



Steam Humidifier

SKE4-N Series

Installation Instructions and User Manual



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Exploded View and Bill of Material

Exploded View

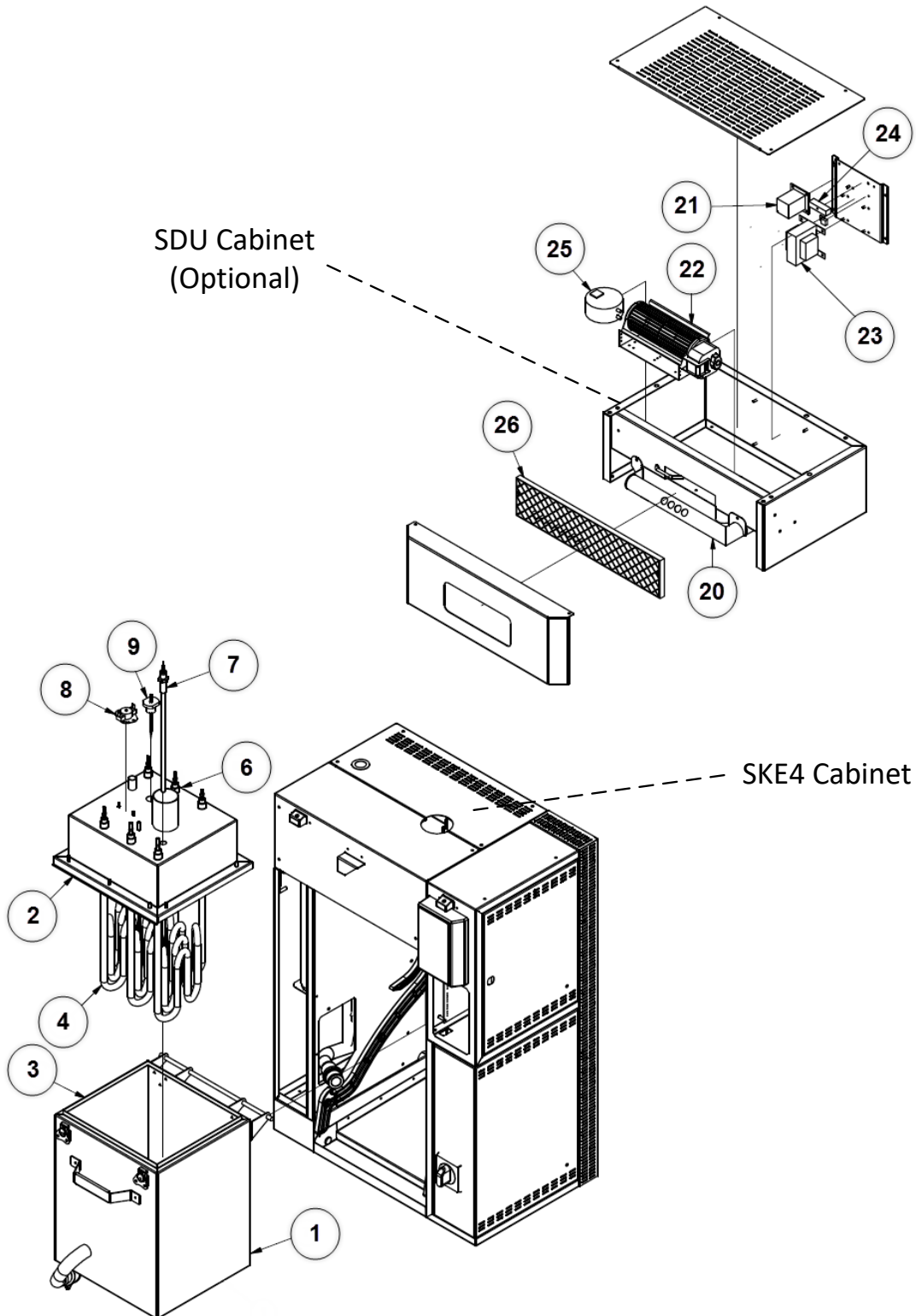


Illustration 59 - Exploded View Part 1

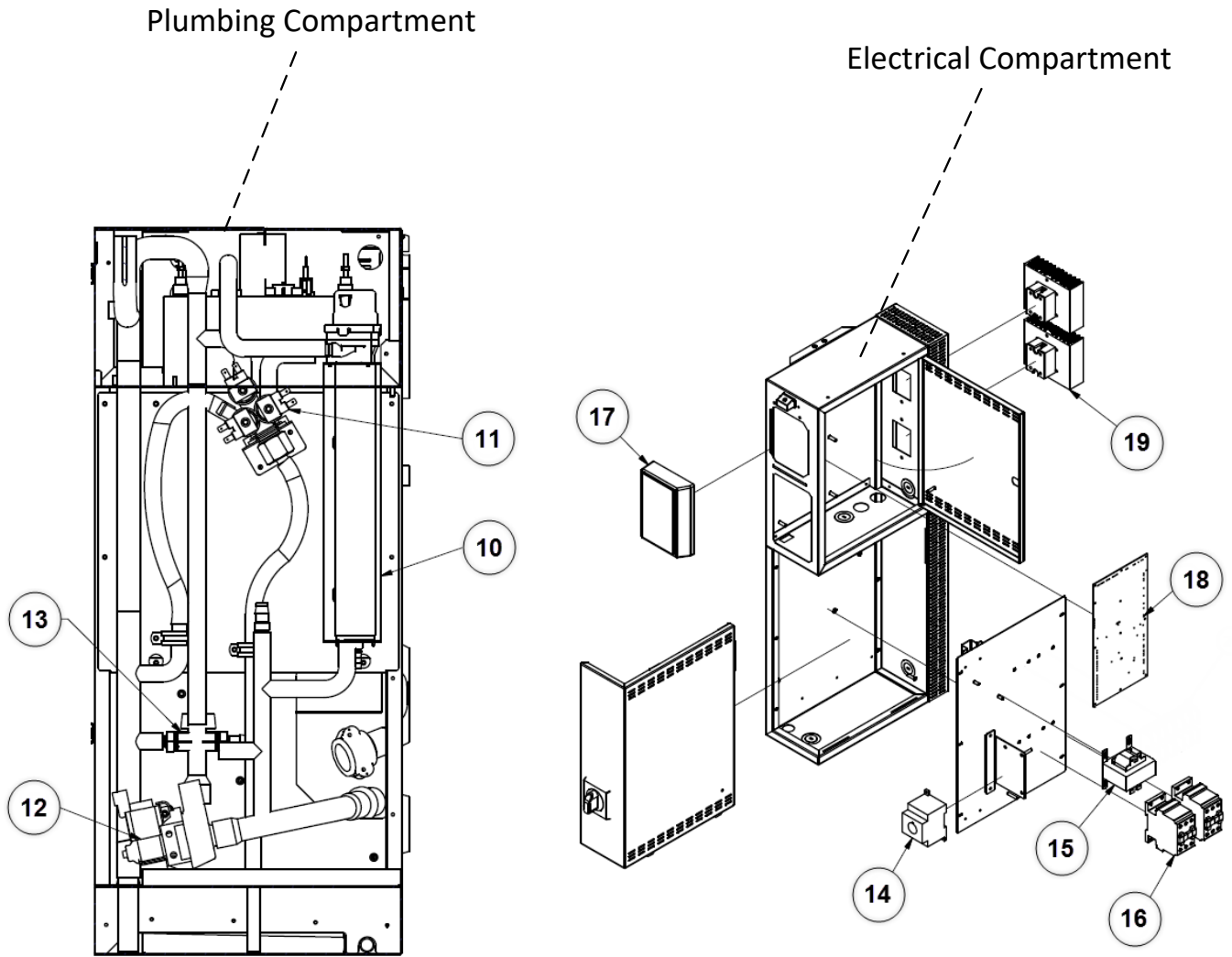


Illustration 60 - Exploded View Part 2



Bill of Material

Table 20 - Bill of Material

<i>Item</i>	<i>Description</i>	<i>Model</i>	<i>Part Number</i>
1	Evaporation chamber container	SKE4-N02 to SKE4-N06	SW 4222-20
		SKE4-N02 to SKE4-N06 (Ultrapure DI option)	SW 4222-20SS
		SKE4-N10 to SKE4-N30	SW 4232-20
		SKE4-N10 to SKE4-N30 (Ultrapure DI option)	SW 4232-20SS
		SKE4-N20L to SKE4-N60	SW 4242-20
		SKE4-N20L to SKE4-N60 (Ultrapure DI option)	SW 4242-20SS
		SKE4-N30X to SKE4-N100	SW 4245-20
2	Evaporation chamber cover	SKE4-N02 to SKE4-N06 (1 phase)	SP 4222-1R
		SKE4-N02 to SKE4-N06 (3 phases)	SP 4222-2R
