



Physical Test Solutions
Innovative Solutions in Material Test Equipment

PTS-JJTesT Polymer Test Equipment



Polymer Test
Polymer Test



POLYMER TEST EQUIPMENT

As polymer materials began to substitute metals, wood and many other materials in the manufacturing environment, polymer test equipment has increasingly become in demand. Recognizing the need for cost-efficient equipment, **PTS** offers the ideal solution at a world-class technological level. The products illustrated in this catalog reflect that situation as can be seen with the touch-screen displays and controllers. **PTS** has available a complete range of polymer testing equipment. If you do not see what you are looking for, do not hesitate to contact your nearest sales office.

MFI Series of Melt Flow Indexers

MFI Definition

The melt flow indexer is related to the melted material viscosity. It allows the operator to make an estimation of the mean molecular weight, at the same time giving an indication of melt "flow ability" through a die. The Melt index is defined as the weight or the volume of melted material flowing through a calibrated die, under the effect of a pre-determined force, at constant temperature and for the total time of 10 minutes.

International reference standards and related methods

- ISO 1133, ASTM D1238
- Method A: gravimetric / MFR (Melt Flow Rate)
- Method B: volumetric / MVR (Melt Volume Rate)

The MFI series of Melt Flow Indexer is a new and affordable series of tabletop instrument that tests the melt mass-flow rate (MFR) and melt volume-flow rate (MVR) of a wide range of thermoplastic raw materials (granulate). The tester conforms to all National and International Melt Flow Resistance standards, including ISO1133, ASTM D1238 and GB/T 3682. Any temperature within 120 °C-450°C(248°F-842°F) can be accurately controlled. All of the PTS MFI's come with the CE certificate.



Specifications:

- Measuring range:MFR: (1g—100g) /10min、MVR: 0.01-350cm³/10min
- Temperature control: PID
- Temperature range: 120 °C -400 °C
- Temperature accuracy: ±0.2°C
- Timing accuracy: 0.01S
- Weights Included:2000 g (8), 1640 g, 1200 g, 1000 g, 960 g, 875g, 600 g

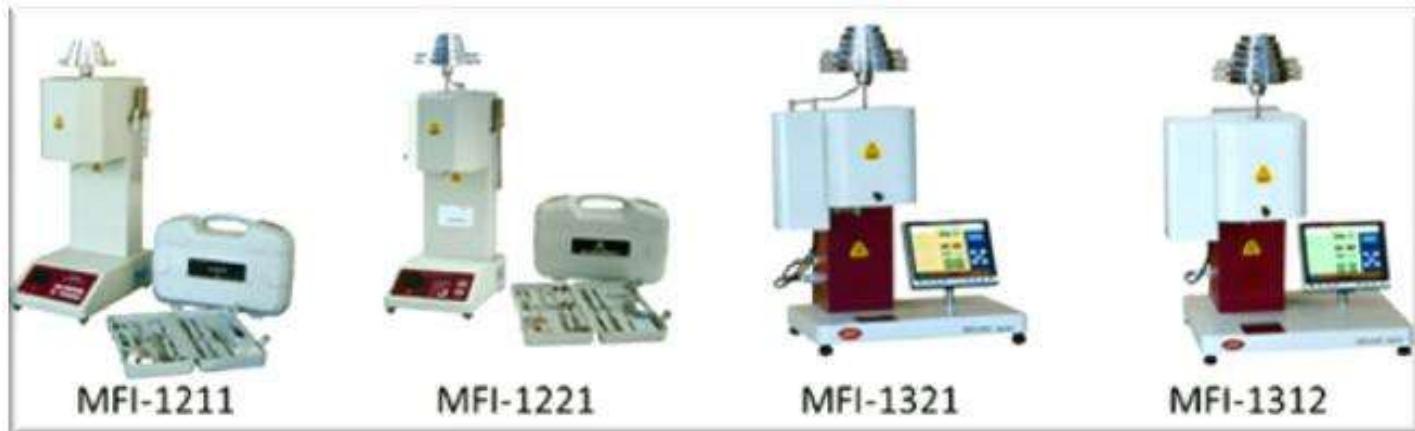


Models and Features:

Melt Flow Indexer Comparison List							
Model	Display Mode	Auto cutting	MFR	MVR	auto calculate MVR result	export to PC	SW
MFI-1111	LED	Y	Y	N	N	N	N
MFI-1211	LCD	Y	Y	N	N	N	N
MFI-1221	LCD	Y	Y	Y	Y	N	N
MFI-1312	Touch screen	Y	Y	N	N	Y	Y
MFI-1322	Touch screen	Y	Y	Y	Y	Y	Y
MFI-2322	Touch screen	Y	Y	Y	Y	Y	Y

Remarks: 1. MFR result shall be calculated manually-- firstly select three perfect extruded strips, then weight them with a balance, averaging these three extrusion, finally put the weight into the formula.

