

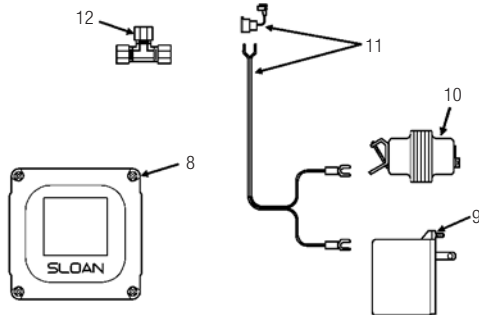
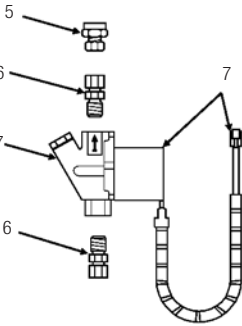
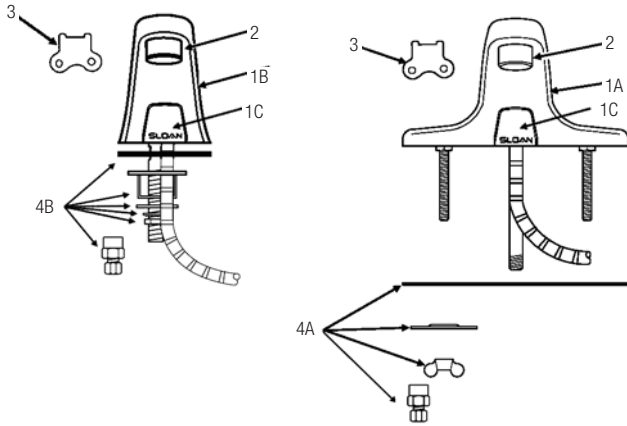
# Optima® ETF-600/ETF-610



ETF-610



ETF-600



## PARTS LIST—ETF-600 AND ETF-610 FAUCETS

Item No.	Code No.	Part No.	Description
1A.	<b>0365086</b>	ETF-543-A	Faucet and Sensor Assembly (ETF-600)
1B.	<b>0365117</b>	ETF-570-A	Pedestal Faucet and Sensor Assembly (ETF-610)
1C.	<b>0365070</b>	ETF-542-A	Sensor Module <b>Only</b> (for ETF-600 and ETF-610 faucets) includes 18" (153 mm) armored Cable, Shroud, and Housing for Sensor Window
2.	<b>3365092</b>	ETF-1023-A	0.5 gpm (1.9 Lpm) Spray Head with Key (male thread)
	<b>3365093</b>	ETF-1024-A	2.2 gpm (8.3 Lpm) Aerator Spray Head with Key (male thread)
	<b>3365162</b>	ETF-1029-A	2.2 gpm (8.3 Lpm) Laminar Flow Spray Head with Key (male thread)
	<b>3365756</b>	ETF-1039-A	0.35 gpm (1.3 Lpm) Multi-Lam Spray Head VR
3.	<b>0305927</b>	ETF-435	Replacement Key Only
4A.	<b>3365088</b>	ETF-546-A	Faucet Mounting Kit for ETF-600 includes Base Gasket, two (2) Slotted Mounting Washers, two (2) Wing Nuts, and Compression Fitting Connector
4B.	<b>0315085</b>	EBF-123-A	Faucet Mounting Kit for ETF-610 includes Spacer, Base Gasket, 1/4" NPSM Hex Nut, Washer, 9/16" Lock Washer and Compression Fitting Connector
5.	<b>0365058</b>	ETF-547	1/8" NPT Pipe to 3/8" Tube Compression Fitting Connector (female)
6.	<b>3365676</b>	ETF-437-A	Single Solenoid Supply Kit includes, two (2) Compression Fittings, Compression Nut, and Ferrule
7.	<b>0305849</b>	ETF-370-A	24 VAC Solenoid Valve Assembly includes 18" (457 mm) armored Cable and two (2) Terminal Housings
—	<b>3305577</b>	ETF-1009-A	Solenoid Valve Repair Kit includes Replacement Filter, Guide, Armature Spring, Diaphragm and Washer
8.	<b>3365000</b>	ETF-450-A	Control Module Assembly includes splashproof Junction Box and Junction Box Mounting Kit
9.	<b>0365534</b>	ETF-233	120V/35VA Plug-In Transformer
10.	<b>0345370</b>	EL-248-40	24V/40VA Box Mount Transformer
11.	<b>0365001</b>	ETF-458-A	Input Power Cable (Transformer to Control Module) includes Strain Relief and two (2) Terminal Crimp Connectors
12.	<b>3365461</b>	ETF-617-A	Bak-Chek® "T" Assembly

See page 157 for faucet cable extension cords.

