

F15/F21/F31
F41/F51/F61

Service Manual




FOBRITE

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General Installation Check List

1. The Surroundings Of Installation

Water Pressure	A minimum of 0.2 Mpa of water pressure is required for valve to operate effectively.
Electrical Facilities	A continuous current supply is required, check voltage compatibility.
Existing Plumbing	Condition of existing plumbing should be free from any deposit such as lime and iron build up. Piping that is clogged heavily with these deposit should be cleaned in time and connect according to plumbing codes.
Location Of Installation	The softener should be located close to a drain pipe
By-pass Valves	Always provide for the installation of a by-pass valve
	CAUTION
	⊠ Water pressure is not to exceed 0.8Mpa
	⊠ Water temperature is not to exceed 38°C
	⊠ The unit cannot be subjected to freezing conditions.

2. Instruction Of Valve Installation And Resin Filling

- ① Fit the distributor firmly to the bottom of the central tube, cut the tube from the point that is 0.5mm lower than the top of the tank and chamfer, then insert it into the central of resin tank, and seal the central tube with tape in case of the resin leakage.
- ② Add sand to fill the space around the central tube unit it is 20 mm above the bottom distributor. The sand should be paved based on the graded particle size in order to distribute the water. No need to fill the tank with sand if the diameter of the tank is less than 500 mm.
- ③ Fill the tank evenly with sand to the standard height then add 10% salt water until it overflows the resin. Let resin fully expands. then take off the tape on the central tube and keep it always in the middle of tank.
- ④ To install the top distributor on the valve, then insert the central tube into valve through top distributor, and carefully turns the valve clockwise until it screws tightly on the tank. (Pay attention: valve and tank mouth, top distributor and valve, central tube, bottom distributor and central tube must be sealed, in case of the resin leakage; central tube and valve must be sealed, otherwise the water will leak).

General Installation Check List

3. Pipe Connection

- ① To connect the in-outlet pipe according to the valve's dimension (water supply pipe should not less than inlet pipe for keeping sufficient flow).
- ② The manual valve should be installed on the in-outlet pipe, the bypass valve should be installed between in-outlet pipe, the sampling valve should be installed before the outlet pipe, the Y filter is recommended to installed on the inlet pipe; in case of the deposit in the pipe would clog the valve and make the system can't work well.
- ③ The length of drain pipe should not exceed 6 m, try to avoid bending.
- ④ The length of the pipe for brine water should be less than 2 meters, keep the pipes sealed in good condition, other wise it may influence the regeneration effect.

4. System Adjustment

- ① Wash the deposit away from the pipe. To set the bypass valve in bypass position, wash the deposit away from the pipe until the water runs clean. Then close the inlet-outlet valve, and set the bypaass valve to service position.
- ② To set the valve on the service position, open the inlet valve, to refill the water into the resin tank until the water stop flowing. Open the outlet valve to clean up the air and deposit of the resin tank.
- ③ To set the valve on backwash position, and the water outflow from drainage for 3-4 minutes. Keep draining off the water until the water is clean.
- ④ To set the valve on the brine position, and suck the water from brine tank until stop.
- ⑤ To set the valve on refill postion, refill the salt and water into the tank until exceed the air check valve. Note: keep the salt water for 6 hours.
- ⑥ To set the valve on service postion, check if the bypass valve is in service postion and the out water is qualified.

Valve Start-up Procedure

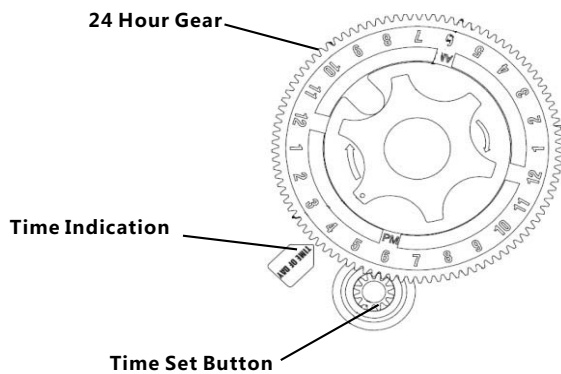
Mechanical valve has 3 type: timer, meter immediately, meter delayed.

The current time of day should be set before operating the timer or meter delayed valves, but no needs for meter immediate valve.

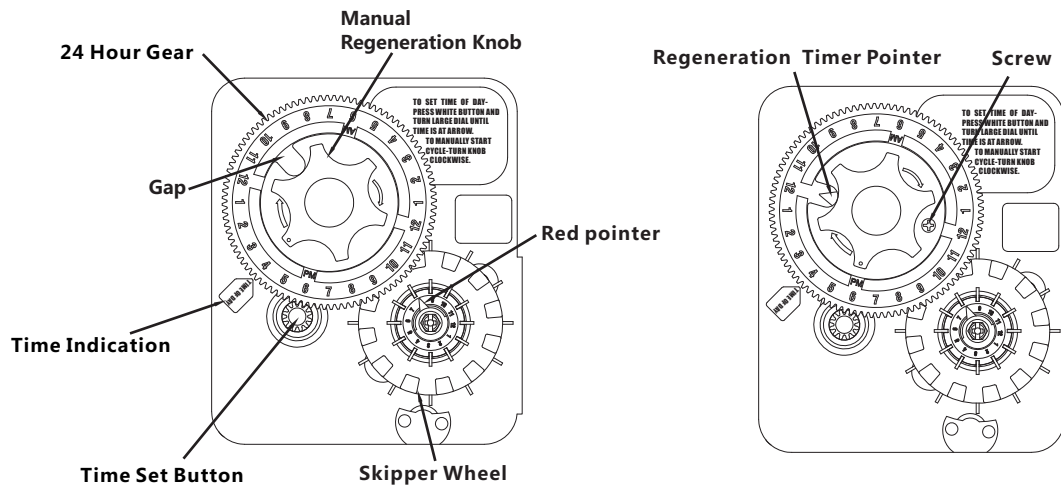
How to set the time of day:

- ① Press and hold the time set button to disengage the 24 hour gear.
- ② Turn the 24 hour gear until the actual time of day is at the time of day pointer.

NOTE: the 24 hour gear would stop running when power fails, it needs to reset the time of day when the power switched on.



1. Model timer



Mechanical valve was default set the regeneration time at 2:00 AM before leave factory, it means after setting time of day, the regeneration starts when 2:00AM on the 24 hour gear and time indication arrow in same point.

Valve Start-up Procedure

1.1. How to adjust the regeneration time

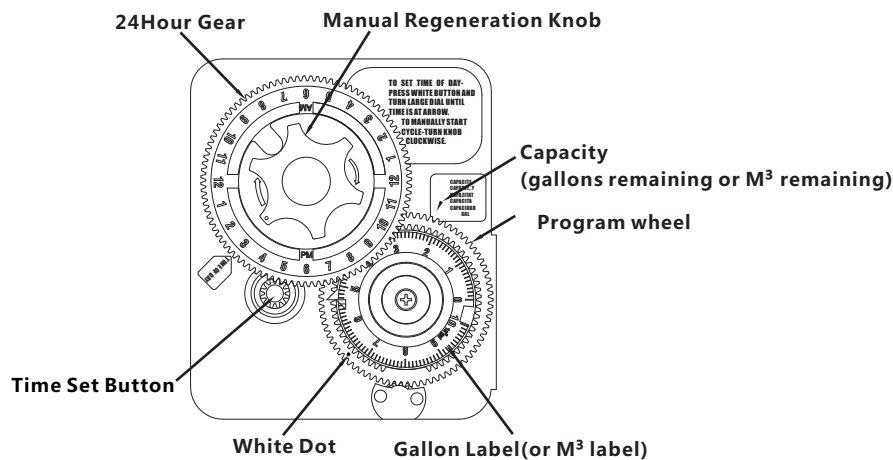
- ① Disconnect the power source.
- ② Locate the three screws behind the manual regeneration knob by pushing the red button in and rotating the 24 hour dial until each screw appear in the cut out portion of the manual regeneration knob.
- ③ Loosen each screw slightly to release the pressure on the time plate from the 24 hour gear.
- ④ Locate the generation time pointer on the inside of 24 hour dial in the cut out.
- ⑤ Turn the time plate so the desired regeneration time aligns next to the raised arrow.
- ⑥ Push the red button in and rotate the 24 hours dial. Tighten each of the three screws.
- ⑦ Push the red button and locate the pointer one more time to ensure the desired regeneration time is correct.
- ⑧ Reset the time of day and restore power to the unit.

NOTE: the 24 hour gear would stop running when power off, it should be reset when the power switched on.

1.2. How to set the interval days of regeneration

The skipper wheel indicates 12 days on the timer model, every tab presents one day. the tab at the red pointer is today. Pull or push the tab to set the regeneration date. For example, firstly push down all the tabs then pull up the tab every other one, the valve will regenerate every other day. For example, pull all the skipper wheel pieces firstly, then pick up every other one, that means the regeneration date is regenerate one time every other day.

2. Model Meter



NOTE: Immediate regeneration times do not have 24 hours gear, no time of day can be set. And they have same way to set the regeneration.

2.1. How to set the regeneration cycle program

- ① Pull out the cable from the meter.
- ② Set program wheel by lifting the middle small dial and rotating it until the desired capacity on the label aligned with the white dot.
- ③ Release the middle small dial and check for firm engagement at setting.
- ④ Rotate the manual regeneration knob and let the program wheel return to the position.
- ⑤ Re-insert the meter cable back.

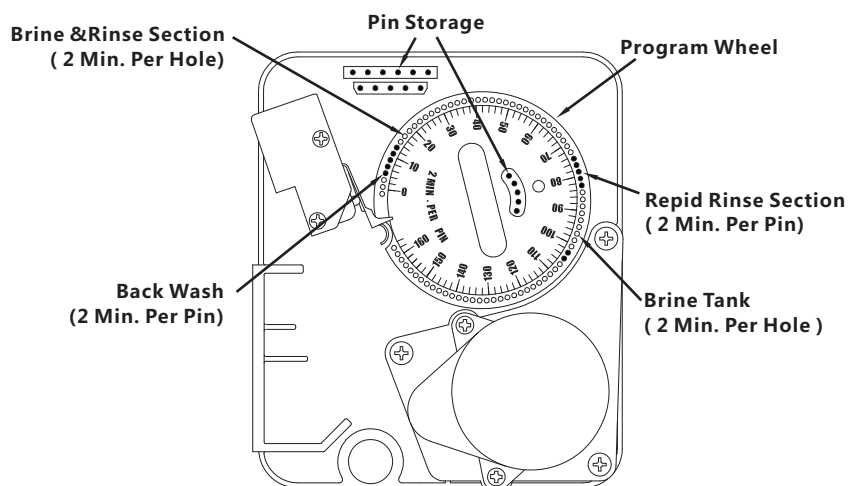
Valve Start-up Procedure

3. How to manual regenerate

Turn the manual regeneration knob clockwise until hear the clatter. This slight movement will switch on the micro switch attached and starts the regeneration. Program wheel would spend about 3 hours for rotate a cycle .it's also available to clockwise rotate manual regeneration knob until to the next desired regeneration steps, but before next step, please wait the motor running to corresponding regeneration step and stop.

NOTE: Don't rotate the manual regeneration knob before the motor stop. If the program wheel and piston on the valve runs in different position, please cut the power and check the valve position first, then rotate the manual regeneration knob to corresponding position, then apply the power again.

4. How to set the regeneration cycle program



the back of timer

- ① The regeneration cycle program on your water conditioner has been factory preset, however, portions of the cycle or program may be lengthened or shortened in time to suit local conditions.
- ② To expose cycle program wheel, grasp timer in upper left-hand corner and pull, releasing snap retainer and swinging timer to the right.
To change the regeneration cycle program the program wheel must be removed. Grasp program wheel and squeeze protruding lugs towards center, lift program wheel off timer.(Switch arms may require movement to facilitate removal.)
Return timer to closed positions engaging snap retainer in back plate. Make certain all electrical wires locate above snap retainer post.

Valve Start-up Procedure

How To Change The Length Of The Backwash Time:

The program wheel as shown in the drawing is in the service position. As you look at the numbered side of the program wheel, the group of pins starting at zero determines the length of time your unit will backwash.

FOR EXAMPLE: If there are six pins in this section, the time of backwash time will be 12 min. (2 min. Per pin). To change the length of backwash time, add or remove pins as required. The number of pins times two equals the backwash time in minutes.

How To Change The Length Of Brine And Rinse Time:

The group of holes between the last pin in the backwash section and the second group of pins determines the length of time that your unit will brine and rinse (2 min. Per hole.)

To change the length of brine and rinse time, move the rapid rinse group of pins to give more of fewer holes in the brine and rinse section. Number of holes time two equals brine and rinse time in the minutes.

How To Change The Length Of Rapid Rinse:

The second group of pins on the program wheel determines the length of time that your water conditioner will rapid rinse.(2 min. Per pin.)

To change the length of rapid time, add or remove pins at the higher numbered end of this section as required. The number of pins times two equals the rapid rinse time in minutes.

How To Change The Length Of Brine Tank Refill Time:

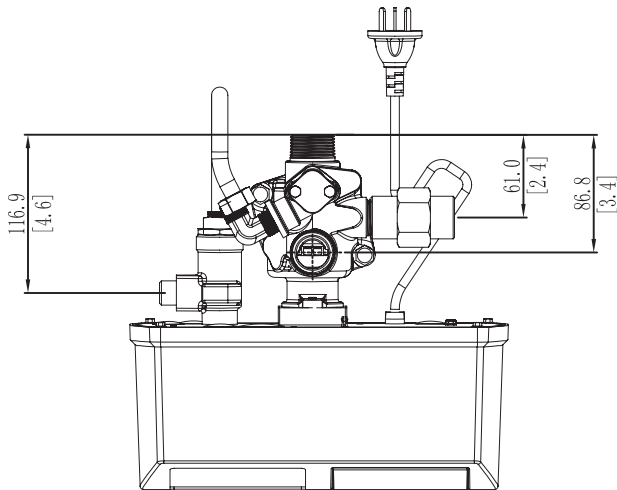
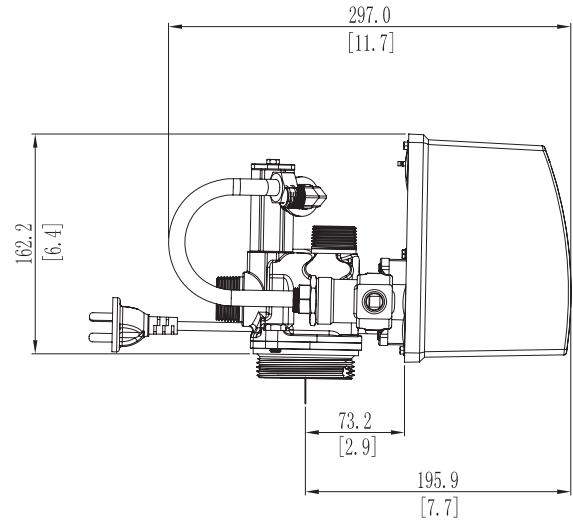
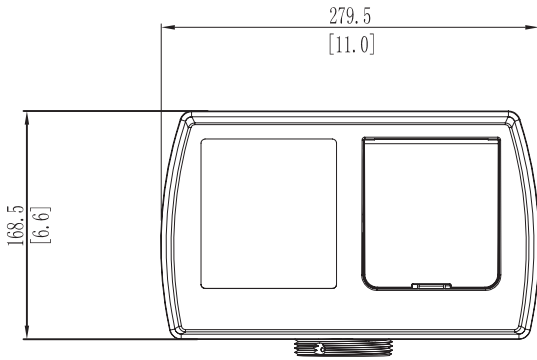
The second group of holes in the program wheel determines the length of time that your water conditioner will refill the brine tank.(2 min. Per hole.)

To change the length of refill time, move the two pins at the end of the second group of holes as required.

The regeneration cycle is complete when the outer micro-switch is tripped by the two pin set at end of the brine tank refill section. The program wheel, however, will continue to rotate until the inner micro-switch drops into the notch on the program wheel.

