

SKS STEAM TO STEAM HUMIDIFIER



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The SKS humidifier provides chemical free steam by using an on-site central boiler or steam generating station as a heat source. The raw steam under pressure or high temperature hot water (HTHW) from the boiler provides the energy to produce clean sterilized steam.

SKS Advantages

The SKS humidifier offers an innovative design and trouble free operation. The wide modulation range, high capacities and ease of servicing make it the most dependable and best steam to steam humidifier in the market.

- ▶ Capacities from 15 to 670 kg/hr of steam
- ▶ Maximum boiler steam pressure of 100 kPa for raw steam and up to 690 kPa for HTHW
- ▶ Copper (for HTHW) or stainless steel (for raw steam) heat exchangers
- ▶ Ease of servicing: cleans and re-installs within minutes
- ▶ Comprehensive scale management system
- ▶ AFEC system, mass measuring water sensor
- ▶ Drain water tempered to below 60°C
- ▶ Uses either domestic, RO or DI water
- ▶ Available with BACnet communication interface

Typical Applications

The SKS is recommended when a pressurized steam or HTHW is available for providing pure and clean atmospheric steam in applications such as:

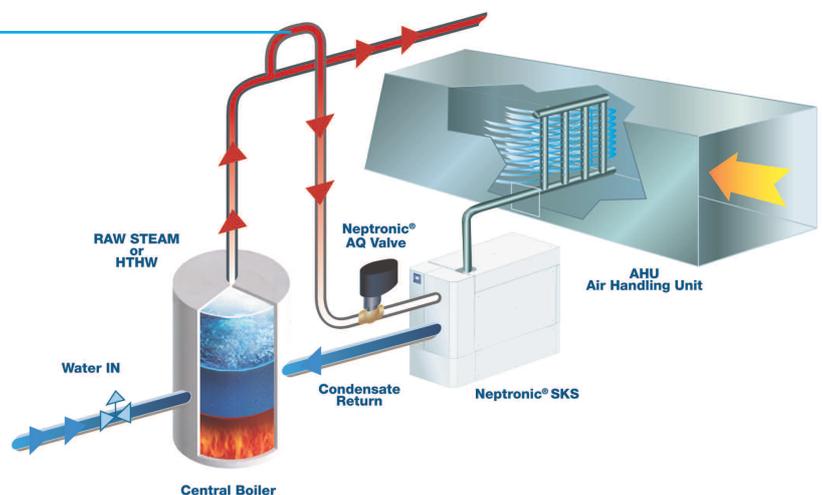
- ▶ Schools
- ▶ Hospitals
- ▶ Printing
- ▶ Museums
- ▶ Offices



Typical Installation

The main energy source of the SKS is either raw steam under pressure or high temperature hot water (HTHW) from an on-site central boiler.

The raw steam or HTHW passes through the heat exchanger of the humidifier, thus providing the energy to produce clean sterilized steam to be distributed to the Air Handling Unit (AHU) system or duct.



System Overview

Evaporation Chamber

The 304 stainless steel evaporation chamber is equipped with handles for easy removal without any tools.

Heat Exchanger

Raw steam or HTHW passes through the heat exchanger, thus providing the energy to produce clean sterilized steam. Available in 316 stainless steel (for low pressure) or copper (for HTHW).

Steam Outlet

Insulated Cabinet

The fully enclosed steel powder-painted cabinet with 25mm thick insulation eliminates accidental contact with hot surfaces and saves energy.

Scale Trap Trays

These trays can be accessed from the top of the unit allowing for easy maintenance and scale removal.



Control Panel

AFEC System

Mass measuring water sensor, foam sensor and temperature sensor for precise water level detection and increased energy efficiency as it only drains when foam is actually detected.

Condensate Return

Floor Stand (optional)

Adjustable legs ensure proper level when installed directly on the floor.



Self Cleaning System

Scale management system

The SKS is designed with a comprehensive scale management system. The supply of cold water, located at the sloped bottom of the evaporation chamber, forces the precipitated mineral deposits into baskets that can easily be removed.



Modulating Control

The SKS are supplied with a linear actuated globe valve giving full modulating control of low pressure steam.



■ AFEC System

(Anti-Foaming Energy Conservation)



The AFEC technology developed by the Neptronic engineering team offers 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.

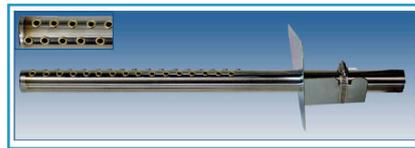
■ Options

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

■ Steam Distribution Systems



Multi-Steam:
For absorption distance
of less than 99mm



S.A.M.E2:
For absorption distance
of less than 1500mm

■ 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

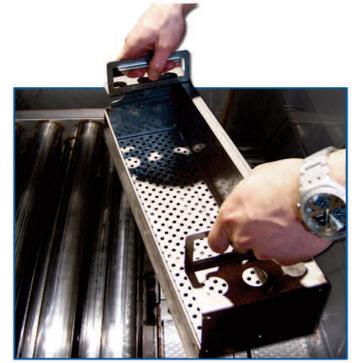


Multi-Steam™ HD

Ease of Maintenance

Easy to remove baskets

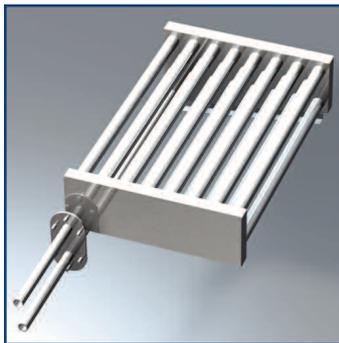
The SKS offers built in baskets located at the bottom of the evaporation chamber. These trays can be accessed from the top of the unit allowing for easy maintenance and scale removal.



