VWR®
We Enable Science

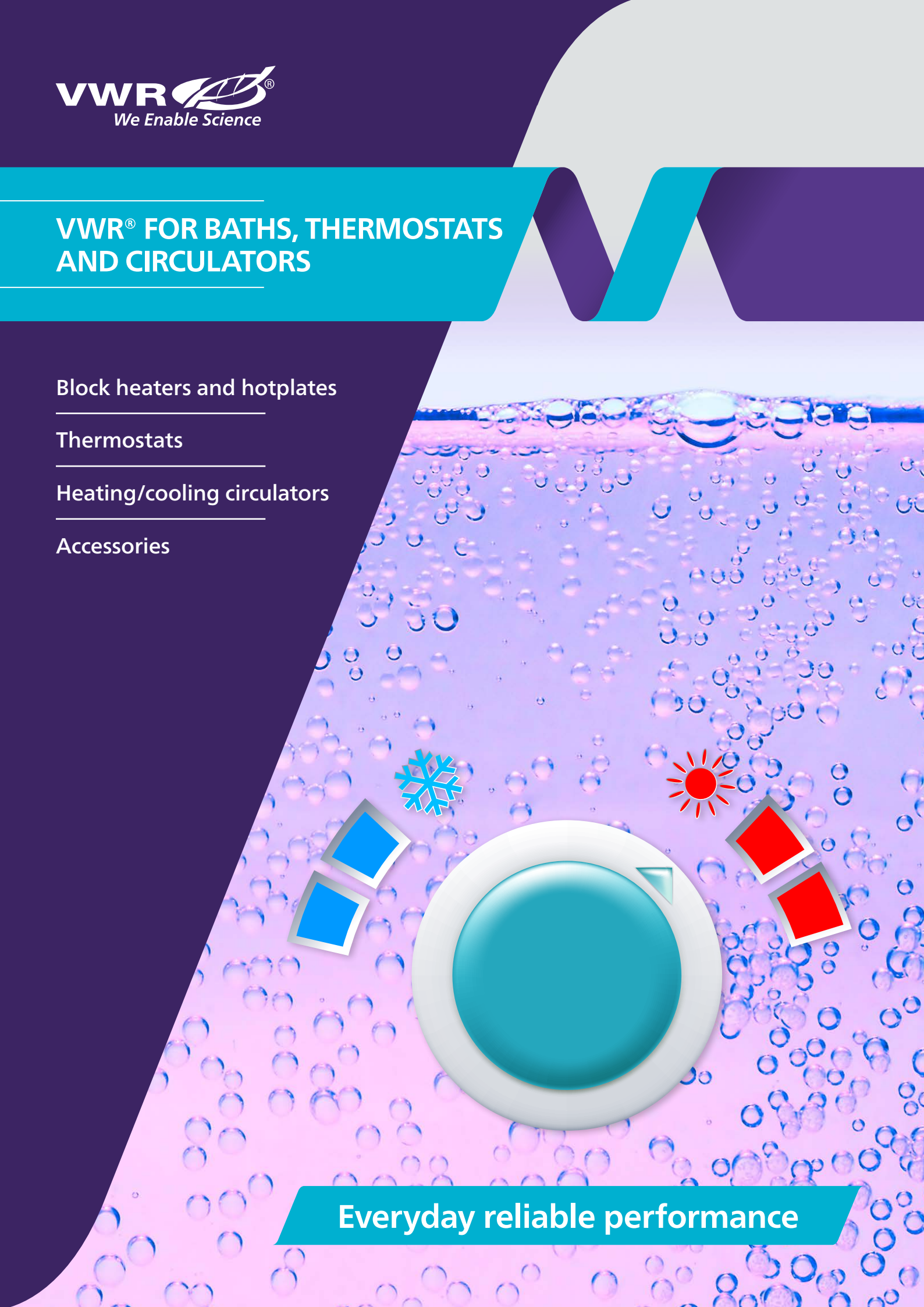
VWR® FOR BATHS, THERMOSTATS AND CIRCULATORS

Block heaters and hotplates

Thermostats

Heating/cooling circulators

Accessories



Everyday reliable performance

BATHS, THERMOSTATS AND CIRCULATORS

We hope that you will notice several things about the VWR range of baths, thermostats and circulators

Choice – enough to cover almost every application packed into a series of models without being overwhelming

Performance – market leading consistency and reliability backed up with warranties that run for many years

Value for money – well built products that last and don't cost a fortune to buy

CONTENTS

Block heaters and accessories

Block heaters 3
Hotplates and magnetic hotplate stirrers 13

Baths and accessories

Water baths 21
Shaking water baths 22
Ultrasonic baths 23

Temperature control

Thermostats 30
Baths for thermostats 31
Heating circulators 34
Heating and cooling cirulators 35
Refrigerating circulators 36
Speciality baths 39

Helpful accessories and servicing/calibration

Aquaresist and anti-evaporation spheres for water baths 42
Thermometers 42
Racks specifically for water baths and lead weights 44
VWR chemicals silicone bath fluids 45

SYMBOLS


RS232 interface


USB connection


Ethernet interface


Autoclavable



Hazard analysis and critical control points



Warranty



CE marking conforms with IVD MDD 98/79 EC

Digital mini block heaters



EU/CH:460-0334 / UK: 460-0335



EU/CH: 460-0336 / UK: 460-0337

These mini block heaters are ideal for applications that require accurate and repeatable results. These personal sized units take up minimal bench space. Choice of model with or without heated lid. Units are ideal for immunoassays, ELISA, LAMP assays, enzyme reactions, denaturations and blood banking.

- LED display for temperature and time
- Temperature range from ambient +5 to 100 °C
- Temperature accuracy: ±0,5 °C (models with heated lid: ±0,3 °C)
- Microprocessor controlled with temperature calibration via external thermometer or temperature device
- Timer range: 1 s to 160 h, or continuous mode
- Heated lid helps to reduce condensation within sample tube
- Accommodate interchangeable mini heating blocks for tubes from 0,2 up to 50 ml capacity

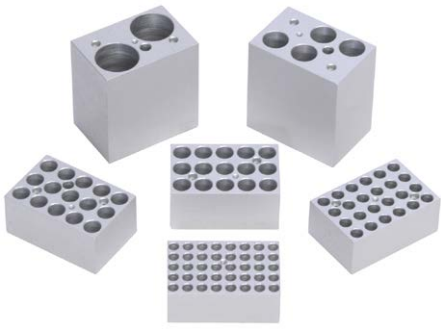
Accessories information: Blocks for 15 and 50 ml tubes (460-0342 and 462-0343) can not be used with the mini block heater with a heated lid.

Ordering information: Heating blocks are not included, please order these separately.

** EU/CH-plug *** UK-plug

Type	No. of blocks	Temp. range (°C)	Temp. stability (°C)	Heating capacity (kW)	W×D×H (mm)	Weight (kg)	Pk	Cat. No.
Mini block heater**	1	Ambient +5...100	±0,2	0,075	127×160×123	1,3	1	**460-0334**
Mini block heater***	1	Ambient +5...100	±0,2	0,075	127×160×123	1,3	1	**460-0335**
Mini block heater with heated lid**	1	Ambient +5...100	±0,2	0,075	127×160×123	1,3	1	**460-0336**
Mini block heater with heated lid***	1	Ambient +5...100	±0,2	0,075	127×160×123	1,3	1	**460-0337**

Description	For	Pk	Cat. No.
Blocks			
Mini block without thermometer well	0,2 ml tubes	1	**460-0338**
Mini block without thermometer well	0,5 ml tubes	1	**460-0339**
Mini block with thermometer well	1,5 ml tubes	1	**460-0340**
Mini block without thermometer well	2,0 ml tubes	1	**460-0341**
Mini block with thermometer well, not suitable for use with mini block heaters with heated lid	15 ml tubes	1	**460-0342**
Mini block with thermometer well, not suitable for use with mini block heaters with heated lid	50 ml tubes	1	**460-0343**





Block heaters, analogue

These multipurpose units are ideal for incubation and activation of cultures, enzyme reactions, blood urea nitrogen determinations, immunoassays, melting or boiling points. Two separate temperature adjustment knobs provide low and high temperature control. Low range knob adjusts from above ambient to 100 °C and high range knob adjusts from 75 to 150 °C. High wattage, constant temperature dry block heaters are economical, versatile and compact. Each of the five models accepts separate, interchangeable, modular heating blocks, which accommodate various sample containers such as microtubes, centrifuge tubes, vials, microplates and PCR strips or tubes.

- Multipurpose device for a wide range of applications
- Temperature range from ambient +5 to 150 °C
- Accommodate VWR® interchangeable modular heating blocks for tubes from 0,2 ml up to 50 ml capacity
- Analogue controls

Ordering information: Heating blocks are not included, please order these separately.

Type	No. of blocks	Temp. range (°C)	Temp. stability (°C)	Heating capacity (kW)	W×D×H (mm)	Weight (kg)	Pk	Cat. No.
Block heater, analogue	1 **	RT* +5...150	±1,5	0,11	203×315×89	2,6	1	**460-3249**
Block heater, analogue	1 ***	RT* +5...150	±1,5	0,11	203×315×89	2,6	1	**460-3250**
Block heater, analogue	1 ****	RT* +5...150	±1,5	0,11	203×315×89	2,6	1	**460-3251**
Block heater, analogue	2 **	RT* +5...150	±2,0	0,21	203×391×89	2,9	1	**460-3252**
Block heater, analogue	2 ***	RT* +5...150	±2,0	0,21	203×391×89	2,9	1	**460-3253**
Block heater, analogue	2 ****	RT* +5...150	±2,0	0,21	203×391×89	2,9	1	**460-3254**
Block heater, analogue	3 **	RT* +5...150	±2,0	0,21	203×467×89	3,6	1	**460-3255**
Block heater, analogue	3 ***	RT* +5...150	±2,0	0,21	203×467×89	3,6	1	**460-3256**
Block heater, analogue	3 ****	RT* +5...150	±2,0	0,21	203×467×89	3,6	1	**460-3257**
Block heater, analogue	4 **	RT* +5...150	±2,5	0,31	203×429×89	3,9	1	**460-3258**
Block heater, analogue	4 ***	RT* +5...150	±2,5	0,31	203×429×89	3,9	1	**460-3259**
Block heater, analogue	4 ****	RT* +5...150	±2,5	0,31	203×429×89	3,9	1	**460-3260**
Block heater, analogue	6 **	RT* +5...150	±2,5	0,41	203×531×89	4,5	1	**460-3261**
Block heater, analogue	6 ***	RT* +5...150	±2,5	0,41	203×531×89	4,5	1	**460-3262**
Block heater, analogue	6 ****	RT* +5...150	±2,5	0,41	203×531×89	4,5	1	**460-3263**

Description	For	Pk	Cat. No.
Blocks for microcentrifuge tubes			
Single block	Round bottomed tubes, 6 mm Ø	1	**460-3234**
Single block	0,5 ml PCR tubes	1	**460-3211**
Single block	1,5 ml VWR microtubes	1	**460-3235**
Single block	1,5 ml Eppendorf microtubes	1	**460-3212**
Single block	2,0 ml VWR/Eppendorf microtubes	1	**460-3245**
Single block	2,0 ml Corning microtubes	1	**460-3246**
Blocks for conical bottom centrifuge tubes			
Single block	15 ml conical tubes	1	**460-3221**
Single block	50 ml conical tubes	1	**460-3223**
Blocks for standard test tubes			
Single block	6 mm round bottom tubes	1	**460-3213**
Single block	10 mm round bottom tubes	1	**460-3214**
Single block	12/13 mm round bottom tubes	1	**460-3215**
Single block	12/13 mm round bottom tubes	1	**460-3216**
Single block	15/16 mm round bottom tubes	1	**460-3217**
Single block	20 mm round bottom tubes	1	**460-3218**
Single block	25 mm round bottom tubes	1	**460-3219**
Single block	35 mm round bottom tubes	1	**460-3222**
Single block	17/18 mm round bottom tubes	1	**460-3243**
Combination blocks, designed for variable sample sizes			
Single block, microtube combination 0,5 ml, 1,5 ml, 2,0 ml		1	**460-3248**
Single block, centrifuge tube combination 1,5 ml, 15 ml, 50 ml		1	**460-3247**
Single block, test tube combination 6 mm, 12/13 mm, 25 mm		1	**460-3220**
Blocks for vials, designed for sample/serum and scintillation vials			
Single block	12 mm vials	1	**460-3279**
Single block	15 mm vials	1	**460-3280**
Single block	16 mm vials	1	**460-3287**
Single block	17 mm vials	1	**460-3281**
Single block	19 mm vials	1	**460-3282**
Single block	21 mm vials	1	**460-3283**

Description	For	Pk	Cat. No.
Blocks for vials, designed for sample/serum and scintillation vials			
Single block	23 mm vials	1	**460-3284**
Single block	25 mm vials	1	**460-3285**
Single block	28 mm vials	1	**460-3286**
Solid blocks			
Single block		1	**460-3236**
Double block		1	**460-3239**
Blocks for PCR – plates, tubes, strips			
Double block, 1×96-well PCR plate	0,2 ml tubes	1	**460-3226**
Single block, 10×8-PCR tube strips	0,2 ml tubes	1	**460-3224**
Single block, 64× individual PCR tubes	0,2 ml tubes	1	**460-3225**
Stainless steel sand baths			
Sand bath for one-block heater		1	**460-3227**
Sand bath for two-block heater		1	**460-3228**
Sand bath for three-block heater		1	**460-3229**
Sand bath for four-block heater		1	**460-3230**
Sand bath for six-block heater		1	**460-3231**
Sand for sand bath		450 g	**460-3232**
Stainless steel shot for sand bath		450 g	**460-3233**
Low temperature covers			
2-Block cover, max. tube height 89 mm		1	**460-3240**
2-Block cover, max. tube height 206 mm		1	**460-3289**
4-Block cover, max. tube height 89 mm		1	**460-3241**
6-Block cover, max. tube height 89 mm		1	**460-3242**

* RT = Ambient
** EU-plug *** UK-plug **** CH-plug



Block heaters, digital

Designed for applications that require repeatable results and superior temperature stability. These multipurpose units are ideal for incubation and activation of cultures, enzyme reactions, blood/urea nitrogen determinations, immunoassays, melting or boiling points. Easy to use controls with independent LED displays show actual and set point temperatures. Controls allow users to adjust temperature set point in ±0,1 °C increments. Timer function with audible alarm when time reaches zero. Optional external temperature probe kit monitors actual block or sample temperature. LED display on front panel will show actual probe temperature and adjust heater output to maintain user-defined set point. All dry block heaters include a built-in support rod holder for mounting the probe kit. Efficient heater features close tube-to-block contact with a low density design for exceptional temperature uniformity.

- Exceptional temperature uniformity and stability. Units offer a temperature stability of ±0,2 °C
- Temperature range from ambient +5 to 120 °C
- Timer will display elapsed time or when programmed to user-defined limit, will count down to zero and shut off unit
- Accommodates VWR® interchangeable modular heating blocks for tubes from 0,2 up to 50 ml capacity
- Two LED displays, timer with audible alarm and microprocessor control



Ordering information: Heating blocks are not included, please order these separately.

Type	No. of blocks	Temp. range (°C)	Temp. stability (°C)	Heating capacity (kW)	W×D×H (mm)	Weight (kg)	Pk	Cat. No.
Block heater, digital	1 **	RT* +5...120	±0,2	0,11	203×315×89	2,6	1	**460-3264**
Block heater, digital	1 ***	RT* +5...120	±0,2	0,11	203×315×89	2,6	1	**460-3265**
Block heater, digital	1 ****	RT* +5...120	±0,2	0,11	203×315×89	2,6	1	**460-3266**
Block heater, digital	2 **	RT* +5...120	±0,2	0,21	203×391×89	2,9	1	**460-3267**
Block heater, digital	2 ***	RT* +5...120	±0,2	0,21	203×391×89	2,9	1	**460-3268**
Block heater, digital	2 ****	RT* +5...120	±0,2	0,21	203×391×89	2,9	1	**460-3269**
Block heater, digital	3 **	RT* +5...120	±0,2	0,21	203×467×89	3,6	1	**460-3270**
Block heater, digital	3 ***	RT* +5...120	±0,2	0,21	203×467×89	3,6	1	**460-3271**
Block heater, digital	3 ****	RT* +5...120	±0,2	0,21	203×467×89	3,6	1	**460-3272**
Block heater, digital	4 **	RT* +5...120	±0,2	0,31	203×429×89	3,9	1	**460-3273**
Block heater, digital	4 ***	RT* +5...120	±0,2	0,31	203×429×89	3,9	1	**460-3274**

Block heaters and accessories

Type	No. of blocks	Temp. range (°C)	Temp. stability (°C)	Heating capacity (kW)	W×D×H (mm)	Weight (kg)	Pk	Cat. No.
Block heater, digital	4 ****	RT* +5...120	±0,2	0,31	203×429×89	3,9	1	**460-3275**
Block heater, digital	6 **	RT* +5...120	±0,2	0,41	203×531×89	4,5	1	**460-3276**
Block heater, digital	6 ***	RT* +5...120	±0,2	0,41	203×531×89	4,5	1	**460-3277**
Block heater, digital	6 ****	RT* +5...120	±0,2	0,41	203×531×89	4,5	1	**460-3278**

Description	For	Pk	Cat. No.
Blocks for microcentrifuge tubes			
Single block	Round bottomed tubes, 6 mm Ø	1	**460-3234**
Accessories			
External temperature probe kit. Kit includes stainless steel RTD probe, 457 mm vertical support rod, thermometer/probe extension clamp and hook connector.		1	**460-3288**
Blocks for microcentrifuge tubes			
Single block	0,5 ml PCR tubes	1	**460-3211**
Single block	1,5 ml VWR microtubes	1	**460-3235**
Single block	1,5 ml Eppendorf microtubes	1	**460-3212**
Single block	2,0 ml VWR/Eppendorf microtubes	1	**460-3245**
Single block	2,0 ml Corning microtubes	1	**460-3246**
Blocks for conical bottom centrifuge tubes			
Single block	15 ml conical tubes	1	**460-3221**
Single block	50 ml conical tubes	1	**460-3223**
Blocks for standard test tubes			
Single block	6 mm round bottom tubes	1	**460-3213**
Single block	10 mm round bottom tubes	1	**460-3214**
Single block	12/13 mm round bottom tubes	1	**460-3215**
Single block	12/13 mm round bottom tubes	1	**460-3216**
Single block	15/16 mm round bottom tubes	1	**460-3217**
Single block	20 mm round bottom tubes	1	**460-3218**
Single block	25 mm round bottom tubes	1	**460-3219**
Single block	35 mm round bottom tubes	1	**460-3222**
Single block	17/18 mm round bottom tubes	1	**460-3243**
Combination blocks, designed for variable sample sizes			
Single block, microtube combination 0,5 ml, 1,5 ml, 2,0 ml		1	**460-3248**
Single block, centrifuge tube combination 1,5 ml, 15 ml, 50 ml		1	**460-3247**
Single block, test tube combination 6 mm, 12/13 mm, 25 mm		1	**460-3220**
Blocks for vials, designed for sample/serum and scintillation vials			
Single block	12 mm vials	1	**460-3279**
Single block	15 mm vials	1	**460-3280**
Single block	16 mm vials	1	**460-3287**
Single block	17 mm vials	1	**460-3281**
Single block	19 mm vials	1	**460-3282**
Single block	21 mm vials	1	**460-3283**
Single block	23 mm vials	1	**460-3284**
Single block	25 mm vials	1	**460-3285**
Single block	28 mm vials	1	**460-3286**
Solid blocks			
Single block		1	**460-3236**
Double block		1	**460-3239**
Blocks for microtitre plates			
Double block	96- or 384-well plate	1	**460-3238**
Blocks for PCR – plates, tubes, strips			
Double block, 1×96-well PCR plate	0,2 ml tubes	1	**460-3226**
Single block, 10×8-PCR tube strips	0,2 ml tubes	1	**460-3224**
Single block, 64×individual PCR tubes	0,2 ml tubes	1	**460-3225**
Blocks for cuvettes			
Single block, 2×6 cuvettes (12,5 mm)		1	**460-3237**
Stainless steel sand baths			
Sand bath for one-block heater		1	**460-3227**
Sand bath for two-block heater		1	**460-3228**
Sand bath for three-block heater		1	**460-3229**
Sand bath for four-block heater		1	**460-3230**
Sand bath for six-block heater		1	**460-3231**
Sand for sand bath		450 g	**460-3232**
Stainless steel shot for sand bath		450 g	**460-3233**
Low temperature covers			
2-Block cover, max. tube height 89 mm		1	**460-3240**
2-Block cover, max. tube height 206 mm		1	**460-3289**
4-Block cover, max. tube height 89 mm		1	**460-3241**
6-Block cover, max. tube height 89 mm		1	**460-3242**

*RT = Ambient
** EU-plug *** UK-plug ****CH-plug



Dry block heater, Advanced, digital, with heated lid

This advanced dry block heater with heated lid is designed for applications that require repeatable results and superior temperature stability. This multipurpose unit is ideal for isothermal incubation, enzyme reactions, immunoassays, nucleic acid denaturation and a wide variety of other laboratory procedures. Integral support rod holder with locking knob accepts optional external temperature probe kit. Block heater accepts one microplate block or two separate interchangeable modular blocks. Each block has a thermometer well for measuring block temperature. Efficient heating due to close tube and block contact with a low density design for exceptional temperature uniformity. The heated lid helps to regulate the temperature. PID temperature control, with optional external RTD probe.

