Heating and Cooling Temperature Control Instruments

IKA®

Safety
Power
Intelligence

designed
to work perfectly

High-Precision Temperature Control Systems

IKA® offers a wide range of high-precision temperature control systems for temperature ranges of -20°C to 250°C.

The product portfolio includes immersion circulators, heating bath circulators and recirculating chillers. Precise technology and user-friendly design make temperature control easy for any application.

All models are available in basic and control versions. Even the basic version offers more features than most temperature control instruments already available in the market. All devices use an infinitely adjustable PEEK pressure and suction pump (up to 0.61 bar/31 l/min), making them suitable for universal use in internal and external temperature control applications in both open and closed baths. USB and RS 232 interfaces allow the user to control and monitor the device functions, e.g. with the IKA® software labworldsoft®. The ability to adjust the safety temperature and monitor the filling level status guarantees that the devices are safe to operate.

The control versions feature a unique wireless controller and can accommodate up to ten programs to facilitate customized procedures.

All IKA® temperature control instruments meet the highest standards in terms of safety, power and intelligence.

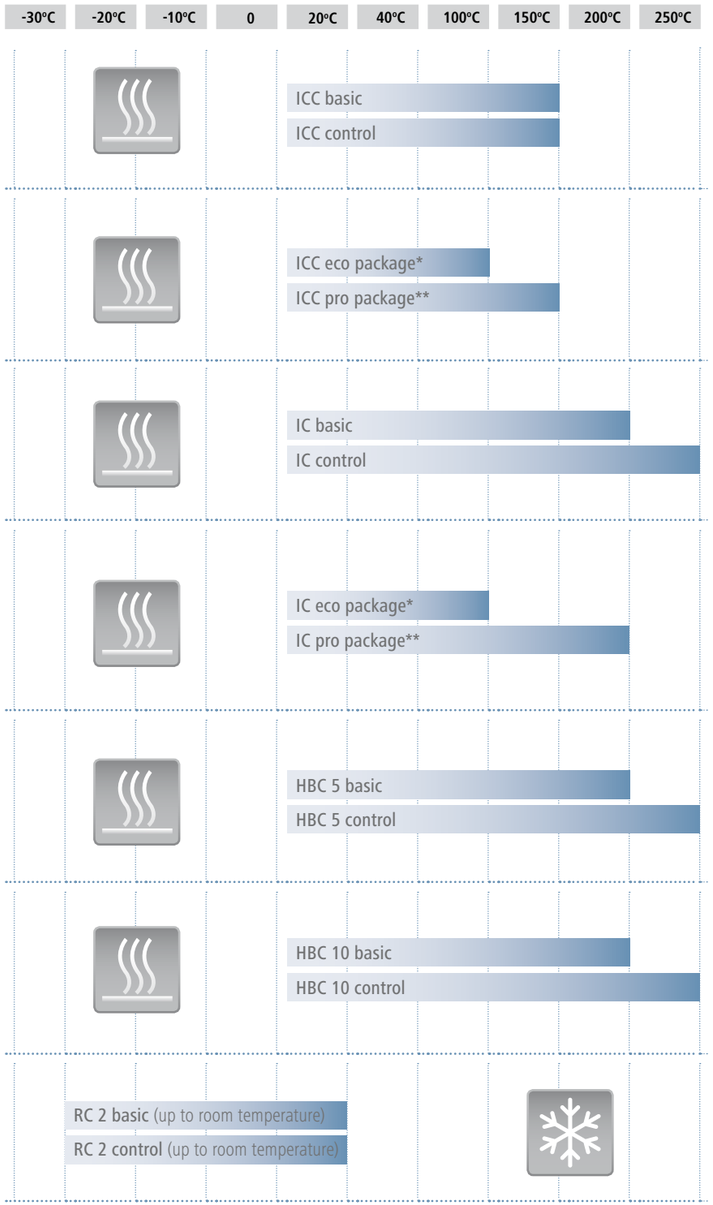
Safety
Power
Intelligence

3 Year Warranty*

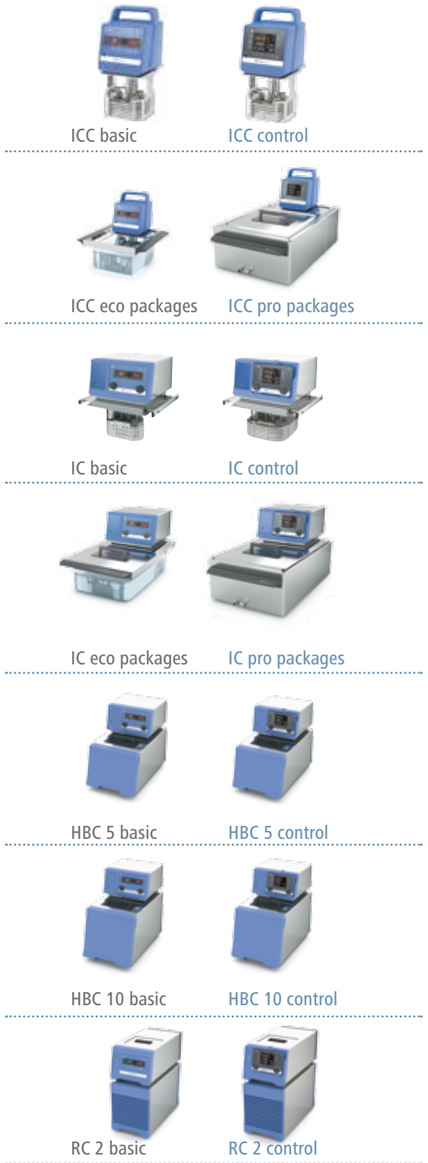
* 2 years + 1 year after registration at www.ika.com/register, excludes wear parts

Protection class in accordance with DIN EN 60529: IP 21

The right temperature control product for every application.



IKA® temperature control instruments



* Plastic baths (eco packages) can be used at temperatures of up to 100°C (H_2O only)

* Stainless steel baths (pro packages) can be used at temperatures of up to 200°C