— = Not shown in illustration

**Optima® ETF-600/ETF-610****TROUBLESHOOTING GUIDE****1. No water is delivered when faucet is activated.****INDICATOR: If no LED lights illuminate:**

- A. No electricity is being supplied to faucet.  
Ensure that the main power is turned "ON". Check all transformer, sensor, solenoid and cable connections. Make sure that transformer is supplying 24 VAC (Volts AC). If no voltage is detected, replace transformer.
- B. There is an electrical system malfunction.  
Reset electrical system. Unplug Sensor connection. Disconnect power to circuit for ten (10) seconds. Reconnect.

**INDICATOR: If the GREEN LED illuminates when power is reconnected:**

- C. There is a short in the Sensor.  
Replace sensor. Refer to individual faucet parts diagram for appropriate sensor assembly. Note: GREEN LED may illuminate immediately after sensor disconnection.
- D. There is a short in the solenoid or solenoid cable.  
Replace ETF-370-A solenoid.

**INDICATOR: If the GREEN LED does NOT illuminate when power is reconnected:**

- E. There is an electrical system malfunction.  
Reset electrical system. Unplug sensor connection. Disconnect power to circuit for ten (10) seconds. Reconnect.
- F. The control module circuit is not working properly.  
Replace ETF-450-A control module.

**INDICATOR: If GREEN LED illuminates AND changes to RED when hands are in the sensor's detection zone AND the RED solenoid LED illuminates:**

- G. Water supply stop(s) may be partially closed.  
Open stop(s) if closed.
- H. Debris is clogging solenoid filter.  
Shut off water supply. Remove, clean and reinstall solenoid filter.

**INDICATOR: If GREEN LED illuminates AND changes to RED when hands are placed in the sensor's detection zone AND the RED solenoid LED flickers with a vibrating/clicking noise heard inside the module: Note: Applies only to REVISION 2 MODULES.**

- I. There is a direct short in the solenoid or solenoid cable.  
Replace with ETF-370-A solenoid.

**INDICATOR: If GREEN/RED LED illuminates AND changes to RED when hands are NOT located in the sensor's detection zone BUT the RED solenoid LED (in upper left corner of circuit) does NOT illuminate:**

- J. Sensor range is set too long and is detecting the sink.  
Reduce sensor detection range.
- K. Sensor is not working properly.  
Replace sensor. Refer to individual faucet parts diagram for appropriate sensor assembly.

**INDICATOR: If GREEN LED illuminates BUT does NOT change to red when hands are placed in the sensor's detection zone:**

- L. Sensor range is set too short.  
Increase sensor detection range.
- M. Sensor is not working properly.  
Replace sensor. Refer to individual faucet parts diagram for appropriate sensor assembly.

**2. Sensing range is too short.**

- A. Extended range sensitivity is required.  
Dip switch number 4 should be in the "DOWN" (Extended range sensitivity) position. Increase range by adjusting range potentiometer clockwise (yellow phillips screw in blue base).
- B. Faucet has surgical bend gooseneck spout.  
For long range use (recommended for surgical bend gooseneck spout faucet models), remove range jumper from upper right hand corner of circuit board. Adjust range potentiometer. Note: Applies only to REVISION 2 MODULES.

**3. Faucet activates by itself (false triggers).**

- A. Sensor range is set too long.  
Decrease range by adjusting range potentiometer counterclockwise. If necessary, flip dip switch number 4 into the "UP" (reduced range sensitivity) position. Check surroundings for factors that contribute to sensor range detection problems (bright lights, highly reflective surfaces, sunlight, etc.).

