

SIGMAlite Pressure test unit



We help you perform even better

SIGMAlite

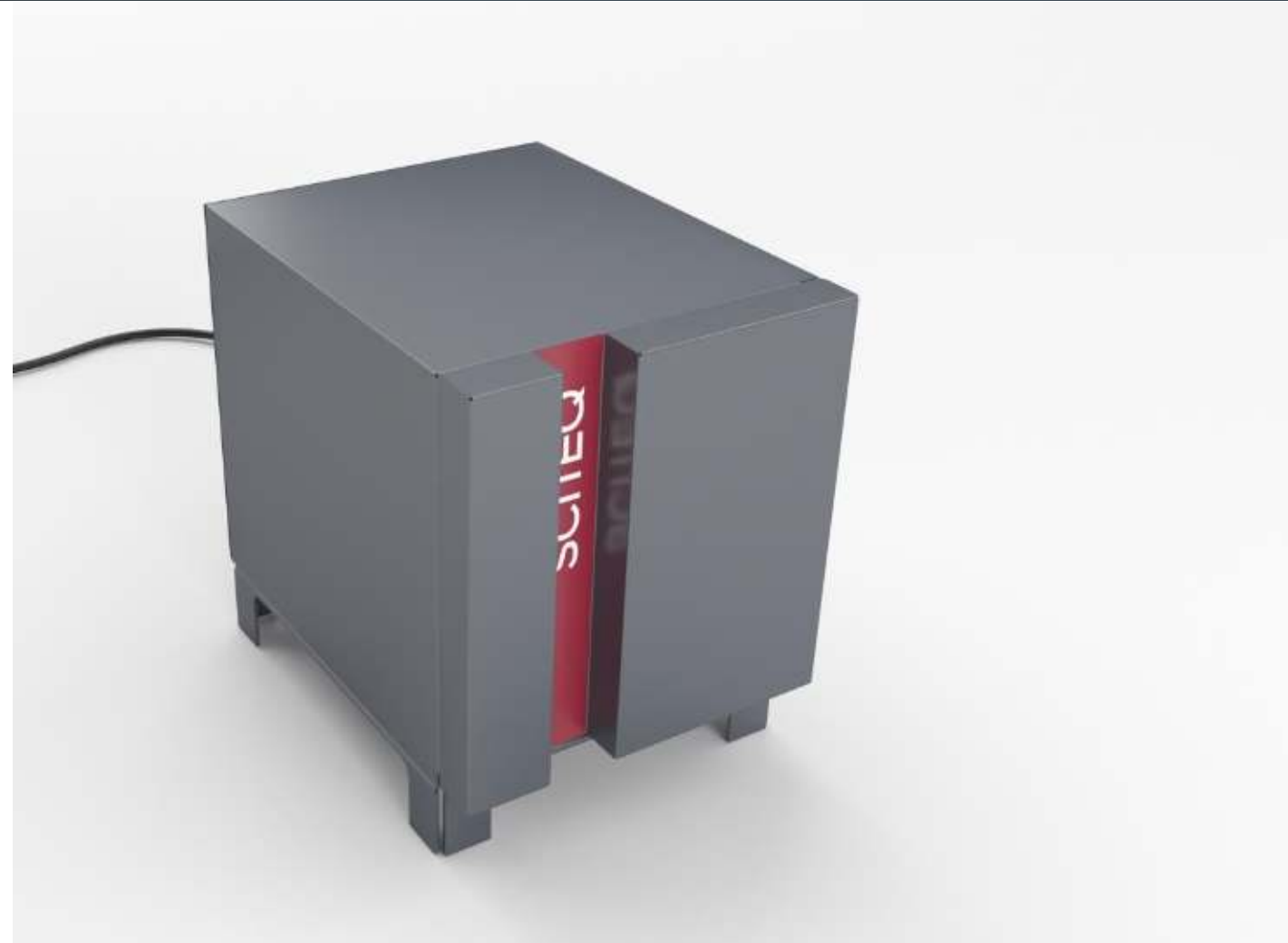
SIGMA is the new generation of pressure testing helping our customers prepare for IoT and Industry 4.0. This cost effective and reliable solution is easy to setup and operate from any device via the web-based software.

