



orb pilot

effortless
scale-up

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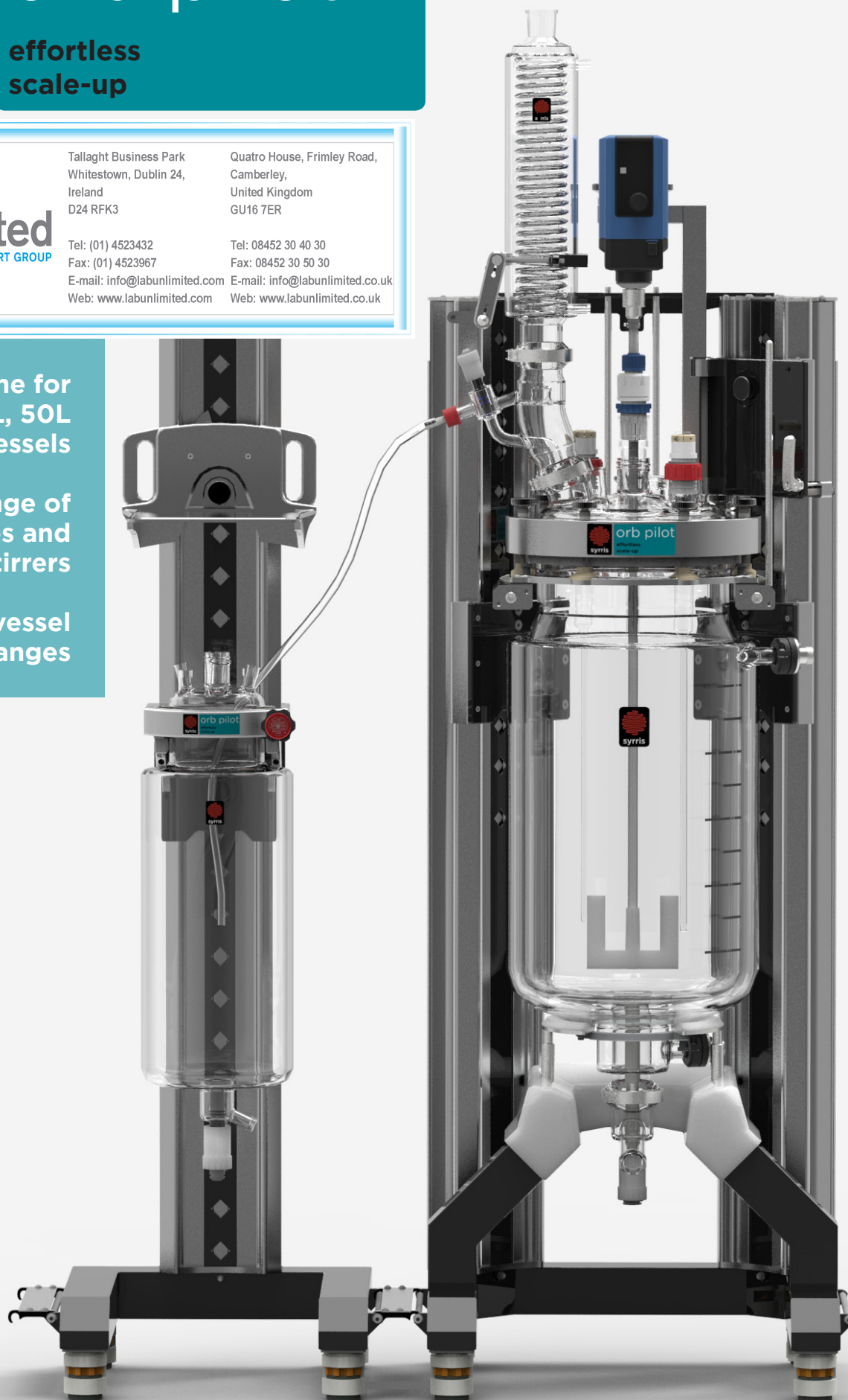
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Single frame for
10L, 20L, 30L, 50L
reactor vessels

Wide range of
accessories and
stirrers

Fast vessel
changes



» new

Ultimate ease of use » Exceptional performance » Outstanding value

What is the Orb Pilot Jacketed Reactor?

