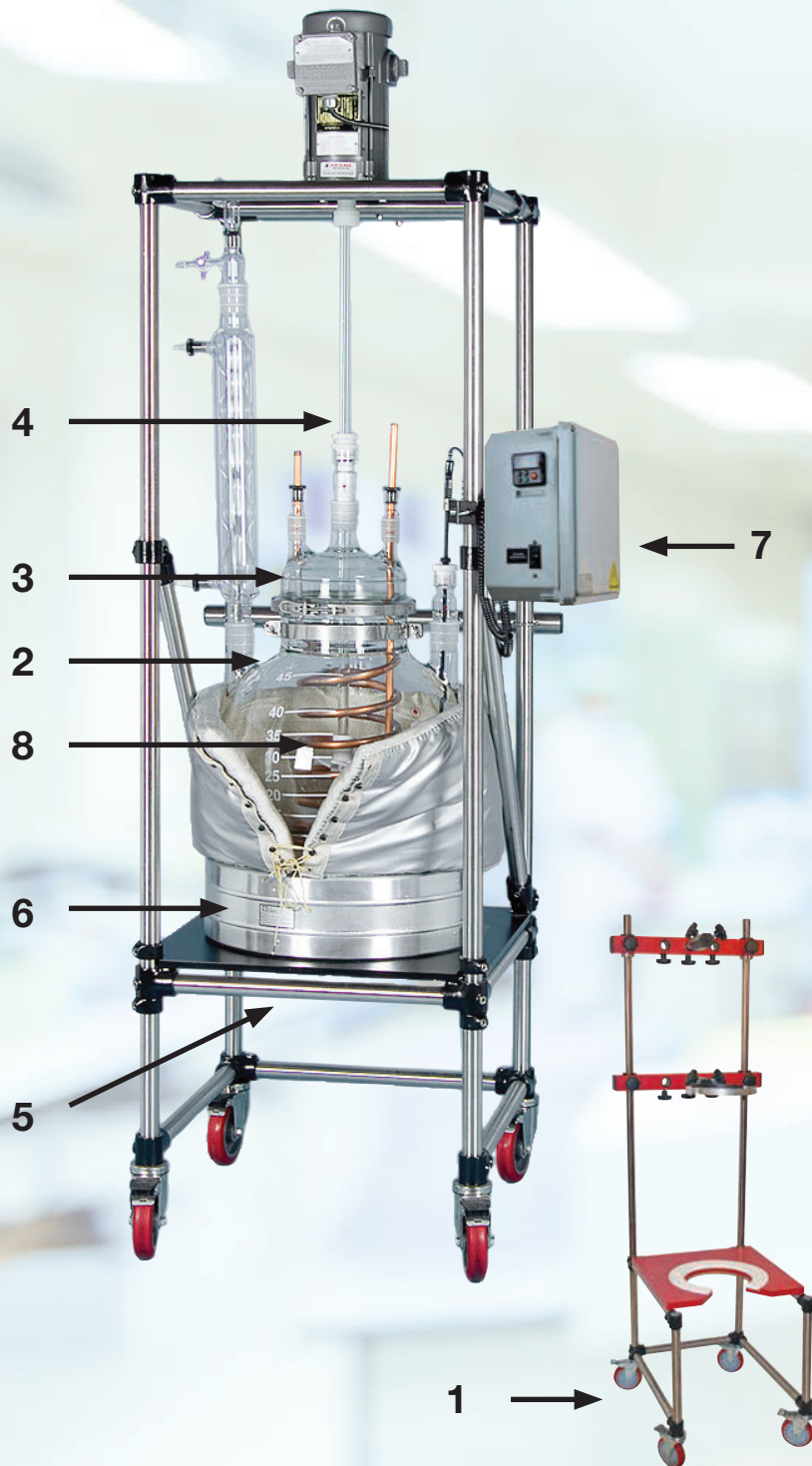


## Unjacketed Spherical Reactor Systems

50L, 72L & 100L Reactors w/Support Stand



Universal open frame stand design allows for maximum clearance and access to the ports on the head. To allow for scale up, the frame has been designed to be fitted with vessels from 10L to 200L in size. For versatility, our systems have been designed with a working temperature range of ambient through 200°C, and wetted surfaces of borosilicate glass and PTFE.

### Unjacketed Kilo Systems include:

- 4 Post Reactor Stand
- Unjacketed Spherical Flask
- Head, Coupling and O-Rings
- Agitator, Stir Shaft, Bearing & Collar
- Lid and Clamp
- Bottom Drain Valve
- Heating Mantle
- Temperature Controller with Probe
- Cooling/Heating Coil (*not pictured*)

### Working Temp Range (°C):

ambient to 200

### Working Pressure Range (Torr):

Atm to 0

### Stand Dimensions (DxWxH):

27.5" x 24.25" x 96.25"

### Wetted Surfaces:

Borosilicate glass, PTFE

### Motor Mounts:

Flange

Note: Product is shown with optional accessories.

