

Flow Technology

Products Serving the
Water & Wastewater Treatment Industries





SPX Products Serving Water & Wastewater Treatment:

Filters & Filtration

Mixers

Analyzers & Metering Instruments

Process Pumps

Heat Exchangers

Compressed Air Treatment

Compliance. Conservation. Consolidation.

These are some of the key issues influencing the water and wastewater industry today.

Private organizations and municipalities are under increasing pressure to safeguard water quality. They are expected to take steps to ensure that our planet has an ample water supply for the future. And at the same time, consolidation and privatization are changing the way water treatment is managed.

Whether you're looking to upgrade an existing operation or specifying equipment for a new treatment facility - SPX Flow Technology has a solution for you.

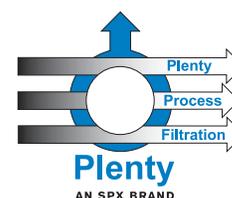
SPX Brands Serving the Water/Wastewater Markets

We manufacture equipment for water and wastewater applications including chemical makeup and storage, flocculation, reservoir supply, drinking water, cooling water, irrigation, metal processing and many more. When you spec our equipment, you get more than a product – you get a partner. Our dedicated team of experienced engineers utilize their process and mechanical design skills to provide quality solutions to meet your specific requirements.

We listen to your goals and design the best solution - based on our decades of experience in the water and wastewater industry - to help you achieve them.

Your partnership with us doesn't end at the sale. Our supportive Aftermarket Services include training, consulting, remote diagnostics, repairs and much more. Our experienced engineers are available to fit OEM replacement parts to ensure that your process will continue to run smoothly.

Explore the endless solutions that SPX Flow Technology has to offer. You're sure to find answers that will reduce costs, improve plant performance, and enhance the public service you provide.



www.spxft.com

Filters

KNOWLEDGE:

Efficient filtration in water and wastewater treatment involves both particle destabilization and particle transport. Filters from SPX brand Airpel Filtration ensure that this step in your treatment process is not only efficient, but thorough. Our equipment designs are based on decades of experience and continuous innovation.

- Applications:

- Recycling water filtration
- River and sea water filtration
- Pipeline (nozzle, pump, analyzer, flow meter protection)
- Irrigation
- Wash water
- Effluent

TECHNOLOGY:

We are committed to providing you the most cost-effective filtration solution best suited for your application. We stay on top of the evolving needs of the utilities industries and the engineering processes that support them. Our dedicated technical sales team along with our network of representatives and distributors are available to support your operation on an ongoing basis.

OV Single Filter

Single filters cost-effectively protect pipeline equipment, cleaning liquids or salvage valuable solids.

- Compact design for space saving
- Large filtration areas provides low pressure drops
- Multi-basket combinations available for high flow
- Pressures from 13.8 bar to 50 bar with temperatures suitable up to 260° C
- Sizes available: 20mm (3/4") to 250mm (10"), flanged and screwed connections
- Materials available: cast iron, gunmetal, stainless steel and cast steel



Water and Wastewater Treatment: Recycling Water, River and Sea Water, Pipeline Protection, Irrigation, Wash Water, Effluent.

OW Dual Filter

The dual filter provides design quality and performance for applications that require continuous flow with minimum pressure loss.

- Sizes available: 20mm (3/4") to 200mm (8"), Flanged and screwed connections
- Multiple basket combinations
- Large filtration areas provides low pressure drops
- Simple change over operation requires infrequent maintenance
- Pressures from 17 bar to 50 bar with temperatures suitable up to 260° C
- Materials available: cast iron, gunmetal, stainless steel and cast steel



Water and Wastewater Treatment: Recycling Water, River and Sea Water, Pipeline Protection, Irrigation, Wash Water, Effluent.



SERVICE:

You can count on support of your Airpel Filters long after the sale with our extensive Aftermarket Services. We supply a full range of high quality spare parts designed specifically for our filters. Our experienced engineers are available to replace the part to ensure your process continues to run smoothly and continuously. And you can reduce capital costs with our complete refurbishment service which restores your existing filters to their original condition.



Basket Filter Spares

O-Ring Spares



Basket Spares

Self-Cleaning Filters

Self-cleaning filters provide highly cost-effective solutions to difficult liquid filtration problems of all viscosities.

- Continuous filtration - no interruption to flow during cleaning process
- Horizontal and vertical exit orientation
- Simple maintenance
- Minimal product loss during cleaning process
- Sizes available: 20mm (3/4") to 300mm (12"), with filtration down to 25 microns
- Manual, motorized and fully automated designs available
- Minimal pressure losses from system, maximum pressure of 13.8 bar with temperatures up to 260° C
- Unique screw down cleaning action driving debris towards the sump of the filter
- Rotor blade design excellent for high viscosity applications
- No operator contact with liquid during cleaning operation
- Environment-friendly. closed design with minimal flushing losses



Water and Wastewater Treatment; Recycling Water, River and Sea Water, Pipeline Protection, Irrigation, Wash Water, Effluent.

