

iMPULSE™ X-Wings35™ Shaker Series 40 – 400A

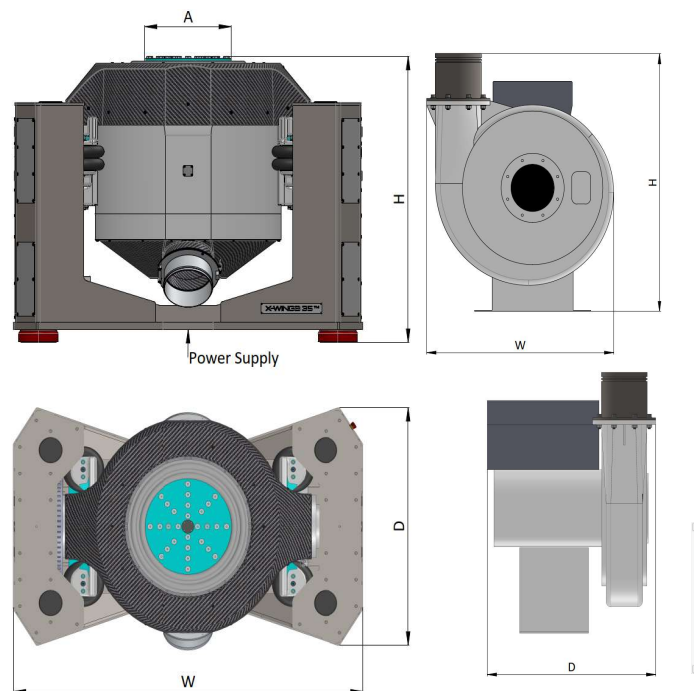
The iMPULSE™ X-Wings35™ Shaker Series, Index A, represents Acutronic air-cooled systems. In-swivel cable integration, an embedded hydraulic unit for slip tables, a blower, quick couplings, and many other features are standard on every air-cooled X-Wings35™ shaker. Continuous operation at 95% of the nominal force represents an unmatched level of performance among air-cooled shakers.

The Digital Logic Module features, for the first time on the market, a fully digital signal input, enabling ground-loop-free operation and vibration signal transmission over long distances without signal deterioration.

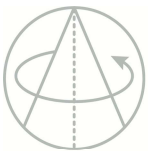
A double cooling-hose outlet on the cover, combined with the quick-coupling system, provides unobstructed operation and easy access to the shaker from any side. Precision stops allow efficient changeover between vertical and horizontal operation.

Specification / System	Unit	40 – 400A
Force Sine	kN	40
Force Random ¹	kN rms	40
Shock Force ²	kN	120
Frequency Range	Hz	5-2500
Acceleration Sine	g	100
Acceleration Random	g rms	70
Acceleration Shock	g	180
Armature diameter	mm	400
Armature weight	kg	38
Armature Axial Resonance	Hz	~ 2200
Velocity Sine ³	m/s	2
Velocity Random	m/s	3
Velocity Shock ⁴	m/s	3.5
Displacement Sine ⁵	mm	63.5
Displacement Shock	mm	76
Max Payload static	kg	600
Shaker Body weight	kg	2300
Shaker weight	kg	3100
Shaker Body Resonance	Hz	< 5
Stray Magnetic Field	T	< 0,001
Dimensions Vertical Shaker (W x D x H)	m	1.5 x 1 x 1.2

