

# SKE4 RESISTIVE STEAM HUMIDIFIER



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

# SKE4 RESISTIVE STEAM HUMIDIFIER

The SKE4 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. The process allows steam to be generated quickly with any water condition.

## Advantages

The SKE4 humidifier generates mineral free, odorless, sterile steam without the replacement cost associated with electrode cylinders.

- ▶ Capacities from 6-270 lb/hr (2.7-122 kg/hr)
- ▶ Compartmentalized enclosure separates the plumbing, controls, and high-voltage sections
- ▶ Remove the stainless steel evaporation chamber in less than 20 seconds without tools (the heating elements and the steam hose remain fixed)
- ▶ Patent-pending water level detection system using two sensor technologies
- ▶ Patented Anti-Foaming Energy Conservation (AFEC) System
- ▶ Available with BACnet MS/TP or Modbus communication interface
- ▶ Optional ethernet module for BACnet IP or Modbus IP, and Web services
- ▶ Independent schedules for system mode and drain

## Evaporation Chamber

### Evaporate water, not money!

The Nepronic SKE4 humidifier includes a permanent, lightweight and 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.



**No tools required**



**Limits lifting and simplifies handling**



**Disconnect the water inlet**



**Disengage the 2 clamps**



**Drop down evaporation chamber with rail-guided system**

# System Overview



**SD Card**

- ▶ Event history log
- ▶ Firmware upgrade

## Patent-Pending Water Level Detection System

- ▶ Self-cleaning and self-calibrating sensors
- ▶ Utilizes two different sensor technologies
- ▶ Precise and reliable water level detection
- ▶ Anti-Foaming Energy Conservation (AFEC) System: drains water only when foam is detected

## All Silicone Piping

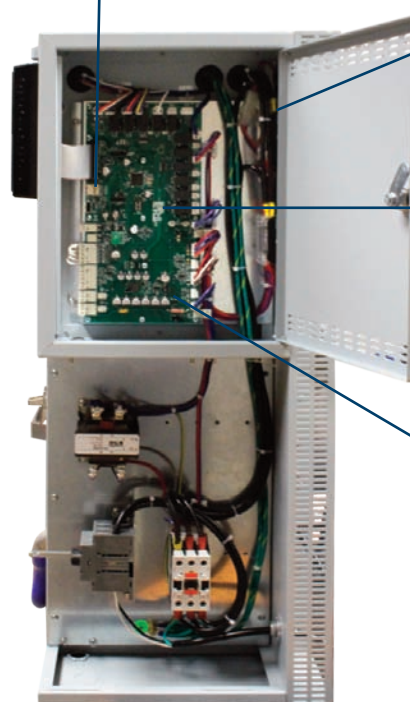
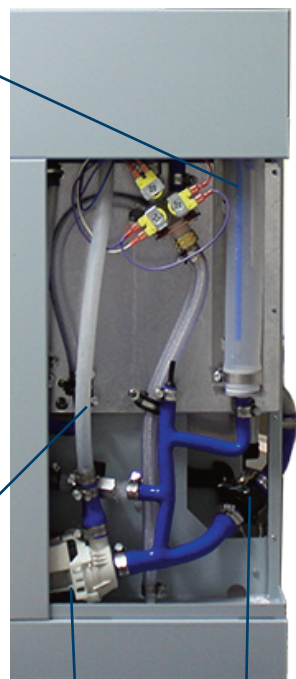
- ▶ No copper piping
- ▶ Resists to higher water temperatures
- ▶ Suitable for all water types including DI and RO (consult factory for Ultrapure)

## Manual Drain

- ▶ Functions even without power

## Quick Connect Water Inlet

- ▶ No tools required



## SSR with External Heat sink

- ▶ No cooling fan required
- ▶ Reduces noise level

## Ethernet Module (optional)

- ▶ BACnet IP or Modbus IP
- ▶ Local and remote web services

## BACnet MS/TP and Modbus Module (optional)

# Options

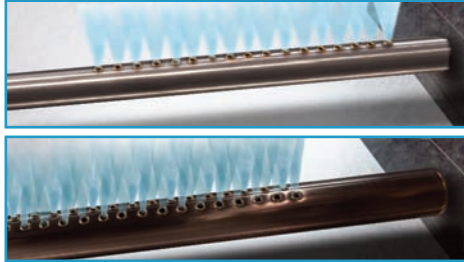
## Steam Distribution Systems

For duct distribution installation, the SKE4 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 SKE4 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' (914mm)



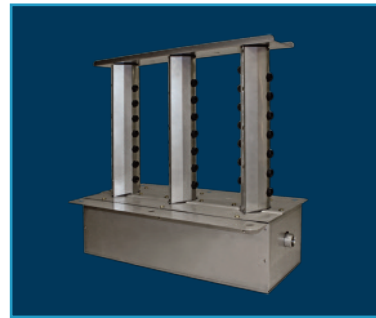
For absorption distance of less than 5' (1500mm)



For Models SKE4-N02 to SKE4-N30

## 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



Multi-Steam™ HD

## Outdoor Enclosure

- ▶ 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



# Advanced Controller

The SKE4 controller is configured specifically for your SKE4 Steam Humidifier.

