PRODUCT DATA

Tapping Machine Type 3207

Impact sound source for building acoustics

Tapping Machine Type 3207 is a robust and portable impact sound generator. It can be used for impact sound measurements according to national and international standards.

Impact sound is typically caused by footsteps. To measure impact sound insulation, a standardized impact sound source (tapping machine) is placed in the source room and the receiving room levels are measured and averaged for several positions of the microphone and tapping machine. Corrections for background noise and absorption in the receiving room are then made, and a single number rating is calculated (for example, L'nTw). This single number rating can the be compared with project requirements and building regulations.

Combine the tapping machine with OmniPower Sound Source Type 4292-L, HBK 2755 Smart Power Amplifier and HBK 2255 Sound Level Meter with Building Acoustics Partner to create a complete building acoustics testing solution.

980417/1e

Uses

- Architectural and building acoustics
- Impact sound level measurements

Features

- Part of a complete building acoustics system
- Satisfies national and international standards
- Robust
- Easily portable

Description

Type 3207 uses five hammers. Each hammer weighs 500 g and drops from a height of 40 mm. The hammers drop in series at a frequency of 2 Hz for a cyclical operating frequency of 10 Hz, which fulfils national and international standards. Tappets on a single shaft operate the hammers. A toothed belt and gearbox drive the shaft with power from a DC motor, which is powered by mains supply.

The unit is based around a welded aluminium chassis. Both size and weight have been minimized for easy transportation. Three extendable legs support the unit during operation with rubber feet that are height adjustable with supplied gauges. This gives stable and level mounting during operation in accordance with the relevant standards.

Battery kit

The battery kit allows you to use the tapping machine in buildings without mains power supply.

Fig. 1 *Battery Kit UA-1477*

980421/1e

Compliance with regulations and environmental standards

CE	CE-mark indicates compliance with: EMC Directive, Low Voltage Directive and Machinery Directive. C-Tick mark indicates compliance with the EMC requirements of Australia and New Zealand.
Safety	EN/IEC 61010-1 and UL 61010-1: Safety requirements for electrical equipment for measurement, control and laboratory use.
EMC Emission	EN/IEC 61000-6-3: Generic emission standard for residential, commercial and light-industrial environments. CISPR 32: Radio disturbance characteristics of information technology equipment. Class B limits. FCC Rules, Part 15: Complies with the limits for a Class B digital device. This ISM device complies with Canadian ICES–001.
EMC Immunity	EN/IEC 61000-6-2: Generic standards – Immunity for industrial environments. EN/IEC 61326: Electrical equipment for measurement, control and laboratory use – EMC requirements. **NOTE:** The above is only guaranteed using accessories listed in this document.
Temperature	IEC 60068-2-1 & IEC 60068-2-2: Environmental testing. Cold and dry heat. Operating Temperature: 0 to +40 °C (+32 to 104 °F) Storage Temperature: –25 to +70 °C (–13 to +158 °F)
Humidity	IEC 60068-2-78: Damp heat: 90% RH (non-condensing at +40 °C (+104 °F))
Mechanical	Non-operating: IEC 60068-2-6: Vibration: 0.3 mm, 20 m/s^2, 10 – 500 Hz IEC 60068-2-27: Shock: 500 m/s^2, 6 directions IEC 60068-2-29: Bump: 1000 bumps at 250 m/s^2
Enclosure	IEC 60529: Protection provided by enclosures: IP 20

