We are pleased to enclose the following equipment details that GlobalBound offers - whatever your needs, we have the answers:

- Centralized Lubrication Equipment
- Minimal Lubrication Systems
- Single Point Grease Lubricators
- Drum Pumps and Transfer Pumps
- Hydraulic and Lubrication Fittings
- Preventative Maintenance Practices
- Lubrication Management Programs
The Easy Way to Lubricate “Hard-to-Reach” Bearings
A study by a leading bearing manufacturer estimates that over 50% of bearing failures are lubrication related. Major contributors to bearing failure are inadequate lubrication and contamination.

Establishing and adhering to a planned bearing grease replenishment program extends bearing life, maintains machinery production efficiency and reduces machine repair costs.

The GREASOMATIC single-point lubricator creates a controlled operating pressure which forces sealed continuous grease flows into a bearing point over measured time periods.

Single-point lubricators are ideal for remote mounted hard-to-reach bearings and friction points.

GREASOMATIC lubricators can operate successfully in any position and low continuous grease feed pressures keeps contaminants out of bearings.

Easy Discharge Selection and Activation with Built-In Controls, Seven Settings 1 to 12 Months, No Special Tools Required!

- Patent Protected
- Built-In Over Pressure
- Relief Valve Warns of Blocked Grease-Ways
- Patented Adjustable
- Galvanic Element
- Provides Accurate Discharge Rates
Contents

• Operation
• Setting the Unit
• Features and Technical
• Discharge Rates
• Application and Fittings
• Installation Examples
• Maintenance Check List
• Questions and Answers
How GREASOMATIC™ Works
with Built-In Relief Valve

How It Works
Each GREASOMATIC contains a totally contained chemical expulsion unit energized by a galvanic reaction.

A patented adjustable galvanic element is located at the top of the unit in a flexible expansion/piston chamber containing liquid electrolyte. The lubricator is actuated when the galvanic element is placed into the liquid electrolyte.

The resultant electro-chemical reaction generates hydrogen gas which expands against the piston to extrude the lubricant into the bearing being lubricated.

Liquid and generated gas are hermetically sealed in the units expansion/piston chamber which is corrosion safe to avoid any contamination of lubricant stored within the lubricator.

During operation, a sight indicating ring (located on the piston) displays reservoir lubricant levels within the unit.

Built-in Pressure Relief Valve (Operating Pressure: 6 bar (90 psi))
Normally a GREASOMATIC operates at a pressure of 1 bar (15 psi). Should a blockage occur the unique patented built-in patent Pressure Relief Valve opens and warns of blocked bearing grease-ways or crushed lube lines connected to the GREASOMATIC unit.

This feature prevents excessive pressure build up within the GREASOMATIC should a blockage occur.

If lubricator output flows prove ineffective to clear the blockage, the relief valve will open to relieve any excessive pressure build-up in the unit. Pressurized lubricant within the unit will flow through the relief valve until normal operating pressure is attained within the unit.

This condition also indicates bearing is not receiving pre-set measured amounts of lubricant. Steps should be taken immediately to remedy the situation.
The setting controls are at the top of the lubricator. Rotate the black control knob and its linked yellow dial to desired discharge duration (white setting arrow) of the unit.

There are seven discharge settings: 1, 2, 3, 4, 6, 8 or 12 months. These times apply at ambient temperatures of about 20°C (68°F) and will vary as the unit operates in a higher or lower temperature range (see discharge rates for more details.)

On reaching the selected discharge time, press down on the red locking/release pin until flush with the top surface to unlock the galvanic element. Rotate the black control knob clockwise (10 to 12 times) to release the pre-set element into the electrolyte to being activation of the GREASOMATIC unit.

**How the Discharge Rate is Controlled**
Turning the units control knob adjusts the exposure of the rod shaped cathode to protrude for the required exposure to generate the correct amount of gas for the discharge duration set on the dial.

The red release pin is actuated by pressing level with the top surface. Turning the control knob releases the pre-set adjustable galvanic element into the electrolyte.

**Adjustable Galvanic Element**
The discharge duration of the lubricator is dependent on the rate at which it generates gas. The unique patent protected cathode setting-control delivers precise deliveries through accurate adjustment.

Before being activated, the adjustable galvanic element is connected to the underside of the cap through a direct connection to the exterior control knob.

