

Process CHEMISTRY REACTORS

and Accessories



100mL through to 100 Litres

- benchtop
- pilot scale
- kilo-lab
- commercial scale



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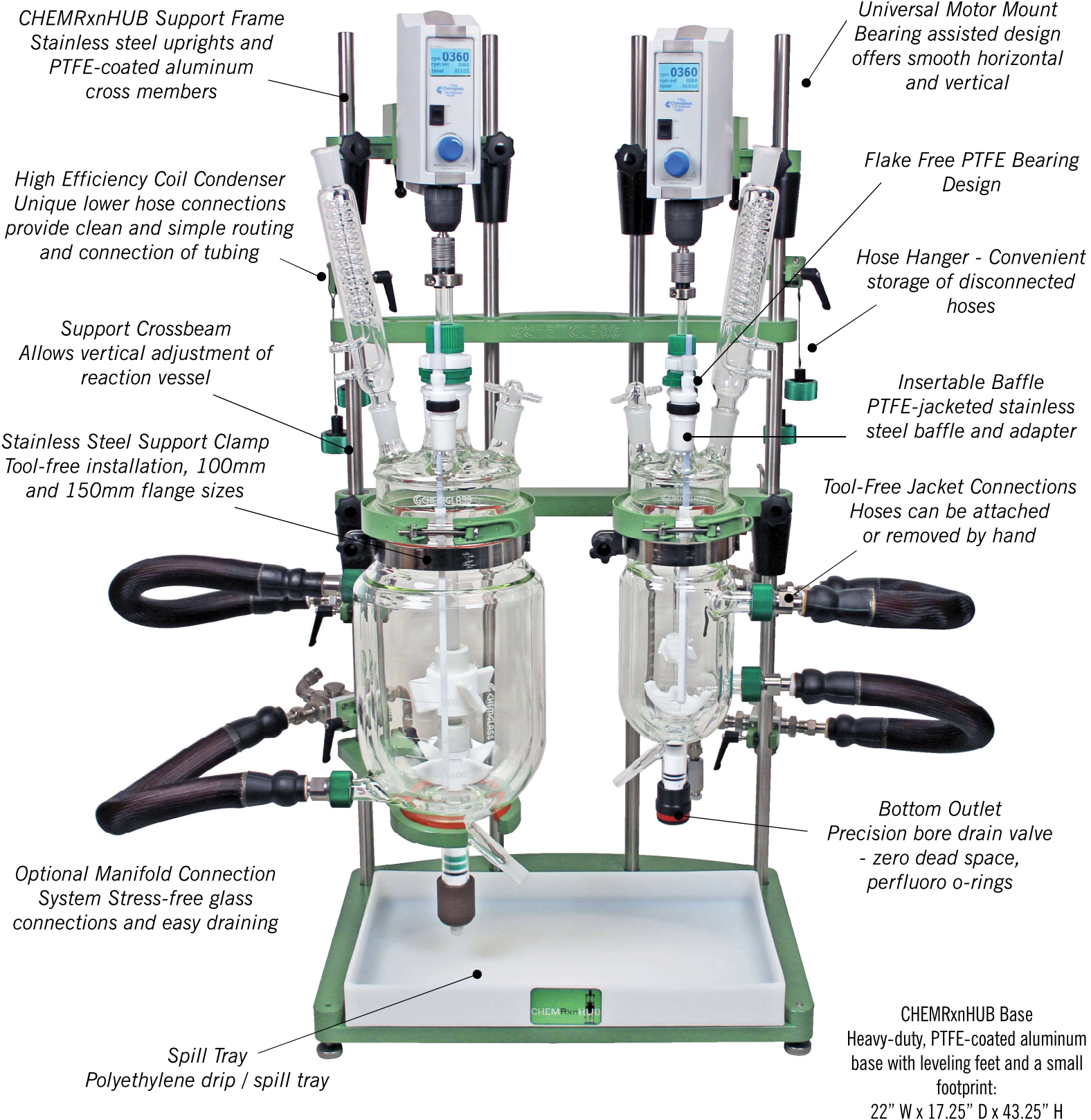


Benchtop Reactor Systems



Jacketed borosilicate glass vessels from 300mL to 5 litres
Your choice of overhead stirrer motors
Tool-free jacket connections
Optional manifold connections for easy draining

Overhead Stirrer Motors Digital models with a variety of features



Single, Dual and Triple Vessel, Benchtop Process Reactor Systems



Single



Dual



Triple



Complete ChemRxnHub™ Systems with Tool-Free Jacket Connections



Unique clamp and support system provides simple installation and quick change-out.

