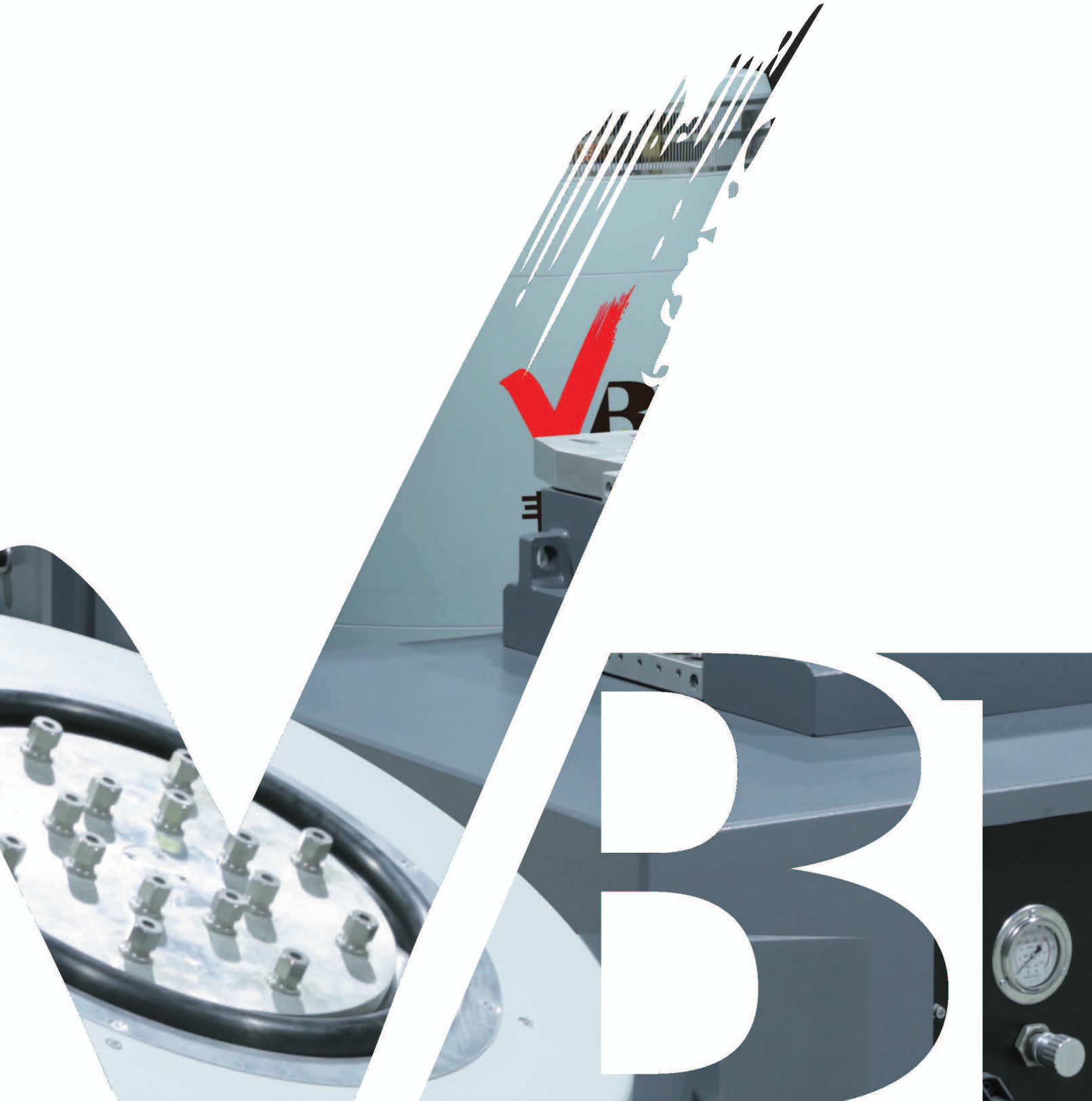




Mechanics and Reliability Testing Equipment Manufacturer





VB Tech Co., Ltd. (hereinafter referred to as VBT) is a professional manufacturer and technical service provider of mechanical environment and reliability testing products. VBT has rich technical and experiential reserves in research and development of test equipment, customization of non-standard systems, equipment installation and maintenance. With over a decade of experience in this industry, we have gained a reputation for producing reliable and efficient electro-dynamic shakers and other mechanical testing equipment that meet the needs of a wide range of customers.

Our product line includes a full series of electro-dynamic shakers ranging from 1kN to 1,000kN, multi-axis and multi-degree-of-freedom vibration test systems, shock & bump tester, hydraulic vibration equipment, and intelligent monitoring test platforms. These products are widely used in fields such as aerospace and aviation, military, marine, locomotive, automotive, electronics and new energy, providing technical support for product reliability verification, quality control, design optimization, life assessment, and more.

In addition to our core products, we also offer a range of services, including installation, training, maintenance, and repair. Our technical support team is available 24/7 to provide assistance to our customers whenever they need it.

We have a team of highly skilled and experienced engineers who work closely with our customers to understand their requirements and develop solutions that meet their needs. Our engineers use state-of-the-art technology and software to design and test our products, ensuring that they meet the highest quality standards.

In our company, we are committed to providing our customers with the highest quality products and services. We are constantly innovating and improving our products to meet the changing needs of our customers and the industry. We take pride in our work and are dedicated to ensuring the satisfaction of our customers.



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ELECTRO-DYNAMIC SHAKER

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WATER-COOLED
ELECTRO-DYNAMIC SHAKER

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INDUCTION-TYPE
ELECTRO-DYNAMIC SHAKER

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ELECTRO-DYNAMIC SHAKER SELECTION GUIDE

System Model Definition

$\frac{\text{ATS} - 40}{\text{MV/MT/MB}} \frac{0808}{\text{HE0808/800}}$

① ② ③ ④ ⑤

Definition

- ① Shaker model: ATS-air-cooled test system; WTS-water-cooled test system; CTS-induction test system;
- ② System Thrust: 40-40kN;
- ③ Slip Table Model: MV-V-shaped guide rail; MT-T-shaped guide rail; MB-hydrostatic bearing;
- ④ Slip Table Size: 0808-800×800mm (length×width);
- ⑤ Head Expander Model: HE0808-800×800mm (length×width); HE800- 800mm (diameter).

Selection Rule

① Main Parameters of the test

- Test acceleration value
- Test displacement
- Test speed
- Test frequency range
- Reference standards for testing
- Test specimen dimensions
- Test specimen mass
- Test specimen center height
- Test specimen installation environment
- Test specimen fixing method

② Thrust calculation

Calculation formula: $F=N*(M1+M2+M3)*a$

F-Thrust (N);

N-Safety factor (recommended value1.3);

M1-Mass of moving coil (kg);

M2-Mass of the table (kg);

M3-Mass of specimen and fixture (kg);

a-Test acceleration value (m/s^2).

① System Selection

The size of the working table is determined by the size of the test specimen,

For example, if the size of the test specimen is 600×600mm×300mm, the workbench size is recommended to be 800×800mm.

The type of guide rail is selected based on the center of gravity height and mass of the test specimen,

For example, if the center of gravity is low and the anti-overturning moment requirement is low, V-shaped guide rails are recommended. If the center of gravity is high and the anti-overturning moment requirement is high, T-shaped guide rails or hydrostatic bearings are recommended.

The frequency range of the test determines the frequency range and frequency response characteristics of the working table. After the above is determined.

② the appropriate thrust equipment can be selected based on thrust calculation. For example, if the calculated F value is 38,000N, a 40,000kN product (except for non-standard customized products) should be selected.

Case explanation:

The weight of a certain test specimen (including fixtures) is 100kg, the test acceleration value is $200m/s^2$, and the size of the test specimen is 600×600mm×300mm. Based on the above information, the working table is selected as 800×800mm, the material is calculated according to aluminum alloy, and the guide rail type is V-shaped, with a total weight of about 80kg. It is estimated that a 50kN thrust equipment should be selected, with the equivalent mass of the moving coil being about 50kg. Therefore, $F=1.3(50+80+100)*200=59,800N$ 50,000N, so at least a 60kN thrust equipment should be selected, with the equivalent mass of the moving coil being about 50kg. Then $F=1.3*(50+80+100)*200=59,800N$ 60,000N, so at least a 60kN thrust should be selected. The basic selection model is: ATS-60 MV0808 HE0808.

