ACE GLASS INCORPORATED


## REACTION SYSTEM *#50 Ace-Thred, 450W*

Complete reaction assembly with all parts needed for immediate operation. Utilizes an internally threaded connection in place of the ground glass joint. Bushing and FETFE O-Ring form a compression type seal with immersion well. Well has removable inner cooling tube. Reactor has (1) $ 14/20 angled joint for sparger tube, (1) $ 24/40 vertical joint for condenser, and (1) #7 Ace-Thred for thermometer. Volume indicated is total volume. Actual working volume is approximately 40-50% of total.

### 250mL Complete Systems

| Capacity (mL) | Power Requirements, Volts, Hz | Order Code | |
|---|---|---|---|
| 250 | 115, 60 | **7861-245** | ★ |
| 250 | 230, 50 | **7861-410** | ★ |

| Description | Qty | Order Code | |
|---|---|---|---|
| **Complete System Components** | | | |
| Reactor Body, 250mL | 1 | **7863-16** | ♠ |
| Quartz Immersion Well | 1 | **7874-38** | ★ |
| Sparger Tube | 1 | **7841-09** | ♠ |
| Stir bar, PTFE | 1 | **13654-14** | ★ |
| #7 Nylon Bushing | 1 | **5029-10** | ♠ |
| #50 Ace-Thred Nylon Bushing | 1 | **7506-14** | ♠ |
| 10' FEP Tubing | 1 | **12687-12** | ★ |
| Reactor Stand | 1 | **7837-75** | ★ |
| Stand Insert, PTFE, 250mL | 1 | **7837-02** | ★ |
| Immersion Lamp, 450W | 1 | **7825-34** | ★ |
| Power Supply, 120V, 60Hz | 1 | **7830-60** | ★ |
| Power Supply, 230V, 50Hz | 1 | **7830-61** | ★ |

### 500mL Complete Systems

| Capacity (mL) | Power Requirements, Volts, Hz | Order Code | |
|---|---|---|---|
| 500 | 115, 60 | **7861-250** | ★ |
| 500 | 230, 50 | **7861-430** | ★ |

| Description | Qty | Order Code | |
|---|---|---|---|
| **Complete System Components** | | | |
| Reactor Body, 500mL | 1 | **7863-18** | ♠ |
| Quartz Immersion Well | 1 | **7874-38** | ★ |
| Sparger Tube | 1 | **7841-09** | ♠ |
| Stir bar, PTFE | 1 | **13654-14** | ★ |
| #7 Nylon Bushing | 1 | **5029-10** | ♠ |
| #50 Ace-Thred Nylon Bushing | 1 | **7506-14** | ♠ |
| 10' FEP Tubing | 1 | **12687-12** | ★ |
| Reactor Stand | 1 | **7837-75** | ★ |
| Stand Insert, PTFE, 500mL | 1 | **7837-05** | ★ |
| Immersion Lamp, 450W | 1 | **7825-34** | ★ |
| Power Supply, 120V, 60Hz | 1 | **7830-60** | ★ |
| Power Supply, 230V, 50Hz | 1 | **7830-61** | ★ |

### 1000mL Complete Systems

| Capacity (mL) | Power Requirements, Volts, Hz | Order Code | |
|---|---|---|---|
| 1000 | 115, 60 | **7861-255** | ★ |
| 1000 | 230, 50 | **7861-450** | ★ |

| Description | Qty | Order Code | |
|---|---|---|---|
| **Complete System Components** | | | |
| Reactor Body, 1000mL | 1 | **7863-20** | ♠ |
| Quartz Immersion Well | 1 | **7874-38** | ★ |
| Sparger Tube | 1 | **7841-09** | ♠ |
| Stir bar, PTFE | 1 | **13654-14** | ★ |
| #7 Nylon Bushing | 1 | **5029-10** | ♠ |
| #50 Ace-Thred Nylon Bushing | 1 | **7506-14** | ♠ |
| 10' FEP Tubing | 1 | **12687-12** | ★ |
| Reactor Stand | 1 | **7837-75** | ★ |
| Stand Insert, PTFE, 1000mL | 1 | **7837-10** | ★ |
| Immersion Lamp, 450W | 1 | **7825-34** | ★ |
| Power Supply, 120V, 60Hz | 1 | **7830-60** | ★ |
| Power Supply, 230V, 50Hz | 1 | **7830-61** | ★ |

