

# Reactor-Ready™ Lab Reactor

Patent Pending

Innovative, patented,  
low cost, reaction work  
station for glass  
vessels from  
250ml to 5 litres

Change  
reaction vessels  
in minutes...  
NOT hours



# Reactor-Ready Lab Reactor...

Innovative, patented, low cost, reaction work station for glass vessels from 250ml to 5 litres.



## Features include...

- Rapid vessel exchange with quick-release vessel clamp and hose couplings.
- Range of single and double jacketed glass vessels including 250ml, 500ml, 1 litre, 2 litre and 5 litre.
- 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 and stability.
- Self aligning stirrer coupling engages without the need for tools.
- Temperature range: -60°C to +190°C, plus innovative hose manifolds allow easy thermofluid drain down.
- Wide range of accessory glassware including condensers, dropping funnels etc.



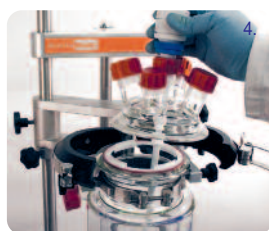
1.



2.



3.



4.



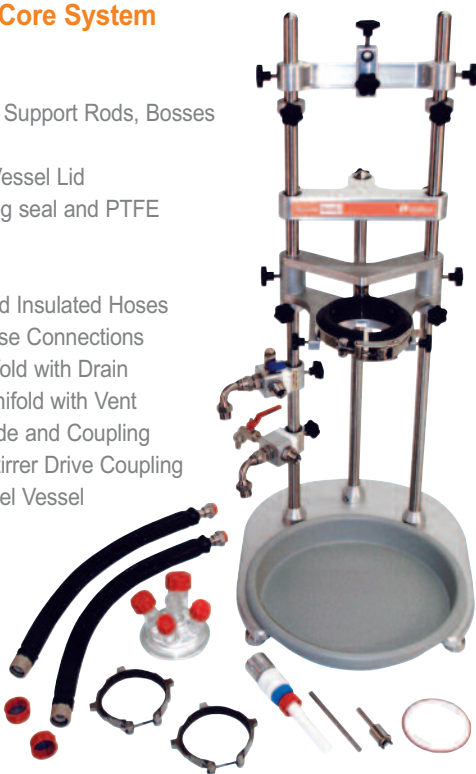
5.

## Patented vessel clamp allows rapid vessel exchange without tools...

- Unique clamp design allows vessel to be supported and clamped by a single operator in less than a minute.
- Use the same clamp to hold all vessel sizes and the vessel remains supported even when the clamp is unlocked.

## Reactor Ready Core System includes...

- Stand with Base, Support Rods, Bosses and all Clamps
- Glass Reaction Vessel Lid
- Vessel FEP O-ring seal and PTFE Centering Collar
- HDPE Drip Tray
- Vessel to Manifold Insulated Hoses with Quick-Release Connections
- Lower Inlet Manifold with Drain
- Upper Outlet Manifold with Vent
- PTFE Stirrer Guide and Coupling
- Stainless steel Stirrer Drive Coupling
- Two stainless steel Vessel Support Collars
- Locking Rod for Support Rod Bosses



## Reaction Vessel Kits make ordering vessels simple and more cost effective...

These cost effective Vessel Kits include the vessel and accessories you need to get started. The Pt100 probe and anchor stirrer included in each kit are matched to the vessel size.

Each Vessel Kit includes:

- Reaction Vessel with PTFE Stopcock
- Sidearm Couplings (Connecting Cap and Retaining Ring)
- Pt100 PTFE Temperature Probe with Lemo Connector
- PTFE Temperature Probe Adapter
- PTFE Anchor Stirrer



# 6 Reasons to change to Reactor-Ready...

Contact us today on [sales@radleys.co.uk](mailto:sales@radleys.co.uk) for a FREE demonstration



Visit [www.radleys.co.uk](http://www.radleys.co.uk) to watch our video demonstration...

