Electromagnetic shaker system





SENS

F4/Z820WA

SPECIFICATIONS

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Usable frequency range		10 - 7,500 Hz
Blocked force output ¹		see graph on page 2
Maximum continuous current		1.5 amps rms
Maximum continuous current with air cooling		2.5 amps rms
Nominal electrical impedance		25 Ω
DC electrical resistance		13 Ω
Resonance frequency, blocked		40 Hz, nominal
Forced air cooling pressure, max		25 psi (1.7 bar)
Connector ²		Bendix PT06A-8-3S
Cable		R4M-8B-8B-J9B-10
Accelerometer nominal va	alues:	
Voltage sensitivity		100 mV/g
Frequency response:	±0.5 dB ±1.0 dB ±3.0 dB	10 - 2,000 Hz 6 - 3,000 Hz 3 - 6,000 Hz
Power requirements: v current reç	oltage source gulating diode	18 - 30 VDC 2 - 10 mA
Bias output voltage, nominal		12 VDC
Output impedance		<100 Ω
Electrical noise, equiv. Spectral	g: 10 Hz 100 Hz 1,000 Hz	100 μg/√Hz 10 μg/√Hz 1 μg/√Hz
Connector ²		BNC
Output cable		R2-2-J5A-10
Force gage nominal value	s:	
Voltage sensitivity		100 mV/lb (22.5 mV/N)
Power requirements: v current reç	oltage source gulating diode	18 - 30 VDC 2 - 10 mA
Bias output voltage, nominal		12 VDC
Output impedance		<100 Ω
Electrical noise, equiv. Spectral	lb: 10 Hz 100 Hz 1,000 Hz	60 μlb/√Hz (270 μN/√Hz) 10 μlb/√Hz (44 μN/√Hz) 1 μlb/√Hz (4.4 μN/√Hz)
Connector ²		BNC
Output cable		R2-2-J5A-10
Mass below force gage (in	ncluding stud)	140 grams (0.31 lb)
Effective stiffness ³		>500 x 10 ⁶ lb/in (87 x 10 ⁹ N/m)
Diameter of mounting surface		1.62 in. (4.1 cm)
Mounting stud, stainless steel		3/8-16 UNC
Recommended screw down torque		70 lb/in (7.9 N/m)
Temperature range		0° to +80°C
Base material		anodized aluminum
Weight: Parts rigidly atta	ached to structure Suspended weight Total weight	2.0 lb (0.9 kg) 4.8 lb (2.2 kg) 6.8 lb (3.1 kg)



Key features

- Reaction-type shaker generates very large dynamic forces for research and testing
- Air-cooling feature for operation at high output levels for long periods
- Designed for operation over a wide range of audio frequencies
- Manufactured in ISO 9001 facility

See reverse for dimensions, graphs and system diagram.

Notes: ¹ Blocked force output refers to the force output against a mass of infinite mechanical impedance.

Accessories supplied: All input and output cables; mounting stud; spanner wrench; adaptor cable

Note: Due to continuous process improvement, specifications are subject to change without notice. This document is cleared for public release.

² Refers to connector at shaker end of cable.

³ The design of the Z820WA is such that the limiting stiffness which can be measured with an accuracy of 10% is determined by the local stiffness of the specimen under test. For a thick steel specimen this stiffness is approximately one tenth of the actual local stiffness or 7,000,000 lb/in; for an aluminum specimen it is approximately 2,000,000 lb/in.





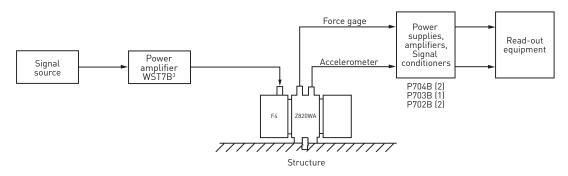
F4/Z820WA

Recommended system diagram

100

peak

Pounds,



Typical blocked force output

Frequency, Hz

(F4 shaker powered by WST7B³)

440

F4 Aircooled

F4 Shaker

444

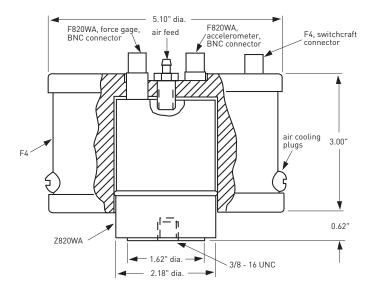
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Dimensions



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