



Parker Autoclave Engineers
Providing Tools for Research and Industry

AE Closure Pressure Vessels

At A Glance

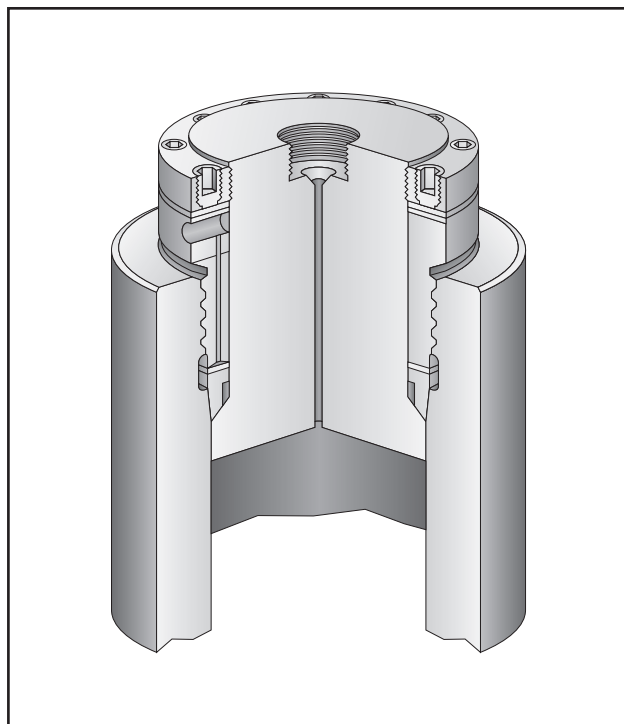
Volumes: 100 ml to 2000 ml
MAWP: 10,500 to 30,000 psi @ 72°F
(724 to 2070 bar @ 22°C)
Materials of Construction: 316 Stainless Steel,
Alloy Steel, A-286

Principle of Operation

The "AE" self-sealing (modified Bridgman) pressure vessel utilizes the Bridgman Principle of "unsupported area." The AE closure significantly improves the original Bridgman concept by utilizing an all-metal seal configuration. This not only permits very high temperatures, but also facilitates opening and closing the vessel.

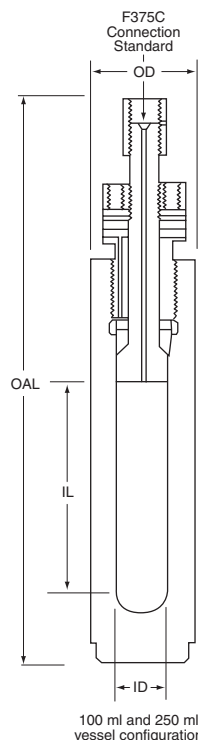
It works by harnessing the internal vessel pressure to reinforce the seal; the higher the pressure (within rated limits), the tighter the seal.

Pressure Vessels

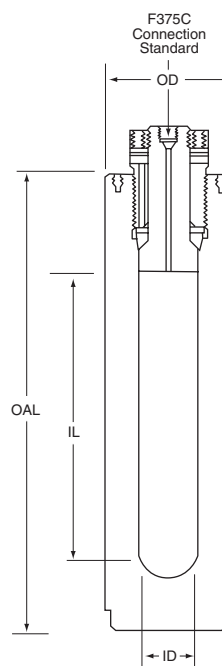


Specifications and Part Numbers

Model Drawing #	Nominal Capacity	Dimensions: Inches (mm)			
		ID	OD	IL	OAL
AE 0010 30-2555	100 ml	1.25 (32)	2.50 (64)	5.00 (127)	13.75 (349)
AE 0025 30-2556	250 ml	1.25 (32)	2.50 (64)	12.54 (319)	21.30 (541)
AE 0050 30-2523	500 ml	2.00 (51)	4.00 (102)	10.00 (254)	18.20 (462)
AE 0100 30-2524	1000 ml	3.00 (76)	6.00 (152)	9.00 (229)	20.00 (508)
AE 0200 30-2525	2000 ml	3.00 (76)	6.00 (152)	18.00 (457)	29.00 (737)



100 ml and 250 ml
vessel configuration



500 ml, 1 liter and 2
liter configuration

Maximum Set Screw Torque (316 SS Construction)

Vessel Size	100 ml	250 ml	500 ml	1000 ml	2000 ml
Required Set Screw Torque	6 to 8 ft. lbs (0.83 to 1.1 KgM)	6 to 8 ft. lbs. (0.83 to 1.1 KgM)	15 to 17 ft. lbs. (2.1 to 2.4 KgM)	30 to 32 ft. lbs. (4.1 to 4.4 KgM)	30 to 32 ft. lbs. (4.1 to 4.4 KgM)

