



INSTALLATION AND OPERATING INSTRUCTIONS MODEL QS1, QS1K, QS1X (Please save for future reference.)

INTRODUCTION

Your Rainfresh TWIST Drinking Water System uses a premium filtering process, providing cleaner, safer, better tasting drinking water for your family. It reduces lead, VOC (volatile organic compounds), cysts, chlorine, bad tastes and odours (see performance data sheet for details). The system is designed for installation under the kitchen sink and includes a ceramic-disc faucet for dispensing filtered water.

Contaminants reduced by these cartridges are not necessarily in your water.

A fridge connection kit is included with the QS1K system in case you choose to also have filtered water from your water-dispensing fridge and for your ice cubes.

The "Twist ON/Twist OFF" design makes cartridge replacement quick and easy, using no tools and without having to shut off the water.

The filter cartridge should be replaced after 250 gallons (946 liters) or 4 months*. The system features a unique electronic monitor (QS1 & QS1K only) that tracks both the gallons used and time in service and triggers a blinking orange LED when either of these limits is reached advising you to replace the cartridge.

* Note: Cartridge life is directly dependant on water conditions and volume of water filtered. Excessive sediment may cause more frequent replacement.



INSTALLATION (Please read carefully before proceeding)

Contents Included:

Filter assembly, faucet & faucet parts bag, parts kits bag with saddle valve, battery, mounting screws (2), tube compression fittings, 1/4" union tee connector, 19 feet of 1/4" OD tubing (5 ft for models QS1 & QS1X), installation/operating instructions.

Installation shall comply with applicable plumbing codes and regulations. This unit comes complete with all necessary fittings to install the unit below the counter to copper or CPVC rigid plastic pipe. The water supply saddle valve is included for use in areas where codes permit. Where not permitted, the installer must provide approved fittings to tap the cold water pipe for a feed water source to the filter system (must adapt to 1/4" OD tubing).

INSTALLATION NOTES AND CAUTIONS

1. The system is designed for point-of-use (POU) under-sink installation for single faucet dispensing. However the unit can be installed in a remote location with tubing running up to the faucet. Note: additional tubing (not included) may be required.
2. Installation of this unit may involve some water spillage. Keep an ample supply of paper towels or an absorbent cloth handy.
3. This system is intended for use with cold water only. DO NOT INSTALL ON HOT WATER.
4. Protect filter from direct sunlight. Not intended for outdoor use.
5. Protect unit from freezing.
6. Not intended for installation in multi-storey buildings

TOOLS REQUIRED FOR INSTALLATION

Drill (cordless or electric), 1/2" drill bit, adjustable wrenches, Phillips and flat screwdrivers, utility knife, pencil.

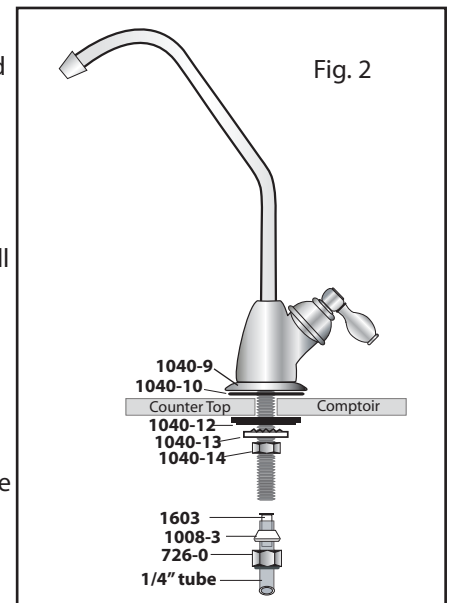
UNPACKING THE UNIT

Remove the filter cartridge (QLV) by turning it 1/4 turn clockwise, then pulling away from head assembly. Place it aside in a safe place until final assembly.

MOUNTING THE FAUCET (See Fig. 2)

Faucet may be installed in hole in sink (if available) or in counter top. Note: The faucet may also be installed in the sink sprayer hole if available.