2. MVR result will be calculated automatically, and printer will print out the result.



Melt Flow Indexer MFI-3222

PTS introduces an innovative multi-weight instrument for the determination of polymers' melt index.

Main Technical Features:

- Microprocessor control system
- 8" color touch screen for test parameters input, test execution and results reading
- Measurement range: 1.0g-100g/10min ; 0.01-350cm³/10min
- Temperature working range: 120°C to 450 °C
- Temperature rising time: <30min
- Temperature fluctuation: ± 0.5 °C
- Temperature display error: ± 0.2 °C
- Temperature recover time: <min
- Accuracy of timer: 0.1s
- Automatic cut-off device with interchangeable knife
- Cut-off time interval: 1-180000s
- Encoder for piston displacement detection (MVR)
- MVR measurement accuracy: ±0.03%F.S
- Piston displacement accuracy: 0.02 mm
- Piston displacement resolution: 0.005 mm
- On board multi-weight system including following weights: 0.325 / 1.2 / 2.16 / 3.8 / 5 / 10 / 21.6 Kg
- Accuracy of weight: 0.5%.
- Automatic application of the selected testing weights
- Movable oven for easy clearing and inspection
- Tungsten –Carbide die
- Software for PC interface for results acquisition, saving, export and printing of test parameters and results
- USB port for "easy data transfer"
- Electric supply: 220 V – 50 Hz
- Dimensions: 690x630x1500 mm (height)



Screen of results visualization (MVR vs. Time)



**A user friendly instrument with innovative specifications
Integrated automated Multi-weight system**

Built in weights (all weights confirm to International standards). The weight or the weights (max. 4) are automatically selected by a simple touch of the operator on the screen. In case of multi-weight testing the choice can be for incremental or decremental testing. No manual weight handling is required.

User interface

The basic instrument has a wide color touch screen for a simple and fast input of the test parameters, visualization of test execution and final results. The instrument can be connected to a PC through a RS232 port for direct acquisition of the test parameters and test results which can be directly saved or exported with the SW included in the supply. The software package provided with the instrument does not require any license; hence multiple installations can be made in case of multiple operators.

The multi-weight test (up to 4 weights during the same test in an increasing or decreasing mode) allows for calculation of the following results:

- FFR (MFR ratio with different weights)
- Shear Stress
- Shear Rate
- Apparent viscosity
- Diagram MFR vs. Time
- Diagram MVR vs. Time

HDT-VICAT Testers

“HDT” test means

The test determines the temperature at which a specified deflection occurs when a standard test specimen is subjected to a bending stress, to produce one of the nominal surface stresses according to international standards.

This test is important for both quality control and research into plastics.

“VICAT” test means

The test determines the temperature at which a standard indenter penetrates 1mm into the surface of a test specimen under load.

It is used to establish the difference between many types of thermoplastic materials with regard to their softening properties.

STANDARDS

ISO 75,ISO 306,ASTM D 1525,ASTM D 648 and the equivalent

Specification of HDT/V-3216

- Automatic lifting mechanism provides stable and reliable performance.
- The performances of work station lifting, offloading, returning to up limit, loading can be completely finished during the lifting procedure.
- The distribution of testing results for PC standard plates is less than 0.5°C,even under the smallest load condition.
- Smoke exhaust system is designed to guarantee operators' health, not contaminating the environment. Unique structure and material of test station ensure high accuracy of testing results.
- Temperature protective system, independent from the controlling system, is designed to protect the tester when medium temperature exceeds the upper limit point.