Samples are heated to temperature quickly and accurately. Temperature is adjusted in ±0,1 °C increments. Touch pad controls with easy to read, independent LED displays for temperature and time, also show set point and actual temperature. Display will show last used settings, even after power has been turned off. In timed mode, an alarm will sound when time reaches zero and when unit reaches set point temperature. Temperature calibration mode allows the user to calibrate the unit to an external temperature device. Hot warning symbol light is illuminated when the temperature is above 40 °C. Over shoot protection means if the unit exceeds the set temperature by 10 °C the unit will automatically stop heating. Units can be run in environments from 18 to 33 °C (20 to 80% relative humidity, non condensing).

- Exceptional uniformity, stability and regulation of temperature, offers temperature stability and temperature uniformity at 37 °C of ±0,2 °C within the block and ±0,1 °C across similar blocks
- Temperature range from ambient +5 to 100 °C, heat up time to 100 °C is 50 min
- Timer will display elapsed time or, when programmed to user-defined limit, will shut off unit when time reaches zero
- Heated lid reduces condensation on sample lids
- Optional external temperature probe kit monitors actual block or sample temperature
- Accommodates VWR interchangeable modular heating blocks for tubes from 0,2 ml microtubes to test tubes or vials up to 85 mm in height

Ordering information: Modular blocks and optional temperature probe kit available, these must be ordered separately.

Type	No. of blocks	Temp. range (°C)	Temp. stability (°C)	Heating capacity (kW)	W×D×H (mm)	Weight (kg)	Pk	Cat. No.
Block heater, digital	2	RT* +5...100	±0,2	0,4	203×391×178	2,7	1	**460-0183**
Block heater, digital	2 ***	RT* +5...100	±0,2	0,4	203×391×178	2,7	1	**460-0184**
Block heater, digital	2 ****	RT* +5...100	±0,2	0,4	203×391×178	2,7	1	**460-0185**

Description	For	Pk	Cat. No.
Blocks for microcentrifuge tubes			
Single block	Round bottomed tubes, 6 mm Ø	1	**460-3234**
Accessories			
External temperature probe kit. Kit includes stainless steel RTD probe, 457 mm vertical support rod, thermometer/probe extension clamp and hook connector.		1	**460-3288**
Blocks for microcentrifuge tubes			
Single block	0,5 ml PCR tubes	1	**460-3211**
Single block	1,5 ml VWR microtubes	1	**460-3235**
Single block	1,5 ml Eppendorf microtubes	1	**460-3212**
Single block	2,0 ml VWR/Eppendorf microtubes	1	**460-3245**
Single block	2,0 ml Corning microtubes	1	**460-3246**
Blocks for conical bottom centrifuge tubes			
Single block	15 ml conical tubes	1	**460-3221**
Single block	50 ml conical tubes	1	**460-3223**
Blocks for standard test tubes			
Single block	6 mm round bottom tubes	1	**460-3213**
Single block	10 mm round bottom tubes	1	**460-3214**
Single block	12/13 mm round bottom tubes	1	**460-3215**
Single block	12/13 mm round bottom tubes	1	**460-3216**
Single block	15/16 mm round bottom tubes	1	**460-3217**
Single block	20 mm round bottom tubes	1	**460-3218**

Description	For	Pk	Cat. No.
Blocks for standard test tubes			
Single block	25 mm round bottom tubes	1	**460-3219**
Single block	35 mm round bottom tubes	1	**460-3222**
Single block	17/18 mm round bottom tubes	1	**460-3243**
Combination blocks, designed for variable sample sizes			
Single block, microtube combination 0,5 ml, 1,5 ml, 2,0 ml		1	**460-3248**
Single block, centrifuge tube combination 1,5 ml, 15 ml, 50 ml		1	**460-3247**
Single block, test tube combination 6 mm, 12/13 mm, 25 mm		1	**460-3220**
Blocks for vials, designed for sample/serum and scintillation vials			
Single block	12 mm vials	1	**460-3279**
Single block	15 mm vials	1	**460-3280**
Single block	16 mm vials	1	**460-3287**
Single block	17 mm vials	1	**460-3281**
Single block	19 mm vials	1	**460-3282**
Single block	21 mm vials	1	**460-3283**
Single block	23 mm vials	1	**460-3284**
Single block	25 mm vials	1	**460-3285**
Single block	28 mm vials	1	**460-3286**
Solid blocks			
Single block		1	**460-3236**
Double block		1	**460-3239**
Blocks for microtitre plates			
Double block	96- or 384-well plate	1	**460-3238**
Blocks for PCR – plates, tubes, strips			
Double block, 1×96-well PCR plate	0,2 ml tubes	1	**460-3226**
Single block, 10×8-PCR tube strips	0,2 ml tubes	1	**460-3224**
Single block, 64×individual PCR tubes	0,2 ml tubes	1	**460-3225**
Blocks for cuvettes			
Single block, 2×6 cuvettes (12,5 mm)		1	**460-3237**
Stainless steel sand baths			
Sand bath for one-block heater		1	**460-3227**
Sand bath for two-block heater		1	**460-3228**
Sand bath for three-block heater		1	**460-3229**
Sand bath for four-block heater		1	**460-3230**
Sand bath for six-block heater		1	**460-3231**
Sand for sand bath		450 g	**460-3232**
Stainless steel shot for sand bath		450 g	**460-3233**

*RT = Ambient
** EU-plug *** UK-plug ****CH-plug



Modular heating blocks and accessories for VWR® block heaters

Constructed from a solid anodised aluminium block.



- Close contact of tubes to block walls allows for maximum heat transfer
- Each block has a thermometer well for measuring block temperature

Single block W×D×H: 95×76×51 mm

Double block W×D×H: 95×152×57 mm

Description	Well size (mm)	For	No. of holes	Depth (mm)	W×D×H (mm)	Pk	Cat. No.
Blocks for microcentrifuge tubes							
Single block	Ø 6,3	Round bottomed tubes, 6 mm Ø	30	27	95×76×51	1	**460-3234**
Single block	Ø 7,9	0,5 ml PCR tubes	30	27,6	95×76×51	1	**460-3211**
Single block	Ø 11,1	1,5 ml VWR microtubes	20	39,1	95×76×51	1	**460-3235**
Single block	Ø 11,5	1,5 ml Eppendorf microtubes	20	36,9	95×76×51	1	**460-3212**
Single block	Ø 11,5	2,0 ml VWR/Eppendorf microtubes	20	38,1	95×76×51	1	**460-3245**
Single block	Ø 10,9	2,0 ml Corning microtubes	20	38,1	95×76×51	1	**460-3246**
Blocks for conical bottom centrifuge tubes							
Single block	Ø 17,1	15 ml conical tubes	12	44,5	95×76×51	1	**460-3221**
Single block	Ø 29,0	50 ml conical tubes	5	47,6	95×76×51	1	**460-3223**

Modular heating blocks and accessories for VWR block heaters



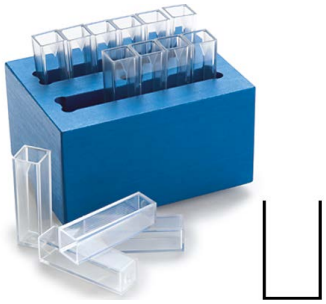




Description	Well size (mm)	For	No. of holes	Depth (mm)	W×D×H (mm)	Pk	Cat. No.
Blocks for standard test tubes							
Single block	Ø 8,3	6 mm round bottom tubes	30	48,4	95×76×51	1	**460-3213**
Single block	Ø 10,7	10 mm round bottom tubes	24	48,4	95×76×51	1	**460-3214**
Single block	Ø 13,9	12/13 mm round bottom tubes	16	48,4	95×76×51	1	**460-3215**
Single block	Ø 13,9	12/13 mm round bottom tubes	20	48,4	95×76×51	1	**460-3216**
Single block	Ø 17,5	15/16 mm round bottom tubes	12	48,4	95×76×51	1	**460-3217**
Single block	Ø 21,0	20 mm round bottom tubes	8	48,4	95×76×51	1	**460-3218**
Single block	Ø 26,2	25 mm round bottom tubes	6	48,4	95×76×51	1	**460-3219**
Single block	Ø 35,0	35 mm round bottom tubes	4	47,6	95×76×51	1	**460-3222**
Single block	Ø 19,1	17/18 mm round bottom tubes	12	48,4	95×76×51	1	**460-3243**
Combination blocks, designed for variable sample sizes							
Single block, microtube combination 0,5 ml, 1,5 ml, 2,0 ml	Ø 7,9 / Ø 11,1 / Ø 11,5		6/10/5	27,6/39,1/38,1	95×76×51	1	**460-3248**
Single block, centrifuge tube combination 1,5 ml, 15 ml, 50 ml	Ø 11,1 / Ø 17,1 / Ø 29,0		4/3/2	39,1/44,5/47,6	95×76×51	1	**460-3247**
Single block, test tube combination 6 mm, 12/13 mm, 25 mm	Ø 8,3 / Ø 13,9 / Ø 26,2		6/5/3	48,4/48,4/48,4	95×76×51	1	**460-3220**
Blocks for vials, designed for sample/serum and scintillation vials							
Single block	Ø 12,7	12 mm vials	20	30,0	95×76×51	1	**460-3279**
Single block	Ø 15,8	15 mm vials	20	35,0	95×76×51	1	**460-3280**
Single block	Ø 16,4	16 mm vials	15	45,0	95×76×51	1	**460-3287**
Single block	Ø 17,8	17 mm vials	12	45,0	95×76×51	1	**460-3281**
Single block	Ø 19,7	19 mm vials	12	45,0	95×76×51	1	**460-3282**
Single block	Ø 21,7	21 mm vials	9	45,0	95×76×51	1	**460-3283**
Single block	Ø 23,8	23 mm vials	8	45,0	95×76×51	1	**460-3284**
Single block	Ø 25,8	25 mm vials	8	45,0	95×76×51	1	**460-3285**
Single block	Ø 28,8	28 mm vials	6	45,0	95×76×51	1	**460-3286**

Accessories for VWR block heaters







Solid blocks

- For use as a low temperature hotplate or for custom drilling

Blocks for microtitre plates

- Recessed well for better stability; flat surface is good for flat and round bottom plates. Fits 2/4/6 block heaters

Blocks for PCR – plates, tubes, strips

- Tapered tube wells for 0,2 ml tubes. Spaced for easy access and removal

Blocks for cuvettes

- Two parallel slots fit 6 cuvettes in each slot, side by side for excellent stability and heat transfer

Description	Well size (mm)	For	No. of holes	Depth (mm)	W×D×H (mm)	Pk	Cat. No.
Solid blocks							
Single block					95×76×51	1	**460-3236**
Double block					95×152×57	1	**460-3239**
Blocks for microtitre plates							
Double block	-	96- or 384-well plate	-	13,5	95×152×57	1	**460-3238**
Blocks for PCR – plates, tubes, strips							
Double block, 1×96-well PCR plate	Ø 6,4	0,2 ml tubes	83	15,5	95×152×57	1	**460-3226**
Single block, 10×8-PCR tube strips	Ø 6,4	0,2 ml tubes	80	15,5	95×76×51	1	**460-3224**
Single block, 64× individual PCR tubes	Ø 6,4	0,2 ml tubes	82	20,2	95×76×51	1	**460-3225**
Blocks for cuvettes							
Single block, 2×6 cuvettes (12,5 mm)	-		-	25,4	95×76×51	1	**460-3237**



Stainless steel sand baths

Ideal for irregular shaped vessels. Stainless steel construction for superior corrosion resistance. Designed to hold sand, stainless steel shot or non volatile liquids.

Description	W×D×H (mm)	Pk	Cat. No.
Sand bath for one-block heater	95×76×64	1	**460-3227**
Sand bath for two-block heater	95×149×64	1	**460-3228**
Sand bath for three-block heater	95×224×64	1	**460-3229**
Sand bath for four-block heater	147×191×64	1	**460-3230**
Sand bath for six-block heater	147×287×64	1	**460-3231**
Sand for sand bath		450 g	**460-3232**
Stainless steel shot for sand bath		450 g	**460-3233**

Low temperature covers

Plexiglas® covers with 2 open sides reduce airflow, providing additional temperature stability in low temperature applications.



Description	W×D×H (mm)	Pk	Cat. No.
2-Block cover, max. tube height 89 mm	165×165×41	1	**460-3240**
2-Block cover, max. tube height 206 mm	165×165×114	1	**460-3289**
4-Block cover, max. tube height 89 mm	178×216×41	1	**460-3241**
6-Block cover, max. tube height 89 mm	178×316×41	1	**460-3242**



Thermoshaker, Thermal Shake Touch

The Thermal Shake Touch is designed for applications that require consistent and precise results. With heating and shaking capabilities, the low profile unit uses interchangeable blocks to accommodate a wide variety of tubes and microplates. The LCD touch screen enables faster setting of temperature, speed and time, which can all be viewed at once. Display features on-screen help topics with operational tips. Touch screen is compatible with rubber gloves used in labs. Program control capabilities allow user-programmable operation for automated use and memory for five separate, 5-step programs. Adjustable temperature ramp rate feature separately defines the heating and cooling rates in increments of 0,5 °C/min.

Single point calibration mode for maximum temperature accuracy, the single point calibration procedure allows the user to calibrate up to 6 different defined temperatures. Constructed from a high quality heat and chemically resistant polymer so the housing remains cool to the touch throughout normal operating temperatures. Maximum temperature limiting function ensures the temperature will not exceed user-defined limits allowing control of temperature-sensitive samples. A hot top warning illuminates when the temperature reaches 40 °C and remains on until the unit is cooled below 40 °C. The unit's enhanced electronics and temperature sensor provide accurate, dependable temperature settings across the operating range from 5 to 35 °C, (maximum 80% relative humidity, non condensing). Applications include cell cultures, DNA, RNA and protein studies.

- Easy to use 109 mm colour LCD touch screen allows the user to save and visibly track progress through the live status bar for five user-defined programs, each with five individual steps
- Suitable for rapid heating, cooling and high speed shaking and a pulse mode feature, ideal for quick vortex applications
- Timer with audible alarm, 1 min to 99 h, 59 min, heat function will automatically shut off if the unit recognises an internal issue
- USB port can transfer information to a flash drive for data logging, programme storage and software updates

Delivery information: Supplied with 1,5 ml block (460-0210), a rack and a cover, additional blocks must be ordered separately. Note that Eppendorf Thermomixer R® blocks are compatible with the VWR Thermal Shake Touch. Model with NIST traceable certificate is also available, this includes a 3-point NIST traceable calibration. The traceable certificate includes actual calibration measurement data and uncertainty. The calibration laboratory is ISO/IEC 17025 compliant.

Heating speed (°C/min)	5
Orbit (mm)	3
Speed accuracy (%)	±2
Speed range (min^{-1})	300 - 3000
Temperature accuracy (°C)	±1 (between 20 and 45 °C) ±2 (above 45 °C)
Temperature control range (°C)	RT* +4...100
Weight (kg)	4,6
W×D×H (mm)	248×260×132



Description	Pk	Cat. No.
Thermal Shake Touch, EU-plug	1	**460-0202**
Thermal Shake Touch, NIST certificate, EU-plug	1	**460-0203**
Thermal Shake Touch, UK-plug	1	**460-0204**
Thermal Shake Touch, NIST certificate, UK-plug	1	**460-0205**
Thermal Shake Touch, CH-plug	1	**460-0206**
Thermal Shake Touch, NIST certificate, CH-plug	1	**460-0207**

Description	Well size (mm)	For	No. of holes	Depth (mm)	Pk	Cat. No.
Interchangeable blocks for Thermal Shake Touch and Cooling Thermal Shake Touch						
Interchangeable thermal microplate block with lid	129×86	1×96 well microplate	1	25	1	**460-0208**
Interchangeable tube block	Ø 7,9	30×0,5 ml tubes**	30	25,7	1	**460-0209**
Interchangeable tube block	Ø 11,1	24×1,5 ml tubes**	24	33,5	1	**460-0210**
Interchangeable tube block	Ø 11,5	24×2,0 ml tubes**	24	33,5	1	**460-0211**
Interchangeable tube block	Ø 12,0	24×5 - 7 ml tubes	24	34,3	1	**460-0212**
Interchangeable tube block	Ø 12,6	24×2,0 ml cryo tubes	24	34,0	1	**460-0213**
Interchangeable tube block	Ø 17,3	9×15 ml conical tubes	9	102	1	**460-0214**
Interchangeable tube block	Ø 30,0	4×50 ml conical tubes	4	98,8	1	**460-0215**

*RT = Ambient
** Microtube blocks include a removable rack and cover.



Thermoshaker, Cooling Thermal Shake Touch

The Cooling Thermal Shake Touch is designed for applications that require consistent and precise results. With heating, cooling and shaking capabilities, the low profile unit uses interchangeable blocks to accommodate a wide variety of tubes and microplates. The LCD touch screen enables faster setting of temperature, speed and time, which can all be viewed at once. Display features on-screen help topics with operational tips. Touch screen is compatible with rubber gloves used in labs. Program control capabilities allow user-programmable operation for automated use and memory for five separate, 5-step programs. Adjustable temperature ramp rate feature separately defines the heating and cooling rates in increments of 0,5 °C/min.

Single point calibration mode for maximum temperature accuracy, the single point calibration procedure allows the user to calibrate up to 6 different defined temperatures. Constructed from a high quality heat and chemical resistant polymer so the housing remains cool to the touch throughout normal operating temperatures. Maximum temperature limiting function ensures the temperature will not exceed user-defined limits allowing control of temperature-sensitive samples. A hot top warning illuminates when the temperature reaches 40 °C and remains on until the unit is cooled below 40 °C. The unit's enhanced electronics and dual temperature sensors provide accurate, dependable temperature settings across the operating range from 5 to 35 °C, (maximum 80% relative humidity, non condensing). Applications include cell cultures, DNA, RNA, hybridisation, and protein studies.

