



C O R P O R A T I O N

Technical Data Sheet

0505-20 Free Fall Vs. Pneumatic Shock Machine

TDS-21

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M/RAD is a manufacturer of both Free Fall and Pneumatic Shock Machines. As such, we understand the differences between these systems. Herein is a short summary of the advantages of the Model 0505-20 Free Fall Shock Machine against Pneumatic Shock Machines manufactured by M/RAD and others:

- a. The Model 0505-20 Free Fall Shock Machine has a carriage whose dimensions are 5 inch x 5 inch. From a dynamic standpoint, the smaller table will respond favorably to shorter time duration pulses in the form of resonance, ringing and distortion. In other words, the 5 inch x 5 inch table has a higher resonant frequency that either a 9 inch x 9 inch or 16 inch x 16 in carriage, thereby offering better unfiltered data over a range of time duration.
- b. Furthermore, the pneumatic shock machine uses a pneumatic piston to drive the table. The length of this piston will also contribute to the noise generated by this machine on account that the long piston may respond to the time duration frequency generated by the machine.
- c. All components of the free fall shock machine are located outside of the machine, are attached to the machine's structure and are readily accessible. The components of the pneumatic shock machine are located inside the machine so that the machine must be disassembled in order to perform service.
- d. The free fall shock machine only requires voltage as it's utility service. The pneumatic shock machine requires voltage, air and, occasionally oil.
- e. The Model 0505-20 free fall shock machine is more accurate and offers greater repeatability.