		SKE4-N10 to SKE4-N14	SP 4232-1R
		SKE4-N16 to SKE4-N30	SP 4232-2R
		SKE4-N20L to SKE4-N60	SP 4242-1R
		SKE4-N30X to SKE4-N70	SP 4251
		SKE4-N80 to SKE4-N100	SP 4252
3	Evaporation chamber gasket	SKE4-N02 to SKE4-N06	SP 4222-8
		SKE4-N10 to SKE4-N30	SP 4232-8
		SKE4-N20L to SKE4-N100	SP 4242-8
4	Heating element	See table below	
5	Washer (heating element)	SKE4-N02 to SKE4-N100	SP 1005
6	S/S hex. jam nut (heating element)	SKE4-N02 to SKE4-N100	SP 2330
7	Temperature sensor	See table below	
8	High temperature switch (klixon)	SKE4-N02 to SKE4-N100	SP 3036
9	Foam sensor	SKE4-N02 to SKE4-N06	SW FOAMSM-ASSY
		SKE4-N10 to SKE4-N60	SW FOAMMED-ASSY
		SKE4-N30X to SKE4-N100	SW FOAMSM-ASSY
10	Water level sensor	See table below	
11	Water supply valve	SKE4-N02 to SKE4-N100	SP 6009
12	Drain pump	SKE4-N02 to SKE4-N100	SP G4101
13	Drain valve	SKE4-N02 to SKE4-N100	SP 4233-59
14	Disconnect switch	See table below	
