

Improve the Productivity Of Your Chemistry



Leading Safety Standards

Superior Ease of Use

Reduced Cost of Ownership

NEW! Findenser- Air Condenser

The Greener Alternative to Water Condensers

With collaboration of a leading pharmaceutical company, Radleys has created the Findenser. The super air Findenser comprises of an internal vigreux condenser and an external, finned aluminum jacket between which a small amount of water is permanently sealed. Not only does the Findenser provide excellent heat transfer but is also removes the need for water cooling. This system can be used for 95% percent of all common chemistry applications., replacing the need for water cooled condensers.

Product Benefits

- No risk of flooding from running water
- Eliminate water purchase and disposal costs
- For Solvent volumes from 5ml up to 1 liter
- Helps meet sustainable water reduction targets



How the Findenser Works

- The Findenser comprises of an internal glass condenser and an external, finned aluminum jacket, between which a small amount of water is permanently sealed
- The glass condenser is designed to have a greater internal surface area than traditional condensers, giving it increased heat transfer capacity
- The finned jacket fits around the glass condenser further increasing the external surface area
- The result is a super air condenser that preforms as well as a traditional water condenser

Technical Specifications

P/N	Description	P/N	Description
Solvent Volumes	1 L		250 ml
Length x Diameter	400mm x 72mm		275mm x 72mm
Joints	B14, B19, B24 & B29		
Weight	1200g		670g
Inner or wetted parts	Borosilicate glass		
Finned jacket	Anodised aluminium		
Plug & Seal	Acetal & HT Silicone		
Thermofluid	Water		
Max Solvent pbt	155°C		
Oven drying	Mac Temp 60°C		
Dishwasher	Max Temp 50°C		
Autoclaving	Do Not Autoclave		
Operating temp rang	0°C to 60°C		

Ordering Information

P/N	Description
015610000	Findenser B24 Cone, B24 Socket
015610001	Findenser B29 Cone, B24 Socket
015610002	Findenser B19 Cone, B19 Socket
015610003	Findenser Mini B24 cone, B24 Socket
015610004	Findenser Mini B19 Cone, B19 Socket
015610005	Findenser Mini B14 Cone, B14 Socket

*Rod & Clamp Kits are available. Contact your local Heidolph North America Specialist for more information

Heat-On Blocks

Radleys Heat-On blocks are ideal for heating and stirring one or two 10ml to 5L round-bottom flasks.

Say goodbye to oil baths and heating mantles! Heat-On allows you quick and safe personal heating and stirring of your round-bottom flasks, without the risk of fire or personal injury- and let's not forget the messy clean-up associated with using oil. These fluoropolymer coated, chemically resistant blocks fit on all common hotplates up to 145mm in diameter. Their design ensures even heating without the worry of cracked or breaking glass. Flask and tube inserts are available to accommodate a wide variety of sample sizes- and if you need to transport your sample(s) immediately after operation, the optional lifting handles allow you to do so, safely and easily.

Not all block designs are the same...

Test results show that Heat-On heats up to 66% faster and uses 30% less energy than other leading brands of blocks. mple(s) immediately after operation, the optional lifting handles allow you to do so, safely and easily.



Heat-On – Replace messy oil baths and heating mantles; avoid spills and make your chemistry safer, cleaner and faster...

Product Features

- No oil baths or heating mantles required- safer operation with less clean-up
- Can be used with all common hotplates up to 145mm in diameter; adaptor for 135mm hotplates included in Heat-On system packages
- Heats up to 200°C, and even up to 260°C for short periods
- Solid aluminum for fast and even heat transfer from the hotplate into the sample
- Lightweight and deep well design for increased surface contact contribute to fast heat transfer with added safety- no sticking or broken flasks to worry about!
- Fluoropolymer coating for superior chemical resistance; optional anodized coating also available
- Two prove holes allow use with separate temperature probe
- Multi-Well flask inserts available for 10ml, 25ml, 100ml and 150ml flasks
- Multi-tube inserts available for 16mm, 20mm and 24mm tubes and vials
- Lifting handles available for the safe and easy transport of hot blocks immediately after operation

Ordering Information

P/N	Fluoropolymer-Coated		Anodized	
	Multi-Well Block	Multi-Well Block Basic	Multi-Well Block	Multi-Well Block Basic
P/N	015852000	015852010	015852020	015852030
System Includes:				
Heat-On Multi-Well Holder	1	1	1	1
Heat-On 25ml insert	2	1	2	1
Heat-On 50ml insert	2	1	2	1
Heat-On 100ml insert	2	1	2	1
Heat-On adaptor plate for 135mm hotplates	1	1	1	1



Ordering Information

P/N	Description	P/N	Description																																								
Fluoropolymer-Coated		Anodized																																									
015882000	Heat-On Multi-Well holder	015882160	Heat-On Multi-Well holder																																								
015882010	Heat-On 10ml Insert	015882170	Heat-On 10ml Insert																																								
015882020	Heat-On 25ml Insert	015882180	Heat-On 25ml Insert																																								
015882030	Heat-On 50ml Insert	015882190	Heat-On 50ml Insert																																								
015882040	Heat-On 100ml Insert	015882200	Heat-On 100ml Insert																																								
015882050	Heat-On 150ml Insert	015882210	Heat-On 150ml Insert																																								
015882380	Heat-On 200ml pear-shaped block	015882400	Heat-On 200ml pear-shaped block																																								
015882060	Heat-On 250ml Block	015882220	Heat-On 250ml Block																																								
015882390	Heat-On 300ml Pear-Shaped Block	015882410	Heat-On 300ml Pear-Shaped Block																																								
015882070	Heat-On 500ml Block	015882230	Heat-On 500ml Block																																								
015882080	Heat-On 1L Block	015882240	Heat-On 1L Block																																								
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StarFish Multi-Experiment Workstation

The StarFish Multi-Experiment workstation will save you time and reduce clutter on your lab bench by performing multiple experiments at the same time!

StarFish is a modular and affordable general-purpose heating and stirring workstation designed to fit on all leading brands of stirring hotplates. It's incredibly easy to use: Simply place the StarFish base plate on to your stirring hotplate, add the MonoBlocks or PolyBlocks best suited for your application, place your samples into the block, and you're ready to go safely and easily.

Choose your block design

StarFish features exchangeable MonoBlocks and PolyBlocks to accommodate all types of standard glassware from 1-dram vials to 500ml roundbottom flasks.

- MonoBlocks are single blocks with multiple wells of the same size; they are ideal for experiments that use the same size/type vessel
- PolyBlocks are "pie-shaped" segments that you can mix and match (up to five) to accommodate various types/sizes of vessels on the same plate.

*Custom blocks are also available, should you have a vessel that is not accommodated by the standard range.