Filters

KNOWLEDGE:

Plenty Filters from SPX supplies a wide range of standard cast filters to numerous industries worldwide. With the emphasis on product quality, customer service, on time delivery and cost performance, Plenty Filters has built a reputation on extensive knowledge and resources in fluid handling equipment production.

- Applications:

- Wash water systems
- Bore hole water
- Reservoir supply
- Desalination plant intakes
- Heating & cooling systems
- Supply water
- Pump protection
- Spray nozzle protection
- General filtration for drinking water

TECHNOLOGY:

Products from Plenty Filters are used in any piping systems which carry liquids. They protect the piping infrastructure from harmful foreign particles and extend the efficient operating life of valuable process equipment.

In addition to the standard cast range, special cast products and fabricated filters also are available. Features include quick release covers and unique basket construction.

As the filter collects debris in the basket, it is necessary to empty it on a regular basis. The quick release cover opens in seconds without the use of tools, simplifying the basket emptying step.

Simplex Single Basket Strainer

Simplex basket type filters are of simple and robust cast construction with inline connections, designed for general applications where the process flow is intermittent and can be stopped for element cleaning.

- Quick release covers eliminate the need for maintenance tools
- Designed for pressure ratings up to ASME class 300 (51 BARG)
- Flow is from inside to outside the basket to trap and retain debris
- High basket area to pipeline C.S.A. ratio of over 10:1
- With coarse perforated baskets (2mm as standard) or fine ss mesh inserts to give particle removal down to 50 microns
- Disposable depth type cartridges are available for filtration to 5-10 microns



Water and Wastewater Treatment: Wash Water Systems, Bore Hole Supply, Reservoir Supply, Heating & Cooling Systems, Pump Protection, Spray Nozzle Protection, General Filtration for Drinking Water

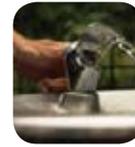
Duplex Dual Basket Strainer

Duplex strainers are used for pipelines operating continuously by incorporating twin chambers each rated for 100% capacity. An integral flow changeover valve permits basket removal and cleaning without interrupting flow. They are designed to complement the Simplex filters but allow the basket to be cleaned and replaced without any interruption to the flow through the filter.

- Single lever action on changeover valve eliminates possibility of hydraulic lock and accidental interruption of the flow
- Designed with pressure ratings up to ASME class 300 (51 BARG)
- Flow is from inside the basket area to pipeline CSA ratio of over 12:1
- Supplied with coarse perforated baskets (2mm as standard) or fine ss inserts to give particle retention down to 45 microns



Water and Wastewater Treatment: Wash Water Systems, Bore Hole Supply, Reservoir Supply, Desalination Plant Intakes, Heating & Cooling Systems, Supply Water



Basket filter construction causes headloss on the product flow. When the basket is clean, headloss is recommended to be no more than 0.1 barg. If the fluid is highly viscous, the filter size will increase, reducing headloss.

The basket is the heart of the strainer since it traps unwanted material. Strainer baskets are made of perforated sheet metal and a wide range of opening sizes is available. The size of the basket perforation should be slightly smaller than the minimum particle size to be

removed. Using a smaller perforation opening than necessary will cause the basket to fill and clog more quickly, requiring frequent cleaning.

SERVICE:

Our filters are supported by extensive Aftermarket Services. We supply a full range of high quality spare parts designed specifically for our filters. Our experienced engineers are available to fit your parts to ensure your process will continue to run smoothly.

Backflushing Strainer - Compact Type

Our compact-type backflush strainer has been specially designed for use with an automatic cleaning strainer and ensures process continuity without manual labor. A proven cleaning mechanism provides a high level of efficiency with very low product loss.

- Designed specifically for applications on water systems, can be installed in process plants to make use of river, canal, well and seawater for nozzle protection, cooling, quenching and various other requirements
- The straining element is manufactured from stainless steel, to provide long service life
- Supplied to automatically clean when pressure drop rises to 5PSIG (0.35 BARG)
- Units are manufactured with cast iron or stainless steel, standard design can be used in a variety of process applications



Water and Wastewater Treatment; Wash Water Systems, Supply Water, Spray Nozzle Protection.

Self-Cleaning Filter - Manual and Automatic

For liquid duties requiring continuous filtration without interrupting flow during the cleaning process. In operation the liquid enters the body and flows through the element from outside to inside. Debris is collected on the outside of the wedge wire element, which is cleaned without flow interruption by rotating the cylindrical element against twin scraper blades. The debris accumulated during element rotation is deposited into the bottom of the filter body and periodically discharged, manually or automatically.