Dimensional Drawing

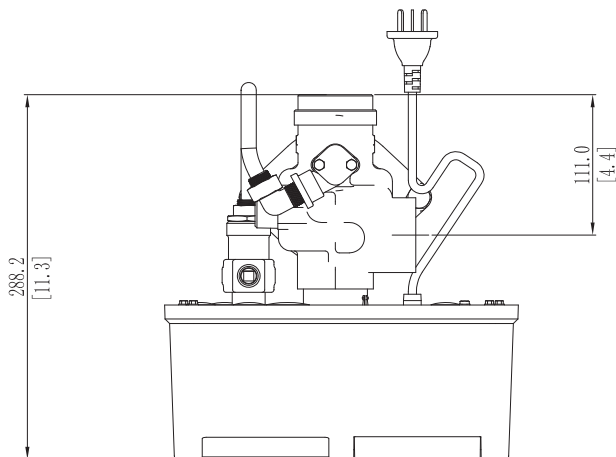
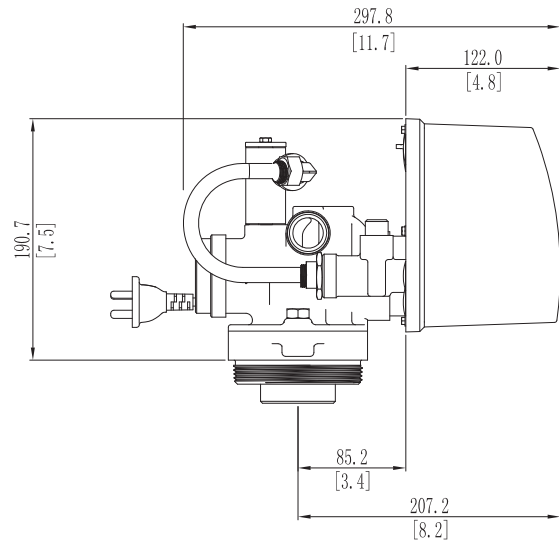
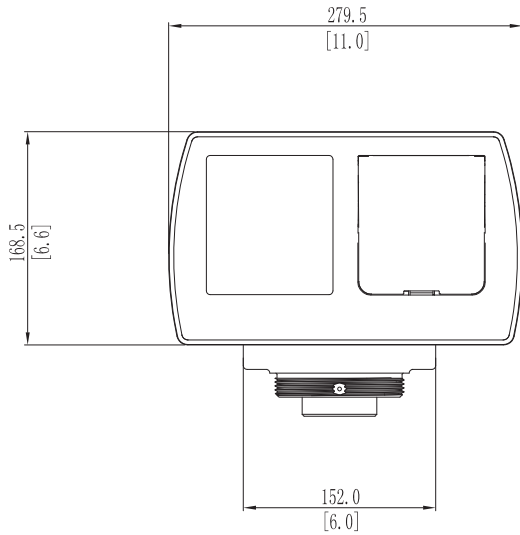
F15



The unit of the number in brackets is inch, rest is millimeter.

Dimensional Drawing

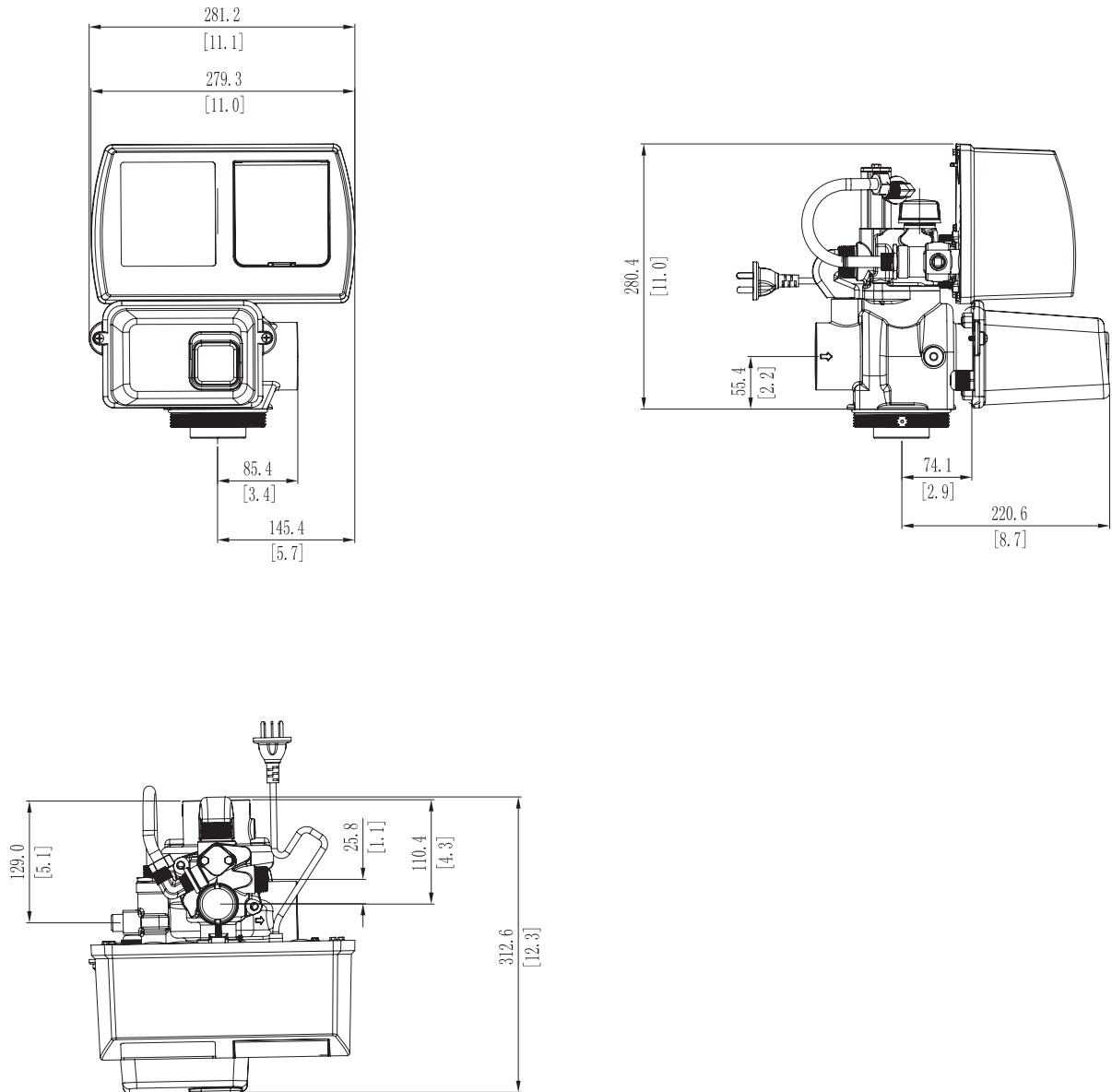
F21



The unit of the number in brackets is inch, rest is millimeter.

Dimensional Drawing

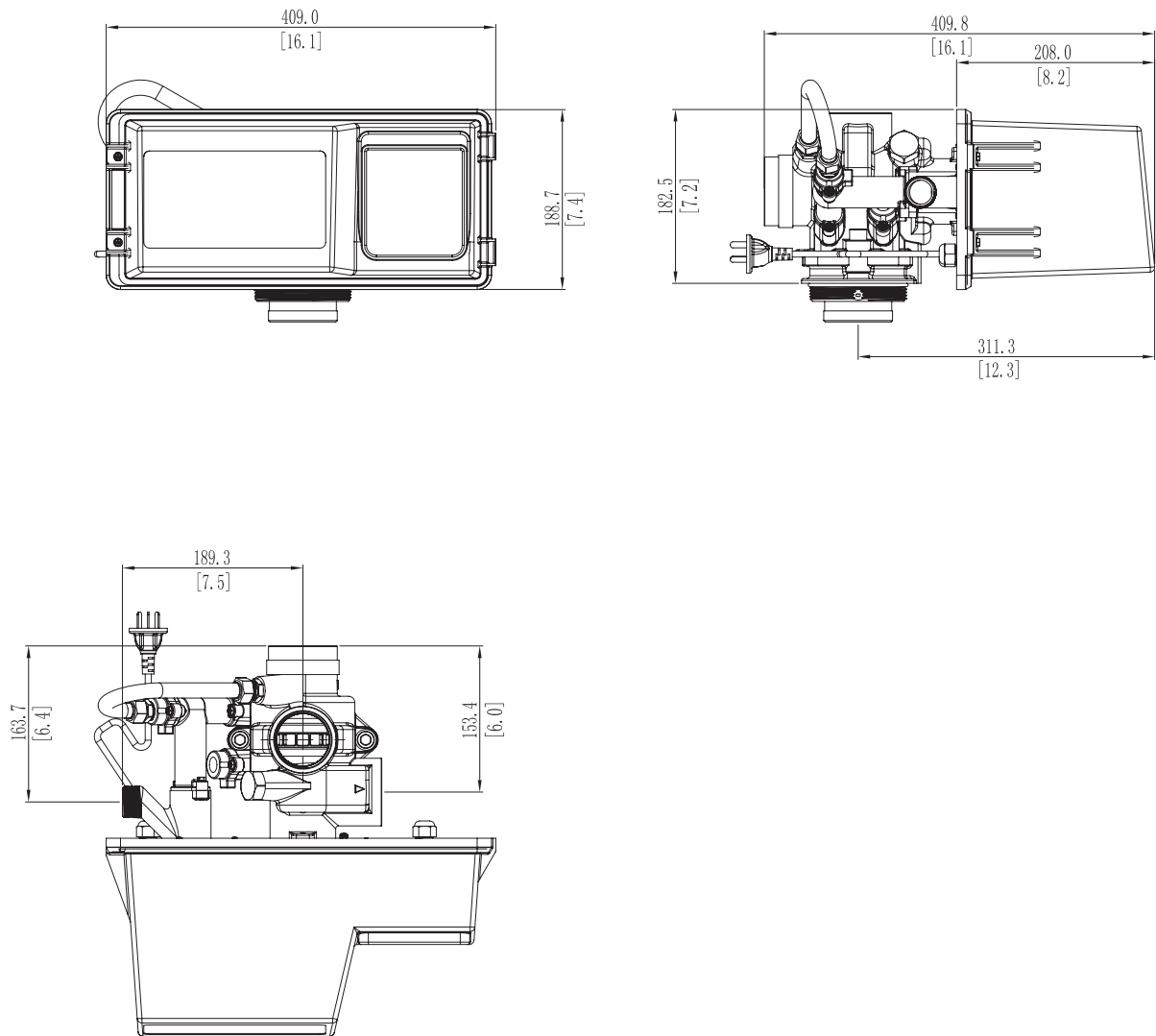
F31



The unit of the number in brackets is inch, rest is millimeter.

Dimensional Drawing

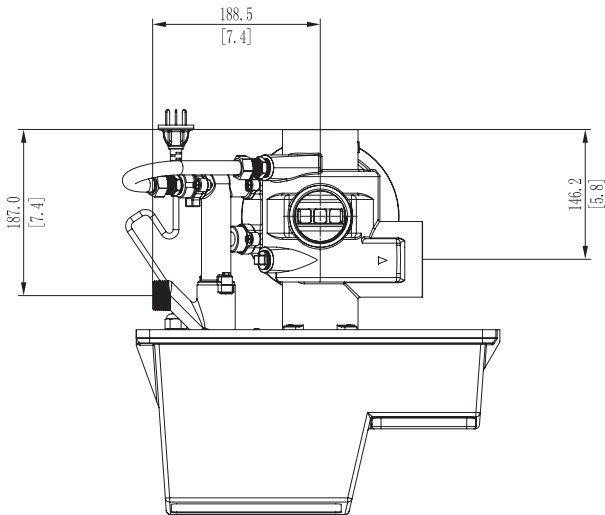
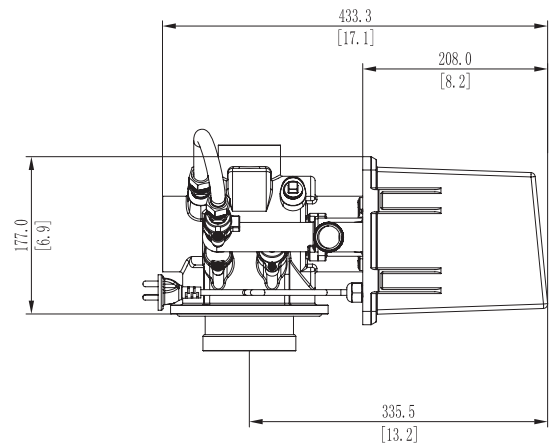
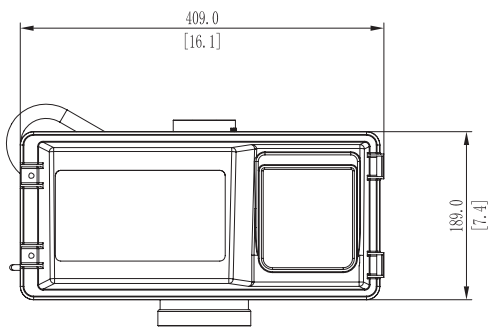
F41



The unit of the number in brackets is inch, rest is millimeter.

Dimensional Drawing

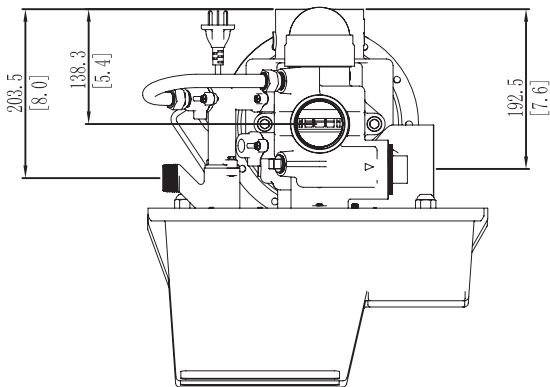
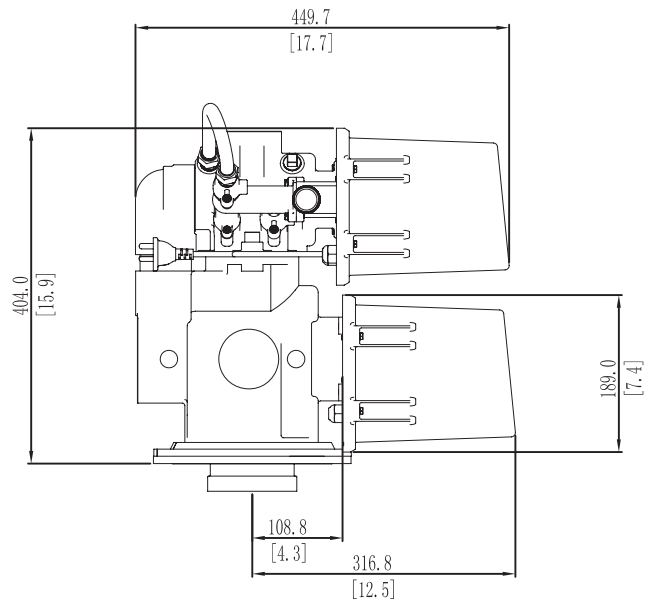
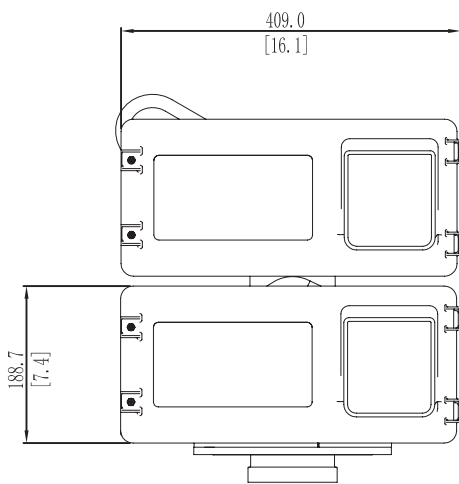
F51



The unit of the number in brackets is inch, rest is millimeter.

Dimensional Drawing

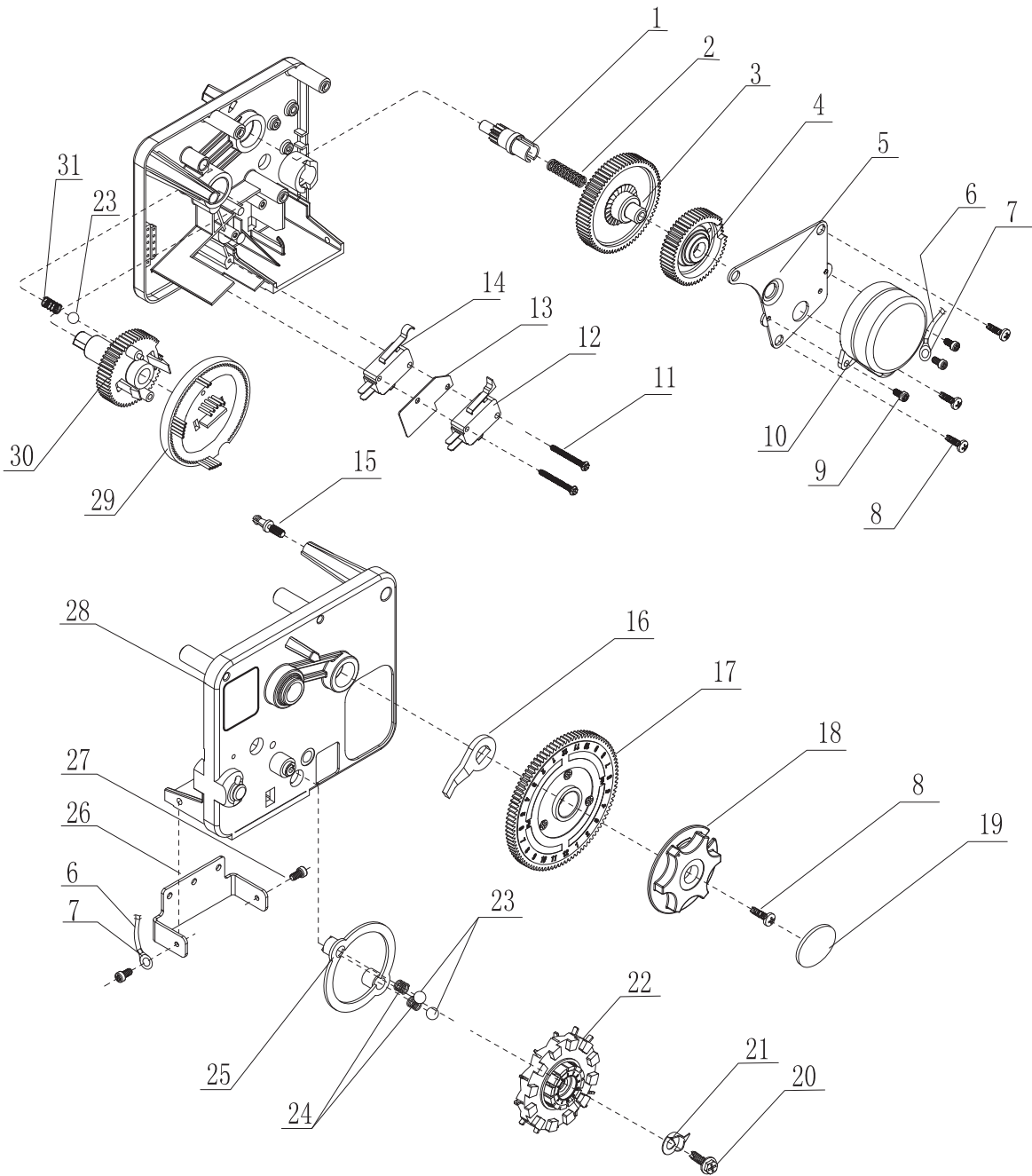
F61



The unit of the number in brackets is inch, rest is millimeter.