Orb Pilot is a high performance floor standing jacketed reactor system for scaling up of batch processes. It is the most flexible and versatile reactor system at this scale with many user friendly features built-in. The system can be easily configured to match your exact requirements, and offers a wide variety of accessories and stirring options. Orb Pilot is incredibly robust and durable, designed for years of continuous service.

Orb Pilot benefits:

- **A wide range of vessel sizes in a single system:** 10L, 20L, 30L & 50L single jacketed vessels and 10L, 20L & 30L vacuum jacketed vessels
- **Rapid vessel changes:** Easy motor lift and unique neck clamp and support. Rapid oil drain mechanism and pre-defined clamp positions
- **Self adjusting frame:** The spring loaded base allows for vessel tolerances and thermal expansions. No need for frame adjustment
- **Wide temperature range:** -40°C to + 235°C
- **Rapid change baffles:** Enables high performance stirring across a wide range of viscosities
- **Detachable bottom outlet valve:** for easy cleaning and maintenance
- **Large range of accessories and add-ons:** stirrers, baffles, condensers, reflux splitters, collection vessels, probes
- **Accessory Tower:** Couples directly to Orb Pilot frame and accepts distillation collection vessel, liquid feed vessel, pump or equipment shelf
- **Designed for years of service:** quality engineering and rugged construction ensures years of service even in the most demanding environments

Orb Pilot features:

Orb Pilot is a versatile precision engineered reactor system with many advanced features, yet costs the same as an ordinary fixed reactor. Designed specifically for scale-up chemistry, the system is packed with clever yet cost-effective design solutions. Its rugged construction and quality glassware (produced in our state-of-the-art glass manufacturing facility) ensures years of service. Orb Pilot offers ultimate ease of use, high performance and superb value.

Specifications:

	10L to 30L vessels	50L vessels
Temperature range	-40°C to +235°C	
Flange size	DN235	DN300
Jacket connection	M30 x 1.5	
Bottom outlet	40mm diameter	
Overhead stirring	Up to 500rpm Up to 400N/cm continuous*	
Lid Ports	2 x DN60, 2 x GL45, 2 x B19, 1 x B34†	

*dependent on stirrer motor specification
†custom configuration available on request

System details:

Orb Pilot System

A typical Orb Pilot system includes the Orb Pilot frame, neck clamp DN235 or DN300, base support, lid, stirrer seal, stirrer, stirrer motor, jacket connections and oil pipes.

Accessories

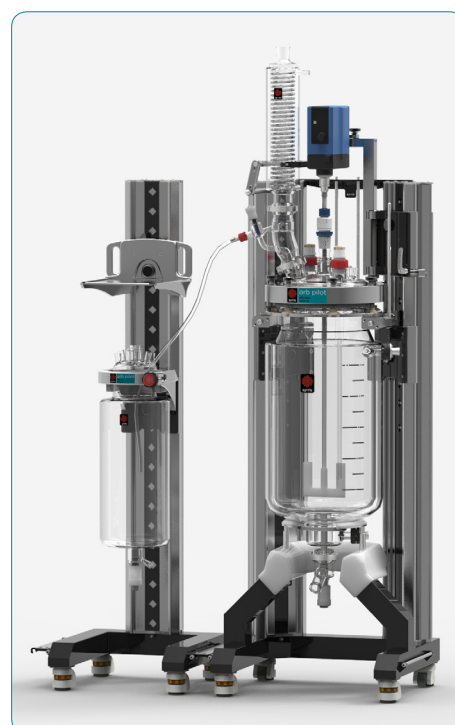
Stirrer motors, stirrers (many geometries, glass, PTFE, coated stainless steel), baffles (glass or stainless steel, many geometries), condensers, temperature probe, bottom outlet RTD, oil drain kit, reflux splitter, accessory tower, condensate collection vessel, pump and equipment shelf.



Left: 50L Orb Pilot system

Right: 50L Orb Pilot jacketed reactor system with Accessory Tower

Below: Syrris 50L single jacketed torispherical vessel



Choose Your System

Choosing your Orb Pilot system couldn't be easier. Simply select a Base Frame, Lid, Vessel Kit and Stirrer Motor to build your starter system. You can then expand this into full and flexible system by adding additional Vessel Kits and accessories such as Oil Hoses, Reflux Condensers, Stirrers, Baffles and Collection Vessels.

