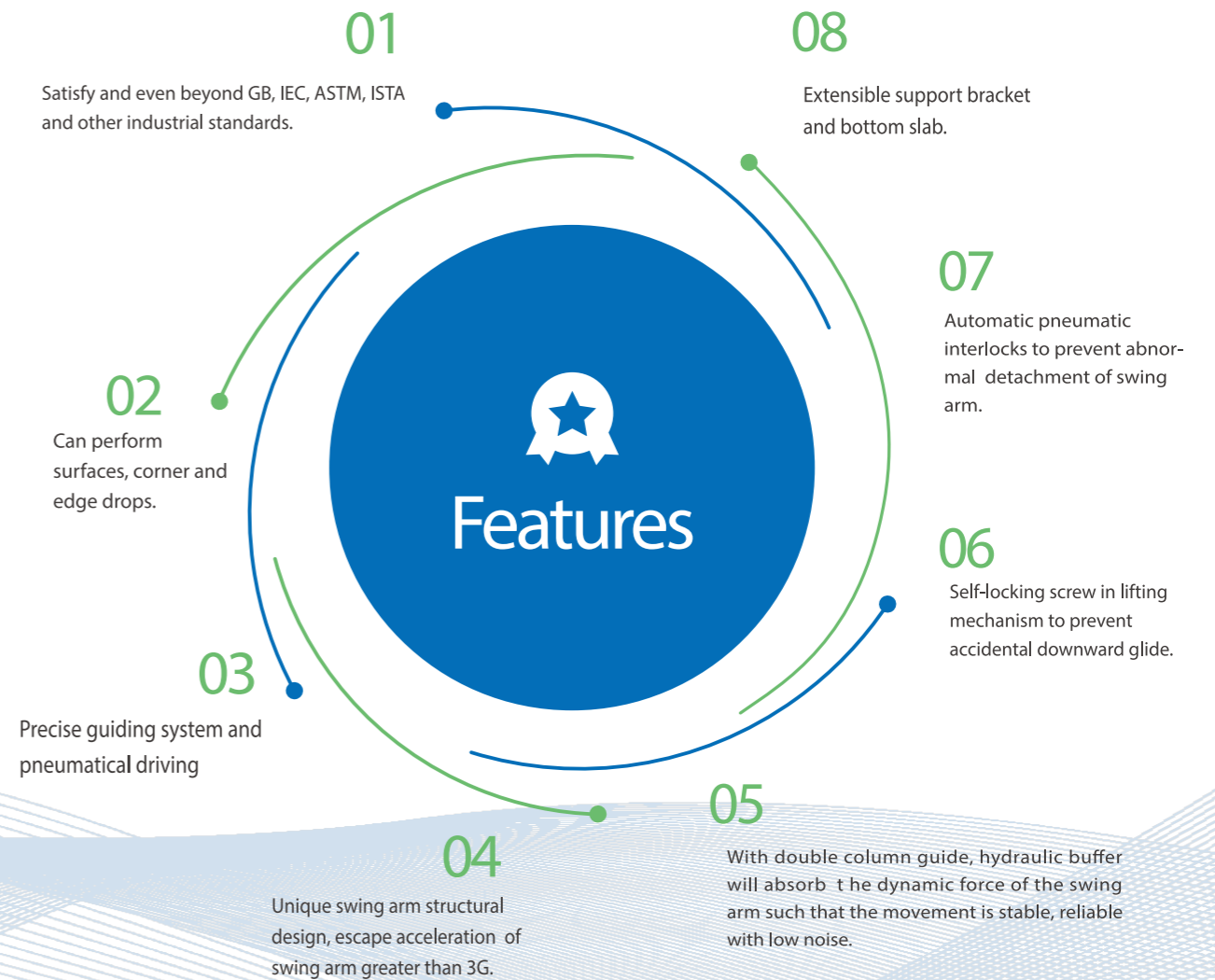
Packaging drop test is used to determine the effect of impact on the package during use, transportation, loading and unloading. The strictly designed LABTONE "1G+" ensures its accuracy. Apart from accurate plane fall test, it can also perform edge drop and corner drop test to make a complete evaluation on the performance of packaging and product.

WORKING PROCESS



SPECIFICATIONS

Model	DT150	DT200
Drop Height(mm)	300~1500	300~2000
Payload Capacity(kg)	85	85
Package Size(mm)	800×800×800	800×800×800
Drop Mode	Free Fall Drop	
Machine Size(mm)	1000*1500*2100	1200*1700*2600
Machine Weight(kg)	480	550
Power/Air Supply	AC220V 50Hz (Compressed Air) 0.5~0.7Mpa	
Applicable Standards	ISTA ISO2248-72(E) GB/T4857.5 JISZ0202-87 IEC68-2-27	



DROP TESTER FOR PORTABLE GADGETS

DT series provides drop impact test for smart phones, cell phones and other mobile gadgets. The specimen holding system can manipulate the dropping posture, and provide effective reproducibility of drop tests.

FEATHRES

- 01 Keep the dropping posture by clamping of products with pneumatic pen cylinder to avoid the disturbance of posture by the gravity shift or atmospheric friction. The cylinder will be released near the end of dropping stroke.
- 02 The drop height can be settled flexibly.
- 03 Safety design – the electromagnetic holder never releases the specimen holding system unless it's energized.



SPECIFICATIONS

Model	DT-2	DT275
Payload Capacity(kg)	2	7.5
Drop Height(mm)	250~2000	250~2000
Drop Height Setting	Scale and setting pointer	Automatic
Holding/ Releasing Specimen	Pneumatic per cylinder	Pneumatic per cylinder
Package Size(mm)	100(W) x 200(L)	300(W) x 280(L)
Machine Size(mm)	500 x 600 x 2382	900 x 1100 x 2475
Machine Weight(kg)	85	780
Power Supply	AC220V 50Hz	AC220V 50Hz
Supply Air Pressure	5kg/cm ²	5kg/cm ²
Applicable Standards	JIS C 60068-2-31, IEC 60068-2-31	JIS C 60068-2-31, IEC 60068-2-31

RELEASE HOOKS

KDT2000

The KDT2000 Drop Tester is designed to simulate the drops and mechanical hazards that occur in distribution. It is especially suited to very large, heavy payloads which cannot be tested on conventional drop test machines. Regardless of the size or shape of the package, the system is capable of performing a variety of free fall (flat, corner edge). When used, lift the ring by lifting it onto the release mechanism jaw and then lifting the release mechanism and the test package up to the test drop height by lifting the device. The foot release switch activates the solenoid valve in the release mechanism so that the release mechanism jaws open and the package is free to fall.



SPECIFICATIONS

Max. Load	200Kg-1500Kg
Power Supply	AC 220V 50Hz
Compressed Air	0.5Mpa~0.7Mpa
Lifting Device	User provided

Note: Due to continuous technological updates, the above product information will be subject to change without notice!

APPLICATIONS





EXHIBITIONS AND SEMINARS



COMPANY ACTIVITY