Timer Assembly

Time-Clock Timer



Timer Assembly

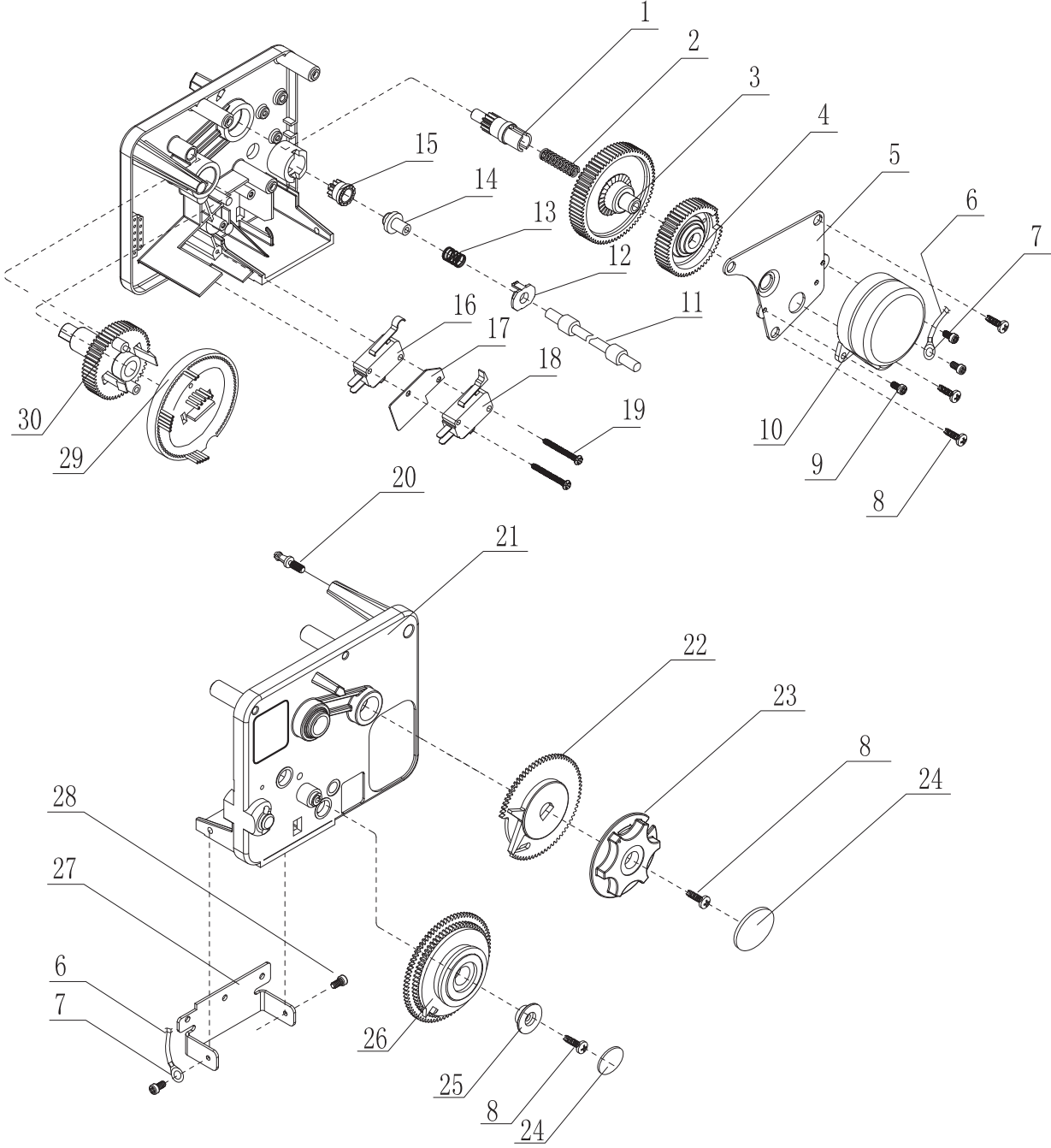
Time-Clock Timer

Item No.	Quantity	Part No.	Description
1	1	13206	Ider shaft
2	1	13253	Spring
3	1	13205	Ider gear
4	1	13204	Drive gear
5	1	15650	Motor mounting plate
6	1	07057	Wire
7	2	07011	Terminal
8	4	02106	Screw
9	3	02008	Screw
✖ 10	1		Motor
11	2	02081	Screw
12	1	33104	Switch assy
13	1	06051	Insulator
14	1	06002	Switch
15	1	13214	Stretch pin
16	1	13211	Cycle actuator staff
✖ 17	1	B0006	Time gear assy
18	1	13215	Knob
19	1	13281	Label
20	1	02107	Screw
21	1	13210	Pointer
22	1	66109	Skipper wheel assy
23	3	09001	Ball
24	2	13254	Spring
25	1	13208	Skipper wheel ring
26	1	13250	Hinge bracket
27	2	02004	Screw
28	1	13212	Timer housing
29	1	B0003	Program wheel assy
30	1	13203	Main drive gear
31	1	13252	Spring

✖ For more options

Timer Assembly

Meter Imm. Timer



Timer Assembly

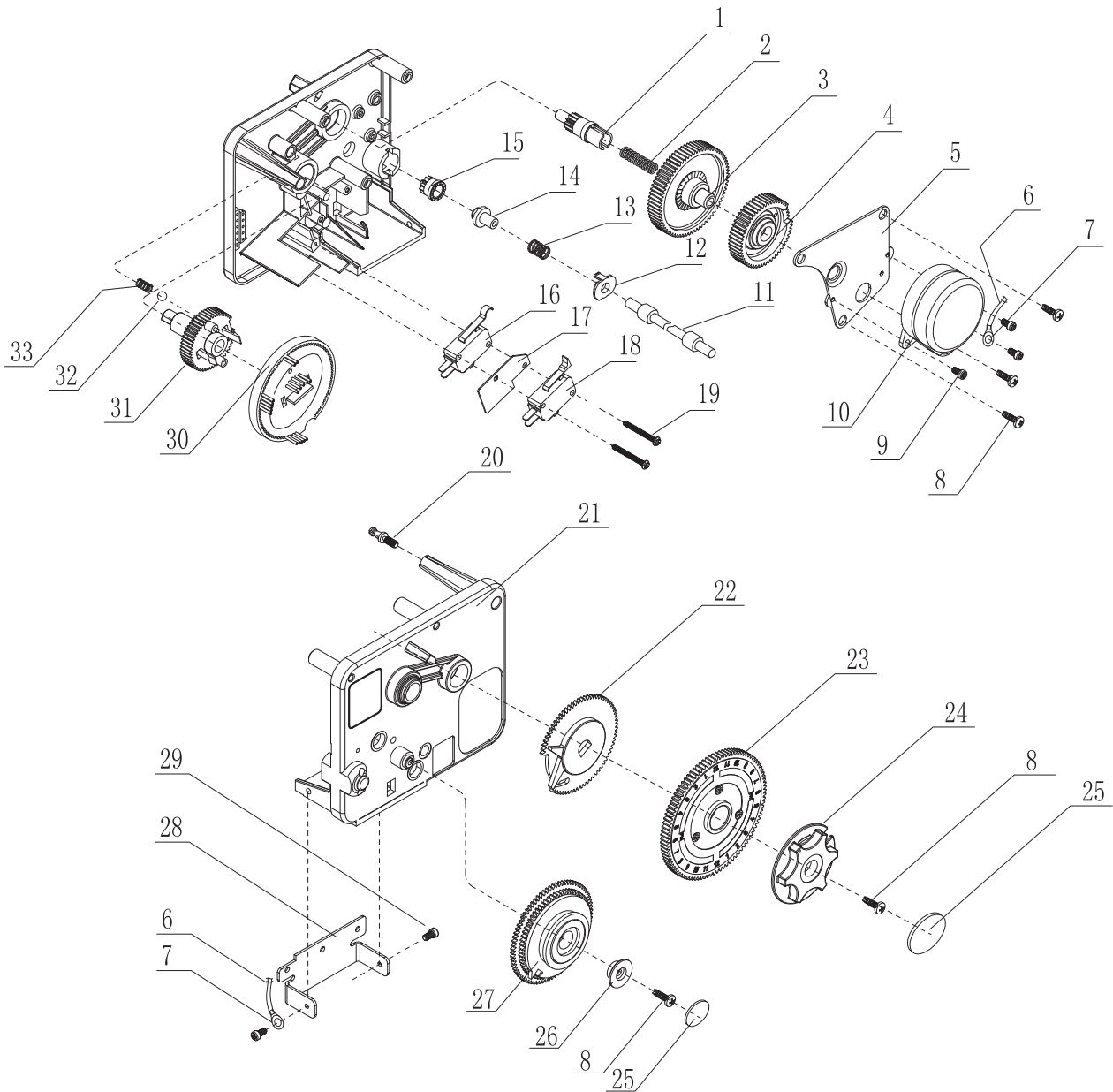
Meter Imm. Timer

Item No.	Quantity	Part No.	Description
1	1	13206	Idler shaft
2	1	13154	Spring
3	1	13205	Idler gear
4	1	13204	Drive gear
5	1	15650	Motor mounting plate
6	1	07057	Wire
7	2	07011	Terminal
8	5	02106	Screw
9	3	02008	Screw
×10	1		Motor
11	1	12271	Soft shaft
12	1	13106	Spring retainer
13	1	13151	Spring
14	1	13110	Clutch
15	1	13111	Drive pinion
16	1	06002	Switch
17	1	06051	Insulator
18	1	33104	Switch assy
19	2	02081	Screw
20	1	13214	Stretch pin
21	1	13212	Timer housing
22	1	13102	Cycle actuator gear
23	1	13215	Knob
24	2	13281	Lable
25	1	13109	Program wheel assy
×26	1	B0004	Flow gear assy
27	1	13250	Hinge bracket
28	2	02004	Screw
29	1	B0003	Program wheel assy
30	1	13101	Main drive gear

×For more options

Timer Assembly

Meter Delay Timer



Timer Assembly

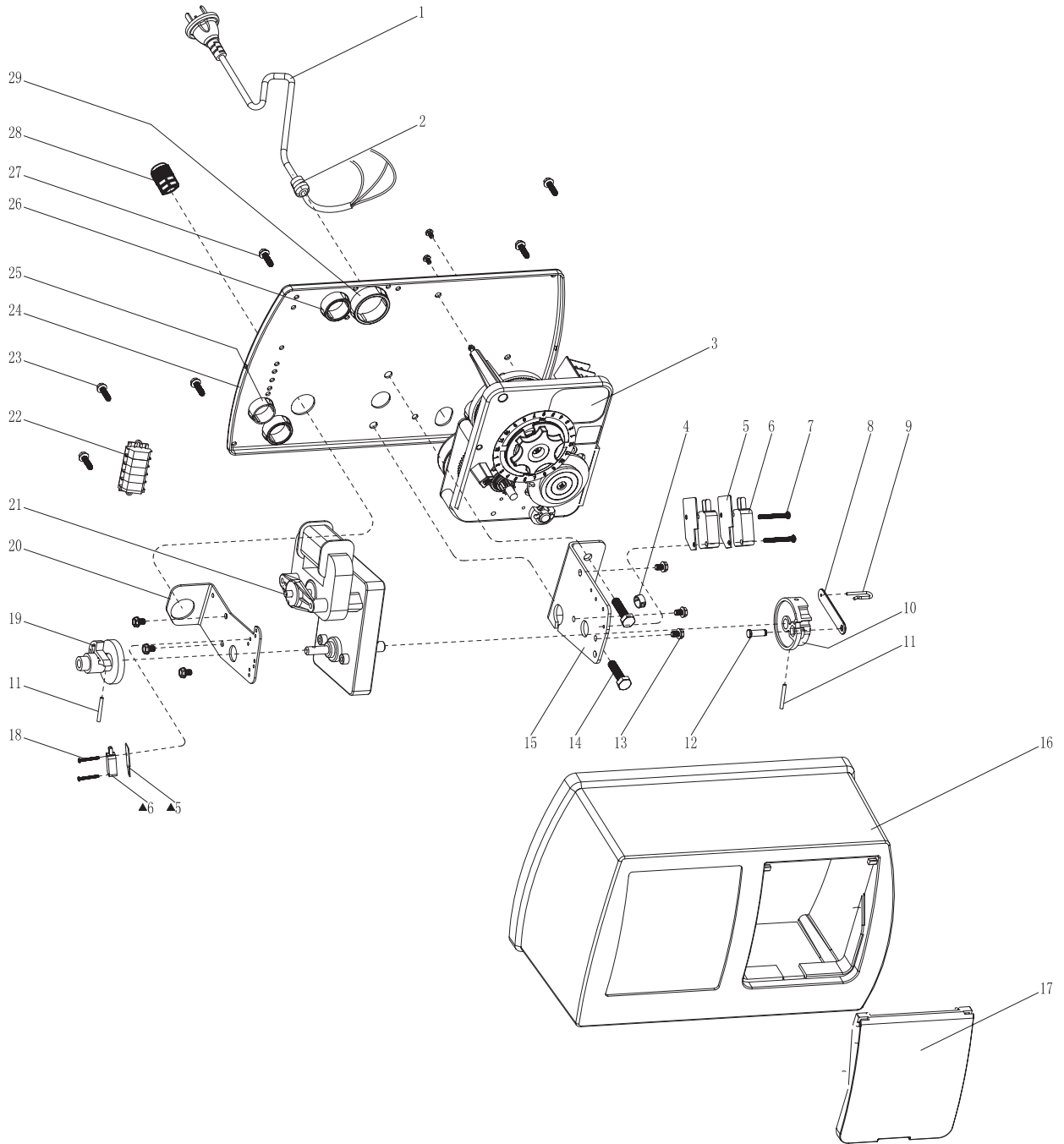
Meter Delay Timer

Item No.	Quantity	Part No.	Description
1	1	13026	Idler shaft
2	1	13253	Spring
3	1	13205	Idler gear
4	1	13204	Drive gear
5	1	15650	Motor mounting plate
6	1	07057	Wire
7	2	07011	Terminal
8	5	02106	Screw
9	3	02008	Screw
×10	1		Motor
11	1	12271	Soft shaft
12	1	13106	Spring retainer
13	1	13151	Spring
14	2	13107	Clutch
15	1	13108	Drive pinion
16	1	06002	Switch
17	1	06051	Insulator
18	1	33104	Switch assy
19	2	02081	Screw
20	1	13214	Stretch pin
21	1	13212	Timer housing
22	1	13102	Cycle actuator gear
×23	1	B0006	Time gear assy
24	1	13215	Knob
25	2	13281	Label
26	1	13109	Program wheel assy
×27	1	B0004	Flow gear assy
28	1	13250	Hinge bracket
29	2	02004	Screw
30	1	B0003	Program wheel assy
31	1	13203	Main drive gear
32	1	09001	Ball
33	1	13252	Spring

