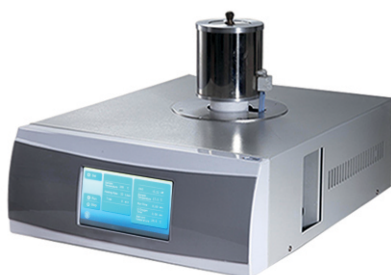
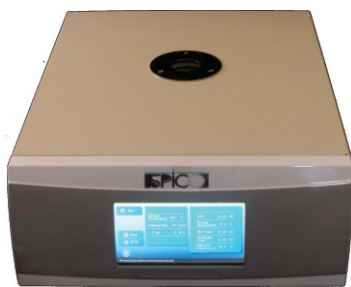
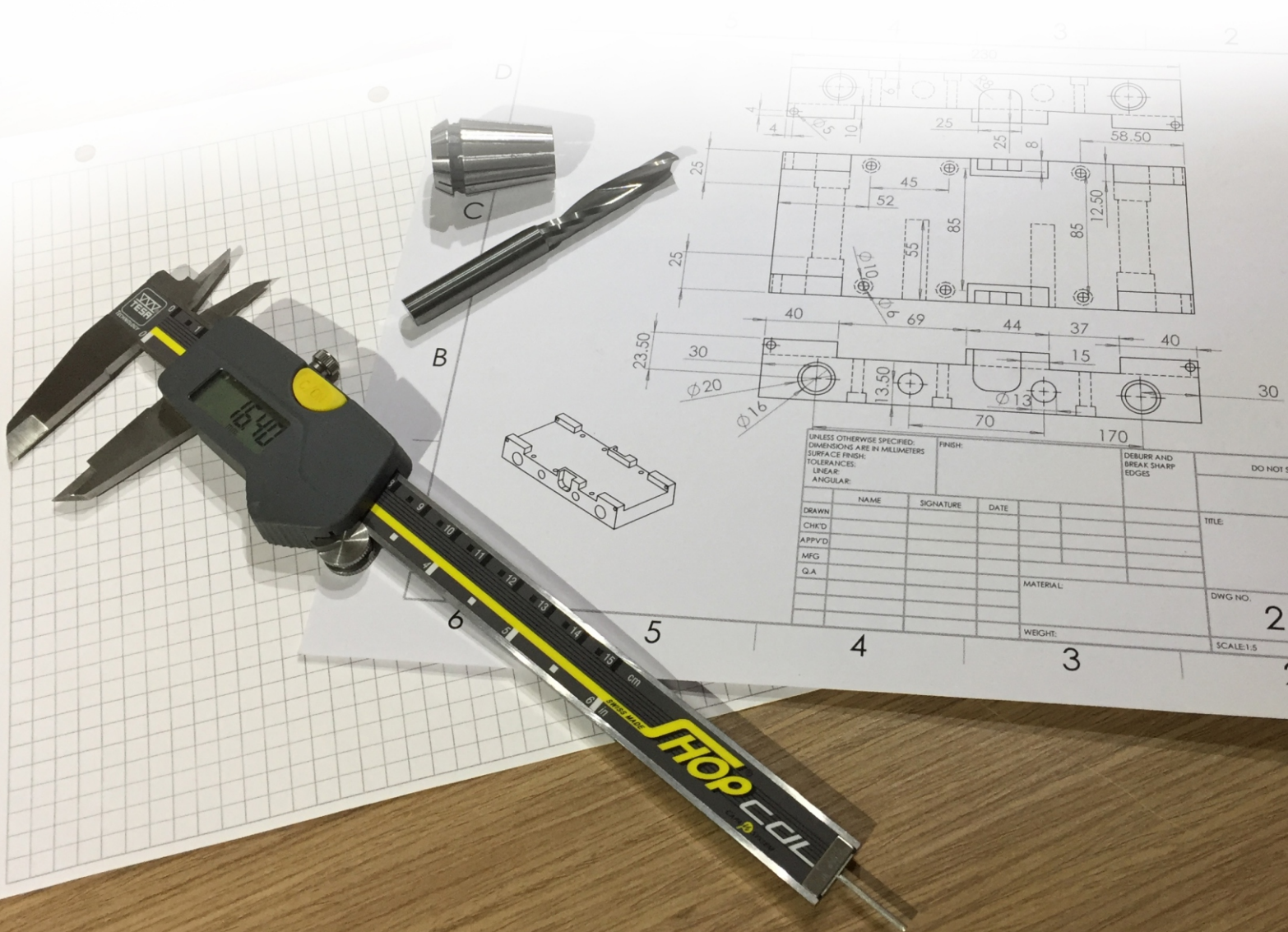


سازندگان تجهیزات پزشکی ایرسا





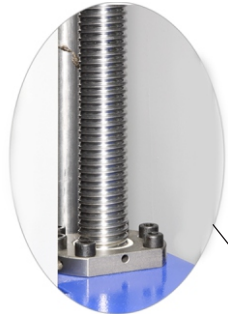




**SPICO Twin column** universal testing machine are use in all industries worldwide for materials testing, product testing, quality control and R&D application.

