SKV

EVAPORATIVE COOLING
HUMIDIFIER

CE

neptronic®

www.neptronic.com

SKV
EVAPORATIVE COOLING HUMIDIFIER

In an evaporative humidifier, water is supplied to the top of the evaporative module and flows down the wet media (like a waterfall). Warm dry air passes through the wet media, evaporates water and thus raises the humidity level. The SKV also offers up to 12°C of cooling as a result of the transfer of energy when the water evaporates.

Up to 12°C **± 1% RH**

SKV Advantages

- Very low energy consumption (< 1kW)
- Hygienic operation
- Environmentally friendly
- Very low maintenance

- Free cooling up to 12°C
- Custom modular design to fit any application
- Low pressure drop

Typical Applications

The SKV Evaporative Cooling humidifier is ideal for any application requiring cost effective and hygienic solutions for humidification needs with free cooling up to 12°C. With very low energy and water consumption, the SKV is the perfect complement to any green or LEED building. The SKV can be installed in applications such as:
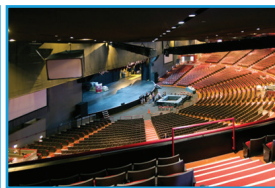
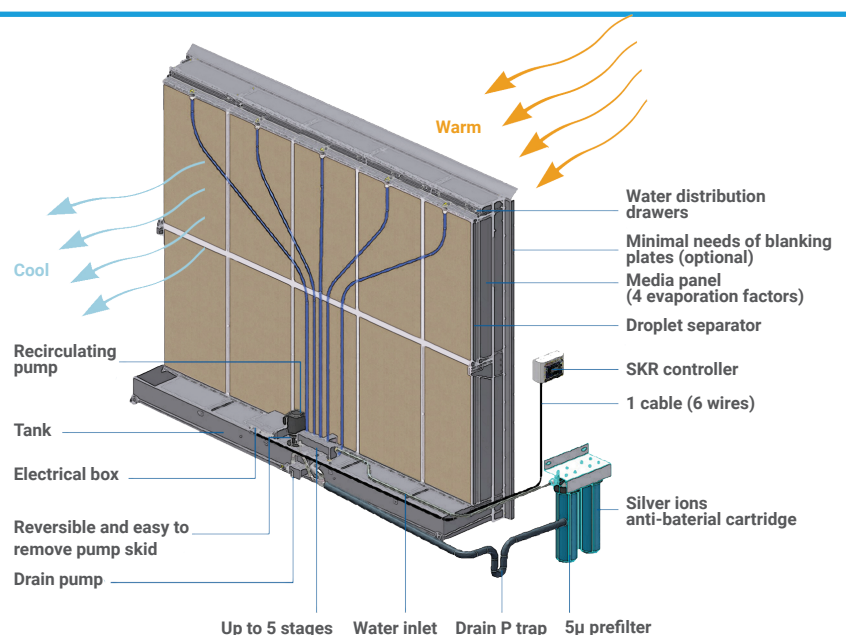■ **Data Centers**   ■ **Paint Shops**   ■ **Amphitheaters**   ■ **Greenhouses**   ■ **Commercial Buildings**

Typical Installation

Use the Neptronic Humidisoft web application to customize the evaporative module to your exact duct dimensions. This minimizes the need of blanking plates, thus ensuring a lower pressure drop.

The SKV is easy to install. Just connect the drain, water supply, power supply, and 6 low-voltage wires between the controller and the evaporative module. The controller's stainless steel IP56 rated enclosure allows for outdoor installations.

Warm

Cool

Water distribution drawers
Minimal needs of blanking plates (optional)
Media panel (4 evaporation factors)
Droplet separator
SKR controller
1 cable (6 wires)

Recirculating pump

Tank

Electrical box

Reversible and easy to remove pump skid

Drain pump

Silver ions anti-baterial cartridge

Up to 5 stages   Water inlet   Drain P trap   5µ prefilter

System Overview

Inorganic Fibreglass Media
Hygienic, maintenance free, fire resistant and incombustible corrugated media, provides exceptional moisture absorption, for continuous humidification and evaporative cooling even at high air velocity.