1. Position faucet on counter top beside sink in desired position. Ensure that swivel spout will extend over sink and that there is room under the counter for faucet shank and to tighten nuts.
2. Mark the location and drill a 1/2" hole. Protect your counter top by applying a layer of masking tape and use a sharp drill.
3. Insert faucet shank through escutcheon plate (1040-9) and escutcheon washer (1040-10), and then through counter top. Install plastic locating washer (1040-12), lock washer (1040-13) and locking nut (1040-14). Tighten locking nut securely while someone holds the faucet body so it does not turn.



MOUNTING THE UNIT

Before mounting the unit, install the monitor battery. Remove head cover insert (2713) by gently pulling away the insert from the head. Unwrap coin battery (2545) and insert into battery slot between contacts with + side out. Do not reattach the head cover insert yet.

Locate best position for mounting unit undersink near faucet. The higher and closer to the front you mount the unit the easier it will be for regular maintenance. There are 2 mounting bracket screw locations at the back of the head.

Note: Screw holes at bottom should be at least 12 inches up from the base of the cabinet (you must allow at least 3 inches of clearance below the cartridges for easy removal). Screw in the 2 screws making sure that the head assembly is level.

Now re-attach the head cover insert (2713), carefully aligning it so that the black button on the monitor lines up through the hole on the cover insert.

Note: If wall is too thin to accept screw then use round head nuts and bolts (not supplied) to mount head assembly.

CONNECTING THE FAUCET

Measure the tubing required to connect faucet to the white OUTLET Acculink™ fitting (arrow pointing away from the fitting) and cut this length from the tubing supplied. Slide compression nut (726-0), sleeve (1008-3) onto tube and insert (1603) into 1/4" tube as shown in Fig. 2.

Push tube into end of faucet shank and hold firmly in place. Now tighten nut securely with a wrench. Push the other end of tubing into white OUTLET Acculink™ fitting as shown in Fig 5.

INSTALLING THE SELF-PIERCING SADDLE VALVE

The saddle valve (1008-0) can be installed on copper or CPVC rigid plastic pipe of 3/8" to 1" diameter. (Not recommended for flexible plastic pipe such as PEX).

Note: If your cold water line is other than described, use fittings (not included), that adapt the pipe size to 1/4" compression or contact Envirogard for assistance.

Orient saddle valve with outlet threads pointing towards grey Acculink™ INLET fitting to prevent unnecessary bends in the tubing).

Back off handle on saddle valve to retract piercing tip. See Fig. 3 With rubber gasket in a fixed position clamp entire assembly to pipe using bolts provided. Tighten bolts, keeping brackets parallel until rubber gasket is firmly compressed. **Caution:** Do not over-tighten bolts. **Do not turn handle back in at this time.**

Measure and cut length of 1/4" plastic tubing required to connect saddle valve to the grey INLET Acculink™ fitting. Slide compression nut (726-0) and sleeve (1008-3) onto tube, then put tube insert (1603) into tube as shown in Fig 4. Push tube into end of saddle valve fitting and hold firmly in place. Securely tighten the compression nut while holding other end of fitting with a wrench. Connect other end of tubing to grey INLET Acculink™ fitting (arrow pointing towards the fitting) on head as shown in Fig 5.