AIR-COOLED ELECTRO-DYNAMIC SHAKER

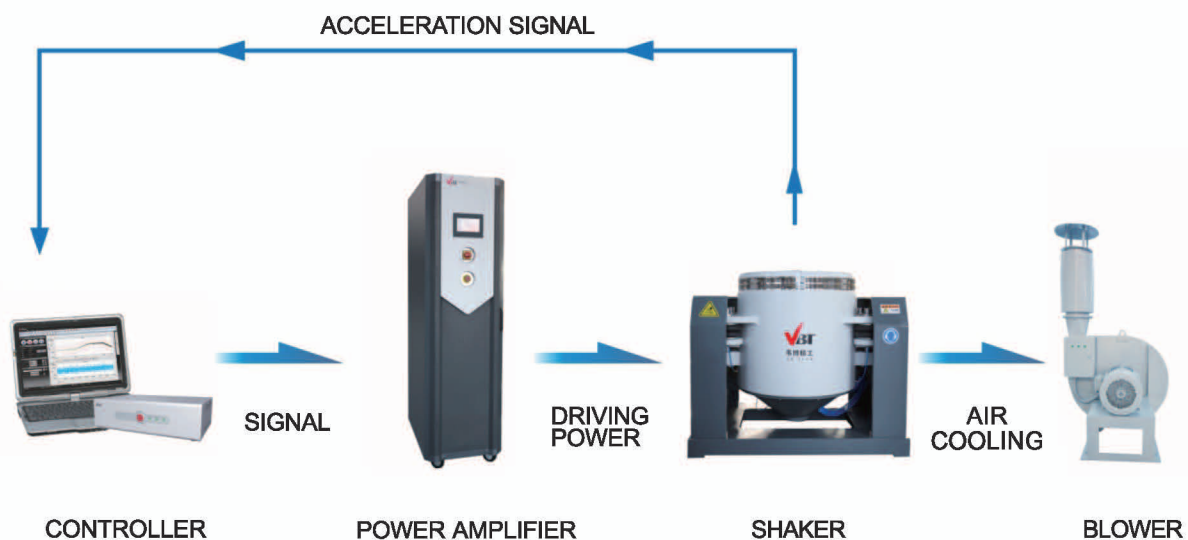
The ATS series Air-Cooled Electro-Dynamic Shakers, designed and manufactured by VBT (VB TECH Company), offer a wide thrust range of 1kN to 80kN, making them an excellent option for dynamic environmental testing such as sine, random, shock, and composite testing. Our shakers are compatible with controllers from various brands and are known for their global leadership in reliability, accuracy, intelligence, cost-effectiveness, and energy-efficiency, thanks to our innovative RAICE design philosophy.

Our shaker can be mounted on either a Vertical Trunnion Pedestal or a Combo Slip Table Base, and can be customized to meet the user's specific application scenario and requirements. Additionally, we offer various auxiliary systems for selection, including head expanders, fixtures, thermal barriers, mobile devices, remote controllers, and auxiliary support devices, among others.



Performance Characteristics

- Sine Force Range: 1kN-80kN
- Random Force Range: 1kN-80kN
- Shock Force Range: 2-3 times Sine Force
- Displacement: 25mm, 51mm, 76mm, 100mm, 400mm
- Useable Frequency Range: 1Hz-10,000Hz
- Internal Load Support: Up to 1200kg
- Safety: Comply with EU Directives





System Model	ATS-1	ATS-3	ATS-6	ATS-6H	ATS-10	ATS-18	ATS-25
Sine Force (kN)	1	3	6	6	10	18	25
Random Force (kN)	1	3	6	6	10	18	25
Shock Force (kN)	2	6	12	12	20	36	50
* Higher Shock Force Option (kN)	3	9	18	18	30	54	75
Sine Acceleration (g)	66	100	100	100	100	150	100
Random Acceleration (g rms)	66	100	80	80	80	100	100
# Useable Frequency (Hz)	5-6,000	5-4,000	5-5,000	5-10,000	5-5,200	5-7,000	5-4,000
Displacement (p-pmm)	25	38	51	51	51	20	51
Velocity (m/s)	1.6	2	2	2	2	2	2
& Higher Velocity Option	2.4	3	3	3	3	3	3
Effective Mass of Moving Element: (kg)	1.5	3	6	6	10	12	24
Armature Diameter (mm)	120	150	230	230	240	230	340
Armature Inserts Pattern	90-6xM8	75-8xM8 125-8xM8	100-8xM8 200-8xM8	100-8xM8 200-8xM8	100-8xM10 200-8xM10	100-8xM10 200-8xM10	150-8xM10 300-8xM10
Max. Internal Load Support (kg)	100	120	300	300	300	200	300
@ Stray Magnetic Field (mT)	1	1	1	1	1	1	1
Overall Size (mm)							
Length	400	720	930	930	930	850	1,180
Width	365	590	720	720	720	685	780
Height	470	625	760	760	760	788	1,090
Total Weight of Vertical Shaker (kg)	175	600	600	600	600	1,200	1,700
Recommended Amplifier	SAP-1	SAP-3	SAP-6	SAP-6	SAP-10	SAP-30	SAP-30
Output Power (kVA)	1	3	6	6	10	30	30
Signal-To-Noise Ratio	65dB	65dB	65dB	65dB	65dB	65dB	65dB
Overall Size (mm)							
Length	440	550	550	550	550	550	550
Width	580	850	850	850	850	850	850
Height	125	1,770	1,770	1,770	1,770	1,770	1,770
Total Weight (kg)	30	550	550	550	550	590	590
Blower (Cooling Fan)	BL-3	BL-3	BL-10	BL-10	BL-10	BL-30	BL-30
Power (kW)	0.75	0.75	4	4	4	7.5	7.5
Air Flow (m³/s)	0.18	0.18	0.5	0.5	0.5	0.8	0.8
Air Pressure (Pa)	1,500	1,500	5,000	5,000	5,000	2,600	2,600
Rotation Speed (r/min)	2,900	2,900	2,900	2,900	2,900	2,900	2,900
Overall Size (mm)							
Length	380	380	800	800	800	930	930
Width	500	500	530	530	530	640	640
Height	1,010	1,010	1,270	1,270	1,270	1,440	1,440
Total Weight (kg)	40	40	120	120	120	180	180
Total System Power (kVA)	3	5.7	18	18	21	46	46
System Working Environment	Ambient Temperature Range: 0-40 Ambient Humidity Range: 0-90% RH no condensation Compressed Air Requirement: 6-8 Bar						

* Optional Higher Shock Force, 3 times the sinusoidal force.

Optional Lower Useable Frequency, starting from 1Hz.

& Higher Velocity is an option for special test application

@ Stray Magnetic Field value is measured 150 mm (6 in) above table, full-field, at normal operating temperature.



System Model	ATS-30	ATS-35	ATS-40	ATS-53	ATS-60	ATS-70	ATS-80
Sine Force (kN)	30	35	40	53	60	70	80
Random Force (kN)	30	35	40	53	60	70	80
Shock Force (kN)	60	70	80	106	120	140	160
* Higher Shock Force Option(kN)	90	105	120	159	180	210	240
Sine Acceleration(g)	100	100	120	100	115	100	115
Random Acceleration(g rms)	100	100	100	80	80	80	80
# Useable Frequency(Hz)	5-5,000	5-3,000	5-3,000	5-3,000	5-3,000	5-2,700	5-2,700
Displacement (p-pmm)	51	76	76	76	76	76	76
Velocity (m/s)	2	2	2	2	2	2	2
& Higher Velocity Option	3	3	3	3	3	3	3
Effective Mass of Moving Element: (kg)	25	35	35	53	53	67	67
Armature Diameter (mm)	340	370	370	445	445	480	480
Armature Inserts Pattern	150-8×M10 300-8×M10	150-8×M10 300-8×M10	150-8×M10 300-8×M10	200-8×M12 400-8×M12	200-8×M12 400-8×M12	200-8×M12 400-8×M12	200-8×M12 400-8×M12
Max. Internal Load Support (kg)	500	500	500	800	800	1,200	1,200
@ Stray Magnetic Field (mT)	1	1	1	1	1	1	1
Overall Size (mm)							
Length	1,180	1,140	1,140	1,400	1,400	1,530	1,530
Width	780	760	760	1,010	1,010	1,070	1,070
Height	1,090	1,150	1,150	1,232	1,312	1,312	1,312
Total Weight of Vertical Shaker (kg)	1,750	2,850	2,850	3,500	3,500	4,300	4,300
Recommended Amplifier	SAP-30	SAP-40	SAP-40	SAP-50	SAP-60	SAP-70	SAP-80
Output Power (kVA)	30	40	40	50	60	70	80
Signal-To-Noise Ratio	65dB	65dB	65dB	65dB	65dB	65dB	65dB
Overall Size (mm)							
Length	550	550	550	550	550	550	550
Width	850	850	850	850	850	850	850
Height	1,770	1,770	1,770	1,770	1,990	1,990	1,990
Total Weight (kg)	590	590	590	600	640	640	650
Blower (Cooling Fan)	BL-30	BL-30	BL-50	BL-50	BL-70	BL-70	BL-80
Power (kW)	7.5	7.5	15	15	22	22	30
Air Flow (m³/s)	0.8	0.8	1.3	1.3	1.3	1.3	2.1
Air Pressure (Pa)	2,600	2,600	8,600	8,600	12,000	12,000	15,500
Rotation Speed (r/min)	2,900	2,900	2,900	2,900	2,900	2,900	2,950
Overall Size (mm)							
Length	930	930	1,200	1,200	1,200	1,200	1,250
Width	640	640	900	900	900	900	1,100
Height	1,440	1,440	1,900	1,900	1,900	1,900	2,200
Total Weight (kg)	180	180	390	390	460	460	650
Total System Power (kVA)	46	52	66	82	96	112	125
System Working Environment	Ambient Temperature Range: 0-40 Ambient Humidity Range: 0-90% RH no condensation Compressed Air Requirement: 6-8 Bar						

* Optional Higher Shock Force, 3 times the sinusoidal force.

Optional Lower Useable Frequency, starting from 1Hz.

& Higher Velocity is an option for special test application

@ Stray Magnetic Field value is measured 150 mm (6 in) above table, full-field, at normal operating temperature.