The compact plug and play test unit with five fixed individual pressure stations ideal for smaller layouts. Incl. DPC system and ABX valves ensures consistent and unparalleled pressure accuracy.

The alarm visually alerts the user, in case of irregularities in the ongoing test.

The system consists of an airless pressure module in a compact design footprint.

Dimensions: B542xD740xH652 mm





DPCS

SCITEQ's intelligent Dynamic Pressure Control System ensures that test pressures are maintained with unparalleled accuracy no matter what size sample is connected to the system. Static, burst and cyclic testing can all be accommodated.

Flow per station: max. flow 2 l/min (max. flow 9 l/min for burst). For other valve flow and power pack flow configurations, refer to the SCITEQ HCP solutions.

Alarm

The built-in alarm light instantly alerts the operator visually in case of irregularities in the ongoing test.

Scope

SCITEQ SIGMA pressure solution determines the resistance (both long term and short term) to internal pressure on thermoplastic pipes, fittings and assemblies for conveyance of fluids.

The product design complies with following pipe diameter configurations:

- Up to Ø800 [mm] pipe diameter in long term test, provided the total volume expansion of the test specimen until pressure set point is reached is less than 120dm³ within 1 hour from test startup (max allowed pressuring time is 1 hour according to ISO1167 and max flow rate pr. SUB station is 2l/min)
- Up to Ø315 [mm] pipe diameter in short term test, provided the total volume expanding until fracture (burst) is less than 10.5dm³ within 70 seconds from test startup (max allowed pressuring time is 70s according to ASTM D1599 and max flow rate in a BURST station is 9l/min)

Energy consumption

SCITEQ's Dynamic Pressure Control System uses only approx. 1/3 of power compared to conventional systems.

SCITEQ is the only supplier of the DPCS system. Other systems on the market use pressure pumps that run constantly via a bypass/circulation valve, hence the power consumption will be equal to the motor size + the power consumption for the control unit. As we supply pressure with the DPCS system to a high pressure reservoir the running time of the pump is reduced by more the 90%, thereby significantly reducing the power consumption.

Our PLC control uses an electronic power transformer to generate 24 volt power to the solenoid. This electronic power transformer regulates the output according to the specific need.

Maintenance & service

The smart design of the SIGMALite cabinet offers easy access for servicing and the pressure test can operate during service or maintenance.

The valves are NC (normally closed), each station will keep pressure when turned off.

Drainage of pressure equipment for servicing only necessary servicing the A valve and this is very rarely necessary.

Standards

The SIGMA pressure solutions complies with the below standards. Referring national, or sub standards referring to the below and others on request .

Long term test: ISO 1167-1:2006
ASTM D1598-02

Short term test: ASTM D5199-99

Harmonized standards: EN ISO 12100-1

EN ISO 12100-2
EN ISO 13849-1
EN ISO 14121-1
EN ISO60204-1

Normative references: Machinery Directive 2006/42/EC
EMC Directive 2004/108/EEC
Low voltage Directive 2006/95/EEC

Advantages

SCITEQ's browser-based software is accessible from any device – any time, anywhere.

- ✓ 4 different user levels
- ✓ Easy recipe set-up
- ✓ Dynamically adjusted real-time finish time
- ✓ Multiple simultaneous users
- ✓ Multiple specimen test per station
- ✓ SQL database compatible with all kind of servers
- ✓ OPC UA enabled



Browser based data handling

Data can be extracted by OPC UA and when your test is completed you can export the test data to csv, PDF or directly to your database by SQL.

Completed tests are automatically uploaded to the browser based SIGMA test data page, you simply navigate to the page and export the file according to your preferences.



