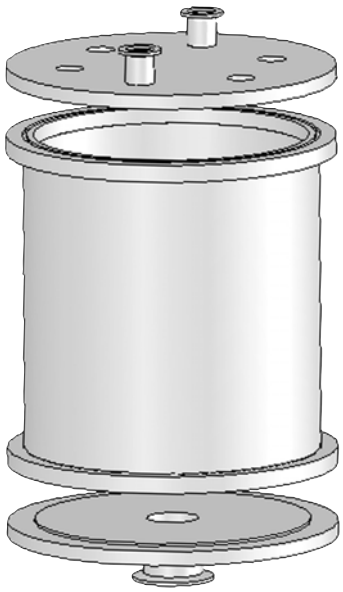
Aluminum Cylinders and Base Plates

12 inch cylinder with 'L' gasket, optional Pyrex view port, handles, and top plate. Less outgassing than stainless steel, see page 39.

Cylinder with top & bottom plate. Optional NW-25 ports and 1 inch diameter holes in top plate. NW-50 port for pump out on the bottom plate.



Aluminum Cylinders with 'L' Shaped Gaskets

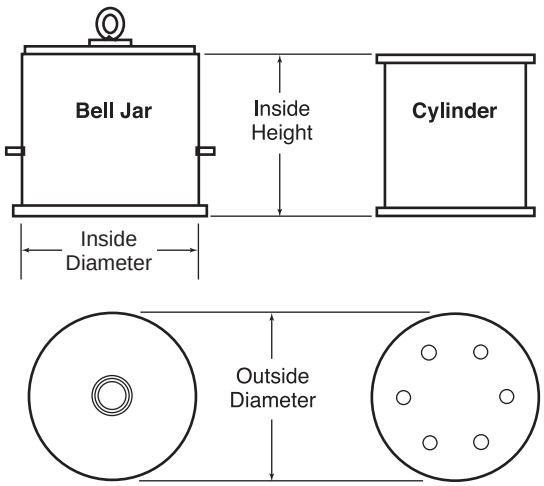
Purchase base plates, ports, and gaskets as needed from the lists below.

Inside Diam. (kg)	Inside Height (kg)	Volume		Weight		Price
		In^3	liters	Lbs.	kg	
6 Inch (152)	9 Inch (228)	254	4.2	5	2.3	$790.
8 Inch (203)	12 Inch (304)	603	9.9	8	3.6	$959.
10 Inch (254)	15 Inch (381)	1,178	19.3	15	6.8	$1306.
12 Inch (304)	18 Inch (457)	2,035	33.4	20	9.0	$1415.
16 Inch (406)	20 Inch (508)	4,021	65.9	30	13.0	$1947.
18 Inch (457)	25 Inch (635)	6,361	104	43	20.0	$2248.
20 Inch (508)	25 Inch (635)	7,854	128	50	23.0	$2951.

Aluminum Cylinders With Flanges

Flanges with O-ring at each end. Purchase base and top plate from the lists below.

Inside Diam. (kg)	Inside Height (kg)	Volume		Weight		Price
		In^3	liters	Lbs.	kg	
6 Inch (152)	9 Inch (228)	254	4.2	2.5	1.1	$906.
8 Inch (203)	12 Inch (304)	603	9.9	3.8	1.7	$1093.
10 Inch (254)	15 Inch (381)	1,178	19.3	8	3.6	$1610.
12 Inch (304)	18 Inch (457)	2,035	33.4	11	5.0	$1866.



'L' Shaped Gaskets

Cylin. Diam.	6 in.	8 in.	10 in.	12 in.	14 in.	18 in.	22 in.
Buna-N	$49.	$54.	$520.	$54.	$58.	$68.	$87.
Viton	$82.	$99.	$104.	$138.	$148.	$214.	$302.

Base Plates and Top Plates

For use with cylinders. Select pump out and view ports as needed for your process.

Use with Cylinder	Outside Diameter	Weight Lbs.(kg)	Price
6 Inch (152)	8 Inch (203)	2.5 (1.1)	$82.
8 Inch (203)	10 Inch (254)	4 (1.8)	$99.
10 Inch (254)	12 Inch (304)	6.5 (2.9)	$384.
12 Inch (304)	14 Inch (355)	8.8 (4.0)	$521.
16 Inch (406)	18 Inch (457)	15 (6.8)	$680.
18 Inch (457)	20 Inch (508)	18 (8.2)	$834.
20 Inch (508)	22 Inch (559)	22 (10.0)	$977.

Pump Out Ports

Located at Center of Base Plate

NW-25	$134.
NW-40	$155.
NW-50	$166.
ISO-100k	$209.
ISO-160k	$253.
ISO-200k	$351.
ANSI LP 4 Inch	$176.
ANSI LP 6 Inch	$209.

View Ports

Specify Location

NW-50	Polycarbonate	$77.
ISO-100	Pyrex	$329.
ISO-160	Pyrex	$394.

Feed Through Holes

1 inch diameter holes in base or top plates

Set up holes on 1 circle	$66.
Plus cost for each hole	$16.

