

EcoFlush™
Dual Function FlushOmeter
Tank System

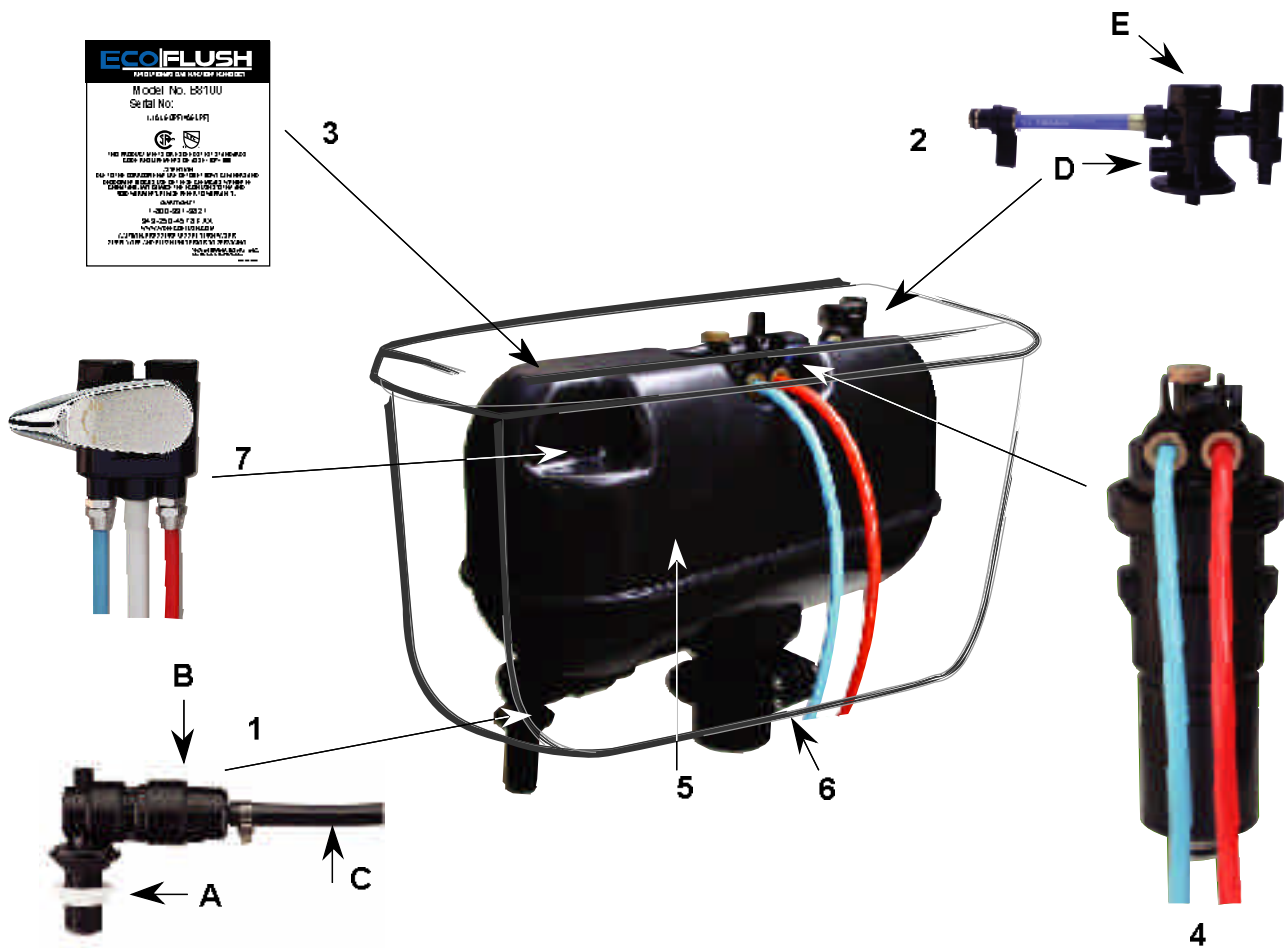


Model B8100
1.1 Gallon/4 Liter/ Flush
1.6 Gallon/ 6 Liter/ Flush

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EcoFlush Model B8100 Series- Dual Flush System



Components for B8100 Series:

1. Lower Inlet Supply w/Hose

- A. Inlet Connector 15/16" w/filter screen
- B. Pressure regulator & relief valve.
- C. Supply hose to upper assembly.

