## 3.Operation Sequence and Display Status

| Sl. No. | Operator Action | System Status | System Check | S.No | Input Status | LED Display (PV) | Status LED's (HWC / Water Level / Circulation Pump / Motive Pump / Flow / Comm) | LCD Display | System Action | Manual Action |
|---|---|---|---|---|---|---|---|---|---|---|
| **A.** | **Control OFF (Power ON)** | | | | | | | | | |
| 1 | No Action | System On, Control Off | a. Checking the water level<br>b. Check for Top Up Valve | i. | a. Water Level is normal | 80.0 °C | R G R R R - | H W C O f f<br>S P : 8 5 . 0 | a. [OK] key detection is enabled | |
| | | | | ii. | a. Water Level Low<br>b. Top Up Valve Not Configured | 80.0 °C | R R R R R - | F i l l W a t e r<br>S P : 8 5 . 0 | a. [OK] key detection is disabled<br>b. Monitor the water low level status<br>c. After water level becomes normal, wait for a time period of 2 min for reconformation of water level to enable the [OK] key detection | a. Open the Water Supply line<br>b. Close it when Tank High Level is reached |
| | | | | iii. | a. Water Level Low<br>b. Top Up Valve Configured | 80.0 °C | R R R R R - | W a t e r F i l l i n g<br>S P : 8 5 . 0 | a. Open the Top Up Valve<br>b. Top Up Valve should close when Tank High Level is reached<br>c.. [OK] Key detection is disabled<br>d. Monitor the tank low level for a programmable time period | |
| | | | | iv. | a. Water Level Low<br>b. Top Up Valve Configured<br>c. Defined Low Level Time period is elapsed | 80.0 °C | R R R R R - | C h k W a t e r S u p p l y<br>S P : 8 5 . 0 | a. Enable the hooter<br>b. When Water level becomes normal i. e. tank is above low level, wait for a programmable time period to reconfirm the water level of the tank | a. Press [OK] key to switch off the hooter<br>b. Check the water supply line |
| **B.** | **Control ON** | | | | | | | | | |
| 2 | Press [OK] key (or) Remote Push Button continously for a period of 2 sec | System On, Control On | a. Checking the water level<br>b. Check for Top Up Valve | i. | a. Water Level is normal | 80.0 °C | G G G R R - | H W C O n<br>S P : 8 5 . 0 P C V : 1 0 0 % | a. Turn On the Circulation Pump and wait for 15 sec, then start the Temperature Control<br>b. Check for Pump feedback status 10 sec after turning on the Pump<br>c. Flow Switch monitoring to start 2-3 mins after switching on the Pump | |
| | | | a. Checking the water level<br>b. Check for Top Up Valve<br>c. Check Pump Feedback Status | i. | a. Water Level is normal<br>b. No Pump Feedback Status | 80.0 °C | R G R R R - | C h e c k P u m p<br>S P : 8 5 . 0 | a. Control is turned OFF<br>b. Switch On the Hooter | a. Press [OK] key to switch off the hooter<br>b. Check the Circulation Pump |
| | | | a. Checking the water level<br>b.Checking the Motive Tank Level<br>c. Check for Top Up Valve<br>d. Check Temperature<br>e. Check Flow | i. | a. Water Level is normal<br>b. No Flow | 80.0 °C | R G R R R - | N o F l o w<br>S P : 8 5 . 0 : | a. Turn Off The Circulation Pump and PCV<br>b. Switch ON the hooter | a. Press [OK] key to switch off the hooter<br>b. Check the Circulation Pump |
| | | | | ii. | a. Water Level Low<br>b. Top Up Valve Not Configured | 80.0 °C | R R R R R - | F i l l W a t e r<br>S P : 8 5 . 0 | a. Control is turned OFF<br>b. Switch On the Hooter | a. Press [OK] key to switch off the hooter |
| | | | | iii. | a. Water Level Low<br>b. Top Up Valve Configured | 80.0 °C | G R G R G - | W a t e r F i l l i n g<br>S P : 8 5 . 0 P C V : 1 0 0 % | a. Open the Top Up Valve<br>b. Top Up Valve should close when Tank High Level is reached<br>c. Monitor the tank low level for a programmable time period | |
| | | | | iv. | a. Water Level Low<br>b. Top Up Valve Configured<br>c. Programmable time period is elapsed | 80.0 °C | G R R R R - | C h k W a t e r S u p p l y<br>S P : 8 5 . 0 P C V : 0 0 0 % | a. Turn Off The Pump<br>b. Close the Proportional Control Valve<br>c. Turn On the hooter<br>c. If the water level becomes normal wait for a programmable fo reconfirm the status of the water level in order to restart the Pump and Proportional Contol Valve | a. Press [OK] key to switch off the hooter<br>b. Check the water supply line. |

| Sl. No. | Operator Action | System Status | System Check | S.No | Input Status | LED Display (PV) | Status LED's | LCD Display | System Action | Manual Action |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | HWC / Water Level / Circulation Pump / Motive Pump / Flow / Comm | | | |
| | | | | vi. | a. Water level is normal<br>b. Temperature is above SP2(SP+5°C) | 90.0 °C | G G G R G - | Over Temp Cutoff<br>SP : 85.0 PCV : 000% | a. Safety On/Off Valve is Closed<br>b. Proportional Control Valve is Closed | |
| | | | | vii. | a. Water level is normal<br>b. Temperature is above SP3(SP+7°C) or 95°C | 94.0 °C | R G R R R - | Control Halt<br>SP : 85.0 | a. Control is Switched Off<br>b. Hooter is Switched On | a. Press OK key to switch off the hooter |
| | | | | viii. | a. Water level is normal<br>b. Motive Tank High Level is Reached | 80.0 °C | G G G G G - | HWC On<br>SP : 85.0 PCV : 100% | a. Empty the Motive Tank until low level is reached | |
| | | | | ix. | a. If Temperature is less than Set Point - 5°C | 78.0 °C | G G G R G - | HWC On<br>SP : 85.0 PCV : 100% | a. Wait for 10 minutes to check whether there is a temperature change of atleast 1°C | |
| | | | | x. | a. If Temperature is less than Set Point - 5°C<br>b. No change in temperature<br>c. Time period has elapsed | 78.0 °C | G G G R G - | Check Steam<br>SP : 85.0 PCV : 100% | a. Hooter is switched ON<br>b.When OK key is pressed go back to normal mode | a. Press OK key to switch off the hooter |
| | Press Emergency Push Button | | a. Check Emergency Push Button Status | i. | a. If Emergency Push Button Pressed | 80.0 °C | R - R R R - | EPB Pressed<br>SP : 90.0 | a. Control is Switched Off<br>b. Disable key until Emergency Push Button status is false | a. Press key continously for a period of 2 sec to restart the control if Emergency Push Button status is false |
| 3 | Press key (or) Remote Push Button continously for a period of 2 sec | System On, Control Off | | | | 80.0 °C | R G R R R - | HWC Off<br>SP : 85.0 | | |

**NOTE:**

1. Dedicated Overlay for Hot Water System.
2. For Status LED G→ON/Normal(GREEN), R→OFF/Alert(RED)
3. Communication LED blinking in green colour at a time communication is available.
4. Tank low level is 40%-50% of the tank level. Tank High level is 80% to 90% of the tank level.

.