- Easy to use 109 mm colour LCD touch screen allows the user to save and visibly track progress through the live status bar for five user-defined programs, each with five individual steps
- Suitable for rapid heating, cooling and high speed shaking and a pulse mode feature, ideal for quick vortex applications
- Timer with audible alarm, 1 min to 99 h, 59 min, heat function will automatically shut off if the unit recognises an internal issue
- USB port can transfer information to a flash drive for data logging, programme storage and software updates

Ordering information: Supplied without blocks, blocks must be ordered separately. Note that Eppendorf Thermomixer R® blocks are compatible with the VWR Cooling Thermal Shake Touch. Model with NIST traceable certificate is also available, this includes a 3-point NIST traceable calibration. The traceable certificate includes actual calibration measurement data and uncertainty. The calibration laboratory is ISO/IEC 17025 compliant.

Model	Cooling Thermal Shake Touch
Cooling rate (°C/min)	Above ambient: 2 - 3 Below ambient: 0,5 - 1,0
Heating speed (°C/min)	5
Orbit (mm)	3
Speed accuracy (%)	±2
Speed range (min^{-1})	300 - 3000
Temperature accuracy (°C)	±0,5 (between 20 and 45 °C) ±2 (below 20 °C and above ambient)
Temperature control range (°C)	From 17 below ambient to 100
Weight (kg)	4,6
W×D×H (mm)	248×260×132

Description	Pk	Cat. No.
Cooling Thermal Shake Touch, EU-plug	1	**460-0196**
Cooling Thermal Shake Touch, UK-plug	1	**460-0198**
Cooling Thermal Shake Touch, CH-plug	1	**460-0200**
Cooling Thermal Shake Touch, NIST certificate, EU-plug	1	**460-0197**
Cooling Thermal Shake Touch, NIST certificate, UK-plug	1	**460-0199**
Cooling Thermal Shake Touch, NIST certificate, CH-plug	1	**460-0201**

Description	Well size (mm)	For	Depth (mm)	Pk	Cat. No.
Interchangeable blocks for Thermal Shake Touch and Cooling Thermal Shake Touch					
Interchangeable thermal microplate block with lid	129×86	1×96 well microplate	25	1	**460-0208**
Interchangeable tube block	Ø 7,9	30×0,5 ml tubes**	25,7	1	**460-0209**
Interchangeable tube block	Ø 11,1	24×1,5 ml tubes**	33,5	1	**460-0210**
Interchangeable tube block	Ø 11,5	24×2,0 ml tubes**	33,5	1	**460-0211**
Interchangeable tube block	Ø 12,0	24×5 - 7 ml tubes	34,3	1	**460-0212**
Interchangeable tube block	Ø 12,6	24×2,0 ml cryotubes	34,0	1	**460-0213**
Interchangeable tube block	Ø 17,3	9×15 ml conical tubes	102	1	**460-0214**
Interchangeable tube block	Ø 30,0	4×50 ml conical tubes	98,8	1	**460-0215**

** Microtube blocks include a removable rack and cover.

Thermoshaker, Thermal Shake *lite*

The combination of heating/cooling and shaking makes the Thermal Shake ***lite*** microtube shaking incubator ideal for many life science research applications in molecular biology, biochemistry and clinical chemistry. Its compact footprint incorporates an intuitive control panel with large multicolour display, allowing users to easily program and view temperature, time and speed settings.



- Choice of eight interchangeable aluminium blocks accommodate PCR plates and tubes ranging from 0,2 – 15 ml
- Fine tune speed control
- Rapid heating and cooling
- Compact footprint

Ordering information: Supplied without blocks, blocks must be ordered separately.

Model	Thermal Shake *lite*
Heating speed (°C/min)	6,5
Orbit (mm)	3
Speed range (min^{-1})	300 - 1500
Temperature accuracy (°C)	±0,5
Temperature control range (°C)	14 below ambient to 100
Weight (kg)	8,5
W×D×H (mm)	330×166×240

Description	Pk	Cat. No.
Thermal Shake *lite*	1	**460-0249**

Description	For	No. of holes	Pk	Cat. No.
Accessories				
Aluminium block	1,5 ml tubes	40	1	**460-0250**
Aluminium block	0,5 ml tubes	54	1	**460-0251**
Aluminium block	0,2 ml PCR tubes or plates	96	1	**460-0252**
Aluminium block	15 ml tubes	24	1	**460-0253**
Aluminium block	Water bath block (115×73×38 mm)		1	**460-0254**
Aluminium block	0,5 and 1,5 ml tubes	26+24	1	**460-0255**
Aluminium block	2,0 ml tubes	40	1	**460-0256**
Aluminium block	96-well ELISA plate	-	1	**460-0257**



Hotplates, VHP-C series

Compact hotplates with a chemically resistant ceramic top.
The elevated control panel minimises contact with spills and enables easy reading and adjustment of the temperature. Units feature a digital error code display and 'hot' top indicator to warn users that the surface is hot.

- VHP-C7 can be used with the VT-5 contact thermometer (442-0573), enabling precise temperature control
- Fixed safety circuit shuts off heater if temperature rises above 550 °C
- Microprocessor control sends feedback to the hotplate to maintain set temperature
- Digital display ensures accurate and repeatable temperature settings

IP protection class according to DIN EN 60529: IP 21

Type	Heating area (mm)	Temp. (°C)	Heating capacity (W)	Plate size (mm)	W×D×H (mm)	Pk	Cat. No.
VHP-C4, EU-plug	100×100	50...500	250	120×120	150×260×105	1	**453-0050**
VHP-C4, UK-plug	100×100	50...500	250	120×120	150×260×105	1	**453-0053**
VHP-C4, CH-plug	100×100	50...500	250	120×120	150×260×105	1	**453-0056**
VHP-C7, EU-plug	180×180	50...500	1000	200×200	220×330×105	1	**453-0051**
VHP-C7, UK-plug	180×180	50...500	1000	200×200	220×330×105	1	**453-0054**
VHP-C7, CH-plug	180×180	50...500	1000	200×200	220×330×105	1	**453-0057**

Description	Pk	Cat. No.
Accessories		
Support rod, stainless steel, length 450 mm, Ø 10 mm, for all stirrers with M10 thread	1	**442-2041**
R 350 Universal clamp for clamping flask necks, condensers, etc. up to 11 cm diameter	1	**442-1133**
Bosshead clamp	1	**442-2043**
Extension cable, separates casing from the sensor, avoiding damage from vapours released by the medium	1	**620-8104**

Hotplates, Advanced series

VWR Advanced hotplates deliver accurate and repeatable results. Units are microprocessor controlled and have an easy to read LED display for set point temperature. The control panel features easy to use controls which allow users to dial in adjustments for temperature. Rear housing features an off-centred, integral support rod holder with locking knob to accept the optional support rod and clamp kit. The low profile design takes up less space and fits into fume hoods.

A spill resistant housing channels fluids away from internal components. A 'hot' symbol warning light is illuminated when heat is turned on and remains on until top plate cools down. Enhanced electronics regulate heating and bring samples to temperature quickly and efficiently. Temperature measurement is controlled more accurately by using a resistance thermometer (RTD). Ceramic tops feature a chemically resistant, reflective white top plate surface that is easy to clean. Durable aluminium tops will not crack or chip, and provide a more even heating surface.



- Excellent temperature uniformity
- Microprocessor controlled with built-in memory allowing recall of last set temperature (even if unit has been turned off)
- Cool touch, chemically resistant housing
- LED display for temperature
- Choice of models with ceramic or aluminium top plates

Ordering information: Optional support rod kit is available which includes a 457 mm stainless steel support rod, thermometer/temperature probe extension clamp, 3-prong medium swivel clamp, and hook connector.

Type	Heating area (mm)	Temp. (°C)	Heating capacity (W)	W×D×H (mm)	Pk	Cat. No.
Models with aluminium top plates						
Hotplate, aluminium, EU-plug	100×100	RT* +5...400	350	167×274×108	1	**444-0578**
Hotplate, aluminium, UK-plug	100×100	RT* +5...400	350	167×274×108	1	**444-0579**
Hotplate, aluminium, CH-plug	100×100	RT* +5...400	350	167×274×108	1	**444-0580**
Hotplate, aluminium, EU-plug	180×180	RT* +5...400	1000	250×375×108	1	**444-0584**
Hotplate, aluminium, UK-plug	180×180	RT* +5...400	1000	250×375×108	1	**444-0585**
Hotplate, aluminium, CH-plug	180×180	RT* +5...400	1000	250×375×108	1	**444-0586**
Hotplate, aluminium, EU-plug	250×250	RT* +5...400	1550	330×455×108	1	**444-0590**
Hotplate, aluminium, UK-plug	250×250	RT* +5...400	1550	330×455×108	1	**444-0591**
Hotplate, aluminium, CH-plug	250×250	RT* +5...400	1550	330×455×108	1	**444-0592**
Models with ceramic top plates						
Hotplate, ceramic, EU-plug	100×100	RT* +5...500	350	167×274×108	1	**444-0575**
Hotplate, ceramic, UK-plug	100×100	RT* +5...500	350	167×274×108	1	**444-0576**
Hotplate, ceramic, CH-plug	100×100	RT* +5...500	350	167×274×108	1	**444-0577**
Hotplate, ceramic, EU-plug	180×180	RT* +5...500	1000	250×375×108	1	**444-0581**
Hotplate, ceramic, UK-plug	180×180	RT* +5...500	1000	250×375×108	1	**444-0582**
Hotplate, ceramic, CH-plug	180×180	RT* +5...500	1000	250×375×108	1	**444-0583**
Hotplate, ceramic, EU-plug	250×250	RT* +5...500	1550	330×455×108	1	**444-0587**
Hotplate, ceramic, UK-plug	250×250	RT* +5...500	1550	330×455×108	1	**444-0588**
Hotplate, ceramic, CH-plug	250×250	RT* +5...500	1550	330×455×108	1	**444-0589**

Description	For	Pk	Cat. No.
Accessories			
Stirrer support rod clamping kit (rod, 2 clamps and hook connector)	444-0566, 444-0567, 444-0568, 444-0569, 444-0570, 444-0571, 444-0572, 444-0573, 444-0574, 444-0575, 444-0576, 444-0577, 444-0578, 444-0579, 444-0580, 444-0581, 444-0582, 444-0583, 444-0584, 444-0585, 444-0586, 444-0587, 444-0588, 444-0589, 444-0590, 444-0591, 444-0592, 444-0593, 444-0594, 444-0595, 444-0596, 444-0597, 444-0598, 444-0599, 444-0600, 444-0601, 444-0602, 444-0603, 444-0604, 444-0605, 444-0606, 444-0607, 444-0608, 444-0609, 444-0610	1	**444-2844**
Support plate for 100 mm stirrers and hotplate stirrers	444-0566, 444-0567, 444-0568,444-0575, 444-0576, 444-0577, 444-0578, 444-0579, 444-0580, 444-0593, 444-0594, 444-0595, 444-0596, 444-0597, 444-0598	1	**444-2851**

* RT= Ambient

Hotplates, Professional series

VWR Professional hotplates are designed for applications that require exceptional accuracy, stability and repeatability. Enhanced microprocessor control offers an external resistance thermometer (RTD) probe option that delivers superior temperature control of the sample. Touch pad controls with easy to read, independent LED displays for temperature and time, allow operator to view all settings at once. Rear housing features an off-centred, built-in support rod holder with locking knob that accepts the supplied probe kit. Low profile design takes up less space and fits into fume hoods. Spill resistant housing channels fluids away from internal components. A 'hot' symbol warning light is illuminated when heat is turned on and remains on until the plate cools down. Plate over-temperature limit ensures plate temperature will never exceed users' programmed set temperature limit, allowing for control of sensitive flash points. An audible alarm will sound when time reaches zero or when unit reaches set point temperature in timed mode, and if the probe disengages from sample, unit will automatically shut off heater. Enhanced electronics regulate heating and bring samples to temperature quickly and efficiently. Ceramic tops feature a chemically resistant, reflective white top plate surface that's easy to clean. Durable aluminium tops will not crack or chip, and provide a more even heating surface.



- Excellent temperature uniformity
- Separate digital displays for temperature and time with indicators that toggle between actual and set point. Display will show last used settings, even after power has been turned off
- Cool touch, chemically resistant housing
- Includes external RTD temperature probe kit
- Choice of models with ceramic or aluminium top plates

Delivery information: Each unit is supplied complete with a 203 mm stainless steel PT1000 temperature probe, 457 mm stainless steel support rod, thermometer/temperature probe extension clamp and a hook connector.

Type	Heating area (mm)	Temp. (°C)	Heating capacity (W)	Plate size (mm)	W×D×H (mm)	Pk	Cat. No.
Models with aluminium top plates							
Hotplate, aluminium, EU-plug	180×180	RT* +5...400	1000	180×180	250×375×108	1	**444-0620**
Hotplate, aluminium, UK-plug	180×180	RT* +5...400	1000	180×180	250×375×108	1	**444-0621**
Hotplate, aluminium, CH-plug	180×180	RT* +5...400	1000	180×180	250×375×108	1	**444-0622**
Hotplate, aluminium, EU-plug	250×250	RT* +5...400	1550	250×250	330×455×108	1	**444-0626**
Hotplate, aluminium, UK-plug	250×250	RT* +5...400	1550	250×250	330×455×108	1	**444-0627**
Hotplate, aluminium, CH-plug	250×250	RT* +5...400	1550	250×250	330×455×108	1	**444-0628**
Models with ceramic top plates							
Hotplate, ceramic, EU-plug	180×180	RT* +5...500	1000	180×180	250×375×108	1	**444-0617**
Hotplate, ceramic, UK-plug	180×180	RT* +5...500	1000	180×180	250×375×108	1	**444-0618**
Hotplate, ceramic, CH-plug	180×180	RT* +5...500	1000	180×180	250×375×108	1	**444-0619**
Hotplate, ceramic, EU-plug	250×250	RT* +5...500	1550	250×250	330×455×108	1	**444-0623**
Hotplate, ceramic, UK-plug	250×250	RT* +5...500	1550	250×250	330×455×108	1	**444-0624**
Hotplate, ceramic, CH-plug	250×250	RT* +5...500	1550	250×250	330×455×108	1	**444-0625**

* RT= Ambient



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Magnetic hotplate stirrers, VMS Advanced series

Compact stirrers with a ceramic glass plate, providing excellent chemical resistance. Units feature digital error code display, a 'hot' top indicator to warn users that surface is hot, a fixed safety circuit that shuts off the heater if temperature rises above 550 °C and there are three operating modes to choose from (standard, safe, adjustment protection). Stirrers have a speed display scale and optional capability to connect a PT1000 temperature sensor directly; when using this functionality control accuracy in the medium is ±0,5 °C.



VMS-C7 Advanced

- Exact temperature setting via digital potentiometer
- Simultaneous digital display of target and actual temperatures via LCD display
- Display of actual temperature value in medium with 0,1 °C resolution when using PT1000 temperature sensor
- Integrated contact thermometer VT-5 (all VT-5 functions incorporated in hotplate stirrer)
- Stirrer can be controlled using two microcontrollers

IP protection class according to DIN EN 60529: IP 21

Delivery information: Supplied with PT1000 probe. A wide range of optional accessories are available.



VMS-C4 Advanced



VMS-C10 Advanced

Model	VMS-C4 Advanced	VMS-C7 Advanced	VMS-C10 Advanced
Max. stirring capacity H_2O (l)	5	10	15
Speed range (min^{-1})		100 - 1500	
Temperature range (°C)		50...500	
Heat output (W)	250	1000	1500
Power input/output (W)		15/1,5	
Plate material		Glass-ceramic	
Plate dimensions (mm)	100×100	180×180	260×260
W×D×H (mm)	150×260×105	215×330×105	300×415×105
Weight (kg)	3	5	6

Description	Pk	Cat. No.
VMS-C4 Advanced magnetic hotplate stirrer, EU-plug	1	**442-0661**
VMS-C4 Advanced magnetic hotplate stirrer, UK-plug	1	**442-0662**
VMS-C4 Advanced magnetic hotplate stirrer, CH-plug	1	**442-0663**
VMS-C7 Advanced magnetic hotplate stirrer, EU-plug	1	**442-0664**
VMS-C7 Advanced magnetic hotplate stirrer, UK-plug	1	**442-0665**
VMS-C7 Advanced magnetic hotplate stirrer, CH-plug	1	**442-0666**
VMS-C10 Advanced magnetic hotplate stirrer, EU-plug	1	**442-0667**
VMS-C10 Advanced magnetic hotplate stirrer, UK-plug	1	**442-0668**
VMS-C10 Advanced magnetic hotplate stirrer, CH-plug	1	**442-0669**

Description	Pk	Cat. No.
Accessories		
Support rod, stainless steel, length 450 mm, Ø 10 mm, for all stirrers with M10 thread	1	**442-2041**
Bosshead clamp	1	**442-2043**
Extension cable, separates casing from the sensor, avoiding damage from vapours released by the medium	1	**620-8104**

Magnetic hotplate stirrers, Advanced series

VWR Advanced magnetic hotplate stirrers deliver accurate and repeatable results. Units are microprocessor controlled and have an easy to read LED display for set point temperature. The control panel features easy to use controls which allow users to dial in adjustments for temperature, the stirrer-control dial has rpm adjustment markings. Rear housing features an integral support rod holder with locking knob to accept the optional support rod and clamp kit.

The low profile design takes up less space and fits into fume hoods. Spill-resistant housing channels fluids away from internal components. Safety features include a 'hot' symbol warning light which is illuminated when heat is turned on and remains on until top plate cools down. Stir protection if stirrer motor stops or fails, unit will automatically shut down the heater. Enhanced electronics regulate both heating and stirring and bring samples to temperature quickly and efficiently. Temperature measurement is controlled more accurately by using a resistance thermometer (RTD). Ramping feature slowly increases speed for improved safety and enhanced coupling, avoids splashing, improves spin bar control, and provides excellent low end speed control. Ceramic tops feature a chemically resistant, reflective white top plate surface that is easy to clean. Durable aluminium tops will not crack or chip, and provide a more even heating surface.



- Excellent temperature uniformity with consistent stirring at all speeds
- Microprocessor controlled with built-in memory allowing recall of last set temperature (even if unit has been turned off)
- Cool touch, chemically resistant housing
- LED display for temperature
- Choice of models with ceramic or aluminium top plates

Delivery information: Each unit is supplied complete with a PTFE coated magnetic stirring bar. Optional support rod kit is available which includes a 457 mm stainless steel support rod, thermometer/temperature probe extension clamp, three-prong medium swivel clamp, and hook connector.

