

Instructions

Carousel 6 Plus™ Reaction Station

Your Local Distributor



 **radleys**
accelerating chemistry

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1. Introduction

Thank you for purchasing your Carousel 6 Plus Reaction Station. Please read this instruction manual thoroughly before operating your unit.

The patented Carousel 6 Plus simultaneously heats, stirs and refluxes multiple samples under an inert atmosphere and accepts round bottom flasks of 5ml, 10ml, 25ml, 50ml, 100ml, 170ml and 250ml sizes.

Features

- Powerful, even magnetic stirring - fits on to a Carousel Stirring Hotplate.
- Rapid and controlled heating to 180°C.
- Efficient water-cooled reflux head.
- Perform reactions under an inert atmosphere.
- Quick to set up, easy to use and maintenance free.
- Wide range of vessel sizes from 5ml to 250ml.
- Interchangeable flask formats: sidearms, baffles, wide neck and azeotropic.
- Easy-On PTFE caps feature a 'quick-thread' for a gas tight seal to flasks.
- Innovative well design for improved heat transfer and reduced temperature variation.
- Easy-to-clean contoured surface.
- Exclusive wide neck flasks with quick coupling for improved sealing and ease of use.



Rapid Heating and Efficient Refluxing

- Circular, solid aluminium base transmits heat rapidly and evenly to all positions.
- Boils six flasks of water in less than 25 minutes.
- PTFE heat protection ring helps protect user from accidental contact with hot aluminium base.
- Removable aluminium inserts in reflux head allow easy removal of flasks, yet maintain good heat transfer for refluxing.
- Acetal quick-release valved couplings on the side of reflux head allow disconnection of cooling water without loss of water.
- Acetal quick-release coupling on top of the reflux head facilitates supply of inert gas or vacuum.

2. Warranty

Carousel 6 Plus Reaction Station includes one year full parts and labour warranty from date of original purchase.

Warranty will only be valid if a completed Warranty Email Back form is returned within 1 month of date of purchase (see last page). In the event of product failure please contact your local distributor.

Please do not return any goods without prior agreement.

3. Safety Information

The following symbols are intended to assist the user in the safe and efficient operation of the Carousel 6 Plus Reaction Station.

	<p>Warning Applies when there is a possibility of personal injury.</p>	<p>Important, Important, Important, Important, Important, Important, Important, Important, Important, Important, Important, Important,</p>	<p>Important Note Alerts the user to important facts.</p>
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4. Important WARNINGS

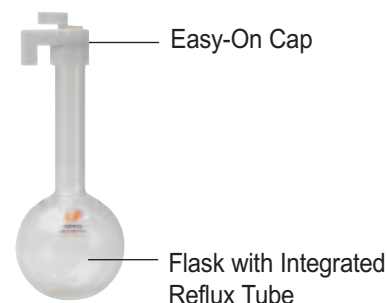
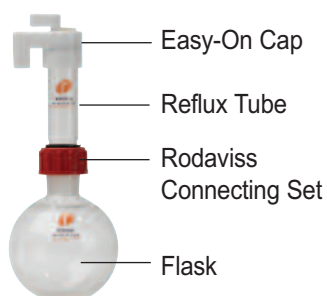
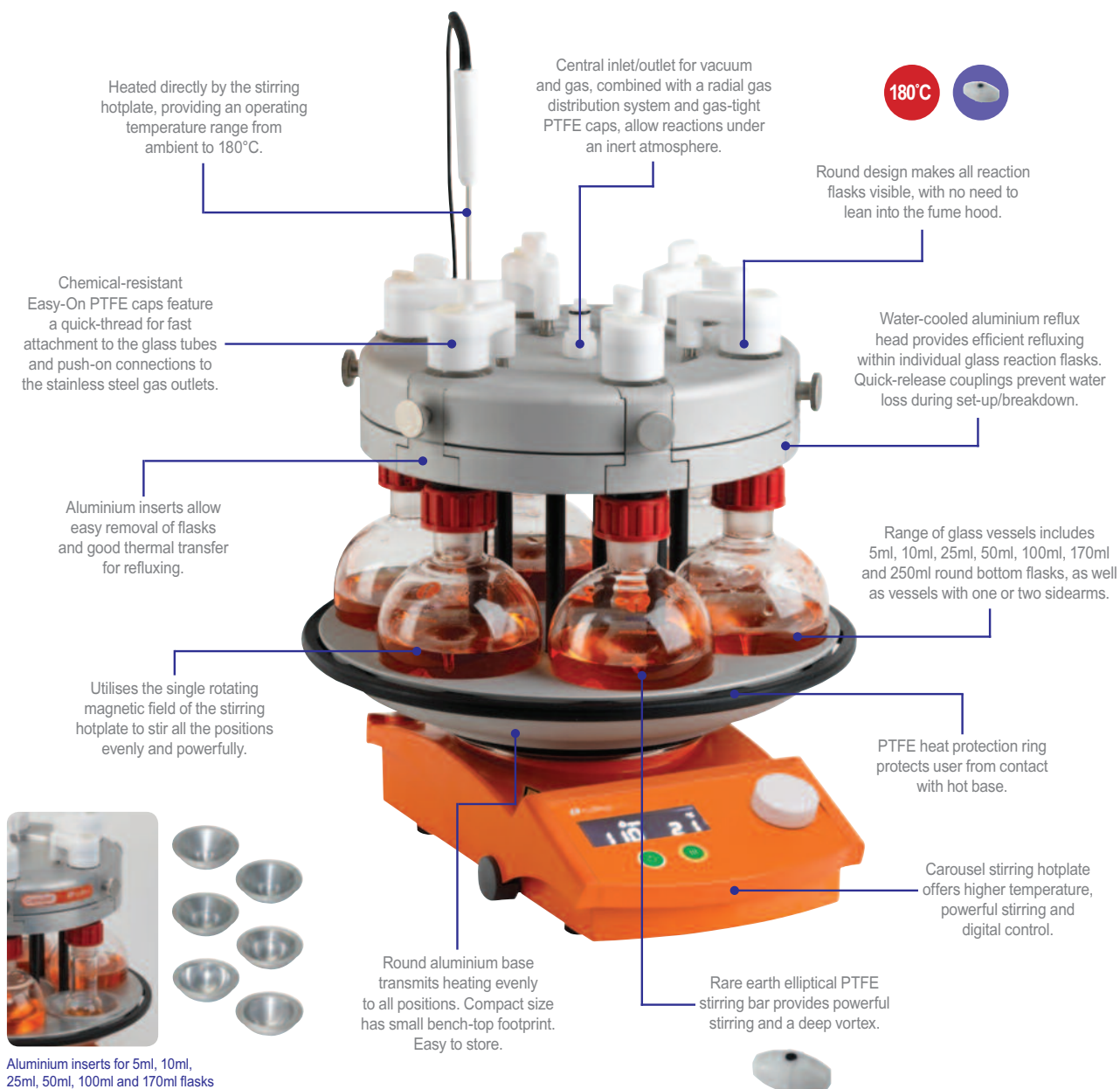
- Please read these instructions completely before using your Carousel 6 Plus Reaction Station.
- Operate only in a fumehood with protective safety sash.
- The Carousel reaction flasks are not designed for pressurised reactions. DO NOT PRESSURISE ABOVE 1psi.
- The Carousel is not suitable for continuous use under vacuum (e.g. for evaporations or for reactions to be carried out under vacuum). Vacuum should only be used intermittently as part of the inerting process.
- Chemical resistance - the Carousel is resistant to the majority of solvents and splash resistant to dilute acids and alkalis at room temperature. Extended exposure to acids or alkalis will attack the surface of the Carousel. The stronger the concentration and the longer the exposure time the more chance and intensity of any attack. Heat will also speed up the intensity of any attack. It is important to clean off any residual chemical spills immediately after they occur.
- Do not attempt to dismantle the reflux head - this will invalidate your warranty.
- To avoid the build-up of limescale in the reflux head, please avoid the use of hard water.
- Risk of burns - when heating reactions, take care not to touch the reaction block. Use of the removable insulating plate is highly recommended to reduce the temperature of exposed surfaces.
- The Carousel unit will remain hot for some considerable time after the heating source has been switched off. A temperature probe or temperature sensitive label can be used to indicate when components are too hot to touch.
- Maximum recommended operating temperature is 180°C.

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Important Note

The Carousel 6 Plus Reaction Station should only be operated by trained and competent personnel. As with all chemistries, a full risk assessment should be performed prior to starting an experiment, and care should be taken to monitor your reactions at all stages. The Carousel should not be left unattended unless in a supervised area.

