



Reactor-Ready™ Pilot Lab Reactor

Innovative reaction work station for jacketed
glass reaction vessels from 5 to 35 litres



Reactor-Ready Pilot Lab Reactor

Replace multiple reactor set-ups with a single, versatile, pilot scale system that accepts vessels from 5 to 35 litres

Accepts single jacketed vessels of 5, 10, 15, 20, 30 and 35 litres and vacuum jacketed vessels of 5 and 10 litres

5 Litre Single Jacketed Vessel



5 Litre Vacuum Jacketed Vessel



10 Litre Single Jacketed Vessel



10 Litre Vacuum Jacketed Vessel



15 Litre Single Jacketed Vessel



20 Litre Single Jacketed Vessel



30 Litre Single Jacketed Vessel



35 Litre Single Jacketed Vessel



A choice of popular stirrer paddles



PTFE Anchor Stirrer

PTFE Retreat Curve Stirrer

PTFE Turbine or Propeller Stirrer

Convenient vessel kits make buying vessels and accessories easy



Simple Stirrer Alignment

- 3-axis stirrer adjustment
 - Slide and glide
 - Set and lock

Unique PTFE Vessel Clamp

- Self centering
- Quick release
- Change vessels in minutes

Thermofluid Manifolds

- Easy connection
- Easy drain down
- Reduces stress on vessel sidearms

Hose Couplings

- Chemical resistant PEEK
 - Quick release
 - Connect in seconds
 - 20 mm ID for good heat exchange





Change to Reactor-Ready Pilot

It saves space, time, money and improves your chemistry

Universal Stirrer Support

- Accepts all leading brands of overhead stirrer

Patented Stirrer Coupling

- Drop in
- No tools
- No fuss

Jacketed Vessels

- Single jacketed 5 to 35 litres
- Vacuum jacketed 5 and 10 litres
 - Zero dead space drain
 - 1.25:1 vessel geometry

Custom Vessels

- To your specific size and style
 - In-house manufacturing
- Mimic plant scale geometry

Lower Support Plate

- Required for 30 and 35 litre vessels
- Easily adjustable without tools



Compact, Mobile Framework

- Corrosion resistant stainless steel, anodised aluminium or powder coated steel
- Both castors and feet supplied with all units

Reactor-Ready Pilot includes all of the features of the popular benchtop Reactor-Ready Flex (100 ml to 5 litres)



Control and log any reactor:

Subscription-free automation.



Compatible with all leading brands of circulator and thermoregulator



Compatible with leading brands of overhead stirrer



Reactor-Ready Pilot

Swap reaction vessels in minutes, NOT hours

Reactor-Ready Pilot is designed as a versatile 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.

The advantage of Reactor-Ready Pilot is that this one reactor work station can replace many, saving you money and fumehood space.



Features include

- Rapid vessel exchange with quick-release vessel clamp and wide bore hose couplings.
- Range of single jacketed vessels - 5, 10, 15, 20, 30 and 35 litres.
- Range of vacuum jacketed vessels - 5 and 10 litres.
- Vessels manufactured at 1.25 to 1 ratio of internal height to diameter to mimic plant scale reactors.
- DN200 vessel 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 range: -70 °C to +230 °C (thermofluid temperature).
- Innovative hose manifolds allow easy thermofluid drain down.
- Wide range of accessory glassware including condensers, dropping funnels etc.
- Optional software allows you to log and control 3rd party devices.

Patented vessel clamp allows rapid vessel exchange without tools

- 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; plus the vessels remain supported even when the clamp is unlocked.



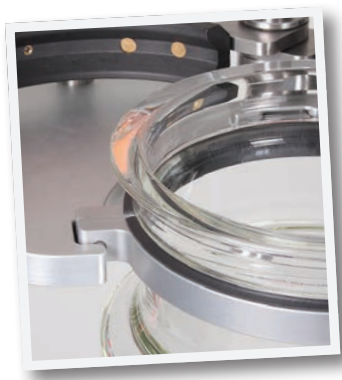
Anodised aluminium vessel support collar with PTFE liner

Vessel Support Collar aids vessel loading

- Reactor-Ready Pilot uses a robust support collar, which securely locates into a dedicated 'step' on the neck of each vessel, which then allows vessels to be changed like a cartridge.
- The solid aluminium collar locks securely into the support plate on the framework and allows the vessel to remain supported, even when not clamped.
- Vessel exchange is tool free and can be undertaken by one person.

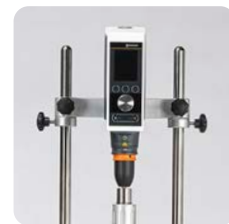
Unique Self-aligning Stirrer Coupling saves time when changing vessels

- 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.



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

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



PTFE stirrer guide

- The Reactor-Ready Pilot's PTFE stirrer guide screws directly on to the lid and features an extended support to reduce stirrer whip.
- The stirrer guide is chemically inert, gas tight and suitable for work under vacuum.



PTFE Stirrer Guide reduces stirrer shaft whip



Quick Release wide bore PEEK Hose Couplings

- Operates over the temperature range -70 °C to +230 °C (thermofluid temperature).
- Quick release, screwthread design allows rapid exchange of vessels without the use of tools.
- Simply tighten by hand for a leak tight seal.
- 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.
- Insulated hoses have a 20 mm ID, maximising 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 Pilot vessel connect to manifolds attached to the framework.
- These manifolds serve two important functions:
 - a. Support the hose running from the vessel, thereby eliminating stress on the glass sidearm.
 - b. 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 (where there is adequate space).
- Also opening the drain tap on the (lower) inlet manifold allows drainage to an external reservoir.



Compact, mobile framework

- One versatile framework accepts all vessels sizes.
- Fits in a standard walk-in fumehood.
- Manufactured from chemically resistant stainless steel, anodised aluminium with a powder coated steel base.
- Comes with locking wheels and adjustable feet allowing the system to be fixed or mobile.
- Adjustable bracing bars on the rear of the framework, combine with a built-in spirit level in the top of the support plate to allow precise levelling.
- A Lower Support Plate is required for use with 30 and 35 litre vessels. This plate can be raised and lowered without the use of tools.
- A range of suitable clamps and supports are available to hold accessory glassware and probes.
- Height reduction kits are also available for locations where fumehood height may be restricted.



Reaction Vessels

Jacketed and vacuum jacketed from 5 to 35 litres

Features include

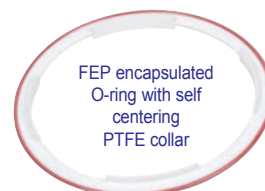
- Precision engineered borosilicate glass vessels with DN200 flange.
- Double or vacuum jacketed vessels offer extra insulation to the oil jacket.
- Process or dish shaped vessels feature a 1.25 to 1 ratio to mimic geometry of plant scale reactors.
- Wide bore 20 mm ID sidearms are positioned tangentially and offer excellent flow and thermal transfer.
- DN200 ground and polished flat flange combines with the FEP encapsulated O-ring and our unique self centering PTFE collar to offer a leak-tight seal between the vessel and lid.

Vessels feature V5 Zero Dead Space Drain Piston

- Exclusive piston design prevents over-tightening that can cause glass breakage.
- Piston design allows quick and safe removal, eliminating the cleaning and assembly problems associated with other pistons.
- Glass filled PTFE pistons operate across the full thermofluid temperature range -70 °C to +230 °C.
- Pistons are interchangeable between vessels with a full range of replacement parts and FEP O-rings.
- We recommend using Chemraz O-rings for temperatures above +150 °C.
- The large 25 mm bore pistons minimise sample hold-up and are ideal for slurries.