- Totally enclosed design - prevents liquid contamination and increases operator safety
- No interruption to flow during element cleaning
- Simple efficient mechanical scraper cleaning action - reliable, easily maintained design
- Filtration down to 25 microns
- High quality robust 316 stainless steel wedge wire element - long equipment life and low running costs
- Low liquid loss during periodic emptying of accumulated debris - suitable for filtration of high value fluids and reduces waste disposal concerns
- Suitable for most liquids and high viscosity duties
- Range of automatic control equipment available as options - no need for operator involvement



Water and Wastewater Treatment; Wash Water Systems, Bore Hole Supply, Reservoir Supply, Desalination Plant Intakes, Supply Water, General Filtration for Drinking Water.

Filtration

KNOWLEDGE:

Plenty Process Filtration, from SPX, specializes in process design and engineered filtration solutions. A dedicated team of experienced engineers utilize their process and mechanical design skills to provide quality solutions to meet your specific requirements. Our products can be designed to all international standards and are manufactured in a range of materials including carbon steel, stainless steel, copper nickel, GRP, duplex and super duplex stainless steel as well as other high specification alloys.

TECHNOLOGY:

With our wide range of filtration products, we offer complete filtration solutions for major projects to meet a variety of applications, from small fabricated filters to more complex skid mounted and multiple filter packages. You can source your complete filtration system from a single

supplier, reducing resources required to manage the supply chain and ensuring a consistent approach to the project.

- Applications:

- Sea water
- Quench water
- Sour water
- Potable water
- Fresh water
- Deoxygenated water
- Oily water
- Produced water
- Cooling water
- General water applications

- Products:

- Basket filters
- Cartridge filters
- Carbon bed filters
- Custom designed filter skids
- Fully automatic backflush filters

Carbon Bed Filters

Single units and multiple skid mounted units are available. Global references can be supplied. All carbon bed filters are designed to meet the needs of specific client applications.

- Materials include carbon steel, stainless steel and special alloys.



Water and Wastewater Treatment: Sea Water, Quench Water, Sour Water, Potable Water, Fresh Water, Deoxygenated Water, Oily Water, Produced Water, Cooling Water, General Water Applications.

Angle Basket

Single basket filters are custom-made designs and cover a full range of pipeline sizes. Bolted or quick release cover options are available and can be easily adapted to meet requirements for materials, design conditions, etc.

- Materials include carbon steel, standard or stainless steel or special order. All are fitted with basket and inserts as required.
- Line sizes up to 90" NB, flanged or butt weld connections
- Design Standards include ANSI B.314, ASME VIII or BS.5500



Water and Wastewater Treatment: Sea Water, Quench Water, Sour Water, Potable Water, Fresh Water, Deoxygenated Water, Oily Water, Produced Water, Cooling Water, General Water Applications.



SERVICE:

Our complete service includes process design, procurement and management of manufacture and materials to meet customer specifications and international standards. We meet your deadlines for fabrication, project management, inspection, expediting and delivery to the final destination.

Aftermarket support and service is ongoing throughout the operational life of the equipment. Each product carries a unique serial number and this, together with archived records, enables our aftermarket department to quickly identify and supply spare and replacement parts.

Hi-Flow Filters

Custom designed for low pressure loss and high velocity applications such as pump suction or meter protection duties where contamination levels are relatively low. A straight through flow pattern and the use of a vertical pleated screen gives results in clean pressure drops much lower than conventional bucket type basket filters. The lightweight design can give significant commercial benefits especially on applications requiring high design pressures or exotic materials.

- Materials include carbon steel, stainless steel or special material including cupro nickel alloy, 6 mo., etc.
- Sizes from 6" to 60" bore (design pressures and flange ratings to suit requirements)
- Design include ANSI B.31.3, ANSI B.31.4, ASME VIII or B.5500



Water and Wastewater Treatment: Sea Water, Quench Water, Sour Water, Potable Water, Fresh Water, Deoxygenated Water, Oily Water, Produced Water, Cooling Water, General Water Applications.

Fully Automatic Backflush Filters

A range of fully automatic backflushing filters covering all sizes and pressures is available.

- Body materials - virtually all metals & GRP
Internals from ss to super duplex to suit specific applications
- Sizes from 6" to 60"
- Filtration from 5mm to 50 micron



Water and Wastewater Treatment: Sea Water, Quench Water, Sour Water, Potable Water, Fresh Water, Deoxygenated Water, Oily Water, Produced Water, Cooling Water, General Water Applications.

