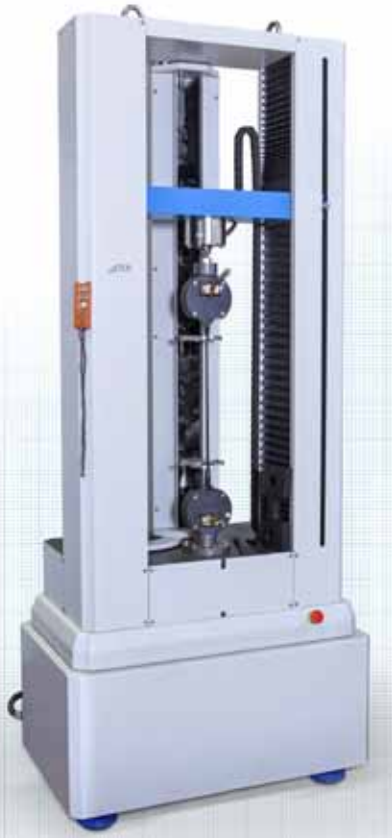
PLASTIC TEST
EQUIPMENT



Quality and control
for optimal production
efficiency

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ABOUT **US**

We are a team who had come together to give shape to every type of plastic and produce engineering solutions.

Our team of professionals possesses education of international standards and technical equipment, and is purposefully directed to produce top notch technological systems and is able to provide these systems to their customers in a manner of quality.

Our CNC machines and harnessing equipment are of high-quality and programmed with the logic of mass production.

All of the engineering solutions are discussed in the environment of computerized design and analysis in pre-production phase andour customers are served with this quality of approach.

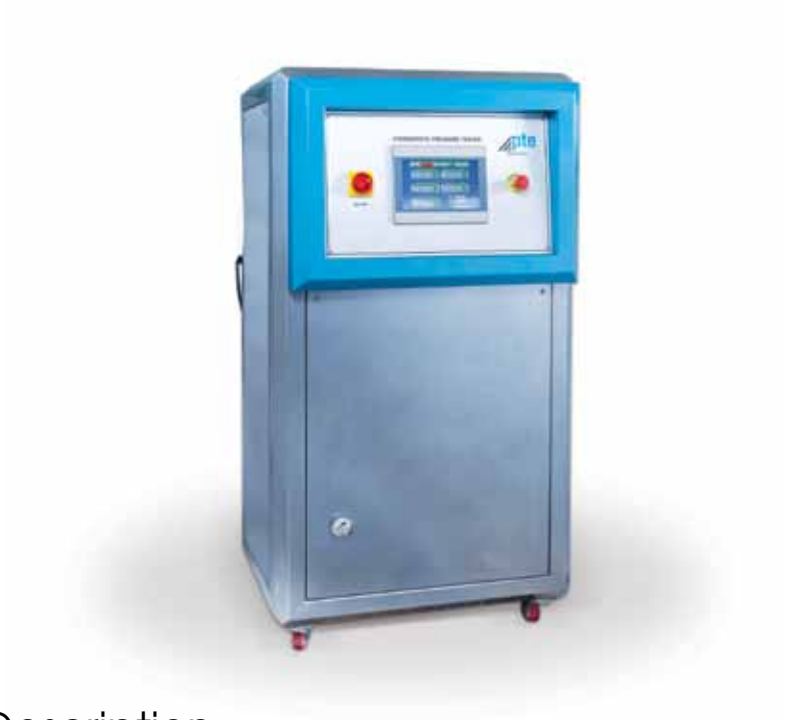
HYDROSTATIC INTERNAL **PRESSURE TESTER**

Data communication via RS485 or RS232 on request

Network compatible

Remote maintenance via Internet

Standart	
ISO 1167	
ASTM D 1598	
ASTM D 1599	



Description

The internal pressure creep test is a test procedure for determining the strength of thermoplastic pipes. The specimens are subjected to a constant hydrostatic internal pressure at a constant ambient temperature either for a specified period or until they fail. The test duration is subject to the tension generated by the internal pressureand the temperature. It combines the tester's exceptional reliability with simple operation without making any compromises with respect to precision and flexibility.