Glass filled PTFE piston with FEP encapsulated O-rings



FEP encapsulated O-ring with self centering PTFE collar

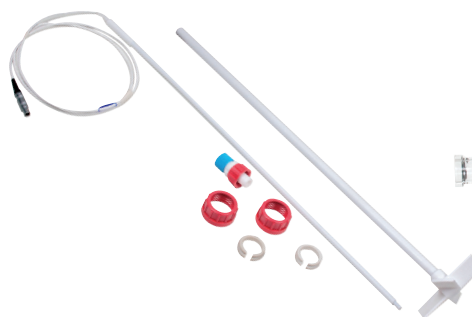
Reaction Vessel Kits

Reaction Vessel Kits make ordering vessels and popular accessories simple

Reaction Vessel Kits

These vessel kits include the vessel and accessories you need to get started. The Pt100 probe and turbine stirrer are matched to the vessel size. Kit includes:

- Reaction Vessel
- PTFE Turbine Stirrer
- Sidearm Couplings
- Pt100 PTFE Temperature Probe with Lemo Connector
- PTFE Temperature Probe Adapter



Reaction Vessel Specifications

Jacketed and vacuum jacketed vessels with dish shaped bottom, feature a 1.25 to 1 ratio of internal height to diameter to mimic the geometry of plant scale reactors

Single jacketed

Wide flange, tangential sidearms for rapid thermal transfer.



	5 litre Single Jacketed Vessel	10 litre Single Jacketed Vessel	15 litre Single Jacketed Vessel	20 litre Single Jacketed Vessel	30 litre Single Jacketed Vessel	35 litre Single Jacketed Vessel
Cat No. (Reaction Vessel Only)	RR235050	RR235100	RR235150	RR235200	RR235300	RR235350
Cat No. (Reaction Vessel Kit)	RR220005	RR220015	RR220025	RR220035	RR220045	RR220050
Nominal Capacity	5 Litres	10 Litres	15 Litres	20 Litres	30 Litres	35 Litres
Internal Diameter	180 mm	240 mm	260 mm	290 mm	340 mm	340 mm
External Diameter	250 mm	300 mm	315 mm	350 mm	415 mm	415 mm
Jacketed Height	230 mm	300 mm	325 mm	363 mm	378 mm	433 mm
External Height (piston open)	510 mm	590 mm	620 mm	660 mm	710 mm	760 mm
Thermofluid Jacket Volume	4.6 Litres	6.2 Litres	5.7 Litres	9.8 Litres	12.4 Litres	14 Litres
Heat Transfer Area	0.16 m ²	0.27 m ²	0.31 m ²	0.38 m ²	0.45 m ²	0.52 m ²
Flange	DN200	DN200	DN200	DN200	DN200	DN200
Sidearm	20 mm ID	20 mm ID	20 mm ID	20 mm ID	20 mm ID	20 mm ID
Piston	25 mm ID	25 mm ID	25 mm ID	25 mm ID	25 mm ID	25 mm ID
Piston Run-off	B24/29	B24/29	B24/29	B24/29	B24/29	B24/29

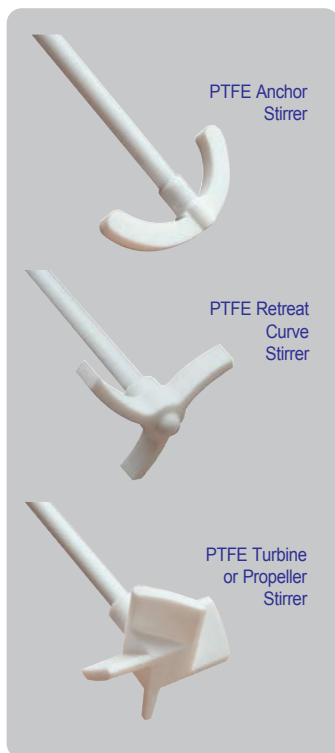
Vacuum jacketed

Added insulation for reduced frosting and improved contents visibility at low temperatures, and added safety at high temperatures.



	5 litre Vacuum Jacketed Vessel	10 litre Vacuum Jacketed Vessel
Cat No. (Reaction Vessel Only)	RR235052	RR235102
Cat No. (Reaction Vessel Kit)	RR220010	RR220020
Nominal Capacity	5 Litres	10 Litres
Internal Diameter	180 mm	240 mm
External Diameter	300 mm	350 mm
Jacketed Height	225 mm	300 mm
External Height (piston open)	530 mm	610 mm
Thermofluid Jacket Volume	3.9 Litres	5.4 Litres
Heat Transfer Area	0.16 m ²	0.27 m ²
Flange	DN200	DN200
Sidearm	20 mm ID	20 mm ID
Piston	25 mm	25 mm
Piston Run-off	B24/29	B24/29





PTFE stirring shafts

Reactor-Ready Pilot is offered with a choice of PTFE Stirring Shafts: Anchor, Retreat Curve and Turbine or Propeller styles

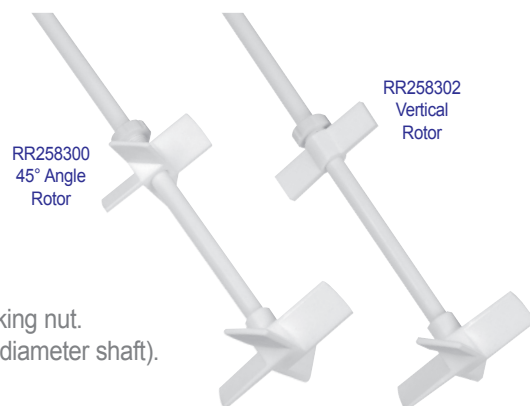
- Chemically inert PTFE rotors moulded onto a 16 mm \varnothing PTFE shaft with metal core.
- A PTFE Turbine Stirring Shaft is included as standard with all 'Reaction Vessel Kits'.
- Stirring shafts are available for each vessel size for optimal mixing.
- Custom stirrer designs available on request.

PTFE Stirrer guide

- The stirrer guide is chemically inert, gas tight and suitable for work under vacuum.

PTFE Adjustable Secondary Rotors

- Secondary rotors can be positioned anywhere along shaft.
- Chemically inert PTFE with glass filled PTFE locking nut.
- RR258300 - 4 blade 45° Angle Rotor (for 16 mm diameter shaft).
- RR258302 - 2 Blade Vertical Rotor.



Temperature Probes & Baffles

Pt100 PTFE temperature probes

- Fitted with LEMO Plug.
- Designed to work over the full temperature range of the system (-70 °C to +230 °C)
- Fully encapsulated in PTFE with a stainless steel core for rigidity, but can be bent.
- RR145000 - probe body 600 mm x 9 mm diameter for 5 to 10 L vessels.
- RR146000 - probe body 700 mm x 9 mm diameter for 15 to 35 L vessels.
- RR140015 - B19 temp. probe adapter (holds probe securely in the lid, allowing vertical adjustment).

PTFE Baffle and baffles with integrated temperature probes

- Designed to improve agitation and promote thorough mixing.
- Fully encapsulated in PTFE with a stainless steel core for rigidity.
- 16 mm diameter body, with 35 mm wide baffle head. Available in 600 mm and 700 mm body lengths.
- Available with or without built-in Pt100 temperature probe.
- RR257000 - PTFE Baffle, 16 mm OD Shaft, 35 mm x 600 mm long.
- RR257002 - PTFE Baffle, 16 mm OD Shaft, 35 mm x 700 mm long.
- RR257004 - Pt100 PTFE Baffle Probe + LEMO, 16 mm OD Shaft, 35 mm x 600 mm long.
- RR257006 - Pt100 PTFE Baffle Probe + LEMO, 16 mm OD Shaft, 35 mm x 700 mm long.
- B24, B29 and B34 PTFE compression fittings available to hold baffles.

