

CHECKtronic®

Electric Motor Actuated Pump Control Valve





A  VAG-Group Brand

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

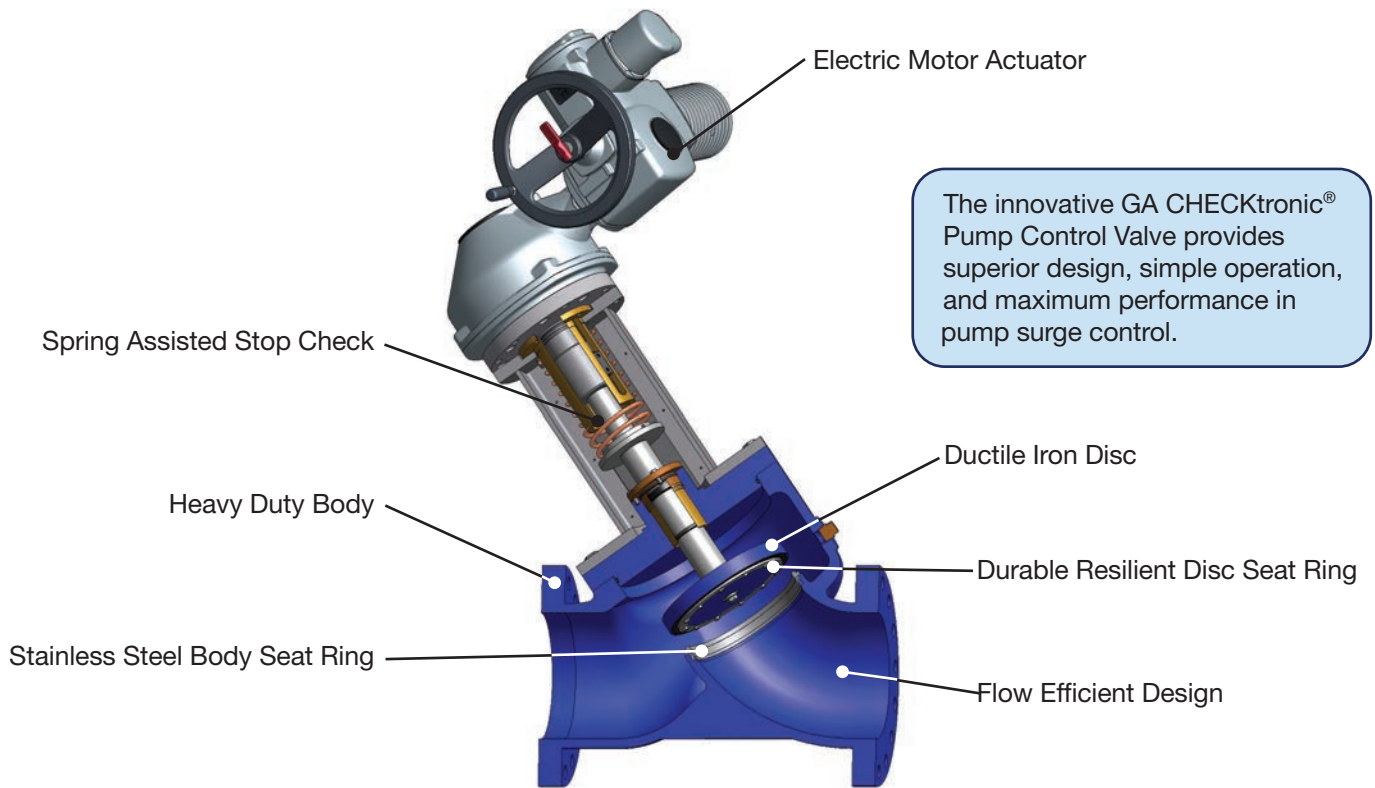
We are continuously expanding and improving our product line to meet the ever-changing needs of the waterworks industry. From standard butterfly and plug valves to sophisticated, highly engineered pump control, check and surge control valves, we offer one of the broadest ranges of valves in the industry.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



CHECKtronic®

Electric Motor Actuated Pump Control Valve

The CHECKtronic® Pump Control Valve is the result of many decades of experience in the design of automatic control valves to control surges associated with the starting and stopping of pumps. Its innovative design incorporates a fail-safe check feature into an electric motor operated valve, providing the ideal combination of surge control and positive closure for power failure or other emergencies. The electric actuator eliminates complicated hydraulic controls, minimizes installation costs, and reduces maintenance.