Maximize your Heidolph hotplate surface with block accessories



Product Features

- Anodized aluminum for strong chemical resistance and fast heat-up times
- Interchangeable blocks accommodate all types of tubes and glassware- even flasks- on the same plate
- Optimized block and plate designs provide the most even heating and stirring- improve results of down stream experiments
- 5-way and 3-way telescopic clamps come with silicone, Viton or Velcro sealing straps to hold flasks and glass condensers of any size
- Water and gas/vacuum distribution manifolds distribute cooling water or gas to a maximum of five vessels
- A wide selection of stirrer options ensures perfect stirring for your particular sample/application
- Perform simple applications to more complex experiments- easily handles reflux experiments and those requiring inert and vacuum conditions
- Takes less than 5 minutes to set up

Applications

- Stirring with heating up to 300°C- use any combination of dram or scintillation vial, test tube, beaker, conical and round-bottom flasks up to 500ml
- Synthesis- use any combination of roundbottom flasks from 5ml-500ml, 1 inch and 24mm test tubes or dram vials
- Extraction- accommodating any standard round-bottom flask up to 250ml, easily accepts complete glassware assemblies for Soxhlet, liquid-liquid and reflux extraction methods
- Concentrations- use standard round-bottom flasks, test tubes or dram vials
- Distillation- easily configure StarFish for all common types of distillation applications, including binary and multicomponent, vacuum regulated, fractional and azeotropic methods
- Digestion- individual and parallel

Ordering Information

P/N	Description
StarFish base plates and handles	
015890010	135mm, for Radleys
015890020	145mm, for Heidolph
015890060	Base plate handles, 1 pair
MonoBlocks	
015890110	MonoBlock for 40 x 12 mm tubes
015890100	MonoBlock for 40 x 16 mm tubes
015890090	MonoBlock for 16 x 24 mm tubes
015890080	MonoBlock for 16 x 25 mm tubes
015890150	MonoBlock for 2 ml vials, 40 x 12 mm
015890140	MonoBlock for 1 dram vials, 40 x 15 mm
015890130	MonoBlock for 2 dram vials, 40 x 17 mm
015890120	MonoBlock for 4 dram vials, 20 x 21 mm
015892040	MonoBlock for 16 x 28 mm vials
015890070	MonoBlock for 5 x 250 ml flasks
015892110	MonoBlock for 3 x 500 ml flasks
Inserts for MonoBlocks	
015890250	150 ml Flask Insert
015890260	100 ml Flask Insert
015890270	50 ml Flask Insert
015880280	25 ml Flask Insert
015890290	10 ml Flask Insert
015890300	5 ml Flask Insert
PolyBlocks	
015890200	PolyBlock for 9 x 12 mm tubes
015890190	PolyBlock for 9 x 16 mm tubes
01589018	PolyBlock for 3 x 24 mm tubes
015890170	PolyBlock for 3 x 25 mm tubes
015890240	PolyBlock for 2 ml vials, 9 x 12 mm
015890230	PolyBlock for 1 dram vials, 9 x 15 mm
015890220	PolyBlock for 2 dram vials, 7 x 17 mm
015890210	PolyBlock for 4 dram vials, 3 x 21 mm
015892050	PolyBlock for 3 x 28 mm vials
015890160	PolyBlock for 1 x 250 ml flask
StarFish 3- and 5-way clamps	
015892200	Telescopic 3-way clamp, including Velcro
015892210	Telescopic 3-way clamp, including silicone strap and extended handle
015890310	Telescopic 5-way clamp, including Velcro
015892140	Telescopic 5-way clamp, including silicone strap and extended handle
015890320	Replacement self-adhesive Velcro pads, 10 pcs
015890330	Replacement Velcro look strips, 200 mm, 5 pcs
015892170	Silicone strap, 200 mm, 5 pcs
015892180	Viton strap, 200 mm, 5 pcs
StarFish distribution manifolds for gas/vacuum and water	
015890340	Water manifold with connectors
015890350	Gas/Vacuum manifold with connectors
015890410	Support rod, 650 mm
015890420	Split support rod, 650 mm

➤ Cool-It Cooling Bowls

A new compact, affordable cooling and stirring work station designed to accommodate single round bottom flasks from a 10ml to 2L. Cool-It insulated bowls are designed to provide a round bottom flask from 10ml to 2L with cooling down to -70°C and stirring. Cool-It is designed to fit on a stirring hotplate, for controlled stirring through a magnetic stirring bar in the reaction flask. Cooling is obtained using an appropriate cooling mixture such as dry ice and acetone.

- Manufactured from a robust HDPE outer with an encapsulated insulating foam core
- Insulation minimizes condensation on outer surfaces, protecting the hotplate stirrer
- Unique non-drip pouring spout allows liquid to be easily drained without spilling or splashing solvents
- Integral handle provides additional support for pouring
- Lid enhances cooling performance and reduces condensation and ice formation on the flask
- Robust materials create an almost unbreakable product
- Optional supporting clamp and stand
- Choice of two Cool-It bowl sizes
- Small for flasks to 250ml
- Large for flasks up to 2L
- Lid reduces the amount of condensation and frost formation on flasks
- Prolongs duration and maintains temperature of cooling mixture
- Reduces the risk of spilling solvents and of spilling very reactive/pyrophoric reagents into cooling mixture