Heat Exchangers

Various types of heat exchangers are available on the market, but only a few are suitable to be used in water and wastewater treatment. Whether you are recovering waste heat or isolating the cooling system from the cooling source, APV brand heat exchangers from SPX are the right choice for you.

Plate heat exchangers play an increasingly important role in helping water and wastewater operations meet stringent water environmental and energy conservation requirements. APV brand plate heat exchangers have been used in this industry for decades, operating with water grades ranging from process wastewater to sewer water to pharmaceutical water for injection to ultra pure water for fine electronics.

Choose APV plate heat exchangers for:

- Highest achievable heat recovery rates
- Reliable and secure operations
- Good corrosion resistance
- Simplified maintenance to save time and money
- Modular designs for layout flexibility
- Compact designs for space savings
- Certification

APV plate heat exchangers can be constructed of a wide variety of standard and special materials that can endure most media - even acids. Paired with our wide selection of gasket materials, our equipment can meet nearly every heat exchange challenge in the wastewater industry.

ParaFlow PVV Plate Heat Exchangers

Plate heat exchangers with loose, gasketed plates compressed in a frame. Designed for superior heat transfer coefficients and optimum run-time.

- Pressure: 0-25 bar gauge (0-362 Psi)
- Transmission area/duty: Up to 3,800 m² (40,903 ft²)



Water and Wastewater Treatment: Water for injection for pharmaceutical industry, ultra pure water for manufacture of fine electronics, pasteurization of water for beverages, mineral water and water for food processing, boiler water preheating and heat recovery, water heating for swimming pools, heating and cooling of water treatment plants for water quality improvement, heat recovery or cooling of process wastewater, including corrosive, with residues, particles or fibers, heat recovery of sewer water treatment plants, heating and cooling water for reverse osmosis plants and process water recovery plants.

ParaHyb Hybrid Plate Heat Exchangers

A fully-welded, gasket-free heat exchanger combining highly efficient plates and strong vessel construction. The asymmetric and flexible design allows extremely low pressure drop if required.

- Pressure: 0-40 bar gauge (-14-580 Psi)
- Transmission area/duty: Up to 1,800 m² per unit (-86,200 ft²)



Water and Wastewater Treatment: (Fully-welded models)

Heat Recovery or Cooling of process wastewater, including corrosive with residues, particles or fibers. Heating and Cooling for the chemical industry, e.g. wastewater pre-heater in phenol applications. Toxic wastewater from coking plants.



OPTIONS AND ACCESSORIES:

Though many parallels can be drawn from various wastewater applications, there are a great deal of variants. A wide selection of fittings and accessories are necessary to ensure a perfect fit between the existing infrastructure and utility systems and the heat transfer solution. With APV's experience, we can supply all necessary equipment to match your needs.

SERVICE:

SPX has a global network of service technicians that can be reached 24/7. Our organization has a full scale of services, from cleaning and refurbishment to trouble shooting and maintenance contracts.

For more information about service and worldwide locations, certifications and local representation, please visit www.apv.com.

CASE STUDY:

Basics:

Process: Plant for fabrication of phenol as primary product for plastic materials.

Application: Wastewater preheater

Fluids: Phenol water feed - Phenol water sump

Customer requirements:

Type of HE: Fully welded (because of dangerous fluids)

Design temperature: 150°

Design pressure: -1/10 bar (g)

Design code: PED 97/23EG AD2000

Heat Load: 783 kW

Allowable pressure drop: 0.5 bar

T-inlet outlet hot: 100.5 - 56.5° C

T-inlet outlet cold: 40.0 - 84.5° C

SPX Solution:

Type: APV HYBRID HE with fully welded rectangular headers

Flow arrangement: Cross counter flow with 10 passes on tube (hot) side

Empty Weight: 1420kg

Area: 27m²

ParaTube Tubular Plate Heat Exchangers

For wastewater with particles or fibers that can block the channels of a normal plate HE, APV offers tubular heat exchangers with corrugated and smooth or straight tubes in double-, triple-, quadruple- or multi-tube designs.

- Pressure: 0 up to 100 bar gauge (1.450 Psi)
- Transmission area/duty:
Up to 73 m² in one standard module (786 ft²)



Water and Wastewater Treatment: Heat Recovery or Cooling of process wastewater, including corrosive with residues, particles or fibers. Heat Recovery of water from Laundries and Textile Industries.

WDU (Water Desalination Unit)

The water desalination unit is a single stage plate type based evaporator and condenser, separated by stainless steel demister.

- Pressure: 6 bar gauge (87 psi)
- Transmission area/duty:
Up to 60 m³/24 h (16,000 U.S. g/24 h)



Water and Wastewater Treatment: Water desalination for water desalination plants and ships.

