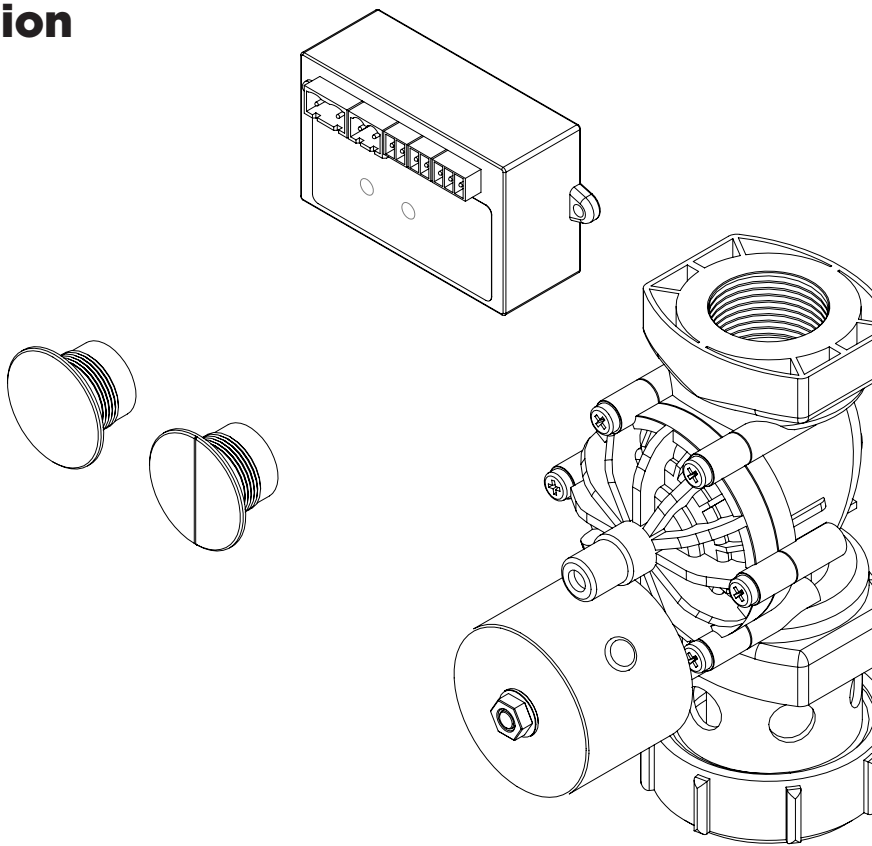


FFV-E45

Dual Electronic Flush Valve with Buttons Only

Installation Guide



IMPORTANT

ALL SERVICE TO BE PERFORMED BY AN AUTHORISED SERVICE PERSON

Installation of this unit must be in accordance with AS/NZS 3500.1, AS/NZS 3500.2, the PCA and the local regulatory requirements. Water and/or electrical supply conditions must comply to national or state requirements and standards. Failure to comply shall void the product warranty and may affect the performance of the product. For further support and after-sales care, please contact Britex.



WARNING

WHEN INSTALLATION IS COMPLETE, ENSURE THESE INSTRUCTIONS REMAIN INSIDE THE PLASTIC BAG PROVIDED WITH THE UNIT FOR FUTURE REFERENCE

About

The Britex The Dual Electronic Flush Valve No. FFV-E45 is a mains powered (transformer 240V to 12V) Electronic Dual Flush System for in ceiling or in-duct installation.

Function

A user pushes the full or half flush button to activate the flush. A new flushing cycle can only be activated after the previous cycle has finished. Depending on the available line pressure the full and half flush time has to be manually adjusted on the controller module to set the required flush volume. To prevent misuse and enhance water saving the controller module will allow only a maximum of 6 flushes per minute. Once the valve has been flushed 6 times within one minute the controller will not allow another flush for 45 seconds.

