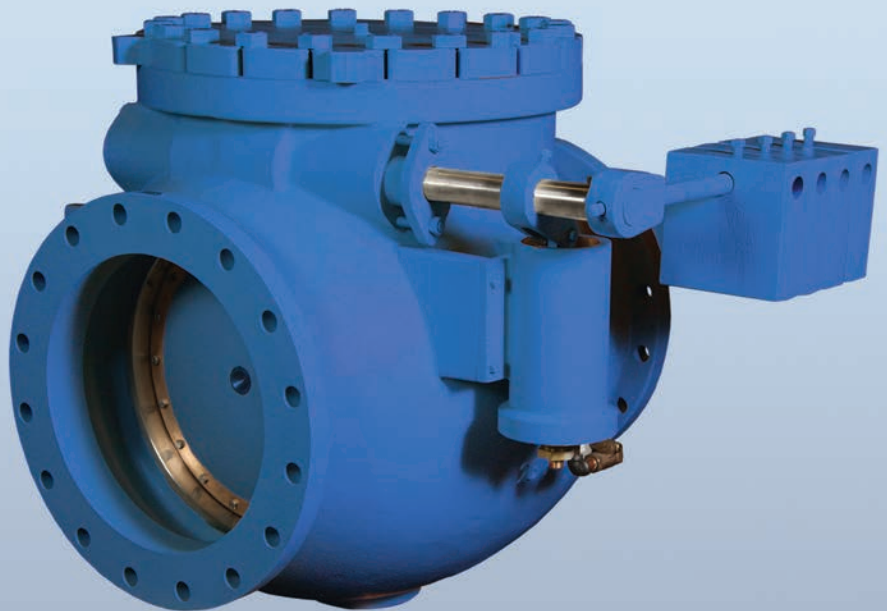
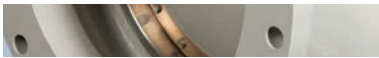


Cushioned Swing Check Valve

Dependable, Non-Slam Operation





A Century of Experience

GA Industries valves are known for long term reliability in the most demanding water and wastewater applications. Whether a simple check valve or a complex automatic control valve, each GA Industries valve is built on over 100 years of design, manufacturing and application experience to ensure its dependability and superior performance.

Outstanding Technical Support

From the factory to the field, every GA Industries valve comes with responsive and knowledgeable technical assistance and support. Factory application engineers and our team of trained and experienced sales representatives work closely with designers to select the right valve from our broad product range to ensure that it meets the system requirements. We are committed to serving our customers in all phases of the project.

Superior Quality

GA Industries valves are produced under a certified ISO-9001 quality system. They are designed in accordance with AWWA and other industry standards and are precision manufactured from the highest grade materials. Every valve is tested to ensure it meets our high standards and the latest industry requirements, so you can be sure it will operate as expected from the minute it is put in service.

Comprehensive Product Range

We are continuously expanding and improving our product line to meet the ever-changing needs of the waterworks industry. From standard butterfly and plug valves to sophisticated, highly engineered pump control, check and surge control valves, we offer one of the broadest ranges of valves in the industry. Please see the back cover for a complete listing of our product offering.



