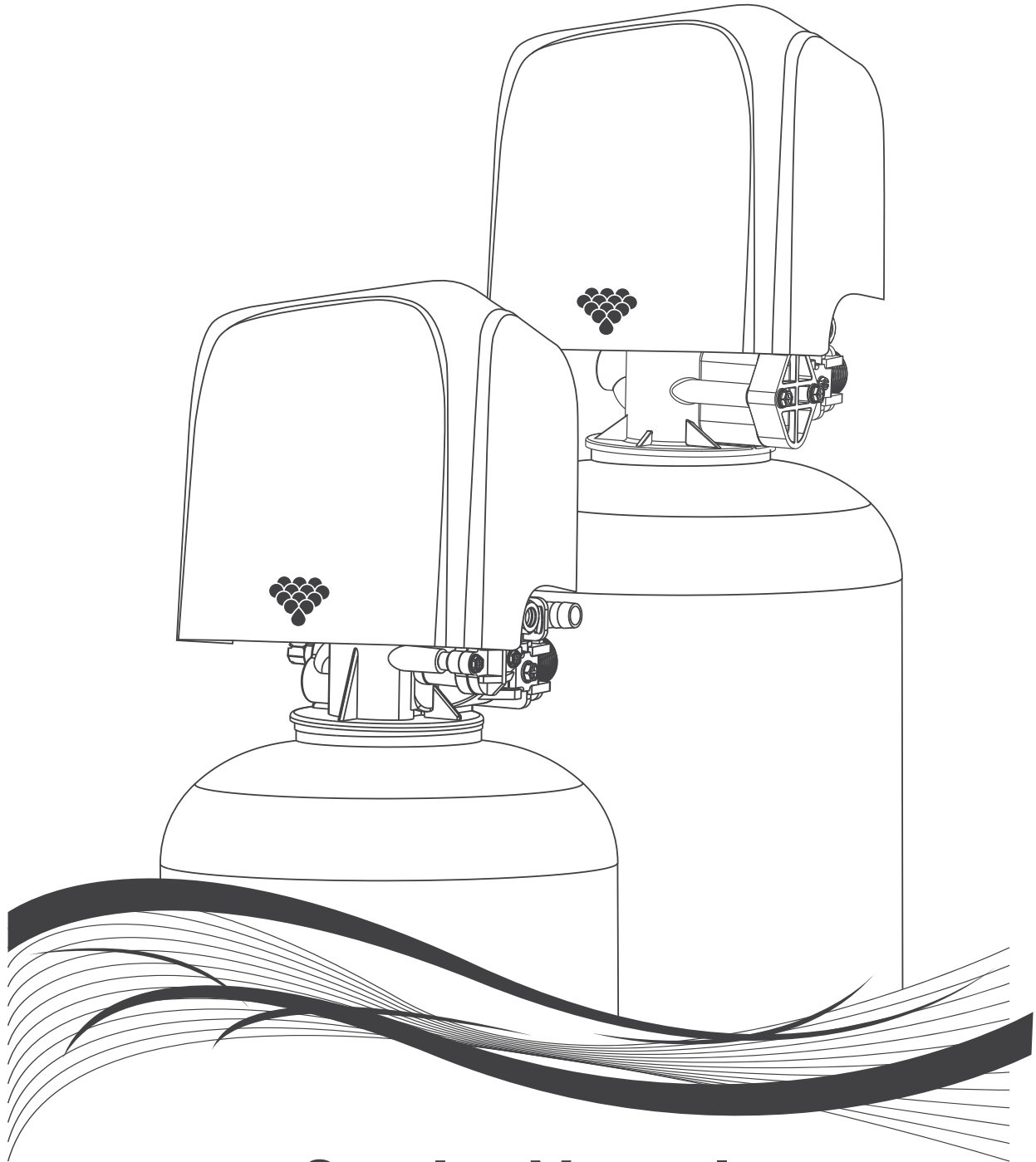


MODEL

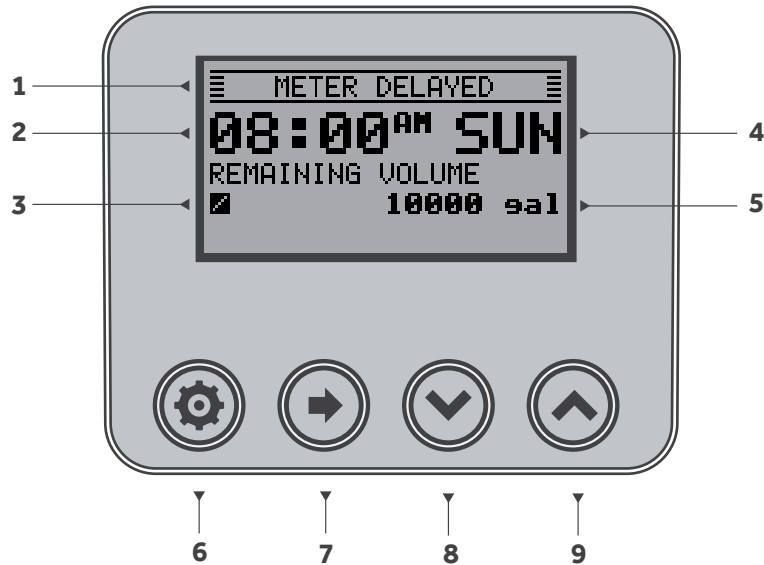
WWUSA-EZ3-SM | WWUSA-EZ3-FM
ELECTRONIC CONTROL VALVE



Service Manual



Display Introduction & Features



- 1: Regeneration Mode
- 2: Time of day
- 3: Flow Indicator
- 4: Day of Week
- 5: Capacity Remaining/Regeneration Mode/Day override

6: SETTING BUTTON

- (1) Press and hold the Setting button for 5 seconds to enter Programming Mode.
- (2) When the valve is in Programming Mode, Press setting button return last display
- (3) Press and hold setting button for 5 sec under any display, back to service display
- (4) Press and hold, power on until the screen lights up to reset all parameter to the factory settings.

7: RIGHT BUTTON

- (1) Press and hold the Right Button for 5 seconds to start immediate regeneration manually.
- (2) Press Right Button during a Regeneration Cycle to immediately advance the valve to the next cycle step position and resume normal step timing. (3) When the valve is in Programming Mode, press Right Button to move the cursor.