Body Style

3" – 36" Cast Iron, ASTM A126 Class B, ANSI B16.1, Class 125 and 250 Flanged

3" – 36" Ductile Iron, ASTM A536, Grade 65-45-12, ANSI B16.1, Class 150 and 300 Flanged

Rugged and Corrosion Resistant

High strength epoxy coated cast iron or ductile iron body and stainless steel seat ensure long-term corrosion resistance, lengthening the life of the valve.

Flow Efficient Design

Streamlined wye and long radius elbow body designs reduce headloss by 60% compared to a typical globe or angle valve, reducing pumping costs.

Tight Sealing

Replaceable disc seat ring is made from abrasion resistant UHMWPE (Ultra-high Molecular Weight Polyethylene) for dependable, drop-tight seating in the most severe applications.

Electric Motor Actuation

Standard multi-turn electric motor actuator incorporates "pulse feature," providing adjustable open and close stroke times for ideal surge control. Virtually any brand of single or three-phase, water tight, explosion proof, or submersible actuator can be used.

Fail-Safe Stop Check

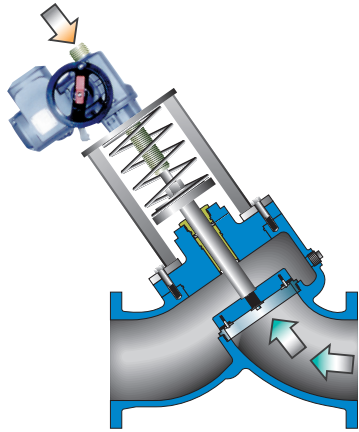
Integral, spring-assisted stop check operates independently of the actuator and automatically closes in the event of a power outage or pump failure, preventing backflow.

Easy Installation and Maintenance

Installation is quick and simple, requiring only electrical power and simple electrical logic to sequence the operation of the CHECKtronic® Pump Control Valve to that of the pump motor. The valve's top entry design facilitates in-line maintenance, preventing a lengthy disruption in service.



How does the CHECKtronic® Pump Control Valve Work?

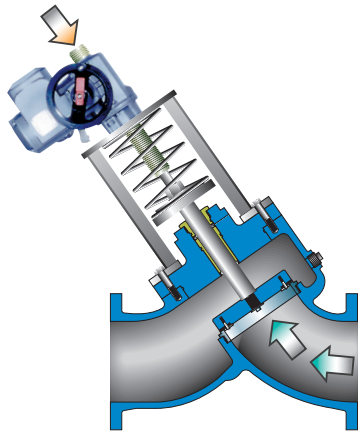
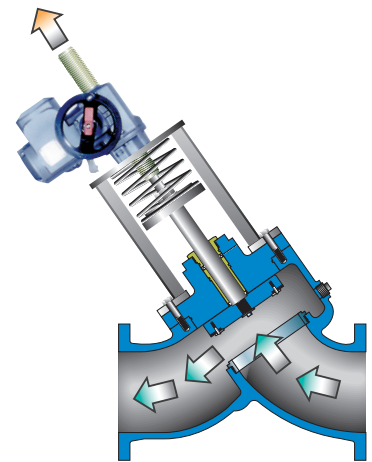


Pump Start

The pump motor starts, but the CHECKtronic® Pump Control Valve's electric motor actuator holds the valve closed. The actuator is signaled to open only after the pump is up to speed and pressure. Start-up surges are minimized with the actuator's adjustable "pulse feature," which controls how fast the valve opens and thus the rate at which the fluid column accelerates to design velocity.

Pump Running

The valve opens fully at design flow conditions. Its streamlined body produces very low headloss and handles sewage or debris-laden water without clogging. Visual and electrical position indicators are provided.

