Finishes

WaterSaver standard construction laboratory service fixtures and safety equipment are generally furnished with a chrome plated finish. However, WaterSaver offers a choice of four plated finishes to meet the requirements of every laboratory environment. The choice of finish depends upon the particular requirement for chemical resistance and upon the particular "look and feel" desired for the laboratory installation. Listed below are the plated finishes offered by WaterSaver:

Polished Chrome Finish (PCH)

WaterSaver standard construction products are furnished with a polished chrome plated finish as standard. Individual components are polished and buffed to a smooth surface, then electroplated with one layer of nickel and one layer of chrome. The result is a smooth, hard finish that is attractive and has moderate chemical resistance.

Polished Chrome Finish with Clear Epoxy Coating (PCL)

In many laboratory applications, a chrome plated finish will deteriorate when exposed to acids (such as hydrocloric acid) and other chemicals being handled in the lab. To address this concern, WaterSaver offers a clear epoxy coating that is applied over the polished chrome plated surface. This clear coating will provide the fixtures with enhanced chemical resistance and ensure greater durability.

Satin Chrome Finish with Clear Epoxy Coating (SCC)

Polished chrome finishes, whether coated with clear epoxy or not, tend to show fingerprints, watermarks, dust and dirt. In a typical laboratory, no one will take the time to clean the fixtures to preserve their appearance. As a result, the fixtures can become unsightly very quickly.

WaterSaver offers two satin (brushed) finishes with clear epoxy coating that address this concern. Satin chrome fixtures with clear epoxy coating have a silver/blue hue that is similar to the appearance of stainless steel. Offering superior chemical resistance due to the epoxy coating, these fixtures will not show fingerprints, watermarks or smudges. The fixtures will enhance the appearance of the lab environment.

Satin Nickel Finish with Clear Epoxy Coating (SNC)

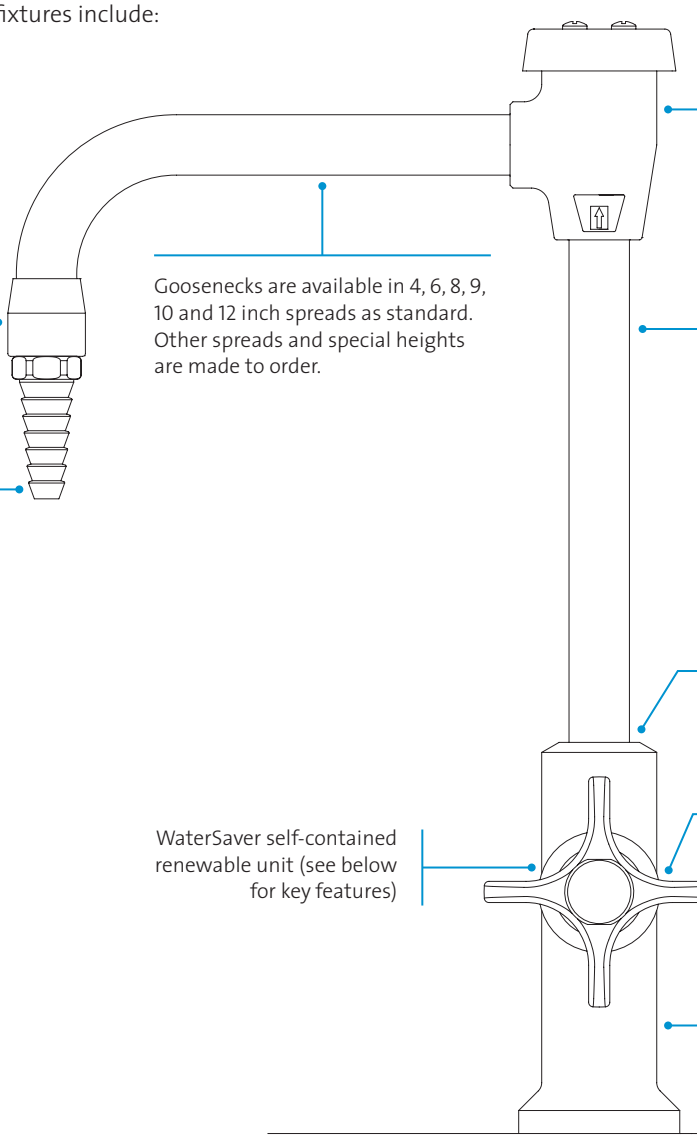
Fixtures with a satin nickel finish with clear epoxy coating address the concerns noted above reguarding fingerprints, watermarks, etc. The satin nickel finish has a slight yellow hue that is almost indistinguishable from stainless steel.

