

Refrigeration Dryers

TECHNOLOGY | PRODUCT RANGE



Our experience guarantees a perfect performance.

SPX Dehydration & Filtration is one of the world leading manufacturers of equipment for the treatment of compressed air, atmospheric air and other gases. Our company has an experience of over 70 years and a unique know-how in this area. This know-how finds its expression in an extensive Hankison program for compressed air treatment: Refrigerated air dryers, adsorption dryers and filters.

REFRIGERATED COMPRESSED AIR DRYERS

The experience accumulated over years is reflected in the particularly exhaustive range of refrigerated air dryers. This extremely reliable equipment offers a long high performance and is thus a profitable and technically interesting investment.

HHD/HHDS series – high performance in compact form for up to 1.700 m³/h

HANKISON HHD SERIES REFRIGERATED COMPRESSED AIR DRYERS INCREASE PRODUCTIVITY

HHD Series refrigerated compressed air dryers provide the ideal combination of technology and simplicity to dry your compressed air system to a pressure dew point of + 3 °C from 20 to 1.700 m³/h.

DESIGNED TO BE DURABLE AND RELIABLE

All dryers in the HHD Series have been designed for a long service life. The housing is constructed from sturdy sheet steel and is protected by a high-quality powder coating. The reliable refrigeration system works with the environmentally friendly refrigerant R-134a.

is collected from the air stream by an integral separator (7) with stainless steel demister. Liquid condensate is removed from the separator by an automatic timed electric drain/ level-controlled automatic drain. Cold air is then reheated in the air-to-air heat exchanger to eliminate pipe-line sweat. Clean, dry air exits (8) the dryer and is now conditioned for use.

How it works...

HHD 21 THROUGH HHD 101

Warm saturated air enters the evaporator (A) where it is cooled by refrigerant being controlled by a constant pressure expansion valve (B). Water vapor condenses into a liquid for removal at the moisture separator (C) by an automatic drain (D). The cold, dry air is reheated as it passes through the reheater (E) to prevent pipeline sweating. The static condenser (F) eliminates the need for a cooling fan and simplifies the system.

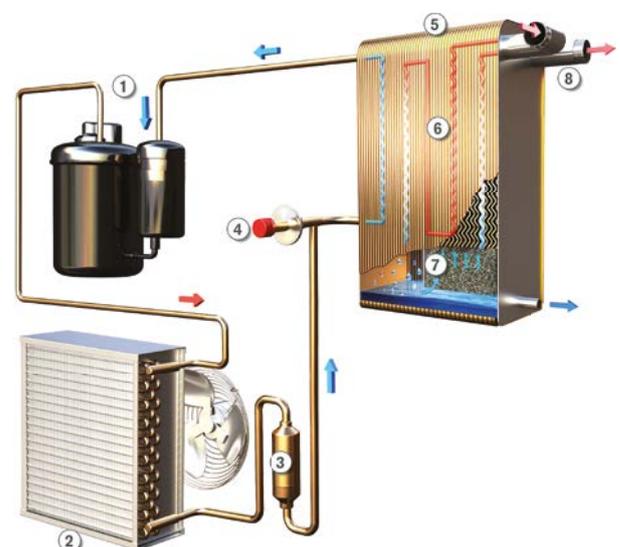
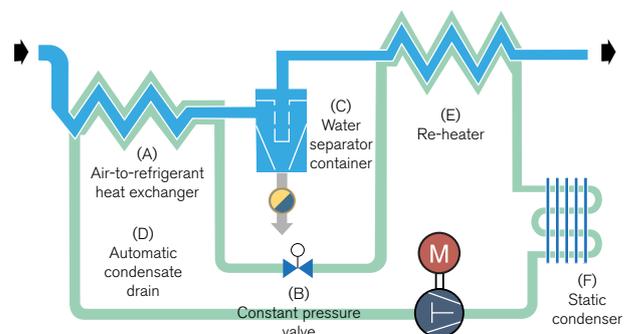
HHD 140 - 1700 & HHDS 1000 - 1700

Refrigeration Circuit:

A refrigerant compressor (1) and air cooled condenser (2) continuously circulate refrigerant through the system. The filter-dryer (3) removes contaminants from the refrigerant gas. An expansion valve (4) regulates the flow of refrigerant into the 3-in-1 heat exchanger.

