

**Project Information**

Project Number: SK160850002

Project Name: Hot Yoga

Project Date: 25/03/2016

Customer Name:

Customer Address:

Customer Purchase Order Number:

Location:

Engineer:

Agent (Salesperson): Cavalry / Chad Clark

Notes:

**Product and Option Schedule:**

		<b>Tag</b>		
<b>Air Conditions</b>		H-1(Hum-1)		
External	Temperature			
	R.H.			
Entering	Temperature			
	R.H.			
Indoor	Temperature			
	R.H.			
Outdoor Air				
Mechanical	Total Air Flow			
	Outside Air			
Economizer	Total Air Flow			
	Mixed Air Temp.			
Natural	Building Volume			
	Air Changes/hr			
<b>Humidifier Selection</b>				
Calculated Load				
Humidifier Capacity		30.0lb/hr		
Humidifier Model		SK310-208-1		
Signal		On/Off		
Power		10kW		
Voltage/Phase/Cycle		208/1/60hz		
Amperage		48A		
<b>Dispersion Selection</b>				
Dimensions Duct/AHU	Width			
	Height			
Air Temp. before humidification				
R.H.	Entering			
	Leaving			
Dispersion Model (# of tubes)		SF SDU2-Rem		
Absorption distance				
<b>Controls and Accessories</b>		LO Hose 1 3/8", ULTRA DI		
<b>Note</b>				

## Product Description

### Standard Features

**CABINET:** Aluminium with baked enamel finish. Key locked access doors.

**HUMIDIFIER CONTROL:** Microprocessor based including auto/off/drain switch and operating display LED's. Alphanumeric LCD display with a menu to permit programming of system parameters such as: Humidity set point (modulating systems only, with appropriate humidistat), timed drain cycle, service hours. Monitored parameters (continuous scrolling) are: Actual humidity (with appropriate humidistat, modulating systems only), actual steam output, water level. Diagnostic mode messages are: No demand, drain cycle, contact delay, overheated, probe defected, no level, service hours, drain foam. If there is no humidification demand for 72 hours the humidifier initiates a drain cycle and goes into standby mode.

**ELECTRICAL:** Flexible wiring with uni-directional, plug-in connectors.

**PIPING:** Copper painted to prevent oxidation.

**VALVES:** Inlet: Quiet solenoid. Drain: Motorized pump.

**EVAPORATION CHAMBER:** Permanent cleanable stainless steel. All electric elements and level controls are installed on the cover permitting easy removal and servicing.

**ELEMENTS:** Made of Incoloy 800/825 with a high coefficient of thermal expansion. The elements are self-cleaning due to their expansion and contraction.

