Industrial Processing Solutions

Fluid power, filtration, and roll cleaning products.

Innovative products and technologies.
Rotating Unions & Accessories

Rotary unions for water and air service (³⁄₈" to 6")
Rotary unions for water and air service feature a balanced carbon-to-tungsten carbide seal package which make these rotary unions more robust and able to run longer than other ball bearing designs. These rotary unions are supported by two widely-spaced, anti-friction bearings, capable of intermittent dry running, and have the balance seal-loading springs located outside the flow area to minimise potential for fouling. Rotary unions of this design are rated up to 260°C (500°F), 13 bar (200 psig), and 3.500 RPM.

Rotary unions for steam and thermal oil service (¾" to 12")
Rotary unions for steam and thermal oil service come in many configurations and models. These rotary unions feature two widely spaced carbon-graphite guides which provide internal support for the rotary union, extend operating life, and maintain alignment. Rotary unions of this design are rated up to 343°C (650°F), 20 bar (300 psig), and 550 RPM.

Rotary unions for coolant, air, and hydraulic oil service
Rotary unions for coolant, air, and hydraulic oil service are high-performance, high-precision rotary unions generally applied to spindles on CNC machines, gun drilling, milling, and other machinery. These rotary unions are designed for speeds up to 50,000 RPM and pressures up to 250 bar (3,600 psig) in sizes ranging from m10 (⁴⁄₈") to M16 (⁷⁄₈").

Custom engineered rotary unions
Even with thousands of rotary union configurations, many processes require materials, temperatures, pressures, or speeds out of the typical rotary union capabilities. Custom rotary unions are designed to meet specialised customer needs. Custom rotary union material, seal, and bearing type are based on application requirements.
Flexible hose

Flexible hose is engineered specifically for use as inlet and outlet connections to Kadant Johnson rotary unions. It is used to prevent pipe strains from creating stress on the rotating union and enhances the rotating union’s built-in flexibility. Available in sizes from $\frac{1}{4}''$ to $8''$ with threaded or flanged couplings.

Syphon elbows and supply pipes

Syphon elbows are used with rotary steam unions to remove condensate from the roll. The gravity lock elbows feature a unique pinless design that provides improved performance, increased reliability, and easy installation. The elbow and supply pipe are both made of stainless steel and other corrosion-resistant materials.

Sight flow indicators

Sight flow indicators are engineered to provide visual observation of liquid and non-hazardous gas flows. These pipeline indicators are available with ductile iron bodies in sizes $\frac{3}{8}''$ to $4''$ with threaded or flanged connections. All glass windows are made of borosilicate glass. Sight flow indicators can be furnished with special transparent-type Mica liners to provide additional protection against glass erosion.

Vacuum breakers

Vacuum breakers provide a simple, dependable way to relieve unwanted vacuum that may develop in a closed vessel or pipeline. They can be used to prevent contamination from back flowing in fluid handling systems and to protect equipment against collapse or implosion. Vacuum breakers range in size from $\frac{3}{8}''$ to $1\frac{1}{2}''$. They are available in stainless steel and brass materials and rated up to 21 bar (300 psig) and 185°C (365°F).
In-line filters

The simple filter design allows screens to be serviced quickly and efficiently. In-line filters can be provided in either a single or duplex arrangement. Single in-line filters are generally used in applications where the flow can be interrupted or when the filter can be bypassed for servicing the filter element. Duo filters are typically used when continuous filtration is required. In-line filters are available in sizes from \( \frac{3}{4}" \) to \( 2\frac{1}{2}" \) with flow capacities up to 9,465 lpm (2,500 gpm).

Liquid filtration systems

Liquid filtration systems are used in a variety of applications that process or use fluids. Multiple barrel filter systems may use internal or external sources of backwashing fluids in the removal of contaminants from the process with flow capacities up to 18,930 lpm (5,000 gpm). The ErGo™ multiple filter has a unique design that provides an ergonomic and simple element removal design for improved safety and ease of maintenance.

RotoFlex™ resource recovery strainer

The RotoFlex resource recovery strainer is used to effectively and efficiently separate and reclaim process fluids and/or solids. It uses a unique method of media cleaning to keep the filter medium open by continuously flushing contaminants from the surface. The RotoFlex resource recovery strainer free-hanging backlessless design maximises throughput and media life.

