

Servo-Hydraulic Universal Testing Machine UTM, 30 kN cap.



MAIN FEATURES

- Rigid two column load frame
- Precision engineered for high stiffness and alignment
- Standard tie-rod sealed actuator
- Available with double acting, through-rod high precision labyrinth bearing actuator providing superior performance
- High performance servo valve allows sinusoidal loading frequencies up to 70 Hz
- Motorized crosshead positioning
- Hydraulic crosshead clamping
- Fully customizable to suit a large range of testing applications
- Quick and easy adjustment of the test space without the need for extension rods
- Modular design for easy support and upgrade
- Provides improved alignment regarding concentricity and axiality
- Supplied complete with high quality pre-filtered oil for longer life

Advantages of the Labyrinth bearing actuator:

- Excellent through zero waveform fidelity, i.e. for tests such as uniaxial fatigue
- SVECD the UTM-30 achieve the precise through zero sinusoidal wave shape required
- Lower oil flow and therefore lower power consumption compared to sealless cylinders
- Wave shape fidelity guaranteed even at highest frequencies
- Longer life compared to standard tie-rod cylinders
- Improved side load resistance for tests such as Two-Point Bend

GENERAL DESCRIPTION

Universal Testing Machines (UTMs), Servo-hydraulic, equipped with high performances environmental chambers and extensive suite of accessories offer the greatest flexibility to perform all advanced pavement materials tests, ideal for Research purposes, featuring higher loads from 30 to 250 kN, lower temperatures -25°C, -50°C. Compatible and in compliant with larger range of accessories and Standards.

The heart of all these products is the IMACS, Multi-Axis Digital Controller and Data Acquisition System which delivers leading edge performance, unparalleled real time computer control an flexible data acquisition, together with the powerful and professional UTS Software draws upon over 30 years of advanced materials testing experience. Used and relied upon by hundreds of researchers, you can buy with confidence knowing your test results having immediate credibility.

IPC Global's Hydraulic Power Supply (HPS), part of the machine, has been designed with integrated VFD (variable

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speed) technology assuring energy saving and noise reduction. HPS features return line filtration, remote starting and control via virtual pendant, air cooling and indication for low oil, over temperature and dirty filter. The system provides electronically adjustable oil pressure allowing greater control and safety. Oil accumulators further improve control accuracy while the high performance filters ensure long life system protection and reduced maintenance costs.

The UTM-30 is available in two versions: Standard, with tie-rod actuator and High Performance, fitted with Servo-Hydraulic Labirynt bearing actuator.

The **UTM-30 Servo-pneumatic testing systems** can be used as part of your **Superpave performance based testing** program.

TECHNICAL SPECIFICATIONS

	Advanced	Standard
Models	79-PV70B12	79-PV70B02
Load Capacity:	+/- 30 kN Dynamic. +/- 30 kN Static	+/- 25 kN Dynamic. +/- 30 kN Static
Frequency:	Up to 70 Hz	
Load cell:	Low profile, Pancake type	
Actuator type (double acting)	Labyrinth Bearing seal less	Tie-rod sealed
Stroke	50 mm (+/- 25 mm)	
Inbuilt displacement transducer	50 mm	
Adjustable crosshead	Motorized	
Crosshead clamping	Hydraulic	
Maximum vertical daylight	795 mm	
Space between columns	450 mm	
Max. working pressure	210 bar	
HYDRAULIC POWER PACK		
Low pressure adjustable	50 to 210 bar	
Max flow rate	5 L/min	
Mains power	2.2 kW	
Cooling system	Air cooling	
Oil tank cap. -Complete with pre-filtered oil	45 L	
DIMENSIONS AND WEIGHTS		
Frame (hxwxh) mm	1900x680x600	
Hydraulic power pack (hxwxh) mm	1000x470x765	
Approximate total weight	195 kg	

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ORDERING INFO

High performance model

79-PV70B12 IPC Global UTM-30, Servo-Hydraulic universal testing machine 30 kN cap., including Dual Axis Control and Data Acquisition System IMACS, 30 kN Servo-hydraulic labyrinth bearing actuator, with high performance servo-valve and built-in LVDT (+/- 50mm) with In-Line Conditioner (ILC), load frame with motorized crosshead positioning and hydraulic crosshead clamping, hydraulic power supply, load cell (+/- 30 kN) with ILC.
230 V, 50-60 Hz, 1 ph

Standard model

79-PV70B02 IPC Global UTM-30, Servo-Hydraulic universal testing machine 30 kN cap., including Dual Axis Control and Data Acquisition System IMACS, 30 kN Servo-hydraulic actuator, with high performance servo-valve and built-in LVDT (+/- 50mm) with In-Line Conditioner (ILC), load frame with motorized crosshead positioning and hydraulic crosshead clamping, hydraulic power supply, load cell (+/- 30 kN) with ILC.
230 V, 50-60 Hz, 1 ph

ACCESSORIES

Environmental chambers for UTM-30

Using a high quality mechanical refrigeration system, enable users to analyze materials' properties at real-life working temperatures for extended periods.

79-PV70E12 Environmental chamber for UTM-30 with working temperatures from -25 to +60° C.
110, 220 or 230 V, 50-60 Hz, 1ph

79-PV70E22 Environmental chamber for UTM-30 with working temperatures from -50 to +80° C.
208, 240, 400 or 480 V, 50-60 Hz, 3 ph

Temperature measurement kit

79-PV70116 Temperature measurement kit (-50 to +100° C) including two probes.

ADDITIONAL INFORMATION

IMACS Digital Controller and Data Acquisition System

IPC Global's world leading IMACS digital controller and data acquisition system is at the heart of all our servo-controlled testing systems. It provides excellent waveform fidelity from integrated channel acquisition and control functions, at speeds of up to 5 kHz simultaneously on all channels.

The IMACS utilizes flash-based firmware which allows updates of all modules onsite. Analogue inputs auto-calibrate on power-up giving confidence in readings and a low data noise performance with over-sampled data.

With up to 8 expandable control axes and 32 data acquisition channels, you can have total confidence in your testing results. It has an exceptional data resolution and control with up to 20 bit effective auto-ranging data acquisition and a real-time digital computer control with 32 bit processing.

Three versions are available: for Servo-Hydraulic, Servo-Pneumatic and Servo-Electromechanical systems.

UTS Software

IPC Global's powerful and professional UTS Software draws upon over 30 years of advanced materials testing experience. IPC Global's test and control software is known for its simplicity in use, clarity of results and analytical power.

It was developed from expert knowledge of applications to run automated test routines and therefore speeds up testing. It is written in powerful, professional Delphi and features real-time graphs for monitoring the specimen under test; portable binary data files or sharing, reviewing and analysis; and "live" transducer levels display.

The purpose-built UTS applications have dialogue help boxes for automated test routines and easy-to-read graphic screens for test set up and reviewing. The test is totally programmable from the user.

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Universal Resting Machine – UTM-30



Head of UTM-30



Cell of UTM-30



HPS of UTM-30
 Cell of UTM-30 UTM-30



UTS Software



IMACS