## Unique Vessel Clamp

- self centering
- quick release
- change vessels in minutes

## Simple Stirrer Alignment

- slide and glide
- set and lock

## Hose Couplings

- quick release
- connect in seconds

## Patented Stirrer Coupling

- drop in
- no tools
- no fuss

## Standard Vessels

- 250ml to 5 litres
- wide range in stock
- glass accessories to match

## Individual Manifolds

- easy connection
- easy drain down



## Wide range of Glass Jacketed and Vacuum Jacketed Vessels...

- High quality, precision engineered borosilicate glass vessels
- Single and vacuum (double) jacketed options
- Precision ground and polished DN100 flat flange

## All Vessels feature the V4 Zero Dead Space Drain Valve/Stopcock...

- The large 15mm bore minimises sample hold-up and is ideal for slurries.
- Glass filled PTFE stopcock prevents leaking or weeping across the full temperature range (-60°C to +190°C)
- Allows quick and safe removal, eliminating the cleaning and assembly problems associated with other stopcock designs.
- Design prevents over-tightening that can cause glass breaking.
- Interchangeable between vessels with a full range of replacement parts and FEP o-rings.



## DN100 5 neck Glass Lid fits all Vessel sizes...

- DN100 lid with 5 x Rodaviss, grease free, safety joints. B24 centre, B34, B29, B24 and B19 side joints.
- All Rodaviss joints are interchangeable with ordinary A, B and C length conical joints.
- Rodaviss A length joints available if required (please add a suffix /A to catalogue number).
- Self centering PTFE collar and FEP encapsulated o-ring offer superior sealing performance.
- Includes Rodaviss sealing caps.



## Self aligning Stirrer Coupling saves time when changing Vessels...

- Patented drop-in stirrer coupling engages easily without the need for tools.
- Simply lower the stirrer coupling to engage with the stirrer guide below.
- The stainless steel stirrer coupling will fit in any standard stirrer chuck.
- The non-slip design ensures powerful stirring up to 500rpm or 800rpm for short periods (subject to stirring motor selected).



## I-beam Support allows the Stirring Motor to be positioned with ease...

- Stirrer support I-beam allows the stirrer drive to be easily lowered and raised without needing to remount the stirrer drive.
- Adjustable safety stop collars located below the I-beam allow the user to raise and lower the stirrer motor to a set position for ease of operation.
- Reactor-Ready accepts all leading brands of motor or air-powered overhead stirrer with support rods up to 16mm in diameter.



Sliding boss allows horizontal adjustment and will accept support rods up to 16mm diameter

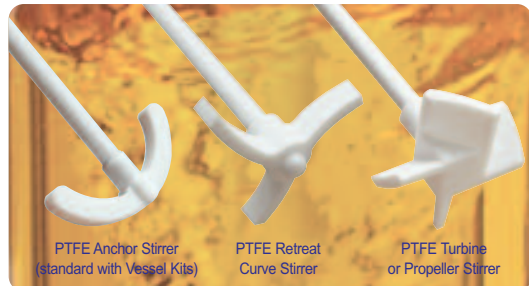


### Quick Release PEEK Hose Couplings...

- Quick release, screwthread design allows rapid exchange of vessels without the use of tools.
- Simply tighten by hand for a leak tight seal.
- Operates over the temperature range -60°C to +190°C.
- PEEK with Viton o-rings ensures all wetted parts are chemically resistant.
- Lightweight, metal free design prevents chipping and minimises strain on the glass fitting.
- All hose fittings are M24, maximising thermofluid flow and heating/cooling performance.
- Low thermal conductivity of PEEK reduces frosting when cooling.

### Hose Manifolds allow easy Thermofluid drain down...

- The inlet and outlet hoses from the Reactor-Ready vessel connect to manifolds attached to the support rod.
- These manifolds serve two important functions:
  1. They support the hose running from the vessel, thereby eliminating stress on the glass sidearm.
  2. Allow thermofluid drain down which provides a quick and clean method of removing the thermofluid from the vessel jacket when changing vessels.
- By opening the venting valve on the (upper) outlet manifold thermofluid drains from the vessel back to the thermoregulator under gravity.
- Opening the drain tap on the (lower) inlet manifold allows drainage to an external reservoir.



PTFE Anchor Stirrer (standard with Vessel Kits)

PTFE Retreat Curve Stirrer

PTFE Turbine or Propeller Stirrer

### Powerful stirring...

- PTFE Anchor Stirrer is included with all reaction vessel kits.
- Retreat Curve and Turbine/Propeller stirrers are available as optional extras.
- An extended PTFE stirrer guide support ensures whip-free agitation even at high speeds.
- Reactor-Ready accepts all leading brands of overhead stirrer with support rods up to 16mm diameter.



### Which Thermoregulator should you choose?

- Radleys are a Huber distribution and service partner, so we recommend the Huber range of thermoregulators, circulators, chillers and waterbaths. However Reactor-Ready is compatible with all leading ranges of thermoregulator including Julabo, Lauda, Polyscience, Haake and many others.
- Also available are a full range of hoses, adapters, temperature probes and thermofluid for all applications.
- For technical assistance in selecting the thermoregulator and accessories for your application, whatever the brand, please contact your local distributor or email [sales@radleys.co.uk](mailto:sales@radleys.co.uk).



