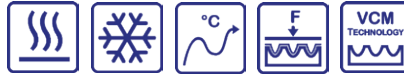


Lab Automation
Product Catalogue 2019

Lab Automation Products

Thermal cycling, heating, cooling, shaking, incubation & verification

Thermal Cycling: On Deck Thermal Cycler ODTC®



Most compact end-point PCR cycler for the use on automated liquid handling workstations. Unrivalled thermal performance with new VCM® technology, small footprint, low height. 4 different air ventilation exhaust positions as well as SiLA communication standard for seamless integration on all major LH platforms.

Free programmable temperature profiles & lid temperature (+30°C to +115°C). Top thermal performance with temperature accuracy of $\pm 0.3K$ & temperature uniformity of $\pm 0.2K$, even with asymmetrical fluid loading of the PCR plate. Very precise run time, ideal for 24/7 operation in automated workflows. Horizontal moving lid, no interference with gripper & pipetting head. Automated adjustment of lid pressure for different disposables & sealing options. Dedicated verification tool OVT available for IQ, OQ, regular technical service or daily performance check by the user.



ODTC® 96 open with Bio-Rad PCR plate

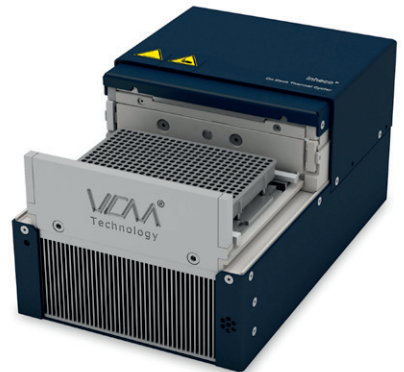
ODTC® ¹	Part No.	ODTC®	Part No.	ODTC®	Part No.
96 Left ²	8100100	96 XL Left	8100300	384 Left ³	8100200
96 Back	8100101	96 XL Back	8100301	384 Back	8100201
96 Right	8100102	96 XL Right	8100302	384 Right	8100202
96 Down	8100103	96 XL Down	8100303	384 Down	8100203

¹ Power & Control Unit is identical for all ODTC® versions and included in scope of supply.
^{2&3} 96 and 384 indicate the well number. L, B, R, D indicates position of ventilation outlet.

ODTC® 96 XL for use of low- and high profile PCR plates and expanded gripper access area for flexible gripper use.

Main specifications

Product	Max. average	Max. average	Uniformity	Temperature Range	Dimensions W x D x H (mm)
	Heating Rate	Cooling Rate			
ODTC® 96	4.4 °C/s	2.2°C	$\pm 0.20K$	+4°C to +99°C	156 x 248 x 124
ODTC® 384	5.0 °C/s				
ODTC® 96XL	4,4 °C/s	2.2°C	$\pm 0.20K$	+4°C to +99°C	156 x 285 x 129



ODTC® 384 open without a PCR plate

Verification: ODTC® Verification Tool – OVT 96 / 384



Benefit from the perfectly matching verification tool for the ODTC® and fully automated test routine with easy setup and step by step guidance. It provides an all in one performance verification – heating & cooling rates, precision, accuracy & uniformity. The process is a fully automated, short, 25 minutes test routine. Printable PDF verification certificate in audit quality, use for routine service for instrumental and operational qualification (IQ & OQ) or on demand by end-user. Ideal for service crew due to light weight and portability.



OVT96: Data logger + measurement head

Product	Part No.	Sensors Mount/Lid	Dimensions head W x D x H (mm)	Dimension data logger	Weight
OVT96	7902000	5/2	124 x 92 x 16	216 x 116 x 64	800g
OVT384	7902001	5/2	124 x 92 x 16	216 x 116 x 64	800g



Verification: INHECO Measurement Plate – IMP

Verify your lab equipment and be sure that it works as it should. All-in-one verification with temperature, humidity and shaking measurement. The cordless design allows measurement in closed systems such as incubators and plate readers. Full automation of the verification process due to easy handling by common gripper systems. Flexible data transfer via USB or IrDA, alternative data storage internal on EEPROM or micro SD card for external read out. Data analysis software for thorough analysis of measurements included, with additional CSV export. Ideal for service crew due to light weight and portability.



IMP: INHECO Measurement Plate

Product	Part No.	Dimension W x D x H (mm)	Weight	Temp. Range
IMP *	7901000	86 x 128 x 15	100 g	+4°C to +60°C

* NIST Calibration for shaking and temperature available



Heating & Cooling: CPAC Product Line

High performance Peltier driven temperature controlled devices with heating & cooling function for Lab Automation systems. Optimized for either high temperature and regular temperature changes, or to maintain a constant set temperature. Ultraflat variants are placed on-deck, while Microplate variants are installed into the deck. Excellent accuracy at 37°C: ±0.3K, and uniformity at 37°C: ±0.5K.



