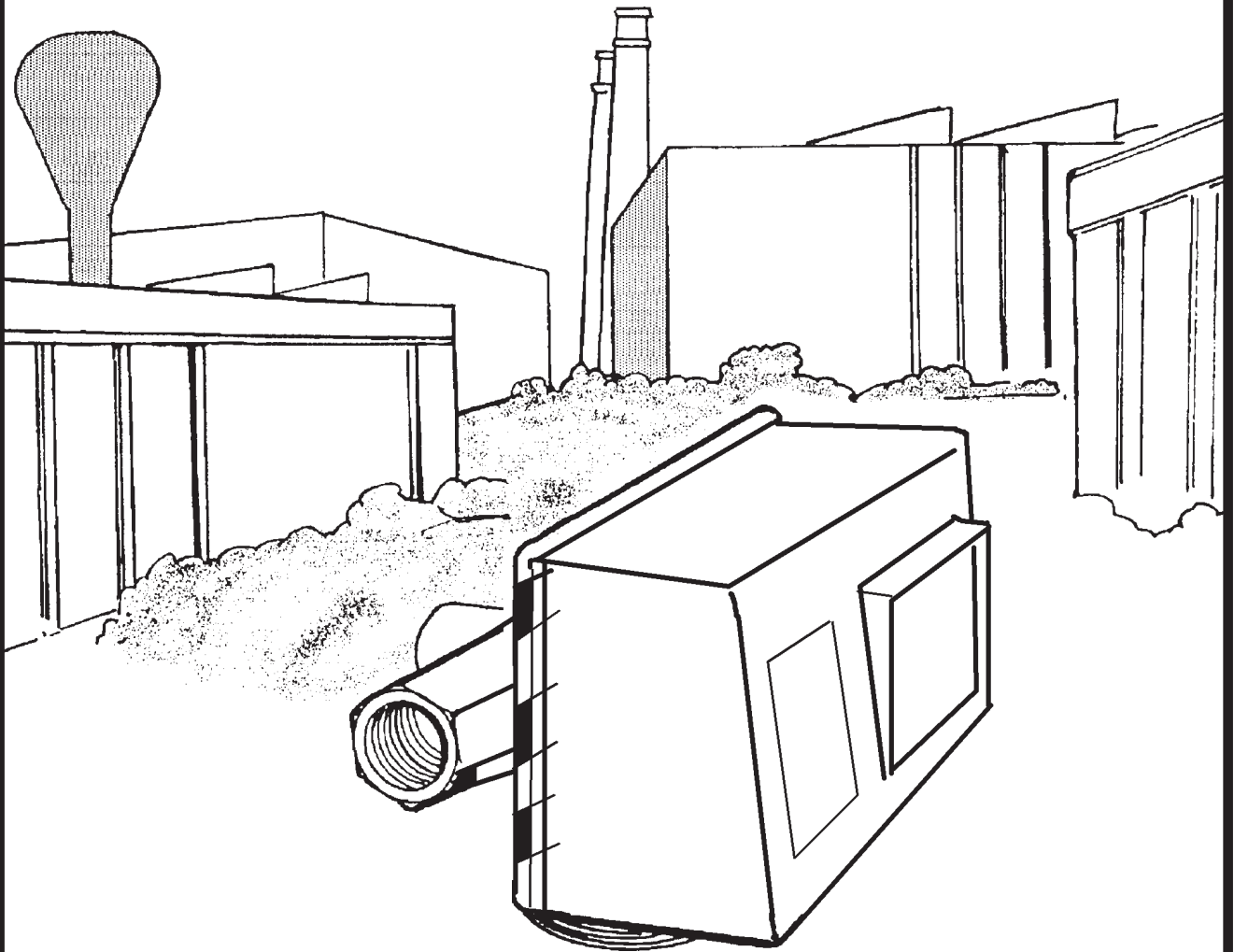


**Model 2850SE/FILTER
w/NBP
Customer Manual**



MODEL 2850SE/FILTER

installation information

JOB NO:

MODEL NO:

FILTER VESSEL SIZE: DIA. x HIGH

MEDIA VOLUME: LITRES

2850SE/FILTER CONTROL VALVE SPECIFICATIONS & SETTINGS:

1) *Type of Timer: SE electronic Time initiation only
 Immediate meter initiation
 Delayed meter initiation **Delete as required*

2) *Type of meter: 1-1/2in Hall effect **Delete as required*

3) Recovery programme settings:
a) Backwash min.
b) Rapid Rinse min.