OPC UA



Technical specifications SIGMAlite

SCITEQ

	SIGMAlite		SIGMAlite
Controller type	SCITEQ SIGMA S3100 Controller	External dimensions HxWxD [mm]	652 x 542 x 740
User interface*	Chrome, Firefox or Internet Explore browser	Weight [kg]	Approx: 130
Status light	√	Color	Ral 7016/30 (Dark grey)
Remote accessible	√	Material: cabinet	S235JR (Powder coated)
Max. water flow	4 l/m pr. station	Material: Piping and fittings	AISI 304 and brass
Max. pressure	100 bar	Power supply****	1 x 230 V+N, 50/60 HZ
Control accuracy	Better than +/- 1 % of set pressure	Max. power consumption*****	Approx: 1,5 KW
Control resolution	0,01 bar	Recommended Fuse	16 A
Testing according to following standards	ISO1167-1:2006 ASTM D1598-02 ASTM D5199-99	Water supply	Normal clean tap 2-6 bar Min. flow 10 l/m (13 l/m)
Pressure rise time	Adjustable (customized for specific sample expansion)	Supply water filter	10 My
Transmitter type**	Trafag NAH8252	Operating and storage temperature	2-37 °C ambient (30-70% RH)
Transmitter accuracy***	0,5 % FS (LTS) (25°C ambient).	Calibration certificate incl.	√
Transmitter Control rise time	2 ms/ 10-90% nominal pressure	Country of origin	Denmark
		CE Approval	√

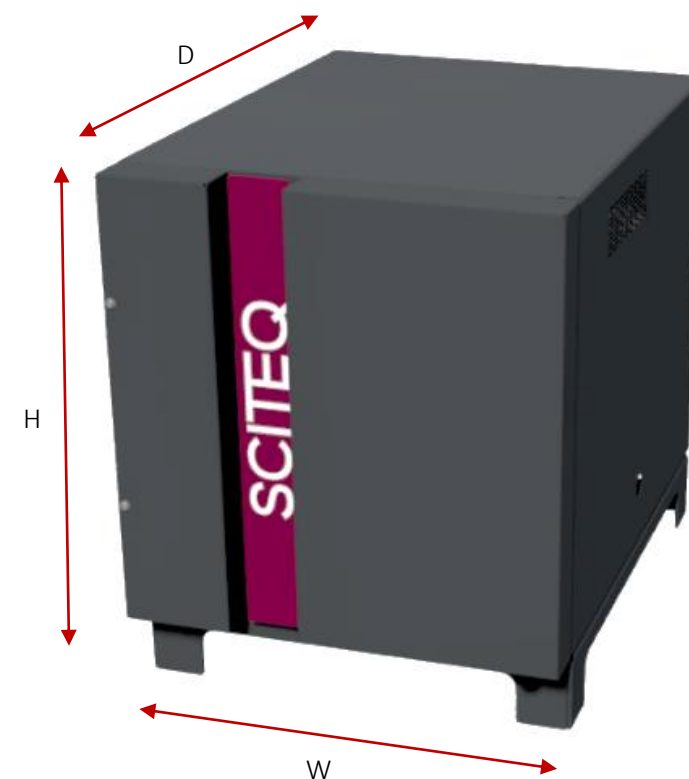
*SCITEQ is recommending the use of IPAD 11", or similar with screen resolution:2388x1668

**Transmitters are standard available in following sizes: 4, 6,10,16,25,40,60,100,160,250 and 400 bar. Others sizes might be available on request.

*** LTS = Long term stability. NLH (BSL) = +/-0,2 % (25°C).

****Power supply can be customized .

*****Power consumption is for standard but will variate depending on the required flow and pressure of the PowerPack and frequency of the supply grid (standard is 50 Hz).