Metering and Analyzing

METERING KNOWLEDGE:

Bran+Luebbe brand metering pumps and turn-key process systems from SPX are used in various industries, including water and wastewater treatment. Every time a liquid has to be pumped as well as measured, our metering pumps and systems are the ideal solution. You can count on them in various process steps to produce consistent quality with high reliability.

METERING TECHNOLOGY:

The ProCam Smart provides end-users with all the proven benefits of Bran+Luebbe metering and dosing technology but with the added attraction of a low initial investment cost. Available in four models - offering flow rates ranging from 5 l/h to 500 l/h and suitable for pressures up to 20 bar—the pumps are ideal for a wide range of metering duties including pH control, flocculation and fluoridation.

Because the ProCam Smart uses standard components throughout, operations with multiple pumps in use may realize cost savings from reduced inventory and maintenance.

The ProCam Smart is a hermetically closed pump containing a mechanically operated PTFE double diaphragm design which can be constantly monitored. For applications that require zero leakage for health and safety reasons, or minimal product loss to optimize material usage, the ProCam Smart is the right choice.

SERVICE:

Downtime costs money - that's why we strive to keep yours to a minimum. In addition to our local stock in North America, our central warehouse in Europe has more than 40,000 parts in stock from a wide range of product lines. Direct service teams and sophisticated logistics ensure the parts are delivered and installed as quickly as possible. In many cases, wait time for spare parts is less than 24 hours.

ProCam Smart Metering Pumps

Operating Pressure/Flow Rate:

- Diaphragm pumpheads: up to 20 bar
- Flow rate: up to 500 l/h

Features:

- Diaphragm head with mechanically operated PTFE double-diaphragm
- Hermetically closed pump design
- Economic alternative by standardization without loss of performance
- General purpose metering pump for standard fluids



Water & Sewage Treatment: Flocculation, Fluoridizing, pH-control, Oxidation
Metered Fluids: Activated Silica, Fluorides, Caustic, Lime, Sulfuric Acid and Potassium Permanganate

NOVADOS Metering Pumps

Operating Pressure/Flow Rate:

- Flow rate: up to 3000 l/h
- Pressure: up to 160 bar

Features:

- Diaphragm pumpheads with hydraulically actuated double diaphragm and patented diaphragm position control system (PDPC)
- NOVADOS Metering Pumps of various sizes can be combined with just one motor. Vertical and Horizontal ranges available



Water Treatment: Flocculation, Fluoridizing, pH-control, Oxidation



ANALYZING KNOWLEDGE:

Some of the first chemical on-line, water analyzers were manufactured by Bran+Luebbe. Since then, applications for water preparation, wastewater treatment, boiler feed water and ultra-pure water have been continuously improved and the field of analysis has extended into chemical processes.

SPX designs and manufactures high performance instruments which are used for on-line analysis in nearly every country around the world. We provide some of the most reliable and accurate measurement available for a range of different parameters and sample types. Our monitors have earned a reputation for long life, high precision and easy operation and are built for continuous use in an industrial environment.

Our analyzers conform to the latest industrial standards and regulations and can be delivered individually or incorporated into a complete measurement and control system. More than 15,000 installations worldwide demonstrate the quality of the instruments and vast technical support.

ANALYZING TECHNOLOGY:

Fully-automatic operation, self-monitoring and automatic recalibration are found in nearly every on-line monitor we offer. The PowerMon has extra capabilities which greatly improve the scope and convenience of the analysis and reduce the running cost.

PowerMon uses chemical analysis to determine sample concentration, but some parameters such as dissolved oxygen, pH, redox and conductivity are measured with a special sensor. These sensors can be connected to a PowerMon to provide a combined analyzer for several parameters in which the results can be freely combined.

- Applications:

- **Water**
 - **Municipal wastewater treatment**
 - **Plant effluents**
 - **Drinking water**
 - **Surface water / River monitoring**
- **Power plants**
 - **Boiler feed water**
 - **Cooling water**
- **Chemical injection industry**
- **Emissions of waste gas in power plants**
- **Waste incinerating plants**

PowerMon S Analyzer

The PowerMon S Analyzer is a compact, closed, multi-component measuring system. It's based on the spectroscopy measuring principle of between 210 and 750 nm. The PowerMon S can measure up to 5 different parameters simultaneously, which makes this analyzer more efficient and cost-effective than purchasing 5 different systems.

- Multi-parameter online analyzer
- Measurement of Total N and Total P
- Measurement of COD
- Measurement of NH₄-N / NO₃-N / PO₄-P

The PowerMon S is the ideal instrument for providing a continuous measurement of essential parameters.



Wastewater: Control for phosphate removal, process control and monitoring of ammonia, nitrate, oxygen in denitrification basin and nitrification basin, ammonium river water monitoring

PowerMon Analyzer

The PowerMon Kolorimeter is a versatile applicable online measuring instrument. It guarantees a permanent optimal water quality by the continuous supervision of the legally prescribed limit value for total phosphate and ortho-phosphate in the outlet of municipal and industrial purification plants.