15	Transformer	See table below	
16	Contactora	See table below	
17	Alphanumeric display	SKE4-N02 to SKE4-N100	SW SKE4DISPLAY-AS
		SKE4-N02W to SKE4-N60W	SW SKE4DISPLAY2
		SKE4-N70W to SKE4-N100W	SW SKE4DISPLAY3
18	Printed circuit board	SKE4-N02 to SKE4-N100	NW SKE4MAINSS
		SKE4-N02W to SKE4-N100W	NW SKE4MAINWSS
19	Solid-state relay	SKE4-N02 to SKE4-N14, SKE4-N16 (600V), SKE4-N20 to SKE4-N90, SKE4-N100 (600V)	SP 3102
		SKE4-N16 (208V), SKE4-N100 (480V)	SP 3103
20	SDU steam dispersion manifold	SDU4-1	SW 4134
		SDU4-2	SW 4135
		SDU4-3	SW 4136
21	SDU relay	SDU4-1, SDU4-2 & SDU4-3	SP 3114
22	SDU fan	SDU4-1 (120, 208, 480, 600V)	SP 3011
		SDU4-1 (240V)	SP 3012
		SDU4-2	SP 3009
		SDU4-3	SP 3014
23	SDU transformer	See table below	
24	Fuse inside SDU	SDU4-1, SDU4-2 & SDU4-3	SP 5101
25	SDU airflow switch	SDU4-1, SDU4-2 & SDU4-3	SP 4137
26	SDU plastic grill	SDU4-1, SDU4-2 & SDU4-3	SP 4131-11