Compressed Air Circuit:

Warm, saturated compressed air enters the air-to-air heat exchanger (5) and is cooled by the exiting air. The precooled air (6) enters the air-to-refrigerant heat exchanger (6) and is further chilled causing water vapor to condense. Condensed moisture



HHD AND HHDS SERIES:

- Compact structure requires little space
- Corrosion-resistant air circuit
- Powder-coated steel construction
- Fast and exact dew point control
- Minimal installation and service requirements

HHD-MODELS UP TO 100 m³/h:

- Static condenser without fan
- Low noise and energy-saving operation
- Heated outlet air
- Simple installation, nearly service-free operation
- Float drain/timer drain

HHD-MODELS FROM 140 UP TO 1.700 m³/h

- Stainless steel heat exchanger,
- Mesh demister
- Changable filter for ambient air
- Compact, industrial design
- Environmentally friendly refrigerant
- Simple filter installation on air inlet and outlet
- Dew point control, condensate control
- On/Off-display on central operating panel
- Timer drain/electronic level-controlled drain

HHDS-MODELS FROM 1.000 UP TO 1.700 m³/h WITH DIGITAL SCROLL

- Reducing the dryer's energy consumption down to 9% (91% savings) at 0% load
- Precise matching of average air flow (heat load) with the required input kW power...No More...No Less
- Maintaining stable Class 4 and Class 5 dew points with no dew point spikes which send water downstream and cause high maintenance and downtime costs



HHD-QUALITY

- Newly developed stainless steel Crossflow heat exchanger features with a larger separation zone and an optimised demister unit
- Together with the stainless steel compressed air connections, this results in an entirely corrosion-resistant system constructed of homogeneous materials.
- High-quality air-conditioning refrigerant compressors with above average performance values provide cost-savings through energy efficiency.
- A newly developed constant pressure valve guarantees a constant supply of refrigerant even at varying levels of compressed air consumption, providing a constant cooling and dew point temperature
- The entire HHD model series is safe against overpressure
- All system components have secure connections that are extremely vibration resistant

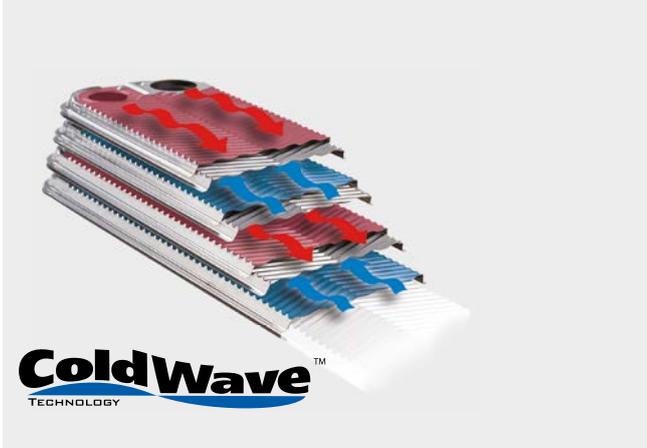
COLDWAVE™ HHDp series, 210 – 10,800 m³/h



HANKISON COLDWAVE™ HEAT EXCHANGER TECHNOLOGY

HANKISON heat exchangers feature an industry-leading design with large flat surfaces to keep pressure differences to a minimum. Dirt, rust and scale are unable to become trapped and are swept through these heat exchangers by the compressed air. Unlike many competitive designs, these do not require pre-filtration, which reduces capital, installation and operating costs.