Water Fixture Construction

WaterSaver water fixtures utilize an interchangeable renewable unit cartridge which incorporates a replaceable stainless steel seat. Fixtures are certified by CSA International to meet the requirements of ANSI/ASME A112.18.1M and CAN/CSA B.125.M89.

WaterSaver vacuum breakers are designed specifically for laboratory applications. As such, they will seal properly and prevent spillage under extreme low flow conditions. Vacuum breakers are certified to comply with ASSE Standard No. 1001 and CSA Standard CAN/CSA-864 Series-M88.

Features of WaterSaver water fixtures include:



Patented vacuum breaker seals under even the lowest flow, preventing spillovers under low flow conditions. Patent No. 6,123,095

Coupling has 3/8" IPS thread for attachment of outlet fittings.

Gooseneck are available in 4, 6, 8, 9, 10 and 12 inch spreads as standard. Other spreads and special heights are made to order.

Goosenecks are fabricated of 3/8" IPS size heavy wall brass tubing for maximum strength and durability.

Seven serration hose end reduces spraying and splashing while accomodating a wide range of tubing sizes with maximum gripping ability.

Goosenecks have either rigid, swing or convertible rigid/ swing construction. Select the construction most suitable for the particular application.

Forged brass four-arm handle for ease of gripping and turning. Furnished with full view color-coded index disc.

WaterSaver self-contained renewable unit (see below for key features)

Forged or cast brass bodies for superior strength and surface finish.

Molded PTFE stem packing. Seals valve stem and prevents leakage over hundreds of thousands of cycles.

Barrel has outer serrations to lock into faucet body. Unit cannot turn or move in faucet body, even with wrist blade or lever handles.

Valve seat is stainless steel. Ultra-hard seating surface provides durable service in even the harshest water conditions.

Optional adjustable volume control regulates flow of water through valve. By adjusting orifice, volume control can be used to conserve water, compensate for high water pressure, minimize splashing and achieve precise flow control.

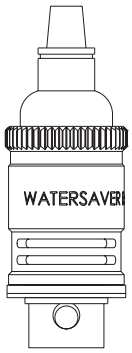
Renewable Units for Water Fixtures

WaterSaver water fittings are available with a choice of three valve cartridges. All three cartridges are dimensionally identical and therefore totally interchangeable.

All cartridges are completely self-contained and include all working components of the valve mechanism. No wearing components are separate from the valve unit. The faucet body itself is thus not subject to wear, making it virtually everlasting. Replacement of the cartridge instantly produces a "new" faucet.

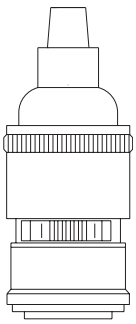
Compression Unit (L Series)

- Cartridge has outer serrations to lock into faucet body. Unit cannot turn or move in faucet body, even with wrist blade handles.
- Molded PTFE stem packing seals valve stem. Packing prevents leakage over hundreds of thousands of cycles. Adjustable packing nut permits take-up of wear.
- Valve seat is stainless steel. Ultra-hard seating surface provides durable service in even the harshest water conditions. Seat will outperform brass or other materials.
- Hard synthetic rubber valve disc provides positive shut-off of water flow. Valve does not have "spongy" feel.
- Manual and self-closing valve units are interchangeable. Field conversion can be accomplished in seconds.



Compression Unit with Adjustable Volume Control (LA Series)

- Same construction features as compression unit (stainless steel seat, PTFE stem packing, etc.).
- Adjustable volume control can be adjusted to regulate size of inlet port of valve. Volume control may be used to compensate for high water pressure and conserve water.