Parametric Design
Use Neptronic Humidisoft web application to customize the evaporative module to your exact duct dimensions. This minimizes needs of blanking plate, thus ensuring a lower pressure drop.

Water Distribution Drawer
Easy to remove for cleaning and maintenance

Circulation Pump
Robust pump functions with tap or RO water

Staging Valves
Offers up to 5 stages providing very flexible and accurate control

Drain Pump
Fast and reliable pump that can lift the drained water.

Silver Ion Cartridge
Water pretreated with 5μm pre-filter and anti-bacterial silver ions prevent microbial growth.

SKV Controller

The SKV controller is configured specifically for your SKV Evaporative Humidifier.

- Microprocessor based, field configurable controller
- Master/slave configuration for up to 4 evaporative modules
- On/Off or modulating control type
- Real-time clock with flexible scheduler
- Simple viewing and exporting of trending log and alarm log
- In-field firmware upgradeable via SD card
- Easy connection with only one 6-wire control cable
- Stainless steel IP56 rated (equivalent to NEMA type 4) enclosure for outdoor installations
- 8 buttons and menu driven 128 x 64 LCD

Hygienic and Safe

SKV Media Panels

The SKV Evaporative corrugated media is made of fibreglass material bounded with a special inorganic compound, which allows exceptional moisture absorption, ensuring continuous humidification and evaporative cooling even at a high air velocity. The inorganic compound makes it hygienic, fire resistant and incombustible.

• Inorganic and inflammable material

• Safe & hygienic

• Low pressure drop

• Trouble free maintenance

• No water treatment required

• No risk of over saturation

• Available in 4 evaporation factors: 65%, 75%, 85% and 95%

• Media frame made of stainless steel

• Media easily removable from stainless steel frame

4 Evaporation factors — Droplet separator

65%

75%

Warm dry air

85%

95%

Cool humid air (up to 12°C)