Measuring Methods:

- Cyclic, Colorimetric

Measuring Range:

- PO₄³⁻ 0-0,5/6 mg/l
- CL₂ 0-0,2/3,0 mg/l
- Fe 0-0,2/3,0 mg/l
- Al 0-0,1/1,0 mg/l
- Mn 0-0,1/2,0 mg/l
- Cu 0-0,03/1,0 mg/l



Water: River monitoring for alarm systems for pollutants, monitoring drinking water distribution system for turbidity, DOC, nitrate, chloride in surface water, chlorine in drinking water, cooling water and conditioning water, sodium and silica in ultra pure water.

www.hankisonintl.com
Email: hankison.inquiry@spx.com

Compressed Air Dryers and Filtration

KNOWLEDGE:

In wastewater treatment, an air dryer is often required to remove moisture and dry the air for services such as pneumatic instrumental controls. Compressor systems in wastewater treatment plants are critical to furnish instrument air supplies, air jets for cleaning equipment, purge air for wastewater ejectors, as well as pressurizing gases for transport and distribution.

Wastewater treatment operations have relied on Hankison, an SPX brand, to provide innovative compressed air treatment solutions for critical applications for decades. With our long-standing reputation for manufacturing products that deliver superior performance, time proven reliability and optimal energy savings, we know we have a solution for you.

- Applications:

- Purge air
- Moisture adsorption
- Air contaminant removal
- Cooling and drying of air
- Pre-Filtration of oil and water mist
- Dry air after-filtration

TECHNOLOGY:

Hankison is the preferred choice for providing clean, dry, compressed air solutions and energy savings. You'll find innovative technology wastewater treatment in our three product lines:

- Refrigerated compressed air dryers
- Heated and heatless desiccant dryers
- Compressed air filtration

HPR Series Refrigerated Compressed Air Dryers

Hankison's HPR Series refrigerated compressed air dryers improve productivity through maximum moisture removal. They offer the right combination of simplicity and technology to keep the air system clean and dry.

The HPR Series cools the compressed air condensing water vapor and effectively removes moisture through a liquid separator.

- Flow rates from 5 to 500 scfm (8.5 to 850 nm³/h)
- Space saving design
- Consistent dew points maintained at 38°F (+3°C)



Compressed Air Treatment for Wastewater Treatment Operations:
Cooling and Drying of Air for optimal system productivity

DHW Series Heatless Desiccant Air Dryers

Hankison's DHW Series protects air systems exposed to temperatures below freezing. The dryer removes moisture from the air and then undergoes a regeneration cycle to remove the moisture from the adsorptive media.

Wall mount desiccant dryers are enclosed in epoxy coated cabinets and deliver stable dew points of ISO 8573.1 Class 1 (-100°F, -73°C) and Class 2 (-40°F, -40°C) for flow rates from 7 to 50 scfm (12 to 85 nm³/h).

The DHW Series is fully automatic and maintains adsorptive energy resulting in longer desiccant life. The dryer removes moisture from the air and then undergoes a regeneration cycle to remove the moisture from the adsorptive media.



Compressed Air Treatment for Wastewater Treatment Operations:
Moisture adsorption for compressed air applications



SERVICE:

Hankison is dedicated to the development of innovative products that meet customer performance, quality and

energy savings requirements. We continue to excel by providing premium service, sales support, and products.

HHS, HHL and HHE Series Heatless Desiccant Air Dryers

Wastewater treatment plants require contaminant free compressed air to maintain optimal performance.

Hankison's Heatless Desiccant Air Dryers offer a full package to ensure clean, dry air is delivered.

Three application-specific control systems -- that utilize twin towers filled with premium grade activated alumina -- are available to meet your needs with economy and performance.

- HHS Series: SensaTherm® EnergySavings automatically matches process air use to the system's demand.
- HHL Series: offers selectable energy savings and four pressure dew point settings to choose from.
- HHE Series: designed for -40°F (-40°C) dew point performance to deliver maximum value to applications that operate at near or full capacity.



Compressed Air Treatment for Wastewater Treatment Operations:
Purge air at the forefront of the wastewater treatment system

HF Series Compressed Air Filters

For moisture control and contaminant filtration.

Hankison's HF Series filters utilize the latest media innovations and manufacturing techniques, guaranteeing performance to CAGI, ISO and PNEUROP standards.

These compressed air filters deliver flow rates from 20 to 21,250 scfm (34 to 36,104 nm³/h) and are available in a variety of grades to match site-specific requirements.

