SKS4 STEAM TO STEAM HUMIDIFIER

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The SKS4 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 steam through a heat exchanger.

The SKS4 is recommended for applications such as schools, hospitals, printing shops, museums and offices.
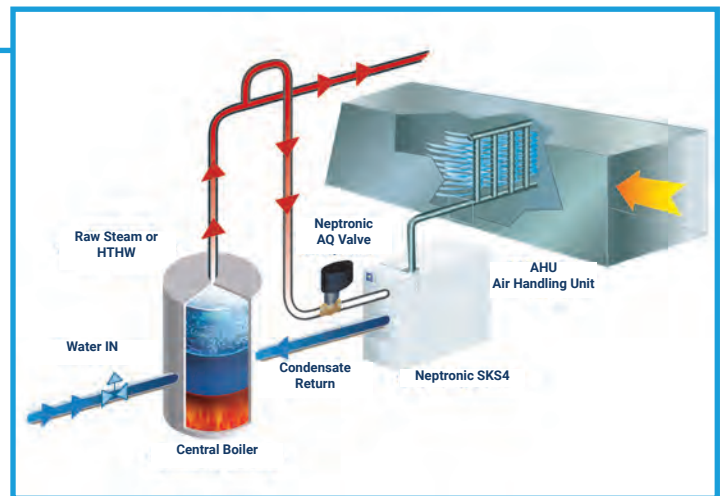
Advantages

- Capacities from 15 - 670 kg/hr of steam
- Copper (for HTHW) or stainless steel (for raw steam) heat exchangers
- Comprehensive scale management system
- Ease of servicing: clean and re-install within minutes
- Patent-pending water level detection system using 2 sensor technologies
- Uses domestic, RO or DI water

- Available with BACnet MS/TP or Modbus communication
- Optional ethernet module for BACnet IP or Modbus IP, and web services
- Patented Anti-Foaming Energy Conservation (AFEC) System
- Drain water tempered to below 60°C

Typical Installation

Steam to Steam Humidification

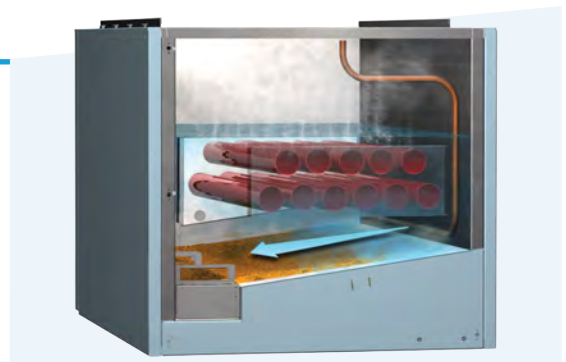The main energy source of the SKS4 is raw steam under pressure from an on-site central boiler.

The raw steam 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.

Self-Cleaning System

Scale Management System

The SKS4 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 and cleaned.

System Overview

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 steam) and copper (for HTHW).

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

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.

Patent-Pending Water Level Detection System
- Self-cleaning and self-calibrating sensors
- Utilizes 2 different sensor technologies
- Precise and reliable water level detection
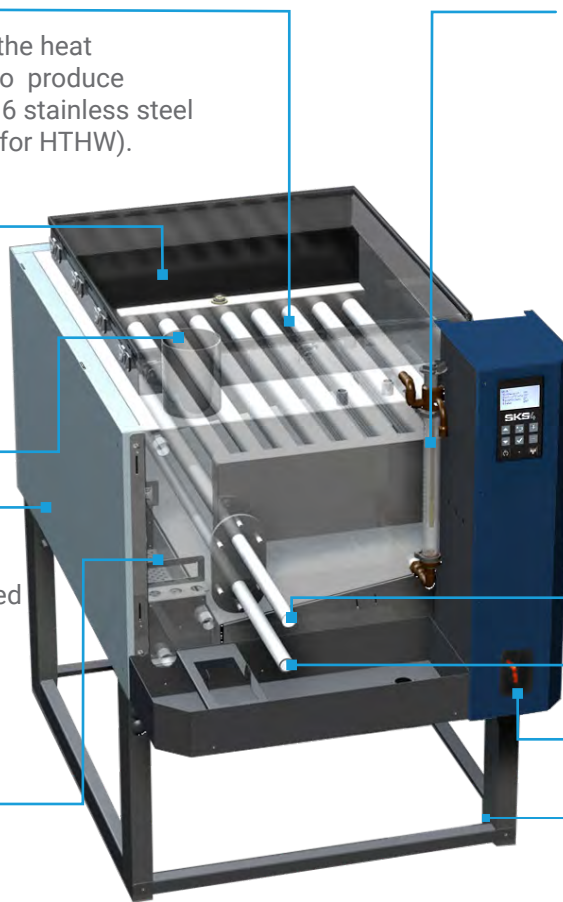- Anti-Foaming Energy Conservation (AFEC) System: drains water when foam is detected

Pressurized Steam Supply

Condensate Return

Disconnect Switch

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

Modulating Control

The SKS4 is supplied with a linear actuated globe valve giving full modulation control of low pressure steam.