Simple and safe operation

- Convenient operation and clear visualisation via integrated touch display

Reliable test results

- Microprocessor-controlled, with automatic failure and leakage detection
- Precision pressure transducer incl. pressure gauge for test pres sures up to 60 bar and system pressure up to 130 bar.
- Water disruption detection system

Reliable test results

- High-quality unit components guarantee high reliability, a long service life and low maintenance costs
- Extendable up to 20 station on request.

State-of-the-art technology

- Interface to BTLogger® Windows based datalogger software for reporting and visiualisation.

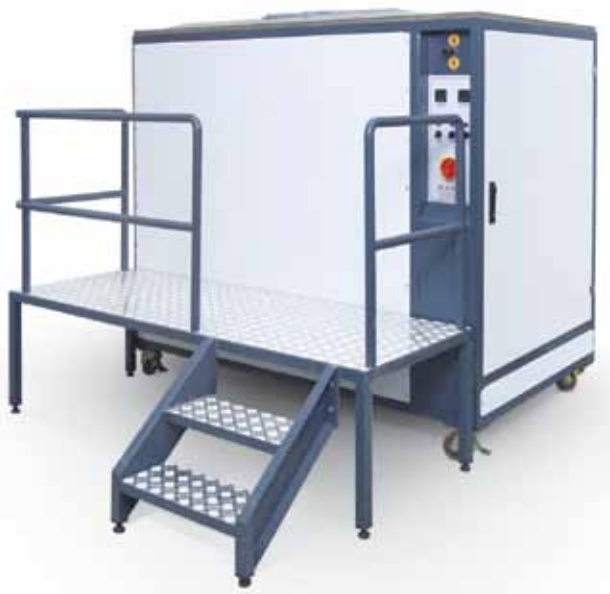
Basic cabinets

		T011630V1P	T011630V2P	T011630V3P
Pressure range up to	bar	100	100	100
Integrated high-pressure pump		●	●	●
Pump capacity	l/min	10	14	14
Second system pressure		-	-	-
Stainless steel pressure reservoir		●	●	●
Max. number of stations		4	8	12
Integrated control unit via 5.7” touch-screen		●		
Integrated control unit via 12.1” touch-screen		○	●	●
Compatibility with BTLogger®		From version 3.x		
Simple Burst Test		Avaliable in 1 test line only		
CE conformity		●		
Width	mm	900		
Depth	mm	900		
Height	mm	1700		
Weight (with 12 stations)	kg	250		
Voltage data		**230/400 V, 50/60 Hz (other voltages on**		

● included ○ available / optional □ eligible - not available

TEST TANKS FOR **PIPE TESTING**

Double insulation of inner tank



Standart
ISO 1167
ASTM D 1598
ASTM D 1599

Description

The internal pressure creep test is a test procedure for determining the strength of thermoplastic pipes. The samples are subjected to a constant hydrostatic internal pressure at a constant ambient temperature either for a specified period or until they fail. The test duration is subject to the tension generated by the internal pressure and the temperature. The test tanks are specially designed for testing thermoplastic pipes and fittings. The high reliability, durability of the materials used and the constant temperatures in the test tank with respect to both volume and time provide particularly reliable test conditions. The efficient use of energy with low servicing and maintenance costs guarantee efficient long-term operation. There are a wide range of tank dimensions and connection options, enabling the tanks to be flexibly adapted to various operating conditions.

Simple and safe operation

- Air-operated lid

Reliable test results

- Constant test temperatures thanks to highly-efficient water circulation and precise temperature control in the inner tank

Lasting efficiency

- High-quality stainless steel test tank (AISI 304)
- Double insulation of the basic tank and insulated lid for minimum energy loss