Model	Aluminium top plate			Ceramic top plate		
Max. stirring capacity H_2O (ml)	600	2500	6000	600	2500	6000
Speed range (min^{-1})	60 - 1600					
Speed stability (%)	±2					
Temperature range (°C)	Ambient +5...400			Ambient +5...500		
Temperature stability (%)	±2*			±3*		
Heat output (W)	400	1050	1600	400	1050	1600
Plate material	Aluminium			Ceramic		
Plate dimensions (mm)	100×100	180×180	250×250	100×100	180×180	250×250
W×D×H (mm)	167×274×108	250×375×108	330×455×108	167×274×108	250×375×108	330×455×108
Weight (kg)	2,0	4,2	6	2,0	4,2	6

Description	Pk	Cat. No.
Models with aluminium top plates		
Magnetic hotplate stirrer, aluminium plate, 100×100 mm, EU-plug	1	**444-0596**
Magnetic hotplate stirrer, aluminium plate, 100×100 mm, UK-plug	1	**444-0597**
Magnetic hotplate stirrer, aluminium plate, 100×100 mm, CH-plug	1	**444-0598**
Magnetic hotplate stirrer, aluminium plate, 180×180 mm, EU-plug	1	**444-0602**
Magnetic hotplate stirrer, aluminium plate, 180×180 mm, UK-plug	1	**444-0603**
Magnetic hotplate stirrer, aluminium plate, 180×180 mm, CH-plug	1	**444-0604**
Magnetic hotplate stirrer, aluminium plate, 250×250 mm, EU-plug	1	**444-0608**
Magnetic hotplate stirrer, aluminium plate, 250×250 mm, UK-plug	1	**444-0609**
Magnetic hotplate stirrer, aluminium plate, 250×250 mm, CH-plug	1	**444-0610**
Models with ceramic top plates		
Magnetic hotplate stirrer, ceramic plate, 100×100 mm, EU-plug	1	**444-0593**
Magnetic hotplate stirrer, ceramic plate, 100×100 mm, UK-plug	1	**444-0594**
Magnetic hotplate stirrer, ceramic plate, 100×100 mm, CH-plug	1	**444-0595**
Magnetic hotplate stirrer, ceramic plate, 180×180 mm, EU-plug	1	**444-0599**
Magnetic hotplate stirrer, ceramic plate, 180×180 mm, UK-plug	1	**444-0600**
Magnetic hotplate stirrer, ceramic plate, 180×180 mm, CH-plug	1	**444-0601**
Magnetic hotplate stirrer, ceramic plate, 250×250 mm, EU-plug	1	**444-0605**
Magnetic hotplate stirrer, ceramic plate, 250×250 mm, UK-plug	1	**444-0606**
Magnetic hotplate stirrer, ceramic plate, 250×250 mm, CH-plug	1	**444-0607**

Description	For	Pk	Cat. No.
Accessories			
Stirrer support rod clamping kit (rod, 2 clamps and hook connector)	444-0566, 444-0567, 444-0568,444-0569, 444-0570, 444-0571, 444-0572, 444-0573, 444-0574, 444-0575, 444-0576, 444-0577, 444-0578, 444-0579, 444-0580, 444-0581, 444-0582, 444-0583, 444-0584, 444-0585, 444-0586, 444-0587, 444-0588, 444-0589, 444-0590, 444-0591, 444-0592, 444-0593, 444-0594, 444-0595, 444-0596, 444-0597, 444-0598, 444-0599, 444-0600, 444-0601, 444-0602, 444-0603, 444-0604, 444-0605, 444-0606, 444-0607, 444-0608, 444-0609, 444-0610	1	**444-2844**
Support plate for 100 mm stirrers and hotplate stirrers	444-0566, 444-0567, 444-0568,444-0575, 444-0576, 444-0577, 444-0578, 444-0579, 444-0580, 444-0593, 444-0594, 444-0595, 444-0596, 444-0597, 444-0598	1	**444-2851**

* Below 100 °C ±2 °C environmental and sample conditions permitting.

Magnetic hotplate stirrer, VMS-A

- Fixed safety circuit (400 °C)
- Soft-start stirring motor

IP protection class according to DIN EN 60529: IP 21

Model	VMS-A
Max. stirring capacity H_2O (l)	10
Speed range (min^{-1})	100 - 2000
Temperature range (°C)	Ambient to 320
Heat output (W)	400
Power input/output (W)	15/2
Plate material	Stainless steel
Plate dimensions (mm)	Ø 125
W×D×H (mm)	168×220×105
Weight (kg)	2,4

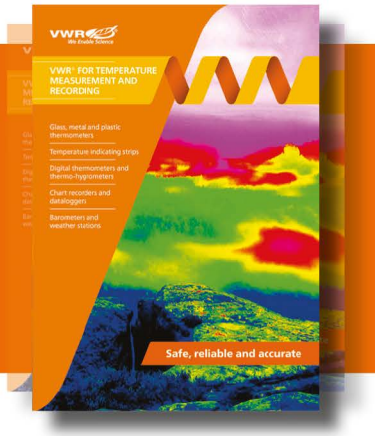


Description	Pk	Cat. No.
VMS-A magnetic hotplate stirrer with stainless steel plate, EU-plug	1	**442-0185**
VMS-A magnetic hotplate stirrer with stainless steel plate, UK-plug	1	**442-0186**
VMS-A magnetic hotplate stirrer with stainless steel plate, CH-plug	1	**442-0212**

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Magnetic hotplate stirrers, Professional series

VWR Professional hotplate stirrers are designed for applications that require exceptional accuracy, stability, and repeatability. Enhanced microprocessor control offers an external resistance thermometer (RTD) probe option that delivers superior temperature control of the sample. Stirring function, with continuous duty motor and powerful magnet, maintains set speed even under changing load or viscosity. Touch pad controls with easy to read, independent LED displays for temperature, speed, and time, allow operator to view all settings at once. Rear housing features a built-in support rod holder with locking knob that accepts the supplied probe kit. Low profile design takes up less space and fits into fume hoods. Spill resistant housing channels fluids away from internal components. A 'hot' symbol warning light is illuminated when heat is turned on and remains on until top plate cools down. Stir protection; if stirrer motor stops or fails, unit will automatically shut down heater. Plate over-temperature limit ensures plate temperature will never exceed users programmed set temperature limit, allowing for control of sensitive flash points. An audible alarm will sound when time reaches zero or when unit reaches set point temperature in timed mode, and if the probe disengages from sample, unit will automatically shut off heater. Microprocessor control with enhanced electronics regulates both heating and stirring and brings samples to temperature quickly and efficiently. Ramping feature slowly increases speed for improved safety and enhanced coupling. Avoids splashing, improves spin bar control and provides excellent low end speed control. Ceramic tops feature a chemically resistant, reflective white top plate surface that is easy to clean. Durable aluminium tops will not crack or chip, and provide a more even heating surface.



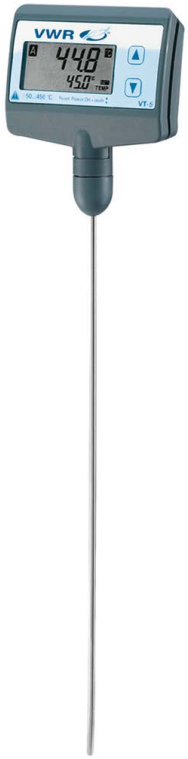
- Excellent temperature uniformity with consistent stirring at all speeds
- Separate digital displays for temperature, speed and time; show set and actual values. Display will show last used settings, even after power has been turned off
- Cool touch, chemically resistant housing
- Includes external RTD temperature probe kit
- Choice of models with ceramic or aluminium top plates

Delivery information: Each unit is supplied complete with a 203 mm stainless steel PT1000 temperature probe, a 457 mm stainless steel support rod, thermometer/temperature probe extension clamp, hook connector and a PTFE coated magnetic stirring bar.

Model	Aluminium top plate		Ceramic top plate	
Max. stirring capacity H_2O (ml)	2500	6000	2500	6000
Speed range (min^{-1})	60 - 1600			
Speed stability (%)	±2			
Temperature range (°C)	Ambient +5...400		Ambient +5...500	
Temperature stability (%)	±1*			
Heat output (W)	1050	1600	1050	1600
Plate material	Aluminium		Ceramic	
Plate dimensions (mm) / Heated area (mm)	180×180	250×250	180×180	250×250
W×D×H (mm)	250×375×108	330×455×108	250×375×108	330×455×108
Weight (kg)	4,2	6	4,2	6

Description	Pk	Cat. No.
Models with aluminium top plates		
Magnetic hotplate stirrer, aluminium plate, 180×180 mm, EU-plug	1	**444-0632**
Magnetic hotplate stirrer, aluminium plate, 180×180 mm, UK-plug	1	**444-0633**
Magnetic hotplate stirrer, aluminium plate, 180×180 mm, CH-plug	1	**444-0634**
Magnetic hotplate stirrer, aluminium plate, 250×250 mm, EU-plug	1	**444-0638**
Magnetic hotplate stirrer, aluminium plate, 250×250 mm, UK-plug	1	**444-0639**
Magnetic hotplate stirrer, aluminium plate, 250×250 mm, CH-plug	1	**444-0640**
Models with ceramic top plates		
Magnetic hotplate stirrer, ceramic plate, 180×180 mm, EU-plug	1	**444-0629**
Magnetic hotplate stirrer, ceramic plate, 180×180 mm, UK-plug	1	**444-0630**
Magnetic hotplate stirrer, ceramic plate, 180×180 mm, CH-plug	1	**444-0631**
Magnetic hotplate stirrer, ceramic plate, 250×250 mm, EU-plug	1	**444-0635**
Magnetic hotplate stirrer, ceramic plate, 250×250 mm, UK-plug	1	**444-0636**
Magnetic hotplate stirrer, ceramic plate, 250×250 mm, CH-plug	1	**444-0637**

* Below 100 °C ±2 °C environmental and sample conditions permitting. Caution: If you are using a probe accessory with a Professional unit, make sure you don't exceed a sample temperature of 250 °C, otherwise the probe tip might become damaged.



Electronic contact thermometer, VT-5

Ideal for accurate temperature control particularly with VWR hotplates and magnetic hotplate stirrers or other units with contact thermometer bushing according to DIN 12878, Class 2.

- Maintains the set temperature of the medium without overshooting
- Ensures precise temperature control even during unsupervised operation
- Clear, easy to read digital display shows actual temperature of the sample

IP protection class according to DIN EN 60529: IP 54



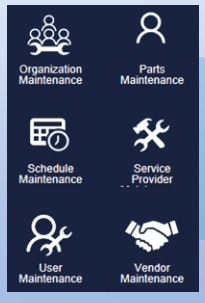
Control deviation (K)	±0,5
Measuring accuracy (K)	±0,2*
Measuring/control range (°C)	-50...+450
Resolution (K)	0,1
Sensor type	PT1000
Setting accuracy (K)	0,1
Weight (kg)	0,2
W×D×H (mm)	82×22×83 (without sensor)

Description	Pk	Cat. No.
VT-5 electronic contact thermometer with PT1000 probe	1	**442-0573**

* plus sensor tolerance PT1000

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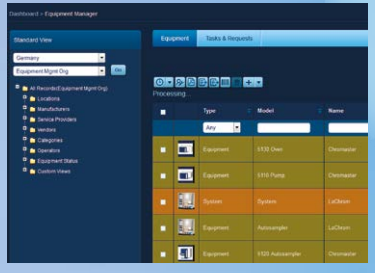
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Water baths, VWB2 series



Unstirred water baths with double walled, stainless steel (inner) and coated steel sheet (outer) housing. All baths except the 2 litre models feature a drain tap for convenient emptying and are suitable for use with water or alternatively with heat transfer beads. Baths with a capacity of 5 litres or more have a heat transfer bead mode which is activated through the main menu. A drain stopper (plug) is supplied as on optional accessory to ensure heat transfer beads do not get stuck in the drain outlet. Note: Baths are classified Safety Class 1, allowing unattended operation when used with non flammable liquids.

- Fast heat up, accurate temperature control
- Digital temperature indicator with three temperature presets
- Temperature range ambient +5 to 99 °C
- Temperature stability ±0,2 °C
- Adjustable over-temperature alarm protects samples from over heating
- Dry run protection turns the bath off if no water or low water level is detected
- Countdown timer and audible alarm: 1 to 999 minutes

Delivery information: Supplied with a hinged clear polycarbonate lid (the 2 litre models have an unhinged lid) and universal tray. A wide range of optional accessories are available.

Type	Temp. range (°C)	Temp. stability (°C)	Heating capacity (kW)	Capacity (l)	Bath W×D×H (mm)	W×D×H (mm)	Weight (kg)	Pk	Cat. No.
VWB2 2	Ambient +5...99	±0,2	0,25	2	117×131×125	186×200×305	2,5	1	**462-0554**
VWB2 2S (shallow)	Ambient +5...99	±0,2	0,35	2	289×139×40	335×215×260	3	1	**462-0555**
VWB2 5	Ambient +5...99	±0,2	0,35	5	281×131×125	335×215×335	3,9	1	**462-0556**
VWB2 12	Ambient +5...99	±0,2	0,8	12	306×281×125	335×390×380	6,2	1	**462-0557**
VWB2 18	Ambient +5...99	±0,2	1,05	18	281×485×125	335×590×420	9,2	1	**462-0558**
VWB2 26	Ambient +5...99	±0,2	1,05	26	278×481×175	335×590×430	9,4	1	**462-0559**

Description	For	Pk	Cat. No.
Anti-evaporation spheres for water baths			
Anti-evaporation spheres		300	**462-0584**
Accessories			
Drain stoppers, to prevent heat transfer beads entering the drain opening	VWB2 5, VWB2 12, VWB2 18, VWB2 26	5	**462-0585**
Stainless steel test tube racks			
Stainless steel test tube rack	10 mm tubes	1	**462-0560**
Stainless steel test tube rack	13 mm tubes	1	**462-0561**
Stainless steel test tube rack	16 mm tubes	1	**462-0562**
Stainless steel test tube rack	19 mm tubes	1	**462-0563**
Stainless steel test tube rack	25 mm tubes	1	**462-0564**
Stainless steel test tube rack	30 mm tubes	1	**462-0565**
Stainless steel test tube rack	0,5 ml microtubes	1	**462-0566**
Stainless steel test tube rack	1,5 ml microtubes	1	**462-0567**
Stainless steel raised shelves			
Stainless steel raised shelf	VWB2 12	1	**462-0568**
Stainless steel raised shelf	VWB2 18	1	**462-0569**
Stainless steel raised shelf	VWB2 26	1	**462-0570**

Description	For	Pk	Cat. No.
Stainless steel base trays			
Stainless steel base tray	VWB2 2	1	**462-0571**
Stainless steel base tray	VWB2 2S, VWB2 5	1	**462-0572**
Stainless steel base tray	VWB2 12	1	**462-0573**
Stainless steel base tray	VWB2 26	1	**462-0574**
Spare polycarbonate base trays			
Polycarbonate base tray	VWB2 2	1	**462-0575**
Polycarbonate base tray	VWB2 2S, VWB2 5	1	**462-0576**
Polycarbonate base tray	VWB2 12	1	**462-0577**
Polycarbonate base tray	VWB2 26	1	**462-0578**
Polycarbonate gabled lids			
Polycarbonate gabled lid	VWRB2 2	1	**462-0579**
Polycarbonate gabled lid	VWRB2 2S	1	**462-0580**
Polycarbonate gabled lid	VWRB2 5	1	**462-0581**
Polycarbonate gabled lid	VWRB2 12	1	**462-0582**
Polycarbonate gabled lid	VWRB2 26	1	**462-0583**

Shaking water baths, VLSB series

Linear shaking water baths with stainless steel tank and simple, intuitive user interface. It is quick and easy to fit alternative shaking trays. Heating element is positioned on the underside of the tank, no heating element in the bath means it is easier to clean and keep clean. Baths have an adjustable over-temperature alarm and advanced dry start/run dry protection. Available ready to use in two sizes to suit a variety of applications including sample preparation, mixing and thawing.

- Intuitive user interface enabling quick changes to temperature and shaking speed
- Discrete, under tray, magnetically coupled shaking mechanism is reliable and quiet in operation
- Excellent temperature stability ±0,1 °C
- Temperature range: Ambient +5 to 99 °C
- Adjustable shaking speed range: 20 to 200 min^{-1} (dependent on load)
- Display: Resolution 0,1 °C

Delivery information: Supplied with a universal shaking tray (features adjustable springs) and a clear gabled polycarbonate lid. A stainless steel gabled lid is available as an option and a wide choice of accessory trays and test tube racks are available; these must be ordered separately.



Model	VLSB12	VLSB18
Capacity (l)	12	18
Linear stroke length (mm)	20	
Shaker tray W×D (mm)	240×235	420×235
Shaking speed range (min^{-1})	20 - 200	
Stability	±0,1 (at 70 °C)	
Temperature range (°C)	Ambient + 5...99	
Weight (kg)	9,2	11,2
Working Depth	Min. 60 mm	
W×D×H (mm)	360×380×275	335×565×275

Description	Pk	Cat. No.
Shaking water bath, VLSB12	1	**462-0493**
Shaking water bath, VLSB18	1	**462-0494**

Description	For	Pk	Cat. No.
Trays for VLSB shaking baths			
Test tube tray, (also used as plain tray) stainless steel for 3 test tube racks	VLSB12	1	**462-0510**
Test tube tray, (also used as plain tray) stainless steel for 5 test tube racks	VLSB18	1	**462-0511**
Replacement universal tray (flask capacity: 24×25, 18×50, 10×100, 6×250, 4×500 ml)	VLSB12	1	**462-0512**
Replacement universal tray (flask capacity: 44×25, 35×50, 18×100, 11×250, 5×500 ml)	VLSB18	1	**462-0513**
Stainless steel base tray (converts bath to unstirred bath)	VLSB12/VKB12	1	**462-0500**
Stainless steel base tray (converts bath to unstirred bath)	VLSB18/VKB18	1	**462-0501**
Lids for VLSB shaking water baths			
Gabled stainless steel lid	VLSB12/VKB 12	1	**462-0371**
Gabled stainless steel lid	VLSB18/VKB 18	1	**462-0372**
Replacement gabled, non drip, polycarbonate lid	VLSB12/VKB 12	1	**462-0373**
Replacement gabled, non drip, polycarbonate lid	VLSB18/VKB 18	1	**462-0374**
Racks for VLSB shaking baths			
Stainless steel test tube rack for 12 and 18L baths	48×10 mm Ø tubes	1	**462-0502**
Stainless steel test tube rack for 12 and 18L baths	44×13 mm Ø tubes	1	**462-0503**
Stainless steel test tube rack for 12 and 18L baths	24×16 mm Ø tubes	1	**462-0504**
Stainless steel test tube rack for 12 and 18L baths	21×19 mm Ø tubes	1	**462-0505**
Stainless steel test tube rack for 12 and 18L baths	12×25 mm Ø tubes	1	**462-0506**
Stainless steel test tube rack for 12 and 18L baths	10×30 mm Ø tubes	1	**462-0507**
Stainless steel test tube rack for 12 and 18L baths	119× 0,5 ml tubes	1	**462-0509**
Stainless steel test tube rack for 12 and 18L baths	48×1,5 ml tubes	1	**462-0508**

* Note the tray racks must be used in conjunction with the appropriate stainless steel tray.

Ultrasonic cleaning baths

Ultrasonic cleaning penetrates even microscopic openings to provide complete cleaning of the objects treated. This makes it one of the most effective, economical and powerful cleaning methods available. It has applications in laboratories, dental and medical technology, microelectronics, precision engineering, cosmetics, optics and the automotive industry.



Analogue models with timer

The baths have a heavy duty ultrasonic generator which ensures that the ultrasonic output remains constant, regardless of the bath temperature, fill level and cleaning material. This feature guarantees consistent and reproducible cleaning results. ‚Frequency sweeping', a frequency modulation of the ultrasonic output generated, prevents ‚standing waves' from being generated and ensures extremely homogeneous energy distribution in the cleaning bath.

All models have a timer. The analogue version is equipped with a mechanical timer up to maximum of 15 minutes. They also have an adjustable ultrasonic function from 10 to 100% of the effective output. In this way, the energy can be adjusted precisely to the objects to be cleaned.