MAWP vs. Temperature Ratings

Material (Body, Cover and Seal Ring)	Size	Order No. Suffix	°F (°C)	-20 to 100° (-29 to 37.8°)	150° (66°)	200° (93°)	250° (121°)	300° (149°)	350° (177°)	400° (204°)	450° (232°)	500° (260°)	550° (288°)	600° (316°)
Type 316 SS	100 ml 250 ml 500 ml	Add SS 11	psi (bar)	11,000	11,000	10,950	10,900	10,850	10,750	10,650	10,600	10,500	10,250	10,000
				(758)	(758)	(755)	(752)	(748)	(741)	(734)	(731)	(724)	(707)	(689)
	1000 ml 2000 ml	Add SS 10	psi (bar)	10,500	10,500	10,500	10,450	10,300	10,250	10,050	10,025	10,000	10,000	10,000
				(724)	(724)	(724)	(721)	(710)	(707)	(693)	(691)	(689)	(689)	(689)
A-286	All Sizes	Add AS 29	psi (bar)	28,800	28,500	28,450	28,200	27,850	27,350	26,500	25,700	25,200	24,700	24,350
				(1986)	(1966)	(1962)	(1945)	(1921)	(1886)	(1828)	(1772)	(1738)	(1703)	(1679)
Alloy Steel	All Sizes	Add SL 30	psi (bar)	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000
				(2069)	(2069)	(2069)	(2069)	(2069)	(2069)	(2069)	(2069)	(2069)	(2069)	(2069)

Material (Body, Cover and Seal Ring)	Size	Order No. Suffix	°F (°C)	650° (343°)	700° (371°)	750° (399°)	800° (427°)	850° (454°)	900° (482°)	950° (510°)	1000° (538°)	1050° (566°)	1100° (593°)	1150° (621°)	1200° (649°)
Type 316 SS	100 ml 250 ml 500 ml	Add SS 11	psi (bar)	9,650	9,500	9,400	9,300	9,250	9,200	9,000■	8,850■	8,450■	7,800■	6,800■	4,400■
				(665)	(655)	(648)	(641)	(638)	(634)	(621)	(610)	(583)	(538)	(469)	(303)
	1000 ml 2000 ml	Add SS 10	psi (bar)	9,650	9,500	9,400	9,300	9,250	9,200	9,000■	8,850■	8,450■	7,800■	6,800■	4,400■
				(665)	(655)	(648)	(641)	(638)	(634)	(621)	(610)	(583)	(538)	(469)	(303)
A-286	All Sizes	Add AS 29	psi (bar)	24,000	23,800	23,650	23,300	23,000	22,600	22,000	21,650	21,150	20,750	20,000	19,400
				(1655)	(1641)	(1631)	(1607)	(1586)	(1559)	(1517)	(1493)	(1459)	(1431)	(1379)	(1338)
Alloy Steel	All Sizes	Add SL 30	psi (bar)	30,000	30,000	23,650	22,800	21,500	20,000	◀ Alloy steel maximum 900°F (482°C)					
				(2069)	(2069)	(1631)	(1572)	(1483)	(1379)						

■ For operation above 900°F (482°C), A-286 Main Nut must be used.

Ordering Guide

AE	0010	SS	10
		Material of	Pressure
AE-	Capacity in ml	Construction	psi (bar)
AE Vessel	0010 - 100 ml	SS-316 Stainless	10-10,500 (724)
	0025 - 250 ml	Steel	11-11,000 (758)
	0100 - 1000 ml	AS-A-286 Stainless	29-28,800 (1986)
	0200 - 2000 ml	Steel	30-30,000 (2069)
		SL -Alloy Steel (SA723)	

Supporting Information

MagneDrives®: (See Agitation Section of this catalog) (AG-SG)
Controls: (See Instrumentation Section of this catalog) (IN-SG)
Valves, Fittings and Tubing: See VFT catalog

Features & Other Available Options

- Different connections available
- Other materials of construction
- Heaters
- Stands
- ASME Code stamp, CRN registration
- Consult factory to discuss your special requirements.

WARNING

FAILURE, IMPROPER SELECTION OR IMPROPER USE OF THE PRODUCTS AND/OR SYSTEMS DESCRIBED HEREIN OR RELATED ITEMS CAN CAUSE DEATH, PERSONAL INJURY AND PROPERTY DAMAGE.

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