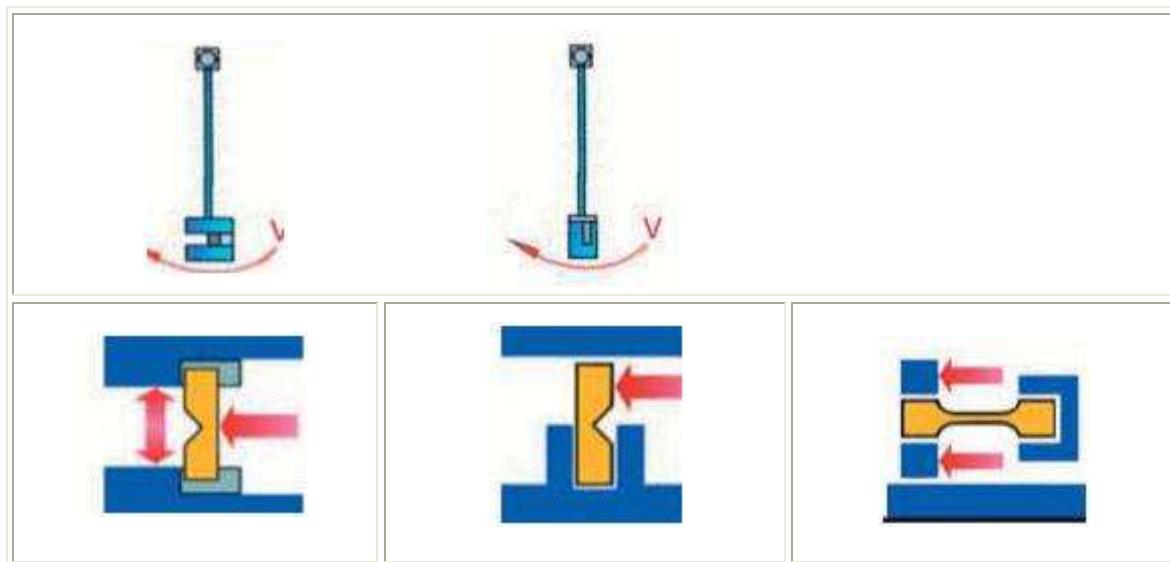
Specifications:

Model	Structure	Stations	Temp. measuring point	Display & Output	Temperature range
HDT/V-3216	Table type	6	6	PC, Printer	RT ~300°C
HDT/V-3116	Table type	6	6	Touch screen (PC & Printer optional)	RT ~300°C
HDT/V-100 series	Table type	2,3,4,6	1	LED	RT ~300°C
HDT/V-110 series	Table type	2,3,4,6	1	Touch screen (PC & Printer optional)	RT ~300°C
HDT/V-111series	Table type	2,3,4,6	2,3,4,6	Touch screen (PC & Printer optional)	RT ~300°C
HDT/V-120 series	Table type	2,3,4,6	1	PC, Printer	RT ~300°C
HDT/V-121series	Table type	2,3,4,6	2,3,4,6	PC, Printer	RT ~300°C
HDT/V-2203	Stand type	3	1	PC, Printer	RT ~300°C
HDT/V-2213	Stand type	3	3	PC, Printer	RT ~300°C

IT Series Impact Testers

The Physical Test Solutions IT Series of impact testers offers *turn – key solution* packages that include the basic accessories to get started right away. No need to decipher what hammers, tools, and other “recommended” accessories have to be ordered, **PTS** has it all included! Furthermore, **PTS** low capacity impact testers offer automatic release mechanism. All **PTS** impact testers are manufactured in an ISO 9001 certified facility

There are three types of pendulum impact tests; Izod, Charpy and Tensile Impact. The first two are the most common. As a practical guideline, Izod tests are most used in low energy applications for plastics and non-metallic materials, whereas Charpy tests are usually seen in high energy tests in metallic materials.



Izod

Charpy

Tensile Impact



PTS IT Series of Low Capacity Impact Testers



The **IT Series** of low capacity impact testers are used to determine the impact toughness of plastic, glass steel, plastic pipe, strong nylon, ceramic and electric insulator materials. The **IT Series** of impact testers offers a wide variety of models so that the exact testing requirement can be met at a cost effective price. **PTS** impact testers are available for Izod, Charpy or Tensile Impact tests, or for a combination of Izod and Charpy. The testers are also available in analog, digital or computerized versions. The digital display tester has a function of energy loss auto calibration. The clear multi-line LCD display and tactile-feedback keypad allows fast, accurate input of test parameters and provides continuous display of settings during testing. High precision, perfect stability and easy operation were instrumental features in obtaining the CE certification.

Physical Test Solutions (**PTS**) impact testers conformed to standards; ISO179, 180, GB/T1043, 1843, ASTM D256, JB8762, JB8761, ISO9854, GB18743.



