

A Unit of Robbins & Myers, Inc.

Secure & Pure™ High Purity Fluid Containment Solutions



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www.edlon.com



Ultra-Pure Fluoropolymer Solutions

Fluoropolymer Experts in Every Industry

Edlon, Inc. is a unit of Robbins & Myers, Inc., a global leader of high quality fluids management products and services. Located in Avondale, Pennsylvania, USA and Leven, Fife, Scotland, UK, Edlon specializes in fluoropolymer technologies for release, corrosion and ultra high purity applications. The fluoropolymer fabrication expertise at Edlon has been developed over the past four decades.

Secure & Pure™

When high purity was beginning to emerge as an issue in the microelectronics industry, Edlon was one of the first to offer fluoropolymer linings and coatings for process vessels, storage tanks, portable transport tanks, and tank trailers. Today, purity is a paramount issue in nearly every aspect of silicon processing. Chemical producers, process tool manufacturers and suppliers to the microelectronics industry are struggling with the question of how to eliminate the last traces of metal, silicate, particulate and organic contamination. Edlon has the breadth of capabilities, product knowledge, and high purity manufacturing skills to offer you “smart solutions” to your high purity containment requirements.

Edlon’s Secure & Pure™ family of ultra-pure products include:

- Day Tanks, Storage Tanks, & Transport Tanks
- Filter Housings
- Pressure Vessels
- Etch Tanks and Rinse Baths
- High Purity Plastic Lined Pipe & Fittings
- Vacuum & Thermoformed Liners
- Coatings for Wafer Processing Tools, Components & Equipment
- Rotomolded Components



Proprietary Fabrication Techniques

Edlon is the world leader in technology for fluoropolymer linings, including Pure-Fusion seaming, electrostatically applied coatings, vacuum and thermoforming and rotomolding techniques. Edlon engineers recognized early on that to provide the best possible fluoropolymer solutions to our customers, we would need to develop expertise in all areas of fluoropolymer fabrication and application. Many of Edlon’s products are patented and most of our fabrication techniques are considered proprietary.

Broadest Range of High Purity Materials

A wide selection of polymer and fluoropolymer materials and a broad range of application techniques makes Edlon the ONLY full-range supplier of fluoropolymer solutions.

Capabilities include:

- Fluoropolymer loose linings & bonded linings
- Thick permeation-resistant fluoropolymer coatings
- Fluoropolymer rotomolding & rotolining
- Fluoropolymer vacuum & thermoforming
- Molded and machined fluoropolymer components

Edlon draws on a full range of corrosion resistant high-purity materials, depending on the specific media and operating requirements.

Ultra-Pure Fluoropolymer Solutions

Innovation, Ingenuity and Excellence

Edlon is the leader in designing unique innovative solutions for the most corrosive environments and has been doing so for almost 40 years. Our history and understanding of fluoropolymers date back to the very beginning when ex-DuPont research scientists and engineers incorporated Edlon in 1964. Edlon invented isostatic molding and fusion welding for sheet linings in high purity chemical process equipment and piping. Today, Edlon can assist and design equipment to your specifications helping to meet your PPT purity levels. Edlon has in-depth technical expertise with all plastic materials including PFA 450HP, PFA350, PTFM, PTFE, FEP, ETFE, ECTFE, PVDF, PP and HDPE. All materials are of the highest quality and purity available.

Multiple Lining Options

PFA 450HP (Perfluoroalkoxy) - High Purity

PFA-HP exhibits the same chemical, thermal, & mechanical stress characteristics as standard PFA however, it has improved color, a lower level of fluoride ion extractables and a decreased chance of metal ion contamination. The end result is a smoother, pore free surface with higher purity characteristics, ideal for semiconductor, pharmaceutical and biotechnology application.

PFA 350 (Perfluoroalkoxy)

PFA exhibits chemical resistance virtually identical to PTFE. Suitable for service from 0°F to 500°F, PFA is a fluorinated thermoplastic. PFA provides excellent low and high temperature toughness and exceptional flame resistance. It is the recommended material in harsh environments where chemical, thermal, and mechanical stresses are present. Due to its low porosity, PFA is well-suited for ultra-pure applications.

PTFM (PTFE - Modified)

PTFM is a modified version of PTFE that has a small quantity of the same Perfluoro Alkoxy side chain monomer as PFA. It exhibits similar characteristics as PTFE but has improved temperature and mechanical properties. In addition, PTFM possesses improved weldability, improved creep resistance, superior particle to particle adhesion as well as reduced melt viscosity & permeability. The end result is a smoother, pore free surface with higher purity characteristics, ideal for semiconductor, pharmaceutical and biotechnology applications.

PTFE (Polytetrafluoroethylene)

PTFE, the most commonly used fluoropolymer, has excellent high-temperature corrosion resistance to virtually all chemicals except fluorine and molten alkali metals. In addition, PTFE possesses unusual non-stick properties, which can reduce or eliminate the build-up deposits in lined process equipment. Service temperatures range from -20°F to 500°F.

FEP (Fluorinated ethylene propylene)

FEP has excellent chemical resistance and mechanical strength. Suitable for service from -65°F to 300°F, FEP is a fully fluorinated thermoplastic. Its high tensile & yield strengths make it the ideal material for low temperature/cryogenic applications.

ETFE (ethylene tetrafluoroethylene)

ETFE combines the mechanical toughness with outstanding chemical resistance that approaches the fully fluorinated polymers. Effective from -20°F to 300°F, ETFE is easily processed making it an excellent material for rotomolding and rotolining.

ECTFE (ethylene chlorotrifluoro ethylene)

ECTFE features excellent permeation and abrasion resistance. Rated from 0°F to 300°F, it has a surface smoothness exceeding that of other fluoropolymers making it an excellent option for ultra-pure service when ordered unpigmented and clean room prepared. In addition, its unique molecular structure makes ECTFE ideal for high build coatings.

PVDF (Polyvinylidene fluoride)

PVDF has excellent resistance to many chemicals, including halogens and strong oxidants. PVDF exhibits excellent abrasion and permeation resistance and can be used in systems from 0°F to 275°F. Edlon uses the Kynar® Flex material to maximize low temperature ductility. PVDF has found wide acceptance in high purity DI water service.

PP (Polypropylene)

Type II PP, a hydrocarbon copolymer, has good corrosion resistance, low moisture absorption and good mechanical properties. Since its chemical resistance is greatly affected by the concentration and temperature of the process fluid, its use is generally limited from 0°F to 225°F. Polypropylene presents itself as an economical solution to many moderately corrosive high purity needs.

HDPE (High Density Polyethylene)

HDPE is rated from -20°F to 180°F and features the best abrasion resistance of any of the Edlon polymers offered. Its low price and toughness make it an ideal alternative where chemical resistance permits.



Ultra High Purity

Edlon has perfected its manufacturing skills and processes that enable you to meet your highest purity requirements and prides itself in being the highest purity fluoropolymer fabricator in the industry.

Several Edlon customers have gone through extensive high purity testing with the Edlon Secure & Pure™ day tank product line. In comparison testing, Edlon registered the highest purity. Three competitive high purity PFA lined tanks and one Edlon PFA lined Industrial grade tank were filled with 10% HCL and recirculated for seven days. At the conclusion, Edlon had the lowest normalized metals extraction rate!

Comparison of Extraction Rates of Various Tanks				
Supplier	Component	Chemical Used	Wetted Material	Normalized Extraction Rate, ng/cm2/day @ 7 days
X	High Purity Test Vessel	10% HCl	PFA	2.54
X	High Purity Test Vessel	10% HCl	PFA	1.68
X	High Purity Test Vessel	10% HCl	PFA	1.46
Edlon	Industrial Test Vessel	10% HCl	PFA	1.36

The Edlon Secure & Pure™ high purity PFA lined tank was then tested with a stronger concentration 37% HCL solution. After seven days of recirculation, samples were taken and the results were astounding. Despite the higher concentration, Edlon achieved a normalized extraction rate of less than half that of the competitions high purity PFA lined tank.

Supplier	Component	Chemical Used	Wetted Material	Normalized Extraction Rate, ng/cm2/day @ 7 days
Edlon	High Purity Test Vessel	37% HCl	PFA	0.5981

Today, Edlon has taken the necessary steps to help you meet the high purity requirements by elevating the level of its manufacturing techniques to rise above the industry. Edlon will continue to raise the bar in high purity manufacturing to help meet tomorrow's high purity requirements by partnering with our customers and continuously implementing innovative solutions. These techniques include:

- All Pure-Fusion seams are produced in a class 10,000 clean room environment
- All metal and FRP fabrication take place in a separate self-contained facility. This helps prevent any chance of cross contamination
- All Pure-Fusion seams are spark tested between 10,000 - 20,000 Volts DC
- All Secure & Pure™ equipment is cleaned with electronic grade IPA, soaked and rinsed with ultra-pure 18 Mega Ohm DI water
- All Secure & Pure™ equipment is 100% pressure tested with ultra pure 18 Mega Ohm DI water to guarantee strength and reliability
- All Secure & Pure™ equipment is shrink wrapped and crated for shipment. Nitrogen blanketing and barrier bagging are available upon request
- Edlon's Pure-Fusion seaming technique helps to eliminate the potential for particle entrapment or metal ion contamination that is potentially possible with the industry standard hot-gas air weld
- Edlon's Secure & Pure™ high purity clean tanks help you save time & money with faster qualification during start up