Fig. 3

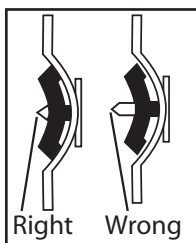


Fig. 4

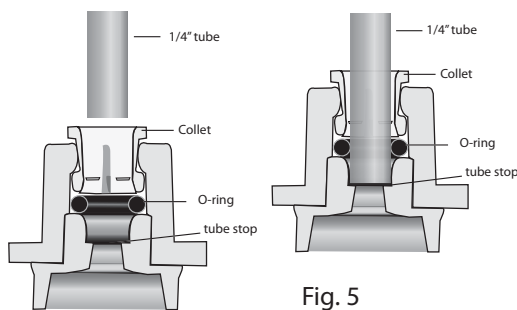
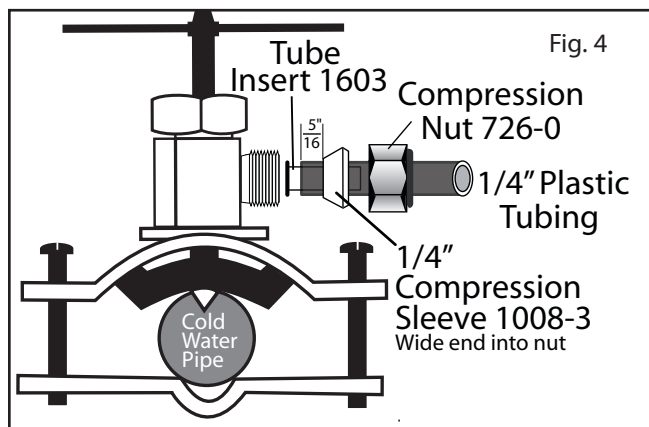


Fig. 5

CONNECTING TO THE ACCULINK FITTING

To ensure an optimal seal, tubing should be cut straight. An angled cut or distortion of the tubing will not provide an efficient seal and may cause a leak.

To install the 1/4" tube into the ACCULINK fitting, mark it 5/8" from the end and **push it firmly 5/8" through the collet, past the "O" ring until it seats on the tube stop.**

To remove, push in the collet with two fingers on two sides of the tube and pull out the tube.

STARTING UP

- Reconnect the QLV cartridge by turning it to the right until it stops turning and the lock marks on the cartridge and head line up (lock position)
- Turn the faucet handle to ON position.
- Turn saddle valve clockwise. After some free rotations, the needle on the valve will start to pierce the pipe. Continue to rotate the handle until it can go no further. You have now pierced the pipe, but the valve is closed. Now turn handle counter clockwise all the way to open and start water flow.
- Close faucet and check all connections for leaks. Carefully retighten any leaking fittings. It is a good idea to check the unit a few times for slow leaks shortly after installation.

Flushing and conditioning: Allow water to flow from the faucet for 10 minutes to flush unit before beginning service. YOUR UNIT IS NOW IN OPERATION.

NOTE: Some carbon fines may persist for several days and the water may also appear milky because of trapped air bubbles coming out of the unit. These are harmless and frequent running of the unit will clear them more quickly. Running the unit for extended periods of time will NOT help.

CONNECTING THE SYSTEM TO THE FRIDGE (Model QS1K only)

If you also wish to enjoy filtered water from your fridge water dispenser, then:

- Measure and check the remaining 1/4" tubing to ensure that it is long enough to connect the filter unit to your fridge. Note: If your fridge is farther away, you may require additional 1/4" tubing (not included).
- Shut the water off by turning the handle on the saddle valve clockwise until stop.
- Open the faucet to release water pressure.
- Cut the tube, connecting the faucet with the outlet fitting, at the center, making sure that your cut is straight. Caution: Do not cut the tube at an angle as that can cause a leak.
- Connect the open ends of the tubing now to the 1/4" union tee (2612) included with the unit.
- Now connect the open end of the union tee (2612) to your fridge using the 1/4" tubing.

SETTING THE RAINFRESH FILTER LIFE MONITOR (Models QS1 and QS1K only)

Press and hold black monitor button for 10 seconds. The orange LED will glow and after first 5 seconds it will blink 4 times and turn off. Continue to hold the black button for another 5 seconds. The orange LED will glow again once and then turn off. Now release button as the monitor has been reset.

The monitor tracks both gallons and time used. When either 250 gallons or 4 months has expired the orange LED will blink every 5 seconds advising you to replace the cartridge. The LED will continue to blink until monitor is reset as above. Note: Extensive sediment may cause more frequent filter cartridge replacement.

Monitor Battery - After approx 2 years yellow LED will blink every 5 seconds advising you to change battery.

To replace battery - remove head cover insert (2713) by gently pulling away the insert from the head. Insert new battery (2545) into battery slot between contacts with + side out and reattach cover insert to head assembly.

To Test Battery - With faucet off, press the black button for two seconds or less. If the orange LED lights up then power is on and monitor is working. If LED does not light then battery is expired and must be replaced. NOTE: If faucet is on and water is running, LED will not light if button is pressed.