ChemRxnHub single, dual and triple reactor system workstations in 300mL to 5 litre configurations.

Great for those who need complete, off-the-shelf systems that are quick to assemble, easy to operate and low on maintenance.

The unique design of the ChemRxnHub support stand and clamping system allows for easy installation and removal of glassware.

These workstations also fit into most benchtop hoods. The ChemRxnHub series of benchtop reactors is comprehensive, making it easy for you to get the vessel size and accessories you need.

Each system includes benchtop stand, overhead stirrer and glassware. Optional manifold connection and heat transfer fluid draining systems are available.



Tool-free jacket fittings with hose hanger. Optional manifold system shown.

Borosilicate Glass Process Reactor Vessels from 10 to 100 litres



- Your choice of overhead stirrer motors - electric or air
- Optional components and custom systems
- Complete reactor and circulator packages

Our Glass Vessels

Unless otherwise noted, glass components are manufactured exclusively from Type I, Class A borosilicate glass meeting ASTM Specification E438.

This glass type is used because of its exceptional chemical and heat resistance.

Open Frame Design

User-friendly support frames are designed with our “open frame” approach to maximize user accessibility.

Frame components include PTFE-coated aluminum bases, cross supports and fittings combined with stainless steel uprights for the optimal level of strength and durability.

Common Usage

Chemglass process reactors are commonly used for chemical synthesis, process development, workup, filtration, purification, evaporation, stirring, dissolving, mixing, and extracting operations across a host of scientific disciplines.

Our glass process reactor vessels range in size from 10 through 100 litres; everything from pilot scale and kilo-lab to commercial scale production.

Affordable Custom Glass Reactor Systems Designs

Using a combination of custom and standard components, are routinely designed in collaboration with our customers.

Whether you need a pre-configured benchtop workstation or a one-of-a-kind, custom chemical process reactor, specify Chemglass to be the catalyst for your next reactor.



Innovative Frame Design Provides Excellent Flexibility

10L and 20 L Systems

Open Air, Auto-Center Stands for Ease and Accessibility

Auto-centering motor mount
(brushless DC electric, air and
explosion-proof motors available)

5-neck lid with large
powder addition port

Optional Manifold



SS inlet / outlet adapters,
available in M16 x 1 and M30
x 1.5, allow connection to
cooling / heating circulator

Support bushings for
optional safety shield



Zero dead space, detachable
drain valve with laser-etched
directional arrows for open
and close

Support frame with oversized,
rugged SS uprights and
heavy-duty, PTFE-coated
aluminum fittings

Digital temperature monitor

Electric and XP motors
have separate controllers
with digital displays

Perfluoro o-rings on 60mm and
200mm flanges

Improved support clamp
auto-centers reactor and lid
allowing quick installation
and removal of reactor

Reactor jacket graduation
scale on both sides

Removable support used
for side shelf and manifold

Lower support plate and PTFE
ring have a v-shaped opening
allowing an unobstructed view of
bottom valve

Heavy-duty, lockable
casters



Smaller Footprint Saves Floor Space

30L and 50 L Systems

300mm flange

Motor mount arm can unlock and swing out giving greater access to the reactor

Temperature monitor with digital display

Electric and XP motors have separate controllers with digital displays

Smaller footprint support frame with oversized, rugged, SS uprights and heavy-duty, PTFE-coated aluminum fittings

SS inlet / outlet adapters, available in M16 X 1 and M30 X 1.5, allow connection to cooling / heating circulator

Auto-centering motor mount (brushless DC electric, air and explosion-proof motors)

Open frame design provides excellent accessibility

7-neck lid with large powder addition port

Removable plug allows motor mount arm to be installed on the right or the left

Reactor support plate holds reactor securely and allows easy installation / removal of reactor by one person