**Control System Utilizes in two models:**

- ▶ Integral PC System running SPICO Test with 19" Touch Screen Monitor.
- ▶ 7" HMI Control Panel with running SPICO Test Software on Customer PC.



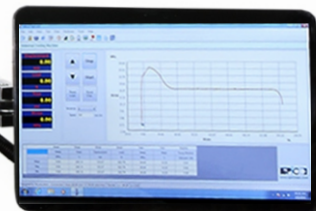
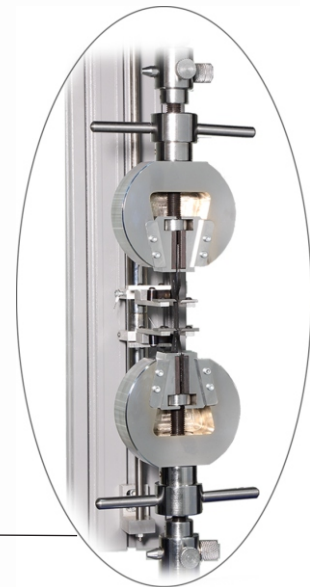
High efficiency and reversibility ballscrew from HIWIN



High Accrracy load-cell from Revere



Delta servo motor with minimum Back-lash Gear box from Apex



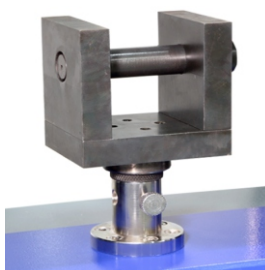
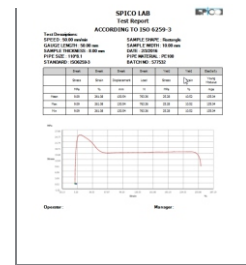
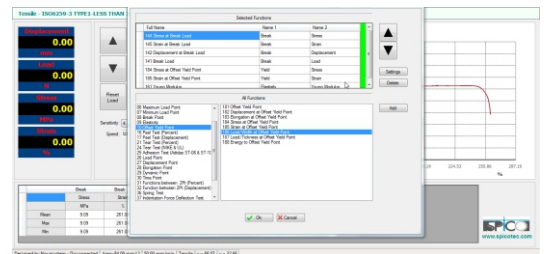
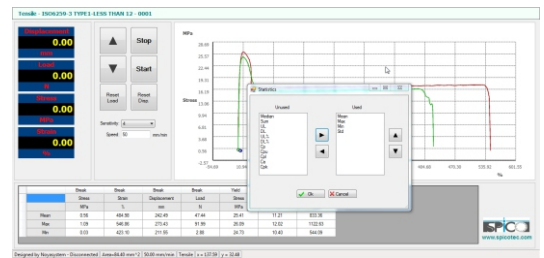
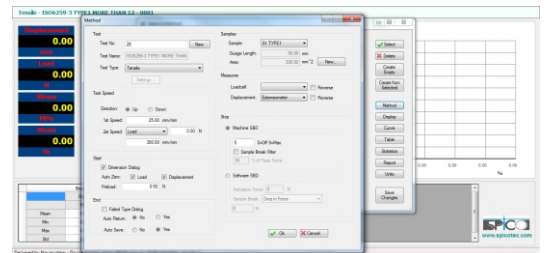
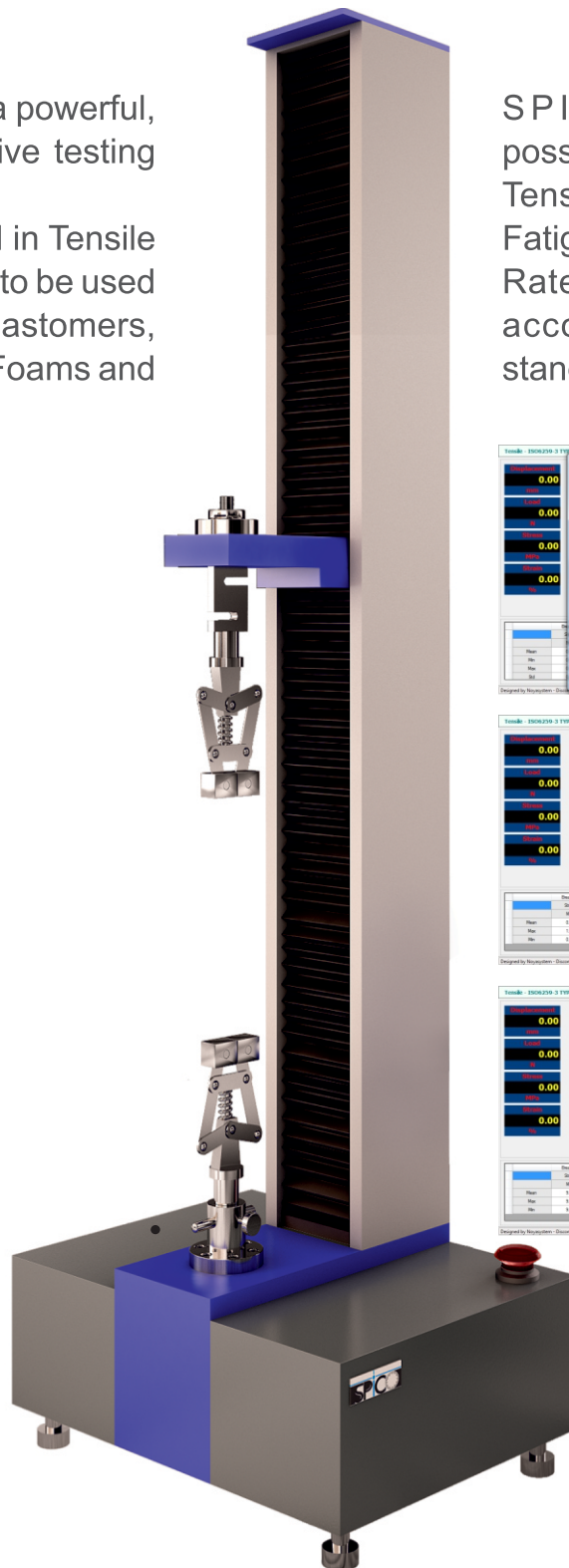