Models and Specifications of Charpy and Izod Tester:

Model	Name	Energy (J)	Speed (m/s)	Display	Standard
ITA-XJJ-5	Charpy Impact Tester	0.5, 1, 2, 4.5	2.9	Dial	ISO 179, GB/T 1040
ITA-XJJ-50		7.5, 15, 25, 50	3.8	Dial	ISO 179, GB/T 1040
ITD-XJJ-5	Electronic Charpy Impact Tester	0.5, 1, 2, 4.5	2.9	Digital	ISO 179, GB/T 1040
ITD-XJJ-50		7.5, 15, 25, 50	3.8	Digital	ISO 179, GB/T 1040
ITA-XJU-5.5	Izod Impact Tester	1, 2.75, 5.5	3.5	Dial	ISO 180, ASTM D 256, GB/T 1843
ITA-XJU-22		11, 22	3.5	Dial	ISO 180, ASTM D 256, GB/T 1843
ITD-XJUD-5.5	Electronic Izod Impact Tester	1, 2.75, 5.5	3.5	Digital	ISO 180, ASTM D 256, GB/T 1843
ITD-XJUD-22		11, 22	3.5	Digital	ISO 180, ASTM D 256, GB/T 1843
ITA-XJL-50	Tensile Impact Tester	15, 25, 50	3.8	Dial	ISO8256, GB/T 13525
ITD-XJLD-50	Electronic Tensile Impact Tester	15, 25, 50	3.8	Digital	ISO8256, GB/T 13525
ITA-XJJ-50A	Charpy Impact Tester for Pipe	15, 50	3.8	Dial	ISO9854, GB/T 18743

HIT Series of Impact Testers

To cover the range of Izod and Charpy pendulums, PTS has the ITC-XJF Series.

Features:

- Both Charpy and Izod test can be carried out in one tester.
- Unique and innovative design of the vice and pendulum allows operator to run alternatively Charpy and Izod tests without changing the instrument geometry.
- Technological high rigidity design of pendulum affords minimuwind resistance ensures test accuracy.
- As technical core and soul of XJF-5.5, the innovative pendulum edge can also be applied in Charpy or Izod test.
- High-level automation design: Automatic identification of test method , automatic measurement of starting angle as well as automatic calibration /modification of energy loss.
- The basic instrument has a wide color touch screen for a simple and fast input of the test parameters, visualization of test execution& final results; analytical dialog box to determine complete or partial hinge break. Testing code can be updated manually or automatically.
- Friendly display interface provided with multiple languages , such as English, French, Italian, German , Chinese,etc, thus meeting the requirements of customers all over the world.
- Seamless switching between touch panel and PC provides flexible operation.
- Advanced networking design provides internet port for laboratory , realizing remote online maintenance, calibrationtechnical upgrades.
- Multiple automatic safety protection measures ensures the performance of high security.
- The unit complies with the following standards. ISO 179, ISO 180, ASTM D 256.



Specifications:

- Impact speed 3.5m/s, 2.9m/s (XJF-5.5/ 5 ; 3.5m/s, 3.8m/s (XJF-22/50)
- Energy levels 1.0J, 2.75J, 5.5J, 0.5J, 1.0J, 2.0J, 4.0J, 5.5J (XJF-5.5/ 5); 5.5J, 11J, 22J, 0.5J, 7.5J, 15J, 25J, 50J (XJF-22/50)
- Span of Charpy 60mm, 62mm
- For Izod:
 - Radius of striking edge R=0.8mm ± 0.2mm
 - Location of striking edge above top surface of support : 22mm±0.05mm
- For Charpy:
 - Radius of striking edge: 2mm±0.5mm
 - Angle of striking edge 30°±1°
- Measurement resolution 0.01J
- Dimensions 750mm x 350mm x 860mm
- Net weight 100Kg



Additional functions and interfaces:

The instrument can be connected to a PC through a RS232 port for direct acquisition of the test parameters and test results which can be directly saved or exported with the software included in with the unit. Also, data can be saved directly on an USB memory and downloaded in a remote PC. The Energy loss due to air resistance and mechanical friction is corrected automatically and applied into the calculation of impact energy to display and for impact strength calculation.

ITC-XJU / XJJ Series



The ITC-XJ series of computerized impact testers provides the ultimate step in data acquisition and control. The testers are available in capacities of 5 Joules, 5.5 J, 22 J, 25 J and 50 J. The XJU series is for Izod tests and the XJJ is for Charpy tests. Combination Izod and Charpy tests are also offered. This series features the user friendly "Impactstar" software that takes the pain out of data acquisition and report generation. Through the Impactstar software, the pendulum is automatically released to perform the test.