High- and low-pressure water cleaning systems

Kadant water cleaning systems are designed to use high-pressure and/or low-pressure water to remove contaminants from moving belts and rolls. Cleaning systems can also incorporate water and contaminant removal systems, utilising vacuum.
A wide variety of nozzles are available for various industrial applications. These include both fan and needle jet nozzles constructed in stainless steel, brass, and other corrosion resistant materials with standard and custom fitting connections. Each nozzle is individually tested for pattern integrity.

Roll cleaning blades are used in a variety of industries and applications including fibre processing, converting, corrugating, printing, roofing, steel, and food processing. Kadant offers more than 60 blade materials including UHMW poly, fibreglass, carbon, and metal. Blade thickness, bevel, and other features are customer-engineered for the specific application requirements.

Roll cleaning blade holders feature quick and easy blade changing, precise adjustability, and flexible models that offer self-adjustability and uniform loading. Roll cleaning blade holders are available in steel, stainless steel, and lightweight composite materials.

Kadant roll cleaning systems provide a compact and unique technology that offers improved cleaning results for increased uptime and reduced maintenance costs in a variety of industrial roll and belt cleaning applications including drum flaking, fibre processing, filtration, and metal processing. Roll cleaning systems provide precise blade load adjustment and quick blade change.
Industrial steam systems

Kadant steam systems control differential steam pressure and blow-through steam across each roll to achieve the highest possible heat transfer and temperature uniformity, with increased efficiency and reduced maintenance. The steam system design is linked to the performance of all the system components including rotary unions, syphons, and thermocompressors.

Liqui-Mover® condensate pumps

The Liqui-Mover pump is an energy-saving, efficient way to pump or lift liquids and is available with either a float free level control or a non-electric, float level control. Due to its simple design and compact dimensions, Liqui-Mover pumps are easy to integrate into new and existing systems, easy to install, and ideally suited for pumping liquids in a variety of areas, including hazardous, wet, and general purpose. Models are available as a pump only, to a skid packaged unit that includes a receiver.

Replacement level controls

Replacement level controls are a reliable and cost-effective solution for low-maintenance pressure-powered pumps and pumping traps. Replacement level controls are designed to retrofit float-operated pump brands. The float mechanism features a mounting flange that incorporates a dual open-coil spring design, a reinforced float, and stainless steel, high-cycle components. The float-free mechanism features a bolt-on mounting flange that incorporates a 2-probe level control, an externally mounted 3-way motive valve, and a NEMA classified control assembly.

Air and steam separators

Air and steam separators use expansion, change in direction, and filtration to effectively remove up to 99% of the precipitate in compressed air and steam systems. They range in size from 3/8” to 4”. The housing is made from ductile iron and is available in threaded or flanged connections with pressure ratings up to 20 bar (300 psig).
Direct steam injection heaters

A direct steam injection heater heats water and other fluids by injecting steam directly into the fluid. The direct injection heater is most appropriate where various volumes of hot liquids at precise temperatures are required. Direct steam injection heaters can be used in operations such as starch cooking, liquor heating, filling pulpers, calender roll heating, wastewater treatment, and industrial laundry.

Thermocompressors

Steam jet thermocompressors are designed to boost low-pressure steam by accurately mixing low-pressure steam with high-pressure steam. With just three basic components; nozzle, mixing section, and diffuser, the Kadant thermocompressor is simple yet highly energy efficient. Thermocompressors are used in the chemical, petrochemical, pulp and paper, food, power, steel, and other process industries in applications such as filtration, distillation, absorption, mixing, vacuum packaging, freeze drying, flash cooling, deaerating, and dehydrating.

Desuperheaters

Desuperheaters are designed to reduce the temperature of superheated steam for optimal heat transfer and efficiency as well as reduced degradation of system components. Kadant desuperheaters are custom designed for each application and are available in various materials. The efficient geometry allows for direct installation into the steam pipeline with flanged connections. Typical applications include pulp and paper, food processing, HVAC, and shipboard service.

Steam profiling

Profiling Steam-Foil® systems and Narrow Web DeCurler® profiling provide moisture addition and curl control in applications such as coating, laminating, printing, and corrugating. Kadant’s steam profiling technology offers an efficient and controllable non-contact method of steam application.
Many suppliers have made a commitment to the international marketplace. But few have taken that commitment as far as Kadant Johnson. To assure product availability wherever it’s needed, Kadant Johnson rotary joints, syphons, and related equipment are manufactured in North America, Europe, South America, and Asia.

Because knowledgeable advice and prompt service are as important as the products, Kadant Johnson has factory-authorised representatives in nearly 150 countries. So no matter where you are, Kadant Johnson products, service, and assistance are nearby.

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