Standards

The SIGMA Thermo tank enables you to test according to below standards:

- ISO 9967
- ASTM D1598
- ASTM D1599

The Thermo tanks may very well enable you to test according to other standards beside the ones listed above. Please refer to technical specifications in the back of this brochure or contact SCITEQ A/S for more information.

Highlights

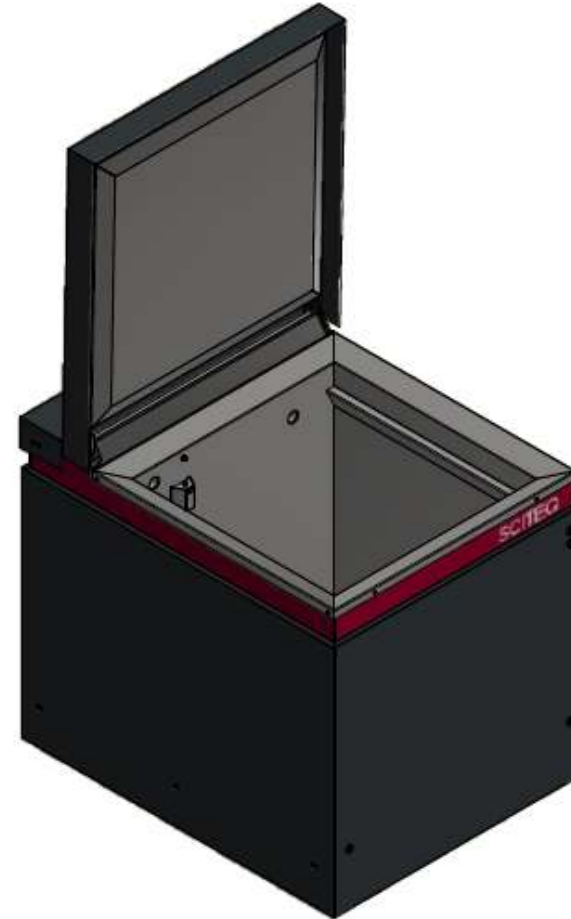
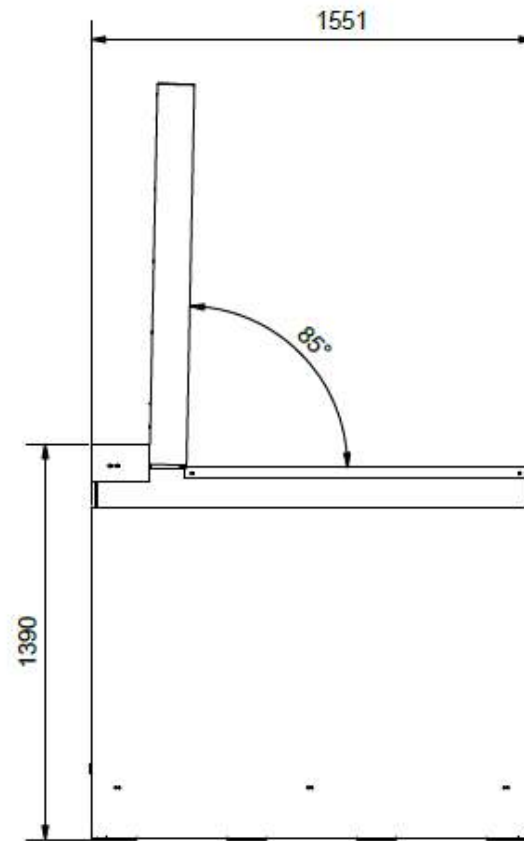
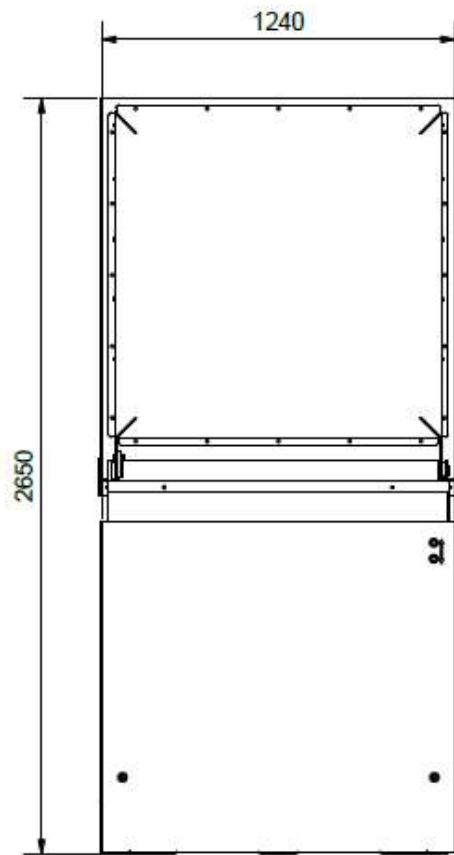
The SIGMA Thermo Tank features:

