NEW
Carousel Work-Up Station Available Soon

VERSION 1

Cooled Carousel 6 Place™

Cost effective parallel synthesis, from ambient down to -70°C

Accepts 6 x 100ml, 170ml or 250ml reaction Flasks

RADLEYS DISCOVERY TECHNOLOGIES

Equal and powerful stirring
in all six reaction flasks

Cooled Carousel 6 Place Reaction Station™

Heated Carousel 6 Place
Reaction Station

The Cooled Carousel 6 Place utilises patented technology to simultaneously stir and cool up to six 100ml, 170ml or 250ml round bottomed flasks.

The Cooled Carousel 6 Place is designed to be used by individual chemists in their own fume cupboard. The affordability of the Cooled Carousel 6 Place brings all the benefits in productivity of parallel synthesis to the chemist at a fraction of the cost of any other comparable system. Perform chilled reactions down to -70˚C.

Technical Specifications

Diameter	390mm
Height	270mm
Weight	3.7kg
Positions	6
Accepts	100ml RB Flask
	170ml RB Flask
	250ml RB Flask
Stirring Speed	0 to 1100rpm
Temp. Range	Ambient down to -70˚C
Inert Gas	Yes

Cooled Carousel 6 Place Reaction Station
with six 100ml Reaction Flasks.

Introduction

- Simultaneously performs up to six cooled and stirred reactions.
- Choose from six 100ml, 170ml or 250ml glass reaction flasks, or a combination of flask sizes in the same system. Reaction flasks have the following working volumes; 100ml flask - 60ml, 170ml flask - 100ml and 250ml flask - 150ml.
- The Cooled Carousel 6 Place fits on a standard Carousel or IKA hotplate stirrer, thereby using existing and readily available technology.
- IMPORTANT NOTE - The Cooled Carousel 6 Place cannot be heated and is not suitable for above ambient reactions.
- Utilises the single rotating magnetic field of the hotplate stirrer to stir all the positions evenly and powerfully.
- Robust HDPE cooling reservoir is compatible with a wide range of freezing mixtures including dry ice / acetone for manually controlled cooling from ambient to -70˚C.
- Insulated foam core maintains low temperatures for long periods, whilst protecting the stirrer from freezing. Also reduces condensation and ice formation on outer surfaces.
- A stainless steel central inlet / outlet for vacuum and inert gas, combined with a radial gas distribution system and gas-tight PTFE caps, allows reactions under an inert atmosphere.
- Round design makes all reaction flasks visible and allows easy addition of reagents and solvents; with no need to lean into the fume cupboard.
- Reliable maintenance free operation with no electrical or moving parts.
- Easy to operate and set-up, with minimal training time.
- Compact size with a small bench-top footprint.

Cools six 250ml flasks to -70˚C in minutes...

Cooled Carousel 6 Place Reaction Station™ will increase the productivity of your chemistry

Choose from 100ml, 170ml or 250ml round bottom glass reaction flasks...

Convenient Cooled Carousel 6 Place Stand will hold six Reaction Flasks.

PTFE cap features an all PTFE valve, which offers superior solvent resistance, gas tight sealing and easy operation.

Central inlet/outlet for vacuum and gas, combined with a radial gas distribution system and gas-tight PTFE caps allow reactions under an inert atmosphere.

Round design makes all reaction flasks visible; with no need to lean into the fume cupboard.

Robust HPDE cooling reservoir is compatible with a wide range of freezing mixtures including dry-ice/acetone for manually controlled cooling from ambient to -70˚C.

Provides six cooled and stirred glass reaction positions, with a range of reaction vessels

Insulated foam core maintains low temperatures for long periods, whilst protecting the stirrer from freezing. Also reduces condensation and ice formation on outer surfaces.

Rare earth elliptical PTFE stirring bar provides powerful stirring and a deep vortex.

Utilises the single rotating magnetic field of the hotplate stirrer to stir all the positions evenly and powerfully.

No electrical or moving parts ensures maintenance free operation. Easy to set-up with minimal training time.