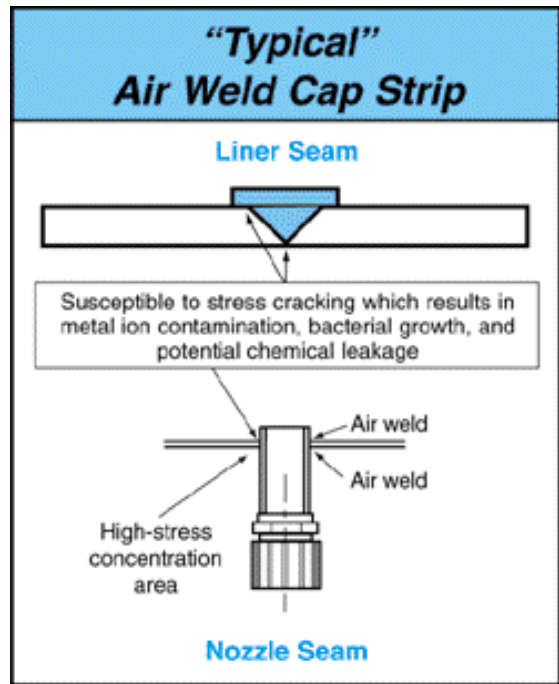
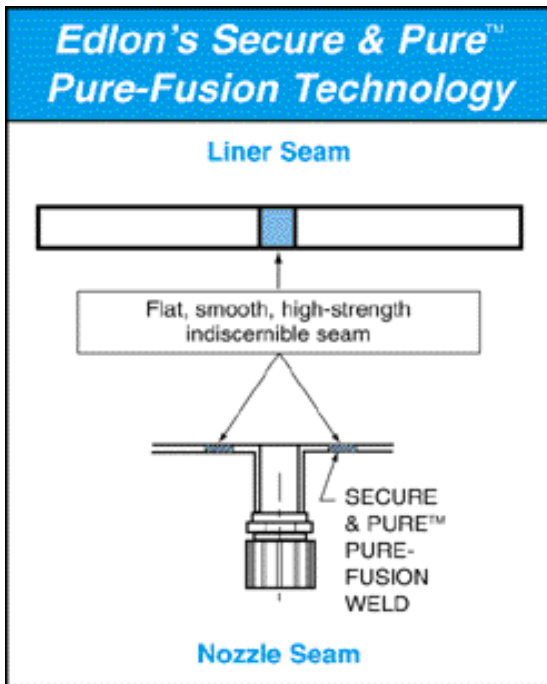


Class 10,000 Clean Room

The question remains:
Why trust someone other than Edlon with your high purity requirements?

Security & Dependability

Edlon's Secure & Pure™ product line offers the strongest linings in the industry. Using state-of-the-art technologies and equipment, Edlon's proprietary Pure-Fusion seaming incorporates flat, indiscernible seams that provide you with a clean, smooth surface that minimizes entrapments. No more cracks and crevices for dangerous metal ion contamination, particle entrapment, or bacterial growth.



PFA Weld Strength - Test Results							
Sample	Tensile Strength (psi)				Avg.	% vs. Virgin	
	1	2	3	4			
1) Virgin Film	4381	4505	3041	3267	4210	3880	100
2) V groove Air Weld and Cap	2149	2120	2076	1981	2049	2551	66
3) Pure-Fusion Seam	4872	4717	4494	3890	4661	4527	100+
Sample	Elongation to Break (%)				Avg.	% vs. Virgin	
	1	2	3	4			
1) Virgin Film	557	577	391	430	543	500	100
2) V groove Air Weld and Cap	134	132	92	42	104	101	20
3) Pure-Fusion Seam	596	577	562	488	578	560	100+

All Samples were performed as per ASTM D638 specification using 3mm thick virgin PFA film. Test Speed = 2 in/min; Gauge Length = 1.3 in; Load Cell = 562.03; Cell Class = 0.5; Temperature = 70°F; Internal Extensometer.

As the tests show above, only Edlon provides you with security and dependability!



CMP Slurry Tanks

Plastic/Fluoropolymer

Edlon's Secure & Pure™ ultra high purity CMP slurry tanks are the most advanced in the industry. Multiple lining & fabrication options are available. Edlon's experienced design team can incorporate various accessories including heat exchanger coils, 360P cleaning systems, baffles, mixers and spargers. All tanks are of the highest quality meeting Edlon's stringent high purity requirements.

A wide range of CMP slurry tanks are available. Edlon has the "Smart Solution" to fit your application.



Benefits:

- State-of-the-art seaming technology & fabrication techniques
- Innovative solutions provide improved design performance
- Ideal for low to mid temperature & pressure ratings
- Individually engineered & designed to meet your application requirements
- Exterior cosmetics expected in a high purity tank

Several design options available to meet your needs:

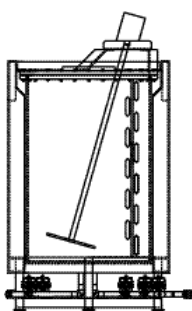
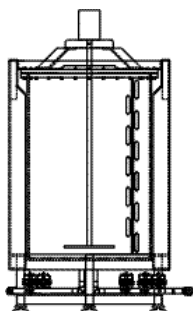
- Flat Bottom
- Cone Bottom
- Fiberglass Reinforced Plastic (FRP or GRP) and Stainless Steel Overpacks are Available. Please see "Bulk Chemical Distribution Tanks" for additional details.

Fluoropolymer Fabrication:

- Internal lining options include: sheetlining only
- All Edlon's proprietary Pure-Fusion welding at the liner joint connections
- All Pure-Fusion seaming procedures are performed in a Class 10,000 clean room
- All interior surfaces are wiped down with Electronic Grade IPA
- All tanks soaked and rinsed with 18 Mega Ohm DI water
- All tanks are shrink wrapped and crated for maximum protection during shipment
- Vessels are high purity cleaned to help minimize startup time

CMP Slurry Tanks

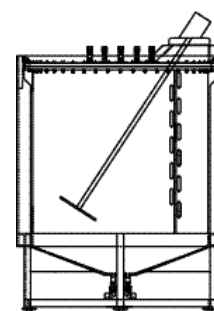
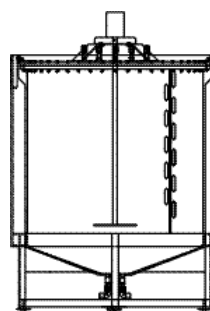
Plastic/Fluoropolymer



FLAT BOTTOM

Volume	Diameter	Straight Side Height
10 L	11"	6"
20 L	11"	13"
30 L	18"	7"
50 L	18"	12"
100 L	18"	24"
200 L	24"	27"
400 L	30"	35"
500 L	30"	43"
800 L	36"	48"
1200 L	48"	40"
1500 L	48"	51"
1800 L	48"	61"
2000 L	48"	67"
2500 L	60"	54"
3000 L	60"	65"
3500 L	60"	76"
4000 L	60"	86"

Custom Sizes Available



CONE BOTTOM

Volume	Diameter	Straight Side Height
10 L	11"	6"
20 L	15"	7"
30 L	15"	10"
50 L	15"	17"
100 L	18"	24"
200 L	22"	32"
400 L	30"	34"
500 L	30"	42"
800 L	42"	34"
1200 L	42"	52"
1500 L	51"	44"
1800 L	51"	52"
2000 L	51"	58"
2500 L	63"	47"
3000 L	63"	57"
3200 L	63"	61"

Custom Sizes Available

Design Specifications:

- Temperature: Ambient to 150PF (65PC)
 - Pressure: Atmospheric to 15 psi
- Note: Please consult Edlon with your specific application

Lining Options:

- PFA450 HP
- PFA350
- PTFM, FEP
- ETFE, ECTFE
- PVDF, Polypropylene
- Unlined HDPE or PP
- Thicknesses available in: 0.060", 0.090", 0.125" & up

Ports:

- Flare-Type Fittings
- NPT
- Sight Window
- Dump Chute
- Bung Connection
- Manway
- 150# ANSI Flange

Bolts:

- PVC
- PVDF
- 304SS
- 316SS
- Teflon Coated Stainless Steel

Accessory Options:

- Internal Heat Exchanger
- Dip Tubes
- Spargers/Spraying Systems
- Static Mixer
- Prop Mixer
- External Sight Tube
- Valve Manifolds
- Level Sensor
- Baffles
- Strainers
- Vortex Breakers
- Leak Detectors



Bulk Chemical Delivery Tanks

Plastic/Fluoropolymer

For the ultimate in purity protection, Edlon offers its Secure & Pure™ fluoropolymer lined plastic bulk chemical distribution tanks. These tanks are engineered to be extremely durable offering long lasting high purity containment. They are constructed with a high density polyethylene or polypropylene overpack and an ultra high purity fluoropolymer interior liner.