XJC-2522Series

The XJC-2522series of impact testers afford the ultimate versatility in impact testing with standard accessories for both Izod and Charpy tests. Model XJC-2522D is a digital version and model XJC-2522C is a computer controlled version that uses the popular [ImpactStar Software](#). The frame design is similar to the ITD-XJ and ITC-XJ series and Complies with ASTM-D256-06a y ASTM-D6110-06, ISO-179:2000 e ISO-180:2000 y ISO-13802:1999.

Features:

- ✓ Izod: Impact energy: 5.5J, 11J and 22J.
Impact velocity: 3.5m/s.
- ✓ Charpy: Impact energy: 7.5J, 15J and 25J. Impact velocity: 3.8m/s.
- ✓ Span grip for Charpy: 40, 60, 70 and 95mm.
- ✓ Specimen cross section: 10mm
- ✓ Weight: 80kg
- ✓ Dimensions: 550x350x700mm

Standard Accessories:

- ✓ Hammers for Izod&Charpy for ASTM-D256-06 with capacities of: 2 lbf-ft, 4 lbf-ft, 8lbf-ft y 16 lbf-ft.
- ✓ Hammers for Izod&Charpy for ISO-179:2000 with capacities of 2.75 J, 5.5 J, 11 J y 22 J.
- ✓ Centering board for specimen (40,60,70,95mm)
- ✓ Adjusting board
- ✓ Grip for Charpy test
- ✓ Grip for Izod test
- ✓ Base block for Izod test
- ✓ Aligning pin for Izod impact and tensile impact
- ✓ Spanner with six angles (4, 5, 6, 8)

ITC-50-LTCI

Model ITC-50-LTCI is a 50 Joule capacity low temperature computerized impact testing machine with capability to perform both Izod and Charpy tests. The unit is computer controlled and uses ImpactStar Software. The system can automatically calculate the test result, and has the function of storing 5000 history data records that can be read at any time.

Charpy Impact test:

Specifications

- Impact speed; 2.9m/s, 3.8m/s
- Impact energy (J): 1, 2, 4, 5, 7.5, 15, 25, 50
- Distance between pendulum center and specimen center:
221mm, 380mm
- Raised angle: 160°
- Pendulum moment:
 - Pd1 = 0.5155N.m Pd2 = 1.0311N.m
 - Pd4 = 2.0622N.m Pd5 = 2.5777N.m
 - Pd7.5 = 3.8662N.m Pd15 = 7.7324N.m
 - Pd25 = 12.8888N.m Pd50 = 25.777N.m
- Support distance between grips: 40mm, 60mm, 70mm, 95mm
- Radius of striking edge: 2mm Included angle of striking edge:
- Specimen type & size (Unit: mm)

Specimen Length	Width	Thickness	Distance type between support
1	80±2	10±0.5	4±0.2
2	50±1	6±0.2	4±0.2
3	120±2	15±0.5	10±0.5
4	125±2	13±0.5	13±0.5
			60 40 70 95

Izod Impact test:

- Impact speed; 3.5m/s
- Impact energy (J): 1, 2.75, 5.5, 11, 22
- Distance between pendulum center and specimen center: 322mm
- Raised angle: 160°
- Pendulum moment:
 - Pd1 = 0.5155N.m Pd2.75 = 1.4177N.m
 - Pd5.5 = 2.8355N.m Pd11 = 5.6711N.m
 - Pd22 = 11.3419N.m
- Distance between striking edge and upper plane of grip: 22mm
- Radius of striking edge: 0.8mm
- Specimen type & size conforms to ISO180-82



Low temperature Chamber:

- Temperature range: room temperature to -40°C
- Temperature accuracy: ±1°C
- Temperature gradient: < 4°C
- Chamber capacity: Specimen box size: 20x130x20mm
- Chamber Capacity 12 specimens
- Dimension: 460x300x320mm

ImpactStar Software

The ImpactStar Software operates in a windows environment and combines a user friendly working operation with powerful data acquisition and control capabilities.

The ImpactStar Software has the following features:

- Full digital control
- Individual or Batch Testing Capabilities
- Test Curve Analysis
- Convenient and Practical Parameter Settings
- Multilevel Security Management
- Versatile Operating Interface
- Automatic Program Control
- Versatile Test Report Generation
- Practical Database Management



Model XJL-300C Falling Weight Impact Tester

Model XJL-300C is a special tester used for testing plastic pipes in compliance with ISO3127, BS EN1411 and BS EN744.

Features:

The function of anti-rebound device has the catching rate of 100%. The import AC servo system will guarantee the high locating precision and fast rising speed. The impact height may be set between 50~2000mm, also the impact height may be calibrated automatically. Automatic personal safeguards are provided in this instrument including specimen door, anti-shock and striker window safeguard etc.