www.ika.com

	Heating/cooling power	Temperature stability	Pump power [bar] pressure/suction	Max. flow rate	Applications
basic	2000 W	± 0.02 K	0.3 pressure 0.2 suction	18 l/min	> Predominantly for internal applications > Can be used universally in different baths > Tempering various samples, e.g. for analytical, material or food testing
control	2000 W	± 0.01 K	0.3 pressure 0.2 suction	18 l/min	
basic	2000 W	± 0.02 K	0.3 pressure 0.2 suction	18 l/min	> For internal or simple external applications > Tempering various samples, e.g. in reagent bottles with fitted IKA® immersion racks > Includes a pump connection set also suitable for tempering small analytical devices or distillation equipment.
control	2000 W	± 0.01 K	0.3 pressure 0.2 suction	18 l/min	
basic	2500 W	± 0.02 K	0.45 pressure 0.35 suction	26 l/min	> For demanding internal and external applications > Can be used universally in different baths due to the extendible bath bridge, e.g. for material testing in large open baths or for powerful external tempering of analytical devices or distillation equipment
control	2500 W	± 0.01 K	0.61 pressure 0.45 suction	31 l/min	
basic	2500 W	± 0.02 K	0.45 pressure 0.35 suction	26 l/min	> For demanding internal and external applications > IKA® immersion racks can be used for tempering reagent bottles > Suitable for external tempering double-walled vessels (e.g. laboratory reactors) with an operating volume greater than three liters.
control	2500 W	± 0.01 K	0.61 pressure 0.45 suction	31 l/min	
basic	2500 W	± 0.02 K	0.45 pressure 0.35 suction	26 l/min	> Powerful heating bath circulators for tempering external applications, e.g. double-walled laboratory reactors or distillation equipment > When used in conjunction with IKA® accessories, the HBC series temperature control instruments can also be used for tempering large external open baths > Determining temperature-dependent material constants, e.g. viscosity or thermal conductivity, in testing equipment that is temperature-controlled using a fluid medium
control	2500 W	± 0.01 K	0.61 pressure 0.45 suction	31 l/min	
basic	2500 W	± 0.02 K	0.45 pressure 0.35 suction	26 l/min	
control	2500 W	± 0.01 K	0.61 pressure 0.45 suction	31 l/min	
basic	400 W	± 0.1 K	0.3 pressure 0.2 suction	18 l/min	> Recirculating chiller for external applications > E.g. cooling rotary evaporators, calorimeters, incubating shakers, viscosimeters and polarimeters > Also suitable for external open baths when used with IKA® accessories
control	400 W	± 0.05 K	0.3 pressure 0.2 suction	18 l/min	

Pump connection set required for external applications. Find out more on our accessories page.

IKA®+

IKA® provides high-precision temperature control systems that offer exceptional value for money

3 Year Warranty*

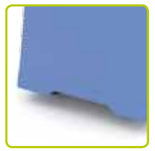
* 2 years + 1 year after registration at www.ika.com/register, excludes wear parts

> All IKA® tempering products meet the highest safety standards

All of the devices meet the highest safety classification III (FL) for use with flammable liquids in accordance with **DIN 12876**.

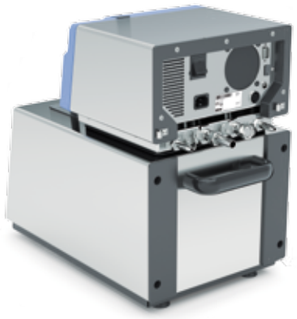
> Safe handling due to ergonomic and well thought-out designs

Carrying handle
For safe carrying and positioning (ICC)



Recessed handles
For ergonomic carrying (HBC and RC 2)

Bracket
Secures the base and protects the floats and tubular heater (ICC)



Casters
Facilitate easy positioning of the device (RC 2)

Transport handle
For easy and safe handling (HBC)

> Safe operation

Adjustable limit values:

Temperature
The thermal fluid used can be selected in the menu. This ensures that the temperature remains outside the critical values for that fluid. Minimum and maximum temperatures can be manually adjusted within these limits.

Safety temperature
The safety temperature can be adjusted using tools and the display. The temperature is monitored by an independent temperature sensor.

Speed
The speed can be limited, which enables the user to define the maximum pump pressure.

Filling level detection
A critical minimum or maximum level is recognized mechanically by the float and electronically by a temperature sensor.

"Lock" function
Locks the set parametners to prevent unintentional adjustment on the WiCo.

Visual and acoustic alarm
The user is informed of a critical fluid level, critical temperature or a blocked pump.

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Additional safety features of the control devices:

> Monitoring of the difference between internal and external temperature (adjustable)
> Maximum pressure easy to adjust/select
> Wireless controller (WiCo) enables safe and remote control of the devices, e.g. when having the device in a fume hood

The IKA® tempering instruments control the temperature of liquids within a range of -20 °C to 250 °C.

1. Wireless controller (WiCo)
2. Float for monitoring the filling level
3. Pipe heater
4. Cooling coil
5. Bridge

> Tempering

For decades, temperature control has been one of IKA®'s core competencies

IKA® heating temperature control instruments maintain a temperature consistency of up to ± 0.01 K. The output-regulated compressor of the RC 2 recirculating chiller facilitates a temperature consistency of 0.05 K.

The large heating surfaces gently control the temperature of the thermal fluids and ensure outstanding heat transfer.

The strong heat output of the circulators ensures short heat-up times.

A cooling coil is available for all IKA® temperature control instruments for use at or below ambient temperature or for connecting a chiller.

> Pressure/suction pump

The powerful, infinitely adjustable PEEK pressure/suction pumps enable the devices to be used flexibly in open or closed system applications. They guarantee effective mixing inside of the bath and provide a high flow rate for external applications.

All temperature control instruments come equipped with pump connectors (M16x1) or are suitable for retrofitting with pump connectors.

> Energy efficiency

The excellent insulation and the demand-driven output control system ensure that IKA® temperature control instruments are very energy-efficient.

It is thanks to these features that the RC 2 recirculating chiller uses up to sixty percent less energy during standard operation than comparable devices from competitors.

> Robust and durable

IKA® temperature control instruments are made from high-quality materials and are designed for a long service life.

Parts that come into contact with products are exclusively made of stainless steel (V4A) and highly durable PEEK, FKM and PTFE, fulfilling the basic requirements for use in the food industry.

> Connectivity

USB and RS 232 interface are standard
Software programs are used to gather the measurement data and control the devices, e.g. labworldsoft® by IKA®.

After registration, the Firmware Update Tool ensures that users always have the latest version of the software.

All control devices have a PT100 interface.

> Calibration and adjustment

The internal (and external, if used) temperature sensor can be adjusted either via a two-point or three-point calibration process.

> Automatic Tempering

Before the temperature is raised, the control parameters of the thermal fluid and the amount of thermal fluid are automatically measured in order to prevent the temperature from being exceeded. This can also be set manually using freely selectable PID control parameters.

> Software control/specification of heating rates

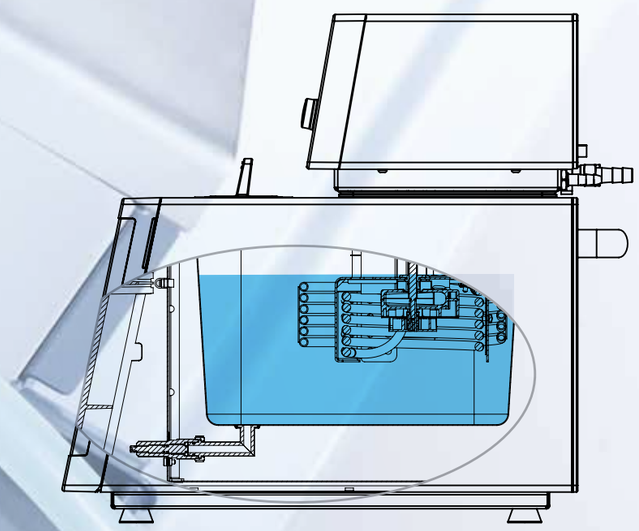
The labworldsoft® software can be used to precisely specify temperature ramps and heat-up times/heating rates.

