

Mining Systems Catalogue



JSG Industrial Systems
quality industry solutions

Lubrication
Management
Systems

Material
Dispensing
Management
Systems

Hose & Cable
Management
Systems

Diesel & Fluid
Management
Systems

Fire
Suppression
Systems

Onboard
Weighing
Systems

Flow
Measurement
Systems

General
Lubrication
& Exhaust
Extraction

JSG INDUSTRIAL SYSTEMS

In the never-stop mining industry, where equipment must keep producing in incredibly demanding conditions, JSG Industrial Systems has been able to call on its extensive experience to support the needs of the mining professional in the supply of quality equipment, service and support.

From automated systems such as Centro-Matic®, Helios® and Quickclub® to Hose Reels and Pumps, JSG Industrial Systems can provide fully designed effective cost solutions and systems along with fully guaranteed quality installation, service and repair work for your fixed or mobile plant and equipment.

To support JSG Industrial Systems in delivering a high level of service to the region, a well trained and very skillful network of distributors has been developed, located in major cities and remote areas nationally and internationally where JSG Industrial Systems products are widely used.



With the support of this network the ability to provide immediate needs regarding products, parts, service and repair is further assured. Technical support is also offered by our in-house engineering team for workshop design, product service and repairs.

From simple solutions to highly sophisticated monitored systems and backed by world leading manufacturers JSG Industrial Systems will recommend the best technology for the user's application and budget.



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Lubrication Systems

A large percentage of machine downtime and maintenance cost is a direct result of premature bearing failure, due to too much grease resulting in damaged seals and high clean up wastage costs or too little grease resulting in early bearing failure.

The systems supplied by JSG Industrial Systems include Manual, Pneumatic, Hydraulic or Electric driven. The pumps can be controlled by either internal or external controllers that are built for price and functionality such as data logging and sending data & alarms via GSM.

CentroMatic Lubrication Systems with Reciprocating Pumps

CentroMatic Lubrication Systems with Reciprocating Pumps are single line parallel systems suitable for oil and grease and are generally installed on mid size to large plant and equipment including mobile equipment utilizing the complete Lincoln injector range.

Pump station part numbers below are for the most common models, contact your nearest JSG Industrial Systems representative for other available models.

FEATURES & BENEFITS

- Air Pumps 03-084050 and 03-084050PMV (not for bulk fill)
- Hydraulic Pumps 03-002364, 03-000333, 03-000555
- Electric Pumps 03-002477, 03-000777
- Electric pumps available in 12V DC, 24V DC, 240V AC, 415V AC
- Actuated automatically by PLC or Controller
- Controllers available for the monitoring of individual grease points
- Variable pre-determined lubrication intervals
- Standard Reservoir sizes range from 5, 13, 20 litres to 40 litres also available for larger reservoirs, e.g. 180kg drums or bulk tanks
- Alarms for various system operations such as High and Low product level
- Pump shuts off automatically & vents lubricant pressure after all injectors have cycled
- Predetermined product output from lubrication injectors, SL1, SL11, SLV or SLV-XL for Grease, SL41 and SL44 for Oil
- Injectors available in banks from 1 to 6
- Some injector models available in Stainless Steel
- Injector indicator stem permits visual check of injector operation
- Injectors available in heat resistant materials



03-084050PMV



SL1 4 Bank



SLV 4 Bank



SLV-XL 2 Bank

JSG Bulk Fill CentroMatic Pump Stations

The JSG Bulk Fill pump stations are designed to meet the demanding environment of the mining industry and have a standard reservoir capacity of 40kg, 20kg and 15kg in the compact style pump stations.

The 40Kg pump stations are available with high and low level alarms these are referred to as "BU" pumps.

FEATURES & BENEFITS

- BU pumps are fitted with Lincoln Sonic Sensor Level Alarms
- BU pumps can be used in conjunction with the JSG Autofill System to ensure reservoirs are not overfilled
- JSG Bulk Fill Pump Stations are NOT pressure vessels
- Available with Air, Hydraulic or Electric Pumps
- Standard grease reservoir capacity 40kg, 20kg & 15kg in the compact version



03-002364 Compact Pump Station Installation



03-000555-20L

03-000888BU Pump Station



03-002364 Compact Pump Station

Quickclub Progressive Lubrication Systems

Lincoln Quickclub Lubrication Systems are positive displacement, progressive lubrication systems, suitable for oil or grease and are generally installed in plant and equipment or small to mid size vehicles. The systems are available in several styles while the heart of the system is the Lincoln Quickclub Metering Block, SSV or SSVD.

FEATURES & BENEFITS

- Manual Multi Point Quickclub Systems
- Centralised Manual Lubrication Systems
- Centralised Automated Lubrication Systems serving up to 300 points
- Reservoir sizes 1, 2, 4, 8, & 15 Litres
- Metering Devices are available in fixed displacement SSV (0.2cc) or variable displacement SSVD (0.008 ~ 1.80cc) through the use of Metering Screws
- Specialised application pumps with Integrated Metering Devices and 1 litre reservoir, serving up to 18 points
- Specialized pumps for over-the-road trailers
- Voltages from 12VDC ~ 24VDC and 120VAC ~ 240VAC



P203 Pump and SSVD Progressive Metering Devices

Lincoln Two-Line Lubrication Systems

The advantage of a two-line system is that it supplies an exact metered quantity of lubricant from one pump station over large distances.

The metering devices are operated by two main lines, whereby here the lubricant is simultaneously the control medium of the system. The two-line system can be combined with secondary progressive metering devices, thereby increasing the total number of lubrication points that are served by a two-line metering device.

FEATURES & BENEFITS

- Able to dispose grease over long distances
- Pump stations have large capacity grease reservoirs
- Lincoln's high pressure capability allows small diameter tubing to be used, thereby reducing installation and material costs
- Visual or optional electronic monitoring of each metering device outlet pair
- Simple and individual metering of lubricant
- Problem-free readjustment of metered lubricant output after installation
- Optimum monitoring and control possibility with a field bus system
- Easy to extend the system
- The system always operates at maximum pressure
- The pressure is constantly monitored and modified accordingly
- Since only the effective required pressure is generated during each lubrication cycle, the pump and other system components have a longer service life



ZPU08 Two-Line Pump & Controls



Two-Line Metering Device

JSG Lubrication Systems Controllers

JSG "G2" Pulse Lubrication Controller

The Economical model "G2" Pulse Lubrication Controller is specifically designed for use on systems incorporating a pump as well as solenoid valve and pressure switch. The unit can be programmed for pause cycles from 1 second to 50 hours, Pump run pressure timeout range of 1 to 50 minutes and solenoid cycle times of 1 to 50 seconds.

FEATURES & BENEFITS

- Suitable for single line parallel systems
- Special programming access reduces tampering problems
- Economically priced
- Manual override button
- Monitors pressure cycles via timeout alarm
- Operating voltage 12/ 24 VDC
- Fault mode (failed pressure indicator)
- Alarm light & signal output
- Low level indicator light
- Pump station control via 2 outputs one is steady the other is pulse. The pulse output is symmetric and variable between 1 second & 50 seconds.
- Compact in size - 73mm x 66mm x 33mm deep including mounting plate, weight 150 grams
- Pause time 1 second to 50 hours, run time from 1 second to 50 minutes



13-002500-1

JSG Lube Management Controller

The JSG Lubrication Management Controller is a universal lubrication management system capable of handling most applications from simple run/pause systems to more advanced progressive, single and dual line systems. Innovative algorithms also give new flexibility and greater control over traditional single and dual line systems.

The practical intuitive design gives clear status indication. Advanced diagnostics help pinpoint system faults quickly and accurately. Although highly flexible, it remains simple to set up and operate via JSG's proprietary Lube-Logic.

FEATURES & BENEFITS

- Special programming access to reduce tampering problems
- Monitors one or two pressure or proximity switches
- Incorporates a fault mode with diagnostic indications
- Alarm incorporates an LCD readout, integrated audible alarm output with the ability to set the alarm to pulse or continuous mode
- Instant system status tests
- Short-circuit/open circuit detection
- Pause and run time adjustable between five seconds and 24 hours
- Multiple cycles per lubrication event and cycle counting
- Manual override button
- External fault lamp output (flash or steady option)
- Standard, IP54 rating for internal mounting or upgraded to IP67 with special enclosure for external use
- Three digit LED readout
- Test mode
- Low level reservoir monitoring
- Compact housing with mounting bracket
- Simple Lube-Logic setup procedure
- 12/24 V operation
- Compact size 70mm x 145mm x 38mm deep including mounting plate



13-002002

JSG Lube Management Controller Information Transfer

The programming and data features of the JSG Lubrication Management Controller include the possibility of programming manually or via computer.

Software is available for computer programming and downloading operating history, the downloading can be carried out via direct link, data shuttle or modem/GSM.

Via JSG Data Shuttle

The JSG Lube Management Controller has the capacity to store all critical faults up to 80 records.

The Data Shuttle is a device that can retrieve this data without the use of a laptop PC and can retrieve the data information from up to 8 different controllers. This information can then be downloaded from the Data Shuttle to your desktop PC to the JSG Lube Management program whereby all the relevant faults can be scrutinized.

FEATURES & BENEFITS

- Remote downloading of data without need of laptop
- Retrieve information from up to 100 different controllers.
- The Data Shuttle has its own battery power storing the information without the risk of loss



Controller & Data Shuttle

Via JSG GSM Vehicle Modem Kit (GSM-GSM Or GSM - Landline Modem)

Without having to send a technician to the site, the JSG Vehicle Modem Kit is the ultimate tool for downloading data from the Lube Management Controller. Connecting the JSG Vehicle Modem Kit to the JSG Lube Management Controller allows remote monitoring via GSM.

FEATURES & BENEFITS

- The GSM modem needs to be installed together with the Lube Management Controller
- The main centre for receiving and up-loading of data needs to have a modem connected to their PC in order to send and receive data
- Each modem has its identity and unique address



Controller & GSM Modem

Autofill Automatic Grease Shutoff System

The AUTOFILL system (Part No. 13-960000) has been designed to monitor tank levels via level switches and maintain full control over the on/off function of the fill pump.

