



Check Rite®

Rite Sized Check Valves



ASME Class 125 – 2500

1" (25mm) – 60" (1500mm)



Ritepro Corporation, headquartered in Quebec, Canada and founded in 1963, designs and manufactures exceptional Check Rite check valves, cam and groove quick couplings, and fluid handling loading and unloading equipment. For over 40 years, Ritepro has earned a reputation for reliability. This reputation is based on our highest quality manufacturing standards, premium components and thorough control procedures. With a worldwide sales and distribution network, we offer our customers full support wherever the project location.

Our engineers specialize in innovative, individual solutions to industry needs and will assist you with your project requirements. Our knowledgeable sales and support staff are committed to outstanding service and, above all, customer satisfaction. We look forward to recommending a practical and economical solution to your fluid control applications.

Check Rite Valves continue to be the premier wafer combination swing check valve. Designed in 1970, their performance remains unsurpassed. The line offers a wide range of valves and accessories, all fully stocked and readily available. Their successful, long term use in applications worldwide has made the Check Rite the industry standard for economy, durability and reliability.

Check Rite®

State of the Art Check Valves, Check Rite is Rite Sized.

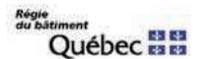
Ritepro's Check Rite wafer combination swing check valves are flow-activated and *Rite Sized*. Check Rite inlet ports and disc have been shape optimized to achieve a fully open position at low flow rates (3 ft/s on average). Therefore, the Check Rite operates exceptionally well in the flow rates typically found in pipelines containing control valves and lines with varying media flows.

Compare the Check Rite to typical full-sized swing check valves. Due in part to their oversized, heavier discs, these valves only fully open at an average flow rate of 11 ft/s. When activated at a lower flow rate, these valves lose true controllability and do not fully open. A partially open disc creates an obstruction that produces a higher pressure drop and fluttering of the valve disc – disturbing the flow and increasing the chance of water hammer.

Check Rite is *Rite Sized* to eliminate these problems. It has been engineered to accelerate line media through the valve and achieve a virtually unobstructed full opening in low pressure. *Rite Sized*, combined with the limited movement of internal parts during operation, reduces wear – enhancing the long service life of a Check Rite valve.



SIZE RANGE
1" (25mm) – 60" (1500mm)
ASME CLASS
125 - 2500
API, DIN, BS, JIS
Classes Available



Drinking Water
NSF / ANSI 61



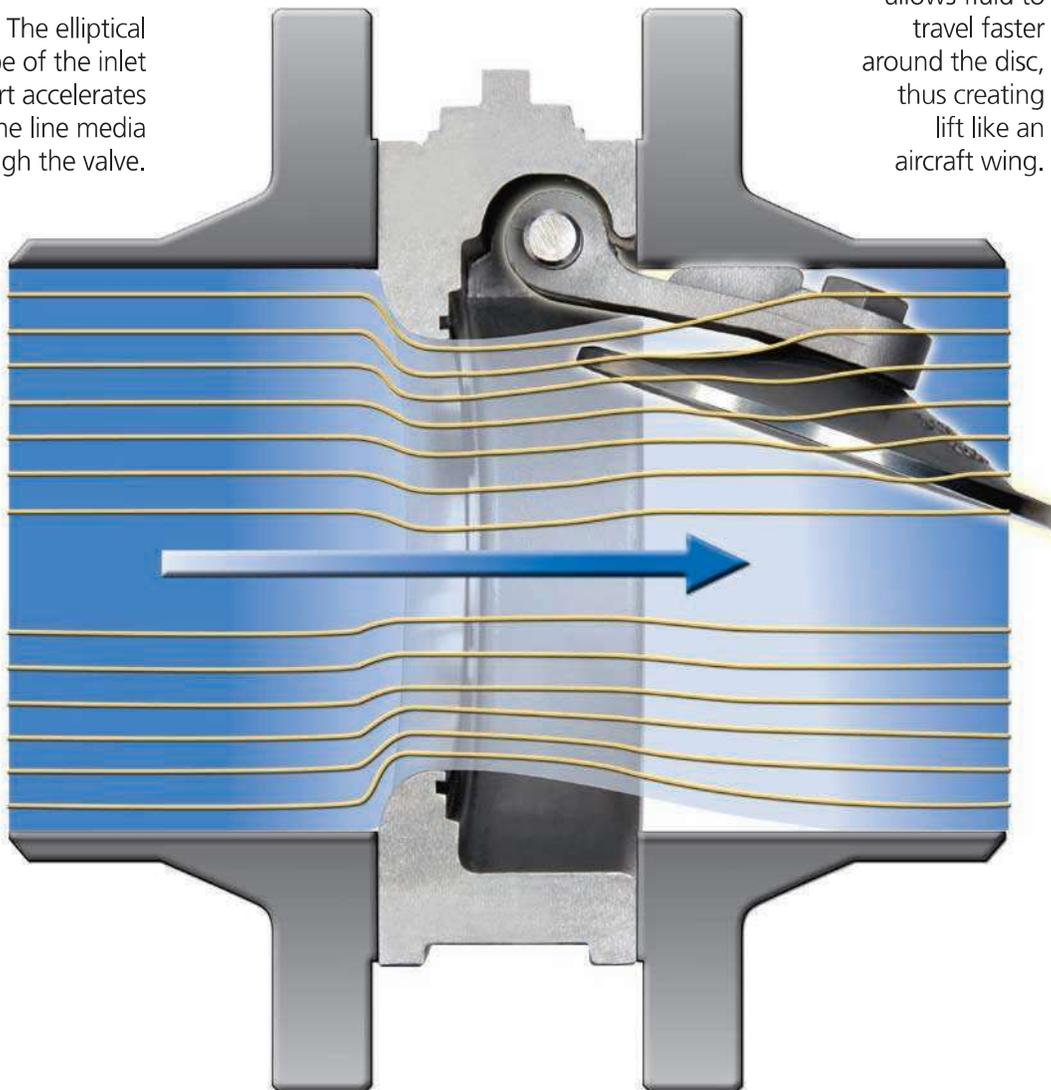
ZERO LEAKAGE Check Rite valves, either resilient or metal seated, offer zero leakage in all pressure classifications. Each valve is hydrostatically tested at the factory and shipped with a certificate of compliance to MSS SP61. Ritepro has achieved zero leakage metal-to-metal sealing by a proven, engineered design backed by high quality manufacturing craftsmanship. As the disc closes toward the seat, the increased velocity of the line media and the unique shape of our seat remove all particles from the sealing surfaces – ensuring zero leakage.

