

PROCESS DISCHARGE  
(3" FL- CL150 RF)

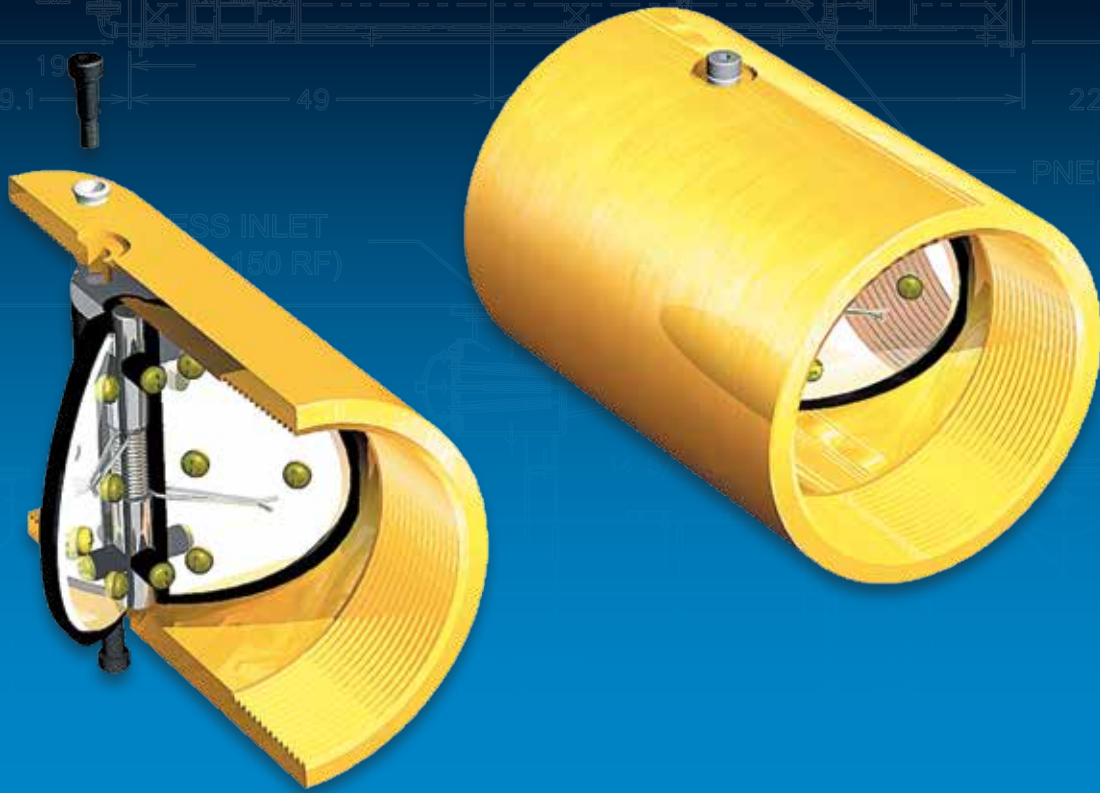
COOLING WATER  
OUT (2" NPT) IN

BIODIESEL VACUUM SEAL  
WATER COOLER  
(E-B1-2403)

ELECTRICAL



ISO 9001:2008



## Female NPT Check Valves

Full Port – Lowest Pressure Drop

*Maximizing the Flow*



# Full Port • Lowest Pressure Drop • Quick Delivery

## Full Port, Lowest Pressure Drop

Full Port Check Valves provide more flow and lower pressure drops than conventional check valves. Our elastomer hinge check valve design takes performance to an entirely new level by eliminating the restrictive valve seat and substantially increasing the valve's open area and flow coefficient (Cv). The resulting flow is more laminar, with lower pressure loss and reduced turbulence.

## Valve Testing

Every elastomer hinge check valve we manufacture is assembled, inspected and tested in our plant in Maryland -USA. Our commitment to quality assures you the performance and reliability you demand and expect. Material test reports and test certificates are available on request.



US Valve Female NPT Check Valves are available in a wide variety of materials and configurations to fit your application requirements.