Tick your selections



Part No	Orb Pilot Base Frame	
2201170	Orb Pilot DN235 Frame Kit	<input type="checkbox"/>
2201171	Orb Pilot DN300 Frame Kit (50L vessel only)	<input type="checkbox"/>
2201172	Orb Pilot DN300 Clamp Upgrade Kit, includes Seal (required for 50L vessel only)	<input type="checkbox"/>
2201173	Orb Pilot DN235 Frame Kit basic, without base support (10L & 20L only)	<input type="checkbox"/>

The Orb Pilot Base Frame is the foundation of the system. The frame kit includes a Base Frame, Stirrer Seal and Guide, Flange Seal and Location Ring.



Part No	Orb Pilot Vessel Kit	
2201178	Orb Pilot 10L Vessel Kit	<input type="checkbox"/>
2201179	Orb Pilot 20L Vessel Kit	<input type="checkbox"/>
2201180	Orb Pilot 30L Vessel Kit	<input type="checkbox"/>
2201181	Orb Pilot 50L Vessel Kit	<input type="checkbox"/>
2201182	Orb Pilot 10L Vacuum Jacketed Vessel Kit	<input type="checkbox"/>
2201183	Orb Pilot 20L Vacuum Jacketed Vessel Kit	<input type="checkbox"/>
2201184	Orb Pilot 30L Vacuum Jacketed Vessel Kit	<input type="checkbox"/>

The Orb Pilot Vessel Kit includes a Reaction Vessel, detachable BOV Assembly, RTD Temperature Probe, PTFE Anchor Stirrer and matching lower support spring cases.



Part No	Orb Pilot Stirrer Motors	
2201185	Stirrer Motor 60Ncm Digital Display	<input type="checkbox"/>
2201186	Stirrer Motor 60Ncm Remote Display	<input type="checkbox"/>
2201187	Stirrer Motor 100Ncm Digital Display	<input type="checkbox"/>
2201188	Stirrer Motor 100Ncm Remote Display	<input type="checkbox"/>
2201189	Stirrer Motor 200Nm Digital Display	<input type="checkbox"/>
2201190	Stirrer Motor 200Ncm Remote Display	<input type="checkbox"/>
2201191	Stirrer Motor 400Ncm Remote Display	<input type="checkbox"/>

High specification motors offer performance and durability for the most demanding applications.



Part No	Orb Pilot Lid	
2201170	Orb Pilot Lid DN235	<input type="checkbox"/>
2201171	Orb Pilot Lid DN300	<input type="checkbox"/>
2201172	Orb Pilot DN235 Lid USA	<input type="checkbox"/>
2201173	Orb Pilot DN300 Lid USA	<input type="checkbox"/>

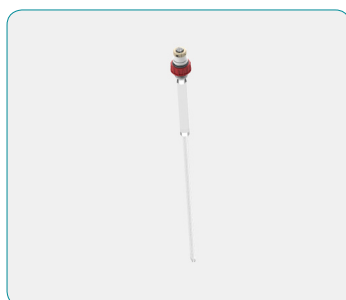
The Orb Pilot Lid is available in two sizes, both sizes include a DN60 Charging Port, DN60 Condenser Coupling, 2 x B19 & B34 Probe Ports and 2 x Baffle ports.

Choose Your Accessories

Maximise the performance and flexibility of your Orb Pilot system by adding the options and accessories from the list below. Baffles are highly recommended as a simple low cost method to dramatically improve stirrer efficiency.

Part No.	Easy Fit Reactor Baffle	
2201198	Orb Pilot Baffle Set (10L)	<input type="checkbox"/>
2201199	Orb Pilot Baffle Set (20L)	<input type="checkbox"/>
2201200	Orb Pilot Baffle Set (30L)	<input type="checkbox"/>
2201201	Orb Pilot Baffle Set (50L)	<input type="checkbox"/>
2201202	Orb Pilot Baffle Set, low sheer (10L)	<input type="checkbox"/>
2201203	Orb Pilot Baffle Set, low sheer (20L)	<input type="checkbox"/>
2201204	Orb Pilot Baffle Set, low sheer (30L)	<input type="checkbox"/>
2201205	Orb Pilot Baffle Set, low sheer (50L)	<input type="checkbox"/>

Easy install of Orb Pilot Baffles - no need to remove the lid or other system parts.