Benefits:

- State-of-the-art seaming technology & fabrication techniques
- Innovative solutions provide improved design performance
- Ideal for low to mid temperature & pressure ratings
- Individually engineered & designed to meet your application requirements
- Exterior cosmetics expected in a high purity tank

Several design options available to meet your needs:

- Flat Bottom
- Cone Bottom

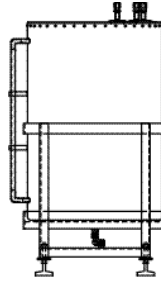
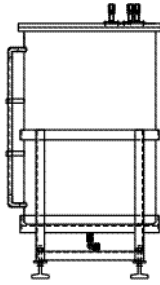
Fluoropolymer Fabrication:

- Internal lining options include: sheetlining only
- All Edlon's proprietary Pure-Fusion welding on seam connections
- Seaming procedures are performed in a Class 10,000 clean room
- All interior surfaces are wiped down with Electronic Grade IPA
- All tanks soaked and rinsed with 18 Mega Ohm DI water
- All tanks are shrink wrapped and crated for maximum protection during shipment



Bulk Chemical Delivery Tanks

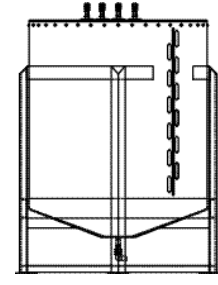
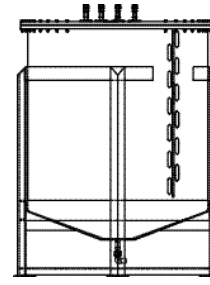
Plastic/Fluoropolymer



FLAT BOTTOM

Volume	Diameter	Straight Side Height
10 L	11"	6"
20 L	11"	13"
30 L	18"	7"
50 L	18"	12"
100 L	18"	24"
200 L	24"	27"
400 L	30"	35"
500 L	30"	43"
800 L	36"	48"
1200 L	48"	40"
1500 L	48"	51"
1800 L	48"	61"
2000 L	48"	67"
2500 L	60"	54"
3000 L	60"	65"
3500 L	60"	76"
4000 L	60"	86"

Custom Sizes Available



CONE BOTTOM

Volume	Diameter	Straight Side Height
10 L	11"	6"
20 L	15"	7"
30 L	15"	10"
50 L	15"	17"
100 L	18"	24"
200 L	22"	32"
400 L	30"	34"
500 L	30"	42"
800 L	42"	34"
1200 L	42"	52"
1500 L	51"	44"
1800 L	51"	52"
2000 L	51"	58"
2500 L	63"	47"
3000 L	63"	57"
3200 L	63"	61"

Custom Sizes Available

Design Specifications:

- Temperature: Ambient to 150PF (65PC)
 - Pressure: Atmospheric to 15 psi
- Note: Please consult Edlon with your specific application

Lining Options:

- PFA450 HP, PFA350
- PTFM, FEP
- ETFE, ECTFE
- PVDF, Polypropylene
- Thicknesses available in: 0.060", 0.090", 0.125" & Up

Ports:

- Flare-Type Fittings
- NPT

- Sight Window
- Dump Chute
- Bung Connection
- Manway
- 150# ANSI Flanges

Bolts:

- PVC
- PVDF
- 304SS & 316SS
- Teflon Coated Stainless Steel

Accessory Options:

- Internal Heat Exchanger
- Dip Tubes

- Spargers/Spraying Systems
- Static Mixer
- Prop Mixer
- External Sight Tube
- Valve Manifolds
- Level Sensor
- Baffles
- Temperature Probe
- Strainers
- Double Containment
- Pressure Relief (Conservation Vent/Rupture Disk)
- Leak Detectors



Bulk Chemical Delivery Tanks

Stainless/Fluoropolymer

If you are looking for pressure handling capabilities in a bulk chemical delivery tank, Edlon's Secure & Pure™ fluoropolymer lined stainless steel tanks are your answer. These tanks are ideal for atmospheric to high pressure and high temperature applications. There are several different options to choose from. Edlon can fabricate the entire range from an ultra high purity PFA lined tank to a less costly high purity polypropylene lined tank.

Benefits:

- State-of-the-art seaming technology & fabrication techniques
- Innovative solutions provide improved design performance
- Ideal for atmospheric to high temperature, high pressure ratings
- Individually engineered & designed to meet your application requirements
- Exterior cosmetics expected in high a purity tank



Several design options available to meet your needs:

- Flat Bottom
- Dished Bottom
- Cone Bottom
- Atmospheric Rating
- Low Pressure Rating
- High Pressure Rating

Fluoropolymer Fabrication:

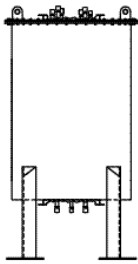
- Internal lining options include: rotomolding, coating and sheetlining
- Our Secure & Pure lined vessels are manufactured clean
- Superior Pure-Fusion seaming technology minimizes steps, cracks & ledges, which may trap contaminants.
- Seaming procedures are performed in a Class 10,000 clean room
- All interior surfaces are wiped down with Electronic Grade IPA
- All tanks soaked and rinsed with 18 Mega Ohm DI water
- All tanks are shrink wrapped and crated for maximum protection during shipment
- Vessels are high purity cleaned to help minimize startup time

Stainless Steel Fabrication:

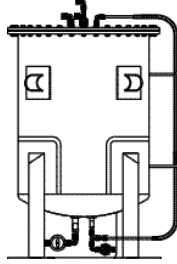
- All stainless steel fabrication is performed in a separate, self-contained facility
- Standard with 2:1 elliptical bottom heads, optional ASME F&D
- Built to ASME Code Section VIII Division I, API 650, UL 142 (where applicable), UBC, UFC Seismic Zone 1-5
- Vessel fabrication is performed using some of the latest welding equipment including fully automated robotic and sub-arc welding tools
- Exterior finish options include: standard mill finish; hand polished; electropolished; glass bead blasted; epoxy powder coated and fluoropolymer coated

Bulk Chemical Delivery Tanks

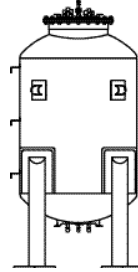
Stainless/Fluoropolymer



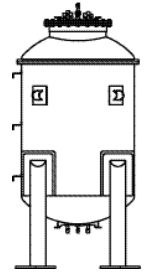
A



B



C



D

Volume	Diameter	Straight Side Height "A"	Straight Side Height "B"	Straight Side Height "C"	Straight Side Height "D"
50 L	18"	12"	9"	6"	6"
100 L	18"	24"	24"	18"	18"
200 L	24"	27"	23"	19"	19"
400 L	30"	35"	30"	25"	25"
500 L	30"	43"	38"	33"	33"
800 L	36"	48"	42"	36"	36"
1200 L	42"	53"	46"	39"	39"
1500 L	48"	51"	43"	35"	35"
1800 L	48"	61"	53"	45"	45"
2000 L	48"	67"	59"	51"	51"
2500 L	60"	54"	48"	42"	42"
3000 L	60"	65"	59"	52"	52"
3500 L	60"	76"	69"	63"	63"
4000 L	60"	86"	80"	74"	74"
4500 L	60"	97"	91"	85"	85"
5000 L	66"	89"	82"	76"	76"

Custom Sizes Available

Design Specifications:

- Temperature: Ambient to 500PF (260PC)
- Pressure:
 - 1) Atmospheric to 15 psi: Built per ASME Code
 - 2) 15 psi & up: Stamped per ASME Code Section VIII
 - 3) Full Vacuum Available

Note: Please consult Edlon with your specific application

Ports:

- Flare-Type Fittings
- NPT
- Sight Window
- Dump Chute
- Bung Connection
- Manway
- 150#, 300# & DIN Flanges

Lining Options:

- PFA (450HP & 350)
- PTFM, PTFE
- FEP
- ETFE, ECTFE
- PVDF, Polypropylene
- Thicknesses available in: 0.060", 0.090", 0.125" & up

Bolts:

- 304SS & 316SS
- Teflon Coated Stainless Steel

Accessory Options:

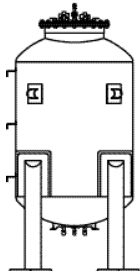
- Internal Heat Exchanger
- Dip Tubes
- Spargers/Spraying Systems
- Static Mixer
- Prop Mixer

- External Sight Tube
- Valve Manifolds
- Level Sensor
- Baffles
- Body Flanges for Internal Access
- Pressure Relief (Conservation Vent/ Rupture Disk)
- Temperature Probe
- Strainer
- Vortex Breakers
- Teflon Lined Pipe, Fittings & Hose
- Teflon Expansion Joints
- Leak Detectors

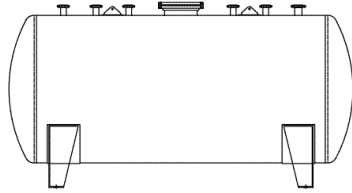


Bulk Chemical Delivery Tanks

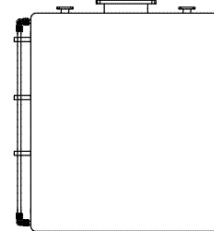
Stainless/Fluoropolymer



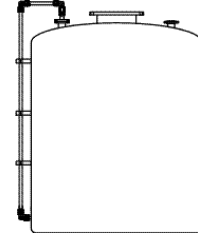
A



B



C



D

Volume	Diameter	Straight Side Height "A"	Straight Side Length "B"	Straight Side Height "C"	Straight Side Height "D"
2500 L	60"	42"	42"	54"	48"
3000 L	60"	52"	52"	65"	59"
3500 L	60"	63"	63"	76"	69"
4000 L	60"	74"	74"	86"	80"
4500 L	60"	85"	85"	97"	91"
5000 L	66"	76"	76"	89"	82"
7000 L	72"	90"	90"	105"	97"
9000 L	84"	81"	81"	99"	90"
10000 L	96"	64"	64"	84"	74"
12000 L	96"	81"	81"	101"	91"
15000 L	96"	106"	106"	126"	116"
18000 L	108"	97"	97"	120"	108"
20000 L	108"	110"	110"	133"	122"

Custom Sizes Available

Design Specifications:

- Temperature:
Ambient to 500PF (260PC)
- Pressure:
 - 1) Atmospheric to 15 psi: Built per ASME Code Section VIII
 - 2) Full Vacuum Available

Note: Please consult Edlon with your specific application

Ports:

- Flare-Type Fittings
- NPT
- Sight Window
- Dump Chute
- Bung Connection
 - Manway
 - 150#, 300# & DIN Flanges

Lining Options:

- PFA450 HP
- PFA350
- PTFM, PTFE
- FEP
- ETFE, ECTFE
- PVDF, Polypropylene
- Thicknesses available in:
0.060", 0.090", 0.125", & up

Bolts:

- 304SS & 316SS
- Teflon Coated Stainless Steel

Accessory Options:

- Internal Heat Exchanger
- Dip Tubes
- Spargers/Spraying Systems

- Static Mixer
- Prop Mixer
- External Sight Tube
- Valve Manifolds
- Level Sensor
- Baffles
- Body Flanges for Internal Access
- Temperature Probe
- Strainer
- Double Containment Boxes
- Vortex Breakers
- Pressure Relief (Conservation Vent/Rupture Disk)
- Teflon Lined Pipe, Fittings & Hose
- Teflon Expansion Joints
- Leak Detectors

Bulk Chemical Delivery Tanks

FRP/Fluoropolymer

If you are looking for security and high quality in a fiberglass bulk chemical delivery tank, Edlon's Secure & Pure™ fluoropolymer lined FRP tanks are your answer. These tanks are the most advanced in the industry utilizing advanced polymer techniques in both fluoropolymer and fiberglass reinforced plastic construction. The ideal dual laminate for atmospheric to medium pressure/medium temperature applications. Whether your application requires a fluoropolymer lined FRP tank or a polypropylene lined FRP tank, Edlon has the smart solution.