CPAC Ultraflat

Product	Part No.	Temp. range	Temp. cycling	Robotic installation
CPAC Ultraflat HT 2-TEC*	7000166	+4°C to +110°C	Yes	on deck
CPAC Ultraflat	7000190	+4°C to +70°C	No	on deck
CPAC Microplate HT 2-TEC*	7000163	+4°C to +110°C	Yes	inside deck or ALP
CPAC Microplate	7000179	+4°C to +70°C	No	inside deck or ALP

*CPAC HT 2-TEC devices are optimized for high temperature with temperature change within minutes. For cycling within seconds we refer to our thermal cycling devices



Incubation & Shaking: Single Plate Incubator Product Line

Temperature controlled incubation in enclosed chambers for Lab Automation systems. 4 models are available: 2 versions for microplate or deep well plate incubation, and 2 further versions with additional low vibration shaking function. MP variants for low profile micro plates, heating from bottom contact surface, Sample temperature from 20°C to 37°C in ~20 min. DWP variants for deep well, low profile micro plate or for vials & reservoirs up to 45mm in height, heating from all sides to avoid condensation.

All 4 models are space-saving, stackable and individually & independently controllable incubators. The cover door swivels 90° after drawer opening for easy access by pipetting heads & robotic grippers. Self-test routines and plate loading sensor guarantee safe and fast processing. Accuracy at 37°C: ±0.5K, for all devices; uniformity at 37°C: ±0.5K - ±0.6K for incubation only devices; ±0.8K - ±1.0K for shaking devices. The shaking devices offer free programmable shaking patterns (linear, circle, elliptic, eights), with amplitudes up to 3 mm.



Mixed incubator stack with:
Incubator MP
Incubator Shaker MP
Incubator DWP
Incubator Shaker DWP

Product	Part No.	Temperature range	RPM	Amplitude	# of plates
Incubator Shaker DWP	7300009	ambient +5K to +80°C	400 - 1.800	0 - 3 mm	1
Incubator Shaker MP	7300013	ambient +5K to +80°C	400 - 1.800	0 - 3 mm	1
Incubator DWP	7300006	ambient +5K to +80°C	-	-	1
Incubator MP	7300003	ambient +5K to +80°C	-	-	1

Incubation: SCILA Cell Incubator



The SCILA (SiLA-based Cell Incubator for Lab Automation) incubator for automated cell culture applications in liquid handling systems offers four drawer-based positions for ANSI-SLAS culture plates. Seamless integration due to small size and quick and flexible software interfacing with SiLA. Patented innovative drawer design moves the complete drawer mechanics outside of the incubation chamber. Modular design allows to scale up with additional units when required. Fast access (< 10 seconds) and optimized concept for humidity, temperature and gas atmosphere control enable quick recovery of the incubation conditions after plate access. Designed for easy maintenance and service through tool-free disassembly of front cover and drawers. Contamination protection due to copper surface in the incubation chamber and water supply tubings. Temperature accuracy of +/-1K at 37°C and uniformity of 1K maximal difference at 37°C between the plate positions as a gradient from drawer 1 to 4 generating a humidity ventilation circle. A fan is therefore not needed. Temperature uniformity of the wells within a plate position is 0.3K at 37°C.



7300104 SCILA CO2 MP-4

Product	Part No.	Temperature range	Dimensions W x D x H (mm)	# of plates
SCILA CO2 MP-4	7300104	ambient +5K to +45°C	250 x 410 x 291	4

Optional: SCILA MIX gas mixing device, part no. 3800100

Heating: HeatPAC & Heated Lid



Heating device with the lowest profile and high temperature range for on-deck integration of Lab Automation systems. The HeatPAC is a space saving thermal block with low profile (40mm) and a high temperature range with an excellent accuracy of ±0.5K at 37°C, and uniformity at 37°C: ±0.5K. Adapter plates available for almost all microplates, DWP, tubes, reservoirs, etc.

The Heated Lid used in conjunction with open heating devices like CPAC or HeatPAC avoids condensation on top of disposables, increases heating performance & temperature uniformity, especially for deep well formats. Fully automated processing possible due to flexible cable and low weight.



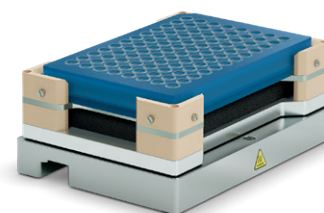
HeatPAC with Flat Bottom
Adapter & Positioning frame

Product	Part No.	Temperature range	Dimensions W x D x H (mm)	Weight
HeatPAC	7900046	ambient +5K to +135°C	128 x 89 x 40	310g
Heated Lid	8900033	ambient +5K to +135°C	134 x 91 x 19	420g

Heating & Shaking: Teleshake 95



Low profile, high performance heater-shaker for on-deck integration of liquid handling instruments. Secure & flexible plate fixation, ideal frequency for 96 & 384 plates, also for vials and reservoirs. Zero positioning function for secure robotic gripping, low-speed start-up prevents spillage. Accuracy & uniformity at 37°C: ±0.3K.