- Grade 11 - moisture separator for bulk liquid removal
- Grade 9 - moisture separator and particulate removal to 3 micron
- Grade 7 - general purpose air line filter with particle removal to 1 micron
- Grade 6 - heatless desiccant dust after-filter removes particles to 1 micron
- Grade 5 - high efficiency oil removal to 0.008 ppm (0,01 mg/m³)
- Grade 3 - maximum efficiency oil removal to 0.0008 ppm (0,001 mg/m³)
- Grade 1 - oil and oil vapor removal to 0.0003 ppm (0,004 mg/m³)



Compressed Air Treatment for Wastewater Treatment Operations:
Pre-filtration, After-filtration and Contaminant Removal for the compressed air systems used to operate wastewater treatment machinery

www.johnson-pump.com
Email: jp@spx.com

Pumping

KNOWLEDGE:

Whether water is a vital component or a waste product of your industrial process, SPX's Johnson Pump brand has a full range of centrifugal and positive displacement pumps to suit your needs. Our pumps are found in hospitals, industries and high rise buildings to ocean-going ships, swimming pools and zoos. For waterborne heating and cooling applications, you'll find Johnson Pump products efficiently performing their duties in factories, homes and offices, boats, busses and greenhouses.

- Applications:

- **Agriculture - irrigation and spray irrigation, drainage, HVAC**
- **Industry - service water, condensate, cooling water, brine, chemicals, metal processing, effluent cleaning**
- **Municipal - drinking water, pressure systems, hot water supply, swimming pools, HVAC**
- **Shipbuilding - saltwater, freshwater, ballast, wastewater, firefighting**
- **Wastewater - water treatment systems, chemical transfer**

TECHNOLOGY:

Our centrifugal pumps are designed modularly to ensure that our customers install the correct design for each specific application. We take pride in the close cooperation we have between our application engineers, R&D and our customers. For example, this teamwork has resulted in development of pumps used in an innovative project involving the purification of wastewater to be injected into mature oil fields.

SERVICE:

Our key focus is on manufacturing high quality products with low life-cycle costs. Our pumps are serviceable without removing them from the pipework. Our authorized service partners use genuine parts to keep your equipment running at optimal performance levels.

CombiBloc - Closed Coupled Centrifugal Pump

Max. Flow: 850 m³/h
Max. Head: 105 m
Materials: cast iron, ss, bronze
Max. Sys. Pressure: 10 bar
Max. Temp.: 120° C

- Compact, economical, space saving construction
- Back pull out system
- Internal flush
- Closed impeller with back vanes for hydraulic balancing and for keeping seal area clear
- ATEX certification



Service water, cooling water, brine, chemicals, drinking water, swimming pools.

Combi Norm - Long Coupled Centrifugal Pump to EN 733

Max. Flow: 1500 m³/h
Max. Head: 100 m
Materials: cast iron, nodular cast iron, bronze
Max. Sys. Pressure: 10 bar
Max. Temp.: 200° C

- Back pull out system
- Internal flush
- Closed impeller with back vanes for hydraulic balancing and for keeping seal area clear
- ATEX certification



Service water, cooling water, irrigation, effluent treatment, swimming pools, heating water, brine.



From Sump to Bund Emptying to Suction Lift applications, Johnson Pump is your ideal choice for fluid transfer solutions.

CombiChem - Long Coupled Centrifugal Pump to ISO 5199 and ISO 2858

Max. Flow: 800 m³/h
 Max. Head: 160 m
 Materials: cast iron, nodular cast iron, ss
 Max. Pressure: 16 bar
 Max. Temp.: 200° C

- Back pull out system
- Various seal options
- Closed impeller with back vanes for hydraulic balancing and for keeping seal area clear
- Half open impeller with wear plate and external adjustment
- ATEX certification



Metal processing, chemical effluent, brine, chemical transfer, wastewater

FreFlow - Self Priming Centrifugal Pump

Max. Flow: 350 m³/h
 Max. Head: 80 m
 Materials: cast iron, ss, bronze
 Max. Pressure: 9 bar
 Max. Temp.: 95° C
 Max. solids free passage: 33 mm

- Excellent self-priming properties
- Lubricated mechanical seal
- Capable of handling solids, abrasive fluids and gaseous content
- ATEX certification



Sump and bund emptying, tanker offload, tank storage, suction lift applications.