Benefits:

- State-of-the-art seaming technology & fabrication techniques
- Innovative solutions provide improved design performance
- Ideal for atmospheric to medium temperature, medium pressure ratings
- Individually engineered & designed to meet your application requirements
- Exterior cosmetics expected in a high purity tank

Several design options available to meet your needs:

- Atmospheric to 15 psi – Built per RTP-1
- 15 psi & up – Built per RTP-1. ASME Code Section X available upon request



First in industry to fabricate a PTFE lined FRP ASME Code Section X, Class 2 certified tank.



Fluoropolymer Fabrication:

- Internal lining options include: sheetlining only
- Seaming procedures are performed in a class 10,000 clean room
- All interior surfaces are wiped down with Electronic Grade IPA
- All tanks soaked and rinsed with 18 Mega Ohm DI water
- All tanks are shrink wrapped and crated for maximum protection during shipment
- Vessels are high purity cleaned to help minimize startup time

FRP Fabrication:

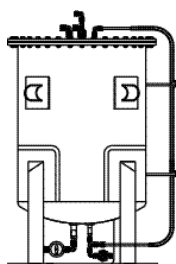
- Isophthalic and premium grade vinyl ester resins are available
- All FRP work is performed in a separate, self-contained facility
- All fluoropolymer interior surfaces sealed during the FRP fabrication process to prevent cross contamination
- All FRP meets or exceeds RTP-1 construction
- Multiple FRP fabrication techniques are available including transfer molding, hand layup and filamound winding
- Corrosion resistant exterior gel coatings are available
- Seismic Zone 1-5, UBC
- Experts in the industry using the latest technology in FRP fabrication
- Edlon mandates all laminates and FRP accessories to be tested to prove mechanical properties regardless of specifications



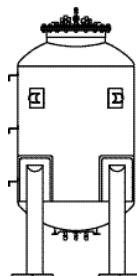


Bulk Chemical Delivery Tanks

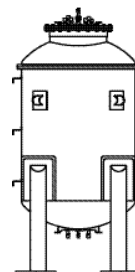
FRP/Fluoropolymer



A



B



C

Volume	Diameter	Straight Side Height "A"	Straight Side Height "B"	Straight Side Height "C"
50 L	18"	9"	6"	6"
100 L	18"	21"	18"	18"
200 L	24"	23"	19"	19"
400 L	30"	30"	25"	25"
500 L	30"	39"	34"	34"
800 L	36"	42"	36"	36"
1200 L	42"	46"	39"	39"
1500 L	48"	43"	35"	35"
1800 L	48"	53"	45"	45"
2000 L	48"	59"	51"	51"
2500 L	60"	44"	34"	34"
3000 L	60"	55"	45"	45"
3500 L	60"	66"	56"	56"
4000 L	60"	76"	66"	66"
4500 L	66"	87"	77"	77"
5000 L	66"	78"	67"	67"

Custom Sizes Available

Design Specifications:

- Temperature: Ambient to 180°F (82.2°C)
- Pressure:
 - 1) Atmospheric to 15 psi: Built per RTP-1
 - 2) 15 psi & up: Built per RTP-1. ASME Code Section X available upon request
 - 3) Full Vacuum Available

Note: Please consult Edlon with your specific application

Ports:

- Flare-Type Fittings
- NPT
- Sight Window
 - Dump Chute
 - Bung Connection

- Manway
- 150#, 300# & DIN Flanges

Lining Options:

- PFA450 HP, PFA350
- PTFM, PTFE
- FEP, ETFE, ECTFE
- PVDF, Polypropylene
- Thicknesses available in: 0.060", 0.090", 0.125" & up

Bolts:

- 304SS & 316SS
- Teflon Coated Stainless Steel

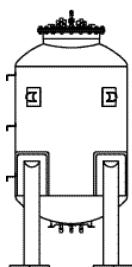
Accessory Options:

- Internal Heat Exchanger
- Dip Tubes

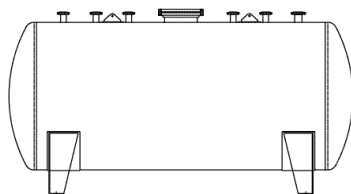
- Spargers/Spraying Systems
- Static Mixer
- Prop Mixer
- External Sight Tube
- Valve Manifolds
- Level Sensor
- Baffles
- Strainers
- Double Containment
- Pressure Relief (Conservation Vent/Rupture Disk)
- Temperature Probes
- Teflon Lined Pipe, Fittings & Hose
- Teflon Expansion Joints
- Vortex Breakers
- Leak Detectors

Bulk Chemical Delivery Tanks

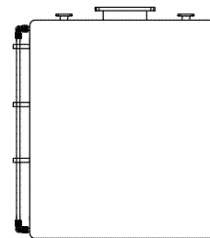
FRP/Fluoropolymer



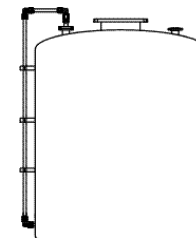
A



B



C



D

Volume	Diameter	Straight Side Height "A"	Straight Side Length "B"	Straight Side Height "C"	Straight Side Height "D"
3500 L	60"	56"	56"	76"	66"
4000 L	60"	66"	66"	86"	76"
4500 L	60"	77"	77"	80"	87"
5000 L	66"	67"	67"	89"	78"
7000 L	72"	Consult Factory	90"	105"	97"
9000 L	84"	Consult Factory	81"	99"	90"
10000 L	96"	Consult Factory	64"	84"	74"
12000 L	96"	Consult Factory	81"	101"	91"
15000 L	96"	Consult Factory	106"	126"	116"
18000 L	108"	Consult Factory	97"	120"	108"
20000 L	108"	Consult Factory	110"	133"	122"

Custom Sizes Available

Design Specifications:

- Temperature:
Ambient to 180°F (82.2°C)
- Pressure:
 - 1) Atmospheric to 15 psi: Built per RTP-1
 - 2) Full Vacuum Available

Note: Please consult Edlon with your specific application

Ports:

- Flare-Type Fittings
- NPT
- Sight Window
- Dump Chute
- Bung Connection
- Manway
- Level Sensor
- 150#, 300# & DIN Flange

Lining Options:

- PFA (450HP & 350)
- PTFM, PTFE,
- FEP
- ETFE, ECTFE
- PVDF, Polypropylene
- Thicknesses available in: 0.060", 0.090", 0.125", & up

Bolts:

- 304SS & 316SS
- Teflon Coated Stainless Steel

Accessory Options:

- Internal Heat Exchanger
- Dip Tubes
- Spargers/Spraying Systems
- Static Mixer
- Prop Mixer

- External Sight Tube
- Valve Manifolds
- Level Sensor
- Baffles
- Strainers
- Pressure Relief (Conservation Vent/Rupture Disk)
- Temperature Probe
- Double Containment Boxes
- Teflon Lined Pipe, Fittings & Hose
- Teflon Expansion Joints
- Vortex Breaker
- Leak Detectors

Small Pressure Vessels

Plastic/Fluoropolymer

Edlon's ultra high purity Secure & Pure™ all plastic small pressure vessels are the perfect solution for in-cabinet or restricted space needs. Featuring state-of-the-art fluoropolymer technology, these tanks are engineered to fit your specific requirements. Innovation and flexibility are key to our success.