5. Product Component Guide



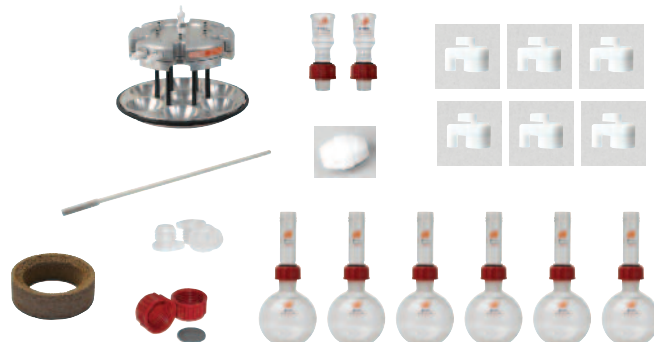
6. Products and Accessories

Heated System - Basic

180°C

System 34

- RR99943 Carousel 6 Plus System
 RR99916 - 1 x Carousel 6 Plus Reaction Station
 RR91070 - 1 x Easy-On PTFE Cap, pk 6
 RR98076 - 1 x Silicone Septa for PTFE Caps, pk 100
 RR98094 - 1 x PTFE Magnetic Stirring Bar Retriever 350mm
 RR99917 - 1 x 250ml Reaction Flask + Reflux Tube + Connecting Set, pk 6
 RR99043 - 1 x B24/29 Rodaviss Sealing Cap, pk 10
 RR99046 - 1 x Rotary Evaporator Adapters Ordinary B29 Socket to B24 Cone, pk 2
 RR99061 - 1 x Reaction Flask Support Ring, pk 6
 RR99064 - 1 x Elliptical Stirring Bar 25mm RE, pk 10
 RR99067 - 1 x Tubing for Inert Gas or Reflux Cooling 2 metres

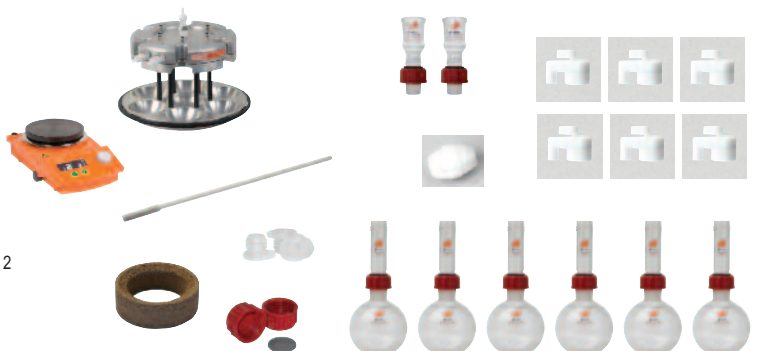


Heated System - Basic + Hotplate

180°C

System 33

- RR99942 Carousel 6 Plus System
 RR99916 - 1 x Carousel 6 Plus Reaction Station
 RR91070 - 1 x Easy-On PTFE Cap, pk 6
 RR91206 - 1 x Carousel Tech Stirring Hotplate + Pt1000 230v UK Plug
 RR98076 - 1 x Silicone Septa for PTFE Caps, pk 100
 RR98094 - 1 x PTFE Magnetic Stirring Bar Retriever 350mm
 RR99917 - 1 x 250ml Reaction Flask + Reflux Tube + Connecting Set, pk 6
 RR99043 - 1 x B24/29 Rodaviss Sealing Cap, pk 10
 RR99046 - 1 x Rotary Evaporator Adapters Ordinary B29 Socket to B24 Cone, pk 2
 RR99061 - 1 x Reaction Flask Support Ring, pk 6
 RR99064 - 1 x Elliptical Stirring Bar 25mm RE, pk 10
 RR99067 - 1 x Tubing for Inert Gas or Reflux Cooling 2 metres

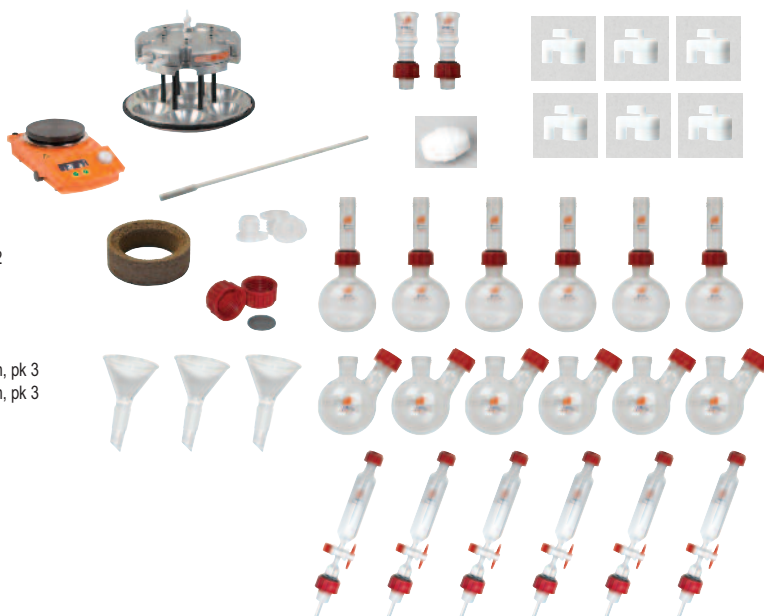


Heated System - Additions

180°C

System 35

- RR99944 Carousel 6 Plus System
 RR99916 - 1 x Carousel 6 Plus Reaction Station
 RR91070 - 1 x Easy-On PTFE Cap, pk 6
 RR91206 - 1 x Carousel Tech Stirring Hotplate + Pt1000 230v UK Plug
 RR98076 - 1 x Silicone Septa for PTFE Caps, pk 100
 RR98094 - 1 x PTFE Magnetic Stirring Bar Retriever 350mm
 RR99917 - 1 x 250ml Reaction Flask + Reflux Tube + Connecting Set, pk 6
 RR99043 - 1 x B24/29 Rodaviss Sealing Cap, pk 10
 RR99046 - 1 x Rotary Evaporator Adapters Ordinary B29 Socket to B24 Cone, pk 2
 RR99061 - 1 x Reaction Flask Support Ring, pk 6
 RR99064 - 1 x Elliptical Stirring Bar 25mm RE, pk 10
 RR99067 - 1 x Tubing for Inert Gas or Reflux Cooling 2 metres
 RR99077 - 1 x 250ml Reaction Flasks with B24/29 Sidearm + Septa Port, pk 6
 RR99078 - 1 x B24/29 Liquid Additions Dropping Funnel + Pressure Equalising Arm, pk 3
 RR99079 - 1 x B24/29 Liquid Additions Dropping Funnel + Pressure Equalising Arm, pk 3
 RR99079 - 1 x B24/29 Solid Additions Funnel, pk 3
 RR99082 - 1 x PTFE/Silicone Septa 29mm - B24/29, pk 50