The system has been designed to ensure that pressure is never locked in the fill hose, thereby providing the operator an easier and safer removal of the grease coupling. In addition, no pressure build up helps to ensure that no additional grease from the fill hose spills contaminating the surrounding ground. The JSG AUTOFILL Enclosure has been designed to withstand even the harshest Australian mining environment.

The AUTOFILL system also incorporates drive-by monitoring capabilities. In essence, this means that if a service vehicle fitted with a monitoring unit (the 'dispenser' unit) passes by a working machine fitted with a second monitoring unit (the 'receiver' unit), the driver of the service vehicle will be alerted to the status of the tank(s) on board the working machine. In practice, the receiver unit will display the same level reading as displayed on the dispenser unit, providing a cost saving on the time taken to physically check the level of a grease tank.

FEATURES & BENEFITS

- 12/24V DC
- Does not require pressure vessels for grease tanks thereby eliminating all associated problems such as over pressurising
- Directly controls the on/off of the fill pump
- No pressure left in the grease fill hose at high level shut off
- Can be interfaced with a range of pressure switches
- Indicates grease levels
- No pressure in the grease fill hose means that the grease coupling can be easily and safely disconnected (OH&S) without having any grease from grease fill hose spilling onto the ground (EPA)
- Drive-by monitoring capabilities — effective range 20m
- Polycarbonate Enclosure
- UV resistant
- Impact resistant
- IP65 rated
- Protective inspection cover
- 2.4GHz frequency
- Only one model is required, as an internal toggle switch is used to switch the unit from a receiving unit to a sending unit



Autofill systems

Lincoln 10GPM Grease Fill System

Lincoln 10GPM Grease Fill System

The Lincoln 10GPM Fill System is designed to minimise safety and environmental concerns when refilling grease reservoirs on mining equipment, by eliminating the human element associated with overfilling through the detection of the grease level in the reservoir. When a signal comes from grease level sensor indicating that the grease reservoir is full, the VIMS or Controller provides power to the high pressure shut-off valve to close. Once grease level sensor drops below full indicator, VIMS/controller will provide 24 V DC to open shut off valve.

The design of the system also incorporates a Momentary Switch, which is used to relieve pressure in the Fill Line to allow for safe disconnect.

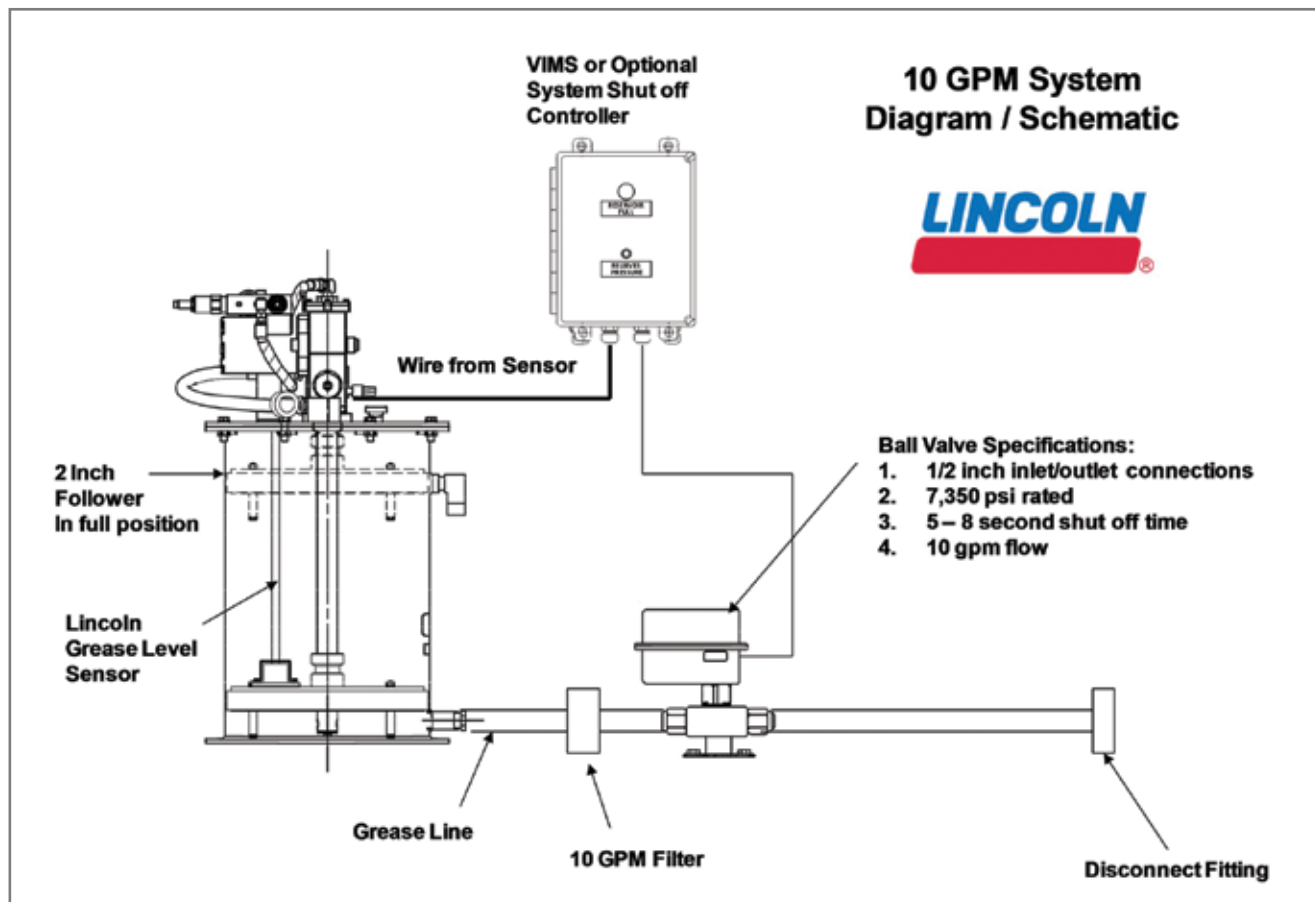
FEATURES & BENEFITS

- 10 GPM Fill Rate
- Magnetic Resistive Technology
- Durability and Reliability
- Single activation switch can alarm at full or empty level
- Signal can be local, in cab, or ground level
- Signals (level + alarm) can be together or separate
- Sensor can be adapted to any Lincoln reservoir with follower
- Sensor can activate a Reservoir Fill Line Shut Off Valve
- 3,500 Pressure Rating
- 430 Micron, Serviceable Grease Filter



System Shut Off Controller

Electric Grease Reservoir Fill Shut-Off Valve



Lincoln 10 GPM Fill System

Lincoln System Sentry IITM

Model 85500, System Sentry IITM, can control operation of your lube system and verify delivery of lubricant to the bearing. Lube point monitoring may be added to Model 85500 by using plug-in sensor boards. Model 85500 has the capacity to allow up to 3 sensor boards to be installed. The Controller is truly user friendly. Programming the controller is simply a matter of inputting parameters through a sixteen key membrane switch that appears on the LCD (Liquid Crystal Display).

FEATURES & BENEFITS

- Each sensor board can monitor 16 lube points for a maximum total of 48 lube points
- One System Sentry IITM can control one or two separate lubrication systems
- One System Sentry IITM will allow up to 3 lubrication zones when controlling one pump
- The System Sentry IITM can make use of a pressure transducer in the Lube supply line for the following: Read supply line pressure on LCD, Monitor vent pressure in lube supply line, Reset the controller, Multiple lube cycles for Centro-Matic Systems
- Can control a separate air solenoid for spray heads to provide Post Spray Capability
- Auto-scan feature to recognize sensors



01-085500

Lincoln LMC 2 Multi Controller

The Lincoln LMC 2 is used to control and monitor stationary lubrication systems, it combines the flexibility of fully programmable controllers with the cost effectiveness of pre-programmed control p.c.b.'s.

Functionality and menu display in the LMC 2 are set to specifically matching parameters depending on the lubrication system selected.

FEATURES & BENEFITS

- 4-digit, 7-segment display
- LED Status display
- Easy access operating Panel
- All settings and count values are saved every 30 minutes in the LMC2 EEPROM which means that they are not lost, even if the mains supply fails
- Controls multiple systems: PMA Systems, Progressive Systems, Two-Line Systems, CentroMatic Single Line Systems, Railroad Lubrication Systems, Orsco Chain Lubrication Systems, Spray Systems



LMC @ Multi Controller

Lincoln Solid State 12-24VDC Timer

The Lincoln Solid-state microprocessor-based controller is predominately used for automated lubrication systems on mobile equipment, or where AC power is not available.

FEATURES & BENEFITS

- 12 – 14 Volt DC
- Rugged construction
- Liquid- and dust-tight enclosure
- Includes manual push-button for remote initiation of a lube cycle



01-084015

Pinion and Girth Gear Lubrication Systems

Lincoln SAF/HSA Pump & Nozzle Spray Lubrication Systems are designed for applying adhesive lubricants to heavy-duty pinion gears of rotary kilns and tube mills, but also to racks of side-guards manipulators in rolling mills. The generally tough, strongly adhesive lubricants are delivered by piston pumps and finely distributed onto the surfaces to be lubricated using compressed air and wide-angle spray nozzles.

Lincoln SAF Pumps

These pneumatic barrel pumps, SAF1-YL with one outlet and SAF2-YL with two outlets are designed for use in spray systems for the supply of adhesive lubricants (NLGI 0 and 00).