Low pressure drop
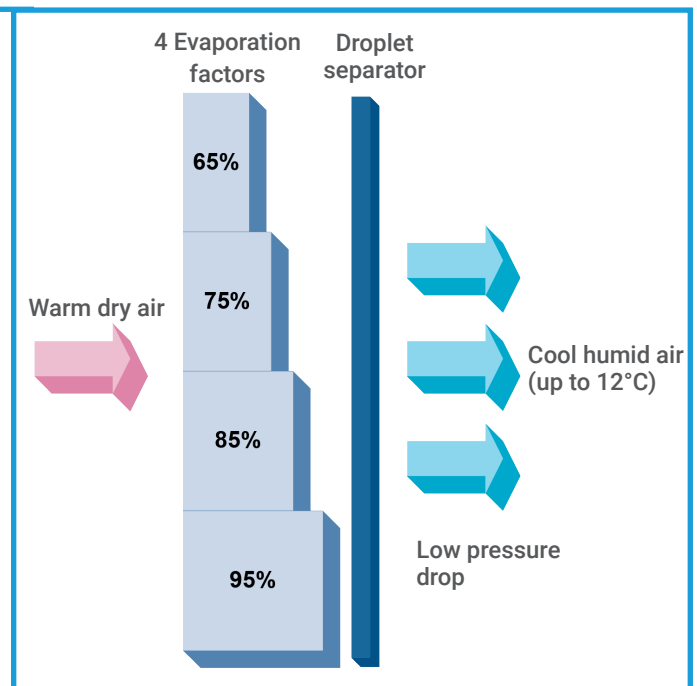
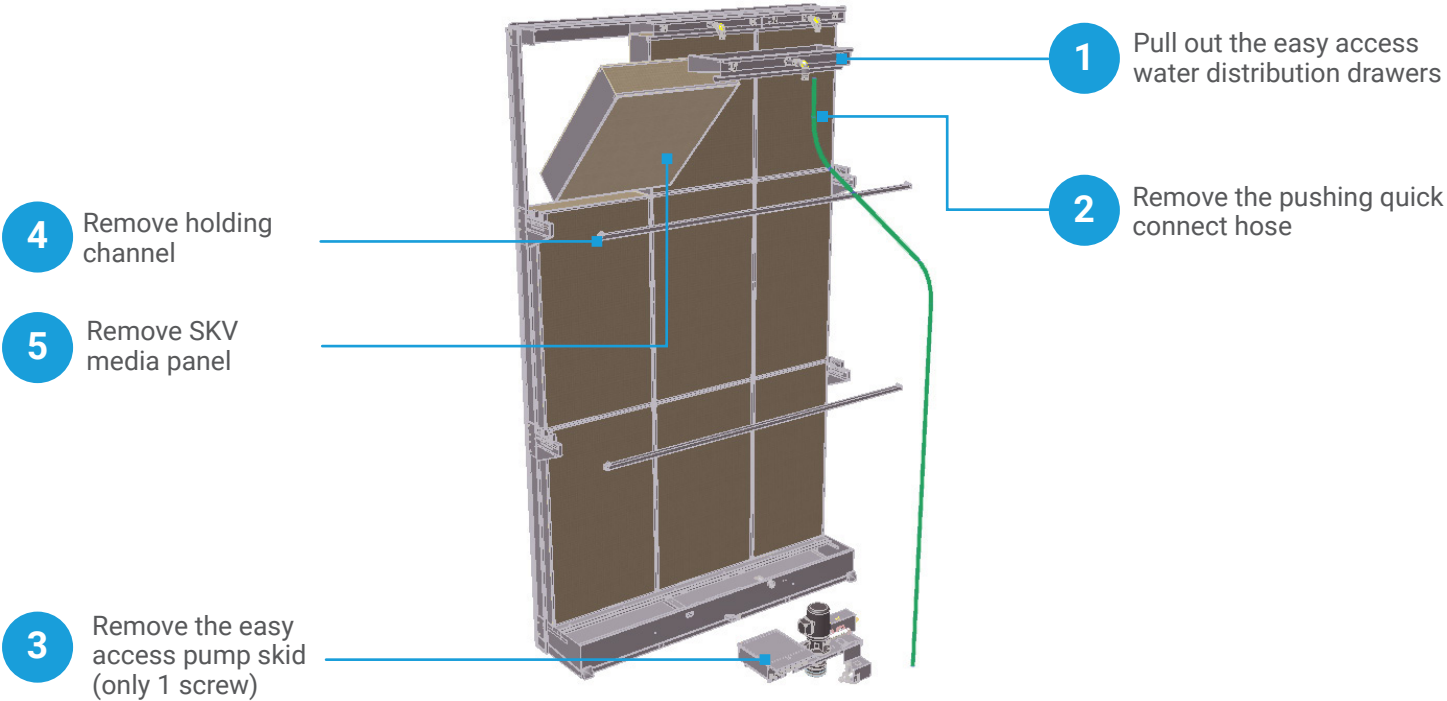## Water Quality

Hygienic operation with tap or RO water

• Self-cleaning, odor free media

• Water treated with 5μm pre-filter

• Anti-bacterial silver ion dosing cartridges prevent microbial growth

• UV sterilizer on water line (optional)