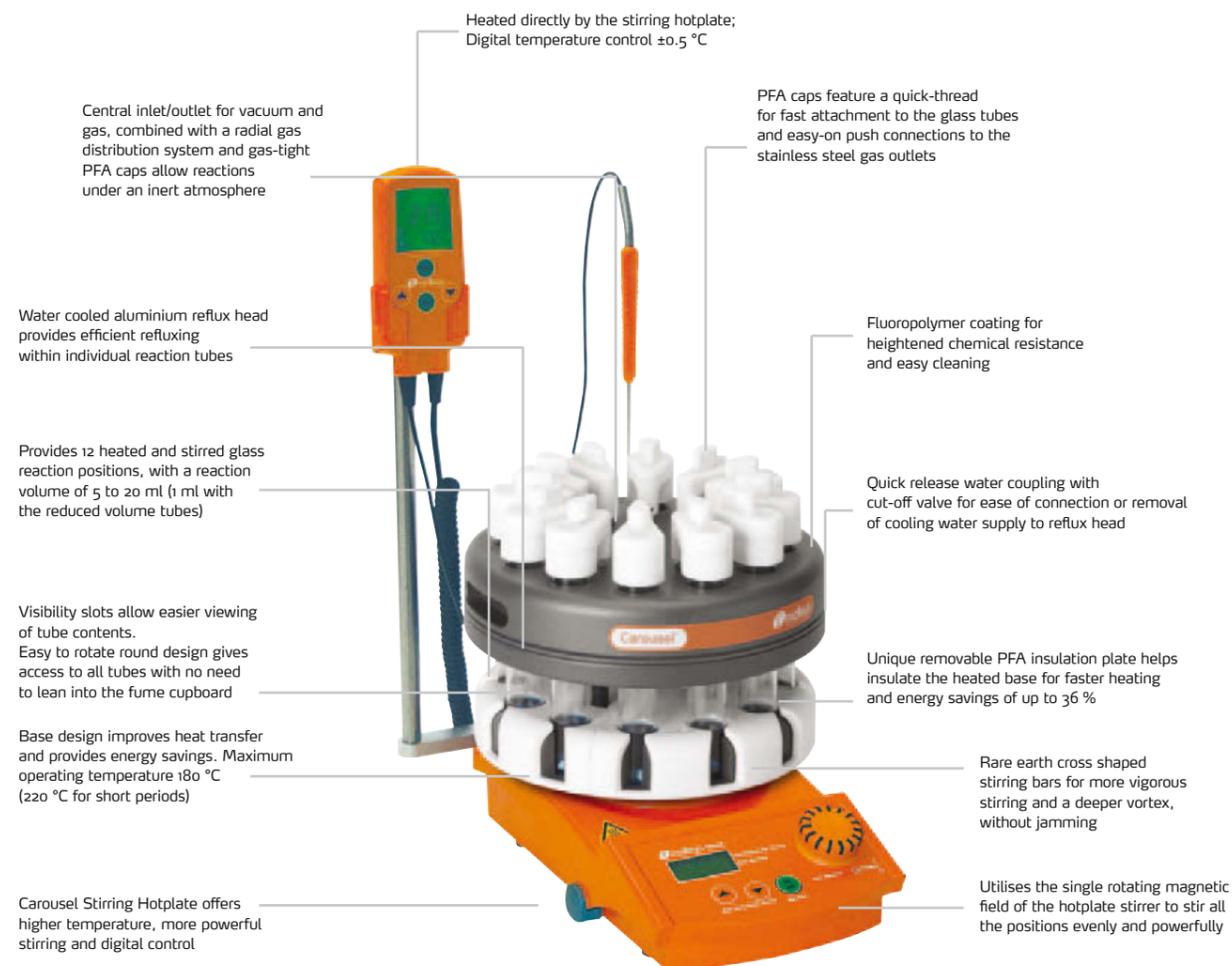
Ordering Information

P/N	Description
015882420	Cool-It Small Bowl + Free Lid
015882460	Cool-It Large Bowl + Free Lid
015882450	Adaptor Plate for 135mm Hotplate

➤ Carousel 12 Plus Reaction Station

The unique patented Carousel simultaneously heats and cools, stirs and reflux multiple samples under an inert atmosphere.

- Removable Reflux head allows reaction tubes to be transferred between heated base, cooled base or stand without disconnecting the tubes
- Chemically resistant PFA caps feature a quick-thread for fast attachment to the glass tubes and easy-on push connections to the stainless steel gas outlets
- Unique removable PFA insulation plate helps insulate the heated base for faster heating and energy savings of up to 36%
- Visibility slots allow easier viewing of tube contents during experiments
- Fluoropolymer coating for chemical resistance and easy cleaning 12 x 1- 20 ml samples



Fits on a standard hotplate stirrer so utilizing existing and readily available technology. Compact size has small bench-top footprint easy to store



Carousel Stand is ideal for use between reactions, when changing tubes and for reactions that require rapid air cooling



Viewing slots allow easier viewing of tube contents. Easy to rotate round design gives access to all tubes with no need to lean into the fume cupboard



➤ Cooled Carousel 12 Plus Reaction Station

Offering cost effective low temperature parallel synthesis from ambient down to -78°C

Upgrade you Carousel to perform cooled chemistry:

The innovative cooled Carousel 12 Plus reservoir is designed to accept the removable reflux/ inerting head from the Carousel 12 Plus; allowing for the reaction tubes to be easily and rapidly transferred between heating and cooling bases.

- Simultaneously performs up to twelve cooled and stirred reaction to -78°C, with a working volume of 1 ml to 20 ml
- Fits directly on a standard stirring hotplate
- Utilizes the single rotating magnetic field of the stirring hotplate to stir all the positions evenly and powerfully
- Robust HDPE cooling reservoir is compatible with a wide range of cooling mixtures, including dry-ice/acetone for manually controlled cooling from ambient down to -78°C
- Features a unique non-drip spout and ergonomically designed handle for easy disposal of waste solvents
- Insulate foam core maintains low temperatures for long periods, while protecting the stirrer from freezing. Also reduces condensation and ice formation on outer surfaces
- HDPE lid keeps your reaction cooler for longer, minimizes condensation and ice formation on your tubes (maintaining visibility of the contents) and prevents spitting from the cooling mixture
- The robust HDPE reservoir is virtually unbreakable

Cooled Carousel 12 Plus Reservoir
P/N 015862460



➤ Carousel 12 Plus Systems

Everything you need in convenient easy to order systems

Ordering Information

P/N	Description	Qty
015850300	Carousel 12 Plus- Basic System 1 **PN Includes the below	
015862450	Carousel 12 Plus Reaction Station	1
015862540	Quick-Thread Glass Reaction Tube, pk 6	1
015862550	Quick-Thread Glass Reaction Tube, pk 12	1
015862520	Easy-On Fluoropolymer Cap, pk 6	2
015880240	Octagonal Stirring Bar 13 mm, pk 20	1
015880270	Cross Shape Stirring Bar 16.5 mm RE, pk 20	1
015880280	PTFE Magnetic Stirring Bar Retriever 350 mm	1
015880290	PTFE Magnetic Stirring Bar Evaluation Kit, pk 30	1
015880430	Silicone Seals for All Caps, pk 100	1
015860430	Zinc Plated Wire Rack for 36 x 24 mm Tubes	1
015850310	Carousel 12 Plus- Standard System 2 (with stand, stirring hotplate and temp. controller) **PN Includes the below	
015862450	Carousel 12 Plus Reaction Station	1
015862540	Quick-Thread Glass Reaction Tube, pk 6	1
015862550	Quick-Thread Glass Reaction Tube, pk 12	1
015862520	Easy-On Fluoropolymer Cap, pk 6	2
015880240	Octagonal Stirring Bar 13 mm, pk 20	1
015880270	Cross Shape Stirring Bar 16.5 mm RE, pk 20	1
015880280	PTFE Magnetic Stirring Bar Retriever 350 mm	1
015880290	PTFE Magnetic Stirring Bar Evaluation Kit, pk 30	1
015880430	Silicone Seals for All Caps, pk 100	1
015860430	Zinc Plated Wire Rack for 36 x 24 mm Tubes	1
015862500	Carousel 12 Plus Stand	1
015750024	Carousel Stirring Hotplate 115V US Plug	1
015750003	Carousel Temperature Controller	1
015850320	Carousel 12 Plus- Complete System 3 (heated and cooled system) **PN Includes the below	
015862450	Carousel 12 Plus Reaction Station	1
015862540	Quick-Thread Glass Reaction Tube, pk 6	1
015862550	Quick-Thread Glass Reaction Tube, pk 12	1
015862520	Easy-On Fluoropolymer Cap, pk 6	2
015880240	Octagonal Stirring Bar 13 mm, pk 20	1
015880270	Cross Shape Stirring Bar 16.5 mm RE, pk 20	1
015880280	PTFE Magnetic Stirring Bar Retriever 350 mm	1
015880290	PTFE Magnetic Stirring Bar Evaluation Kit, pk 30	1
015880430	Silicone Seals for All Caps, pk 100	1
015860430	Zinc Plated Wire Rack for 36 x 24 mm Tubes	1
015862500	Carousel 12 Plus Stand	1
015750024	Carousel Stirring Hotplate 115V US Plug	1
015750003	Carousel Temperature Controller	1
015862460	Carousel 12 Plus Cooling Reservoir & Lid	1
015860140	Digital Thermometer (-250°C to +400°C) & 200 mm Probe	1
015860170	Dry Ice Scoop	1