> Operating mode choices

The user can set how the device should behave following a power failure or when it restarts.

> Intuitive operation

User-friendly menu navigation, push buttons and dial knobs make operation easy.



> Safely and entirely draining the baths

The thermal fluid can be fully drained from the bath in a simple and clean process. The physical separation of the drain valve and the opening screw ensures that the user does not come into contact with the fluid.

> Additional intelligent features of the control devices:

Clear and user-friendly display
All important process parameters are clearly arranged and are easy to read.
Users can view the display values, temperature setting, pump speed and safety temperature.
The device provides quick access to all important operation parameters.

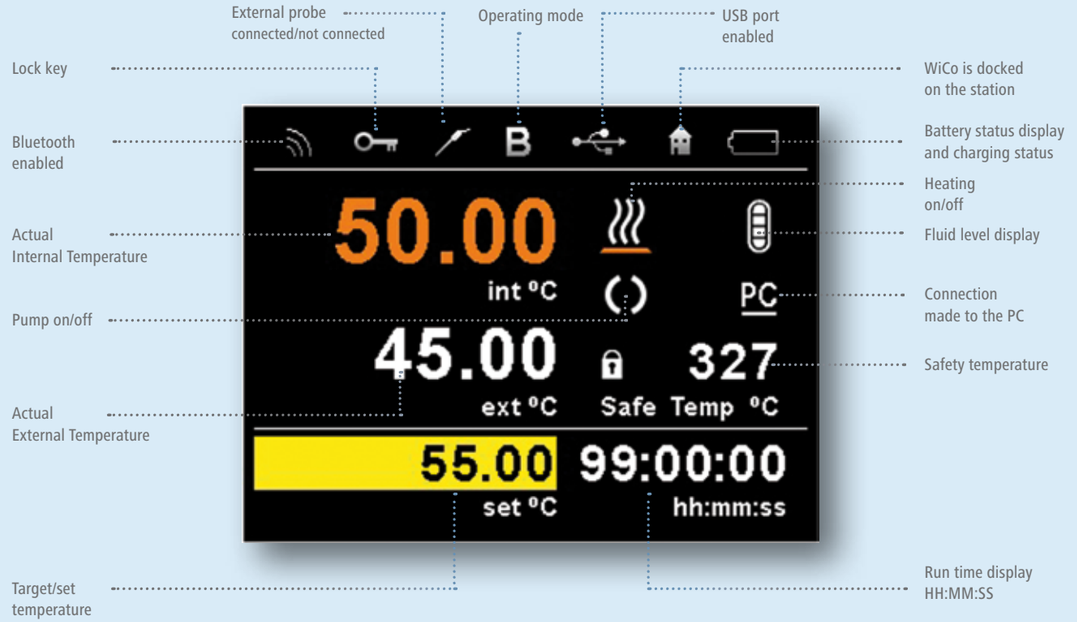
Programming function
Ten freely programmable temperature programs, each with ten steps.

Degassing function
For reducing air pockets in oils.

Timer/counter

Smart heating
It is possible to reduce the heating output by up to 50% for longer heat-up times, to adapt the device to previous systems or to provide overload protection.

Main screen



ICC basic & control

Convenient carrying handle

Integrated pressure/suction pump for internal and external temperature control

USB/RS 232 interfaces for connecting a PC, using labworldsoft® and enabling online updates of device software

ICC control

Graphic display showing various parameters such as temperature, pump speed, etc.

Integrated PT100 interface

The ICC basic and ICC control compact immersion circulators are designed for tempering liquids up to 150°C. They are an economical and attractive solution for standard applications, such as tempering samples. The convenient carrying handle and compact design mean the circulator is safe to transport and comfortable to use. The integrated brackets ensure the device is positioned securely while at the same time protecting the floats and tubular heating elements. A holding clamp (for attaching the circulator to a bath) is included in the delivery.

IKA®+

The compact ICC immersion circulators enable easy and flexible switching between different baths.

> Pump characteristic curve:

The pump characteristic curve allows the user to determine the maximum flow rate at a specific known loss of pressure in the test setup.

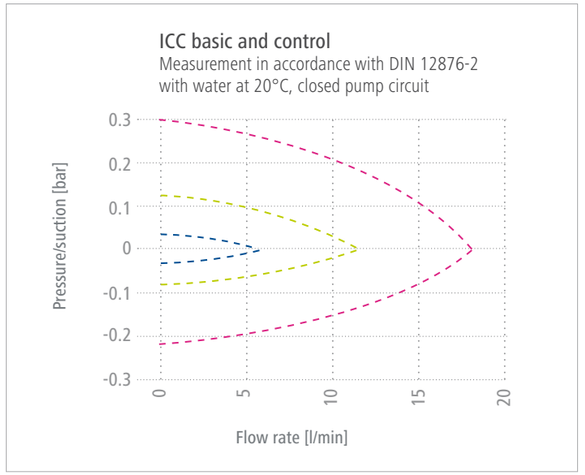


Image 1 Holding clamp

Application example

The ICC immersion circulators can be equipped with an external pump connection set (PCS.ICC) and a cooling coil (CC2).

As shown in the picture, both components can be connected to a bath bridge or alternatively attached to the holding clamp (included in the delivery).

This extension enables the device to be used for external tempering or at/below ambient temperature.

More accessories
on page 28 (ff.)

IC & HBC | Powerful Heating Circulators

The IC and HBC temperature control products from IKA® are based on a modular design concept. The foundation of both devices is the IC head. The IC head is combined with a well-insulated bath to create the HBC (heating bath circulator). Both devices are designed for external tempering of complex applications.

> Tempering:

> Heat output: 2500 W
> Temperature range: up to 200°C (basic)/ up to 250°C (control)
> Temperature stability: ± 0.02 K (basic)/ ± 0.01 K (control)
> Large heating element surface for optimal heat transfer

basic and control interfaces

Option to connect external solenoid valves via multi I/O port (IC/HBC control only)

> For the control of solenoid valves
- For automatic refilling
- For switching the cooling water circuit on/off
- For fluid level monitoring
- As an electronic stopcock

> Output for alarm signals
> Input for standby mode (for switching off the device)

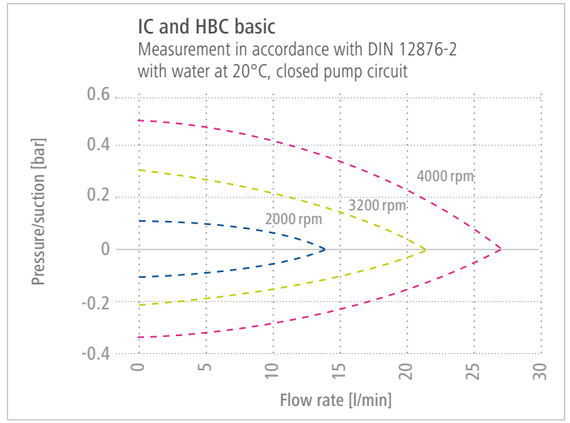
> Circulating/pumping

The powerful pump achieves a high volume flow rate, resulting in a high level of heat exchange between the application and the circulating bath.