Technical parameters:

Impact height: 0~2000mm, with the display error within $\pm 2\text{mm}$

Overall dimensions: L1100mm×W600mm×H3800 mm

Energy losses: <0.25%

Masses of strikers: 0.25~16kg, permissible tolerance shall be $\pm 0.5\%$

Nose and masses of striker: depending on customer's standards

XJL-400 Falling Weight Impact Tester



This unit has similar features to the XJL-300C but complies with ASTM D 2444. The impact height may be set between 50 and 3000mm.

XGJ-10/16 SERIES HYDROSTATIC PRESSURE TESTER

The tester is mainly used to determine the resistance of thermoplastics pipes or short-time hydraulic burst to constant internal water pressure at constant temperature. It is applicable to thermoplastics pipes intended for the conveyance of fluids. The unit complies to ISO 1167, EN921 and the equivalent.



Pressure control system

The operation takes place with a user-friendly, menu-prompted 8.4" touch screen and the embedded WIN CE operating system, which is capable of acquiring test data and generating test reports for print-out in a user-definable format and enable to process, evaluate, record and file the entire data sets.

All stations run automatically and are fully independent of each other, each working at a different pressure. The system works with the highest pressure accurate and within the smallest pressure tolerance ranges. Models are also available for larger diameter pipes. The unit has a convenient function of leakage alarm, recognizing a crack with supervision in real time. The power voltage remains breaking off and features self-recovery while powered on.

Test tank

The tank is made with insulated stainless Steel lid that is activated pneumatically. The inner and outer part of the test bank made of stainless steel. The water level is controlled automatically and has double insulation. Trays with multiple sample capacity are provided. Amongst the many convenient features, the units affords fast access for maintenance; integrated overheating protection and monitoring of water circulation.

Configuration

- Pressure control system
- Pressure supply system
- Test tank and temperature control system
- End closures for diameters: 10, 16, 20, 25, 32, 40, 50, 63, 75, 90, 110, 125, 140, 160, 180, 200, 225, 250, 280, 315, 355, 400, 450, 500, 560 and 630 mm.
- Other standards and diameter may be made according to customer's requirement.

Specifications:

Pressure:	0-10MPa or 0-16MPa
Pressure controlling Accuracy:	+2% -1%
Display Accuracy of the Pressure:	0.001MPa;
The Temp. Range of the test tank:	ambient temp. ~95°C or 15 °C~95°C with a chilling system
The Temperature Controlling Accuracy of test tank :	±1°C
The Working Time of the Timer:	0-9999h;
The Interface of Pressure:	20 (can be chose from 1to20 as you need)
Enclosure:	It is suitable for Φ16 to Φ630mm pipes and fittings;

			
Water Tank	End Cap(φ1200mm)	End Cap(Carbon steel)	End Cap(Stainless steel)



XGQ-630 Pipe Cutting and Chamfering Machine

Application

It is mainly used for cutting and chamfering big pipes. Cooperating with pipe extrusion production line makes it an ideal machine for pipe manufacturer, as well as for quality inspection and research institution.



Features:

- Filling in the domestic blank. With the advantages of well performance, high automation humanized protective devices, easy operation and fine appearance.
- Wide pipe application range, modular design, high rigidity, pneumatic clamp, planetary cutting method.
- Easy assembly and good seals thank to the smooth and even cutting surface.
- Cutting and chamfering are completed synchronously, largely increasing work efficiency and reducing working strength.
- The rotating motor, acts automatically after sample well-clamped, stops automatically while compaction released, which is a protection to the operator.
- Electronic soft-start function provides the torque for stable start-up at low speed, which reducing the electromagnetic shock to the power supply system.

Parameters

- Diameter range: $\Phi 90-\Phi 630$
- The chamfering angle: 15°
- Dimension: $1580\text{mm}\times 1030\text{mm}\times 1830\text{mm}$
- Power: 380V, 50Hz three phases, 2kW.

Dynamic Pressure Tester (Water Hammer)

The system is used to determine the rigidity of cold and hot water piping system and flexibility of fitting the system.

Water hammer (or, more generally, fluid hammer) is a pressure surge or wave resulting when a fluid (usually a liquid but sometimes also a gas) in motion is forced to stop or change direction suddenly (momentum change). Water hammer commonly occurs when a valve is closed suddenly at an end of a pipeline system, and a pressure wave propagates in the pipe. It may also be known as hydraulic shock.