Drip Tray/Bund

- A chemically resistant polypropylene designed to catch any spills and vessel contents in case of breakage.
- Available in 7, 22, 45 and 55 litre capacities.
- Slides easily onto the Reactor-Ready Pilot base.



Reflux Divider Kits

Reflux divider kits allow condensed vapours to be either refluxed back into the reactor or diverted into a separate receiving vessel

- Can be used to perform solvent swaps or distillations.
- Choice of receiving flasks 500 ml, 1, 2 and 5 litre. All receiver flasks feature three necks, decanting stopcock and are suitable for stacking. Receiver flasks must be ordered separately.
- Reflux divider kits are available with optional vapour temperature sensor.



Reactor-Ready Pilot with RR239202 Reflux Divider Kit and two RR139326 1000 ml Receiver Flasks

RR239200 - Pilot Reflux Divider Kit

RR139320 - Reflux Divider Head, B34 + GL18 fittings
 RR139300 - Large Double Coil Rodaviss Condenser 60mm B34 + GL18 + fittings
 RR139012 - Right Angle Adapter B34 + GL14 + PTFE fittings
 RR139332 - Adapter Rodaviss B24 to GL25
 RR139350 - GL25 HT Compression Fitting for 12mm OD Tubing
 RR139354 - PTFE Tubing 10mm ID x 12mm OD - 1m length
 RR139360 - 3 x Pilot Boss Head - 22-35mm, 8-12mm
 RR139372 - 4-Prong Large Clamp - 10mm rod, 30-80mm
 RR139376 - Lower Support Ring - 10mm rod, 76mm ID
 RR139374 - Universal Clamp Cork Jaws - 10mm rod, 0-80mm



Note: A suitable receiver flask/s RR139324/6/8/30 is required to complete this kit.

RR239201 - Pilot Reflux Divider Kit + Spherical Joint

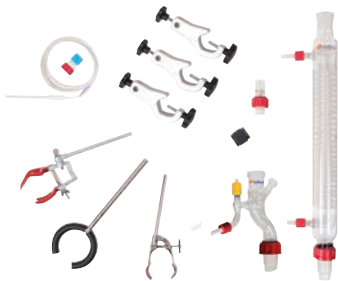
As above except for following substitutions
 RR139420 - Reflux Divider Head B34 to S41 Spherical Joint + GL18 fitting
 RR139400 - Large Double Coil Condenser 60mm S41 Spherical Joint to B34 + GL18 fittings



Note: A suitable receiver flask/s RR139324/6/8/30 is required to complete this kit.

RR239202 - Pilot Reflux Divider Kit with Vapour Temperature Probe

RR139322 - Reflux Divider Head, B34 + GL18 fittings + B14 temp port
 RR139300 - Large Double Coil Rodaviss Condenser 60mm B34 + GL18 + fittings
 RR139012 - Right Angle Adapter B34 + GL14 + PTFE fittings
 RR139332 - Adapter Rodaviss B24 to GL25
 RR139350 - GL25 HT Compression Fitting for 12mm OD Tubing
 RR139354 - PTFE Tubing 10mm ID x 12mm OD - 1m length
 RR139133 - Pt100 PTFE Temp. Probe (Reflux Divider Head) + 2m Cable
 RR139135 - PTFE Temperature Probe Adapter (B14 for Reflux Divider Head)
 RR139360 - 3 x Pilot Boss Head - 22-35mm, 8-12mm
 RR139372 - 4-Prong Large Clamp - 10mm rod, 30-80mm
 RR139376 - Lower Support Ring - 10mm rod, 76mm ID
 RR139374 - Universal Clamp Cork Jaws - 10mm rod, 0-80mm



Note: A suitable receiver flask/s RR139324/6/8/30 is required to complete this kit.

RR239203 - Pilot Reflux Divider Kit with Vapour Temperature Probe + Spherical Joint

As above except for following substitutions
 RR139422 - Reflux Divider Head B34 to S41 Spherical + GL18 fittings + B14 temp port
 RR139400 - Large Double Coil Condenser 60mm S41 Spherical to B34 + GL18 fittings



Note: A suitable receiver flask/s RR139324/6/8/30 is required to complete this kit.



RR139326 1000 ml Receiver Flask



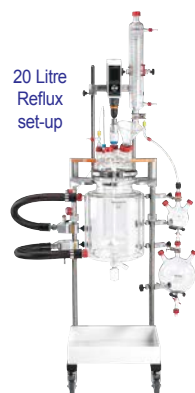
5 Litre Reflux set-up



10 Litre Reflux set-up



15 Litre Reflux set-up



20 Litre Reflux set-up



30 Litre Reflux set-up



35 Litre Reflux set-up



8 port PTFE Lid with PTFE sockets

Glass Vessel Lids

Precision ground lids with 6 or 7 ports - custom designs available

DN200 Glass Lids fit all Vessel sizes

- DN200 lids Rodaviss conical ground glass joints. Custom lid designs are available on request.
- Rodaviss joints are grease free, will not jam and are interchangeable with ordinary 1-in-10 B and A length tapered conical joints.

RR236000 - 6 Neck DN200 Lid

- 1 x B34 central vertical - stirrer
- 1 x B19 side vertical - probe
- 1 x B24 side vertical - gas purge
- 1 x B29 side vertical - dropping funnel, bubbler
- 1 x B34 side vertical - condenser and reflux
- 1 x B45 side angled - solid additions



RR236002 - 7 Neck DN200 Lid

- 1 x B34 central vertical - stirrer
- 1 x B19 side vertical - probe
- 1 x B24 side vertical - gas purge
- 1 x B29 side vertical - dropping funnel, bubbler
- 2 x B34 side vertical - condenser and reflux
- 1 x B45 side angled - solid additions



PTFE Vessel Lids

Ideal for use with PAT and test probes

The benefits of PTFE lids are:

- Removable PTFE sockets and compression fittings allow for maximum flexibility, simply unscrew and change the fitting to suit your set-up.
- More suitable for PAT and test probes than equivalent glass lids.
- Allows for more ports in a smaller space (8 rather than 6 or 7).
- More robust and less likely to break than glass.
- Less dead space at top of vessel.

Wide range of removable sockets and compression fittings

- Rodaviss 1:10 tapered sockets, allow for better sealing and less need for supports - sizes include: B19, B24, B29, B34 and B45.
- Compression fittings include: 8, 12, 14, 16 and 19 mm bore.

RR136200 - 8 port with PTFE sockets

- 1 x B34 central vertical (1½" NPT)
- 1 x B19 side vertical (¾" NPT)
- 1 x B24 side vertical (¾" NPT)
- 1 x B29 side vertical (1" NPT)
- 1 x B29 side vertical (1½" NPT)
- 1 x B34 side vertical (1½" NPT)
- 1 x B34 side 15° angled (1½" NPT)
- 1 x B45 side 10°x10° compound (1½" NPT)



RR136210 - 8 port without sockets

- 1 x 1½" NPT central vertical
- 1 x 1½" NPT side 15° angled
- 1 x 1½" NPT side 10°x10° compound
- 2 x 1½" NPT side vertical
- 2 x ¾" NPT side vertical
- 1 x 1" NPT side vertical



Clamps and Supports

A range of clamps, supports and boss heads to hold your pilot glassware

* Indicates an item is available in other sizes or styles.