FEATURES & BENEFITS

- SAF pumps are placed directly into 200 litre drums
- They do not require a follower plate, thus the supply of lubricant is possible even if the drum is severely dented
- With the aid of an optional stand and winch unit, it is easy to exchange barrels

Lincoln HSA Spray Nozzles

Lincoln spray nozzles are designed for the spraying of adhesive lubricants on pinions and open gears. The nozzles are available in several versions that cover a wide range of applications and functional features. The SDLKR series are the only nozzles that can monitor both the flow of air and lubricant within the nozzle. The economically priced SD series can be monitored externally by means of a progressive metering device and the air can be controlled with an air solenoid valve.

FEATURES & BENEFITS

- One nozzle can lubricate a surface approx. 150 mm Wide
- Controlled nozzles provide 100% monitoring of air-flow and lubricant supply as opposed to air pressure and lubricant flow
- Repeatability of spray pattern
- Complete air control possible to reduce consumption
- Complete mounting plates are available for easy alignment

Lincoln Airless Spray System

Because no air is required, the Lincoln Airless Spray System means that mining, concrete, steel and other heavy industries can look forward to dependable high-pressure lubricant spraying that's low-maintenance and cost-effective.

FEATURES & BENEFITS

- Dependable, low-maintenance, cost-effective high-pressure system
- Reduced fogging and lubricant consumption
- Sprays a consistent pattern over a wide range of temperatures
- Choice of spray patterns puts lube where needed
- Spray widths of 24" or more from distances of 18" or more
- Adjustable lubricant volume output
- Sprays some previously unsprayable lubricants
- Adjustable spray duration minimizes drippage
- Reduced plumbing



SAF Pump



HSA Spray Nozzles



Airless Spray System

Chain Lubrication Systems

The largest relative movement of all chains occurs between the link plate and the chain stud where considerable force is transmitted. Insufficient lubrication of this area will cause premature wear and chain failure. The consequence is expensive production downtime. Careful and efficient automated lubrication is a prerequisite for optimum functioning and an extended chain life.

PMA Chain Lubrication Systems

The PMA 2 solenoid pump is designed to be used as an oil supply pump, primarily in a chain lubrication system. The gravity-fed magnetically operated pump is signaled by a proximity switch. Then, fixed quantities of oil are supplied to the spray nozzles by the pumping elements, thus spraying a fine drop of oil on the chain.

With this application, only those lubrication points which actually need it will be lubricated.

FEATURES & BENEFITS

- Contact-free oil lubrication of chains
- Lubrication is effected with an exactly metered oil volume while the chain is running
- Lubricant can also be applied directly by means of brushes to lubrication points
- Also allows for a trouble-free lubrication of fast-running chains
- 6 lubricant outlets
- Standard nozzle or double-nozzle with two outlets
- Metering is 30 mm³ or 60 mm³ of oil per lubrication cycle
- A 13 litre reservoir and a 36 litre reservoir are available. Both reservoirs are provided with a large filler opening with strainer



PMA 2 & 13 Litre Plastic Reservoir

Trico Single Point Grease Lubrication Systems

There are several methods of applying grease to the point of lubrication. The most common forms are manual, single point, and Automatic/centralized lubrication. Trico offers a variety of grease lubrication products to meet your specific needs.

An alternative to manual lubrication Trico Single point lubricators are a storage device designed to slowly dispense grease to the point of lubrication, typically a bearing, over a period of time. These devices are usually mounted in the port that a Zerk fitting occupies. They may be driven mechanically, electrically, pneumatically or by a chemical reaction process. Typically, the user sets the dispense rate to meet the requirements of the bearing based upon its size, type, speed. Trico now offers three different types of single point grease lubricators.

Mechanical

Trico Streamliner® grease dispensers apply a precise flow of grease to critical machine parts. They are a cost effective alternative to fully integrated lube systems or manual lubrication. The grease dispensers are ideal for industries where high volumes of moisture, accelerated temperatures and contamination are present. Their simplicity in operation insures dependability and ease of service.

FEATURES & BENEFITS

- Spring drives a plunger to feed grease
- Anodized aluminum base resists corrosion and works well in high vibration applications
- Clear reservoir for easy viewing of grease levels
- Each unit supplied with three different spring sizes for maximum versatility
- Double spring design for more uniform dispensing pressure (+/- 6%) in the Streamliner S model
- The Streamliner® S series features five different control settings by simply turning the valve position indicator located on top of the grease dispenser



Streamliner S

Electro-Chemical

STREAMLINER® V GREASE DISPENSER

A battery operated timer activates an electrochemical cell producing expandable gas that generates pressure against a piston. Streamliner® V Grease Dispensers are designed for applications where it is essential to have precise amounts of grease delivered to critical machine parts and are a cost-effective alternative to fully integrated lube systems or manual lubrication.

FEATURES & BENEFITS

- Pre-filled with one of six standard grease types in convenient service packs
- Microprocessor control
- Large LCD display
- Six variable dispensing rates – 1, 2, 3, 6, 12 months, and purge
- Auto purge cut-out
- Economical 250cc reservoir capacity for fewer replacements
- Indication of operation with green LED



Streamliner V

Trico Single Point Grease Lubrication Systems

Electro-Chemical (contd)

STREAMLINER DC GREASE DISPENSER

The Streamliner DC automatic single point lubricator offers maintenance professionals the ability to keep equipment properly lubricated. The key to the high degree of reliability with the Streamliner DC is the innovative, fully-adjustable gas generating power source. The power source generates gas that creates a consistent pressure on a piston which gradually and continuously dispenses the lubricant contained in the chamber.

Delivery time is easily set with a simple twist with an allen key on top of the unit. The dispensing time of the Streamliner DC is variable between one and twelve months allowing complete control over the amount of lubricant being applied.

The transparent housing provides visual confirmation of the rate of delivery. Unlike opaque lubricators, one quick glance is all that is needed to see just how much lubricant is left in the cartridge.

The light weight, compact design of the Streamliner DC allows for installation in almost any place and any position, even under water.

FEATURES & BENEFITS

- Simple to install and activate
- Service packs can be refilled with your own grease
- Powered by a patented gas generating dry cell
- Adjustable time setting from 1 to 12 months reduces inventory costs, less units to have available
- Transparent chamber allows easy visual check of lubricant level
- Sealed point of contact prevents contamination with dirt and water - submersible in any direction
- Easy adjustment of dispensing rate during operation
- Environmentally friendly
- Can be temporarily deactivated
- Intrinsically safe - Class I, II, III; Division 1; Groups A, B, C, D, E, F, and G



Streamliner DC

Electro-Mechanical

The Streamliner® M series has a battery operated timer that activates a motor attached through a small gearbox to drive a cam that drives a piston pump while ejecting a fixed amount of grease.

When used with Trico's distribution block a single unit can lubricate up to eight lubrication points.

FEATURES & BENEFITS

- Pre-filled with one of six standard grease types in convenient service packs
- Electro-mechanical driven with microprocessor control and easy to read LCD display
- Streamliner® M series six variable dispensing rates – half, 1, 2, 3, 6, and 12 months
- Streamliner® M 500cc series has eight variable dispensing rates - half, 1, 2, 4, 6, 12, 18, and 24 months
- Indication of grease pouch and battery replacement
- Indication of motor overloading along with date
- Indication of days remaining until servicing
- Auto locking mode is provided so the unit operates based on the user setting during a full period of service. It prevents a possible mode change from an accidental press of a keypad during unit operation



Streamliner M

Trico Constant Level Lubrication Systems

Trico Constant Level Lubrication Systems

Constant level oilers are designed to maintain a predetermined oil level in a sump, which is necessary for proper lubrication. If the oil level were to drop below this point, the depleted oil would automatically be replenished by the lubricator, returning it to its original level. With the use of constant level oilers, maintenance efficiencies can be increased, while minimizing maintenance costs, and the loss of production time. The prime product being the Trico Constant Level Oiler.

Trico Opto-Matic® Constant Level Oiler

The Trico Opto-Matic® Constant Level Oiler is available with Glass or Plastic reservoirs and is used to maintain accurate oil levels in machine bearing and sump housings. Stainless steel models provide long life in corrosive environments such as chemical, pulp and paper, and mining industries.

FEATURES & BENEFITS

- One piece glass reservoir ensures proper constant level function. Compared to competitive models, there is no possibility of air leakage that would cause overfilling of the bearing housing
- Adjustable level setting allows use in many applications
- Multiple air vent slots provide for proper functioning at all times
- Large surge chambers helps prevent overflow of oil during machine start-up or shut-down
- Side and bottom connections for simplified installation
- BSPT connection ports available
- LS, EH, and EHB models have a large surge chamber to minimize potential of leakage during oil surge conditions



Trico Opto-Matic Constant Level Oiler

Trico LCL Large Capacity Oilers

LCL large capacity oilers provide a constant level of oil in a pump bearing housing, gear box, or other oil sump applications. They operate on the same principle as the Opto-Matic oilers and are used in applications requiring a large reservoir capacity.

In isolated areas where refilling is a problem, the use of an LCL oiler can save time and maintenance costs.

FEATURES & BENEFITS

- Large capacity glass or acrylic reservoir to 2-1/2 quarts, acrylic reservoir available in 1 gallon
- Factory set oil level at centre line of side outlet allows easy installation
- Specially designed feed tube to ensure reliable lubricant delivery
- Large surge chamber prevents overflow of oil during machine start-up or shut-down
- Side connection of 1/2"NPT makes for durable and rigid installation. Mounting bolt (1/4-20) provided for attachment to support bracket



Trico LCL Oiler

Trico Constant Level Lubrication Systems

Trico Opto-Matic Closed System Oiler

The Trico Opto-Matic Closed System Oiler is designed for all types of equipment where a constant level in a housing must be maintained. The closed system design prevents contamination and spillage. The adjustable collar allows the oil level to be externally adjusted to the desired level. A 1/8 NPT port is provided for a vent line back to the housing to allow pressure balancing between the oiler and the housing.

