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## 1.1 Equipment Module - States

#### 1.1.1 Acceptance Criteria

For each equipment module state, verify the following are true for each step of the state:

- 1. The test step executes the described step action.
- 2. The step does not continue until the transition criteria are met.
- 3. The test steps proceed as expected without any unexpected stuck conditions.

If all the criteria are met, mark the test step as 'Pass'. If all the criteria are not met, evaluate if the discrepancy requires a deviation resolution as detailed in FAT-200219-TM01-Hold Section 9.4 (Protocol Deviation Resolution).

### 1.1.2 Test Traceability

This test section verifies the states required by the equipment modules as specified in the following specification sections:

• Document # SPC-200219-SLP\_DS, Section 6.2 "Large Solution Prep Hold Tank (TM01-Hold) Unit"

Comments		
		□ N/A
Reviewer Signature	Review	
Signature	Date	



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## 1.1.3 EM-TM01-Hold-WIP

## 1.1.3.1 Idle

Step	Step Action	Transition Criteria	Next Step	Pass / Fail	Initial / Date
0	Command XS-TM01-010A to Close	XS-TM01-010A is Closed	Complete		
	Command XS-TM01-010B to Close	AND XS-TM01-010B is Closed			
	Command XS-TM01-021A to Close	AND XS-TM01-021A is Closed			
	Command XS-TM01-021B to Close	AND XS-TM01-021B is Closed			
	Command XS-TM01-026 to Close	AND XS-TM01-026 is Closed			
	Command XS-TM01-035 to Close	AND XS-TM01-035 is Closed			
	Command XS-TM01-033 to Close	AND XS-TM01-033 is Closed			

### 1.1.3.2 Close

Step	Step Action	Transition Criteria	Next Step	Pass / Fail	Initial / Date
10	Command XS-TM01-010A to Close Command XS-TM01-010B to Close	XS-TM01-010A is Closed AND XS-TM01-010B is Closed	Complete		
	Command XS-TM01-021A to Close	AND XS-TM01-021A is Closed			
	Command XS-TM01-021B to Close Command XS-TM01-026 to Close	AND XS-TM01-021B is Closed AND XS-TM01-026 is Closed			
	Command XS-TM01-035 to Close	AND XS-TM01-035 is Closed			
	Command XS-TM01-033 to Close	AND XS-TM01-033 is Closed			

Comments		
		□ N/A
Reviewer	Review	
Reviewer Signature	Date	



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## 1.1.3.3 Drain

Step	Step Action	Transition Criteria	Next Step	Pass / Fail	Initial / Date
20	Command XS-TM01-010A to Open	XS-TM01-010A is Opened	Complete		
	Command XS-TM01-010B to Open	AND XS-TM01-010B is Opened			
	Command XS-TM01-021A to Open	AND XS-TM01-021A is Opened			
	Command XS-TM01-021B to Open	AND XS-TM01-021B is Opened			
	Command XS-TM01-026 to Open	AND XS-TM01-026 is Opened			
	Command XS-TM01-035 to Open	AND XS-TM01-035 is Opened			
	Command XS-TM01-033 to Open	AND XS-TM01-033 is Opened			

#### 1.1.3.4 Addition Line

Step	Step Action	Transition Criteria	Next Step	Pass / Fail	Initial / Date
30	Command XS-TM01-010A to Close	XS-TM01-010A is Closed	Complete		
	Command XS-TM01-010B to Open	AND XS-TM01-010B is Opened			
	Command XS-TM01-021A to Close	AND XS-TM01-021A is Closed			
	Command XS-TM01-021B to Close	AND XS-TM01-021B is Closed			
	Command XS-TM01-026 to Close	AND XS-TM01-026 is Closed			
	Command XS-TM01-035 to Close	AND XS-TM01-035 is Closed			
	Command XS-TM01-033 to Close	AND XS-TM01-033 is Closed			