How Silver Ions Work

1. Silver ions breaking through the cell wall

2. Silver ions disrupting respiration of the microbe

3. Silver ions attaching to the DNA of the microbe to stop cell replication

5μm Pre-filter   Silver ions
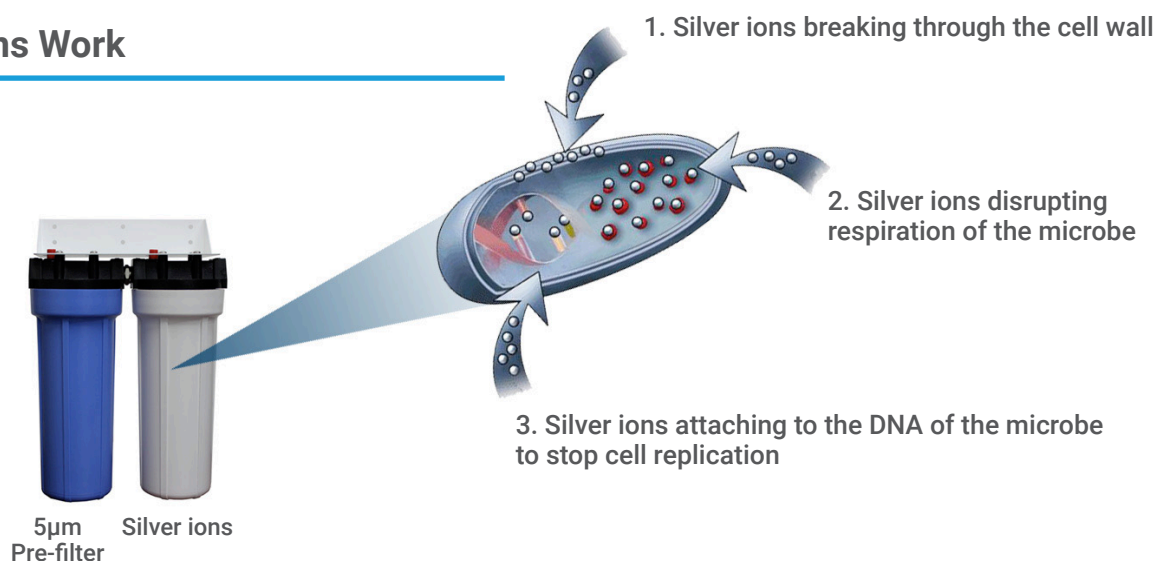
Easy Maintenance

The SKV has been designed for easy access to components of the evaporative module for maintenance.
Five easy steps:

(1) Pull out the easy access water distribution drawers

(2) Remove the pushing quick connect hose

(4) Remove holding channel

(5) Remove SKV media panel

(3) Remove the easy access pump skid (only 1 screw)

Nomenclature

	SKV	R	95	C	1	D	C

Type
R: Recirculation
D: Direct Feed
O: OEM

Evaporation Factor
65: 65%
75: 75%
85: 85%
95: 95%

Controller
C: Controller (standard)
B: BACnet controller
-: None

No. of Stages
1: 1 Stage
2: 2 Stages
3: 3 Stages
4: 4 Stages
5: 5 Stages

Droplet
D: Droplet separator included

Voltage
A: 120Vac
C: 230Vac

Standards for media

European:
- EN 13501-1, Fire classification of construction products and building elements-Part1: Classification using data from reaction to fire test
  - EN 1182, Non combustibility test method of building materials
  - EN 13823, Reaction to fire test for building products. Fire class **A2**, Smoke production class: **s2**, flaming particles class: **d0**
- ISO 846, Evaluation of the action of microorganisms' microbiology testing lab
- ILH Berlin tested and found to fulfill the requirements from VDI6022 Part I, suitable for use in HVAC-systems.

North American:
- UL 900, Air Filter Units, Class I (no flame or spark, Less than 2.5sq.in of smoke)

Humidisoft

Specify your SKV 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
- Customize evaporative module to exact duct dimensions
- 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

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

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

SKS4 ⇡⇡⇡
Steam to Steam
- Capacities from 8 - 570 kg/hr
- Scale management system for easy maintenance
- Insulated external panels

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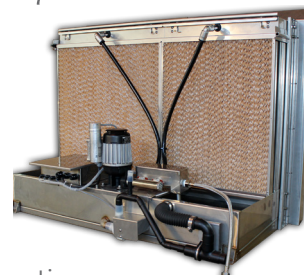- Permanent cleanable chamber
- Reliable siphon drain

SKH
High Pressure Atomizer
- Capacities up to 2100 kg/hr
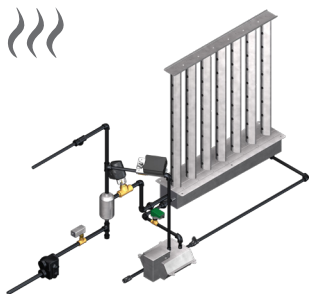- Up to 3 zones
- Installation in-duct or in-space

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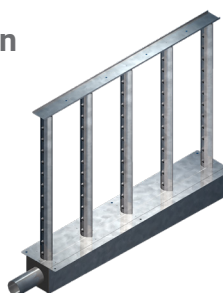- Hygienic operation with silver ion dosing system

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

Distribution
Steam Distribution
- Multi-Steam™ SD/HD distribution
- S.A.M. & S.A.M.E2 wands
- SDU (Space distribution unit)

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

MANUFACTURER OF

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

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