**4. Faucet delivers very low flow or just a dribble.**

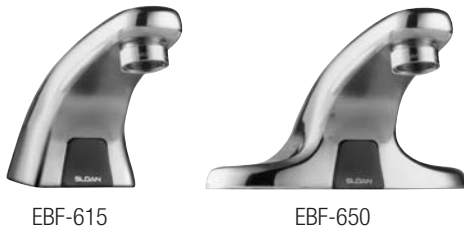
- A. Water supply stop(s) may be partially closed.  
Open stop(s).
- B. Debris is clogging solenoid filter.  
Shut off water. Remove, clean, and reinstall solenoid filter.
- C. Solenoid is worn or not working properly.  
Rebuild with ETF-1009-A solenoid repair kit or replace ETF-370-A solenoid.
- D. Debris is clogging faucet aerator or spray head.  
Shut off water. Use key if required to remove. Then clean and reinstall aerator or spray head.

**5. Faucet does not stop delivering water or continues to drip after user is no longer detected (even after power to the module has been disconnected).**

- A. Solenoid valve is installed backward.  
Disconnect solenoid. Reconnect solenoid with water flow towards the faucet (see arrow on solenoid).
- B. Debris is clogging solenoid.  
Remove and clean solenoid operator. If necessary, rebuild with ETF-1009-A repair kit.
- C. Seat in solenoid valve body is damaged or pitted.  
Replace with ETF-370-A solenoid.

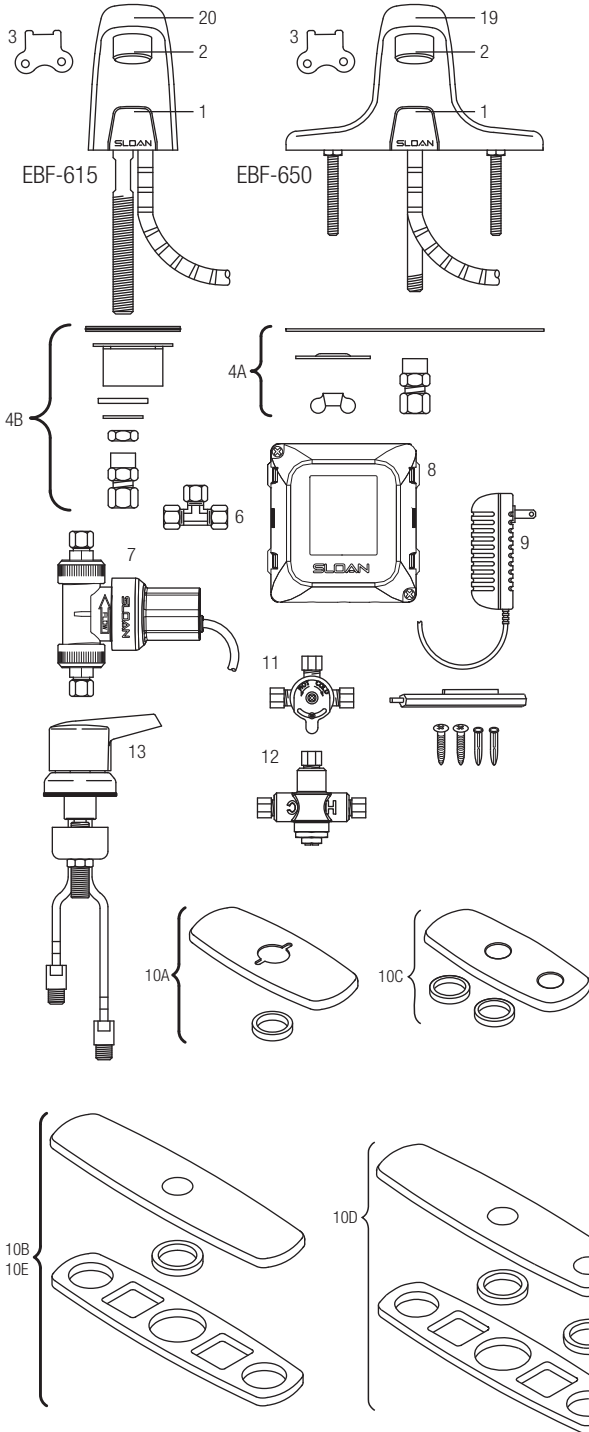
**When assistance is required, please contact Sloan Technical Support at: 1-888-SLOAN-14 (1-888-756-2614).**

