

International Solutions FOR A Global Marketplace

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Michael Rings assembles a Helios® spray lubrication system at Lincoln Industrial's facility in Walldorf, Germany

New Product Support in Americas Makes **Worldwide Lubrication Solutions Possible**

“Lincoln Industrial recently made significant improvements in the service and support of our products made in Europe that will increase their availability in North and South America,” says Mary Lorenz, product manager. Helios® dual-line and the other European products are now readily available to the Americas.

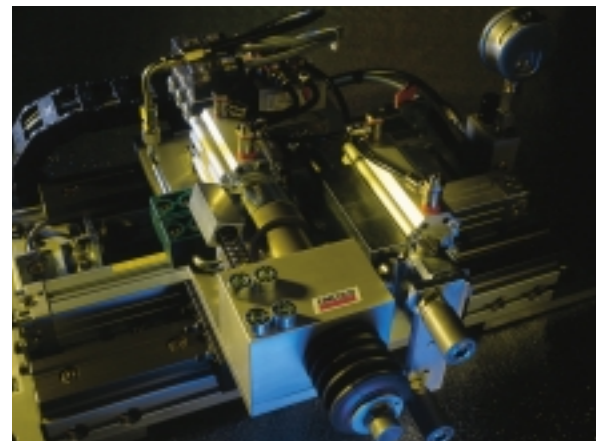
More than 5,000 new items were added to Lincoln Industrial’s St. Louis computer system. These part numbers represent a majority of the products produced in Europe and sold in the USA, Canada and Latin America. Our customer service and export departments can now quote and enter orders for these products, and technical service is ready to assist our customers with technical questions. “Quoting and placing orders for Helios and other products made in Europe is now as easy as ordering domestically manufactured lines,” says Lorenz.

Delivery lead times were reduced and now average four weeks on most part numbers. We are reviewing inventory levels for these products and will continue to add them to our plant in St. Louis.

Features & Benefits

- ◆ Over 5,000 new items on the St. Louis system
- ◆ Key items added to U.S. inventory
- ◆ Improved on-line documentation, customer service
- ◆ Opportunity to solve lubrication problems combining American and German-made products
- ◆ Shortened delivery lead times

Our website features on-line documentation including service pages. Plans are underway to produce a catalog and provide product training in 2000. Our customers can now enjoy the benefits of all the Lincoln Industrial products, regardless of where they are designed and manufactured.



Clockwise from top:
Dual-line metering
devices: VSG/VSL
Series; ZPU pump;
Cobra unit; 205 pump

FlowMaster™

Rotary-Driven Pump and Reel

Hydraulic excavator OEMs needed a compact, reliable and powerful on-board lubrication system. Lincoln Industrial met this need with the revolutionary FlowMaster rotary-activated, reciprocating hydraulic pump, heavy duty hose reel, control valve and swivel.

Other hydraulic pumps were either too large, too expensive, or produced too little grease output volume. Electric pumps were unreliable (especially in the cold) and the machines had no compressed air for pneumatic pumps. The hydraulic FlowMaster Pump solved each problem. Now, operators have a reliable system to lubricate those hard-to-reach points.

Other machines, including mobile construction, mining equipment, and lubrication service trucks can also use this technology. The FlowMaster Pump and Reel works in the cold and with high viscosity grease. The wear-compensating motor is a reliable, long-lasting power source. The positive displacement pump features a unique stationary plunger and reciprocating cylinder design to ensure positive priming.