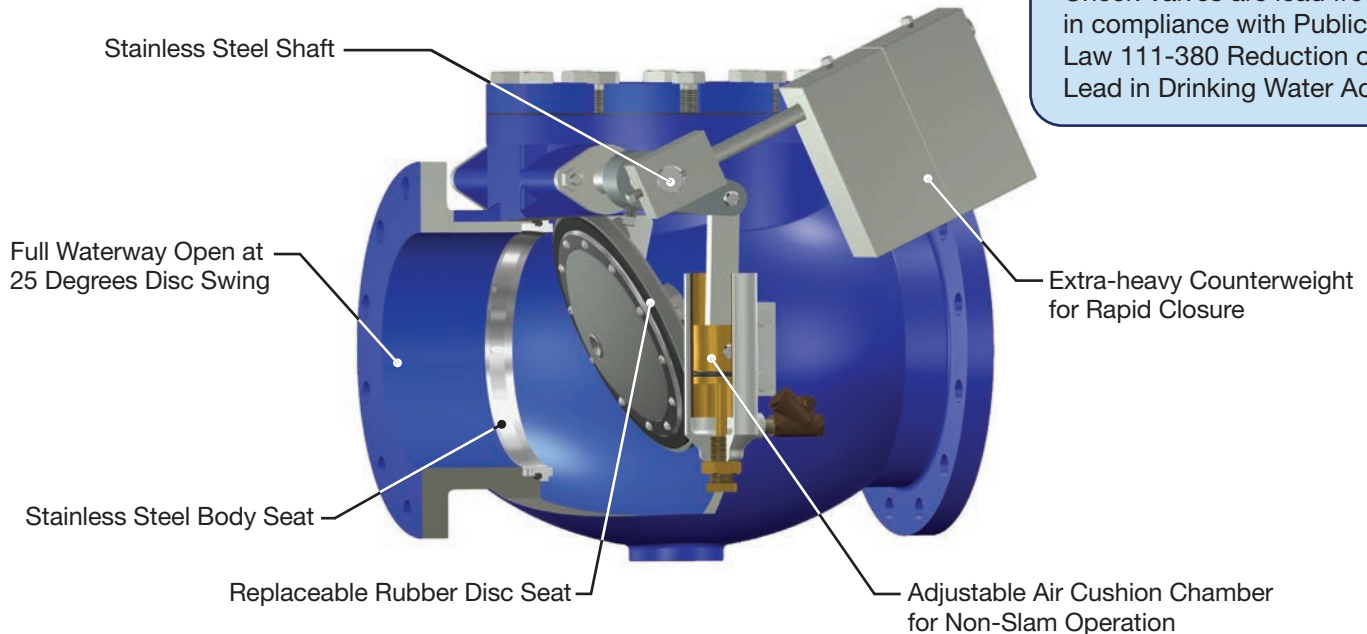
Columbia Canal Raw Water Pump Station, South Carolina — one 30" and one 24" Cushioned Swing Check Valve; one 6" and one 4" Figure 933-DK Air Valve.

Cushioned Swing Check Valve

Dependable, Non-Slam Operation

The GA Industries Figure 250-D Cushioned Swing Check Valve is a counter-weighted, rubber-seated check valve with a specially designed external, side-mounted cushion chamber. The valve only permits flow in the forward direction and is designed to fully close before flow reversal to preclude slam and hammer in rigorous service conditions. The Figure 250-D Cushioned Swing Check Valve is ideal for installations where it is necessary to prevent the backflow of water, wastewater, raw sewage or effluent.

GA Cushioned Swing Check Valves are lead free in compliance with Public Law 111-380 Reduction of Lead in Drinking Water Act



Body

3" – 48" ANSI Class 125 or 250 Flanged Cast Iron. Single and Double-Increasing available (see page 6).

Rugged and Corrosion Resistant

The Cast Iron Body, Stainless Steel Seat and Stainless Steel Hinge Shaft are rugged and corrosion resistant, lengthening the life of the valve. The Ductile Iron Disc Arm is keyed to the Hinge Shaft and will not loosen or misalign, ensuring reliable long-term performance.

Non-Slam Operation

The external counterweight can be easily adjusted to quickly close the valve before flow reversal, precluding slam and hammer. The air-cushion chamber is mounted on machined pads on the side of the valve body and is adjustable to cushion the valve's rapid closure.

Long-Term Tight Seating

The center pin design allows 360° disc articulation, which combines with the resilient disc seat to ensure long term drop-tight seating.

