



iMPULSE X-Wings35™ Shaker Series 20 kN – 200 kN

Acutronic is a market leader with over 50 years of experience in the development and manufacture of highly precise and reliable dynamic test systems. From multi-axis rate tables to centrifuges to custom motion test and simulation solutions, our products are designed with the utmost performance and quality in mind.

The iMPULSE X-Wings35™ Series of vibration test systems continues the tradition of supporting our customers in their pursuit of ensuring product lifecycle safety.

Whether it be tools in construction sites, cars commuting for daily work or life-sustaining medical devices, our testing systems play a crucial role in evaluating and qualifying products to ensure the safety of the systems, which they are a part of.

Products of this nature are required to exhibit sufficient durability. They must withstand extreme mechanical loads, shocks, and vibrations throughout the complete lifespan of the product. This can be assured through product qualification via environmental simulation tests either for product validation during the development phase or for quality assurance sample testing during production.

These tests have been developed over decades, *hand-in-hand* with test equipment manufacturers, OEMs and qualified test houses. This is reflected in various norms and test standards worldwide.

Examples include DIN, ISO, BS, MIL, IEC and ASTM.

DIN EN 60068	General standards for environmental simulation
IEC 68 3-3	Seismic loads // Earthquake simulation
ISO 16750	loads for road vehicles
DIN EN 60721	transport load, road transport, rail transport,
DIN EN 61373	Loads for rail vehicles
ISO 19453-3	Loads for E- mobility vehicles
UN 38.3.8 UN	Transport load for dangerous goods // LI-ION battery systems
MIL-STD 810	Mil. Load standards, for Land; Air-; Marine; Transport; Applications
ASTM	US transportation standards for rail, road, air, sea

Critical products touch our daily lives inconspicuously in all sorts of ways when we use our household appliances, while driving, or traveling by train or airplane. But they also impact countless industries including manufacturing processes, medical devices, chemical and pharmaceutical processes, aerospace and defense systems as well as energy and infrastructure systems. Behind the scenes Acutronic's vibration testing systems deliver results we can all rely on.



iMPULSE X-Wings35™ Shaker Series 20 kN – 200 kN

Specification / System	20-300	40-400	60-450	90-450W	140-600W	200-650W
Armature diameter	300mm	400mm	450mm	450mm	600mm	650mm
Force Sine	20 kN	40 kN	60 kN	90 kN	140 kN	200 kN
Force Random ^{A1}	20 kN rms	40 kN rms	60 kN rms	90 kN rms	140 kN rms	200 kN rms
Shock Force ^{A2}	60 kN	120 kN	180 kN	270 kN	420 kN	600 kN
Frequency Range	5-2500Hz	5-2500Hz	5-2500Hz	5-2500Hz	5-2500Hz	5-2500Hz
Acceleration Sine	1000m/s ²	1000m/s ²	1000m/s ²	1000m/s ²	1000m/s ²	1000m/s ²
Acceleration Random	1000m/s ² rms	1000m/s ² rms	1000m/s ² rms	1000m/s ² rms	1000m/s ² rms	1000m/s ² rms
Acceleration Shock	2000m/s ²	2000m/s ²	2000m/s ²	2000m/s ²	2000m/s ²	2000m/s ²
Velocity Sine ^{A3}	2m/s	2m/s	2m/s	2m/s	2m/s	2m/s
Velocity Random	3m/s	3m/s	3m/s	3m/s	3m/s	3m/s
Velocity Shock ^{A4}	3m/s	3.5m/s	3.5m/s	3.5m/s	3.5m/s	3.5m/s
Displacement Sine ^{A5}	51mm; 2in	76mm; 3in	76mm; 3in	76mm; 3in	76mm; 3in	76mm; 3in
Displacement Shock	51mm; 2in	76mm; 3in	76mm; 3in	76mm; 3in	76mm; 3in	76mm; 3in
Max Payload (static)	400 kg	600 kg	600 kg	600 kg	800 kg	1000 kg
Cooling type	Air ^{A6}	Air	Air	Water	Water	Water

Head expander ^{A7} (mm x mm) [in]	■ SQ600 600 x 600 [24"]	● OC600 600 x 600 [24"]	■ SQ800 800 x 800 [32"]	● OC800 800 x 800 [32"]	■ SQ1000 1000 x 1000 [40"]	● OC1000 1000 x 1000 [40"]	■ SQ1200 1200 x 1200 [48"]
20-300	X	X					
40-400	X	X	X	X			
60-450			X	X			
90-450W			X	X	X ^{A8}	X ^{A8}	X ^{A8}
140-600W			X	X	X	X	X ^{A8}
200-650W					X	X	X ^{A8}

Sliptable ^{A7} (mm x mm) [in]	■ H-ST600 600 x 600 [24"]	■ H-ST800 800 x 800 [32"]	■ H-ST1000 1000 x 1000 [40"]	■ H-ST1200 1200 x 1200 [48"]	■ H-ST1400 1400 x 1400 [56"]	■ H-ST1600 1600 x 1600 [64"]
20-300	X					
40-400	X	X	X			
60-450	X	X	X			
90-450W		X	X	X		
140-600W			X	X	X	X
200-650W			X	X	X	X

Technical data subject to change.

^{A1} In accordance to DIN ISO 5344 :2016

^{A2} Half-sine shock

^{A3} Long term high velocity at high displacement has a derating as eddy currents can occur and heat up the armature

^{A4} In order to perform the shock test with 11ms @ 100g, the peak velocity of about 3.5m/s will be achieved.

^{A5} The displacement is not limited by sine displacement but at the mechanical limit. Long term sine tests at large displacements >sine displacement will increase wear and tear substantially!

^{A6} Water-cooled for cleanroom environment available upon request.

^{A7} Standard combination / other combination on request

^{A8} requires external guidance