**SPICO one column** is a powerful, flexible and Cost-effective testing solution.

All Facilities we can find in Tensile Machine, Make this unit to be used for test on Plastic, Elastomers, Paper, Board, Textiles, Foams and Food stuffs.

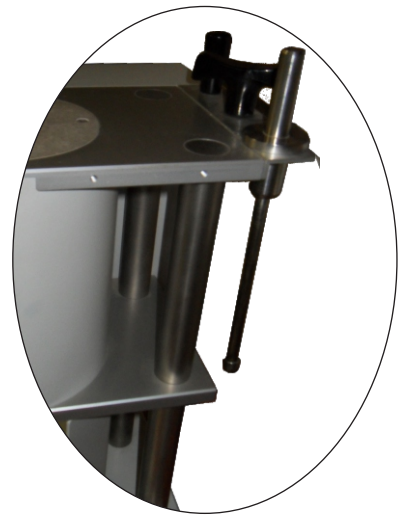
SPICOTest software give possibility to perform:

Tensile, Compression, Bending, Fatigue, Creep, Tear, Peel, Load Rate, Spring, User define test according to the international standard.

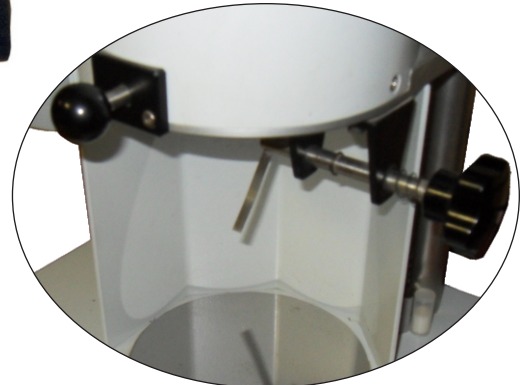


Our **MFR (MFI)** tester were made, as we found all our customers need an unit with best quality material to get advantage high accuracy of result in long term usage.