FEATURES & BENEFITS

- One piece glass reservoir ensures proper constant level function. Compared to competitive models, there is no possibility of air leakage that would cause overfilling of the housing
- Adjustable level setting allows use in many applications
- Bottom of adjusting collar indicates actual oil level setting for easy set-up and maintenance
- Side and bottom connections for simplified installation
- Two inch sight gauge available for easy viewing of oil level



Trico Opto-Matic Closed System Oiler

Trico Watchdog Closed System Oiler

The Trico Watchdog Closed System Oiler is designed for bearing housings, gear boxes, and other oil sump lubrication applications. It is ideal for use in the chemical processing, power generation, pulp and paper, and utility industries. The viewport provides visual indication of lubricant level and condition. Mounted on the centerline of the desired oil level, these constant level oilers do not require any adjustment or level setting.

FEATURES & BENEFITS

- Closed system design prevents contamination and spillage
- No vent line to pump bearing housing required, simplifying installation
- Mounts on centerline of desired oil level, and does not require adjustment or level setting
- Integral viewport eliminates need for additional component



Trico Watchdog Closed System Oiler



Watchdog Oiler Installation

Flow Systems

A Flow System is when material is pumped from the original container through the supply line a Hose Reel, Flow Meter or flow control mechanism, such as a nozzle, which applies or dispenses the material. Sound material dispensing practice eliminates problems such as contamination of materials which in itself is a prime cause of premature parts failure or production problems. It also reduces the time taken to transfer material and provides controlled dispensing reducing wastage.

Lincoln PowerMaster III Pumps

The PowerMaster III pumps are completely pneumatic with modular air motors and six-inch stroke for greater material output. Accessories include an AirBrake™ option for prevention of pump runaway due to an empty container, a broken supply line or other loss of pump prime.

FEATURES & BENEFITS

- State-of-the-art, fully pneumatic air motors, 3, 4, 6, 8 inches (76, 101, 152, 203 mm) diameter
- Full six-inch stroke for greater output per cycle
- Modular design for easy repair
- Only five moving parts, no metal-to-metal contact
- Available to fit any drum or pail size
- Offered in carbon steel, stainless steel or hard-chrome plated
- Complete selection of packing materials available
- Ball-style for fluid materials
- Shovel foot-style for high-viscosity, non-fluid materials



PowerMaster Pump with Air Motor & Air Brake

Lincoln PileDriver III Pumps

For high-volume applications of viscous materials from standard drums or bulk tanks, these industry-standard pumps incorporate the same completely pneumatic, modular air motors. Along with the AirBrake option and a wide variety of packing materials, PileDriver III pumps feature a patented leakless gland design that protects the pump from gland seal failure and subsequent downtime.

FEATURES & BENEFITS

- Machined inlet casting: Set screws secure the inlet assembly and permit 360° outlet adjustment to facilitate system plumbing
- Cartridge-type gland with scrapers and patented protection bushing
- Straight-through pump tube and piston-port design: Reduces internal friction and the opportunity for solids entrapment
- Load-bearing, chrome-plated internal pump tube surface: Distributes forces between gland and pump tube to prolong seal life
- Choice of inlets: Shovel-type for thick material or flat check for higher flow rates



PileDriver Pump with Air Motor & Air Brake

Lincoln Hydro-PowerMaster

This hydraulic motor is specifically made for PowerMaster III and PileDriver III Pump Tubes and virtually eliminates concerns about air supply condition and exhaust emissions. The Hydro-Powermaster motor is safe to use where electric or pneumatic motors may be hazardous.

FEATURES & BENEFITS

- Efficiently generates high material pressure and flow rate with minimum hydraulic power consumption
- Few internal moving parts, no mechanical linkages or solenoids to fail or wear out
- A completely internal changeover circuit requires no external signal for reciprocating action
- A balanced cylinder design eliminates the need for separate up and down stroke adjustments
- All key components are machined from steel or aluminum to ensure long service life in the toughest applications
- Hydro-PowerMaster was designed and is manufactured under the strict conditions of an ISO 9001 registered quality system



Hydro PowerMaster Hydraulic Motor

Lincoln Ultra High-Pressure Pumps for Pressure Control Applications

The Ultra High-Pressure Pumps are Series III PowerMaster series and are designed specifically for oil well services such as wireline and plug valve applications.

FEATURES & BENEFITS

- In wireline applications, these pumps are used to seal against the well-head pressure as the well is being logged or perforated
- In plug valve applications, they are used to pump heavy grease into the valve or "Christmas tree valves" to seal any gas leaks
- Available in three different ratios, 70:1, 140:1 and 250:1



Ultra High-Pressure PowerMaster Pump

High Volume Transfer Pumps

Designed for the quick transfer of grease from drums and bulk containers, the 12:1 and 24:1 pumps are ideal for filling automatic lubrication system reservoirs, transferring grease to smaller containers and feeding measuring ejectors with restricted priming pressure.

FEATURES & BENEFITS

- Positive priming with a shovel-type foot valve
- The 12:1 pump provides up to 30 lpm (27kg.) free delivery when pumping #2 grease with a 4.25-inch air motor at 70 degrees Fahrenheit at 100 psi
- Up to 6 gpm (45 lb.) through a 20-foot by 1-inch hose
- In addition to high-volume capability, these versatile pumps provide low-pressure compatibility with measuring ejector systems
- An optional adapter is available which allows the pumps to be used with containers having 3-inch camlock outlets



High Volume Transfer Pump

AirBrake Runaway Control and Pump Protection Device

The AirBrake technology has unique pneumatic logic that uses pump cycle speed to stop a runaway pump. The patented module saves the cost of preventable repairs and lost production by stopping pumps when they lose prime and start to accelerate toward damaging speeds.

The AirBrake is available three ways: a factory option on new PowerMaster 4-1/4" and larger air motors; an upgrade kit for existing AirBrakes; or a separate, complete model for PowerMaster motors not originally equipped with AirBrake.

FEATURES & BENEFITS

- Seven dial positions that define specific speed range settings, so the desired shutoff speed can be determined and set
- Detents clearly identify the correct position for each setting
- Dial for each pump speed is easy to identify on the AirBrake
- AirBrake is easy to reset after being disarmed to allow the pump to run at higher speeds for priming supply lines
- Prevent unauthorised adjustments with the optional tamper-resistant cover on the dial simply return the dial to the original setting



Airbrake

Transfer Chief Diaphragm Pumps

Transfer Chief Air Operated Diaphragm pumps (AODP) are powered by compressed air and are used for the pumping transfer of fluids with or without suspended solids at high volume, low pressure.

Air operated diaphragm pumps will self prime under most suction lift conditions or flooded suction conditions. The flow rate can be adjusted by regulating the air pressure to the pump air valve. The pumps have very reliable stall free air valves which are positioned in the centre section of the pump so they can be worked on without disassembling the wet end of the pump.

FEATURES & BENEFITS

- Available in a variety of metallic and non metallic options
- Low interval velocities move abrasives easily with no damage
- Pumps viscous materials. Even heavy or solids-laden materials can be pumped
- Environmentally friendly. No motors, seals or packing's to leak
- Self-priming. Able to dry prime under most suction lift or flooded suction conditions
- Runs dry without damage
- Deadheads against closed discharge. Excessive back pressure stops operation with out damage until discharge opens



Transfer Chief Diaphragm Pump

Flomec Meters

Flomec Meters are oval gear positive displacement flowmeters which provide high levels of accuracy & repeatability for a wide range of most clean liquids irrespective of viscosity & conductivity. The pulse output of the meter can be wired directly to process control and monitoring equipment or can be used as an input to instruments supplied with or fitted directly onto the meter.

FEATURES & BENEFITS

- Modular process connections
- No requirement for flow conditioning
- High accuracy, repeatability & reliability
- Wide turndown (min.~max. flow)
- Ultimate rotor stability (all metal rotors)
- Dual outputs (reed & hall effect) standard
- Pulse high resolution pulse output
- Hazardous area versions
- Bi-directional flow capability
- Quadrature pulse output option
- Flow Meters range from 4mm to 100mm (4")



Large & Small Capacity Flowmeters

Battery Powered Flow Registers

The Flomec Rate Totaliser is designed for more rugged applications in mine sites and mobile installations. The FRT12 battery powered flow rate totaliser is specifically designed for displaying flow rates and totals from flowmeters.

FEATURES & BENEFITS

- FRT12 LCD display has a robust aluminium enclosure with optional front fascia protector
- Pulse, analogue and alarm outputs
- The FRT12 has a simple flow chart touch key programming



FRT12 Rate Totaliser

Mechanical Flow Registers

As an alternative to electronic totalisers, robust mechanical registers with metal housings.

FEATURES & BENEFITS

- 3 or 4 large resettable digits & 6 or 8 digit cumulative
- Total clearly visible for loading & un-loading sites at petroleum depots, mining, construction & marine facilities



Mechanical Register

V Style Mechanical Flow Registers

Adjustable for accuracy the V style register is an alternative to electronic totalisers, robust mechanical registers with metal housings.

FEATURES & BENEFITS

- 5 large resettable digits
- 8 digit accumulative total displays clearly visible for loading & un-loading sites at petroleum depots, mining, construction & marine facilities
- Gear box not included with registers for foreign meters



V Style Mechanical Register

Hose Management Systems

OH & S is a major concern for companies with potential problems caused by hoses lying around shop floors or hanging from ceilings. These problems can effect maintenance costs and create potentially unsafe areas, JSG provide systems which are designed to safely rewind and/or store hoses away from hazardous locations on service vehicles, machinery or shop floor, and thereby providing a safer working environment. The commonly dispensed products when using hose reels are Air, Water, Oil and Grease.

Selection of a hose is commonly based on duty cycle, mode of retraction, product to be dispensed, hose capacity, pressure rating and flow rate.

Cobra Hose Reels

The Cobra Hose Reels are designed for high duty cycles and harsh conditions with quality, strength, durability and serviceability in mind whether it be material dispensing, ergonomics, environmental and OH & S issues or hose storage, which are available in either manual, spring, air or hydraulic rewind configuration. They are designed to meet most of the market needs from 1/4" to 2" hose to meet most requirements. The Cobra reels can be used for transferring Air, Water, Lubricants, Grease and Diesel, they can also be used for High-Pressure Washdowns.

