

Servo-Pneumatic Load Frames

Standards

EN 12697-25*, EN 12697-26*, EN 12697-24*
ASTM D4123*, ASTM D3497*

* Using the suitable testing module

Applications

For determining the rheologic properties of bituminous mixtures with tension, compression and dynamic loading.

Introduction

IPC's innovative approach to system design has allowed us to produce smaller, more cost effective designs without degrading system performance. In many cases, our lower capacity pneumatic machines out-perform larger, more expensive hydraulic systems.

Pneumatically driven machines excel at low forces where accurate control of force is imperative. With stiff specimens, due to the compressibility of air, the servo-valve operates over a greater proportion of its dynamic range. We offer two models 5 and 14 kN capacity.

General description

Base system capable of applying loads up to 5 or 14 kN comprising: test frame, pneumatic actuator, pneumatic interface, filters, regulators, connections etc.

The load frame includes the Control and Data Acquisition System (see *IMACS: Integrated Multi-Axis Control System on page 6*). The test module has to be selected depending on the test to be performed. See accessories.

Main features

- Double acting servo-pneumatic actuator
- Low cost compared with hydraulic systems
- Dynamic loading, utilising digital servo control
- Compact frame design
- Ideally suited to asphalt and unbound granular materials testing



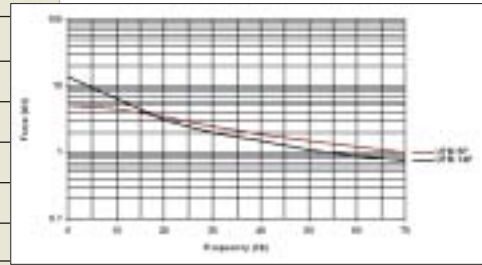
77-B3110 UTM-14P servo pneumatic System fitted with accessory, PC and temperature controlled chamber



Detail of IMACS Control System, part of the load frames

Specifications

Size	1000x300x450 mm (hxdxw)
Weight	80 kg
Load capacity	0 to 5 kN / 14 kN
Between columns	345 mm
Vertical space	600 mm
Actuator stroke	300 mm
Air supply	clean dry air at 800-900 kPa; 5 litres/s



Ordering information

■ **77-B3100**

UTM-5P, Servo-pneumatic testing system 5 kN capacity, complete with testing frame, 1-axis control unit, air reservoir and load cell. 110-230 V, 50-60 Hz, 1 ph.

■ **77-B3110**

UTM-14P, Servo-pneumatic testing system 14 kN capacity, complete with testing frame, 1-axis control unit, air reservoir and load cell. 110-230 V, 50-60 Hz, 1 ph.

Accessories

Asphalt testing modules

(for more information see page 12)

77-B3010 Complete asphalt testing kit, including Indirect Tensile and Permanent Deformation jigs for 100 and 150 mm specimens, two 10 mm PD LVDTs, two 0.1 mm IT LVDTs and temperature kit

77-B3031 Asphalt proving ring for routine check of load cell and deformation transducers

77-B3032 100 mm diameter PVC specimen

77-B3033 150 mm diameter PVC specimen

77-B3017 Indirect tensile jig loading plate verification kit

77-B3034 Torque screwdriver

77-B3192 Temperature controlled environmental chamber, -10°C to +60°C. 230 V, 50 Hz

(for more information see page 13)

77-B3080 Beam fatigue module

77-B3071 PVC dummy beam

77-B3016 Temperature measuring kit

Unbound materials testing modules
(for more information see page 15)

77-B3050 AASHTO TP46/T307 Unbound materials testing kit, complete with 150/100 mm triaxial cell, pneumatic reservoir with servo-valve, pressure transducer, two 10 mm LVDTs with mounting kit, control unit additional module

77-B3060 AASHTO TP46/T307 Unbound materials testing kit, complete with 100 mm triaxial cell, pneumatic reservoir with servo-valve, pressure transducer, two 10 mm LVDTs with mounting kit, control unit additional module