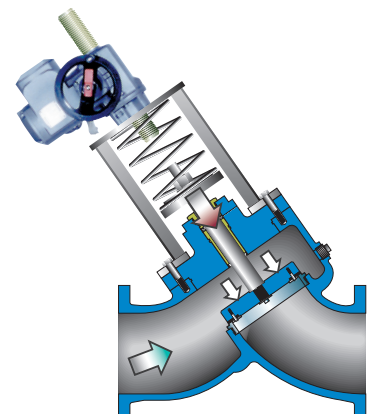


Normal Pump Shutdown

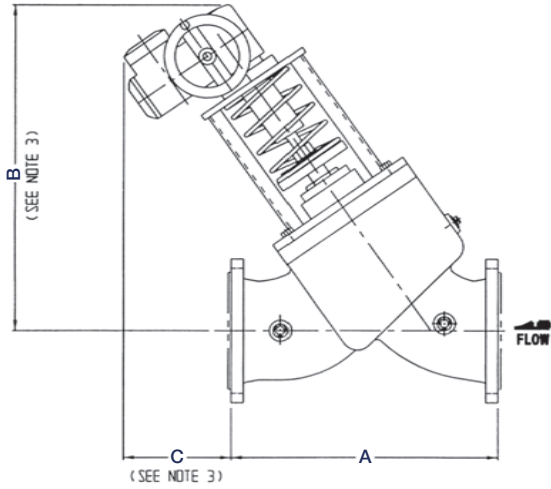
A pump stop command signals the CHECKtronic® Pump Control Valve to start closing as the pump continues to run. The electric motor actuator's adjustable "pulse feature" controls how fast the valve closes and how quickly the fluid's line velocity decelerates, thereby minimizing pressure surges and column separations. A valve-mounted limit switch disengages the pump motor only after the CHECKtronic® Pump Control Valve is fully shut.

Power Outage, Pump, or Motor Failure

A power outage or loss of pumping pressure immediately causes the CHECKtronic® Pump Control Valve's spring-assisted "stop-check" to separate from the electric actuator and quickly close to prevent backflow.



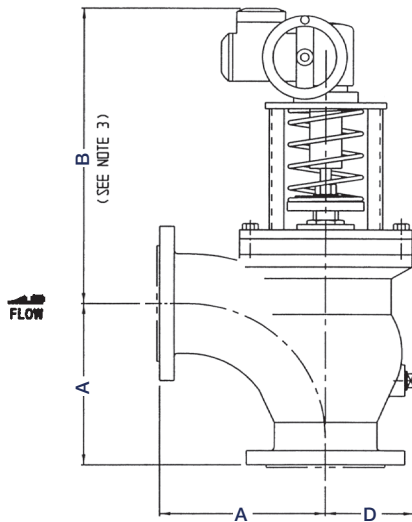
Wye Body



Dimensions (inches)

SIZE	A	B	C	Valve Body Width	Approx. Wgt. (lbs)
3"	12	29	15½	6¾	275
4"	13	30½	14½	8	300
6"	18	33½	13	11½	525
8"	24½	37	10½	15	675
10"	26	40½	13	18	870
12"	31	45	12½	19⅝	1,400
14"	33	46	11½	23½	2,400
16"	36	52½	13½	25	2,750
18"	40	60	15½	28	3,150
20"	40	61	15½	28	3,450
24"	48	64	17	35½	6,800
30"	64	87	35½	45	12,500
36"	78	100	29	54	20,500

Elbow Body



Dimensions (inches)

	A	B	D	Valve Body Width	Approx. Wgt. (lbs)
3"	7¾	32	5	6¾	275
4"	9	33	6	10	300
6"	11½	34	7	12	525
8"	14	35	9	13½	675
10"	16½	36	11	17⅝	870
12"	19	37½	13	20⅞	1,400
14"	21½	41	16	23¾	2,400
16"	24	50	17	27½	2,750
18"	26½	52	21	29½	3,150
20"	29	54	23	34	3,450
24"	34	58	24	39¾	6,800

- NOTE:
1. Standard flanges per ANSI B16.1. BS, DIN, ISO and other flanges are available.
 2. "A" dimension on valves with raised face flanges does not include the length of the raised face.
 3. Dimension B and C may vary per operator selection. For accurate dimension, consult factory.
 4. Actuator may extend beyond valve body width and can be rotated in 90° increments.
 5. Dimensions shown are for estimating purposes and are not guaranteed. Certified drawings are available when requested with order.

Standard Materials

Body, Cover	Cast Iron (Standard) ASTM A126 Class B Ductile Iron (Optional) ASTM A536	O-Rings & Gaskets	Rubber/Composition Buna-N/Fiber
Disc	Ductile Iron ASTM A536	Gland, Bushing	Brass C36000
Body Seat, Seat Follower	Stainless Steel Type 316	Internal Wetted Fasteners	Stainless Steel Type 18-8
Stem	Stainless Steel Type 303	Actuator Bracket & Adaptor	Steel ASTM A36
Disc Seat Ring	Synthetic Polymer, Ultra High Molecular Weight Polyethylene (UHMWPE)	Spring	Steel ASTM A229
		External Fasteners	Steel ASTM A307
		Threaded Stem	Stainless Steel Type 17-4 PH