2. Upper Supply Assembly

- D. Air Inducer
- E. Anti-Siphon w/check ball valve for Back flow prevention.

3. Name Plate w/Product Information

4. Flush Valve Cartridge Assembly

Partial & Full Flush lines.

5. Vessel

6. Discharge Extension w/Drain

7. Dual Flush Control Valve

EcoFlush dual function system provides the means of saving water and money by providing the highest performance capability available today in the ULF (Ultra-Low Fixture) category. This means that you may use the partial flush 1 gallon/4 liters of water to discharge the liquid waste and the full flush to provide 1.6 gallon/6 liters of water to thoroughly clean the toilet bowl of solid waste. The EcoFlush is currently the only system in the world that provides this pressurized dual function capability. The Patent Pending Design of the EcoFlush dual flush valve cartridge provides superior flushing performance for either liquid or solid waste elimination. This is accomplished by the incoming water compressing the air inside the pressure vessel, the compressed air creates a piston effect and the air drives the water into the bowl for effective bowl cleaning. The **WDI** EcoFlush System in concert with the specially designed toilet bowl offers many unique benefits and features.

Revolutionary **WDI EcoFlush** Features & Benefits:

Option of using the partial or full flush feature saving water & money.

Uses 1.6 gallons/6 liters for solid and 1 gallon/4 liters for liquids.

Powerful flushing action eliminates repeated flushing to eliminate waste.

Flushing action improves sewer line carry & leaves the bowl cleaner.

Virtually eliminates stoppages.

Large water spot in the bowl for less cleaning.

Larger trap way to eliminate bowl clogs.

No water loss due to leakage between flushes.

Non-Sweating Tank Enclosure.

WARNING: When servicing or replacing components to the EcoFlush system, make certain that the water supply is turned OFF and the toilet is then flushed to relieve the internal air and water pressure inside the vessel.

WARNING: The EcoFlush pressure flushing system can only be used with bowls that were specifically designed to use this technology. These bowls are referred to as jetted pressure assisted toilet bowls.

NEVER use lubricants on any of the components unless otherwise noted in this manual.

NEVER use corrosive disinfectants, bowl cleaners or deodorants in the toilet tank as this will void the manufacturers warranty.

INSTALLATION

Please follow the instructions provided by the toilet manufacturer. Using the gasket, washer and nuts provided with the toilet, assemble the tank to the bowl. Before connecting the supply to the tank, be sure the supply line is flushed clean. Do this by running water from the supply stop into a bucket until water flows clear. After connecting the supply line to the tank, check the locking keys, there are 3 black tab locks the tabs on all lines should be pointed upward. Now turn on the water and check for leaks.

Dual Flush Control Option - You will note that the flushing mechanism has two lines which have twist and lock connectors, the partial 1 gallon/4 liter twist & lock is controlled by the orange connector line and the full flush 1.6 gallon/6 liter blue connector line controls the full flush. The system is shipped to you with orange (partial flush) line on the right facing the dual flush control valve (DFC) and flush valve cartridge and the blue (full flush line on the left facing) as pictured. The partial flush is controlled by the orange line and is activated by pushing the flush lever handle down. If you prefer to have the partial flush activated by raising the flush handle, you have this option.

To Activate the Partial Flush by Raising the flush handle: If you want to activate the partial flush by raising the flush lever up, proceed as follows; Turn off the water supply, flush to relieve any pressure. Note the two locking tabs at the flush valve cartridge (FVC). To release the locking tabs of the blue and orange lines push the tabs outward and while pulling gently, free the lines. Now insert the locking tab of the orange line into the left side port facing the FVC and insert the locking tab of the blue line into the right side facing port. Push the fittings of the two lines gently then lock into position by lifting up on the tabs so that the tabs are pointing upward (make sure that the locking tabs are secure, you should not be able to remove the connector lines). Turn on the water and flush a couple of times to clear the system and check carefully for leaks. Now raising the flush lever will activate the partial flush and depressing the flush lever

After installation check the following:

- a. Verify water pressure: The recommended static pressure range by code is 20 PSI. to 125 PSI). If sufficient supply pressure has been verified then;
- b. Flush the unit several times to clear any excess air trapped in the vessel.



c. Note: If any problem occurs shut off the water supply and flush to relieve any water or air pressure remaining in the vessel.

d. If the vessel does not flush, shut off the water supply and remove the connector line nut that connects the upper supply assembly and the flush valve cartridge, loosening or removal of this line will eliminate the pressure inside the vessel.