Left: Reactor Baffle



Right: Reflux Condenser

Part No.	High Performance Reflux Kit	
2201192	Reflux Splitter Kit Vertical	<input type="checkbox"/>
2201193	Reflux Splitter Kit Angled	<input type="checkbox"/>
2201194	Reflux Kit Vertical	<input type="checkbox"/>
2201195	Reflux Kit Angled	<input type="checkbox"/>

Includes a Condenser 3500cm², condenser support, coupling component and fittings.

Part No.	Accessory Tower System	
2201229	Accessory Tower	<input type="checkbox"/>
2201230	Orb DN150 Neck Support Clamp	<input type="checkbox"/>
2201231	Orb DN150 Collection Lid	<input type="checkbox"/>
2201232	Collection Vessel 5L	<input type="checkbox"/>
2201233	Collection Vessel 10L	<input type="checkbox"/>
2201234	Collection Vessel 15L	<input type="checkbox"/>
2201235	Collection Vessel 20L	<input type="checkbox"/>
2201236	Collection Vessel 25L	<input type="checkbox"/>
2201237	Orb Pilot Shelf	<input type="checkbox"/>

The Accessory Tower couples directly to the base frame and accepts a wide range of accessories. The system also doubles as a base for an automated dosing system, ideal for a mount feed vessel and pump shelf.

Part No.	Oil Management Premium Components	
2201196	Orb Pilot Oil Pipes, 3M, M30x1.5, -40°C to +250°C, (Pack of 2)	<input type="checkbox"/>
2201197	Orb Pilot Oil Drain Manifold Kit incl. hoses	<input type="checkbox"/>

Orb Pilot features 20mm ID jacket connectors. Maximize the efficiency of your system by specifying these high performance insulated hoses and quick drain equipment

Part No.	Stirrers for all Applications	
2201206	PTFE Anchor Stirrer (10L)*	<input type="checkbox"/>
2201207	PTFE Anchor Stirrer (20L)*	<input type="checkbox"/>
2201208	PTFE Anchor Stirrer (30L)*	<input type="checkbox"/>
2201209	PTFE Anchor Stirrer (50L)*	<input type="checkbox"/>
2201210	PTFE PBT Impellor (10L)	<input type="checkbox"/>
2201211	PTFE PBT Impellor (20L)	<input type="checkbox"/>
2201212	PTFE PBT Impellor (30L)	<input type="checkbox"/>
2201213	PTFE PBT Impellor (50L)	<input type="checkbox"/>
2201214	PBT Sliding Element 16mm shaft (diam 1)	<input type="checkbox"/>
2201215	PBT Sliding Element 16mm shaft (diam 2)	<input type="checkbox"/>
2201216	19mm Stirrer Guide (glass stirrers only)	<input type="checkbox"/>
2201217	Glass Anchor Stirrer (10L)	<input type="checkbox"/>
2201218	Glass Anchor Stirrer (20L)	<input type="checkbox"/>
2201219	Glass Anchor Stirrer (30L)	<input type="checkbox"/>
2201220	Glass Anchor Stirrer (50L)	<input type="checkbox"/>
2201221	Glass PBT Impellor (10L)	<input type="checkbox"/>
2201222	Glass PBT Impellor (20L)	<input type="checkbox"/>
2201223	Glass PBT Impellor (30L)	<input type="checkbox"/>
2201224	Glass PBT Impellor (50L)	<input type="checkbox"/>
2201225	Stainless Steel A310 Hydrofoil (10L)	<input type="checkbox"/>
2201226	Stainless Steel A310 Hydrofoil (20L)	<input type="checkbox"/>
2201227	Stainless Steel A310 Hydrofoil (30L)	<input type="checkbox"/>
2201228	Stainless Steel A310 Hydrofoil (50L)	<input type="checkbox"/>

*included with standard vessel kit

Optimize the stirring performance by matching the perfect stirrer to your application. Industry standard A310 hydrofoil impellers are highly recommended where chemical compatibility allows.

Part No.	RTD BOV Upgrade Assembly	
2201238	Bottom Outlet Assembly with RTD	<input type="checkbox"/>
2201239	Bottom Outlet Assembly vacuum jacketed with RTD	<input type="checkbox"/>

Includes a detachable glass section. Cable is terminated with a lemo connection, compatible with most circulator manufactures



Contact Us to Learn More on the Orb Pilot!