Fits on a standard Carousel or IKA hotplate stirrer, so utilising existing and readily available technology.

Compact size has a small bench-top footprint and is easy to store

RR99047 - 250ml Flask with Sidearm & Dropping Funnel

RR99050 - 250ml Long Neck Reaction Flask

RR99040 - 250ml Reaction Flask

RR99054 - 100ml Reaction Flask

RR99052 - 170ml Reaction Flask

RR99041 250ml Reaction Flask, RR99042 Reflux Tube & Connecting Set

RR99050 Long Neck 250ml Reaction Flask

RR99047 250ml Reaction Flask with Sidearm, R99048 50ml Dropping Funnel and RR99049 Solid Additions Funnel

RR99054 100ml Reaction Flask, Reflux Tube & Connecting Set & RR99058 Insert

RR99052 170ml Reaction Flask, Reflux Tube & Connecting Set & RR99057 Insert

Versatile 250ml Reaction Flasks

- Heavy duty, borosilicate glass 250ml round bottomed reaction flasks have a Rodaviss B24/29 joint for connection to the RR99042 Reflux Tube. The detachable glass Reflux Tube features a threaded top, which when combined with any of the RDT threaded PTFE caps, give an excellent gas tight seal up to 1psi.
- 250ml Round Bottomed Reaction Flask with removable reflux tube - RR99040
  Allowing for efficient refluxing during synthesis and (after removal of the reflux tube), for the flask to fit directly onto a standard rotary evaporator. Reaction flask comes with RR99042 Reflux tube and Rodaviss connecting set.
- 250ml Long Neck Round Bottomed Reaction Flasks - RR99050
  A single piece design for ease of use. Features a threaded top.
- 250ml Round Bottomed Reaction Flask with B14/23 Sidearm & Septa port - RR99047
  Designed for use with either the RR99048 Dropping Funnel or RR99049 Solid Additions Funnel. Supplied with small Rodaviss cap and septum for sealing sidearm.
- 250ml Round Bottomed Reaction Flask with B24/29 Sidearm & Septa port - RR99077
  Designed for use with either the RR99078 Dropping Funnel or RR99079 Solid Additions Funnel. This larger sized sidearm is better suited to the addition of viscous liquids or solids. Supplied with small Rodaviss cap and septum for sealing sidearm.

Liquid & Solid Additions Funnels

- B14/23 (RR99048) or B24/29 (RR99078) 50ml Liquid Additions Dropping Funnel
  For the addition of larger volumes of reagent directly into the reaction flask. Features a Pressure Equalising Arm for ease of addition.
- B14/23 (RR99049) or B24/29 (RR99079) Solid Additions Funnel
  For addition of powders or solids directly into the reaction flask.

Cooled Carousel System featuring 250ml Reaction Flasks with Sidearm and 50ml Dropping Funnel

100ml & 170ml Reaction Flasks

- 170ml Parallel Sided Reaction Flask - RR99052
  Designed to maximise the internal volume, yet allows 6 flasks to fit in both the Cooled Carousel 6 Place and the Genevac EZ-2 Personal Evaporator.
- 100ml Round Bottomed Reaction Flask - RR99054
  Designed especially to allow 6 flasks to fit in both the Cooled Carousel 6 Place and the Genevac EZ-2 and HT Evaporators.

Compatible with Rotary Evaporators

- Choice of three Rotary Evaporator Adapters
  Two for connecting the 100ml or 250ml reaction flask to any Rotary Evaporator with a B29 cone, including IKA, Heidolph and Buchi and one for USA 24/40 Socket to B24 cone.