WATER-COOLED ELECTRO-DYNAMIC SHAKER



Performance Characteristics

- Sine Force Range: 50kN-1,000kN
- Random Force Range: 50kN-800kN
- Shock Force Range: 2-3 times Sine Force
- Displacement: 51mm, 76mm, 100mm
- Useable Frequency Range: 1Hz-2,800Hz
- Internal Load Support: Up to 5,000kg
- Safety: Comply with EU Directives

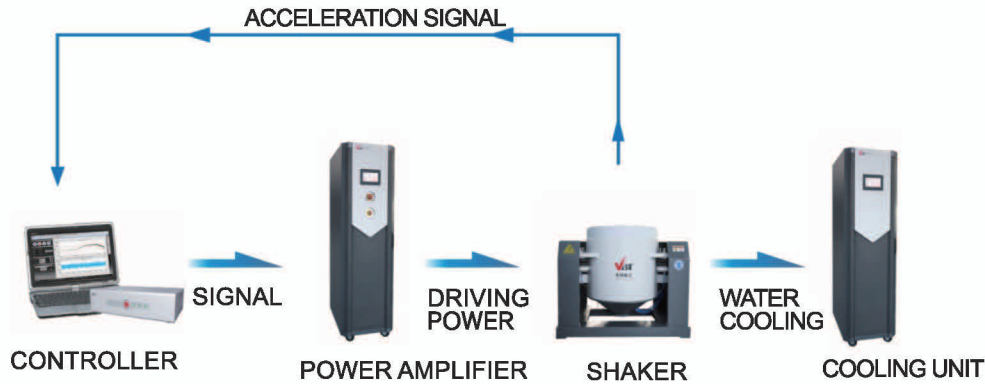
System Model	WTS-55	WTS-60	WTS-70	WTS-80	WTS-100	WTS-120	WTS-160
Sine Force (kN)	55	60	70	80	100	120	160
Random Force (kN)	55	60	70	80	100	120	160
Shock Force (kN)*	110	120	140	160	200	240	320
* Higher Shock Force Option (kN)	165	180	210	240	300	360	480
Sine Acceleration (g)	100	115	100	115	100	115	100
Random Acceleration (g rms)	80	80	80	80	80	80	80
# Useable Frequency (Hz)	5-2,800	5-2,800	5-2,800	5-2,800	5-2,700	5-2,700	5-2,400
Displacement (p-pmm)	76	76	76	76	76	76	76
Velocity (m/s)	2	2	2	2	2	2	2
& Higher Velocity Option	3	3	3	3	3	3	3
Effective Mass of Moving Element: (kg)	50	50	65	65	75	75	130
Armature Diameter (mm)	445	445	480	480	480	480	650
Armature Inserts Pattern	200-8xM12 400-8xM12	200-8xM12 400-8xM12	200-8xM12 400-8xM12	200-8xM12 400-8xM12	200-8xM12 400-8xM12	200-8xM12 400-8xM12	200-8xM12 400-8xM12 600-8xM12
Max. Internal Load Support (kg)	800	800	1,200	1,200	1,200	1,200	1,600
@ Stray Magnetic Field (mT)	1	1	1	1	1	1	1
Overall Size (mm)							
Length	1,400	1,400	1,400	1,400	1,650	1,650	1,955
Width	1,115	1,115	1,115	1,115	1,150	1,150	1,380
Height	1,190	1,190	1,190	1,190	1,400	1,400	1,535
Total Weight of Vertical Shaker (kg)	3,500	3,500	4,300	4,300	4,500	4,500	7,500
Recommended Amplifier	SAP-50	SAP-60	SAP-70	SAP-80	SAP-100	SAP-120	SAP-160
Output Power (kVA)	50	60	70	80	100	120	160
Signal-To-Noise Ratio	65dB	65dB	65dB	65dB	65dB	65dB	65dB
Overall Size (mm)							
Length	550	550	550	550	550	550	550
Width	850	850	850	850	850	850	850
Height	1,990	1,990	1,990	1,990	1,990	1,990	1,990
Total Weight (kg)	650	650	1200	1280	550	590	590
Water Cooling Unit	WU-1	WU-1	WU-1	WU-1	WU-2	WU-2	WU-2
Inner Loop Water Flow (L/min)	40	40	40	40	80	80	80
Inner Loop Water Pressure (MPa)	1	1	1	1	1	1	1
Outer Loop Water Flow (L/min)	100	100	100	100	100	100	100
Outer Loop Water Pressure (MPa)	0.25-0.4	0.25-0.4	0.25-0.4	0.25-0.4	0.25-0.4	0.25-0.4	0.25-0.4
Overall Size (mm)							
Length	550	550	550	550	550	550	550
Width	850	850	850	850	850	850	850
Height	1,990	1,990	1,990	1,990	1,990	1,990	1,990
Inner Loop Water Requirements	Distilled Water, Water hardness 30ppm, PH7-8, Conductivity 1µS/cm						
Total System Power (kVA)	100	110	120	130	160	185	225
System Working Environment	Ambient Temperature Range: 5-40 Ambient Humidity Range: 0-90% RH no condensation Compressed Air Requirement: 6-8 Bar						

* Optional Higher Shock Force, 3 times the sinusoidal force.

Optional Lower Useable Frequency, starting from 1Hz.

& Higher Velocity is an option for special test application

@ Stray Magnetic Field value is measured 150 mm (6 in) above table, full-field, at normal operating temperature.



System Model	WTS-180	WTS-200	WTS-250	WTS-300	WTS-350	WTS-400
Sine Force (kN)	180	200	250	300	350	400
Random Force (kN)	180	200	250	300	350	400
Shock Force (kN)*	360	400	500	600	700	800
* Higher Shock Force Option (kN)	540	600	750	900	1050	1200
Sine Acceleration (g)	115	115	100	100	100	100
Random Acceleration (g rms)	80	80	80	80	60	60
# Useable Frequency (Hz)	5-2,400	5-2,400	5-2,400	5-1,700	5-1,700	5-1,700
Displacement (µm-rms)	76	76	76	76	76	76
Velocity (m/s)	2	2	2	2	2	2
& Higher Velocity Option	3	3	3	3	3	3
Effective Mass of Moving Element (kg)	130	130	150	300	300	300
Armature Diameter (mm)	650	650	650	870	870	870
Armature Inserts Pattern	200-8×M12 400-8×M12 600-8×M12	200-8×M12 400-8×M12 600-8×M12	200-8×M12 400-8×M12 600-8×M12	200-8×M12 400-8×M12 600-8×M12 800-8×M12	200-8×M12 400-8×M12 600-8×M12 800-8×M12	200-8×M12 400-8×M12 600-8×M12 800-8×M12
Max. Internal Load Support (kg)	1,600	1,600	2,500	5,000	5,000	5,000
Stray Magnetic Field (mT)**	1	1	1	1	1	1
Overall Size (mm)						
Length	1,995	1,995	1,995	2,900	2,900	2,900
Width	1,380	1,380	1,380	2,066	2,066	2,066
Height	1,535	1,535	1,535	1,986	1,986	1,986
Total Weight of Vertical Shaker (kg)	7,500	8,000	10,000	22,000	22,000	22,000
Recommended Amplifier	SAP-180	SAP-200	SAP-250	SAP-300	SAP-350	SAP-400
Output Power (kVA)	180	200	250	300	350	400
Signal-To-Noise Ratio	65dB	65dB	65dB	65dB	65dB	65dB
Overall Size (mm)						
Length	550	550	550	2,200	2,200	2,200
Width	850	850	850	850	850	850
Height	1,990	1,990	1,990	1,990	1,990	1,990
Total Weight (kg)	650	650	1200	1280	550	590
Water Cooling Unit	WU-2	WU-2	WU-2	WU-3	WU-3	WU-3
Inner Loop Water Flow (L/min)	80	80	80	120	120	120
Inner Loop Water Pressure (MPa)	1	1	1	1	1	1
Outer Loop Water Flow (L/min)	100	100	100	320	320	320
Outer Loop Water Pressure (MPa)	0.25-0.4	0.25-0.4	0.25-0.4	0.25-0.4	0.25-0.4	0.25-0.4
Overall Size (mm)						
Length	550	550	550	550	550	550
Width	850	850	850	850	850	850
Height	1,990	1,990	1,990	1,990	1,990	1,990
Inner Loop Water Requirements						
Total System Power (kVA)	240	260	330	380	440	480
System Working Environment	Ambient Temperature Range: 5-40 Ambient Humidity Range: 0-90%RH no condensation Compressed Air Requirement: 6-8 Bar					

* Optional Higher Shock Force, 3 times the sinusoidal force.

Optional Lower Useable Frequency, starting from 1Hz.

& Higher Velocity is an option for special test application

@ Stray Magnetic Field value is measured 150 mm (6 in) above table, full-field, at normal operating temperature.