## IMMERSION WELL *#50 Ace-Thred, Low Temperature*

Triple-walled, quartz, immersion well for use in temperatures as low as -78°C. Same as 7858 immersion well, except without standard taper joint. 415mm total jacket length. Will accommodate 7858-85 and -88 inner tubes. Wells are secured in reaction vessels (6962, 7863, 7864, 7865 & 7891) using a #50 Ace-Thred bushing.

| Description | Order Code | |
|---|---|---|
| Outer Well | **7876-10** | ★ |
| Stopper | **7858-84** | ★ |
| O-Ring | **7855-740** | ♠ |
| Inlet Tube | **7858-82** | ★ |
| Inlet Holder | **7858-81** | ★ |
| #50 Nylon Bushing with FETFE O-Ring | **7506-14** | ♠ |
| ***Complete Well*** | | |
| | **7876-50** | ★ |
| ***Replacement Inner Tubes (480mm x 30mm)*** | | |
| Quartz | **7858-85** | ★ |
| Borosilicate Glass | **7858-88** | ★ |

## REACTION VESSEL *#50 Ace-Thred*

#50 Ace-Thred reaction vessels fabricated of borosilicate glass with flat bottoms to allow for the use of magnetic stir bars. Reaction vessels will accommodate all #50 Ace-Thred reaction vessel immersion wells. Jacketed vessels are designed to enable cooling of reactant materials during photolysis and have hose barbs for use with 5/16" to 3/8" I.D. tubing. The jacketed vessel with valve is fabricated with a 2mm bore 1:5 PTFE stopcock which allows for draining of the inner vessel.

**Total volumes indicated are vessel total capacity; the actual exposed working volumes are approximately 40-50% of total volume.*

- #50 Ace-Thred Immersion Well Joint
- 14/20 angled Sparger Tube Joint
- 24/40 Condenser Joint
- #7 Ace-Thred Thermometer Joint
- Hose barb for use with 5/16" to 3/8" I.D. tubing on Jacketed Vessels



| Capacity*, mL | Unjacketed Order Code | | Jacketed Order Code | | Jacketed w/Drain Order Code | |
|---|---|---|---|---|---|---|
| 250 | 7863-16 | ♠ | 7864-08 | ♠ | 7865-06 | ♠ |
| 500 | 7863-18 | ♠ | 7864-10 | ♠ | 7865-08 | ♠ |
| 1000 | 7863-20 | ♠ | 7864-12 | ♠ | 7865-10 | ♠ |

### *Replacement Parts*

| | | |
|---|---|---|
| Sparger Tube, ⅋14/20 | 7841-09 | ♠ |
| PTFE Stir Bar, 38mm x 8mm | 13654-14 | ★ |
| Nylon Bushing, #7 | 5029-10 | ♠ |
| Nylon #50 Bushing | 7506-14 | ♠ |
| PTFE Tubing, 4.8mm I.D. x 3m (for sparger) | 12687-12 | ★ |

## IMMERSION WELL *#50 Ace-Thred*

Jacketed immersion wells are available in either quartz or borosilicate glass, and can be purchased with or without an Ace-Thred coolant inlet port. The immersion wells without Ace-Threds feature an inlet port which extends down into the jacket to insure proper coolant flow. Inlet and outlets are both 8mm O.D. glass tubing. The inlet port w/ #7 Ace-Thred features a 7mm O.D. glass tube with an attached PTFE tube which extends down into the jacket to insure proper coolant flow. The 7mm O.D. glass tube is secured in place using a #7 Ace-Thred bushing. The outlet port is 8mm O.D. glass tubing. Immersion wells are secured in the reaction vessels (6962, 7863, 7864, 7865 & 7891) using a #50 Ace-Thred bushing. ***I.D. x O.D. x Length (mm): 31 x 48 x 450.***


| Material | w/o Ace-Thred Order Code | | w/Ace-Thred Order Code | |
|---|---|---|---|---|
| Borosilicate | 7875-40 | ♠ | 7875-45 | ♠ |
| Quartz | 7874-35 | ★ | 7874-38 | ★ |

### *Replacement Bushing*

| | | |
|---|---|---|
| Nylon Bushing, #7 | 5029-10 | ♠ |

ACE GLASS INCORPORATED


## REACTION SYSTEM *Standard Taper, 450W*

Complete reaction assembly with all parts needed for immediate operation. Borosilicate glass reactor has a ⅋ 60/40 center joint, (1) ⅋ 14/20 angled joint for sparger tube, (1) ⅋ 24/40 vertical joint for condenser, and (1) #7 Ace-Thred joint to accommodate thermometer. Volumes indicated are total volumes. Volume in reactive area of lamp is 40-50% of the total volume.