Rotary Evaporator Adapters

100ml, 170ml and 250ml reaction flasks will fit directly onto a standard rotary evaporator

Genevac EZ-2 Plus Evaporator

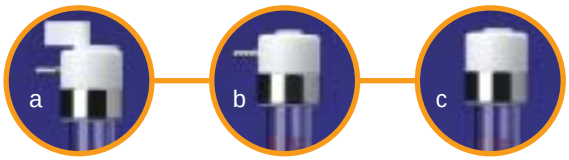
Compatible with Genevac Evaporators

- All of the Cooled Carousel 6 Place Reaction Flasks are compatible with the full range of Genevac Centrifugal Evaporators, including the new EZ-2 Personal Centrifugal Evaporator.
- 250ml EZ-2/HT Evaporation Flask - RR99053
  For large quantity post synthesis evaporations, dedicate for use in the Genevac EZ-2, EZ-2 Plus and HT Evaporators. Up to 4 flasks can be used at any time. Flasks feature a GL32 thread. IMPORTANT: this flask is not designed for use with the Carousel 6 Place.
- For assistance in selecting the correct Genevac rack for your reaction tubes or flasks please visit the Genevac website www.genevac.com

RR98059 PTFE Reaction Caps - with PTFE Valve

This popular cap features an all PTFE valve, which offers superior solvent resistance, improved sealing and ease of operation. The cap also has a 'barbed' stainless steel inlet for easy removal of tubing. Other features of the RR98059 (a.) include:-

- PTFE valve allows individual reaction flasks to be isolated or removed during synthesis, whilst the others are still under inert conditions.
- Valve permits on/off control of the gas flow to individual flasks, allowing you to use as many flasks as you wish; simply leave the valve shut on the unused flasks.
- The valve can be closed at the end of a reaction to allow the flasks removal whilst maintaining the inert atmosphere.



- Alternatively choose from two other compatible PTFE cap styles.
  b. RR98068 - Cap with suba-seal and barbed sidearm.
  c. RR98078 - Storage cap with suba-seal, but without sidearm.
- Suba-Seal Septum - RR98076
  Located in the top of the PTFE cap the Silicone SubaSeals allow the addition of liquid reagents via syringe during synthesis, or the monitoring of the reaction through the withdrawal of aliquots.

Accessories

- Rare Earth 25mm Elliptical Stirring Bar - RR99064 Recommended stirring bar for optimum stirring of reaction flask contents. Provides a deep vortex.
- Cork Support Ring - RR99061 For bench-top support of individual flasks.
- Tubing - RR99066 (12 x 62mm) Replacement tubing for connecting gas distribution hose barbs to PTFE caps for vacuum or inert gas control.
- RR98094 - PTFE Magnetic Stirring Bar Retriever, 350mm.

Genevac offer a range of racks to fit all RDT reaction tubes and flask

All caps feature a barbed side arm for easy removal of tubing

Cork Support Rings - RR99061 for bench-top support of individual flasks.

RR99064 Rare earth elliptical PTFE stirring bar provides powerful stirring and a deep vortex..

Assembly & Operation

1. Locate the HDPE Cooling Reservoir on to the Stirring Hotplate (maximum top plate, diameter 135mm). The circular recess in the base fits snuggly around the top plate, yet allows it to be lifted on or off the stirring hotplate with ease.
2. Place the aluminum Reactor Head on top of the HDPE Cooling Reservoir. The circular recess in the Reservoir accepts the protrusion on the base of the Reactor Head.
3. Select the appropriate flasks (100ml, 170ml or 250ml) adding the preferred PTFE magnetic stirring bar to each flask. We recommend the RR99064 Rare Earth 25mm Elliptical Stirring Bars for most applications for optimum stirring.
4. Connect the flexible tubing lengths to the six radial gas hose barbs on the Reactor Head. The tubing optimises the gas flow to the individual reaction flasks.
5. Load the flask and reflux tube, (with stirring bars in situ), taking care to make sure each is fully located. Built-in 'spring clips' hold the flasks in place.
6. Charge each reaction flask with appropriate solvents.
7. Fit the PTFE caps to each of the reaction flasks and connect adjacent tubing on Reactor Head to each of the cap sidearm's for radial gas distribution.
8. Attach tubing to the centre barb of the radial gas distribution system and connect via a 3-way tap to a vacuum source and inert gas supply. Evacuate the system and charge with a suitable inert gas.
9. Place a temperature probe into the Reservoir bowl to monitor the cooling mixture - by sliding the probe through the drilled hole in the Reactor Head. Alternatively insert the probe into one of the Reaction Flasks (through the Suba-Seal) to directly monitor the sample temperature.
10. Select a cooling mixture depending on the minimum temperature desired, e.g. dry ice and acetone for cooling to -70˚C.
11. Fill the Reservoir bowl to an appropriate level with solvent, e.g. acetone.
12. Carefully add the dry ice to the solvent. Do this slowly to prevent spitting. Always wear appropriate protective gloves, apron and face shield, (in some instances it may be preferred to load the reservoir with dry ice first, with solvent added second).
13. Use the Stirrer Hotplate controls to set stirring speed (The Cooled Carousel 6 Place cannot be heated and is not suitable for reactions above ambient).
14. Locate the HDPE protective cover for improved cooling, reduced condensation and safety.
15. Post synthesis, the aluminium Reactor Head can be removed, with flasks in-situ, and placed on the HDPE Stand where the reactions can be allowed to slowly warm to ambient.