Ceramic Disc Unit (LC Series)

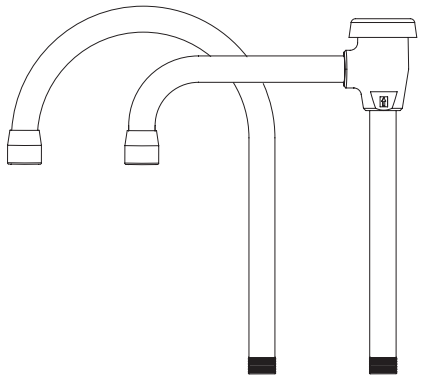
- Rotating ceramic discs control flow of water. Discs are ultra-hard and self-lubricating for durable service.
- 180 degree rotation from closed to open to permit metering of flow. Available with optional 90 degree rotation for use with wrist blade handles.
- Wear-resistant thrust washer is low friction for smooth opening and closing of valve.
- Internal baffles reduce noise as water flows through valve.

Goosenecks for Water Fixtures

WaterSaver gooseneck water fixtures are available with a choice of three types of gooseneck construction. Each type of construction has its own advantages; lab designers and users can thus choose the type of gooseneck best suited to their particular application.

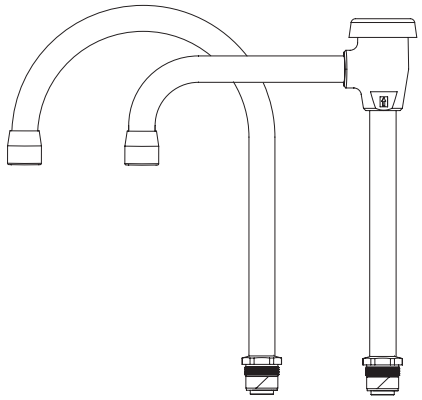
Goosenecks are fabricated of heavy wall brass tubing, with a minimum wall thickness of .085". Goosenecks will therefore resist bending and stand up to even the most demanding lab conditions.

Atmospheric vacuum breakers are specially designed for laboratory use. As such, they are resistant to spillage even under very low flow conditions. Vacuum breakers are covered by U.S. patent number 6,123,095.



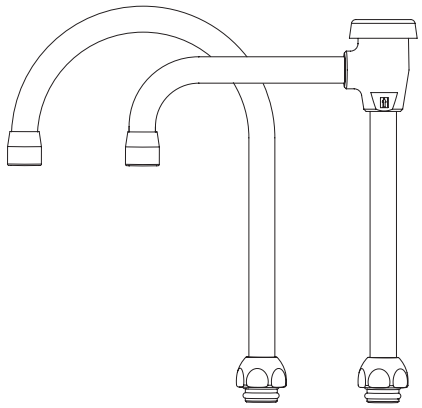
Rigid Construction (RG Series)

- Gooseneck is threaded directly into top of faucet body.
- Gooseneck is held absolutely rigid and cannot be turned. This type of construction is advantageous at cup sinks where the faucet outlet should be directed over the sink at all times.
- Faucets may be ordered with gooseneck positioned as right hand, left hand or 180 degrees. If not specified, right hand position will be furnished.



Swing Construction (SG Series)

- Gooseneck is furnished with a braided PTFE packing and adjustable packing nut.
- PTFE packing allows gooseneck to turn very smoothly while providing a solid connection to the faucet body, with no lateral play or movement.
- Adjustable packing nut may be tightened down to compensate for wear that might occur in the packing. Unlike goosenecks with O rings, there are no components that will ever require replacement.



Rigid / Swing Construction (RS Series)

- Gooseneck has union-style construction with union nut and two O ring seals.
- Faucets with rigid / swing goosenecks may be installed in the field with either rigid or swing configuration. Two spacers are furnished with each gooseneck. For rigid construction, the brass spacer is installed. For swing construction, the nylon spacer is installed. Faucets may be readily converted from rigid to swing and vice versa.
- Union-style construction facilitates changing goosenecks in the field, should a different spread or height be desired. Simply loosen union nut, remove the gooseneck and install the replacement gooseneck.

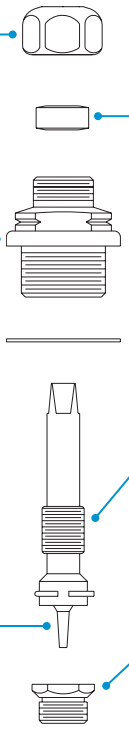
Fine Control Needle Valves

Fine control needle valves provide precise flow control of all laboratory gases. They are used where precision metering of flow and higher working pressures are involved. Valves are individually tested at 375 PSI nitrogen pressure and are rated for use at working pressures up to 250 PSI. Features of these valves include:

Valves are available in both brass and Type 316 all-stainless steel construction.