8: DOWN BUTTON

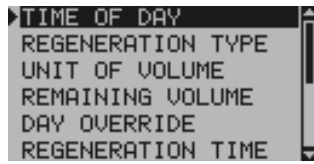
- (1) When the valve is in Programming Mode, press Down Button to adjust setting

9: UP BUTTON

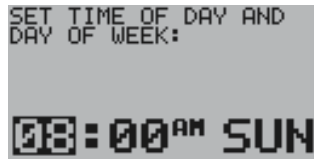
- (1) When the valve is in Programming Mode, press Up Button to adjust setting.

Programming Mode Setting

Press and hold the Setting Button for 5 seconds.



Press "→" to enter the display for current time and week setting



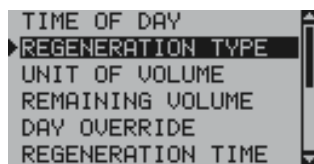
Default : 08:00 AM SUN (08:00 SUN-24 hours)

Press "→" to move

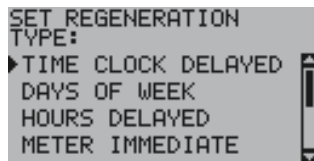
Press "↑" and "↓" to adjust the data

Press "Setting Button" back to last display

AM and PM will be changed according to the time setting



Press "→" to enter regeneration type setting

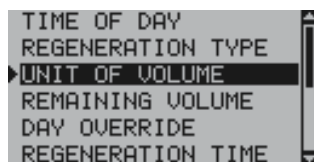
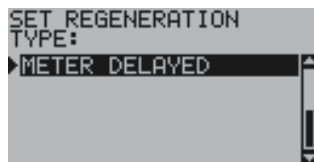


Default : Meter Delayed

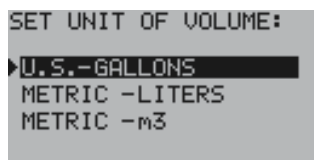
Press "↑" and "↓" to move the arrow to certain item

Press "→" to choose the certain item

Press "Setting Button" back to last display



Press "→" to enter Unit of Volume setting

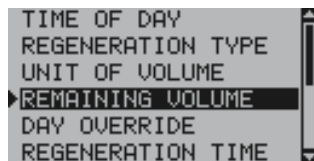


Default : U.S.-GALLONS

Press "↑" and "↓" to move the arrow to select the type of unit

Press "→" to choose the certain item

Press "Setting Button" back to last display



Press "→" to enter Remaining Volume setting



Default :10000 GALLONS, Range: 1~99999 gallons

100000 LITERS, Range: 1~999999 liters

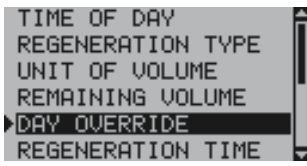
100.00 M3, Range: 0.01~999.99 M3

Press "↑" and "↓" to adjust the remaining volume data

Press "→" to move

Press "Setting Button" back to last display

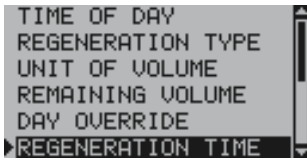
Programming Mode Setting (Continued)



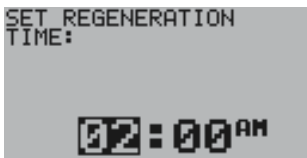
Press "→" to enter Day Override setting



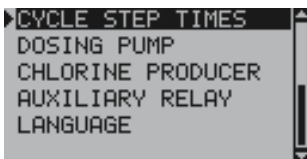
Default : OFF
Range:01~99 Days
Press "↑" and "↓" to adjust the data
Press"Setting Button" back to last display



Press "→" to enter Regeneration Time setting



Default : 02:00 AM (02:00 -24 hours)
Press "↑" and "↓" to adjust the data
Press "→" to move
Press"Setting Button" back to last display
AM and PM will be changed according to the time setting



Press "→" to enter Regeneration Cycle Step Times setting

Press "→" to enter choose the certain item
Press "↑" and "↓" to adjust the data or move the arrow to certain item
Press"Setting Button" back to last display
The displays in below will be changed according to the brine flow direction set



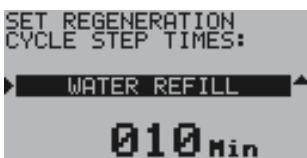
BACK WASH
Default: 10 mins
Range: 1~999 mins



BRINE DRAW
Default: 60 mins
Range: 0~999 mins



RAPID RINSE
Default: 12 mins
Range: 0~999 mins



WATER REFILL
Default: 10 mins
Range: 0~999 mins

Programming Mode Setting (Continued)

<pre> CYCLE STEP TIMES ▶DOSING PUMP CHLORINE PRODUCER AUXILIARY RELAY LANGUAGE </pre>	<p>Press "→" to enter Dosing Pump setting</p>
<pre> SET DOSING PUMP: ▶OFF </pre>	<p>Default : OFF Press "→" to enter setting Press "Setting Button" back to last display</p>
<pre> SET DOSING PUMP: ▶ON VOLUME: 001 gal TIME: 001 Min </pre>	<ul style="list-style-type: none"> ■ ON ■ Set volume to start the pump, Range: 1~999 gallons Range: 1~9999 liters Range: 0.01~9.99 M3 ■ Set pump running time, Range: 1~999 minutes Press "↑" and "↓" to adjust the data or move the arrow to certain item Press "→" to enter setting Press "Setting Button" back to last display
<pre> CYCLE STEP TIMES DOSING PUMP ▶CHLORINE PRODUCER AUXILIARY RELAY LANGUAGE </pre>	<p>Press "→" to enter Chlorine Producer setting</p>
<pre> SET CHLORINE PRODUCER: ▶OFF </pre>	<p>Default : OFF Press "→" to enter setting Press "Setting Button" back to last display</p>
<pre> SET CHLORINE PRODUCER: ▶ON VOLTAGE: 2.5 VDC TIME: 001 Min </pre>	<ul style="list-style-type: none"> ■ ON ■ Set Chlorine producer voltage, 2.5 VDC/5.0 VDC for option ■ Set Chlorine producer running time, Range: 1 minute~According to the maximum time of Brine Draw Press "↑" and "↓" to adjust the data or move the arrow to certain item Press "→" to enter setting Press "Setting Button" back to last display
<pre> CYCLE STEP TIMES DOSING PUMP CHLORINE PRODUCER ▶AUXILIARY RELAY LANGUAGE </pre>	<p>Press "→" to enter Auxiliary Relay setting</p>
<pre> SET AUXILIARY RELAY: ▶NORMALLY CLOSED NORMALLY OPEN </pre>	<p>Default : Normally Closed</p> <ul style="list-style-type: none"> ■ Normally Open <p>Press "→" to choose the certain item</p>
<pre> CYCLE STEP TIMES DOSING PUMP CHLORINE PRODUCER AUXILIARY RELAY ▶LANGUAGE </pre>	<p>Press "→" to enter Language setting Default : English ■ Deutsch ■ French ■ Italian ■ Spanish Press "↑" and "↓" to adjust the data or move the arrow to certain item Press "→" to enter setting Press "Setting Button" back to last display</p>
<pre> SET LANGUAGE: ▶ENGLISH DEUTSCH FRENCH ITALIAN </pre>	<pre> SET LANGUAGE: ▶SPANISH </pre>