The pump characteristic curve allows the user to determine the maximum flow rate at a specific known loss of pressure in the test setup.

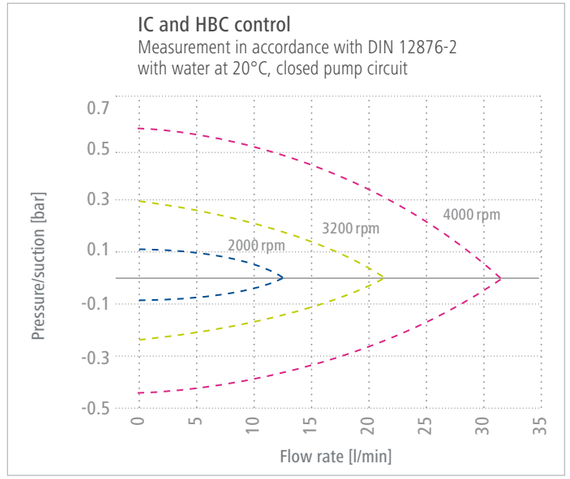
> Pump characteristic curves:

basic:



Max. pressure: 0.45 bar
Max. flow rate: 26 l (at 0 bar)

control:



Max. pressure: 0.6 bar
Max. flow rate: 31 l (at 0 bar)

IKA®+

Safety and convenience features

> Adjustable safety circuit
> Fluid level monitoring
> Visual and acoustic alarm
> Excellent temperature consistency
> PEEK pressure/suction pump
> Interface for PT100 temperature sensor
> RS 232 and USB are standard

IC basic and control | Universal Immersion Circulators

IC basic & control

Connection for PT100 temperature probe

USB/RS 232 interface for connecting a PC, using labworldsoft® and enabling online updates of device software

Integrated pressure/suction pump for internal and external temperature control

Due to the flexible bath bridge, the IC immersion circulator can be mounted on baths of various sizes (285–400 mm).

IC control

Performance
Higher target temperature, more powerful pump

Detachable wireless controller (WiCo) for simple and safe remote access from up to 10m (30 ft.)

The IC immersion circulators are designed for tempering liquids up to 250 °C. Due to the flexible bath bridge, the device can be mounted on various baths. The control version features a removable controller (WiCo wireless controller), which can be used if the circulator is in a fume hood, for example. The advanced features enable the device to be used in demanding internal and external applications, such as analysis and materials testing.

IKA®+

Safety and convenience features

> Adjustable safety circuit for temperature
> Mechanical and electronic fluid level detection
> Visual and acoustic alarm
> Switch from external to internal temperature control at the press of a button (control model)
> Universal use for internal and external applications
> PT100 probe and cooling coil included (control model)

Application example 1

The immersion circulator is suitable for both internal and external applications simultaneously.
The set up shows the IC control tempering samples in tube racks. A level controller connects the IC to an external plastic bath, in which samples are also being temperature-controlled. The samples are mixed evenly by the IKA® RO 15 multi-position magnetic stirrer.

Application example 2

The IKA® IC immersion circulators are ideal for external applications, such as tempering an IKA® laboratory reactor. The setup below shows the IC control with stainless steel bath and cover (package pro 20 c), connected to an IKA® LR-2.ST laboratory reactor.

HBC 5/10 basic and control | Heated Bath Circulators for external tempering applications

Visual and acoustic alarm

HBC basic & control

Integrated transport handle on the rear of the device, recessed handles for ergonomic transport

USB/RS 232 interfaces for connecting a PC, using labworldsoft® and enabling online updates of device software

Integrated pressure/suction pump for internal and external temperature control

HBC control

Performance
Higher target temperature, more powerful pump

Detachable wireless controller (WiCo) for simple and safe remote access from up to 10m (30 ft.)

The well-insulated stainless steel heating bath and powerful PEEK pressure and suction pump are two of the key features of HBC heated bath circulators. Due to its high temperature consistency of up to ± 0.01 K, short heat-up times and the advanced features of the high-tech TFT display with detachable controller (WiCo), the HBC control heating bath circulator is the ideal solution for demanding and complex tempering processes.

IKA®+

Safety and convenience features

> Ergonomic design
> Excellent insulation for short heat-up times and improved heat transfer
> Safety drain valve for easy draining
> Adjustable safety circuit
> Switch from external to internal temperature control at the press of a button (control model)

Application example

The HBC heating bath circulator is ideal for external applications, for example the heating of double-walled laboratory reactors, such as the LR-2.ST from IKA®.

The maximum temperature of the HBC heating bath circulators is 250°C for the control version (200°C for the basic version). The large surface of the tubular heating element ensures optimal heat transfer. The thermal fluid is heated gently and quickly.

HBC 5 basic/control

Volume: 4.5–6.5 l
> 2-liter useable volume

HBC 10 basic/control

Volume: 7.5–10.5 l
> 3-liter useable volume

Examples of heat-up times at room temperature (approximately 25°C)

HBC 5 basic	
Target temperature	70°C, 2000 rpm
Medium	Water (5.5 l)
Heat-up time	11 min or 5.2 K/min

HBC 10 control	
Target temperature	70°C, 2000 rpm
Medium	Water (10 l)
Heat-up time	20 min or 2.5 K/min

RC 2 basic and control |
Energy-efficient Recirculating Chillers

RC 2 basic & control

Handling
Safe and ergonomic handling due to a well thought-out design. Transport casters on the rear of the device enable easy transport and set up

Energy efficiency
Up to sixty percent lower energy consumption during standard operation than comparable devices from competitors

Large operating volume
The large difference between the maximum and minimum volume can be used as the operating volume for external tempering

Control accuracy
The speed-regulated compressor provides better temperature stability of up to ± 0.05 K

Silent mode
The fan only runs when needed

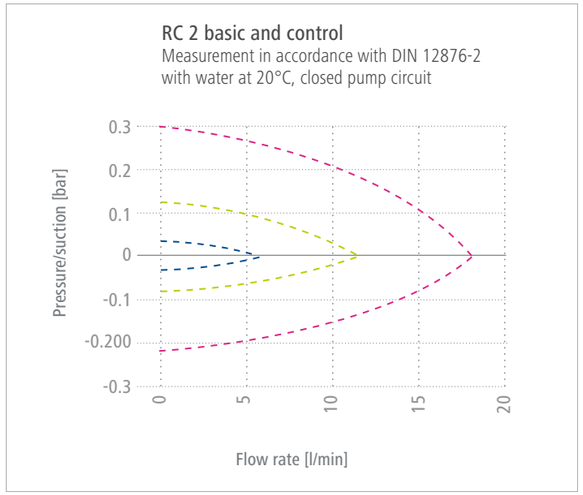
RC 2 control

Connection for PT100 temperature probe

Detachable wireless controller (WiCo) for simple and safe remote access from up to 10m (30 ft.)

