



MAINTENANCE

Cap Sealing Technology

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What in the world is TSQ?

TSQ stands for "Total Seal Quality". The security, freshness and shelf-life of your products depend on the quality of the seal that you apply. If the seal fails, spoiled product, customer returns and lost business can result.

Enercon knows first hand the importance of properly applying induction seals. For close to thirty years we've been working diligently with customers like you to insure the quality of seals generated by our induction sealers. Unfortunately, well built induction sealing equipment is not always enough to insure TSQ 100% of the time.

Working closely with a group of quality conscious customers in the Pharmaceutical and Food packaging industries Enercon has developed a complete quality assurance package that we call TSQ. This package is designed to give you a high level of assurance that your system is delivering 100% good seals 100% of the time.

Our TSQ package starts with the best induction systems in the business. To that we add a validation package, loss of seal indicator, deluxe cap inspection system and an eject system to remove faulty packages from the line.

Validation Package

The Validation Package is customized to your equipment choice, and includes all the protocols, tables and documentation requirements necessary for you to completely validate your induction sealing process. It will take you through the complete range of validation protocols including Installation Qualification (IQ), Operational Qualification (OQ) and Process Qualification (PQ).

Loss of Seal Indicator

The next step toward TSQ is our Loss of Seal Indicator (LSI). The LSI will give you instant notification of a loss of input power or a malfunction in the induction sealing power supply. This notification can manifest itself as a flashing indicator on a stack light or as an audible alarm...or both. This alarm alerts your operator to take immediate action to insure that imperfect seals do not continue down stream with good production.



Adding a cap inspection and container rejection system improves quality control.

Deluxe Cap Inspection and E-jector™

The combination of the Deluxe Cap Inspection System and the E-jector™ completes the quality loop. The inspection detects stalled bottles, missing foils and improperly seated caps. Bottles with missing foils or improperly seated caps are rejected. The inspection system also maintains a count of the total number of bottles processed as well as the total number rejected.

There is nothing else like the Enercon TSQ Package on the market today. No other product can deliver a Seal Quality Package as comprehensive as this one. If seal quality is as important to you as it is to us, just give us a call. We are here for you and we want to help.

Ted Cox or Paul Reed can tell you more about TSQ and how it will benefit you. You can reach them at 262-255-6070.

Do you have esp™ ?

ESP™ is a new device from Enercon that measures the effectiveness of the induction field. It will help you achieve TSQ. See page 4 for more details on this new product.



Enercon Industries Corp.
 P.O. Box 773
 Menomonee Falls, WI 53052
 Phone: 262/255-6070
 Fax: 262/255-7784
 Email: enews@enerconind.com
 Web: www.enerconind.com/enews

Experience Enercon. Success is Guaranteed.

e Maintenance Tips

Adjustable Loss of Seal (LSI) Alarm Threshold

A useful feature that has been incorporated into the latest versions of the Super Seal™ is the Adjustable LSI function. It provides the operator with the ability to establish a level or threshold for the LSI circuit to operate an alarm.

If the output as displayed on the digital meter falls below the operator determined set point, the LSI relay contacts will change state. These contacts are provided to warn the operator that the induction sealing power level has dropped below the alarm threshold set point. The alarm contacts may be used to switch power to a warning light or activate an audible alarm.

To accomplish an induction seal, the power supply power level must be set to a sufficient level to melt the polymer layer on the foil, developing a bond between the container and the foil seal. The LSI threshold should be set below this minimum output power level. In the event the power supply operating power level is either adjusted, or falls below the LSI threshold level, the LSI circuitry will activate the LSI relay, effectively functioning as an on/off switch for the alarm.

During normal operation, if the output level falls below this set point the RUN indicator light will extinguish and

the LSI relay contacts will change state. It is important to note that the LSI Alarm by itself will not interrupt operation of the power supply, even though there may be insufficient power to develop an adequate seal.

When the output is adjusted fully downward the power supply will operate at a minimum level necessary to develop the magnetic field. This level is dependent on the cap sealer model. For the Super Seal™ 50 it is 55%, the Super Seal™ 75 is 40%, and the Super Seal™ 100 is 35% of maximum power level. The LSI threshold level must be set above the minimum power level to be effective.