FEATURES & BENEFITS

- Several models can be supplied upon request without any aluminium parts making them suitable for underground coal mining use
- Epoxy powder coating process for long life and scratch resistant finish
- Compact, high strength rigid frame and drum combines superior strength with a compact design for space limiting installations
- Sealed roller bearings fitted with covers to stop dirt or high pressure water ingress in machine washdown
- Oil swivels on lube reels are BSP in configuration complete with Dowty washers.
- Super swivels are used on the Grease Hose reels to allow hose retraction even while under full pressure
- Hose reel latch pawl and spring are attached to a service plate
- Factory lubricated power spring contained in a fully sealed serviceable canister.
- Drum spaces precision machined to improve drum alignment and prevent runout



Cobra Spring Rewind Hose Reel



Cobra Direct Drive Hose Reel

Hose Management Systems

Lincoln Hose Reels

Available in five standard styles

Fluid Reel Series Hose Reels for low, medium or high-pressure rating, for grease, oil or air and water, Lincoln offers a standard reel to fit the application including the new 8700 series. use with 10m, 50m, or 60m hoses.

Heavy Duty Series Hose Reels provide reliable operation in the most demanding conditions. For use with 30', 40' or 50'; low, medium or high pressure hoses.

High Flow Series Hose reels are designed for applications that require high product flow and/or longer hose length. Models available to work with hose lengths up to 75'. Ideal for service trucks, transit facilities and large fleet shops.

Dual Arm Series commercial strength hose reel is constructed to sustain repeated use in automotive environments and industrial settings. Double base support withstands extra vibrations and provides smooth hose pull-out and retraction.



Dual Arm Series Hose Reel

FEATURES & BENEFITS

- All bare reels rated for high, medium and low pressure
- Ball bearing inlet swivel design
- Quick disconnects on delivery and connecting hose
- Spring canister with seals
- Delrin rollers
- Reel sheaves are rolled
- Powder-coat finish creates a corrosion-resistant reel that stands up to the elements
- Dual needle bearings provide consistent and smooth hose pull-out and retraction
- Bare reel rated for high, medium and low pressures
- Hose guide on Dual Arm Series is supported by two arms to absorb the forces subjected with frequent hose pull-out and retraction



High Flow Series Hose Reel

Lincoln 87000 Series Hose Reels

Lincoln 87000 Series range of Hose Reels include the 01-087700 low-pressure, the 01-087300 medium-pressure, and the 01-087500 high-pressure bare reels. These three hose reels were designed for use by new car/truck dealers, fleet maintenance and municipal garages, oil change facilities, light-duty lube trucks and industry. With low-, medium- and high- pressure models available, the 87000 Series Hose Reels can dispense air, water, oil and grease.

FEATURES & BENEFITS

- Extra-wide hose guide eliminates flex
- 180-degree, opposed-ratchet design provides greater hose length adjustments
- Seven-position roller outlet arm with four-way roller assembly
- Heavy-gauge steel base and support to provide maximum strength
- Slotted mounting base accepts both 6M/6H and HD 82206 mounting patterns for easy installation
- Bronze axle bushings eliminate wear at the hub and axle, and the brass hub prevents binding and leakage
- Baked-on powder coat finish provides corrosion resistance
- The low-pressure model offers a stainless steel axle for air and water applications



87000 Series Hose Reel

Cable Management Systems

Cable management is very often overlooked as a means to lower maintenance costs. Poor cable management on reciprocating or moving machinery can result in electrical shorting through wear, abrasion, kinking, being caught in the machine or passing traffic. Irrespective, the result is the same, increased maintenance costs through machine down time, cost of repair, consequential damage and serious OH&S concerns.

The correct Cable Management System will ensure an extended life of cables by preventing damage and wear and thus lowering costs.

Gleason Series "S" Spring-Driven Electric Cable Reels

Gleason Series "S" Heavy Duty Spring-Driven Electric Cable Reels are designed to be mounted on moving machinery. Electric current flows from the power source to the current consumer through the cable specified by the customer. S-Reels utilize self-contained slip ring assemblies which transfer current to the cable mounted on the rotating spool.

FEATURES & BENEFITS

- Designed to be mounted on moving machinery
- S-Reels utilize self-contained slip ring assemblies
- Models for 2 to 36 conductors
- 35 Amps to 200 Amps and up to 600 Volts
- 30' to 120' for lift, drag and stretch applications (200') for retrieve applications
- Can be used on crane magnets
- Also available in a geared version



Gleason Series S Cable Reel

Gleason Cable-Master Reels

Gleason Cable-Master Reels are ruggedly built and their design refined over many years of field use, they are ideally suited for maintenance workshops and smaller reciprocating gantry crane applications.

FEATURES & BENEFITS

- Either fully automatic or ratchet controlled spring rewind
- Roller cable guide
- Ratchet lock
- 35 Amps to 75 Amps
- Slip Ring up to 600 volt
- Available for 3 to 12 conductors
- 20' to 70' long cables



Gleason Cable Master Reel

Other Specialised Gleason Cable Reels

- Gleason Series "WB" Cable Reels without Slip Rings – Continuous cable for data transference
- Gleason Series "SHO" & "TMR" Retrieve Type Electrical Cable Reels for long electrical cable horizontal retrieve applications.
- Gleason Motor-Driven Pendant Station Reels automatically raise and lower push-button stations for floor controlled cranes and hoists.



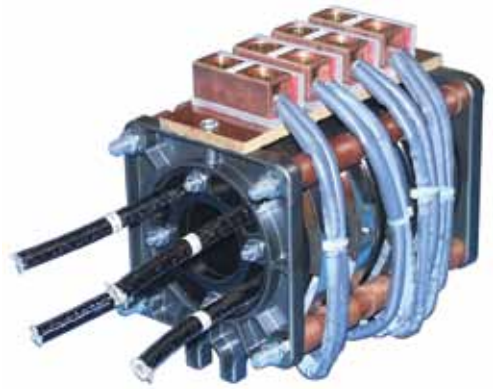
Gleason SHO Monospiral Reel

Gleason Slip Rings

Gleason Slip Rings solve a common problem in today's world: Transfer of electric current from a stationary to a rotating component or vice versa. There is a Gleason Slip Ring for virtually anything that rotates on a fixed axis and requires a flow of electricity. Electric current is transferred through copper graphite brushes onto copper alloy rings.

FEATURES & BENEFITS

- Constant contact is maintained between brushes and rings through a variety of unique spring designs, depending on unit type, to insure optimum surface contact and reliable current flow
- In some applications the brushes rotate around the rings (example; rotating signs) while in others the rings rotate inside the brushes (example; cable reels)
- Standard models are available with ratings from 30 to 700 amps at 600 volts in three basic styles



Gleason Slip Ring

Gleason Static Discharge Reels

Ideal for a wide variety of grounding applications, the "S" Series Reel is available with your choice of cable length and connector.

FEATURES & BENEFITS

- All reels include spring rewind, centrifugal brake and ratchet lock
- Cable is 7 x 7 stranded stainless steel with yellow polyester elastomer cover, 4mm o.d.
- Reel has safety orange baked polyester finish
- The Open spool style has cables to 30 metres
- The Enclosed reel has cable to 15 metres
- A wide choice of Grounding Clamps and Plugs to suit most requirements is available as well as "Y" configuration



Gleason Static Discharge Reel

Gleason PowerTrak®

Protect cables and hoses on reciprocating machinery and increase safety by keeping cables and hoses together, away from moving components and operations. PowerTrak® is available in a variety of styles and materials. Gleason offers a carrier track to fit every application. PowerTrak® can work in both vertical and horizontal applications.

FEATURES & BENEFITS

- Flip-open for easy access to cables and hoses
- Metallic or non-metallic
- With a few limitations, cables and hoses of various sizes can be installed within the same PowerTrak®
- Capacity can also be increased by nesting two PowerTrak®s or by installing two PowerTrak®s opposing each other
- Applications requiring extra long travel or high speeds may need guide trays or wheeled carriages
- Available in Steel, Stainless Steel and Glass Reinforced Plastic (UV resistant)



Gleason PowerTrak®

Cable Management Systems

Gleason Festoon Systems

Engineered to run on I Beams, "C" Track and the latest technology allowing "Curved Track" Festoon Systems. The Gleason Festoon Systems come in a wide range of trolley design used to carry hose and cable of various diameters, widths and weights safely off the ground.

A typical system consists of an end clamp which secures the cable or hose at the non-moving end, a tow trolley or control unit trolley which is moved back and forth manually or by a machine, and a series of intermediate trolleys supporting the cable or hose.

FEATURES & BENEFITS

- The quantity of intermediate of intermediate trolleys is determined by two factors; the travel distance of the system and the depth of the cable or hose loops
- There is also available a heavy duty festoon system that follows your machinery or conveyor line and supplies electric power or compressed air, where needed when needed
- Unique eight wheeled trolleys glide smoothly around curves or along straight sections
- Curved rail sections are available with 36" to 340" radii
- Special trolleys for Port Handling Cranes
- Low cost light systems are available in Kit form, either Wire Rope or small "C" Rail Kits



Gleason Festoon Trolley



Level Rewind Reel

Level Rewind Reel and Mono Reel on Coal Stacker

Fume & Exhaust Extraction Systems

The Filcar range of fixed and mobile Fume Extraction Systems are designed to be efficient and effective in the removal of exhaust fumes for all mining workshop environments. These systems are appropriate for the extraction of welding fumes and exhaust gases from trucks, buses, earthmoving equipment, and other heavy machinery.

With the range of options available, it is possible to choose the most appropriate model for your specific, individual exhaust extraction requirements. These products are available in a range of configurations including mobile extraction units, hose reels, sliding track systems, exhausters and simple wall mounted extraction systems.

Mobile Centralised Fume & Exhaust Systems

Using a remote mounted Extraction fan connected to aluminium tracking allows exhaust system hoses to be moved to where work is being carried out. While the exhaust fans can be mounted in a remote area.