Benefits:

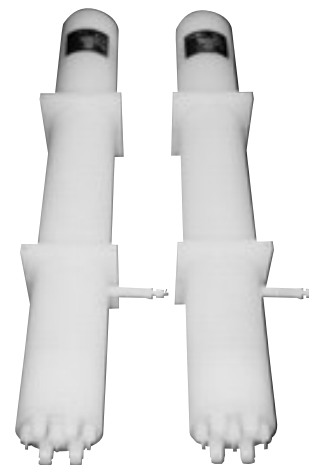
- State-of-the-art seaming technology & fabrication techniques
- Innovative solutions provide improved design performance
- Ideal for atmospheric to medium temperature, high pressure ratings
- Individually engineered & designed to meet your application requirements
- Exterior cosmetics expected in a high purity tank

Several design options available to meet your needs:

- PFA, PTFM, ECTFE, PVDF, Solid Polypropylene Pressure Vessel
- Fluoropolymer lined PVDF or PP Pressure Vessel

Fluoropolymer Fabrication:

- Internal lining options include: rotomolding, sheetlining and molded pipe
- All Seaming procedures are performed in a Class 10,000 clean room
- All interior surfaces are wiped down with Electronic Grade IPA
- All tanks soaked and rinsed with 18 Mega Ohm DI water
- All tanks are shrink wrapped and crated for maximum protection during shipment
- Vessels are high purity cleaned to help minimize startup time
- All tanks are pressure tested at 1¹/₃ to 2 times the design pressure rating depending on the application

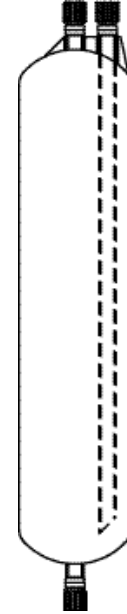
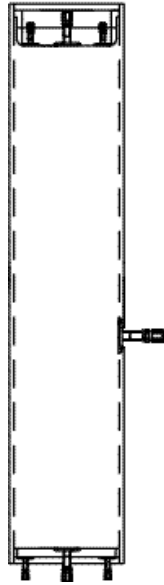


Small Pressure Vessels

Plastic/Fluoropolymer

PFA or PTFM Lined PP or PVDF Pressure Vessels

Solid PP, PVDF, PTFM or PFA Pressure Vessels



Volume	Diameter	Straight Side Height
5L	4" or 6"	25" or 12"
10L	6"	24"
15L	6"	36"
20L	6"	42"
25L	6" or 8"	48" or 34"
30L	8"	41"
50L	8"	67"

Custom & Larger Sizes Available

Design Specifications:

- Temperature:
Ambient to 250°F (121.1°C)
- Pressure:
1/2" thru 6" – Atmospheric to 100 psi
8" and Larger – Atmospheric to 15 psi

Note: Please consult Edlon with your specific application

Lining Options:

- PFA (350 & 450HP)
- PTFM
- ETFE

- ECTFE
- PVDF
- Polypropylene
- Thicknesses available in:
0.060", 0.090", 0.125"
and up

Port Options:

- Flare-Type
- NPT
- ANSI
- Sanitary
- Bung
- 150# ANSI Flange

Accessory Options:

- Internal Heat Exchanger
- Dip Tubes
- Spargers/Spraying Systems
- Static Mixer
- Prop Mixer
- External Sight Tube
- Valve Manifolds
- Strainer
- Temperature Probe
- Level Sensor

Small Pressure Vessels

Stainless/Fluoropolymer

Edlon's ultra high purity Secure & Pure™ fluoropolymer lined stainless steel in-cabinet small pressure vessels feature several different fabrication techniques and materials specified to meet your stringent requirements.

Benefits:

- State-of-the-art seaming technology & fabrication techniques
- Innovative solutions provide improved design performance
- Ideal for atmospheric to medium temperature, high pressure ratings
- Individually engineered & designed to meet your application requirements
- Exterior cosmetics expected in a high purity tank



Several design options available to meet your needs:

- Integral Dished Top & Bottom Head
- Flat Flanged Top & Dished Bottom Head
- Flat Flanged Top & Integral Flat Bottom Head
- Flat Flanged Top & Bottom Head

Fluoropolymer Fabrication:

- Internal lining options include: rotomolding, coating, sheetlining, and molded pipe
- All interior surfaces are rinsed with Electronic Grade IPA
- All tanks soaked and rinsed with 18 Mega Ohm DI water
- All tanks are shrink wrapped and crated for maximum protection during shipment
- Vessels are high purity cleaned to help minimize startup time

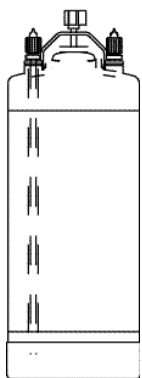
Stainless Steel Fabrication:

- All stainless steel fabrication is performed in a separate, self-contained facility
- Steel built and stamped per ASME Code Section VIII
- D.O.T. Certification available. Please refer to Chemical Transport Section

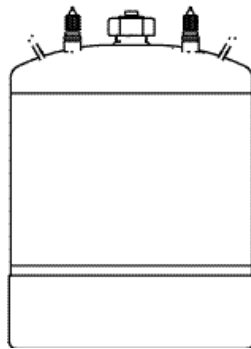


Small Pressure Vessels

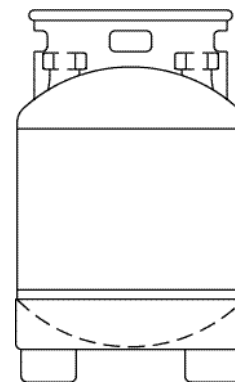
Stainless/Fluoropolymer



A



B



C

Volume (Min)	Volume (Max)	Diameter	Overall Height "A"	Overall Height "B"	Overall Height "C"
1 Gal (3.8L)	7 Gal (26.5L)	9"	10" to 32"	8" to 30"	N/A
6 Gal (22.7L)	16 Gal (60.6L)	12"	21" to 43"	16" to 38"	N/A
20 Gal (75.7L)	35 Gal (132.5L)	18"	26" to 44"	23" to 41"	N/A
55 Gal (208.2L)		24"	N/A	Consult Factory	45"

Custom Sizes Available

Design Specifications:

- Temperature:
Ambient to 300PF (149PC)
- Pressure:
 - 9"D – Atmospheric to 165 psi
 - 12"D – Atmospheric to 190 psi
 - 18"D – Atmospheric to 145 psi
 - 24"D – Atmospheric to 50 psi
- D.O.T. Certification Available, Refer to Chemical Transport Section for details

Note: Please consult Edlon with your specific application

Lining Options:

- PFA
- ETFE
- ECTFE
- PVDF
- Polypropylene
- Polyethylene
- Thicknesses available in: 0.125" & up

Port Options:

- Flare-type Fitting
- NPT Fitting
- Bung Connection
- 150# ANSI Flange

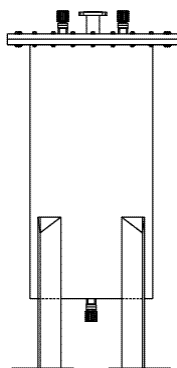
Accessory Options:

- Internal Heat Exchanger
- Dip Tubes
- Spargers/Spraying Systems
- Static Mixer
- Prop Mixer
- External Sight Tube
- Valve Manifolds
- Level Sensor
- Temperature Probe
- Pressure Relief (Conservation Vent/Rupture Disk)
- Leak Detectors

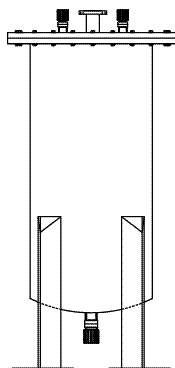


Small Pressure Vessels

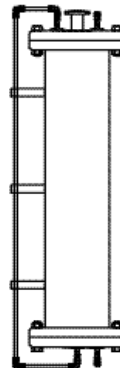
Stainless/Fluoropolymer



A



B



C

Volume (Min)	Volume (Max)	Diameter	Straight Side Height "A"	Straight Side Height "B"	Straight Side Height "C"
<0.5 Gal (1.9L)	13 Gal (49.4L)	1" - 4"	N/A	N/A	5" & up
0.6 Gal (2.5L)	29 Gal (111L)	6"	5.5" to 120"	5.5" to 120"	5.5" & up
1.2 Gal (4.8L)	52 Gal (197L)	8"	6" to 120"	6" to 120"	6" & up
2.8 Gal (10.9L)	81 Gal (308L)	10"	8.5" to 120"	8.5" to 120"	8.5" & up
4.1 Gal (15.7L)	117 Gal (444L)	12"	8.5" to 120"	8.5" to 120"	8.5" & up
5.6 Gal (21.4L)	79 Gal (302L)	14"	N/A	N/A	8.5" & up
7.3 Gal (28L)	104 Gal (395L)	16"	N/A	N/A	8.5" & up
9.2 Gal (35L)	132 Gal (500L)	18"	8.5" to 120"	8.5" to 120"	8.5" & up
11.3 Gal (43L)	163 Gal (617L)	20"	N/A	N/A	8.5" & up
16.6 Gal (63L)	234 Gal (889L)	24"	8.5" to 120"	8.5" to 120"	8.5" & up

Custom Sizes Available

Design Specifications:

- Temperature: Ambient to 500°F (260°C)
- Pressure:
 - 1) 1/2" thru 6": Atmospheric to 150 psi & up (max pressure based on port type)
 - 2) 8" & up: Atmospheric to 15 psi: Built per ASME Code Section VIII
 - 3) 8" & up: 15 psi to 150 psi & up (max pressure based on port type): Stamped per ASME Code Section VIII
 - 4) Full Vacuum Available

Note: Please consult Edlon with your specific application

Lining Options:

- PFA (450HP & 350)
- PTFM
- PTFE
- FEP
- ETFE
- ECTFE
- PVDF
- Polypropylene
- Polyethylene

Port Options:

- Flare-type Fitting
- NPT Fitting
- Bung Connection
- 150# & 300# ANSI Flange

Accessory Options:

- Internal Heat Exchanger
- Dip Tubes
- Spargers/Spraying Systems
- Static Mixer
- Prop Mixer
- External Sight Tube
- Valve Manifolds
- Pressure Relief (Conservation Vent/Rupture Disk)
- Temperature Probe
- Strainer
- Level Sensor
- Teflon Lined Pipe, Fittings & Hose
- Teflon Expansion Joints
- Leak Detectors

Small Pressure Vessels

FRP/Fluoropolymer

Edlon offers a complete line of Secure & Pure™ fluoropolymer lined FRP atmospheric to high pressure dispense tanks. Perfect for inside your cabinet or in tight spaces.