TROUBLESHOOTING

CONDITION 1: NO WATER FLOWS INTO THE VESSEL

If the water pressure is lower than 20 PSI as higher water pressure is required for the unit to function properly. (NOTE: The recommended static pressure range by code is 20 PSI to 125 PSI). If you cannot increase the water pressure to the required level the unit will not function.

Check the following to make sure that there is no mechanical reason for the low pressure. Please check the following:

Step 1. Make sure the water supply valve is fully open.



Step 2. Check the Debris Filter Screen for any obstruction that would restrict the water supply pressure. To check the debris screen, shut off the water supply, flush the toilet to discharge any pressure, then disconnect the supply line, remove the debris screen from the threaded connector shank and flush any debris which might be preventing the flow of water through the filter screen. Replace and turn the water supply on checking for leaks.



Step 3. Check to ensure that there are no kinks in the supply lines or connector lines between lower and upper supply assemblies, and no kinks which would prevent the flow of the water into the system. Also check that there are no leaks at any of the connections.



Step 4. Check the flush control valve for any leaks and make sure the connections are tight. If water is leaking from the flush control valve then the flush control valve should be replaced (EcoFlush Part Number B8100-04), covered by factory warranty.



Step 5. Check the Flush Valve Cartridge for air leaks by pouring a small amount of water onto the area around the top of the flush valve cartridge. If air bubbles are visible then you must remove the FVC and check the flush valve o-ring for damage and to see that it is properly positioned in the vessel.

To remove the Flush Valve Cartridge proceed as follows:

Step a. Shut off the water supply and flush the toilet to remove any remaining water or air pressure before starting the procedure.



Step b. Remove the quick connector line between the Upper Supply Assembly and the Flush Valve Cartridge by rotating the locking tab downward. Remove the supply line and set it aside.



Step c. Disconnect the Dual Flush Control valve orange and blue lines, by rotating the locking tabs downward and pull gently on the lines.



Step d. Remove the Flush Valve Cartridge (FVC) Assembly use the tool provided. Using the FVC tool engage the teeth of the tool with the slots on the top of the FVC and with the aid of a wrench, rotate the FVC counter clock wise 1/4 turn. Then lift the FVC up removing the FVC & the upper o-ring. Inspect the upper o-ring and the flush valve seat of the Flush Valve Cartridge.



Step e. Reinstall the Flush Valve Cartridge (FVC) Assembly. First, position the o-ring in the flush valve seat and then carefully insert the cartridge into vessel making sure that the o-ring stays in the proper position. Using the tool align the dual connectors at the 5 o'clock position and while gently pushing down on the cartridge rotate the cartridge clockwise 1/4 turn to lock the FVC into position with connector ports aligned and facing forward, indicating that the FVC is now locked into the proper position. (DO NOT USE LUBRICANTS ON THE O-RING OR INTERNAL PART OF THE ECOFLUSH AS THIS WILL VOID THE WARRANTY AND CAUSE DAMAGE TO THE SYSTEM.



Step f. Reconnect the DFC supply lines, orange on right facing port and the blue line on the left facing port and while pushing the locking keys into place rotate the locking tabs upward to lock the lines into place.



Step g. Reconnect the Upper Supply quick connect line by aligning the locking tab and pushing inward. rotate the locking tab upward to lock the line into position.



Step h. Locate the round knarled nut and hand tighten to ensure that the lower seal is seated in the discharge outlet of the vessel. This nut should be screwed tightly down into position, do not use excessive force, as this can strip the threads on the FVC.



Step i. Turn on the water supply and check all lines carefully for leaks, to ensure that the FVC o-ring is properly seated pour water onto the top of the FVC and check for air leaks. Test flush the units several times to clear excess air and continue use.

Step 6. If Step 4 & 5 do not resolve the problem then it will be necessary to replace the flush valve cartridge including the o-ring EcoFlush part number B8100-03 ,covered by factory warranty.

CONDITION 2 : Water Runs & Will Not Shut Off

(NOTE: The recommended static pressure range is 20 P.S.I. to 125 P.S.I.). If sufficient supply pressure has been verified and the toilet continues to run, the following steps may be required:

Step 1. Make sure the water supply valve is fully open.



Step 2. Check the flush control valve for any leaks and make sure the connections are also tight. If water is leaking from the flush control valve then the flush control valve should be replaced EcoFlush Part Number B8100-04, covered by factory warranty.