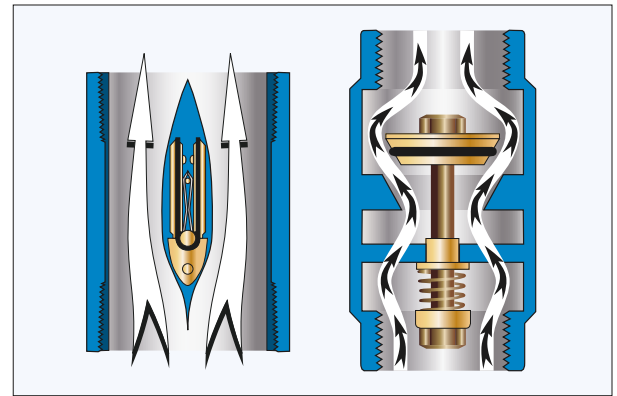
## US Valve LLC – The Right Choice

US Valve is a New Jersey Corporation with headquarters in New Jersey and manufacturing locations in Maryland–USA, Europe and Asia. Our primary focus is check valves and our roots are grounded in low pressure drop designs. Our application engineers can assist you in making the right choice of valve for your application.

## Low Price, Delivery & Service

We want to be your supplier of Full Port, Low Pressure Drop Check Valves, so we offer *Competitive Pricing, Fast Delivery* and *Outstanding Service*. We maintain an extensive inventory of valves, parts and components in a wide variety of materials so we can respond to your needs quickly. Valves are typically assembled and tested within 1 to 2 days after receipt of an order.

We can say with confidence that our customer service is the best in our industry. Give us a chance to prove it.



### US Valve Design

Open flow path, low  $\Delta P$ , more laminar flow

### Conventional Design

Restricted flow path, high  $\Delta P$ , increased turbulence

## Features & Benefits

Full Port Check Valves offer some impressive advantages over other types of check valves.

### • Low Pressure Drop (High Cv)

Our elastomer hinge check valves have larger open area than other designs, thus providing higher capacity and lower pressure drops than swing and lift check, or even traditional dual plate wafer designs.

### • ARRA Compliant

USA content, substantial transformation and local assembly makes our Full Port Check Valves ARRA compliant for government funded projects.

### • Alleviates Water Hammer

When spring activated, our discs are designed to close 33% faster than standard dual disc check valves due to the fact that they are closed at a 30 degree angle. This makes for an effective non-slam design when installed in liquid applications.

## ISO9001:2008 Certified

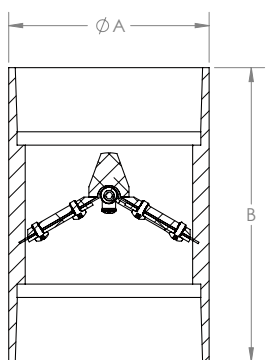
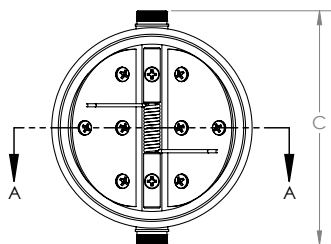
US Valve is **ISO 9001:2008 Certified**. We always keep our certification current. We take our commitment to product quality and documentation seriously. You can rest comfortably knowing that we provide only the best to our customers.



## Valve Dimensions

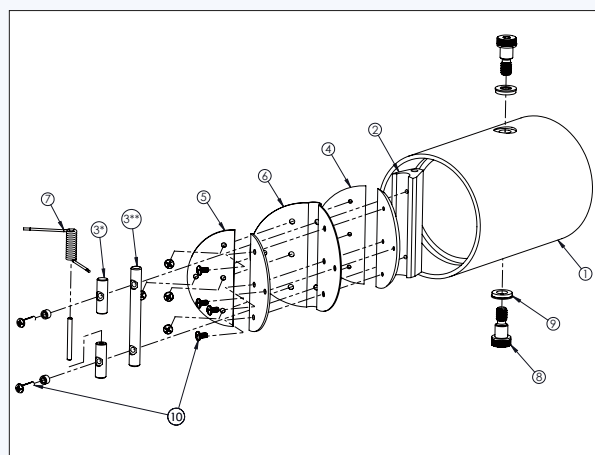
Size	A	B	C
1	1.58	3.25	1.60
1 ¼	1.94	3.50	2.00
1 ½	2.19	3.50	2.20
2	2.69	4.00	2.80
3	3.75	5.50	4.20

All dimensions in inches



Zinc Dichromate Plating on our standard Carbon Steel Valves provides superior corrosion resistance.