INDUCTION-TYPE ELECTRO-DYNAMIC SHAKER

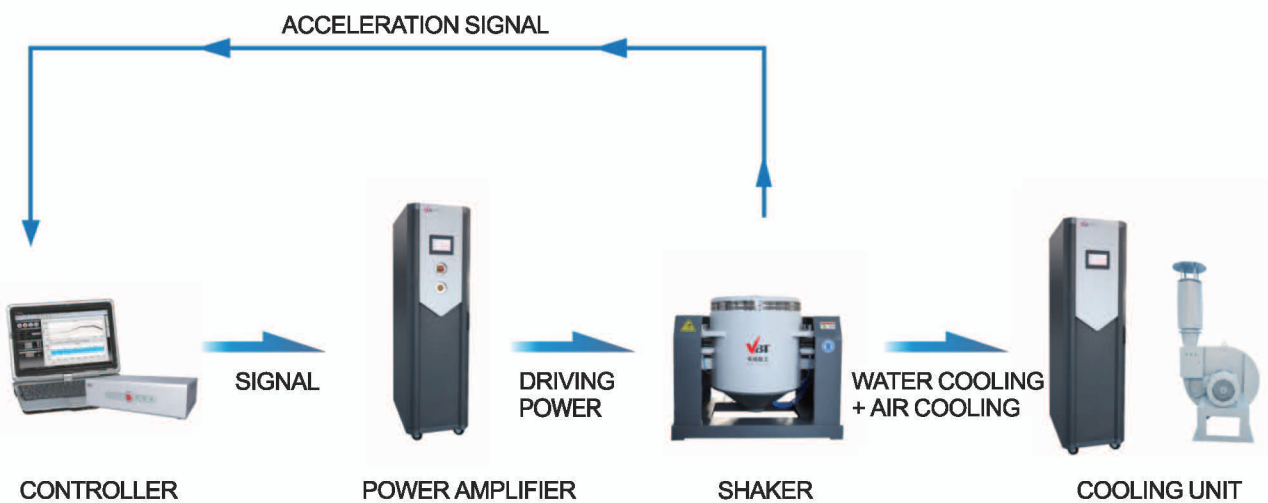
CTS series Induction-Type Electro-Dynamic Shakers have many strengths, such as higher acceleration magnitude, higher usable frequency range, and higher stability than traditional shakers with coil winding armature. It adopts the solid metal armature, which provides electrical simplicity and mechanical durability benefits.

Induction-Type Armature Features

- Solid aluminum armature (no electrical windings)
- Less weight and higher strength
- No current leads connections
- No cooling water pipes connections

Performance Characteristics

- Sine Force Range: 10kN-200kN
- Random Force Range: 10kN-200kN
- Shock Force Range: 2-3times Sine Force
- Useable Frequency Range: 1Hz-7,000Hz
- 3 Inch pk-pk displacement standard
- Sine acceleration up to 220g
- Random Acceleration up to 150g
- Safety: Comply with EU Directives



System Model	CTS-70	CTS-80	CTS-100
Sine Force (kN)	70	80	100
Random Force (kN)	70	80	100
Shock Force (kN)	140	160	200
* Higher Shock Force Option (kN)	210	240	300
Sine Acceleration (g)	140	150	180
Random Acceleration (g rms)	100	100	150
# Useable Frequency (Hz)	5-2,800	5-2,800	5-2,800
Displacement (p-pmm)	76	76	76
Velocity (m/s)	2	2	2
& Higher Velocity Option	3	3	3
Effective Mass of Moving Element: (kg)	45/50	45/50	45/50
Armature Diameter (mm)	445	445	445
Armature Inserts Pattern	200-8xM12 400-8xM12	200-8xM12 400-8xM12	200-8xM12 400-8xM12
Max. Internal Load Support (kg)	800	800	800
Stray Magnetic Field (mT)***	1	1	1
Overall Size (mm)			
Length	1,620	1,620	1,400
Width	1,130	1,130	1,150
Height	1,380	1,380	1,190
Total Weight of Vertical Shaker (kg)	4,500	4,550	4,600
Recommended Amplifier	SAP-120	SAP-120	SAP-180
Output Power (kVA)	120	120	180
Signal-To-Noise Ratio	65dB	65dB	65dB
Overall Size (mm)			
Length	550	550	550
Width	850	850	850
Height	1,990	1,990	1,990
Total Weight (kg)	650	650	650
Blower (Cooling Fan)	BL-70	BL-80	BL-80
Power (kW)	22	30	30
Air Flow (m ³ /s)	1.3	2.1	2.1
Air Pressure (Pa)	12,000	15,500	15,500
Rotation Speed (r/min)	2,900	2,950	2,950
Overall Size (mm)			
Length	1,200	1,250	1,250
Width	900	1,100	1,100
Height	1,900	2,200	2,200
Total Weight (kg)	460	650	650
Water Cooling Unit	—	WU-1	WU-1
Inner Loop Water Flow (L/min)	—	40	40
Inner Loop Water Pressure (MPa)	—	1	1
Outer Loop Water Flow (L/min)	—	100	100
Outer Loop Water Pressure (MPa)	—	0.25-0.4	0.25-0.4
Overall Size (mm)			
Length	—	550	550
Width	—	850	850
Height	—	1,990	1,990
Water Cooling Unit	150	230	350
System Working Environment	Ambient Temperature Range: 5-40 Ambient Humidity Range: 0-90% RH no condensation Compressed Air Requirement: 6-8 Bar		

* Optional Higher Shock Force, 3 times the sinusoidal force.

Optional Lower Useable Frequency, starting from 1Hz.

& Higher Velocity is an option for special test application

@ Stray Magnetic Field value is measured 150mm (6 in) above table, full-field, at normal operating temperature.

MDOF ELECTRO-DYNAMIC SHAKER

The Multi-Degree-of-Freedom (MDOF) Electro-Dynamic Shaker is a type of vibration testing equipment to evaluate the response of structures and components to various vibration environments. Unlike Single-Degree-of-Freedom (SDOF) shakers, which can only produce one type of vibration, an MDOF shaker can generate multiple vibrations in different directions simultaneously. This allows for more realistic testing of structures and components that are subject to complex, multi-axis vibration environments.

MDOF shakers are often used to test the durability and performance of products such as aircraft engines, satellite components, and automotive suspension systems. By subjecting these products to realistic vibration environments, engineers can identify potential design flaws and make improvements to ensure they can withstand real-world conditions.

The MDOF testing method, with the representative being the Tri-Axis and 6DOF vibration test, is mainly used for

- Simulating the motion caused by various flight conditions of the aircraft, such as air turbulence and weapon launch;
- Simulating the landing attitude and collision, as well as the motion that occurs when using the brakes;
- Simulating docking of spacecraft;
- Simulating vibration and flutter near the actual aircraft frequency, as well as flutter introduced by air turbulence on the corresponding degree of freedom;
- Simulating tank, car driving, train driving, earthquake, and entertainment equipment, etc.



System Model	3ATS10				3ATS20				3ATS30			
Sine Force (kN)	10	10	10	10	20	20	20	20	30	30	30	30
Random Force (kN)	8	8	8	8	16	16	16	16	24	24	24	24
Shock Force (kN)	20	20	20	20	40	40	40	40	60	60	60	60
Table Size (mm)	400x400	600x600	800x800	1,000x1,000	500x500	800x800	1,000x1,000	1,500x1,500	500x500	800x800	1,000x1,000	1,500x1,500
Acceleration(g)	12	8	6	5	18	12	8	5	22	13	10	6
Velocity(m/s)	1.5	1.5	1.2	1.2	1.5	1.5	1.2	1.2	1.5	1.5	1.2	1.2
Displacement p-p(mm)	51	51	51	51	51	51	51	51	51	51	51	51
Armature Dia Φ (mm)	240	240	240	240	340	340	340	340	370	370	370	370
Armature Mass (kg)	10	10	10	10	20	20	20	20	30	30	30	30
Useable Frequency Sine (Hz)	2000	1500	800	500	2000	800	500	300	2000	800	500	300
Useable Frequency Random (Hz)	2000	2000	1500	1000	2000	1500	1000	600	2000	1500	1000	600
Max. Payload (kg)	120	120	100	80	300	300	250	200	300	300	250	200
Total System Power (kVA)	60	60	60	60	138	138	138	138	156	156	156	156

System Model	3ATS40				3ATS50				3ATS60			
Sine Force (kN)	40	40	40	40	50	50	50	50	60	60	60	60
Random Force (kN)	32	32	32	32	40	40	40	40	48	48	48	48
Shock Force (kN)	80	80	80	80	100	100	100	100	120	120	120	120
Table Size (mm)	600x600	800x800	1,000x1,000	1,500x1,500	600x600	800x800	1,000x1,000	1,500x1,500	600x600	800x800	1,000x1,000	1,500x1,500
Acceleration(g)	24	15	12	8	35	25	20	10	36	27	22	12
Velocity(m/s)	1.5	1.5	1.2	1.2	1.5	1.2	1.2	1.2	1.5	1.2	1.5	1.2
Displacement p-p(mm)	51	51	51	51	51	51	51	51	51	51	51	51
Armature Φ Dia (mm)	370	370	370	370	445	445	445	445	445	445	445	445
Armature Mass (kg)	40	40	40	40	50	50	50	50	50	50	50	50
Useable Frequency Sine (Hz)	2000	800	500	300	1000	800	500	300	1000	800	500	300
Useable Frequency Random (Hz)	2000	1500	1000	600	2000	1500	1000	600	2000	1500	1000	600
Max. Payload (kg)	300	300	250	200	500	300	250	200	500	300	250	200
Total System Power (kVA)	198	198	198	198	246	246	246	246	288	288	288	288

XLONG STROKE ELECTRO-DYNAMIC SHAKER

Xlong Stroke (400mm p-p) Electro-Dynamic Shaker adopts advanced high-strength driver technology, which can achieve high-speed, large displacement, and large pulse width impact tests.