# Optima Plus® EBF-615/EBF-650



EBF-615

EBF-650



## PARTS LIST—EBF-615 AND EBF-650 FAUCETS

Item No.	Code No.	Part No.	Description
1.	<b>0365400</b>	ETF-749-A	Sensor Only
2.	<b>3365092</b>	ETF-1023-A	0.5 gpm (1.9 Lpm) Spray Head with Key (male thread)
	<b>3365093</b>	ETF-1024-A	2.2 gpm (8.3 Lpm) Aerator Spray Head with Key (male thread)
	<b>3365162</b>	ETF-1029-A	2.2 gpm (8.3 Lpm) Laminar Flow (male thread)
3.	<b>0305927</b>	ETF-435	Replacement Key Only for ETF-1023-A 0.5 gpm (1.9 Lpm) Spray Head and ETF-1024-A 2.2 gpm (8.3 Lpm) Aerator Spray Head
4A.	<b>3365088</b>	ETF-546-A	Faucet Mounting Kit for EBF-650 includes Base Gasket, two (2) Slotted Mounting Washers, two (2) Wing Nuts and ETF-547 Compression Fitting Connector
4B.	<b>0315085</b>	EBF-123-A	Faucet Mounting Kit for EBF-615 includes Base Gasket, Spacer, Washer, 9/16" Lockwasher, 1/4" NPSM Hex Nut and ETF-547 Compression Fitting Connector
5.	<b>0365058</b>	ETF-547	1/8" NPT Pipe to 3/8" Tube Compression Fitting Connector (female)
6.	<b>3365461</b>	ETF-617-A	3/8" Bak-Chek® Tee Compression Fitting
7.	<b>0365758</b>	ETF-740-A	6 VDC Solenoid Valve Assembly
7A.	<b>0365774</b>	ETF-742-A	Solenoid with armored cable and wire only (no valve assembly)
8.	<b>0365752</b>	ETF-735-A	Control Module
9.	<b>0362006</b>	SFP-6	110 VAC/6 VDC Plug-In Adapter
<b>OPTIONAL TRIM PLATES</b>			
10A.	<b>3365302</b>	ETF-607-A	4" (102 mm) Centerset Trim plate for EBF-625
10B.	<b>3365303</b>	ETF-608-A	8" (204 mm) Centerset Trim Plate for EBF-625
10C.	—	MIX-101-A	4" (102 mm) Centerset Trim plate for EBF-625 with optional mixing Valve
10D.	—	MIX-106-A	8" (204 mm) Centerset Trim plate for EBF-625
10E.	<b>3365119</b>	ETF-578-A	8" (204 mm) Centerset Trim plate for EBF-655
<b>OPTIONAL MIXING VALVES</b>			
11.	<b>3326009</b>	MIX-60-A	Below Deck Mechanical Water Mixing Valve (BDM Variation)
12.	<b>0326045</b>	MIX-135-A	Below Deck Thermostatic Water Mixing Valve (BDT Variation)
13.	—	MIX-110-AA	Optimix® Deck Mounted Water Mixing Valve (only available for EBF-615 faucets)

For parts prior to September 2008 refer to page 146.

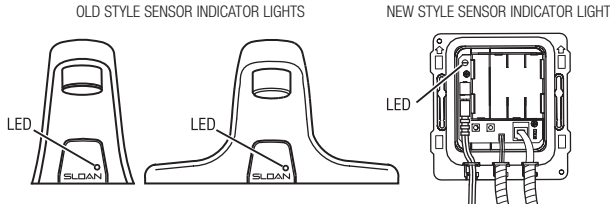
Hand Hygiene

# Optima Plus® EBF-615/EBF-650

## TROUBLESHOOTING GUIDE

### 1. Sensor LED does not function (Sensor indicator light does not flash during initial 10 minute set-up mode).

- A. There is no visible indicator light. Normal operation. This is a normal operating feature of the faucet.



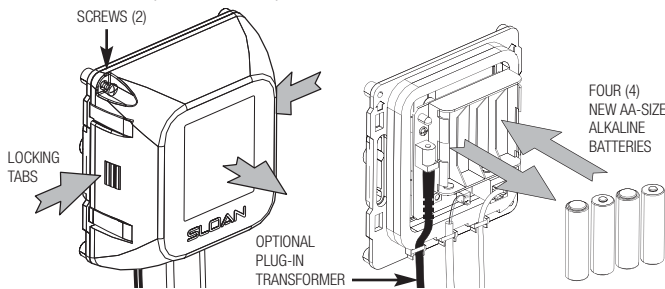
### 2. Faucet does not deliver any water when Sensor is activated.