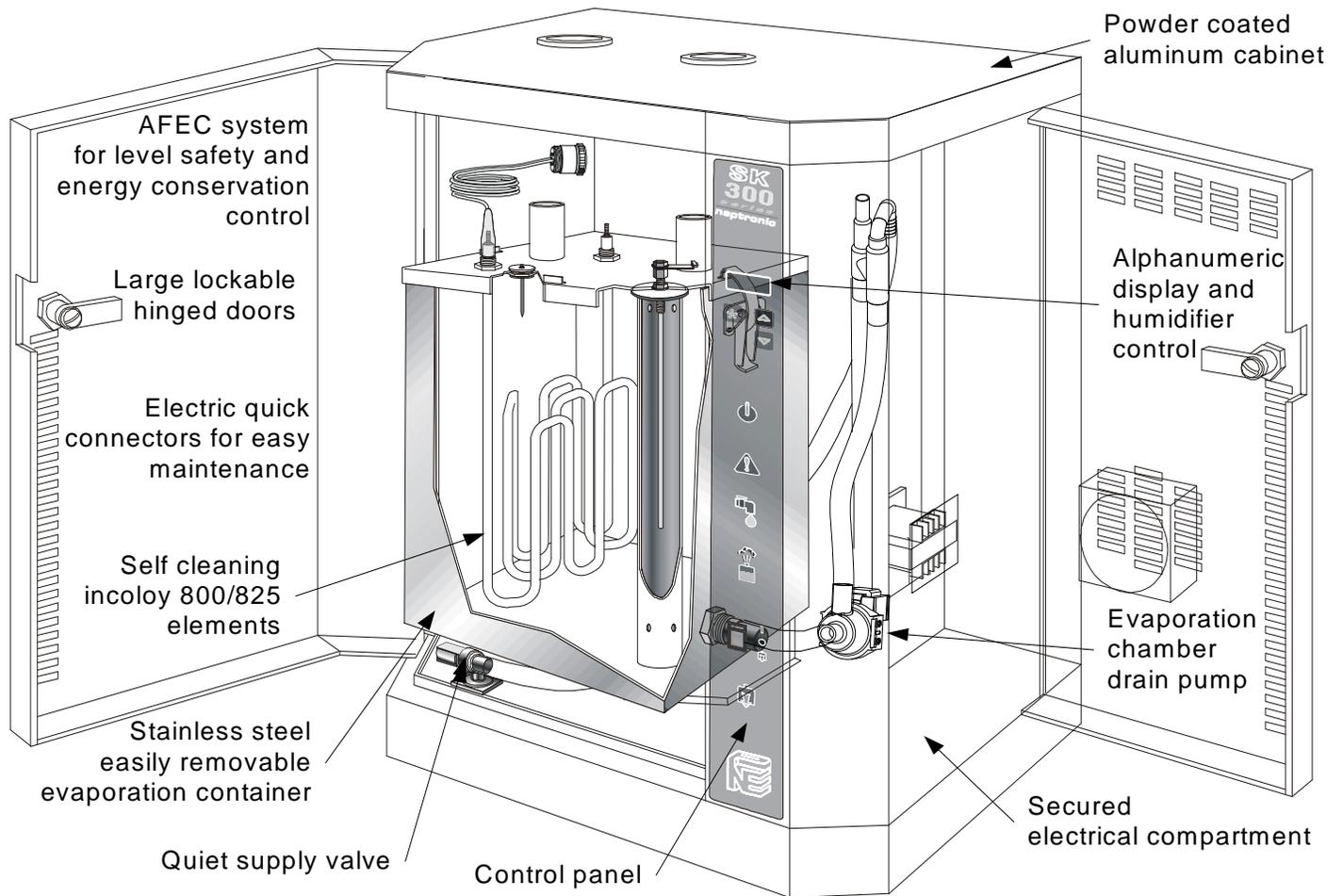
**WATER LEVEL SENSING AND CONTROL:** Patented AFEC (Anti-foaming energy conservation) system. The system includes a teflon coated stainless steel mass sensing probe to ensure proper water level control under varying water conditions (Hard, soft or deionised). The foam sensor will control foam, if it is present; therefore, no surface skimming is required.

**THERMAL PROTECTION:** Two level temperature protection. The first sensor is located in the mass sensing probe, close to the elements. The second is on the outside of the evaporation chamber cover. Either sensor will stop the humidifier if a high temperature condition is detected.

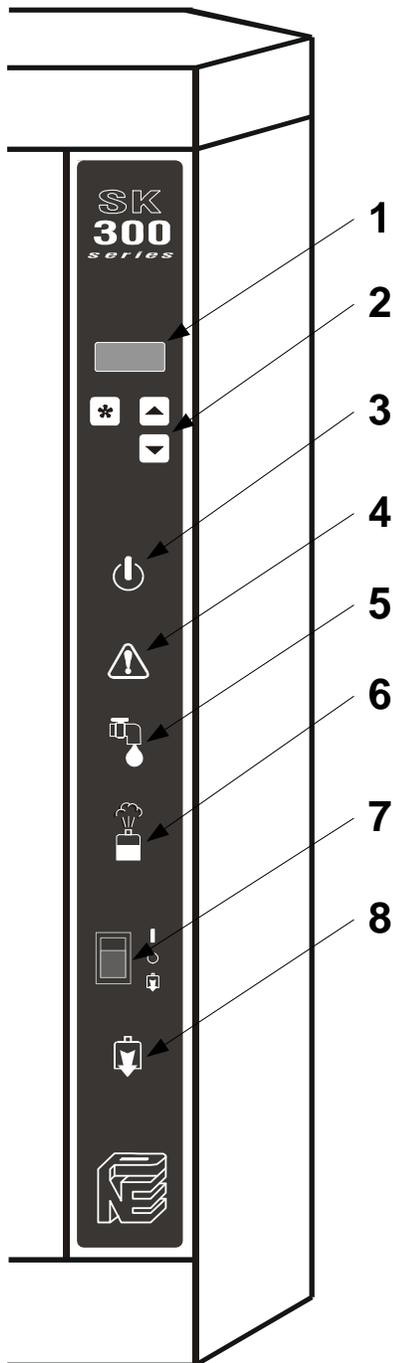
**WATER COOLER:** Internal drain water to ensure drain water tempering to 140°F (60°C) or less.