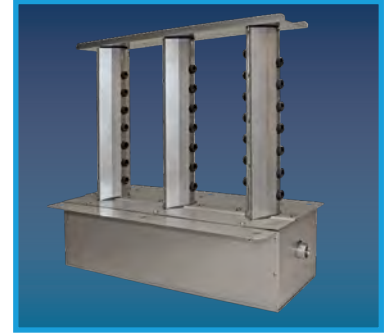# Options

Steam Distribution Systems

For duct distribution installation, the SKS4 requires either a Multi-Steam SD, Multi-Steam HD, or S.A.M.E2 as a steam dispersion system.

Multi-Steam SD:
For absorption distance
of less than 900mm

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

Multi-Steam HD:
High efficiency steam
distributor (channel and
header) with patent pending
steam ejector eyelets

Outdoor Enclosure

- Hinged doors provide full access (serviceability) from the front, back and top of unit
- 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
- Built-in anti-freeze and overheat protection
- Easy installation on a roof curb, stand or slab

Features

Heat Exchanger - SLP Stainless Steel 316 (For Raw Steam)

Model	Output Steam Capacity [kg/h] for Supply Steam Pressure					Steam Outlet Qty & Ø (mm)
	0.34 Bar [34.5kPa]	0.55 Bar [55.1kPa]	0.69 Bar [68.9kPa]	0.83 Bar [82.7kPa]	1.03 Bar [103.4kPa]	
SKS4-100-SLP	15	24	30	36	45	76
SKS4-130-SLP	19	31	39	47	59	76
SKS4-190-SLP	28	46	57	69	86	76
SKS4-290-SLP	44	70	87	105	132	100
SKS4-390-SLP	59	94	118	142	177	100
SKS4-500-SLP	76	121	151	182	230	125
SKS4-690-SLP	104	167	209	251	314	125
SKS4-950-SLP	144	230	287	345	432	2x 100
SKS4-1250-SLP	189	303	378	454	568	2x 125

Heat Exchanger - CHP Copper (For HTHW)

Model	Output Steam Capacity (kg/hr) for HTHW Temperature & Pressure							Steam Outlet Qty & Ø (mm)
	116°C	121°C	127°C	138°C	149°C	160°C	170°C	
	0.69 Bar [69kPa]	1.03 Bar [103kPa]	1.37 Bar [137kPa]	2.41 Bar [241kPa]	3.44 Bar [344kPa]	5.17 Bar [517kPa]	6.89 Bar [689kPa]	
SKS4-200-CHP	18	30	39	69	99	150	200	(1x) 100
SKS4-333-CHP	29	50	66	116	166	249	333	(2x) 100
SKS4-667-CHP	59	100	132	231	331	499	667	(2x) 125

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

Integrated, Multi-Platform Controller

The SKS4 controller is configured specifically for your SKS4 Steam Humidifier.

- User-friendly, menu-driven interface on a 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

Humidisoft ⚙

Specify your SKS4 online

Humidifer System Design and Specification Web Application

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

Features

- Automatic humidification load calculation
- Web based
- Selection specific report generator
- Only options related to your selections appear
- Manage users, clients, job sites and humidifier specs
- History log

Easy to Use

Go to neptronic.com, select Humidisoft and log in. Enter design requirements and Humidisoft automatically calculates the humidification load and adjusts available options based on your selections. When done, print a complete schedule, CSI and/or submittal report at the click of a button.

Humidifier Product Line

Electric

SKE4
- Capacities from 5 - 120 kg/hr
- Remove chamber easily, without tools
- Outdoor unit available

Gas Fired

SKG4
- Capacities from 50 - 400 kg/hr
- Modular design
- Outdoor unit available

Steam to Steam

SKS4
- Capacities from 15 - 670 kg/hr
- Scale management system for easy maintenance
- Insulated external panels

Residential

SKR
- Capacities from 3 - 5 kg/hr
- Permanent cleanable chamber
- Reliable siphon drain

High Pressure Atomizer

SKH
- Capacities up to 2100 kg/hr
- Up to 10 zones
- Installation in-duct or in-space

Evaporative

SKV
- Free cooling up to 12ºC
- Custom design to fit your application
- Hygienic operation with silver ion dosing system

Direct Steam

SKD
- Capacities from 2 - 750 kg/hr
- Jacketed or Multi-Steam™ SD/HD
- Unique electronic steam controller
- Optional pressurized condensate return (PCR) system

Steam Distribution

Distribution
- Multi-Steam™ SD/HD 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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