The RC recirculating chillers are designed to cool external analytical equipment quickly and efficiently. The chillers offer short cooling times at a temperature stability of ± 0.05 K for the control versions (± 0.1 K for the basic versions) and a working temperature range of -20 °C to room temperature.

The RC 2 control with wireless controller (WiCo) makes the device easy to operate remotely, enabling users to save space through the option of placing the chiller in a hard-to-reach area of the laboratory. Critical temperature control processes can be monitored and recorded, guaranteeing complete documentation of all measurement processes.



RC 2 basic

Temperature	Cooling output
+20°C	400 W
+10°C	370 W
0°C	320 W
-10°C	240 W
-20°C	130 W

Application example

The RC 2 recirculating chillers are ideal for cooling external analytical equipment such as laboratory reactors, calorimeters, incubating shakers or rotary evaporators.

The set up below shows the RC 2 basic recirculating chiller connected to the IKA® C 1 calorimeter.

IKA®+

Safety and convenience features

> Robust stainless steel housing
> Visible fluid level display (screen and LED lights)
> Large funnel for easy refill
> Drain valve and optimized bath base for safe and thorough emptying
> Simple cleaning and maintenance due to the easily accessible air filter
> Overflow at the rear of the device
> Visual and acoustic alarm

RC 2 basic and control |
Energy-efficient Recirculating Chillers

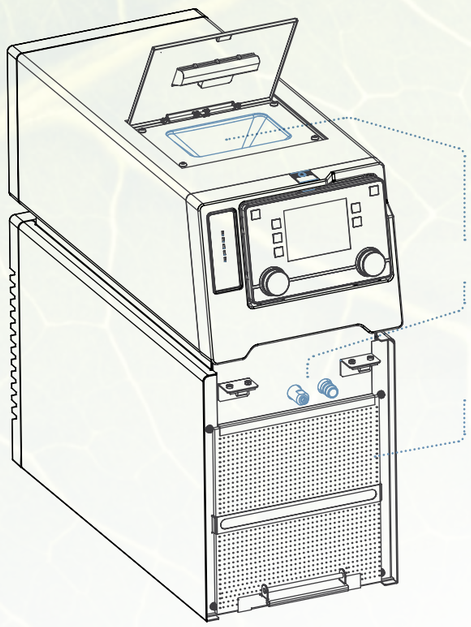
During the development of the RC 2 recirculating chillers, IKA® engineers placed a strong focus on energy efficiency and developed unique solutions.

> The heart of the RC 2 device is a speed-controlled compressor, which adjusts the speed depending on the current power requirement for cooling. This means that energy consumption can be significantly reduced and the service life of the compressor can be increased.

> The high-quality foam insulation around the storage tank provides good thermal retention which reduces the energy input.

> The air-cooled microchannel condenser ensures optimal heat dissipation. The air flow required for the microchannel condenser is generated by a speed-controlled fan. This reduces the noise level and lowers energy consumption.

> The electronically controlled expansion valve contributes to achieving an excellent temperature stability of up to ± 0.05 K.



> Low noise level

The intelligent and demand-driven control of the compressor and the condenser fan reduces the noise level in the laboratory to a minimum, particularly in the partial load range.

> Energy savings

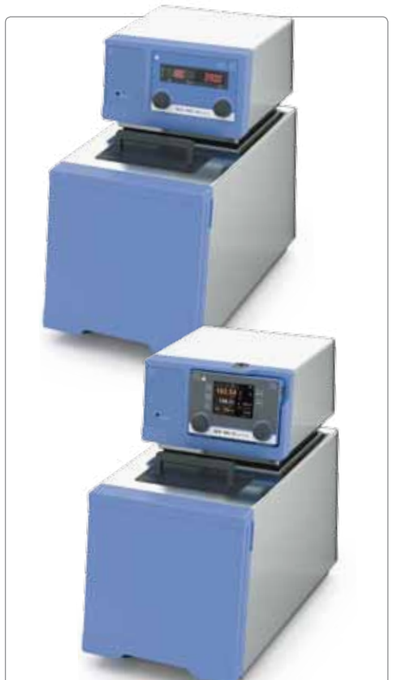
Because of the innovative features of the RC 2, particularly the speed-controlled compressor, IKA has succeeded in reducing energy consumption by up to 60% in equivalent applications in comparison to devices from competitors (see application example).

> Water savings

Calculated at an assumed average of six operating hours a day on 200 operating days a year, a rotary evaporator (50 l/h) cooled with tap water consumes 60,000 liters of water per year. This water can be saved when using a recirculating chiller, protecting the environment and reducing operating costs by up to EUR 240 a year (calculated using a cubic meter price of EUR 4).

Application Example

Total distillation of 500 ml of diluted solution in the IKA® RV 10 control rotary evaporator connected to an IKA® RC 2 basic as a chiller. At a water bath temperature of 60 °C, a supply temperature of 20 °C and a cooling water volume flow rate of 50 liters per hour, the solution was completely distilled in the evaporator flask and the energy consumption of the chiller during this procedure was recorded.
The energy consumed by the IKA® RC 2 chiller was then compared to the energy consumption of devices from competitors in otherwise identical test conditions.



Technical Data	EH4	ICC basic | ICC control	IC basic | IC control	HBC 5 basic | control	HBC 10 basic | control
Instrument type	Compact immersion circulator	Compact immersion circulator	Immersion circulator	Heated bath circulator	Heated bath circulator
Safety class	I (NFL)	III (FL)	III (FL)	III (FL)	III (FL)
Heat output (230 V)	1500 W	2000 W	2500 W	2500 W	2500 W
Working temperature range	25–100°C	RT+10°C – 150°C	RT+10°C–200°C | RT+10°C–250°C	RT+10°C–200°C | RT+10°C–250°C	RT+10°C–200°C | RT+10°C–250°C
Temperature display	–	LED | TFT	LED | TFT	LED | TFT	LED | TFT
Temperature consistency in accordance with DIN 12876	± 0.12 K	± 0.02 K | ± 0.01 K	± 0.02 K | ± 0.01 K	± 0.02 K | ± 0.01 K	± 0.02 K | ± 0.01 K
Filling volume	Dependent on the bath used	Dependent on the bath used	Dependent on the bath used	4.5–6.5 l	7.5–10.5 l
Pump power — pressure side	0.08 bar	0.3 bar	0.45 bar | 0.61 bar	0.45 bar | 0.61 bar	0.45 bar | 0.61 bar
Pump power — suction side	–	0.2 bar	0.35 bar | 0.45 bar	0.35 bar | 0.45 bar	0.35 bar | 0.45 bar
Max. flow rate	5 l/min	18 l/min	26 l/min | 31 l/min	26 l/min | 31 l/min	26 l/min | 31 l/min
Dimensions (W x H x D)	105 x 319 x 139 mm	145 x 340 x 200 mm	285 x 313 x 291 mm	275 x 406 x 500 mm	275 x 456 x 506 mm
Permissible ambient temperature	5–40°C	5–40°C	5–40°C	5–40°C	5–40°C
Permissible relative humidity	80%	80%	80%	80%	80%
Protection class according to DIN EN 60529	IP 31	IP 21	IP 21	IP 21	IP 21
USB/RS232 interface	No	Yes	Yes	Yes	Yes
Connection for external PT100 probe	No	No | Yes	Yes | Yes*	Yes*	Yes*
Connection for external pump	No	No	Yes	Yes	Yes
Cooling coil included	No	No	No | Yes	Yes	Yes
Multi I/O port included	No	No	No | Yes	No | Yes	No | Yes
	Ident No. 0003164000	Ident No. 0004134400 | 0004136600	Ident No. 0003861000 | 0003863000	Ident No. 0004125000 | 0004127000	Ident No. 0004135000 | 0004137000