Flow Efficient Design

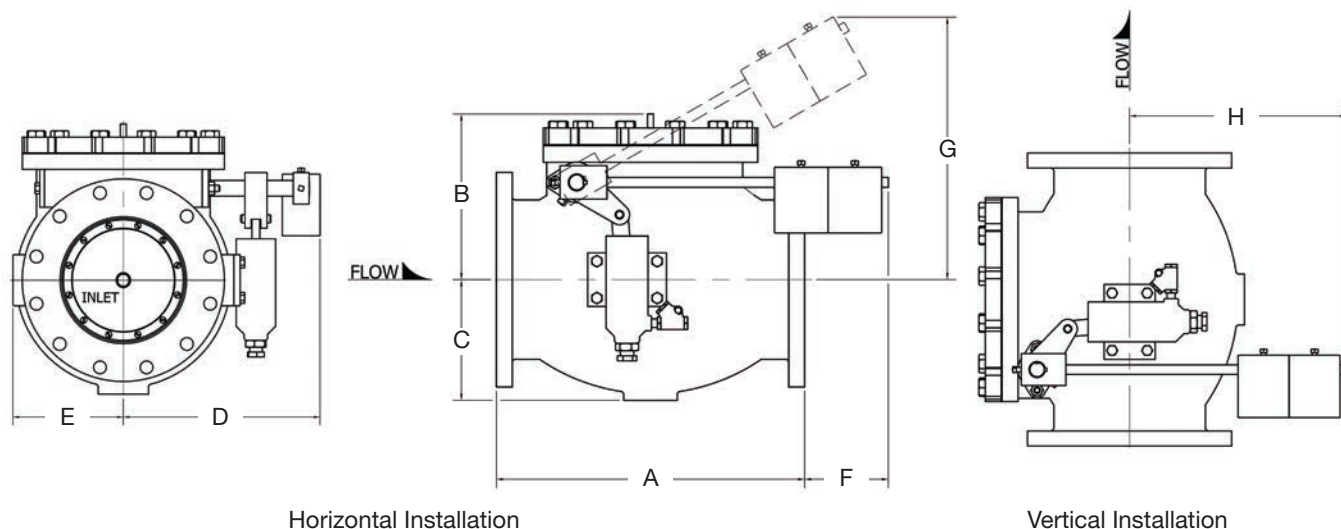
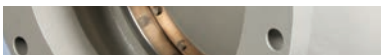
The full waterway creates a flow area equivalent to the pipe area when the disc has swung a mere 25° away from seat. The convex disc face increases the dynamic lifting force, which allows the valve to open farther, resulting in lower headloss.

Field Convertible

The counterweight arm and air-cushion chamber are field convertible from standard right side to left side, or from horizontal to vertical installation, without additional parts.

Low Maintenance

The stainless steel hinge shaft is supported at both ends with no-lead bronze bearings, with no need for external lubrication. The bolted top cover facilitates cleaning and allows removal of all internal components for ease of inspection and maintenance.



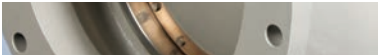
Dimensions (inches)

Size	A	B	C	D	E	F	G	H	Approx. Weight (lbs)
2"	12	7	5	10	5	5	15	9 ½	101
2 1/2"	12	7	5	10	5	5	15	9 ½	101
3"	12	7	5	10	5	5	15	9 ½	101
4"	13	8 ½	5	11	5	4	16	9	154
6"	17 ½	9	6	12	7	3	19	11	234
8"	18	12	9	14	8	3	21	9	310
10"	23	14	9	15	9	—	23	8	485
12"	28	16	11	17	11	8	32	17	970
14"	33	22	13	20	14	2	34	14	1480
16"	36	23	14	24	16	—	35	14	1860
18"	40	24	17 ¼	28	18	—	37	12 ½	2400
20"	40	24	17 ¼	28	18	—	37	12 ½	2800
24"	48	28	20	34	21	2	36	20	6000

- Note:
1. Consult factory for dimensions and weights of 30" to 48" valves.
 2. Dimension A is same for ANSI Class 125 or 250 flat face flanged valves.
 3. EN1092, AS4087 and other flange drilling available, consult factory.
 4. See page 6 for Single and Double-Increasing size.