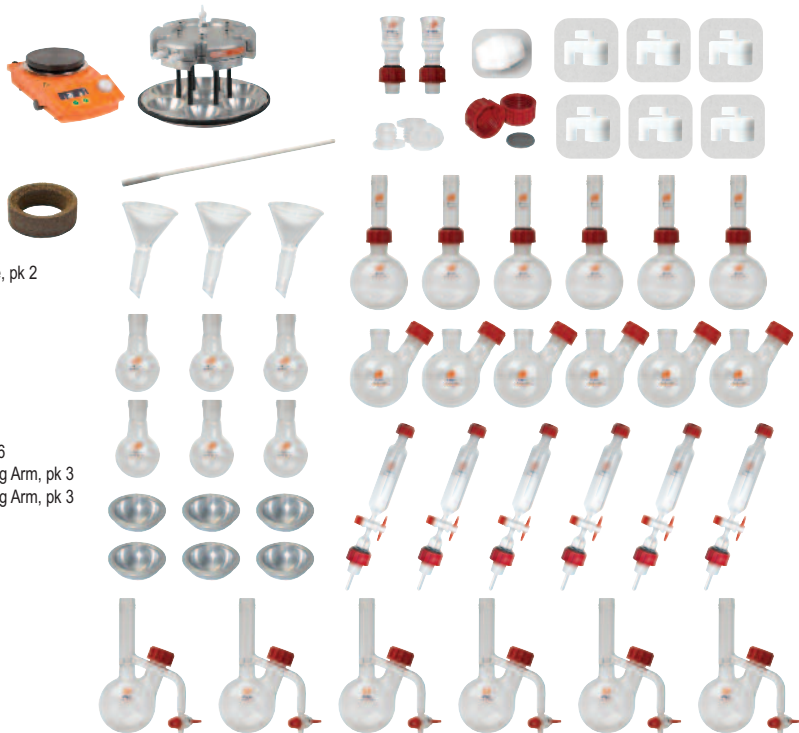
6. Products and Accessories - Continued

Heated System - Comprehensive

180°C

System 36
RR99945

- Carousel 6 Plus System
- RR99916 - 1 x Carousel 6 Plus Reaction Station
- RR91070 - 1 x Easy-On PTFE Cap, pk 6
- RR91206 - 1 x Carousel Tech Stirring Hotplate + Pt1000 230v UK Plug
- RR98076 - 1 x Silicone Septa for PTFE Caps, pk 100
- RR98094 - 1 x PTFE Magnetic Stirring Bar Retriever 350mm
- RR99917 - 1 x 250ml Reaction Flask + Reflux Tube + Connecting Set, pk 6
- RR99043 - 1 x B24/29 Rodaviss Sealing Cap, pk 10
- RR99046 - 1 x Rotary Evaporator Adapters Ordinary B29 Socket to B24 Cone, pk 2
- RR99054 - 1 x 100ml Reaction Flask, pk 6
- RR99920 - 1 x 250ml Azeotropic Reaction Flask, pk 3
- RR99920 - 1 x 250ml Azeotropic Reaction Flask, pk 3
- RR99058 - 1 x Aluminium Insert for 100ml Reaction Flask, pk 6
- RR99061 - 1 x Reaction Flask Support Ring, pk 6
- RR99064 - 1 x Elliptical Stirring Bar 25mm RE, pk 10
- RR99067 - 1 x Tubing for Inert Gas or Reflux Cooling 2 metres
- RR99077 - 1 x 250ml Reaction Flasks with B24/29 Sidearm + Septa Port, pk 6
- RR99078 - 1 x B24/29 Liquid Additions Dropping Funnel + Pressure Equalising Arm, pk 3
- RR99078 - 1 x B24/29 Liquid Additions Dropping Funnel + Pressure Equalising Arm, pk 3
- RR99079 - 1 x B24/29 Solid Additions Funnel, pk 3
- RR99082 - 1 x PTFE/Silicone Septa 29mm - B24/29, pk 50



Cooled System - Upgrade

-78°C

System 38
RR99949

- Cooled Carousel 6 Plus System
- RR99947 - 1 x Cooled Carousel 6 Plus (Reservoir, Head, Stand + Cover)
- RR98024 - 1 x Protective Cold Temperature Gloves
- RR98076 - 1 x Silicone Septa for PTFE Caps, pk 100
- RR99067 - 1 x Tubing for Inert Gas or Reflux Cooling 2 metres
- RR99905 - 1 x Digital Thermometer (-250°C to +400°C) + 200mm Probe
- RR99908 - 1 x Dry Ice Scoop
- RR99909 - 1 x Cold Temp. Apron 1060mm Long Waterproof
- RR99910 - 1 x Protective Face Shield



This system does not include reaction flasks or stirring hotplate etc. and is intended for those users who already have a heated Carousel 6 Plus.

Cooled System - Comprehensive

-78°C

System 39
RR99950

- Cooled Carousel 6 Plus System
- RR99947 - 1 x Cooled Carousel 6 Plus (Reservoir, Head, Stand + Cover)
- RR98024 - 1 x Protective Cold Temperature Gloves
- RR91070 - 1 x Easy-On PTFE Cap, pk 6
- RR91203 - 1 x Carousel Tech Stirring Hotplate 230v UK Plug
- RR98076 - 1 x Silicone Septa for PTFE Caps, pk 100
- RR98094 - 1 x PTFE Magnetic Stirring Bar Retriever 350mm
- RR99917 - 1 x 250ml Reaction Flask + Reflux Tube + Connecting Set, pk 6
- RR99043 - 1 x B24/29 Rodaviss Sealing Cap, pk 10
- RR99046 - 1 x Rotary Evaporator Adapters Ordinary B29 Socket to B24 Cone, pk 2
- RR99054 - 1 x 100ml Reaction Flask, pk 6
- RR99061 - 1 x Reaction Flask Support Ring, pk 6
- RR99064 - 1 x Elliptical Stirring Bar 25mm RE, pk 10
- RR99067 - 1 x Tubing for Inert Gas or Reflux Cooling 2 metres
- RR99077 - 1 x B24/29 250ml Reaction Flasks with Sidearm + Septa Port, pk 6
- RR99078 - 1 x B24/29 Liquid Additions Dropping Funnel with Pressure Equalising Arm, pk 3
- RR99078 - 1 x B24/29 Liquid Additions Dropping Funnel with Pressure Equalising Arm, pk 3
- RR99079 - 1 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 Temp. Apron 1060mm long Waterproof
- RR99910 - 1 x Protective Face Shield



6. Products and Accessories - Continued

Carousel 6 Plus Reaction Station

Carousel 6 Plus

RR99916 Carousel 6 Plus Reaction Station

Carousel 6 Plus Systems

RR99942 Carousel 6 Plus System 33 - Heated System - Basic + Hotplate
 RR99943 Carousel 6 Plus System 34 - Heated System - Basic
 RR99944 Carousel 6 Plus System 35 - Heated System - Additions
 RR99945 Carousel 6 Plus System 36 - Heated System - Comprehensive

Glassware

Standard Flasks and Reflux Tubes

RR99151 5ml Reaction Flask with B14/23 Neck, pk 6
 RR99148 10ml Reaction Flask with B14/23 Neck, pk 6
 RR99923 B14/23 Reflux Tube + Connecting Set, pk 6
 RR99145 25ml Reaction Flask, pk 6
 RR99070 50ml Reaction Flask, pk 6
 RR99054 100ml Reaction Flask, pk 6
 RR99052 170ml Reaction Flask, pk 6
 RR99041 250ml Reaction Flask, pk 6
 RR99917 250ml Reaction Flask + Reflux Tube + Connecting Set, pk 6
 RR99918 B24/29 Reflux Tube + Connecting Set, pk 6
 RR99919 250ml Long Neck Reaction Flask, pk 6

Standard Flasks with Sidearms

RR99071 50ml Reaction Flask with B14/23 Sidearm + Septa Port, pk 6
 RR99074 100ml Reaction Flask with B14/23 Sidearm + Septa Port, pk 6
 RR99077 250ml Reaction Flask with B24/29 Sidearm + Septa Port, pk 6
 RR99047 250ml Reaction Flask with B14/23 Sidearm + Septa Port, pk 6
 RR99087 250ml Reaction Flask with 2x B14/23 Sidearms + Septa Port, pk 6
 RR99088 250ml Reaction Flask with 2x B24/29 Sidearms + Septa Port, pk 6
 RR99089 250ml Reaction Flask with 1x B14/23 + 1x B24/29 Sidearm + Septa Port, pk 6

Wide Neck Flasks with Coupling

RR99924 Wide Neck Reflux Tube + Coupling
 RR99925 Coupling for Wide Neck Flasks
 RR99940 PTFE Wide Neck Support Collar
 RR99941 Nitrile O-Ring for PTFE Wide Neck Support Collar
 RR99926 50ml Wide Neck Flask
 RR99928 100ml Wide Neck Flask
 RR99933 250ml Wide Neck Flask

Wide Neck Flasks with Sidearms

RR99927 50ml Wide Neck Flask with B14/23 Sidearm + Septa Port
 RR99929 100ml Wide Neck Flask with B14/23 Sidearm + Septa Port
 RR99930 100ml Wide Neck Flask with 2x B14/23 Sidearms + Septa Port
 RR99934 250ml Wide Neck Flask with B24/29 Sidearm + Septa Port
 RR99935 250ml Wide Neck Flask with 2x B24/29 Sidearms + Septa Port

Wide Neck Flasks with Baffles and Sidearms

RR99931 100ml Baffled Wide Neck Flask with B14/23 Sidearm + Septa Port
 RR99932 100ml Baffled Wide Neck Flask with 2x B14/23 Sidearms + Septa Port
 RR99936 250ml Baffled Wide Neck Flask with B24/29 Sidearm + Septa Port
 RR99937 250ml Baffled Wide Neck Flask with 2x B24/29 Sidearms + Septa Port

Azeotropic Glassware

RR99922 100ml Azeotropic Reaction Flask, pk 3
 RR99920 250ml Azeotropic Reaction Flask, pk 3
 RR99939 100ml Tomado Azeotropic Reaction Flask, pk 3
 RR99938 250ml Tomado Azeotropic Reaction Flask, pk 3

Liquid and Solid Addition Funnels

RR99049 B14/23 Solid Additions Funnel, pk 3
 RR99079 B24/29 Solid Additions Funnel, pk 3
 RR99048 B14/23 Liquid Additions Dropping Funnel + Pressure Equalising Arm, pk 3
 RR99078 B24/29 Liquid Additions Dropping Funnel + Pressure Equalising Arm, pk 3

Evaporation Adapters, Splash Heads and Evaporation Flasks

RR99045 Rotary Evaporator Adapters Rodaviss B29 Socket to B24 Cone, pk 2
 RR99046 Rotary Evaporator Adapters Ordinary B29 Socket to B24 Cone, pk 2
 RR99055 Rotary Evaporator Adapters USA 24/40 Socket to B24 Cone, pk 2
 RR99083 Splash Head Rodaviss B29 Socket to B24 Cone
 RR99084 Splash Head Ordinary B29 Socket to B24 Cone
 RR99085 Splash Head USA 24/40 Socket to B24 Cone
 RR99053 250ml EZ-2/HT Evaporation Flask (Compatible with Genevac Evaporators), pk 4

Flasks are NOT supplied with reflux tubes or PTFE caps; these must be purchased separately.