CSA-C-US certified.

**SK300 Series Humidifier**

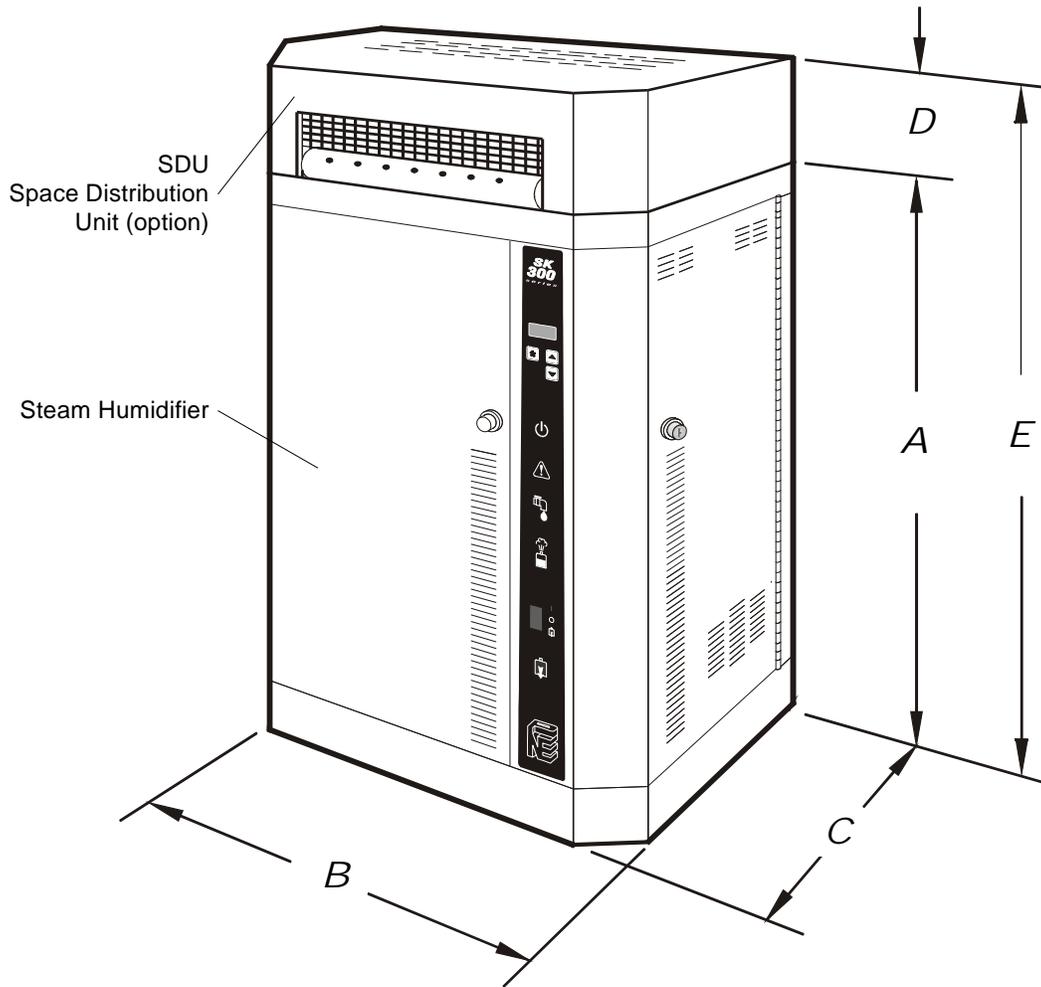


# SK300 Monitoring and Control Panel



1	Alphanumeric Display: Indicates all operation parameters and the error messages.	
2	Push button  ,  and 	
		M button: Used to access into program mode.
	 	Up and Down button: Used to increase or decrease the controlled parameters of the humidifier.
3	"POWER" indicator	
		The humidifier is powered by electricity and the switch is at the AUTO position.
		The humidifier is disconnected from the power supply.
4	"CHECK" indicator	
		The "CHECK" indication is normally off. It will go on as a warning against abnormal conditions of operation. For details consult the Alphanumeric Display.
	 <i>blinking</i>	Maintenance is required. The Running hours have exceeded the Service hours.
		No abnormal conditions of operation.
5	"FILL" indicator	
		Indication that the water supply (fill) valve is open.
		Indication that the water supply (fill) valve is closed.
6	"STEAM" indicator	
		ON/OFF model, the STEAM indicator lights when the contactor is closed and steam is being generated.
	 <i>blinking</i>	Modulating model, the STEAM indicator blinks ON and OFF in proportion to the percentage of steam output the humidifier is generating. (The proportion is displayed on the alphanumeric display (1)). For 100% the indicator will be lit with no blink.
		There is no steam being produced.
7	Switch "AUTO/OFF/DRAIN"	
	AUTO	Position AUTO (I): Humidifier will generate steam based on demand from the humidistat.