On setting the unit to a specific setting, this causes the rod shaped cathode to protrude to the correct extent necessary to generate the appropriate gas generation for the set discharge duration.

Introducing the element into the mildly acidic organic liquid, the electrolyte generates gas to activate the GREASOMATIC.

Grease in the lubricant chamber is forced into the bearing in a controlled continuous flow.
GREASOMATIC™

Features & Technical Information

GREASOMATIC units can be mounted to moving machine parts and will operate in any position in indoor and outdoor environments. The unit is corrosion proof and environmentally safe. GREASOMATIC units can be used in excessive moisture environments. Units are approved for underground coal use - Cerberus approved (Mining Acceptance Services).

FEATURES
- Totally self-contained unit
- Rugged construction
- No batteries to lose or replace
- Simple setting - no special tools required
- Seven built-in discharge rates
- Sight monitors for viewing lubricant levels
- Oil dispensing models available
- Supplied pre-filled with grease or oil
- Wide choice of industrial greases and oil available
- Increases bearing seal life - eliminates high pressure grease guns
- Protects bearings & prevents ingress of contaminates
- Relief valve monitors blocked bearing and lube lines
- Fast, easy replacement

TECHNICAL
- Individual settings: 1, 2, 3, 4, 6, 8 or 12 months duration (Outputs can vary at abnormally high or low temperatures. See discharge table.)
- Mildly acidic organic electrolyte
- Overall height: 2 3/4” x 5” (74 x 120 mm)
- Reservoir capacity: 120 ml
- Standard grease fill: NLGI 2 multi-purpose (MP) grease
- Operating pressure under 20 bar (300 PSI)
- Built-in relief valve pressure: 6 bar (90 PSI)
- Temperature range: -4° F to 140° F (-20° C to 60° C)
- Works in any position - even under water
- Approved for underground use - Cerberus
- Meets BS EN ISO 9001:2000 standards
- Approx. weight - full 300g (10.5 oz.) empty 170g (6 oz.)
Daily Bearing Lubricant Inputs and Discharge Durations at Various Temperatures

**Important Note:**

The normal discharge durations of 1, 2, 3, 4, 6, 8 or 12 months apply at an ambient temperature of +20º C (68º F). Inputs and discharge durations will vary if GREASOMATICS operate at higher or lower temperatures - see table below:

<table>
<thead>
<tr>
<th>Dial setting</th>
<th>Average ambient temperature at the location of the GREASOMATIC (not that of the bearing)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>-10ºC</td>
</tr>
<tr>
<td>1</td>
<td>0.5 ml daily for 8 months</td>
</tr>
<tr>
<td>2</td>
<td>0.25 ml daily for 16 months</td>
</tr>
<tr>
<td>3</td>
<td>0.2 ml daily for 24 months</td>
</tr>
<tr>
<td>4</td>
<td>0.25 ml daily for 16 months</td>
</tr>
<tr>
<td>6</td>
<td>0.2 ml daily for 24 months</td>
</tr>
<tr>
<td>8</td>
<td>0.25 ml daily for 16 months</td>
</tr>
<tr>
<td>12</td>
<td>0.2 ml daily for 24 months</td>
</tr>
<tr>
<td>+14ºF</td>
<td></td>
</tr>
<tr>
<td>+9ºC</td>
<td></td>
</tr>
</tbody>
</table>

**How much grease does a bearing require?**

Many factors affect bearing grease requirements: size, speed, temperature and surrounding conditions, clean, dirty, moisture, etc. As a rough guide, you should not fill your bearing with grease more than 30% of capacity. Most bearing and electric motor manufacturers have well documented information on particular grease requirements. Refer to these sources.