Step 3. Check to ensure that there are no leaks in the supply line and connector lines which would prevent the proper function of the system.



Step 4. Check the Flush Valve Cartridge assembly for proper installation and use the water test to check for air leak around the top of the flush valve cartridge. Proceed as follows: If the FVC has an air leak you need to check the flush valve and o-ring seal.



Step 5. Turn off the water supply, flush the toilet to relieve any pressure and remove the Flush Valve Cartridge (FVC) Assembly using the Flush Valve tool. To remove the Flush Valve Cartridge Assembly: Disconnect the 3 lines the supply line from the upper supply assembly and the two lines from the DFC valve, you may disconnect these lines by moving the tabs into the unlocked position and pulling gently on the lines. Disconnect Upper Supply line to the FVC by loosening the nut on that connects the top of the FVC to the Upper Supply Assembly.



Step 6. Using the tool provided engage the interlocking teeth and rotate the FVC counter clock wise 1/4 turn, then lift the FVC up removing it from the vessel.



Step 7. Inspect the FVC large o-ring at the top of the cartridge. also check the lower o-ring for damage or if it is properly seated. NEVER USE ANY LUBRICANTS ON ANY OF THE PARTS OF THE ECO FLUSH AS THIS WILL VOID THE WARRANTY AND CAUSE DAMAGE TO THE PARTS.



Step 8. Reinstall the Flush Valve Cartridge (FVC) Assembly. First, insert the cartridge into vessel and, while gently pushing down on the cartridge turn the cartridge clockwise 1/4 turn to lock the FVC into position with connector ports aligned and facing forward, indicating that the locking lugs are now aligned. Turn on the water and check for leaks.

Step 9. If the tank continues to run remove the FVC and check that the lower piston is in the proper position, and check the large o-ring to insure that it is properly seated. When the vessel is filled and the water stops running, it is an indication that vessel is filled and ready to continue normal use.

Step 10. If the water continues through the vessel into the toilet after completing Steps 1 through 9 the Flush Valve Cartridge should be replaced EcoFlush part number B8100-03, covered by warranty.



Check Lower inlet supply assembly to see if the pressure relief valve is leaking or allowing water to flow into the tank. If water is leaking from the pressure regulator & relief valve of the lower inlet supply assembly, the lower inlet supply assembly must be replaced. EcoFlush Part number B8100-01, covered by factory warranty.

CONDITION 3 : Weak or Sluggish Flush

Step 1. (NOTE: The recommended static pressure range is 20 P.S.I. to 125 P.S.I.). If sufficient supply pressure has been verified and the toilet continues to run, the following steps may be required: If the pressure is within the above defined limits, then you will want to flush the system a couple of times to remove any debris that may be limiting the flow of water to the vessel.



Step 2. Check for debris in the filter screen system at the water inlet for any obstruction that might limit the flow of water into the vessel. To do this shut off the water supply, flush the unit to relieve any pressure and disconnect the water supply line from the threaded connector, you can remove the filter screen easily using a set of long nose pliers, clean & replace, then reconnect the water supply and check the water flow.



Step 3. Make sure that the vessel has sufficient time to fully recharge (the lower the pressure the longer the time to recharge the vessel), we suggest that you allow at least 2 minutes between flush cycles.

WINTERIZING

The EcoFlush, when installed in a summer home, cottage or cabin, can be winterized to allow for periods for non-use especially when the dwelling is subject to frigid conditions. Follow the procedures outlined below.

NOTE: A sponge, a pail and adjustable channel locks will be useful.

Tank Procedure:

Step1. Turn off the water supply line valve and remove the toilet tank lid/cover.

Step 2. Flush the system to discharge all the water from the vessel.

Step 3. Disconnect the supply line-coupling nut from the connector shank.

NOTE: A small amount of water will drip out of the shank. Be prepared to collect it in a bucket or sponge it up. Loosen the hex nut on the connector shank and allow the water to drain from the bottom of the toilet tank into a bucket. You may also remove the toilet tank lid and use an old towel to soak up any water that may accumulate in the bottom of the tank.

Step 4. Flush the vessel to insure that the vessel has discharged all air & water.

Bowl Procedure:

After flushing out the vessel, remove any remaining water from the bowl or add from 1 pint to 1 quart of antifreeze or RV antifreeze to the water remaining in the bowl.