	OFF	Position OFF (O): Humidifier will shut off.
	DRAIN	Position DRAIN: Humidifier will stop operating and the evaporation chamber will drain the water out. This will be done typically at regular service.
8	Indicator "DRAIN"	
		Drain pump is on, whether as a result of an automatic drain cycle or because the front panel switch is manually set to DRAIN.
		Drain pump is off.

**Dimensions:**



**Dimensions & weight**

Tag:	Model	Dimensions of the cabinet							Option SDU Model Weight
		A	B	C	D	E	Weight		
							Empty	Full of water	
H-1	SK310-208-1	28 1/2"	21"	12 1/5"	6 5/8"	35 1/8"	66lb	115lb	25lb

## Positioning and Installation

### General recommendations

The humidifier should be installed in an easily accessible location to allow proper access for inspection and servicing of the humidifier. The unit should never be installed in a location where unusual malfunction of the unit can cause damage to the building structure or to costly equipment.

### Positioning

The SDU should be installed in an environment where the air is relatively clean.

The humidifier should be mounted such that the SDU fan section is at least 78" (2m) above the floor.

A minimum clearance of 18" (0.45m) from the ceiling should be allocated to avoid ceiling and wall condensation.

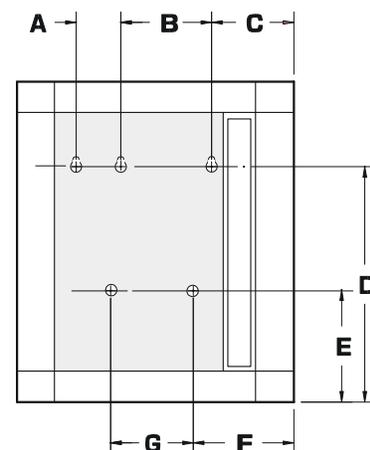
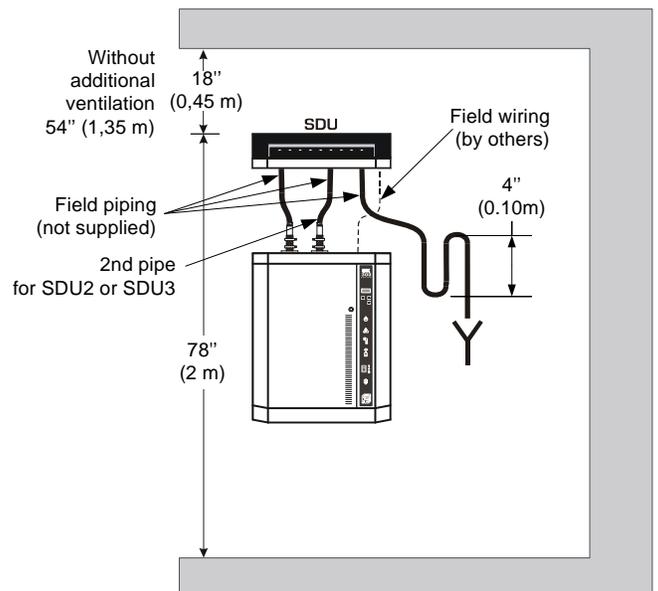
If additional ventilation is not present, the fan should have a clearance from the ceiling of at least 54" (1.35m). Proper ventilation must be observed to avoid ceiling and wall condensation.