4) Drain Line Flow Control lpm.

5) Electrical: 24 volt 50 Hz 35VA

FOR SERVICE CONTACT:

MODEL 2850SE/FILTER

general installation check list

WATER PRESSURE: A minimum water pressure of 1,8 bar is required for the recovery control valve to operate effectively. The maximum water pressure must not exceed 8,6 bar.

ELECTRICAL FACILITIES: A continuous 24 volt, 50 Hz. current supply is required. Make certain the current supply is always live and cannot be turned off with another switch.

EXISTING PLUMBING: Existing plumbing should be free from hardness scale and iron buildup. Piping that is built up heavily with hardness scale and/or iron should be replaced. If piping is clogged with iron, a separate iron filter unit should be installed ahead of the water softener.

LOCATION OF FILTER AND DRAIN: The filter should be located close to a drain.

BYPASS VALVES: Always provide for the installation of a bypass valve system.

CAUTION: Water pressure is not to exceed 8,0 bar. Water temperature is not to exceed 43°C. The unit must not be subjected to freezing conditions.

Physical Installation

- 1). Place the filter pressure vessel in position, making sure the vessel is level and on a firm base.
- 2). All plumbing should be in accordance with local water bylaws. The minimum pipe size for the drain line should not be less than 22mm (3/4") N.B.
- 3). The distributor tube should be cut **10mm BELOW** the top of the vessel. *Note: Top of vessel includes any vessel adaptor if used.*
- 4). Lubricate the distributor O-Ring seal and vessel O-Ring seal with silicone lubricant (Dow Corning 7® compound).
- 5). Fit the control valve on the filter vessel.
- 6). Place the installation in the bypass position. Turn on the main water supply. Open a cold water outlet nearby and let it run for a few minutes or until such time as the pipework system is flushed free from foreign material that may have resulted from the installation.
- 9). Place the installation in the service position and let the water flow slowly into the filter vessel. Air should be expelled via the open soft water outlet and this should be closed when the water runs free of air entrapment.
- 10). Electrical: All electrical connections must be made according to the appropriate codes. Connect the system to a suitable transformer if required.

SPECIAL METER INSTALLATION NOTE:

It is important that the EM style meter (if supplied) is installed in the horizontal plane

MODEL 2850SE/FILTER

Control Start-Up Procedures

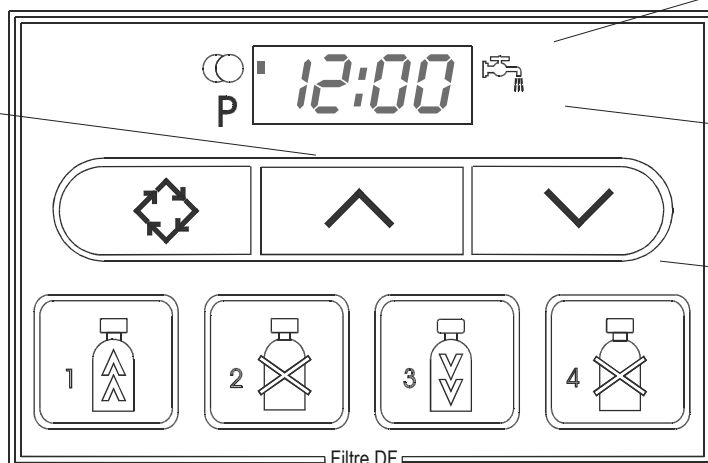
1. Set Time of Day

Whenever the valve is in Service the current time of day can be adjusted, the control programmed or an extra recovery initiated

Service Indicator:

Valve in SERVICE - Dot ON
Extra Cycle Set - Dot flashing

Set UP
Button



Flow Indicator:
Flashing Dot when
water flows

P.M. Indicator

Set DOWN
Button

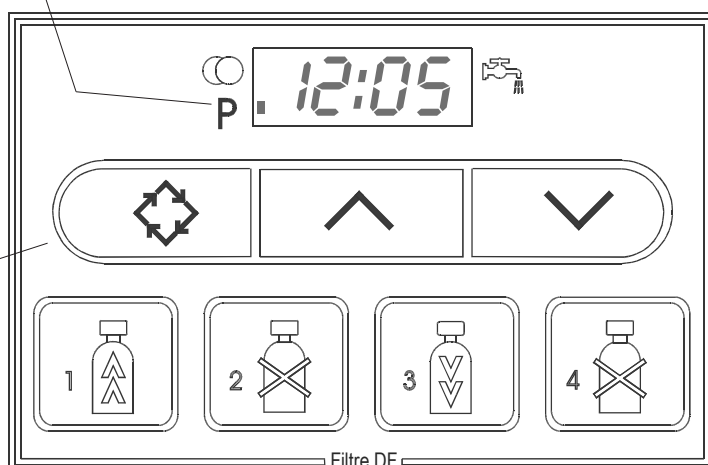
Push either the UP or DOWN set button once to adjust the Time of DAY display by one digit.
Push and HOLD either the UP or DOWN set button to adjust the Time of Day display by multiple digits

2. Enter Control Programming Mode

Programme Mode Indicator:

Programme mode entered - Dot ON

Extra Cycle
Button



1. Push and HOLD both the UP or DOWN set button to enter Programming Mode.
2. Push the Extra Cycle Button once per display until all have been viewed and this mode is exited and normal operation is resumed.

MODEL 2850SE/FILTER

Control Start-Up Procedures

3. Set Control Programming

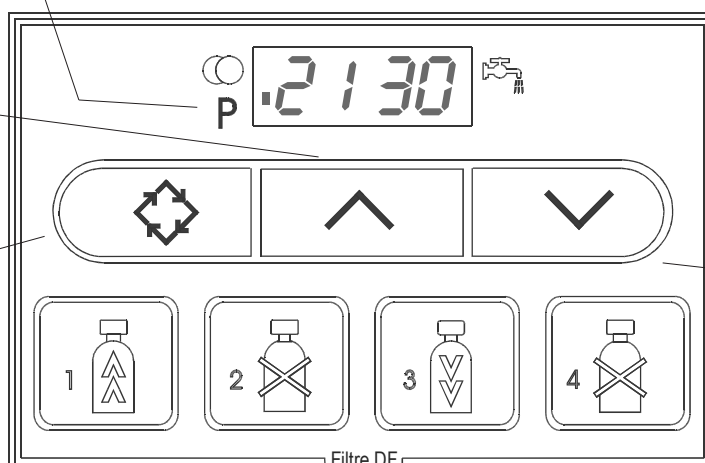
Depending on current control programming, option setting displays that are not required to be set will not be viewed.

Programme Mode Indicator:

Programme mode entered - Dot ON

Set UP
Button

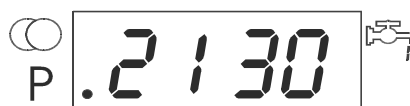
Extra Cycle
Button



Set DOWN
Button

1. The first option setting display (meter systems only) that appears in the Programme Mode is Treated Water Capacity. Using the Set UP or DOWN button, set the display to the capacity of the system in LITRES. For example:

2130 litres treated water capacity



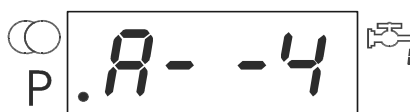
2. Push the Extra Cycle button. The second option setting display that appears is Recovery Time. Using the set UP or DOWN buttons, adjust the display to the time of day when you want a recovery cycle to start. For example:

2:00 AM regeneration start



3. Push the Extra Cycle button. The third option setting that appears is the Recovery Day Override. Using the set UP or DOWN button, adjust the maximum number of days before a recovery MUST occur. For example:

Recover at least every 4 days



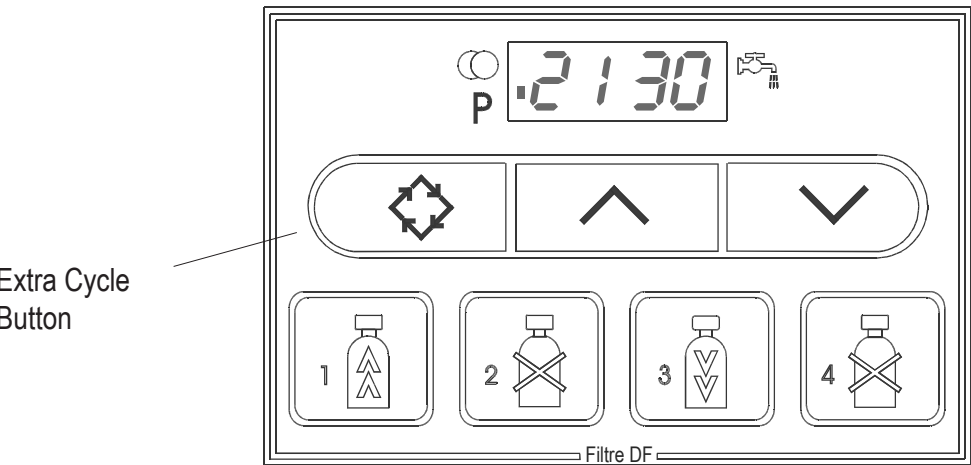
4. Control programming is now complete. Push the Extra Cycle button again to exit the programming mode and return to normal service.

