

# SKE RESISTIVE STEAM HUMIDIFIER



**neptronic**<sup>®</sup>  
[www.neptronic.com](http://www.neptronic.com)

# SKE RESISTIVE STEAM HUMIDIFIER

The SKE 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.

## SKE Advantages

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

- ▶ Capacities from 5-120 kg/hr
- ▶ 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 60°C
- ▶ Available with BACnet communication interface

## Typical Applications

The SKE 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

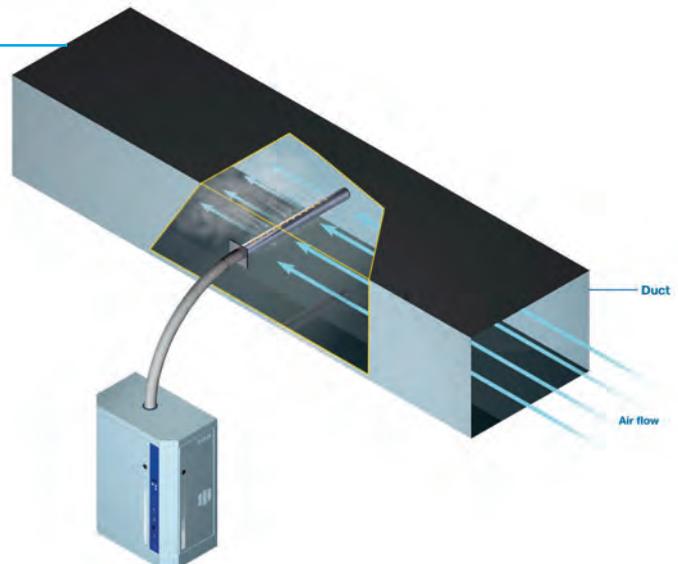


## Typical Installation

The SKE 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 SKE50 - SKE120)



# 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 SKE 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



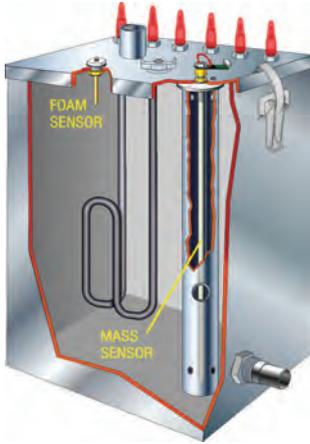
## Evaporation Chamber

### Evaporate water, not money!

The Neptonic SKE 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 Nepronic 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

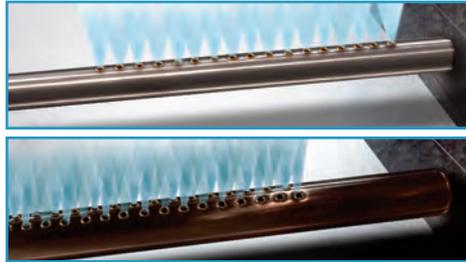
### ■ Steam Distribution Systems

For duct distribution installation, the SKE 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 SKE 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 900mm



For absorption distance of less than 1500mm



For Models SKE05-SKE40

### ■ 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 SKE90 - SKE120 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
			230/1	400/3		
SKE05	3.7	5	16	5.5	1	35mm
SKE10	7.5	10	33	11	1	35mm
SKE20	15	20	-	22	1	35mm
SKE30	22	30	-	33	2	35mm
SKE40	30	40	-	44	2	35mm
SKE50	36	50	-	53	2	54mm
SKE60	44	60	-	64	2	54mm
SKE80	60	80	-	87	3	54mm
SKE90	66	90	-	96	1	76mm
SKE100	74	100	-	107	1	76mm
SKE110	82	110	-	119	2	76mm
SKE120	90	120	-	130	2	76mm

Note: Designate the letter M for modulating units (ie: SKE40M)  
Designate the letter D for units operating with deionized water

# Humidisoft

## Specify your SKE Online



## Humidifier System Design and Specification Web Application

Ready to specify your SKE 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.

Project	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"/> °C		Temperature <input type="text" value="21"/> °C		<input checked="" type="radio"/> In Duct	
Relative Humidity <input type="text"/> %		Relative Humidity <input type="text" value="40"/> %		<input type="radio"/> In Space	
Ventilation System					
<input type="radio"/> Natural <input checked="" type="radio"/> Mechanical <input type="radio"/> Economizer					
Total Air Flow <input type="text" value="7500"/> m <sup>3</sup> /hr			Outside Air <input type="text" value="100"/> %		
Humidifier(s)					
<input type="checkbox"/> Enter Load Manually     Calculated Load <input type="text" value="53.51"/> kg/hr     Total Capacity <input type="text" value="60.00"/> kg/hr <a href="#">Select Model</a>					

Project	Humidifier	Dispersion	Options	Reports	Pricing
Flexible Steam Hose					
54 mm <input type="text"/> 4 m <input checked="" type="checkbox"/> Straight Hump Silicone Hose SF 4501-55					
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)					

## ENGINEERED TO LAST

### RESIDENTIAL



#### SKR

- ▶ Capacities from 3-5 kg/hr
- ▶ Permanent cleanable chamber
- ▶ Reliable Siphon drain

### GAS FIRED



#### SKGE3

- ▶ Capacities from 50-400 kg/hr
- ▶ Modular design
- ▶ Outdoor enclosure available

### STEAM TO STEAM



#### SKS

- ▶ Capacities from 15-670 kg/hr
- ▶ Scale management system
- ▶ Insulated external panels

### DIRECT STEAM



#### SKD

- ▶ Capacities from 2-525 kg/hr
- ▶ Jacketed or Multi-Steam Type
- ▶ Unique Electronic Steam Controller

### ELECTRIC



#### SKE

- ▶ Capacities from 5-120 kg/hr
- ▶ Permanent cleanable chamber
- ▶ Outdoor enclosure available

### EVAPORATIVE



#### SKV

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

### HIGH PRESSURE ATOMIZER



#### SKH

- ▶ Capacities up to 1200 kg/hr
- ▶ Up to 32 zones
- ▶ Installation In-duct or In-space

### 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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