

Shaker Type

Hydrogenation/Gas Apparatus

**Ace-Threds eliminate
use of rubber stoppers!**
**No more
cross contamination.**

Featuring ACE-Modified Threaded Reaction Vessels

Shaker Type Hydrogenation / Gas Apparatus

These Parr Shakers provide a compact, easily operated system for treating chemicals with hydrogen in the presence of a catalyst at pressures up to four atmospheres (60 psig) and temperatures to 80°C. Apparatus I and Apparatus II are used primarily for synthesizing or modifying organic compounds by catalytic hydrogenation, reduction or condensation, but are equally suitable for other laboratory procedures in which a liquid and gas must be mixed vigorously in a glass reactor at pressures up to four atmospheres.

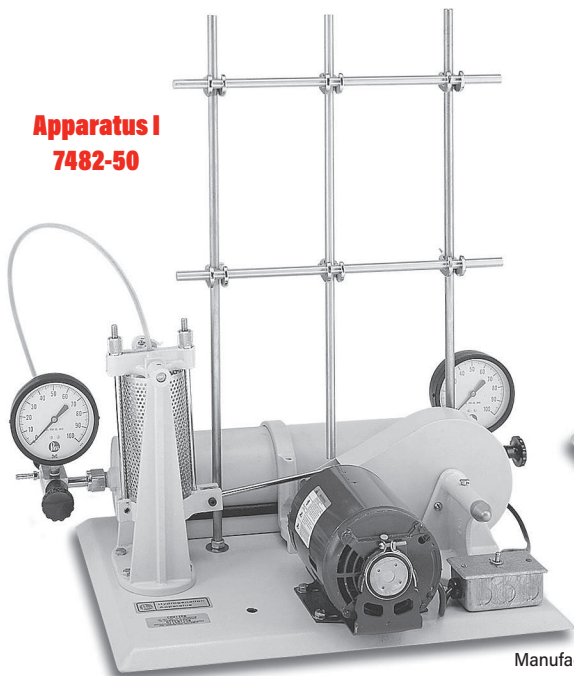
Apparatus I and Apparatus II feature heavy

walled, pressure-tested glass reaction vessels and connectors modified with state-of-the-art closures — *Ace-Threds* — that eliminate the use of rubber stoppers. Tubing from the gas tank can be securely held by an O-Ring compression seal in a threaded adapter that in turn seals the reaction vessel. The vessels are offered in a variety of **working volumes** from 1mL to 1000 mL.