- ▶ User-friendly interface consisting of a menu driven 128 x 64 LCD with 8 function buttons for faster configuration and operation
- ▶ User rights management system allows for menu to display only functions available to the type of user logged in: End User, Service Technician, Installer or Integrator
- ▶ Quick Config menu allows for faster and easier installation, by displaying only the most commonly used functions and configurations
- ▶ Independent scheduling system for unit operation and drain cycle configurable via the menu or the BACnet communication interface
- ▶ In-field firmware upgradeable via SD card, USB or BACnet
- ▶ Simple viewing and exporting of trending log and alarm log

Optional features:

- ▶ The selectable BACnet MS/TP or Modbus menus allow access to over 75 objects/registers for integration with a BMS and IoT (Internet of Things)
- ▶ Ethernet module
  - BACnet IP or Modbus IP
  - Web services make it possible to perform humidifier configurations, remote diagnostics and many more functions from any location



## Specifications

### Output and Power Consumption

Model	Steam Capacity (lb/hr) [kg/hr]	Power KW	Consumption								QTY	Steam Output Diameter (inch) [mm]
			Amperage (A)									
			120/1	240/1	208/1	208/3	480/1	480/3	600/1	600/3		
<b>SKE4-N02</b>	6 [2.7]	2	17	8.5	10	-	4.5	-	3.5	-	1	1 3/8 [35]
<b>SKE4-N04</b>	12 [5.5]	4	-	17	19	11.5	8.5	5	7	4	1	1 3/8 [35]
<b>SKE4-N06</b>	18 [8]	6	-	26	30	16.5	13	7.2	10.5	6	1	1 3/8 [35]
<b>SKE4-N10</b>	30 [14]	10	-	-	-	28	-	12	-	10	1	1 3/8 [35]
<b>SKE4-N14</b>	40 [19]	13.5	-	-	-	38	-	16.5	-	13.5	1	1 3/8 [35]
<b>SKE4-N16</b>	48 [21.8]	16	-	-	-	45	-	-	-	16	1	2 1/8 [54]
<b>SKE4-N20</b>	60 [28]	20	-	-	-	-	-	25	-	20	1	2 1/8 [54]
<b>SKE4-N30</b>	90 [41]	30	-	-	-	-	-	36	-	30	1	2 1/8 [54]
<b>SKE4-N20 L</b>	60 [28]	20	-	-	-	56	-	-	-	-	1	3 [76]
<b>SKE4-N40</b>	120 [56]	40	-	-	-	-	-	50	-	40	1	3 [76]
<b>SKE4-N50</b>	150 [68]	50	-	-	-	-	-	60	-	50	1	3 [76]
<b>SKE4-N60</b>	180 [82]	60	-	-	-	-	-	72	-	60	1	3 [76]
<b>SKE4-N30 X</b>	90 [41]	30	-	-	-	83.4	-	-	-	-	1	3 [76]
<b>SKE4-N40 X</b>	120 [56]	40	-	-	-	111	-	-	-	-	1	3 [76]
<b>SKE4-N70</b>	210 [95]	70	-	-	-	-	-	84	-	70	1	3 [76]
<b>SKE4-N80</b>	240 [108]	80	-	-	-	-	-	96	-	81	2	3 [76]
<b>SKE4-N90</b>	270 [122]	90	-	-	-	-	-	109	-	91	2	3 [76]

Note: Designate the letter M for modulating units (ie: SKE4-N20M).  
 Designate the letter D for units supplied with deionised or reverse osmosis water.  
 Designate the letter W for units having a weather proof enclosure.  
 Designate the letter B for the BACnet network communication option.  
 Designate the letter E for the Ethernet (IP) option.  
 Designate the letter P for units with a stainless steel cabinet.

OSHPD  
Office of Statewide Health  
Planning and Development



# Humidisoft

## Specify your SKE4 Online



## Humidifier System Design and Specification Web Application

Ready to specify your SKE4 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 <input type="text" value="69.8"/> °F		<input checked="" type="radio"/> In Duct	
Relative Humidity <input type="text"/> %		Relative Humidity <input type="text" value="30"/> %		<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="3531"/> CFM			Outside Air <input type="text" value="100"/> %		
Humidifier(s)					
<input type="checkbox"/> Entry Load Manually      Calculated Load <input type="text" value="70.06"/> lb/hr      Total Capacity <input type="text" value="90.00"/> lb/hr <a href="#">Select Model</a>					

Projects	Humidifier	Dispersion	Options	Reports	Pricing
Flexible Steam Hose					
<input checked="" type="checkbox"/> 1 3/8" <input type="text" value="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					

# Humidifier Product Line



## Residential



### SKR

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

## Gas Fired



### SKG4

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

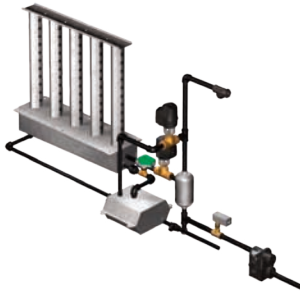
## Steam to Steam



### SKS4

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

## Direct Steam



### SKD

- Capacities from 7 - 1157lb/hr
- Jacketed or multi-steam type
- Unique electronic steam controller
- Optional pressurized condensate return (PCR) system

## Electric



### SKE4

- Capacities from 6 - 270 lb/hr
- Remove chamber in 20 seconds, without tools
- Patent-pending water level detection system

## Evaporative



### SKV

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

## High Pressure Atomizer



### SKH

- Capacities up to 4738 lb/hr
- BACnet, MS/TP communication
- 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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