

# SK300 RESISTIVE STEAM HUMIDIFIER



**neptronic**<sup>®</sup>  
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# SK300 RESISTIVE STEAM HUMIDIFIER

The SK300 humidifies by converting electricity into heat through a resistive heating element. The element is submerged thus heating up the water in the evaporation chamber to produce steam. This process allows steam to be generated quickly with any water conditions.

## SK300 Advantages

The SK300 humidifier generates mineral free, odorless, sterile steam without the replacement cost associated with electrode cylinders.

- ▶ Permanent cleanable stainless steel evaporation chamber
- ▶ AFEC technology ensures safe and efficient operation
- ▶ Functions with severe, normal or DI/RO water conditions
- ▶ Equipped with drain pump and waste water cooling device
- ▶ On/Off operation, modulation optional
- ▶ Environment friendly – no plastic cylinders to replace
- ▶ Drain water tempered to below 140°F (60°C)
- ▶ Available with BACnet communication interface

## Typical Applications

The SK300 resistive steam humidifier is recommended to decrease static electricity buildup and increase moisture to ensure continuous productivity for commercial, institutional and industrial applications such as:

▶ Schools

▶ Hospitals

▶ Laboratories

▶ Museums

▶ Offices

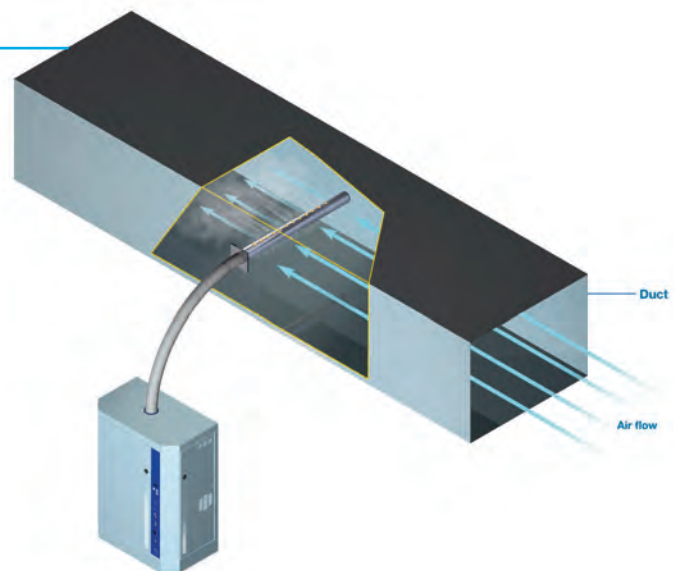


## Typical Installation

The SK300 humidifier is typically installed for duct distribution with a dispersion tube to supply steam.

Neptronic offers an outdoor enclosure as an option to protect the unit from any climate conditions.

As an alternative, where a duct system is not available, a wall mounted installation with an SDU (Space Distribution Unit) can be considered to supply steam. (not available for SK340 - SK390)



# System Overview

## Evaporation Chamber

Permanent, easily serviceable, stainless steel chamber. No need to replace expensive plastic bottles.

## Heating Element

Self-cleaning elements.

## AFEC System

Consists of a mass measuring water sensor, anti-foam sensor and electronic temperature sensor for precise water level detection and increased energy efficiency as it only drains when foam is actually detected.

## Fill Valve

The SK300 functions with severe, normal and DI/RO water conditions.

## Intelligent Controller

- Manages control sequences and performs self diagnostics
- On/Off or modulating control functions
- Alphanumeric LCD display
- Available with BACnet MS/TP communication

## Drain System

Powerful and robust drain pump with integrated waste water cooling device.

## Information Panel

## Electrical Compartment

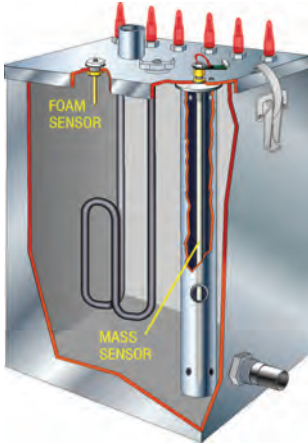


## Evaporation Chamber

### Evaporate water, not money!

The Neptonic SK300 humidifier includes a permanent, reusable stainless steel chamber instead of a disposable plastic bottle that must be replaced at least once a year, resulting in thousands of dollars of savings. These savings will more than pay for the initial cost of the humidifier.

# ■ AFEC System (Anti-Foaming Energy Conservation)



The AFEC technology developed by the Neptonic engineering team offers a unique, safe and energy efficient control of boiling water and steam.