Pressure and Temperature Ratings

Figure Number	Flange	Size	Maximum Working Pressure	Maximum Temperature
Figure 250-D	ANSI Class 125	2" to 12"	200 PSI	150F
		14" to 48"	150 PSI	
Figure 250-U	ANSI Class 250	2" to 12"	400 PSI	
		14" to 36"	300 PSI	



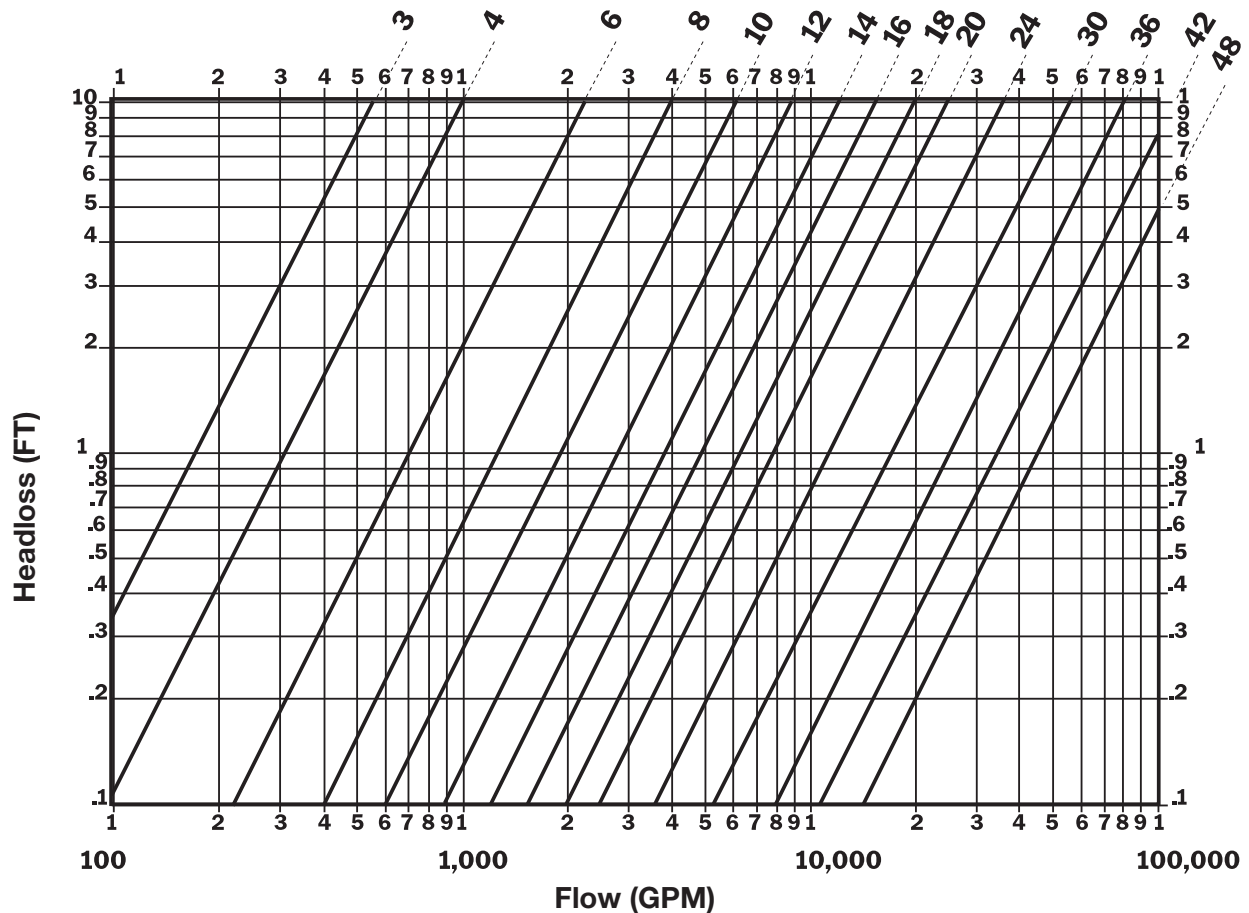
Standard Materials

The GA Figure 250-D (Class 125 flange) and Figure 250-U (Class 250 flange) Cushioned Swing Check Valve conforms to the materials, pressure rating and testing requirements of AWWA C508.