Programming Mode Setting (Continued)

```

TIME OF DAY
REGENERATION TYPE
▶REGENERATION TIMES
CYCLE STEP TIMES
CHLORINE PRODUCER
AUXILIARY RELAY
    
```

If the Regeneration Type is set to Hours Delayed
Press "→" to enter Regeneration Times setting

```

SET REGENERATION
TIMES:
▶1ST REGEN    12:00 AM
 2ND REGEN    02:00 AM
 3RD REGEN    04:00 AM
 4TH REGEN    06:00 AM
    
```

Default : 12 cycles regeneration every 24 hours,
every 2 hours have one complete regeneration cycle
Press "→" to enter setting, and then Press "→" to move
Press "↑" and "↓" to adjust the data
Press "Setting Button" back to last display
AM and PM will be changed according to the time setting

```

SET REGENERATION
TIMES:
▶5TH REGEN    08:00 AM
 6TH REGEN    10:00 AM
 7TH REGEN    12:00 PM
 8TH REGEN    02:00 PM
    
```

```

SET REGENERATION
TIMES:
▶9TH REGEN    04:00 PM
10TH REGEN    06:00 PM
11TH REGEN    08:00 PM
12TH REGEN    10:00 PM
    
```

```

SET REGENERATION
TIMES:
▶1ST REGEN    04:00 PM
 2ND REGEN          OFF
    
```

Close any regeneration time except first line, others will be closed.

```

TIME OF DAY
REGENERATION TYPE
▶REGEN DAYS OF WEEK
REGENERATION TIME
CYCLE STEP TIMES
CHLORINE PRODUCER
    
```

If the Regeneration Type is set to Days of Week
Press "→" to enter Regeneration Days of week setting

```

SET REGENERATION DAYS
OF WEEK:
▶MONDAY        OFF
 TUESDAY       OFF
 WEDNESDAY     OFF
 THURSDAY      OFF
    
```

Default :

MONDAY	OFF
TUESDAY	OFF
WEDNESDAY	OFF
THURSDAY	OFF
FRIDAY	OFF
SATURDAY	ON
SUNDAY	ON

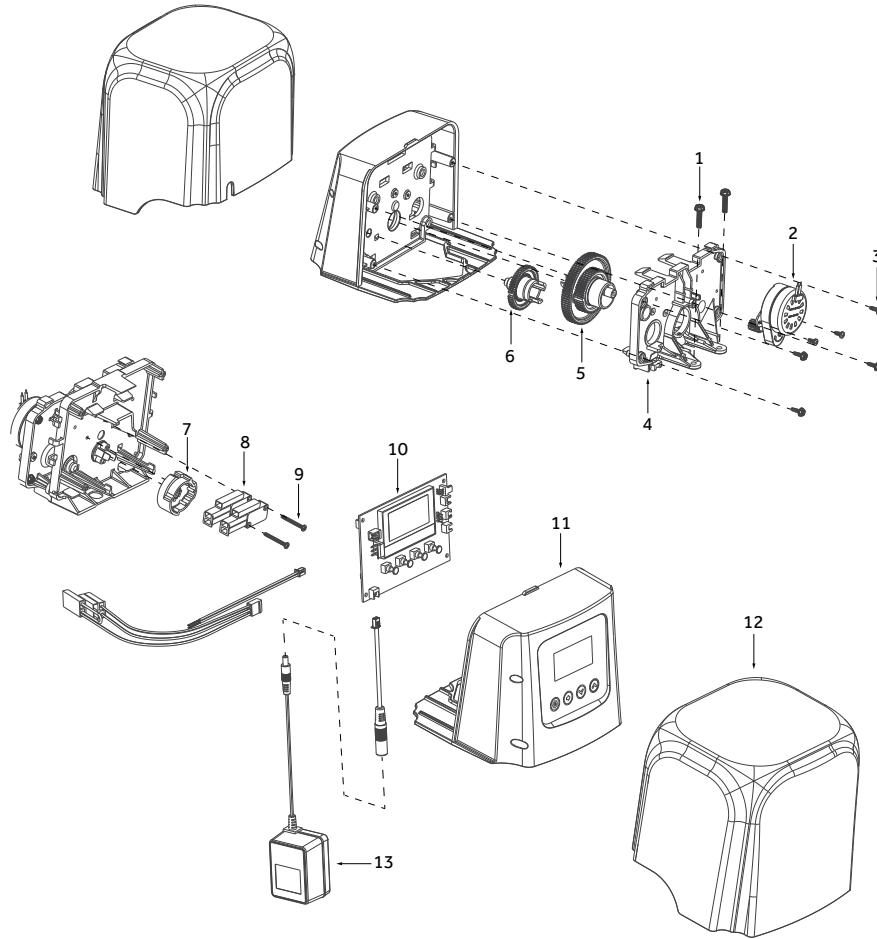
```

SET REGENERATION DAYS
OF WEEK:
▶FRIDAY        OFF
 SATURDAY      ON
 SUNDAY        ON
    
```

Press "↑" and "↓" to move the arrow to certain item
Press "→" to enter setting
Press "Setting Button" back to last display

Note: after setting up or under any Settings menu, press the Settings button for at least 5 seconds. The system saves parameters and returns the working interface