×For more options

Control Drive Assembly

F15, F21, F31 upper



Control Drive Assembly

F15, F21, F31 upper

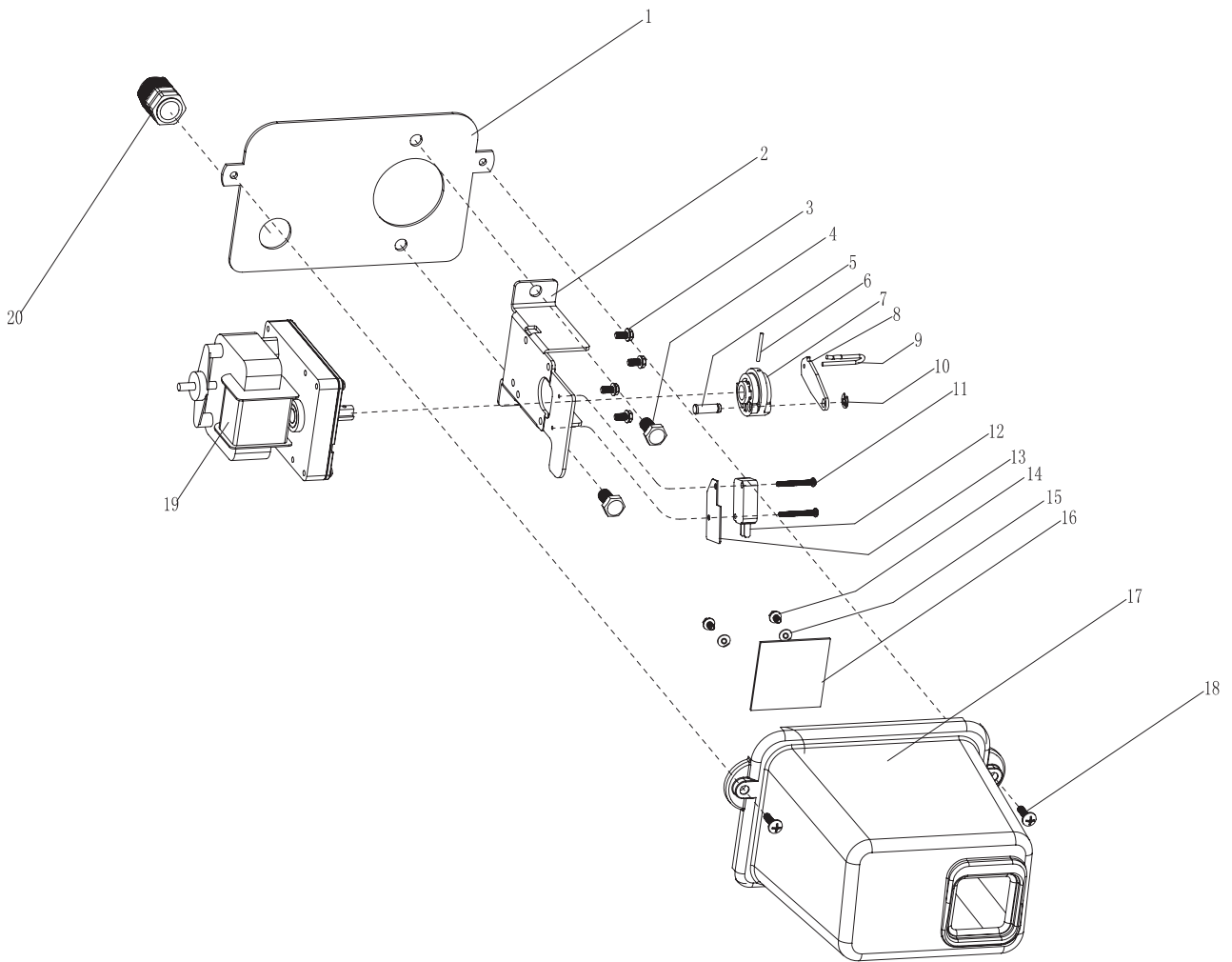
Item No.	Quantity	Part No.	Description
※ 1	1		Power cord
2	1	07003	Strain relief
3	1	13200	Timer 13200
	1	13100	Timer 13100
	1	13100E	Timer 13100E
4	1	07012	Strain relief
5	2	06051	Insulator
▲	1	06051	Insulator
6	2	06003	Switch
▲	1	06003	Switch
7	2	02081	Screw
8	1	10003	Connecting link
9	1	10005	Connecting link pin
10	1	10030	Drive cam
11	2	00103	Pin
12	1	10004	Pin
13	8	02006	Screw
14	2	02056	Screw
15	1	10001	Bracket
16	1	19041	Cover
17	1	19042	Plate cover
▲ 18	2	02054	Screw
19	1	10031	Brine valve cam
20	1	10002	Brine valve bracket
※ 21	1		Motor
▲ 22	1	33106	Terminal assy
▲ 23	2	02106	Screw
24	1	19001	Back plate
25	2	19043	Plate plug(small)
26	2	19044	Plate plug(middle)
27	4	02103	Screw
28	1	19048	Screw cap
29	1	19045	Plate plug(big)

※ For more options

▲ Only for F31

Control Drive Assembly

F31 lower



Control Drive Assembly

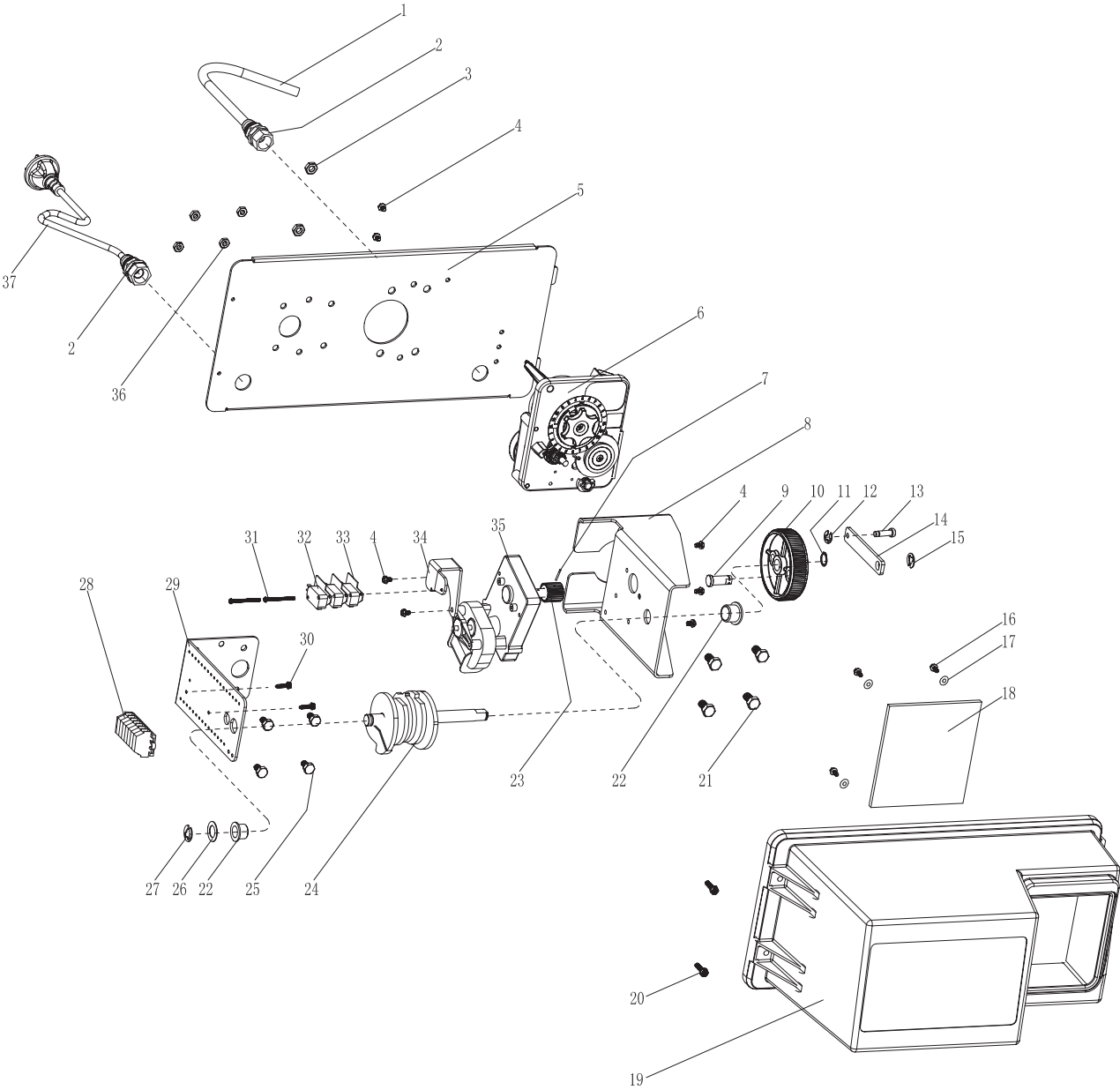
F31 lower

Item No.	Quantity	Part No.	Description
1	1	19102	Back plate
2	1	19101	Bracket
3	4	02006	Screw
4	2	02055	Screw
5	1	29509	Drive bearing
6	1	00103	Roll pin
7	1	29530	Drive cam
8	1	19103	Connecting link
9	1	10020	U-pin
10	1	04051	Retaining ring
11	2	02054	Screw
12	1	06003	Switch
13	1	06051	Insulator
14	2	02104	Screw
15	2	04002	Washer
16	1	29541	Transparent board
17	1	29539	Housing
18	2	02002	Screw
✘ 19	1		Motor
20	1	19048	Lock relief

✘ For more options

Control Drive Assembly

F41、F51、F61 upper



Control Drive Assembly

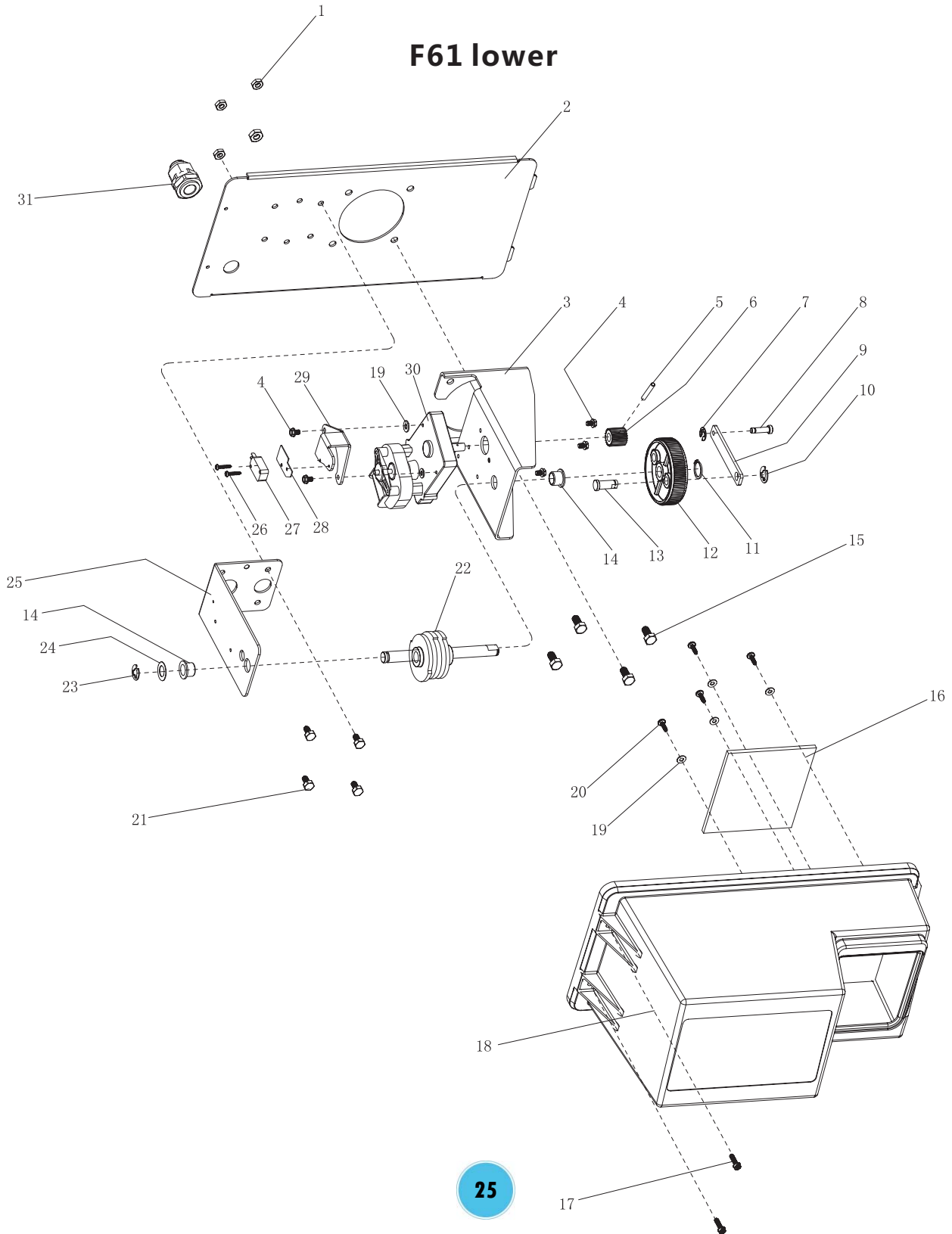
F41、 F51、 F61 upper

Item No.	Quantity	Part No.	Description
1	1	19046	Meter cable guide
2	2	19047	Screw cap
3	2	03005	Nut
4	7	02006	Screw
5	1	10108	Back plate
	1	10108-2	Back plate(F51)
6	1	13200	Timer 13200
	1	13100	Timer 13100
	1	13100E	Timer 13100E
7	1	00102	Roll pin
8	1	10101	Bracket-motor
	1	10101-2	Bracket-motor(F51)
9	1	10106	Drive bearing
10	1	10140	Drive gear
11	1	04071	Retainer ring
12	1	04052	Retainer
13	1	31514	Pin-drive link
14	1	10103	Connecting link
15	1	04056	Retaining ring
16	4	02104	Screw
17	4	04002	Washer
18	1	31549	Look-in
19	1	31545	Housing
20	2	02011	Screw
21	4	02055	Screw
22	2	10143	Bushing
23	1	10142	Drive pinion
24	1	T0002	Cam assembly
25	4	02052	Screw-drive mounting
26	1	04006	Washer
27	1	04055	Retaining ring
▲28	1	33106	Terminal assembly
29	1	10102	Bracket-brine valve side
▲30	2	02106	Screw
31	2	02083	Screw
32	3	06003	Switch
33	2	06051	Insulator
34	1	10104	Bracket switch
※35	1		Motor
36	4	03004	Nut
※37	1		Power cord

※For more options

▲Only for F61

Control Drive Assembly



Control Drive Assembly

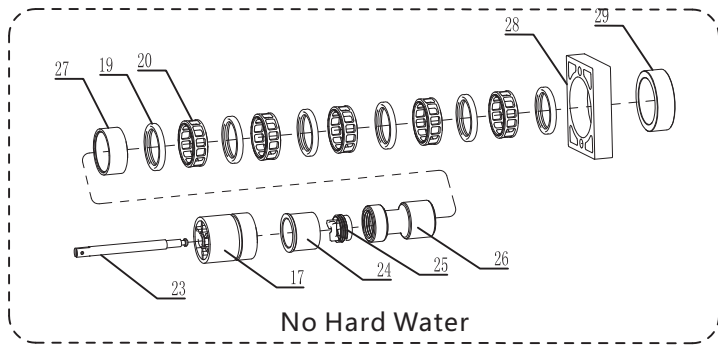
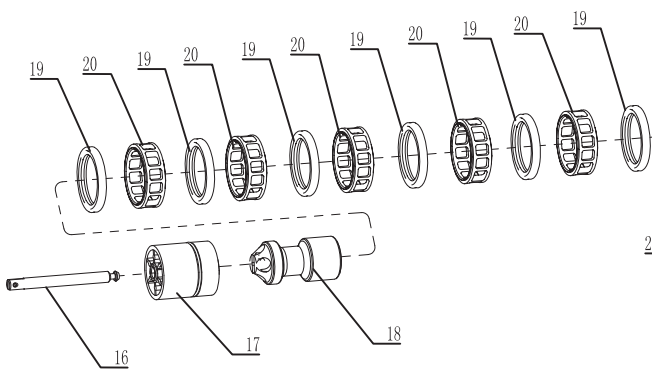
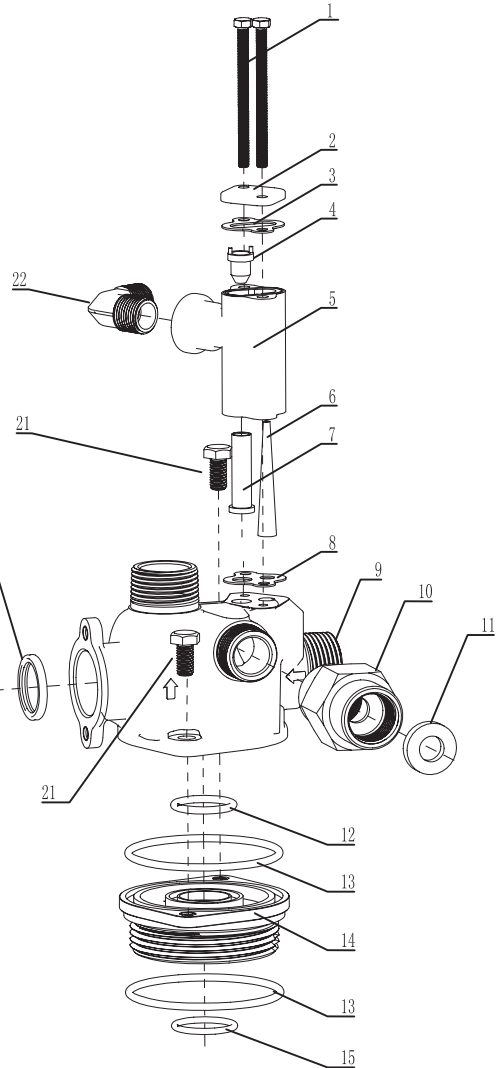
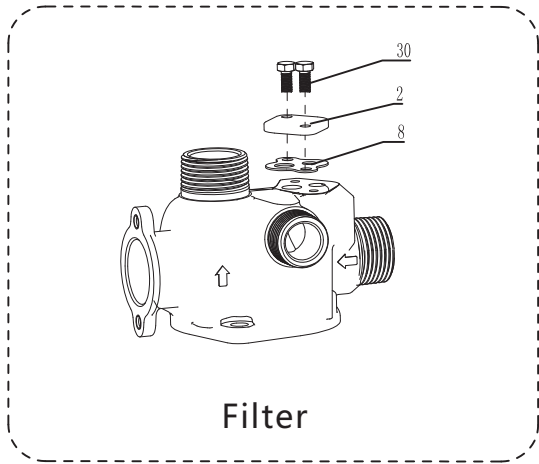
F61 lower