Table 21 - Additional Bill of Material Details

Model		4 Heating element	7 Temperature sensor	10 Water level sensor	14 Disconnect switch	15 Transformer	16 Contactor	23 SDU transformer
SKE4-N02	120V/1	SW 5943	SW SK4TEMPSENS-6	SW SK4WLTR1-HEAD	DP13-3004	SP 3380	SP 3080	-
	240V/1	SW 5932	SW SK4TEMPSENS-6	SW SK4WLTR1-HEAD	DP13-3004	SP 3310	DP11-6002	-
	208V/1	SW 5933	SW SK4TEMPSENS-6	SW SK4WLTR1-HEAD	DP13-3004	SP 3308	DP11-6002	SP 3305
	480V/1	SW 5934	SW SK4TEMPSENS-6	SW SK4WLTR1-HEAD	DP13-3004	SP 3321	DP11-6002	SP 3329
	600V/1	SW 5935	SW SK4TEMPSENS-6	SW SK4WLTR1-HEAD	DP13-3004	SP 3341	DP11-6002	SP 3349
SKE4-N04	240V/1	SW 5937	SW SK4TEMPSENS-6	SW SK4WLTR1-HEAD	DP13-3004	SP 3310	SP 3080	-
	208V/1	SW 5940	SW SK4TEMPSENS-6	SW SK4WLTR1-HEAD	DP13-3004	SP 3308	SP 3080	SP 3305
	208V/3	SW 5924 (3x)	SW SK4TEMPSENS-6	SW SK4WLTR1-HEAD	DP13-3004	SP 3308	DP11-6002	SP 3305
	480V/1	SW 5941	SW SK4TEMPSENS-6	SW SK4WLTR1-HEAD	DP13-3004	SP 3321	DP11-6002	SP 3329
	480V/3	SW 5923 (3x)	SW SK4TEMPSENS-6	SW SK4WLTR1-HEAD	DP13-3004	SP 3321	DP11-6002	SP 3329
	600V/1	SW 5942	SW SK4TEMPSENS-6	SW SK4WLTR1-HEAD	DP13-3004	SP 3341	DP11-6002	SP 3349
	600V/3	SW 5925 (3x)	SW SK4TEMPSENS-6	SW SK4WLTR1-HEAD	DP13-3004	SP 3341	DP11-6002	SP 3349
SKE4-N06	240V/1	SW 5938	SW SK4TEMPSENS-6	SW SK4WLTR1-HEAD	DP13-3004	SP 3310	SP 3100	-
	208V/1	SW 5943	SW SK4TEMPSENS-6	SW SK4WLTR1-HEAD	DP13-3004	SP 3308	SP 3100	SP 3305
	208V/3	SW 5933 (3x)	SW SK4TEMPSENS-6	SW SK4WLTR1-HEAD	DP13-3004	SP 3308	SP 3080	SP 3305
	480V/1	SW 5944	SW SK4TEMPSENS-6	SW SK4WLTR1-HEAD	DP13-3004	SP 3321	DP11-6002	SP 3329
	480V/3	SW 5934 (3x)	SW SK4TEMPSENS-6	SW SK4WLTR1-HEAD	DP13-3004	SP 3321	DP11-6002	SP 3329
	600V/1	SW 5945	SW SK4TEMPSENS-6	SW SK4WLTR1-HEAD	DP13-3004	SP 3341	DP11-6002	SP 3349
	600V/3	SW 5935 (3x)	SW SK4TEMPSENS-6	SW SK4WLTR1-HEAD	DP13-3004	SP 3341	DP11-6002	SP 3349
SKE4-N10	208V/3	SW 5959 (3x)	SW SK4TEMPSENS-12	SW SK4WLTR2-HEAD	DP13-3004	SP 3308	SP 3100	SP 3305
	480V/3	SW 5958 (3x)	SW SK4TEMPSENS-12	SW SK4WLTR2-HEAD	DP13-3004	SP 3321	DP11-6002	SP 3329
	600V/3	SW 5957 (3x)	SW SK4TEMPSENS-12	SW SK4WLTR2-HEAD	DP13-3004	SP 3341	DP11-6002	SP 3349
SKE4-N14	208V/3	SW 5946 (3x)	SW SK4TEMPSENS-12	SW SK4WLTR2-HEAD	DP13-3005	SP 3308	SP 3100	SP 3305
	480V/3	SW 5947 (3x)	SW SK4TEMPSENS-12	SW SK4WLTR2-HEAD	DP13-3004	SP 3321	SP 3080	SP 3329
	600V/3	SW 5948 (3x)	SW SK4TEMPSENS-12	SW SK4WLTR2-HEAD	DP13-3004	SP 3341	SP 3080	SP 3349
SKE4-N16	208V/3	SW 5960 (3x)	SW SK4TEMPSENS-12	SW SK4WLTR2-HEAD	DP13-3005	SP 3308	DP11-6008	SP 3368