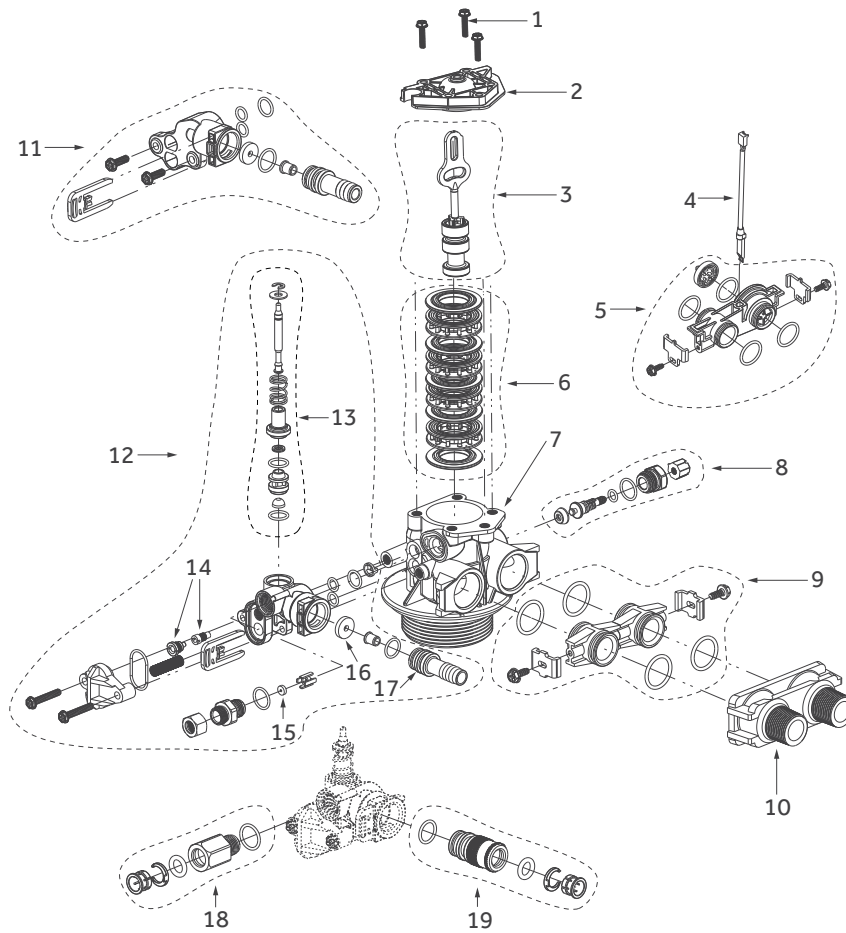
Powerhead Assembly, EZ3-SM/EZ3-FM



Item No.	Part No.	Description
1	WWUSA-24257002	Screw
2	WWUSA-24257230	Screw,Controller
3	WWUSA-15457032	Bracket
4	WWUSA-18258031	Motor 24V
5	WWUSA-15457035	Back Cover
6	WWUSA-15457037	Gear Main,Down flow,EZ2,Black
	WWUSA-15457064	Gear Main,Down flow,TZ2,Black
	WWUSA-15457067	Gear Main,Up flow,TZ2,White
	WWUSA-15457107	Gear Main,Up flow,Refill first,TZ2,Green
7	WWUSA-15457038	Brine Cam,Down flow,EZ2,Black
	WWUSA-15457065	Brine Cam,Down flow,TZ2,Black
	WWUSA-15457068	Brine Cam,Up flow,TZ2,White
	WWUSA-15457108	Brine Cam,Up flow,Refill first,TZ2,Green
8	WWUSA-15457039	Cam, Switch,Down flow,EZ2,Black
	WWUSA-15457066	Cam, Switch,Down flow,TZ2,Black
	WWUSA-15457069	Cam, Switch,Up flow,TZ2,White
	WWUSA-15457109	Cam, Switch,Up flow,Refill first,TZ2,Green
9	WWUSA-17357001	Microswitch
10	WWUSA-24257268	Screw,Microswitch
11	WWUSA-18258056	Circuit Board
12	WWUSA-23580002	Cover,Front Assembly
†13		Transformer

† For Customized Specification Numbers, See the Back of this Manual

Control Valve Assembly EZ3-SM

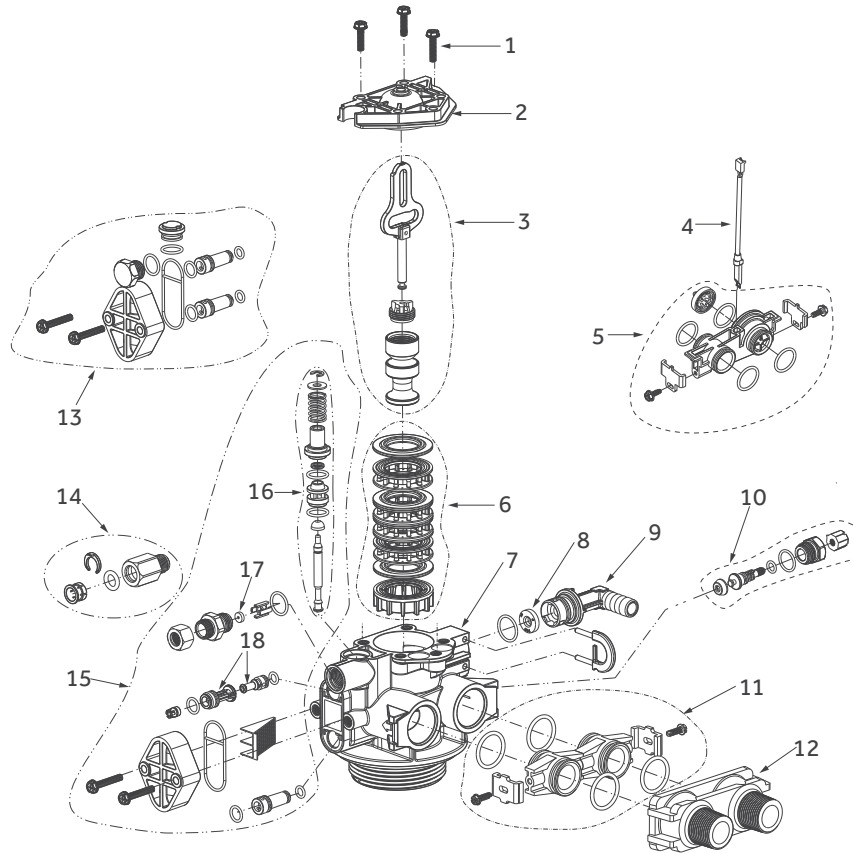


Item No.	Part No.	Description
1	WWUSA-24257030	Screw
2	WWUSA-23557015	Piston Cap Assembly
3	WWUSA-23580001	Piston Assembly
4	WWUSA-18258058	Harness Assembly,EZ2
5	WWUSA-23557019	Meter Assembly,for SM
6	WWUSA-23560006	Seal & Spacer Kit Assembly
7	WWUSA-23558021	Valve Body,Assembly
‡ 7-1	WWUSA-23558025	Mixing Valve Body,Assembly
‡ 8	WWUSA-23558026	Mixing ,Assembly
9	WWUSA-23558024	Coupling, Adapter Assembly,for ST
† 10		Yoke
11	WWUSA-23558008	Filter Injector Assembly, for FT
12	WWUSA-23558003	Injector and Drain Housing Assembly
13	WWUSA-23557004	Brine Stem Assembly,TZ1
† 14		Nozzle & Throat Assembly
† 15		B.L.F.C Button
† 16		D.L.F.C Button
† 17		Drain Fitting
‡ 18	WWUSA-23557010	Brine Quick Fitting Kits
‡ 19	WWUSA-23557011	Drain Line Quick Fitting Assembly