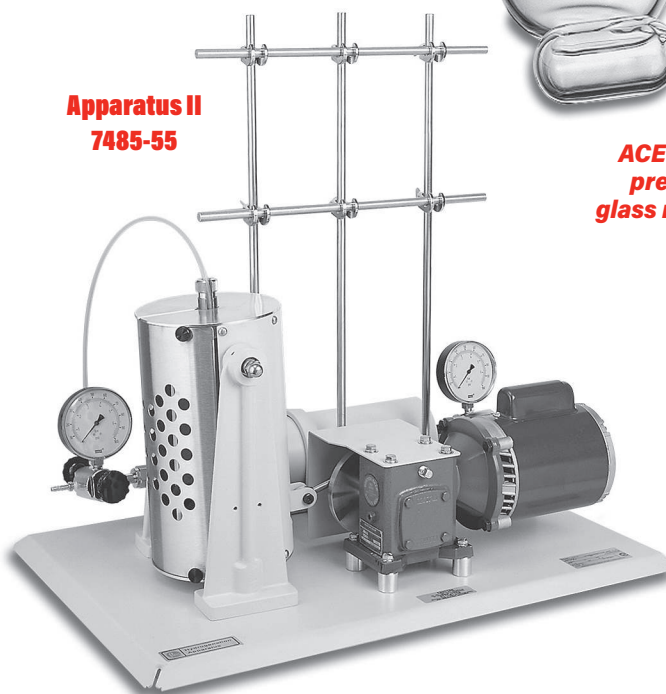


**ACE heavy walled,
pressure-tested
glass reaction vessels**

**Apparatus I
7482-50**



**Apparatus II
7485-55**



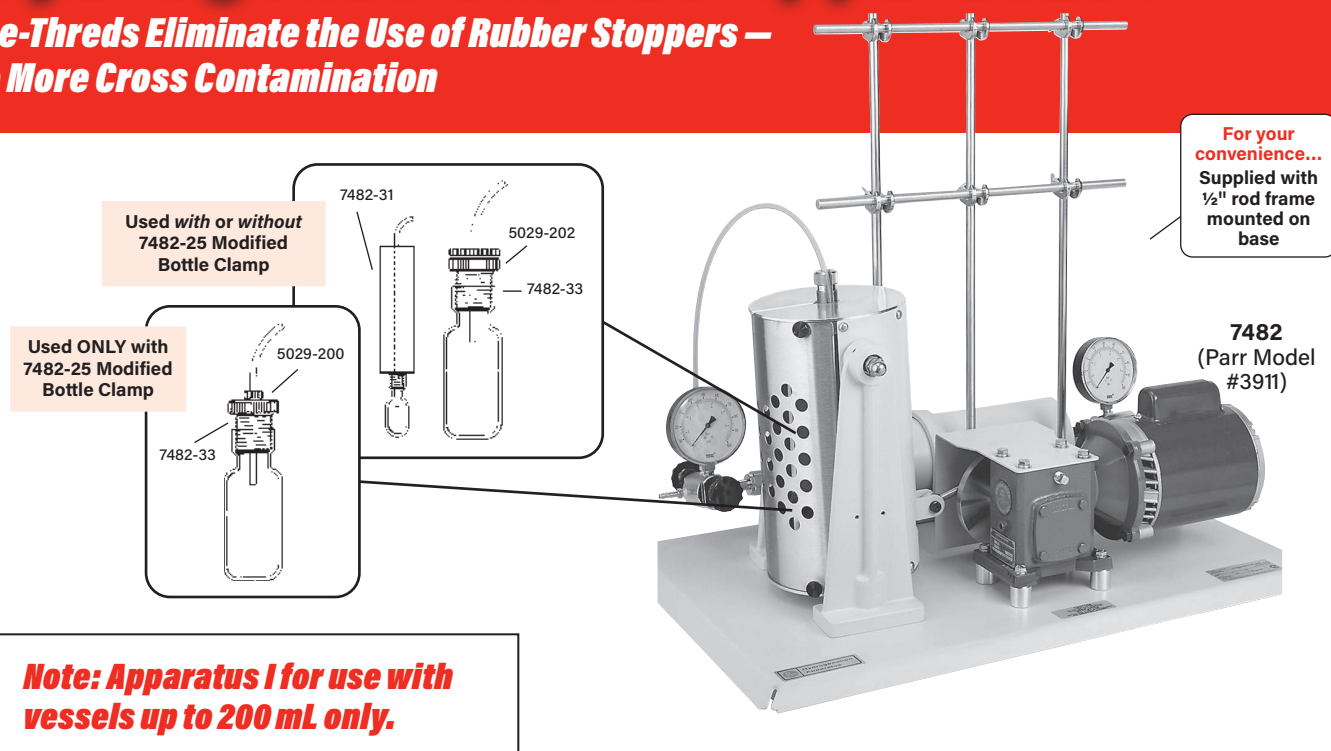
Manufactured by Parr Instrument Co.

 **ACE GLASS**
INCORPORATED

Shaker Type

Hydrogenation / Gas Apparatus I

**Ace-Threds Eliminate the Use of Rubber Stoppers –
No More Cross Contamination**



7482-50 HYDROGENATION/GAS APPARATUS I Complete System ★

Three small-volume reactors are supplied with #7 Ace-Thred that accepts a Nylon bushing-spacer, 7482-31, with a #7 male thread at bottom to secure tubing from gas tank via an O-Ring compression seal. This bushing-spacer is used to take up the space between the vessel and the top of the shaker. Three larger-volume reactors supplied accept 7482-33 Adapter #25 to #7. Tubing is secured via 5029-202 Big Head #7 Bushing. These vessels are large enough to fill space to top of shaker.

Complete System	Order Code
	7482-50

The individual parts and glassware below, along with Hydrogenation / Gas Apparatus I (7482-20, at right), comprise the Complete Item listed above. These parts may also be ordered separately.

Individual Items	Ace-Thred Size	Capacity mL	Order Code
Glass Vessel*	#7	8	8648-120
Glass Vessel*	#7	14	8648-124
Glass Vessel*	#7	25	8648-126
Glass Vessel*	#25	75	8648-135
Glass Vessel*	#25	175	8648-138
Glass Vessel*	#25	325	8648-140
Spacer-Bushing, Nylon	#7	—	7482-31
Bushing, Nylon, Big Head	#7	—	5029-202
Adapter, PTFE	#7-#25	—	7482-33
Upper Rubber Pad	—	—	7482-37
Lower Rubber Pad	—	—	7482-38
Aluminum Mounting Frame	—	—	7482-77

*Each glass vessel is pressure tested to 1½ x the recommended working pressure, but cannot be guaranteed due to the nature of glass.

The three items listed below consist of the unit ONLY. No glassware or additional parts are supplied with these units.