- High-end industrial design feature
- Uniform constant temperature
- Accurate PID temperature control
- Temperature setting $\pm 0,1^{\circ}$
- Low energy consumption
- Only supply of water and power to operate.
- Automatic water level control
- High quality parts
- 270° accessibility to tank
- Easy access - service & maintenance
- Long lifetime construction
- Low noise level
- Full 3D documentation and easy identification of spare parts



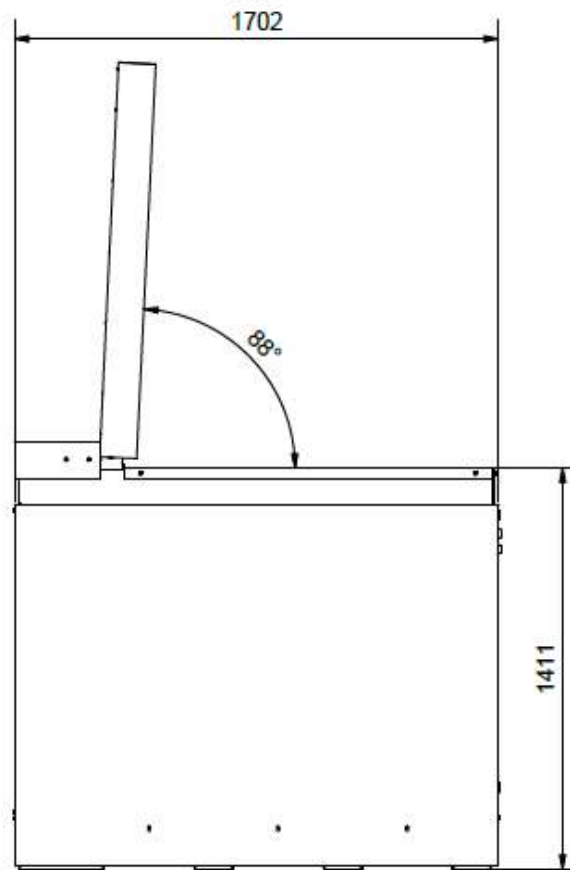
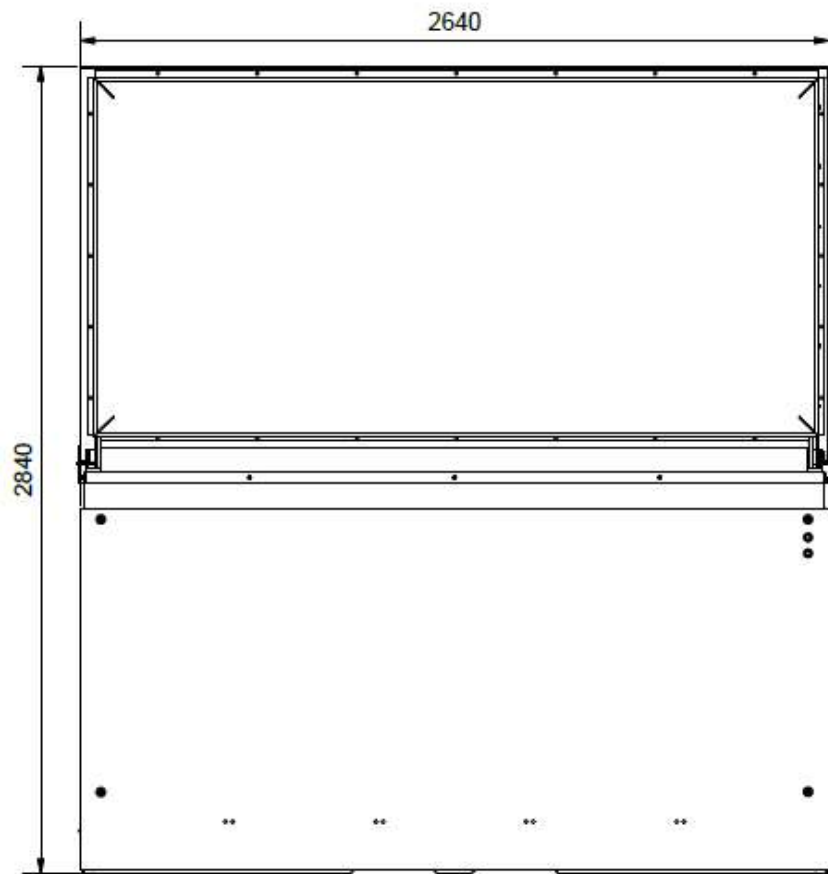
Dimensions SIGMA thermo tank