Reactor jacket graduation scale on both sides

Lower safety ring

2" beaded pipe drain

Zero dead space, detachable drain valve with laser-etched directional arrows for open and close

Heavy-duty, lockable casters

Optional Manifold



50 and 100 Litre "Squatty" Systems with 400mm Flanges

400mm for Better Interior Access

**50L and 100L
"Squatty" Systems**

*Auto-centering motor
mount arm can unlock
and swing out giving
greater access to reactor*

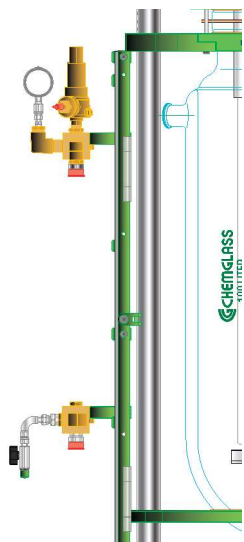
*Brushless DC electric,
air and explosion-proof
motors available*

*Digital temperature
monitor*

*Electric and XP motors
have separate control*

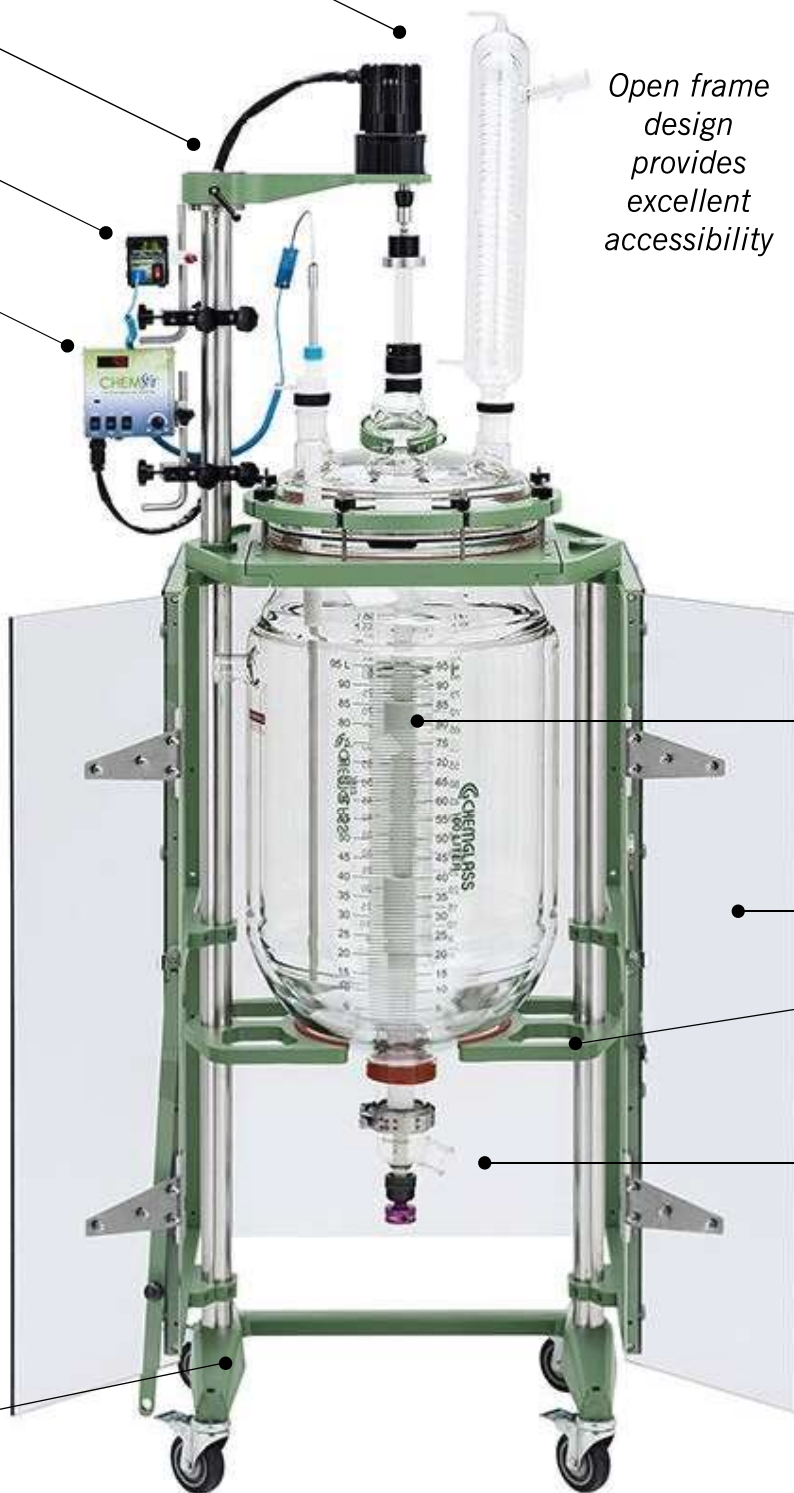
*Open frame
design
provides
excellent
accessibility*