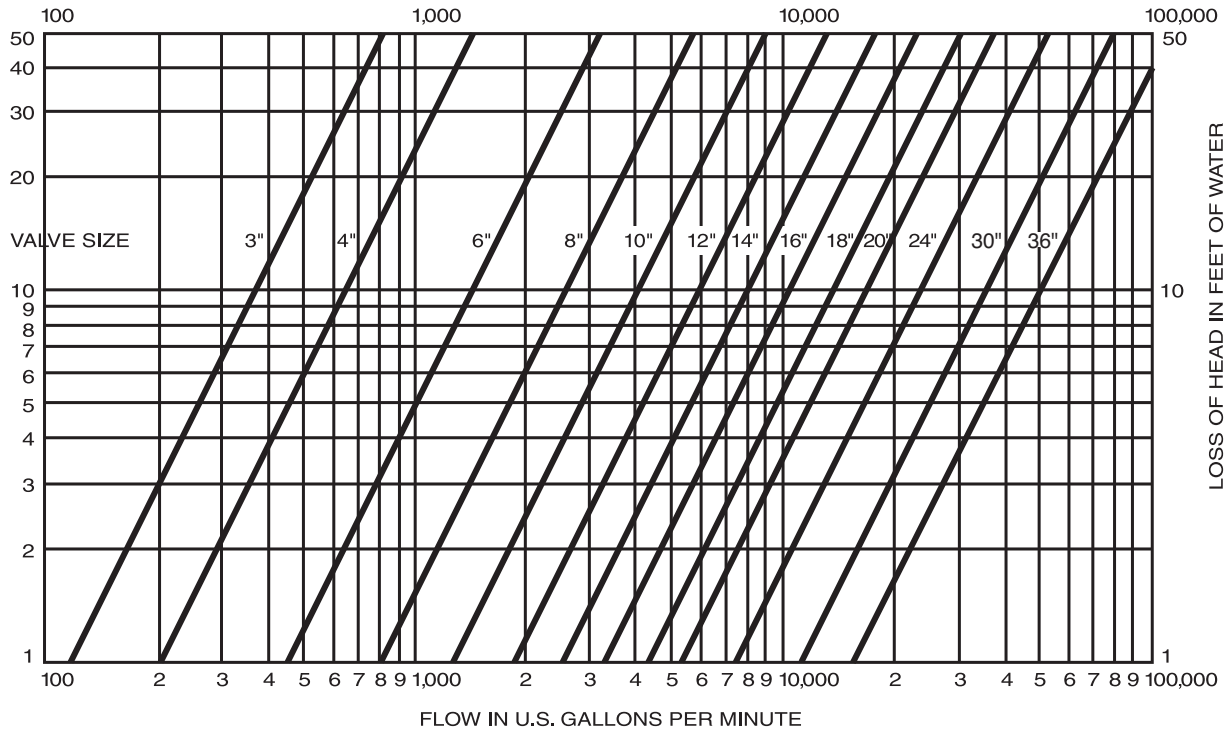
Note: Other materials of construction can be provided. Consult factory for availability.