** Let us customize your own system based on your needs

➤ Carousel 6 Plus Reaction Station

The Carousel 6 Plus Reaction Station simultaneously heats and stirs up to 6 x 5 ml, 10 ml, 25 ml, 50 ml, 100 ml, 170 ml or 250 ml round-bottom flasks. Flexibility is inherent in its design: choose any combination of flask sizes, with different sidearm combinations and accessories. The Carousel itself fits on a standard hotplate stirrer, and it is compatible with standard rotary and most centrifugal evaporators. With an operating temperature range from ambient to 180°C, a water cooled aluminum reflux head can also provide efficient refluxing with individual glass reflux necks; combine a radial gas distribution system with gas tight PTFE caps, and you can perform air-sensitive reactions under inert atmospheric conditions.

Product Features

- Solid aluminum base for rapid and even heating of all flasks
- Fuzzy logic temperature controller is accurate to $\pm 0.5^\circ\text{C}$
- Uses the single-rotating magnetic field of the hotplate stirrer to stir all 6 round-bottom flasks evenly and powerfully
- PTFE guard-ring protects against accidental contact with hot base
- Removable aluminum inserts in the flux head allow easy removal of flasks and maintain good heat transfer for cooling -Built-in spring clip keeps flasks in position once inserts are removed
- Acetal quick-release valve coupling allow you to disconnect the reflux head without losing any of the cooling water



➤ Cooled Carousel 6 Plus Reaction Station

Simultaneously stir and cool reactions from ambient down to -70°C using up to six round-bottom flasks in 5 ml, 10 ml, 25 ml, 50 ml, 100 ml, 170 ml or 250 ml sizes. As with all Radleys Carousel stations, you can use any combination of these flask sizes in the Cooled Carousel, which fits on a standard hotplate stirrer.

Product Features

- Carousel design and technology provides even cooling and the most efficient stirring for your samples
- HDPE cooling reservoir is compatible with a wide range of freezing mixtures, including dry ice/acetone
- Insulated foam core maintains low temperatures for long periods, reducing condensation and ice formation on outer surfaces, while it protects the stirrer from freezing
- Stainless steel central inlet/outlet for vacuum and inert gas, radial gas distribution system and gas-tight PTFE caps for reactions under inert atmosphere
- Carousel protective cover reduces frost formation, maintains temperature of cooling mixture and reduces risk of solvent spitting



250ml Baffled Wide Neck Flask B24/29 Sidearm + Septa Port (015861981)

250ml Azeotropic Reaction Flask (015881552)

250ml Long Neck Reaction Flask (015861964)

250ml Reaction Flask + Reflux Tube + Connecting set (15861962)

1000ml Wide Neck Flask B14/23 Sidearm + Septa Port (015861974)

100ml Reaction Flask (015880610)

250ml Flask with Sidearm (015880540)

170ml Reaction Flask (015880590)

➤ Technical specification: Carousel 6 Reaction Stations

	Heated	Cooled
P/N	015850400	015850410
Reaction Positions	6	6
Flask sizes (round-bottom) ml	5, 10, 25, 50, 100, 170, 250	5, 10, 25, 50, 100, 170, 250
Stirring speed	0 rpm to 1,100 rpm	0 rpm to 1,100 rpm
Temperature range	Ambient to 180°C	Ambient down to -70°C
Temperature accuracy	1°C to -0.5°C	NA
Inert gas	Yes	Yes
Reflux	Yes	No
Diameter	11.4 in/290 mm	15.3 in/390 mm
Height (with reflux)	9 in/230 mm	10.6 in/270 mm
Weight	16.7 lb/7.6 kg	2.2 lb/ 3.7 kg

Ordering Information

P/N	Description	Heated Stations 180°C				Cooled Stations -78°C	
		015850440 System 33	015850450 System 34	015850460 System 35	015850470 System 36	015850490 System 38	015850510 System 39
015850400	Carousel 6 Plus Reaction Station	x	x	x	x		
015862520	Easy-On PTFE Cap	x	x	x	x		x
015750024	Carousel Tech Stirring Hotplate 115V US Plug	x		x	x		x
015750003	Carousel Temperature Controller	x		x	x		
015880430	Silicone Septa for PTFE Caps	x	x	x	x	x	x
015880280	PTFE Magnetic Stirring Bar Retriever 350mm	x	x	x	x		x
015861962	250ml Reaction Flask + Reflux Tube + Connecting Set	x	x	x	x		x
015880500	B24/29 Rodaviss Sealing Cap	x	x	x	x		x
015880530	Rotary Evaporator Adapters Ordinary B29 Socket to B24 Cone	x	x	x	x		x
015880610	100ml Reaction Flask				x		x
015881552	2x 250ml Azeotropic Reaction Flask, pk 3				x		
015860480	Aluminium Insert for 100ml reaction Flask, pk 6				x		
015860500	Reaction Flask Support Ring, pk 6	x	x	x	x		x
015880330	Elliptical Stirring Bar 25mm RE, pk 10	x	x	x	x		x
015860550	Tubing for inert Gas or Reflux Cooling 2 meters, 1 pk	x	x	x	x	x	x
015880670	250ml Reaction Flask with B24/29 Sidearm + Septa Port, pk 6			x	x		x
015880680	2x B24/29 Liquid Additions Dropping Funnel + Pressure Equalising Arm, pk 3			x	x		x
015880690	B24/29 Solid Additions Funnel, pk 3			x	x		x
015880720	PTFE/Silicone Septa 29mm- B24/29, pk 50		x	x			
015850410	Cooled Carousel 6 Plus (Reservoir, Head, stand + cover)					x	x
015860830	Protective Cold Temperature Gloves					x	x
015860140	Digital Thermometer (-250°C to +400°C) + 200mm Probe					x	x
015860170	Dry Ice Scoop					x	x
015860180	Cold Temp. Apron 1060mm long Waterproof					x	x
015860190	Protective Face Shield					x	x

➤ Tornado Plus Overhead Stirring Station

The Tornado is a modular add-on for the Carousel 6 Plus Reaction Station, replacing the magnetic stirring of the stirring hotplate with direct stirring from a single overhead stirrer.

For overhead stirring of viscous samples or for the dispersion of delicate solids in solution nothing matches the power and efficiency of the Tornado Overhead Stirring Station. Compatible with all leading brands of overhead stirrers, it evenly distributes high-torque stirring to all flask- from 100 ml to 250 ml- in the Carousel 6 plus reaction Stations.

At its most powerful, the Tornado can stir reaction mixtures of up to 10,000 cps at 500 rpm. It can also gently and efficiently disperse delicate solids or resins in low-viscosity solutions. A "pinch-grip" mechanism enables fast and easy removal/ exchange of the PTFE stirrer shafts, and its unique stirrer sealing system permits usage under an inert atmosphere.