*High Flow Manifold
Included with 100L System
(Optional on 50L
Squatty Systems)*



*M30 x 1.5 circulator
fittings and insulated
hoses, -60 to +200°C*

*Smaller footprint
support frame with
oversized, rugged, SS
uprights and heavyduty,
PTFE-coated
aluminum fittings*



*Heavy-duty, lockable
casters*



50L Squatty System

*Reactor jacket
graduation scale
on both sides*

*Safety shield on
all four sides*

Lower safety ring



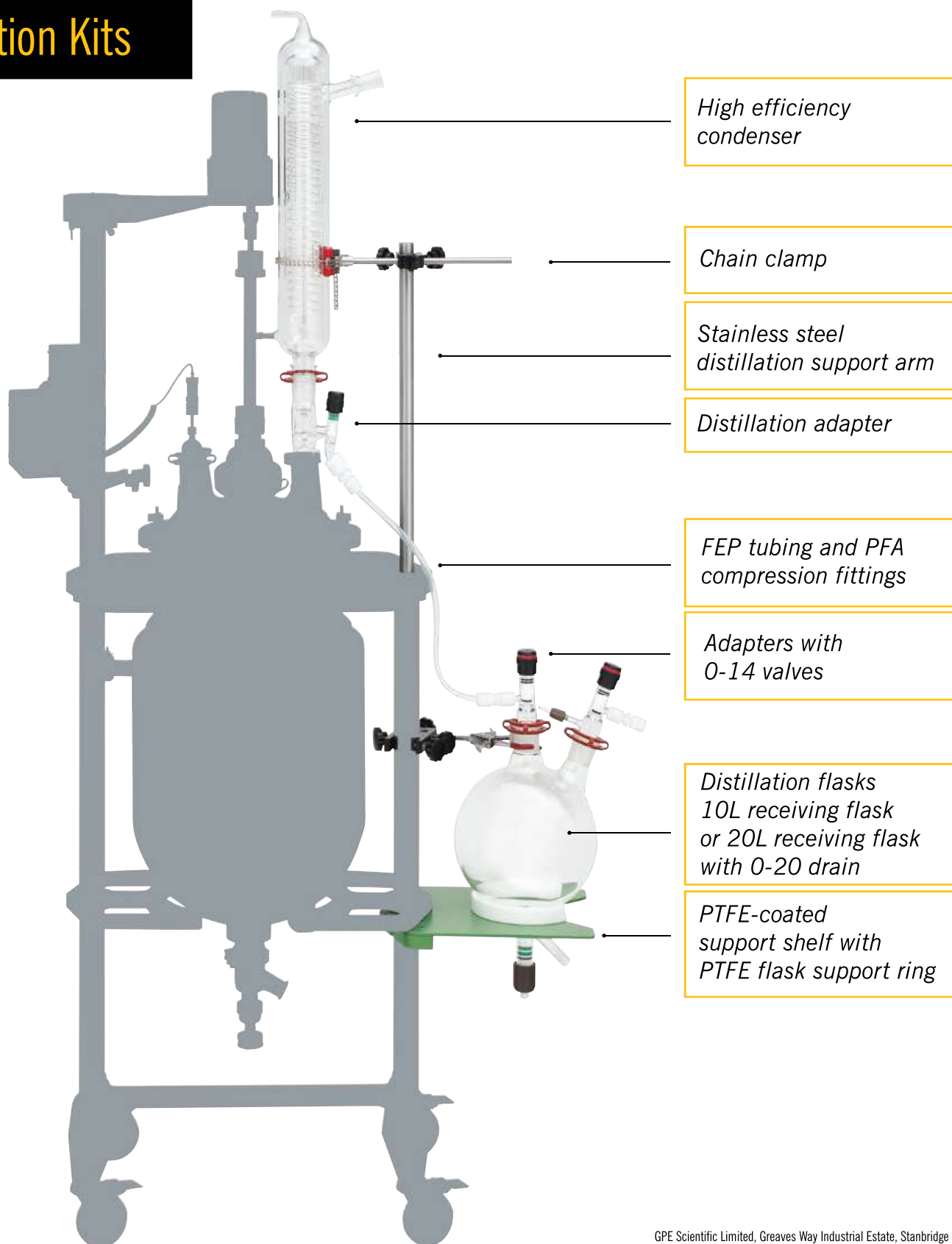
*Zero dead space,
detachable drain valve
with laser-etched
directional arrows for
open and close*