Huber Petite Fleur - Baby Tango  
-40°C to 200°C

Description	Temperature Range °C	Heating Power (kW)	Cooling Power at 0°C (kW)	Application Examples	
Huber Ministat 230	-45°C to 200°C	2.0	0.38	250ml	Cool to -10°C in <1hr, then heat to 130°C in <½hr
				1 Litre	Control at 0°C, then heat to 100°C in 20 mins
Huber Petite Fleur	-40°C to 200°C	1.5	0.45	500ml	Cool to -20°C in approx ½hr, then heat to 150°C in <½hr
				1 Litre	Heat to 150°C, then cool to 0°C at > 2.5K/min
Huber Unistat Tango	-45°C to 250°C	1.5/3.0	0.7	1 Litre	Cool to -30°C in <1hr, then heat to 180°C
				2 Litre	Heat to 180°C, then cool to 20°C in approx 1hr
Huber Unistat 405	-45°C to 250°C	1.5/3.0	1.0	2 Litre	Cool to -20°C in <½hr, then heat to 100°C in <½hr
				5 Litre	Control at 20°C, then cool to -20°C in approx 70mins
Huber Unistat 705	-75°C to 250°C	3.0	0.65	1 Litre	Control at 20°C, then cool to -50°C in 40 mins
				5 Litre	Cool to -40°C at approx 1K/min, then heat to 150°C in <1hr

The above applications are intended as a guide to the relative performance of each Huber Thermoregulator with a range of vessel sizes and are not a prediction of actual performance. To achieve optimum performance the use of vacuum jacketed vessels is recommended for below ambient temperatures.

## How to order Reactor-Ready...

1. Select the Reactor-Ready Core: RR121000
2. Choose the vessel size and whether you want single or double/vacuum jacketed, then select the Vessel Kit you need
3. Select your overhead stirrer
4. If you need a thermoregulator, hoses, hose adapters, thermofluid or accessory glassware like condensers or dropping funnels, then select from the accessory list below
5. Place your Purchase Order

### Reactor-Ready Core System

RR121000 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
- Two stainless steel vessel support collars

**Important:** Hoses to connect the Reactor-Ready framework to your thermoregulator are NOT included. You will require hoses with a M24 connection or appropriate adapters. See accessory list below for hoses, adapters and suitable thermoregulators.

### Reaction Vessel Kits

These cost effective vessel kits include all you need to get started; glass reaction vessel, PTFE anchor stirrer paddle, PTFE Pt100 temp probe (with Lemo plug for connection to thermoregulator) and PTFE temperature probe adapter.

RR120010	250ml Single Jacketed Vessel Kit
RR120015	250ml Vacuum Jacketed Vessel Kit
RR120020	500ml Single Jacketed Vessel Kit
RR120025	500ml Vacuum Jacketed Vessel Kit
RR120030	1000ml Single Jacketed Vessel Kit
RR120035	1000ml Vacuum Jacketed Vessel Kit
RR120040	2000ml Single Jacketed Vessel Kit
RR120045	2000ml Vacuum Jacketed Vessel Kit
RR120050	5000ml Single Jacketed Vessel Kit
RR120055	5000ml Vacuum Jacketed Vessel Kit

### Overhead Stirrers

501-20200-00	Heidolph Stirrer RZR 2020
501-20410-00	Heidolph Stirrer RZR 2041
501-20521-00	Heidolph Stirrer RZR 2052 Control

## Thermoregulators, Hoses, Adapters & Thermofluids...

**Important:** For technical advice on selecting the thermoregulator, thermofluid or hoses for your application please contact our technical sales team on Tel: +44-1799-513320 or E-mail: [sales@radleys.co.uk](mailto:sales@radleys.co.uk)

### Huber Thermoregulators/Circulators

HB2015.0001.04	Ministat 230-CC
HB1030.0001.04	Petite Fleur
HB1000.0001.05	Unistat Tango
HB1002.0003.05	Unistat 405
HB1001.0002.05	Unistat 705