REPLACING FILTER CARTRIDGE

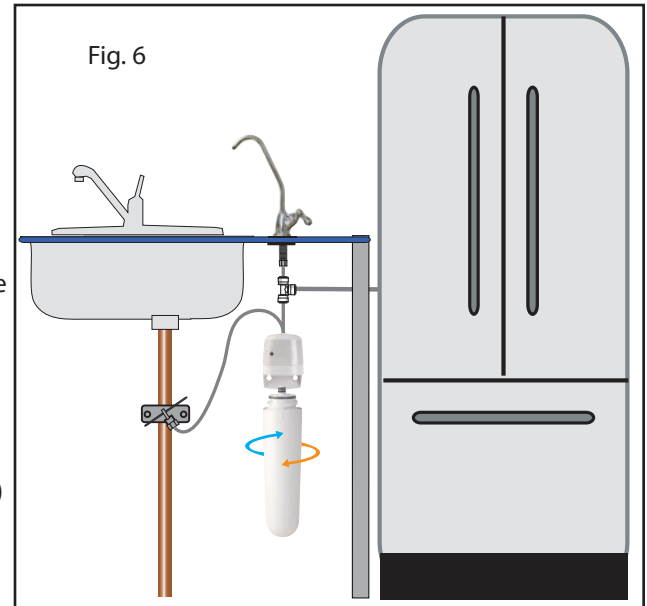
For best results, the QLV filter cartridge must be replaced after 250 gallons (950 liters approx) or 4 months whichever comes first. This will be signaled by the orange LED blinking every 5 seconds.

Note: Filter cartridge life depends on water quality. Excessive fine sediment can substantially reduce the filter cartridge life. This will be signaled by a sudden drop in water flow or no flow from the faucet before the 4 month life is up. If your water has excessive sediment, we recommend installing a Rainfresh whole-house water filter available from the same retailer where you purchased this unit. Call Rainfresh for assistance in locating a retailer and product selection.

To replace filter cartridge - simply hold the cartridge and turn about 1/4 turn left and lower it away from head while holding it vertically to retain water. Empty the old cartridge in the kitchen sink by holding it upside down and discard. Use a dry absorbent cloth or a paper towel to wipe off any water that may fall on the cabinet floor. To install new filter cartridge, turn it to the right until it stops turning and the lock marks on the cartridge and head line up (lock position). The cartridge is now locked in place.

MAINTENANCE / PRECAUTIONS

- 1) Do not subject unit to freezing temperatures at any time.
- 2) Do not clean housing with organic solvents such as those found in sprays for cleaning products or insecticides as these may cause cracking or crazing and lead to failure and leakage.
- 3) Replace filter cartridges every 4 months or as soon as the LED comes on.