The heat exchangers used are crafted from premium grade 316SS stainless steel and feature large and smooth sinusoidal air channels that provide a low pressure drop, unparalleled performance and superior reliability



TYPEN HHDP 381 BIS 10.800 MIT EMM™ ENERGIE MANAGEMENT MONITOR

This advanced 24 volt electronic control unit has a number of user-friendly displays which can save energy, automate service intervals, display information in ten languages and add functionality

- Energy-saving “schedule mode” allows compressed air users with one or two-shift operations to schedule the dryer to turn on and off in accordance with their work schedule
- Automatic service intervals can be set for preventative maintenance schedules to ensure that the condenser on air-cooled units is kept dust free, as well as to advise the replacement of both the standard HF Series Grade 9 Separator/Filter element and the optional HF Series Grade 5 cold coalescing, oil removal filter every 12 months
- Operator interface with read-outs in ten languages as standard: English, German, French, Spanish, Italian, Polish, Danish, Dutch, Norwegian and Finnish. Read-outs include the current time, operating status (e.g. manual or schedule running modes), hours to service and total operating hours.
- Functions include a push-to-test button for the condensate drain, power-on and compressor-on lights, an operator alert light to indicate a required service or a fault with the refrigeration system/drain, and a dew point temperature indicator
- Remote monitoring of the emm, from your computer via the RS-232 interface
- Standard NO and NC voltage-free alarm contacts
- Fault condition diagnostics with user-friendly text display.
- X-DRAIN® Series electronic level-controlled condensate drain

HFQ series, 1,200 – 5,000 m³/h



FREQUENCY-CONTROLLED ENERGY-SAVING DRYERS

- Frequency controlled: Low energy consumption
- Well-proven branded components
- Long service life
- Short payback time

Energy-saving COLDWAVE™ HDS series 1,500 – 10,800 m³/h



The HANKISON energy-saving (HDS) series is one of the world's most commonly installed series of refrigerated compressed air dryers for plants with varying levels of air demands. The HANKISON technology platforms of precision design, engineered heat exchangers, quality filtration, and energy-efficient digital evaporator refrigeration technology represent the best value solution available for variable heavy-duty air demand profiles.

DIGITAL EVAPORATOR TECHNOLOGY

The HDS Series features groundbreaking technologies for the refrigerated compressed air dryer industry. The digital evaporator continues the HANKISON tradition of stable dew point control while providing tremendous energy savings, which results in

lower operating costs. Unlike most other products available in the industry, the HDS Series, with proprietary digital evaporator technology, offers clear energy saving advantages over traditional cycling and variable speed designs.

RAPID RETURN ON INVESTMENT

The HDS Series is designed to provide a rapid return on investment by

- Reducing the dryer's energy consumption down to 9% (91% savings) at 0% load
- Precise matching of average air flow (heat load) with the required input kW power...No More...No Less
- Maintaining stable Class 4 and Class 5 dew points with no dew point spikes which send water downstream and cause high maintenance and downtime costs

THE HDS REFRIGERATION SYSTEM

Digital evaporator technology controls the actions of the three core components in the refrigeration system: digital evaporator, digital control board, digital scroll refrigeration compressor, providing true load-matching energy savings.

H series for flow rates from 7,200 – 12,000 m³/h



When they require compressed air to be dried efficiently, production facilities around the world rely on HANKISON refrigerated compressed air dryers.

This is also true of the H Series, which covers flow rates from 7,200 to 12,000 m³/h.

Thanks to the amply dimensioned separating system and streamlined heat exchanger, H Series models ensure a very low differential pressure.

The air-to-air and refrigerant-to-air stainless steel plate heat exchangers have been specially developed for use in refrigerated compressed air dryers.

50% - 100% or 33% - 66% - 100% controls are applied as standard for dryer outputs from 7,200 to 12,000 m³/h.

ADVANTAGES OF THE H SERIES AT A GLANCE:

- X-DRAIN® Series electronic level-controlled condensate drain
- Power regulation by switching off the cylinder as standard (50% - 100% or 33%/66%/100%)
- Effective energy savings, e.g., during the night or at weekends
- A wide range of customer requirements can be optimally satisfied
- Optional air-cooled or water-cooled version available

Dryers for special applications

HIGH PRESSURE REFRIGERATION DRYER H-PET SERIES



- Corrosion-resistant air circuit copper and stainless steel
- Powder-coated housing
- Operating pressure of up to 50 bar
- For PET application

HIGH TEMPERATURE REFRIGERATION DRYER HIT SERIES



- Inlet temperature of up to +82° C: directly from the compressor
- Continuously dries and cleans your compressed air
- One dryer for all requirements: Replaces separate after-cooler, separator, dryer and filter package
- Includes an integral 3 micron coalescing filter removing contaminants and oil aerosols

Reliable service: Keeping your production running.