- Housing and cleaning baths made from rust-proof stainless steel
- High performance PTZ ultrasonic converter with ceramic technology
- Baths with 9,2 litre capacity and upwards are fitted with a drain cock

All models are compliant with the European standards for EMC and electrical safety.





Accessories

Baskets and beaker positioning lids: Stainless steel and rust-proof. Beakers and test tubes to be cleaned should never lie directly on the bottom of the tank as they will not benefit fully from the cleaning action. Immersion baskets position articles being cleaned correctly in the bath and prevent the bottom of the tank from becoming scratched. Beakers for cleaning smaller parts, or for working with aggressive solutions, can be fitted in positioning covers.

Model	USC100T	USC200T	USC100TH	USC200TH
Capacity (l)	0,8	1,8	0,8	1,8
Frequency (kHz)	45			
Max. output power (W)	60	120	60	120
Heating power (W)	-		45	90
W×D×H (mm)	205×100×155	175×165×270	205×100×155	175×165×225
Tank W×D×H (mm)	190×85×60	145×135×100	190×85×60	145×135×100

Description	Pk	Cat. No.
USC "T" range: Analogue models with timer		
USC100T	1	**142-6044**
USC200T	1	**142-6046**
USC "TH" range: Analogue models with timer and integrated heater		
USC100TH (heating at 65 °C, not adjustable)	1	**142-6045**
USC200TH	1	**142-6047**

Description	For	Pk	Cat. No.
Accessories			
Set lid and mesh basket	USC100 models	1	**142-6048**
Set lid and mesh basket	USC200 models	1	**142-6049**
Set lid and mesh basket	USC300 models	1	**142-6020**
Set lid and mesh basket	USC500 models	1	**142-6021**
Set lid and mesh basket	USC600 models	1	**142-6022**
Set lid and mesh basket	USC900 models	1	**142-6024**
Set lid and mesh basket	USC1200 models	1	**142-6023**
Set lid and mesh basket	USC1700 models	1	**142-6025**
Set lid and mesh basket	USC2100 models	1	**142-6026**
Set lid and mesh basket	USC2600 models	1	**142-6027**
Positioning lid for 1 beaker 600 ml	USC200 models	1	**142-1704**
Positioning lid for 2 beakers 250 ml	USC200 models	1	**142-1701**
Positioning lid for 2 beakers 250 ml	USC300/USC500 models	1	**142-6028**
Positioning lid for 2 beakers 250 ml	USC600 models	1	**142-1702**

Description	For	Pk	Cat. No.
Accessories			
Positioning lid for 2 beakers 250 ml	USC1200 models	1	**142-6030**
Positioning lid for 2 beakers 250 ml	USC1700 models	1	**142-6032**
Positioning lid for 2 beakers 600 ml	USC300/USC500 models	1	**142-6035**
Positioning lid for 4 beakers 250 ml	USC900 models	1	**142-1703**
Positioning lid for 4 beakers 600 ml	USC900 models	1	**142-1705**
Positioning lid for 8 beakers 250 ml	USC2100/USC2600 models	1	**142-6033**
Covering lid for 2 beakers 250 ml	USC100 models	1	**142-6050**
Covering lid for 2 beakers 600 ml	USC600 models	1	**142-6037**
Covering lid for 4 beakers 600 ml	USC1200 models	1	**142-6038**
Covering lid for 4 beakers 600 ml	USC1700 models	1	**142-6039**
Covering lid for 8 beakers 600 ml	USC2100/USC2600 models	1	**142-6040**
Glass beakers, 250 ml	all models	2	**142-6042**
Rubber bands for 250 ml beaker	all models	1	**142-0111**
Rubber bands for 650 ml beaker	all models	1	**142-0112**

Ultrasound cleaning baths, USC

Cleaning via ultrasound has been one of the most effective methods of freeing parts with complex geometry, such as fins, undercuts, boreholes, pocket holes, etc from residues (contaminants).



The physical property of imploding vacuum bubbles causes tiny air bubbles to form in the cleaning fluid, which generate up to 1000 bar and 5000 °C when the forces implode and penetrate all small cavities. Combined with a cleaning agent geared to the type of contamination and the material to be cleaned, it is possible, through the cavitation forming on the part to be cleaned without any additional manual workload, to remove residues like oil carbon, incrustations, grease, oils, oxidation, paints, dust, rust, limescale, etc quickly in a way that protects the material and does not leave behind any residual matter.

- High performance PZT ultrasonic converter with ceramics technology
- Homogeneous distribution of ultrasound in the cleaning trough
- Lower noise development through higher frequency
- Robust heating with integrated run-dry protection
- Thermostat adjustable up to 80 °C
- Stainless steel tank material and cladding



Ultrasonic bath USC T

This range has a digital timer 1 – 99 minutes in steps of 1 minute

Ultrasonic bath USC TH

With a digital timer and a tank heater, infinitely variable up to 80 °C, to assist the cleaning effect. To monitor the heater, a yellow LED display illuminates, extinguishing when the set temperature is reached.

Ultrasonic bath USC THD and THD/HF (high frequency)

This machine has a digital operating keypad to ensure convenient setting and operation. The special features of the D range are:



- Digital time setting of 1- 99 min or continuous
- Digital temperature display adjustable up to 80 °C
- The heater is equipped with dry run protection
- Ultrasound output adjustable over nine levels from 10 - 100%
- Stabilisation of the set output, independently of level and temperature
- Dual half-wave sound with sweep
- Degassing function to homogenise the tank fluid.

Model	Capacity (l)	Frequency (kHz)	Heating power (W)	W×D×H (mm)	Tank dimensions W×D×H (mm)	Weight (kg)
USC T range						
USC 300 T	2,8	45	200	265×160×235	240×135×100	4,1
USC 500 T	4,2			265×160×295	240×135×150	4,9
USC 600 T	5,4		400	325×175×295	300×150×150	5,4
USC 900 T	9,2		600	515×150×270	500×135×150	8,2
USC 1200 T	12,3			325×265×335	300×240×200	8,5
USC 1700 T	16,8		800	350×325×335	325×300×200	9,7
USC 2100 T	19,6			530×325×365	500×300×150	12,7
USC 2600 T	26,1		1000		500×300×200	12,9
USC TH range						
USC 300 TH	2,8	45	200	265×160×235	240×135×100	4,1
USC 500 TH	4,2			265×160×295	240×135×150	4,9
USC 600 TH	5,4		400	325×175×295	300×150×150	5,4
USC 900 TH	9,2		600	515×150×270	500×135×150	8,2
USC 1200 TH	12,3			325×265×335	300×240×200	8,5
USC 1700 TH	16,8		800	350×325×335	325×300×200	9,7
USC 2100 TH	19,6			530×325×365	500×300×150	12,7
USC 2600 TH	26,1		1000		500×300×200	12,9

Model	Capacity (l)	Frequency (kHz)	Heating power (W)	W×D×H (mm)	Tank dimensions W×D×H (mm)	Weight (kg)
USC THD and THD/HF range						
USC 300 THD & THD/HF	2,8	45/132	200	265×160×235	240×135×100	4,1
USC 500 THD	4,2	45		265×160×295	240×135×150	4,9
USC 600 THD & THD/HF	5,4	045/132	400	325×175×295	300×150×150	5,4
USC 900 THD	9,2	45	600	515×150×270	500×135×150	8,2
USC 1200 THD & THD/HF	12,3	45/132		350×325×335	325×300×200	8,5
				325×265×335	300×240×200	
USC 1700 THD	16,8	45	800	350×325×335	325×300×200	9,7
USC 2100 THD & THD/HF	19,6	45/132		530×325×365	500×300×150	12,7
USC 2600 THD	26,1	45	1000		500×300×200	12,9

Description	Pk	Cat. No.
USC T range		
Bench top cleaning unit with digital control, display and digital timer, USC 300 T	1	**142-0083**
Bench top cleaning unit with digital control, display and digital timer, USC 500 T	1	**142-0087**
Bench top cleaning unit with digital control, display and digital timer, USC 600 T	1	**142-0090**
Bench top cleaning unit with digital control, display and digital timer, USC 900 T	1	**142-0098**
Bench top cleaning unit with digital control, display and digital timer, USC 1200 T	1	**142-0094**
Bench top cleaning unit with digital control, display and digital timer, USC 1700 T	1	**142-0101**
Bench top cleaning unit with digital control, display and digital timer, USC 2100 T	1	**142-0104**
Bench top cleaning unit with digital control, display and digital timer, USC 2600 T	1	**142-0108**
USC TH range		
Bench top cleaning unit with digital control, display, digital timer and integrated heater, USC 300 TH	1	**142-0084**
Bench top cleaning unit with digital control, display, digital timer and integrated heater, USC 500 TH	1	**142-0088**
Bench top cleaning unit with digital control, display, digital timer and integrated heater, USC 600 TH	1	**142-0091**
Bench top cleaning unit with digital control, display, digital timer and integrated heater, USC 900 TH	1	**142-0099**
Bench top cleaning unit with digital control, display, digital timer and integrated heater, USC 1200 TH	1	**142-0095**
Bench top cleaning unit with digital control, display, digital timer and integrated heater, USC 1700 TH	1	**142-0102**
Bench top cleaning unit with digital control, display, digital timer and integrated heater, USC 2100 TH	1	**142-0105**
Bench top cleaning unit with digital control, display, digital timer and integrated heater, USC 2600 TH	1	**142-0109**
USC THD and THD/HF range		
Bench top cleaning unit with digital control, display, digital timer, integrated heater and degas-function, USC 300 THD (45 Hz)	1	**142-0085**
Bench top cleaning unit with digital control, display, digital timer, integrated heater and degas-function, USC 300 THD/HF (132 Hz)	1	**142-0086**
Bench top cleaning unit with digital control, display, digital timer, integrated heater and degas-function, USC 500 THD (45 Hz)	1	**142-0089**
Bench top cleaning unit with digital control, display, digital timer, integrated heater and degas-function, USC 600 THD (45 Hz)	1	**142-0092**
Bench top cleaning unit with digital control, display, digital timer, integrated heater and degas-function, USC 600 THD/HF (132 Hz)	1	**142-0093**
Bench top cleaning unit with digital control, display, digital timer, integrated heater and degas-function, USC 900 THD	1	**142-0100**
Bench top cleaning unit with digital control, display, digital timer, integrated heater and degas-function, USC 1200 THD (45 Hz)	1	**142-0096**
Bench top cleaning unit with digital control, display, digital timer, integrated heater and degas-function, USC 1200 THD/HF (132 Hz)	1	**142-0097**
Bench top cleaning unit with digital control, display, digital timer, integrated heater and degas-function, USC 1700 THD (45 Hz)	1	**142-0103**
Bench top cleaning unit with digital control, display, digital timer, integrated heater and degas-function, USC 2100 THD (45 Hz)	1	**142-0106**
Bench top cleaning unit with digital control, display, digital timer, integrated heater and degas-function, USC 2100 THD/HF (132 Hz)	1	**142-0107**
Bench top cleaning unit with digital control, display, digital timer, integrated heater and degas-function, USC 2600 THD (45 Hz)	1	**142-0110**

Description	For	Pk	Cat. No.
Accessories			
Set lid and mesh basket	USC100 models	1	**142-6048**
Set lid and mesh basket	USC200 models	1	**142-6049**
Set lid and mesh basket	USC300 models	1	**142-6020**
Set lid and mesh basket	USC500 models	1	**142-6021**
Set lid and mesh basket	USC600 models	1	**142-6022**
Set lid and mesh basket	USC900 models	1	**142-6024**
Set lid and mesh basket	USC1200 models	1	**142-6023**
Set lid and mesh basket	USC1700 models	1	**142-6025**
Set lid and mesh basket	USC2100 models	1	**142-6026**
Set lid and mesh basket	USC2600 models	1	**142-6027**
Positioning lid for 1 beaker 600 ml	USC200 models	1	**142-1704**
Positioning lid for 2 beakers 250 ml	USC200 models	1	**142-1701**
Positioning lid for 2 beakers 250 ml	USC300/USC500 models	1	**142-6028**
Positioning lid for 2 beakers 250 ml	USC600 models	1	**142-1702**
Positioning lid for 2 beakers 250 ml	USC1200 models	1	**142-6030**
Positioning lid for 2 beakers 250 ml	USC1700 models	1	**142-6032**
Positioning lid for 2 beakers 600 ml	USC300/USC500 models	1	**142-6035**
Positioning lid for 4 beakers 250 ml	USC900 models	1	**142-1703**
Positioning lid for 4 beakers 600 ml	USC900 models	1	**142-1705**
Positioning lid for 8 beakers 250 ml	USC2100/USC2600 models	1	**142-6033**
Covering lid for 2 beakers 250 ml	USC100 models	1	**142-6050**
Covering lid for 2 beakers 600 ml	USC600 models	1	**142-6037**
Covering lid for 4 beakers 600 ml	USC1200 models	1	**142-6038**
Covering lid for 4 beakers 600 ml	USC1700 models	1	**142-6039**
Covering lid for 8 beakers 600 ml	USC2100/USC2600 models	1	**142-6040**
Glass beakers, 250 ml	all models	2	**142-6042**
Rubber bands for 250 ml beaker	all models	1	**142-0111**
Rubber bands for 650 ml beaker	all models	1	**142-0112**

Application	Refrigerated circulators	Recirculating chillers	Heated circulators	MX immersion circulators	Calibration baths	Bench top chillers (LS/LM/MM)	Coliform baths	Cryoprecipitate bath	General purpose water baths	Immersion probes and flow through coolers	Role of temperature controlled equipment
Acid cooling		x									Removes the heat from reaction ensuring process equipment is protected.
Anodising	x	x				x					Keeps acid bath at the correct temperature.
Asphalt sample tempering	x					x					Asphalt ductility testing typically requires temperature control to be better than 1 °C.
Atomic Absorption Spectroscopy (AAS)		x									Tube heating must be closely controlled but the clamps need to be precisely cooled to prevent damage to the clamps and distortion of results.
Bacterial incubation											See 'Incubation'
Bakeries		x									Chillers maintain temperature during the mixing process of some baking processes.
Bioreactor		x									Changes in temperature effects growth inside the bioreactor; temperature can be controlled or ramped from one to another.
Blood banks - blood thawing	x							x			When Fresh Frozen Plasma (FFP) is thawed at the proper temperature and rate, a precipitate forms that is rich in fibrogen, factor VIII, von Willebrand factor, factor XIII and fibronectin.
Blow moulding		x									Heat removal is critical in ensuring the moulding machine performs at optimal levels, e.g. plastic bottle production.
Calibration	x	x	x	x	x						Many circulating baths and chillers can be used in calibration, depending on the application, the thermal load is usually very small, so choose a product based on temperature stability, good circulation and uniformity. Other features such as programmability and data logging may also be helpful.
CCD camera cooling	x	x				x					See 'Peltier devices'
Cell culture	x		x								Changes in temperature will effect cell growth, use eqipment to maintain one temperature or to ramp from temperature to temperature.
Cell freezing	x										Refrigerated circulators for a sub ambient environment and quick freeze.
Chemical processing		x									Cooling is needed to ensure that the process and follow-up testing are done accurately.
Chromatography column	x		x								Control and maintenance of column temperature are important for retention time reproducibility.
Cloud point testing	x										The sample is periodically examined while it is being cooled in the cloud and pour point apparatus. A refrigerated circulator is necessary to maintain the sample at -1, -18 and -35 °C for test measurement according to ASTM requirements. Temperatures depend on the sample 100 to -50 °C.
Computed Tomography (CT) scanning		x									CT scan equipment adds a large heat load at medical sites; adequate cooling is needed to prevent the equipment from overheating and malfunctioning.
Concentrator/extractor		x									Cooling/condensing of solvent for recycling or disposal.
Condenser cooling	x	x				x				x	A device that transfers heat out of a refrigeration system to a medium (either air, water, or a combination of air and water), that absorbs heat and transfers it to a disposal point.
Culture media warming	x		x	x							A heating circulator is extremely convenient for dissolving culture media and warming.
Defined substrate technology testing							x				See '*E. coli* determination'
Densitometers	x	x				x					Maintains optimised readout temperature between 18 and 27 °C, and protects from electronics that heat the unit up significantly. Where an instrument is placed within a bath to determine readings, good circulation and uniformity of the bath are critical.
Diffusion pumps		x									Chilled water circulates through coils on the outside of the chamber to cool the chamber, thereby preventing thermal runaway and permitting operation over long periods of time.
Distillation apparatus	x										Use to condense fractions as they are distilled off according to boiling point.

Application	Refrigerated circulators	Recirculating chillers	Heated circulators	MX immersion circulators	Calibration baths	Bench top chillers (LS/LM/MM)	Coliform baths	Cryoprecipitate bath	General purpose water baths	Immersion probes and flow through coolers	Role of temperature controlled equipment
DNA melting curves	x		x								DNA melting curve analysis can identify single copy gene fragments amplified from genomic DNA.
Dry ice replacement		x								x	A cooler/chiller can be an advantage over having to keep dry ice on hand, and is more economical than continually purchasing dry ice.
E. coli determination							x				Testing drinking water for the presence/absence of coliforms and E. coli in compliance with Safe Drinking Water Regulations.
Electrical Discharge Machining (EDM)		x									The electrolyte fluid needs cooling as sparks produced while machining generate heat. Power levels are probably around 1 kW.
Electron microscopes											An electron microscope is a large microscope that is capable of looking at the electron level of elements. A laser is used to control the temperature of the exciter lamp. See 'Lasers'
Electrophoresis and isoelectric focusing	x										Good temperature control of plate or tank reduce variation in results and ensures gel remains undamaged by heat energy from electric current.
Enzyme assays	x		x	x							A circulator is used to maintain the optimum temperature of a given enzyme sample.
Exothermic reaction cooling	x	x				x				x	Exothermic processes that release heat energy. Refrigerated systems assist in controlling the requisite temperature.
Faecal coliform testing							x				Testing can be done specifically for faecal coliform or for total coliform bacteria, which includes all coliform strains and may indicate faecal contamination.
Fermentation - e.g. beer or wine		x									Controlling the temperature during fermentation processes is critical to get the right taste and composition.
Food processing		x									The method of transforming raw ingredients into consumable food relies heavily on temperature control technology. Specific temperatures are critical for handling food.
Fourier Transform Infrared Spectroscopy (FTIR)	x		x								FTIR is capable of capturing roughly 60 compounds within the IR scale. A heated circulator is required to maintain the vapourised compound sample in its normal state (185 °C) and prevent it returning to liquid.
Freeze point determination	x										A refrigerated circulator is used to reduce the temperature of the heated solution while the solution is observed for initial crystalline formation and subsequent freezing. These systems require good temperature control with temperature traceability and low heat loads.
Gas Chromatography Mass Spectrometry (GC-MS)		x									Smaller, tabletop units do not require sub ambient cooling; however, larger, more expensive units that use turbo molecular pumps or diffusion pumps can require sub ambient cooling.
General lab cooling	x	x				x					Normally a refrigerated circulator will provide the necessary temperature level required to cool a sample.
Hydraulics cooling		x									Heating of the hydraulic fluid in operation is caused by inefficiencies. Inefficiencies result in loss of input power, which is converted to heat. It is important to not allow the fluid temperature to exceed the point at which viscosity falls below the optimum level for the system's components.
Hydrocooling		x									Process of chilling food, such as fruits and vegetables, in order to stop the process of ripening without freezing, which destroys its composition.
Impact testing	x										Pieces are tested at various temperatures to replicate seasonal or ambient changes. For example, freezing/thawing changes or operation of a specific piece in a cold vs. warm environment. Temperature can usually be controlled by the use of a refrigerated circulator.
Incubation	x	x	x			x					For most cell cultures, 37 °C is optimal temperature and a heating recirculator or circulating bath will provide this. Incubation can be done at lower temperatures where refrigeration may be helpful. Accurate temperature control and temperature traceability may also be required
Incubation water jacket	x	x									The inner wall of the jacket conducts the fluid temperature to allow air temperature control inside the incubator without affecting the humidity.
Inductively Coupled Plasma (ICP)		x									Cooling is needed to keep components from overheating. Precise temperature control is not important.