Features & Benefits

- ◆ Fully hydraulic FlowMaster pump performs in cold or hot weather conditions
- ◆ It's compact, fitting inside machine compartments
- ◆ Great for use with high-viscosity grease
- ◆ Heavy-duty reel and valve for high-pressure operation

System Specifications

Maximum grease pressure	4500 psi (320 bar)
Maximum output volume	22 in ³ (360 cm ³)
Operating temperature	-20°F to 150°F (-10°C to 65°C)
Hydraulic Supply:	
Maximum inlet pressure	450 psig (32 bar)
Maximum inlet flow	7 gallons (26.5 liters) / min
Maximum fluid temperature	200°F (93°C)
Pump Ratio	10:1
Hydraulic inlet/return ports	SAE-10
Grease Outlet	1/4" NPTF
Weight (pump only)	36 lbs. (16 kg)

New FlowMaster Models

Kit No.	Description	Bare Pump	Lid	Follower	Reel/Hose	Connecting Hose	Control Valve & Swivel
86261	5 gallon pump				—	—	—
86262	5 gallon pump with 30' x 1/4" hose, 5' connecting hose	85486	45898	252725	6H32G	75060	740, 81387
86263	5 gallon pump with 50' x 3/8" hose, 5' connecting hose				85004 -50B		3050, 81729

POWER-LUBER®

Models

for Global Markets & Special Applications

The World's most advanced grease gun gets better with a model for every application. The basic heavy duty POWER-LUBER is now available with chargers that are compatible with standard utilities throughout the world. Now you can select a version that meets your local electrical requirements. The POWER-LUBER 7.2 is a lower pressure, lighter duty version that offers POWER-LUBER convenience in an economical package for lubricating smaller, lower resistance bearings.



Features & Benefits

- ◆ Versions available for most of the world's utility systems
- ◆ Chargers are CE compliant or UL listed
- ◆ All POWER-LUBERS have the same great performance, including:
 - Easy on the user with "pull the trigger" lubrication, light weight, and ergonomically balanced construction
 - High-pressure delivery and powerful motor for quick and efficient lubrication
 - High-capacity battery for long service between recharges

Available Models

	Model	Description	Version	Loading	Extra Battery	Electrical			Pressure psi (bar)
						Battery	Charger	Plug	
Global POWER-LUBER	1242E	with charger, battery, 30" (76 cm) hose, case	English	3-way (14 oz. cartridge, bulk fill, suction)	1201E	12 VDC	220 VAC 50 Hz CE	Round Pin	6000 (415)
	1242G		German		Oblique Flat				
	1242A		English		Rectang. Blade				
	1242UK								
	1242								
	1244	Same as 1242 w/ 2nd battery	U.S.	1201	110/120 VAC 60 Hz	Flat/2 Pole/ North Amer.			
	1240	Same as 1242 w/o case	English						
POWER-LUBER 7.2	1232	Luber w/ charger, battery, 30" (76 cm) hose, case			1203	7.2 VDC	UL/ULC Listed	5000 (345)	

ORSCO® 160

Doubles Capacity

Drops Price per Point for Large Systems

The newly-designed ORSCO 160 system now handles up to 16 lubrication points—twice as many as the 150—greatly reducing the cost of systems requiring 9-16 points of lubrication. The 160 also features completely new, user friendly packaging so the operator can set up, monitor and adjust the system with ease.

The 160 Line Offers these Important ORSCO Benefits

- Produces a fine, non-misting spray for effective lubrication without harming the environment or your product by mixing micro oil volume with low pressure air
- Handles lubricants from 100 to 2000 SUS/22 to 425 CST
- Controls the output of each spray nozzle with independently adjustable lubricant injectors
- Capacity to accommodate multiple feed line lengths and variable oil volume requirements with a single system
- Systems designed with integrated controls, or to work with your PLC

See ORSCO 160 Specification and How to Order sheets for additional product and model identification information.



