

QUARTERLY NEWSLETTER

DECEMBER 2006

ASI SEAL SENSE



The ASI Model 585 HT
(Hot Oil Seal): In Detail

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Advanced Sealing International

Distributor News

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“SealTrak” Takes A Trip Overseas

ASI is in the process of working out a licensing agreement (through Westech Seals) that will provide registered copies of *SealTrak*, ASI's seal tracking and reliability guide software, to be sold to end-users in the Kuwaiti market. The design and functionality of the ASI's software make it one of the best seal reliability programs available. Keep watching for further developments as we continue to refine and distribute the *SealTrak* software.

Fall Seal School

ASI experienced yet another great turnout for our two-day fall seminar in Baton Rouge. Although our attendees ranged in experience levels, each gained a better understanding of ASI products. As always, the seminar also provided us with an opportunity to get more acquainted with each attendee and their respective company. We enjoy seeing the confidence and enthusiasm that our most recent “graduates” have shown and look forward to conducting our next seal school this spring. At present, the spring seminar is scheduled for April 23-25. Further details, as well as sign-up sheets, will be posted on our website as they become available.



Revised Pricing

As most of you already know, ASI reluctantly succumbed to mounting cost increases and raised our list prices beginning October 1st. However, due to the sales growth of our new models 730 and 724, we are happy to provide our distributors with a higher discount percentage for these seals. As always, ASI will continue to do our part to provide the best quality seals at the most reasonable prices on the market.



For copies of the revised pricing via e-mail, fax, or standard mail, please contact our sales department at (225) 272-2155.

ASI Model 585 HT

ASI's Hot Oil Seal: In Detail

ASI's Hot Oil Seal, an adaptation of our standard Model 585-3, provides reliable service in a variety of hot oil and heat transfer medium (HTM) applications, such as *Dowtherm* and *Therminal*. To accommodate the specific issues presented by hot oil applications, we have made the following adjustments to our Model 585-3 (quench, drain and throttle bushing design):

- **Controlled Expansion Alloy (CEA) stationary face holder**
compensates for distortion caused by large temperature fluctuations, provides superior seal face recovery
- **Carbon stationary vs. Tungsten Carbide rotary face**
provides more resistance to breakage at restart (commonly caused by build-up of coked oil)
- **Parofluor FF200 high temperature o-rings**
offer superior chemical compatibility at high temperatures
- **High temperature Grafoil gasket**
resists stickage and decomposition at high temperatures
- **Knurled hardened steel set screws**
hold the seal tightly to the shaft as high temperatures expand the seal's metal lock collar and screws

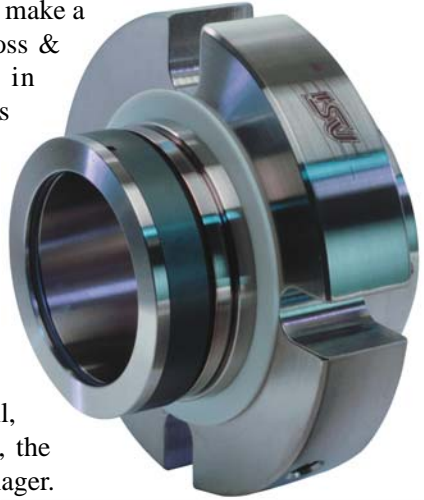
When a hot oil seal is used with the proper cooling system, it can operate in applications with process temperatures as high as 650° F. Proper system set-up consists of the utilization of a pump with a seal chamber cooling jacket used in conjunction with an adequate cooling water supply; the use of a close-clearance throttle bushing in the bottom of the seal chamber to help thermally isolate the seal chamber; and a supply of dry, low-pressure steam piped into the top quench port of the seal gland. The steam serves two purposes: 1) prevention of the build-up of coked (degraded) oil from the back of the seal faces and 2) additional cooling (process steam does not typically exceed 350° F, which is lower than the process temperature). With these considerations in place, the temperature in the stuffing box should reach no more than 450° F to 500° F (well below the 608° F temperature limit of the seal's o-rings).

Two important components to achieving extended seal life in hot oils are consistent temperature and continuous operation. Thermal cycling, especially over a large temperature differential, and intermittent service will both lead to premature seal face leakage. ASI's hot oil seal in continuous operation at a constant temperature will help ensure superior seal performance and longer seal life in virtually any hot oil service.