A clearance of at least 96" (2.45m) from the front of the unit and 24" (0.6m) from the right hand side is necessary for comfortable access and service. The humidifier should be installed in a normally ventilated area and ambient temperature should not exceed 85°F (30°C).

### Wall mounting

The mounting of the humidifier on the wall is to be done by using the mounting keyholes accessible from inside the mechanical compartment. Before installation, remove the steam container as described in the maintenance instructions.

Note: When marking pilot holes, make sure that the humidifier is leveled



Tag	Model	Dimensions						
		A	B	C	D	E	F	G
H-1	SK310-208-1		10"	8"	24 5/8"	11"	8"	10"

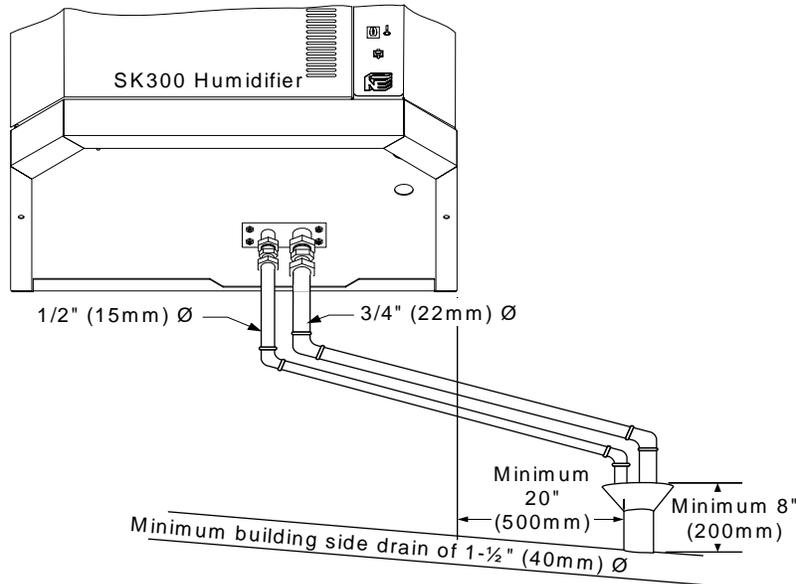
## Plumbing connections

### Shut off valve:

An isolation shut off valve should be fitted in the water supply line to the unit and installed close to the humidifier to facilitate servicing. It is recommended to install a standard water strainer in the water supply line.

### Drain connection:

The outlet for the two drain connections is a copper connector on the underside of the unit. Standard copper pipe can be used to provide the connection between the unit and the two drain connection between the unit and two drain connectors. Ensure proper drainage from the unit, especially if more than one unit is evacuating into the same drain.

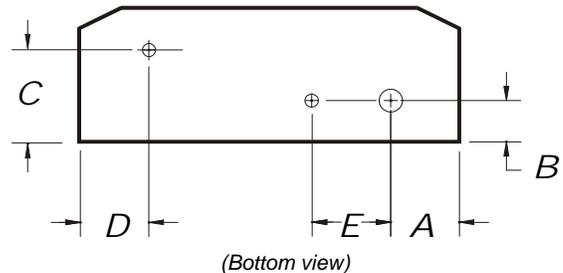


Plumbing connection

### Water supply:

The water inlet specifications are:

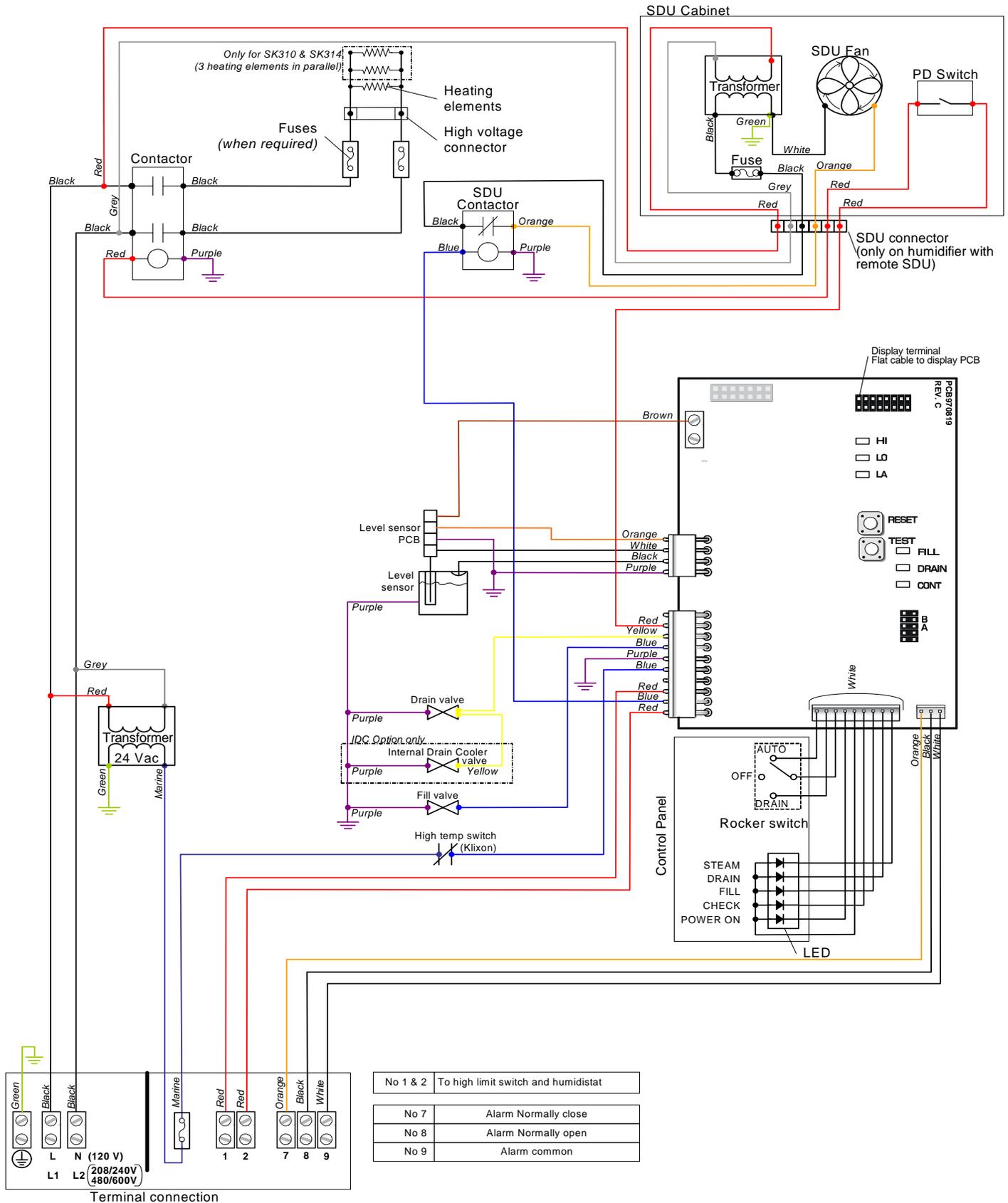
- ✓ Inlet water pressure: 10 to 70 psig (0,7 to 4,8 bars)
- ✓ Maximum temperature: 85°F (30°C) maximum
- ✓ 3/8" standard copper water line connection



(Bottom view)

Tag	Model	Dimensions				
		A	B	C	D	E
H-1	SK310-208-1	7 1/4"	1 3/4"	9 3/4"	4 1/8"	1 3/4"