	480V/3	SW 5971 (3x)	SW SK4TEMPSENS-12	SW SK4WLTR2-HEAD	DP13-3004	SP 3321	SP 3080	SP 3395
	600V/3	SW 5958 (3x)	SW SK4TEMPSENS-12	SW SK4WLTR2-HEAD	DP13-3004	SP 3341	SP 3080	SP 3396
SKE4-N20	480V/3	SW 5950 (3x)	SW SK4TEMPSENS-12	SW SK4WLTR2-HEAD	DP13-3004	SP 3321	SP 3100	SP 3395
	600V/3	SW 5951 (3x)	SW SK4TEMPSENS-12	SW SK4WLTR2-HEAD	DP13-3004	SP 3341	SP 3080	SP 3396
SKE4-N30	480V/3	SW 5952 (3x)	SW SK4TEMPSENS-12	SW SK4WLTR2-HEAD	DP13-3004	SP 3321	SP 3100	SP 3395
	600V/3	SW 5939 (3x)	SW SK4TEMPSENS-12	SW SK4WLTR2-HEAD	DP13-3004	SP 3341	SP 3100	SP 3396
SKE4-N20L	208V/3	SW 5959 (6x)	SW SK4TEMPSENS-12	SW SK4WLTR2-HEAD	DP13-3005	SP 3308	SP 3100 (2x)	-
SKE4-N27	208V/3	SW 5946 (6x)	SW SK4TEMPSENS-12	SW SK4WLTR2-HEAD	DP13-3006	SP 3308	SP 3100 (2x)	-
SKE4-N32	208V/3	SW 5960 (6x)	SW SK4TEMPSENS-12	SW SK4WLTR2-HEAD	DP13-3006	SP3308	DP11-6008 (2x)	-
SKE4-N40	480V/3	SW 5950 (6x)	SW SK4TEMPSENS-12	SW SK4WLTR2-HEAD	DP13-3005	SP 3321	SP 3100 (2x)	-
	600V/3	SW 5951 (6x)	SW SK4TEMPSENS-12	SW SK4WLTR2-HEAD	DP13-3005	SP 3341	SP 3080 (2x)	-
SKE4-N50	480V/3	SW 5950 (3x) SW 5952 (3x)	SW SK4TEMPSENS-12	SW SK4WLTR2-HEAD	DP13-3006	SP 3321	SP 3100 (2x)	-
	600V/3	SW 5952 (6x)	SW SK4TEMPSENS-12	SW SK4WLTR2-HEAD	DP13-3005	SP 3341	SP 3100 (2x)	-
SKE4-N60	480V/3	SW 5952 (6x)	SW SK4TEMPSENS-12	SW SK4WLTR2-HEAD	DP13-3006	SP 3321	SP 3100 (2x)	-
	600V/3	SW 5939 (6x)	SW SK4TEMPSENS-12	SW SK4WLTR2-HEAD	DP13-3006	SP 3341	SP 3100 (2x)	-
SKE4-N30X	208V/3	SW 5959 (9x)	SW SK4TEMPSENS-12	SW SK4WLTR2-HEAD	DP13-3006	SP 3381	SP 3100 (3x)	-
SKE4-N40X	208V/3	SW 5946 (9x)	SW SK4TEMPSENS-12	SW SK4WLTR2-HEAD	DP13-3008	SP 3381	SP 3100 (3x)	-
SKE4-N70	480V/3	SW 5950 (6x) SW 5952 (3x)	SW SK4TEMPSENS-12	SW SK4WLTR2-HEAD	DP13-3006	SP 3383	SP 3100 (3x)	-
	600V/3	SW 5951 (6x) SW 5939 (3x)	SW SK4TEMPSENS-12	SW SK4WLTR2-HEAD	DP13-3006	SP 3384	SP 3100 (3x)	-
SKE4-N80	480V/3	SW 5952 (6x) SW 5950 (3x)	SW SK4TEMPSENS-12	SW SK4WLTR2-HEAD	DP13-3008	SP 3383	SP 3100 (3x)	-
	600V/3	SW 5939 (6x) SW 5951 (3x)	SW SK4TEMPSENS-12	SW SK4WLTR2-HEAD	DP13-3006	SP 3384	SP 3100 (3x)	-
SKE4-N90	480V/3	SW 5962 (9x)	SW SK4TEMPSENS-12	SW SK4WLTR2-HEAD	DP13-3008	SP 3383	SP 3100 (3x)	-
	600V/3	SW 5963 (9x)	SW SK4TEMPSENS-12	SW SK4WLTR2-HEAD	DP13-3006	SP 3384	SP 3100 (3x)	-
SKE4-N100	480V/3	SW 5969 (9x)	SW SK4TEMPSENS-12	SW SK4WLTR2-HEAD	DP13-3008	SP 3383	DP11-6008 (3x)	-
	600V/3	SW 5970 (9x)	SW SK4TEMPSENS-12	SW SK4WLTR2-HEAD	DP13-3008	SP 3384	SP 3100 (3x)	-