ASI Success Story

The Model 600: Rugged and Reliable

In January 2004, ASI was asked to make a joint call with our distributor, R. A. Ross & Associates, at Sun Chemical Plant in Frankfort, Indiana. The plant was experiencing unacceptable seal life and down time due to seal failures in their Schold mixers. These mixers, used to mix ink pigment with a base material, are 16 and 24 inches in diameter and 8 feet tall, and contain a 65 mm shaft. Belt reducing pulleys, which turn at approximately 81 rpms, electrically drive the mixers. During this initial service call, we met with a maintenance technician, the maintenance manager and the plant manager.



Schold had originally installed two John Crane ‘Type 8’ seals running back-to-back, with a pressurized tank of hydraulic oil for barrier fluid. The seals were mounted inside a housing that also contained the radial bearing for the upper shaft of the mixer. Seal installation took a minimum of three hours, seal life was not predictable, and seal failures occurred at start-up. When seal failure did occur, the ink pigment would contaminate the radial bearing, causing bearing failure and more extensive machine damage. Cleanup was extensive, and downtime was typically a week.

We reviewed the application, as well as mechanical and operating issues, and determined that the solution was the ASI Model 600. The 600 was designed for mixer use (high run-out of shaft, vibration, et cetera). To allow for installation of our cartridge-mounted Model 600, the radial bearing housing and the adapter plate had to be modified. In February 2004, Sun Chemical purchased the first Model 600. ASI and R. A. Ross & Associates were on hand to train the plant’s maintenance technicians about seal handling and to assist with the installation, which went without a glitch. The plant personnel were amazed at the ease of installation, noting that they would save three to four hours during each occurrence.

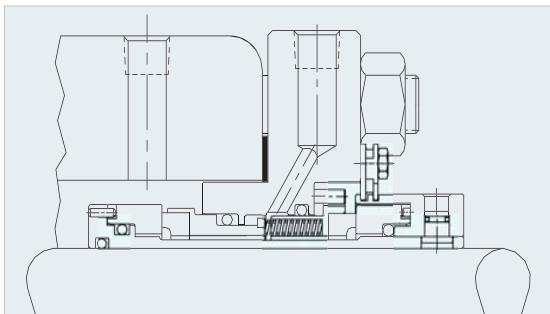
A couple of weeks passed, and we were called back to the plant to observe an oil film that had been building on the mechanical seal gland. ASI studied the problem and found the cause to be twofold. First, the barrier fluid pressure had been adjusted to a very high level, approximately 50 PSI higher than the vessel pressure. Second, the hydraulic oil that was being used for

barrier fluid was heavy viscosity oil. The combination was pushing the heavy oil across the seal faces and causing a buildup around the seal gland. We recommended that the barrier fluid pressure be adjusted down to a level of 20 PSI above the vessel pressure and that the buffer fluid be changed to a lighter grade of oil. Sun Chemical made these adjustments and the problem was solved.

The Model 600 and ASI's experience in setting up seals for mixer applications has made the Sun Chemical opportunity yet another "success story". Because of the dependability, the extended run times, and the ease of installation and removal of the Model 600, Sun Chemical began to systematically replace the original seals in the Schold mixers. Recently, they placed an order for five 65 mm Model 600s to install in all the remaining mixers in their plant. Two and a half years have now passed since the installation of the first Model 600, and the plant has not experienced a catastrophic failure of a mixer. When other mechanical maintenance is required on the mixer, the seal is easily removed and set aside while the maintenance is performed. When the work is complete, the seal is reinstalled with a new gland o-ring. Repairs that once required a week now take three to four hours. Recently, we received an e-mail from the maintenance manager at Sun Chemical praising the dependability and ruggedness of the Model 600. The e-mail also noted a cost savings of approximately \$6000 in mill repairs in 2005.

Sun Chemical has been so impressed with the success of the Model 600 that they are now implementing a plan to replace packing in their Viking pumps plant-wide with the ASI model 585. With the unsurpassed knowledge and experience of our people and the quality of every seal that leaves our facility, ASI is confident of continued success.