Supplied with PTFE-Clad copper tubing (not shown); available in Hastelloy® C-276 or 316 stainless steel.

### 50L, 72L & 100L

| Capacity (L) | Base Systems<br>for Flange Mount Motors |   |
|--------------|---|---|
| 50           | 12847-02                                | ★ |
| 72           | 12847-04                                | ★ |
| 100          | 12847-06                                | ★ |

### Included Components

| No. | Description  | Qty | Order Code |
|-----|--|-----|------------|
| 1   | Universal Support Stand                                      | 1   | 12842-04   |
|     | 50L Unjacketed Spherical Flask w/Flush Seal Valve            |     | 6530-14 ★  |
| 2   | 72L Unjacketed Spherical Flask w/Flush Seal Valve            | 1   | 6530-21 ★  |
|     | 100L Unjacketed Spherical Flask w/Flush Seal Valve           |     | 6530-27 ★  |
| 3   | 200mm, 3 Neck Head   | 1   | 6530-33 ★  |
|     | 200mm Quick-release Clamp                                    | 1   | 6517-31 ★  |
|     | 28mm Glass Stirring Shaft, 45" Length                        | 1   | 8080-14 ★  |
|     | 28mm Shaft Collar  | 1   | 8127-28 ♠  |
| 4   | 28mm PTFE Ace-Thred Bearing                                  | 1   | 8067-105 ★ |
|     | 7" O.D. Multi-paddle Style Lower Agitator w/Receptacle       | 1   | 8101-28 ★  |
|     | 5-1/2" O.D. Upper Turbine, 45 Degree                         | 1   | 8093-25 ★  |
|     | 28mm Shaft Coupling  | 1   | 8126-28 ★  |
|     | Flush Seal Drain Valve w/CAPFE O-Ring and Top Pin            | 1   | 6482-20 ★  |
| 5   | 2" Beaded Pipe Coupling                                      | 1   | 8856-11 ★  |
|     | 1000Watt Aluminum Heating Mantle w/Hole, 230VAC (50L Only)   | 1   | 12050-41   |
|     | 1200 Watt Girdle Mantle, 230VAC (50L Only)                   |     | 12041-40   |
|     | 1300 Watt Aluminum Heating Mantle w/Hole, 230VAC (72L Only)  | 1   | 12050-43   |
|     | 1800 Watt Girdle Mantle, 2 Circuit, 230VAC (72L Only)        |     | 12041-42   |
| 6   | 1600 Watt Aluminum Heating Mantle w/Hole, 230VAC (100L Only) | 1   | 12050-45   |
|     | 1400 Watt Girdle Mantle, 3 Circuit, 230VAC (100L Only)       |     | 12041-44   |
|     | Pilot Plant Temperature Controller, 230VAC, 4 Circuit        | 1   | 13552-04   |
|     | 1/4 x 36" PFA Coated Type "J" Thermocouple                   | 1   | 12141-28 ★ |
|     | Type "J" Coiled Thermocouple Extension Cord                  | 1   | 12141-80 ★ |
| 7   | 29/42 to #7 Ace-Thred Adapter                                | 1   | 5028-32 ♠  |
|     | 29/42 to 45/50 Reducing Adapter                              | 1   | 5021-94 ♠  |
|     | Heat Exchange Cooling Coil, PTFE-Clad Copper (50L Only)      |     | 12067-61 ★ |
| 8   | Heat Exchange Cooling Coil, PTFE-Clad Copper (72L Only)      | 1   | 12067-63 ★ |
|     | Heat Exchange Cooling Coil, PTFE-Clad Copper (100L Only)     |     | 12067-65 ★ |
|     | 29/42 to #11 Ace-Thred Adapter                               | 2   | 5030-24 ♠  |

12847-02



12847-04



12847-06



## Unjacketed Spherical Reactor Systems

200L Reactors w/Support Stand



*Note: Product is shown with optional accessories.*

*Supplied with PTFE-Clad copper tubing (not shown); available in Hastelloy® C-276 or 316 stainless steel.*

Complete spherical pilot plant reactor on self-supporting, mobile support frame with one-inch stainless steel pipe. Measures 90" high, 42" wide, 42" deep. Note: Frame shipped assembled.

Flask opening is 300mm (12") flat-ground flange. Bottom outlet is a flush seal drain valve with one-inch beaded drain discharge. O-Rings supplied on valve are CAPFE (silicone encapsulated with PTFE) and Kalrez® for excellent chemical resistance. Flask has 100mm I.D. side port, angled 45 degrees.

Black epoxy-coated aluminum flask support plate is adjustable vertically, to allow room under

flask for various outlet configurations. Upper support brackets supplied to stabilize flask.

Head is traditional domed style, with seven openings; (5) ⌀ 45/50, (2) ⌀ 29/42.

