



PERFORMANCE TESTING

Materials

All materials used in Canature valves meet strict guidelines to insure reliability, performance, and safety.



Lab Testing

In addition to stringent incoming inspection requirements for all parts and materials, many key items are tested in our certified laboratory using state of the art equipment.

As an example, all metals (brass, stainless, copper) are tested for lead content. Plastic materials are tested for contamination.

Part Description	Comments
Valve Piston, Piston Rod, Brine Piston	Less than 0.6% lead (lead Free)
Teflon Coating	FDA Approved
Seals	NSF Approved
Body, Spacers, Couplings, Meter, etc..	NSF Approved
Meter Impeller	NSF Approved
Impeller Bearing	NSF Approved
Silicon Grease	NSF Approved

Reliability Testing

The test was developed to evaluate the performance of the valve over 5,000 regeneration cycles. This is equal to over 40 years of service life!



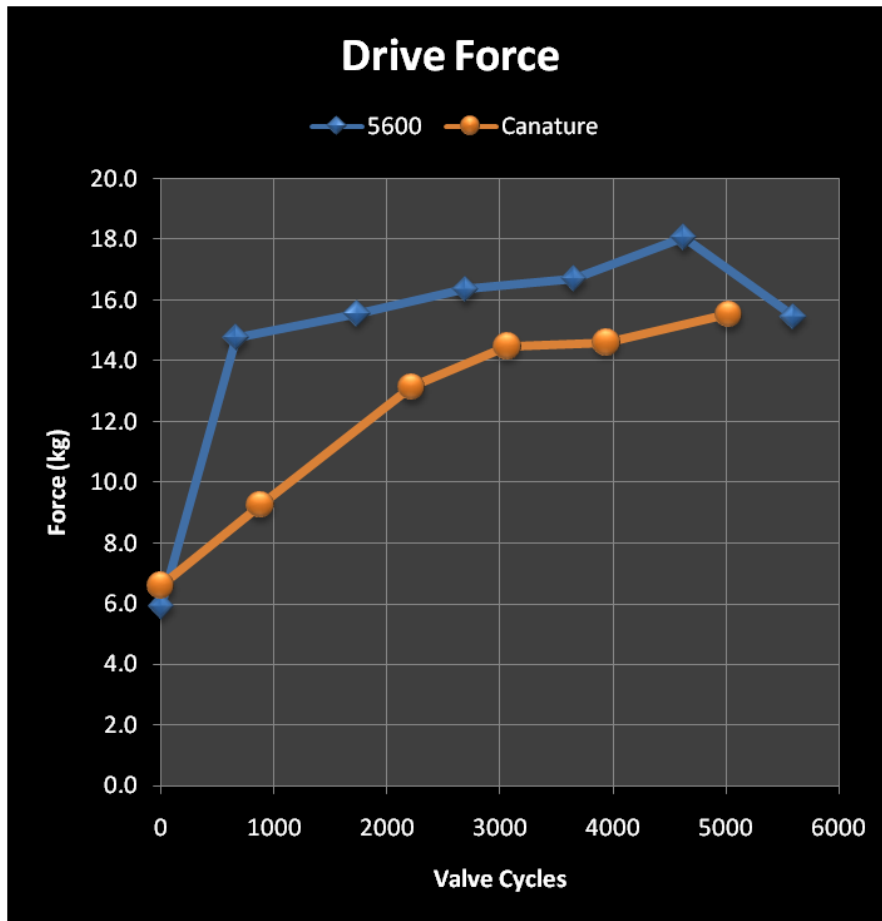
Key valve performance factors evaluated every 800 cycles during the test are:

- Piston wear
- Seal Wear
- Gear Wear
- External leakage
- Internal Leakage (i.e. leak to drain while in brine re-fill position or service position)
- Timing and sequence of regeneration cycles
- Piston drive force

Reliability Testing

Piston Drive Force

Precision tolerances and high quality materials in the Canature valve insure high quality performance and extreme reliability.



Drive Force Test

After 5,000 regeneration cycles (equal to 40 years!) Canature valves still required a lower drive force compared to Fleck.

This insures a long life expectancy of the drive gears and motor.

Reliability Testing

Piston Wear

Even after 5,000 cycles there is hardly any evidence of wear on the piston.