Preparation and Completion Notes

Safety Precautions

1. The WC Electronic Dual Flush Valve and its components are for indoor use only.
2. Install the FFV-E45 and its' components only in a dry environment with an ambient temperature 5- 40°C.
3. When performing any work on the WC Electronic Dual Flush Valve or its' connected components the transformer has to be disconnected from the power supply. Also switch off the power supply.
4. Prior to performing any maintenance shut off the water supply to the valve.
5. Prior to removing parts or disconnecting the flush valve relieve the water pressure inside the valve. The pressure can be relieved by opening the valve with the lever on the valve outlet as shown in Fig.3. Leave the lever open until all water has drained. Close after finished.
6. The transformer and the electronic module should be installed close to each other. The transformer and the electronic module should be installed as far away from the flush valve as the regulations require.
7. Replace faulty components only with Sanitron original components.
8. For the installation and operation observe all relevant electrical, safety plumbing and building standards.
9. Some equipment may radiates heat do not insulate any supplied equipment.
10. All supplied components should only be used for the purpose they are designed for.

Supplied

Supplied with the Britex The Dual Electronic Flush Valve FFV-E45 are the following components

- 1 x DFM-04 Electronic dual flush module
- 1 x TR-5A Transformer 240V to 12Vdc
- 1 x SV-9 Electronic Flush valve
- 2 x 3m extension cable for actuator buttons

Installation Instructions

Rough-in Installation

1. Make sure during the planning phase that the proposed installation location (see fig.1 & 2) for the flush pipe and flush valve is obstruction free (do not install additional bends or offsets along the flush pipe other than the bend on the bottom of the flush pipe). It is recommended to install acoustic insulation to pipe work and flush pipe in sound sensitive areas.
2. Provide a 240 V power point inside the ceiling space or service duct (see fig.1 or 2, also table 1). The cable length of the transformer is about 1.5m.
3. Install the DFM-04 electronic module close to the power point
4. Size and install the water supply pipe to the requirement of the installation (for pipe size and installation requirements refer to the relevant standards AS 3500.1 section 10-Flush valves, see also table 1 for technical information on the flush valve). **Note: In most cases plastic pipes require up-sizing!** Install an appropriately sized ball valve as a stopcock (not supplied).
5. **Prior to installing the flush valve flush the lines first.**
6. Install the flush valve and the flush-pipe (40 mm DWV not supplied) in the required location (see also fig.1 ,2, and 3). Insert the square cut flush pipe into the compression joint on the bottom of the flush valve and tighten the nut.
7. Make sure that all pipework including the flush pipe are clipped properly.
8. Carry out all installation work as required by the pan supplier.
9. Install the supplied extension cables for the actuator buttons reaching from the DFM-04 module (see fig. 1 or 2) to the future installation location of the buttons and secure the cable ends. It is recommended to install the cables into a cableduct. Depending on the actuator button provide also the appropriate cutout in the wall sheeting (see also installation instruction for the buttons).
10. For in-ceiling installation make provisions for a ceiling access panel (see fig.1) to be able to service the flush valve. **Important:** When commissioning the valve for the first time or after maintenance. **Open manual activation lever (see fig.3) first- then slowly open the stop cock to bleed the air out of the valve.** Allow the water to run for about 20 seconds. Then close the manual activation lever.
11. Temporarily connect the flush valve and operate the valve several times then check all plumbing connections on the valve for leaks. Disconnect the valve after testing.

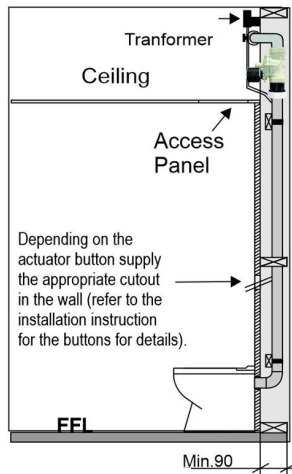
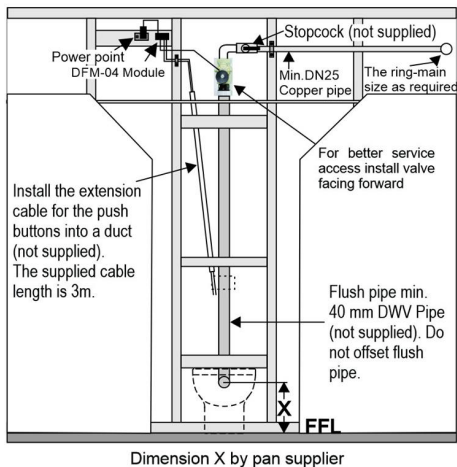
Installation Instructions