Specification

Heat Exchanger - SLP Stainless Steel 316

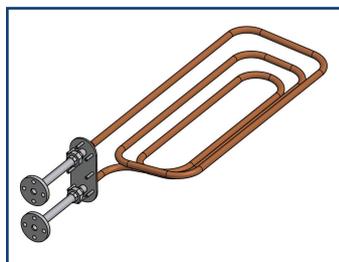
For raw steam, low pressure applications (100 kPa Max)



Model	Nb of heat exc.	Output steam capacity kg/hr for supply steam pressure					Steam outlet Qty & Ø mm
		5 PSI 34.5kPa	8 PSI 55.1kPa	10 PSI 68.9kPa	12 PSI 82.7kPa	15 PSI 103.4kPa	
SKS-100-SLP	1	15	24	30	36	45	(1x) 76
SKS-130-SLP	1	19	31	39	47	59	(1x) 76
SKS-190-SLP	1	28	46	57	69	86	(1x) 76
SKS-290-SLP	1	44	70	87	105	132	(1x) 108
SKS-390-SLP	1	59	94	118	142	177	(1x) 108
SKS-500-SLP	1	76	121	151	182	230	(1x) 133
SKS-690-SLP	1	104	167	209	251	314	(1x) 133
SKS-950-SLP	1	144	230	287	345	432	(2x) 108
SKS-1250-SLP	2	189	303	378	454	568	(2x) 133

Heat Exchanger - CHP Copper

For HTHW - CHP Copper High Pressure (689 kPa Max.)



Model	Output steam capacity kg/hr for supply HTHW pressure							Steam outlet Qty & Ø mm
	116°C	121°C	127°C	138°C	149°C	160°C	170°C	
	69kPa	103kPa	137kPa	241kPa	344kPa	517kPa	689kPa	
SKS-200-CHP	18	30	39	69	99	150	200	(1x) 108
SKS-333-CHP	29	50	66	116	166	249	333	(2x) 108
SKS-667-CHP	59	100	132	231	331	499	667	(2x) 133

Humidisoft

Specify your SKS Online



Humidifier System Design and Specification Web Application

Ready to specify your SKS 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 type="radio"/> Commercial Electric <input type="radio"/> Commercial Gas <input type="radio"/> Residential Electric <input checked="" 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"/> 21 °C		<input checked="" type="radio"/> In Duct	
Relative Humidity <input type="text"/> %		Relative Humidity <input type="text"/> 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"/> 7500 m ³ /hr				Outside Air <input type="text"/> 100 %	
Humidifier(s)					
<input type="checkbox"/> Enter Load Manually		Calculated Load <input type="text"/> 53.51 kg/hr		Total Capacity <input type="text"/> 59.00 kg/hr Select Model	

Project	Humidifier	Dispersion	Options	Reports	Pricing
Flexible Steam Hose		High Limit & Air Pressure Switch			
76 mm <input type="text"/> 4 m		<input checked="" type="checkbox"/> Air Pressure switch APS <input checked="" type="checkbox"/> High Limit Duct Humidistat HC201			
Heat Exchanger			Electric Actuated Steam Valve		
<input checked="" type="radio"/> Stainless Steel <input type="radio"/> Stainless Steel Teflon Coated <input type="radio"/> Stainless Steel Nickel Plated <input type="radio"/> Copper <input type="radio"/> Copper Teflon Coated <input type="radio"/> Copper Nickel Plated			<input type="radio"/> None <input checked="" type="radio"/> Brass Trim <input type="radio"/> Stainless Steel Trim		
Other Options					
<input checked="" type="checkbox"/> BACnet (MS/TP) Network Capability <input checked="" type="checkbox"/> Float / Thermostatic Steam Trap <input checked="" type="checkbox"/> Steam Supply Strainer <input checked="" type="checkbox"/> Floor Legs <input type="checkbox"/> Wall Mounting Brackets <input type="checkbox"/> Hanging Brackets <input type="checkbox"/> Standard DI/RO Water (below 10 megohm) <input type="checkbox"/> Humidifier Weather Enclosure (W)					

■ Humidifier Product Line



ENGINEERED TO LAST

ELECTRIC



SKE

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

RESIDENTIAL



SKR

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

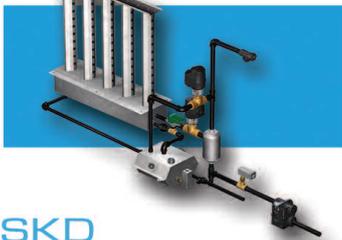
GAS FIRED



SKGE3

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

DIRECT STEAM



SKD

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

STEAM TO STEAM



SKS

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

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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