Cooled Carousel Protective Cover

- Fabricated from durable HDPE (high density polyethylene).
- Included with your Cooled Carousel 6 Place Reaction Station as standard.
- Cover greatly reduces the amount of condensation on flasks and frost formation.
- Cover significantly prolongs duration and maintains temperature of cooling mixture.
- Reduces the risk of solvents spitting and of spilling very reactive / pyrophoric reagents into cooling mixture.
- Quick disconnect connectors on the inert gas line allow the cover to be removed whilst maintaining an inert atmosphere in all flasks.

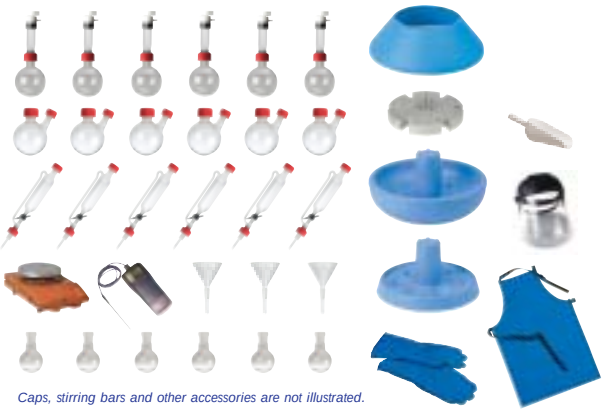
Cooled Carousel 6 Place Reaction™ 'Systems'

Save time and money by buying these popular Cooled Carousel 6 Place 'Systems', which include all the important components and accessories required for efficient operation.

Cat No	Description
RR99532	**System 15 - Cooled Carousel 6 Place Reaction Station** Comprises of the following RR99500 - 1 x Cooled Carousel 6 Place (Reservoir, Reactor Head, Stand & Cover) RR98024 - 1 x Pair Protective Cold Temperature Gloves RR98076 - 100 x Replacement Suba-Seals for Caps RR99905 - 1 x Digital Thermometer (-250˚C to +400˚C) & 200mm Probe RR99067 - 1 x Tubing for Inert Gas or Reflux Cooling, 2 metre RR99908 - 1 x Dry Ice Scoop RR99909 - 1 x Cold Temperature Apron 1060mm long, Waterproof RR99910 - 1 x Protective Faceshield

This system does not include reaction flasks, stirring hotplate etc and is intended for those users who already have a heated Carousel 6 Place (RR99030). Smaller accessories are not illustrated.