MODEL 2850SE/FILTER

Control Start-Up Procedures

4. Start an Immediate Recovery





















When starting an extra recovery cycle you will have one or two options, depending on how your control is set up:



- Press and Release to Extra Cycle button:**
 - With **Immediate Recovery** controls the control will go into regeneration immediately.
 - With **Delayed Recovery** controls the service arrow will begin to flash immediately and a recovery will occur at the preset recovery time.
- Press and HOLD for the Extra Cycle button for 5 seconds:**
 - With **Delayed Recovery** controls this will force an immediate recovery.

5. Recovery Cycle Displays

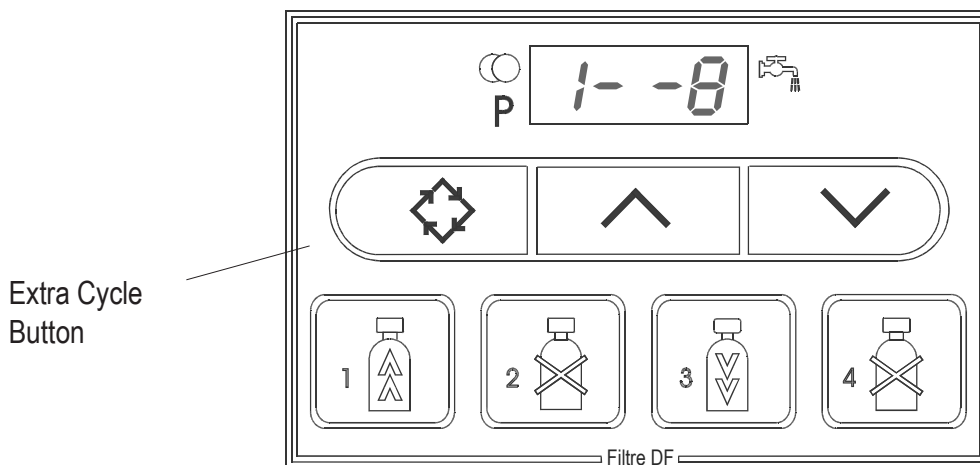
The following series of displays appear when the control enters a recovery cycle.
(times indicated are examples only):

Valve driving to regen step #1	 P 	Then	 P 	Less than 9 min. remains in regen step #1
Valve driving to regen step #2	 P 	Then	 P 	Less than 59 min. remains in regen step #2
Valve driving to regen step #3	 P 	Then	 P 	Less than 9 min. remains in regen step #3
Valve driving to regen step #4	 P 	Then	 P 	Less than 12 min. remains in regen step #4
Recovery complete. Valve driving to service position	 P 	Then	 P 	Valve has returned to service

MODEL 2850SE/FILTER

Control Start-Up Procedures

6. Fast Cycling the Valve through a Regeneration



- A. Initiate a recovery - see step 4. Once the valve reaches Recovery step #2 let water flow to drain for approx. 5 minutes.