The exhaust units which can be either Hose Reel or Mono Hose assemblies are fitted to sliding carriage bases.

Fume and Exhaust Extraction systems are available with aluminium track and sliding carriages that are already in configuration ready to be installed.

FEATURES & BENEFITS

- Available in versions with 1 or 2 carriages sliding on aluminium tracks from 6m to 24m in length
- Reels can be motor driven for roll-up and down of the flexible hose
- Available with electric stop and remote start/stop of the fan



Exhaust Fan



Mobile Centralised Fume & Exhaust Systems

Portable Fume & Exhaust Extraction Systems

The Filcar mobile units are trolley mounted units designed for extracting and filtering fumes and use a high performance backward curved fan. The mobile units have self supporting articulated arms.

FEATURES & BENEFITS

- The Filcar mobile fume extraction systems come complete with an active carbon filter
- Some models are equipped with long-lasting washable cartridges and a manual compressed air cleaning system
- The units are available with either one arm or two arms
- Ease of handling
- Low noise capacity



Mobile Welding Fume Extraction Systems

Fume & Exhaust Extraction Systems

Fixed Fume & Exhaust Hose Reels/Winders

These systems are appropriate for the extraction of welding fumes and exhaust gases from trucks, buses, earthmoving equipment, and other heavy machinery.

Depending on the model, the series of hose reels are available with mechanical or motorized unwind/rewind and can be used as a fixed unit as opposed to a mobile unit when attached to a sliding carriage base.

FEATURES & BENEFITS

- Galvanised steel reel fitted with a special guide to ensure the hose is correctly wound on to the reel
- Epoxy-painted steel retainer disks fitted to either side of the reel
- Drive system: mechanical, motorized with push button strip or motorized with remote control
- Hose with various diameters for different requirements
- Painted steel fan with various power ratings depending on the required workload



Fixed Hose Reels

Fixed Wall Mounted Fume & Exhaust Extraction Systems

Ideal for use in welding bays or work areas where the need to remove harmful fumes or gases is a priority, the wall mounted fume extraction systems are available in several designs.

FEATURES & BENEFITS

- Available with one or two articulated arms
- Can be used to serve two working areas simultaneously
- Arms are available in various lengths
- Can be directly connected to a mechanical filtering unit



Fixed Fume Extraction

Fume & Dust Extraction Systems

Fixed Dust Extraction & Filtration

Designed to extract and filtrate the dusts that occur when sanding, these machines must be used exclusively with completely dry dusts.

FEATURES & BENEFITS

- Cartridge filter is provided with a completely automatic mechanical-pneumatic double effect cleaning system which assures a high dust filtration efficiency
- High capacity dust collecting tank under the cartridge filter
- Controlled by an electronic card enabling function parameters to be set
- Several models can be used in a small centralized system
- Available with automatic cleaning system



Fixed Extraction Unit with cartridge filters

Mobile Dust Extraction & Filtration

Mobile dust extraction systems, for the effective collection of dry dust coming from the sanding of primers, stuccos, etc.

FEATURES & BENEFITS

- The start up of this machine can be controlled automatically from pneumatic or electric sanding tools and is equipped with a self cleaning filter
- Suitable for work areas where fixed extraction systems cannot be assembled or used where work area is not restricted
- "SPRINT" model has a work surface suitable for extracting dust and larger particle



Mobile Dust Extractors

Fixed Welding Fumes, Dust Extraction and Filtration

Some form of fume control is generally required in welding, cutting, brazing and soldering operations, usually in addition to existing general workshop ventilation. Particulates are produced only in the immediate vicinity of the heat source. They are largely confined to the plume of heated gases which rises from the weld zone.

FEATURES & BENEFITS

- Two forms of fixed extracting and filtering units for welding fumes, fixed to a wall and those that have a fixed fan but have articulated arms mounted on a track system
- The fixed systems are suitable for dedicated welding or preparation areas
- The track system is suitable to serve multiple welding or preparation areas in body-shops
- Capable of storing large quantities of dust in trolley mounted dust container
- Sound-proof plenum around the fan to reduce operating noise



Articulated Arm on Slide Carriage

Spectrum Visual Lubrication Management Systems

The Spectrum Visual Lubrication System uses colour-coded wall charts, identification tags and labels, and storage, handling, dispensing containers and equipment to ensure that the correct lubricant is used in the right piece of equipment, and in the proper location.

The Spectrum concept should be implemented the moment lubricants are received in inventory all the way through the lubricant supply chain including storage, application, and disposal. All equipment such as transport containers, hand pumps, filter carts, transfer carts, dispensing equipment and tools should be labelled to match the lubricant.

A visual lubrication management system will assist in helping employees understand the internal supply chain ensuring that the right lubricant gets to the right application.

Spectrum Wall Charts

Spectrum Wall Charts provide a rewritable surface for designating colours to specific lubricants.

A felt tip marker can be used to record the lubricant description and viscosity next to the appropriate colour.

FEATURES & BENEFITS

- A designated colour can be used throughout a facility for that particular lubricant, avoiding cross contamination
- Laminated wall charts measure 36"W x 28"H allowing easy reading



Spectrum Wall Chart

Spectrum Tags and Labels

A simple and fast solution for identifying lubricants, containers, lubrication points and equipment. Use a felt tip marker or a Spectrum customized label to mark the tag with your information. Then simply seal the information beneath the laminate sheet to keep it clean and legible.

FEATURES & BENEFITS

- Tag size 2"W x 4"H
- Chemical and weather resistant
- Available in 10 colours
- Create customized labels using various colours, text or optional bar-coding



Trico Spectrum Tags

Oil Safe® Containers

Oil Safe® products provide a safe, easy method of transporting, handling, and dispensing lubricating fluids in a wide variety of applications.

FEATURES & BENEFITS

- Durable and built with High Density Polyethylene (HDPE)
- The product lids and drums are interchangeable and come in a variety of sizes and styles to suit individual needs
- Lids are available in ten colours



Oil safe Containers

Spectrum Grease Identification Products

Avoid cross contamination and misapplication with Trico's Grease Identification System. Trico's Grease Identification System ensures you are receiving the right product at the right location. Colour code grease guns to match grease fitting caps and/or washers on equipment to avoid cross-contamination and mis-application of grease.

FEATURES & BENEFITS

- Ensures that the right product gets applied to the right location
- The grease fitting caps and washers are available in two sizes to fit 1/8 NPT or 1/4-28 grease fittings
- The grease gun bands slide over standard grease guns and do not slip after being installed
- Available in 10 colours



Spectrum Grease Identification

Opto-Matic Colour Bands

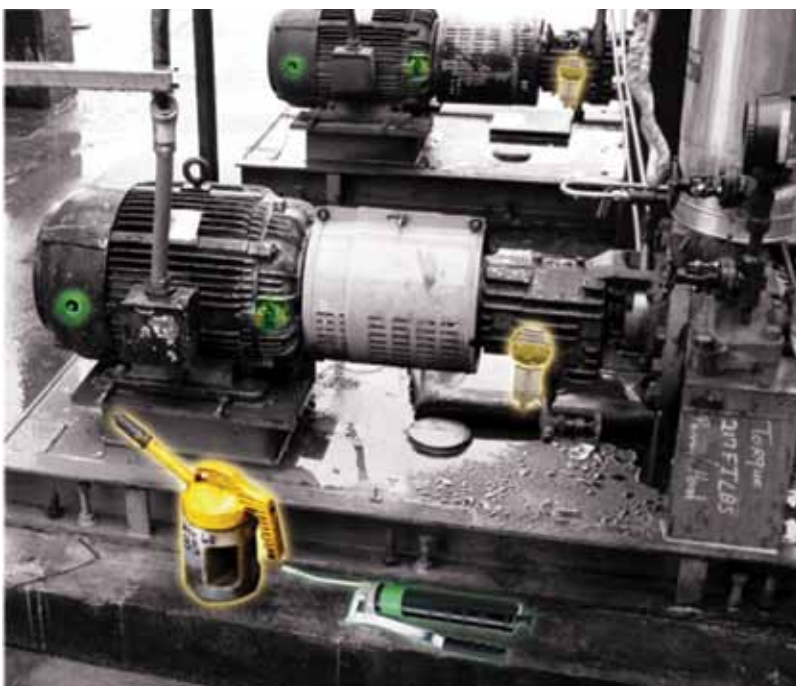
These colour collars slide over the upper casting of Trico's Opto-Matic Oilers and Closed System Oilers for easy identification of lubricant type.

FEATURES & BENEFITS

- Colour-coded to match lubricant dispensing containers, such as Oil Safe®
- Eliminates misapplication of lubricant and avoids cross-contamination
- Available in 6 colours



Opto-Matic Oiler with Spectrum Collars



◀ Spectrum Identification

Moisture Removal Systems

Moisture in lubricating oils is the root cause of prematurely damaging oil and accelerating wear of machine components. As water invades your fluids it will not only attack the additives in the oils, destroying their beneficial properties; but it will also cause damage to the machine surfaces through corrosion, and rapidly degrade the oil through increased oxidation.

By understanding the effects of water contamination, it is easy to see the importance of moisture detection and removal. Once water has entered the lubricant, it can exist in one or more of the following forms; dissolved, emulsified, or free water. The most damaging forms of water contamination, to both the lubricant and equipment, are emulsified and free water. Therefore, it is important to measure, and/or remove water contamination prior to the formation of emulsified and free water. A proven method of removing water contamination from lubricating fluids is using silica gel technology. Silica gel extracts water vapour from the air as it is drawn through a silica gel bed, as well as covering a wide range of temperatures, the silica gel used changes from gold to dark green when maximum absorption has been reached.

Dissolved water contains water molecules that are dispersed one-by-one through the air in contact with, or within the lubricant. This form of water is invisible to the naked eye.

Emulsified water contains microscopic pockets of water that are dispersed in stable suspension in the oil. As the oil ages this area of water will expand, causing the lubricant to look cloudy.

Free water is the phase separation of emulsified water. Free water when mixed with the lubricant readily settles to the bottom of the equipment.



