

Process Optimization

Kadant has long been known as an international leader in the development of advanced rotary seals and in fluid flow for special heat transfer applications. This reputation comes from a long-standing commitment to research and development.

Our research and development center allows papermakers to simulate a wide range of operating conditions of drying cylinders used in the paper industry. Two fully-instrumented drying cylinders are dedicated to research for the industry.

The most advanced facility of its kind

At the Kadant Research Center, papermakers can test different combinations of equipment and system components (such as rotary joints, stationary syphons, doctor blades, and Turbulator® bars) and duplicate the specific operating conditions of the dryers of any commercial papermaking machine. Using advanced data acquisition systems, Kadant can help determine the right components to maximize machine performance. These capabilities are reinforced by advanced system analysis and process expertise.

The benefits

Testing at the Research Center can help ensure that you operate with the right combination of rotary joints, syphons, and system controls for maximum performance, uniformity, and efficiency.

The optimum system will produce the highest heat transfer rates, the maximum machine speed, and the highest machine productivity. The right system will also improve heat transfer uniformity. By improving cross-machine temperature profiles, sheet quality is enhanced. Data developed in the Kadant Research Center can help quantify the potential for improvement in quality, productivity, and profitability.



The facility

- ▶ Fully instrumented control room with closed-circuit video system for real-time observation inside the test dryer cylinders
- ▶ Product development and performance test areas include Seal Technology Laboratory and Hot Oil Evaluation area
- ▶ Conference room seating 50, with closed-circuit television for live viewing of testing
- ▶ 1,350 m² (14,500 ft²)

The testing cylinders

JOCO 6000

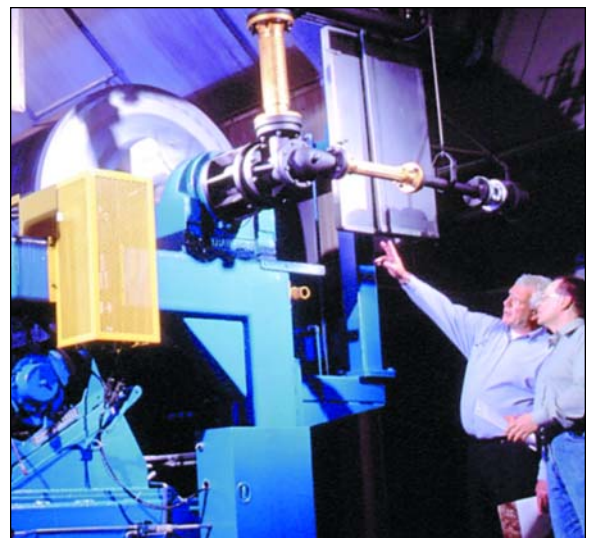
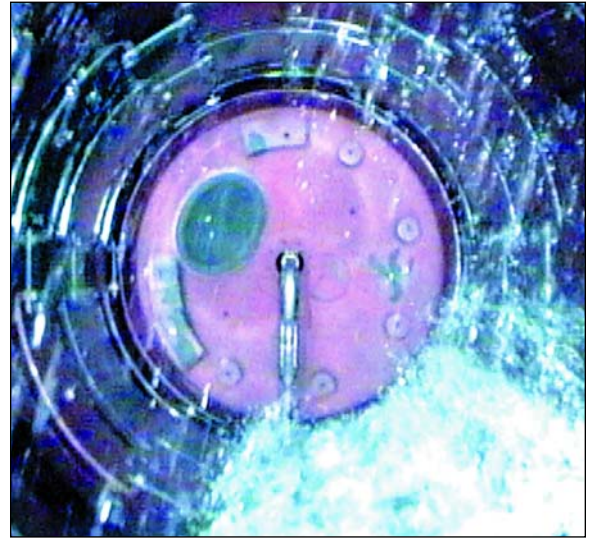
- ▶ 1.8 m (72") diameter x 8.76 m (345") face cylinder
- ▶ Grooves for syphons at both ends
- ▶ Rated for 11 bar (160 psig)
- ▶ Operating speed 1830 rpm (6000 fpm)
- ▶ Adjustable condensing rates to 49 kg/m²-hr (10 lb/ft²-hr)
- ▶ Real-time measurement of shell temperatures, differential pressure, steam and condensate flow rates
- ▶ Real-time observation of condensate behavior inside of cylinder

JOCO 4000

- ▶ 1.5 m (60") diameter x 6.35 m (250") face cylinder
- ▶ Grooves for syphons at both ends
- ▶ Rated for 11 bar (160 psig)
- ▶ Operating speed 1525 rpm (5000 fpm)
- ▶ Adjustable condensing rates to 49 kg/m²-hr (10 lb/ft²-hr)
- ▶ Real-time measurement of shell temperatures, differential pressure, steam and condensate flow rates
- ▶ Real-time observation of condensate behavior inside of cylinder

Tribology Laboratory

Seal technology is a major area of study for Kadant engineers. In the Tribology Laboratory, the focus is on friction and wear of mechanical sealing components. This lab contains 15 testing machines and 40 testing positions. The machines are computer controlled and measure variables such as operating speed, pressure, temperature, and torque. Also within this lab, Kadant engineers test new seal materials and establish application ranges for the flow rates and heat transfer characteristics of Kadant equipment.



Local Assistance On A Worldwide Basis

Many suppliers have made a commitment to the international marketplace. But few have taken that commitment as far as Kadant. To assure product availability wherever it's needed, Kadant joints, syphons, and related equipment are manufactured in Asia, Europe, North America, and South America.

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

KADANT
AN ACCENT ON INNOVATION

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Kadant is a leading global supplier of products and services that improve productivity and quality in paper production and other process industries. For the nearest location and contact, visit our Website.

www.kadant.com

Stock Preparation Systems
*Pulping, cleaning, de-inking
and screening*

Paper Machine Accessories
Doctor blades, holders

Fluid Handling Equipment
*Rotary joints, syphons, steam
and condensate systems*

Water Management Equipment
*Showers, fabric-conditioning,
formation and filtration*

RD-3001 11/2006
replaces RD-3000
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