‡ Components for Option

† For Customized Specification Numbers, See the Back of this Manual

Control Valve Assembly, Down-flow EZ3-FM

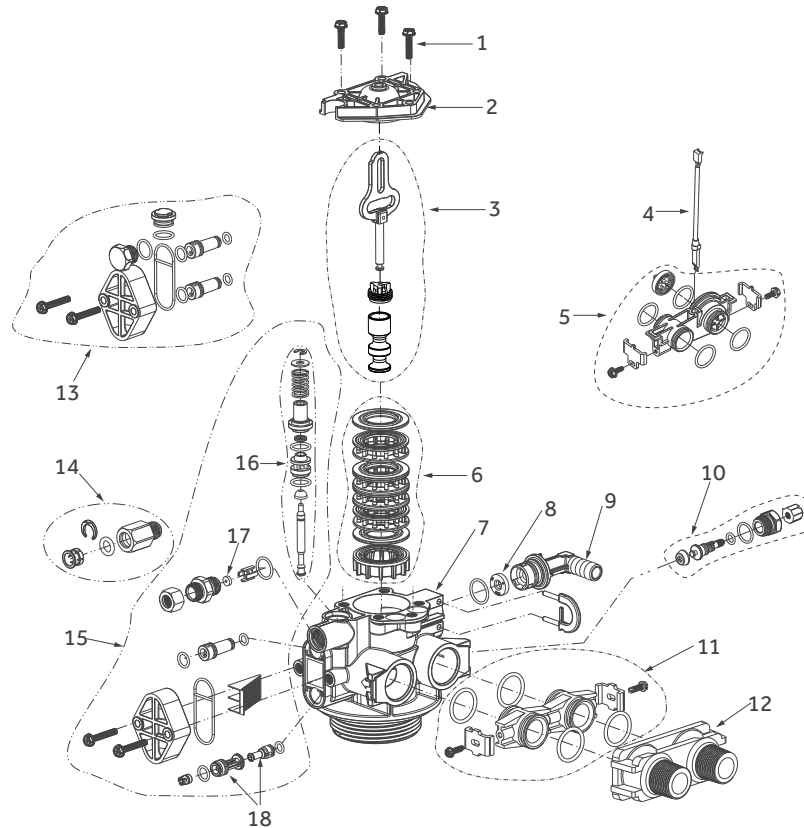


Item No.	Part No.	Description
1	WWUSA-24257030	Screw
2	WWUSA-23557015	Valve Cap Assembly
3	WWUSA-23557005	Piston Assembly, Down-flow
4	WWUSA-18258058	Harness Assembly, EZ2
5	WWUSA-23557019	Meter Assembly, for SM
6	WWUSA-23560006	Seal & Spacer Kit Assembly
7	WWUSA-23557002	Valve Body, Assembly Down-flow
‡ 7-1	WWUSA-23557012	Mixing Valve Body, Assembly Down-flow
‡ 8		D.L.F.C Button
9		Drain Fitting
† 10	WWUSA-23558026	Mixing, Assembly
11	WWUSA-23558024	Coupling, Adapter Assembly, for ST
12		Yoke
13	WWUSA-23557008	Filter Injector Assembly, for FT
† 14	WWUSA-23557010	Brine Quick Fitting Kits
† 15	WWUSA-23557003	Injector and Drain Housing Assembly, Down-flow
† 16	WWUSA-23557004	Brine Stem Assembly, TZ1
† 17		B.L.F.C Button
‡ 18		Nozzle & Throat Assembly