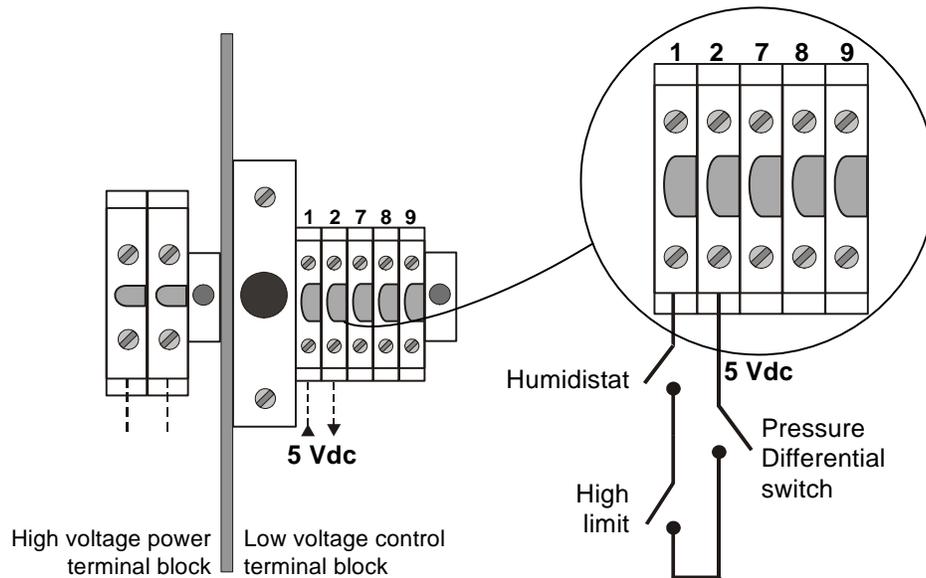
# Wiring Diagram (H-1)



No 1 & 2	To high limit switch and humidistat
No 7	Alarm Normally close
No 8	Alarm Normally open
No 9	Alarm common

## Control terminals

### "ON/OFF" Humidifier

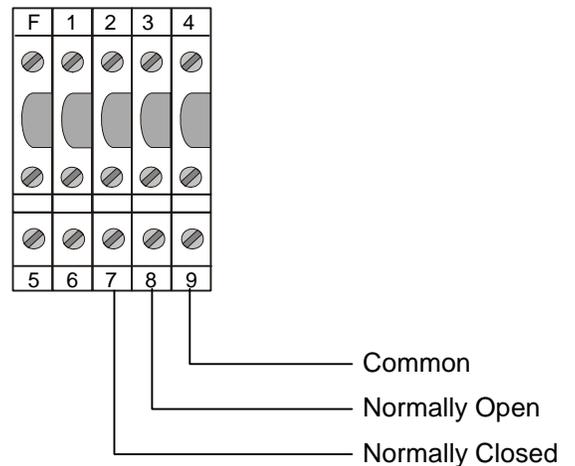


On SK300 with SDU (Space Distribution Unit), the pressure differential switch is wired at the factory inside the SDU cabinet.

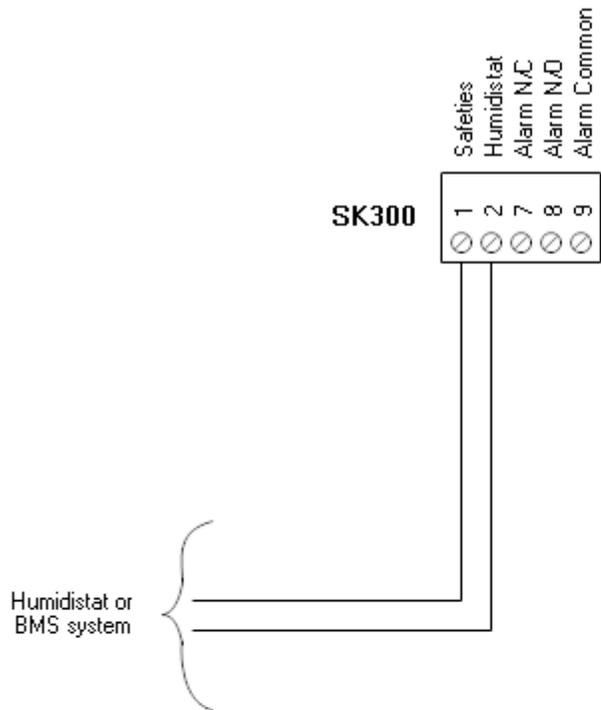
### Common Alarm Connections

A volt free contact is provided in the form of both a normally open and normally closed contact that will switch in the event of an alarm on the SK300 humidifier.

- Wherever possible it is recommended to use the normally closed contact. This contact will open in the event of a humidifier fault.
- These contacts should be used to switch a low voltage, ideally **24V**, with a switching current of no more than **3 Amps**.



## Control Wiring Diagram (H-1)



**Controls & Accessories**

Item	Model	Description
	IDC	Internal drain cooler blends cold water with the hot water discharged from the humidifier to reduce the drain water temperature below 140°F (60°C).