Watchdog® Desiccant Breathers

Watchdog® Desiccant Breathers ensure optimum protection of industrial equipment by prohibiting the entry of moisture and particulate contamination. Contaminants enter industrial equipment as pressure differentials or fluid level changes occur. The Watchdog Breathers are ideal for circulating oil systems, oil sumps, process tanks, storage tanks, vacuum systems, hydraulic systems, transformer cases, or anywhere that equipment needs to be dry and clean.

Watchdog Desiccant Breathers perform two very important functions

1. They absorb unwanted moisture inside industrial equipment using silica gel technology. Unwanted moisture can lead to corrosion, shortened fluid life, and speed up additive depletion.
2. They collect airborne solid particles by means of a dual, anti-static filter system. This reduces the amount of abrasive and damaging contaminants that create sludge build-up inside the fluid reservoir.



Watchdog Desiccant Breathers

FEATURES & BENEFITS

- Bi-directional air flow - A 360° air flow allows air to be breathed in and out as fluid level changes or differential pressures occur
- Dual filtration system - A two micron filter is located at the top and bottom of the silica gel bed. The top filter removes particle contamination from atmospheric air and the bottom helps with dust created by the silica gel beads contacting each other
- Water vapour absorbent - The silica gel used in the Watchdog Desiccant Breathers absorb up to 40% of its own weight
- Activated carbon - As air is expelled, it passes through activated carbon which removes oil vapors, fumes, & odours (except for 07-39131, 07-39132, 07-39133, & 07-39134)

Moisture Removal Systems

Watchdog® Oil Dryer

The Watchdog® Oil Dryer is a non-vented system designed to remove water vapour from the air as it is drawn through a bed of silica gel. It is ideal for bearing housings and other applications where moisture condensation must be minimized. The compact design and standard thread size are designed to simplify installation. Equipment can be protected from internal moisture damage when the Watchdog Oil Dryer is installed.

- Desiccant cartridges change colour to indicate when replacement is required
- Cartridge replacement is simple and takes less than one minute
- Multiple purpose - serves as a viewport, a fillport and an oil dryer



Watchdog Oil Dryers

Reservoir Breather Kits

Because airborne contaminants can quickly disrupt and negate your sample, Trico offers specially designed Breather Kits. These kits feature a two-stage breather system that utilizes a filter to block airborne particles and desiccant to remove harmful, unwanted moisture. The system ensures a permanent closure on all hydraulic reservoirs.

FEATURES & BENEFITS

- Ensures that the lubricating fluid remains closed off from airborne contamination throughout the sampling process
- Optional filter reminder vacuum gauge can be used to indicate when the filter element on the breather has become clogged



Reservoir Breather Kit



◀ Watchdog oil dryer - Blue

Visual Inspection Systems

Monitoring proper levels and the condition of operating fluids is essential in many mining applications. Although important, these elements are often overlooked and cause detrimental affects to the life of the fluid as well as, the equipment it supplies.

Using Visual inspection Systems in conjunction or separately, can have positive influences on fluid and equipment costs. By taking a proactive approach and installing visual inspection products, the life of your industrial equipment can be significantly prolonged.

Sump Bottles

Trico sump bottles are used as collection chambers on bearing housings and other oil sump applications. They collect water and contaminants, and have a drain plug for easy inspection and removal of fluids.

FEATURES & BENEFITS

- Easy open/close drain valve
- Plastic reservoirs have reinforcing ribs for long life
- Impact resistance Copper brazing of all steel connections provides long life and leak proof design
- Zinc plating resists corrosion



Sump Bottle

Liquid Level Gauges

Liquid level gauges provide easy viewing in many mining applications. They are ideal for bearings, transformers, and many other non-pressure applications.

FEATURES & BENEFITS

- Guards are standard on all sights and may be rotated 360° for easy viewing
- Glass tubes offer high temperature use to 250°F
- Wide range of mounting styles to fit most applications
- Optional top caps are available one has a 1/8 NPT port is provided for use in closed system applications. This is a non-vented design. The other has a filter installed in the vent cap to minimize contamination.



Liquid Level Gauge

Viewports

To resist corrosion, these viewports are offered in zinc plated steel. The lenses can be removed in the field for cleaning, rather than purchasing and installing a new viewport. Extended lens design simplifies liquid viewing, especially on small sizes.

FEATURES & BENEFITS

Plastic viewports

- Extended design simplifies liquid viewing, especially on small sizes
- Straight protruding lens reduces distortion created by domed lenses
- Removable lens allows for cleaning and servicing
- Engineered thermoplastic lens for long life
- Plated steel or brass bodies



Viewports

Pressure Differential Systems

Pressure Differential Systems are required when frequent operation start-ups and environmental temperature swings in mechanical equipment can cause the air pressure inside oil sumps to increase and decrease, causing it to “breathe”. This “breathing” air, in most cases, comes from the external atmosphere through vents, fill ports, seals, and anywhere the oil sump is open to atmosphere.

This can cause debris, dirt, and moisture to enter the equipment attacking and breaking down the equipments vital lubricant and ultimately reducing the life of bearings and gears.

Equalizer Expansion Chambers

Equalizer Expansion Chambers are designed to prevent pressure increase in closed systems. A rolling diaphragm provides a variable volume, that when properly sized, maintains oil housing pressure at or near zero PSI. The reduced pressure will extend seal life and help prevent leakage.

Expansion chambers also protect the integrity of closed systems by preventing the exchange of air from the chamber to the surrounding atmosphere.

FEATURES & BENEFITS

- Corrosion resistant stainless steel body
- Controlled housing pressure extends seal life
- Prevents contamination ingress to help lubricants stay cleaner for longer life and improved performance
- Full 25 cubic inch air expansion capability
- Maintenance free operation
- Viton Diaphragm
- Maximum operating temperature 175°C



Expansion Chamber

◀ Equalizer Expansion Chamber Installation

Fastfill Standard Systems

A single diesel fuel tank can hold thousands of litres of diesel. Certainly enough volume to know that any subsequent loss is an all-too-often expensive, time consuming and environmentally damaging problem for any refuelling operation. The Fast Fill Systems range of diesel and fluid handling products available offers a number of solutions to this ever present problem, through its Diesel Fuel Receiver Check Valve, Demobiliser Unit and Pressureless Diesel Filling System.

FEATURES & BENEFITS

- Eliminates dirt and dust contamination in diesel fuel and other fluids
- Eliminates costly spillage of diesel fuel and other fluids
- Providing safety and cleanliness for servicing personnel
- Protecting the environment
- Greater vehicle availability due to the elimination of contaminates
- The reduction in filling time for diesel fuel and other fluids
- Less spillage



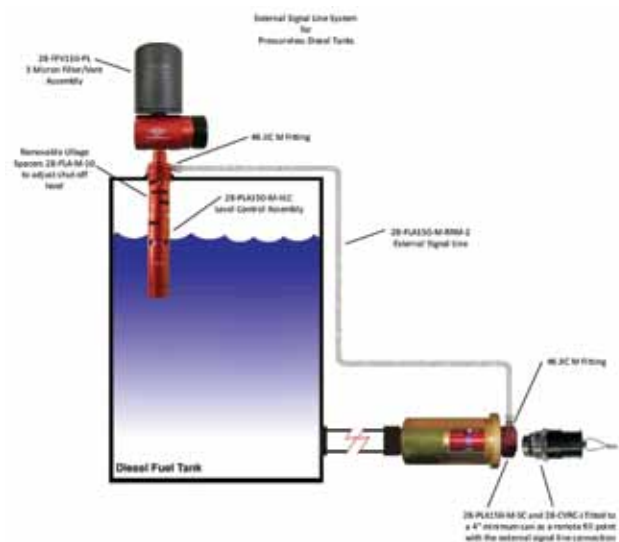
Fastfill Equipment

Fastfill Pressureless Systems

With a continuing trend towards the fitting of lightweight and plastic diesel tanks comes the heightened possibility of pressure damage. JSG has acted to eliminate this problem by introducing a system which does not rely on tank pressure to shut off the diesel flow and, as a result, one that can be used on thin metal and moulded plastic tanks where pressurized systems would otherwise distort or damage the diesel tank.

FEATURES & BENEFITS

- Eliminates diesel tank pressure eliminating possibility of pressure damage
- Prevents costly diesel fuel spills and is therefore environmentally friendly
- Increased safety factor by automatically shutting off at the desired tank level
- Eliminates blow back of diesel fuel on the operator while refuelling.
- Stops diesel theft from the diesel receiver
- Allows a damaged receiver attachment to be changed when the tank is full
- Once the Inlet Valve closes, the diesel nozzle automatically turns off. Overriding the diesel nozzle will not allow any additional diesel to enter the tank that could result in tank damage or diesel spill



Pressureless External Signal Line

Note: For static reels used in refueling refer to pg. 25.

Fastfill Matrix Systems

The MATRIX range of ¾" (34 series) and 1" (Hi-Flo series) nozzles and receivers has been designed to allow users the ability to utilize the same sized nozzle and receiver across a single operation whilst being able to clearly differentiate between a variety of fluids commonly used on site.

Significantly, the products have been designed so that, while each model has the same sized outer diameter, interlocking is only possible between nozzles and receivers of the same colour, thus preventing any cross contamination between useable fluids and allowing standardization of colours with relevant fluids across multiple sites or locations.

FEATURES & BENEFITS

- All models come with colour coded nozzle/receiver to differentiate between commonly used fluids
- Capable of interlocking only with corresponding colour connector to prevent cross contamination
- All receivers fitted with caps and all nozzles fitted with plugs
- All receivers can be supplied with JIC fitting upon request, minimum order
- Machined steel body with coloured aluminium sleeves on nozzles
- Machined steel body with coloured aluminium poppets and receivers



Matrix 34



◀ Fastfill Service Box Installation

Muster Fire Suppression Systems

Heavy mobile and stationary equipment represents a substantial investment for any business. Due to the nature and location of the industries that require such equipment, along with the often heavy demands placed on product performance, a significant consideration for any operation today is the damage and potential loss resulting from the ever-present risk of fire.