**INDICATOR:** Solenoid valve produces audible “CLICK.”

- A. Water supply stop(s) closed. Open supply stop(s) completely.

**INDICATOR:** Solenoid valve DOES NOT produce an audible “CLICK.”

- B. Solenoid Lead is not properly connected to the Control Module. Disconnect and reconnect Solenoid Lead to the Control Module.
- C. No battery or Transformer (optional) power is being supplied to Sensor. Ensure that the batteries are installed properly. Check that the orientation of each battery matches the positive (+) and negative (–) symbols shown on the bottom of the battery compartment. Reinsert the Batteries into the Control Module. Transformer (optional) is unplugged or wall receptacle has no power.

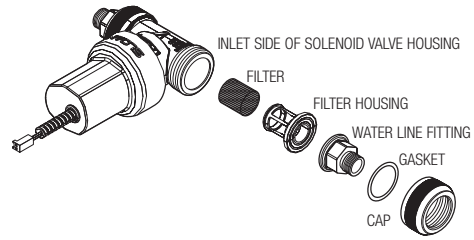


- D. Sensor Cable is not properly connected to the Control Module. Disconnect and reconnect Sensor Cable to the Control Module.
- E. Sensor range is set at minimum distance. Increase Sensor range. Refer to Step 9, Range Adjustment in your installation instructions.
- F. Control Module assembly is not working properly. Replace Control Module assembly.

### 3. Faucet delivers only a slow flow or dribble when Sensor is activated.

- A. Water supply stop(s) partially closed. Open supply stop(s) completely.
- B. Solenoid Filter is clogged. Remove, clean and reinstall Filter. Turn off water supply at supply stop(s). Activate Faucet to relieve system pressure. Remove Water Supply Line from Inlet Side of Solenoid Valve. Remove Cap, Water Line Fitting, Gasket, Filter Housing and Filter from Solenoid Valve Housing. Slide Filter off Filter Housing. Clean Filter using fresh tap water only. If necessary, use a small brush to clean. Use caution while cleaning to prevent damage to Filter. If any Filter components are damaged, replace as necessary. Examine the Gasket for wear or damage; replace if necessary. Reinstall Filter on Filter Housing. Install Filter Housing, Gasket, Water Line Fitting and Cap onto Solenoid Valve Housing. Tighten Cap securely. Reinstall Water supply Line to Inlet Side of Solenoid Valve.

- C. Aerator is clogged. Remove, clean and reinstall Aerator.



### 4. Faucet does not stop delivering water or continues to drip after user is no longer detected (automatic shut-off fails even when batteries are removed).

- A. Solenoid Valve has been connected backwards. Disconnect Solenoid Valve compression fittings at both the inlet and outlet positions. The water should flow from inlet through the Solenoid Valve to the outlet according to the direction of the arrow shown on the side of the Solenoid Valve. Reconnect the compression fittings in the correct orientation.
- B. Solenoid Valve is dirty. Backflush by reversing water flow (opposite to the direction shown by the arrow on the side of the Solenoid Valve) through the Solenoid Valve. Reconnect the compression fittings in the correct orientation. Activate faucet.
- C. Solenoid Valve Module is not working properly. Replace Solenoid Valve Module.

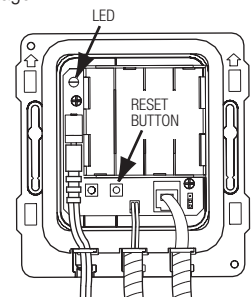
### 5. The water temperature is too hot or too cold on a faucet connected to hot and cold supply lines with Bak-Chek Tee.

- A. Supply stops are not adjusted properly. Adjust supply stops.