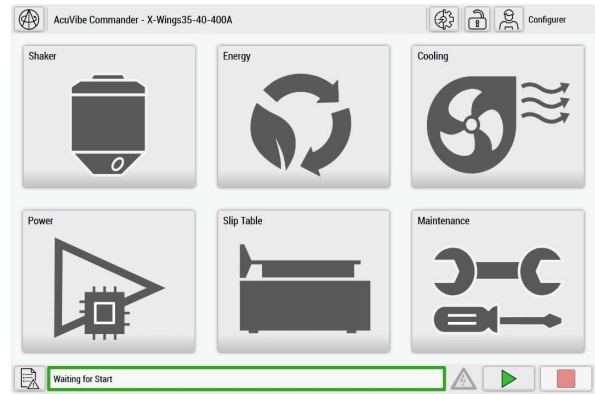
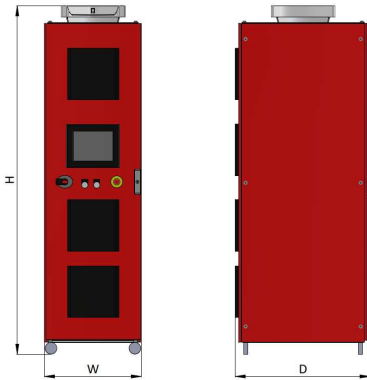
Environmental values	Unit	
Heat Dissipation Shaker to Air	kW	2.5
Working Ambient temperature Range 9	°C	10 – 30
Cooling Type		Air
Acoustic Noise Shaker at 1 m Distance	dBA	< 110



Cooling parameters	Unit	
Cooling Air flow for Air cooled Systems	m ³ /min	55
Dimensions Blower* (W x D x H)	m	0.7 x 0.7 x 0.9
Acoustic Noise Blower at 1 m Dist.	dBA	< 105



ACUTRONIC



Electrical Cabinet Specification	Unit	
Amplifier set Capacity	kVA	40
Individual Power Module Capacity	kVA	20
Maximum Individual Power Module Cap.		700Ap
Input Sensitivity + SW Gain	±V	1-15
Number of Power Modules	#	2
Overall Cabinet Efficiency	%	≥ 90
Switching Frequency	kHz	≥ 160
Total Harmonic Distortion (THD)	% avg	< 0.028
Signal Noise Ratio	dB	> 74
Input Impedance	kΩ	≥ 10
Power amplifier acoustic noise level	dba @1m	< 80
DC Field Power Supply	V / A	180 / 60
Input Power max consumption	kW	45
Number of Electrical Cabinets	#	1
Heat Dissipation Cabinet	kW	6.75
Electrical Main Supply		400VAC
Dimensions Electrical Cabinet (W x D x H)	m	0.6 x 0.8 x 2.2

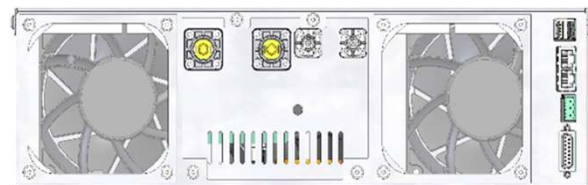
Logic Module

Digital Modul with analog and or digital drive input. uC based safety interlock supervision assuring damage prevention. Armature failure detection. Switchable DC Coupling. Detection of profiles for lifetime expectancy calculations.



Power Module

20kVA Power-Modules units in 3 rack units provides unmatched performance to space ration. Integrated current limiter protecting every single power module. Temperature controlled fan speed reducing noise and power consumption for idle state. Automatic capacitor discharge allowing safe maintenance. Noise floor of 47mVrms equal to 0.0028g rms.



Acuvibe Commander

Full Digital Interface accessible via integrated touchscreen or ethernet remotely. Tracking of all temperatures, currents, interlocks, pressures of air and water, conductivity, waterflow and many more states. User-friendly top-level overview with drilldown possibilities. Full automated startup sequence and transparent condition monitoring. Automatic controlling of blower speed, adjustable armature "zero" position, field power, input sensitivity level, DCOffsets and many more variables. Customer current limiter protecting the UUT. Automatic tilting mode controlling body, slip table hydraulic and armature position.



Notes air cooled

- *1 In accordance with DIN ISO 5344:2016.
- *2 Half-sine shock.
- *3 Long-term operation at high velocity and large displacement is subject to derating, as eddy currents may occur and cause heating of the armature.
- *4 To perform the shock test with 11 ms at 100 g, a peak velocity of approximately 3.5 m/s will be achieved.
- *5 Long-term sine testing at large displacements increases wear. Body motion may restrict the available operating range.
- *6 Standard configuration; other configurations available on request.
- *7 Requires external guidance.
- *9 Non-condensing.

The specifications identified in this data sheet are representative of standard systems. To meet customer-specific requirements, Acutronic can design systems with specifications that may be increased or reduced relative to standard configurations.