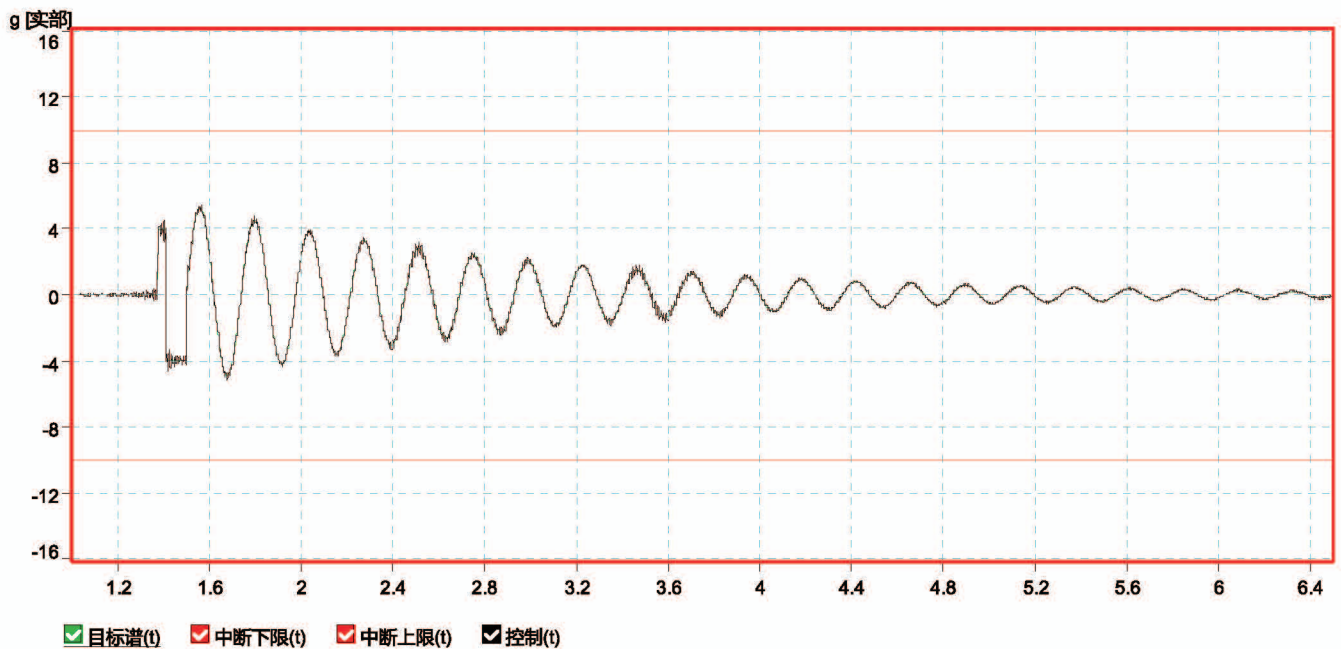
Xlong Stroke ED Shaker is mainly used for extreme testing environments with large displacement, high speed, and large pulse width. It can be used in industries such as aviation, automotive, and shipping, maintaining industry-leading levels of performance and reliability.

System Features

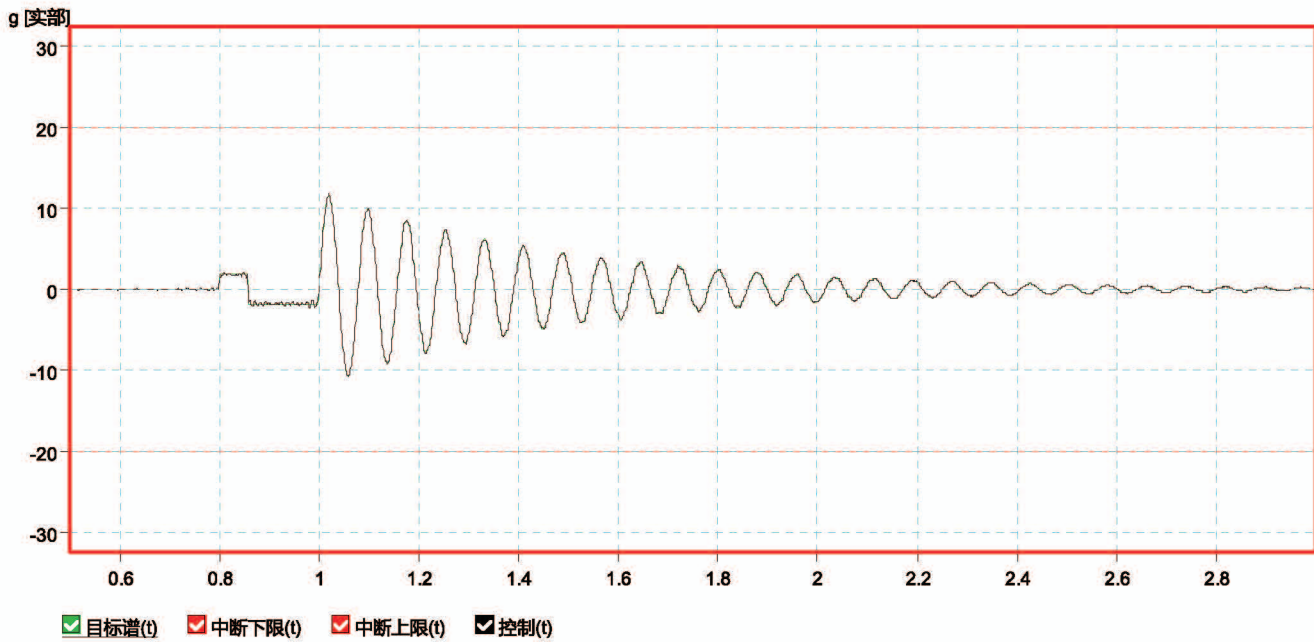
- Large load support capacity
- Small lateral vibration of the working table
- Low waveform distortion and high test accuracy
- Modular design for easy maintenance and repair
- Air-cooled design for environmental friendliness
- Rigid trunnion connection for low-frequency large-displacement vibration

Performance Characteristics

- Max. Load Support: 800kg
- Shock Force: 60-200kN
- Max. Displacement: 400mm (p-p)
- Shock Speed: 6m/s
- Sine Speed: 4.5m/s
- Sine Acceleration: 30g
- Usable Frequency Range: 1-500 Hz



5.5g Damping Test Curve



12g Damping Test Curve

Xlong Stroke Electro-Dynamic Shaker

System Model	ATS20LS-16	ATS40LS-16	ATS70LS-16
Shock Force (kN)	60	100	200
Useable Frequency (Hz)	1-500	1-500	1-500
Displacement (p-pmm)	400	400	400
Sine Acceleration (g)	30	30	30
Shock Speed (m/s)	6	6	6
Sine Speed (m/s)	4.5	4.5	4.5
Effective Mass of Moving Element: (kg)	60	95	160
Armature Diameter (mm)	320	400	480
Armature Inserts Pattern	100-8×M10 200-8×M10	150-8×M10 300-8×M10	200-8×M12 400-8×M12
Max. Internal Load Support (kg)	500	800	1500
Stray Magnetic Field (mT) #	1	1	1
System Working Environment	Ambient Temperature Range: 5-40 Ambient Humidity Range: 0-90% RH no condensation Compressed Air Requirement: 6-8 Bar		

SLIP TABLE

A Slip Table typically consists of a working table, supporting structure and guiding bearings etc. The specimen is placed on the working table and driven by shaker through a drive bar connection, producing horizontal vibrations for testing purposes. The working table comes in various sizes and can be customized, such as dual slip tables, surface, elongated table, to best match the test piece. The alloy material and bearing type of the working table can be selected according to actual testing requirements.



V-Groove Bearing Slip Tables (Low Pressure Type)

Armature Diameter (mm)	Working Table Size (mm)	Effective Mass (kg)		Max. Usable Frequency (Hz)
	Length×Width	Aluminum Alloy	Magnesium Alloy	Sine
230 240	400×400	20	11	2,000
	500×500	25	16	2,000
	600×600	45	30	2,000
	700×700	68	45	2,000
	800×800	87	58	2,000
	900×900	109	72	2,000
	1,000×1,000	133	89	2,000
340	400×400	21	14	2,000
	500×500	32	21	2,000
	600×600	45	30	2,000
	700×700	68	45	2,000
	800×800	87	58	2,000
	900×900	109	72	2,000
	1,000×1,000	133	89	2,000
370	1,200×1,200	189	126	1,600
	400×400	21	14	2,000
	500×500	32	21	2,000
	600×600	45	30	2,000
	700×700	68	45	2,000
	800×800	87	58	2,000
	900×900	109	72	2,000
	1,000×1,000	133	89	2,000
445 480	1,200×1,200	189	126	1,500
	400×400	21	14	2,000
	500×500	32	21	2,000
	600×600	45	30	2,000
	700×700	75	50	2,000
	800×800	97	64	2,000
	900×900	121	80	2,000
	1,000×1,000	148	99	2,000
550	1,200×1,200	210	140	2,000
	1,500×1,500	324	216	2,000
	700×700	75	50	2,000
	800×800	97	64	2,000
	900×900	121	80	2,000
	1,000×1,000	148	99	2,000
550	1,200×1,200	210	140	1,500
	1,500×1,500	324	216	1,200

T-Shape Bearing Slip Tables (High Pressure Type)

Armature Diameter (mm)	Working Table Size (mm)	Effective Mass (kg)		Max. Usable Frequency (Hz)
	Length×Width	Aluminum Alloy	Magnesium Alloy	Sine
230 240	700×700	68	45	2,000
	800×800	87	58	2,000
	900×900	109	72	2,000
	1,000×1,000	133	89	2,000
340	700×700	68	45	2,000
	800×800	87	58	2,000
	900×900	109	72	2,000
	1,000×1,000	133	89	2,000
	1,200×1,200	189	126	1,500
370	700×700	68	45	2,000
	800×800	87	58	2,000
	900×900	109	72	2,000
	1,000×1,000	133	89	2,000
	1,200×1,200	189	126	1,500
445 480	700×700	68	45	2,000
	800×800	87	58	2,000
	900×900	109	72	2,000
	1,000×1,000	133	89	2,000
	1,200×1,200	189	126	1,500
550	700×700	68	45	2,000
	800×800	87	58	2,000
	900×900	109	72	2,000
	1,000×1,000	133	89	2,000
	1,200×1,200	189	126	1,500
	1,500×1,500	324	216	1,200
650	700×700	68	45	2,000
	800×800	87	58	2,000
	900×900	109	72	2,000
	1,000×1,000	133	89	2,000
	1,200×1,200	189	126	1,500
	1,500×1,500	324	216	1,500
	1,800×1,800	461	307	1,200
	2,000×2,000	712	475	1,200
	2,500×2,500	1,093	729	1,200

HEAD EXPANDER

The Head Expander is used for vertical vibration testing. According to the shape of the working table, it is divided into circular or square head expander. The appropriate platform shape and size can be selected according to the actual applications. The conical design structure and integrated casting process ensure a higher first-resonance frequency, lightweight structural quality, and higher physical characteristics. If there are special requirements, the head expander can also be made by welding. In order to improve its load support and anti-overturning capacity, auxiliary support structure is an option.