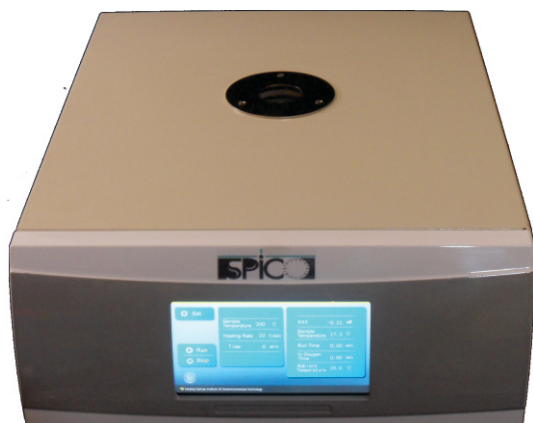
According to method A of standard ISO1133, we guarantee the accurate temperature distribution and constancy in heating channel, the reproducibility of result is always secured.



Different useful accessories be supplied



user friend cutting system

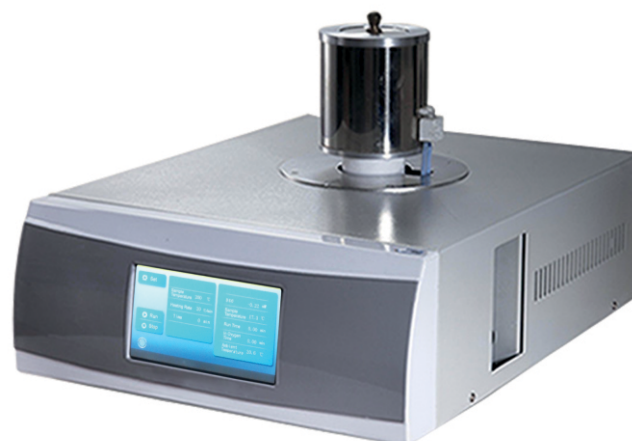


## Differential scanning calorimeter (DSC)

is designed to determine the inner heat transition relating to temperature and heat flow, it is widely used in the field of polymer development, performance testing & quality control. DSC research and development includes the following field: glass transition temperature, melting point, cold crystallization, crystallization, phase transition, oxidation induction time (OIT).

Temperature control be done with heating and cooling to ensure accurate temperature control.

DSC Software on windows operating system inform facilities to calibrate temperature and sensitivity, perform various temperature segments, record and analyzes Test Result.



## Thermo Gravimetric Analysis (TGA)

is a technique in which the mass of a substance is monitored as a function of temperature or time as the sample specimen is subjected to a controlled temperature program in a controlled atmosphere. So determination of temperature and weight change of decomposition, water content or residual solvents in a material, measuring the temperature of bond scissions just apart of application would be find with TGA.

Our DSC unit may be combine with TGA to reward our new unit, STA (Synchronous Thermal Analyzer).





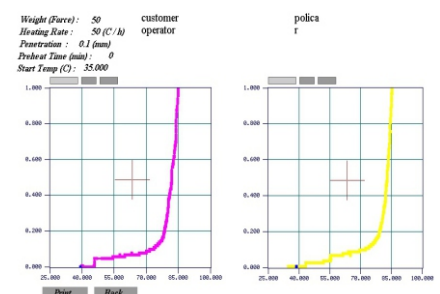
**The HDT/Vicat** apparatus allows for multiple simultaneous testing of sample depending on the amount of test stations available. The simple manually operated raise and lower function of the test stations ensure easy access to the test sample support for sample loading and retrieval and after each test. Each test station is fitted with a PT100 platinum resistance thermometer and separated one to control temperature. We design on board microprocessor with 7" touch screen provide simple screen to enter parameters and get result and Curve of Data recording for each station base on Temp. VS Time, penetration (Deflection) VS Time and penetration VS Temp.