Combi-Dirt - Surface Mounted Vortex Pump

Max. Flow: 420 m³/h
 Max. Head: 40 m
 Materials: cast iron, nodular, ss and super duplex
 Max. Sys. Pressure: 10 bar
 Max. Temp.: 80° C
 Max. solids passable: 75 mm

- Can be mounted either horizontally or vertically, top or back pull out system
- Vortex principle
- Can be run dry
- Capable of handling solids, abrasive fluids and gaseous content
- ATEX certification



Sump and bund drainage

CombiFlex - Space Saving Vertical Centrifugal Pump

Max. Flow: 1500 m³/h
 Max. Head: 140 m
 Materials: cast iron, bronze
 Max. Sys. Pressure: 10 bar
 Max. Temp.: 200° C

- Vertical space saving construction
- Several positions of suction and discharge flange
- Seals externally flushed by pumped medium
- High pump efficiency
- Heavy duty design
- Top Pull Out principle
- ATEX certification



Circulation systems, booster systems, drinking water, pressure systems, hot water supply

Mixing

KNOWLEDGE:

Just about every step in a water and wastewater treatment process depends on suspending solids, or having a flow stream mix uniformly with a liquid or gas. The right degree of fluid motion and shear stress is critical during each stage.

LIGHTNIN brand mixers from SPX are recognized for developing many of the mixing techniques considered standard in the water and wastewater industry today. Our mixing techniques may be applied to all phases of the water and wastewater treatment process. Installations around the world have benefitted from our sizing expertise.

TECHNOLOGY:

We'll help you put together a mixing operation that works for your needs. We continue to discover new opportunities to improve the service life of LIGHTNIN products. Innovative research and product testing under various mixing applications helps us maximize process efficiency. Our fully-integrated laser lab simultaneously measures flow, power, and mechanical loads.

- Applications:

- Flash mixing
- Anoxic mixing
- Flocculation
- Aeration
- Equalization tank
- Chemical makeup and storage
- Activated carbon slurry mixing
- Lime slurry
- Polymer mixing
- Neutralization
- Sludge mixing

Inliner Mixer Series 45 for Water and Wastewater Treatment:

The Series 45 Mixers eliminate the need for tanks, agitators, moving parts and motors. Series 45 Mixers cost-effectively increase mixing efficiency and maintain mixing uniformity during product transfer. They can mix any pumpable material, regardless of the flow regime.



Series 10 Mixers

Delivers a superior combination of value and performance.

- Unmatched durability - long gear and bearing life
- Fewer moving parts simplifies maintenance
- Unique output shaft connection
- Ideally suited for anoxic and flocculation applications
- Available in 1 to 30 hp with speeds from 11 to 125 rpm



Used for general W/WWT mixing applications, depending on tank size.

Series 70/80 Mixers

The most specified and proven mechanical design technology in the world makes these mixers ideal for a wide range of applications.

- Bearings are sized far beyond AGMA requirements for minimum maintenance and long service life
- Available in 1 to 200 hp with speeds from 11 to 280 rpm
- Helical change gears are easy to replace to meet new or changing processing requirements



Used for general W/WWT mixing applications, depending on tank size.



Your water and wastewater operation will benefit from the new solutions our advancements in mixing technology provide and innovative impeller designs that optimize process results including:

Flow impellers



A510



A6000



Clean Edge

Anoxic & sludge



A240



A245



R335

Surface aeration impellers

SERVICE:

Water and wastewater treatment operation plants operate efficiently for years as a result of LIGHTNIN workmanship, durability, and long-term service support.

Expertise: Experienced technicians are the backbone of our dedicated service organization. They're uniquely qualified to keep your LIGHTNIN mixers running right.

Certified Technicians: Aftermarket technicians are certified to ensure that the work they do meets the highest standards for consistency and reliability.

Genuine Parts: All repairs follow original design specs and use only factory-authorized replacement parts.

Full Factory Warranty: We're so confident we'll do the job right that all authorized repair and service work is covered by a full factory warranty.

- Factory Service Program
- Exchange Program = Minimal Downtime
- Quick Turnaround

Series 98 Mixers

Series 98 Mixers optimize productivity and reduce downtime.

- Available from 20 to 150 HP with AGMA speeds from 20 to 100 rpm
- Compact drive design requires significantly less oil for lubrication - eliminates need for large oil sump
- Parallel shaft, double-reduction design provides maximum installation flexibility



Used for general W/WWT mixing applications, depending on tank size.

Series 700/800 Mixers

Series 700/800 Mixers are designed for heavy-duty mixing applications.

- Built to withstand severe bending and high torque loads
- Independent bearing support for the Series 800 was originally developed by LIGHTNIN
- Ideally suited for aeration and sludge mixing applications
- Available in 15 to 700 hp with speeds from 13 to 230 rpm



Used for general W/WWT mixing applications, except Flocculation and Chemical Makeup and Storage.

**From the quality of our components to the dedication of our technical support staff,
SPX has a process solution for your water and wastewater applications.
Visit our website at www.spxft.com.**

Serving the Food & Beverage, Power & Energy and Industrial Markets Worldwide



SPX[®]
WHERE IDEAS MEET INDUSTRY

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