

Model no. 1770

TEMPERATURE CYCLING TEST UNIT



According to

ISO 19893

DVGW W 534

DVGW W 542

DVGW W 543

The temperature cycling tester is designed to determine the resistance and stability of thermoplastic pipework and pipework connections consisting of stiff or flexible parts when subjected to alternating thermal shock. This applies to pipework systems intended to be used for conveying hot and cold pressurized water.

SIMPLE AND SAFE OPERATION

- > Automatic test progressions with programmable cycle numbers and time lapses, temperatures, etc.
- > Comfortable handling and clearly arranged visualization by means of computerized control system
- > Tensioning device complete with load cell and measurement instrumentation for the tensile pre-loading
- > Diagonally arranged test specimens support frame for better accessibility

RELIABLE TEST RESULTS

- > Option of flow volume setting by individual test line
- > Micro processor-controlled, self-learning pressure adjustment with automatic failure detection
- > Consistent test temperature due to large water storage tanks. High adjustment accuracy of pressure and flow rate
- > Flow rate measurement and recording (optional)

LASTING EFFICIENCY

- > First-class machinery components provide high operative availability, long service life and low running costs
- > Energy-saving circulation and pressure pumps
- > Hot and cold water tanks each with its own, independent circulation and pressure pumps

STATE-OF-THE-ART TECHNOLOGY

- > Interface to IptDataLogging®
- > Simultaneous testing of different test pipe assemblies



FEATURES TEMPERATURE CYCLING TEST UNIT

SUPPLY UNIT		V1770-0001	V1770-0004
Pressure range	bar	4 - 16	4 - 10
Temperature range cold cycle	°C	20 - 30	
Temperature range hot cycle	°C	50 - 95	
Temperature accuracy in specimen	°C	at 95 ± 1.5 at 20 ± 4	
Adjustment accuracy temperature controller	°C	± 0.2	
Pressure measurement accuracy	%	0.25 of the terminal value of the pressure sensor	
Pressure accuracy in specimen	bar	+0.2/-0.1 at 10 bar +0.3/-0.15 at 15 bar	+0.2/-0.1 at 10 bar
Cycle time	min	3 ... 9,999	
Max. number of cycles each test		99,999	
Nominal capacity hot water tank	l	700	
Nominal capacity cold water tank	l	700	
Tank class		unpressurized	
Pumps delivery rate at 10 bar	m³/h	17	6
Pumps delivery rate at 16 bar	m³/h	12	–
Max. total cross section at 16 bar/0.5 m/s	mm²	6,400	–
Max. total cross section at 10 bar/0.5 m/s	mm²	9,500	3,300
Plate heat exchanger for connection to external water cooling supply		✓	
External cooling unit		+	
Controls at unit by means		via 10.4" TFT touch display	
Computerized control system in network		+	
Compatible with IptDataLogging®		from version 5.x	
Permissible operating ambient temperature	°C	+5 up to +25	
Max. relative air humidity	%	70 non-condensing	
Noise emission	dB(A)	< 70	
Power supply voltage		230/400 V, 50 Hz * (customized voltages available on request)	
CE compliance		✓	

✓ inclusive

+ available/optional

O selectable

– not available

* available on request

DESIGN TEMPERATURE CYCLING TEST UNIT

INTERMEDIATE FRAME (2)	V1770-0101	V1770-0100
Max. number of test lines	6	6
Set up options	A	B
✓ inclusive	+ available/optional	○ selectable
	– not available	* available on request

DESIGN TEMPERATURE CYCLING TEST UNIT

TEST CHAMBER (3)	V1770-0030
Max. number of test lines	6
4-panels, see-through shockproof polycarbonate sliding doors on both sides	✓
Door locking safety switch during hot cycle	✓
Failure detection sensors	✓
Warning lamp	✓
Integrated tensioning device	✓
Connection for external steam exhauster	+
Load cell 500 N for tensioning device	+
Load cell 2,000 N for tensioning device	+
Load cell 5,000 N for tensioning device	+
Load cell 10,000 N for tensioning device	+
Multi-function measuring device for load cell	+
Diagonal sample support frame	+
Fastening clamps for sample support frame	+
✓ inclusive	+ available/optional
	○ selectable
	– not available
	* available on request

DESIGN TEMPERATURE CYCLING TEST UNIT

TEST ASSEMBLY LINES	V1770-0080	V1770-0081	V1770-0082	V1770-0085	V1770-0086	V1770-0087
Specimen connections size inflow / backflow	G1"	G1 ¹ / ₄ "	G1 ¹ / ₂ "	G1"	G1 ¹ / ₄ "	G1 ¹ / ₂ "
Flow meter control	✓	✓	✓	✓	✓	✓
Pressure control	-	-	-	✓	✓	✓

✓ inclusive

+ available/optional

○ selectable

- not available

* available on request

DESIGN TEMPERATURE CYCLING TEST UNIT

FLOW METER	V1770-0090	V1770-0091	V1770-0092
Measuring tolerance	± (1.0 l/min + 4 % of the measure value)	± (2.0 l/min + 4 % of the measure value)	± (0.50 l/min ± 0,2 % of the measure value)
Sample inner diameter	10 - 55 mm	22 - 74 mm	10 - 110 mm

✓ inclusive

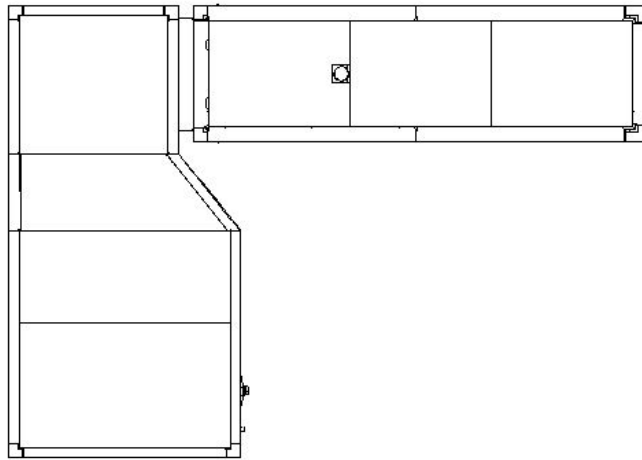
+ available/optional

○ selectable

- not available

* available on request

Set up option A
(Cornered set up)



Set up option B
(in-line set up)