HDT Test Needle



Vicat Test Needle



Vicat Test Report



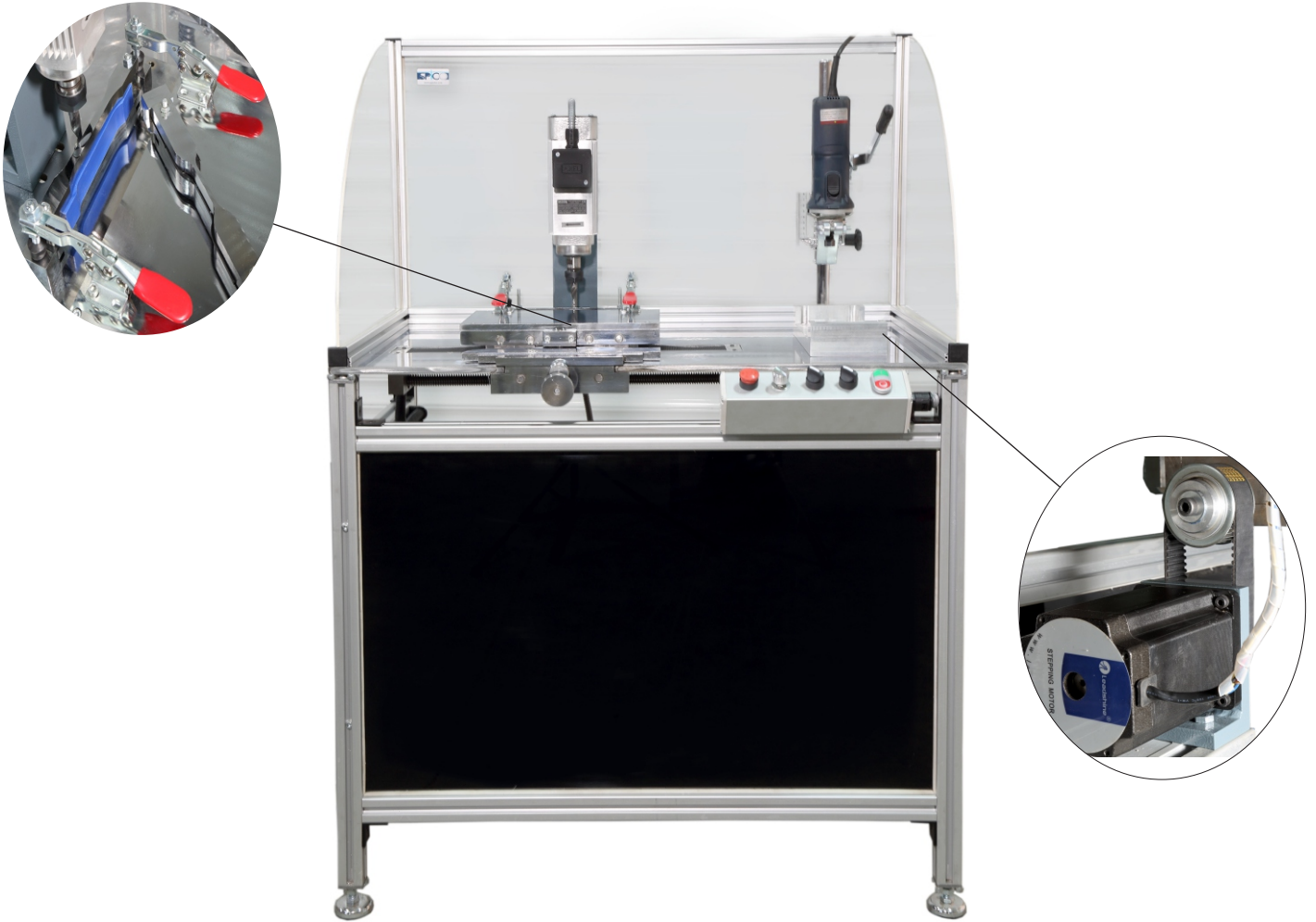
**SPICO Oil Bath** equipped with a digital temperature controller, heater and a PT-100 platinum resistance thermometer accurately maintains the test temperature. To ensure temperature stability within the bath stirrer motor system is fitted.

The bath is fitted with a stainless sample rack which holds glass test tubes.

### **ESCR Accessories according to ASTM D1693:**

- Stainless steel sample holder
- Punch and die set for samples
- Notch device for preparing the samples
- Bending clamp for bending the samples into a U shape
- Sample transfer tool
- 10 glass transfer tool
- Eggypal (1Lit.)





**The SPICO copy milling machine** is especially developed for the shaping of plastic samples for Tensile tests, and other kinds of elongation tests.

Our intention was to produce a machine which can be used with the minimum of skill and training. The result is an extremely simple to operate unit. The machine consists of solid base frame with a 2 axis linear movement milling top. A template is mounted on the machine which provides the profile for the sample. Operator control is via an integrated panel at the front of the machine.

A suitable template should be installed in the machine which provides the profile for the sample, these can be supplied to all dumbbell sample standard.

The sample is secured to the turntable using a support bar located with 2 nuts. The depth of cut can be adjusted and the max. Depth of the rough pass milling depth is 8mm. The actual milling depth can be set using the dial gauge.





**SPICO CNC machine** was designed a table-top unit to make sample type being applied tensile, bending and impact test for plastic material according to customer standards.

This machine supplied with special clamps to keep samples that be defined in software so user just need to put samples inside clamps and select suitable shape form.