* PT100 probe included

Technical Data	RC 2 basic	RC 2 control
Instrument type	Recirculating chiller	Recirculating chiller
Safety class	I (FL)	I (FL)
Cooling power (at 20°C)	400 W	400 W
Working temperature range	-20°C–RT	-20°C–RT
Temperature display	LED	TFT
Temperature consistency in accordance with DIN 12876	± 0.1 K	± 0.05 K
Filling volume	1.5–4 l	1.5–4 l
Pump power — pressure side	0.3 bar	0.3 bar
Pump power — suction side	0.2 bar	0.2 bar
Max. flow rate	18 l/min	18 l/min
Dimensions (W x H x D)	220 x 475 x 525 mm	220 x 475 x 525 mm
Permissible ambient temperature	5–32°C	5–32°C
Permissible relative humidity	80%	80%
Protection class according to DIN EN 60529	IP 21	IP 21
USB/RS232 interface	Yes	Yes
Connection for external PT100 probe	No	Yes*
Connection for external pump	Yes	Yes
Cooling coil included	-	-
Multi I/O port included	-	-
	Ident No. 0004171000	Ident No. 0004173000

* PT100 probe included

Included	ICC basic	ICC control	IC basic	IC control	HBC basic	HBC control	RC 2 basic	RC 2 control
Pump connection set	☐	☐	☑	☑	☑	☑	☑	☑
Cooling coil	☐	☐	☐	☑	☑	☑	☐	☐
PT100 interface	☐	☑	☑	☑	☑	☑	☐	☑
External PT100 probe	☐	☐	☐	☑	☑	☑	☐	☑
USB interface	☑	☑	☑	☑	☑	☑	☑	☑
RS 232 interface	☑	☑	☑	☑	☑	☑	☑	☑
Multi I/O interface	☐	☐	☐	☑	☐	☑	☐	☐
USB cable (station)	☑	☑	☑	☑	☑	☑	☑	☑
USB cable (WiCo)	☐	☐	☐	☑	☐	☑	☐	☑
Charger for wireless controller	☐	☐	☐	☑	☐	☑	☐	☑
Power cable	☑	☑	☑	☑	☑	☑	☑	☑
Olives for DN 12 hoses (2x)	☐	☐	☑	☑	☑	☑	☑	☑
Olives for DN 8 hoses (2x)	☐	☐	☐	☐	☐	☐	☑	☑

Combination table

Instrument	Bath size	Plastic bath	Stainless steel bath	Stainless steel bridge	Stainless steel cover	Number of usable racks
		up to 100°C (H_2O only)	up to 200°C			
ICC	S	**IB eco 8** Plastic bath, 8 l 286 x 227 x 188 mm Ident No. 0004248100	**IB pro 9** Stainless steel bath, 9 l 292 x 230 x 183 mm Ident No. 0004248500	**BS.ICC** Small bridge Ident No. 0020003077	**CS.ICC** Small cover Ident No. 0004471500	1
ICC	M		**IB pro 12** Stainless steel bath, 12 l 317 x 292 x 183 mm Ident No. 0004577500	**BL.ICC** Large bridge Ident No. 0020003078	**CM.ICC** Medium cover Ident No. 0025000290	1
IC				**BS.IC** Small bridge Ident No. 0004472800	**CM.IC** Medium cover Ident No. 0004577600	0
ICC	L	**IB eco 18** Plastic bath, 18 l 490 x 286 x 188 mm Ident No. 0004248200	**IB pro 20** Stainless steel bath, 20 l 495 x 292 x 183 mm Ident No. 0004248600	**BL.ICC** Large bridge Ident No. 0020003078	**CL.ICC** Large cover Ident No. 0004471600	3
IC				**BS.IC** Small bridge Ident No. 0004472800	**CL.IC** Large cover Ident No. 0004471800	2

* L x W x D, dimensions to the top edge of baths. More detailed information on the dimensions is available on request.

CM.ICC Medium cover

CL.ICC Large cover

IB pro 12 Stainless steel bath, 12 l

IB eco 18 Plastic bath, 18 l

IB pro 20 Stainless steel bath, 20 l

Immersion racks

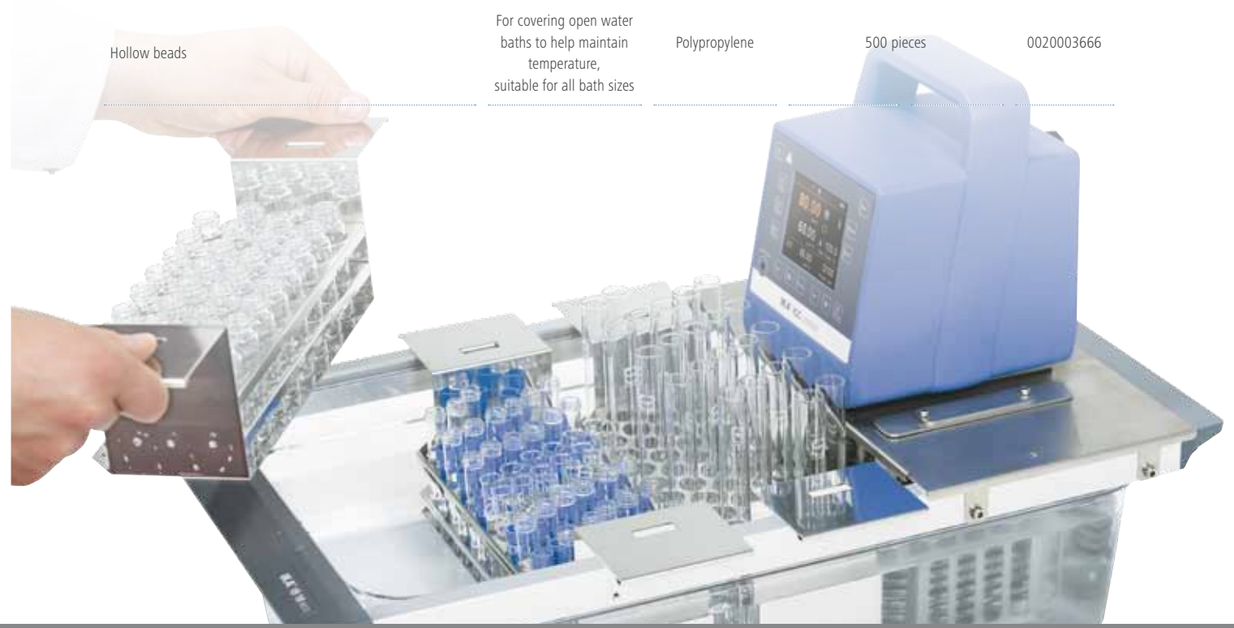
Description	Max. diameter of the samples	Depth	Immersion depth for samples	Max. number of samples	Ident No.
	[mm]	[mm]	[mm]		
Stainless steel immersion racks for S baths					
TubeRack.S.Type1.V4A.fit	13	100	70	57	0020004026
TubeRack.S.Type2.V4A.fit	17	100	100	37	0020004027
TubeRack.S.Type3.V4A.fit	22	100	50	22	0020004028
Stainless steel immersion racks for M and L baths					
TubeRack.L.Type1.V4A.fit	13	100	70	73	0020004029
TubeRack.L.Type2.V4A.fit	17	100	100	47	0020004030
TubeRack.L.Type3.V4A.fit	22	100	50	30	0020004031