RR139372
4-Prong Large
Clamp



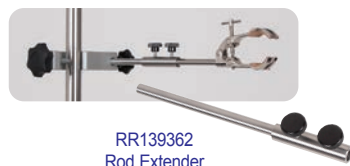
RR139366*
Chain Clamp



RR139364
Rubber Belt Clamp



RR139360
Pilot Boss Head



RR139362
Rod Extender



RR139374
Universal Clamp
Cork Jaws



RR139376
Lower Support
Ring

Accessory Glassware

We have been manufacturing scientific glassware for over 60 years. If you don't see what you want, please let us know and we will be happy to quote for a custom option



* Indicates an item is available in other sizes or styles.

RR139300* Large Double Coil Rodaviss Condenser, B34	RR139402* Large Double Coil Condenser 85mm S41 to B34 + GL18 fittings (includes Metal Clip & O-Ring)	RR139304* Graduated Dropping Funnel, Equalising Arm, 2000ml, B29	RR139314* Oil Bubbler, Type 1, B29	RR139081* PTFE Flexible Bellows, B29	RR139316* Solid Additions Funnel, B45 with extended tube	RR139326* 1000ml Receiver Flask 3 x B24 Socket		
RR139424 Metal Clip for S41 Spherical Joints	RR139426 FEP O-Ring for S41 Spherical Joints	RR139420 Reflux Divider Head B34 to S41 + GL18 fitting	RR139422 Reflux Divider Head B34 to S41 + GL18 fittings + B14 temp port	RR139320 Reflux Divider Head B34 + GL18 fitting	RR139322 Reflux Divider Head B34 + GL18 fittings + B14 temp port			
RR139310* Swan Neck Adapter Vertical B29 to Vertical B29	RR139410* Swan Neck Adapter Vertical B29 to Vertical S41	RR139057* Valved Right Angled Liquid Inlet Adapter, B24	RR139137 Run-Off Secondary Valve, B24 to Stopcock	RR139025* Gas Purge Adapter, B24	RR139031* Glass Cone Stopper, B29	RR139091* Adapter Rodaviss, B24 to GL14	RR139041* Reducing Adapter, B29 to B19	RR139037* Enlarging Adapter, B29 to B34
RR139065* PTFE Hose Adapter B24 to 15mm ID	RR139340 Vertical Run-Off Adapter B24 to Plain Stem	RR139011* Right Angle Adapter, B29						



AVA - Jacketed Lab Reactor Control

One software. Any reactor. Effortless automation.

AVA is a subscription-free, reactor controller that brings effortless automation to any jacketed lab reactor. Designed by chemists for chemists, it connects directly to circulators, stirrers, pumps and sensors - enabling full control and data logging from a single interface. Powerful, intuitive and affordable, AVA simplifies complex chemistry and delivers precise, safe and reproducible results.



One software.
Two platforms.



Control any Jacketed Lab Reactor

Subscription free automation



Connect multiple devices from leading manufacturers



Control devices directly via the apparatus window



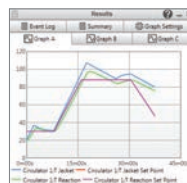
AVA Pad Apparatus Window

Create detailed reports and share data



AVA PC Report Wizard

View process data in real-time graphs



AVA PC Graph Window

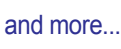
Schedule window to create experiment profiles



AVA Pad Schedule Window

Connect up to 16 Devices

Supports leading manufacturers



Why choose AVA to automate your Jacketed Lab Reactor?



Boosts productivity by reducing manual tasks



Enhances process safety and control



Enables precise, repeatable reaction control



Control multi-device reactions effortlessly



Proven success worldwide



Expert support at every step

AVA - One software. Two platforms.

AVA Pad Reactor Controller

Compact all-in-one controller

Cat No	RR20230
Device Connectivity	Integrated
User Interface	10" Touchscreen
Multiple Reactor Control	No

Suitable for

- Single Reactor
- Dual Reactor



10" Touchscreen

- Graphical display
- Pinch zoom
- Supports USB keyboard & mouse

User Management

- Multiple user profiles
- Password protection per user

Integrated connections

- RS232 x 4
- Temp sensor ports x 2
- USB x 2
- Ethernet x 1 & HDMI Output x 1



Subscription
FREE
Software



Fumehood compatible with two mounting options

- Control Pad Benchtop Stand
- Control Pad Support Rod



AVA PC Reaction Control Software

PC based software

Cat No	RR20308
Device Connectivity	Via separate hub
User Interface	Laptop PC
Multiple Reactor Control	Yes - up to 4

Suitable for

- Single Reactor
- Dual Reactor
- Multiple reactors (up to 4)



Laptop PC Controller

- Full keyboard
- 16" LCD Display

User Management

- Single user software
- Single password protection

Separate Data Hub connections

- RS232 Ports x 4
- Temp sensor ports x 2
- Ethernet x 1



6 simple steps



1

Select your platform



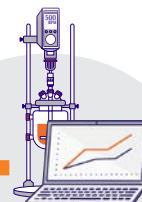
2

Connect your devices



3

Configure your system



4

Control your reactor



5

Collect your data



6

Share your results

How to order Reactor-Ready Pilot

1. Select the Reactor-Ready Pilot Core.



2. Choose the lid you require (custom options available).



3. Choose the Vessel Kits you need.



4. Select the Lower Support Plate if using the 30 or 35 litre vessels



5. Select the overhead stirrer you need.



6. If you need a thermoregulator, hoses, hose adapters, thermofluid or accessory glassware, then select from the accessory list.



7. For added safety, precision and reproducibility, add AVA Software.



Reactor-Ready Pilot in detail

It is the attention to detail and wealth of innovative features that makes Reactor-Ready Pilot so much better



Choice of 6 and 7 port glass and 8 port PTFE DN200 lids.

FEP encapsulated O-ring and unique, self centering PTFE collar to offer a leak-tight seal between the vessel and lid.



Hose Ties allow the insulated hoses to be conveniently sealed and secured when not in use.

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

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



Insulated, 20 mm bore vessel-to-manifold hoses are supported by the manifold and frame; minimising stress on the glass sidearms.

Quick release PEEK coupling allows rapid exchange of vessels without the use of tools. Operates over the thermofluid temperature range -70 °C to +230 °C.