Available for 10, 20, 30 and 50L Reactor Systems

Custom Systems Available

Side Shelf Distillation Kits

Easy Conversion for Chemglass Reactor Systems



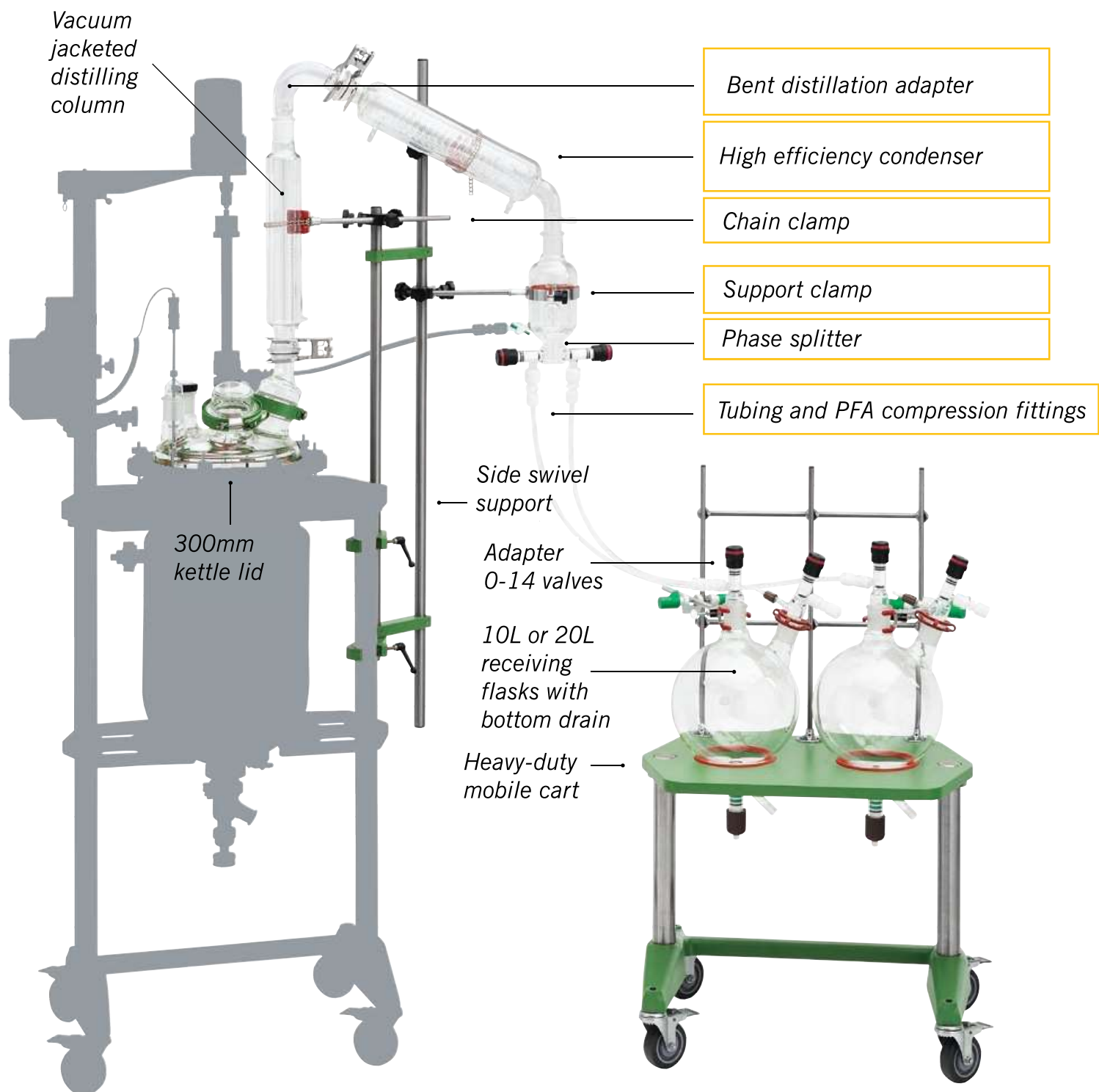
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Available for 30 and 50L Reactor Systems