SCITEQ



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Technical specifications SIGMA Thermo tank



	Standard models	
	1000x1000x1100	2400x1100x1200
Inner tank dimensions [mm]	1000x1000x1100	2400x1100x1200
Water mirror height WH [mm]	Approx: 1000	Approx: 1100
Loading height [mm]	1350	1411
Height with open lid [mm]	2650	2840
Volume [m3]	Approx: 1.1	Approx: 2,9
Weight, empty [kg]	Approx: 500	Approx: 995
Weight with water [kg]	Approx: 1600	Approx: 3895
Material: piping and inner tank and lid*	AISI 304	AISI 304
Material: frame and coverplates	S235JR (Powder coated)	S235JR (Powder coated)
Power supply	3x 400 V, 50/60 HZ	3x 400 V, 50/60 HZ
Power consumption (Heating mode)	Approx: 5 KW, 7,3 A	Approx: 10 KW, 14,4 A
Approx: Heating time (6-95 °C)	12 Hours	26 Hours
SIGMA visual alarm system	√	√

*Other materiel available on request e.g. AISI 316.

Technical specifications SIGMA Thermo tank

SCITEQ

	Standard models	
	1000x1000x1100	2400x1100x1200
Ambient operation temperature	2 – 28 °C	2 – 28 °C
Water temp. range at 22 °C ambient*	22 – 95 °C	22 – 95 °C
Additional Cooling availability (0-20 °C)**	√	√
Power consumption (Cooling mode)	Approx: 7 KW, 10,2 A	Approx: 7 KW, 10,2 A
Water supply	Normal tap 2-6 bar	Normal tap 2-6 bar
Max. recommended no. of inlets	40 pcs	125 pcs
Temperature control accuracy***	±0,5 °C	±0,5 °C
Temp. regulator resolution	0,1 °C	0,1 °C
WEB SCITEQ Software availability	√	√
Calibration certificate	√	√
CE Approval	√	√

*Chiller Is required if temperature needed is below ambient.

**Cooling requires additional chiller system, and maybe some changes in automation and piping also.

*** Accuracy is both for Chiller and heating mode.



End closures without tie-bar

available in custom sizes, enabling you to test any pipe diameter. Made in certified stainless steel AISI 304. Also available as acid resistant AISI 316 when needed.