TEMPERATURE MONITORING APPLICATION GUIDE - GET THE RIGHT TOOL FOR THE JOB

Application	Refrigerated circulators	Recirculating chillers	Heated circulators	MX immersion circulators	Calibration baths	Bench top chillers (LS/LM/MM)	Coliform baths	Cryoprecipitate bath	General purpose water baths	Immersion probes and flow through coolers	Role of temperature controlled equipment
Injection moulding		x**									A chiller is used to cool the moulds in order to have the plastic release. Rapidly cooling the mould solidifies melted plastic allowing it to be released.
Kinetic research	x		x	x							Kinetic energy is the energy of motion. This motion changes based on the temperature of the atom or substance being measured.
Laminating		x				x					Generally, setting time would be dependent on these three items, but by efficiently applying cooling, we can reduce downtime and speed up the lamination process.
Lasers/laser cooling		x				x					Failure to remove heat from the laser can lead to the laser not meeting performance standards, or even worse, premature failure. Gas lasers are large power consumers. Precise temperature is not important. Temperature for cooling an argon laser is 20 °C or so. Carbon dioxide lasers work better at low temperatures below 0 °C. Good flow is important. Loss of coolant will result in immediate shut down due to the result of overheating and damage to equipment. Diode lasers have similar requirements, but have smaller heat loads, a hundred to a kW for lab systems.
Liquid nitrogen replacement		x								x	The convenience of a cooler/chiller can be an advantage over having LN2 on hand.
Lithographic equipment		x									These are typically small laser systems that require about 100 W of heat removal and good pumping (6306T or 6106T).
Lypholisation										x	See 'Dry ice replacement'
Machine tool		x									Always use a liquid-to-liquid heat exchanger with one path for the cutting oil and the other for the chiller.
Magnetic Resonance Imaging (MRI)		x									The electrical current through the coils generates heat that must be removed. Precise temperature control is not important.
Medical diagnostic equipment		x									See 'CT', 'MRI' and 'PET scanners'. These are examples of medical diagnostic equipment that need temperature control.
Milling machines		x									See 'Machine tool'
Nuclear Magnetic Resonance (NMR)		x				x					NMRs using electromagnetic field generation have coils that consume tens of kW and must be kept at constant reproducible temperature. High flows and precise temperature control are very important.
Peltier devices	x	x				x					Chiller removes the heat from the heat sink that is that is collected from the cooling side of the Peltier device.
PET scanners		x*									Chillers cool the high powered electronics inside the machines that are the latest in medical diagnostic tools.
Petroleum testing			x								See 'Viscosity measurement'
Photographic solution tempering	x		x								Photographic solutions require precise temperature control in order to produce consistent and repeatable results.
Pilot plants		x									A variety of temperature control devices may be needed depending on the specific processes being tested.
Plasma etching		x									See 'Plasma torch cutting'
Plasma thawing								x			When FFP is thawed in the cold, a cryoprecipitate forms, which is rich in fibrinogen, factor VIII, von Willebrand factor, factor XIII and fibronectin.
Plasma torch cutting		x									The plasma is hot enough to melt or cut the metal. Cooling is needed to maintain tolerances.
Plastic injection moulding		x**									See 'Injection moulding'
Polarimeter	x										After sample preparation, many samples require cooling.
Polymer studies	x		x								This can involve the study of thermal annealing - determination of a plastic's properties at different temperatures.
Pour point testing	x										See 'Cloud point testing'
Printing		x									See 'Lithographic equipment' and 'Hydraulics cooling'
Quick cooling	x	x				x				x	Low temperatures and good flow rate are important. Temperatures well below 0 °C; the lower the better.
Reaction vessel	x	x				x					A chiller is used to control the vessel temperature by circulation throughout the vessel's jacketed surface.

*Turbine pump configurations are recommended
**High flow pumps are typically required

Application	Refrigerated circulators	Recirculating chillers	Heated circulators	MX immersion circulators	Calibration baths	Bench top chillers (LS/LM/MM)	Coliform baths	Cryoprecipitate bath	General purpose water baths	Immersion probes and flow through coolers	Role of temperature controlled equipment
Refractometers	x	x	x			x					Substances with a known refractive index at a specific temperature are more readily identified by maintaining the sample at the correct temperature with a circulator or chiller.
Rotary evaporators	x	x				x				x	A chiller or refrigerated circulating bath will help cool the vapour in a condenser, allowing faster collection of the components for further analysis or disposal.
Sample testing	x		x	x							Samples can be cooled, heated, or ramped between cold and heat to learn what properties of the sample will be changed at what point. Viscosity testing is an example of sample testing.
Scanning electron microscopes		x									A chiller is required for sufficient heat removal.
Solvent trapping										x	Designed to capture solvent vapours from extractions, often to comply with the safety requirements.
Spectrophotometers	x										Circulators used to maintain specific temperatures.
Sputtering systems		x									Vacuum disposition system for successful coating of film used in semiconductor applications. System promotes adhesion, densifies coating and creates residual compressive stress in the film.
Temperature gradients	x		x	x	x				x		The temperature gradient is defined only at those spatial scales at which temperature (more generally, fluid thermodynamics) itself is defined.
Thawing frozen samples	x		x	x					x		Many frozen products can be steeped in a warm heated circulator for rapid thaw, while other, more fragile products need to be brought to temperature slowly at temperatures at or below ambient.
Turbo molecular pump						x				x	Turbo molecular pumps are used in semiconductor processing. There are two separate areas to look at. The first is cooling of the pump. Heat loads are typically small, a few hundred watts. Precise temperature is not important. The second area is cooling the trap that connects to the vacuum. Liquid nitrogen is often used for this, but an Immersion probe cooler is an excellent alternative.
Vacuum forming or vacuuforming		x									Cooling keeps the mould at a consistent temperature to maintain tolerances in production; without cooling, the mould would expand with each application of heated plastic.
Vacuum systems/vacuum traps	x	x								x	For low temperature operation, the cold trap is immersed in a Dewar flask. These traps effectively remove solvent and reactant vapours.
Viscosity measurement	x		x								Precise temperature control is paramount as is traceability to temperature standard. The viscometer is placed directly into the bath. Good circulation and uniformity of the bath are critical.
Warming culture media	x		x	x					x		Culture media should be brought to the optimal required growth temperature prior to inoculation (usually 37 °C). This warming process can be accomplished with the use of a heating circulator or general purpose water bath.
Water jet cutting		x									Preferred method when the materials being cut are sensitive to high temperatures generated by other methods.
Welders/welding		x									For some pieces of welding equipment, heat needs to be removed from the welding head to preserve the integrity of parts of the head. Small TIG or MIG welders consume 2 - 3 kW. x
X-Ray diffraction		x									The X-Ray tube must be cooled. Precise temperature control is not important but loss of cooling will trip shut down power supply.



Immersion thermostat, MX

The MX immersion thermostat is user friendly with three control buttons and on-screen prompts. The convenient slide control enables the flow rate to be easily adjusted, and it can clamp securely to straight or curved tank walls.

- Large EasyView™ LCD display with alarm or fault icons and English prompts and menus
- User-adjustable high and low temperature limits and low liquid level alarms
- Single speed pressure pump
- Integral pump and heater coil protection
- Single point calibration

Complies with DIN 12876-1, Safety Class I

Maximum pump capacities:
11,9 l/min, 120 mbar

Type	Temp. range (°C)	Temp. stability (°C)	Heating capacity (kW)	W×D×H (mm)	Weight (kg)	Pk	Cat. No.
MX	RT*+10...135	±0,07	1,1	109×97×358	4,5	1	**462-0205**

* RT = Ambient

Baths, polycarbonate with MX temperature controller

Transparent polycarbonate baths keep samples visible, units feature user friendly MX temperature controller with three control buttons and on-screen prompts. The convenient slide control enables the flow rate to be easily adjusted, the elevated tank bottom gives secure handholds when lifting or positioning the bath and is stable on uneven surfaces. Controller bridge made from heat and chemical resistant DuraTop™ is easily removed to clean the tank. The 17 and 28 litre models have a drain and opening with lid for optional cooling coil which is ideal for set points near ambient temperature.

- Large EasyView™ LCD display with alarm or fault icons and English prompts and menus
- User-adjustable high and low temperature limits and low liquid level alarms
- Single speed pressure pump
- Integral pump and heater coil protection
- Single point calibration

Complies with DIN 12876-1 Class I safety requirements for use with non flammable liquids

Maximum pump capacities:
11,9 l/min, 120 mbar

Delivery information: Supplied with a lid.



Type	Temp. range (°C)	Temp. stability (°C)	Heating capacity (kW)	Capacity (l)	Bath W×D×H (mm)	W×D×H (mm)	Pk	Cat. No.
MX11P100	RT* +10...85	±0,07	1,1	11	156×210×203	208×532×441	1	**462-0206**
MX17P100	RT* +10...85	±0,07	1,1	17	305×105×203	345×457×441	1	**462-0207**
MX28P100	RT* +10...85	±0,07	1,1	28	300×315×203	345×562×441	1	**462-0208**

Description	For	Pk	Cat. No.
Accessories			
Cooling coil	Use with VWR baths, 462-0207, 462-0208, 462-0212, 462-0213 and 462-0214	1	**462-0279**
Lids for polycarbonate baths			
Replacement lid for VWR open bath systems	Polycarbonate baths with 11 litre capacity (462-0206)	1	**462-0281**
Replacement lid for VWR open bath systems	Polycarbonate baths with 17 litre capacity (462-0207)	1	**462-0283**
Replacement lid for VWR open bath systems	Polycarbonate baths with 28 litre capacity (462-0208)	1	**462-0285**

* RT = Ambient

Baths for thermostats

Made from stainless steel or polycarbonate. Ideal for use with VWR immersion thermostats. To be used where the durability of stainless steel or the transparency of polycarbonate are advantageous.

- Open baths, ideal for use with immersion thermostats from VWR or other manufacturers
- Available in stainless steel or polycarbonate
- Robust and durable
- Easy to clean

Note: The temperature ranges listed below apply only when the vessels are used with immersion thermostats; an immersion thermostat is required but not supplied with the bath.





Temp. range (°C)	Capacity (l)	Bath W×D×H (mm)	W×D×H (mm)	Pk	Cat. No.
Polycarbonate					
<85	8	284×156×203	302×174×232	1	**462-0265**
<85	11	389×156×203	406×174×232	1	**462-0266**
<85	14	493×156×203	513×174×232	1	**462-0267**
<85	17	312×305×203	351×324×232	1	**462-0268**
<85	23	417×305×203	455×324×232	1	**462-0269**
<85	28	523×305×203	561×324×232	1	**462-0270**
Stainless steel					
<150	13	229×165×203	321×289×244	1	**462-0263**
<150	28	419×216×203	530×327×244	1	**462-0264**



Baths and lids, stainless steel, with MX temperature controller

Stainless steel baths with user friendly MX temperature controller with three control buttons and on-screen prompts. The convenient slide control enables the flow rate to be easily adjusted. Baths can be used for external circulation, the controller bridge, made from chemically resistant DuraTop™, is easily removed to clean the tank. The 10 and 20 litre models have an opening with lid for optional cooling coil which is ideal for set points near ambient temperature.

- Large EasyView™ LCD display with alarm or fault icons and English prompts and menus
- User-adjustable high and low temperature limits and low liquid level alarms
- Single speed pressure pump
- Integral pump and heater coil protection
- Single point calibration

Complies with DIN 12876-1, Safety Class I

Maximum pump capacities:
11,9 l/min, 120 mbar

Delivery information: Supplied with a bath cover.

Type	Temp. range (°C)	Temp. stability (°C)	Heating capacity (kW)	Capacity (l)	Bath W×D×H (mm)	W×D×H (mm)	Pk	Cat. No.
MX06S135	RT* +10...135	±0,07	1,1	6	110×100×152	206×340×406	1	**462-0211**
MX10S135	RT* +10...135	±0,07	1,1	10	255×99×152	342×353×406	1	**462-0212**
MX20S135	RT* +10...135	±0,07	1,1	20	214×257×203	342×531×457	1	**462-0213**

Description	For	Pk	Cat. No.
Accessories			
Cooling coil	Use with VWR baths, 462-0207, 462-0208, 462-0212, 462-0213 and 462-0214	1	**462-0279**
Lids for stainless steel baths			
Replacement lid for VWR open bath systems	Stainless steel baths with 6 litre capacity (462-0211)	1	**462-0286**
Replacement lid for VWR open bath systems	Stainless steel baths with 10 litre capacity (462-0212)	1	**462-0287**
Replacement lid for VWR open bath systems	Stainless steel baths with 20 litre capacity (462-0213)	1	**462-0288**

* RT = Ambient

Heated circulating baths

Description	Controller type	Temp. range	Temp. stability	Display resolution		Heater	Pump speed	Max. pressure flow rate	Max. pressure		Max. suction flow rate	Cat. No.
		(°C)	(°C)	Set	Read	W		(l/min)	psi	bar	(l/min)	
Immersion circulator	MX immersion	Ambient +10...+135	±0,07	0,1	0,1	1100	One	11,9	1,8	0,12	-	462-0205
7 l Circulator	Advanced Digital	Ambient +10...+200	±0,01	0,01	0,01	2200	Variable	16,7	3,6	0,25	12,2	462-0215
7 l Circulator	Advanced Programmable	Ambient +10...+200	±0,01	0,01	0,001	2200	Variable	16,7	3,6	0,25	12,2	462-0216
15 l Circulator	Advanced Digital	Ambient +10...+200	±0,01	0,01	0,01	2200	Variable	16,7	3,6	0,25	12,2	462-0217
15 l Circulator	Advanced Programmable	Ambient +10...+200	±0,01	0,01	0,001	2200	Variable	16,7	3,6	0,25	12,2	462-0218
20 l Circulator	Advanced Digital	Ambient +10...+200	±0,01	0,01	0,01	2200	Variable	16,7	3,6	0,25	12,2	462-0219
20 l Circulator	Advanced Programmable	Ambient +10...+200	±0,01	0,01	0,001	2200	Variable	16,7	3,6	0,25	12,2	462-0220
28 l Circulator	Advanced Digital	Ambient +10...+200	±0,01	0,01	0,01	2200	Variable	16,7	3,6	0,25	12,2	462-0221
28 l Circulator	Advanced Programmable	Ambient +10...+200	±0,01	0,01	0,001	2200	Variable	16,7	3,6	0,25	12,2	462-0222
Open bath systems												
11 l Open bath system	MX	Ambient +10...+85	±0,07	0,1	0,1	1100	One	11,9	1,8	0,12	-	462-0206
17 l Open bath system	MX	Ambient +10...+85	±0,07	0,1	0,1	1100	One	11,9	1,8	0,12	-	462-0207
28 l Open bath system	MX	Ambient +10...+85	±0,07	0,1	0,1	1100	One	11,9	1,8	0,12	-	462-0208
6 l Open bath system	MX	Ambient +10...+135	±0,07	0,1	0,1	1100	One	11,9	1,8	0,12	-	462-0211
10 l Open bath system	MX	Ambient +10...+135	±0,07	0,1	0,1	1100	One	11,9	1,8	0,12	-	462-0212
20 l Open bath system	MX	Ambient +10...+135	±0,07	0,1	0,1	1100	One	11,9	1,8	0,12	-	462-0213

Specialty baths

Description	Controller type	Temp. range	Temp. stability	Display resolution		Reservoir capacity	Tank material	Heater	Display/interface	Pump type	Pump speed	Cat. No.
		°C	°C	Set	Read	l		W				
Viscosity bath, 29 l, 5 round	Standard Digital	Ambient +10...+85	±0,04	0,01	0,01	29	Polycarbonate	2200	3,75" touch pad LCD	Pressure	Two	462-0209
Viscosity bath, 29 l, 3 square	Standard Digital	Ambient +10...+85	±0,04	0,01	0,01	29	Polycarbonate	2200	3,75" touch pad LCD	Pressure	Two	462-0210
Coliform bath, 28 l	MX	Ambient +10...+135	±0,07	0,1	0,1	28	Stainless steel	1100	3,25" LCD	Pressure	One	462-0214

Refrigerated circulator baths

Description	Controller type	Temp. range	Temp. stability	Display resolution		Cooling capacity (W)				Heater	Pump type	Pump speeds	Max. pressure flow rate	Cat. No.
		°C	°C	Set	Read	100 °C	20 °C	0 °C	-20 °C	W			l/min	
-20, 7 l Circulator, low profile	Advanced Digital	-20...+200	±0,01	0,01	0,01	200	200	120	30	2200	Pressure/suction	Variable	16,7	462-0224
-20, 7 l Circulator, low profile	MX	-20...+135	±0,07	0,1	0,1	200	200	120	30	1100	Pressure	One	10,6	462-0223
-20, 7 l Circulator	Advanced Digital	-20...+200	±0,01	0,01	0,01	200	200	120	30	2200	Pressure/suction	Variable	16,7	462-0226
-20, 7 l Circulator	MX	-20...+135	±0,07	0,1	0,1	200	200	120	30	1100	Pressure	One	10,6	462-0225
-20, 7 l Circulator	Advanced Programmable	-20...+200	±0,01	0,01	0,001	200	200	120	30	2200	Pressure/suction	Variable	16,7	462-0227
-40, 7 l Circulator	Advanced Digital	-40...+200	±0,01	0,01	0,01	505	505	375	130	2200	Pressure/suction	Variable	16,7	462-0228
-40, 7 l Circulator	Advanced Programmable	-40...+200	±0,01	0,01	0,001	505	505	375	130	2200	Pressure/suction	Variable	16,7	462-0229
-30, 15 l Circulator	Advanced Digital	-30...+200	±0,01	0,01	0,01	915	915	505	165	2200	Pressure/suction	Variable	16,7	462-0230
-30, 15 l Circulator	Advanced Programmable	-30...+200	±0,01	0,01	0,001	915	915	505	165	2200	Pressure/suction	Variable	16,7	462-0231
-40, 15 l Circulator	Advanced Digital	-40...+200	±0,01	0,01	0,01	1000	1000	650	265	2200	Pressure/suction	Variable	16,7	462-0232
-40, 15 l Circulator	Advanced Programmable	-40...+200	±0,01	0,01	0,001	1000	1000	650	265	2200	Pressure/suction	Variable	16,7	462-0233
-30, 20 l Circulator	Advanced Digital	-30...+200	±0,01	0,01	0,01	915	915	505	165	2200	Pressure/suction	Variable	16,7	462-0234
-30, 20 l Circulator	Advanced Programmable	-30...+200	±0,01	0,01	0,001	915	915	505	165	2200	Pressure/suction	Variable	16,7	462-0235
-30, 28 l Circulator	Advanced Digital	-30...+200	±0,01	0,01	0,01	915	915	505	165	2200	Pressure/suction	Variable	16,7	462-0236
-30, 28 l Circulator	Advanced Programmable	-30...+200	±0,01	0,01	0,001	915	915	505	165	2200	Pressure/suction	Variable	16,7	462-0237
-25, 45 l Circulator	Advanced Digital	-25...+135	±0,01	0,01	0,01	1400	1400	800	250	2200	Pressure/suction	Variable	16,7	462-0238
-25, 45 l Circulator	Advanced Programmable	-25...+135	±0,01	0,01	0,001	1400	1400	800	250	2200	Pressure/suction	Variable	16,7	462-0239