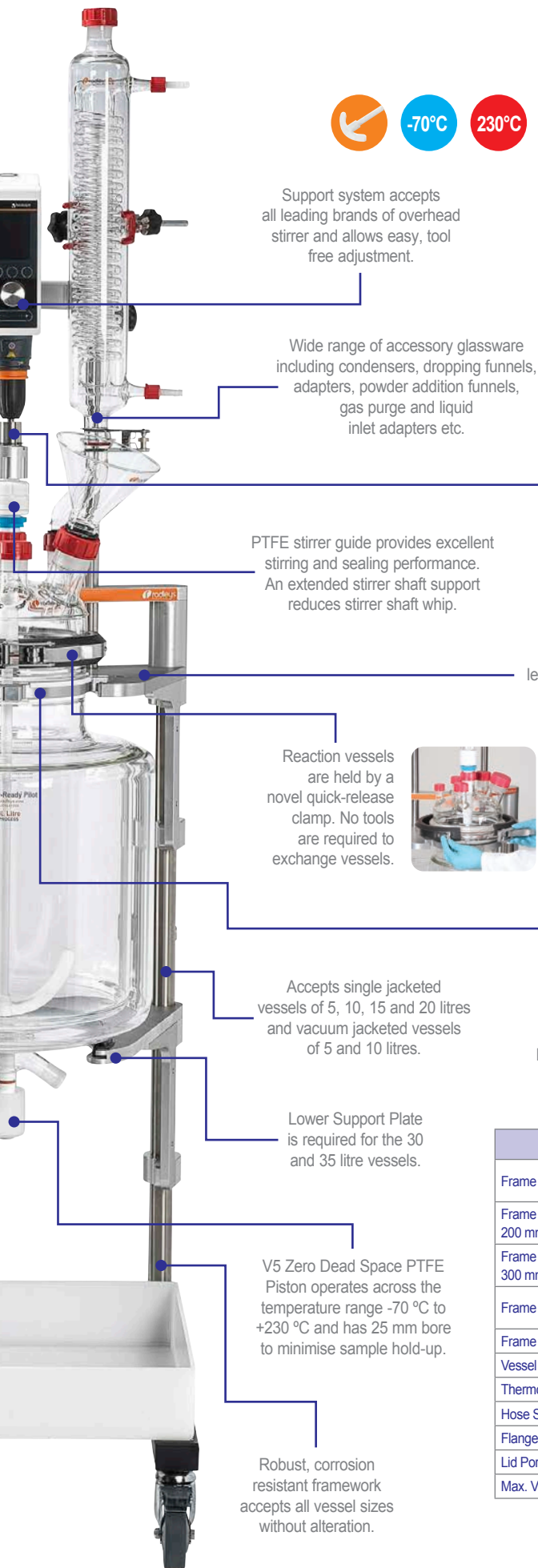


Comes as standard with both locking wheels and feet, allowing the system to be fixed or mobile.



Optional Polypropylene drip trays, 7, 22, 45 & 55 litre options.

Stirrer support I-beam allows the stirrer drive to be raised and lowered with ease.



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.



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

PTFE stirrer guide provides excellent stirring and sealing performance. An extended stirrer shaft support reduces stirrer shaft whip.

Built-in spirit level for precise levelling.



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



Aluminium vessel support collar allows vessels to sit securely in the support plate even when not clamped. Matching 'step' on vessel neck ensures collar sits in correct position.

Accepts single jacketed vessels of 5, 10, 15 and 20 litres and vacuum jacketed vessels of 5 and 10 litres.

Lower Support Plate is required for the 30 and 35 litre vessels.

V5 Zero Dead Space PTFE Piston operates across the temperature range -70 °C to +230 °C and has 25 mm bore to minimise sample hold-up.

Robust, corrosion resistant framework accepts all vessel sizes without alteration.

Technical Specifications	
Frame Height	1900 mm with wheels (1800 mm with feet)
Frame Height with RR210070 200 mm Height Reduction Kit	1700 mm with wheels (1600 mm with feet)
Frame Height with RR210072 300 mm Height Reduction Kit	1600 mm with wheels (1500 mm with feet)
Frame Width	540 mm (approx. 880 mm with hoses)
Frame Depth	650 mm
Vessel fill volume (Litres)	5, 10, 15, 20, 30, 35
Thermofluid temperature range	-70 °C to +230 °C
Hose Size and Bore	M30, 20 mm ID
Flange Size	DN200 flange
Lid Ports	6 or 7 ports
Max. Vacuum	10 mbar

Reactor-Ready Pilot Core System includes

- Base frame, support rods, vessel clamp, i-beam and 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 aluminium vessel support collar.
- FEP flange O-ring and PTFE centering collar.



Reaction Vessel Kits make ordering vessels simple

These Vessel Kits include the vessel and accessories you need to get started. The Pt100 probe and turbine stirrer included in each kit are matched to the vessel size. Each Vessel Kit includes:

- Reaction Vessel with PTFE Piston.
- Sidearm Couplings.
- Pt100 PTFE Temperature Probe with Lemo Connector.
- PTFE Temperature Probe Adapter.
- PTFE Turbine Stirrer.





Hei-Torque Overhead Stirrers - *powerful stirring*

The powerful Hei-Torque range can accomplish the most demanding mixing tasks whilst providing the highest safety

Includes
3 YEAR
Warranty

Stirrer models include

- Powerful stirring from 10 to 2000 rpm.
- Available with basic (Expert) or advanced (Ultimate) features, and a choice of 200 or 400 Ncm torque.
- Intuitive touch panel for easy operation, safe start and stop to avoid accidental start-up.
- With the Ultimate range: set speed limit, adjustable acceleration, set a torque limit.
- Innovative Quick-chuck for immediate and convenient 'one-hand' impeller changes, without tools.

	Hei-Torque Expert 200	Hei-Torque Expert 400	Hei-Torque Ultimate 200	Hei-Torque Ultimate 400
Power rating, motor input/output (W)	120/80	150/90	120/80	150/90
Number of gears	1	2	1	2
Speed range (rpm)	10 to 2000	10 to 400 and 200 to 2000	10 to 2000	10 to 400 and 200 to 2000
Speed indicator	digital monochrome 2.4"	digital monochrome 2.4"	digital colour 3.2"	digital colour 3.2"
Speed control	electronic	electronic	electronic	electronic
Torque, maximum (Ncm)	200	400	200	400
Torque indicator (Ncm)	symbol	symbol	precise value	precise value
Viscosity up to (mPa s)	100,000	250,000	100,000	250,000
Stirring cap. H ₂ O max. (L)	50	100	50	100
Shaft diameter, max. (mm)	2.5 - 10.5	2.5 - 10.5	2.5 - 10.5	2.5 - 10.5
Dimensions (W x H x D) (mm)	86 x 350 x 247	93 x 350 x 247	86 x 350 x 247	93 x 350 x 247
Weight (kg)	5.1	5.3	5.1	5.3
Set speed limit, Torque limit, Adjustable acceleration			Yes	Yes
Analogue/digital interface			USB & RS232	USB & RS232



Huber Unistat 610

Thermoregulators and Circulators

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 Pilot is compatible with all leading brands of thermoregulator including Julabo, Lauda, Polyscience, Haake and many others.
- Also available are hoses, adapters, temperature probes and thermofluid for all applications.

Description	Temp Range °C	Heating Power (kW)	Cooling Power 0°C (kW)	Application Examples		
Unistat Tango	-45 to +250	1.5	0.7	5 Litre	Cool 20 °C to 0 °C in < 30 minutes	Heat 20 °C to 120 °C < 1hr
				10 Litre	Cool 20 °C to 0 °C in < 35 minutes	Heat 20 °C to 60 °C < 70 minutes
Unistat 405	-45 to +250	1.5	1.0	5 Litre	Cool 20 °C to 0 °C in < 20 minutes	Heat 20 °C to 60 °C < 25 minutes
				10 Litre	Cool 20 °C to 0 °C in < 35 minutes	Heat 20 °C to 60 °C < 70 minutes
Unistat 425	-45 to +250	2.0	2.5	5 Litre	Cool 20 °C to -20 °C in < 20 minutes	Heat 20 °C to 180 °C < 30 minutes
				20 Litre	Cool +60 °C to 20 °C in < 30 minutes	Heat 20 °C to 60 °C < 20 minutes
Unistat 510w	-40 to +250	6.0	5.3	20 Litre	Cool 20 °C to -40 °C in < 80 minutes	Heat -30 °C to 20 °C < 20 minutes
Unistat 610w	-60 to +200	6.0	7.0	20 Litre	Cool 180 °C to 20 °C in < 40 minutes	Heat 20 °C to 180 °C < 60 minutes
Unistat 825w	-60 to +200	3.0	2.4	10 Litre	Cool 20 °C to -60 °C in < 60 minutes	Heat 20 °C to 60 °C < 30 minutes
				10 Litre	Cool 20 °C to -75 °C in < 120 minutes	Heat 20 °C to 180 °C < 100 minutes

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. For comprehensive advice on thermoregulator selection please contact your local Radleys distributor.