Cat No	Description
RR99531	**System 14 - Cooled Carousel 6 Place Reaction Station** Comprises of the following RR99500 - 1 x Cooled Carousel 6 Place (Reservoir, Reactor Head, Stand & Cover) RR98024 - 1 x Pair Protective Cold Temperature Gloves RR98059 - 6 x Gas Tight Threaded PTFE Cap + PTFE Valve + S/S Inlet RR98072 - 1 x Carousel Stirring Hotplate 230 volt & UK Plug RR98076 - 100 x Replacement Suba-Seals for Caps RR98094 - 1 x PTFE Magnetic Stirring Bar Retriever 350mm RR99040 - 6 x 250ml Reaction Flask + Reflux Tube + Rodaviss Connecting Set RR99043 - 10 x B24/29 Rodaviss Sealing Cap (for Reaction Flask top) RR99046 - 2 x Rotary Evaporator Adapters Ordinary B29 Socket to B24 Cone RR99054 - 6 x 100ml Reaction Flask RR99061 - 6 x Reaction Flask Support Ring RR99064 - 10 x Rare Earth - 25mm Elliptical PTFE Stirring Bar RR99067 - 1 x Tubing for Inert Gas or Reflux Cooling, 2 metre RR99077 - 6 x 250ml Reaction Flask with B24/29 Sidearm & Septa Port RR99078 - 3 x B24/29 Liquid Additions Dropping Funnel + Equalising Arm RR99078 - 3 x B24/29 Liquid Additions Dropping Funnel + Equalising Arm RR99079 - 3 x B24/29 Solid Additions Funnel RR99905 - 1 x Digital Thermometer (-250˚C to +400˚C) & 200mm Probe RR99908 - 1 x Dry Ice Scoop RR99909 - 1 x Cold Temperature Apron 1060mm long, Waterproof RR99910 - 1 x Protective Faceshield



Caps, stirring bars and other accessories are not illustrated.

Accessories & Spare Components

- Cooled Carousel 6 Place Reactor Head - RR99502
  Aluminium Reactor Head's round design allows all reaction flasks to be visible. Features the radial gas distribution.
- Cooled Carousel 6 Place Cooling Reservoir - RR99501
  Robust HDPE Cooling Reservoir is maintains low temperatures for long periods, protecting the stirrer from freezing, reduces condensation and ice formation on the outer surface.
- Cooled Carousel 6 Place Stand - RR99503
  HDPE Stand for supporting the Reactor Head pre or post synthesis. After synthesis the Reactor Head and flasks can be placed on top of the Stand to allow reactions to reach ambient.
- Digital Thermometer with 200mm Probe - RR99905
  For low temperature measurement -250˚C to +400˚C.
- Gloves - RR98024 Protective Cold Temperature Gloves
- Apron - RR99909 Protective Cold Temperature, 1060mm long
- Dry Ice Scoop - RR99908 Polystyrene scoop.
- Protective Faceshield - RR99910

Reactor Head

Reservoir

Stand

Scoop

Digital Thermometer

Protective Gloves

Apron

FaceShield

Cat No	Description	Pk Qty
Cooled Carousel 6 Place Reaction Station Components and Accessories		
RR99500	Cooled Carousel 6 Place (Reservoir, Head, Stand and Cover)	1
RR99501	Cooled Carousel 6 Place Cooling Reservoir	1
RR99502	Cooled Carousel 6 Place Reactor Head	1
RR99503	Cooled Carousel 6 Place Stand	1
RR99515	Cooled Carousel 6 Place Cover (with gas connectors)	1
RR99905	Digital Thermometer (-250˚C to +400˚C) & 200mm Probe	1
RR99908	Dry Ice Scoop	1
RR99909	Cold Temperature Apron 1060mm long Waterproof	1
RR99910	Protective Faceshield	1
RR98024	Protective Cold Temperature Gloves	1
250ml Reaction Flask, Reflux Tubes & Gas Tight Caps		
RR98059	Gas Tight Threaded PTFE Cap + PTFE Valve + S/S Inlet	6
RR99040	250ml Reaction Flask + Reflux Tube + Rodaviss Connecting Set	6
RR99041	250ml Reaction Flask	6
RR99042	Reflux Tube + Rodaviss Connecting Set	6
RR99043	B24/29 Rodaviss Sealing Cap (for Reaction Flask top)	10
RR99044	B24/29 Rodaviss Connecting Set (for connecting Flasks to Reflux Tube)	10
RR99050	Long Neck 250ml Reaction Flask	6
250ml Reaction Flask with B14/23 Sidearm & Septa Port		
RR99047	250ml Reaction Flask with B14/23 Sidearm & Septa Port	6
RR99048	B14/23 Liquid Additions Dropping Funnel + Equalising Arm	3
RR99049	B14/23 Solid Additions Funnel	3
RR99080	Replacement PTFE/Silicone Septa 20mm for B14/23 Septa Port	50
RR99043	B24/29 Rodaviss Sealing Cap (for Reaction Flask top)	10
RR99068	B14/23 Rodaviss Sealing Cap (for Sidearm)	10
250ml Reaction Flask with B24/29 Sidearm & Septa Port		
RR99077	250ml Reaction Flask with B24/29 Sidearm & Septa Port	6
RR99078	B24/29 Liquid Additions Dropping Funnel + Equalising Arm	3
RR99079	B24/29 Solid Additions Funnel	3
RR99082	Replacement PTFE/Silicone Septa 29mm for B24/29 Septa Port	50
RR99043	B24/29 Rodaviss Sealing Cap (for Sidearm or Reaction Flask top)	10