Carousel 6 Plus Accessories

Aluminium Inserts

RR99142 Aluminium Insert for 5ml Reaction Flask, pk 6
 RR99141 Aluminium Insert for 10ml Reaction Flask, pk 6
 RR99140 Aluminium Insert for 25ml Reaction Flask, pk 6
 RR99060 Aluminium Insert for 50ml Reaction Flask, pk 6
 RR99058 Aluminium Insert for 100ml Reaction Flask, pk 6
 RR99057 Aluminium Insert for 170ml Reaction Flask, pk 6

PTFE Magnetic Stirring Bars

RR98075 Cross Shape Stirring Bar 10mm, pk 40
 RR98091 Cross Shape Stirring Bar 16.5mm RE, pk 20
 RR98096 Elliptical Stirring Bar 10mm RE, pk 40
 RR98097 Elliptical Stirring Bar 15mm RE, pk 20
 RR99064 Elliptical Stirring Bar 25mm RE, pk 10
 RR98070 Octagonal Stirring Bar 13mm, pk 20
 RR98071 Pivot Ring Stirring Bar 12 x 6mm, pk 40
 RR98095 PTFE Magnetic Stirring Bar Evaluation Kit, pk 30
 RR98094 PTFE Magnetic Stirring Bar Retriever 350mm
 RR98114 Magnetic Stirring Bar Restrainer

PTFE Caps and Accessories

RR91070 Easy-On PTFE Cap, pk 6
 RR91072 Easy-On PTFE Storage Cap, pk 6
 RR98076 Silicone Septa for PTFE Caps, pk 100
 RR98176 Viton Septa for PTFE Caps, pk 100
 RR98060 O-Rings for Caps - Nitrile 24mm, pk 100
 RR98160 O-Rings for Caps - Viton 24mm, pk 100

Replacement O-Rings and Quick Release Couplings

RR91060 Nitrile O-Rings 4mm Gas Outlet - Bottom, pk 50
 RR91061 Nitrile O-Rings 3mm Gas Outlet - Top, pk 50
 RR91062 Viton O-Rings 4mm Gas Outlet - Bottom, pk 50
 RR91063 Viton O-Rings 3mm Gas Outlet - Top, pk 50
 RR91065 Quick Release Male, Threaded, No Shut-off (6.4mm ID)
 RR91066 Quick Release Female, Barbed 6.4mm, No Shut-off (6.4mm ID)
 RR99062 Quick Release Male, Barbed 6.4mm + Shut-off (6.4mm ID), pk 2
 RR99063 Quick Release Male, R/A Barbed 6.4mm + Shut-off (6.4mm ID), pk 2
 RR99065 Quick Release Female, Threaded + Shut-off (6.4mm ID), pk 2

Rodaviss Caps and Connecting Sets

RR99051 B14/23 Rodaviss Sealing Cap, pk 10
 RR99043 B24/29 Rodaviss Sealing Cap, pk 10
 RR99955 B14/23 Rodaviss Connecting Set, pk 10
 RR99044 B24/29 Rodaviss Connecting Set, pk 10
 RR99080 PTFE/Silicone Septa 20mm - B14/23, pk 50
 RR99081 PTFE/Silicone Septa 24.5mm - B19/26, pk 50
 RR99082 PTFE/Silicone Septa 29mm - B24/29, pk 50
 RR99068 B14/23 Rodaviss Connecting Cap, pk 10
 RR99090 B24/29 Rodaviss Connecting Cap, pk 10

Other Accessories

RR98906 Black Lab Marker, pk 10
 RR99061 Reaction Flask Support Ring, pk 6
 RR99067 Tubing for Inert Gas or Reflux Cooling, 2m

6. Products and Accessories - Continued

Cooled Carousel 6 Plus Reaction Station

Cooled Carousel 6 Plus

RR99947 Cooled Carousel 6 Plus (Reservoir, Head, Stand + Cover)

Cooled Carousel 6 Plus Systems

RR99949 Cooled Carousel 6 Plus System 38 - Cooled System - Upgrade
RR99950 Cooled Carousel 6 Plus System 39 - Cooled System - Comprehensive

Cooled Carousel 6 Plus Components

RR99501 Cooled Carousel 6 Plus Cooling Reservoir
RR99948 Cooled Carousel 6 Plus Head
RR99503 Cooled Carousel 6 Plus Stand
RR99515 Cooled Carousel 6 Plus Cover (with gas connectors)

Cooled Carousel 6 Plus Accessories

RR99905 Digital Thermometer (-250°C to +400°C) + 200mm Probe
RR99906 Digital Thermometer (-250°C to +400°C)
RR99907 200mm Temperature Probe
RR99908 Dry Ice Scoop
RR99909 Cold Temperature Apron 1060mm long, Waterproof
RR99910 Protective Face Shield
RR98024 Protective Cold Temperature Gloves
RR71505 Cooling Protection Kit
1 x RR99909 Cold Temperature Apron 1060mm long, Waterproof
1 x RR99910 Protective Face Shield
1 x RR98024 Protective Cold Temperature Gloves

Tornado Plus Overhead Stirring System

Tornado Plus

RR99951 Tornado Plus Overhead Stirring System
RR99230 Tornado Support Stand
RR99916 Carousel 6 Plus Reaction Station with Reflux
RR91203 Carousel Tech Stirring Hotplate 230v UK Plug
RR99239 Pt1000 S/S Temperature Sensor with 345mm Probe

PTFE Stirring Paddles

RR99240 Tornado PTFE Stirrer Shafts - Centrifugal, pk 6
RR99241 Tornado PTFE Stirrer Shafts - Centrifugal, pk 1
RR99244 Tornado PTFE Stirrer Shafts - Anchor for 100ml Flasks, pk 6
RR99245 Tornado PTFE Stirrer Shafts - Anchor for 100ml Flasks, pk 1
RR99248 Tornado PTFE Stirrer Shafts - Anchor for 250ml Flasks, pk 6
RR99249 Tornado PTFE Stirrer Shafts - Anchor for 250ml Flasks, pk 1
RR99251 Tornado PTFE Stirrer Shafts - Propeller, pk 6
RR99252 Tornado PTFE Stirrer Shafts - Propeller, pk 1

RS Overhead Stirrers

Please note that other overhead stirrer options are available on request, please contact Radleys for further information.

RR91302 RS27 Standard Overhead Stirrer 230v UK Plug
RR91302/EURO RS27 Standard Overhead Stirrer 230v Euro Plug
RR91306 RS37 Digital Plus Overhead Stirrer 230v UK Plug
RR91306/EURO RS37 Digital Plus Overhead Stirrer 230v Euro Plug
RR91308 RS50 Control Overhead Stirrer 230v UK Plug
RR91308/EURO RS50 Control Overhead Stirrer 230v Euro Plug
RR91428 Remote Control for RS50 Control
RR91430 RS232 Interface Cable Stirrer-PC

Please contact Radleys for details of replacement parts for the Stirrer Guide and Tornado System.