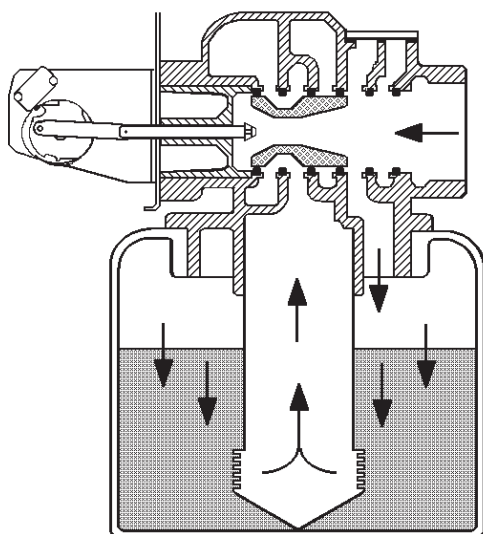
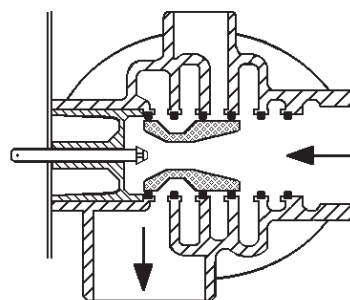
Next, manually step the valve through a recovery cycle, check valve function in each step:

- B. Push the **Extra Cycle** button once to advance the valve to Regen. step # 3
- E. Push the **Extra Cycle** button a last time to advance the valve back to SERVICE

MODEL 2850SE/FILTER

Flow diagrams

1 SERVICE POSITION

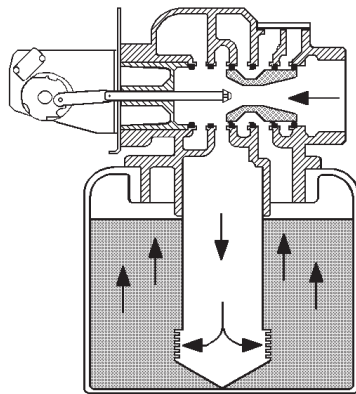
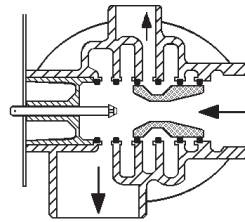


Raw water enters the unit at the valve inlet and flows down through the media in the vessel. Filtered water enters the centre tube through the bottom screen, then flows up through the centre tube, around the piston and exits from the valve outlet.

MODEL 2850SE/FILTER

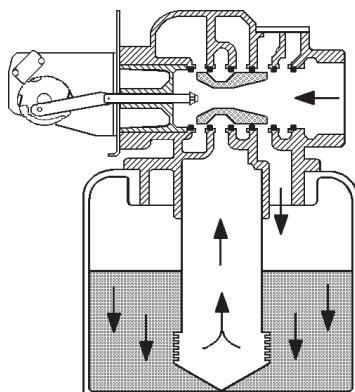
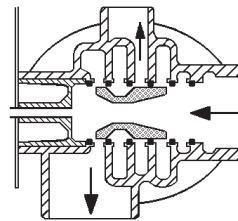
flow diagrams

2 BACKWASH POSITION



Water enters the unit at the valve inlet, flows through the piston, down the centre tube, through the bottom screen and up through the media, around the piston and exits via the valve drain port.