Benefits:

- State-of-the-art seaming technology & fabrication techniques
- Innovative solutions provide improved design performance
- Ideal for atmospheric to medium temperature, high pressure ratings
- Individually engineered & designed to meet your application requirements
- Exterior cosmetics expected in a high purity tank



Several design options available to meet your needs:

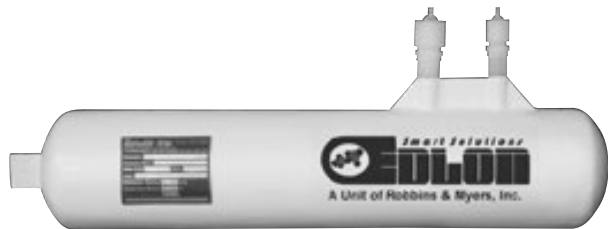
- Vertical
- Horizontal

Fluoropolymer Fabrication:

- Internal lining options include: rotomolding, sheetlining and molded pipe
- All seaming procedures are performed in a Class 10,000 clean room
- All interior surfaces are rinsed with Electronic Grade IPA
- All tanks soaked & rinsed with 18 Mega Ohm DI water
- All tanks are shrink wrapped and crated for maximum protection during shipment
- Vessels are high purity cleaned to help minimize startup time

FRP Fabrication:

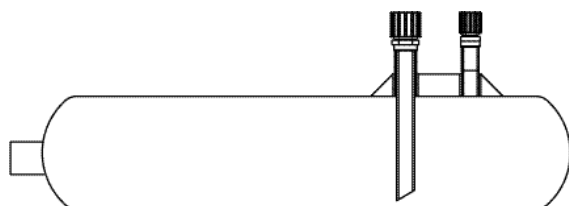
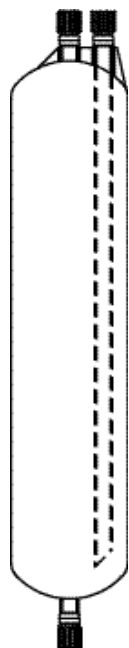
- Isophthalic and premium grade vinyl ester resins are available
- All FRP work is performed in a separate self-contained facility
- All interior surfaces are sealed off during the FRP fabrication process to prevent cross contamination
- Multiple FRP fabrication techniques are available including transfer molding, hand layup and filamound winding
- Designed and built per ASME Code Stamp, Section X; layup tested to be above code requirements
- Corrosion resistant exterior coatings are available
- Edlon mandates all laminates and FRP accessories to be tested to prove mechanical properties regardless of specifications
- All tanks are pressure tested at 1¹/₃ to 2 times the design pressure rating depending on the application





Small Pressure Vessels

FRP/Fluoropolymer



Volume	Diameter	Straight Side Height
5L	4 or 6"	25 or 12"
10L	6"	24"
15L	6"	36"
20L	6"	42"
25L	6 or 8"	48 or 34"
30L	8"	41"
50L	8"	67"

Custom & Larger Sizes Available

Design Specifications:

- Temperature:
Ambient to 180PF (82.2PC)
- Pressure:
 - 1) 2" thru 6": Atmospheric to 100 psi:
Built per RTP-1
 - 2) 8" & Up: Atmospheric to 15 psi:
Built per RTP-1
 - 3) 8" & Up: 15 psi & up: Built per RTP-1.
ASME Code Section X available upon request
 - 4) Full Vacuum Available

Note: Please consult Edlon with your specific application

Lining Options:

- PFA (350 & 450HP)
- PTFM, PTFE
- FEP
- ETFE, ECTFE
- PVDF, Polypropylene
- Thicknesses available in:
0.060", 0.090", 0.125" & up

Port Options:

- Flare-type Fitting
- NPT Fitting
- Bung Connection
- Sanitary
- 150# ANSI Flange

Accessory Options:

- Internal Heat Exchanger
- Dip Tubes
- Spargers/Spraying Systems
- Static Mixer
- Prop Mixer
- External Sight Tube
- Valve Manifolds
- Level Sensor
- Strainers
- Temperature Probes

Chemical Transport

Stainless/Fluoropolymer

Edlon's ultra high purity Secure & Pure™ fluoropolymer lined chemical transport tanks are ideal for moving your high purity media from site to site. They incorporate state-of-the-art technology in fabrication technique, product performance, engineering design & innovation and overall quality & cosmetics.

Benefits:

- Fluoropolymer lining eliminates metallic ion contamination
- Product purity to the PPT levels
- Approved for handling highly concentrated acids
- Custom ports – assure connection compatibility



Several design options available to meet your needs:

- 1 Gallon to 35 Gallon Transporter
- 55 Gallon Transporter
- 120 Gallon to 600 Gallon Transporter
- 10,000 L to 20,000 L ISO / IMO Container
- 3500 Gallon to 5000 Gallon Tank Trailers

Fluoropolymer Fabrication:

- Internal lining options include: rotomolding, coating and sheetlining
- All interior surfaces are wiped with Electronic Grade IPA
- All tanks soaked & rinsed with 18 Mega Ohm DI water
- Vessels are high purity cleaned to help minimize startup time

Chemicals:

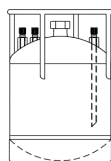
- Hydrochloric Acid
- Hydrogen Peroxide (Stabilized)
- Hydrofluoric Acid
- Phosphoric Acid
- Nitric Acid
- Sulfuric Acid
- Ammonia Hydroxide
- Plus hundreds more available, even at full concentration. Please see your local Edlon Representative or check the D.O.T.-HAZ-MAT table for packing requirements relative to your specific media



Chemical Transport

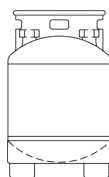
Chemtransporter™

1 Gallon to 35 Gallon



A

55 Gallon



B

Volume (Min/Max)	Diameter	Overall Height	
		"A"	"B"
1 Gal (3.8L) to 7 Gal (26.5L)	9"	10" to 32"	NA
6 Gal (22.7L) to 16 Gal (60.6L)	12"	21" to 43"	NA
20 Gal (75.7L) to 35 Gal (141.6L)	18"	26" to 44"	NA
55 Gal (209L)	24"	NA	45"

Features:

- Stainless Steel Ring Chime to Protect Fittings during Shipment
- O-Ring Material – Teflon
- Exterior Surface Finish: White Pickle or Electropolished
- Stainless Steel Skirt (Skid Mounted for 55 Gal Only)

Lining Options:

- ETFE, ECTFE, PVDF, PP
- Internal lining options include: rotomolding only

Design Specifications:

- 304SS – 1 Gal - 35 Gal – 140 psi - 165 psi @ 100PF
- 316SS – 1 Gal - 35 Gal – 140 psi - 165 psi @ 100PF
- 304SS – 1 Gal - 55 Gal – 50 psi - 100 psi @ 100PF
- 316SS – 1 Gal - 55 Gal – 50 psi - 100 psi @ 100PF
- ASME Section VIII Division 1
- Certifiable D.O.T. UN 1A1 Container

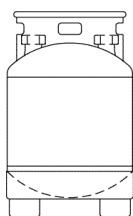
Ports:

- 4 NPT Female Pipe Fittings on Top Head – 1/4" - 18 NPT
- (2) 2" - Required for 55 Gal only
- Multiple port options available based on your requirements. Please consult factory

Accessory Options:

- Dip Tubes, Spargers
- Level Sensor
- Temperature Probe

120 Gallon to 600 Gallon



Volume	Diameter	Straight Side Height
120 Gal	36"	19"
220 Gal	36"	42"
330 Gal	42"	46"
400 Gal	42"	58"
500 Gal	48"	55"
600 Gal	48"	67"

Custom Sizes Available

Features:

- Provides the ability to ship highly concentrated acids for onsite blending
- Carbon steel, 304SS, or 316L
- Skid mounted for easy transport
- Fittings protected by metal ring
- Exterior finishes: electropolished, white pickle, mill finish, epoxy powder coated

Note: Please consult Edlon with your specific application

Design Specifications:

- Temperature: Ambient to 350PF & up (176.6PC)
- Pressure: 100 psi – ASME Code Stamped, Section VIII, Division I
- Certified D.O.T. Specification 51 (bulk transport containers over 119 gallons)

Lining Options:

- PFA450 HP, PFA350, PTFM, PTFE, FEP
- ETFE, ECTFE, PVDF, PP
- Thicknesses available in: 0.06, 0.090, 0.025 & up
- Internal lining options include: rotomolding and sheetlining

Ports:

- Manway
- Emergency Vent
- Pressure Relief
- Rupture Disk

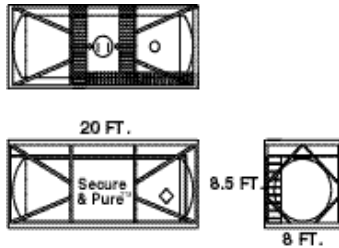
Accessory Options:

- Dip Tubes
- Spargers

Chemical Transport

Chemtransporter™

10,000L - 24,000L Isocontainer



Design Specifications:

- Temperature: Ambient to 250PF (121.1PC)
- Pressure:
 - 1) Atmospheric to 60 psi & up
 - 2) Full Vacuum Available

Lining Options:

- PFA350, PTFM, PTFE, FEP,
- ETFE, ECTFE, PVDF, PP
- Internal lining options include: coating and sheetlining

Approvals:

- ISO 1496III, IMDG IMO-1, USDOT IM-101, ASME Sec. VIII Div. 1 (designed), RID/ADR, AAR 600, UIC, CSC, Customs / TIR, TC Impact App., App. Agency