Estimated GREASOMATIC grease consumption at various dial settings at:

<table>
<thead>
<tr>
<th>Unit Dial Setting</th>
<th>Number of milliliters (ml) per setting duration</th>
<th>Per Day</th>
<th>Per Week</th>
<th>Per Month</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>4 ml daily for 1 month</td>
<td>4 ml</td>
<td>28 ml</td>
<td>120 ml</td>
</tr>
<tr>
<td>2</td>
<td>2 ml daily for 2 months</td>
<td>2 ml</td>
<td>14 ml</td>
<td>60 ml</td>
</tr>
<tr>
<td>3</td>
<td>1.3 ml daily for 3 months</td>
<td>1.3 ml</td>
<td>9.1 ml</td>
<td>40 ml</td>
</tr>
<tr>
<td>4</td>
<td>1.0 ml daily for 4 months</td>
<td>1.0 ml</td>
<td>7.0 ml</td>
<td>30 ml</td>
</tr>
<tr>
<td>6</td>
<td>0.7 ml daily for 6 months</td>
<td>0.7 ml</td>
<td>4.9 ml</td>
<td>20 ml</td>
</tr>
<tr>
<td>8</td>
<td>0.5 ml daily for 8 months</td>
<td>0.5 ml</td>
<td>3.5 ml</td>
<td>15 ml</td>
</tr>
<tr>
<td>12</td>
<td>0.3 ml daily for 12 months</td>
<td>0.3 ml</td>
<td>2.1 ml</td>
<td>10 ml</td>
</tr>
</tbody>
</table>

Temperature +20º C (68º F)
GREASOMATIC™

Applications and Fittings

• Automotive
• Bottling Equipment
• Cement and Stone
• Chains
• Chemicals, Plastics & Rubber
• Conveyors & Cranes
• Electric Motors
• Elevators
• Engines
• Fans
• Food & Beverage
• Heating, Ventilation and Air Conditioning (HVAC)
• Marine
• Municipal
• Oil & Gas
• Packaging Machines
• Pharmaceuticals
• Pit & Quarry
• Printing & Processing Machinery
• Pulp & Paper
• Textiles
• Utilities & Energy

Accessories & Fittings

Other fittings & configurations available

Nylon Extension Tubing
Flexible, for use up to 80° C
8 mm od / 6 mm id

Copper Extension Tubing
Pliable, can be used at over 80° C
8 mm od / 6 mm id

Brush Assembly
1/4 BSP/F/P
Natural bristles 20 mm long
Overall width 32 mm, length 100 mm, depth 48 mm

Adaptor
1/4 BSP/F/P: 1/8 BSP/MP

Adaptor
1/4 BSP/F/P: M10x1

Adaptor
1/4 BSP/F/P: M6x1

Non Return Valve
Opens 1 way only at light pressure of about 0.3 bars or 4 PSI - for use with oil-filled GREASOMATIC™ or with GREASOMATIC™ that are to discharge into pressurized systems

GlobalBound Industries, LLC

GREASOMATIC

Single-Point Programmable Lubricators
**GREASOMATIC™**

**Installation Examples**

- **A rigid extension tube assembly**
- **A flexible extension tube assembly for use with a constructed bracket**
- **A flexible extension tube assembly for use in conjunction with a Mounting Bracket (GMA 20)**
- **Constructed bracket (not supplied)**
- **A brush lubricating assembly for applying oil to a chain drive or slide bearing**
- **An inverted mounting assembly as an alternative method of fitting an oil-filled GREASOMATIC.**
- **A twin mounting assembly for fitting two GREASOMATICs to a single lubrication point to double the lubricant input**
- **An unsuitable assembly. If the two lubrication points vary in their resistance to flow, lubricant will flow preferentially to the point offering the least resistance.**

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**GlobalBound Industries, LLC**

**GREASOMATIC**

Single-Point Programmable Lubricators
GREASOMATIC™

Maintenance Check List

- Always allow at least one day for every monthly setting of the GREASOMATIC to pressurize to being normal operation

- Carefully clean all dirt from the bearing grease nipple before removal from bearing

- Carefully remove all dirt from the bearing entry point with a clean rag before installing lubricator

- Do not over-torque the lubricator when installing into threaded connection - *normally a good firm hand tight connection is sufficient*

- If the GREASOMATIC™ is being used for the first time, ALWAYS pre-lubricate the bearing with GREASOMATIC grease or equivalent

- ALWAYS pre-fill any feed tube with GREASOMATIC grease or equivalent before connection to lubricator

- Check lubricator connections for “weeping” lubricant. Tighten as necessary - but avoid over-tightening!