Molded PTFE stem packing with adjustable packing nut. Packing seals valve stem into body. Adjustable nut permits take-up of wear, minimizing the need to ever replace packing.

Valves are specially cleaned, lubricated and packaged for oxygen and high purity gas service. Please refer to WaterSaver standard procedure "Cleaning for Pure Gas Systems" for further information.

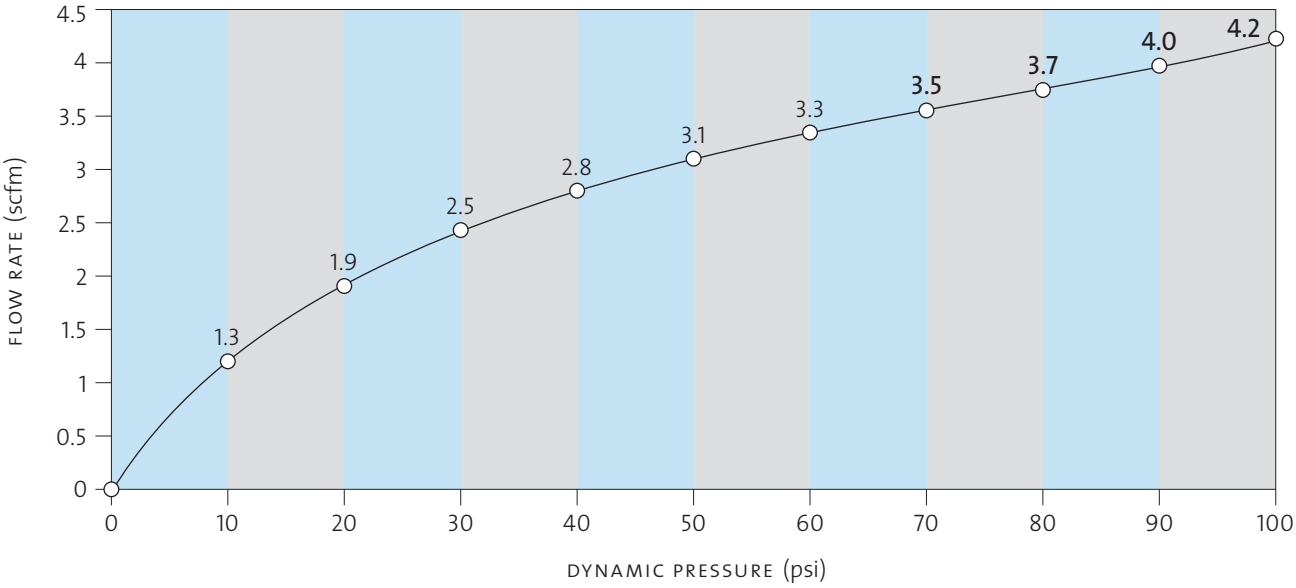


Ultra-fine stem threads for micro-control. Valve goes from closed to fully open in 6 full revolutions of the handle, thus giving the user a wide range of settings to select when throttling the flow. *Valve is capable of delivering one bubble of nitrogen or other special gas at a time.*

Floating stainless steel needle self-centers on valve seat. As the valve is used, the needle and seat form a matched fit, making the valve easier to open and close. The valve actually "improves with age."

Replaceable stainless steel seat threads into valve body. While the valve seat is easily replaced, there is rarely a need to do so since the valve improves with use.