This pressure wave can cause major problems, from noise and vibration to pipe collapse. It is possible to reduce the effects of the water hammer pulses with accumulators and other features.



Ring Stiffness Tester

The tester is used to determine ring stiffness, ring softness and compression of thermoplastic pipes having circular cross-section. It conforms to the requirements of all kinds of plastic pipes, such as structured-wall pipes, PE corrugated pipes, helically wound pipes, etc.

STANDARDS:

ISO 9969-2007, ISO9967 and equivalent

Features:

- Double-column high rigidity structure, wide range of speed control
- Advanced closed-loop AC servo control system enables to increase the controlling accuracy and stability. High resolution AD sampling circuit is introduced to collect testing datum, even the peak value will not be lost.
- Two/Four sensors are connected in abridge way to strengthen the deflection resist of big pipes, also reduce mangling rate of load sensor.
- Unique design of inner diameter measuring system makes specimen easy to install and measurement correct & direct.
- Connect the tester to PC via RS232 to control test and download the test data, PC software may realize the functions of test data storage, statistics, analysis and test results printout. Creep test also can be realized (optional).
- Multi protection functions from mechanical & electrical design and software, including over-load, over-current and over-temperature.



Specifications:

Type	JJRST-1411	JJRST-1412
Max. load	30kN	
Accuracy	Grade one	
Load resolution	1 N	
Load accuracy	+/- 1%	
Crossbeam resolution	0.001mm	
Crossbeam accuracy	+/- %	
Crossbeam speed	0.05mm/min-200 mm/min	
Speed Accuracy	+/-1%	
Pipe diameter range	Ø110mm-Ø2000mm	Ø110mm-Ø3000mm
Pipe scope for inner diameter measuring system	Ø200mm-Ø2000mm	Ø200mm-Ø3000mm
Accuracy of inner diameter measuring system	+/-1%	
Specimen width	700mm	
Power supply	220(1-15%) VAC-220(1+10%) VAC 50Hz 2.0kW	
Dimension (LXWXH)	(650x1360x3400)mm	(650x1360x4300)mm
Weight	500Kg	700kg
Creep ration module		
Constant load accuracy	<+/-1%	
Fluctuation of constant load	+/-1%	
Timing range	1~9999h59min59s	
Timing resolution	1%	
Timing error	<10s	



HOT AND COLD WATER RECYCLING TESTER

The system is used to evaluate the function of hot and cold water-pipes; (PP, PE-X, PVC-C, PB) under a certain pressure for 5000 cycles. A test assembly of pipes and fittings is subjected to temperature cycling by the passage of water under pressure using hot and cold water alternately for a specified number of cycles. While being subjected to temperature cycling parts of the assembly of pipes and fittings are maintained under tensile stress and/or flexural strain by the use of static clamps.

During and after the test the assembly is monitored for signs of leakage. The tester complies with the following standards: ISO 10508, EN 12293, ISO 15874, ISO15875, ISO 15876 and ISO15877.

Features:

- **Unique Pressure Control System.** A full-digital pressure control system effectively prevents the water pressure from fluctuating with the increase of both temperature and time. No water hammer phenomenon appears during the alternation between cold and hot water.
- **Unique Liquid Controlling System.** Alternation time between cold and hot water is less than 1 min.
- **Energy Saving Design.** The control system starts the hot and cold water return valve automatically according to the water temperature. If the hot/cold cycling system starts, the hot/cold water will return to the hot/cold water reservoir, thus saving energy.
- **Safety Design.** The unit has a reliable safeguard and liquid level measuring device to ensure that the tester will be turned off if the test fails or if the piping system bursts. Transparency of tank body combines safety and easy of observation.
- **Environmental Performance.** An acoustic treatment device reduces noise significantly.



Specifications:

Pressure range:	0.4Mpa~1.0Mpa
Cycling time between hot and cold water:	no more than 1min
Thermal cycles:	15mins
Cold cycles:	15mins
Cycling times:	1-10000
Temperature Uniformity:	$\leq \pm 1^\circ\text{C}$
Temperature range	Cold water from 20°C to room temp. Hot water from room temperature to 95°C
Max. diameters of specimen:	$\Phi 63$
Test station:	6
Instrument size:	5550mm 2800mm 1800mm
Installation dimension:	8000mm7000mm1800mm
Electrical:	380/220VAC 50Hz 250KVA

Opacity tester for pipes and fittings

Application

The unit is used to determine the opacity of pipes and fittings, an ideal measuring device for pipe manufacturers, research and inspection institutions.