### Thermoregulator Hoses & Adapters

HB9274	M24x1.5 Insulated Hose NW12 100cm
HB9275	M24x1.5 Insulated Hose NW12 150cm
HB9276	M24x1.5 Insulated Hose NW12 200cm
HB9277	M24x1.5 Insulated Hose NW12 300cm
HB6724	M24x1.5 Female to M16x1 Male Adapter
HB6945	M24x1.5 Male to M16x1 Female Adapter
HB6723	M24x1.5 Female to M30x1.5 Male Adapter
HB6195	M16x1 90 degree Adapter
HB9256	M24x1.5 90 degree Adapter
HB6089	M16x1 Nut
HB12634	M24x1.5 Nut
HB6086	M16x1 Hose Connector NW8
HB9471	M24x1.5 Hose Connector NW12
HB6091	M16x1 Isolating Ball Valve
HB9236	M24x1 Isolating Ball Valve

### Thermofluid

HB6159	SynOil M10.155.08, 5 Litre, Range -10 to +155°C
HB6160	SynOil M10.155.08, 10 Litre, Range -10 to +155°C
HB6161	SilOil M20.235.20, 5 Litre, Range -20 to +235°C
HB6162	SilOil M20.235.20, 10 Litre, Range -20 to +235°C
HB6163	SilOil M40.165.10, 5 Litre, Range -40 to +165°C
HB6164	SilOil M40.165.10, 10 Litre, Range -40 to +165°C
HB6165	SilOil M60.115.05, 5 Litre, Range -60 to +115°C
HB6166	SilOil M60.115.05, 10 Litre, Range -60 to +115°C
HB6479	DW-Therm M90.200.02, 10 Litre, Range -90°C to +200°C

## Optional Accessories & Replacement Parts...

### Reaction Vessel Lid

RR136000 5 Neck Lid - 1 x B19, 2 x B24, 1 x B29, 1 x B34  
Includes Rodaviss sealing caps

### Reaction Vessel Support Collar

RR121048 Vessel Support Collar

**Important:** The support collar is needed for your Reactor-Ready vessel to fit in the quick-release clamp and two collars are supplied with the Reactor-Ready Core System as standard. Extra collars for additional vessels can be purchased using the above Cat. No.

### Reaction Vessels Only

RR130250	250ml Single Jacketed Vessel
RR130255	250ml Vacuum Jacketed Vessel
RR130500	500ml Single Jacketed Vessel
RR130505	500ml Vacuum Jacketed Vessel
RR131000	1000ml Single Jacketed Vessel
RR131050	1000ml Vacuum Jacketed Vessel
RR132000	2000ml Single Jacketed Vessel
RR132050	2000ml Vacuum Jacketed Vessel
RR135000	5000ml Single Jacketed Vessel
RR135050	5000ml Vacuum Jacketed Vessel

### PTFE Pt100 Temperature Probes & Adapters

RR140250	Probe 8mm with Lemo Plug - 250ml & 500ml vessels
RR141000	Probe 9mm with Lemo Plug - 1000ml & 2000ml vessels
RR145000	Probe 9mm with Lemo Plug - 5000ml vessel
RR140010	PTFE Temperature Probe Adapter - 8mm
RR140015	PTFE Temperature Probe Adapter - 9mm