A range of PTFE stirrer shafts have been designed for the Tornado. The centrifugal stirrer shafts will fit into any one of the 100 ml and 250 ml flasks. The anchor and propeller stirrer shafts have been specifically designed to fit in the wide neck flasks.

Product Features

- Integrates with Carousel 6 to provide heated and stirred reactions
- Rapid heating to 180°C, with water cooled reflux head
- Perform reactions under an inert atmosphere
- Accepts 50 ml, 100 ml and 250 ml round bottom flasks
- Use 4s a single overhead stirrer- save space and money compared to multiple set-ups
- Two-speed drive for use with both high- and low-viscosity samples
- Polycarbonate safety guard and optional clamp/stand for added stability during operation
- Works with all leading brands of overhead stirrers
- Easy to operate and set up with minimal training time.

Technical Specifications

Flask sizes (round-bottom)	100 ml and/or 250 ml (with and without sidearms, baffled and wide neck styles)
Volume range	20 ml to 150 ml
Gear selections	1:1 and 2:1
Stirring speed	0 rpm to 1,000 rpm
Maximum viscosity	10,000 cps at 500 rpm
Temperature range	Ambient up to 180°C
Inert gas	Yes
Reflux	Yes
Height	23.1 in/587 mm
Weight	17.6 lb/8 kg
Stirring seal relief pressure	1 bar

Tornado fits onto the Carousel 6 Plus with no need for tools



Ordering Information

Ordering Assistance:

Please request a formal quotation. We must verify if you currently have a Carousel or need to start from the beginning. In order to purchase the image on the previous page a series of part number must be ordered, there is no single part number. Item is customized each time.

Start With:

- Carousel 6 Plus Reaction Station
- Tornado OH Stirrer Station
- Stand which includes base and support rods
- Start to customize your system by choosing 1 from each of the following categories:

- 1) Heidolph magnetic stirring hotplate
- 2) Choose a temperature controller (based on which hotplate chosen)
- 3) Additional rod and extension to attach the controller to (varies with type of controller)
- 4) Reflux Tubes
- 5) Wide neck flasks
- 6) Tubing if hooking up to inert gas
- 7) Silicone seals for PTFE caps
- 8) Stirrer Shafts (6 required, 1 for each flask)
- 9) Heidolph overhead stirrer

To Create a Complete Customized system see above steps

P/N	Description
015850400	Carousel 6 Plus Reaction Station
015861761	Tornado IS6 Overhead Stirring Station Includes: Drive unit, 6x stirrer guide mechanisms, stirring motor coupling, stirring motor clamp and safety shield
015861760	Universal support stand
015750021	Support Rod 500 x 13mm (extra long f/ Tornado)
015750019	Support Rod f/ hotplate adapter (extension plate)
015861771	Extra-long sensor probe for Carousel temperature controller (For Heidolph hotplate Hei-Tec & Hei-End only)
Magnetic Stirring Hotplates	
036110521	MR Hei-Standard, 115v
036111620	MR Hei-Tec, 115v
036110585	MR Hei-End, 115v
Stirring Shafts	
015861780	Centrifugal PTFE stirrer shaft, 6 pcs
015861790	Centrifugal PTFE stirrer shaft
015861800	Anchor PTFE Stirrer Shaft for 100 ml flask, 6 pcs
015861810	Anchor PTFE Stirrer Shaft for 100 ml flask
015861820	Anchor PTFE Stirrer Shaft for 250 ml flasks, 6 pcs
015861830	Anchor PTFE Stirrer Shaft for 250 ml flasks
015861840	Propeller PTFE Stirrer shaft, 6 pcs
015861850	Propeller PTFE Stirrer Shaft
Wide Neck Flask with Coupling	
015861965	Wide Neck Reflux Tube + Coupling
015861966	Coupling for Wide Neck Flasks
015861967	PTFE Wide Neck Support Collar
015861968	Nitrile O-Ring for PTFE Wide Neck Support Collar
015861969	50 ml Wide Neck Flask
015861971	100 ml Wide Neck Flask
015861972	250 ml Wide Neck Flask
Wide Neck Flasks with Sidearms	
015861973	50 ml Wide Neck Flask B14/23 Sidearm + Septa Port
015861974	100 ml Wide Neck Flask B14/23 Sidearm + Septa Port
015861975	100 ml Wide Neck Flask 2xB14/23 Sidearms + Septa Port
015861976	250ml Wide Neck Flask B24/29 Sidearm + Septa Port
015861977	250 ml Wide Neck Flask 2xB24/29 Sidearms + Septa Port
Wide Neck Flasks with Baffles + Sidearms	
015861978	100 ml Baffled Wide Neck Flask B14/23 Sidearm + Septa Port
015861979	100 ml Baffled Wide Neck Flask 2xB14/23 Sidearms + Septa Port
015861981	250 ml Baffled Wide Neck Flask B24/29 Sidearm + Speta Port
015861982	250 ml Baffled Wide Neck Flask 2xB24/29 Sidearms + Septa Port

Storm Heating/Cooling Work Station

Combined with a suitable heating/cooling circulator the powerful Storm can provide Controlled heating and Cooling for your Carousel 6 and Tornado for -65°C to +200°C. Ideal for steady state reactions over a large temperature range.

- Add-on module designed to accept the Carousel 6/Tornado combination or single Heat-On blocks
- Controlled heating and/or cooling of up to six 250 ml samples simultaneously
- Created with sophisticated computer modeling techniques Storm's internal fluid path has been carefully designed to maximize heat transfer and minimize surface variation. This results in a small Delta-T, thus Storm is ideal for steady stat reaction over a large temperature range
- Use of circulator to program temperature gradients (max. thermo fluid range -85°C to +235°C)
- Powerful mechanical overhead stirring can mix even viscous samples



Storm including PTFE Cover Plate
P/N 015862410



Breeze Heating/Cooling Work Station

The compact Breeze provides rapid controlled heating and cooling from -30°C to +165°C, making it ideal for applications requiring control by solution temperature. Ideal for control by solution temperature.

- Heating/cooling module designed to accept the Carousel 6/Tornado combination, single Heat-On blocks and other suitable glass or metal vessels directly on to the blocks top plate
- The Breeze's compact footprint and mass makes it more responsive to changes in thermo fluid temperature and therefore ideal for application that require more accurate solution control
- Controlled heating and/or cooling of up to six 250ml samples simultaneously using the Carousel 6 and Tornado combination
- Use a minichiller or circulator to program precise temperature gradients (maximum thermo fluid range -85°C to +235°C)
- Affordable, lightweight and compact



Breeze Workstation and Stand
P/N 015862440



GreenHouse Plus Parallel Synthesizer

The patented GreenHouse Plus Parallel synthesizer was designed with the help of scientists at GlaxoSmithKline to perform up to 24 reactions in parallel with the volume range from 0.5 ml to 7 ml per reaction tube. Its removable reaction block hold 24 glass reaction tubes in the same position as a standard 24-well micro plate, enabling the rapid transfer of samples to and from plates with a multichannel pipette or robotic pipetting system.