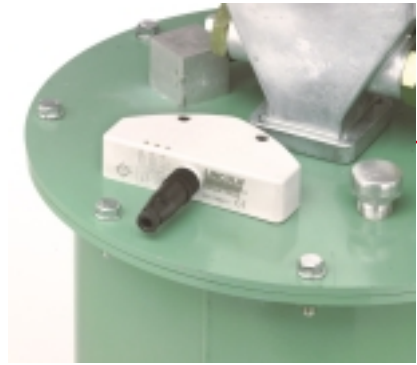
Features & Benefits

- ◆ Now serves up to 16 lube points without the cost of duplicate control panels or custom systems
- ◆ Easy access panel for adjustments, service
- ◆ New quick release fittings. No tools needed to release tubing
- ◆ Quick fill option for fast oil line priming
- ◆ Improved, higher capacity reservoir for more “user friendly” level detection and longer time between refills
- ◆ Optional motion detector to activate the system when the chain starts

NEW

Ultrasonic Sensor on 60 Pound Reservoir

Lincoln Industrial developed a new Ultrasonic High/Low Sensor to make it easier to determine when our 60 lb. Centro-Matic® automated lubrication system reservoir is getting low on lubricant and when it's refilled to capacity. The new sensor detects the position of the follower plate with ultrasonic waves to report the lubricant level. The sensor, which is factory programmed for the Lincoln Industrial 60 lb. reservoir, is available for use with both air-operated reciprocating and FlowMaster™ rotary-driven hydraulic pumps. It has two outputs that drive external signaling devices or connect with a customer's PLC. Three standard LEDs offer visual indication of the sensor's status and reservoir level.



Features & Benefits

- ◆ Accurate low-level indication
- ◆ Tells operator when to stop refilling reservoir
- ◆ Connects to a remote light or alarm
- ◆ Works with a customer's PLC

System Specifications

Ambient temperature range	-13°F to 158°F (-25°C to 70°C)
Protection	IP65
Power supply operating range	20 - 30 VDC
Current (less load)	60 mA
Switching outputs:	
Maximum current	200 mA
High level	NO contact (closes when full)
Low level	NC contact (opens when low)

Centro-Matic Pump Assemblies with 60 lb. Reservoir & Ultrasonic Level Sensor

Model	Operation	Refer to Basic Model for Pump & Reservoir Detail
85465	Pneumatic	84050
85470	Hydraulic	85487

System Sentry® II Controller Upgrade



The ultimate automated lubrication system controller/monitor is now even better. Software upgrades have resulted in greater monitoring accuracy with less sensitivity to lubricant flow rates, feed line length, or bearing back pressure. System Sentry II is always on the job, even when you can't be, to insure that every lube point is lubricated when its supposed to be. All Model 85500's currently being shipped from the factory feature the software upgrade.

Features & Benefits

- ◆ Monitors each lube point for lubricant flow during each lubrication event
- ◆ Fully programmable control, monitoring and alarm functions, all cued by easy to understand prompts
- ◆ System condition reported by simple English language messages in real time
- ◆ Can be set up to control and monitor multiple zones or even two completely different pumps and systems

NOW AVAILABLE

Metric Centro-Matic® Pumps

With new metric versions of Lincoln Industrial's new Centro-Matic Ram Pumps, there's now a completely metric Centro-Matic single-line automated lubrication system. The metric pumps are compatible with our new metric injectors, giving customers outside the U.S. and American manufacturers serving "metric markets" the kind of Centro-Matic systems they need. Installation and maintenance are simplified (no adapters and only metric tools are needed).

Features & Benefits

- ◆ Meets customer specifications
- ◆ Simplified installation, maintenance (no adapters and only metric tools needed)
- ◆ Metric pumps compatible with new metric injectors



- All porting and areas requiring a wrench are metric
- Same proven design as our U.S. standard Ram Pumps
- No adapters needed

Model	U.S. Standard Equivalent	Lubricant /Air Ratio	Max. Output	Reservoir Capacity	Air Inlet	Lube Outlet	Lubricant Oper. Press.		Air Valve	Lubricant Type
							Min.	Max.		
85391	82885	20:1	.45 in ³ 7.4 cm ³	1¼ pint/6 liter 36 in ³ /600cm ³	1/4" BSPP	1/4" BSPP	750 psig 52 bar	1000 psig 69 bar	3-way	Oil
85390	83667		2.4 in ³ 39.3 cm ³	4½ pint/2 liter 123 in ³ / 2000 cm ³						
85392	82570	25:1	2.15 in ³ 35.2 cm ³	4 lb/1.81 kg 120in ³ /1967cm ³			1200 psig 82 bar	3500 psig 240 bar	4-way	Grease
85393	83834									

Note: Air consumption @ 100 psi is .15 CFM per stroke.