End closures with tie-bar

available in custom sizes, enabling you to test any pipe diameter. Made in certified stainless steel AISI 304. Also available as acid resistant AISI 316 when needed.



End closures large diameters

Patented design Air frame. For pressure testing of larger pipe diameters from 315 to 1600mm – and larger at request. in certified stainless steel AISI 304.



Hoses

SCITEQ is supplier of hoses to connect pressure stations to thermo tank or to samples. Supplied in different lengths according to need.



Stainless steel hoses

SCITEQ is supplying hoses for use inside the Tank. These are made with inner material suitable for the heat and pressure and protected with stainless outer hose.



Couplings

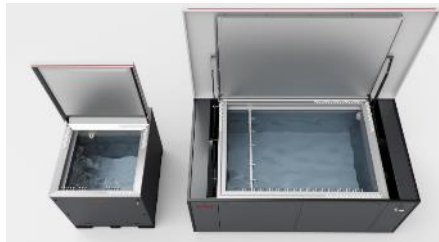
SIGMA equipment standard couplings are Tema 2510 quick connectors. Other systems can be supplied to fit customer needs.

Essential Equipment



SCITEQ End closures

SCITEQ is supplier of various ranges of end closure suitable for almost any purpose. Within a range of Ø8-Ø1600 mm, with or without tie-bars.



SIGMA thermo tank

The SIGMA thermo tank is the obvious choice to condition test samples. The tank is available in two dimensions suitable for various sample configurations at 0-95° Celsius.

Associated Equipment



SCITEQ Lab saw

For preparing plastic pipe samples by making a parallel cut and chamfering edge. Conveyor with auto feeding. Pipe diam. from Ø32 mm to Ø630 mm



SCITEQ End closure mounting

& demounting machine.
For handling heavy large pipe samples and end closures up to Ø1600 mm conveniently and efficiently.



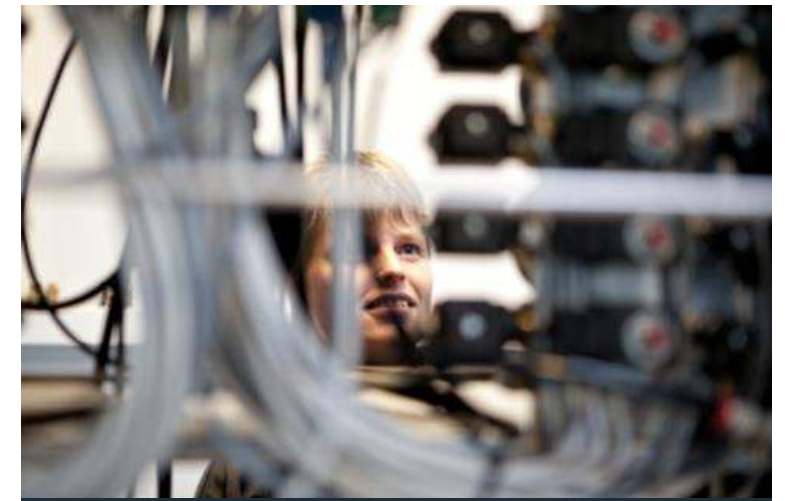
Installation & training

SCITEQ offers onsite installation of new SCITEQ equipment and onsite or remote training of the operating personnel that are going to use the equipment.



SCITEQ Care Service

The SCITEQ Care packages are designed to fit your specific needs and wishes. You will find the level of service suitable for your application, whether you run a large test laboratory or smaller test set-up. We guarantee that your test equipment is maintained to ensure a consistent level of functionality and accuracy. SCITEQ Basic, More & All Care packages all grants access to a long list of advantages and discounts.



Support online & on-site

SCITEQ offers online and on-site support on all SCITEQ products, for fast and effective problem solving, training, setup, etc. If you have an unforeseen challenge or you need advise asap, you can contact service@sciteq.com or call us for urgent support.