State-of-the-art technology

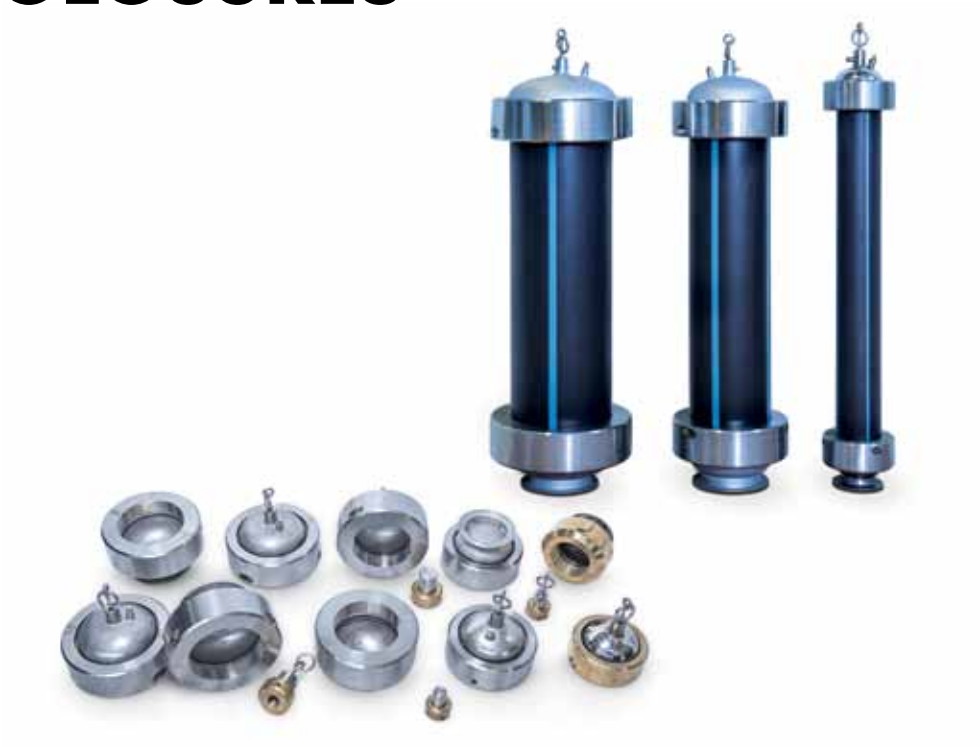
- Integrated monitoring and control of test temperature.

Versions

		T071800V1P	T071800V2P	T071800V3P	T071800V4P	T071800V5P
Width (internal)	mm	750	750	1250	1500	1500
Length (internal)	mm	1000	1200	2000	2500	3000
Height closed (external)	mm	900	900	1200	1500	2000
Height open (external)	mm	1300	1300	1900	2200	2800
Number of manifold slots		4+4+2	4+4+2	4+4+2	4+4+2	4+4+2
Number of suspension rails (included)		-	-	2	2	2
Heating power	kW	15	15	45	60	60
Inner tank material		AISI 304				
All parts coming into contact with water stainless		●				
Water temperature	°C	Min. ambient temperature + 10/max. 95				
Water temperature adjustable in increments of	°C	0.1				
Temperature control with regulating accuracy	°C	±0.5				
Circulation system		●				
CE conformity		●				
Voltage data		**230/400 V, 50/60 Hz (other voltages on request)**				

● included ○ available / optional □ eligible - not available

END
CLOSURES



Fast assembly

Extremely long service life

Panted sealing system

Seal reliably

Standart
ISO 1167
ASTM D 1598
ASTM D 1599

Description

The internal pressure creep test is a test procedure for determining the strength of thermoplastic pipes to constant hydrostatic internal pressure at a constant ambient temperature. The samples are tested either for a specified period or until they fail. The test duration is subject to the tension generated by the internal pressure and the temperature.

Simple and safe operation

- Quick assembly thanks to proven end closure design
  Simple and reliable venting directly at the sample

Lasting efficiency

- High-quality unit components guarantee high reliability, a long service life and low maintenance costs

Versions

For pipe diameter DN	mm	20-40	50-90	110-315	350-630
Maximum test pressure	bar	100	100	50	50

End closure material	Stainless steel/AISI 304/S30300
Suitable for PE pipes	●
Suitable for PP pipes	●
Suitable for PVC pipes	●
Vent screw	●
Ring nut for suspension	●
Pressure connection	Quick-release plug

● included ○ available / optional □ eligible - not available

MFI / MFR
TESTER

Self-optimising control system

Timer-controlled heating-up times

Standart	
ISO 1133	
ASTM D 1238	

Description

The MFI/MFR tester combines the determination of the melt flow rate (MFI) and melt volume rate (MFR) of thermoplastic materials into one test procedure under specified temperature and load conditions.