Coupled with the danger to personnel and likely loss of production, the installation of a fire suppression system has now become an essential part of a company's overall risk management plan in order to minimise the risk to both operator and equipment.

Heavy Equipment Fire Suppression Systems

The Muster Heavy Equipment Foam Fire Suppression System (HES) is a specialist foam-based fire suppression system designed to suit all heavy mobile and stationary equipment including mining haul trucks, draglines, dozers, shovels, excavators, loaders, harvesters, generators, road transport vehicles and industrial equipment.

FEATURES & BENEFITS

- Dual detection and actuation systems for system integrity and to fit individual requirements - Rise of Pressure (ROP), Loss of Pressure (LOP) or a combination of both
- Dual actuation, stainless steel cylinder valve
- High foam capacities and flow rates, and full flexibility in nozzle layout, to best suit each application
- Automatic or manual operation and choice in quantity and location of manual actuators
- Comprehensive risk assessment and design procedures to select the best option for each identified risk
- Engine shutdown capabilities integrated into alarm system including variable engine shutdown times of 6, 12 or 24 seconds for added safety
- Flexibility in the selection of tank size
- Flexible design pre-engineered to fit individual customer requirements
- A number of different levels of protection, dependant on requirements, from simple suppression only systems with manual actuation through to fully automatic engine shutdown and cab monitoring protection systems
- Discharge time designed to provide a wide factor of safety - 50 second minimum discharge time
- Positive pressure actuation via propellant expansion - ROP only
- A proven risk control procedure - double redundancy - ROP only
- Fail-safe 6mm thermoplastic sensor tubing stable to 90°C - LOP only
- Choice of flexible hoses and or stainless steel tube for ease of installation
- Choice of 12v or 24v alarm module



◀ Heavy Equipment System

Fire Suppression Systems

Light Equipment Fire Suppression Systems

The Muster Light Equipment Foam Fire Suppression System (LES) is a specialist foam based fire suppression system designed particularly for medium commercial vehicles, 4WD vehicles, mobile plant and equipment.

The LES is suitable for the effective suppression of fires on vehicles with engine capacities of up to six (6) litres or approximately 1.8m³ in volume.

FEATURES & BENEFITS

- High foam capacities
- Compact 15 litre cylinder for ease of installation
- Fail safe loss of pressure actuation system
- Base of installation
- Packaged system (KIT)



Light Equipment System

Portable Fire Extinguishers

Muster is proud to announce the introduction of a full range of fire extinguishers and related products. These include Portable, Mobile and Automatic extinguishers as well as mounting brackets, signage and fire blankets.

Muster fire extinguishers are all approved to AS/NZS 1841.

Contact your nearest JSG Industrial Systems representative to assist in the selection of the correct extinguisher.

FEATURES & BENEFITS

- Approved to AS/NZS1841
- Powder Coated Cylinders
- Stainless Steel Handles
- Large range of sizes and types
- ABE Portable Fire Extinguishers
- Carbon Dioxide (CO2) Portable Fire Extinguishers
- AFFF Foam Portable Fire Extinguisher
- Wet Chemical Portable Fire Extinguisher
- Air/Water Portable Fire Extinguisher
- ABE Automatic Fire Extinguishers
- Mobile Wheeled Fire Extinguishers - CO2, ABE, BE, AFF
- Fire Blankets
- Mounting Brackets
- Extinguisher Bags
- Security Accessories
- Extinguisher ID signs
- Extinguisher Location signs



9.0kg ABE Extinguisher with Wall Mount



1.5kg ABE Extinguisher with Vehicle Bracket



4.5kg Black Vehicle Bracket

Electronic Onboard Weighing Systems

A common issue within the transport sector is the overloading of transportation vehicles. Over loading is often a costly exercise which can incur unnecessary overload fines and cause premature failure of machinery due to exceeding specified loads. On the other hand, under loading is an equally expensive issue as the maximum load potential is not met and hence efficiency and productivity is compromised. Weigh bridges and scale houses help to avoid these issues but the inherent costs associated with their use and maintenance can be daunting.

OUTSET Bearing Load Weighing System

The OUTSET Bearing Load Weighing system, which includes the Lanx Blu, Lanx Global & Viper, are suitable for trucks, prime movers with articulated trailers, rigid dump trucks, semi trailers and road trains. These systems manage loads by providing the operator with accurate load values all in real time. This is achieved through sensors measuring loads on each axle of the prime mover and trailer.

FEATURES & BENEFITS

- Easy on board weighing whilst loading
- No fine for overloading
- Vehicle protection from early wear
- Payload within the law limits
- Reusable system
- Automatic connection management for detecting unlimited trailers and semitrailers
- Global visualization of all the weights



Lanx Global

OUTSET PayLoad Weighing Systems

The OUTSET Payload Weighing system, which includes the E.T. & Vision Evolution, are suitable for earthmoving equipment, front end loaders, excavators as well as forklifts. This system allows for dynamic weighing which enables you to take an accurate measurement of the bucket load even whilst the bucket or machine is in motion. This is achieved through measuring the hydraulic pressure acting within the lifting cylinder. Proximity sensors ensure that the measurement is taken at the correct moment, whilst the bucket is the air.

E.T.

E.T. is a dynamic on-board weighing system, distinguished for its remarkably competitive cost and its user-friendliness, which immediately displays the updated weight of the material being handled. Advanced technology has been used to create an intuitive instrument with all the essential functions, thus providing the ideal solution for weighing loads on front end loaders and forklift trucks, with a low investment that can stand up to any comparison. It even allows data printing by means of an optional compact printer in the cab.

FEATURES & BENEFITS

- Dynamic weighing
- Various interfaces
- Large graphic display
- User friendly
- Data printout option
- Advanced technology
- Reusable system



ET

OUTSET PayLoad Weighing Systems (contd)

VISION EVOLUTION

Vision Evolution is a dynamic, on board weighing system for earthmoving and logistical vehicles. Using the latest technology available, the electronic circuits and the visual shape have been upgraded offering the 'best of breed' on the market for design and functionality. The user benefits are a precise and reliable on board dynamic weighing device during loading operations. The compact central unit offers an easy keypad menu access and a large easy to read colour display. With the aid of pressure and position sensors, the electronics provides complex functions for the real-time display of partial and total weight and weight counts, without operator intervention. The data can be printed as well as transferred to a computer for processing with dedicated software. The dynamic weighing is carried out during the movements of the vehicle without stopping the lifting operation.

The connection with an external camera, in addition to being a valid aid during vehicle manoeuvring operations, also guarantees greater safety with the advantage of using a single display.

FEATURES & BENEFITS

- Dynamic weighing
- Large colour display
- Icon based menu
- Navigation wheel
- Various interfaces
- Advanced technology
- Colour display with partial weight, total weight, number of weighs, client name or code, operator and material
- Management of vehicle plates, hauler, destination and purpose of transport
- Management of last bucket
- Large colour display with self-explanatory icons for ease of use
- Wheel keyboard for display navigation
- Transfer of data to mobile memory for connection to PC
- Data printout on different types of printer



Vision Evolution

COMATRA Camera Systems

Dangerous blind spots exist on all vehicles, especially heavy duty equipment. Using a COMATRA camera monitor system will not only improve work safety, but it will boost work efficiency at the same time.

85% of blind spot accidents are fatal, although almost 100% of those accidents could have been prevented. This is why at Comatra they created a 100% reliable camera monitor system.

COMATRA Camera systems are CE and E-4 certified and are built according to the very strict ISO9001:2008 quality standards.

FEATURES & BENEFITS

Monitor

- High resolution, low reflection 7" Quad TFT LCD screen
- 20G vibration rating
- Dust and waterproof design
- Watertight connections
- Accepts up to 4 camera inputs (5 using A/V input)
- With adjustable rear stop line
- Mirror-function
- With audio, sunviser and heavy duty monitor bracket

Camera

- Heavy Duty 1/3" SONY Super HAD Colour CCD sensor: 420 TV Lines
- IP69K Dust and waterproof Design: High pressure cleaning proof
- 30G vibration rating
- 130° diagonal field of view, built in camera heater
- 0.1Lux, IR Led's and waterproof microphone
- Stainless steel mounting bracket



Comatra Excavator installation

JSG Industrial Product Range



Fast Fill Systems



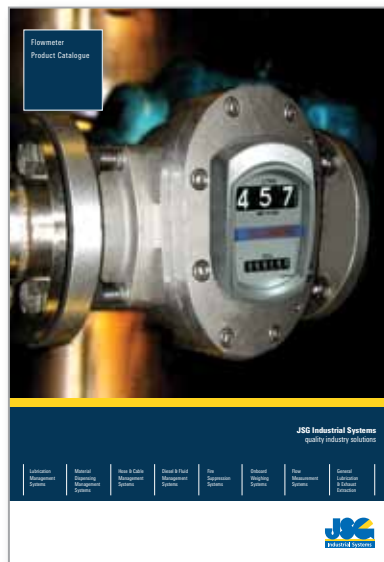
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Hose Reel Products



Fire Suppression Products



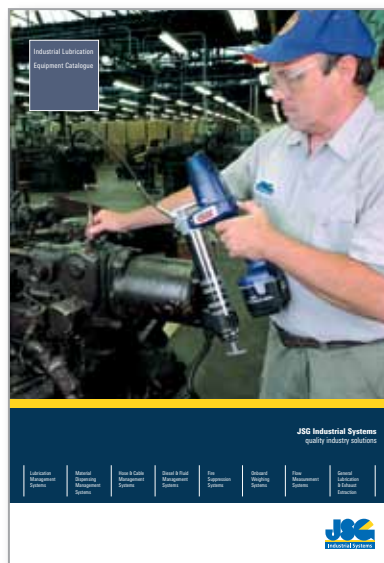
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To find out more information on all of our product ranges please go to www.jsgindustrial.com or contact your local sales representative

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