Item No.	Quantity	Part No.	Description
1	4	03004	Nut
2	1	10108-1	Back cover board
3	1	10101-1	Bracket
4	5	02006	Screw
5	1	00102	Pin
6	1	10142	Pinion, drive
7	1	04052	Ring, retaining
8	1	31514	Pin, drive link
9	1	10103	Link, drive
10	1	04056	Ring, retaining
11	1	04071	Ring, retaining
12	1	10140	Drive gear
13	1	10106	Bearing, drive link
14	2	10143	Bushing
15	4	02055	Bolt
16	1	31549	Window
17	2	02011	Screw
18	1	31545	Cover
19	6	04002	Washer
20	4	02104	Screw
21	4	02052	Bolt
22	1	T0001	Drive cam assembly
23	1	04055	Ring, retaining
24	1	04006	Washer
25	1	10102	Bracket, brine side
26	2	02084	Screw
27	1	06003	Switch
28	1	06051	Insulator
29	1	10104	Bracket, switch mounting
✘ 30	1		Motor
31	1	19047	Screw cap

✘ For more options

Valve Body Assembly

F15



Valve Body Assembly

F15

Item No.	Quantity	Part No.	Description
1	2	02051	Screw
2	1	17056	Injector cover
3	1	17031	Injector cover gasket
✕ 4	1		Injector nozzle
5	1	17051	Injector
6	1	17059	Injector screen
✕ 7	1		Injector throat
8	1	17030	Injector body gasket
9	1	29503-2	Vice-valve body
10	1	29511	Drain connector
✕ 11	1		DLFC
12	1	01024	O-ring
13	2	01025	O-ring
14	1	27501	Adapter base
15	1	01102	O-ring
16	1	29508-1	Piston rod
17	1	66125	Vice-end plug assy
18	1	29507-1	Vice-piston
19	6	29561	Vice-seal
20	5	29535	Vice-spacer
21	2	02055	Bolt
22	1	17052	Brine valve connecto
23	1	27506-1	Piston rod
24	1	66126	Bypass piston assembly
25	1	56115	Piston retainer
26	1	27504-1	Piston
27	1	27503	Bypass spacer
28	1	19040	Spacer
29	1	27502	Spacer
30	2	02082	Bolt

✕ For more options

Valve Body Assembly

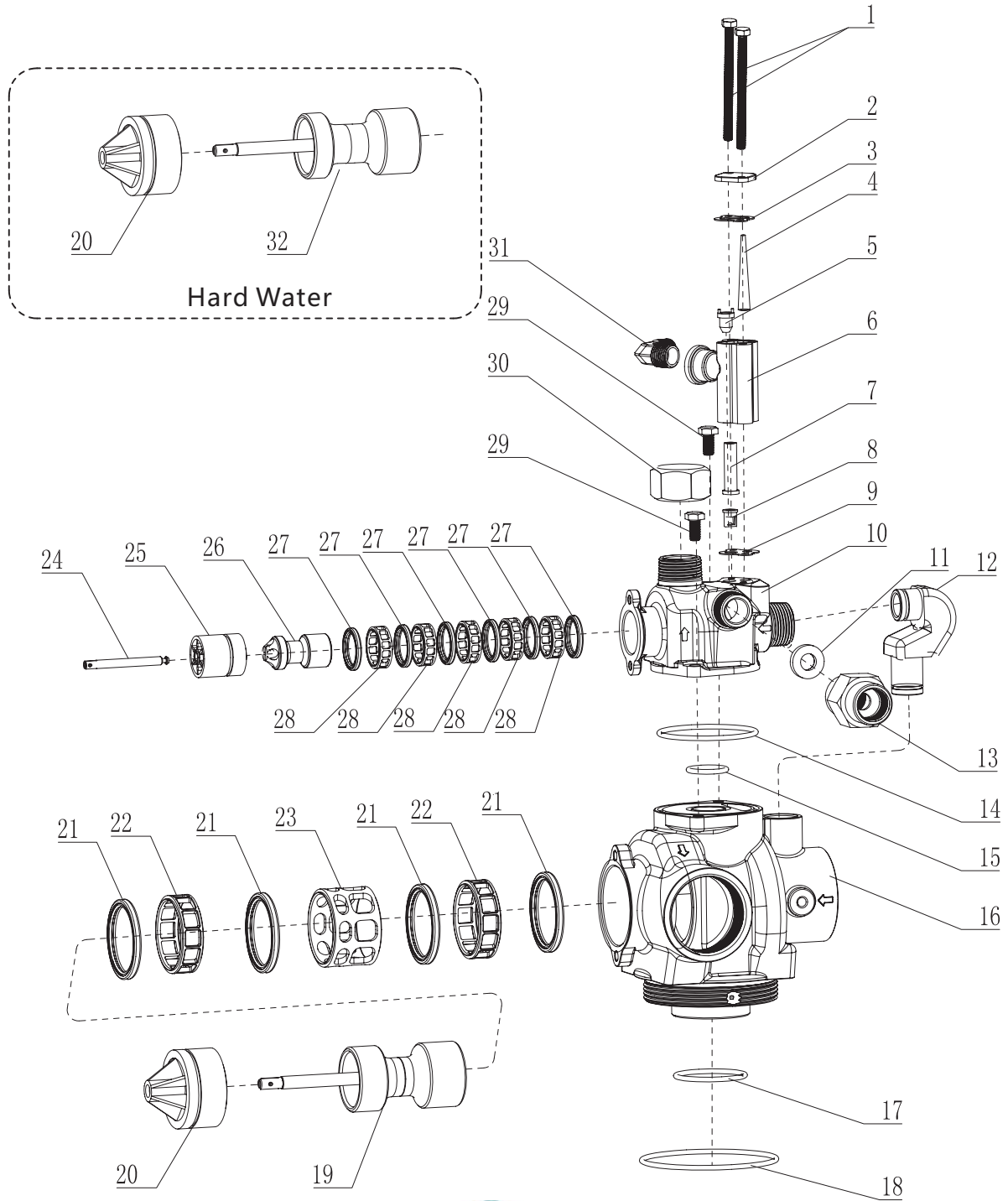
F21

Item No.	Quantity	Part No.	Description
1	1	19040	Spacer
2	1	28554-1	Piston rod
3	1	66121	End-plug assembly
4	1	28552-1	Piston
5	6	28555	Spacer
6	6	28530	Seal
7	1	28550	Valve body
✘ 8	1		DLFC
9	1	28556	Drain connector
10	1	17052	Brine valve connector
✘ 11	1		Nozzle
12	2	02051	Bolt
13	1	17056	Injector cover
14	1	17031	Injector cover gasket
15	1	17059	Injector screen
16	1	17051	Injector
✘ 17	1		Throat
18	2	02053	Bolt
19	1	17003	Air disperser
20	1	17030	Injector body gasket
21	1	28531	Seal
22	1	28551	Adapter base
23	1	01104	O-ring
24	1	01012	O-ring
25	2	02082	Bolt
26	1	28557-1	Filter piston
27	1	66123	No hard water bypass piston assy

✘ For more options

Valve Body Assembly

F31



Valve Body Assembly

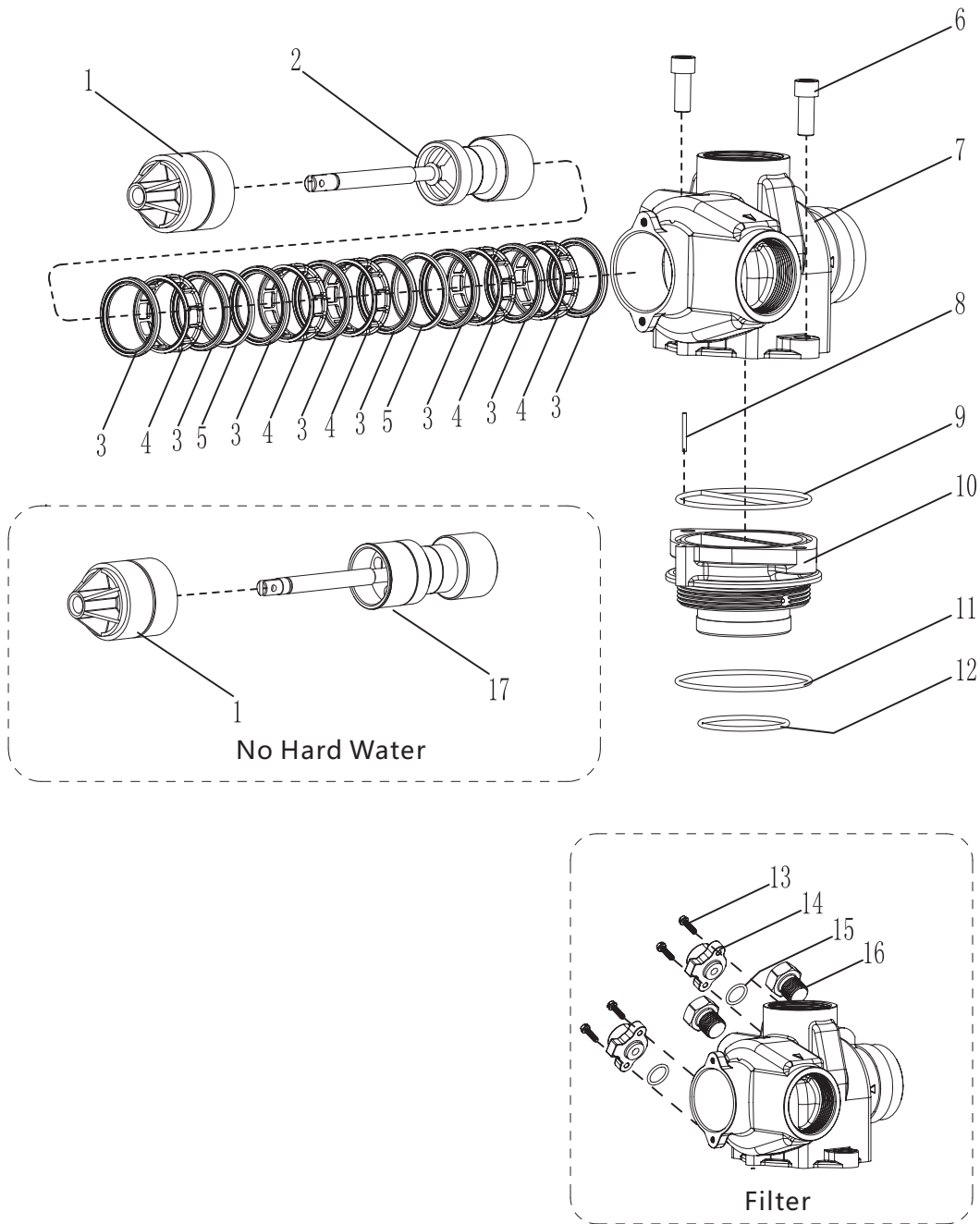
F31

Item No.	Quantity	Part No.	Description
1	2	02051	Screw
2	1	17056	Injector cover
3	1	17031	Injector cover gasket
4	1	17059	Screen
✕ 5	1		Nozzle
6	1	17051	Injector
✕ 7	1		Throat
8	1	17003	Air disperser
9	1	17030	Injector body gasket
10	1	29503-1	Vice-valve body
✕ 11	1		DLFC
12	1	29502	Coupling
13	1	29511	Drainage connector
14	1	01025	O-ring
15	1	01024	O-ring
16	1	29501	Valve body
17	1	01012	O-ring
18	1	01104	O-ring
19	1	J 1007	Piston assembly
20	1	66127	End plug
21	4	29560	Seal
22	2	29533	Spacer
23	1	29532	Spacer
24	1	29508-1	Vice piston rod
25	1	66125	Vice end-plug assembly
26	1	29507-1	Vice piston
27	6	29561	Seal
28	5	29535	Spacer
29	2	02055	Bolt
30	1	29504	Cap
31	1	17052	Brine valve connector
32	1	J1008	Piston assembly

✕For more options

Valve Body Assembly

F41



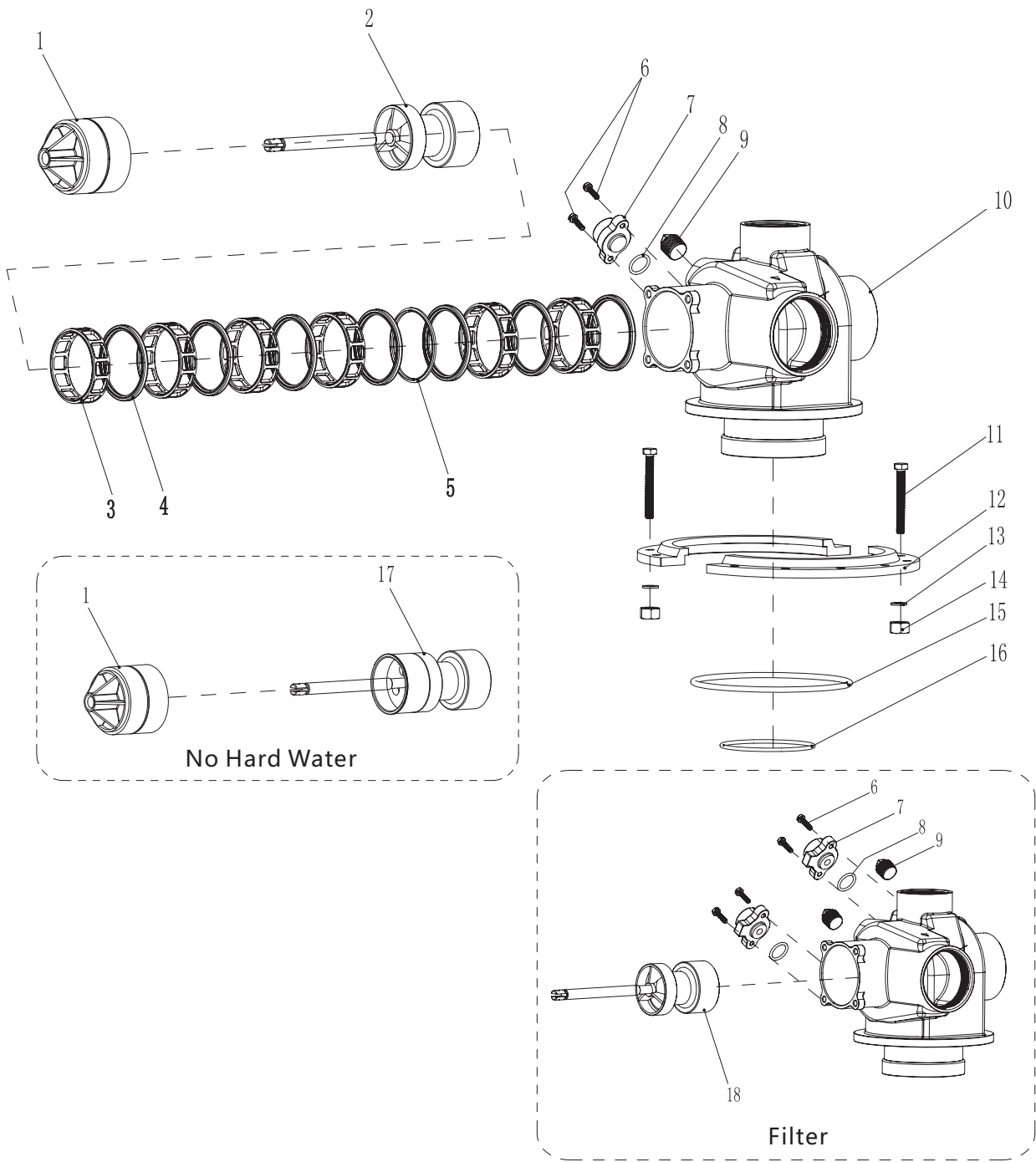
Valve Body Assembly

F41

Item No.	Quantity	Part No.	Description
1	1	66129	End plug assembly
2	1	K1008	Piston assembly
3	8	29560	Seal
4	5	29533	Spacer
5	2	31542	Spacer, narrow
6	2	02057	Screw
7	1	31501-1	Valve body
8	1	00108	Straight pin
9	1	28531	Seal
10	1	31502	Adapter
11	1	01012	O-ring
12	1	01033	O-ring
13	4	02002	Screw
14	2	31506	Cover
15	2	01030	O-ring
16	2	31509	Nut
17	1	K1007	No hard water piston assembly