Teleshake 95

Product	Part No.	Dimensions W x D x H (mm)	RPM	Temperature range
Teleshake 95	7100136	103 x 146 x 55	100 - 1.800	ambient +5K to +125°C



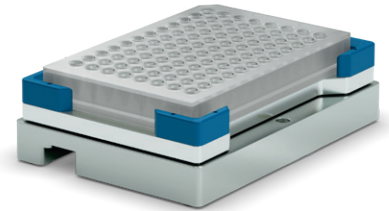
Shaking: Teleshake product line

Premium shaker with small footprint and very low height for robotics integration or stand-alone use. Low-speed start-up prevents spillage, with secure & flexible plate fixation. The frequency is ideal for 96 & 384 well labware, but also vials, reservoirs & troughs can be used. Choice of orbital or linear shaking, 2 or 3 mm amplitude, and infinitely selectable shaking frequencies.

The high-speed Teleshake 1536 offers shaking speeds of up to 8.500 rpm, with active clamping and optional lifting of the labware.

Product	PartNo.	Tubes Wells	RPM	Amplitude	Dimensions W x D x H (mm)
Teleshake 230V EU	3800047	1-384	100 - 2.000	2 mm	103 x 146 x 39
Teleshake 115V US	3800048	1-384	100 - 2.000	2 mm	
Teleshake 230V UK	3800049	1-384	100 - 2.000	2 mm	
Teleshake 100V JP	3800050	1-384	100 - 2.000	2 mm	
Teleshake 230V EU	3800063	1-384	100 - 2.000	3 mm	103 x 145 x 56
Teleshake 115V US	3800064	1-384	100 - 2.000	3 mm	
Teleshake 1536-6, 100V	3800044	384-1536	4.000-8.500	0.1 to 1.0 mm	103 x 145 x 56
Teleshake 1536-8, 230V	3800072	384-1536	4.000-8.500	0.1 to 1.0 mm	103 x 145 x 56
Teleshake 1536-8, 115V	3800074	384-1536	4.000-8.500	0.1 to 1.0 mm	103 x 145 x 56
Monoshake 115V	3800080	1-384	100 - 2.000	2 mm	103 x 145 x 40

Each shaker includes a Control Module. Further country-specific versions available.



Teleshake

Heating, Cooling & Shaking: Thermoshake



Your compact "all-in-one" Heating/Cooling/Shaking System! Ideal for NGS sample prep operations in Lab Automation systems. The cooling system counters self-heating to enable true ambient condition incubation, with excellent accuracy and uniformity of $\pm 0.3K$ at 37°C.

Zero positioning function enables secure robotic gripping, a choice of orbital or linear shaking pattern. The AC model offers additional automated clamping of the labware for safe processing, with high speed shaking and robust load performance.

Product	Part No.	Dimensions W x D x H (mm)	RPM	Temperature range
Thermoshake	7100146	104 x 147 x 118	100 - 2.000	+4°C to +70°C
Thermoshake RM ¹⁾	7100144	104 x 147 x 116	100 - 2.000	+4°C to +70°C
Thermoshake AC	7100160	104 x 147 x 115	200 - 3.000	+4°C to +70°C

1) For Tecan Roma gripper



Thermoshake AC

Thermal Adapter Plates

More than 100 thermal adapters are available for temperature transfer from INHECO's heating/cooling/shaking devices into the wells & tubes of the disposable. Please see our website for standard & customized adapters. Other formats available upon request.



example of a DWP thermal adapter



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ACCESSORIES

TEC Control Units

Our compact all-in-one controllers include temperature & shaker control. These controllers are required for HeatPAC, Heated Lid, CPAC, Teleshake 95 & Thermoshake.

Product	Part No.	Device Control	Dimensions	Interface
MTC Compact	8900029	6	300 x 260 x 100 (mm)	USB
Multi TEC Control	8900030	up to 6	185 x 249 x 264 (mm)	USB
Single TEC Control	8900031	1	147 x 224 x 177 (mm)	USB



Multi TEC Control,
 Single TEC Control, MTC Compact

Slot Modules for TEC Control Units

Product	Part No.	Slot used for	Pre-install Part No.
Blue Slot Module	2400128	CPAC	2400128-9
Black Slot Module	2400125	CPAC HT 2-TEC, HeatPAC, Heated Lid, Teleshake 95, Thermoshake	2400125-9
Yellow Slot Module	2400160	Thermoshake AC	2400160-9



Multi TEC Control (MTC) with three
 inserted slot modules and two
 connected devices with corresponding color