Each tube position is clearly marked on the reflux top, reaction block and reactor base for easy sample identification. The GreenHouse Plus uses "V-Mag" stirring bar technology that ensures that the PTFE stirring bar in each reaction tube provides uniform and efficient stirring of all samples.

Product Features

- Developed with and tested by chemists at GlaxoSmithKline
- Lightweight and compact
- All aluminum parts are nickel-plated for strong chemical resistance, with reflux fingers in solid nickel
- Removable reaction block features a standard MPT footprint for use with multichannel pipettes and robotic pipetting systems
- Fits on standard stirring hotplates
- For up to 24 x 16 mm glass reaction tubes with working volumes from 0.5 ml to 7 ml
- Heats reactions to 150°C; cools reactions down to -70°C when using the optional cooling reservoir
- Temperature accuracy within ±0.5°C ensured when using the Carousel digital temperature controller sold separately
- Cooling reservoir can be filled with acetone/dry ice or other solvent/dry ice combinations; insulated foam core maintains low temperatures for long periods while protecting the stirrer from freezing, also reduces condensation and ice formation on outer surfaces
- Perform reflux reactions while under an inert atmosphere with the combined reflux and additions head
- Nickel-plated pressure relief valve vents at 4 psi to 6 psi for added safety
- Fully compatible with GreenHouse Work-Up System and most centrifugal evaporators, facilitating down-stream applications
- No moving part make setup easy and operation virtually maintenance-free!



Technical Specifications

Reaction positions	24 (MTP format)
Volume range	0.5 ml to 7 ml
Stirring speed	0 rpm to 1,100 rpm
Temperature range, cooling	Ambient down to -70°C
Temperature range, heating	Ambient up to 150°C
Time to max. heat-up	30 min
Temperature stability	±0.5°C
Base diameter	6.9 in/176 mm
Top diameter	7.5 in/190 mm
Well diameter	0.49 in/12.5 mm
Height	7 in/180 mm
Weight	8.8 lb/4 kg
Maximum operating pressure	3 psi

Ordering Information

P/N	Description	015850140	015850150
		System 27	System 28
015860770	GreenHouse Plus Parallel Synthesizer (includes head, base, glass cylinder and two reaction blocks)	x	x
015860620	GreenHouse Plus reaction block		
015880850	GreenHouse Plus reaction tube, 100 pcs	x	x
015880860	Pivot ring stirring bar, 15 mm, 40 pcs	x	x
015880870	Silicone septum mat, 3 pcs		
015880880	PTFE-faced silicone septum mar, 3 pcs		
015880890	Pre-slit PTFE-faced silicone septum mar, 3 pcs		
015880900	PTFE-faced butyl rubber septum mat, 3 pcs		
015860630	GreenHouse Plus septum mat evaluation kit, 4 pcs	x	x
015860600	GreenHouse cooling reservoir		x
015750024	Carousel Tech Stirring Hotplate 115V US Plug	x	x
015750003	Carousel Temperature Controller	x	x
015860140	Digital Thermometer (-250°C to +400°C) + 200mm Probe		x

GreenHouse Blowdown Evaporator

Turn your existing GreenHouse Parallel Synthesizer (see previous page) into a parallel evaporator, or simply use this system as your own personal benchtop evaporator.

The GreenHouse Blowdown uses a precisely controlled flow of inert gas combined with digitally controlled heating to carefully evaporate your samples. Interchangeable plates with either 8 or 24 hollow pins deliver an equal flow of gas to each tube, vial or well. The absence of any vacuum avoids bumping, further protecting your sample during evaporation.

Test show that the greenhouse Blowdown can evaporate 8 vials, each containing 5 ml of methanol in only 22 minutes.

Product Features

- Use as a stand-alone personal evaporator
- Or upgrade your existing GreenHouse parallel Synthesizer to a Blowdown evaporator system
- Compatible with GreenHouse reaction tubes, various glass vials, and 8- or 24-well MTP's
- Ideal for evaporation of HPLC fractions in vials or microplates
- Environmentally friendly enclosed design contains evaporating solvent, allowing subsequent trapping and collection of solvent via a high-performance glass condenser
- Easy to operate and set up with minimal training time

Technical Specifications

Working volume	0.5 ml -7.0 ml
Reaction positions	24 (MTP format)
Well diameter	16 mm
Stirring speed	0 rpm to 1,100 rpm
Temperature range	Ambient to 150°C
Temperature accuracy	Better than 0.5°C
Time to max. heat-up	30 min
Inert gas	Yes
Reflux	Yes
Maximum Pressure	3 psi



Ordering Information

P/N	Description	015850160	015850170	015850180	015850190	015850200	015850210
		System 16	System 17	System 18	System 19	System 20	System 21
015860640	GreenHouse Blowdown head	x	x	x	x	x	x
015860650	Long Blowdown pin plate 6 x 4, for GreenHouse tube	x	x	x	x	x	x
015860660	Blowdown pin plate 6 x 4		x	x	x	x	x
015860670	Blowdown pin plate 4 x 2		x			x	x
015860680	GreenHouse Blowdown base adaptor	x	x	x	x	x	x
015860690	Blowdown stand-alone base					x	x
015860700	Flowmeter with stand, 2 to 27 L/min		x			x	x
015860710	Gas connection tubing, 5 m		x			x	x
015860720	Blowdown condenser	x	x	x	x	x	x
015861290	Gas inlet tee piece, 10 mm						
015861280	Gas inlet barbed connector, 10 mm						
015860730	Blowdown 150ml reservoir	x	x	x	x	x	x
015880810	GreenHouse glass cylinder			x	x	x	x
015860740	AT01 rack 4 x 2, for 27.8 mm OD vials		x			x	x
015860750	AT02 rack 6 x 4, for 13 mm OD vials		x	x	x	x	x
015860760	AT03 rack 6 x 4, for 13.8 OD vials		x			x	x
015860580	AT05 rack 4 x 2, for 24.3 mm OD vials		x			x	x
015860610	AT06 rack 6 x 4, for 15 mm OD vials		x			x	x
015860780	AT07 rack 4 x 2, for 23.8 mm OD vials						
015750024	Carousel Tech Stirring Hotplate 115V US Plug				x		x
015750003	Carousel Temperature Controller				x		x

➤ Reactor-Ready Lab Reactor

Patented, low cost, multi-volume lab reaction station for glass reaction vessels from 250ml to 5 liters.

The Reactor-Ready is designed as a universal reactor work station that can be used for different vessel sizes and different experiments. Reactor-Ready can easily and quickly be configured to suit the chemistry and scale you need for each project.

The beauty of Reactor-Ready is that this one reactor work station can replace many, saving you money and fume hood space.