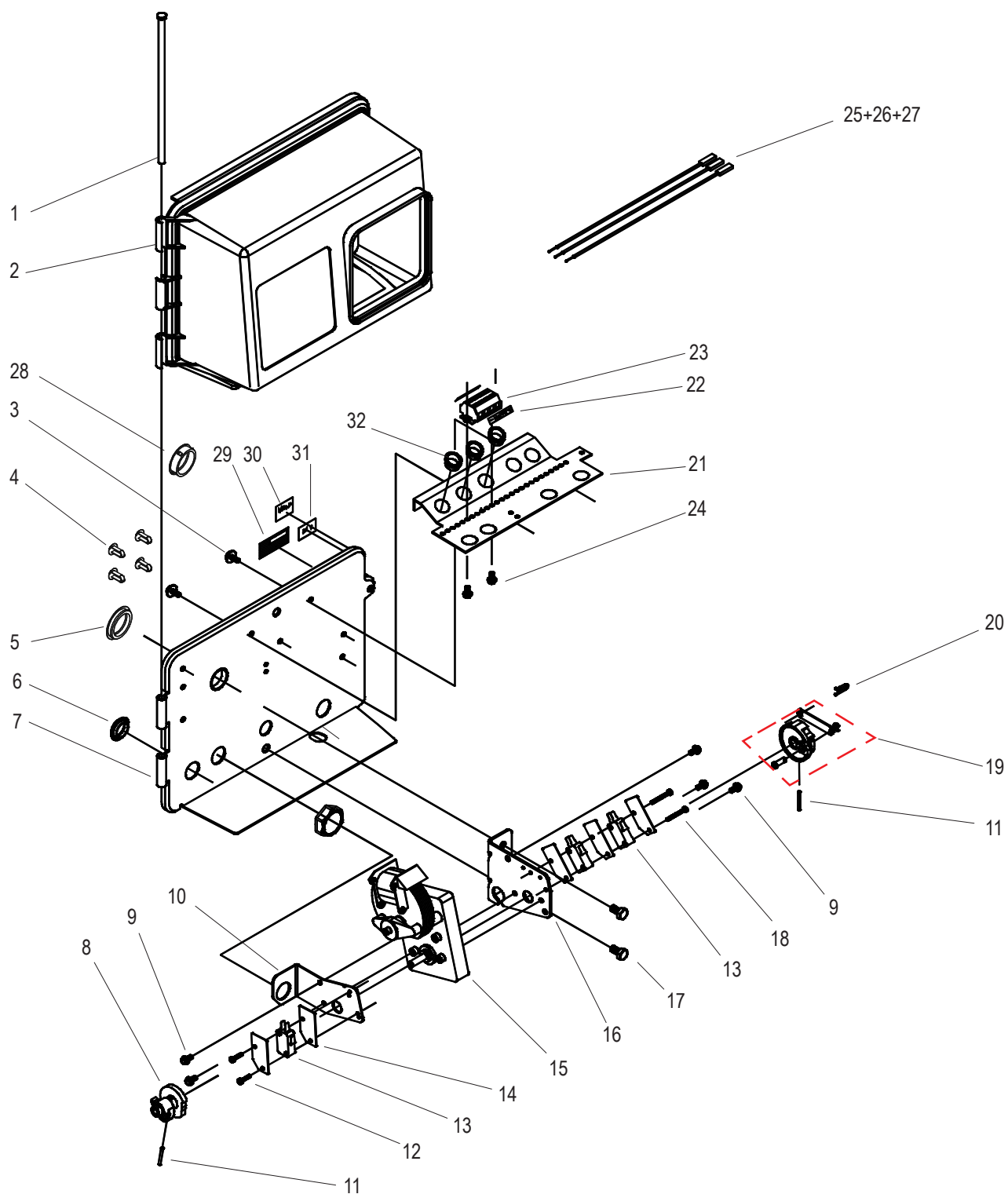
5 RAPID RINSE POSITION



Raw water enters the unit at the valve inlet, flows directly from the inlet down through the media, into the bottom screen and up through the centre tube, around the piston and exits via the valve drain port.