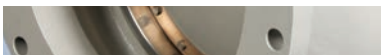
Body	Cast Iron, ASTM A126 Class B
Cover	Steel, ASTM A36
Body Seat	Type 316 Stainless Steel
Disc Arm	Ductile Iron, ASTM A536, Grade 65-45-12
Renewable Disc Seat	Rubber, Buna-N
Hinge Shaft	Stainless Steel, Type 303 (Optional: Stainless Steel Type 316)
Shaft Bushings	No Lead Bronze
Internal Fasteners	Stainless Steel, Type 304
External Fasteners	Steel, ASTM A307 (Optional: Stainless Steel Type 316)

Other materials are available on special order, consult factory for more information.

Headloss vs. Flow



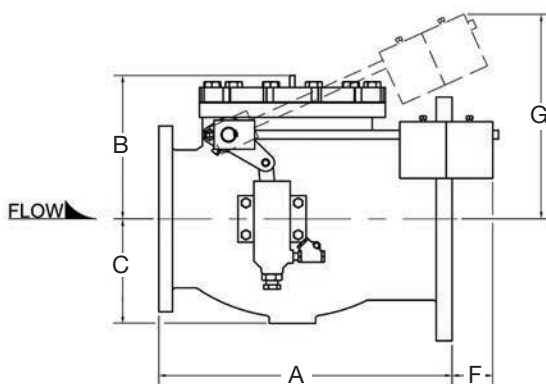
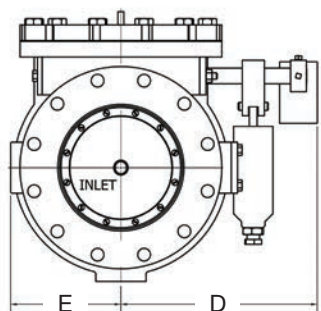
Note: 1. Headloss is in feet of water.
2. Headloss is for valve in fully open position.



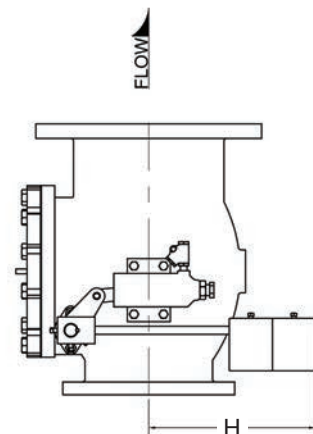
Single and Double-Increasing Size Cushioned Swing Check Valve



The Increasing Size Cushioned Swing Check Valve has an expanded outlet that is one or two sizes larger than the inlet size. This can eliminate the need for increaser fittings, and is particularly well suited to applications where space is at a premium, such as package sewage lift stations.



Horizontal Installation



Vertical Installation

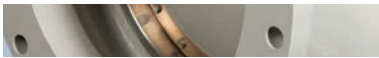
Single-Increasing Dimensions (inches)

SIZE (Inlet x Outlet)	3" x 4"	4" x 6"	6" x 8"	8" x 10"	10" x 12"
A	12	13	17 ½	18	23
B	7	8 ½	9	12	14
C	5	5	6	9	9
D	10	11	12	14	15
E	5	5	7	8	9
F	5	4	3	3	—
G	15	16	19	21	23
H	9 ½	9	11	9	8
Weight (lbs)	120	175	250	350	525

Double-Increasing Dimensions (inches)

SIZE (Inlet x Outlet)	4" x 8"	6" x 10"	8" x 12"
A	13 ½	18 7/8	22 ¼
B	8 ½	9	12
C	5	6	9
D	11	12	14
E	5	7	8
F	3 ½	1 5/8	—
G	16	19	21
H	9	11	9
Weight (lbs)	180	270	390

Note: 1. Dimension A is same for ANSI Class 125 or 250 flat face flanged valves.
2. EN1092, AS4087 and other flange drilling available, consult factory.



Specification

Cushioned Swing Check Valve

DESIGN

A. The check valve shall be designed to smoothly swing open at pump start and close quickly but without hammer upon pump shutdown to prevent flow reversal. When closed, the valve shall seat drop tight.

B. The valve shall conform to the materials of construction, pressure rating and test requirements of AWWA C508.

C. The check valve shall be suitable for installation in a horizontal or vertical flow up pipe.

D. Valves used on drinking water shall be NSF-61 certified and NSF-372 certified lead free.

CONSTRUCTION

A. The body shall be made of cast iron conforming to ASTM A126 Class B with a bolted steel cover allowing complete access to and removal of all internal components while the valve is in the line.