Simple and safe operation
- Data input via touch display

Reliable test results
- Excellent temperature accuracy with respect to volume
- and time thanks to a self-optimising control system
  Electronically controlled cutting device

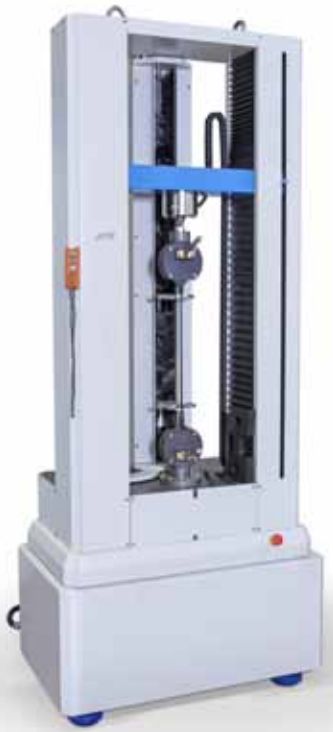
Casting efficiency
  Minimum energy demand thanks to timer-controlled
- heating-up times and max. temperature constancy
  Long service life thanks to high-quality materials and materials resistant to high temperatures

Versions

		T061V1P
Test temperature	°C	50 to 300 in increments of 0.1 K
Temperature regulating accuracy		±0.1 K at the nozzle ±0.5 K over the entire usable length of the test cylinder
0.325-kg load weight		○
1.200-kg load weight		○
2.160-kg load weight		●
3.800-kg load weight		●
5.000-kg load weight		●
10.000-kg load weight		○
11.600-kg load weight		○
Automatic cutting device		○
Piston distance measurement unit (for determining MVR)		○
CE conformity		●
Permissible ambient temperature	°C	+5 to +30
Permissible relative humidity		Max. 70%, non-condensing
Width	mm	420
Depth	mm	420
Height	mm	700
Weight (without weight discs)	kg	40
Voltage data		**230 V, 50/60 Hz (other voltages on request)**

● included ○ available / optional □ eligible - not available

UNIVERSAL
TENSILE TESTER



Integrated touch display

Automatic backup of all test data

Data export

Standart	
ISO 527	
ISO 6259	
ASTM D 638	

Description

The universal tensile tester is used for performing tension, pressure or bending tests. The classic application is the tensile test. This involves subjecting a sample to an increasing tensile load until it breaks. The force-deflection diagram generated during this test provides information on the load-bearing capacity, elasticity and plastic deformation of the material sample.

Simple and safe operation

- Convenient operation and clear visualisation (test curves, calculations and statistics) via integrated touch display
- Easy to change the grips

Reliable test results

- Accuracy: ±0.5% of the measurement up to 1/1000 of the max. measuring range

Lasting efficiency

- Precise, self-cleaning ballscrew with sealed, maintenance free bearings for low-noise operation
- Brushless servo motor for maintenance-free operation

State-of-the-art technology

- Automatic detection and calibration of load cells and extensometers
- 800% overload protection

Versions

		T031630V1P	T031630V2P	T031630V3P
Test force	kN	5	20	50
Max. crosshead travel excluding grips	mm	1100	1100	980
Vertical space	mm	1275	1275	1180
Throat	mm	295	295	420
Crosshead speed	mm/min	0.001 - 500	0.001 - 500	0.001 - 500
Speed accuracy (under stable conditions)	%	0±0.1		
Extensometer		●		
Wedge grips		○		
Grips for large wall thickness		○		
Peel test fixture for composite pipes		●		
Compression plates		○		
Further accessories		On request		
CE conformity		●		
Permissible ambient temperature	°C	10 to +40		
Permissible relative humidity		10 - 90%, non-condensing		
Width	mm	590	980	980
Depth	mm	450	600	600
Height	mm	1575	2250	2250
Weight	kg	156	600	675
Voltage data		3 ph 380/400 VAC, 50/60 Hz (other voltages on request)		

● included ○ available / optional □ eligible - not available

CNC TEST BAR
MILLING MACHINE

Extraction system for removing swarf with air

Pneumatic clamping device for quick assembly of the bars

CNC-controlled position of the axes

Protection hood with saftey locking

Standart	
ISO 179/180	ISO 16770
ISO 527	ASTM D 638
ISO 6259	ASTM D 1822

Description

The test bar milling machine enables bar-shaped plastic samples to be produced for tension, pressure, bending and flexural impact tests in accordance with a wide range of standards. The CNC milling machine is a table-top unit with electrically locking protective doors. Pre-configured machining programs for all common bar shapes and visualisation via touch screen display makes it very easy to operate the milling machine. Up to five test bars can be produced in one milling process. The all-round enclosure ensures safety at the workstation during the milling process. A swarf extraction system ensure the workstation remains clean.