Custom Systems Available

Cart Distillation Kits

Separate, Heavy-Duty Cart with Two Receiving Flasks



For Single and Multi-Step Reactions in One Vessel

Filter Reactors

1, 5, 10 and 20L Jacketed and Unjacketed Filter Reactors

1 & 5 Litre Unjacketed Benchtop Systems



Our unjacketed filter reactors can be used for single or multi-step reactions and filtrations in the same vessel, and large scale peptide synthesis. Filter base eliminates material transfers and significantly reduces losses. Complete 1L and 5L reactor systems include our ChemRxnHub stands.

10 & 20 Litre Jacketed and Unjacketed Systems

Open frame design
for excellent accessibility

Support frame with oversized,
rugged, SS uprights
and heavy-duty PTFE-coated
aluminum fittings

Mechanical seal
stirrer bearing

SS inlet / outlet
adapters available in
M16 x 1 and M30

PTFE filter base

Detachable
drain valve

Heavy-duty
lockable casters



Patent Design Applied For
Filter Base System

Custom Filter Reactors and Accessories

Manufacturing Expertise Makes All the Difference

- Extensive filter reactor design experience
- Open frame designs
- Jacketed and unjacketed
- Unique filter base design (Patent Applied For)

Filter Reactors

Larger Scale Custom Filter Reactors Up to 65L



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For Air and Exhaust Scrubbing up to 25L / Minute