100ml & 170ml Reaction Flask

This 170ml parallel-sided flask is designed to maximise the internal volume, yet allows 6 flasks to fit in both the Cooled Carousel6 Place and the Genevac EZ-2 Personal Evaporator. The smaller 100ml round bottomed flask is also designed to accommodate 6 flasks in the Cooled 6 Place, Genevac EZ-2 and HT Evaporators.

RR99054	100ml Reaction Flask (Reflux Tube + Rodaviss Connecting Set not included)	6
RR99052	170ml Reaction Flask (Reflux Tube + Rodaviss Connecting Set not included)	6
RR99042	Reflux Tube + Rodaviss Connecting Set	6
RR99043	B24/29 Rodaviss Sealing Cap (for Reaction Flask top)	10

250ml EZ-2/HT Evaporation Flask

This large capacity 250ml parallel-sided evaporation flask is designed especially to allow 4 flasks to fit in the Genevac EZ-2 Personal Evaporator. With larger quantities fitting into the Genevac HT Evaporators. Features a GL32 threaded top.

RR99053	250ml EZ-2/HT Evaporation Flask	4
Other Accessories		
RR99045	Rotary Evaporator Adapters Rodaviss B29 Socket to B24 Cone	2
RR99046	Rotary Evaporator Adapters Ordinary B29 Socket to B24 Cone	2
RR99055	Rotary Evaporator Adapters USA 24/40 Socket to B24 Cone	2
RR99083	Splash Head Rodaviss B29 Socket to B24 Cone	1
RR99084	Splash Head Ordinary B29 Socket to B24 Cone	1
RR99085	Splash Head USA 24/40 Socket to B24 Cone	1
RR99061	Reaction Flask Support Ring	6
RR99062	Quick Release Barbed Coupling + Shut-off	2
RR99063	Elbow Quick Release Barbed Coupling + Shut-off	2
RR99064	Rare Earth - 25mm Elliptical PTFE Stirring Bar	10
RR99066	Replacement Tubing for RR99030, 62mm	12
RR99067	Tubing for Inert Gas or Reflux Cooling, 2 metres	1
RR98076	Replacement Suba-Seals for PTFE Caps	100
Carousel Stirring Hotplate & Temperature Controller		
RR98072	Carousel Stirring Hotplate (please specify voltage)	1
RR98073	Carousel Temperature Controller	1

Personal parallel synthesiser for 6 x 100ml, 170ml or 250ml reaction flasks from ambient to 180˚C

Cost effective low temperature 12 place parallel synthesis from ambient to -70˚C

Radleys Discovery Technologies are specialists in parallel chemistry...

As a dynamic organisation Radleys Discovery Technologies are best able to react to the needs of this constantly developing market sector. Radleys Discovery Technologies specific areas of expertise is focused on apparatus and consumables for parallel synthesis, purification and work-up. The essential products that are the cornerstone of your parallel chemistry program.

RADLEYS DISCOVERY TECHNOLOGIES

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