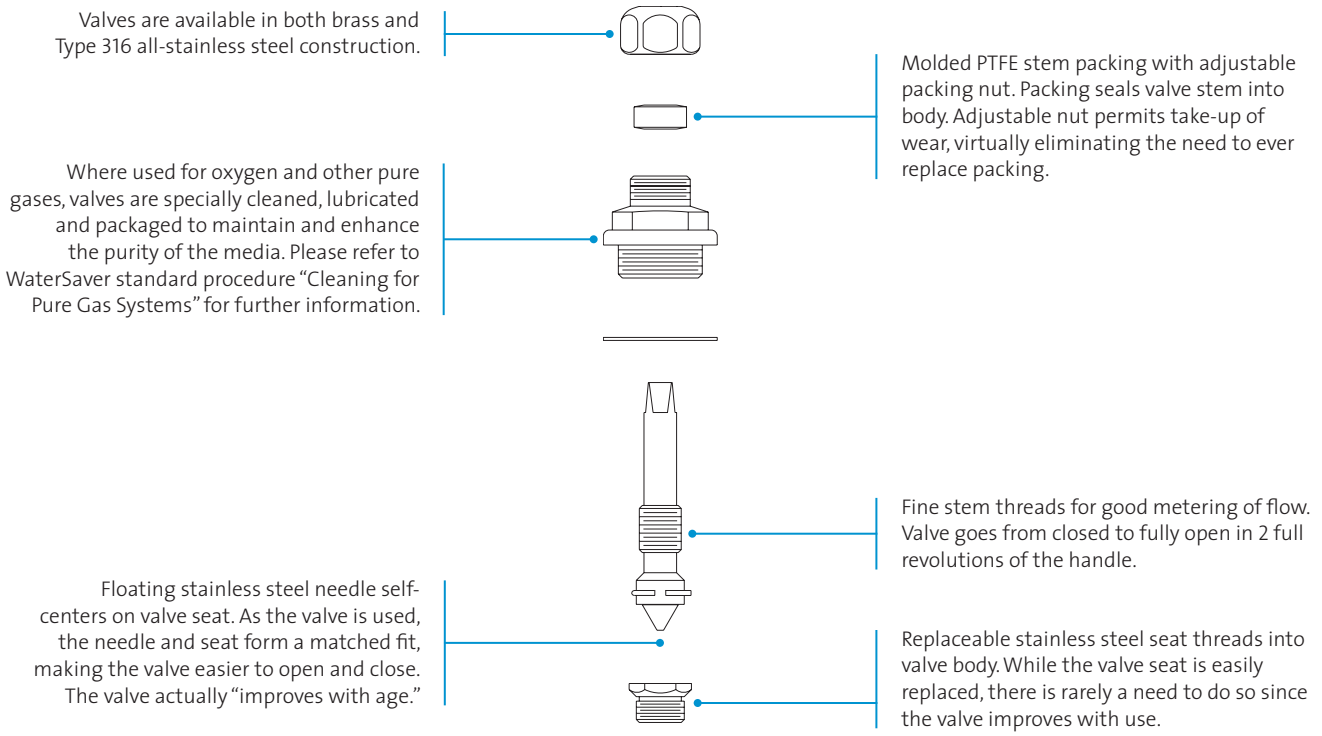
Fine Control Needle Valve Flow Chart



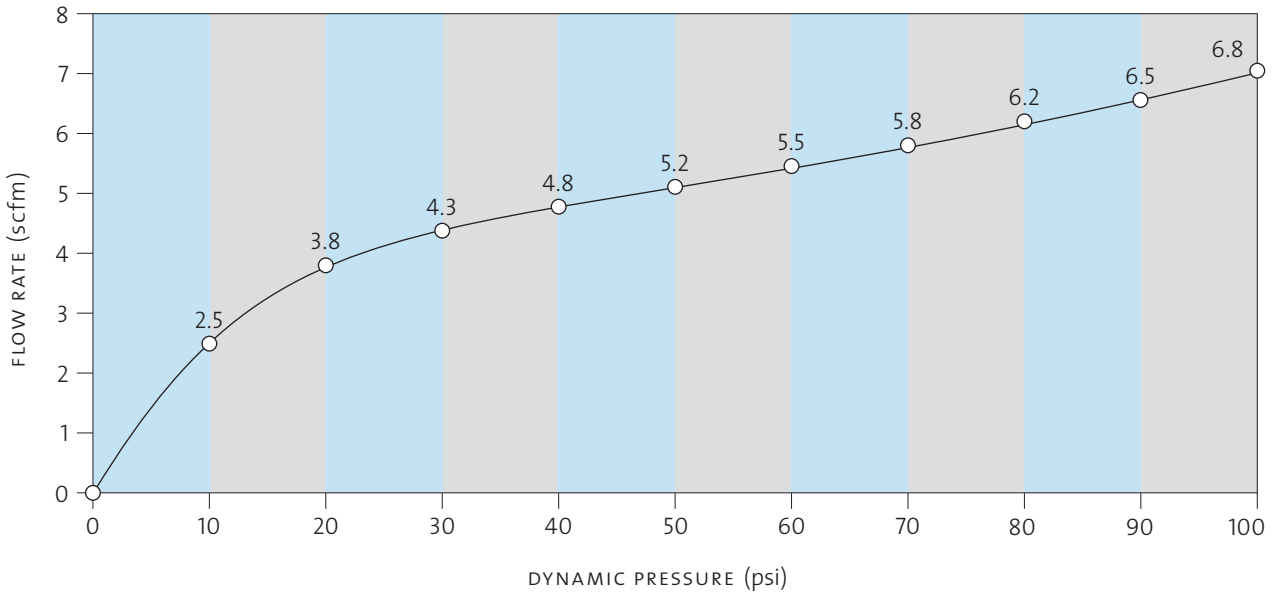
Note:
Flow rate is based upon valve with serrated hose end installed. Flow rate may vary if other type of outlet fitting (e.g. quick connect, compression fitting, etc.) is installed.