Floating racks

Name	Suitable sample vessels	Max. number of samples	Packaging units	Ident No.
Floating tube rack Type 1	1.5/2.0 ml	24	5 pieces	0020003667
Floating tube rack Type 2	15 ml	8	5 pieces	0020003668
Floating tube rack Type 3	50 ml	4	5 pieces	0020003669

Hollow beads

Name	Description	Material	Packaging units	Ident No.
Hollow beads	For covering open water baths to help maintain temperature, suitable for all bath sizes	Polypropylene	500 pieces	0020003666



Chemical basis
> Silicon (Si)
> Ethylene glycol water (MEG)

UF. Si. N20.150. 20 LV

Thermal fluid type
> Heating fluid (HF)
> Cooling fluid (CF)
> Universal fluid (UF)

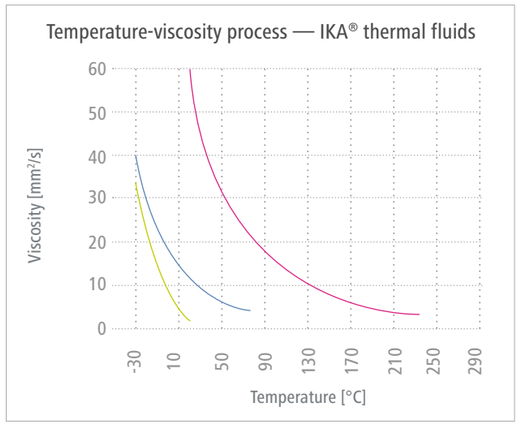
Minimum/maximum temperature

Viscosity

Additional information
> Low viscosity (LV)
> Contains additives (A)

Silicon-based temperature control fluids

Thermal fluid type	Description	Temperature range	Viscosity at 25°C	Color	Qty.	Ident No.
			mm²/s			
Heating fluids	HF.Si.20.250.50 A	20 – 250°C*	50	Reddish-translucent	10 kg	0020003521
	HF.Si.20.200.50	20 – 200°C**	50	Clear	10 kg	0020003520
Universal fluid	UF.Si.N30.150.10 LV	-30 – 150°C***	10	Clear	9 kg	0020003518



* 250°C only in enclosed baths (HBC), otherwise 200°C
** 250°C only for a short time in enclosed baths
*** 130°C in open baths
**** For producing water-MEG mixtures, temperature range dependent on the MEG/water mixture

HF.Si.20.250.50A
HF.Si.20.200.50
UF.Si.150.N30.150LV
CF.EG48.N30.80.22

	H.PVC.8 | H.PVC.12	H.SI.8 | H.SI.12	H.PUR.8.R | H.PUR.12	H.FKM.8 | H.FKM.12	LT 5.20 | LT 5.21
	Hose set	Hose set	Hose set	Hose set	High-temperature hose set
Packaging units	2	2	2, incl. 4 hose clamps	2, incl. 4 hose clamps	2
Length	1.5 m	1.5 m	1.5 m	1.5 m	1.5 m
Material	PVC	Silicon	PUR clear, reinforced | PUR clear	Viton (FKM/FPM)	Stainless steel | PTFE
Ø internal [mm]	8 | 12	8 | 12	8 | 12	8 | 12	10 | 13
Ø external [mm]	12 | 16	12 | 16	12 | 16	12 | 16	45 | 38
Connection	For hose olive	For hose olive	For hose olive	For hose olive	M16x1
Temperature range	-20–60°C	-30–180°C	-30–90°C	-30–180°C	-30–300°C | -30–260°C
Max. operating pressure (20°C)	Depressurized operation	Depressurized operation	8 bar| 3 bar	6 bar	6 bar
Color	Transparent	Milky-transparent	Milky-transparent | Transparent	Black (additional stainless steel sheathing)	Red
	Ident No. 0004568800 | 0004568900	Ident No. 0004569000 | 0004569100	Ident No. 0020004612 | 0020004613	Ident No. 0004569200 | 0004569300	Ident No. 0002606700 | 0020000988

Resistance	H.PVC.8	H.PVC.12	H.SI.8	H.SI.12	H.PUR.8.R	H.PUR.12	H.FKM.8	H.FKM.12	LT 5.20	LT 5.21
Water	●	●	●	●	●	●	●	●	●	●
Silicon oil	●	●	●	●	●	●	●	●	●	●
Ethylene glycol	●	●	●	●	●	●	●	●	●	●
Mineral oil	●	●	●	●	●	●	●	●	●	●
Ethanol	●	●	●	●	●	●	●	●	●	●

● Do not operate at > 30°C ● Very good resistance at 80°C ● Not resistant

Hose insulation

Name	Description	Ident No.
ISO.8	Hose insulation for DN 8 hoses	0004569400
ISO.12	Hose insulation for DN 12 hoses	0004569500

ISO.8 **ISO.12**

CC2 Cooling coil for ICC

Cooling coils

Name	Description	Ident No.
CC1	Cooling coil for IC basic	0020005116
CC2	Cooling coil for ICC	0025001061

Stopcocks and solenoid valves

Name	Description	Connection	Ident No.
MV 1	Solenoid valve for cooling water control, max. 100°C	For M16x1 hose olives	0020003763
CO V 1	Stopcock for external temperature control, max. 180°C	Directly on temperature control instrument, second side for M16x1 hose olives	0020000249
Ball valve M16x1	Manually operated ball valve	With union nut on one side for mounting on M16x1 thread. Second connection M16x1	0020004620

Level controllers

Name	Description	Ident No.
Mechanical level regulator	Fluid level monitor for operating heating bath circulators or coolers on open baths	0020004618

Other accessories

Name	Description	Ident No.
PCS.ICC	Pump connection set for ICC	0004471900
PT100.30	Temperature measuring probe, stainless steel	0004284700
WH 10	WiCo wall mount	0020000984
PC 1.1	RS 232 cable, 3 m	0002616700