Valve Body Assembly

F51



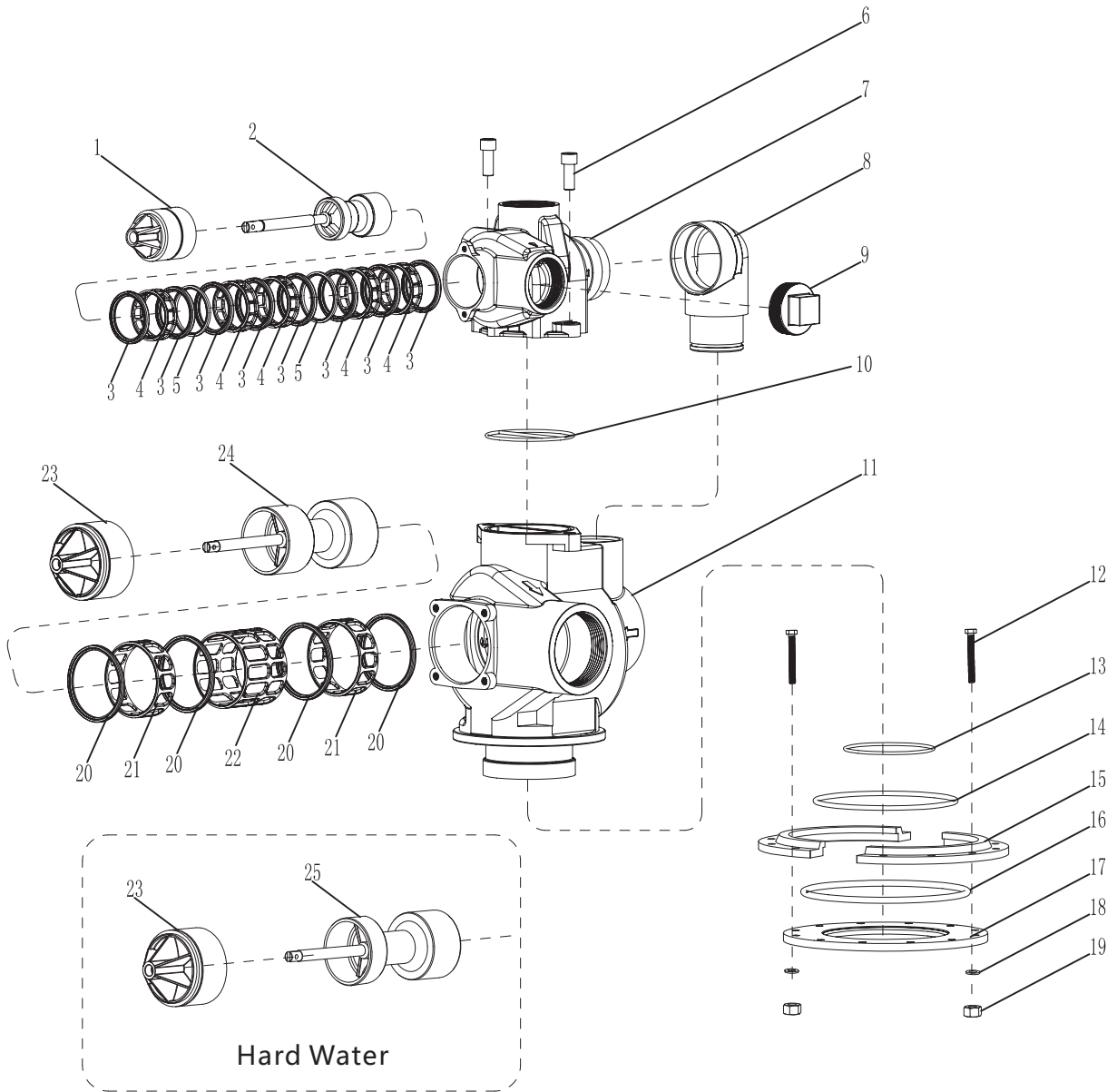
Valve Body Assembly

F51

Item No.	Quantity	Part No.	Description
1	1	P2001	End plug assembly
2	1	P1001	Piston assembly
3	6	38530	Spacer
4	7	38560	Seal
5	1	38531	Spacer, narrow
6	2	02002	Screw
7	1-2	31506	Cover
8	1-2	01030	O-ring
9	1-2	31509	Nut
10	1	38501-1	Valve body
11	12	02059	Bolt
12	2	39504	Flange segment
13	12	04007	Washer
14	12	03005	Nut
15	1	01043	O-ring
16	1	01042	O-ring
17	1	P1002	No hard water piston assembly
18	1	P1003	Filter piston

Valve Body Assembly

F61



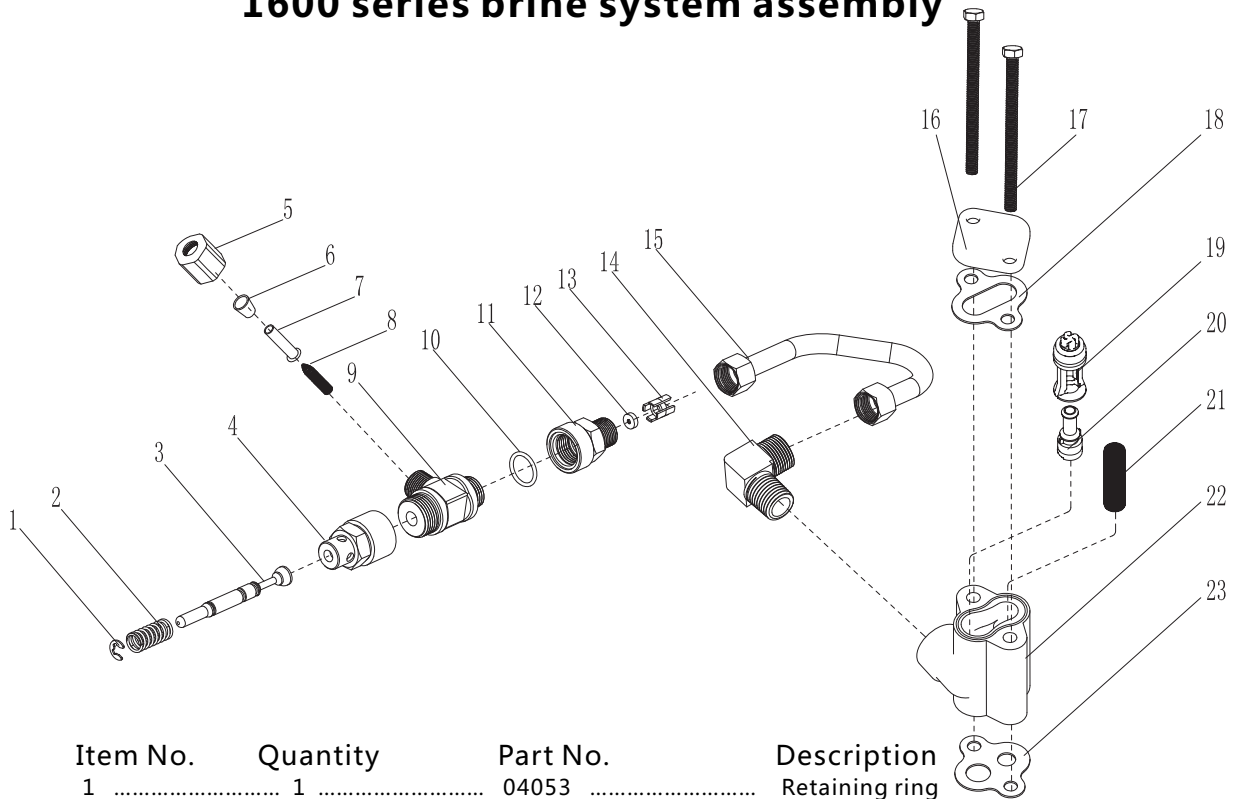
Valve Body Assembly

F61

Item No.	Quantity	Part No.	Description
1	1	66129	End plug assembly
2	1	K1008	Piston assembly
3	8	29560	Seal
4	5	29533	Spacer
5	2	31542	Spacer,narrow
6	2	02057	Screw
7	1	31501-1	Valve body
8	1	66130	Coupling assembly
9	1	39506	Slug
10	1	28531	Seal
11	1	39501-1	Valve body
12	12	02059	Bolt
13	1	01042	O-ring
14	1	01037	O-ring
15	2	39504	Flange segment
16	1	01036	O-ring
17	1	39503-1	Flange ring
18	12	04007	Washer
19	12	03005	Nut
20	4	39560	Seal
21	2	39531	Spacer
22	1	39530	Spacer
23	1	66131	End plug assembly
24	1	T1001	Piston assembly
25	1	T1005	Piston assembly

Brine System Assembly

1600 series brine system assembly

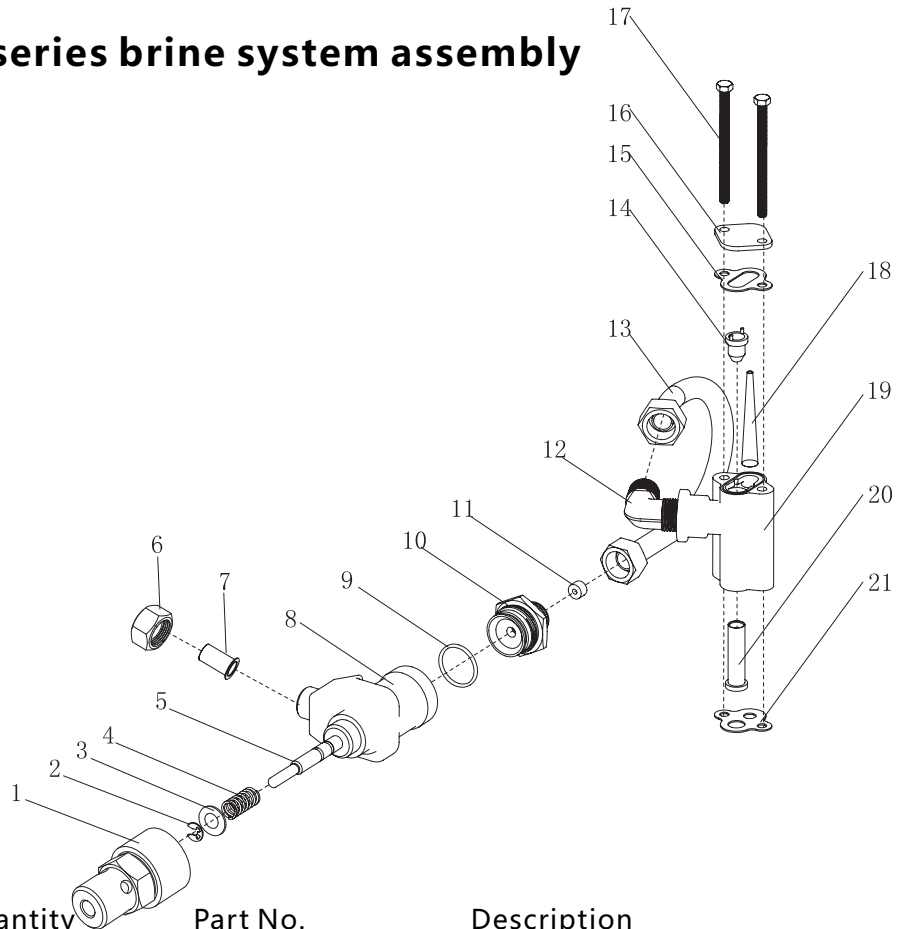


Item No.	Quantity	Part No.	Description
1	1	04053	Retaining ring
2	1	16080	Spring
3	1	66122	Brine stem assembly
4	1	16053	Stem guide
5	1	56061	B.L.F.C Fitting Nut
6	1	56023	B.L.F.C Ferrule
7	1	56062	B.L.F.C Tube Insert
8	1	56060	Screen, Brine Line
9	1	16051	Brine valve body
10	1	01004	O-ring
11	1	16054	End plug, brine valve
※12	1		BLFC button
13	1	56015	Brine dispenser
14	1	16050	Fitting, Elbow
15	1	66124	Brine tube
16	1	17056	Injector cover
17	2	02060	Screw
18	1	17031	Injector cover gasket
※19	1		Injector nozzle
※20	1		Injector throat
21	1	56059	Screen
22	1	16001	Injector body
23	1	17030	Injector body gasket

※For more options

Brine System Assembly

1700 series brine system assembly

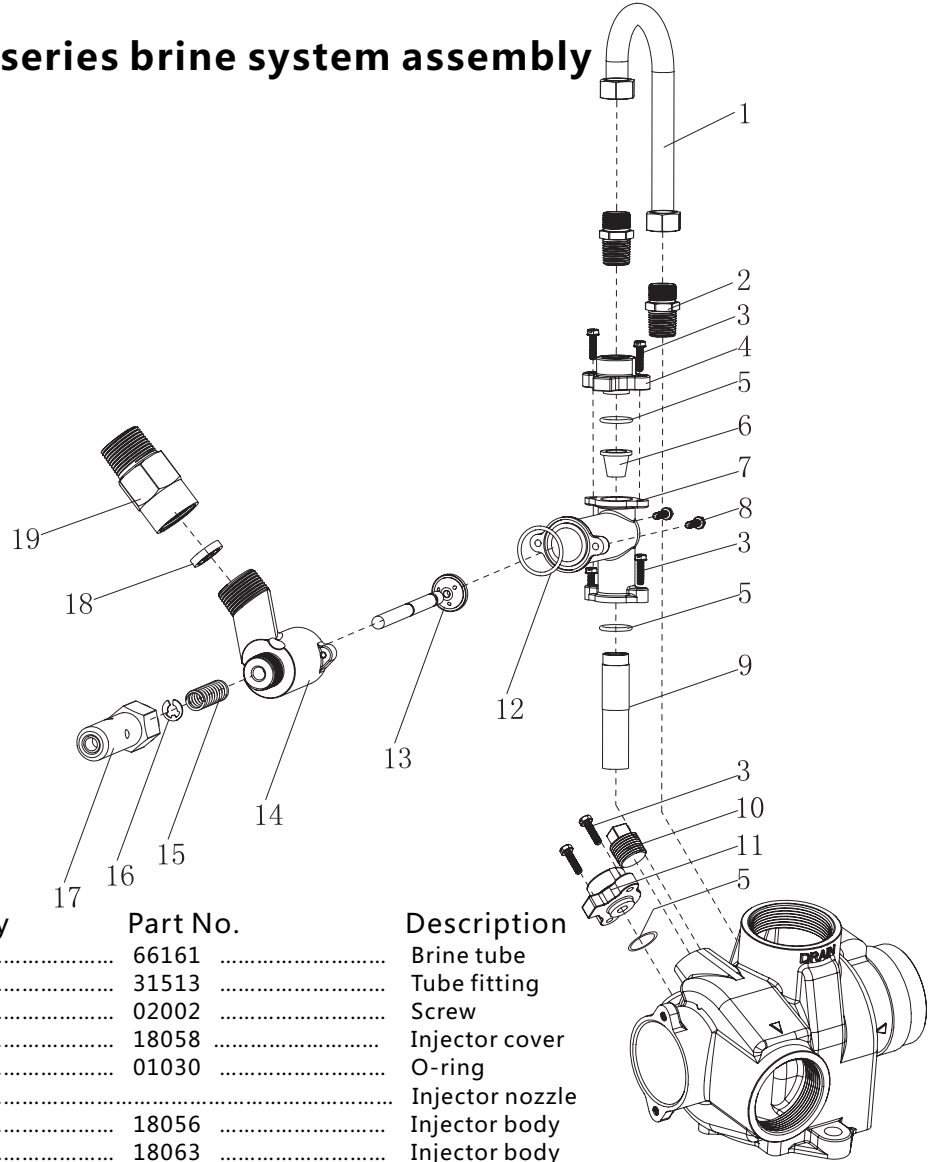


Item No.	Quantity	Part No.	Description
1	1	66164	brine valve cap assembly
2	1	04052	Retaining ring
3	1	04003	Washer
4	1	17058	Spring
5	1	66128	Brine stem assembly
6	1	66175	B.L.F.C Fitting Nut
7	1	17061	B.L.F.C Tube Insert
8	1	17053	Brine valve body
9	1	01081	O-ring
10	1	17055	End plug, brine valve
✳11	1		BLFC button
12	1	17052	Fitting, Elbow
13	1	66160	Brine tube
✳14	1		Injector nozzle
15	1	17031	Injector cover gasket
16	1	17056	Injector cover
17	2	02051	Screw
18	1	17059	Screen
19	1	17051	Injector body
✳20	1		Injector throat
21	1	17030	Injector body gasket