New Manual Grease Filler Pump



Quick, reliable and economically priced—all come to mind when describing Lincoln Industrial's new model 638375491 Manual Grease Filler Pump. The special adapter, which is included, allows grease, which is manually compressed from the pump, to enter the reservoir of a Quickclub pump. It takes just a fraction of the time that would normally be required using a conventional grease gun. All you do is insert the grease cartridge and screw the adapter into the top of the Manual Grease Filler Pump and you're ready to begin the refilling process. The pump is especially valuable where equipment is working in remote areas where air supply or lube trucks are not available.

Features & Benefits

- ◆ Fills a 2-liter pump reservoir in as little as one-tenth the time it takes a conventional grease gun
- ◆ No need for an air supply
- ◆ Reduces dependency on larger filler pumps, especially in remote areas



Recently Introduced PRODUCTS

QLS 301

The newest Quicklub® system is compact, rugged, easy to install and use. QLS 301's many standard features and maximum performance offer smaller machinery the reduced downtime and improved safety of automated systems at an affordable price. Ready to go "out of the box," the three-in-one QLS 301 (pump, controller/monitor, metering valve) installs in tight, even non-vertical spaces; handles cold, heat and high-pressure washdowns (NEMA 4 and IP6K9K rated); and supplies up to 18 lube points (or more) with NLGI #2 grease. It features built-in low-level control, LED display and keypad for easy programming and troubleshooting. Complete kit with Zerk-Lock and Quickline fittings (in inches or millimeters) makes installation fast. Vibration tested, the models meet the most stringent specifications of the mobile equipment industry.

For information, order Solutions Vol. 1, No. 2 (442892)



Quickline™ and Zerk-Lock™



Lincoln Industrial's unique connectors and adapters cut the time it takes to install line connections in half, plus they're great for hard-to-reach places where there's no room for a wrench. Quickline products connect metering valves and flexible lubrication lines in automated and manual systems. They can splice a broken line without having to replace the whole line, and Quicklines offer three kinds of lube point connectors that install much faster than those using threads. Zerk-Lock, perfect when it's not practical to remove a damaged fitting, connects any 1/8 inch male tube adapter directly to a grease fitting with no drilling, no tapping new threads—a tremendous time savings.

For information, order Solutions Vol. 1, No. 2 (442892)

SOLUTIONS

To order more information on these products,
contact Lincoln Industrial Customer Service at 1-314-679-4200, ext. 410,
or visit our website: www.lincolnindustrial.com.



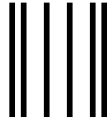
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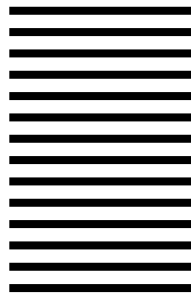
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Solutions Vol. 2 No. 1



We provide industry with the world's best lubrication and specialized fluid pumping products, systems and service.

Automated Lubrication

Our centralized lubrication systems dispense measured amounts of lubricant at predetermined intervals to bearings or other lubrication points. Systems include Centro-Matic® single-line, Quicklub® and Modular Lube® single-line parallel, ORSCO™ precision oil lubrication, Helios® and Duo-Matic™ two-line systems.

Industrial Pumping

Lincoln Industrial has developed specialized pumps and pumping stations to handle the difficult job of transferring thick fluids. From the industry-best PowerMaster® and PileDriver® pumps and air motors to specialty pumps, controls and mounting accessories.

General Lubrication

Sometimes a simple approach is the best solution. Our wide range of products includes smaller, self-contained automated lubricators and general lubrication equipment. Our high-pressure grease guns, general purpose pumps, pneumatic filtering systems, hose reels and single point kits all help maintain your costly equipment.