Reliability Testing

Seal Wear

After 5,000 cycles there is only minor wear on the seals. There are no internal or external leaks in any valve position.

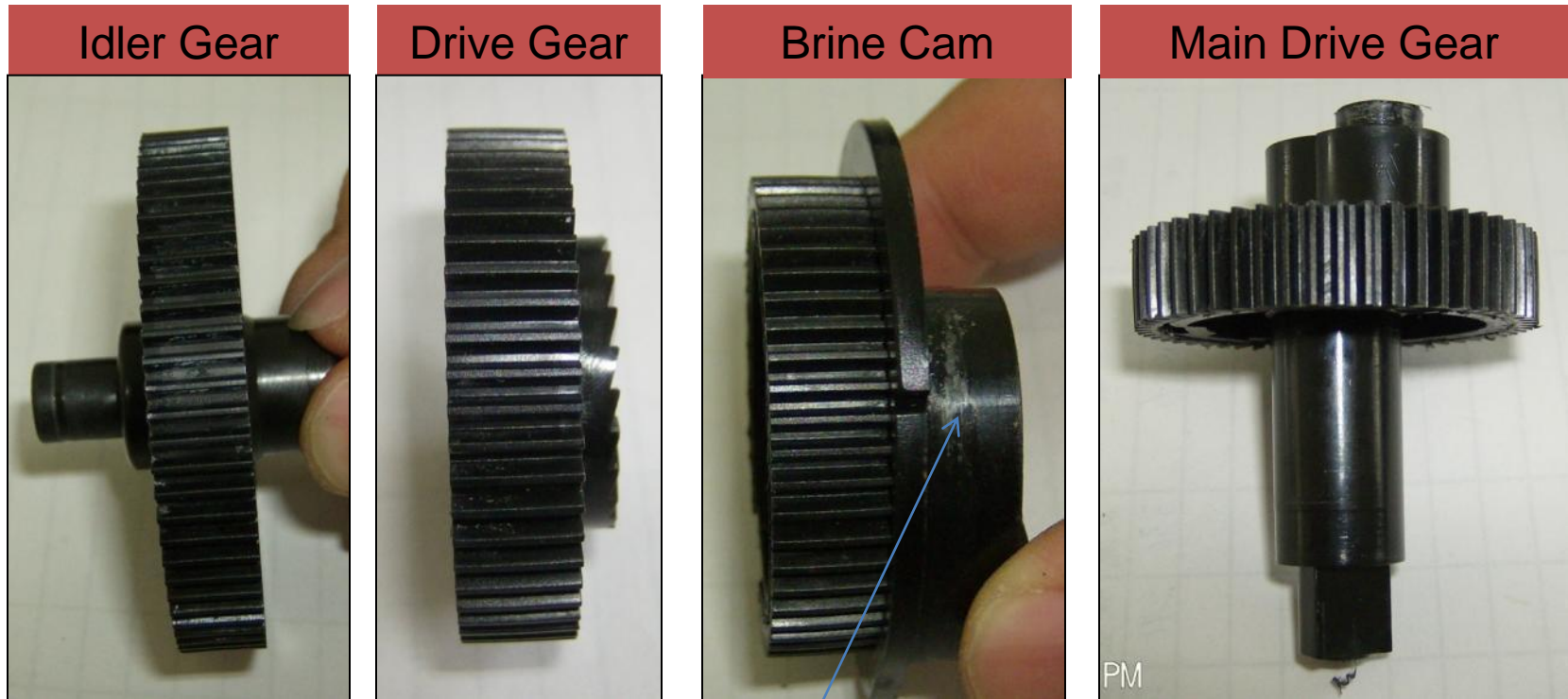


A small amount of wear is evident on the outer lobes of the seals.

Reliability Testing

Drive Gears

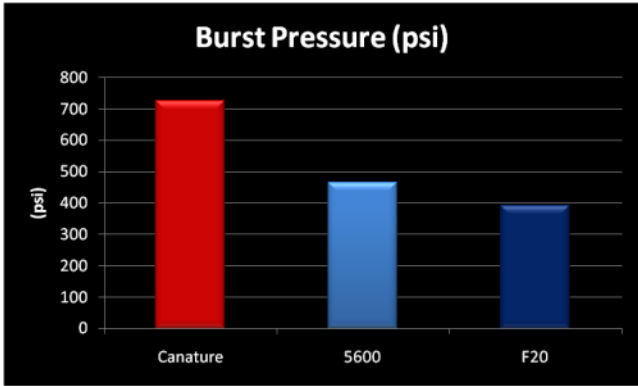
After 5,000 cycles, the drive gear teeth do not show any evidence of any wear or damage.