Needle Valves

Standard needle valves provide excellent flow control of all laboratory gases. They are the most versatile and widely used WaterSaver valve, well suited for almost every laboratory application. Valves are certified by CSA International to comply with ANSI Z21.15 and CGA 9.1 for use on natural gas systems at pressures up to 1/2 PSI. Valves are individually tested at 250 PSI nitrogen pressure and are rated for use at working pressures up to 150 PSI. Features of these valves include:



Needle Valve Flow Chart



Note:
Flow rate is based upon valve with serrated hose end installed. Flow rate may vary if other type of outlet fitting (e.g. quick connect, compression fitting, etc.) is installed.

Valve Selection Guide

WaterSaver Faucet Co. offers a wide selection of valves for use with laboratory gases. The selection of a valve for any particular application depends upon many factors, including the working pressure of the gas, the degree of metering or control desired, and the characteristics (including the corrosiveness) of the gas. This Valve Selection Guide is presented to assist in selecting the most appropriate valve for an application. However, care must be taken in selecting valves, and WaterSaver cannot be responsible for the results obtained from using any particular valve in any particular application. In particular, reference must be made to applicable plumbing and piping codes, life safety standards and project specifications when selecting valves.

	Fine Control Needle Valve	Standard Needle Valve	Laboratory Ball Valve
Models	**L2870, L3170, L4870 L5170, L62870, etc.**	**L2880, L3180, L4880, L5180, L62880, etc.**	**L4100, L4200, L64200, etc.**
Construction	Needle Point	Needle Point	Ball Valve
Control	Precise Metering	Good Metering	On / Off
Body Material	Brass or St Steel	Brass or St Steel (Note 1)	Brass or St Steel
Handle	Four Arm	Four Arm	Lever
Test Pressure / Media	375 PSI / Nit	250 PSI / Nit	125 PSI / Air
Maximum Working Pressure	250 PSI	150 PSI	75 PSI
CSA Certified for Natural Gas	No	Yes	Yes
ADA Compliant	No	No	Yes
Use with Pressure Regulator	Yes	No	Yes (Low Pressure only)
Cleaned for High Purity Gas	Standard	When Ordered	When Ordered
Gas Compatibility by Service (Symbol):			
Air (AIR)	Yes	Yes	Yes
Ammonia (NH3)	Yes (St Steel only)	Yes (St Steel only)	No
Acetylene (C2H2)	Yes (St Steel only; 15 PSI max)	Yes (St Steel only; 15 PSI max)	No
Argon (AR)	Yes	Yes	Yes
Butane (BUT)	Yes	Yes	Yes
Carbon Dioxide (CO2)	Yes	Yes	Yes
Carbon Monoxide (CO)	Yes	Yes	Yes
Compressed Air (CA)	Yes	Yes	Yes
Cylinder Gas (CYL GAS) (Note 2)	Yes	Yes	Yes
Natural Gas (GAS)	Yes	Yes	Yes
Helium (HE)	Yes	Yes	Yes
High Vacuum (HI VAC)	Yes	Yes	Yes
Hydrogen (HYD)	Yes	Yes (Specially Clean)	Yes (Specially Clean)
Low Vacuum (LO VAC)	Yes	Yes	Yes
Methane (CH4)	Yes	Yes	Yes
Nitrogen (NIT)	Yes	Yes	Yes
Oxygen (OXY)	Yes	Yes (Specially Clean)	Yes (Specially Clean)
Propane (PRO)	Yes	Yes	Yes
Special Gas (SG) (Note 2)	Yes	Yes	Yes
Steam (Note 3)	No	No	No
Vacuum (VAC)	Yes	Yes	Yes