Pump connection	Working access	Overall dimensions	Flammability class	Over-temp.protection/failsafe heater control	Low level protection	Reservoir drain	Cooling coil	Shipping weight	Cat. No.
	LxWxD (cm)	LxWxD (cm)	DIN 12876-1					kg	
-	-	10,9x9,7x35,8	I (NFL)	•	•			4,53	462-0205
M16x1	15,7x14,2x12,7	49,9x22,1x40,9	III (FL)	•	•	•	•	19,026	462-0215
M16x1	15,7x14,2x12,7	49,9x22,1x40,9	III (FL)	•	•	•	•	19,026	462-0216
M16x1	21,2x27,6x14	56,9x36,8x42,2	III (FL)	•	•	•	•	28,086	462-0217
M16x1	21,2x27,6x14	56,9x36,8x42,2	III (FL)	•	•	•	•	28,086	462-0218
M16x1	25x31,6x14	61x41,9x42,2	III (FL)	•	•	•	•	31,71	462-0219
M16x1	25x31,6x14	61x41,9x42,2	III (FL)	•	•	•	•	31,71	462-0220
M16x1	31,4x35,9x14	67,2x45,7x42,2	III (FL)	•	•	•	•	37,146	462-0221
M16x1	31,4x35,9x14	67,2x45,7x42,2	III (FL)	•	•	•	•	37,146	462-0222
½" O.D. barbed tubes	21x15,6x20,3	42,7x20,8x44,1	I (NFL)	•	•			9,5	462-0206
½" O.D. barbed tubes	10,5x30,5x20,3	35,3x34,5x44,1	I (NFL)	•	•	•	Acc	14,496	462-0207
½" O.D. barbed tubes	31,5x30,5x20,3	56,2x34,5x44,1	I (NFL)	•	•	•	Acc	25,368	462-0208
½" O.D. barbed tubes	10x11x15,2	34x20,6x40,6	I (NFL)	•	•			9,06	462-0211
½" O.D. barbed tubes	9,9x25,5x15,2	35,3x34,2x40,6	I (NFL)	•	•		Acc	17,667	462-0212
½" O.D. barbed tubes	26,4x22,8x15,2	53,1x34,2x40,6	I (NFL)	•	•		Acc	24,462	462-0213

Max. pressure	Flow rate	Max. pressure		Pump connection	Working access	Overall dimensions	Flammability class	Over-temp. protection/ failsafe heater control	Low level protection	Reservoir drain	Cooling coil port	Max. ambient temp.	Shipping weight	Cat. No.
gpm	l/min	psi	bar		LxWxD (cm)	LxWxH (cm)	DIN 12876-1					°C	kg	
2,7	10,2	2,9	0,2	M16x1	(5)x5,1 Ø28,6	54,4x 22,9x52,6	I (NFL)	•	•	•	•	35	33,975	462-0209
2,7	10,2	2,9	0,2	M16x1	(3)x8,9x8,9x28,6	54,4x 22,9x52,6	I (NFL)	•	•	•	•	35	33,975	462-0210
3,1	11,9	1,8	0,12	½" O.D. barbed tubes	30x32,8x21,1	35,3x54,6x45,7	I (NFL)	•	•		•	35	29,898	462-0214

Max. pressure		Max. suction flow rate	Pump connection	Working access	Overall dimensions	Flammability class	Over-temp.protection/failsafe heater control	Low level protection	Reservoir drain	Max. ambient temp.	Refrigerant	Shipping weight	Cat. No.
psi	bar	l/min		LxWxD (cm)	LxWxD (cm)	DIN 12876-1				°C		kg	
3,6	0,25	12,2	M16x1	15,7x14,2x12,7	58,9x41,1x41,1	III (FL)	•	•	•	35	R134a	40,77	462-0224
1,5	0,1		½" O.D. barbed tubes	15,7x14,2x12,7	58,9x41,1x43,9	I (NFL)	•	•	•	35	R134a	38,052	462-0223
3,6	0,25	12,2	M16x1	15,7x14,2x12,7	54,1x22,1x61,7	III (FL)	•	•	•	35	R134a	40,77	462-0226
1,5	0,1		½" O.D barbed tubes	15,7x14.2x12,7	54,1x22,1x64,5	I (NFL)	•	•	•	35	R134a	38,052	462-0225
3,6	0,25	12,2	M16x1	15,7x14,2x12,7	54,1x22,1x61,7	III (FL)	•	•	•	35	R134a	40,77	462-0227
3,6	0,25	12,2	M16x1	15,7x14,2x12,7	54,1x22,1x61,7	III (FL)	•	•	•	35	R404a	40,77	462-0228
3,6	0,25	12,2	M16x1	15,7x14,2x12,7	54,1x22,1x61,7	III (FL)	•	•	•	35	R404a	40,77	462-0229
3,6	0,25	12,2	M16x1	21,2x27,6x14	56,9x36,8x68,3	III (FL)	•	•	•	35	R404a	53,454	462-0230
3,6	0,25	12,2	M16x1	21,2x27,6x14	56,9x36,8x68,3	III (FL)	•	•	•	35	R404a	53,454	462-0231
3,6	0,25	12,2	M16x1	21,2x27,6x14	56,9x36,8x68,3	III (FL)	•	•	•	35	R404a	53,454	462-0232
3,6	0,25	12,2	M16x1	21,2x27,6x14	56,9x36,8x68,3	III (FL)	•	•	•	35	R404a	53,454	462-0233
3,6	0,25	12,2	M16x1	25x31,6x14	61x41,9x68,3	III (FL)	•	•	•	35	R404a	58,89	462-0234
3,6	0,25	12,2	M16x1	25x31,6x14	61x41,9x68,3	III (FL)	•	•	•	35	R404a	58,89	462-0235
3,6	0,25	12,2	M16x1	31,4x35,9x14	67,2x45,7x68,3	III (FL)	•	•	•	35	R404a	66,138	462-0236
3,6	0,25	12,2	M16x1	31,4x35,9x14	67,2x45,7x68,3	III (FL)	•	•	•	35	R404a	66,138	462-0237
3,6	0,25	12,2	M16x1	54,9x39,8x14	90,9x56,8x107	III (FL)	•	•	•	35	R134a	81,54	462-0238
3,6	0,25	12,2	M16x1	54,9x39,8x14	90,9x56,8x107	III (FL)	•	•	•	35	R134a	81,54	462-0239

Heating circulators





Stainless steel circulating baths with choice of Advanced Programmable or Advanced Digital temperature controller. Both are easy to navigate with large, intuitive displays and multiple communication options including USB-A & B, RS232/485, Ethernet and external temperature probe. The reservoir drain can be accessed by removing the front panel. All models feature user-adjustable high temperature safety cut-off points as well as over-temperature protection. The DuraTop™ surface is cool to the touch even when operating at high temperatures.

Advanced Digital models feature an intuitive 9,5 cm display with touch pad control, single point calibration, menus and prompts in 4 languages: French, German, Spanish and English.

Advanced Programmable models have an intuitive 10,9 cm SmartTouch display, 5-point calibration capability, menus and prompts in 6 languages: French, German, Spanish, English, Chinese and Arabic, plus time/temperature programming (ten 100-step programs).

- Working temperatures from ambient +10 to 200 °C with stability of ±0,01 °C
- Variable speed pressure/suction pump with external circulation and temperature control capability
- Swivel 180™ rotating controllers, LidDock™ lid stowing system and DuraTop™ chemically resistant deck
- Event scheduling (time and date), real time clock and temperature trends for up to 10 days with Advanced Programmable models
- Selectable home screens and on-screen help
- Automatic and/or user-adjustable performance optimisation



Comply with DIN 12876-1, Safety Class III
Maximum pump capacities:
16,7 l/min, 250 mbar; suction: 12,2 l/min

Delivery information: Supplied with a reservoir cover, bypass tubing, male inlet and outlet adapters for 47, 63 and 95 mm tubing, ¼" to M16 adapters are also included.
For probes and accessories, please visit vwr.com.

Type	Temp. range (°C)	Temp. stability (°C)	Heating capacity (kW)	Capacity (l)	Bath W×D×H (mm)	W×D×H (mm)	Pk	Cat. No.
Models with Advanced Digital temperature controller								
AD07H200	RT* +10…200	±0,01	2,2	7	142×157×127	221×499×409	1	**462-0215**
AD15H200	RT* +10…200	±0,01	2,2	15	276×212×140	368×569×422	1	**462-0217**
AD20H200	RT* +10…200	±0,01	2,2	20	316×250×140	419×610×422	1	**462-0219**
AD28H200	RT* +10…200	±0,01	2,2	28	359×314×140	457×672×422	1	**462-0221**
Models with Advanced Programmable temperature controller								
AP07H200	RT* +10…200	±0,01	2,2	7	142×157×127	221×499×409	1	**462-0216**
AP15H200	RT* +10…200	±0,01	2,2	15	276×212×140	368×569×422	1	**462-0218**
AP20H200	RT* +10…200	±0,01	2,2	20	316×250×140	419×610×422	1	**462-0220**
AP28H200	RT* +10…200	±0,01	2,2	28	359×314×140	457×672×422	1	**462-0222**

Description	Pk	Cat. No.
Remote temperature probes for VWR circulators		
PT100 probe with 0,6 m cable	1	**462-0271**
PT100 probe with 3 m cable	1	**462-0272**
PT100 probe with 7,6 m cable	1	**462-0273**
PT100 probe with 15 m cable	1	**462-0274**

(* RT = Ambient)

Refrigerated circulating baths with MX temperature controller





Stainless steel baths with user friendly MX temperature controller with three control buttons and on-screen prompts. Baths can be used for external closed loop circulation. The controller rests on a chemically resistant DuraTop™ deck, which is cool to the touch even when working at high temperatures and units feature LidDock™ lid stowing system. Cool Command™ technology regulates the amount of cooling required, saving energy while providing rapid cooling and precise control at elevated temperatures.

- Large EasyView™ LCD display with alarm or fault icons and English prompts and menus
- User-adjustable high and low temperature limits and low liquid level alarms
- Single speed pressure pump with external closed loop circulation capability
- Integral pump and heater coil protection
- Single point calibration

Complies with DIN 12876-1, Safety Class I

Maximum pump capacities:
11,9 l/min, 120 mbar

Delivery information: Supplied with a reservoir cover, bypass tubing, male inlet and outlet adapters for 47, 63 and 95 mm tubing, ¼" to M16 adapters are also included.

Type	Temp. range (°C)	Temp. stability (°C)	Heating capacity (kW)	Cooling capacity (kW)	Capacity (l)	Bath W×D×H (mm)	W×D×H (mm)	Pk	Cat. No.
MX7LR-20 (low profile)	–20...+135	±0,07	1,1	0,2	7	142×157×127	411×589×439	1	**462-0223**
MX07R-20	–20...+135	±0,07	1,1	0,2	7	142×157×127	221×541×645	1	**462-0225**

Note: Cooling capacity at 20 °C

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Refrigerated circulators

Stainless steel circulating baths with choice of Advanced Programmable or Advanced Digital temperature controller. Both are easy to navigate with large, intuitive displays and multiple communication options including USB-A & B, RS232/485, Ethernet and external temperature probe. The reservoir drain can be accessed by removing the front panel. All models feature user-adjustable high temperature safety cut-off points as well as over-temperature protection. The DuraTop™ surface is cool to the touch even when operating at high temperatures.

Advanced Digital models feature an intuitive 9,5 cm display with touch pad control, single point calibration, menus and prompts in 4 languages: French, German, Spanish and English.

Advanced Programmable models have an intuitive 10,9 cm SmartTouch display, 5-point calibration capability, menus and prompts in 6 languages: French, German, Spanish, English, Chinese and Arabic, plus time/temperature programming (ten 100-step programs).

- Working temperatures from –40 to +200 °C with stability of ±0,01 °C (except 45 litre models with maximum 135 °C)
- Variable speed pressure/suction pump with external circulation and temperature control capability
- Swivel 180™ rotating controllers, LidDock™ lid stowing system, DuraTop™ chemically resistant deck and WhisperCool™ environmental control system reduces noise, increases refrigeration efficiency and lowers energy consumption
- Cool Command™ technology regulates the amount of cooling required, saving energy while providing rapid cooling and precise control at elevated temperatures
- Event scheduling (time & date), real time clock and temperature trends for up to 10 days with Programmable models
- Selectable home screens and on-screen help
- Automatic and/or user-adjustable performance optimisation

Comply with DIN 12876-1, Safety Class III
Maximum pump capacities:
16,7 l/min, 250 mbar, 12,2 l/min suction

Delivery information: Supplied with a reservoir cover, bypass tubing, male inlet and outlet adapters for 47, 63 and 95 mm tubing, ¼" to M16 adapters are also included. For probes and accessories, please visit vwr.com or contact your local VWR sales office.

Type	Temp. range (°C)	Temp. stability (°C)	Heating capacity (kW)	Cooling capacity (kW)	Capacity (l)	Bath W×D×H (mm)	W×D×H (mm)	Pk	Cat. No.
Models with Advanced Digital temperature controller									
AD7LR-20	–20…+200	±0,01	2,2	0,2	7	142×157×127	411×589×411	1	**462-0224**
AD07R-20	–20…+200	±0,01	2,2	0,2	7	142×157×127	221×541×617	1	**462-0226**
AD07R-40	–40…+200	±0,01	2,2	0,36	7	142×157×127	221×541×617	1	**462-0228**
AD15R-30	–30…+200	±0,01	2,2	0,915	15	276×212×140	368×569×683	1	**462-0230**
AD15R-40	–40…+200	±0,01	2,2	1,0	15	276×212×140	368×569×683	1	**462-0232**
AD20R-30	–30…+200	±0,01	2,2	0,915	20	316×250×140	419×610×683	1	**462-0234**
AD28R-30	–30…+200	±0,01	2,2	0,915	28	359×314×140	457×672×683	1	**462-0236**
AD45R-20	–25…+135	±0,01	2,2	1,4	45	398×549×140	568× 909× 1070	1	**462-0238**
Models with Advanced Programmable temperature controller									
AP07R-20	–20...+200	±0,01	2,2	0,2	7	142×157×127	221×541×617	1	**462-0227**
AP07R-40	–40…+200	±0,01	2,2	0,36	7	142×157×127	221×541×617	1	**462-0229**
AP15R-30	–30…+200	±0,01	2,2	0,915	15	276×212×140	368×569×683	1	**462-0231**
AP15R-40	–40…+200	±0,01	2,2	1,0	15	276×212×140	368×569×683	1	**462-0233**
AP20R-30	–30…+200	±0,01	2,2	0,915	20	316×250×140	419×610×683	1	**462-0235**
AP28R-30	–30…+200	±0,01	2,2	0,915	28	359×314×140	457×672×683	1	**462-0237**
AP45R-20	–25…+135	±0,01	2,2	1,4	45	398×549×140	568× 909× 1070	1	**462-0239**

Note: Cooling capacity at 20 °C



Remote temperature probes for VWR circulators

Remote temperature probes for use with circulators with a programmable controller. Permit points of control to be switched from inside a programmable circulator bath to a remote location, such as an open tank. Compensates for heat loss through tubing between the circulator and the control point. Platinum RTD sensor with stainless steel sheath. Rubber coupling with 25,4 mm Ø, connects sheath to flexible cable. Probe cable ends in a DB9 female plug.

LengthxØ: 152x4 mm

Description	Pk	Cat. No.
Remote temperature probe, 3 metre cable	1	**461-0101**
Remote temperature probe, 7,6 metre cable	1	**461-0102**
Remote temperature probe, 15,25 metre cable	1	**461-0103**

Circulating chillers

These circulating chillers are an environmentally friendly, water-conserving and a reliable means of controlling the temperature of liquids in open tanks or closed loop systems. They provide high cooling performance at low cost. With a temperature range from –10 to +40 °C, they are ideally suited for many process and routine applications. There are two pump versions available, with a wide choice of cooling volumes and compressor sizes to suit special applications. The devices are characterised by readily programmable, bright LED displays that can be read easily and comfortably. The standard, magnetically-coupled centrifugal pumps (MD model series) generate a high flow rate at relatively low pressure. The positive displacement pumps (PD model series) have a lower flow rate, but provide higher, adjustable pressures for more demanding applications. The modulating system maintains stable temperatures, even under fluctuating load conditions.
The circulating chillers provide a temperature stability of ±0,1 °C.
Dimensions (W×H×D): 368×575×702 mm



- Exceptional cooling performance and wide temperature range from –10 to +40 °C
- Extra large digital display for easy reading of the set temperature, the flow rate and/or the pressure even from a distance
- Optical and acoustic alarm function if any of the set parameters are not maintained
- Adjustable low and high temperature limits, low fluid level alarm function, temperature stability with easy to operate calibration function and optional interfaces for various functions, such as remote control

Max. flow rate / max. pressure:
MD: 14,7 l/min, 0,66 bar
PD: 3,6 l/min, 5,7 bar

Delivery information: Supplied with ½" lockable NPT inlet and outlet fittings and lockable castors. Each unit is supplied complete with three plugs: EU, UK and CH for use throughout Europe. Please contact your local VWR sales office for details of options and accessories.

Type	Cooling capacity (kW)	Pk	Cat. No.
MD models with magnetically coupled centrifugal pump			
1171MD	0,66/0,44/0,16*	1	**462-7033**
1173MD	0,99/0,74/0,41*	1	**462-7035**
1175MD	1,41/0,91/0,62*	1	**462-7036**
1177MD	2,07/1,41/0,63*	1	**462-7038**
1179MD	2,40/1,59/0,83*	1	**462-7040**
PD models with positive displacement pump			
1171PD	0,66/0,44/0,16*	1	**462-7032**
1173PD	0,99/0,74/0,41*	1	**462-7034**
1175PD	1,41/0,91/0,62*	1	**462-7037**
1177PD	2,07/1,41/0,63*	1	**462-7039**
1179PD	2,40/1,59/0,83*	1	**462-7041**

* Cooling capacity at +20, +10 and 0 °C

Recirculating chillers, RC-10 range



RC-10 Basic



RC-10 Digital



RC-10 Duo

VWR recirculating chillers are ideal for use with rotary evaporators, as they ensure constant, reproducible cooling conditions and avoid wasting tap water thereby increasing cost savings. Designed to be user friendly, the units have an easily accessible filling port on top of the unit and a drain tap at the back. The chillers have a stainless steel reservoir, operate using R134 refrigerant and can be used in the permitted ambient temperature range of 15 to 32 °C.

- Temperature set point can be adjusted by using the keys on the command panel (except the Basic model which has a fixed set point at 7 °C)
- The Duo chiller can cool two cooling cycles directly connected on the double outlets and inlets
- Regulate the temperature of the cooling cycle between –10 and +40 °C (use water and glycol mixture (70:30 mixture) for temperatures below +5 °C)
- Indicator on front panel for perfect visualisation of liquid level

Max. flow rate (with no counter pressure)/max. pressure (at zero flow)
RC-10 Basic 14 l/min, 0,4 bar
RC-10 Digital 8 l/min, 0,6 bar
RC-10 Duo 11 l/min, 1,0 bar

Delivery information: Basic and Digital units supplied with 2×8 Ø mm hose connections, 2× screw nuts M 16 × 1, 2× PVC hose (1500 mm) and 2× hose clamps, Duo models have four of each of these. Include EU, UK and CH power cables.