Product Features

- Quick-release vessel clamp allows rapid vessel exchange
- Range of single and double jacketed glass vessels including 250 ml, 500 ml, 1 liter, 2 liter and 5 liter
- Support system accepts all leading brands of overhead stirrer and allows easy, tool free adjustment
- Triple support stand features heavy duty stainless steel support rods for maximum strength, stability and to minimize vibration
- Glassware accessories include condensers, dropping funnels etc.
- Self aligning stirrer coupling engages without the need for tools
- Quick-release hose coupling allows rapid exchange of vessels
- Hose manifolds allow easy thermo fluid drain down
- Temperature rand: -60°C to +190°C (subject to thermo regulator)
- Thermo fluid Connections: M24

How to order a Reactor-Ready

1) Select the Reactor-Ready Core system,

Includes:

- Stand with base, drip tray, support rods, bosses and all clamps
- Vessel to framework insulated hoses with quick release connections
- Upper & lower drain-down manifolds
- PTFE Stirrer guide and coupling
- Glass reaction vessel lid with Rodaviss sealing caps
- Vessel FEP O-ring seal and PTFE centering collar
- 2x Stainless steel vessel support collars

2) Choose a Vessel Kit or Kits you require by selecting the vessel volume & style, Includes:

- Reaction Vessel
- PTFE Anchor Stirrer
- Sidearm Couplings
- PT200 PTFE Temperature Probe with Lemo Connector
- PTFE Temperature Probe Adapter

3) Select the Heidolph Overhead Stirrer you require

4) If you need a thermo regulator, hoses, hose adapters, thermo fluid or accessory glassware, then select from the accessory list

5) If you need automation, add the Control Software and Data Hub



Reactor Ready Core System

P/N 015950100

Important: Vessel Kit and Overhead Stirrer sold separately. Hoses to connect the Reactor-Ready framework to your thermo regulator are NOT included. You will require hoses with an M24 x 1.5 female connection or appropriate adapters.



Standard Reaction Vessel Kit

➤ Reactor-Ready Duo Lab Reactor

Supports two glass reaction vessels of different or similar volume from 100 ml to 5 liters...

The Reactor-Ready Duo share the same unique features as Reactor-Ready, except that it support two separate jacketed glass reaction vessels. The system can be configured to operate with a single thermo regulator control the temperature of both vessels simultaneously; or with two thermo regulators controller the temperature of each vessel independently.

Product Features

- Rapid exchange of both vessels independently, with quick-release vessel clamp and hose couplings
- Choice of manifold kits allow two vessels to run from a single thermo regulator or two separate thermo regulators
- System accepts two overhead stirrers which can be operated and moved independently
- Robust heavy-duty framework features solid stainless steel support rods
- Two separate quick-release dampers support each of the vessels independently
- Large drip tray will retain vessel contents
- Manifold & Hose kits much be ordered separately

Applications

- Parallel synthesis or reaction optimization: Use similar or different size vessels and vary stirring speed, stirrer shape and temperature between vessels.
- Two stage reaction: Transfer reactant from one vessel to the other using vacuum or a pump
- Single reaction vessel: Using the second vessel as either a receiving or feed vessel (where reagents can be pre-heated or pre-cooled prior to addition)
- Use optional Control Software to control fluid transfer between vessels

How to order a Reactor-Ready Duo

1) Select the Reactor-Ready Core Duo system,

Includes:

- Duo stand with base, drip tray, support rods, bosses and all clamps
- 2x PTFE Stirrer guides and couplings
- 2x Glass reaction vessel lids with Rodaviss sealing caps
- 2x Vessel FEP O-ring seal and PTFE centering collars
- 2x Stainless steel vessel support collars

2) Choose Manifold & Hose Kit for on or two circulators

3) Choose the Vessel Kit or Kits you require by selecting the vessel volume & style

4) Select the Heidolph Overhead Stirrer you require

5) If you need a thermo regulator, hoses, hose adapters, thermo fluid or accessory glassware, then select from the accessory list

6) If you need automation, add the Control Software and Data Hub



Reactor-Ready Duo Core

P/N 015970100



Double Circulator
Manifold & Hose Kit

P/N 015970210



Single Circulator
Manifold & Hose Kit

P/N 015970200

Ordering Information

P/N	Description
Core Systems	
015950100	Reactor-Ready Core System
015970100	Reactor-Ready Duo Core System
Manifold & Hose Kits	
015970210	Double Circulator Manifold & Hose Kit, Includes: R/H & L/H Upper Return Manifold with Vent Valve, R/H & L/H Lower Supply Manifold with Drain Valve, 4x Quick-Release Insulated Hoses 60cm, 4x Sealing Caps for Hoses
015970200	Single Circulator Manifold & Hose Kit, Includes: Central Upper Return Manifold with Vent Valve, Central Lower Supply Manifold with Drain Valve, 4x Quick-Release Insulated Hoses 70cm, 4x Sealing Caps for Hoses, 4x Stainless steel blanking plugs
Standard Reaction Vessel Kits, Includes: Glass Reaction Vessel, PTFE anchor stirrer paddle, PTFE Pt 100 Temp Probe (w/Lemo plug for connection to the thermoregulator) and PTFE temperature probe adapter	
015950103	250 ml Single Jacketed Vessel Kit
015950104	250 ml Vacuum Jacketed Vessel kit
015950105	500 ml Single Jacketed Vessel Kit
015950106	500 ml Vacuum Jacketed Vessel Kit
015950107	1000 ml Single Jacketed Vessel Kit
015950108	1000 ml Vacuum Jacketed Vessel Kit
015950109	2000 ml Single Jacketed Vessel Kit
015950110	2000 ml Vacuum Jacketed Vessel Kit
015950111	5000 ml Single Jacketed Vessel Kit
015950112	5000 ml Vacuum Jacketed Vessel Kit
Process Reaction Vessel Kits, Includes: Process vessel, turbine stirrer paddle, PTFE Pt 100 temp probe (w/Lemo plug for connection to the thermoregulator) and PTFE Temperature probe adapter	
015952350	100 ml Single Jacketed Process Vessel Kit
015950114	100 ml Vacuum Jacketed Process Vessel Kit
015952360	250 ml Single Jacketed Process Vessel Kit
015951115	250 ml Vacuum Jacketed Process Vessel Kit
015951120	500 ml Single Jacketed Process Vessel Kit
015950189	500 ml Vacuum Jacketed Process Vessel Kit
015950187	1000 ml Single Jacketed Process Vessel Kit
015952170	1000 ml Vacuum Jacketed Process Vessel Kit
015950188	2000 ml Single Jacketed Process Vessel Kit
015952200	2000 ml Vacuum Jacketed Process Vessel Kit
015952060	5000 ml Single Jacketed Process Vessel Kit
015950190	5000 ml Vacuum Jacketed Process Vessel Kit

*Contact your local Heidolph North America Specialist for more information

Reactor-Ready Pilot Lab Reactor

Save space, time, money and prove your chemistry...

The Reactor-Ready Pilot is designed as a universal reactor work station that can be used for different vessel sizes and different projects. Reactor-Ready Pilot is ideal for process development, scale-up, pilot and kilo labs.