✳For more options

Brine System Assembly

1800 series brine system assembly



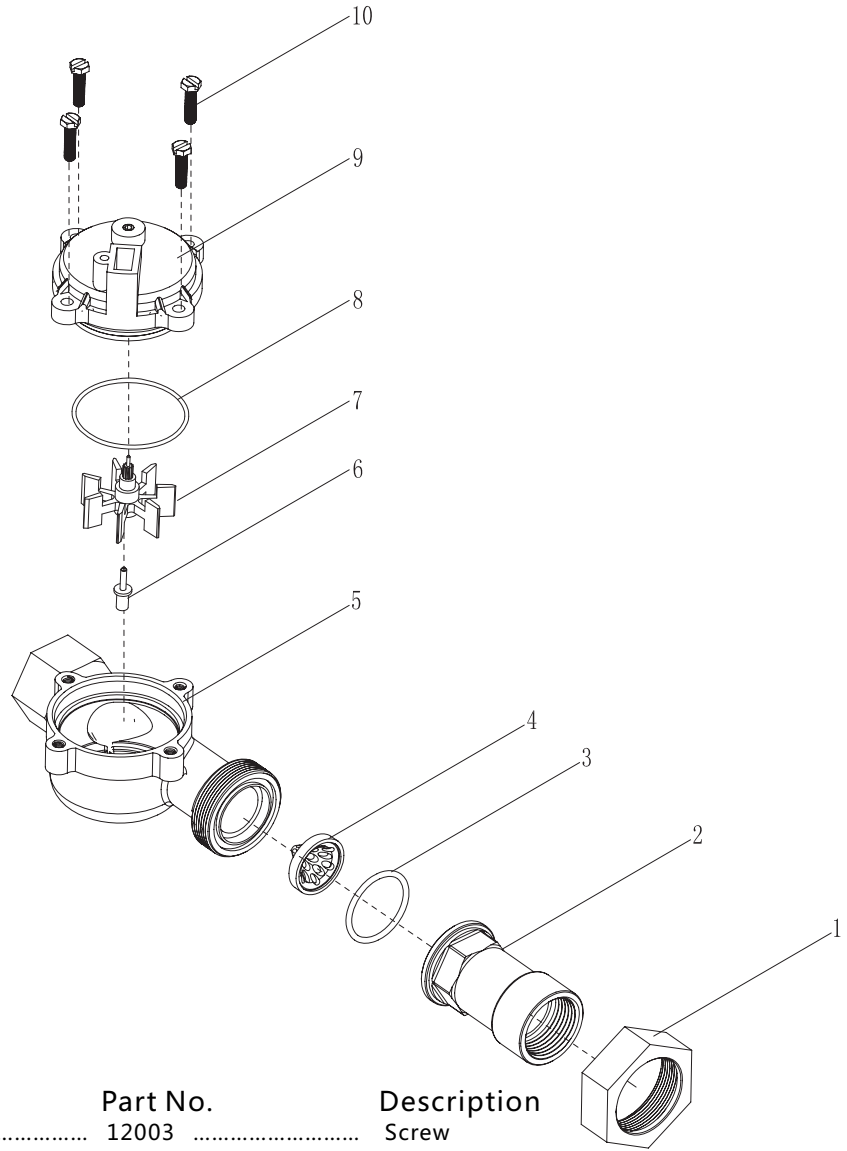
Item No.	Quantity	Part No.	Description
1	1	66161	Brine tube
2	2	31513	Tube fitting
3	6	02002	Screw
4	1	18058	Injector cover
5	2	01030	O-ring
※ 6	1		Injector nozzle
7	1	18056	Injector body
▲ 8	1	18063	Injector body
8	2	02011	Screw
※ 9	1		Injector throat
10	1	31509	Nut
11	1	31506	Cover
12	1	01031	O-ring
13	1	K1006	Brine stem assembly
14	1	18057	Brine valve body
15	1	18051	Spring
16	1	04056	Retaining ring
17	1	66163	Stem guide assembly
※ 18	1		BLFC button
19	1	18059	Brine fitting

※ For more options

▲ Only for F51

Meter Assembly

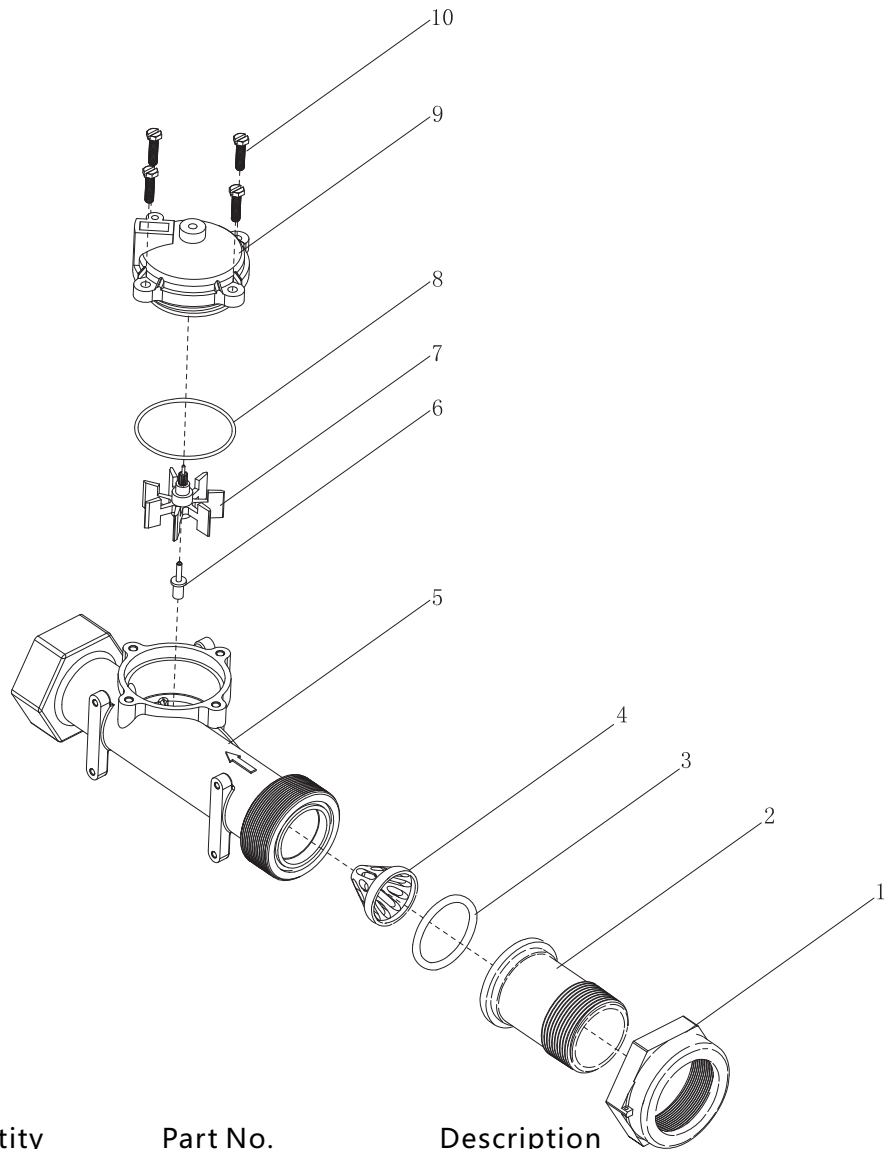
1" meter assembly



Item No.	Quantity	Part No.	Description
1	1	12003	Screw
2	1	12002	Tube
3	1	01031	O-ring
4	1	56013	Flow straightener
5	1	12001	Body
6	1	12101	Impeller spindle
7	1	12204A	Impeller assembly
8	1	01014	O-ring
9	1	1220D	Meter cover assembly
10	4	02082	Screw

Meter Assembly

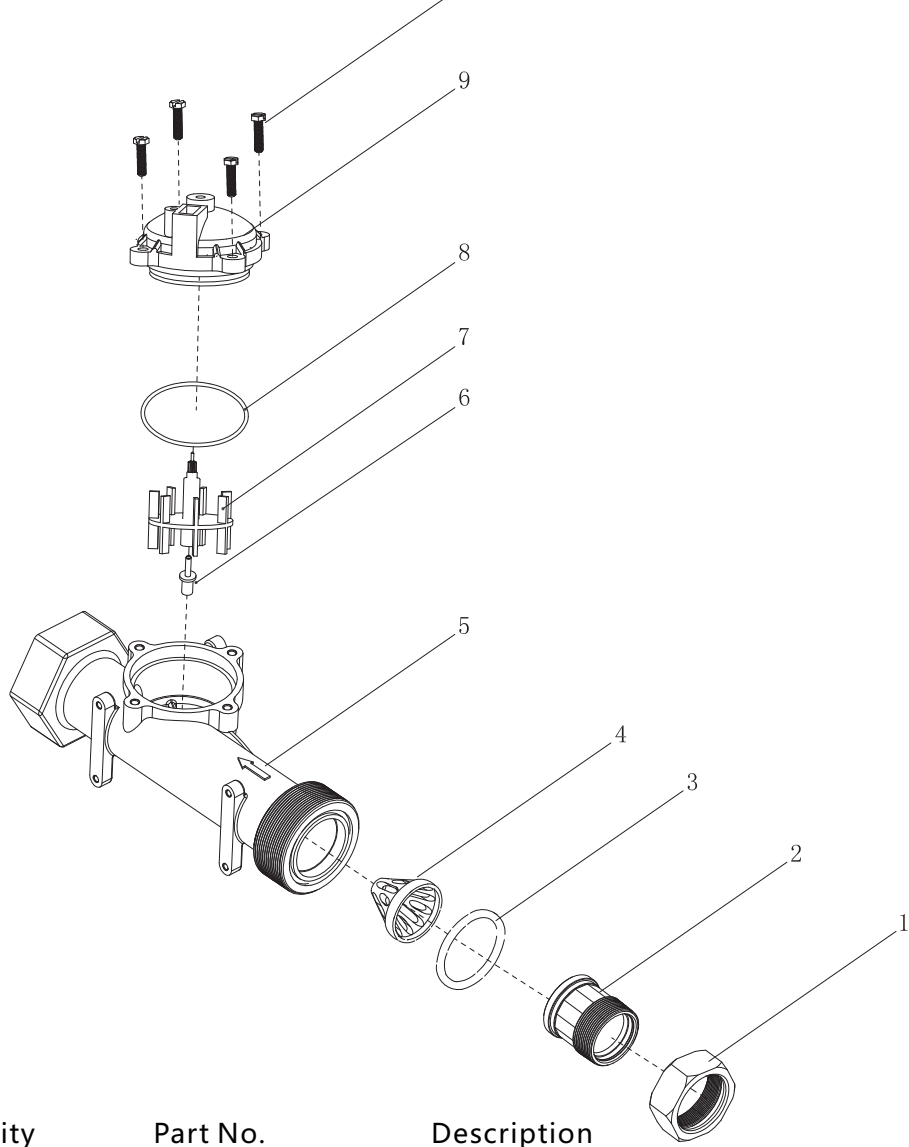
1.5'' meter assembly



Item No.	Quantity	Part No.	Description
1	1	12122	Screw
2	1	12121	Tube
3	1	01008	O-ring
4	1	17004	Flow straightener
5	1	12120	Body
6	1	12101	Impeller spindle
7	1	12204A	Impeller assembly
8	1	01014	O-ring
9	1	1220D	Meter cover assembly
10	4	02082	Screw

Meter Assembly

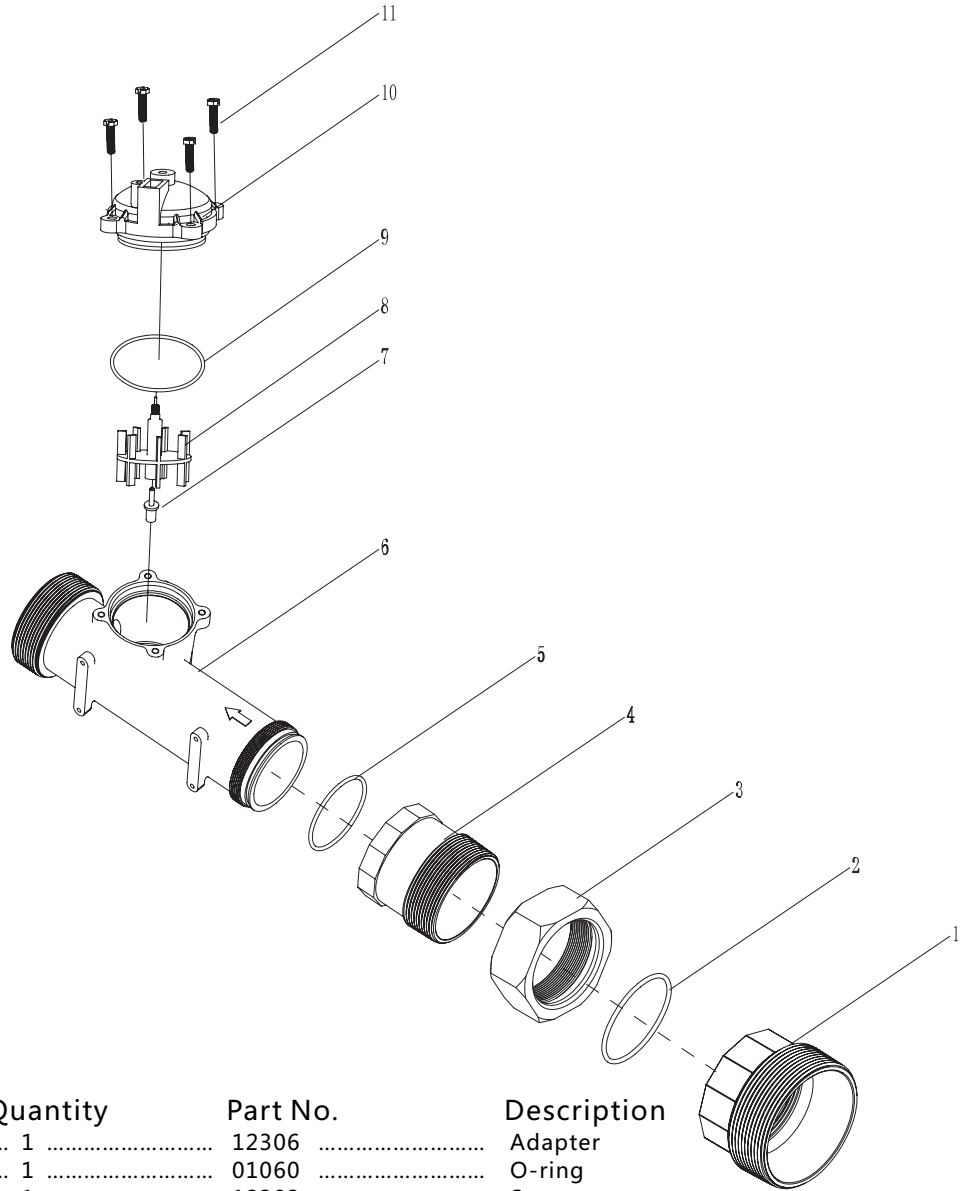
2" meter assembly 10



Item No.	Quantity	Part No.	Description
1	1	12303	Screw
2	1	12302	Tube
3	1	01032	O-ring
4	1	12330	Flow straightener
5	1	12301	Body
6	1	12101	Impeller spindle
7	1	12331	Impeller assembly
8	1	01014	O-ring
9	1	1220D	Meter cover assembly
10	4	02082	Screw

Meter Assembly

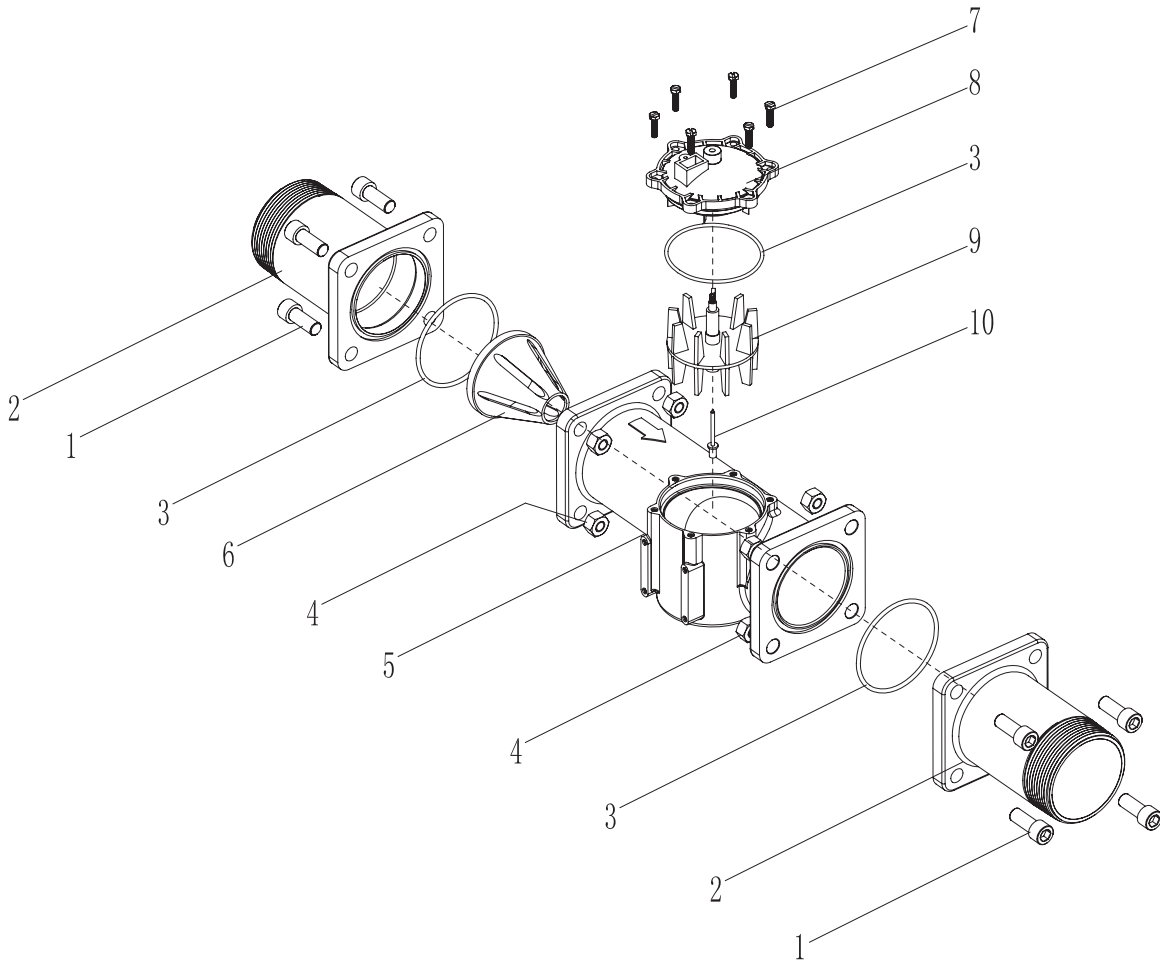
2.5'' meter assembly



Item No.	Quantity	Part No.	Description
1	1	12306	Adapter
2	1	01060	O-ring
3	1	12303	Screw
4	1	12304	Tube
5	1	01061	O-ring
6	1	12305	Body
7	1	12101	Impeller spindle
8	1	12331	Impeller assembly
9	1	01014	O-ring
10	1	1220D	Meter cover assembly
11	4	02082	Screw