Storm and Breeze Heating/Cooling Work Stations

Storm and Breeze Work Stations

RR96200 Storm Work Station + Carousel 6 PTFE Insulating Plates (M24 Hose Connections)
RR96210 Breeze Work Station + Integral Stand (M16 Hose Connections)
RR96220 PTFE Insulating Plates for Carousel 6 Plus

Insulated Hoses

HB6084 Insulated Hose - 100cm long, with M16 thread
HB6085 Insulated Hose - 150cm long, with M16 thread
HB6136 Insulated Hose - 200cm long, with M16 thread
HB6255 Insulated Hose - 300cm long, with M16 thread

HB6784 Insulated Hose - 100cm long, with M24 thread
HB6785 Insulated Hose - 150cm long, with M24 thread
HB6786 Insulated Hose - 200cm long, with M24 thread
HB6787 Insulated Hose - 300cm long, with M24 thread

M16 Hose Adapters and Valves

HB6945 M16 Female to M24 Male Adapter
HB6431 M16 Female to M30 Male Adapter
HB6195 M16 90 Degree Adapter
HB6091 M16 Ball Valve
RR96316 M16 Thread Protection Cap, pk 10

M24 Hose Adapters and Valves

HB6724 M24 Female to M16 Male Adapter
HB6723 M24 Female to M30 Male Adapter
HB9256 M24 90 Degree Adapter
HB9236 M24 Ball Valve
RR96336 M24 Thread Protection Cap, pk 10

M30 Hose Adapters and Valves

HB6454 M30 Female to M16 Male Adapter
HB9268 M30 Female to M24 Male Adapter
HB6461 M30 90 Degree Adapter
HB6451 M30 Ball Valve
RR96348 M30 Thread Protection Cap, pk 10

Thermofluids

HB6164 Silicone Oil -40°C to +165°C - 10 litres
HB6162 Silicone Oil -20°C to +235°C - 10 litres
HB6479 DWTherm -90°C to +200°C - 10 litres

Stirring Hotplates

Carousel Stirring Hotplates

RR91200 Carousel Standard Stirring Hotplate 230v UK Plug
RR91203 Carousel Tech Stirring Hotplate 230v UK Plug
RR91206 Carousel Tech Stirring Hotplate + Pt1000 230v UK Plug
RR91291 Carousel Tech Package 230v UK Plug
Includes Tech Stirring Hotplate, Pt1000 S/Steel Sensor and Pt1000 Clamping System.
RR91204 Carousel Advanced Stirring Hotplate 230v UK Plug
RR91205 Carousel Advanced Stirring Hotplate + Pt1000 230v UK Plug

Hotplates available in other voltages and plug formats; please add /EURO or /USA to end of Cat No.

Pt1000 Temperature Sensors and Accessories

RR91226 Pt1000 S/S Temperature Sensor
RR99239 Pt1000 S/S Temperature Sensor with 345mm Probe
Allows probe to reach through Tornado unit into Carousel 6 Plus base
RR91227 Pt1000 Glass Coated Temperature Sensor
RR91228 Temperature Sensor Holder
RR91235 Pt1000 Clamping System - support rod and cable guide
RR91236 Pt1000 Clamping System - support rod and cable guide (for bath from 3 to 5 litres)
RR91229 Support Rod (13mm x 425mm)
RR71127 Support Rod (13mm x 500mm)
RR71125 Support Rod (13mm x 340mm)
RR71120 Support Rod Hotplate Adapter (extension plate)
RR91234 RS232 Interface Cable 15 Pin to 9 Pin

7. Glassware

7.1 Standard Flasks

- Constructed of heavy duty, borosilicate glass.
- Choice of sizes: 5ml, 10ml, 25ml, 50ml, 100ml, 170ml and 250ml.
- Precision engineered round bottom design ensures an excellent fit with the Carousel's wells, maximising heat transfer.
- Most flasks feature a B24/29 Rodaviss joint for connection to the detachable reflux tube.
- The 5ml and 10ml flasks feature a B14/23 Rodaviss joint.
- Reflux tubes feature a quick-thread, which when combined with PTFE Easy-On cap, give a gas tight seal up to 1psi.
- Optional single piece 250ml long neck design.
- Compatible with magnetic stirring bars and the centrifugal stirrer paddles for Tornado overhead stirring module option. (The smallest flask sizes are not compatible with Tornado.)
- Flasks are NOT supplied with reflux tubes or PTFE caps, which must be ordered separately.



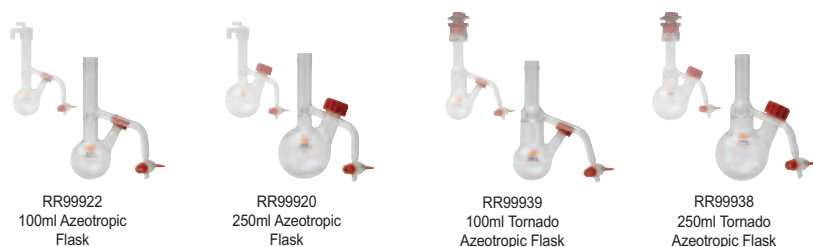
7.2 Standard Flasks with Sidearms

- Sidearm flasks have all the features of the standard flasks with the addition of either one or two sidearms.
- Flasks are available with B14/23 and B24/29 sidearm options and include Rodaviss caps and sealing septa.
- Sidearms are compatible with dropping funnels and solid addition funnels.



7.3 Azeotropic Flasks (Dean and Stark)

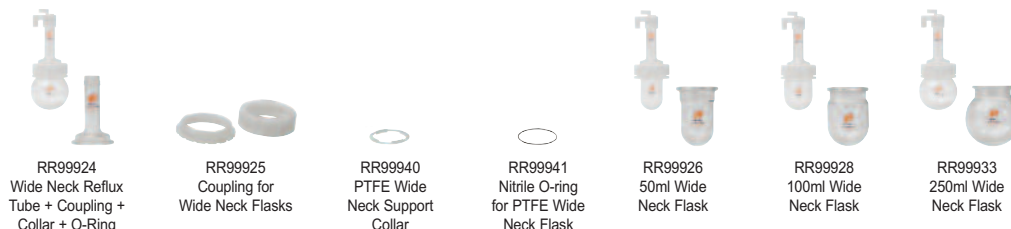
- Unique single piece flasks fit directly into the Carousel 6 Plus, allowing chemists to perform up to six azeotropic processes in parallel.
- Choice of sizes: 100ml and 250ml.
- Special Tornado version with wider neck is designed to accept centrifugal stirring paddle.
- Flasks feature a PTFE stopcock for removal of the aqueous phase.
- Feature B14/23 or B24/29 sidearms.
- Sidearms are compatible with dropping funnels and solid addition funnels.



7. Glassware - Continued

7.4 Wide Neck Flasks with Quick Coupling

- Wide neck flasks allow easier removal of viscous or solid samples and facilitate the use of the anchor and propeller style PTFE stirrer blade options (Tornado).
- These unique vessels feature a 50mm ID flat flange, which combines with a nitrile O-ring and our unique self-centring PTFE collar to offer a leak-tight seal between the glass flask and wide neck reflux tube.
- The two flanges are compressed together using a two part threaded polymer coupling, which both holds the components rigid and offers an excellent gas tight seal.



RR99924
Wide Neck Reflux
Tube + Coupling +
Collar + O-Ring

RR99925
Coupling for
Wide Neck Flasks

RR99940
PTFE Wide
Neck Support
Collar

RR99941
Nitrile O-ring
for PTFE Wide
Neck Flask

RR99926
50ml Wide
Neck Flask

RR99928
100ml Wide
Neck Flask

RR99933
250ml Wide
Neck Flask

7.5 Wide Neck Flasks with Sidearms

- Wide neck sidearm flasks have all the features of the wide neck flasks with either one or two sidearms. Ideal for attaching dropping funnels or powder funnels.



RR99927
50ml Wide Neck Flask
with B14/23 Sidearm

RR99929
100ml Wide Neck Flask
with B14/23 Sidearm

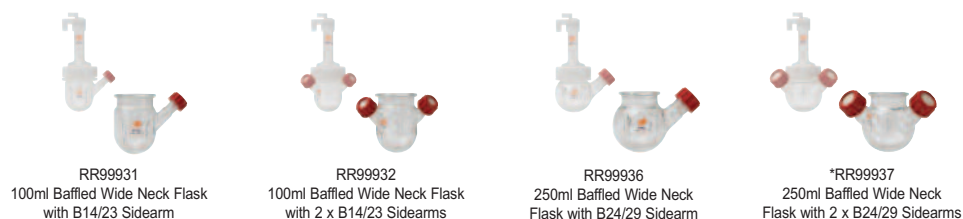
RR99930
100ml Wide Neck Flask
with 2 x B14/23 Sidearm

RR99934
250ml Wide Neck Flask
with B24/29 Sidearm

*RR99935
250ml Wide Neck Flask
with 2 x B24/29 Sidearm

7.6 Wide Neck Flasks with Baffles and Sidearms

- Wide neck baffled flasks improve the turbulence within the flask by disrupting the creation of a central vortex. Baffled flasks are recommended for use with stirrer paddles for maximum effect.



RR99931
100ml Baffled Wide Neck Flask
with B14/23 Sidearm

RR99932
100ml Baffled Wide Neck Flask
with 2 x B14/23 Sidearms

RR99936
250ml Baffled Wide Neck
Flask with B24/29 Sidearm

*RR99937
250ml Baffled Wide Neck
Flask with 2 x B24/29 Sidearms

*The RR99935 and RR99937 250ml wide neck flasks with 2 x B24/29 sidearms (non-baffled and baffled) are not compatible with the RR99947 Cooled Carousel 6 Plus.