How to order Reactor-Ready Pilot

Order in 7 simple steps

1. Select the Reactor-Ready Pilot Core: RR210000.
2. Choose the lid you require, glass or PTFE.
3. Choose the Vessel Kit or Kits you require by selecting the vessel volume and style.
4. Select the Lower Support Plate if using the 30 or 35 litre vessels.
5. Select the overhead stirrer you require.
6. If you need a thermoregulator, hoses, hose adapters, thermofluid or accessory glassware, then select from the accessory list.
7. For added safety, precision and reproducibility, add AVA Software.

Need help
with ordering?
Call +44 1799 513320
to discuss your application
with our technical
specialists

Reactor-Ready Pilot Core System

RR210000

Reactor-Ready Pilot Core System includes:

- Base frame, support rods, vessel clamp, i-beam and 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 aluminium vessel support collar.
- FEP flange O-ring and PTFE centering collar.



Important: Hoses to connect Reactor-Ready Pilot to your thermoregulator are NOT included. You will require hoses with an M30x1.5 female connection or appropriate adapters. See listing for hoses, adapters and suitable thermoregulators.

Optional Pilot Core Height Reduction Kits

RR210070 Reactor-Ready Pilot Core - 200mm Height Reduction Kit

RR210072 Reactor-Ready Pilot Core - 300mm Height Reduction Kit

Important: Designed to reduce the overall height of the Pilot Core by 200 or 300 mm. The 300 mm reduction kit is not compatible with 30 L and 35 L vessels.

Jacketed and Vacuum Jacketed Reaction Vessel Kits

- Kits include; process vessel, turbine stirrer paddle, PTFE Pt100 temp. probe with Lemo plug and PTFE temperature probe adapter.
- Custom vessel designs are available on request.

RR220005	5L Single Jacketed Pilot Process Vessel Kit
RR220010	5L Vacuum Jacketed Pilot Process Vessel Kit
RR220015	10L Single Jacketed Pilot Process Vessel Kit
RR220020	10L Vacuum Jacketed Pilot Process Vessel Kit
RR220025	15L Single Jacketed Pilot Process Vessel Kit
RR220035	20L Single Jacketed Pilot Process Vessel Kit
RR220045	30L Single Jacketed Pilot Vessel Kit (must also purchase RR210002)
RR220050	35L Single Jacketed Pilot Vessel Kit (must also purchase RR210002)



Jacketed and Vacuum Jacketed Reaction Vessels Only

RR235050	5L Single Jacketed Pilot Vessel
RR235052	5L Vacuum Jacketed Pilot Vessel
RR235100	10L Single Jacketed Pilot Vessel
RR235102	10L Vacuum Jacketed Pilot Vessel
RR235150	15L Single Jacketed Pilot Vessel
RR235200	20L Single Jacketed Pilot Vessel
RR235300	30L Single Jacketed Pilot Vessel (must also purchase RR210002)
RR235350	35L Single Jacketed Pilot Vessel (must also purchase RR210002)



30L and 35L Vessel Lower Support Plate

RR210002	Reactor-Ready Pilot Lower Support Plate with Silicone Ring
RR210085	Optional - PTFE Support Ring for Lower Support Plate
RR210086	Replacement - Silicone Support Ring for Lower Support Plate



Reaction Vessel Support Collar

RR210018 Pilot Vessel Support Collar

Important: One support collar is supplied with each Reactor-Ready Pilot Core. We recommend one support collar per vessel.

Glass DN200 Lids

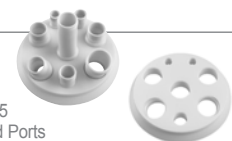
- Choice of 6 or 7 Rodaviss glass joints.
- Custom lid designs are available on request.

RR236000	6 Neck Lid DN200 - 1xB19, 1xB24, 1xB29, 2xB34, 1xB45
RR236002	7 Neck Lid DN200 - 1xB19, 1xB24, 1xB29, 3xB34, 1xB45



PTFE DN200 Lids

RR136200	8 Neck PTFE Lid DN200 - with sockets 1 x B19, 1 x B24, 2 x B29, 3 x B34, 1 x B45
RR136210	8 Neck PTFE Lid DN200 - with 8 Threaded Ports 2 x 3/4" NPT, 1 x 1" NPT, 5 x 1/2" NPT



PTFE Sockets, Compression Fittings & Blanking Plugs for DN200 PTFE Lids

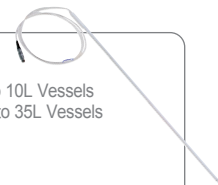
RR136300	Rodaviss B19 Socket Adapter (3/4" NPT)
RR136301	Rodaviss B24 Socket Adapter (3/4" NPT)
RR136302	Rodaviss B29 Socket Adapter (3/4" NPT)
RR136303	Rodaviss B34 Socket Adapter (3/4" NPT)
RR136304	Rodaviss B45 Socket Adapter (3/4" NPT)
RR136305	Rodaviss B24 Socket Adapter (1" NPT)
RR136306	Rodaviss B29 Socket Adapter (1" NPT)
RR136307	Rodaviss B34 Socket Adapter (1" NPT)
RR136308	Rodaviss B45 Socket Adapter (1" NPT)
RR136309	Rodaviss B24 Socket Adapter (1 1/2" NPT)
RR136310	Rodaviss B29 Socket Adapter (1 1/2" NPT)
RR136311	Rodaviss B34 Socket Adapter (1 1/2" NPT)
RR136313	Rodaviss B45 Socket Adapter (1 1/2" NPT)
RR136312	Reactor-Ready Pilot Central B34 Socket Adapter (1 1/2" NPT)
RR136316	8mm Bore Compression Fitting 3/4" NPT
RR136317	12mm Bore Compression Fitting 3/4" NPT
RR136318	14mm Bore Compression Fitting 3/4" NPT
RR136319	16mm Bore Compression Fitting 3/4" NPT
RR136320	19mm Bore Compression Fitting 3/4" NPT
RR136321	8mm Bore Compression Fitting 1" NPT
RR136322	12mm Bore Compression Fitting 1" NPT
RR136323	14mm Bore Compression Fitting 1" NPT
RR136324	16mm Bore Compression Fitting 1" NPT
RR136325	19mm Bore Compression Fitting 1" NPT
RR136326	25mm Bore Compression Fitting 1" NPT
RR136327	PTFE Blanking Plug 3/4" NPT
RR136328	PTFE Blanking Plug 1" NPT
RR136329	PTFE Blanking Plug 1 1/2" NPT
RR136330	PTFE Blanking Plug 1 1/2" NPT

PTFE Pt100 Temperature Probes and Adapters

RR145000	Pt100 PTFE Temp. Probe 9mm + Lemo Plug - 5L to 10L Vessels
RR146000	Pt100 PTFE Temp. Probe 9mm + Lemo Plug - 15L to 35L Vessels
RR140015	PTFE Temperature Probe Adapter - 9mm