### PTFE Stirrer Shafts

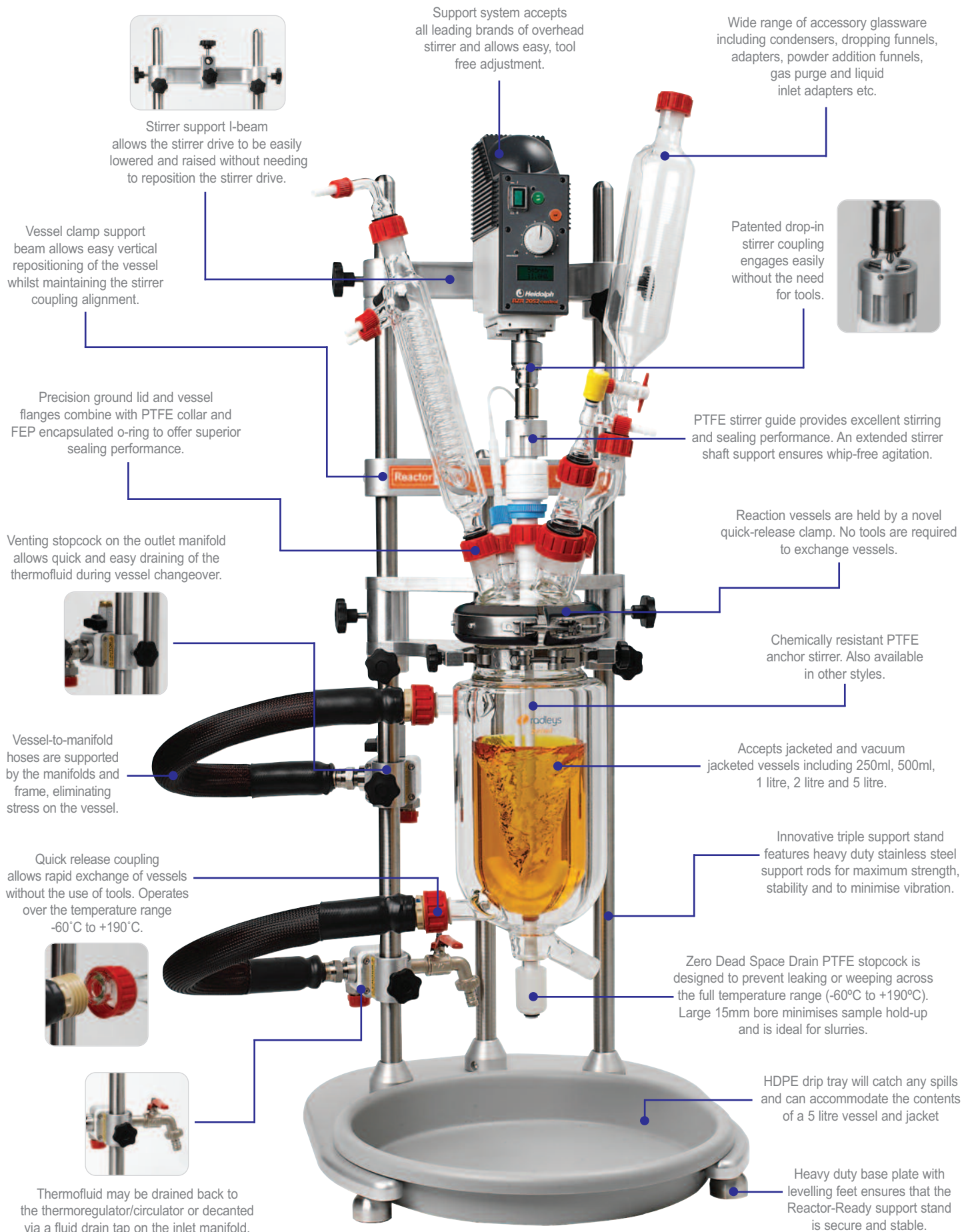
RR150250	Anchor PTFE Stirrer Shaft - 250ml vessels
RR150255	Retreat Curve PTFE Stirrer Shaft - 250ml vessels
RR150260	Turbine PTFE Stirrer Shaft - 250ml vessels
RR150500	Anchor PTFE Stirrer Shaft - 500ml vessels
RR150505	Retreat Curve PTFE Stirrer Shaft - 500ml vessels
RR150510	Turbine PTFE Stirrer Shaft - 500ml vessels
RR151000	Anchor PTFE Stirrer Shaft - 1000ml vessels
RR151005	Retreat Curve PTFE Stirrer Shaft - 1000ml vessels
RR151010	Turbine PTFE Stirrer Shaft - 1000ml vessels
RR152000	Anchor PTFE Stirrer Shaft - 2000ml vessels
RR152005	Retreat Curve PTFE Stirrer Shaft - 2000ml vessels
RR152010	Turbine PTFE Stirrer Shaft - 2000ml vessels
RR155000	Anchor PTFE Stirrer Shaft - 5000ml vessels
RR155005	Retreat Curve PTFE Stirrer Shaft - 5000ml vessels
RR155010	Turbine PTFE Stirrer Shaft - 5000ml vessels