Gas Scrubbers

Complete Gas Scrubbers in Two Convenient Sizes

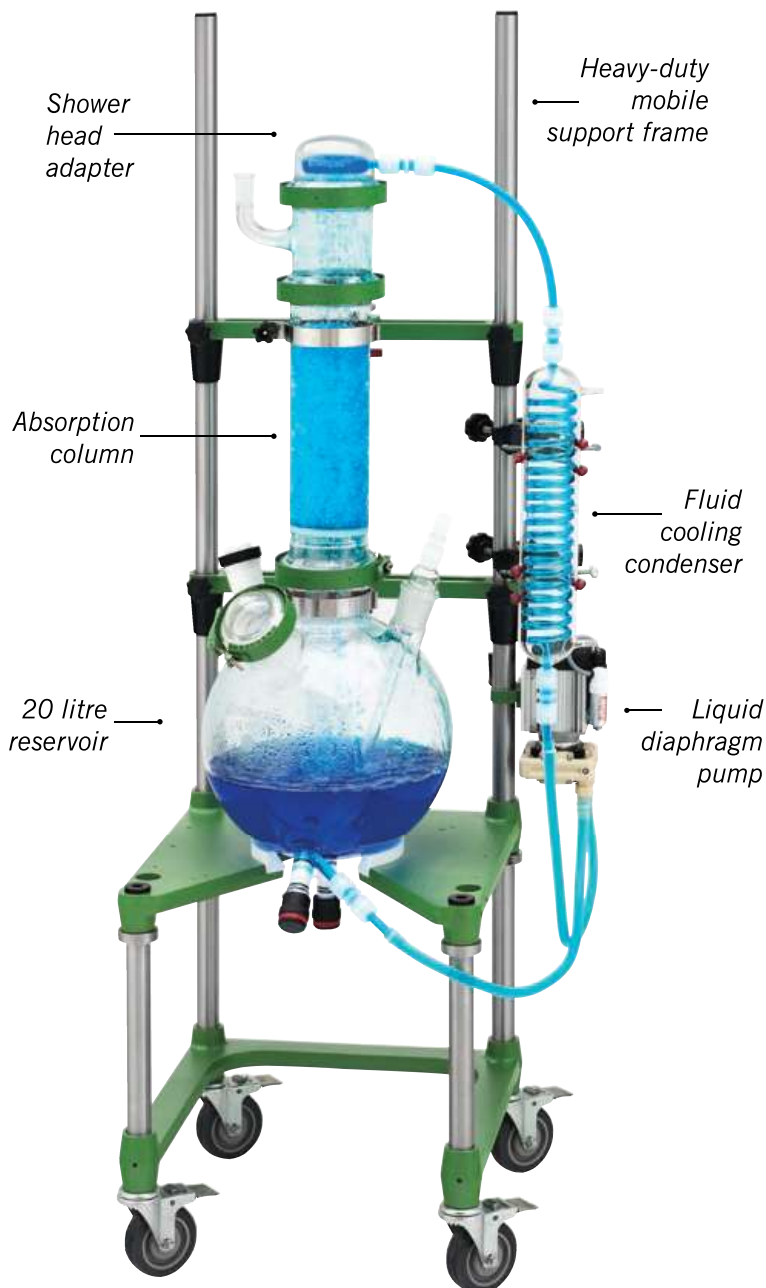
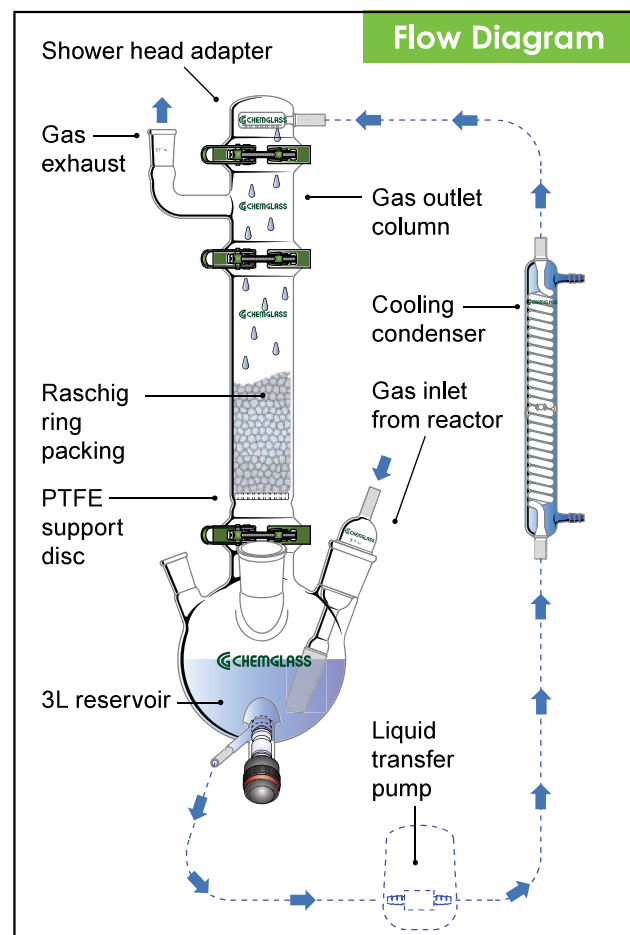
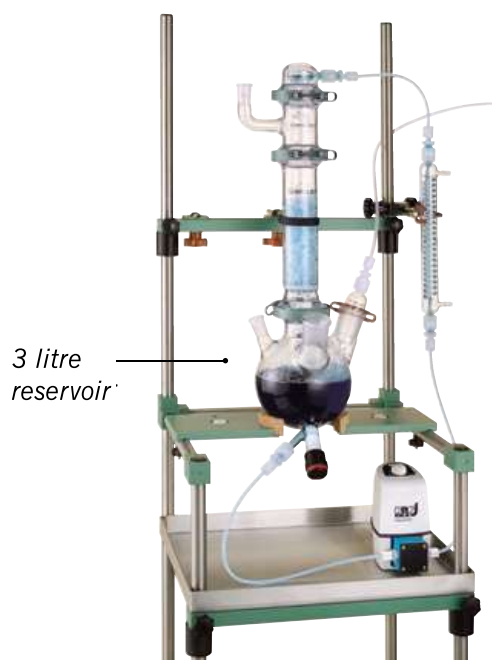
Laboratory scale gas scrubbers for use in many air and exhaust cleanup tasks.

