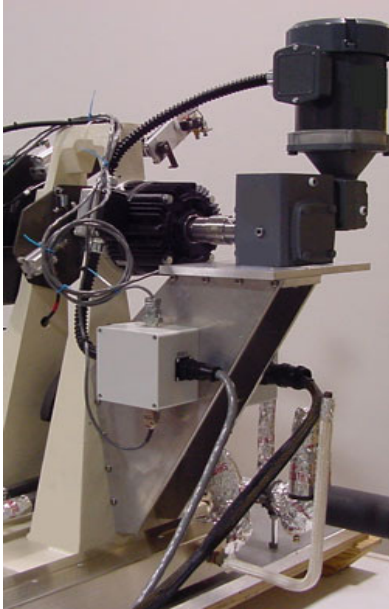


Automatic Pendulum Return

INTRODUCTION



*MPM's Automatic Hammer
Return System*

Pendulum impact tests require latching of the pendulum at the desired release angle (typically 135 degrees). For large capacity test machines, this operation requires considerable strength to raise the hammer above eye level. After the impact event, it is common practice in some laboratories to step into the swing path to catch the hammer on the return swing and manually return it to the latch position. This practice is dangerous and can result in serious injury. While the danger is less with smaller capacity table top machines, there are cases, such as in nuclear hot cell testing, where it is also highly desirable to have an automatic hammer return system on the test machine.

SYSTEM OPERATION

The MPM hammer return system hardware consists of a clutch, brake, and motor. The system is interfaced with the encoder to continuously monitor the angle of the pendulum. The motor may be applied at any time to raise the hammer to the latch position. During a routine test, the hammer is released, and at the optimum position on the back swing, the system initiates the clutch and the motor is applied to return the pendulum to the latch position. The hammer release and brake are controlled by a console switch and/or the Impact™ v3.0 software. An important safety feature of the system is that power must be present for the hammer to swing (inherent fail safe design). Further, the test machine enclosure door will be interlocked so that it is impossible to release the hammer without closing the door. This safety feature is very important in most applications, particularly in student laboratories or factory floor settings where untrained personnel are present.



FOR MORE INFORMATION

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