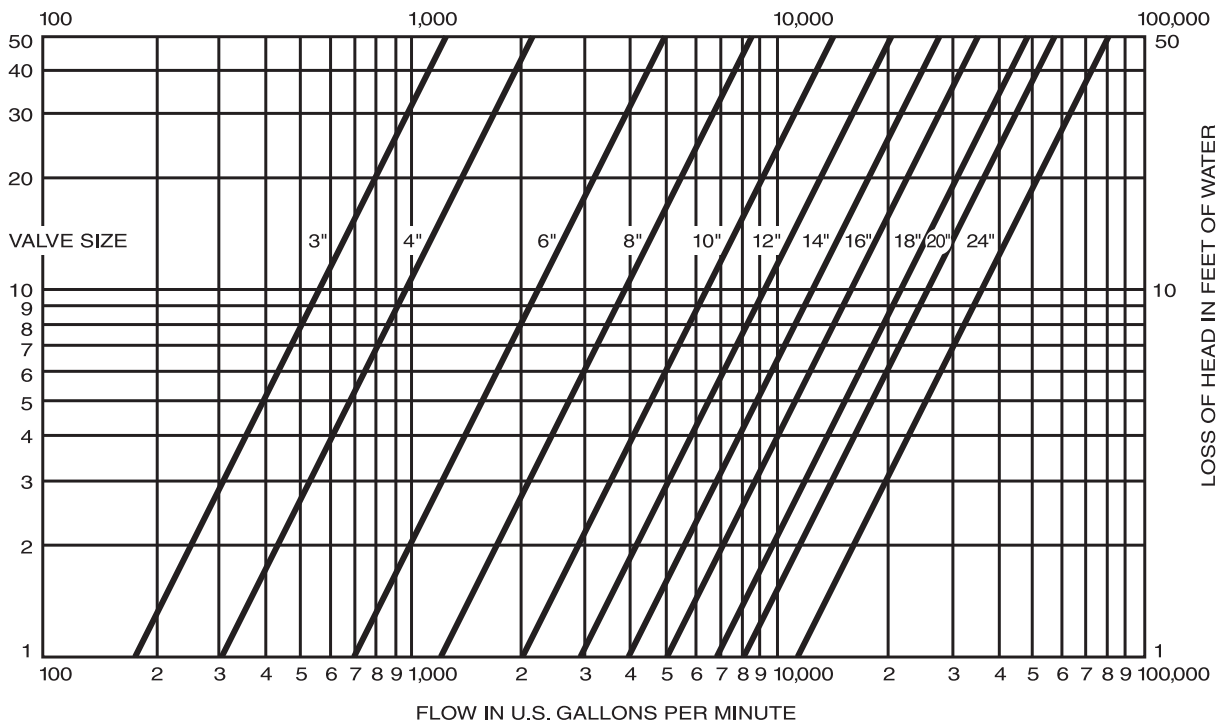
Reduce Headloss and Pumping Costs

The CHECKtronic® Pump Control Valve's full-ported, streamlined long radius elbow pattern and wye body style have 60% less headloss than traditional angle and globe body valves.

Headloss vs. Flow for Wye Body CHECKtronic®



Headloss vs. Flow for Long Radius Elbow Body CHECKtronic®



Specification

CHECKtronic® Pump Control Valve

DESIGN

- A. The pump control valve shall consist of a main valve and electric motor actuator, completely factory assembled, tested and ready for installation and field wiring.
- B. The valve shall have a field adjustable opening and closing stroke time for surge control during normal pump operation.
- C. The valve shall have an integral, spring-assisted stop-check that closes independent of the actuator to prevent flow reversal subsequent to power outage or pump, pump motor or actuator failure.

CONSTRUCTION

- A. The valve body shall be of the [in-line wye] [long radius elbow] body style and be of cast iron conforming to ASTM A126 Class B with integral flanges faced and drilled to ANSI B16.1 Class [125][250]. The valve shall be inherently self-cleaning and have a net flow area through it no less than area of its nominal pipe size. The body shall have a replaceable Type 316 stainless steel seat. There shall be a clean out/inspection port near the valve seat.
- B. The valve disc shall be ductile iron with a renewable, resilient seat of ultra-high molecular weight polyethylene (UHMWPE) retained by a stainless steel follower ring and screws.
- C. The valve stem shall be stainless steel and guided in a long bronze bushing retained in the valve cover. A pressure-actuated seal shall seal the valve stem where it passes through the body.
- D. The actuator stem shall be high strength Type 17-4PH stainless steel with heavy duty ACME threads.
- E. The valve shall be supplied with a valve mounted SPDT limit switch that is actuated by the valve disc.

ACTUATOR

- A. The valve shall be operated by a multi-turn, non-modulating [__ VAC/ __Phase/NEMA__] electric motor actuator meeting AWWA C540 with integral controls.
- B. The actuator controls shall include reversing starter, control transformer, local-off-remote selector switch, indicating lights, open/stop/close pushbuttons, torque switches and limit switches.
- C. A manual override with handwheel and visual position indication shall be provided. The manual override shall automatically disengage when the actuator is electrically operated.
- D. The electric motor actuator shall provide an independent valve opening and closing stroke time to suit field conditions and be capable of providing two-speed operation with an adjustable transition point from slow to fast speed.

MANUFACTURER

- A. The electric motor actuated pump control valve shall be GA Industries CHECKtronic® Pump Control Valve as manufactured by VAG USA, LLC, Mars, PA USA

Note: Specifier to select [bracketed items]

Pressure Ratings	
Cast Iron Body, Class 125 Flanges	200 PSI (3" to 12" Size) 150 PSI (14" to 36" Size)
Cast Iron Body, Class 250 Flanges	400 PSI (3" to 12" Size) 300 PSI (14" to 36" Size)

- Note:
1. Flanges conform to ANSI B16.1 standards. Flanges to international standards are available. Consult factory.
 2. Higher pressure ratings available using alternate materials. Consult factory.
 3. Valve maximum working pressure (MWP) may be less than pressure rating due to actuator.

Projects



Olentangy Water Treatment Plant, Ohio, USA
6 – 14" CHECKtronic® Pump Control Valves



Brooks Road Sewage Pump Station, Georgia, USA
2 – 24" Checktronic® Pump Control Valves



DELCO Raw Water Pump Station, Ohio, USA
3 – 14" Checktronic® Pump Control 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



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