Simple and safe operation

- Pre-configured machining programs
  Protective doors with safety lock
- Clean workstation thanks to machine enclosure
  Delivered with workbench

Reliable test results

- Test bars milled in accordance with standards
- CNC-controlled positioning of the axes
- Machined areas cooled with compressed air

Lasting efficiency

- High-quality unit components guarantee high reliability, a long service life and low maintenance costs

Versions

		T081V1P
Milling table with mechanical clamping device		●
- Clamping range for blanks small		Max. thickness 30 mm Max. length 220 mm
- Clamping range for blanks big		Max. thickness 90 mm Max. length 250 mm
- Number of test bars		Max. 2/5
Milling table with pneumatic clamping device		●
Rotational speed of spindle		Between 3000 and 18000 per minute
Hard metal milling cutter Ø 12-16 mm (subject to standard)		●
Diamond milling cutter		○
Industrial vacuum cleaner		○
Milling program		Can be selected acc. to EN, ISO, ASTM, etc.
CE conformity		●
Permissible ambient temperature	°C	+5 to +30
Permissible relative humidity		Max. 70%, non-condensing
Noise emission		85 dB(A) during the milling process
Width (milling table)	mm	500
Depth (milling table)	mm	300
Width	mm	900
Depth	mm	900
Height	mm	1700
Weight	kg	450
Voltage data		**3 ph 380/400 VAC 230 V, 50 Hz (other voltages on request)**

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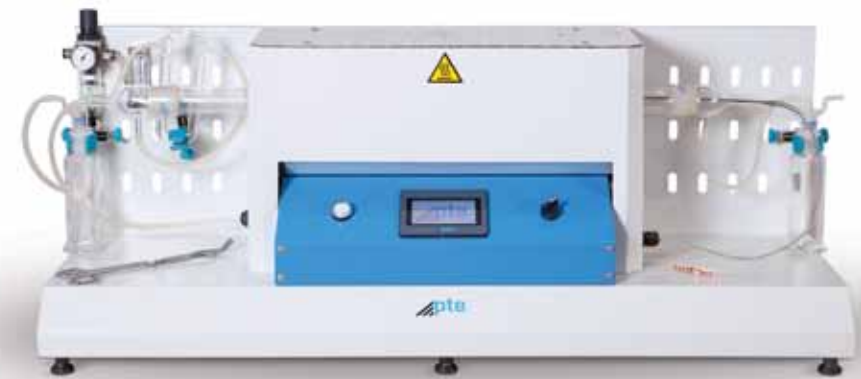
CARBON
BLACK TESTER

Overtemperature protection



Standart	
ISO 6964	
ASTM D 1603	

Description

Statutory standards prescribe the verification of carbon black content of polyolefin plastics. The test method isbased on pyrolitic decomposition of the material in an inert gas flow (nitrogen). This means that the remaining quantity is burned once again under forced ventilation at the same temperature and the carbon black content determined by means of weight difference.

Simple and safe operation
- Complete test structure compactly assembled
- Overtemperature protection integrated in the tubular furnace

Reliable test results
- Precise temperature control via digital temperature controller

Lasting efficiency
- High-quality unit components guarantee a long service life

Versions

		T041V1P
Furnace temperature range	°C	0 – 1000
Furnace accuracy		Up to 200 °C: 0.1 K Above 200 °C: 1 K
Carbon black tester accuracy		Up to 100 °C: 0.1% (±2 digits) Above 100 °C: 0.5 % (±2 digits)
Flow measuring device		5-95 Nl/h or 1-13 Nl/h
Power requirement of tubular furnace	kW	1
CE conformity		●
Permissible ambient temperature	°C	+5 to +30
Permissible relative humidity		Max. 70%, non-condensing
Width	mm	760
Depth	mm	650
Height	mm	1020
Weight	kg	Approx. 60
Voltage data		**1 ph 230 V, 50/60 Hz (other voltages on request)**