### 250mL Complete Systems

| Capacity (mL) | Power Requirements, Volts, Hz | Order Code | |
|---|---|---|---|
| 250 | 115, 60 | **7840-175** | ★ |
| 250 | 230, 50 | **7840-320** | ★ |

| Description | Qty | Order Code | |
|---|---|---|---|
| **Complete System Components** | | | |
| Reactor Body, 250mL | 1 | **7841-03** | ♠ |
| Quartz Immersion Well | 1 | **7854-25** | ★ |
| Sparger Tube | 1 | **7841-09** | ♠ |
| Stir bar, PTFE | 1 | **13654-14** | ★ |
| #7 Nylon Bushing | 1 | **5029-10** | ♠ |
| 10' FEP Tubing | 1 | **12687-12** | ★ |
| Reactor Stand | 1 | **7837-75** | ★ |
| Stand Insert, PTFE, 250mL | 1 | **7837-02** | ★ |
| Immersion Lamp, 450W | 1 | **7825-34** | ★ |
| Power Supply, 120V, 60Hz | 1 | **7830-60** | ★ |
| Power Supply, 230V, 50Hz | 1 | **7830-61** | ★ |

### 500mL Complete Systems

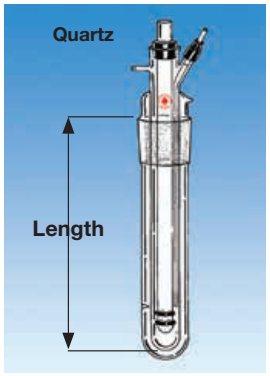
| Capacity (mL) | Power Requirements, Volts, Hz | Order Code | |
|---|---|---|---|
| 500 | 115, 60 | **7840-180** | ★ |
| 500 | 230, 50 | **7840-340** | ★ |

| Description | Qty | Order Code | |
|---|---|---|---|
| **Complete System Components** | | | |
| Reactor Body, 500mL | 1 | **7841-04** | ♠ |
| Quartz Immersion Well | 1 | **7854-25** | ★ |
| Sparger Tube | 1 | **7841-09** | ♠ |
| Stir bar, PTFE | 1 | **13654-14** | ★ |
| #7 Nylon Bushing | 1 | **5029-10** | ♠ |
| 10' FEP Tubing | 1 | **12687-12** | ★ |
| Reactor Stand | 1 | **7837-75** | ★ |
| Stand Insert, PTFE, 500mL | 1 | **7837-05** | ★ |
| Immersion Lamp, 450W | 1 | **7825-34** | ★ |
| Power Supply, 120V, 60Hz | 1 | **7830-60** | ★ |
| Power Supply, 230V, 50Hz | 1 | **7830-61** | ★ |

### 1000mL Complete Systems

| Capacity (mL) | Power Requirements, Volts, Hz | Order Code | |
|---|---|---|---|
| 1000 | 115, 60 | **7840-185** | ★ |
| 1000 | 230, 50 | **7840-360** | ★ |

| Description | Qty | Order Code | |
|---|---|---|---|
| **Complete System Components** | | | |
| Reactor Body, 1000mL | 1 | **7841-06** | ♠ |
| Quartz Immersion Well | 1 | **7854-27** | ★ |
| Sparger Tube | 1 | **7841-09** | ♠ |
| Stir bar, PTFE | 1 | **13654-14** | ★ |
| #7 Nylon Bushing | 1 | **5029-10** | ♠ |
| 10' FEP Tubing | 1 | **12687-12** | ★ |
| Reactor Stand | 1 | **7837-75** | ★ |
| Stand Insert, PTFE, 1000mL | 1 | **7837-10** | ★ |
| Immersion Lamp, 450W | 1 | **7825-34** | ★ |
| Power Supply, 120V, 60Hz | 1 | **7830-60** | ★ |
| Power Supply, 230V, 50Hz | 1 | **7830-61** | ★ |