Square Head Expander

Armature Diameter (mm)	Working Table Size (mm)	Effective Mass (kg)		Max. Usable Frequency (Hz)	
	Length×Width	Aluminum Alloy	Magnesium Alloy	Sine	Random
150	300×300	7	5	2,000	2,000
	400×400	12	8	2,000	2,000
230 240	400×400	20	13	2,000	2,000
	500×500	30	21	2,000	2,000
	600×600	40	26	2,000	2,000
	700×700	43	27	1,000	2,000
340	800×800	64	40	1,000	2,000
	500×500	32	23	2,000	2,000
	600×600	42	28	2,000	2,000
	700×700	56	43	1,000	2,000
370	800×800	70	50	1,400	2,000
	500×500	48	25	2,000	2,000
	600×600	45	30	2,000	2,000
	700×700	80	66	2,000	2,000
445	800×800	81	55	1,500	2,000
	1,000×1,000	124	86	1,000	2,000
	600×600	56	43	2,000	2,000
	700×700	80	66	2,000	2,000
	800×800	88	61	1,500	2,000
	1,000×1,000	198	123	1,000	2,000
480	1,200×1,200	252	172	800	2,000
	1,500×1,500	350	228	500	2,000
	800×800	88	61	1,500	2,000
	1,000×1,000	198	123	1,000	2,000
590	1,200×1,200	252	172	800	2,000
	1,500×1,500	350	228	500	2,000
	800×800	95	66	1,500	2,000
	1,000×1,000	235	150	1,200	2,000
	1,200×1,200	273	196	700	2,000
	1,500×1,500	335	270	600	2,000
650	2,000×2,000	900	550	500	2,000
	2,500×2,500	1,650	680	400	2,000
	1,000×1,000	255	165	1,200	2,000
	1,200×1,200	296	208	600	2,000
	1,500×1,500	450	293	600	2,000
650	2,000×2,000	1,100	650	300	2,000
	2,500×2,500	1,950	850	300	2,000



Circular Head Expander

Armature Diameter (mm)	Working Table Size (mm)	Effective Mass (kg)		Max. Usable Frequency (Hz)	
	Length×Width	Aluminum Alloy	Magnesium Alloy	Sine	Random
150	300	7	5	2,000	2,000
	400	12	8	2,000	2,000
230 240	400	20	13	2,000	2,000
	500	30	21	2,000	2,000
	600	40	26	2,000	2,000
	700	43	27	1,000	2,000
	800	64	40	1,000	2,000
340	500	32	23	2,000	2,000
	600	42	28	2,000	2,000
	700	56	43	1,000	2,000
	800	70	50	1,400	2,000
370	500	45	25	2,000	2,000
	600	46	30	2,000	2,000
	700	80	66	2,000	2,000
	800	81	55	1,500	2,000
	1,000	124	86	1,000	2,000
445	600	56	43	2,000	2,000
	700	80	66	2,000	2,000
	800	88	61	1,500	2,000
	1,000	198	123	1,000	2,000
	1,200	252	172	800	2,000
	1,500	350	228	500	2,000
480	800	88	61	1,500	2,000
	1,000	198	123	1,000	2,000
	1,200	252	172	800	2,000
	1,500	350	228	500	2,000
590	800	95	66	1,500	2,000
	1,000	235	150	1,200	2,000
	1,200	273	196	700	2,000
	1,500	335	270	600	2,000
650	1,000	255	165	1,200	2,000
	1,200	296	208	600	2,000
	1,500	450	293	600	2,000

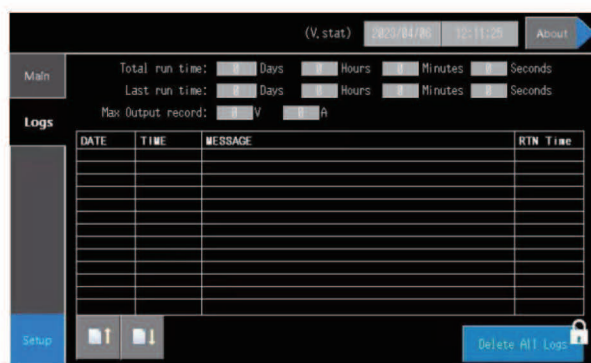
REPLACEMENT POWER AMPLIFIER

The SAP series amplifier is a cutting-edge Class D Power Amplifier designed with the latest state-of-the-art technology. With a range of built-in features, vibration testing can be easily performed with precision and accuracy. Its user-friendly operation and interactive microprocessor logic control system ensure optimal performance and compatibility with any make of electro-dynamic shaker.



Features

- SAP series amplifiers are highly efficient, with efficiency rates of more than 93%, resulting in lower power consumption and heat generation than other amplifier types.
- The high efficiency and modular design of SAP series amplifiers allow them to be made smaller than traditional amplifiers, making them ideal for testing laboratories with limited space.
- SAP series amplifiers produce minimal distortion, with distortion levels no higher than 0.5%, allowing for highly accurate signal reproduction.
- SAP series amplifiers are cost-effective to produce, requiring fewer components and simpler manufacturing techniques than traditional amplifiers.
- With the ability to reproduce signals across a wide frequency range of up to 10kHz, SAP series amplifiers are well-suited for vibration testing applications.



System Model	SAP Power Amplifier
Power Range	Up to 1,000kVA
Signal-to-Noise Ratio	65
Total Harmonic Distortion (at rated output)	<0.5% from DC-500Hz, <1.0%from500Hz-5000Hz
Output Current Crest Factor	3
DC Stability	< 0.05% at full output voltage with 10% line voltage change
Frequency Response	±3dB from DC-4,500Hz, ±1dB from 10-3,000Hz
Mid-Frequency Gain	130
Switching Frequency	150kHz
DC/AC Conversion Efficiency	93%
Input Power	380-480VAC, 50/60 Hz, 3 phase
Intelligent Operation	IGBT modularization Touchscreen human-machine interaction Multi-language compatibility Authorization management
Safety Protection	Multiple protective function Interlocking protection Force limiting function Dual protection of software and hardware
Advantaged Features	Digital debugging Low harmonic distortion Active current sharing Communication triggering
Easy Maintenance	System self-diagnosis Operation log Modular design Parallel operation mode

PNEUMATIC SHOCK/BUMP TEST SYSTEM

SA series Pneumatic Shock/Bump Test System is featured with advanced design, high degree of automation and reliability, simple operation and convenient maintenance. The system meets the requirements of both shock and bump test, can perform conventional half-sine, post-peak sawtooth, trapezoid (square) and other waveform shock tests.

Features

- Pneumatic drive, simple structure and high reliability
- Maximum bump rate up to 120 times/min.
- Impact testing for small pulse lower to 0.3m/s
- Shock acceleration up to 3,000g
- It can easily realize large shock pulse width and small overload test.
- The speed and rate of shock can be easily controlled by adjusting the gas pressure.
- The integrated controller and measurement system is capable of executing manual, continuous, single and interval shocks
- Built-in brake mechanism ensures the safety of operation in any situation



System Model	SA-50		SA-100		CTS-100		SA-400	
Rated Load (kg)	50		100		200		400	
Table Size (mm)	500×400		600×600		800×600		1,000×800	
Shock Waveform	Peak Acc. (g)	duration (ms)	Peak Acc. (g)	duration (ms)	Peak Acc. (g)	duration (ms)	Peak Acc. (g)	duration (ms)
Half-Sine	15-400	60-3	15-300	60-3	15-200	60-3	15-200	60-3
Post Peak Sawtooth	10-200	18-3	10-200	18-3	10-60	18-6	10-60	18-6
Trapezoid	15-100	18-6	15-100	18-6	15-60	18-6	15-60	18-6
Max. Bump Rate (times/min)	80		60		50		30	
Overall Size (mm)								
Length	1,040		1,200		1,250		1,450	
Width	880		1,030		1,150		1,350	
Height	1,880		1,882		2,200		2,300	
Total Weight (kg)	1,800		1,800		2,800		3,800	
Standards	MIL-STD-810F IEC68-2-27 UN38.3 IEC62281 IEC62133-2 UL2054 IEEE1625 SAEJ2929 IEC62660-2 ISO12405-3 UL2580							

System Model	SA-600		SA-800		SA-1000		SA-2000/SA-5000	
Rated Load (kg)	600		800		1,000		2,000-5,000	
Table Size (mm)	1,000×800		1,200×1,000		1,200×1,000		Customized	
Shock Waveform	Peak Acc. (g)	Pulse duration (ms)	Peak Acc. (g)	Pulse duration (ms)	Peak Acc. (g)	Pulse duration (ms)	Peak Acc. (g)	Pulse duration (ms)
Half-Sine	15-200	60-3	15-100	60-6	15-100	60-6	Customized	
Post Peak Sawtooth	10-60	18-6	10-50	18-6	10-50	18-6		
Trapezoid	15-60	18-6	15-50	18-6	15-50	18-6		
Max. Bump Rate (times/min)	30		20		20			
Overall Size (mm)								
Length	1,450		1,950		1,950			
Width	1,350		1,550		1,550			
Height	2,300		3,110		3,110			
Total Weight (kg)	3,800		5,200		5,200			
Standards	MIL-STD-810F IEC68-2-27 UN38.3 IEC62281 IEC62133-2 UL2054 IEEE1625 SAEJ2929 IEC62660-2 ISO12405-3 UL2580							

HYDRAULIC SHOCK TEST SYSTEM

SH series Hydraulic Shock Test System is used to evaluate the impact resistance of products or packaging, and to determine the reliability and structural integrity of products in a shock environment. The system can perform conventional half-sine, post-peak sawtooth, trapezoid (square) and other waveform shock tests, simulating and replicating the impacts in real-world environments to help engineers improve the product or packaging structure.