The only real visible area of wear is on the brine cam from the brine piston.

Pressure Testing

Canature valves are designed to withstand higher pressures than other competitive valves.




Burst Test

Canature valves can hold up to 700 psi which is 200 psi more than the NSF standard.

Pressure Cycle Test

Canature valves surpass the NSF standard of 100,000 pressure cycles from 0-150 psi.

MFGR	Pressure Cycles (0-150psi)	Pass / Fail
Canature	100,000+	Pass
5600	100,000+	Pass
F20	100,000+	Pass

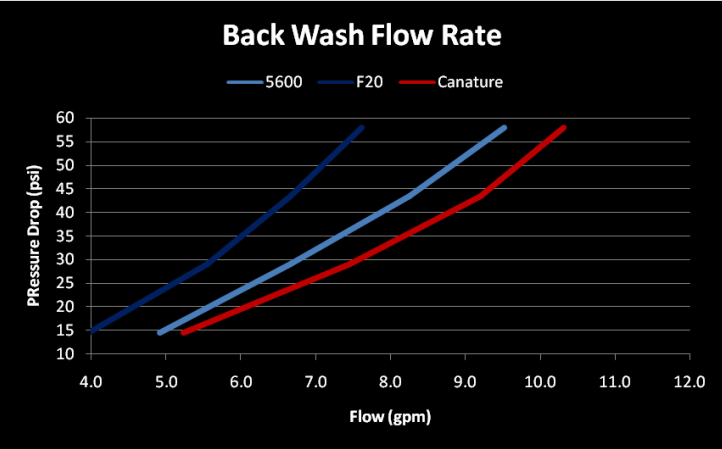
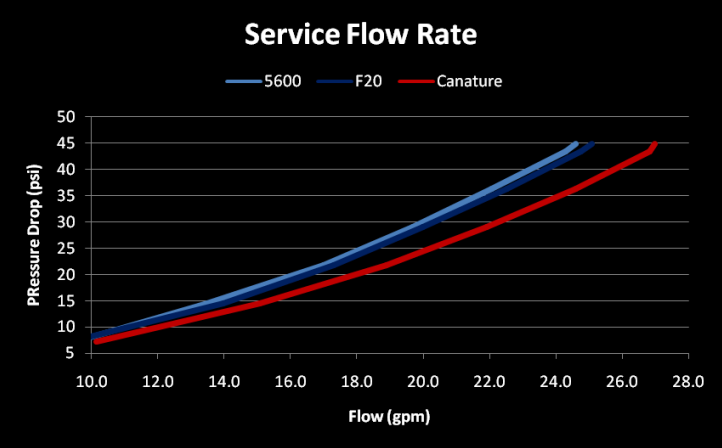


Valves are selected from each production lot for burst testing and pressure cycle testing to insure this standard is maintained.

In production, every valve is 100% leak tested.

Flow Testing

Design improvements resulted in the Canature valve having higher service and back wash flow rates.



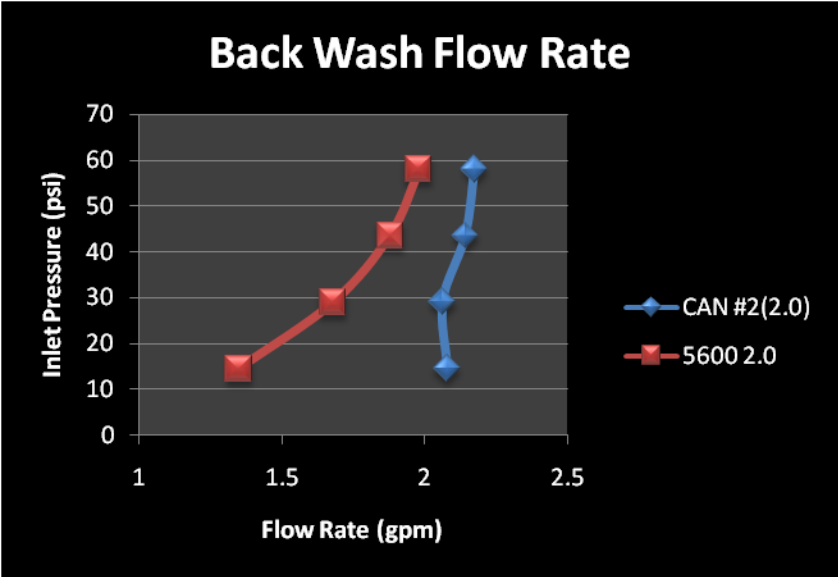
Optimized Design

The valve body structure and the piston channels were modified to improve the flow rate in the service and back wash position.