7.7 Sundry Glassware

- Choice of 50ml liquid additions dropping funnels with B14/23 or B24/29 Rodaviss joints.
- The dropping funnels are ideal for the controlled addition of larger volumes of reagent directly into the reaction flask. Funnels feature a drip cone and pressure equalising arm for ease of addition.
- Choice of solid additions funnel with B14/23 or B24/29 Rodaviss joints, ideal for the addition of powders or solids into the reaction flask.



RR99049
B14/23 Solid
Additions
Funnel

RR99079
B24/29 Solid
Additions
Funnel

RR99048
B14/23 Liquid Additions
Dropping Funnel +
Pressure Equalising Arm

RR99078
B24/29 Liquid Additions
Dropping Funnel +
Pressure Equalising Arm

RR99053
250ml EZ-2/HT
Evaporation Flask

RR99045
Rotary Evaporator Adapter
Rodaviss B29 Socket
to B24 Cone

RR99046
Rotary Evaporator Adapter
Ordinary B29 Socket
to B24 Cone

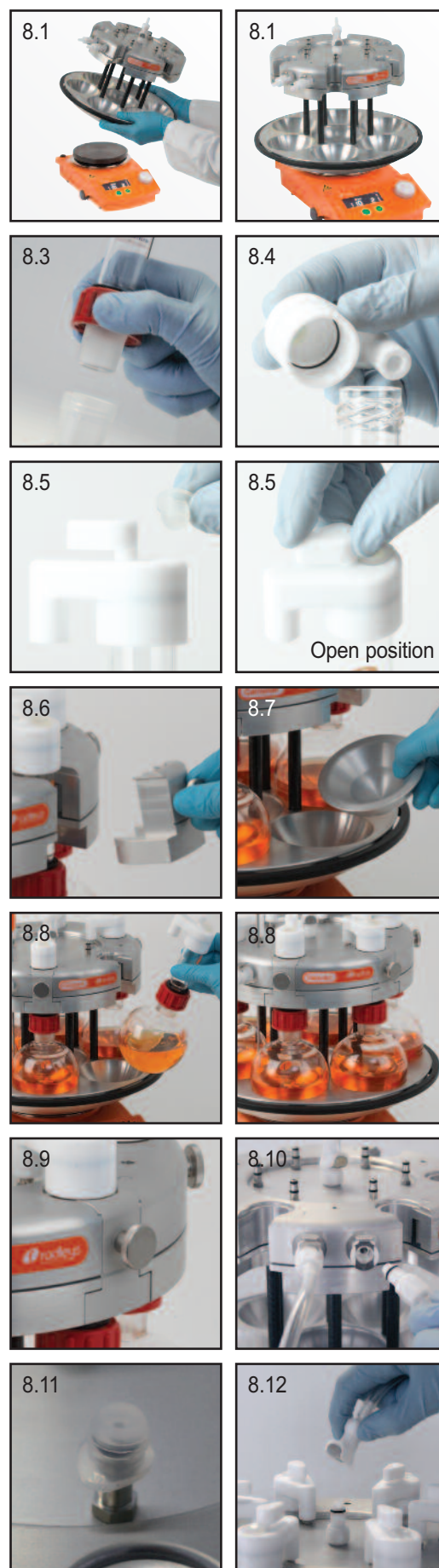
RR99055
Rotary Evaporator Adapter
USA 24/40 Socket
to B24 Cone

8. Quick Start Guide

- 8.1 Locate the Carousel on top of the stirring hotplate.
- 8.2 Place a magnetic stirring bar into your chosen reaction flask.
- 8.3 If you are using a flask that does not have an integrated reflux neck, attach an appropriate reflux tube.

(See 9.5. Assemble the Reaction Flask and Reflux Tube.)
- 8.4 Assemble the glassware and Easy-On PTFE cap by screwing together. This process requires a $\frac{1}{4}$ turn of the cap; hand tighten until the cap feels secure. Ensure that the tube is properly located with the O-ring seal in the cap.
- 8.5 If required fit a new silicone septa to the central hole in the cap, and ensure that the cap valve is in the 'open' position.
- 8.6 Remove the reflux insert from the reflux head.
- 8.7 If you are using a vessel smaller than 250ml you will now need to insert the appropriate sized aluminium insert into the well to ensure the vessel is in contact with the entire well for optimum heat transfer.

(See 9.8. Inserting flasks.)
- 8.8 Place the assembled capped flask into the Carousel at the required location. Push the cap down onto the gas outlet until the flask is fully located in the reactor base.
- 8.9 Replace the reflux insert to cover the reflux neck and secure the flask. Repeat steps 8.2 – 8.8 for all flasks.
- 8.10 Connect quick fit water connectors to the side of the reflux head and start the coolant supply.
- 8.11 If not all flask positions will be used, unused gas outlets can be blocked off with inverted silicone septa.
- 8.12 Connect the central quick fit gas connector to a regulated inert gas supply and switch the gas supply on.
- 8.13 Set the stirring hotplate to the required temperature and stirring speed.



9. Set-Up and Operation

9.1 Locating the Carousel 6 Plus on Stirring Hotplate

The top surface of your stirring hotplate should be cleaned prior to use. Any small particles on the surface may affect the fit of the Carousel unit, and have an adverse affect on the performance. Wipe the surface with a cloth or tissue, dampened with an appropriate solvent (e.g. acetone) and check for any signs of contamination or obstruction.

The undersurface of the Carousel should also be cleaned prior to use. Wipe the surface with a cloth or tissue, dampened with an appropriate solvent (e.g. acetone) and check for any signs of contamination or obstruction.

Position the Carousel onto the stirring hotplate, making sure that it is secure and properly seated. The circular recess in the base of the unit is designed to fit snugly around the top plate of the stirring hotplate (maximum diameter 135mm).

The Carousel's modular design allows it to be easily lifted on and off the hotplate stirrer as required. Being circular, it can be rotated when in place to facilitate access to all reaction positions. This removes the need to lean into the fumehood during operation.

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Important Note

The Carousel Tech Stirring Hotplate RR91203 is recommended, but any stirring hotplate can be used if the top plate diameter does not exceed 135mm.



Warning

Do not lift the Carousel by the black PTFE heat protection ring.

9.2 Use of the (Optional) PTFE Insulating Plate

The insulating plate has been specifically designed to maximize the performance of the Carousel. It provides a unique thermal barrier that both increases energy efficiency, and provides a safer working environment.

Position the first half plate on the Carousel base, sliding it past the supporting pillars. The second plate can then be positioned from the opposite side, again sliding it past the supporting pillars, ensuring that the interlocking fingers are properly aligned. When the plate is properly assembled, it should fit flush with the Carousel base, with the 2 halves meeting in the centre with a minimal gap.

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Important Note

Use of the insulating plate at all times is highly recommended. Both halves must be securely in place before use.

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Important Note

It is not possible to position (or remove) the insulating plate once the Carousel has been loaded with glassware; therefore, make sure that the plates are in place before starting to load the glassware.



Warning

The Carousel should always be used in a fumehood with protective safety sash.



9. Set-Up and Operation - Continued

9.3 Selection of Glassware

The Carousel is available with a range of unique glassware tailored for the specific requirements of parallel synthesis.

You should select the glassware for your application based on volume, sidearm configuration, neck size and whether you need baffles or an azeotropic set-up.

For details of the full range see section 7.

9.4 Select an Appropriate Stirring Bar

Select a suitable magnetic stirrer bar and place in the reaction flask.

We recommend the RR99064 Rare Earth - 25mm Elliptical PTFE Magnetic Stirring Bars for 100-250ml flasks.



Warning

Always take care when loading stirring bars not to drop them, as this may fracture the flask. Use RR98094 Stirring Bar Retriever where appropriate.

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Important Note

PTFE magnetic stirring bars can lose their magnetism with time and use; therefore, to optimise stirring performance, replace bars regularly, as required.



9.5 Assemble the Reaction Flask and Reflux Tube

All glassware to be used in the Carousel requires a reflux tube. The next step will depend on the glassware you have selected. If you have chosen:

- a round bottom flask with an integrated reflux tube – see 9.5.1
- a round bottom flask that requires a reflux tube be attached to it - see 9.5.2
- a wide neck round bottom flask - see 9.5.3

9.5.1 Glassware with Integrated Reflux Tube

As you have selected glassware with an integral reflux tube you will not need to add a separate reflux tube and can skip directly to step 9.6.