Apparatus Only	Order Code
Apparatus I	7482-20
Apparatus IB, with Air Motor	7482-74

Optional Accessories	Order Code
Top Bottle Clamp, only, Modified	7482-25
Tubing, PTFE, ¼" O.D. x ⅜" I.D. x ½" wall, 10'	12687-12
Bushing, Nylon, #7	5029-200
Replacement O-Rings, FETFE, for 5029-200, 5029-202 and 7482-31, Pk/12	7855-711
Ferrules, PTFE, for #7 Ace-Thred, Pk/12	11710-07
Replacement O-Rings, FETFE, for 7482-33, Pk/6	7855-734

Working volume of pressure reaction vessels is approximately ½ of the actual capacity listed.

Shaker Type

Hydrogenation/Gas Apparatus II

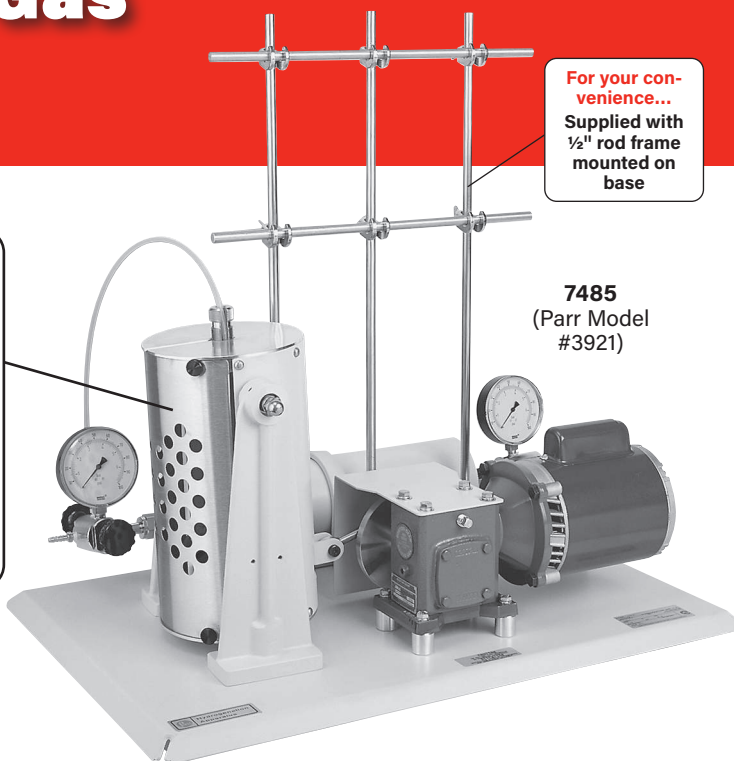
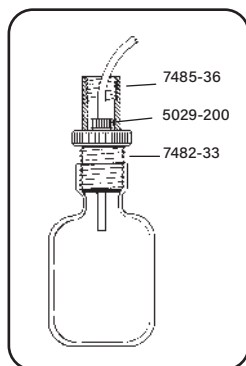
The ACE Difference in Parr Hydrogenation Apparatus...

- **No more** rubber stoppers
- **No more** crossover contamination because of leeching or sample retention

By using...

The Ace-Thred

Note: Apparatus II accommodates all capacity reaction vessels.



7485-55 HYDROGENATION/GAS APPARATUS II Complete System ★

Two reactors are supplied with #25 Ace-Thred that accepts 7482-33 PTFE adapter (#25 to #7 Ace-Thred) or 5844-105 (#25 to 3/8" NPT). The former is for use with 5029-202 Nylon Bushing; the latter is suitable for use with 12770-27 Tubing Adapter with 3/8" NPT. Both are used to secure tubing from tank via an O-Ring compression seal. The only adjustment in Apparatus II (as opposed to the regular Parr Apparatus #3921) is the addition of an aluminum spacer-adapter, 7485-36, that threads onto the slotted bottle screw clamp located at top of the bottle guard. This adapter butts against the #25 PTFE Adapter on top of the reaction vessel, and may be purchased separately to allow use of ACE vessels with your existing Parr unit(s).

Complete System

Order Code
7485-55

The individual parts and glassware below, along with Hydrogenation/Gas Apparatus I (7485-25, at right), comprise the Complete Item listed above. These parts may also be ordered separately.

Individual Items

	Ace-Thred Size	Capacity mL	Order Code
Glass Vessel*	#25	950	8648-155
Glass Vessel*	#25	1850	8648-157
Spacer-Bushing, Aluminum	#7	—	7485-36
Bushing, Nylon, Big Head	#7	—	5029-202
Adapter, PTFE	#7-#25	—	7482-33
Upper Rubber Pad	—	—	7482-37
Lower Rubber Pad	—	—	7482-38
Aluminum Mounting Frame	—	—	7482-77

*Each glass vessel is pressure tested to 1½ x the recommended working pressure, but cannot be guaranteed due to the nature of glass. Available in either epoxy of plastated coated. Call or email for quote.