Fit out

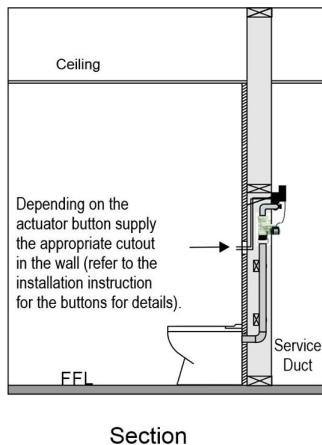
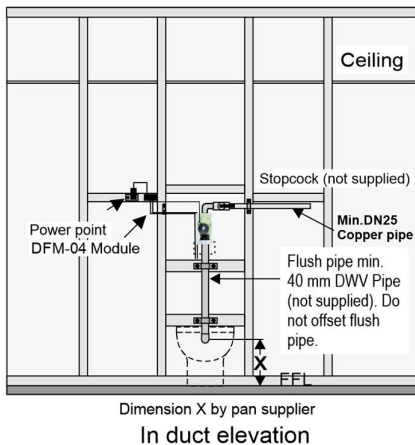
1. Connect the activator buttons to the extension cable that had been previously installed.
2. Connect the extension cables from the buttons and the solenoid valve to the DFM-04 module (see also fig.5).
3. Plug the transformer lead into the DFM-04 module (see also fig.5).
4. Plug the transformer into the power point and switch on the power.
5. **Important:** When commissioning the valve for the first time or after maintenance. **Open manual activation lever (see fig.3) first-then slowly open the stop cock to bleed the air out of the valve.** Allow the water to run for about 20 seconds. Then close the manual activation lever.
6. Adjust the flush time settings on the DFM-04 module (see fig.5) to the correct flush volume according to the requirements of the toilet pan (refer to the pan suppliers instructions).
 - a) Temporarily connect a measuring bucket to the end of the flush pipe.
 - b) Open the flush valve stopcock and activate first full and in a separate test the reduced flush.
 - c) Compare each collected water volume with the required flush volume.
 - d) If too much water is discharged shorten the flush time. With a small screwdriver turn the relevant dial on the controller anti clockwise (see fig.5). **Caution do not force the potentiometer dial beyond the min. setting**
 - e) If not enough water is discharged extend the flush time. With a small screwdriver turn the relevant dial on the controller clockwise (see fig.5). **Caution do not force the potentiometer dial beyond the max. setting**
7. After testing install the buttons into the prepared wall cutout.
8. Install the toilet pan.
9. Activate the valve several times. Check on the valve that there is no water spillage on the airbrake. It is possible that the flush valve will squeak for the first few operations . It is caused by trapped air inside the valve. The squeaking should stop after a few flushes. **Note:** If the flush valve is activated more than 6 time within one minute it will stop flushing for 45 seconds.

Installation Diagrams

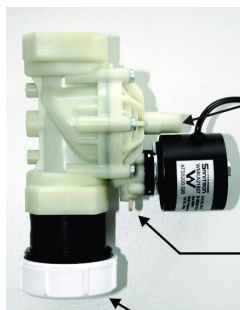
In-Ceiling Installation Schematics (fig. 1)



In-Duct Installation Schematics (fig. 2)



Valve Diagram (fig. 3)



A) To lower the flow rate of the valve turn screw with a flat screwdriver in (clockwise). The factory setting is 2 turns in from all the way out. To increase the flow turn screw out (anticlockwise).

Note: Do not force screw past its stops.

B) Open the manual actuation lever to test, bleed or depressurise the valve. To open quarter turn lever 90 degrees clockwise. To test and bleed (open) the valve without the power connected turn lever 90 degrees clockwise.

C) Insert the 40 mm DWV flush pipe into the compression connection on the bottom of the flush valve and tighten the nut. Also install pipe clips to secure the flush pipe

Hydraulic Conditions

Hydraulic conditions required at the flush valve (table 1)

Min. flow pressure	250 kPa
Min. flow rate at the valve	1.5 l/sec
Max. flow pressure to AS 3500.1	500 kPa

Min. connecting pipe size from the ring main to the valve (see below**) 25 mm copper or equivalent. 25mm plastic pipe is not the equivalent to 25mm copper. Plastic pipes have to be appropriately up-sized.

