# VAG CHECKtronic Pump Safety Valves help control surge at a Rhode Island pump station, USA





VAG CHECKtronic Pump Safety Valves at the Clinton Avenue Water Pump Station bring flow efficient and fail-safe check features to a facility upgrade.

**General Background:** The Kent County Water Authority supplies and distributes water services to residential, commercial, industrial, and other consumers in Kent County and parts of Cranston, Scituate, and North Kingstown, Rhode Island. The system contains approximately 404 miles of distribution and transmission mains, six active elevated storage tanks, two main transmission pumping facilities, four pressure booster (pump) stations, four wells, one 2.4 million gallon a day groundwater treatment plant, 2,339 public fire hydrants, and 128 private fire hydrants.

**Distribution:** The distribution system is served by gravity as water flows from elevated storage tanks to customers. The system's tanks are replenished by transmission pumping. Tank storage continues to provide water during power outages.

## Project overview

**Owner:**
Kent County Water Authority
**Engineering Consultants:**
C&E Engineering
**Contractor:**
Walsh Construction

**Products:**
VAG CHECKtronic Pump Safety Valtes,
5 x 16“ (DN 400) und 2 x 12“ (DN 300),
One Surge Relief Valve 12“

GA INDUSTRIES

# Kent County Water Authority, Rhode Island, USA



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VAG On-site

The Kent County Water Authority serves several Naragansett Bay communities including Cranston, Scituate, and North Kingstown.

**Project Overview:** The rehabilitation of the Clinton Avenue Water Pump Station included extensive mechanical, electrical, structural, architectural, and various other site improvements. The project increased the station's pumping capacity from 12 MGD (Million Gallon per Day) to 33.5 MGD (5,283 $m^3$/hr) and added the capability to pump to a new higher-pressure gradient.

**Why VAG CHECKtronic?** The consulting engineers, C&E Engineering, chose the VAG CHECKtronic Pump Safety Valve for its capability to control pressure surges associated with pumping operations at the higher gradient. The flow efficient design, tight seating and integral fail-safe check feature also had an impact on the decision.

A GA Surge Relief Valve was also specified for protection against excessive pressure surges resulting from unexpected pump shutdowns.


The GA Surge Relief Valve 12" (DN 300)

## VAG CHECKtronic Pump Safety Valves and GA Surge Relief Valve at the Clinton Avenue Pumping Station

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| Products: | Five DN 400 (16") and Two DN 300 (12") VAG Pump Safety Valves; One DN 300 (12") GA Surge Relief Valve |
| Materials: | **VAG CHECKtronic Pump Safety Valves:** Each valve body is ASTM A126 cast iron, with high strength epoxy coating. Body seat and seat follower is Type 316 stainless steel, and disc seat ring is ultra high molecular weight polyethylene (UHMWPE). The spring assisted stop check is ASTM A229 steel.<br><br>**GA Surge Relief Valve: Body:** ASTM A126 cast iron, with bronze piston, follower rings, rod, and gland bushings. Gaskets: Nitrile Rubber. Piston, Liner, and Pilot Cups: Buna "N". |
| Features: | **VAG CHECKtronic Pump Safety Valves** provide a streamlined wye and long radius elbow body design to reduce headloss by 60% when compared to a typical globe or angle valve. This reduces pumping cost. The standard multi-turn electric motor actuator incorporates a "pulse feature," providing open and close stroke times for ideal surge control. The integral, spring-assisted stop check operates independently of the electric actuator and automatically closes in the event of a power outage or pump failure.<br><br>**GA Surge Relief Valves** have a full ported, differential piston design to provide positive closing power at any working pressure. The large, sensitive pilot opens the valve quickly in response to an over-pressure condition, and closes slowly at an adjustable speed once pressure subsides. |

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www.vag-group.com
info@vag-group.com

For this project please contact: Shawn Thibodeau sthibodeau@gaindustries.com