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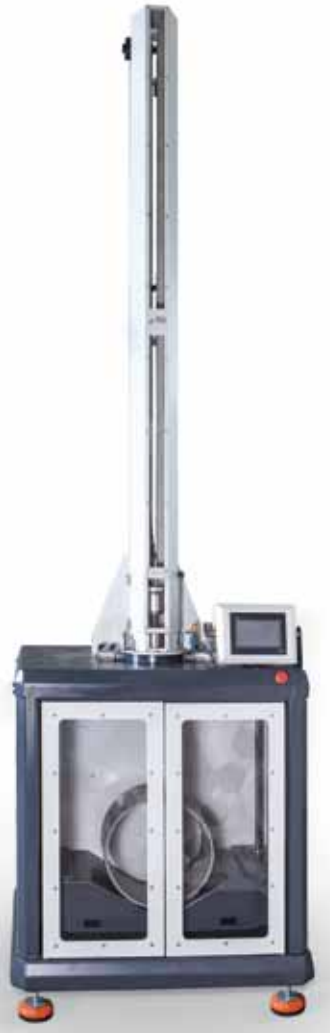
FALLING **WEIGHT TESTER**



Special safety features for the operator

Standart	
EN 744	ASTM D 2444
EN 1411	
ISO 3127	

Description

The falling weight tester is used to determine the external impact resistance of thermoplastic pipes using the staircase or round-the-clock method.

Simple and safe operation

- Convenient operation and clear visualisation via integrated touch display
- Two-hand operation when activating the test procedure to protect the operating personnel
- Test can only be carried out when the test chamber is closed

Reliable test results

- Precise weight positioning thanks to step motor

Lasting efficiency

- High-quality unit components guarantee high reliability, a long service life and low maintenance costs

State-of-the-art technology

- State-of-the-art PLC
- Automatic double impact prevention system.

Versions

		T032630V1P	T032630V2P	T032630V3P
Max. drop height	m	2	2	2
Max. sample diameter	mm	110	400	710
Accuracy of height adjustment	mm	±10		
Drop weights	kg	6.3 kg		
Nose design		Depending on the applicable standards		
Lowest drop height without double impact	m	Typically 0.5 (dependent on sample)		
Speed error margin (typical)		>5% of the theoretical falling speed		
Operation/visualisation		Touch display		
CE conformity		●		
Permissible ambient temperature	°C	+5 to +30		
Permissible relative humidity		Max. 70%, non-condensing		
Noise emission		<70 dB(A) at rest (Noise generated on impact of the drop weight depending on the sample)		
Width of tester	mm	980	980	980
Depth of tester	mm	800	800	800
Height of tester	mm	3000	3750	3750
Width of control cabinet	mm	620		
Depth of control cabinet	mm	460		
Height of control cabinet	mm	1030		
Voltage data		**3 ph 380/400 VAC 230/400 V, 50/60 Hz (other voltages on request)**		

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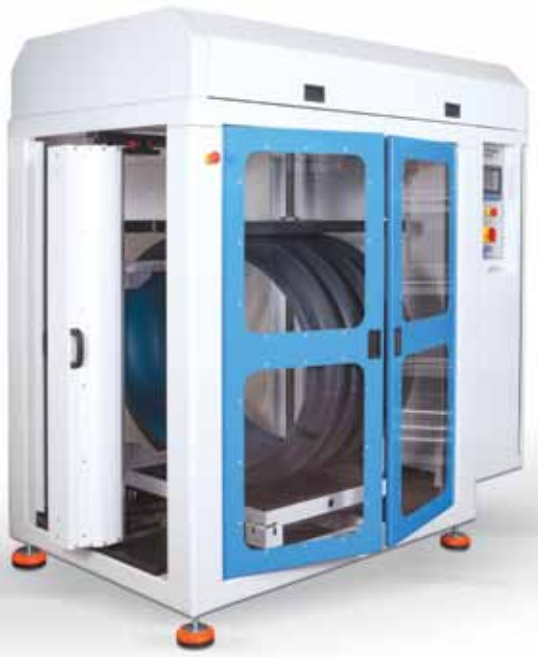
RING STIFFNESS **TESTER**