Features:

- 304SS & 316SS Shell Construction
- Spill box - stainless steel box around fittings and drain tubes
- Walkway - aluminum grip strut with access to all sides of the spillbox & one side of the container
- Ladder - carbon steel or stainless steel
- Exterior finish - organic zinc-rich primer on the frame, chloride free primer on the tank, and acrylic top coat on both

Standard Connections:

- 20" to 24" Manway with Lid
- 4" Rupture Disk
- 2" Spare w/Blind
- 2 1/2" Pressure Relief
- 3/4" Nitrogen Vent
- 3" Chemical

Accessory Options:

- Heating System, Insulation & Cladding, Thermometer
- Dip Pipes & Spargers
- Teflon Lined Pipe & Fittings, Hose & Expansion Joints
- Teflon Lined Rupture Disks, Diaphragm Valves & Pressure Relief Valves

Tank Trailer



Volume	Diameter	Straight Side Length
3500 Gallon	48"	40 ft
5000 Gallon	60"	42 ft

Design Specifications:

- Temperature: Ambient to 260PF
- Pressure: Atmospheric to 10 psi

Lining Options:

- PFA350, PTFM, PTFE, FEP, ETFE, ECTFE, PVDF, PP
- Internal lining options include: sheetlining only

Features:

- 304SS & 316SS Shell Construction
- Spill box - stainless steel box around fittings and drain tubes

- Exterior finish - organic zinc-rich primer on the frame, chloride free primer on the tank, and acrylic top coat on both
- Ladder - carbon steel or stainless steel

Standard Connections:

- 3" ANSI Nozzle with Blind
- 8" ANSI Nozzle with Blind
- 12" ANSI Nozzle with Blind
- 20" to 24" ANSI Manway with Blind

Accessory Options:

- Dip Tubes & Spargers
- Valve Manifolds
- Conservation Vent/Rupture Disk
- Temperature Probe
- PTFE Lined Pipe, Fittings, & Stainless Steel Braided Hose
- Teflon Lined Valves & Expansion Joints
- Level Sensor



High Purity Plastic Lined Piping Systems

Edlon's Secure & Pure™ plastic lined piping system is the perfect solution for moving high purity chemicals and DI water. Combined with Secure & Pure vessels, Edlon can provide complete assurances for your high purity requirements.

Features:

- Ideal for semiconductor and biotech chip fabs, water makers and high purity chemical applications
- Liners use virgin, unpigmented resin systems to minimize leachants in long-term semiconductor service
- Combines strength of a metal exterior with non-contaminating unpigmented plastic interior
- Metal shell resists exterior corrosion, UV effects & weathering
- Protects high purity lines from mechanical and seismic damage
- Standard rotating lap joint flanges on both pipe and fittings assure easy fit up and fast assembly
- No special support spacing needed
- Eliminates expansion problems common to solid thermoplastic systems
- A complete range of liners to meet chemical resistance, purity and temperature capability requirements
- Smooth interior finish
- Produced and cleaned to semiconductor specifications. Bagging available at customer request
- Easy, low cost and fast installation. No expensive, complicated fabrication equipment required

Note: Please see Edlon Lined Pipe, Fittings & Accessories catalog for additional information



Materials and Sizes Available:

- Carbon steel, 304 stainless steel, 316L stainless steel, alloy 20, Monel, ductile iron
- 150#, 300# and DIN flange
- Sizes range from 1/2" to 24", depending on liner material desired

Lining Options:

- All virgin unpigmented
- PFA, PTFE, ETFE, ECTFE, PVDF, PP & PE

Accessory Options:

- Expansion joints
- PTFE lined stainless steel braided hose

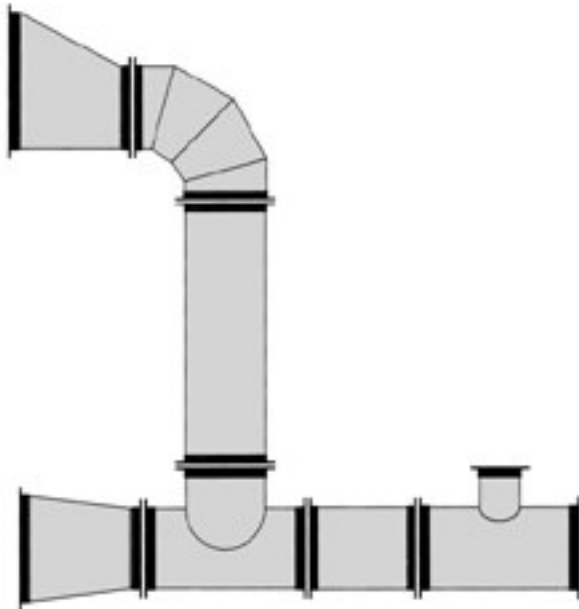


Guardian™ Fluoropolymer Coated Ducting

Edlon's Guardian™ fluoropolymer coated Factory Mutual approved ducting offers long lasting secure protection against corrosive fume exhaust. The fluoropolymer coating is applied using Edlon's proprietary coating technology to ensure tenacious bond strength to the steel substrate and uniform continuous coating thickness to resist chemical attack.

Design Specifications:

- Temperature: Ambient to 302PF (150PC)
- Mechanical Design: 316L Stainless Steel designed to SMACNA Industrial Duct Construction Class I standards for maximum security
- Flanged Joints: stainless steel angle rings and fasteners are used in standard systems
- Gasket Material: Edlon Guardian™ PTFE Joint Sealant



Material Lining Options:

- SC-5001 FM ETFE
- SC-2001 FM ECTFE
- Both available in anti-static formulation – resistant to potential buildup of static electricity

Features & Benefits:

- Factory Mutual approved (FM 4922 approved) for fume and smoke removal without the use of sprinklers
- Guardian™ fluoropolymer internal coating provides the widest available range of corrosion protection and resistance to internal fouling
- Stainless steel substrate offers structural strength, reliability and system integrity
- Modular design ensures easy handling and contamination-free installation
- Cost effective solution for demanding service conditions
- All internal surfaces spark tested at 2000 Volts DC minimum
- End covers are factory applied to prevent end damage and keep out contaminants
- For additional information, please see our "Fluoropolymer Coated Ducting" brochure

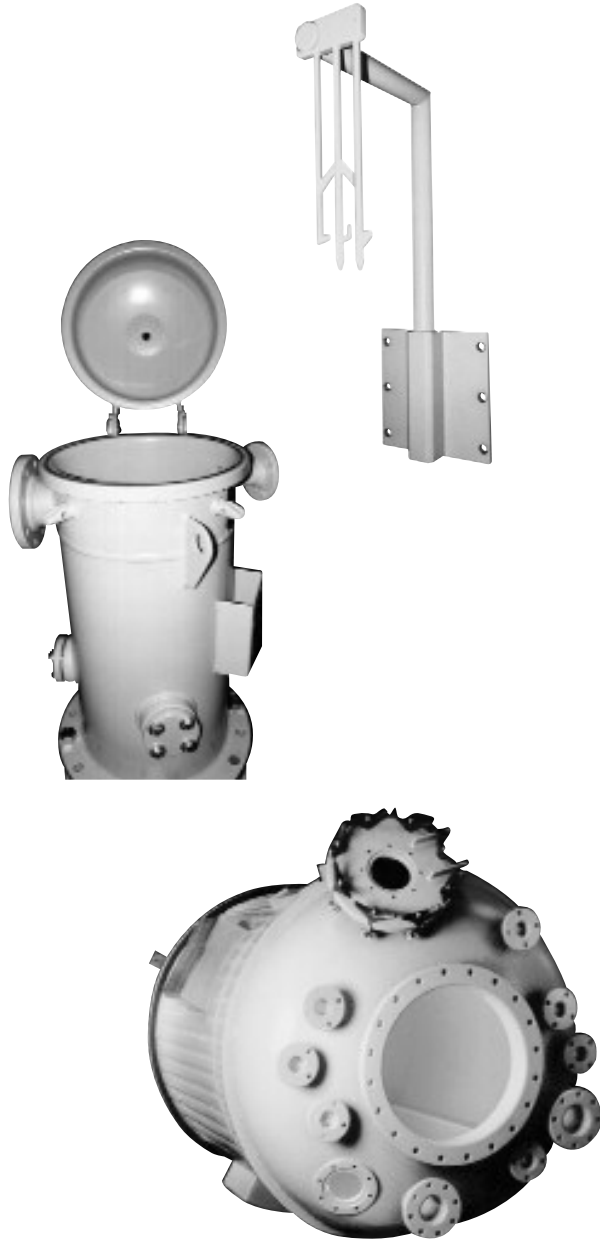
Standard Components:

- 2" (50mm) to 120" (3000mm)
- Straight Ducts
- 45P & 90P Elbow
- Equal Tee & Reducing Tee
- Concentric & Eccentric Reducer
- Y-Piece
- Square to Round Adapter
- End Cap
- Equal Cross
- Off set
- Lateral Take Off
- Blastgate
- Balance Damper
- Field Joint



Coated Wafer Processing Components & Equipment

Edlon's Secure & Pure™ coatings for wafer processing components and equipment are the perfect solution for protecting your high purity chemicals, cabinet components and wafers.