PCS.ICC Pump connection set for ICC

Barb fitting for 6mm and 8mm ID
Hose Adapters

Hose barb fittings and adapters

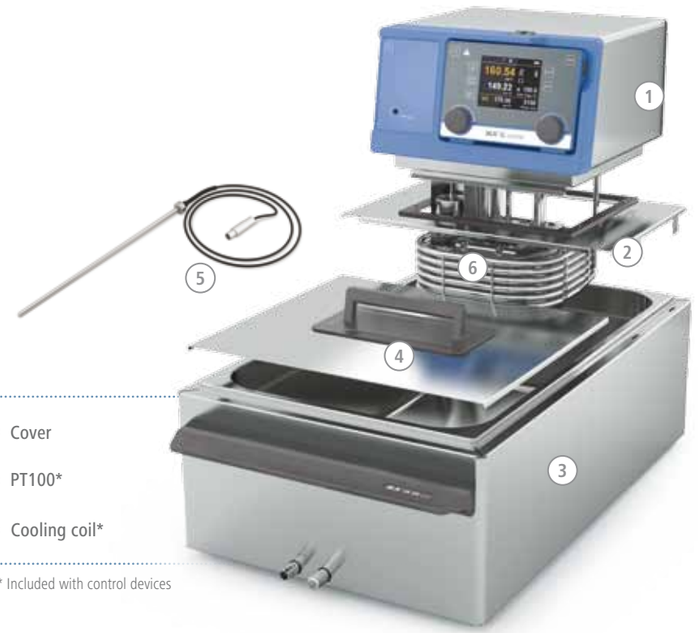
Name	Description	Packaging units	Ident No.
Fitting for DN 6 hoses	Barb fitting adapter for 6mm ID	2	0020004667
Fitting for DN 8 hoses	Barb fitting adapter for 8mm ID	2	0020004566
Fitting for DN 10 hoses	Barb fitting adapter for 10mm ID	2	0020004568
Fitting for DN 12 hoses	Barb fitting adapter for 12mm ID	2	0020004889
Adapter NPT 1/4	Adapter M16x1 to NPT 1/4 (male)	2	0020004569
Adapter NPT 1/2	Adapter M16x1 to NPT 1/2 (male)	2	0020004570
Adapter NPT 3/4	Adapter M16x1 to NPT 3/4	2	0020004571
Lock nut M16x1	Nut for mounting hose barb fitting adapters, stoppers, NPT adapters	2	0020004583
Stopper	For sealing, in combination with a lock nut	2	0020004584
Elbow tube 90°	90° tube adapter, e.g. for connecting hoses without creating kinks	1	0025001212

Stopper
For sealing

Union nut M16x1
Nut for mounting

Elbow tube 90°
90° tube adapter

Packages | IC basic & control



Included:

1. IC basic/control head
2. Bath bridge
3. Bath vessel
4. Cover
5. PT100*
6. Cooling coil*

* Included with control devices

Bath type		IC basic packages	IC control packages
IB eco 18 Plastic bath 18 l 0004248200	1	**IC basic eco 18 c** 0008036600	**IC control eco 18 c** 0008037000
IB pro 12 Stainless steel bath 20 l 0004248600	2	**IC basic pro 12 c** 0008039900	**IC control pro 12 c** 0008040000
IB pro 20 Stainless steel bath 20 l 0004577500	3	**IC basic pro 20 c** 0008036800	**IC control pro 20 c** 0008037200

IKA®+

IKA® is making it easy for you and offers ready-made packages with the required accessories. Just set up and start heating!

Packages | ICC basic & control

Package 1

- > Immersion circulator
- > Bath
- > Bridge

Package 2

- > Immersion circulator
- > Bath
- > Bridge
- > Cover
- > Cooling coil
- > Pump connection set
- > PT100 probe (control device only)

Bath type	Package 1		Package 2	
IB eco 8 Plastic bath 8 l 0004248100	**ICC basic eco 8** 0008034900	**ICC control eco 8** 0008035300	**ICC basic eco 8 c** 0008035700	**ICC control eco 8 c** 0008036100
IB eco 18 Plastic bath 18 l 0004248200	**ICC basic eco 18** 0008035000	**ICC control eco 18** 0008035400	**ICC basic eco 18 c** 0008035800	**ICC control eco 18c** 0008036200
IB pro 9 Stainless steel bath 9 l 0004248500	**ICC basic pro 9** 0008035100	**ICC control pro 9** 0008035500	**ICC basic pro 9 c** 0008035900	**ICC control pro 9 c** 0008036300
IB pro 12 Stainless steel bath 12 l 0004248600	**ICC basic pro 12** 0010000414	**ICC control pro 12** 0010000415	**ICC basic pro 12 c** 0010000416	**ICC control pro 12 c** 0010000417
IB pro 20 Stainless steel bath 20 l 0004577500	**ICC basic pro 20** 0008035200	**ICC control pro 20** 0008035600	**ICC basic pro 20 c** 0008036000	**ICC control pro 20 c** 0008036400

All ICC packages are delivered without holding clamp and bracket, as these components are not compatible with the bath bridge

Included in Package 1

1. ICC basic/control head
2. Bath bridge
3. Bath vessel

Also included in Package 2:

4. Cover
5. Cooling coil
6. Pump connection set
7. PT100 probe (control only)

Added value of the control models

Safety

> Monitoring of the difference between internal and external temperature (adjustable)

> Maximum pressure easy to adjust/select

> Wireless controller (WiCo) enables safe and remote control of the devices, e.g. if working in a fume hood

Performance

> Increased maximum temperature (HBC/IC)

> Greater accuracy

> Increased pump capacity (HBC/IC)

> Heat output can be reduced by up to 50% for longer heat-up times, to adapt the device to previous systems or to provide overload protection

Intelligence

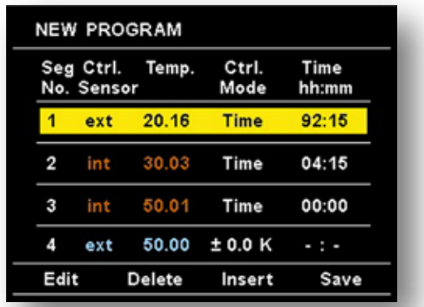
> **Switch between internal and external temperature control at the press of a button**

> **Programming function**
10 individual programs, each with 10 steps that are triggered by time or target temperature. Additional features are available, e.g. options to integrate a solenoid valve within the program.

> **Measuring graph**
The main screen can display either the process parameters (standard) or a temperature/time graph. The user can switch between these options using a quick-access key

> **Option to connect external solenoid valves via multi I/O port (IC/HBC control only)**
> For the control of solenoid valves
- For automatic refilling
- For switching the cooling water circuit on/off
- For fluid level monitoring
- As an electronic stopcock

> Output for alarm signals
> Input for standby mode (for switching off the device)



Programs

Measuring graph

IKA® Offers More

Calibration and adjustment

The internal (and external, if used) temperature sensor can be adjusted via either a two-point or three-point calibration process.
On request, calibration can also be performed in the plant by the IKA® service team or by an external service provider. If you would like to request this service, please contact our service department by telephone on **00 8000 4524357 (00 8000 IKAHELP)** or by email at **service@ika.com.**

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