## Exploded View



Part No.	Part Description
1	Body (FNPT Shown)
2	Wing Support
3*	Spring Pin
3**	Wing Pin
4	Disc
5	Back-up Disc
6	Elastomer Seal
7	Spring
8	WS/LM Fastener
9	Sealing Washer
10	Internal Fasteners

Note: If valve is supplied with optional spring, use part number 3\* (Spring Pin), otherwise use 3\*\* (Wing Pin).

## Standard Models and Materials

Model	Body	Discs	Wing Support	MAWP*
18-1-0	Carbon Steel ASTM A106 Gr.B	Aluminum ASTM 6061T6	316 Stainless Steel ASTM A276	250 PSI
18-1-4	Carbon Steel ASTM A106 Gr.B	316 Stainless Steel ASTM A240	316 Stainless Steel ASTM A276	300 PSI
18-4-4	Stainless Steel ASTM A312 Gr.316	316 Stainless Steel ASTM A240	316 Stainless Steel ASTM A276	300 PSI

\* MAWP — Maximum Allowable Working Pressure at 60°F

ELASTOMER SEAL		
Code	Material	Temp. Range
B	Buna N	-60°F to 225°F
E	EPDM	-40°F to 300°F
V	Viton	-20°F to 450°F
S	Silicon	-100°F to 500°F
T	Teflon	-20°F to 450°F

OPTIONAL SPRING	
Code	Nomenclature
SP	316 SS Standard Torque
SL	316 SS Low Torque
SH	316 SS Heavy Torque

All fasteners and spring pins are 316 stainless steel. BUNA-N is standard seal in all valves. Optional seal materials: EPDM, VITON, SILICON and TEFLON. 316 stainless steel springs are optional for all models and are available in standard, low or heavy torque. Consult factory for any other special material requirements.

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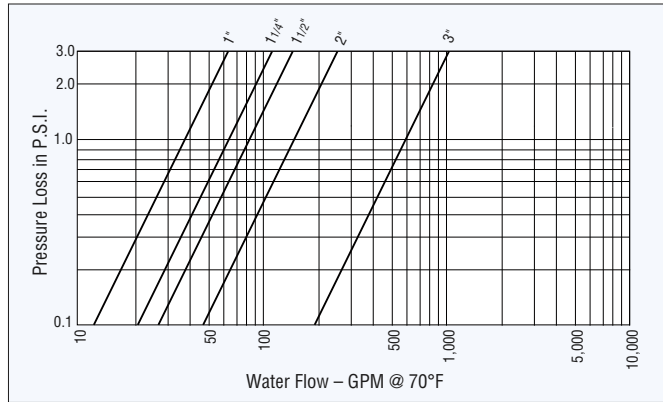
BIODIESEL VACUUM SEA  
WATER COOLER  
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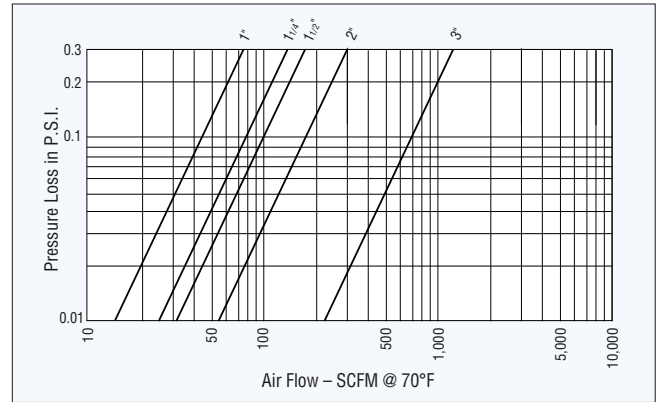
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## Pressure Losses

### Liquid Applications



### Gas Applications



Pressure Losses for Gas Applications are based on valves without optional springs.

## US Valve Flow Coefficients (Cv) vs. Conventional Designs

Size	US Valve Full Port Dual Disc	Conventional Swing Check Design	Conventional Lift Check Valve
1	37	22	17
1 ¼	65	39	—
1 ½	83	55	35
2	145	65	63
3	590	135	148

Check Valve Flow Coefficient Comparisons (Cv) — GPM of water @ 60°F and 1 PSI Pressure Drop

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*Maximizing the Flow*