The AFEC system consists of:

- ▶ Mass measuring water sensor
- ▶ Anti-foam sensor
- ▶ Electronic high temperature sensor
- ▶ Interactive LCD display and microprocessor controller

The foam sensing probe, which is unique to our design, automatically initiates a drain cycle upon foam formation. Unlike the competition, the drain can be initiated only when necessary without having a continuous skimming to drain off expensive boiling water.

## ■ Options

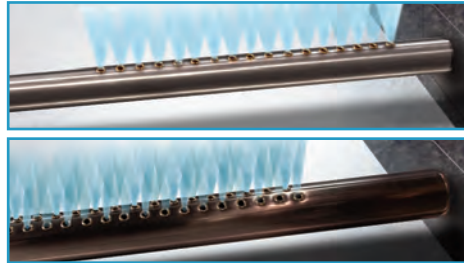
### ■ Steam Distribution Systems

For duct distribution installation, the SK300 requires either a Multi-Steam, S.A.M. or S.A.M.E2 as a steam distribution system to disperse steam.

For fan distribution installation, the SK300 can supply steam directly with an SDU (Steam distribution unit) into the room without a duct network or for a localized area.



For absorption distance of less than 3' (99mm)



For absorption distance of less than 5' (1500mm)



For Models SK302-SK330

### ■ X-Stream™ Technology

- ▶ High efficiency insulated steam distributor (channel and header) with patent pending steam ejector eyelets
- ▶ Double wall 304 stainless steel with encapsulated Armacell UT/Solaflex™ foam insulation
- ▶ Specially engineered silicone eyelets prevent condensate ejection on start up and any modulating humidity demand
- ▶ Significant reduction in wasted energy
- ▶ Reduces airstream heat gain and generated condensate
- ▶ For more details, refer to the X-Stream™ sales literature



Multi-Steam™ HD

# Outdoor Enclosure

## Robust Design for Any Climate

- ▶ Alphanumeric display accessible through window thus no need to open front door.
- ▶ Fully insulated and constructed from heavy duty steel
- ▶ Stainless steel bottom drip pan
- ▶ Zinc primer and polyurethane powder coating for resistance against scratches and corrosion on the exterior and interior surfaces
- ▶ Built-in anti-freeze and overheat protection
- ▶ Easy Installation on a roof curb or stand
- ▶ Connection can be made from side or bottom of unit for flexibility in any configuration



## Ease of Maintenance

The SK370 - SK390 models consists of a permanent stainless steel evaporation chamber which can be easily removed. Periodic service of evaporation chamber can be easily done in minutes.

### 3 Easy Steps!

1. Disconnect drain coupling
2. Disengage band clamp
3. Lower evaporation chamber and remove the water tank for scale removal and cleaning



## Specifications

### Output and Power Consumption

model	power KW	capacity Kg/hr	amperage							# of outlets	dia. of outlets
			240/1	208/1	208/3	480/1	480/3	600/1	600/3		
SK302	2 KW	6 lb/hr 2.73 kg/hr	8.5	10	-	4.5	-	3.5	-	1	1-3/8" 35mm
SK304	4 KW	12 lb/hr 5.5 kg/hr	17	19	11.5	8.5	5	7	4	1	1-3/8" 35mm
SK306	6 KW	18 lb/hr 8 kg/hr	26	30	16.5	13	7.2	10.5	6	1	1-3/8" 35mm
SK310	10 KW	30 lb/hr 14 kg/hr	-	-	28	-	12	-	10	1	1-3/8" 35mm
SK314	13.5 KW	40 lb/hr 19 kg/hr	-	-	38	-	16.5	-	13.5	1	1-3/8" 35mm
SK320	20 KW	60 lb/hr 28 kg/hr	-	-	XX	-	25	-	20	2	1-3/8" 35mm
SK330	30 KW	90 lb/hr 41 kg/hr	-	-	-	-	36	-	30	2	1-3/8" 35mm
SK340	40 KW	120 lb/hr 56 kg/hr	-	-	XX	-	50	-	40	2	2-1/8" 51mm
SK360	60 KW	180 lb/hr 82 kg/hr	-	-	-	-	72	-	60	3	2-1/8" 51mm
SK370	70 KW	210 lb/hr 95 kg/hr	-	-	-	-	84	-	70	1	3" 76mm
SK380	80 KW	240 lb/hr 108 kg/hr	-	-	-	-	96	-	81	2	3" 76mm
SK390	90 KW	270 lb/hr 122 kg/hr	-	-	-	-	109	-	91	2	3" 76mm

XX: Available, please consult factory.