LOW PRESSURE DROPS The low pressure drop of the Check Rite valve was achieved by Ritepro's many years of research and development in combination with universities and federal research agencies. Several theses and papers were published including *Minimizing the pressure loss of wafer type swing check valve ASME 79/MA-NE-5*. These results – primarily the optimum valve diameter and elliptical inlet shape – have been incorporated into the Check Rite design. Like a venturi, the aerodynamic shape accelerates the line media through the valve with the lowest possible pressure drop. Pressure drops at the full open position are between 0.5 to 0.7 psi for all size valves. Additionally, the disc shape and mass have been optimized to use the pipeline media flow as a lifting force on the disc, thus allowing a full open valve position in low line velocity.

HIGH FLOW CAPACITY Check Rite's valve inlet elliptical shape and optimum diameter, plus its virtually unobstructed opening combine to produce a substantially higher flow capacity (C_v) than other wafer combination swing check valves.

REDUCED WATER HAMMER An additional focus of Ritepro's R&D program was linked to Water Hammer Prediction. Findings were applied in the design of the valve to largely reduce or eliminate water hammer by closing the valve at the right moment (before reverse flow occurs). The Check Rite uses gravity, assisted by an internal spring, to pull the disc toward the closed position on decelerating line media flow. Ritepro has developed proprietary predictive software to select the best solution for your specific application.

The elliptical shape of the inlet port accelerates the line media through the valve.



The disc's angle and shape allows fluid to travel faster around the disc, thus creating lift like an aircraft wing.

CHECK RITE SEATS Zero leakage shut off, even at 0 psi, is achieved through lapped metal seating surfaces. The seat and the disc edges are precisely machined then hand polished for a perfect fit. The disc hinge provides an even force at the disc to seat contact point, ensuring a uniform seal. Controlled tolerances maintain the proper disc to seat alignment. The spring assisted closure tension holds the disc in place when line pressure is removed.

RESILIENT SEATS A dynamic, O-ring seat is contained in a specially designed body groove. As line pressure is applied, the valve disc uniformly compresses the seat into the groove ensuring a zero leakage seal. The seat is easily replaced, simplifying maintenance.

METAL-TO-METAL SEATS Integral metal seats feature an engineered and precision machined angle that minimizes the metal-to-metal contact point between the disc and seat for a perfect seal. Pressure is applied evenly over the disc, eliminating galling and reducing wear.

METAL SEAT INSERT Carbon steel and ductile iron bodies have a stainless steel seat inserted into the body seal area, offering the same precision design as the integral metal-to-metal seat. These bodies are also available with a Resilient Seat Insert.

INHERENTLY FIRE SAFE All Check Rite valves are inherently fire safe due to the valve design, materials and construction. In the event of a pipeline fire, both resilient seated and metal seated valves provide metal-to-metal contact between the seat and disc and surpass all leak test standards.

Pressure Drop with Water

Valve Size	Cv	Min Flow To Fully Open Valve		Approx Pressure Drop w/Water
		GPM	Ft/sec.	
1 / 25	30	28	10.4	0.78
1.5 / 40	38	68	10.7	2.1
2 / 50	84	46	4.4	1.7
2.5 / 65	137	76	5.1	1.4
3 / 75	221	197	8.5	1.1
4 / 100	373	157	4	1.4
5 / 125	679	352	5.6	1.1
6 / 150	931	367	4.1	1.5
8 / 200	1,440	428	2.7	1.6
10 / 250	2,623	837	3.4	1.1
12 / 300	3,531	1,229	3.5	1.2
14 / 350	3,226	1,180	2.7	2
16 / 400	3,911	1,447	2.5	2.6
18 / 450	5,799	3,376	4.8	1.7
20 / 500	7,769	6,500	6.3	1.5
24 / 600	10,105	8,321	5.9	1.6
28 / 700	14,100	9,250	5.3	1.5
30 / 750	18,041	10,303	5.1	0.9
32 / 800	20,900	12,150	5.0	1.4
36 / 900	25,675	15,850	5.2	2
40 / 1,000	39,340	25,310	6.1	2.4
42 / 1050	47,914	31,304	7.5	2.7
48 / 1200	44,983	33,095	5.9	1.6
54 / 1350	63,000	45,000	6	.9
60 / 1500	70,500	62,800	6.2	1.1

Notice the full open stable minimum velocity and the efficiency calculated at a normal velocity of 10 f/sec.

Resilient Seat



Metal-To-Metal Seat



Metal Seat Insert



The convex profile of the disc reacts to line flow like an airfoil. The velocity above the disc is higher than the velocity below, thus effectively creating lift.