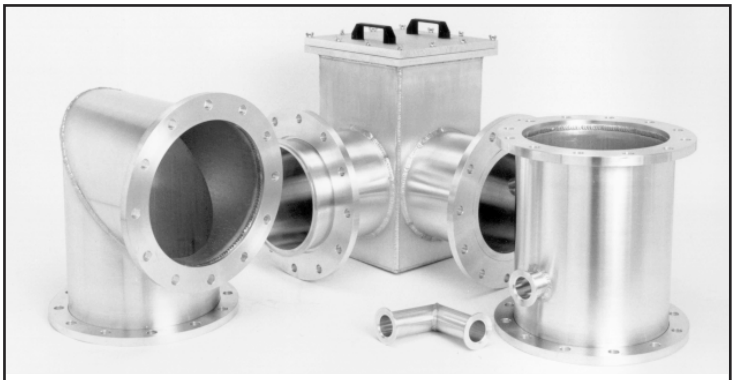
Lifting Handles

Available on cylinders & plates.
Price per pair. . . . $138.

Lifting Lug

On top center of plate.
1 inch diameter eye bolt.
Price each. . . . . $131.

Custom Aluminum Vacuum Piping



Aluminum has less outgassing than stainless steel. Up to 2 orders of magnitude less, see page 43.

- **Custom Fabricated Aluminum Weldments**
- **Nipples, Spool Pieces, Elbows & Loadlocks**
- **Leak Tested To Better Than 5 X 10^{-10} scc/sec**
- **Specify Rectangular or Cylindrical Bodies**
- **ANSI, ISO, JIS, CF, NW & Special Flanges**
- **Rotatable or Non-Rotatable Flanges**

50 Years Experience

Vacuum Research has been welding and machining aluminum as part of our vacuum valve business for almost 50 years. With aluminum now replacing stainless steel as the material of choice for many vacuum processes the need for custom aluminum weldments is growing and Vacuum Research is available to help. We can provide nipples, manifolds, elbows, load locks or just about any aluminum vacuum component needed for your system.

Any Flange Style

We can provide both fixed and rotatable flange styles with bolt circles to match ANSI, ISO, JIS, CF and NW specifications. Both heated and water cooled pieces are available.

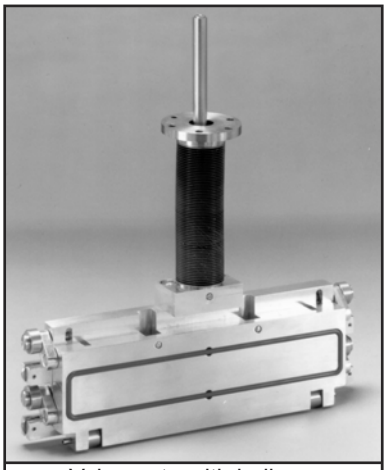
No Leaks

Our years of aluminum welding experience provide leak free joints in material up to 1 inch thick and beyond. Of course, prior to shipment each piece is tested and certified leak free by our assembly technicians.

Fast Quotations

Our equipment can handle orders for one or two pieces or for hundreds of pieces. Send us a sketch, drawing, or electronic file for a quick quotation.

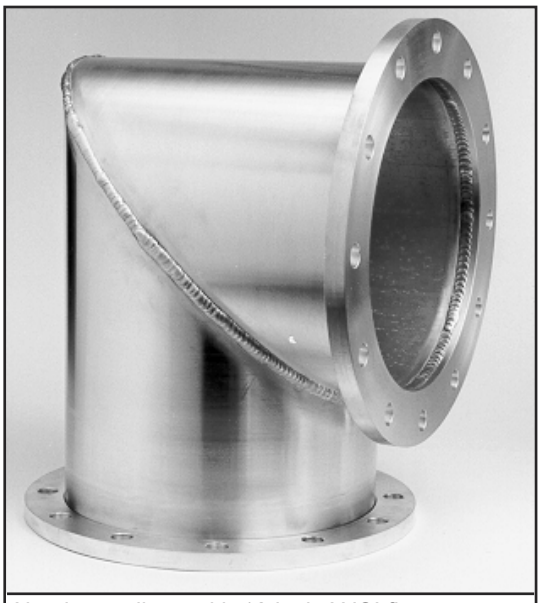
Custom Vacuum Valve Components



Valve gate with bellows

Some times the optimum system design requires the valves to be an integral part of the system structure. Vacuum Research can provide valve subassemblies and components such as gates and actuators to fit your chamber or tool. Send us a drawing showing the space available and we will provide dimensions of the Vacuum Research assembly that is best suited.

Modular vacuum chambers with ISO-320k flanges and lengths of 100, 200, 400 & 800 mm. Inside diameter is 362 mm.



Aluminum elbow with 12 inch ANSI flanges

Vacuum Research Corp. • 100 Chapel Harbor Drive, #4 • Pittsburgh, PA 15238 USA • www.vacuumresearch.com
Phone: 800-426-9340 • 412-261-7630 • FAX: 412-261-7220 • e-mail: VRC@vacuumresearch.com

Special Aluminum Valves and Chambers
Less Outgassing Than Stainless Steel, See Page 39

Throttle valve with ISO-400 flange on one side and 16 inch ANSI flange on the other. An ISO-100 roughing port is located on both sides of the gate.

Aluminum cube with three, 10 inch ANSI flanges (11.7 inch ports) to join a cryo pump to two chambers.

Aluminum cylinder with optional lifting handles and view port connected to cube with a NW-50 port and 3 sight glass view ports. Cylinders and accessories are described on page 29.

Aluminum valve with 24 inch ANSI flanges on both ports and electric pneumatic actuator.