Customer's advantage get maximum thickness sample up to **100mm**.

**SPICO Airless Pressure** was born to perform as one of the most important test on thermoplastic pipes, hydrostatic and burst pressure test.

Modular design be innovated possibility to supply any number of stations in future easily with customer self, as we can improve Max. 16 separated station in same cabinet.

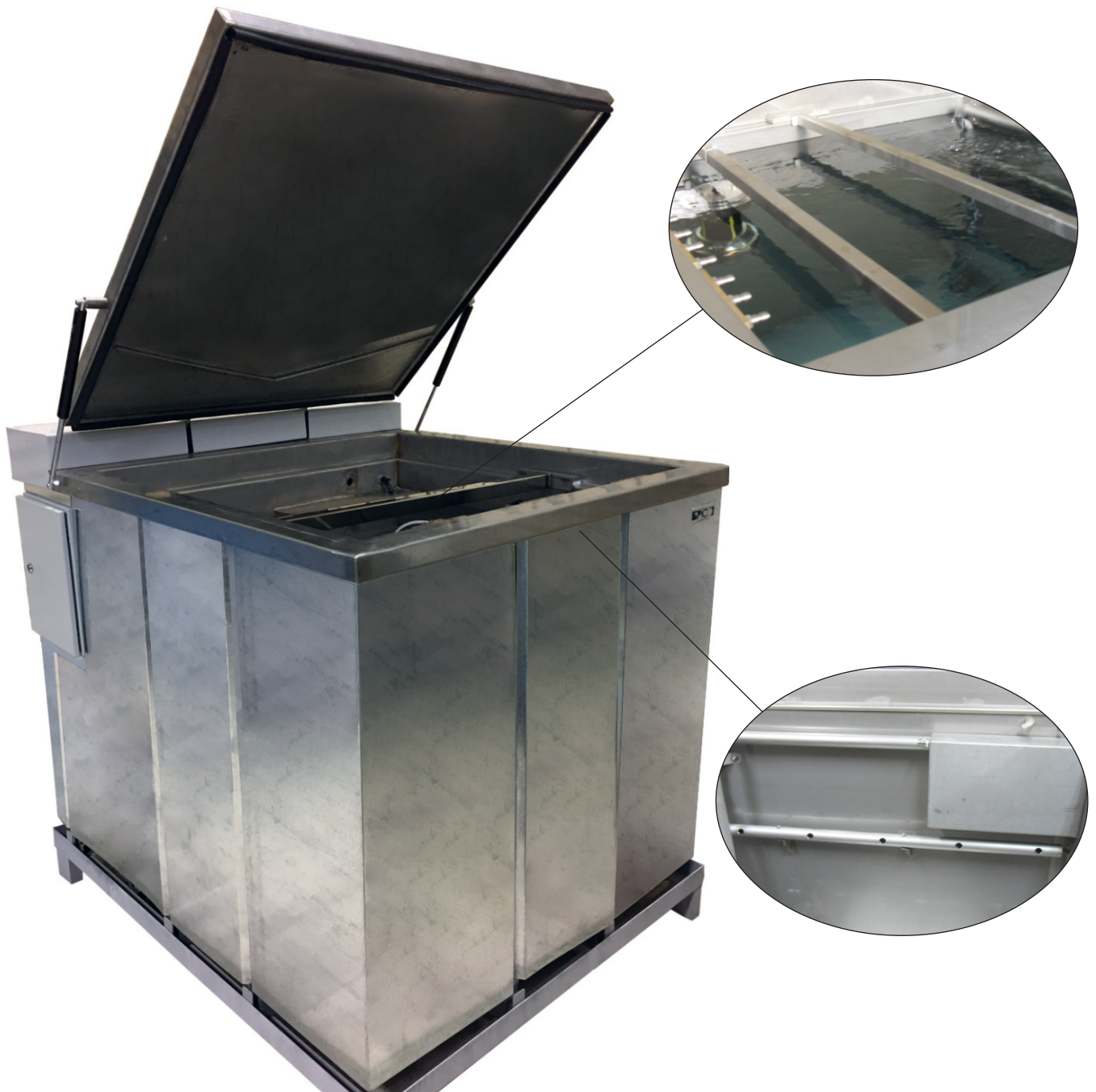
Long time experience corporate best quality of usage parts give advantage, long service life.



**Spico Water Test Bath** be equipped with hydrostatic pressure unit to perform tests on pipes and fittings.

This unit was made to be able work on high temperature (Max. 95°C) during long-term properly.