WELS rating:	4 STAR
Mini. Water temperature:	5° C
Max. Water temperature:	30° C
Ambient temperature:	5-40° C



WELS REG # L03147

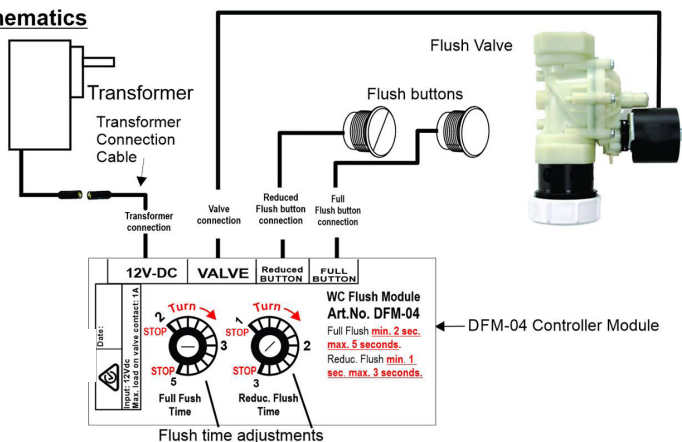


The flush valve is designed to operate of a water supply equivalent to potable water standards.

**Refers to the minimum connection pipe size to any valve branched off the ring main pipe providing that the above required technical specifications can be met. Pipe work to the valve fixture must be sized to and installed to water service rules and regulations (AS/NZS 3500.1 section 10 and local regulations) and simultaneous demand requirements. To ensure proper sizing of the pipe work for the valve it is recommended to engage a qualified hydraulic designer.

Schematics (fig. 4)

Schematics



Troubleshooting

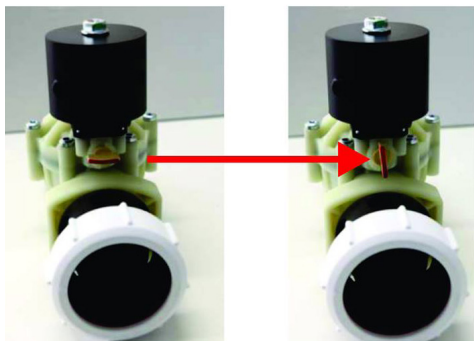
PROBLEM	ACTION
Unit will not flush when pressing full or half flush button.	<ul style="list-style-type: none"> Check that the power is switched on, all cable connectors are plugged in and the water is turned on. Check that the water is switched on
Water is running constantly.	<ul style="list-style-type: none"> Turn lever in fig.3 B) a quarter turn anti-clockwise.
Unit stopped flushing after several activations.	<ul style="list-style-type: none"> The controller has a build in function that temporarily suspends flushing for (45 sec) once the unit has been flushed more than 6 times within a minute. Wait for 45 seconds, the unit will reset itself.
Too much flush volume.	<ul style="list-style-type: none"> Shorten flush time on controller. Turn screw in fig.3 A) clockwise to slow the flow.
Not enough flush volume	<ul style="list-style-type: none"> Extend flush time on controller.
Reset unit.	<ul style="list-style-type: none"> Unplug the transformer and re-connect power after a 30 seconds.

Spare Parts

ARTICLE NO.	DESCRIPTION
TR-5A	Transformer
DFM-04	Dual flush module
SV-9	Electronic flush valve complete

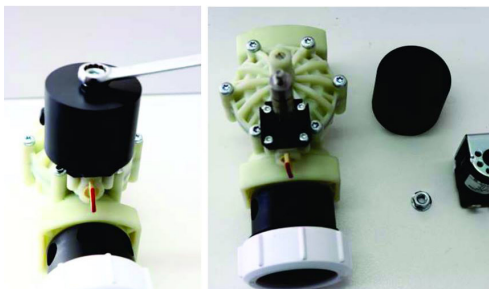
Diaphragm Change Instructions

Important: These instructions have to be read in conjunction with the installation instructions for the valve.



1. Isolate power and water to the valve.
2. Turn lever vertical to manually open the valve and relieve the remaining pressure inside the valve. Leave the lever in the open position.