MODEL 2850SE/FILTER

control drive assembly



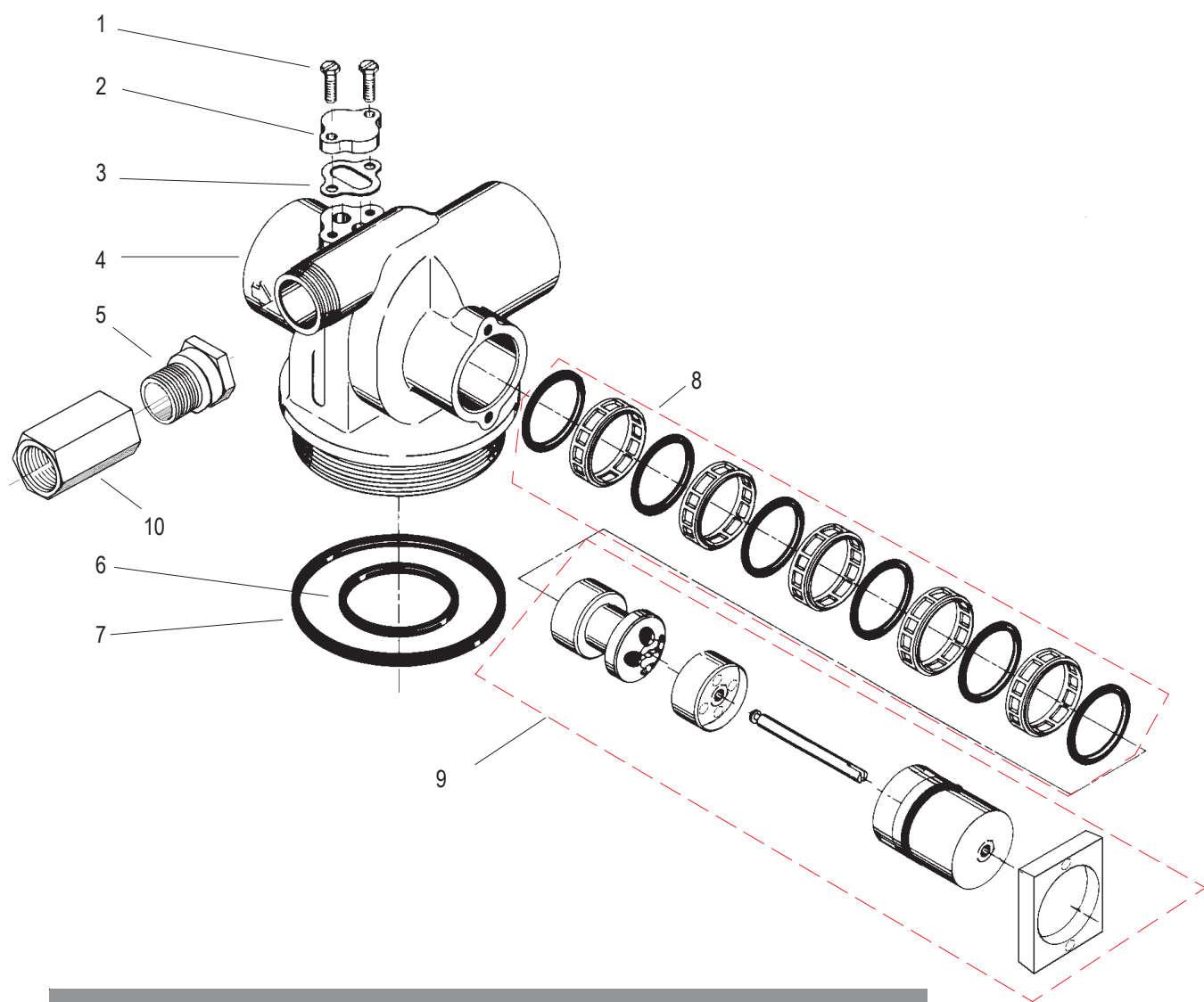
MODEL 2850SE/FILTER

control drive assembly

Item	Qty	Part No.	Decription
1	1	17845-02	Hinge pin
2	1	26217	Cover assembly
3	2	10330	Screw
4	4	19801	Blanking plug
5	2	19590	Plug
6	2	17967	Plug
7	1	18697-14	Backplate
8	1	12777	Brine valve cam - short
9	5	10872	Motor mount screw
10	1	11826	Motor bracket - Brine side
11	2	10338	Drive roll pin
12	2	11805	Screw
13	3	10218	Microswitch
14	5	10302	Insulator
15	1	40385	Drive motor 24vac
16	1	10774	Motor bracket - Drive side
17	2	23728	Screw - M6 X 12
18	2	25178	Screw
19	1	24267	Drive cam assy - STF
20	1	10909	Connecting rod clip
21	1	19772	Terminal bracket
22	1	24934-60	Terminal label
23	1	23511	Terminal strip
24	2	13296	Screw
25	1	27171	Motor wire - Blue
26	1	27169	Motor wire - Brown
27	1	27170	Motor wire - White
28	1	17421	Plug
29	1	21271	Serial number label
30	1	26210k	CE label
31	1	24388	24v label
32	2	19704	Wire sleeve