Control system would be done from airless unit so user have a complete control on the test tank as well as check and record the temperature during the test time.







**Stainless Steel Endclosure Caps**, used on hydrostatic internal pressure. the most important design on this kinds of caps would be simple and reliable assemble.

**Advantage:**

- Stainless steel guarantee long term usage with 160 bar pressure,
- The special simple venting valve,
- User friendly assembly,
- Range of size : 16-16- mm (Pipe diameters)



**Circometer**

- Black and silver color,
- 0.05 mm vernier scale
- Made from INOX
- Range: 15-1100 mm





**The Compact bench tube furnace** is available as split, non-split, vertical and horizontal models.

We design on board microprocessor control as user-friendly keypad to perform any kinds of dynamic and ISO term temperature segments.



Universal Tensile	UTM-S50-1	UTM-S50-2	UTM-S250-1	UTM-S250-2	UTM-S500	UTM-S1000
Test Force (Capacity)-KN	1	5	10	25	50	100
Structure	One column		Two column			
Space between Test Axis to Column-mm	105	105	406	406	406	406
Speed range-mm/min	0.05-500					
Crosshead Travel (Excluding) grips-mm	800	800	1260	1260	1260	1200
Width-mm	600	600	750	750	750	810
Depth-mm	450	450	478	478	478	478
Height-mm	1420	1420	1900	1900	1900	1900
Data Calculated Resolution	24 Bit					
Force Measurement Accuracy	Grade 0.5 according to OIN EN ISO 7500-1					
Strain Measurement Accuracy	+0.01mm					
Speed Accuracy-%	+0.2% of set speed					

**optional:**

- Be supplied with Extensiometer
- Be supplied with Maximum four Load-Cell
- Various kinds of Grips according to customer standard



## Extrusion Plastometer Tester

Temperature range - C	400 C
Temperature distribution travel in bore- C	0.3 C
Temperature sensors	2 pieces of Pt100
Temperature regulation	By Omron/Autonics
Load	2.16 / 5 kg (other weight can be supplied)
Dimension (WidthxDepthxHeight)	340x300x470 mm
Weight	35 kg
Power supply	230 V/ 50Hz

### Accessories:

- Piston rod
- Cylinder brush
- Cylinder cleaning rod
- Leveling rod
- Die gauge set (Go-no-Go)
- Filling funnel
- Observation mirror

## Furnace

Temperature range- C	1100 C	1200 C
Element type	Chrome-Alumel (Kanthal form Sweden)	
Work tubes diameter	2" inches	
Heated lengths	300 mm	
Thermocouple	2 Pieces of type-k (jumo from Germany)	
Power supply	220 V	

### PID electronic temperature control with PC

Second On/Off control to protect temperature with Emergency-Stop

Programmable control with PC to performance 10 temperature/time programs

over temperature limiter

Thermo-analyzer tester	DSC	TGA
Temperature Range - °C	Ambient to 800°C (Optional: -100 to 800°C with LN2)	Room Temp. to 1150°C (Optional: Room Temp. to 1350°C) (Optional: Room Temp. to 1450°C)
Measuring Range - mW	0 - ±500mW	-
Heating Rate - °C/min	0 - 80°C/min	1 - 80°C/min
Cooling Time – min	-	15min 1000°C to 100°C
Balance Measuring Scope	-	1mgr - 2gr
Temperature Resolution - °C	0.1 °C	
Resolution	0.01 µW	0.01 µg
Temperature Fluctuations - °C	±0.1 °C	
Temperature Repeatability	±0.1 °C	
Noise	0.01 µW	-
Accuracy	0.01 µW	-
Sensitivity	0.01 µW	-
Display	7" LCD touch screen (24bit color)	
Temperature Control Mode	Rising Temperature, constant Temperature (full automatic programmed control)	Rising Temperature, Cooling temperature, Constant temperature
Curve Scanning	Rising scan, Cooling scan	
Atmosphere	-	Inert, Oxidizing, Reducible, Static & dynamic
Atmosphere Control	Embedded digital flow meter & Software control	Built-in gas flow meter, including switch two way gas and control flow volume
Data interface	Standard USB connector	RSS-232, Special software
-	Gas flow would be control and measured by solenoid valves and flow meter	

**HDT/Vicat**

Number of sample stations	2
Temperature range - °C	Up to 300°C
Temperature resolution - °C	±0.01°C
Temperature ramp rate - °C	50°C/120°C
Digital Transducer Resolution - mm	0.01mm
HDT span support - mm	64mm/100mm
Bath capacity - lit	8 lit
HDT heads	1 per station
Vicat nibbles	1 per station
Special oil bath stirrer guarantee uniform temperature	
Manual Raise/Lower of test stations	
Solenoid operated cooling system	
Integrated safety thermostat	
Standard weights	
Supplied USB flash memory to record test report	