Note: Designate the letter M for modulating units (ie: SK320M)

Designate the letter D for units operating with deionized water

# Humidisoft

## Specify your SK300 Online



## Humidifier System Design and Specification Web Application

Ready to specify your SK300 Humidifier? Nepronic has developed a web application that saves you time when sizing and specifying Nepronic commercial, industrial or residential humidifiers.

### Features

- ▶ Automatic load calculation
- ▶ Web based
- ▶ Report generator
- ▶ Display absorption distance
- ▶ Steam Dispersion Selection
- ▶ Humidifier Options
- ▶ Project Management

### Easy to Use

Once you have registered for an online account. You can start creating projects and create your very own humidifier virtually with all the available features with ease.

Projects	Humidifier	Dispersion	Options	Reports	Pricing
Type					
<input checked="" type="radio"/> Isothermal (Hot Steam) <input type="radio"/> Adiabatic (cold mist)					
Category					
<input checked="" type="radio"/> Commercial Electric <input type="radio"/> Commercial Gas <input type="radio"/> Residential Electric					
<input type="radio"/> Steam to Steam <input type="radio"/> Direct Steam					
Entering Air Conditions		Indoor Conditions		Distribution	
Temperature <input type="text"/> °F		Temperature: 69.8 °F		<input checked="" type="radio"/> In Duct	
Relative Humidity <input type="text"/> %		Relative Humidity: 30 %		<input type="radio"/> In Space	
Ventilation System					
<input type="radio"/> Natural <input checked="" type="radio"/> Mechanical <input type="radio"/> Economizer					
Total Air Flow: 3531 CFM			Outside Air: 100 %		
Humidifier(s)					
<input type="checkbox"/> Entry Load Manually      Calculated Load: 70.06 lb/hr      Total Capacity: 90.00 lb/hr <a href="#">Select Model</a>					

Projects	Humidifier	Dispersion	Options	Reports	Pricing
Flexible Steam Hose					
1 3/8" <input type="text"/> 6 ft <input type="checkbox"/> Straight Hump Silicone Hose SF 4501-35					
Drain Cooler					
<input checked="" type="checkbox"/> IDC Internal Drain Cooler (standard feature)					
<input type="checkbox"/> External Drain Cooler (thermostatic valve)					
Other Options					
<input checked="" type="checkbox"/> BACnet (MS/TP) Network Capability					
<input type="checkbox"/> Humidifier Weather Enclosure (W)					
<input type="checkbox"/> ASX115 High Temperature Water Pump					
<input type="checkbox"/> Insulated Tubes for the Multi-Steam HD with X-Stream technology					

## ENGINEERED TO LAST

### RESIDENTIAL



#### SKR

- ▶ Capacities from 4.5 - 12 lb/hr
- ▶ Permanent cleanable chamber
- ▶ Reliable siphon drain

### GAS FIRED



#### SKG3000

- ▶ Capacities from 110 - 810 lb/hr
- ▶ Modular design
- ▶ Outdoor enclosure available

### STEAM TO STEAM



#### SKS

- ▶ Capacities from 33 - 1250 lb/hr
- ▶ Scale management system
- ▶ Insulated external panels

### DIRECT STEAM



#### SKD

- ▶ Capacities from 7 - 1557 lb/hr
- ▶ Jacketed or Multi-Steam Type
- ▶ Unique Electronic Steam Controller

### ELECTRIC



#### SK300

- ▶ Capacities from 6 - 270 lb/hr
- ▶ Permanent cleanable chamber
- ▶ Outdoor enclosure available

### EVAPORATIVE



#### SKV

- ▶ Free cooling up to 12 °C (22 °F)
- ▶ Custom design to fit your application
- ▶ Hygienic operation with silver ions dosing system

### ATOMIZING



#### SKA

- ▶ Capacities up to 1320 lb/hr
- ▶ Drip free and self cleaning nozzles
- ▶ 10-year warranty on nozzles

### STEAM DISTRIBUTION



#### Distribution

- ▶ Multi-Steam distribution
- ▶ S.A.M & S.A.M.E2 wands
- ▶ SDU (Space distribution unit)

### HUMIDITY CONTROLS



#### Controls

- ▶ Humidity controls / sensors
- ▶ Safety controls
- ▶ BACnet compatible

MANUFACTURER OF ■

- HVAC CONTROLS
- ELECTRIC ACTUATORS
- ACTUATED VALVES
- HUMIDIFIERS
- ELECTRIC HEATERS

■  
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