**NOTE:** For some systems, a Thermostatic Mixing Valve may be required.

### 6. The Red LED turns on in the control module (below deck).

- A. One (or more) of the batteries is “dead”. To ensure proper operation, insert four (4) new AA-size Alkaline batteries. Check that the orientation of each battery matches the positive (+) and negative (–) symbols shown on the bottom of the battery compartment. Reinsert Batteries into the Control Module.
- B. Upon start-up mode the control module circuitry also tests the batteries and the Red LED turns on if the battery voltage is low, no Red LED light indicates normal battery voltage.
- C. If reset (initiates start up mode) button is pressed, the battery voltage is checked. If voltage is too low, product is stopped from operating and Red LED will turn on. No Red LED light indicates normal battery voltage.

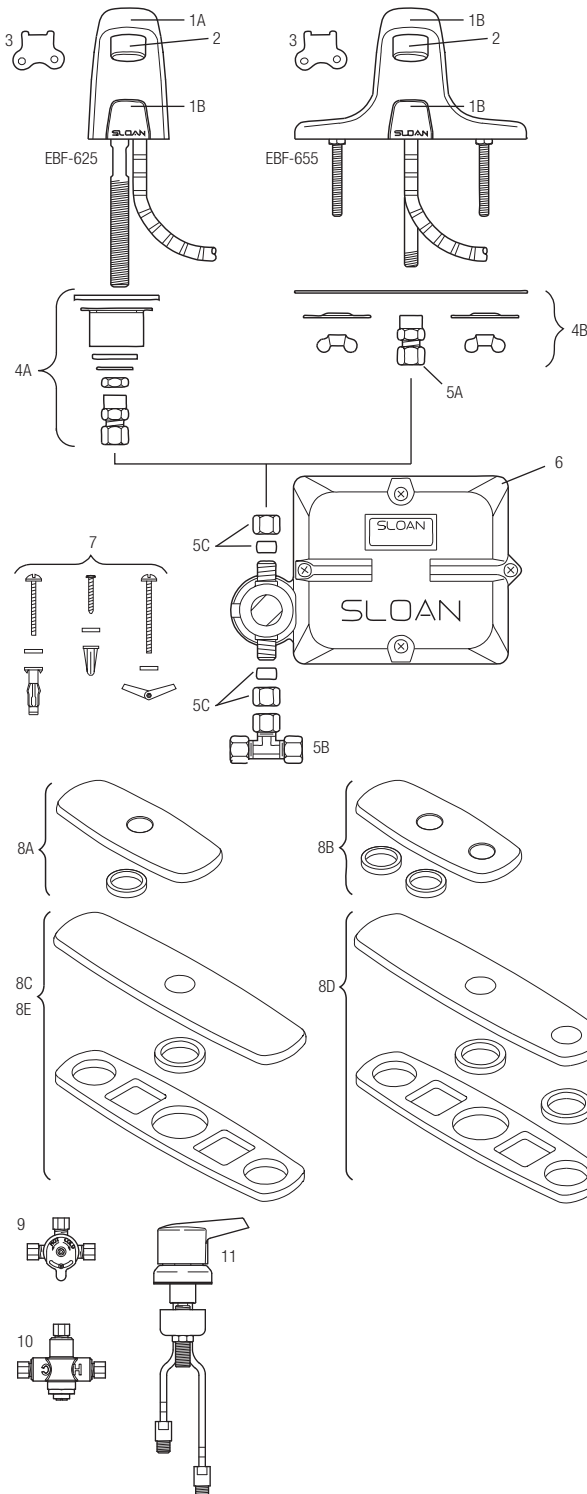
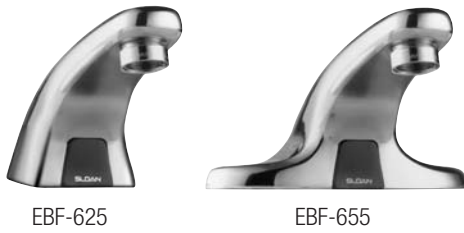


### 7. The Green LED initially turns on in the control module (below deck) during start up mode, then will not appear again.

**INDICATOR:** For the 1st ten minutes of operation (batteries inserted or reset button pressed) the Green LED will turn on when there is a target present (hands in front of sensor). After ten minutes, the Green LED will no longer turn on.

- A. This is a normal operating feature of the faucet.