ACCESSORIES, SPARE PARTS & SERVICE KITS



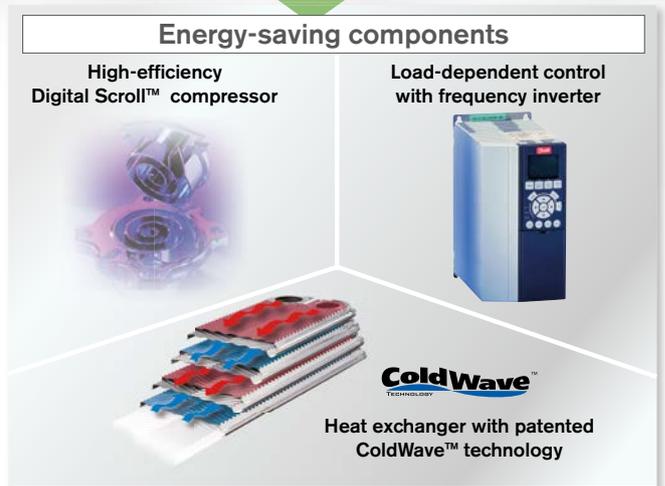
- Selection of suitable equipment by our expert team
- Full-service
- Accessories, spare parts & service-kits



SPX ENERGY-SAVING

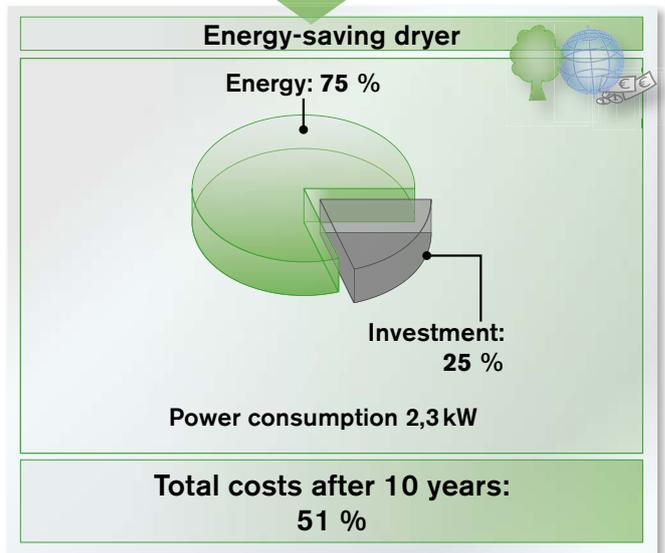
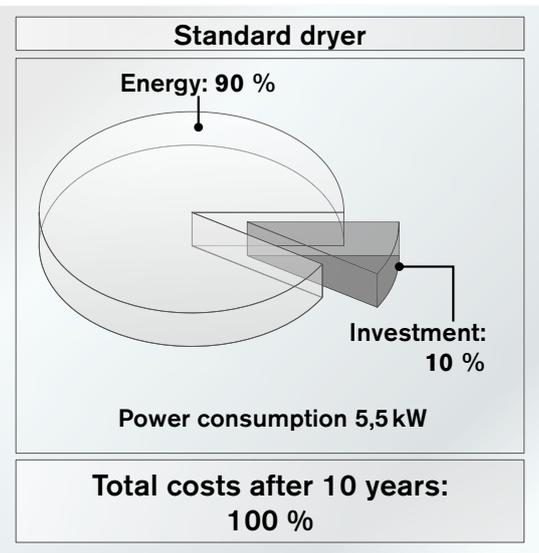


Energy-saving technologies
for future demands



Energy- and cost comparison

Sample calculation: Working hours/year: 8,700
Costs per kWh in Euro Cent: 0.12



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