How to set up the LSI

Once the effective sealing power level has been determined, the LSI level can be selected and entered from the front panel of the power supply. To set the threshold

level, turn on the circuit breaker. The output meter indication should be flashing. Enter the desired threshold level using the UP/DOWN arrows on the front panel. Once the level is selected, press and hold the STOP button, then press the DOWN arrow. The LSI threshold level is now set. When the START button is pressed and the operating power level is above the LSI threshold, the meter indication will not flash.

With the stack light option, the adjustable LSI set point will be visible by the changed state of the stack light itself. When operating above the established threshold the light will be green. When the output is below the threshold, the light will change to flashing red to indicate an alarm status. When the Super Seal is powered up, but in a stopped condition, the status light will be flashing red.

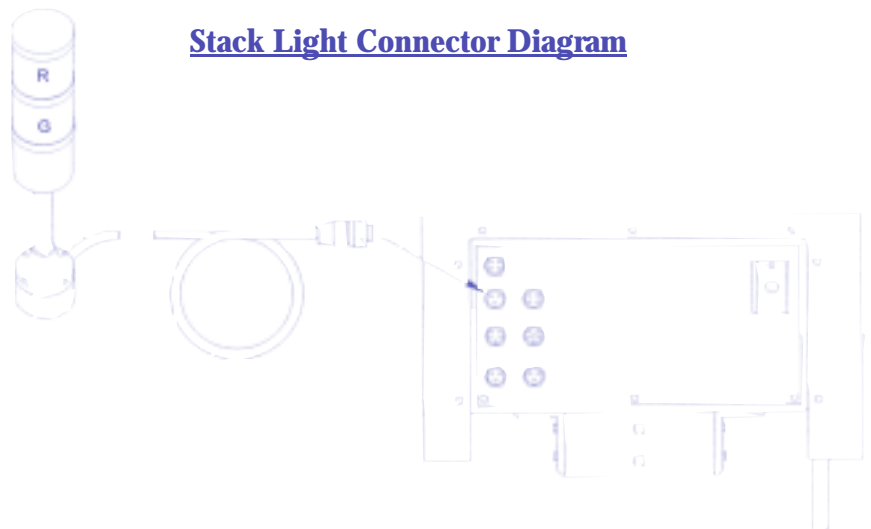


Optional Stack Light

Newer Super Seal™ models provide an internal 24-volts DC power source to operate the optional Stack Light. This 24V DC supply is also used by other options.

Internal circuitry will flash a red light when no output is being delivered to the sealing head or if the Adjustable LSI is set below the threshold level.

During normal operation, the Stack Light will illuminate a green light when output is delivered to the sealing head.



Stack Light Connector Diagram

e *New Services*

Announcing Enercon's NEW E - PM

Have the "Capital Budget Blues" got you down? Are you having trouble sleeping because you are worried about the up-time of your packaging line? Well you don't have to worry anymore! Now with Enercon's new preventive maintenance program you can rest assured, knowing that your Enercon equipment is fully operational and performing at optimum levels.

Enercon offers a full preventive maintenance program which can be performed at your facility or at ours. Our field service engineers are experts at spotting and correcting potential problems before they occur. If you sign-on for our E-PM we will thoroughly evaluate your equipment, repair any defects and recommend improvements as necessary to avoid potential problems.

Whether working at your site or at our factory, our Service Engineers will clean, inspect, repair and calibrate your equipment as necessary.

The benefits of Enercon's E - PM Program include:

- ◆ Reduced down time.
- ◆ Increased productivity.
- ◆ Extended machine life.
- ◆ Free loaner systems if you return yours to us.
- ◆ A 20% discount from our standard rates for all E-PM work.
- ◆ A 10% discount on all parts used.

Enercon's E - PM program encompasses:

- ◆ A complete inspection of your system.
- ◆ System interlock and operational checks.
- ◆ Performance of all necessary repairs and maintenance.
- ◆ A thorough cleaning of your equipment.
- ◆ A report detailing the condition of your equipment.