### Glassware Accessories

RR139005	Condenser Liebig 250mm B29 + GL14 + fittings
RR139007	Condenser Double Surface 200mm B29 + GL14 + fittings
RR139009	Condenser Jacket Coil Rodaviss B29 + GL14 + fittings
RR139011	Right Angle Adapter B29 + GL14 + PTFE fittings
RR139013	50ml Graduated Dropping Funnel Equalising Arm B24
RR139015	100ml Graduated Dropping Funnel Equalising Arm B24
RR139017	250ml Graduated Dropping Funnel Equalising Arm B24
RR139019	500ml Graduated Dropping Funnel Equalising Arm B24
RR139021	1000ml Graduated Dropping Funnel Equalising Arm B24
RR139023	Swan Neck Adapter B24 to B24
RR139025	Gas Purge Adapter B24 + GL14 + fittings
RR139027	Glass Cone Stopper B19
RR139029	Glass Cone Stopper B24
RR139031	Glass Cone Stopper B29
RR139033	Glass Cone Stopper B34
RR139035	Enlarging Adapter B24 to B29
RR139037	Enlarging Adapter B29 to B34
RR139039	Reducing Adapter B24 to B19
RR139041	Reducing Adapter B29 to B19
RR139043	Reducing Adapter B29 to B24
RR139045	Reducing Adapter B34 to B19
RR139047	Reducing Adapter B34 to B24
RR139049	Reducing Adapter B34 to B29
RR139051	Oil Bubbler Type 1 B24 + GL14 + fittings
RR139053	Solid Additions Funnel B34 (with extended tube)
RR139055	Liquid Additions Tubing Adapter B24 to GL14
RR139057	Valved Liquid Inlet Adapter B24 to GL14
RR139059	Reflux Divider Head B29
RR139061	Reflux Divider Head Receiver Bend
RR139063	PTFE Hose Adapter B19 for NW12 Tubing
RR139065	PTFE Hose Adapter B24 to 15mm Bore
RR139067	Boss Head
RR139069	3-Prong Clamp

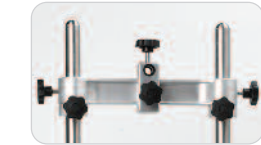
**US A Length Joints:** For US 'A Length' glass cones and sockets please add a suffix /US to the catalogue number when placing your order

Contact us today on [sales@radleys.co.uk](mailto:sales@radleys.co.uk) for a FREE demonstration



Support system accepts all leading brands of overhead stirrer and allows easy, tool free adjustment.

Wide range of accessory glassware including condensers, dropping funnels, adapters, powder addition funnels, gas purge and liquid inlet adapters etc.



Stirrer support I-beam allows the stirrer drive to be easily lowered and raised without needing to reposition the stirrer drive.

Vessel clamp support beam allows easy vertical repositioning of the vessel whilst maintaining the stirrer coupling alignment.



Patented drop-in stirrer coupling engages easily without the need for tools.

Precision ground lid and vessel flanges combine with PTFE collar and FEP encapsulated o-ring to offer superior sealing performance.

PTFE stirrer guide provides excellent stirring and sealing performance. An extended stirrer shaft support ensures whip-free agitation.

Venting stopcock on the outlet manifold allows quick and easy draining of the thermofluid during vessel changeover.

Reaction vessels are held by a novel quick-release clamp. No tools are required to exchange vessels.



Chemically resistant PTFE anchor stirrer. Also available in other styles.

Vessel-to-manifold hoses are supported by the manifolds and frame, eliminating stress on the vessel.

Accepts jacketed and vacuum jacketed vessels including 250ml, 500ml, 1 litre, 2 litre and 5 litre.

Quick release coupling allows rapid exchange of vessels without the use of tools. Operates over the temperature range -60°C to +190°C.

Innovative triple support stand features heavy duty stainless steel support rods for maximum strength, stability and to minimise vibration.



Zero Dead Space Drain PTFE stopcock is designed to prevent leaking or weeping across the full temperature range (-60°C to +190°C). Large 15mm bore minimises sample hold-up and is ideal for slurries.



Thermofluid may be drained back to the thermoregulator/circulator or decanted via a fluid drain tap on the inlet manifold.

HDPE drip tray will catch any spills and can accommodate the contents of a 5 litre vessel and jacket

Heavy duty base plate with levelling feet ensures that the Reactor-Ready support stand is secure and stable.

## Improving the productivity of your chemistry...

Radleys have been manufacturing scientific glassware and supplying laboratory instruments for over 40 years. Our customers include leading industrial and academic research facilities around the world. In an ever changing commercial environment we work hard to respond to the needs of our customers by investing in new product development that will allow them to remain at the forefront of chemistry research. Our specific areas of expertise are focused on equipment for chemistry synthesis, process development, work-up, purification and evaporation.

Visit [www.radleys.com](http://www.radleys.com) to see our full range of chemistry productivity tools...



 **radleys**  
innovations for chemistry

Shire Hill, Saffron Walden,  
Essex, CB11 3AZ. United Kingdom.  
t: +44-1799-513320  
f: +44-1799-513283  
e: [sales@radleys.co.uk](mailto:sales@radleys.co.uk)

Visit [www.radleys.com](http://www.radleys.com) to find your local distributor