NOTE: Refer to fixture manufacturer's instructions for procedures to winterize bowl.

POINTS TO REMEMBER _____

SAFETY NOTICE

- **When servicing any component, the water supply should be turned OFF and the vessel should be flushed normally in order to relieve the air and water pressure in the vessel.**
- The Flush Valve Cartridge Assembly can be removed by using the tool provided, insert the teeth into the slots on circumference of the top of the flush valve into the top of the Cartridge and rotate 1/4 turn in a counter clockwise direction.
- **NEVER** use any corrosive disinfectants, bowl cleaners or deodorant blocks with a **WDI** EcoFlush system or in the toilet tank. **USE OF ANY CORROSIVE OR CHLORINE BASED CLEANERS IN THE TOILET TANK SHALL BE JUST CAUSE TO VOID THE WARRANTY OF THIS PRODUCT.**

The EcoFlush has been engineered to provide reliable performance year after year. However, if servicing is ever required, it is recommended that you follow the instructions included in this brochure. If you would like additional information or require technical assistance, write to us at WDI 3 Musick Irvine, CA 92618 or call us at 1-800-391-9821.

ATTENTION OWNER THIS IS YOUR WARRANTY REGISTRATION

WDI International, Inc. (the company), warrants the EcoFlush system to be free of defects in material and workmanship for a period of ten (10) years from the date of installation and the Company hereby agrees to replace any part of this product that proves, upon our inspection and within ten years from date of installation, to be defective in material or workmanship. All labor and transportation costs or charges incidental to warranty service are to be borne by the purchaser-user.

This warranty is subject to the following:

Specific Conditions to Warranty

A Warranty Registration card must be fully completed and mailed by the purchaser (the "user") to the Company within thirty (30) days of the date of installation. The unit has been subject to proper installation, operation and maintenance as outlined in the installation instructions that were supplied with the unit. Note carefully that this warranty is void if the unit is installed and operated subject to water supply line pressure greater than 125psi (static) or less than 20psi (static).

Service and repairs may only be performed by authorized representatives of the Company or by other upon specific approval by the Company. Unauthorized repairs or alterations shall specifically void the warranty. Use of chemical disinfectant or corrosive household cleaners on **WDI** EcoFlush^a products or in the toilet tank will void this warranty. Proof of purchase is required.

Exclusions

IN NO EVENT SHALL THE COMPANY BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES, FOR DAMAGES RESULTING FROM IMPROPER INSTALLATION, OR FOR DAMAGES CAUSED BY NEGLIGENCE, ABUSE OR ALTERATION. ALL IMPLIED WARRANTIES, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE ARE LIMITED TO A PERIOD OF TEN (10) YEARS FROM DATE OF INSTALLATION.

Some states do not allow limitation on the duration of an implied warranty and some states do not allow exclusions or limitations regarding incidental or consequential damages, so the above limitations may not apply to you. This warranty gives you specific legal rights and you may have other rights which vary from state to state. No person is authorized to change, add to, or create any warranty or obligation other than that set forth herein. To obtain warranty service contact Consumer Services at the following:

WDI International, Inc.
3 Musick
Irvine, CA, 92618
EcoFlush Technical Support
Toll Free Number
1 800 391 9821
<http://www.WDI-EcoFlush.com>

WARRANTY INFORMATION

Installation Date _____

Serial Number _____

Model Number B8100

Your Name _____

Address _____

City _____ State _____ Zip _____

Toilet Mfg's Name _____

EcoFlush Lower Inlet Supply Assembly

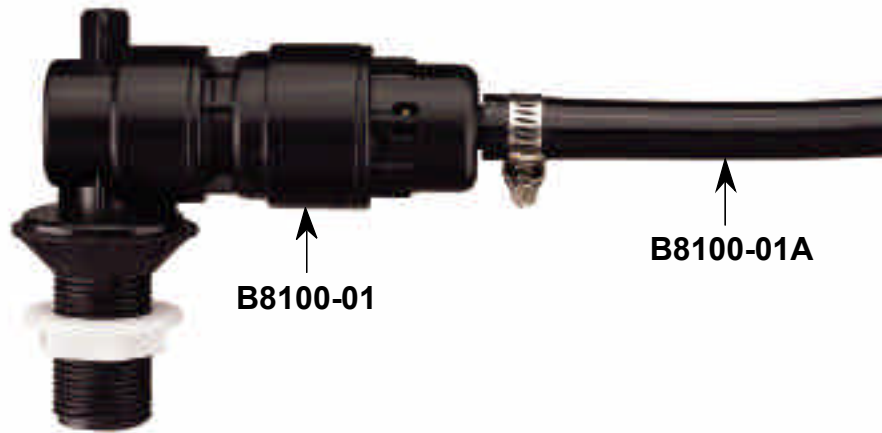


Fig. I - Exploded Parts View of Lower Inlet Supply Assembly

Lower Supply Assembly

Part Number

- 1. Complete Lower Supply w/pressure relief valve**
- 2. Lower and upper supply tube**