Specifications – Tapping Machine Type 3207

STANDARDS	ISO 16283-2 ISO 140 ISO 717 DIN 52210 BS 5821 ASTME 492
HAMMERS	Five in line, 100 mm between each hammer, single hammer weight 500±12 g
IMPACT FREQUENCY	Each hammer operates at 2 Hz, tapping frequency for unit is 10±0.5 Hz
IMPACT DYNAMICS	Equivalent free-fall height of hammers 40 mm, extra drop below impact plane at least 4 mm
REMOTE OPERATION	**Socket:** LEMO 4-pole **Pin 1:** 0 V DC, GND **Pin 2:** Power supply for external unit, max. 24 V DC, 1 A **Pin 3:** For "On": +5 V DC (TTL-Level) **Pin 4:** For "On": connect to Pin 1 **Housing:** Shield
BATTERY KIT UA-1477 (OPTIONAL)	**Mounting Position:** Internally in-unit housing **Battery Life:** 1.5 hours **Battery Type:** Maintenance free 12 V/2 Ah lead acid battery **Charger Type:** Same as mains adapter (see below) **Charging Time:** 24 hours for a completely discharged battery
ON/OFF SWITCH	**3 Positions:** Remote, Off, On
MAINS ADAPTER	10.5 – 35 V DC, min. 25 W **Socket:** LEMO coaxial (can also be used as charging socket) **Middle Pin:** +10.5 – 35 V DC, Outer ring: 0 V **Mains Adapter:** Mains Adapter ZG-0429 100 – 240 V AC input, 24 V DC output, max. 45 W **Operating temperature:** max. +40 °C Can also be used to charge optional battery pack
SUPPORTS	3 extendable and height adjustable feet
DIMENSIONS	**W × H × D:** 480 × 273 × 155 mm (18.9 × 10.7 × 6.1 in) – feet retracted **W × H × D:** 590 × 273 × 285 mm (23.2 × 10.7 × 11.2 in) – feet extended **Weight:** 11.5 kg (25 lb) with mains adapter
MAINTENANCE REQUIREMENTS	After 24 hours of operation or once a year (whichever comes first), lubricate with the supplied sewing machine oil according to instructions

3207 **Tapping Machine**
includes:
- ZG-0429: Mains Adapter (mains cable country-dependent)
- 2 Gauges for drop-height adjustment
- Oil canister for maintenance

Accessories

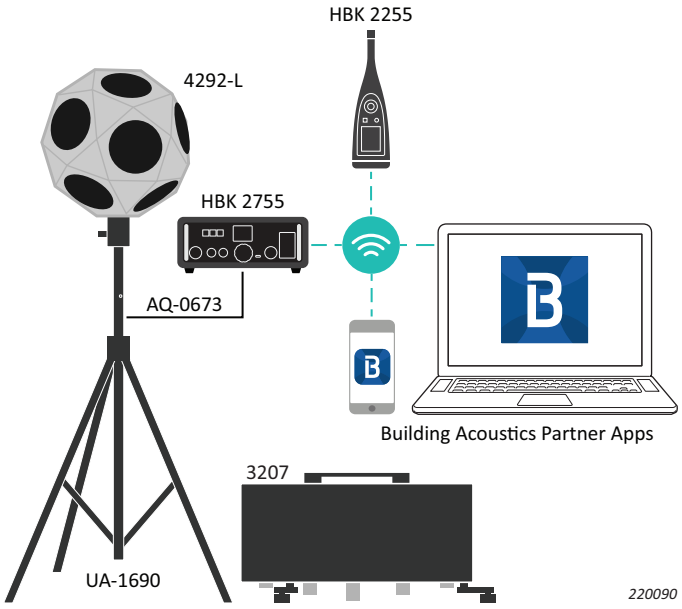
UA-1477	Battery Kit
QB-0055	Replacement Battery

System components

Tapping Machine Type 3207 is part of a complete measurement system, which includes sound sources and a sound level meter with an application for analysing and documenting results

4292-L	OmniPower Sound Source
2755	Smart Power Amplifier
AQ-0673	Cable, connect HBK 2755 to Type 4292-L
2255-B-S	Sound Level Meter with Building Acoustics Partner

Fig. 2 Complete building acoustics measurement system



3207-A **Tapping Machine with Battery Kit**
includes:
- 3207: Tapping Machine (and its included accessories)
- UA-1477: Battery Kit

Calibration services

Note: Calibration services are performed by subcontractor

3207-CAF	Accredited Calibration of Type 3207
3207-CAI	Initial Accredited Calibration of Type 3207
3207-CTF	Traceable Calibration of Type 3207
3207-CTI	Initial Traceable Calibration of Type 3207