Product Features

- Rapid vessel exchange with quick-release vessel clamp and wide bore hose couplings.
- Range of single and vacuum jacketed vessels from 5 liters to 20 liters
- Vessel manufactures at 1.25 to 1 ratio of internal height to diameter to mimic plant scale reactors
- Dn200vessel flange
- Accepts all leading brands of overhead stirrer and allows easy, tool free adjustment
- Compact stainless steel framework accepts all vessel sizes
- Self aligning stirrer coupling engages without the need for tools
- Temperature rang: -60°C to +230°C
- Innovative hose manifolds allow easy thermo fluid drain down
- Wide range of accessory glassware including condensers, dropping

How to Order Reactor-Ready Pilot

1) Select the reactor-Ready Pilot Core,

Includes:

- Base frame, support rods, vessel clamp, I-beam & stirrer support bosses
- Vessel to manifold insulated hoses with quick-release connections
- Lower inlet manifold with drain
- Upper outlet manifold with vent
- PTFE Stirrer guide
- Stainless steel stirrer drive coupling
- One aluminum vessel support collar
- FEP flange O-ring and PTFE centering collar

2) Choose the lid you require

3) Choose the Vessel Kit or Kits you require by selecting the vessel volume & style

4) Select the Heidolph Overhead Stirrer you require

5) If you need a thermo regulator, hoses, hose adapters, thermo fluid or accessory glassware, then select from the accessory list

6) If you need automation, add the Control Software and Data Hub

Ordering Information

P/N	Description
Core System	
015908000	Reactor-Ready Pilot Core System
Glass Lids	
015908005	6 Neck Lid DN200- 1xB19, 1xB24, 1xB29, 2xB34, 1xB45
015908006	7 Neck Lid DN200- 1xB19, 1xB24, 1xB29, 3xB34, 1xB45
Reaction Vessel Kits, Includes: process vessel, turbine stirrer paddle, PTFE Pt100 temp probe with Lemo plug and PTFE Temperature probe adapter	
015908010	5L Single Jacketed Pilot Process Vessel Kit
015908011	5L Vacuum Jacketed Pilot Process Vessel kit
015908012	10L Single Jacketed Pilot Process Vessel Kit
015908015	10L Vacuum Jacketed Pilot Process Vessel Kit
015908013	15L Single Jacketed Pilot Process Vessel Kit
015908014	15L Vacuum Jacketed Pilot Process Vessel Kit
015908016	20L Single Jacketed Pilot Process Vessel Kit
015908017	20L Vacuum Jacketed Pilot Process Vessel Kit



➤ Lara Controlled Lab Reactor

Setting new standard in flexibility and simplicity in process automation.... Not your "conventional" Reactor.....

Lara allows the user to replace multiple reaction set-ups in several fume hoods with a single automated system; saving money, space, increasing your productivity and making process automation much more accessible.



Integral stirrer: simple alignment, hinged action, low profile

Standard, process & custom vessels from 100ml to 10L

Vacuum Jacketed vessel options that are not the norm with conventional reactors

Choice of popular stir paddles

Hose Couplings: Quick release, connect in seconds, chemical resistant, NO Tools and no fuss

Versatile Framework: Compact footprint, built in drip tray

Patented Stirring Coupling

Quick Release Vessel clamp: self centering, quick release and change vessel in minutes as opposed to hours

Control Software: log and control the Reactor and your third party devices, such as thermal regulator, peristaltic pump, balances, pH meters, etc.

Jacked Drain Down: Drain down in seconds with simple push button operation

LCD remote control: stirring speed and torque measurement

Thermo Regulators for any of our Lab Reactor Options: Reactor Ready, Duo, Pilot & Lara

To compliment your Reactor Heidoph offers a variety of user friendly temperature control instruments. The perfect pairing will increase the efficiency of your workflow. All packages have been provided based on the most optimal results depending on which vessel size is chosen. We offer complete packages to stand alone units. Packages include fittings, insulated tubing, and 10 liters of thermal bath fluid.

Let us customize a complete system including reactor, vessels, software and thermal regulator.



P/N	Description	Temp Range	Voltage	Heater	Recommended for:
048150000	Hei-Therm R Regulator CF41 Pkg	-40...+200°C	115V/ 60Hz	1 kW	Up to 1L vessel
048150001	Hei-Therm R Regulator CF41-1 Pkg	-40...+200°C	230V/ 50Hz	2 kW	Up to 1L vessel
048150002	Hei-Therm R Regulator P-A30 Pkg	-30...+250°C	208V/ 60 Hz	2.3 kW	Up to 1L vessel
048150003	Hei-Therm R Regulator P-A40 Pkg	-40...+250°C	208V/ 60Hz	2.3 kW	2-5L vessel
048150004	Hei-Therm R Regulator P-A80 Pkg	-80...+250°C	208V/ 60Hz	1.5 kW	5L vessel
048150005	Hei-Therm R Regulator P-A80t Pkg	-80...+250°C	08V/ 60Hz/ 3 ph	2.8 kW	5L vessel
048150006	Hei-Therm R Regulator FP51-SL	-51...+200°C	230V/ 60Hz/ 3 ph	3.0 kW	Up to 20L vessel

➤ AVA Software

ID	Cat No.	Description
015200005	RR20302/US	AVA Level 1 Software Kit - US Plug (Kit includes controller, data hub & AVA installed)
015200006	RR20304/US	AVA Level 2 Software Kit - US Plug (Kit includes controller, data hub & AVA installed)
015200007	RR20306/US	AVA Level 3 Software Kit - US Plug (Kit includes controller, data hub & AVA installed)
015200008	RR20308/US	AVA Level 4 Software Kit - US Plug (Kit includes controller, data hub & AVA installed)
AVA Software Only		
015200001	RR2011/US	AVA Software Level 1 + 1 Yr AVA Care
015200002	RR20112/US	AVA Software Level 2 + 1 Yr AVA Care
015200003	RR20113/US	AVA Software Level 3 + 1 Yr AVA Care
015200004	RR20114/US	AVA Software Level 4 + 1 Yr AVA Care
AVA Upgrades		
015200009	RR20120/US	AVA Software Upgrade Level 1 to 2 + 1Yr AVA Care
015200010	RR20121/US	AVA Software Upgrade Level 1 to 3 + 1Yr AVA Care
015200011	RR20122/US	AVA Software Upgrade Level 1 to 4 + 1Yr AVA Care
015200012	RR20123/US	AVA Software Upgrade Level 2 to 3 + 1Yr AVA Care
015200013	RR20124/US	AVA Software Upgrade Level 2 to 4 + 1Yr AVA Care
015200014	RR20125/US	AVA Software Upgrade Level 3 to 4 + 1Yr AVA Care
AVA Care Support		
015200015	RR20141/US	AVA Care Level 1 - 1 Year
015200016	RR20142/US	AVA Care Level 2 - 1 Year
015200017	RR20143/US	AVA Care Level 3 - 1 Year
015200018	RR20144/US	AVA Care Level 4 - 1 Year
New Driver Device Integration		
015200019	RR20217/US	Driver Configuration Service
Controllers		
015200020	RR20250/US	Laptop Controller - US Plug
Data Hub & Accessories		
015200021	RR20200/US	Data Hub 4 Port - US Plug
015200022	RR20202/US	Data Hub 2 Port - US Plug
015200023	RR20454/US	Ethernet Switch (for up to 4 Data Hubs, 16 x RS232 ports) - US Plug



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