Type	Temp. range (°C)	Temp. stability	Cooling capacity (kW)	Capacity (l)	W×D×H (mm)	Pk	Cat. No.
RC-10 Basic	7*	±2 K	0,5	3,5	280×360×520	1	**462-0137**
RC-10 Digital	–10...+40	±0,5 K	0,5	3,5	280×370×490	1	**462-0138**
RC-10 Duo	–10...+40	±0,5 K	0,95	3,5	350×420×600	1	**462-0139**

* Fixed
Note: Cooling capacity at +15 °C

Viscosity baths

Viscosity baths for use with popular capillary viscometers are configured to accommodate specific testing and quality control needs, including ASTM D-445. Choice of models with round or square top openings. These transparent polycarbonate baths with user friendly SD temperature controller feature four control buttons and on-screen prompts in French, German, Spanish and English. Controller bridge made from chemical resistant DuraTop™ is easily removed to clean the tank.

- Large EasyView™ LCD display with alarm or fault icons and prompts and menus in four languages: French, German, Spanish and English
- Swivel 180™ rotating controllers, LidDock™ lid stowing system and DuraTop™ chemically resistant deck
- User-adjustable high and low temperature limits and low liquid level alarms
- Two speed pressure pump with tap water cooling coil
- Single point calibration

Comply with DIN 12876-1, Safety Class I

Maximum pump capacities:
10,2 l/min, 200 mbar

Delivery information: Supplied with lids for viscometer openings.
For probes and accessories, please visit vwr.com



Model	Round holes	Square holes
Temperature range (°C)	Ambient +10...85	
Temperature stability (°C)	±0,04	
Display resolution	±0,01	
Viscometer positions	5	3
Bath material	Polycarbonate	
Bath capacity (l)	29	
Bath depth (mm)	286	
W×D×H (mm)	229×544×526	

Description	Pk	Cat. No.
Viscosity bath with 5 round holes for viscometers, SD temperature controller	1	462-0209
Viscosity bath with 3 square holes for viscometers, SD temperature controller	1	462-0210

Description	Pk	Cat. No.
Spare lids		
Spare lid with 5 round holes and covers, for VWR viscosity baths (462-0209 or 462-0210)	1	462-0289
Spare lid with 9 round holes and covers, for VWR viscosity baths (462-0209 or 462-0210)	1	462-0290
Spare lid with 3 square holes and covers for VWR viscosity baths (462-0209 or 462-0210)	1	462-0291

Coliform bath with MX temperature controller

Stainless steel bath with user friendly MX temperature controller with three control buttons and on-screen prompts. Specifically designed for production of microbiological culture media. The controller bridge made from chemical resistant DuraTop™ is easily removed to allow cleaning of the tank. The bath has an opening with lid for optional cooling coil which is ideal for set points near ambient temperature.

- Large EasyView™ LCD display with alarm or fault icons and English prompts and menus
- User-adjustable high and low temperature limits and low liquid level alarms
- Single speed pressure pump
- Integral pump and heater coil protection
- Single point calibration

Complies with DIN 12876-1, Safety Class I

Maximum pump capacities:
11,9 l/min, 120 mbar

Delivery information: Supplied with hinged, see-through bath cover.



Type	Temp. range (°C)	Temp. stability	Heating capacity (kW)	Capacity (l)	Bath W×D×H (mm)	W×D×H (mm)	Pk	Cat. No.
MX28C135	RT* +10... 135	±0,07	1,1	28	328×300×210	546×353×457	1	462-0214

Description	For	Pk	Cat. No.
Accessories			
Cooling coil	Use with VWR baths, 462-0207, 462-0208, 462-0212, 462-0213 and 462-0214	1	462-0279

* RT = Ambient

Slide warmer/dryer for histology slides, W10

The W10 heating plate with its sleek, compact design accommodates two rows of up to 40 slides in total. The heating plate is very useful as a stretch bench for mounting, stretching and drying paraffin sections on slides, fixing bacterial smears and heating fluid samples in Petri dishes. The black anodised surface provides an excellent visual contrast. The 8 mm thick aluminium heating plate ensures a constant and homogenous temperature over the entire heating surface. The touch display



and switch are protected from water and paraffin, the unit has over-temperature protection for extra safety. The temperature adjustment and power On/Off switch with control light for 'On' mode are conveniently located at the front of the unit.

- Electronic touch display
- Sleek and compact
- Ideal size for drying up to 40 slides
- Temperature range 30 to 89 °C

IP protection class according to DIN EN 60529: IP 21

Temperature range (°C)	RT*...89
Thermostat	Digital
Accuracy (°C)	±1,0
Exterior W×D×H (mm)	146x486x70
Weight (kg)	3,1
Power (W)	260

Description	Pk	Cat. No.
Slide warmer/dryer for histology slides, W10	1	**720-2422**

* RT = Ambient

Histology water bath, W20

The reliable W20 histology water bath is ideal for removing wrinkles and distortions in paraffin wax sections which are created during sectioning. The unit's low profile is ergonomic, provides a clear view and allows safe handling of the sections. The indirectly heated flat areas at the front and back of the bath provide a suitable space for drying up to 20 slides. The touch temperature adjustment and power On/Off switch with a control light for 'On' mode, are conveniently located at the front of the unit and protected from water.

- Electronic touch display
- Lightweight, compact and efficient size means it is easy to empty out water
- Double function with heated surface for drying up to 20 slides
- Adjustable temperature range 30 to 70 °C
- Optional lid to prevent evaporation and dust contamination when not in use

Ordering information: Supplied without lid which, if required, must be ordered separately.



Temperature range (°C)	30...70
Thermostat	Digital
Accuracy (°C)	±1
Exterior W×D×H (mm)	247×280×78
Internal W×D×H (mm)	198×156×60
Weight (kg)	2,4
Power (W)	190

Description	Pk	Cat. No.
Histology bath W20	1	**720-2423**

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SERVICE AND MAINTENANCE

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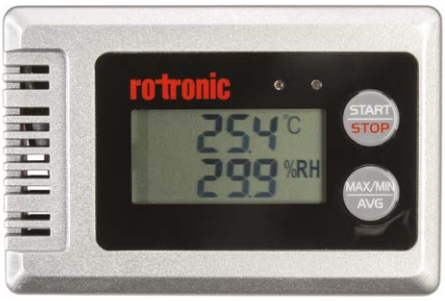
Temperature measurements

For temperature measurements our ISO/IEC 17025:2005 laboratory can calibrate all types of temperature indicators, data loggers, recorders, liquid in glass thermometers and temperature sensors. All calibration services are direct traceable to a National Measurement Standard or can be certified with ISO 17025:2005 accreditation!



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vwr.com/vwrcatalyst or email **technical.services.eu@vwr.com.**

CALIBRATION
RvA K 109





Water bath protective agent, Aquaresist

Prevents the growth of algae and bacteria in baths and circulating thermostats, for optimally hygienic working conditions.

- Durable: Effective for weeks, as displayed by a colour indicator
- Economical: Low consumption - only 1 ml solution per 1 litre of water

Description	Pk	Cat. No.
Water bath protective agent, Aquaresist	100 ml	**462-7000**

Anti-evaporation spheres for water baths

Lightweight, economic PP spheres which form a blanket on the liquid surface. Spheres have 20 mm Ø, 275 spheres cover approximately 1000 cm^2.



- Reduce heat loss by 77%, and evaporation by 87%
- Insulate like a solid, and still allow instant access to the liquid in the bath

Description	Pk	Cat. No.
Anti-evaporation spheres	100	**462-7049**
Anti-evaporation spheres	1.000	**462-7050**



620-1826

Digital thermometers, Traceable® Digital-Bottle™

Waterproof non toxic glycol bottle probe

These thermometers accurately monitor temperatures in freezers, refrigerators, incubators and environmental chambers. Bottle and solution insulate the sensor from transient temperature changes.

- Easy to read digital display
- Maximum/minimum and current temperatures
- Maximum/minimum monitoring for any time period

W×D×H: 56×25×110 mm

Solution recognised as safe by the FDA. Calibration compliant with ISO/IEC 17025, ANSI/NCSL Z540-1 and 9001.

Delivery information: Supplied with individually serial numbered Traceable® calibration certificate indicating traceability to NIST, plastic holder, Velcro® and double-backed tape for wall mounting and replaceable silver oxide battery.

Range (°C)	Accuracy (°C)	Resolution (°C)	Pk	Cat. No.
–30…+50	±1,0	0,1	1	**620-1826**
–30…+50	±0,4 at tested points	0,1	1	**620-1862**



High accuracy thermometers, TD 10, 11 and 12

Stainless steel probe

These thermometers deliver good performance and a high level of accuracy.

- Fast measurement
- Robust and impact resistant
- Single point factory calibration certificate (620-1638, -1639: 0 °C; 620-1640: 100 °C)

W×D×H: 20×90×42 mm

Conform to IEC 584 - IP 55 (620-1638, -1639), IP 40 (620-1640)

Delivery information: Supplied with clip holder to carry the thermometer on a belt and a lithium three volt CR 2032 battery for approximatively 100 hours when used continuously. 620-1640 should be ordered with an appropriate K type probe.

Description	Range (°C)	Accuracy (°C)	Resolution (°C)	Probe	Pk	Cat. No.
Precision HACCP thermometer TD 10	–50…+350	±0,8	0,1 (–60…+199,9); 1,0 (>200)	T (L×Ø: 110×3 mm)	1	**620-1639**
Precision HACCP thermometer TD 11	–50…+350	±0,8	0,1 (–60…+199,9); 1,0 (>200)	T (L×Ø: 110×3 mm) and cable (100 mm)	1	**620-1638**
TD 12 (SMP)	–60…+1200	±1,0	0,1 (–60…+199,9); 1,0 (>200)	K	1	**620-1640**

Description	Range (°C)	Ø×L (mm)	Pk	Cat. No.
Probes				
Penetration probe with handle and 1 m cable, TKS 100	–200…+400	3×130	1	**620-1648**
Surface probe with paddle, handle and 1 m cable, TKS 200	–200…+400	7×40	1	**620-1649**
Immersion probe with handle and 1 m cable, TKS 300	–200…+400	3×130	1	**620-1650**
Penetration probe with handle and 1 m cable, TKS 400	–200…+400	4,7×130	1	**620-1651**

Full scale digital thermometer, Traceable®

K-type probe and cable (L×Ø: 1200×1,5 mm)

Water resistant design for use in lab or plant's worst environment. The case of this thermometer can stop dirt, dust, fumes and water. A fast response microprocessor updates the display twice a second.

- Extra large digits (16 mm) readable from two metres away
- Minimum and maximum readings captured at any time
- Alarm in 1,0 °C increments above or below set points
- Timer from 23 hours 59 minutes to 1 minute
- 'HOLD' freeze button

W×D×H: 83×38×178 mm

Weight: 227 g

Traceable to NIST. Compliant with ISO/IEC 17025, ANSI/NCSL Z540-1 and 9001.

Delivery information: Supplied with protective casing with a flip-open stand, Traceable® certificate of calibration, three AAA batteries and fast response probe (620-2012).



Range (°C)	Accuracy (°C)	Resolution (°C)	Pk	Cat. No.
–200…+1370	±1,0; ±2,0 (>+740)	0,1; 1,0	1	**620-2006**

Description	Range (°C)	Pk	Cat. No.
K-type probes			
Stainless steel probe with 1 m cable	–50…+700	1	**620-2005**
K-type fast response probe with 1,2 m coated cable	–40…+250	1	**620-2012**

Detergents and cleaning agents, LABWASH® Premium



LABWASH PREMIUM Classic



LABWASH PREMIUM Alkamatic

A more concentrated version of the LABWASH® range.

- Residue-free laboratory glassware cleaning
- Excellent cleaning power at low dosage levels
- NTA-free (no Nitrilotriacetic acid)
- Protects the environment, active ingredients are biodegradable
- Acid rinse concentrates available to neutralise alkaline cleaners

For more information, request brochure from your local VWR sales office or go to vwr.com



Microtube racks, floating

PP

For maintaining reaction vessels with capacities from 0,5 to 2 ml at constant temperature in water baths. Racks float even when full. The reaction vessels are held firmly in place in the frame and do not float. Handles are provided for easier insertion and removal from the water bath and carrying. Non autoclavable.



- Removable feet enable reaction vessels to be removed quickly and easily
- Also suitable for cryotubes with up to 2 ml capacity
- Stable, good chemical resistance

For tubes (ml)	No. of holes	Form	Ø (mm)	W×D×H (mm)	Colour	Pk	Cat. No.
1,5/2,0	8	Round	68	-	White	4	**211-0225**
0,4/0,5	16 (4×4)	Square	-	102×102×60	Black	4	**211-0224**
1,5/2,0	16 (4×4)	Square	-	102×102×60	White	4	**211-0223**
1,5/2,0	20	Round	98	-	White	4	**211-0226**



Racks and boxes for microcentrifuge tubes and cryogenic vials

Recycled plastic, autoclavable

24- and 48-place microcentrifuge tube and cryovial storage system. For 1,5 ml and 2,0 ml tubes. Fully autoclavable (122 °C) and freezable (–90 °C).

- Racks fit into VWR pipette tip boxes
- Stackable racks that float, ideal for water baths
- Boxes with clear cover

No. of holes	Description	Pk	Cat. No.
48	Rack in hinged box with lid	5	**479-0075**
24	Rack in hinged box with lid	10	**479-0076**
24	Rack, without box	10	**479-0077**
-	Hinged box for 2×24 place racks, without racks	5	**479-0078**



Ring weights for vessels

Lead core, with blue vinyl coating

Open or closed design. Open design, also suitable for vessels with lateral connections. For stabilising glass or plastic vessels on shakers or in water and oil baths, etc. The weights prevent tipping. The coating prevents the vessels from being scratched or causing damage to other surfaces.

- Good chemical resistance
- High temperature resistance
- Available in various sizes for use with a range of vessel sizes

For (ml)	Ø ext. (mm)	Ø int. (mm)	Weight (g)	Pk	Cat. No.
Closed					
Flasks 125 - 500	75	48	270	1	**214-1942**
Flasks 250 - 1000	90	51	500	1	**214-1943**
Flasks 500 - 2000	102	57	700	1	**214-1944**
Flasks 1000 - 4000	115	70	840	1	**214-1945**
Open					
Flasks 125 - 500	75	42	200	1	**214-1891**
Flasks 250 - 1000	90	51	480	1	**214-1892**
Flasks 500 - 2000	102	54	660	1	**214-1893**
Flasks 1000 - 4000	115	66	930	1	**214-1894**

Description	Pk	Cat. No.
Accessories		
Lead ring holder, holds up to 8 rings	1	**214-0156**

Silicone fluids, XIAMETER® PMX-200

A range of silicone fluids recommended for use in baths. Fluids possess excellent heat transfer characteristics and cover a large temperature range from –40 to +200 °C. Low in toxicity, inert and long lasting due to their low volatility.

Note: Harmful vapours may be given off at elevated temperatures. It is advisable to use this material in a fume cupboard at temperatures greater than 140 °C.

- Non corrosive
- High flash point
- Long service life
- Low evaporation



Description	Temp. range (°C)	Viscosity (mm^2/s)	Colour	Pk	Cat. No.
Dow Corning® XIAMETER® PMX-200/10 cS silicone fluid	–40...+200	10	Clear	400 g	**630044R**
Dow Corning® XIAMETER® PMX-200/10 cS silicone fluid	–40...+200	10	Clear	4 kg	**630046T**
Dow Corning® XIAMETER® PMX-200/20 cS silicone fluid	–40...+200	20	Clear	500 g	**630054T**
Dow Corning® XIAMETER® PMX-200/20 cS silicone fluid	–40...+200	20	Clear	5 kg	**630056V**
Dow Corning® XIAMETER® PMX-200/50 cS silicone fluid	–40...+200	50	Clear	5 kg	**630066A**
Dow Corning® XIAMETER® PMX-200/100 cS silicone fluid	–40...+200	100	Clear	500 g	**630074A**
Dow Corning® XIAMETER® PMX-200/100 cS silicone fluid	–40...+200	100	Clear	5 kg	**630076C**
Dow Corning® XIAMETER® PMX-200/100 cS silicone fluid	–40...+200	100	Clear	25 kg	**630077D**
Dow Corning® XIAMETER® PMX-200/100 cS silicone fluid	–40...+200	100	Clear	200 kg	**630078E**
Dow Corning® XIAMETER® PMX-200/350 cS silicone fluid	–40...+200	350	Clear	100 ml	**630092C**
Dow Corning® XIAMETER® PMX-200/350 cS silicone fluid	–40...+200	350	Clear	500 g	**630094E**
Dow Corning® XIAMETER® PMX-200/350 cS silicone fluid	–40...+200	350	Clear	5 kg	**630096G**
Dow Corning® XIAMETER® PMX-200/12500 cS silicone fluid	–40...+200	12500	Clear	5 kg	**630126S**

1 cS = 1 mm^2/s



Anti-foam compound, XIAMETER® ACP-1500 (EU)

Formerly known as Dow Corning Antifoam 1500, this 100% active silicone fluid containing a suspension of finely powdered silica to enhance its defoaming efficiency. Food grade antifoam.

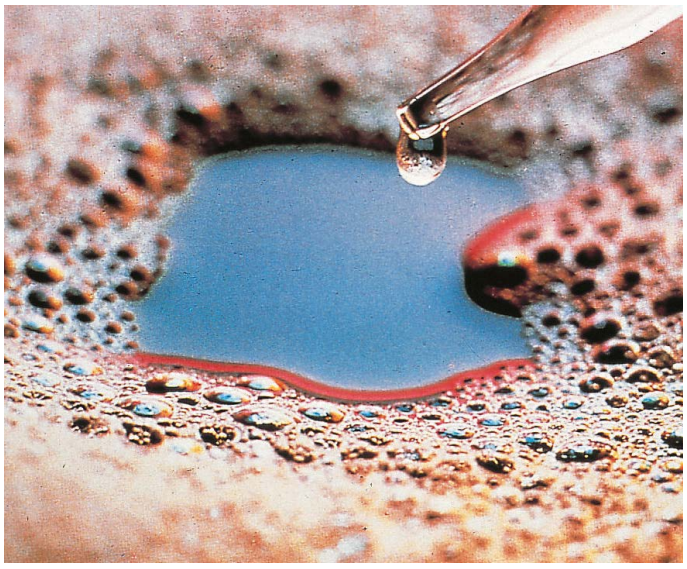
- Odourless and tasteless
- Effective in hot or cold processes
- Sterilisable
- Performs at low concentrations
- Approved for food contact - contact VWR for details
- Free of raw materials derived from animals

Description	Pk	Cat. No.
XIAMETER® ACP-1500 (EU) silicone anti-foam	500 g	**632484W**

Anti-foam XIAMETER® AFE-0400 (previously Dow Corning RD emulsion)

Silicone anti-foams, available in the form of fluids, emulsions or compounds, can be used to control even resistant foams without significantly altering or contaminating products. They can be used in both aqueous and non aqueous situations throughout industry.

- Immediate foam knockdown
- Long-term foam inhibition
- Low addition levels
- Rapid dispersion in aqueous foaming systems
- Stable in textile processes at pH 4 - 11
- Foam control up to 100 °C
- Good compatibility with dye stuffs, surfactants and textile auxiliaries



Description	Pk	Cat. No.
Dow Corning anti-foam silicone emulsion, XIAMETER® AFE-0400	500 g	**632134D**
Dow Corning anti-foam silicone emulsion, XIAMETER® AFE-0400	5 kg	**632136F**
Dow Corning anti-foam silicone emulsion, XIAMETER® AFE-0400	25 kg	**632137G**
Dow Corning anti-foam silicone emulsion, XIAMETER® AFE-0400	200 kg	**632138H**

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