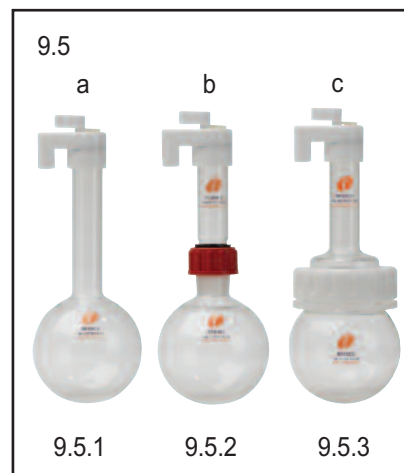
9.5.2 Assembling a Round Bottom Flask Requiring a Reflux Tube

You will need to add a reflux tube to your round bottom flask using a Rodaviss® ground glass joint. Rodaviss is an extra-safe borosilicate glass joint for connecting laboratory glassware.

Rodaviss is safe under vacuum or pressure, grease free, interchangeable with standard 1:10 tapered ground joints (including A, B and C lengths), will not stick or jam, is extremely strong and can be used up to 200°C.

Place the cone of the reflux tube through the red connecting cap and then roll the O-ring up over the cone until it drops past the shoulder of the cone. Clip the black loosening ring between the top of the connecting cap and glass rim on the cone. Insert the cone into the socket on the flask. Screw down the connecting cap onto the thread on the socket to compress the O-ring, thus ensuring a perfect seal and a rigid assembly.

To undo the joint, simply unscrew the connecting cap back onto the loosening ring, which will push the joints easily apart. This system should release even the most 'frozen' joints.



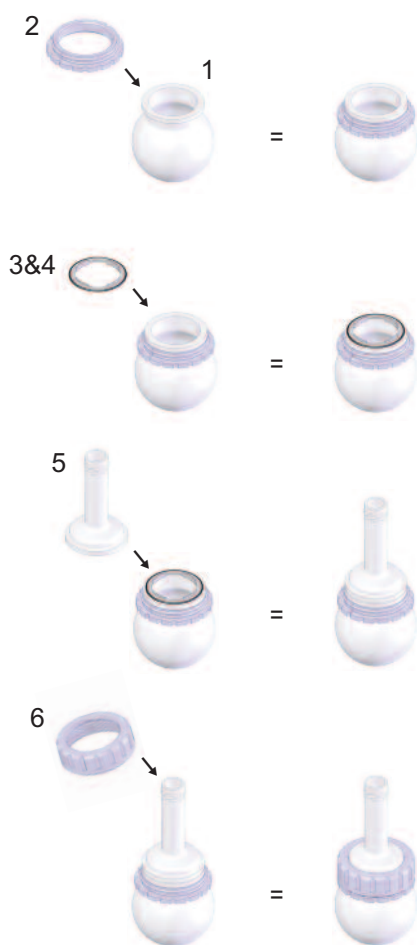
9.5.2



9. Set-Up and Operation - Continued

9.5.3 Assembling Wide Neck Glassware

- Position the lower coupling (2) around the neck of the flask (1) by prising it apart at the open edges and pushing around the neck of the flask.
- The nitrile O-ring (4) fits around the circumference of the support collar (3).
- Place the adjoined support collar (3) and O-ring (4) on to the flat flange of the flask.
- Then place the reflux tube (5) on to the flask and O-ring assembly.
- Slide the upper coupling (6) over the top of the reflux tube (5) and screw onto the lower coupling (2).



9.5.3 Wide Neck Component Guide



9.6 Fitting the Easy-On Caps to the Reflux Tube

Assemble the flask and Easy-On cap by screwing together. This process requires a ¼ turn of the cap; hand tighten until the cap feels secure. Ensure that the flask is properly located within the O-ring seal in the cap. The nitrile O-ring forms a gas tight seal with the outside of the reflux tube.

Caps feature a replaceable nitrile O-ring as standard with an optional Viton replacement. These O-rings will be subject to chemical attack and will require periodic replacement.

- RR98060 O-Rings for Caps - Nitrile 24mm, pk 100
- RR98160 O-Rings for Caps - Viton 24mm, pk 100

A septa is located in the top of each Easy-On cap, which permits either reaction monitoring through the withdrawal of aliquots or the addition of reagents during synthesis. A temperature sensor may also be inserted. Septa require periodic replacement. The standard material is silicone, but Viton is also available.

- RR98076 Silicone Septa for PTFE caps, pk 100
- RR98176 Viton Septa for PTFE caps, pk 100



Warning

Do not over tighten the Easy-On caps, as this may damage the cap and fracture the reflux tube.

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Important Note

Please note that the Easy-On caps 'seal' on the nitrile O-ring before they are fully tightened. Fully tightening the caps will effect a double seal on the PTFE inner of the cap and nitrile O-ring.



9. Set-Up and Operation - Continued

9.10 Connect Gas/Vacuum Supply

The central gas inlet/outlet and radial distribution system combined with Easy-On PTFE caps allow reactions to be performed under an inert (nitrogen/argon) atmosphere.

For use under an inert atmosphere attach tubing to the central quick-release coupling and connect via a 3-way tap or stopcock to a vacuum source and inert gas supply (recommended maximum pressure 1psi).

We offer the following tubing for connecting the white fittings (quick connects) on the Carousel reflux/inerting head to your water or gas/vacuum supply:

RR99067 Tubing for Inert Gas or Reflux Cooling 2 Metres

Then, by alternately evacuating the system and filling it with a suitable inert gas (repeating 2 to 3 times) you can achieve an inert atmosphere within the flasks.

The reaction flasks can be isolated or removed during synthesis by simply closing the valve on the Easy-On PTFE cap and removing the flask.



Warning

When applying gas to the reaction station gas inlet/outlet system, do not exceed 1 psi as the reaction flask and Easy-On PTFE caps are not rated for pressure. (They are, however, suitable for applying a vacuum.)

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Important Note

The Carousel is not suitable for continuous use under vacuum (e.g. for evaporations or for reactions to be carried out under vacuum) as there is a risk that the vacuum would pull chemicals up through the Carousel reflux head and damage it. Vacuum should only be used intermittently to remove air and replace it with an inert gas. Also, please note that the Carousel is not designed to be fully vacuum tight.

9.11 Stainless Steel Gas Outlets

The stainless steel gas outlets on top of the reflux head feature an upper and lower nitrile O-ring as standard, with optional Viton replacements.

These O-rings may be subject to chemical attack and so require periodic replacement.

RR91060 Nitrile O-Rings 4mm Gas Outlet - Bottom, pk 50

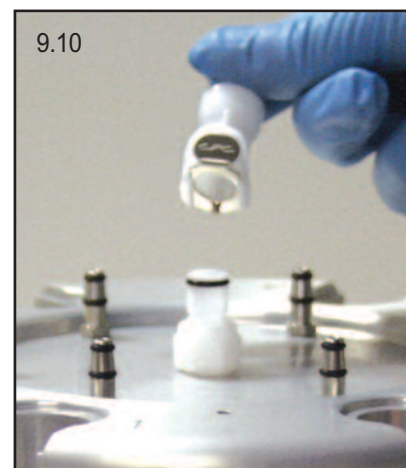
RR91061 Nitrile O-Rings 3mm Gas Outlet - Top, pk 50

RR91062 Viton O-Rings 4mm Gas Outlet - Bottom, pk 50

RR91063 Viton O-Rings 3mm Gas Outlet - Top, pk 50

9.12 Unused Positions

If not all gas outlets are in use, unused outlets can be blocked off with a inverted silicone septa.



9. Set-Up and Operation - Continued

9.13 Temperature Control

9.13.1 Set the stirring speed and temperature of the stirring hotplate to the desired level.

9.13.2 The stainless steel temperature sensor is positioned either in one of the reaction flasks (through the silicone septa) to monitor and control the solution temperature (9.13.2A) or into the reaction block via the hole between the reflux inlets (9.13.2B).

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Important Note

Please read the separate RR91203 Carousel Tech Stirring Hotplate instructions thoroughly before operation..

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Important Note

Maximum recommended operating temperature is 180°C; however, block temperatures of 220°C may be achieved.

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Important Note

Always ensure that the temperature sensor is completely immersed into the liquid when inserted into the reaction flask.

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Important Note

Care should be taken to monitor the total set up during synthesis, paying particular attention to regularly check the inert gas supply, flow of cooling water to the reflux head and reaction temperature and make adjustments as necessary.

9.14 Once Your Synthesis is Complete

- Turn off heating.
- Turn off gas supply.
- Disconnect gas inlet.
- Once the reaction has sufficiently cooled, turn off reflux cooling.
- The reaction flasks can now be removed.