PTFE Baffles + PTFE Probe Baffles

RR257000	PTFE Baffle, 16mm OD Shaft, 35mm x 600mm long
RR257002	PTFE Baffle, 16mm OD Shaft, 35mm x 700mm long
RR257004	Pt100 PTFE Baffle Probe + Lemo, 16mm OD Shaft, 35mm x 600mm long
RR257006	Pt100 PTFE Baffle Probe + Lemo, 16mm OD Shaft, 35mm x 700mm long
RR257008	B24 to 16mm PTFE Compression Fitting
RR257010	B29 to 16mm PTFE Compression Fitting
RR257012	B34 to 16mm PTFE Compression Fitting



Hei-Torque Overhead Stirrers

501-62010-00	Hei-Torque 200 Expert
501-62020-00	Hei-Torque 200 Ultimate - RS232 & USB
501-64010-00	Hei Torque 400 Expert
501-64020-00	Hei-Torque 400 Ultimate - RS232 & USB



Control Interface Cable

14-007-040-72	RS232 Interface Cable - 9 pin to 9 pin
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PTFE Stirrer Shafts

RR258051	Anchor PTFE Stirrer Shaft - 5L Pilot Vessels
RR258052	Retreat Curve PTFE Stirrer Shaft - 5L Pilot Vessels
RR258053	Turbine PTFE Stirrer Shaft - 5L Pilot Vessels
RR258101	Anchor PTFE Stirrer Shaft - 10L Pilot Vessels
RR258102	Retreat Curve PTFE Stirrer Shaft - 10L Pilot Vessels
RR258103	Turbine PTFE Stirrer Shaft - 10L Pilot Vessels
RR258151	Anchor PTFE Stirrer Shaft - 15L Pilot Vessels
RR258152	Retreat Curve PTFE Stirrer Shaft - 15L Pilot Vessels
RR258153	Turbine PTFE Stirrer Shaft - 15L Pilot Vessels
RR258201	Anchor PTFE Stirrer Shaft - 20L Pilot Vessels
RR258202	Retreat Curve PTFE Stirrer Shaft - 20L Pilot Vessels
RR258203	Turbine PTFE Stirrer Shaft - 20L Pilot Vessels
RR258306	Anchor PTFE Stirrer Shaft - 30L Pilot Vessels
RR258307	Retreat Curve PTFE Stirrer Shaft - 30L Pilot Vessels
RR258308	Turbine PTFE Stirrer Shaft - 30L Pilot Vessels
RR258351	Anchor PTFE Stirrer Shaft - 35L Pilot Vessels
RR258352	Retreat Curve PTFE Stirrer Shaft - 35L Pilot Vessels
RR258353	Turbine PTFE Stirrer Shaft - 35L Pilot Vessels
RR258300	Adjustable PTFE 4 Blade 45 Angle Rotor 16mm OD 100mm Rotor
RR258302	Adjustable PTFE 2 Blade Vertical Rotor 16mm OD 100mm Rotor



Clamps & Supports

RR139360	Pilot Boss Head - 22-35mm, 8-12mm
RR139362	Rod Extender - 10mm, 100mm long, for 10mm rods
RR139364	Rubber Belt Clamp - 10mm rod, 60-170mm
RR139366	Chain Clamp - 10mm rod, 40-120mm
RR139368	Chain Clamp - 10mm rod, 80-150mm
RR139370	Chain Clamp - 10mm rod, 100-170mm
RR139372	4-Prong Large Clamp - 10mm rod, 30-80mm
RR139374	Universal Clamp Cork Jaws - 10mm rod, 0-80mm
RR139376	Lower Support Ring - 10m rod, 76mm ID



Drip Trays

RR210062	Drip Tray PP 7L Capacity
RR210064	Drip Tray PP 22L Capacity
RR210066	Drip Tray PP 45L Capacity
RR210068	Drip Tray PP 55L Capacity (extra wide -740mm)



Replacement 25mm Piston

RR166070	Piston 25mm for Single and Vacuum Jacketed Vessel
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General Maintenance Accessories

RRR210100	Reactor-Ready Pilot Maintenance Kit (includes all items listed below) <i>Does not include Chemraz O-rings or 25mm Piston</i>
RR121027	Oil Wipe for Support Rods, pk 10
RR121136	Stirrer Guide Bearing Seal B34, 16mm
RR121138	Stirrer Guide Ferrule and Shaft Seal B34, 16mm
RR121071	23mm Viton O-Rings for Quick Release Hose Coupling, pk 2
RR210050	34mm Viton O-Rings for Quick Release Hose Coupling - NW20, pk 2
RR210022	FEP Encapsulated Silicone Vessel O-ring - 200mm
RR166104	Replacement 25mm Piston Top O-Ring, pk 2
RR166106	Replacement 25mm Piston Middle O-Ring

Important: For temperatures above 150 °C we recommend the use of high performance Chemraz piston O-rings to prevent possible weeping. Chemraz O-rings are suitable for temperatures from 0 °C to +230 °C and should not be used below 0 °C.

Chemraz O-Ring

RR210074	Replacement 25mm Piston Top O-Ring Chemraz (0°C to 230°C)
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Condensers

RR139300	Large Double Coil Condenser 60mm B34 to B34 + GL18 fittings
RR139302	Large Double Coil Condenser 85mm B34 to B34 + GL18 fittings



Condensers with Spherical Joints

RR139400	Large Double Coil Condenser 60mm S41 to B34 + GL18 fittings
RR139402	Large Double Coil Condenser 85mm S41 to B34 + GL18 fittings

Spherical Joint replacement parts

RR139424	Metal Clip for S41 Spherical Joints
RR139426	FEP O-Ring for S41 Spherical Joints



Swan Neck Adapter

RR139308	Swan Neck Adapter Vertical B24 to Vertical B24
RR139310	Swan Neck Adapter Vertical B29 to Vertical B29
RR139312	Swan Neck Adapter Vertical B34 to Vertical B34



Swan Neck Adapter with Spherical Joints

RR139410	Swan Neck Adapter Vertical B29 to Vertical S41
RR139412	Swan Neck Adapter Vertical B34 to Vertical S41

Dropping Funnels

RR139017	250ml Graduated Dropping Funnel Equalising Arm B24
RR139019	500ml Graduated Dropping Funnel Equalising Arm B24
RR139021	1000ml Graduated Dropping Funnel Equalising Arm B24
RR139304	2000ml Graduated Dropping Funnel Equalising Arm B29



PTFE Flexible Bellows

RR139079	PTFE Flexible Bellows B24
RR139081	PTFE Flexible Bellows B29
RR139083	PTFE Flexible Bellows B34



Oil Bubblers

RR139051	Oil Bubbler Type 1 B24 + GL14 + fittings
RR139314	Oil Bubbler Type 1 B29 + GL14 + fittings



Solid Additions Funnels

RR139053	Solid Additions Funnel B34 (with extended tube)
RR139316	Solid Additions Funnel B45 (with extended tube)



Gas Purge Adapter

RR139025	Gas Purge Adapter B24 + GL14 + fittings
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Liquid Inlet Adapter

RR139057	Valved Right Angled Liquid Inlet Adapter B24 to GL14
RR139318	Valved Right Angled Liquid Inlet Adapter B29 to GL14

Run-Off Adapter and Valve

RR139340	Vertical Run-Off Adapter B24 to Plain Stem
RR139137	Run-Off Secondary Valve, B24 to Stopcock



PTFE Hose Adapter

RR139063	PTFE Hose Adapter B19 to 12mm ID (NW12)
RR139065	PTFE Hose Adapter B24 to 15mm ID