Coating Options:

- Unpigmented & pigmented available
- PFA – up to 0.050" (50 mils)
- ECTFE – up to 0.120" (120 mils)
- ETFE – up to 0.060" (60 mils)
- PVDF – up to 0.040" (40 mils)

Features & Benefits

- Applied in a state-of-the-art clean room coating booth
- Excellent adhesion to metal substrate
- Ultra smooth surface
- Excellent resistance to corrosion and superior release properties
- Field repairable
- Can be applied to existing equipment
- Pre machine and post machining capabilities
- Cost effective fluoropolymer solution
- All coatings are spark tested at 10,000 volts minimum to insure that the coating is pin-hole free

Typical Products:

- Wafer Carriers
- Etch and Rinse Tanks
- Robot Arms
- Tool Components
- Storage Tanks and Reactors

Rotomolded & Rotolined Wafer Processing Components & Equipment

Edlon offers a wide range of Secure & Pure™ rotomolded and rotolined wafer processing components and equipment. These products are customized to meet your space and process requirements.



Rotomolding Options:

- Unpigmented & pigmented available.
- PFA, ETFE, ECTFE, PVDF, PP & PE

Features & Benefits

- All resin is added into the mold in a cleanroom environment
- Excellent adhesion to metal substrate
- Ultra smooth surface
- Unique shapes & sizes

Typical Products:

- Wafer Carriers
- Etch Tanks
- Rinse Tanks
- Solid Tool Components

Vacuum & Thermoformed Liners

Edlon's Secure & Pure™ vacuum forms reflect over 37 years of experience. They utilize an understanding of fluoropolymer fabrication, melt flow and shrinkage characteristics unparalleled in the industry.



Lining Options:

- Unpigmented & pigmented available
- PFA, FEP, ETFE, ECTFE, PVDF, PP & PE

Features & Benefits

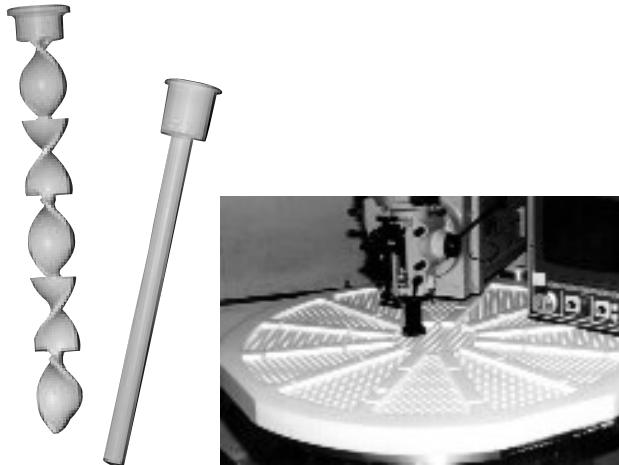
- Applied in a state-of-the-art clean room booth
- Ultra smooth surface
- Unique shapes & sizes
- Programmable PLC controlled state-of-the-art IR vacuum former
- Up to 60" x 60" vacuum forming
- Up to 144" x 144" thermoforming





Machined Components

Edlon has established an extensive machining department capable of high quality precision machining. Edlon manufactures solid plastic components and end products as well as supporting the other product line offerings. These capabilities combined with Edlon's fluoropolymer coatings, rotomolding, sheet linings and vacuum forming help make Edlon the most complete fluoropolymer fabricator in the industry.



Capabilities:

- Multiple CNC Machines and Lathes for precision machining
- Programming in Virtual Gibbs, Mechanical Desktop, & Pro-E
- 3-D Modeling

Materials:

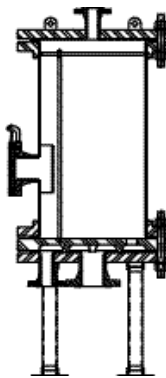
- PFA, PTFM, PTFE, ETFE, ECTFE, PVDF, PP, & PE

Sample Products:

- Static Mixers
- Dip Tubes
- Spargers/Spraying systems
- Filter Plates, Hold Down Plates & Miscellaneous Accessories
- Vessel Components
- Single Cartridge Filter Housings
- Pre-Machining & Post Machining of Coated and Rotomolded Components
- Semiconductor Tool Cabinets and Components

Filter Housings

Edlon has a complete line of Secure & Pure™ fluoropolymer lined filter housings. Please consult Edlon with your specific application.



Design Specifications:

- Temperature: Ambient to 350°F (161°C) & up
- Pressure: Full Vacuum to 300 psi & up

Lining Options:

- PFA, PTFM, PTFE, FEP, ETFE, ECTFE, PVDF, PP

Ports:

- Flare-Type Fittings
- NPT
- 150#, 300# and DIN Flange

Bolts:

- 304SS & 316SS
- Teflon Coated Stainless Steel

Accessory Options:

- Dip Tubes
- Spargers
- Baffle Plate
- Hold Down Plate
- Tie-Down Rods
- Separator Plate
- Internal Heat Exchanger

Charts

Volume of Shells and Heads												
*Volume within the straight flange is not included												
ID of Vessel (Inches)	Cylindrical Shell/Linear Feet				2:1 Elliptical Head				ASME F&D Head			
	FT ³	US Gallons	US Liters	Weight of Water (lbs)	FT ³	US Gallons	US Liters	Weight of Water (lbs)	FT ³	US Gallons	US Liters	Weight of Water (lbs)
12	0.8	5.9	30.3	49	0.1	1.0	3.7	8.17	0.08	0.6	2.2	4.83
14	1.1	8.0	39.4	67	0.2	1.6	5.9	12.98	0.12	0.9	3.6	7.83
16	1.4	10.4	50.0	87	0.3	2.3	8.8	19.37	0.19	1.5	5.5	12.08
18	1.8	13.2	61.7	110	0.4	3.3	12.5	27.58	0.27	2.0	7.7	17
20	2.2	16.3	74.6	136	0.6	4.5	17.1	37.83	0.37	2.8	10.6	28.33
22	2.6	19.7	88.9	165	0.8	6.0	22.8	50.35	0.5	3.8	14.3	31.49
24	3.1	23.5	104.5	196	1	7.8	29.6	65.37	0.65	4.9	18.4	40.49
26	3.7	27.6	121.1	230	1.3	10.0	37.7	83.11	0.82	6.1	23.2	51.15
28	4.3	32.0	138.9	267	1.7	12.4	47.1	103.8	1.1	8.2	31.1	68.4
30	4.9	36.7	158.2	306	2	15.3	57.9	127.7	1.3	9.7	36.7	80.81
32	5.6	41.8	178.7	349	2.5	18.6	70.3	155	1.64	12.3	46.6	102.5
34	6.3	47.2	200.2	394	3	22.3	84.3	185.9	1.88	14.1	53.4	117.5
36	7.1	52.9	222.9	441	3.5	26.5	100.2	220.1	2.15	16.1	60.9	134.1
38	7.9	58.9	247.2	492	4.2	31.1	117.7	259.5	2.75	20.6	78.0	171.6
40	8.7	65.3	272.5	545	4.8	36.3	137.3	302.6	3.07	23.0	87.1	191.6
42	9.6	72.0	355.8	601	5.6	42.0	158.9	350.4	3.68	27.5	104.1	229.1
48	12.6	94.0	450.4	784	8.4	62.7	237.2	523	5.12	38.3	145.0	319.1
54	15.9	119.0	556.0	993	11.9	89.2	337.7	744.6	7.3	54.6	206.7	454.9
60	19.6	146.9	672.6	1226	16.3	122.4	463.3	1021	10.08	75.4	285.4	628.2
66	23.8	177.7	800.5	1483	21.8	162.9	616.6	1360	13.54	101.0	382.3	843.9
72	28.3	211.5	939.4	1765	28.3	211.5	800.5	1765	17.65	132.0	499.6	1100
78	33.2	248.2	1089.7	2071	35.9	268.9	1017.8	2244	22.32	167.0	632.1	1391
84	38.5	287.9	1250.9	2402	44.9	335.9	1271.4	2802	28.47	213.0	806.2	1775
90	44.2	330.5	1423.2	2758	55.2	413.1	1563.6	3447	35.56	266.0	1006.8	2216
96	50.3	376.0	1606.4	3138	67	501.3	1897.4	4184	42.51	318.0	1203.6	2649
102	56.7	424.4	1801.3	3542	80.3	601.4	2276.3	5018	52.14	390.0	1476.2	3249
108	63.6	475.9	2006.8	3971	95.4	713.8	2701.7	5957	60.96	456.0	1726.0	3799
114	70.9	530.2	2223.7	4425	112.2	839.5	3177.5	7006	73.66	551.0	2085.5	4590
120	78.5	587.5	2451.5	4903	130.9	979.2	3706.3	8171	84.35	631.0	2388.3	5257
126	86.6	647.7	2690.8	5405	151.5	1134.0	4292.2	9459	97.32	728.0	2755.5	6065
132	95	710.9	2940.9	5932	174.2	1303.0	4931.9	10876	108.7	813.0	3077.2	6773
138	103.9	777.0	3202.1	6484	190.1	1489.0	5635.9	12428	127	950.0	3595.8	7915
144	113.1	846.0	0.0	7060	226.2	1692.0	6404.2	14120	147.9	1106.0	4186.2	9214

To Convert	Conversion Table	to Obtain
U.S. Gallon	Multiply by	Liters
Liters	0.2642007	U.S. Gallons
Inches	25.4	Millimeters
Inches	1000	mils
Millimeters	39.37	mils
Millimeters	0.03937	Inches
° Fahrenheit	-32(*5/9)	° Celcius
° Celcius	(*9/5) + 32	° Fahrenheit
psi (lbs/in ²)	2.307	Ft. of Water
psi (lbs/in ²)	0.0680457	Atmospheres
psi (lbs/in ²)	2.0359273	in. of Mercury (at 0°PC)

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LEVEN, FIFE, SCOTLAND UK FACILITY

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