‡ Components for Option

† For Customized Specification Numbers, See the Back of this Manual

Control Valve Assembly, Up-flow EZ3-FM

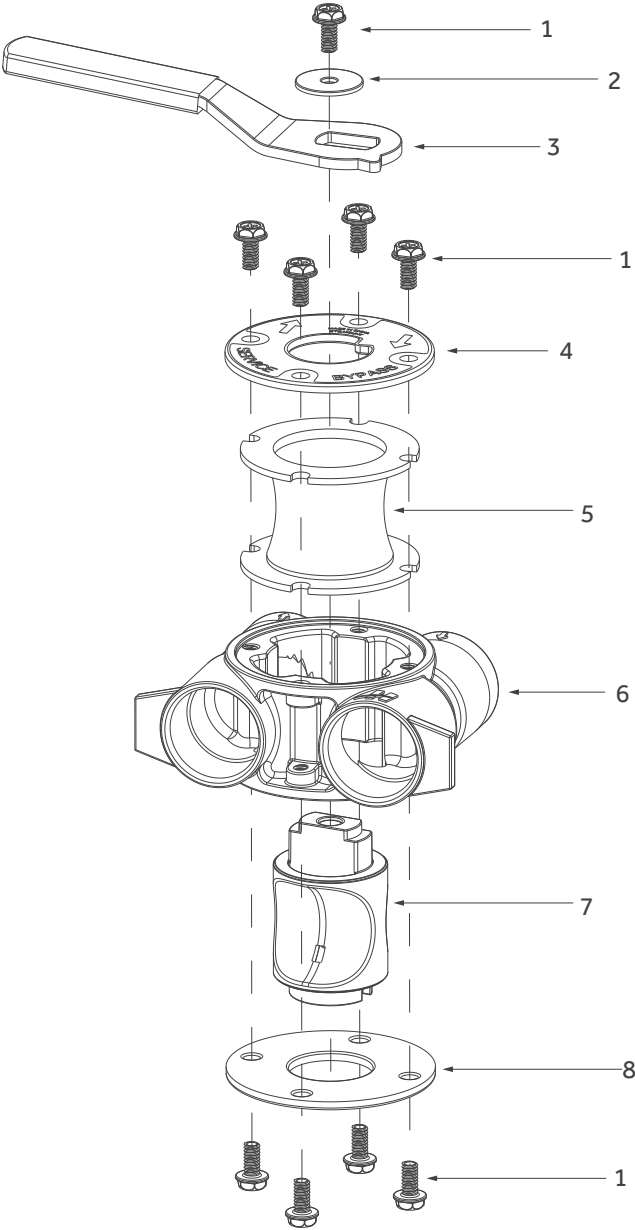


Item No.	Part No.	Description
1	WWUSA-24257030	Screw
2	WWUSA-23557015	Valve Cap Assembly
3	WWUSA-23557016	Piston Assembly, Up-flow
4	WWUSA-18258058	Harness Assembly, EZ2
5	WWUSA-23557019	Meter Assembly, for SM
6	WWUSA-23557006	Seal & Spacer Kit Assembly
7	WWUSA-23557014	Valve Body Assembly, Up-flow
‡7-1	WWUSA-23557013	Mixing Valve Body Assembly, Up-flow
†8		D.L.F.C Button
†9		Drain Fitting
‡10	WWUSA-23558026	Mixing ,Assembly
11	WWUSA-23558024	Coupling, Adapter Assembly,for ST
†12		Yoke
13	WWUSA-23557008	Filter Injector Assembly, for FT
‡14	WWUSA-23557010	Brine Quick Fitting Kits
15	WWUSA-23557007	Injector and Drain Housing Assembly, Up-flow
16	WWUSA-23557004	Brine Stem Assembly,TZ1
†17		B.L.F.C Button
†18		Nozzle & Throat Assembly

‡ Components for Option

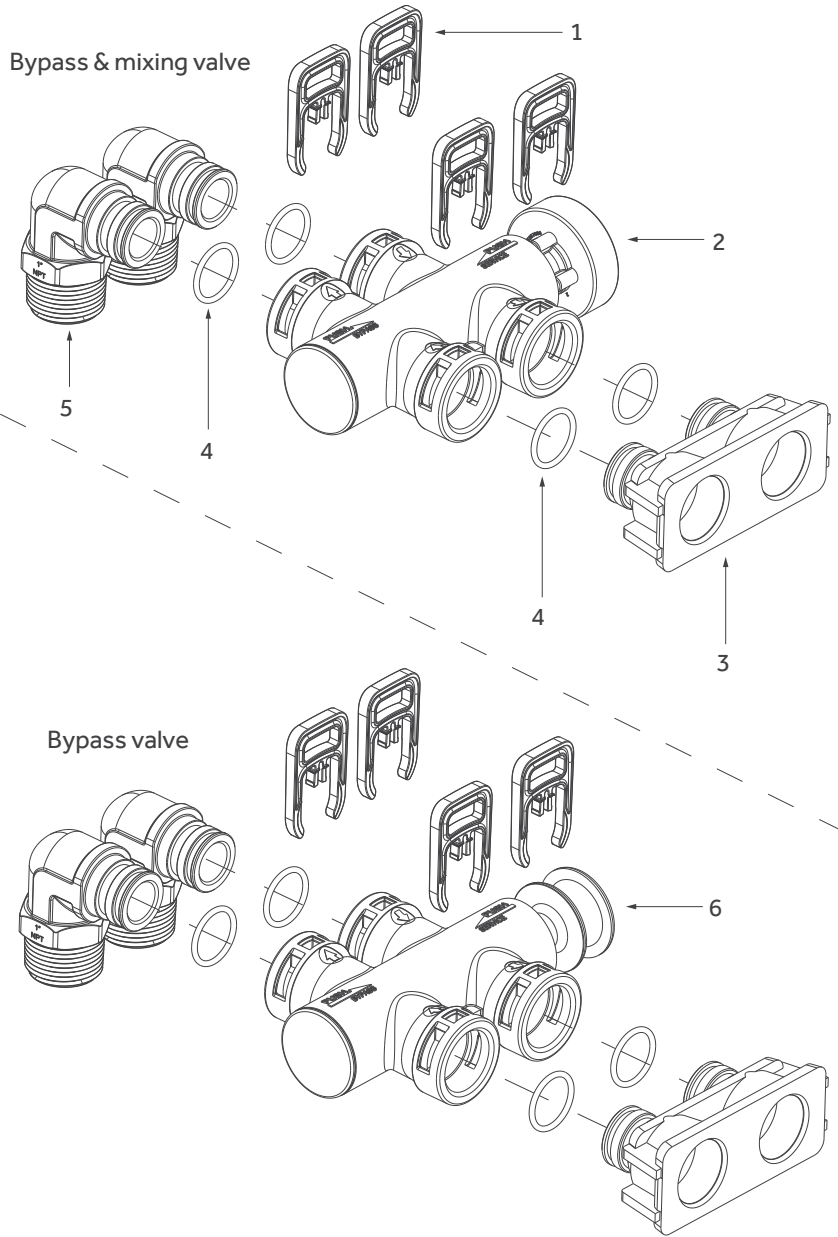
† For Customized Specification Numbers, See the Back of this Manual