## IMMERSION WELL *Standard Taper, Low Temperature*

Triple-walled, quartz, immersion well for use at temperatures as low as -78°C. With ⅋ 60/40 center inner joint. Outer two walls are permanently sealed together and the space between evacuated. This keeps lamp coolant water from warming the reactant and also prevents coolant water from freezing, thus lamp emits correct wavelengths and operates at optimum temperature for longer life. Innermost wall is held in place via a stopper and permits a carefully positioned, PTFE water inlet tube to extend below the lamp bottom. Inner tube is removable and may be interchanged with borosilicate glass tubes. One size tube fits both wells. *Use with 60/40 reactors (7841, 7844).*

| Description | 220mm Length Order Code | | 290mm Length Order Code | |
|---|---|---|---|---|
| Outer Well | **7858-07** | ★ | **7858-13** | ★ |
| Stopper, Neoprene | **7858-84** | ★ | **7858-84** | ★ |
| O-Ring | **7855-740** | ♠ | **7855-740** | ♠ |
| Inner Tube, Quartz | **7858-85** | ★ | **7858-85** | ★ |
| Inner Tube, Borosilicate | **7858-88** | ★ | **7858-88** | ★ |
| Inlet Tube | **7858-82** | ★ | **7858-82** | ★ |
| Inlet Holder | **7858-81** | ★ | **7858-81** | ★ |
| **Complete** | | | | |
| | **7858-42** | ★ | **7858-45** | ★ |

## REACTION VESSEL *Standard Taper*

60/40 standard taper reaction vessels fabricated of borosilicate glass with flat bottoms to allow for the use of magnetic stir bars. Reaction vessels will accommodate all 60/40 standard taper reaction vessel immersion wells. Jacketed vessels are designed to enable cooling of reactant materials during photolysis and have hose barbs for use with 5/16" to 3/8" I.D. tubing. The jacketed vessel with valve is fabricated with a 2mm bore 1:5 PTFE stopcock which allows for draining of the inner vessel.

**Total volumes indicated are vessel total capacity; the actual exposed working volumes are approximately 40-50% of total volume.*

- 60/40 Standard Taper Immersion Well Joint
- 14/20 angled Sparger Tube Joint
- 24/40 Condenser Joint
- #7 Ace-Thred Thermometer Joint
- Hose barb for use with 5/16" to 3/8" I.D. tubing on Jacketed Vessels



| Capacity*, mL | Unjacketed Order Code | | Jacketed Order Code | | Jacketed w/Drain Order Code | |
|---|---|---|---|---|---|---|
| 250 | 7841-03 | ♠ | 7841-05 | ♠ | 7844-03 | ♠ |
| 500 | 7841-04 | ♠ | 7841-10 | ♠ | 7844-06 | ♠ |
| 1000 | 7841-06 | ♠ | 7841-16 | ♠ | 7844-09 | ♠ |

### Replacement Parts

| | | |
|---|---|---|
| Sparger Tube, ŝ14/20 | 7841-09 | ♠ |
| PTFE Stir Bar, 38mm x 8mm | 13654-14 | ★ |
| Nylon Bushing, #7 | 5029-10 | ♠ |
| PTFE Tubing, 4.8mm I.D. x 3m (for sparger) | 12687-12 | ★ |

## IMMERSION WELL *Standard Taper*

Jacketed immersion wells are available in either quartz or borosilicate glass and can be purchased with or without an Ace-Thred coolant inlet port. The immersion wells without Ace-Threds feature an inlet port which extends down into the jacket to insure proper coolant flow. Inlet and outlets are both 8mm O.D. glass tubing. The inlet port w/ #7 Ace-Thred features a 7mm O.D. glass tube with an attached PTFE tube which extends down into the jacket to insure proper coolant flow. The 7mm O.D. glass tube is secured in place using a #7 Ace-Thred bushing. The outlet port is 8mm O.D. glass tubing. ***I.D. x O.D. x Length (mm): 31 x 48 x 450.***

***Note:*** *Use wtih 60/40 reactors (7841, 7844).*


| Material | Capacity, mL | w/PTFE-Clad Joint Order Code | | w/o Ace-Thred Order Code | | w/Ace-Thred Order Code | |
|---|---|---|---|---|---|---|---|
| Borosilicate | 250, 500 | — | | 7857-05 | ♠ | 7857-06 | ♠ |
| Quartz | 250, 500 | 7856-10 | ★ | 7854-25 | ★ | 7854-26 | ★ |
| Borosilicate | 1000 | — | | 7857-10 | ♠ | 7857-11 | ♠ |
| Quartz | 1000 | — | | 7854-27 | ★ | 7854-28 | ★ |

### Replacement Bushing

| | | |
|---|---|---|
| Nylon Bushing, #7 | 5029-10 | ♠ |