Additional features of Enercon's On-Site E - PM Program are:

- ◆ Hands-on training for your Operators and Maintenance personnel.
- ◆ A review of your maintenance procedures with recommendations for periodic maintenance and spare parts stock.
- ◆ A 10% discount on any spare parts ordered within 30 days of our on-site visit.

Our engineers job doesn't end there. He'll also provide instruction and training on the latest and best preventive maintenance practices. In addition, he'll teach your technicians how to employ the latest trouble shooting and repair techniques.

Don't wait until an equipment problem shuts you down. Call us right away. By taking advantage of our FREE Loaner program you can have your equipment evaluated and your production won't skip a beat.

To learn more about E-PM or to secure a slot in our E-PM schedule simply contact Ted Cox or Paul Reed at 262-255-6070.

e *Maintenance Tips*

Protect your Property with Proper Packaging



In most cases, equipment or individual component parts returned to Enercon Industries for repair are delivered in good condition and the repairs proceed without further concern. However, there are instances when the cost of the repair escalates because of additional damage that occurred during shipment.

Most believe the standard solution is to file a claim with the freight company. Unfortunately, in these cases there is little or no outward physical damage to the package. Yet because the component or equipment was improperly protected for shipment within the package, a substantial amount of damage can still occur.

The extent of damage varies, but the resultant cost for the repairs in all cases far surpasses the minor cost of proper packing. The extra time and materials, or even the cost of the next larger package are insignificant with respect to the repair time and materials.

As a general rule of thumb, pack all materials so you can be assured that the freight company can safely deliver the components. Protect your interests; keep repair costs down by packing it appropriately, to safely protect your property.

Enercon Support Services

Global Technical Service

"Hot Line" technical support is available 24/7/365. Prompt, world-wide field service is always at your disposal.

Web Support

Visit our web site www.enerconind.com/sealing for the latest interactive troubleshooting tips, including diagrams and step-by-step instructions.

Preventive Maintenance

Let our PM Team tune-up your team's operating, maintenance and trouble-shooting techniques.

Receive audit reports with recommendations for your equipment and spare parts inventory.

Free Testing

Use our cap sealing laboratory and application expertise to test new package configurations.

Start-up Assistance

Ensure you're up and running quickly with the assistance of our Applications Specialists Team. Let our Team train yours throughout the entire start-up phase.

Training

Hands-on training courses are available for your personnel free at our headquarters. Utilize operational models at our testing facility to simulate line conditions.

TO CONTACT US:

Enercon Industries Corporation
Phone: 262/255-6070
Fax: 262/255-7784
Email: enews@enerconind.com

Website:

www.enerconind.com/enews

e *New Products* Do you have **esp**™?

Have you ever wondered if there was a way to measure the performance of your cap sealer?

Armed with such a measurement you could improve the quality control process of your cap sealing operation. Repeatable set-up could be verified. And you could use the measurement to help diagnose any potential sealing problems. Sounds too good to be true? Not any more.

With Enercon's new **ESP**™ you can ensure sealing performance. Having **ESP**™ is like having extra-sensory-perception. **ESP**™ measures what your eye cannot see-your cap sealer's performance.



The new ESP™ improves quality control and eliminates trial and error

For more information on this great new product that will improve your productivity and quality control contact Ted Cox or Paul Reed at (262) 255-6070 or e-mail us for a brochure at enews@enerconind.com

e *New Publications*

Free Maintenance Planner

You may have already received your copy of the 2003 Cap Sealing Maintenance Planner/Calendar. If you require more copies of the planner or if you did not receive one please contact Ted Cox or Paul Reed at (262) 255-6070 or e-mail us at enews@enerconind.com.



This year's planner includes:

- ◆ 16-month maintenance schedule
- ◆ Parts lists and system drawings
- ◆ Operation & troubleshooting tips
- ◆ Information on free lab testing
- ◆ Key contacts & address book



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Cap Sealing Technology

www.enerconind.com/sealing

Enercon Industries Corporation
W140 N9572 Fountain Boulevard
P.O. Box 773
Menomonee Falls, WI 53052-0773

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