Comments		
		□ <b>N/</b> A
Reviewer Signature	Review	
Signature	Date	



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## 1.1.3.5 Spray Balls

Step	Step Action	Transition Criteria	Next Step	Pass / Fail	Initial / Date
41	Command XS-TM01-010A to Open Command XS-TM01-010B to Close Command XS-TM01-021A to Close Command XS-TM01-021B to Open Command XS-TM01-026 to Open Command XS-TM01-035 to Close Command XS-TM01-033 to Close Set Spray Ball Pulse timer preset to parameter	XS-TM01-010A is Opened AND XS-TM01-010B is Closed AND XS-TM01-021A is Closed AND XS-TM01-021B is Opened AND XS-TM01-026 is Opened AND XS-TM01-035 is Closed AND XS-TM01-033 is Closed Spray Ball Pulse timer is done	41		
42	Spray Ball Pulse Time  Start Spray Ball Pulse timer  Command XS-TM01-026 to Open	AND XS-TM01-026 is Opened	43		
42	Command XS-TM01-020 to Open Command XS-TM01-035 to Close Command XS-TM01-033 to Open	AND XS-TM01-020 is Opened  AND XS-TM01-035 is Closed  AND XS-TM01-033 is Opened	43		
43	Command XS-TM01-026 to Close Command XS-TM01-035 to Close Command XS-TM01-033 to Open	AND XS-TM01-026 is Closed AND XS-TM01-035 is Closed AND XS-TM01-033 is Opened	44		
44	Set Spray Ball Pulse timer preset to parameter Spray Ball Pulse Time Start Spray Ball Pulse timer	Spray Ball Pulse timer is done	45		
45	Command XS-TM01-026 to Close Command XS-TM01-035 to Open Command XS-TM01-033 to Open	AND XS-TM01-026 is Closed AND XS-TM01-035 is Opened AND XS-TM01-033 is Opened	46		

Comments	
	□ N/A
Reviewer Signature	Review
Signature	Date



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Step	Step Action	Transition Criteria	Next Step	Pass / Fail	Initial / Date
46	Command XS-TM01-026 to Close	AND XS-TM01-026 is Closed	47		
	Command XS-TM01-035 to Open	AND XS-TM01-035 is Opened			
	Command XS-TM01-033 to Close	AND XS-TM01-033 is Closed			
47	Set Spray Ball Pulse timer preset to parameter Spray Ball Pulse Time	Spray Ball Pulse timer is done	48		
	Start Spray Ball Pulse timer				
48	Command XS-TM01-026 to Open	AND XS-TM01-026 is Opened	40		
	Command XS-TM01-035 to Open	AND XS-TM01-035 is Opened			
	Command XS-TM01-033 to Close	AND XS-TM01-033 is Closed			

Comments		
		□ N/A
Reviewer Signature	Review	
Signature	Date	



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## 1.1.3.6 Vent Line

Step	Step Action	Transition Criteria	Next Step	Pass / Fail	Initial / Date
50	Command XS-TM01-010A to Open	XS-TM01-010A is Opened	Complete		
	Command XS-TM01-010B to Close	AND XS-TM01-010B is Closed	·		
	Command XS-TM01-021A to Open	AND XS-TM01-021A is Opened			
	Command XS-TM01-021B to Open	AND XS-TM01-021B is Opened			
	Command XS-TM01-026 to Close	AND XS-TM01-026 is Closed			
	Command XS-TM01-035 to Close	AND XS-TM01-035 is Closed			
	Command XS-TM01-033 to Close	AND XS-TM01-033 is Closed			

## 1.1.3.7 Spray Balls & Addition Line

Step	Step Action	Transition Criteria	Next Step	Pass / Fail	Initial / Date
60	Command XS-TM01-010A to Open	XS-TM01-010A is Opened	61		
	Command XS-TM01-010B to Open	AND XS-TM01-010B is Opened			
	Command XS-TM01-021A to Close	AND XS-TM01-021A is Closed			
	Command XS-TM01-021B to Open	AND XS-TM01-021B is Opened			
	Command XS-TM01-026 to Open	AND XS-TM01-026 is Opened			
	Command XS-TM01-035 to Open	AND XS-TM01-035 is Opened			
	Command XS-TM01-033 to Open	AND XS-TM01-033 is Opened			
61	Command XS-TM01-035 to Close	XS-TM01-035 is Closed	Complete		
	Command XS-TM01-033 to Close	AND XS-TM01-033 is Closed			

Comments	
	□ N/A
Reviewer Signature	Review
Signature	Date