The Model 600 is engineered to withstand greater radial and axial movement common to larger equipment such as slurry pumps, mixers and agitators. The seal components are designed to work in unison, preventing under or over-compression of the seal faces, as well as increasing free movement of the seal.



Distributor Spotlight

Nationwide Support for Anheuser Busch

In this newsletter issue, we would like to highlight a couple of our distributors and their cooperative effort to provide nationwide support for the many breweries of Anheuser-Busch. The ASI/A-B association was set in motion by the dedicated work of Equipment Pro, Inc. of Bloomsdale, Missouri, a group that became an official ASI distributor in January 1998. Led by Mr. Dean Schlueter (President & CEO), Equipment Pro has, year after year, been one of ASI's top three distributors in overall sales. Bloomsdale is just outside of St. Louis, and for all practical purposes, we refer to Equipment Pro and Dean Schlueter as our St. Louis connection.

One of the great developments brought about by Dean over these years is our current relationship with everyone's favorite brewery, Anheuser-Busch. After tirelessly working to introduce ASI to A-B, Dean's persistence, quality, service and rapport paid off when ASI was officially placed on the Anheuser-Busch 'design premise.' This designation gave us corporate approval as one of only three seals 'authorized' for all capital expansions and corporate projects nationwide. Since that time, Equipment Pro has kept ASI seals in the spotlight with A-B engineering and cultivated sales in breweries across the country.

Currently, through continuing efforts and steadfast work, ASI provides Anheuser Busch with mechanical seals in their Missouri, Colorado, Ohio, Virginia, New York and New Jersey breweries. Our latest expansion into the Houston, Texas brewery was brought about by Mr. John D. Francis of Texas Hydro Equipment, one of our newer distributors. After an initial series of contacts between John Francis and A-B maintenance, the previously reluctant brewery ordered a 'Product and Services' review of ASI. Soon after, we learned that a decision had been made by the brewery to start utilizing ASI for all future mechanical seal needs.

ASI is proud to work with Anheuser Busch and plans to further expand our support to include all domestic breweries. Customer service provided by distributors such as Folsom Associates (servicing the Fort Collins brewery) is helping to strengthen and maintain ASI's presence in breweries nationwide. Additionally, the ongoing application and product refinement overseen by Equipment Pro in St. Louis is continuing to furnish our distributors with better information to service the needs of these breweries. ASI is also conducting seal training seminars at breweries across the country to familiarize A-B personnel with ASI seals and their operation. We believe that it is only through this cooperative effort that ASI is able to provide the highest level of service and support for Anheuser Busch and would like to take this opportunity to acknowledge all of the distributors who help make it possible.

Year-End Overview

Looking Ahead to 2007

In 2006, ASI made a commitment to provide our distributors with improved sales incentive programs and expanded auxiliary product lines. While we plan to continue this effort in 2007, ASI will also focus on refining customer support tools such as our website and our seal tracking program. By improving communications between ourselves, our distribution and our end-users, we can better develop our products to suit the trends of the industry, as well as educate our distributors and end-users about specific adaptations of our products. As always, feedback provided by our customers will help us to achieve this goal. Look for our updated website in Spring 2007 and other programs throughout the year.



Extending Our Appreciation for 2006

Once again we find ourselves closing out another fine year and looking forward to the new one with excitement and anticipation. ASI had a great year in '06. We expanded our customer base, increased our footprint with existing customers, improved the market for some of our specialty seals, brought on another regional manager to support distributor efforts in our central region and improved operating efficiencies, production capabilities, on-time deliveries, quality control, safety and service across the board.

Everyone at ASI continues to work hard to improve our ability to respond to increasing sales and customer demands for the best stationary designed mechanical seal on the market today. Our product line represents the most flexible and capable group of mechanical seals available anywhere and we continue to put ASI seals into many varied, technically challenging and unique applications along with the bread & butter applications where we always excel.

With this newsletter we want to thank our distributors, customers, suppliers and service professionals that have helped us along the way to achieve the increases, efficiencies and capabilities we attained throughout the year. We would not have been as proficient without each and every one of you. ASI appreciates everything you do to help make us the successful mechanical seal company we are today.

Best wishes for the remainder of the year, Happy Holidays, Merry Christmas, Happy Hanukkah and all the best of the season from everyone at *Advanced Sealing International*. Get ready...2007 promises to be another great year.