MODEL 2850SE/FILTER

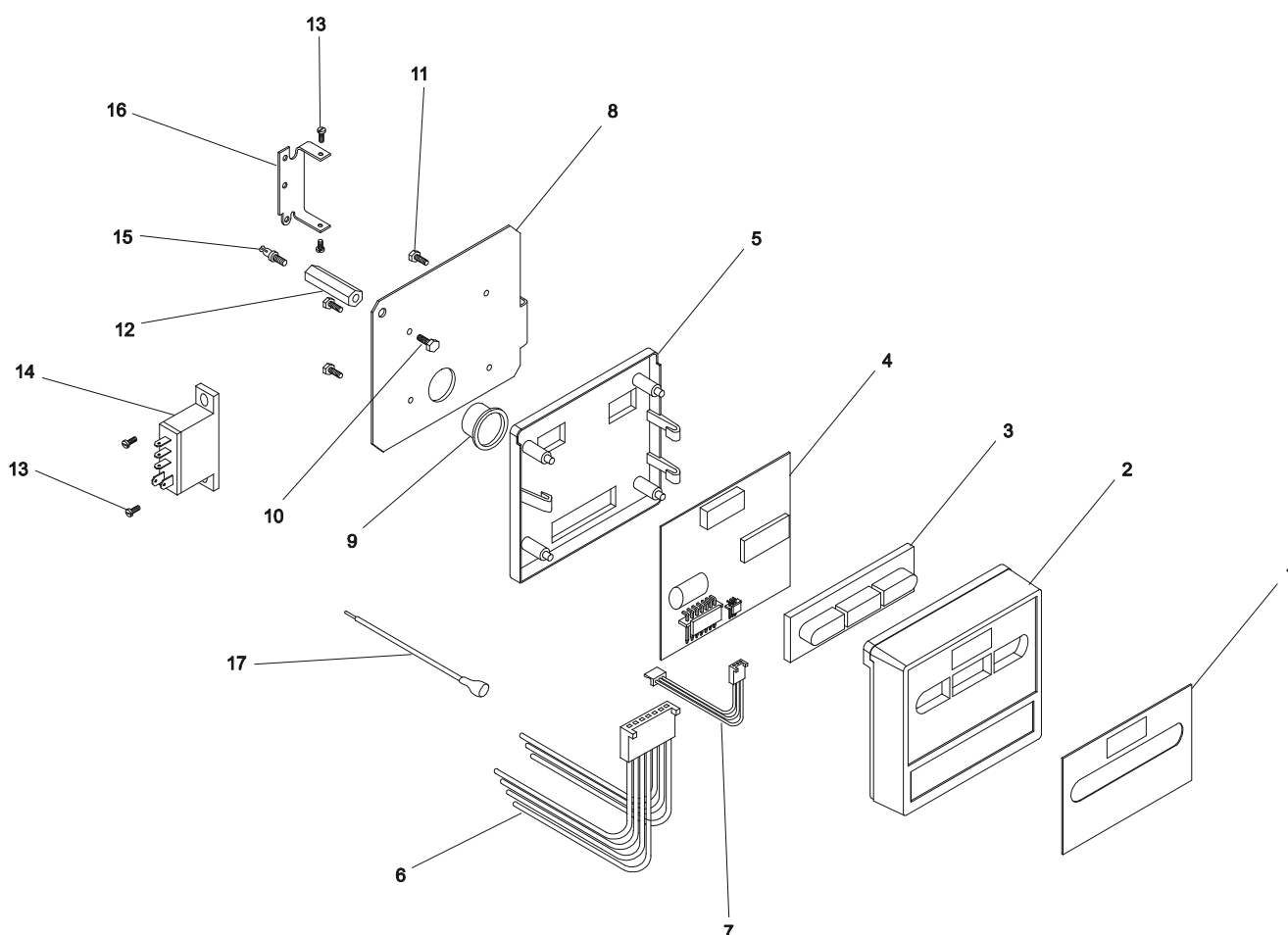
valve body assembly



Item	Qty	Part Number	Description
1	2	21716	Cover screw
2	1	11893	Cover plate
3	1	23304	Injector body gasket
4	1	16250-21-N	2850 body casting
4	1	16250-21-N	2850 body casting
5	1	3-003	Drain line adaptor
6	1	13577-01	O-Ring
7	1	16455-01	O-Ring
8	1	26494-00	Piston assy - NBP
9	1	25156	Seal & spacer kit
10	1	700**	DLFC - specify size

MODEL 2850SE/FILTER

SE timer assembly



Item	Qty	Part No.	Description
1	1	27793	Display front panel - DF
2	1	19471-02	Front panel cover
3	1	See 27074	Rubber button assy
4	1	27074	Circuit board + button assy
5	1	19889	Circuit board housing
6	1	27167	Wire harness - Power
7	1	27808	Harness assy - Flow meter
8	1	27168	Timer mounting plate
9	1	17904	Bushing
10	1	21363	Screw
11	4	13296	Screw
12	1	27172	Stand-off
13	4	11384	Screw
14	1	17749	Relay
15	1	14265	Spring clip
16	1	13881	Hing bracket
17	1	27169	Connector lead

MODEL 2850SE/FILTER

wiring diagram for valve drive & timers

Electrical supply connections:
24vac 50 Hz. 60 Va
Negative to TERMINAL 1
Positive to TERMINAL 4

