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High pressure slab motor

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Abstract

A slab motor for testing propellant samples (also referred to as a ballistic evaluation motor) having increased insulation and high pressure capability up to 10,000 psi is provided. The slab motor has a steel tube body with steel end caps, the whole assembly being insulated with liners. A test head device is attached to the forward end of the slab motor providing a mount for measuring thrust, two ports for attachment of pressure transducers, a rupture diaphragm to preclude explosive pressure build-ups, and an open port for attachment to the slab motor. A removable nozzle assembly allows easy replacement of the exhaust nozzle attached to the aft end of the slab motor.