In production, 100% of all valves are tested for full service and back wash flow rates.

Back Wash

Canature valves provide softener and filter systems with consistent back wash flow rates over a wide range of operating pressures.

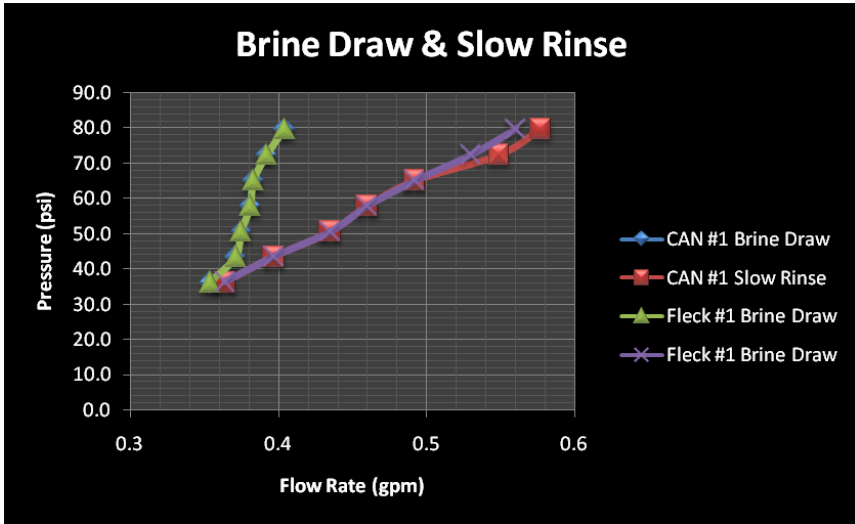


Optimized Design

As inlet water pressure increases, the Canature back wash button opening actually closes to provide a consistent back wash flow rate.

Brine Draw & Rinse Efficiency

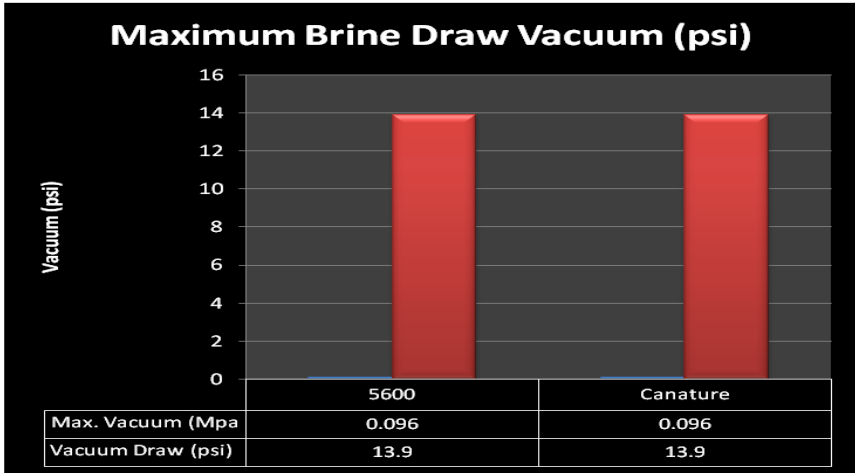
Canature valves perform equally to a 5600 valve in brine draw and slow rinse.



Optimized Design

Each size of injectors and nozzles in the Canature valves perform as well as the 5600 valves.

In production, every valve is 100% tested to insure the injectors are drawing a proper vacuum.



Valve Performance Summary

Canature valves meet or exceed North American levels of quality, performance, and reliability in every category. We have already started the NSF certification process as well.



Category	Meet	Exceed
Materials	X	
Reliability		X
Pressure Testing		X
Flow Performance		X