By-Pass Valve Assembly, Metal



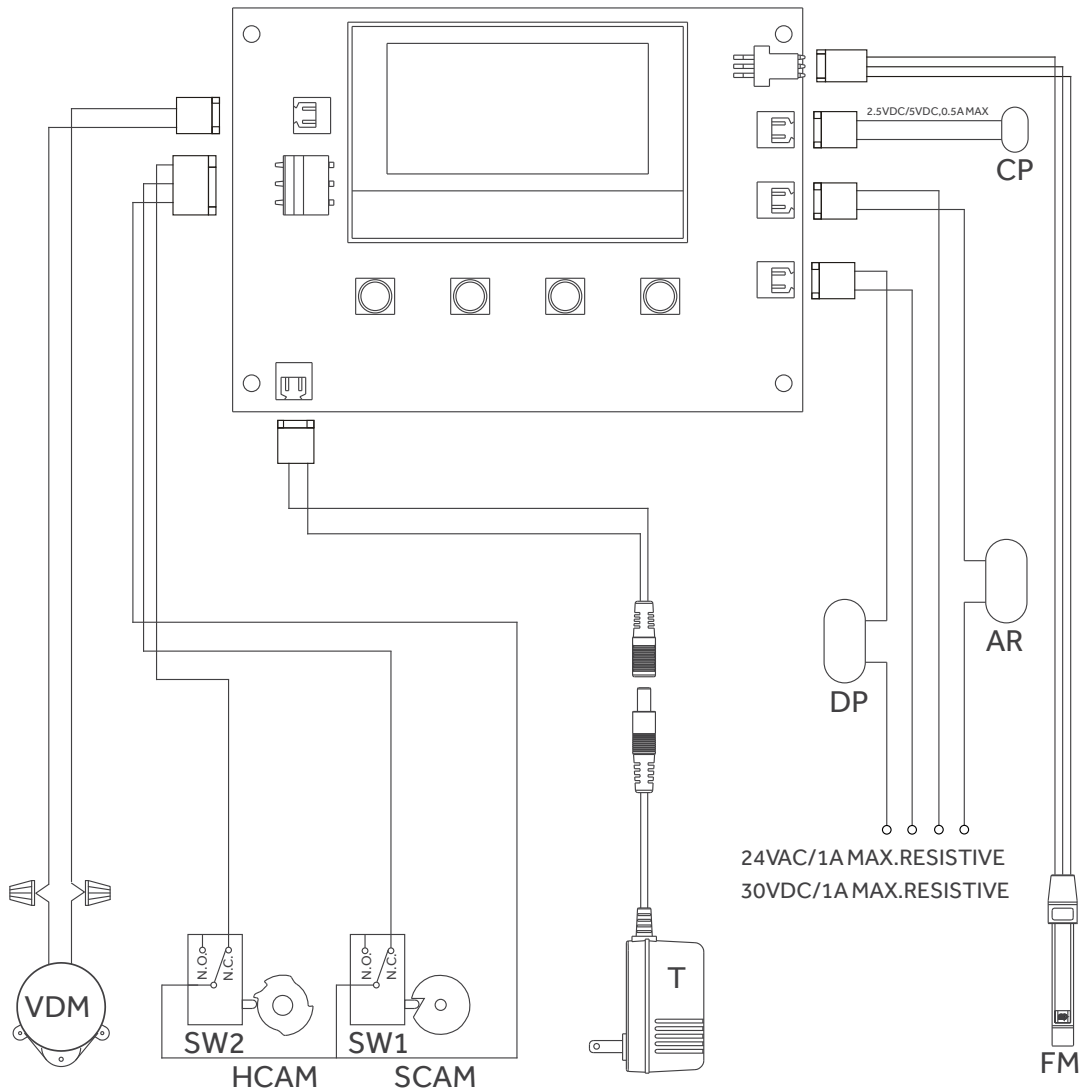
Item No.	Part No.	Description
1	WWUSA-24257012	Screw
2	WWUSA-24257256	Gasket
3	WWUSA-23558010	Lever, Bypass, Assembly
4	WWUSA-23558022	Plate, Bypass, Top Assembly, White, BSP
	WWUSA-23558023	Plate, Bypass, Top, Assembly, Blue, NPT
5	WWUSA-21257242	Seal, Bypass
6	WWUSA-24257254	Bypass Valve Body, 3/4" NPT
	WWUSA-24257255	Bypass Valve Body, 1" NPT
	WWUSA-24257271	Bypass Valve Body, 3/4" BSP
	WWUSA-24257272	Bypass Valve Body, 1" BSP
7	WWUSA-23558009	Plug, Bypass Assembly
8	WWUSA-16257220	Plate, Bypass, Bottom

By-Pass Valve Assembly, Plastic



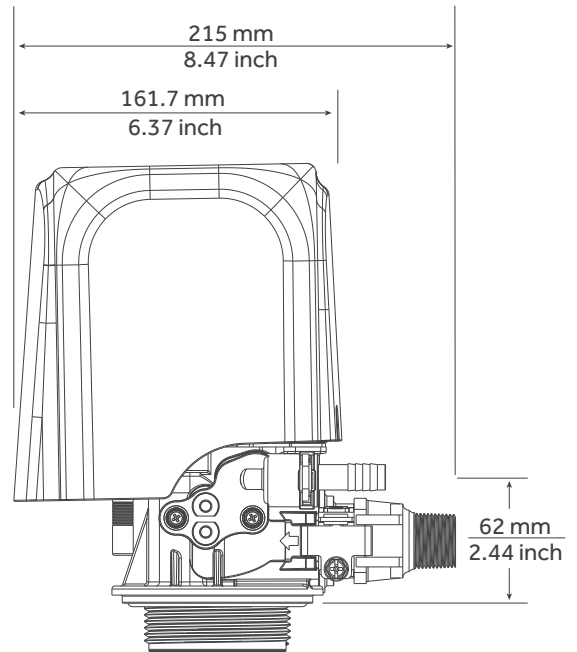
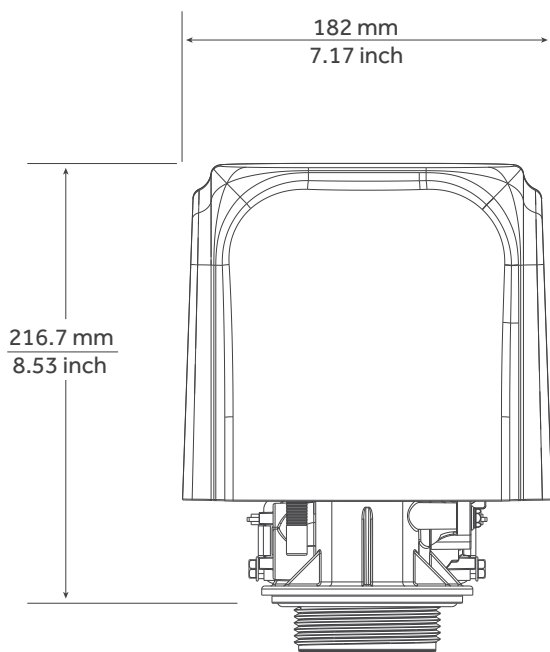
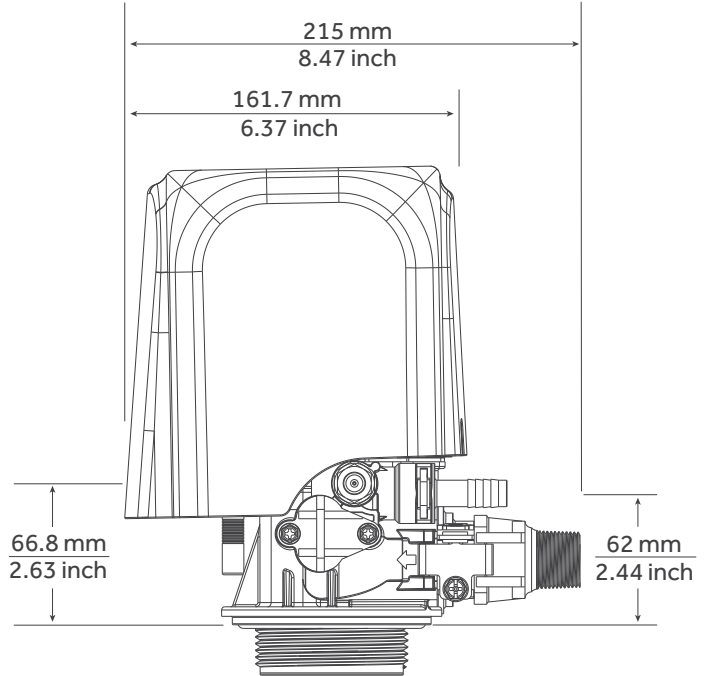
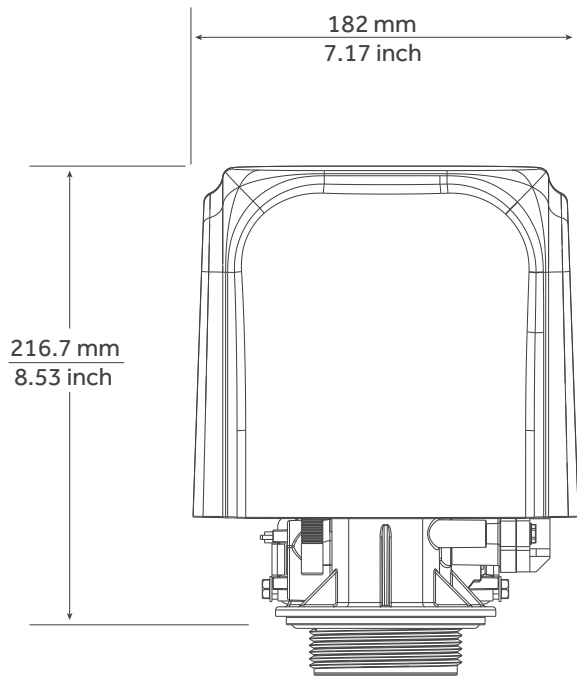
Item No.	Part No.	Description
1	WWUSA-15257088	Retainer
2	WWUSA-23558006	Bypass & mixing Valve Body Assembly, Plastic
3	WWUSA-15257083	Coupling, Adapter
4	WWUSA-21257018	O-ring
5	WWUSA-15257120	Yoke, 1" NPT, 90°
	WWUSA-15257121	Yoke, 3/4" NPT, 90°
	WWUSA-15457102	Yoke, 1" BSP, 90°
	WWUSA-15457101	Yoke, 3/4" BSP, 90°
	WWUSA-15257084	Yoke, 1" BSP
	WWUSA-15257085	Yoke, 3/4" BSP
6	WWUSA-23558007	Bypass Valve Body Assembly, Plastic