B. The valve body shall have integral flanges, flat faced and drilled per ANSI B16.1 Class 125 or Class 250 with the same size inlet and outlet, or an outlet that is one or two sizes larger than the inlet, as shown on the plans or schedule.

C. The valve body shall have a removable 316 stainless steel body seat held in place with stainless steel pins.

D. The disc arm shall be ASTM A536 Grade 65-45-12 ductile iron and the disc shall be ASTM A126

Class B cast iron with a replaceable Buna-N (or other suitable resilient material) disc seat held in place by a 316 stainless steel follower ring and stainless steel screws. The disc shall be secured to the disc arm by means of a single center pin, disc nut and washer providing 360 degree angular articulation without rotation.

E. The disc arm shall be suspended from and keyed to an austenitic stainless steel shaft that is supported at each end by no-lead bronze bushings. The shaft shall rotate freely without the need for external lubrication. The shaft shall be sealed where it passes through the body by means of a stuffing box and adjustable Teflon packing.

F. The valve shall be supplied with an outside lever with counterweight and non-pivoting bronze air-cushion chamber that is rigidly mounted on machined pads on the side of the body without the need for brackets. The counterweight position and the amount of cushioning shall be adjustable.

G. Unless shown otherwise on the plans, the lever, counterweight and cushion chamber shall be on the right hand side of the valve (looking at the inlet) but shall be field convertible to the left hand side without additional parts.

MANUFACTURER

A. The valve shall be Figure 250-D (Class 125 flange) or Figure 250-U (Class 250 flange) Cushioned Swing Check Valve as manufactured by VAG USA, LLC, Mars, PA USA.

Projects



Happy Valley Reservoir, Arizona — Three 30" and one 42" Cushioned Swing Check Valves; One 30" Figure 3200-D Altitude Valve.



Influent Pump Station, Spring Branch WWTP, Alabama — Four 24" Cushioned Swing Check Valves.



Raw Water Pump Station, Logan-Todd Regional Water, Tennessee — Three 16" Cushioned Swing Check Valves, Three 8" Figure 625-D Surge Relief Valves; Three 4" Figure 931-DT Air Valves.

GA Industries Valves for Water and Wastewater



- Butterfly Valves
 - Series 800 AWWA C504 Butterfly Valve
- Eccentric Plug Valves
 - 1/2" to 24" ECO-Centric® Round Port
 - 24" to 48" Rectangular Port
- Engineered Check Valves
 - Cushioned Swing Check
 - Oil Controlled Closing Swing Check
 - Tilting Disc Check
- Check Valves
 - Lever & Weight or Spring Swing Check
 - Heavy-Duty Swing Check
 - Rubber Flapper Check
- Pilot Operated Control Valves
 - Pressure Reducing
 - Pressure Sustaining
 - Emergency Cut-in
 - Altitude
 - Slow-Closing Check
 - Solenoid Control
 - Float
- Pump Control Valves
 - AWWA C507 Ball Valves
 - CHECKtronic® – Motor Actuated
 - Electric Check – Piston Actuated
 - Rotovalve® Cone Valve
- Surge Relief Valves
 - Diaphragm Actuated for Water
 - Differential Piston Actuated for Water
 - Spring Loaded for Wastewater or Sewage
- Air Valves
 - Air Release for Water & Sewage
 - Air and Vacuum for Water & Sewage
 - Combination for Water & Sewage
 - Vacuum Breaking Valves for Water & Sewage
 - Durovent™ All Stainless Steel Air Valves

GA Industries is a brand of the VAG Group, a renowned manufacturer of water control valves with headquarters in Mannheim, Germany, and an international organization of specialists that includes:

- Engineering & technical design
- Production
- Fabrication
- Sales & distribution
- Installation & start-up
- Aftermarket service



VAG USA, LLC

Phone: 724-776-1020

Fax: 724-776-1254

info-ga@vag-group.com
gaindustries.com

For international sales,
please contact our partner
company, VAG GmbH,
headquartered in
Mannheim, Germany.

vag-group.com