- Periodically check grease reservoir levels are falling in a prescribed setting sequence

- Inspect over-pressure relief valve area for any excessive grease spillage. Correct situation as necessary: Unblock entry point to ensure grease flows through bearing

- Record installation and expiration dates to GREASOMATIC unit as well as maintenance log - record for future GREASOMATIC replacement predictive maintenance programs
Questions and Answers

Is activation of the unit complicated?
No, it takes just 3 easy steps – turn, push and turn, refer to detailed activation instructions.

How do I refill the GREASOMATIC?
It is not possible to refill the reservoir with lubricant – after new replacement units have been installed, dispose of used units in accordance with disposal regulations.

How do I dispose of used GREASOMATIC units?
Always comply with the environmental protection and waste disposal guidelines and regulations including all local authority requirements. Note, empty GREASEOMATICs contain only residual amounts of grease as contours of unit dispense maximum amounts of grease possible.

What type of grease is in GREASOMATIC lubricators?
The standard grease type normally supplied is a Multi-Purpose (MP) grease. A NLGI No 2 MP grease is supplied. This grease is extremely stable, has excellent adhesive qualities to enhance bearing life. It is calcium based grease which gives it excellent water resistance. In addition it has a wide operating temperature range.

A broad range of specialty greases is available. Each GREASEOMATIC grease is thoroughly tested to be computable with low pressure feed devices without deterioration of the quality of the lubricant.

Can Oil be used in GREASOMATIC?
Yes, sealed units can be supplied filled with oil. Position system to ensure proper oil flows. A non-return valve is recommended with an oil filled GREASEOMATIC.

When I activate the unit, should I install the unit immediately?
No. Allow sufficient time the electro-chemical reaction to occur and pressure to build up within the unit. A general rule of thumb: Allow one day for each month setting, e.g.: two days for a 2 month setting. Allowing a “build-up pressure” time period before installing units is desirable.

Why do output rates vary with operating temperatures?
Higher temperatures tend towards faster outputs. Lower temperatures create slower discharges. For additional details refer to Discharge Durations at Various Temperatures tables.
**Questions and Answers**

**What happens if the machinery is shut down for scheduled periods?**
This does not normally create a problem. Remember: Flow outputs from GREASEOMATIC are extremely slow. In operation, grease feeds from the units continue if the machine is shut down for short periods, however because unit output feeds are extremely slow they do not cause excessive lubricant build-up.

**How far away can I install GREASEOMATIC units from a bearing?**
Normally it is best to locate the lubricator directly to the bearing or as close to the bearing as possible. In applications where this is inconvenient, units can be installed in remote locations from the friction point. The feed line from the lubricator should be 6 or 8mm with as close to ¼” internal diameter as possible recommended. Various factors can affect the length of the feed line, operating temperature, type and consistency of grease etc. Maximum lengths of feed lines should not exceed 6 feet.

**Can I use one lubricator to lubricate several points?**
No – this practice will create a situation where uneven flows will be delivered to two bearings.

*Note:* It is possible to use two lubricators to service one lube point. Answer, yes. Be sure to use an appropriate tee connection that ensures free flow deliveries to the bearing.

**How do I create and maintain proper lubrication schedules?**
Be sure to record GREASEOMATIC installation date on all installed units, including machines, also replacement dates based on GREASEOMATIC settings to create a Lubrication Management Log. Create a Lubrication Schedule log to define and document bearings and other friction points that need programmed lubrication.

There are a various Maintenance Management software programs available to accomplish this. Assign personnel to execute the plan properly.
GlobalBound Industries, LLC provides Industrial Safety Products and Services for machinery and general services to achieve peak operating efficiencies.

Principal products include **Lubrication Equipment and Vehicle Safety Systems**.

Major areas of interest are **Automatic Centralized Lubrication Equipment** and **Vehicle Wheel Nut Security Monitoring Systems**.

The Company is **headquartered in Charlotte NC area** with industrial distributors in Eastern, Mid-West and Western United States.

**Company Principal:**
**Mr. Syd Gallimore, President**

Mr Gallimore is a qualified lubrication engineer with over 30 years in industry specializing in Predictive Maintenance technology for all types of industrial machinery with special emphasis on the transportation industry and a particular focus on preventative practices and issues concerning highway safety.

A member of the Society of Operational Engineers and Road Transport Engineers, Syd has in-depth knowledge on tribology on stationary and moving machinery with special emphasis on the design and development of centralized lubrication equipment.

Syd is a resident of the Charlotte, NC area.