Wiring Diagram



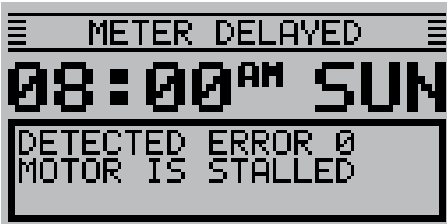
- T-24V TRANSFORMER
- VDM-VALVE DRIVE MOTO
- NC-RJ11 CONNECTOR
- FM-FLOW METER(OPTIONAL)
- SW1-VALVE HOMING SWITCH
- SW2-VALVE STEP SWITCH
- HCAM-VALVE HOMING CAM
- SCAM-VALVE STEP CAM
- CP-CHLORINE PRODUCER
- DP-DOSING PUMP
- AR-AUXILIARY RELAY

Dimensional Drawing



Troubleshooting

[DETECTED ERROR 0]



Probable Cause:

Motor is stalled.

Solution:

Recover and Resetting

Unplug the unit from the power source,

When power is restored to the unit, the [DETECTED ERROR 0] display code clears.

If the condition causing the error has not been resolved the [DETECTED ERROR 0] code reappears in the four digit display. Do not attempt to troubleshoot this problem any further. Contact the dealer to return for repair or replacement.

[DETECTED ERROR 1]



Probable Cause:

Motor is running continuously.

Solution:

Recover and Resetting :

Unplug the unit from the power source,When power is restored to the unit,

the [DETECTED ERROR 1] display code clears. If the condition causing the error

has not been resolved the [DETECTED ERROR 1] code reappears in the four digit

display. Do not attempt to troubleshoot this problem any further. Contact the dealer

to return for repair or replacement.

Customized Specification

TRANSFORMER

WWUSA-17357005.....Transformer ,24V,CN
WWUSA-17357018.....Transformer ,24V,US
WWUSA-17357019.....Transformer ,24V,EU
WWUSA-17357025.....Transformer ,24V,EN

YOKE

WWUSA-15257038.....Yoke,1"NPT
WWUSA-15257023.....Yoke,3/4"NPT
WWUSA-15257089.....Yoke,1"BSP
WWUSA-15257090.....Yoke,3/4"BSP

NOZZLE & THROAT ASSEMBLY, EZ3-SM

WWUSA-23558011.....000#,Brown
WWUSA-23558027.....00#,Violet
WWUSA-23558028.....0#,Red
WWUSA-23558029.....1#,White
WWUSA-23558030.....2#,Blue
WWUSA-23558031.....3#,Yellow
WWUSA-23558032.....4#,Green

NOZZLE & THROAT ASSEMBLY, EZ3-FM

WWUSA-23557018.....1#,White
WWUSA-23557018-1.....2#,Blue
WWUSA-23557018-2.....3#,Yellow
WWUSA-23557018-3.....4#,Green

DRAIN LINE FLOW CONTROL (BLFC)

WWUSA-21247006.....BLFC,0.125 GPM
WWUSA-21247021.....BLFC,0.25 GPM
WWUSA-21247005.....BLFC,0.5 GPM
WWUSA-21247022.....BLFC,1.0 GPM

DRAIN LINE FLOW CONTROL WASHERS(DLFC)

WWUSA-21257239.....DLFC,0.8 GPM
WWUSA-21247013.....DLFC,1.5 GPM
WWUSA-21247012.....DLFC,2.0 GPM
WWUSA-21247011.....DLFC,2.4 GPM
WWUSA-21247010.....DLFC,3.0 GPM
WWUSA-21247009.....DLFC,3.5 GPM
WWUSA-21247008.....DLFC,4.0 GPM
WWUSA-21247014.....DLFC,5.0 GPM
WWUSA-21247007.....DLFC,7.0 GPM
WWUSA-21257229.....DLFC,9.0 GPM
WWUSA-21257228.....DLFC,10 GPM
WWUSA-21257227.....DLFC,12 GPM
WWUSA-21257226.....DLFC,15 GPM

DRAIN FITTING, EZ3-SM

WWUSA-15257065.....Straight Drain Hose Barb
WWUSA-15257128.....Straight Drain Hose Barb,1/2"NPT
WWUSA-15257026.....Drain Hose 90° Elbow Barb

DRAIN FITTING, EZ3-FM

WWUSA-15257239.....Drain Hose 90° Elbow Barb,1/2
WWUSA-15257240.....Drain Hose 90° Elbow Barb,3/4