Reflux Divider Kits

RR239200	Pilot Reflux Divider Kit
RR239201	Pilot Reflux Divider Kit + Spherical Joint
RR239202	Pilot Reflux Divider Kit with Vapour Temperature Probe
RR239203	Pilot Reflux Divider Kit with Vapour Temperature Probe + Spherical Joint

Important: See page 9 for full details of what kits include

Reflux Divider Kit Replacement Parts

RR139320	Reflux Divider Head B34 + GL18 + fitting
RR139322	Reflux Divider Head B34 + GL18 + fitting + B14 temp probe port
RR139420	Reflux Divider Head B34 to S41 + GL18 fitting
RR139422	Reflux Divider Head B34 to S41 + GL18 fittings + B14 temp port



RR139133	Pt100 PTFE Temp. Probe (Reflux Divider Head) + 2m Cable + Lemo
RR139135	PTFE Temperature Probe Adapter (B14 for Reflux Divider Head)

RR139111	Screw Cap with Aperture GL14, pk 10
RR139113	Silicone Seal with PTFE Washer GL14, 6mm, pk 10
RR139115	Screw Cap GL14, with PTFE seal, pk 10
RR139119	Screw Cap with Aperture GL25, pk 10
RR139121	Silicone Seal with PTFE Washer GL25, 12mm, pk 10

RR139342	GL14 HT Compression Fitting for 4mm OD Tubing
RR139344	GL14 HT Compression Fitting for 6mm OD Tubing
RR139346	GL25 HT Compression Fitting for 8mm OD Tubing
RR139348	GL25 HT Compression Fitting for 10mm OD Tubing
RR139350	GL25 HT Compression Fitting for 12mm OD Tubing
RR139352	GL18 PFA Hose Connector for 10mm ID Tubing
RR139354	PTFE Tubing 10mm ID x 12mm OD - 1m length

Reflux Divider Receiver Flask

RR139324	500ml Receiver Flask 3 x B24 Socket, + B24 Cone and Tap
RR139326	1000ml Receiver Flask 3 x B24 Socket, + B24 Cone and Tap
RR139328	2000ml Receiver Flask 3 x B24 Socket, + B24 Cone and Tap
RR139330	5000ml Receiver Flask 3 x B24 Socket, + B24 Cone and Tap



Enlarging Adapter

RR139034	Enlarging Adapter B19 to B24
RR139035	Enlarging Adapter B24 to B29
RR139036	Enlarging Adapter B19 to B29
RR139037	Enlarging Adapter B29 to B34
RR139038	Enlarging Adapter B19 to B34



Reducing Adapter

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



Rodaviss Joint to GL Adapters

RR139085	Adapter Rodaviss B19 to GL25
RR139332	Adapter Rodaviss B24 to GL25
RR139334	Adapter Rodaviss B29 to GL25
RR139087	Adapter Rodaviss B34 to GL25
RR139089	Adapter Rodaviss B19 to GL14
RR139091	Adapter Rodaviss B24 to GL14
RR139336	Adapter Rodaviss B29 to GL14
RR139093	Adapter Rodaviss B19 to 2 x GL14
RR139095	Adapter Rodaviss B24 to 2 x GL14
RR139338	Adapter Rodaviss B29 to 2 x GL14



AVA Software

RR20230	AVA Pad Reactor Controller
RR20308	AVA PC Reaction Control Software Kit



Huber Thermoregulators (others available)

HB1000.0016.01	Unistat Tango Pilot ONE Controller (230v or 400v)
HB1002.0021.01	Unistat 405 Pilot ONE Controller (230v or 400v)
HB1005.0057.01	Unistat 425 Pilot ONE Controller
HB1005.0061.01	Unistat 510w Pilot ONE Controller
HB1007.0031.01	Unistat 610w Pilot ONE Controller
HB1014.0051.01	Unistat 825 Pilot ONE Controller
HB1014.0052.01	Unistat 825w Pilot ONE Controller



Thermoregulator Hoses

M24 Insulated Hose with PTFE Inner (12mm ID x 37mm OD)

HB9325	M24x1.5 x 1m Insulated PTFE Hose	-60 °C to +260 °C
HB9326	M24x1.5 x 1.5m Insulated PTFE Hose	-60 °C to +260 °C
HB9327	M24x1.5 x 2m Insulated PTFE Hose	-60 °C to +260 °C
HB9328	M24x1.5 x 3m Insulated PTFE Hose	-60 °C to +260 °C

M30 Insulated Hose with PTFE Inner (20mm ID x 44mm OD)

HB9612	M30x1.5 x 1m Insulated PTFE Hose	-60 °C to +260 °C
HB9613	M30x1.5 x 1.5m Insulated PTFE Hose	-60 °C to +260 °C
HB9614	M30x1.5 x 2m Insulated PTFE Hose	-60 °C to +260 °C
HB9615	M30x1.5 x 3m Insulated PTFE Hose	-60 °C to +260 °C

M24 Insulated Hose with Metal Inner (12mm ID x 44mm OD)

HB9274	M24x1.5 x 1m Insulated Metal Hose	-100 °C to +350 °C
HB9275	M24x1.5 x 1.5m Insulated Metal Hose	-100 °C to +350 °C
HB9276	M24x1.5 x 2m Insulated Metal Hose	-100 °C to +350 °C
HB9277	M24x1.5 x 3m Insulated Metal Hose	-100 °C to +350 °C

M30 Insulated Hose with Metal Inner (20mm ID x 56mm OD)

HB6426	M30x1.5 x 1m Insulated Metal Hose	-100 °C to +350 °C
HB6386	M30x1.5 x 1.5m Insulated Metal Hose	-100 °C to +350 °C
HB6427	M30x1.5 x 2m Insulated Metal Hose	-100 °C to +350 °C
HB6428	M30x1.5 x 3m Insulated Metal Hose	-100 °C to +350 °C

M24 Adapters

HB9268	M24x1.5 Male to M30x1.5 Female Adapter
HB6723	M24x1.5 Female to M30x1.5 Male Adapter
HB9256	M24x1.5 90 degree Adapter
HB12634	M24x1.5 Nut
HB9471	M24x1.5 Hose Connector NW12
HB9236	M24x1.5 Isolating Ball Valve

Thermofluid

HB6161	SiOil M20.195/235.20, 5 Litre	-20 °C to +235 °C*
HB6162	SiOil M20.195/235.20, 10 Litre	-20 °C to +235 °C*
HB6163	SiOil M40.165/220.10, 5 Litre	-40 °C to +220 °C*
HB6164	SiOil M40.165/220.10, 10 Litre	-40 °C to +220 °C*
HB6165	SiOil M60.115/200.05, 5 Litre	-60 °C to +200 °C*
HB6166	SiOil M60.115/200.05, 10 Litre	-60 °C to +200 °C*
HB6479	DW-Therm M90.200.02, 10 Litre	-90 °C to +200 °C

Important: * Indicates maximum thermofluid temperature in sealed Unistat system only. Furthermore DW-Therm can only be used above 170 °C with inert gas.

Right Angle Adapter

RR139011	Right Angle Adapter B29 + GL14 + PTFE fittings
RR139012	Right Angle Adapter B34 + GL14 + PTFE fittings



Glass Cone Stoppers

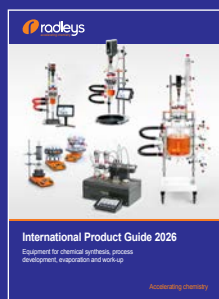
RR139027	Glass Cone Stopper B19
RR139029	Glass Cone Stopper B24
RR139031	Glass Cone Stopper B29
RR139033	Glass Cone Stopper B34
RR139378	Glass Cone Stopper B45



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