Scrubbers are currently available in two fluid reservoir sizes, 3 litres and 20 litres. A new 50L system is coming soon.

The 3 litre is a compact design and will fit into any laboratory hood. It can also be used in walk-in hoods when assembled on our mobile or benchtop reactor stands.

Gas scrubbing takes place when the exhaust enters the inlet in the round bottom flask and travels upward through the absorption column. The scrubbing fluid is pumped from the round bottom flask upwards into the shower head adapter. It then flows counter-current to the exhaust gas, through the packed column, causing intensive contact between the two. Scrubbing can be accomplished by creating either a positive flow through the reaction vessel using a carrier such as nitrogen, or by connection of a vacuum source to the column adapter.

The 3 litre scrubber can handle 15 litres per minute of gas flow when pump is set at maximum. The 20 litre scrubber can handle 25 litres per minute with the supplied pump.



Custom Reactors and Accessories

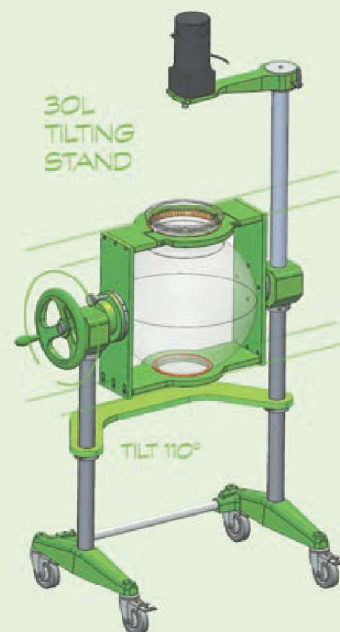
Chemglass Life Sciences has the experience and expertise to design and fabricate custom engineered solutions for any application.

- Custom reactor systems
- Large scale round bottom flask systems
- Stationary and tilting stands and supports
- Custom carts and frames for columns, flasks, feed vessels and receiver vessels
- Custom filter or mixing systems
- Accessories that interface with our reactor systems
- including bulk powder addition bags

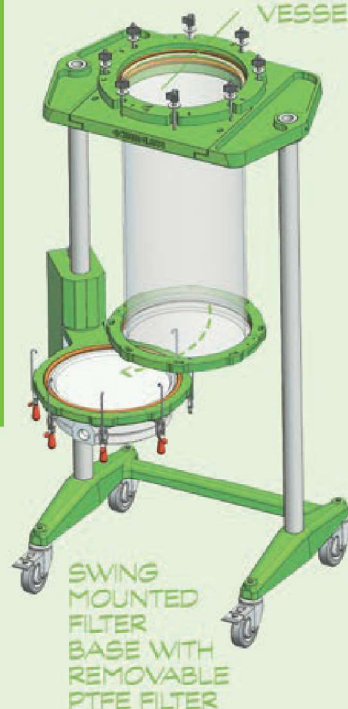
**400mm for Better
Interior Access**



**Your Custom
Resource**



50L FILTER REACTOR
JACKETED AND UNJACKETED VESSELS



See www.gpescientific.co.uk for all of our accessories.

Reactor Accessories

A large selection of circulator adapters and fittings for converting metric to NPT as well as hoses and valves



Polypropylene reactor funnels in a variety of sizes



Air-operated drain valve

- opens quickly and easily
- great for solvent extractions and partitioning after a reaction



Why GPE Scientific Ltd?

Manufacturing Experience

- Leading scientific glassware manufacturer for more than 50 years
- 6,000+ standard chemistry and life sciences products
- The most glass process reactor expertise, bar none, in the industry
- Systems installed worldwide
- Sizes from 100mL to 100L
- Standard, modified and custom reactor systems
- Prompt, courteous, efficient customer service
- Dedicated technical service experts
- Design assistance for custom and oem glass components



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