Features

- Windows-based stable control system, full-automatic remote-control interface
- Multi-track guide posts combined with good lubricity and noise free hydraulic balance lifting system to achieve stable shifting
- High strength and hardness cast aluminum table has high first resonance frequency, low noise and no clutter
- Built-in brake mechanism to avoid secondary rebound collisions and more secure positioning of the table
- Foundation free isolation base does not require a special foundation, and is easy to install
- One-stop test: built-in test standards meet various requirements to help users to complete test in one stop



Post Peak Sawtooth
Waveform Generator



Trapezoid
Waveform Generator

System Model	SH-2		SH-5		SH-25		SH-50		SH-100	
Rated Load (kg)	2		5		25		50		100	
Table Size (mm)	116×100		200×200		350×300		500×400		600×600	
Shock Waveform	Peak Acc. (g)	duration (ms)	Peak Acc. (g)	duration (ms)	Peak Acc. (g)	duration (ms)	Peak Acc. (g)	duration (ms)	Peak Acc. (g)	duration (ms)
Half-Sine	15-400	60-3	20-2,000	60-3	15-600	30-1	15-600	30-1	15-600	30-2
Post Peak Sawtooth	—	—	10-100	18-3	10-100	18-1	15-200	18-3	15-200	18-3
Trapezoid	—	—	—	—	—	—	15-100	18-6	15-100	18-6
Overall Size (mm)										
Length	1,040		1,040		1,220		1,200		1,200	
Width	880		880		1,120		1,000		1,000	
Height	1,880		1,880		2,600		2,500		2,500	
Total Weight (kg)	1,800		1,800		3,800		2,550		2,550	
Standards	MIL-STD-810F IEC68-2-27 UN38.3 IEC62281 IEC62133-2 UL2054 IEEE1625 SAEJ2929 IEC62660-2 ISO12405-3 UL2580									

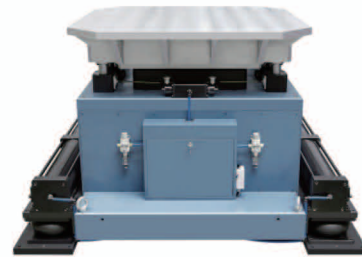
System Model	SH-200		SH-400		SH-600		SH-1000		SH-1500	
Rated Load (kg)	200		400		600		1000		1500	
Table Size (mm)	800×600		1,000×800		1,000×800		1,200×1,000		1,500×1,200	
Shock Waveform	Peak Acc. (g)	Duration (ms)	Peak Acc. (g)	Duration (ms)	Peak Acc. (g)	Duration (ms)	Peak Acc. (g)	Duration (ms)	Peak Acc. (g)	Duration (ms)
Half-Sine	15-300	30-3	15-300	30-3	15-200	30-3	15-200	30-6	15-100	30-6
Post Peak Sawtooth	10-100	18-3	10-50	18-3	10-50	18-6	10-50	18-6	10-50	18-6
Trapezoid	15-100	18-6	15-50	18-6	15-50	18-6	15-50	18-6	15-50	18-6
Overall Size (mm)										
Length	1,220		1,480		1,620		1,750		1,950	
Width	1,120		1,200		1,350		1,500		1,750	
Height	2,600		2,600		2,600		2,800		2,800	
Total Weight (kg)	3,800		4,200		5,100		7,100		8,500	
Standards	MIL-STD-810F IEC68-2-27 UN38.3 IEC62281 IEC62133-2 UL2054 IEEE1625 SAEJ2929 IEC62660-2 ISO12405-3 UL2580									

PNEUMATIC BIDIRECTIONAL VERTICAL SHOCK TESTER

SAT series pneumatic bidirectional vertical shock test system is the novel designed and developed for large specimens that cannot or are not easy to turn over, especially adopt for battery testing. It can complete vertical upward and downward shock test in one test stand without moving the UUT.

Features

- Pneumatic drive, no pollution to the environment
- One machine with multiple functions, one clamping, to complete the upward and downward shock and bump tests, with high efficiency
- Built-in pneumatic brake mechanism, safe and reliable
- One-machine management for control and measurement, convenient operation
- Air springs and dampers are used to reduce vibration, and the installation is free of foundation



System Model	SAT-800		SAT-1000		SAT-1200		SAT-1500		SAT-1800		SAT-2000										
Rated Load (kg)	400		500		600		1,000		1,200		1,500										
Table Size (mm)	800×800		1,000×1,000		1,200×1,200		1,500×1,500		1,800×1,800		2,000×2,000										
Downward Shock																					
Shock Waveform	Peak Acc. (g)	Duration (ms)	Peak Acc.(g)	Duration (ms)	Peak Acc. (g)	Duration (ms)	Peak Acc. (g)	Duration (ms)	Peak Acc. (g)	Duration (ms)	Peak Acc. (g)	Duration (ms)									
Half-Sine	10-350	40-3	10-300	40-3.5	10-220	30-4	10-90	25-6	10-60	20-8	15-100	30-6									
Post Peak Sawtooth	15-100	25-6	15-100	25-6	15-70	25-6	15-70	25-6	15-70	25-6	15-50	18-6									
Trapezoid	15-100	18-6	15-100	18-6	15-100	18-6	15-70	18-6	15-70	18-6	15-50	18-6									
Max. Speed Variation no load	8m/s		7.8m/s		7.6m/s		3.8m/s		3.8m/s		3.8m/s										
Max. Speed Variation m/s full load	5m/s		5m/s		5m/s		3m/s		3m/s		3m/s										
Upward Shock																					
Rated Load (kg)	200		300		400		1,000		1,200		1,500										
Shock Waveform	Peak Acc. (g)	Duration (ms)	Peak Acc. (g)	Duration (ms)	Peak Acc. (g)	Duration (ms)	Peak Acc. (g)	Duration (ms)	Peak Acc. (g)	Duration (ms)	Peak Acc. (g)	Duration (ms)									
Half-Sine	15-200	30-3.5	15-160	40-34	15-200	30-5	15-60	25-6	15-60	20-86	15-60	20-86									
Max. Speed Variation no load	5.8m/s		3.8m/s		3.8m/s		3.8m/s		3.6m/s		3.5m/s										
Max. Speed Variation m/s full load	3.8m/s		3.3m/s		3.3m/s		3.3m/s		3.2m/s		3m/s										
Overall Size (mm)	Length	1,640	1,700	1,800	2,400	2,530	2,820	Width	1,440	1,500	1,600	1,800	2,000	2,330	Height	1,280	1,300	1,350	1,450	1,470	1,610
Total Weight (kg)	6,800		8,600		11,500		14,000		18,000		22,000										
Total System Power Requirement (kVA)	13		13		24		24		24		24										
Air Flow Requirement (m ³ /min)	1.6		1.6		3.2		3.2		3.2		3.2										
Air Pressure Requirement (MPa)	0.7-0.8																				
Working Environment	Temperature range 0~40 ; Humidity80%, non-condense																				
Power Supply	3 phase, 380-480V AC, 50/60Hz																				
Standards	MIL-STD-810F IEC68-2-27 UN38.3 IEC62281 IEC62133-2 UL2054 IEEE1625 SAEJ2929 IEC62660-2 ISO12405-3 UL2580																				

CENTRIFUGE (CONSTANT ACCELERATION TESTER)



CMT series centrifugal constant acceleration tester is used to test articles under extreme acceleration conditions based on standard like MIL-STD-810F, MIL-STD-202 and IEC68-2-7. It is most suitable for testing electronic components or devices. Under high g effect on microcircuits, to check adaptability and reliability of wiring and the internal structures. It may expose mechanical and structural defects that are not found with vibration and shock tests.

CMT series centrifugal constant acceleration testers include two types: one is the CMT1 box-type and the other is CMT2 arm-type. The box-type has a small diameter, high rotational speed, large centrifugal acceleration, and is mostly used for small electronic devices. It can conduct tests on 2-20 workstations simultaneously. The arm-type has a strong load-bearing capacity and can use different arm lengths and speeds to produce a constant outward acceleration at the outermost end of the arm according to the needs. The test machines are all driven by electric motors and the rotation speed can be adjusted by frequency modulation to reach the target acceleration.

CMT1 box-type centrifuge can provide with acceleration of 40,000g, 80,000g, and 120,000g.

CMT2 arm-type and can test a load of over 1,000kg, and electrical connection device (including video and microwave signals) can be configured according to requirements.