**Oil Bath**

Temperature range	Ambiant-100°C
Temperature accuracy	±0.2°C
Resolution	0.1°C
PT100 PRT sensor accurate	0.1°C
Number of glass tubes	10
PID electronic temperature control	
Integrated stirrer motor	
Stainless steel liquid bath	
Sample specimen holders (stainless steel)	
Stirrer motor system to ensure temperature stability	

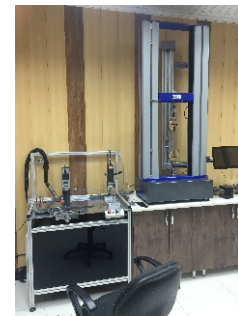
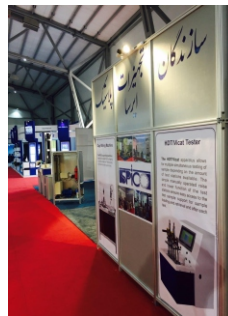


	CNC	Milling Machine
Clamping range for blanks small	Max. Thickness 30 mm Max. Length 220 mm	Max. Thickness 30 mm Max. Length 170 mm
Clamping range for blanks big	Max. Thickness 100 mm Max. Length 250 mm	
Number of test bars	Max. 3	1
Number of test bars per Milling process	Max. 3	1
Rotational speed of spindle	3000-18000 per minute	3000-18000 per minute
Milling program	Can be selected according to EN, ISO, ASTM	ISO 6259-3 Type 1&2
Noise Emission	100 dB (A) during milling process	
Width (milling table)	500 mm	
Depth (milling table)	300 mm	
Width	900 mm	650mm(MSP1)
Depth	1000 mm	500mm(MSP1)
Height	1000 mm	1400mm(MSP1)
Weight	160 kg	75kg
Voltage data	230 V, 50 Hz	
Milling table with mechanical clamping device		
Hard metal milling cutter Ø6, 8, 10, 12 mm (subject to standard)		
Operation via PC		
Optional:		
- Diamond milling cutter		
- Industrial vacuum cleaner		

Airless Pressure	HPTS-4	HPTS-8	HPTS-12	HPTS-16
Number of module	1	2	3	4
Number of stations	4	8	12	16
Pressure Range of Unit up to	200 bar			
Integrated high pressure noiseless pump (from Italy) capacity	15 lit/min			
Accuracy class for pressure transducer (from Switzerland)	0.2% of Full Scale			
Range of transducer may be order by customer	10, 16, 25, 40, 60, 160, 200 bar			
330 bar high quality pressure reservoir from Hydac (Germany)				
Special solenoid valves to control pressure with 0.01 bar resolution (Spico & GSR)				
<ul style="list-style-type: none"><li>- 10.4" touch screen, full control panel with possibility make your test report on USB flash memory</li><li>- Control panel switch box completely made and supplied from Germany (Rittal &amp; Schneider)</li><li>- Individual control system for any module (4stations) guarantee separated strong full control with PLC</li></ul>				
Optional:				
<ul style="list-style-type: none"><li>- Individual burst station</li><li>- Sens-line connection</li><li>- Control equipped test bath</li><li>- Master gauge</li></ul>				

## Water Test Bath

Water depth – mm	1000
Width (internal) – mm	1000
Length (internal) – mm	1000
Insulation stainless steel lid equipped	User friendly pneumatic spring system
Number of manifold slots	3,4,5,6
Number of suspension rails (included)	1
Heating power - kW	6 kW
Inner tank material	
Water temperature - °C	Min. ambient temperature + 10/ Max. 95°C
Water temperature (for fresh-water cooling) - °C	Min. 20°C or fresh-water temperature + 10/ Max. 95°C
Water temperature (with chiller) - °C	Min. 20°C/ Max. 95°C
Water temperature adjustable in increments of - °C	0.1 °C
Spatial and temporal temperature constancy - °C	±0.5
Temperature control with regulating accuracy - °C	±0.1
Voltage data	230/ 400V, 50/ 60 Hz
All parts coming into contact with water stainless	
Special Hot water circulation pump from Grundfos with speed changeable in flow	
Circulation system check with flow switch	
Connection and interface for chiller and heat exchanger	
Over temperature shutdown	
water level control	
Automatic top-up	





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