Notes:

1. Also available in polypropylene for nonmetallic application.
2. For gases not specifically listed here, please refer to the WaterSaver website (wsflab.com).
3. Steam service requires a valve with specialized internal construction only. Refer to a WaterSaver Engineering Catalog or the WaterSaver website (wsflab.com) for information.

Service Fixture Indexing

WaterSaver fixtures are furnished with either a forged brass or a colored nylon handle. Handles have a full-view screw-on colored index button. Color-coding and symbol standards for index buttons are as follows:

Standard Indexing	Index Color	Letter Color	Symbol
Air	Orange	Black	AIR
Carbon Dioxide	Pink	Black	CO2
Cold Water	Green	White	CW
Deionized Water	White	Black	DI
Distilled Water	White	Black	DW
Gas	Blue	White	GAS
Hot Water	Red	White	HW
Hydrogen	Pink	Black	HYD
Nitrogen	Brown	White	NIT
Oxygen	Lt. Green	Black	OXY
Steam	Black	White	STM
Vacuum	Yellow	Black	VAC

Additional Indexing	Index Color	Letter Color	Symbol
Acetylene	Violet	White	C2H2
Acetylene	Violet	White	ACET
Ammonia	Lt. Green	Black	NH3
Argon	Violet	White	AR
Butane	Lt. Blue	Black	BUT
Carbon Monoxide	Silver	Black	CO
Chilled Water	Green	White	CH WAT
Chilled Water Supply	Green	White	CHWS
Chilled Water Supply	Green	White	CWS
Chilled Water Return	Green	White	CHWR
Chilled Water Return	Green	White	CWR
Compressed Air	Orange	Black	CA
Cylinder Gas	Lt. Blue	Black	CYL GAS
Glycol Supply	LT. Green	Black	GYL SUP
Glycol Return	Lt. Green	Black	GYL RET
Helium	Black	White	HE
High Vacuum	Yellow	Black	HI VAC
High Vacuum	Yellow	Black	HVAC
Hydrogen	Pink	Black	H2
Hydrogen	Lt. Blue	Black	H
Hydrogen	Lt. Blue	Black	H2

Additional Indexing	Index Color	Letter Color	Symbol
Hydrogen	Lt. Blue	Black	HYD
Ice Water	White	Black	IW
Industrial Cold Water	Green	White	ICW
Industrial Hot Water	Red	White	IHW
Lab Air	Orange	Black	LA
Lab Gas	Blue	White	LG
Lab Vacuum	Yellow	Black	LV
Low Vacuum	Yellow	Black	LO VAC
Low Vacuum	Yellow	Black	LVAC
Methane	Lt. Blue	Black	CH4
Natural Gas	Blue	White	NAT GAS
Nitrogen	Gray	Black	NIT
Nitrogen	Gray	Black	N2
Nitrogen	Brown	White	N
Nitrogen	Brown	White	N2
Nitrous Oxide	Lt. Green	Black	N2O
Oxygen	Lt. Green	Black	O2
Oxygen	Lt. Green	Black	OXY
Process Water	Green	White	PW
Reverse Osmosis	White	Black	RO
Reverse Osmosis Deionized Water	White	Black	RODI
Propane	Pink	Black	PRO
Purified Water	White	Black	PW
Special Gas	Lt. Blue	Black	SG

French Indexing	Index Color	Letter Color	Symbol
Cold Water	Green	White	EF
Distilled Water	White	Black	ED
Gas	Blue	White	GAZ
Hot Water	Red	White	EC
Nitrogen	Brown	White	AZ
Steam	Black	White	VAP
Vacuum	Yellow	Black	VIDE