Motor is secured on black epoxy-coated mounting plate over center ⌀ 45/50 opening on head; other openings are for condenser, thermoprobe, cooling coil, etc. Head is secured to flask with PTFE gasket and plastic coupling. Maximum bolt tightening torque for coupling (cold state) is 30 in-lbs.

Stirring motor is heavy duty, 3/8HP DC motor for non-hazardous area duty. Motor shaft is 5/8" O.D. Controller operates on 120 volts 50/60 Hz.

(Air motor available, call for details.)

Features a 28mm (1-1/8") O.D. precision ground and polished glass stirring shaft with a multi-paddle PTFE agitator at bottom, and a turbine blade PTFE agitator higher on shaft for grease-free operation with 8067 PTFE bearing.

Cooling coil is 1/2" O.D. copper tubing encapsulated with PTFE; also available in 316 stainless steel or Hastelloy® C-276.

A digital temperature control system is supplied to control heating mantles. This prevents over-heating and overshoot, and gives an instant readout of temperature.

| Description   | 200 Liter      |          |
|---|----------------|----------|
|   | Order Code     |          |
| FLASK, w/Side Necks and 2" Beaded Pipe Bottom Opening         | 6474-29        | ★        |
| HEAD, Domed, w/Seven Openings                                 | 6472-23        | ★        |
| GASKET, PTFE  | 6525-51        | ★        |
| COUPLING, w/inserts and hardware                              | 6525-30        | ★        |
| WRENCH, Torque, 30 in-lbs                                     | 6525-60        | ★        |
| SOCKET, 1/4"  | 6525-61        | ★        |
| DRAIN VALVE, Flush Seal                                       | 6472-245       | ★        |
| CLAMP, Drain Valve, 1"  | 8856-07        | ★        |
| CLAMP, Drain Valve, 2"  | 8856-11        | ★        |
| SWEEP ELBOW, 60°, 1" BP                                       | 8830-207       | ★        |
| CAP, 4"   | 15312-33       | ★        |
| O-Ring, CAPFE, for 4" Flange                                  | 7855-880       | ♣        |
| CLAMP, Quick-release  | 6517-25        | ★        |
| MANTLE, Bottom, Aluminum, w/hole, 4-2000w-230v, wired w/plugs | 12053-78       |          |
| SUPPORT ASSEMBLY, Complete                                    | 6474-373       | ★        |
| TEMPERATURE CONTROL SYSTEM, Complete                          | 13552-06       |          |
| STIRRING MOTOR AND CONTROLLER, 3/8 HP                         | 13553          | ★        |
| AGITATOR, Lower, PTFE, Multi-paddle, 178mm                    | 8091-36        | ★        |
| AGITATOR, Upper, PTFE, w/4 Pitched Blades, 152mm              | 8093-35        | ★        |
| STIRRING SHAFT, Polished Glass, 28mm                          | 8080-24        | ★        |
| BEARING, PTFE, ⌀45/50   | 8067-105       | ★        |
| CONNECTOR, Beam, Connects 5/8" Motor Shaft to Chuck           | 6472-156       | ★        |
| CHUCK, 28mm, Connects Beam Connector to Stirring Shaft        | 6472-157       | ★        |
| COLLAR, w/PTFE Gasket   | 8127-28        | ♣        |
| COIL, Cooling/Heating, Copper/PTFE, 1/2"                      | 12067-68       | ★        |
| ADAPTER, #15 – ⌀29/42 (2)                                     | 5030-42        | ♣        |
| ADAPTER, #15 – ⌀45/50   | 8042-21        | ♣        |
| ADAPTER, #15 – ⌀45/50, w/4mm PTFE Stopcock                    | 5274-22        | ♣        |
| ADAPTER, #11 and #15 – ⌀45/50                                 | 5031-86        | ♣        |
| ADAPTER, Side Arm, ⌀45/50 – ⌀45/50 – ⌀24/40                   | 5040-96        | ♣        |
| ADAPTER, Angle, ⌀45/50 – ⌀45/50                               | 5075-45        | ♣        |
| ADAPTER, Offset, ⌀45/50 – ⌀45/50                              | 5268-21        | ♣        |
| BUSHING, Nylon, #11   | 7506-02        | ♣        |
| BUSHING, Nylon, #15 (4)                                       | 7506-06        | ♣        |
| CONDENSER, 500mm, ⌀45/50                                      | 5945-76        | ★        |
| CONDENSER, Cold Finger, 14mm O.D., 625mm                      | 5958-99        | ★        |
| STOPPER, ⌀45/50 (3)   | 8250-20        | c        |
| CLAMP, Chain  | 11079-24       | ★        |
| CLAMP HOLDER, Pilot Plant (2)                                 | 11081-21       | ★        |
| SUPPORT ROD, 1/2" diameter, 18" long                          | 11166-25       | ★        |
| END-TO-END CONNECTOR  | 11175-23       | ★        |
| GREASE, Krytox GPL  | 8115-08        | ♣        |
| <b>Complete</b>   | <b>6474-75</b> | <b>★</b> |