B8100-01
B8100-01A

EcoFlush Upper Supply Assembly

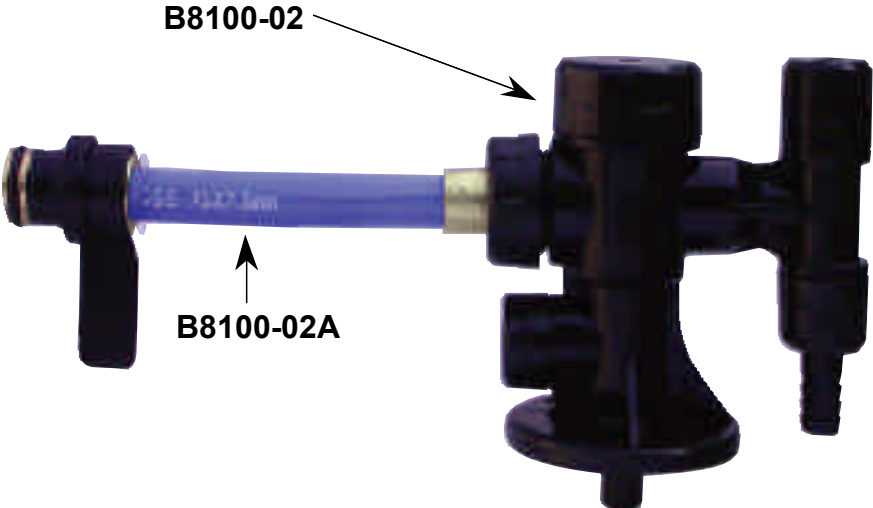


Fig. II - Exploded View of Upper Supply Assembly

Upper Supply Assembly

Part Number

- 1.Complete Upper Supply Assembly**
- 2.Quick Couple Supply Tube**

- B8100-02**
- B8100-02A**

EcoFlush Flush Valve Cartridge Assembly



Fig. III - Flush Valve Cartridge (FVC) Assembly

Parts Description

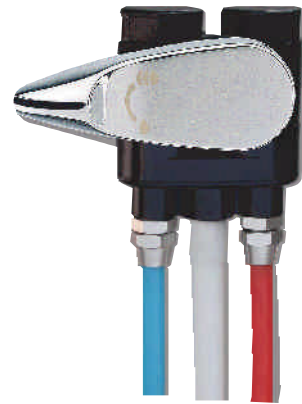
- 1. Complete Flush Valve Cartridge Assembly
(Connector Lines not Included)**

**Part Number
B8100-03**

Fig. IV - Flush Control Valve Assembly



Back View



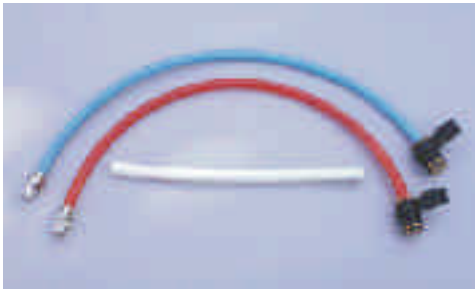
Front View

Description

- 1.Complete FCV (Handle Not Included)
- 2.Flush valve control lines and connectors only

Part Number

- B8100-04
- B8100-04A



Includes:

- a. Orange Partial Flush Connector w/ 14 inch tube
- b. Blue Full Flush Connector w/ 14 inch tube
- c. White discharge tube

EcoFlush Lever



Back View



Front View

Description

EcoFlush Flush Handle

- 1.Chrome Plated Zinc
- 2.Powder Coated - White
- 3.Powder Coated - Bone
- 4.Powder Coated - Biscuit
- 5.Polished Brass Zinc



Part Number

- BS004CLV
- BS004WLV
- BS004BNLV
- BS004BSLV
- BS004PBLV