# Optima Plus® EBF-625/EBF-655



## PARTS LIST—EBF-625 AND EBF-655 FAUCETS

(Known as EBF-615-/EBF-650 Prior to September 2008)

Item No.	Code No.	Part No.	Description
1A.	<b>0315083</b>	EBF-120-A	Pedestal Faucet Spout and Sensor assembly (EBF-625)
1B.	—	EBF-81-A	Faucet Spout and Sensor assembly (EBF-655)
2.	<b>3365092</b>	ETF-1023-A	0.5 gpm (1.9 lpm) Spray head with Key
	<b>3365093</b>	ETF-1024-A	2.2 gpm (8.3 lpm) aerator Spray head with Key
		F-175-1	2.2 gpm (8.3 lpm) laminar Flow Spray head
3.	<b>0305927</b>	ETF-435	Replacement Key only for ETF-1023-A and ETF-1024-A
4A.	<b>0315085</b>	EBF-123-A	Faucet mounting Kit for EBF-625
4B.		ETF-546-A	Faucet mounting Kit for EBF-655
5A.	<b>0365058</b>	ETF-547	1/8" NPT pipe to 3/8" Tube Compression Fitting Connection
5B.	<b>3365461</b>	ETF-617	3/8" Bak-Chek Tee Compression Fitting
5C.	<b>3315029</b>	EBF-113-A	Single Solenoid Supply Kit
6.	<b>0315104</b>	EBF-60-A	Control module assembly
7.	<b>3315018</b>	EBF-79-A	Mounting hardware Kit for Control module assembly
8A.	<b>3365302</b>	ETF-607-A	4" (102 mm) Centerset Trim plate for EBF-625
8B.	—	MIX-101-A	4" (102 mm) Centerset Trim plate for EBF-625 with optional mixing Valve
8C.	<b>3365303</b>	ETF-608-A	8" (204 mm) Centerset Trim plate for EBF-625
8D.	—	MIX-106-A	8" (204 mm) Centerset Trim plate for EBF-625
8E.	<b>3365119</b>	ETF-578-A	8" (204 mm) Centerset Trim plate for EBF-655
	<b>0315040PK</b>	EBF-80-A	Sensor replacement Kit
	<b>0315254</b>	EBF-1011-A	Solenoid replacement Kit
	—	EBF-1004-A	Solenoid Filter replacement Kit (includes Filter Screen and o-ring)
<b>OPTIONAL MIXING VALVES</b>			
9.	<b>3326009</b>	MIX-60-A	Below Deck Mechanical Water Mixing Valve (BDM Variation)
10.	<b>0326045</b>	MIX-135-A	Below Deck Thermostatic Water Mixing Valve (BDT Variation)
11.	—	MIX-110-AA	Optimix® Deck Mounted Water Mixing Valve (only available for EBF-625 faucets)

NOTE: The information contained in this document is subject to change without notice.

— in Item No. column = Not shown in illustration  
 — in Code No. and Part No. column = Not sold separately

**Hand Hygiene**

## Optima Plus® EBF-625/EBF-655

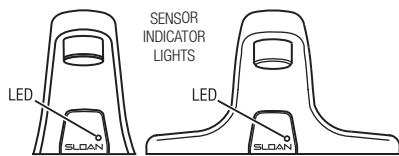
### TROUBLESHOOTING GUIDE

#### 1. Faucet does not stop delivering water or continues to drip after user is no longer detected (automatic shut-off fails even when batteries are removed).

- A. Solenoid valve has been connected backwards.  
Disassemble solenoid valve compression fittings at both the inlet and outlet positions. The water should flow from inlet through the solenoid valve to the outlet according to the direction of the arrow shown on the side of the solenoid valve. Reconnect the compression fittings in the correct orientation.
- B. Solenoid valve is dirty.  
Back-flush by reversing water flow (opposite to the direction shown by the arrow on the side of the solenoid valve) through the solenoid valve. Reconnect the compression fittings in the correct orientation. Activate faucet.
- C. Solenoid valve module is not working properly.  
Replace EBF-1011-A Solenoid valve module.