9. Set-Up and Operation - Continued

9.15 Important Tips for Optimum Refluxing

- 9.15.1** For most solvents a water supply of 5°C to 18°C will be sufficient for effective refluxing. However with cooling water above 12°C, care should be taken to carefully control refluxing.
- 9.15.2** For low boiling point solvents such as diethyl ether, dichloromethane and acetone, you may require a chilled water supply with a temperature of 0 to 5°C.
- 9.15.3** Due to the large volume of 6 x 250ml reaction flasks, the temperature differential between the block and solution temperature may be greater than expected. A temperature differential between the block and solution of 15°C would not be unusual.
- 9.15.4** This differential can be affected by ambient temperature and airflow within your fume-hood. Therefore some experimentation may be necessary to determine the optimum block temperature for your solvent.
- 9.15.5** It is very important to ensure that all of the reflux inserts are inserted and fully seated. Failure to use the inserts will significantly affect the reflux performance and will almost certainly lead to solvent loss.
- 9.15.6** The use of a slight positive pressure of inert gas (not exceeding 1psi) can help reduce



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Important Note

The Carousel should only be operated by trained and competent personnel. As with all chemistries, a full risk assessment should be performed prior to starting an experiment, and care should be taken to monitor your reactions at all stages. The Carousel should not be left unattended unless in a supervised area.

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Important Note

To avoid the build-up of limescale in the reflux head please avoid the use of hard water.

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Important Note

Do not attempt to dismantle the reflux head – THIS WILL INVALIDATE YOUR WARRANTY. Dismantling the reflux head may compromise the silicone seal between the surfaces and cause a water leak during operation.

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Important Note

In the unlikely event of a water leak from the reflux head, please stop using the unit immediately.

1. DO NOT TOUCH THE CAROUSEL OR HOTPLATE.
2. Switch off the power supply to the hotplate at the mains supply.
3. Remove the power plug from the mains.
4. Once the Carousel has cooled remove it from the hotplate.

Do not attempt to repair the leak. THIS WILL INVALIDATE YOUR WARRANTY. Please contact your local distributor.

10. Performance Data - Insulating Plate

10.1 Use of the PTFE Insulating Plate as a Safety Barrier

The insulating properties of the PTFE material provide a significant safety barrier, protecting the user from high temperatures and reducing the risk of serious burn, in case of accidental contact when the reactor is being used at elevated temperatures. Tests have shown that when reactor components are at 155°C, exposed external surfaces are reduced in temperature by around 60°C (Fig 1).

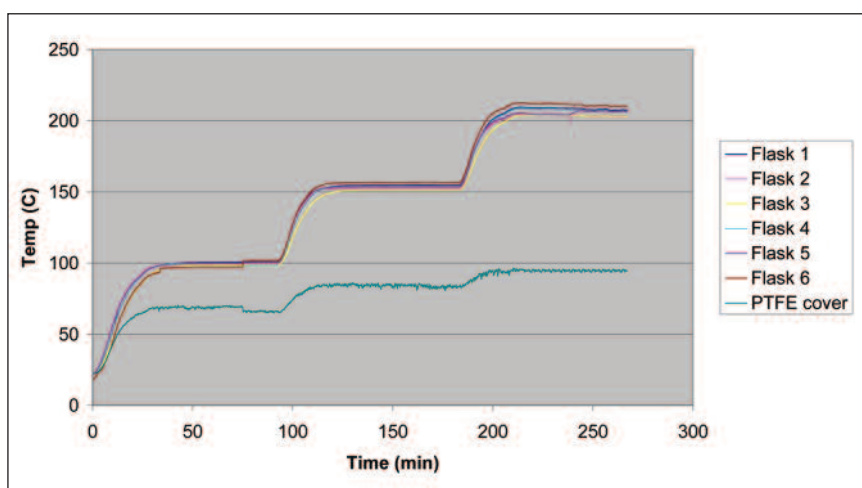


Warning

Whilst the insulating plate will reduce the external temperature of the base, it may still get hot enough to cause a burn. Therefore, please do not touch the insulating plate during heating and always allow to cool fully before removal.



Fig 1 Temperature Profile of PTFE Insulation Plate, for 6 x 250ml Flasks



11. Radleys/Genevac Rack Compatibility Guide

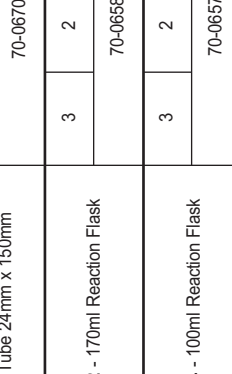
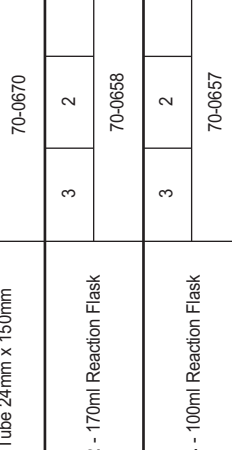
Radleys/Genevac Compatibility	EZ-2			HT-4			HT-8			HT-12		
	Vessels Per Rack	Racks Per Evap	Total Vessels Per Evap	Vessels Per Rack	Racks Per Evap	Total Vessels Per Evap	Vessels Per Rack	Racks Per Evap	Total Vessels Per Evap	Vessels Per Rack	Racks Per Evap	Total Vessels Per Evap
RR91081 - Quick-Thread Glass Reaction Tube 24mm x 150mm	8	2	16	6	4	24	6	8	48	6	12	72
		70-0670			70-0061			70-0061			70-0061	
RR99052 - 170ml Reaction Flask	3	2	6									
		70-0658			N/A			N/A			N/A	
RR99054 - 100ml Reaction Flask	3	2	6	2	4	8	2	8	16	2	12	24
		70-0657			70-0706			70-0706			70-0706	
RR99053 - EZ-2/HT 250ml Evaporation Flask	2	2	4	2	4	8	2	8	16	2	12	24
		70-0581			70-0581			70-0581			70-0581	
RR99041 - 250ml Reaction Flask (Flask only)	1	2	2	1	4	4	1	8	8	1	12	12
		70-0581			70-0581			70-0581			70-0581	

Carousel 12 Plus
Cooled Carousel 12 Plus
Mez Syn10 Reaction Station

Carousel 6 Plus
Cooled Carousel 6 Plus

Not compatible with Radleys Products

Carousel 6 Plus
Cooled Carousel 6 Plus



Warranty – Email Back

sales@radleys.com

To qualify for your warranty please complete, scan and email this form to Radleys

Product Name/Model		
Product Batch or Serial No. (If shown)		
Date of purchase		
Supplier's name and address		
Organisation name		
First name		
Last name		
Job Title		
Department		
Address		
Country		
Postal/Zip Code		
Email		
Phone		
Mobile		

Type of Organisation: Tick all relevant boxes		
Academic	<input type="checkbox"/>	Lab Equipment Dealer/Manufacturer
Animal/Marine/Vetinary	<input type="checkbox"/>	Medical/Clinical/Diagnostic/Device
Automation/Engineering/Electronics/Instrumentation	<input type="checkbox"/>	Metals/Mining
Chemical/Agrochem	<input type="checkbox"/>	Natural Products/Tobacco
Consumer/Cosmetics/Textile	<input type="checkbox"/>	Petrochem/BioFuels
CRO/CMO/CDMO	<input type="checkbox"/>	Speciality Chemicals/Materials
Defence	<input type="checkbox"/>	Testing Services
Energy	<input type="checkbox"/>	Waste/Water/Recycling/Environmental
Engineering Contracts/Facility Mgmt/ Instrumentation Service	<input type="checkbox"/>	
Food/Flavourings/Farming/Beverages	<input type="checkbox"/>	Other _____

Field of work: Tick all relevant boxes		
Analytical Chemistry	<input type="checkbox"/>	Liquid Handling & Micro Plates
Automation/HTS	<input type="checkbox"/>	Material Sciences
Biochemistry	<input type="checkbox"/>	Medical Devices
Biological Sciences	<input type="checkbox"/>	Medicinal Chemistry
Catalysis	<input type="checkbox"/>	Microbiology/Tissue Culture
Chromatography	<input type="checkbox"/>	Molecular Biology
Clinical/Medical/Pathology	<input type="checkbox"/>	Neurology
Colloids	<input type="checkbox"/>	Organic Chemistry
Construction	<input type="checkbox"/>	Parallel Chemistry/Combi-Chem
Crystallisation	<input type="checkbox"/>	Polymers & Oils
Drug Discovery	<input type="checkbox"/>	Process Dev/ Scale-Up
Environmental Health	<input type="checkbox"/>	Process Safety/Calorimetry
Estate & Facilities Management	<input type="checkbox"/>	Purchasing/Stores
Food & Agriculture	<input type="checkbox"/>	QC/QA
Formulation	<input type="checkbox"/>	Separation/SPE
Geology	<input type="checkbox"/>	Support/Engineering
Health & Safety	<input type="checkbox"/>	Temperature Control
Inorganic Chemistry/Metallurgy	<input type="checkbox"/>	Veterinary