Troubleshooting

Table 19 - Troubleshooting Guide

Problem	Possible Cause	Corrective Action
<i>Humidifier does not operate (Screen turned Off)</i>	Power is not being supplied to the humidifier.	Check the main power supply and fuses. Verify the disconnect switch and the circuit breaker.
	The low voltage fuse is open.	Check the transformer and the low voltage fuse. Verify that the low voltage circuit is complete.
	Wire harnesses inside the humidifier are not secured properly.	Check the wires harnesses and the main PC board. Verify that all connections have been made properly.
<i>Humidifier does not operate (Screen turned On, Status Display LED: Off)</i>	The humidifier is not powered on.	Verify that the Power button has been pressed and held for 3 seconds for correct activation.
<i>Humidifier does not produce steam (No demand)</i>	<u>For modulating humidifier:</u> No analog signal detected.	Verify the setting of the control input.
	<u>For On/Off humidifier:</u> No demand from humidistat.	Verify the setting of the humidistat.
	Air flow is not detected by air pressure switch.	Check the fan operation.
	High limit humidistat is open.	Check the operation of the high limit humidistat.
	Interlock contact is open.	Check the interlock contact.
<i>No water inside the evaporation chamber or Humidifier does not stop draining</i>	Control wires are not properly secured to the terminal blocks.	Verify the connections of the wires to the control terminal blocks.
	Humidifier is being filled with water but has not yet reached or does not reach the high limit of the water level sensor.	<ul style="list-style-type: none"> - Verify that the drain valve is open. - Check if the shutoff valve on the water supply line is open. - Verify the operation of the fill valve. - Check that the fill valve strainer and the external strainer are not blocked.
Humidifier is not being filled with water.		
<i>Humidifier does not drain</i>	Drain valve is clogged.	Check the drain valve.
	During a drain or foaming cycle, the water level sensor has sensed that the water level has not decreased.	Verify that the drain pump, the fill and drain water pipe connections and the water level sensor chamber are not obstructed.
<i>Humidifier is always on Foam cycle (FoamSensor setting displays Foam)</i>	Excessive foaming condition inside the evaporation chamber.	<ul style="list-style-type: none"> - Verify the quality of the supply water. - Verify if chemical products were used to clean the evaporation chamber during maintenance. Rinse the chamber properly with water. - Check the setting of the drain cycle. Reduce the time between drain cycles.
<i>Humidifier is operating and the Status Display LED is Red (ServiceDue setting displays On)</i>	The humidifier is due for servicing.	Service the evaporation chamber (see Service section on page 71). Use <i>Request</i> setting in <i>Service</i> menu to reset counters (see page 57).
<i>Humidifier is not operating and the Status Display LED is Red (ThermalCutout setting displays Open)</i>	The high temperature switch has sensed abnormal temperature.	Verify if the humidifier was operating below the standard water level. Replace water level sensor if necessary.
<i>Humidifier does not operate (Screen turned Off, Status Display LED: Blue)</i>	The following components can be the cause of this problem: water level sensor, PC board or LCD display.	Call factory for troubleshooting instructions.
<i>Humidifier is producing steam (Screen turned Off, Status Display LED: Blue)</i>	The display FFC cable is not connected properly.	Verify that the connections of the FFC cable are properly secured and are on the correct side.
	The LCD display is defective.	Replace the LCD display.



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