#### 2. Sensor troubleshooting LED does not function (red indicator light does not flash during set-up procedure).

- A. No battery power is being supplied to sensor.  
Ensure that the batteries are installed properly. Check that the orientation of each battery matches the positive (+) and negative (-) symbols shown on the bottom of the battery compartment. Reinsert the battery compartment into the control module.
- B. Insufficient battery power is being supplied to sensor.  
One (or more) of the batteries is "dead". To ensure proper operation, insert four (4) new "C" cell alkaline batteries. Check that the orientation of each battery matches the positive (+) and negative (-) symbols shown on the bottom of the battery compartment. Reinsert the battery compartment into the control module.
- C. Sensor cable is not properly inserted.  
Disconnect and reconnect sensor cable to the control module.
- D. Sensor range is set at minimum distance. Increase sensor range.  
Use a small philips screwdriver to turn the potentiometer screw (white screw in blue base) clockwise.
- E. Control module assembly is not working properly.  
Replace EBF-60-A control module assembly.



#### 3. The water temperature is too hot or too cold on faucet connected to hot and cold water supply lines with two Bak-Chek.

- A. Supply stops are not adjusted properly.  
Adjust supply stops.

NOTE: A thermostatic mixing valve may be required on some systems.

#### 4. Faucet does not deliver any water when sensor is activated.

**INDICATOR:** Solenoid valve produces audible "CLICK." Water supply valve is closed.

- A. Open the water supply.

**INDICATOR:** Solenoid valve DOES NOT produce an audible "CLICK."

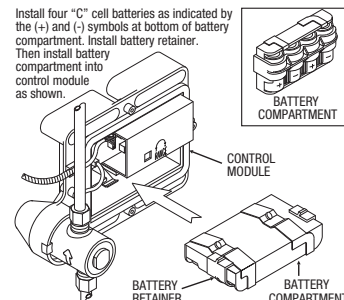
- A. Disconnect and reconnect solenoid lead to the control module, if solenoid lead is not properly connected to the control module. Batteries are not installed properly. Check that the orientation of each battery matches the positive (+) and negative (-) symbols shown on the bottom of the battery compartment. Reinsert the battery compartment into the control module. The troubleshooting LED should flash RED when a user is detected.

#### 5. Faucet delivers only a slow flow or dribble when sensor is activated.

- A. Water supply valve is partially closed.  
Completely open the supply stop(s).
- B. Solenoid filter is clogged.  
Remove, clean, and reinsert.  
Replace EBF-1004-A solenoid filter kit, if necessary.
- C. Aerator or spray head is clogged.  
Remove, clean, and reinsert.

#### BATTERY REPLACEMENT

The Sloan Optima Plus EBF-625 and EBF-655 battery powered, sensor activated lavatory faucets are furnished with four (4) "C" cell alkaline batteries that provide up to two (2) years of operation (8000 cycles per month). A flashing LED signal indicates that battery power will be depleted within one (1) month. Replace batteries with four (4) new "C" cell alkaline batteries.



Remove the cover of the control module by unscrewing the four (4) cover screws located at the center of each side.

Remove the battery compartment from the control module by gently pulling straight out with a firm grip. Spread the ends of the battery retainer and remove it from the battery compartment. Remove the old batteries and insert four (4) fresh "C" cell alkaline batteries into the battery compartment until locked into place.

NOTE: Battery retainer MUST be installed as shown. If installed upside-down, it will not install into the control module. Reinsert the battery compartment into the control module as shown.

Place cover over the control module and use the four (4) screws provided to attach it. Cover can be installed in only orientation.

IMPORTANT: Install ALL four (4) cover screws for proper installation.

#### CLEAN SCREEN FILTER

Before cleaning the screen filter, turn off water supply at the supply stop(s). Activate the faucet to relieve any pressure in the system. Unscrew the filter plug and remove it from the solenoid valve housing. Carefully pull the screen filter with attached rubber seals out from the solenoid valve housing.

Clean the screen filter using fresh tap water only. If necessary, use a small brush to clean. Use caution while cleaning to prevent damage to the solenoid screen filter. If any filter components are damaged, order Filter Replacement Kit (EBF-1004-A).

Carefully replace the screen filter into the groove of the solenoid valve housing. Examine the filter plug o-ring for wear or damage; replace if necessary. If necessary, lubricate the filter plug o-ring with water to keep it in place in the groove of the filter plug. Screw the filter plug into the solenoid valve housing.

Turn on the water supply at the supply stop(s). Activate the faucet to purge any air from the system lines. Check for leaks and repair, as necessary.

**When assistance is required, please contact  
Sloan Valve Company Installation Engineering  
Department at: 1-888-SLOAN-14 (1-888-756-2614).**