The three items listed below consist of the unit ONLY. **No glassware or additional parts are supplied with these units.**

Apparatus Only

	Order Code
Apparatus II	7485-25
Apparatus IIA, for Hazardous Locations, 115v-60Hz [Conforms to NEC Class I, Grp. D and Class II, Grp. E, F, G]	7485-72
Apparatus IIB, with Air Motor	7485-78

Optional Accessories

	Order Code
Replacement O-Rings, for 5029-200, pk/12	7855-711
Replacement O-Rings, for 5844-105, pk/6	7855-734
Bushing, Nylon, #7	5029-200
Ferrules, PTFE, for #7 Ace-Thred, Pk/12	11710-07
Adapter, PTFE, #25 Ace-Thred to 3/8" NPT	5844-105
Adapter, Tube Fitting, 3/8" NPT to 1/4" tube	12770-27

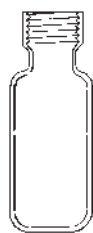
Working volume of pressure reaction vessels is approximately ½ of the actual capacity listed.

Accessory Equipment

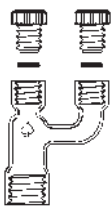
ACCESSORIES

for 7482 & 7485
Hydrogenation/
Gas Apparatus I

Used to add
temperature thermocouple
to apparatus



8648-135,
-138, -140



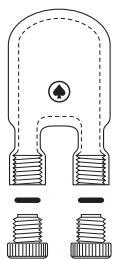
5029-200
5102-05



5843-120

Borosilicate glass vessels, Offset Adapter, Coupling and Modified Top Bottle Clamp for use with 7482 Shaker Type Parr Hydrogenation/Gas Apparatus I to allow temperature measurement while connected to hydrogen source. For use with three larger vessels only, with #25 Ace-Thred neck. Working capacity is 1/2 of the actual capacity, listed below. Thermometer probe can be inserted through Ace-Thred bushing.

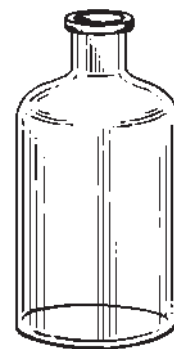
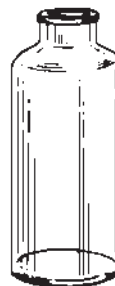
	Ace-Thred Size	Capacity mL	Order Code
60 psi glass vessel	#25	75	8648-135
60 psi glass vessel	#25	175	8648-138
60 psi glass vessel	#25	325	8648-140
Adapter, Offset	#7 (2), #15 (1)	—	5102-05
Bushing, Nylon, with O-Rings (2)	#7	—	5029-200
Coupling, PTFE	#15 to #25	—	5843-120
Top Bottle Clamp, modified	—	—	7482-25
Ferrules, Package/12	#7	—	11710-07
Spacer-Bushing, Nylon	#7	—	7482-31
Spacer-Bushing, Aluminum	#7	—	7485-36
Complete	—	—	8648-57



TRAP Hydrogenation/Gas

Used normally between hydrogen source and reaction flask. Bottle measures approximately 41mm I.D. x 90mm long, with two #7 Ace-Threds. Use 5029-200 Bushing and O-Ring in each neck to secure tubing.

	Order Code
Bottle, only	7482-42
Bushing, Nylon, #7 with O-Ring (2)	5029-200
Complete	7482-46



REACTION BOTTLES for Hydrogenation/ Gas Apparatus, Epoxy Coated ★

Borosilicate glass bottles with tooled neck to accept a #6 Rubber stopper. Bottles are epoxy coated to help prevent scratching. Bottles and stopper sold separately. Working capacity is 1/2 of the actual capacity, listed below.

Capacity, mL	Use With... Apparatus	Approx. O.D. x Height, mm	Order Code
50	7482	30 x 160	7478-05
100	7482	40 x 160	7478-10
250	7482	60 x 143	7478-12
500	7482	73 x 175	7478-15
1000	7485	94 x 216	7478-34
2500	7485	133 x 240	7478-37

Neoprene #6 Rubber Stopper for use with 7478 Bottles, with one hole.

Order
Code
7478-60

HEATING MANTLE for Hydrogenation/Gas Bottles ★

Used for heating reaction vessels.



For Use with Vessel Size	Order Code
250 & 500mL (7478)	7479-20
1000 & 2500mL (7478)	7479-42



ACE GLASS INCORPORATED

P.O. Box 688 • Vineland, NJ 08362-0688 • 856-692-3333 • Fax: 856-692-8919

TOLL-FREE: 1-800-223-4524 • FAX: 1-800-543-6752

www.aceglass.com email: sales@aceglass.com