Standart	
ISO 9967	DIN 16961
ISO 9969	ASTM D 2412
ISO 13968	

Description

The testing machines is designed to determine the ring stiffness, ring fl exibility of thermoplastic pipes. Both feature large compression plates which allow performing the test on the respective diameter range and on pipes with lengths of up to one meter. A PCbased operational software enables clear representation of the machine and contributes to the usability. Different operational modes allow to either apply a constant compression to the sample or to continuously move the compression plates towards each other with constant speed. In both cases the applied or resulting forces and distances are recorded and the respective graphs are produced. Additionally the deflection of the outer or inner diameter of the pipe can be measured and recorded by a specific measuring system.

Simple and safe operation

- Automatic processing of test scenario
- PC-based control software enables easy operation and a clearly represented visualization

Reliable test results

- Especially designed to determine the ring stiffness, ring fl exibility
- Continuous measuring and recording of the pipe´s deformation on either outer or inner wall
- Continuous measuring and recording of compressive force

Versions

		T031000V1P
Max. test force	kN	30
Max. outside diameter	mm	1000
Preload		Defi nable up to max. force
Accuracy		±1 % of measurement 0.40 up to 30 kN
Accuracy of measuring of deformation of the internal diameter		1 % of modifi cation or 0.1 mm (max. value is valid)
Measuring range of distance measurement	mm	Min. 100 - max. 1000
Travel distance	mm	930
Extensometer		Integrated
PC based software		●
CE conformity		●
Permissible ambient temperature	°C	+5 to +30
Permissible relative humidity	mm	Max. 70%, non-condensing
Width	mm	1900
Depth	mm	1140
Height	mm	2030
Width Extensometer	mm	2200 (Extended)
Weight (incl. Extensometer)	t	ca. 1.75
Voltage data		**3 ph 380/400 VAC 230/400 V, 50/60 Hz (other voltages on request)**

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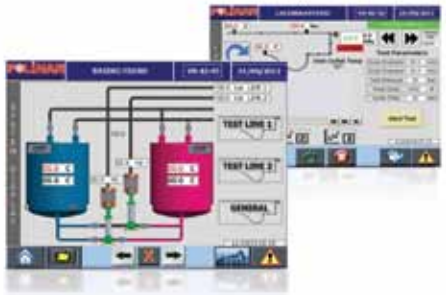
TERMAL CYCLING TESTER
FOR PIPE SYSTEM



Standart	
ISO 10508	DVGW W 542
EN 12293	DVGW W 543
DVGW W 534	BS 7291

Description

- High constancy of temperature by large reservoirs
- Static pressures up to 10 bar
- Accuracy pressure regulation
- Automatic failure detection
- Simultaneous testing of two seperate pipe systems independendly.
- Automatic test procedure with programable numbers of cycles and cycle periods, temperatures, etc.
- Test chamber (optionally with fixing lates)
- Cold water tanks with chiller or heat exchanger, hot water tanks with heaters
- Flow measurement and regulation automated.
- Automatic calculation and application of prestress needed by the standarts via Stepper Motors

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Technical details

Pressure range	3 up to 10 bar, 15 to 95 °C
Test circuits capacity	up to 63 mm
Flow rate	Max. 1.0 l/sec
Max. test sample volume	12 l
Cycle period	Selectable between 1 and 9,999 min
Number of cycles	Max. 99,999 per test
Temperature range (hot)	Selectable between 50 and 95 °C
Temperature range (cold) with cooling unit	Selectable between 15 and 30 °C
Regulating accuracy	Temperature controller: approx. 0.5 °C In the tanks: approx. 1.0 °C
Permissible ambient temperature	5 - 25 °C
Max. relative humidity	70 %
Connection	
Power supply	230/400 V, 50 Hz; approx. 25 kW; constructed according to VDE 0100; protection class of switch box: IP 55
Water	G 3/4 inch external, min. 2 bar, max. 5 bar
Drain	HT pipe DN 2 x 40
Test sample	G 3/4 inch internal

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PLASTIC TEST
EQUIPMENT

POLİNAR PLASTİK MAKİNE ve
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