TROUBLESHOOTING

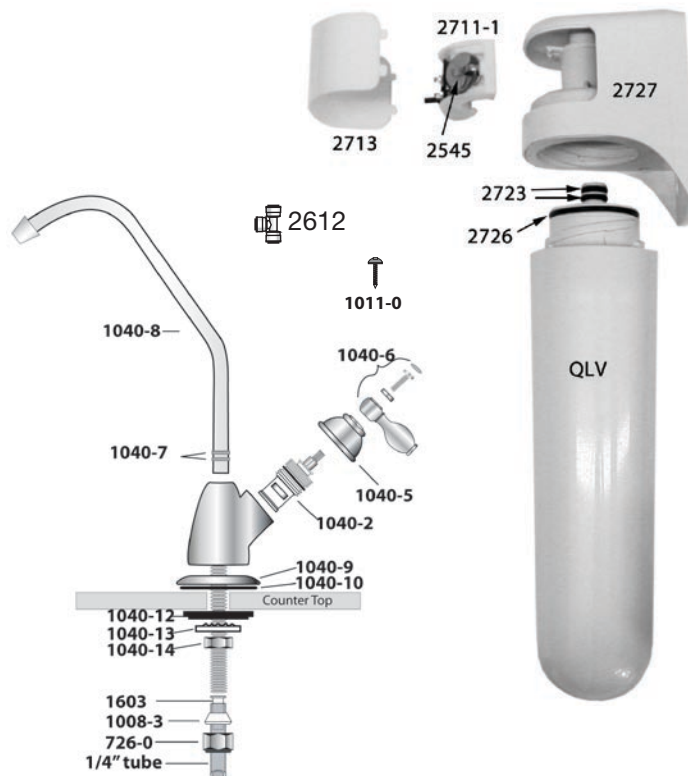
PROBLEM	POSSIBLE CAUSE & SOLUTION
Saddle valve is leaking	<ul style="list-style-type: none"> Turn valve handle clockwise to shut water off. Make sure that the ferrule and sleeve is correctly installed as per fig 4 Fully tighten the compression nut to make sure seal is made Turn valve handle counter clockwise to start water flow If problem persists, call Rainfresh for assistance
Flow rate is very slow after installation of unit	<ul style="list-style-type: none"> You may not have pierced the water pipe fully. Turn valve handle clockwise all the way until it can go no further to make sure that valve needle has fully pierced the water pipe. Call Rainfresh to review installation procedure
There are some black fines in the water	<ul style="list-style-type: none"> Some carbon fines may persist for several days. These are harmless and frequent running of the unit will clear them more quickly. Running the unit for extended periods of time will NOT help.
Water appears milky after installation or after replacing cartridges	<ul style="list-style-type: none"> Water can appear milky after a new cartridge is installed because of tiny air bubbles coming out. These will clear out if you leave the water standing for a few seconds and are harmless. After a few days of use the bubbles will slowly clear away.
The cartridge came undone from the head on it's own	<ul style="list-style-type: none"> This may indicate high water pressure or water hammer conditions exceeding 100 psi . You may need to install a pressure regulator (set at 60-70 psi max) and a water hammer arrestor on the line. Call Rainfresh for further assistance
The faucet continues to drip even after shut-off	<ul style="list-style-type: none"> Replace faucet cartridge Call Rainfresh to order ceramic disc cartridge kit (1040-2)
Monitor does not light up when I press the button	<ul style="list-style-type: none"> If water is not running through the system and the monitor LED does not light up, you may need to replace the battery (2545) Call Rainfresh to order

Limited 1 Year Warranty

This system (excluding filter cartridge(s) and battery) is warranted to the original consumer purchaser/owner, for a period of one (1) year, from the date of purchase, against defects in materials or workmanship. The company's obligation under this warranty shall consist of repair, replacement or credit, at its option, of any part found by the company inspection to be defective, provided that the product has not been misused, abused, altered or damaged as determined by the company and provided that only approved Envirogard/Rainfresh replacement cartridges have been used in the housings. This warranty does NOT apply to the replacement cartridge(s), or battery which by nature will diminish in performance through normal use and require(s) regular replacement. This warranty does NOT cover, and is intended to exclude, any liability on the part of Envirogard for any incidental damages, consequential damages, labour charges or any other costs incurred in connection with the purchase, installation, use, maintenance or repair of the water filter whether under this warranty or any other warranty implied by law. Some provinces/states do not allow the exclusion of incidental or consequential damages, so the above limitation or exclusion may not apply to you. This warranty gives you specific legal rights and you may also have other rights, which vary from province to province/state to state. This warranty applies only to water filters/systems purchased in Canada or the U.S.A.

PARTS LIST

Part #	Description	Qty
QLV	Replacement cartridge for lead, VOC, cyst, chlorine, taste and odour	1
726-0	Compression Nut 1/4"	2
1008-1	Saddle Valve Complete	1
1008-3	Tube Sleeve 1/4"	2
1011-0	Mounting Screw	2
1040-0	Faucet Assembly Complete	1
1040-2	Ceramic Disc Assembly	1
1040-5	Handle Collar	1
1040-6	Handle	1
1040-7	Spout O-ring	1
1040-8	Spout	1
1040-9	Escutcheon Plate	1
1040-10	Escutcheon Washer	1
1040-12	Locating Washer	1
1040-13	Lock Washer	1
1040-14	Lock Nut	1
2612	Acculink T-fitting to attach unit to your refrigerator (QS1K only)	1
1603	1/4" Tube Insert	2
2545	Battery	1
2713	Head Cover Insert	1
2711-1	Monitor Assembly	1
2723	Cartridge Top "O" rings	2
2726	Sump "O" ring	1
2727	QS1 Head Assembly Complete	1



Thank you for purchasing one of our water filters.
We are committed to ensuring that you are totally satisfied.
If you have any problems, don't go back to the store, please contact us !