The equipment consists of optical source, Luminous flux collection system, automatic specimen going in/out controlling system, specimen automatic moving device, specimen support, man-machine communicating touch screen and micro-printer. Standards: GB/T 21300—2007, ISO 7686:2005 and the equivalent.



FNCT-5 AUTOMATIC STRESS CRACKING RESISTANCE TESTER

The FNCT is a microprocessor controlled system used to determine the creep stress cracking resistance of polyethylene materials in any environment. A test specimen in the form of a square-section bar with coplanar notches in each face at the center, is subjected to a static tensile load in a temperature-controlled environment, for example air, water, surfactant solution. The geometry of the specimen is such that plane strain conditions are obtained and brittle failure occurs under appropriate tensile load and temperature conditions. The time for this brittle failure to occur after loading is recorded.

Applicable standards:

- Full Notch creep test—ISO 16770
- Tensile creep ---ISO 899
- Test of resistance to pull out of joins between polyethylene pressure pipes and fittings—ISO3501

Features

- Each station can be operated and run separately
- Automatic load
- Ease to use
- High accuracy and stability
- Support separately of every station with no interference
- Automatic Diagnosis with protective function
- Test environment: Constant temperature chamber or heating oven

Specifications:

- Specimen: 100mmx10mmx10mm ,100mmx10mmx4 mm ,90mmx6mmx6 mm
- Static Load: 20N-500N
- Test Stations: 6
- Creep displacement: 200mm
- Displacement resolution: 0.027mm
- Temperature controlling scope: 50C~95 Degree C (Standard Type)
- Room temperature to 95C (With cooling system)
- Temperature display resolution: 0.1 Degree c
- Temperature error: ±1 Degree C

Standard Accessories:

- 500N capacity load frame
- Computer and software
- Grips for full notch creep test
- Grips for tensile creep test
- Grips for pull-out test



Plastic Sample Preparation Equipment

Die Punch Cutters

Manual Punch Die Cutter

Main specifications:

- Working surface: 200x200 mm.
- Die holder travel: 16 mm.
- Micrometric travel adjusting of die holder: 30 mm.
- Max span between die holder and working surface: 70 mm.
- Maximum force : 5 KN (depending on the operator)
- Punching hand control by lever including a plastic sheet preventing damages to the die

Overall dimensions: 220x400x780 H mm.

Weight: 35 kg (approx.)



Pneumatic Punch Die Cutter

Main specifications:

- Working surface: 320x200 mm.
- Die holder travel: 16 mm.
- Micrometric travel adjusting of die holder: 30 mm.
- Max span between die holder and working surface: 70 mm.
- Maximum force : 55 kN (at 6 bar air supply)
- Safety protection for the operator included and double push button Including plastic sheet preventing damages to the die

Overall dimensions: 500x370x510 H mm.

Weight: 130 kg. (Approximately)

Air supply: 6 bar



XYZ Dumbbell Specimen Milling Machine

This machine is used to prepare dumbbell, strip as well as other kinds of shape specimens with reference to different standards. The units come in two models suited for different specimen thickness.



XYZ-70 Dumbbell Milling Machine

Specifications:

- Specimen thickness: ≤70mm
 - Strip: Long≤250mm, Width:20~50mm, Thickness:≤70mm
 - Dumbbells of different standards are available.
 - Other shapes can be designed specially according to customer's requirement
- Dimension of the unit: 400mmx400mmx440mm
Power: 500VA 380VAC 50HZ

JJANM-11 Automatic Notcher

The tester is designed to notch specimens for Charpy and Izod impact test. 20 specimens may be clamped at one time and at least 60 specimens may be notched in 10 minutes.

Main parameters

- Knife stroke :90mm
- Cutting speed: 30mm/min
- Feed measurement: 0-2.5mm (optional)
- Feed stroke: 10mm
- Dimension: 400mm (L)×270mm(W)×300mm(H)
- Power supply: 220V/50HZ

Knife specifications

- Type A: $45^\circ \pm 0.2^\circ$ r=0.25mm ± 0.05mm
- Type B: $45^\circ \pm 0.2^\circ$ r=1.00mm±0.05mm
- Type C: $45^\circ \pm 0.2^\circ$ r=0.10mm±0.05mm



XQS-10 Notch Measurement Gauge

The unit is designed to determine the depth of the notch and the rest depth of the impact specimen.

Main Parameters:

- Measuring range: 0-10 mm 0-0.4in
- Resolution: 0.001 mm 0.0001i
- Working Environment: 0-40°C
- Dimensions: 80mm X100 mm X170 mm

