

Ballistics test equipment

Description:

The apparatus comprises essentially three main parts:

An adjustable headform mounted in an impact resistant chamber;

A pneumatic circuit, including a semi-automatic ball loading mechanism, a barrel and necessary controls. Aiming of the ball is aided by a laser, projecting a spot on to the target area;

An electrical circuit, including the ball speed measurement system.



The rig is capable of projecting a 6mm diameter steel ball at a range of velocities from 12 - 200 m/s.

The equipment is self-contained, bench mounted, stainless steel construction. The door to the test chamber is interlocked and fitted with polycarbonate panels to enable viewing of tests.

The headform position is adjustable; forward/backward and side to side on slides, up/down on a screw (hand wheel), and with rotation about the vertical axis.

The rig incorporates a semi-automatic breech, to supply balls to the barrel and automatic collection of spent balls to the centre of the test chamber. The propulsion is generated by compressed air, with a precision pressure regulator and gauge. All operating controls are easily accessible at the front of the unit.

The control circuit incorporates adjustable gas pulse duration, safety interlocking and reset and fire buttons. The ball speed is verified by light source and photocell detection units; with the velocity indicated by a digital display.

Available versions:

The ballistics test equipment comes in three variants:

EN Version for use with 6 mm diameter ball bearings;

ANSI Version for use with 1/4" (6.35 mm) diameter ball bearings;

Dual ANSI & EN Version with interchangeable 6mm and 1/4" barrels.

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Ballistics test equipment (continued)

Services required:

Bench mounted
110/230 volts AC, 50/60Hz, mains electricity
Compressed air at a pressure of up to 6 bar

Consumables:

6 mm or 1/4" diameter steel balls (twenty are supplied with each rig)
Sacrificial sheet of polycarbonate for set-up (one sheet provided)

Approximate packed size & weight:

195 x 125 x 85 cm, 190 kg

Relevant standards:

EN 168:2001, clause 9.1.2
ANSI Z87.1:2010, clause 9.12.2 and figure E1
AS/NZS 1337-1:2010, appendices L, M, N and O