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This system has been tested according to NSF/ANSI 42 and 53 for reduction of the substances listed below in Table I & Table II. The concentration of the indicated substances in the water entering the system was reduced to a concentration less than or equal to the permissible limit for water leaving the system as specified in NSF/ANSI 42 and 53.

TABLE I

Contaminant	Influent Challenge Concentration	Reduction Requirement	Average Reduction Efficiency
<i>Standard 42 – Aesthetic Effects.</i> Taste, Odour, Chlorine Reduction	2.0 mg/L \pm 10%	\geq 50%	> 98%
<i>Standard 53 – Health Effects.</i> Cyst Reduction	Minimum 50,000/L	\geq 99.95%	\geq 99.95%
<i>Standard 53 – Health Effects.</i> Volatile Organic Chemical (VOC) Reduction ⁽¹⁾	0.298 mg/L	\geq 95%	> 95%
<i>Standard 53 – Health Effects.</i> Lead Reduction	0.15 mg/L \pm 10%	\geq 93%	> 95%

⁽¹⁾ –Substantiated using chloroform reduction of 98.8% as a surrogate.



VOC reduction means that the system reduces the concentration of all the contaminants listed in Table II by > 95%.

TABLE-II

alachlor	1,2-dichloroethane	1,1,2,2,-tetrachloroethane	tetrachloroethylene
atrazine	1,1-dichloroethylene	heptachlor (H-34, Heptox)	toluene
benzene	cis-1,2-dichloroethylene	heptachlor epoxide	2,4,5-TP (silvex)
carbofuran	trans-1,2-dichloroethylene	hexachlorobutadiene	tribromoacetic acid
carbon tetrachloride	1,2-dichloropropane	hexachlorocyclopentadiene	1,2,4-trichlorobenzene
chlorobenzene	cis-1,3-dichloropropylene	lindane	1,1,1-trichloroethane
chloropicrin	dinoseb	methoxychlor	1,1,2-trichloroethane
2,4-D	endrin	pentachlorophenol	trichloroethylene
dibromochloropropane (DBCP)	ethylbenzene	simazine	xylenes (total)
o-dichlorobenzene	ethylene dibromide (EDB)	styrene	trihalomethanes (includes)
p-dichlorobenzene	haloacetonitriles (HAN) bromochloroacetonitrile dibromoacetonitrile dichloroacetonitrile trichloroacetonitrile	haloketones (HK) 1,1-dichloro-2-propanone 1,1,1-trichloro-2-propanone	chloroform (surrogate chemical) bromoform bromodichloromethane chlorodibromomethane

- Do not use on water that is microbiologically unsafe without adequate disinfection before or after the unit. The system may be used on disinfected water that may contain filterable cysts
- All testing performed under standard laboratory conditions. Actual performance may vary.

Note: Contaminants reduced by this filter are not necessarily present in water. Individuals requiring water of specific microbiological purity should follow the advice of their doctor or local health unit.

Filter Cartridge Model	Rated Cartridge Life
QLV	250 US gal (946 liters) or 4 months

Technical Specifications

Rated service flow - 0.75 US GPM (2.83 LPM)

Operating Temp - 4°C (39°F) min. to 38°C (100°F) max.

Working Pressure - 20 psi (137 kPa) min. to 100 psi (689 kPa) max*

*If water pressure can exceed 100 psi, a pressure regulator and water hammer arrestor must be installed before the filter.

Recommended regulator setting is 60-75 psi.

General Operation, Monitor Function & Maintenance: See product manual for maintenance instructions. User is responsible for general maintenance.

Warranty – Limited 1 year warranty. See product manual for details.

For replacement parts contact Rainfresh.