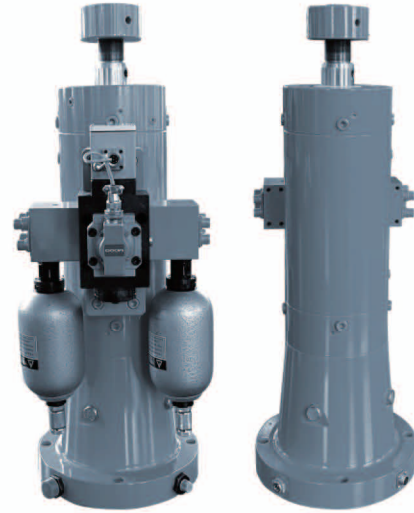
System Model	CMT1-5	CMT1-10	CMT1-05	CMT2-100	CMT2-200	CMT2-500
Max. Payload	5	10	0.5	100	200	500
Number of Installation Positions	4	2	10	2	2	2
Acceleration(g)	3-200	5-100	10-30,000	3-250	2-100	2-50
Max. Height for Specimen (mm)	200	300	100	500×500×400 (L×W×H)	700×700×700 (L×W×H)	1,000×1,000×1,000 (L×W×H)
Installation Radius (mm)	200	750	100	1,500	2,500	3,000
Startup Time (min)	≤4	≤3	≤4	≤3	≤5	≤5
Shutdown Time (min)	≤4	≤3	≤4	≤3	≤5	≤5
Continuous Running Time (min)	60	60	30	60	60	30
Total System Power (kVA)	1.5	7.5	0.9	55	100	120
Overall Size (mm)						
Length	920	1,955	800	φ4,500	φ7,500	φ8,500
Width	910	470	800			
Height	1,245	995	830			
Standard	MIL-STD-810F IEC68-2-7 MIL-STD-202 MIL-STD-750 MIL-STD-883					

HYDRAULIC VIBRATION SYSTEM

HTS series hydraulic vibration system converts the energy of high-pressure liquid into the power of the reciprocating motion of the cylinder through the electro-hydraulic servo valve. Especially suitable for vibration tests requiring low frequency and high force. It can realize sine, random, multi-point excitation and shock test (sine, random, sine on random, random on random, or resonant search & dwell). It's applied for reproducing the vibrations of transportation vehicles, bulk packaging products, machinery, electrical and electronic products in the actual environment, thereby optimizing the product structure and saving costs.

Features

- Force Range: 5kN-1,000IM
- Useable Frequency Range: 0.1-200Hz
- Max. Displacement (p-p): 200mm
- Test Degree of Freedom: Single DOF and Multiple DOF up to 6



System Model	HTS-05	HTS-20	HTS-50	HTS-100	HTS-200	HTS-500	HTS-1000
Max. Thrust (kN)	5	20	50	100	200	500	1000
Useable Frequency Range (Hz)	0.1-200	0.1-200	0.1-200	0.1-200	0.1-200	0.1-200	0.1-200
Acceleration(g)	20	20	20	20	20	20	20
Max. Velocity (m/s)	3	3	2	2	1	1	0.5
Max. Displacement (p-pmm)	200	200	300	300	300	300	300
Oil Source Power (kW)	20	50	88	175	196	450	500
Oil Source Flow (L/min)	45	120	200	400	450	1,100	1,150
Continuous Running Time (min)	60	60	30	60	60	30	
Standard	ISTA1~7 MIL-STD-810 IEC 60068-2 ASTM D4728						

HYDRAULIC TILT AND SWING TESTER

YTS series Hydraulic Tilt and Swing Tester simulates various mechanical, electrical and electronic products installed on ships, waterplane and other equipment, and conducts swing and tilt tests to determine the ability and structural integrity of the products to withstand severe swing and tilt requirements.

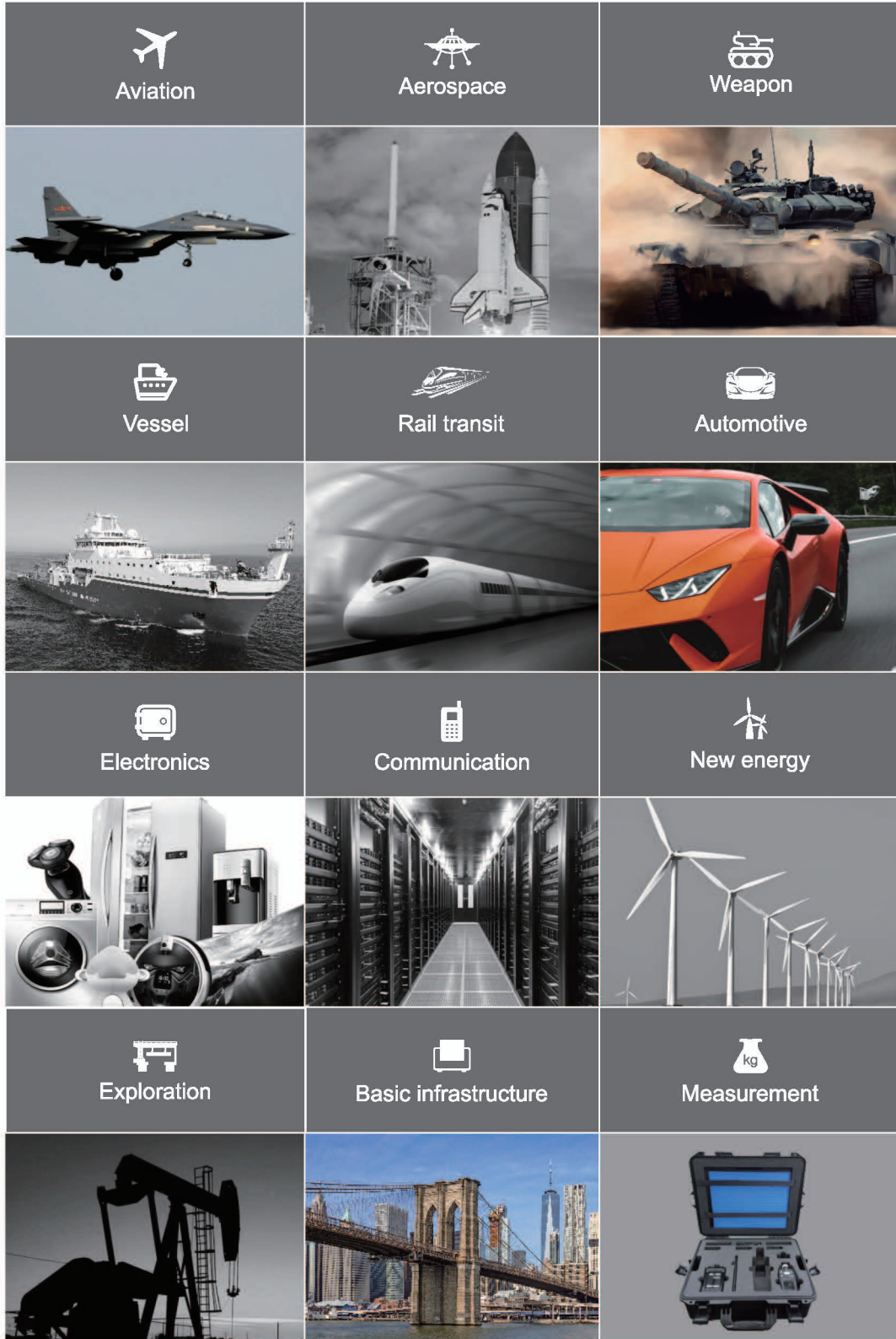
Features

- Based on a stable Windows operating system, the operator only needs to enter simple values to accurately complete tilt and swing tests.
- The operation interface is mainly based on the real-time display of data curves, and can also display test parameters, system status, and test progress.
- It can achieve functions such as sine wave signal, self-closed-loop adjustment, various function control and alarm prompt. It can also perform pitch and roll functions on the same platform.



System Model		YTS-100	YTS-300	YTS-500	YTS-1000	YTS-1500	YTS-2000	YTS-3000	YTS-5000
Max. Payload (kg)		100	300	500	1,000	1,500	2,000	3,000	5,000
Specimen Center Height (mm)		300	300	500	500	500	700	700	700
Roll	Amplitude	±45°	±45°	±45°	±45°	±45°	±45°	±45°	±45°
	Period	3-30s	3-30s	3-30s	3-30s	3-30s	3-30s	3-30s	3-30s
Pitch	Amplitude	±30°	±45°	±45°	±45°	±45°	±45°	±45°	±45°
	Period	4-30s	4-30s	4-30s	4-30s	4-30s	4-30s	4-30s	4-30s
Yaw	Amplitude	±5°	±5°	±5°	±5°	±5°	±5°	±5°	±5°
	Period	5-20s	5-20s	5-20s	5-20s	5-20s	5-20s	5-20s	5-20s
Roll Angle		±45°	±45°	±45°	±45°	±45°	±45°	±45°	±45°
Pitch Angle		±30°	±30°	±30°	±30°	±30°	±30°	±30°	±30°
Working Table Size (mm)		800×800	1,000×1,000	1,200×1,200	1,500×1,500	1,500×1,500	1,800×1,800	1,800×1,800	2,000×2,000
Total System Power (kVA)		20	22	37	45	55	65	74	110
Power Supply		3 phase, 380-480V AC, 50/60Hz							
Environment Requirement		Temperature range 0~40 ; Humidity 80%, non-condense							
Standard		MIL-STD-810, IEC 60068-2							

INDUSTRIES SERVED





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