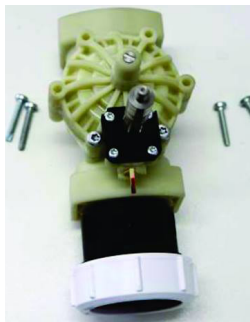
1



1. Remove nut from solenoid lid.
2. Remove lid and coil from solenoid.

2

Installation Instructions

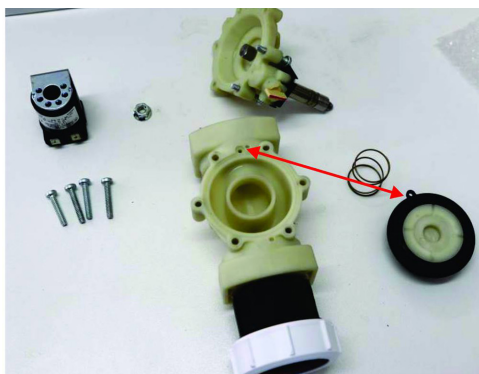


With a Torx 20 screw driver.

1. Remove first 4 screws from the valve head. As shown in the picture
2. After unscrewing the 2 remaining screws turning them in an alternate sequence and pulling the valve head out wards.

Note: There is a spring behind the valve head. Take precautions not to loose this spring when taking off the valve head.

3

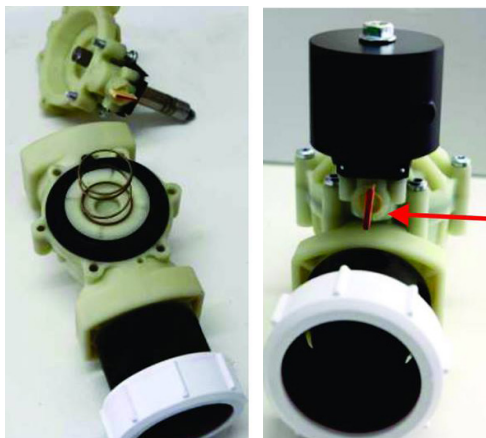


1. Remove and replace the old diaphragm.

Note: When replacing the diaphragm make sure that the lug matches up with the cut out in the housing

4

Diaphragm Change Instructions

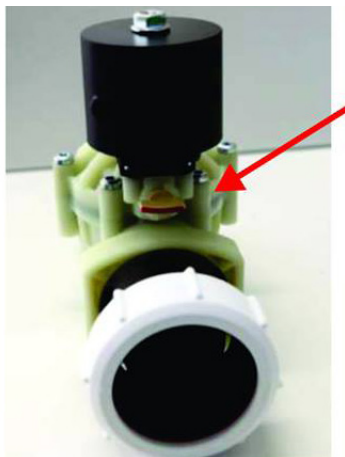


1. Reverse assemble the valve

2. Important

Once the valve has been re-assembled **do not** close the manual over write lever yet. First switch the power back on and **slowly** open the water supply. With the manual over write lever open let the valve run until all air has been bled out of the line and valve.

5



1. After the air has been bled out of the line and valve put the lever into the closed position.

2. Activate the system several times to confirm proper functioning and check for leaks.

6

Care and Maintenance

1. Check in regular intervals, that the equipment functions correctly and visually inspect the valve and its components.
2. When carrying out work on the valve observe all safety precautions.
3. Before opening the flush valve disconnect the valve from power and isolate the water supply. Also depressurise the flush valve as outlined in fig.3.

Warranty

The BRITEX product is backed by our manufacturer's warranty available for download from our website at www.britex.com.au. We expressly warrant that the product is free from operational defects in workmanship and materials for the warranty period indicated on the schedule in the manufacturer's warranty. During the warranty period, BRITEX will repair or replace any defective products manufactured by BRITEX at no charge, provided that the terms of the manufacturer's warranty are followed.

This warranty is the only warranty given by BRITEX, and we expressly disclaim all other warranties, including but not limited to implied warranties of merchantability and fitness for a particular purpose. This warranty represents the sole and exclusive remedy for breach of warranty, and BRITEX shall not be liable for any incidental, special, or consequential damages, including lost profits, labor charges, delays, vandalism, negligence, fouling caused by foreign material, damage from adverse water conditions, chemical, electrical or any other circumstances beyond BRITEX's control.

This warranty shall be void if the product is abused, misused, improperly installed, maintained, or altered. By purchasing our product, you agree to these terms and conditions. We appreciate your business and look forward to providing you with high-quality products and services.



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