Meter Assembly

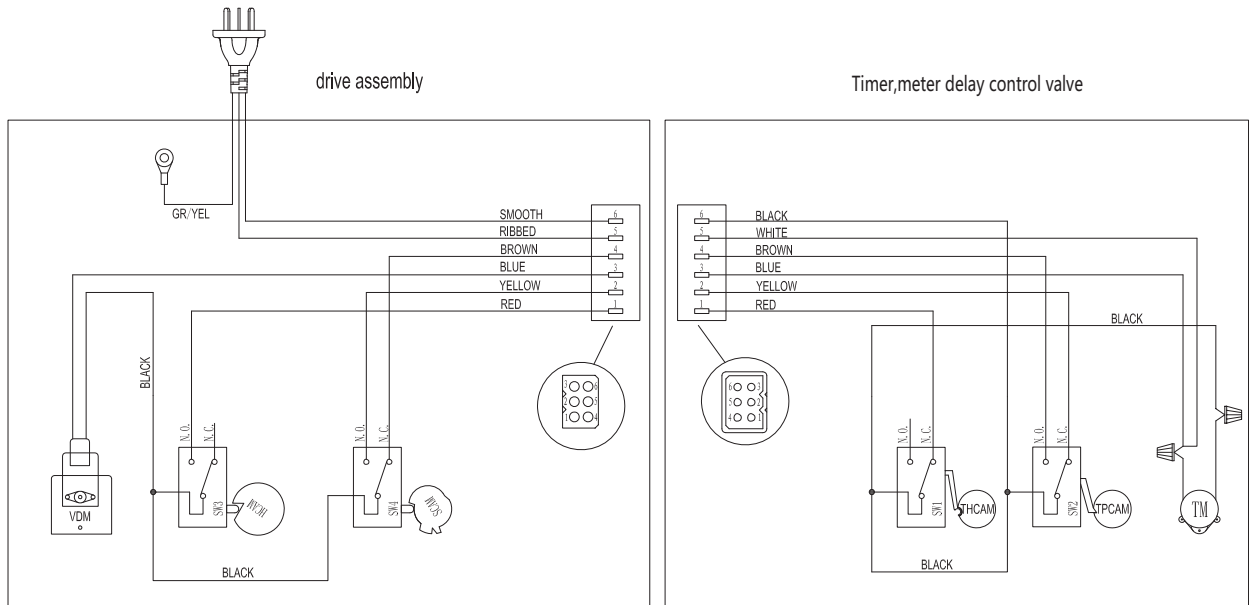
3" meter assembly



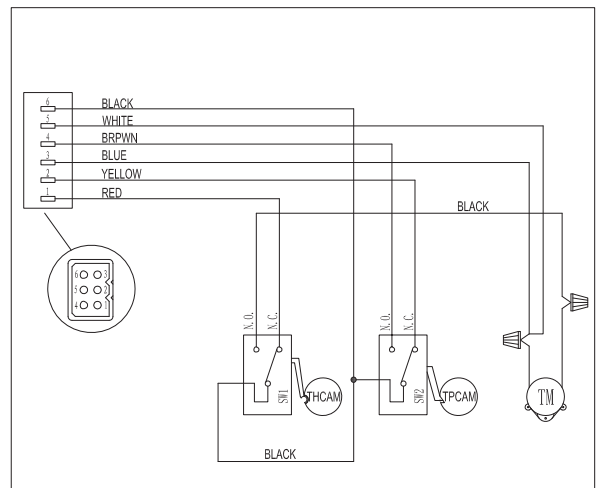
Item No.	Quantity	Part No.	Description
1	8	02058	Screw
2	2	12402	Connecting flange
3	3	01041	O-ring
4	8	03006	Screw
5	1	12401	Body
6	1	12404	Flow straightener
7	6	02082	Screw
8	1	1220G	Meter cover assembly
9	1	12405	Impeller assembly
10	1	12408	Impeller spindle

Wiring Diagram

F15/21



Meter Imm. control valve



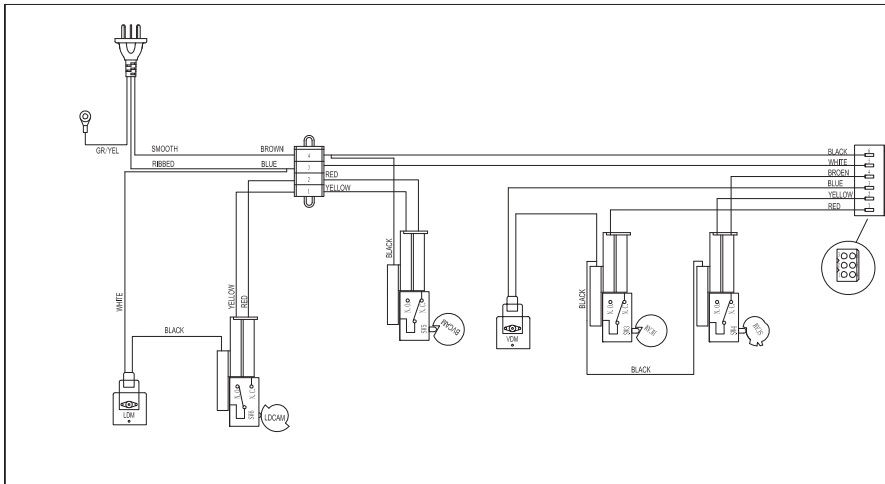
TM-Time Motor
VDM-Valve Drive Motor

SW1-Timer Homing Switch
SW2-Timer Program Switch
SW3-Valve Homing Switch
SW4-Valve Step Switch

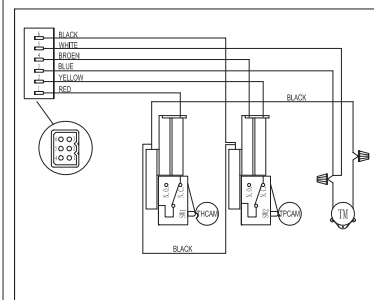
TPCAM-Timer Program Cam
THCAM-Timer Homing Cam
SCAM-Valve Step Cam
HCAM-Valve Homing Cam

Wiring Diagram

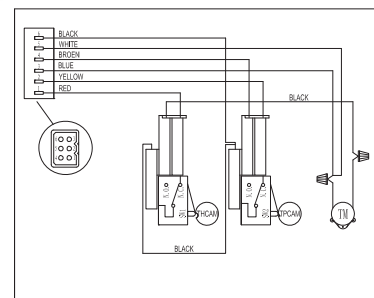
F31



Timer, meter delay control valve



Meter Imm. control valve



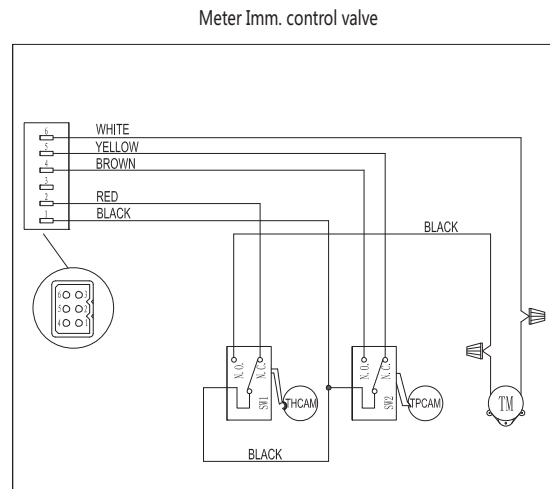
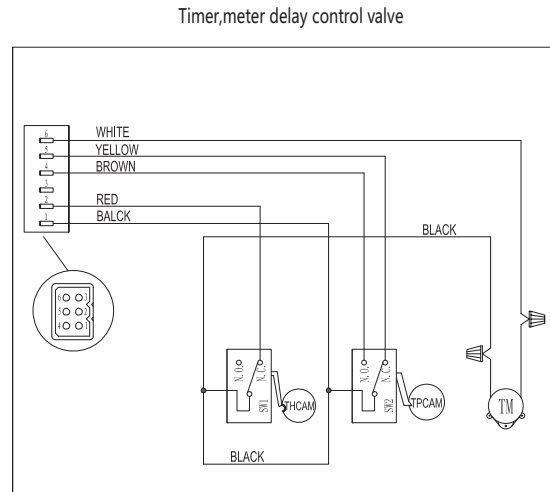
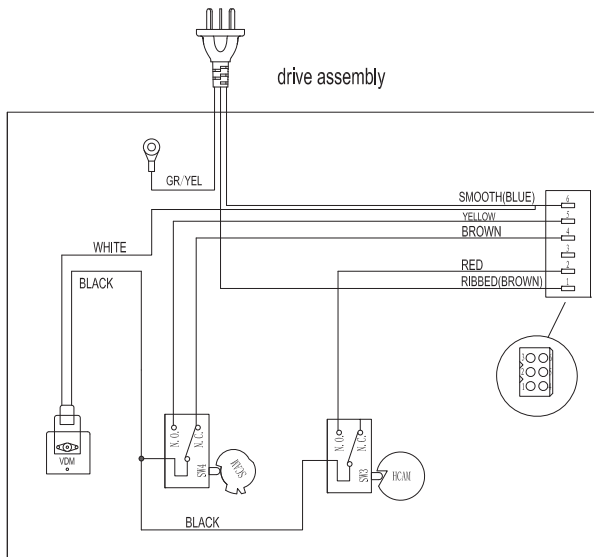
TM-Time Motor
 VDM-Valve Drive Motor
 LDM-Lower Drive Motor

SW1-Timer Homing Switch
 SW2-Timer Program Switch
 SW3-Valve Homing Switch
 SW4-Valve Step Switch
 SW5-Brine Cam Switch
 SW6-Lower Drive Switch

TPCAM- Timer Program Cam
 THCAM-Timer Homing Cam
 SCAM-Valve Step Cam
 BVCAM-Brine Valve Cam
 LDCAM-Lower Drive Cam

Wiring Diagram

F41/F51



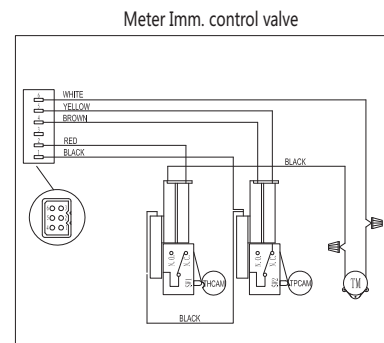
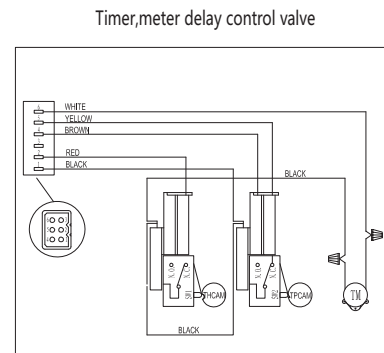
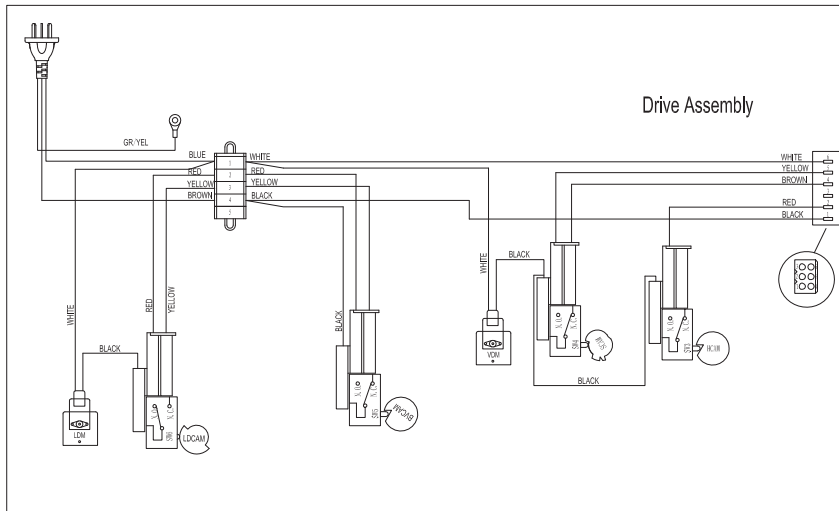
TM-Time Motor
VDM-Valve Drive Motor

SW1-Timer Homing Switch
SW2-Timer Program Switch
SW3-Valve Homing Switch
SW4-Valve Step Switch

TPCAM- Timer Program Cam
THCAM-Timer Homing Cam
SCAM-Valve Step Cam
HCAM-Valve Homing Cam

Wiring Diagram

F61



TM-Time Motor
 VDM-Valve Drive Motor
 LDM-Lower Drive Motor

SW1-Timer Homing Switch
 SW2-Timer Program Switch
 SW3-Valve Homing Switch
 SW4-Valve Step Switch
 SW5-Brine Cam Switch
 SW6-Lower Drive Switch

TPCAM- Timer Program Cam
 THCAM-Timer Homing Cam
 SCAM-Valve Step Cam
 BVCAM-Brine Valve Cam
 HCAM-Valve Homing Cam

Trouble Shooting

Problem	Cause	Correction
1. The control fails to Regenerate automatically	A. Disconnected meter cable. B. Transformer damaged. C. Electronic controller or sensor damaged.	A. Reconnect the meter cable. B. Replace the transformer. C. Replace or repair.
2. Regeneration at wrong Time	A. Timer improperly set, due to power failure.	A. Reset timer.
3. loss of capacity	A. Increased raw water hardness B. Brine concentration or quantity. C. Rinse fouling. D. Poor distribution, channeling (Uneven bed service). E. Internal control leak. F. Ageing of rinse. G. Loss of rinse.	A. reset unit to the new capacity. B. Keep brine tank full of salt at all times. Clean it yearly. Salt may be bridged. If using a salt grid Plate insure refill water is over it. C. Consolidate the rinse tank, clean the rinse and prevent future fouling.. D. check distributors and back wash flow E. Replace the spacer, seal or piston F. Check for resin oxidation caused by Chlorine. Mushy resin. G. check for correct bed depth. Broken distributors. Air or gas in bed: Well gas Eliminator loose brine line.
4. Poor water quality	A. Check items listed in 3. B. Bypass is open. C. Channeling.	B. Close the bypass C. Check for too slow or high service flow.
5. Excessive salt use	A. High salt setting. B. Excessive water in brine tank.	A. adjust salt setting B. refer to problem 7 tank.
6. Loss of water pressure	A. Fouling of inlet pipe. B. Fouled resin. C. Improper backwash.	A. Clean or replace the pipe line B. Clean the resin. Pretreat to prevent. C. Too many resin fines. Reset the flow Rate and time of back wash.
7. excessive water in brine tank	A. Plugged drain line. B. Brine valve plugged or damaged. C. Injector plugged. D. Low inlet water pressure.	A. Check drain line and clean flow control B. Clean or replace the brine valve C. Clean injector, replace injector screen D. Increase water pressure to allow Injector to perform properly.
8. Softener fails to brine Draw	A. Plugged drain line. B. Plugged injector. C. No water in the brine tank. D. Low water pressure. E. Brine line injects air during brine draw. F. Internal control leak.	A. Clean drain line and flow control B. Clean or replace the injector and screen C. Check for restriction in BLFC. Ensure Safety float is not stuck. D. Increase water pressure E. Check brine line for air leaks. F. check seal, spacer and piston for scratches and dents.
9. Control cycles continuously	A. Faulty timer.	A. Replace timer
10. continuous flow to drain	A. Foreign material in the control B. Internal control leak. C. Piston jammed in brine or back wash position.	A. call dealer. Clean valve, rebuild unit B. same as above C. same as above



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