

LFC 5000

Versatile and dependable fluid inventory control and management system



Hose reels are locked out by solenoids. Each dispense request opens up a solenoid valve, activating a green ready light, indicating the dispense is ready to proceed.

The ability to start a dispense from a keypad or shop PC.



All transactions can be viewed from the master PC software at a parts counter or service desk.



- System saves money and time by accurately tracking and accounting for dispensed fluids
- System provides 100% interface reliability with management software programs such as ADP and AssetWorks
- Multiple users can dispense simultaneously on the same system
- Simple, packaged design provides the ability to easily and cost effectively expand the system as your company grows
- Three levels of security let you decide who can use, program and monitor the system
- System manages up to 32 fluids and 300 dispense locations
- Ability to integrate both standard and high flow meters with one system
- Technicians can initiate a dispense from any keypad, shop PC or master PC
- Designed for durability since the brains of the LFC 5000 can be located on the wall of the service bay, away from the day-to-day service bay hazards. Wireless systems, in comparison, have the most expensive and delicate part of the system located in the hand-held dispensing meter which is in constant use and abuse
- Barcode scanners can be used from a keypad or PC to offer better efficiency and features during a dispense initiation

Providing complete lubrication solutions

Diaphragm pumps

Diaphragm pumps are ideal for transferring used fluids from collection equipment to bulk storage locations. Pump sizes from 1/4 to 1 in. (6,35 to 25,4 mm) can quickly transfer used oil, transmission fluid, coolant, windshield washer solvent and other light fluids.



Thermal relief kits

Model 282876

Thermal relief valves prevent system damage by temperature induced pressure spikes. Various models with different pressure ratings are available.



Ready light

Model 500072

A ready light is used so the mechanic knows the hose reel is ready to dispense.



Model 282886 master air solenoid

An optional safety feature that activates air to the pumps only when the system is dispensing. Connects to one of the inputs on a dispense unit.



PowerMaster III

Model 2014

Heavy duty 12:1 pump for delivering engine, transmission lubricants, etc. over long distances. Suitable for simultaneous dispensing.*



Tank monitoring

The LFC 5000 uses a self-declining tank level in the standard software package or you can add an automatic tank monitor system which will adjust the tanks in real-time.



Used fluid drains

Lincoln offers portable used fluid equipment in a wide range of configurations, capacities, materials and colors. Drains and evacuators are available for collecting used fluids under lift-mounted vehicles or by dipstick tube extraction.



PowerMaster III

Model 2010

Heavy duty 50:1 chassis grease pump for 400 lb. (181 kg) drum.



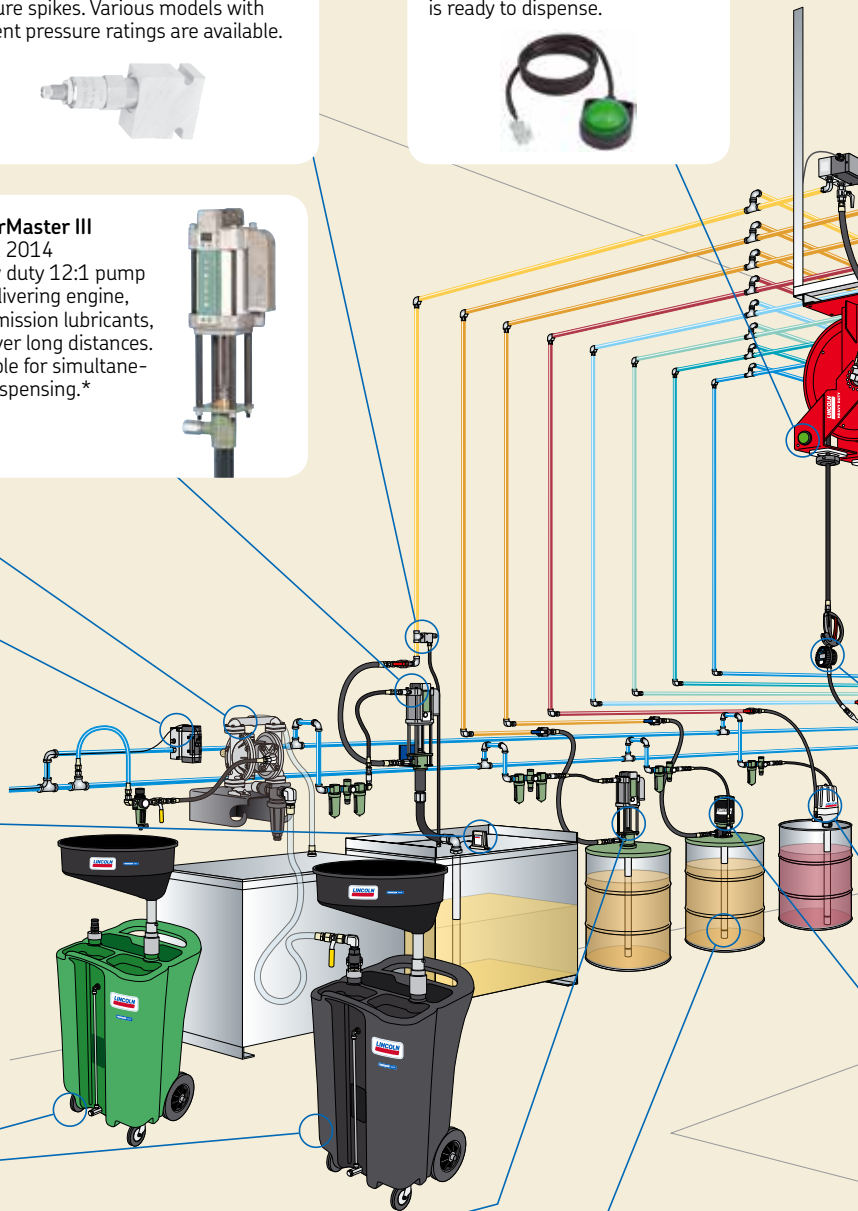
Low level cutoff

Model 82439

A low level cutoff is recommended for all pumps using a fluid control system to prevent air from getting into the fluid line.



* Maximum pumping distances and flow rates for single and simultaneous dispenses should be calculated using Lincoln's Vehicle Service Planning Manual. Contact your local Lincoln sales manager for details.



for vehicle service facilities

Model 500020-A combo unit

A solenoid is used to lock out the flow of fluid and a pulse meter is used to count the fluid dispensed. There are several sizes of each for different flow rate capabilities or you can use the standard flow combo unit which has an integrated pulse meter, solenoid, and contamination filter in one unit.



Heavy-duty hose reels

Model 94300

Various sized single and dual arm reels are available in different hose sizes and pressure ratings.



LFC 5000 dispense unit

Model 500000-A

One per every six reels which controls turning off and on the solenoids and accepts the input from the pulse meters. Connects to standard AC power and has a 4 port Ethernet switch to connect to a LAN network.



Decorative overhead cabinets



LFC 5000 keypad

Model 500001

Used to set up system, initiate dispenses and print reports from out in the service bays. Optional external bar code scanner is available.



LFC 5000 virtual keypad

Software installed on PC's in the service bays that allow mechanics to initiate a dispense.



LFC 5000 software screen

Software that can be installed at the parts counter, managers desk, or server that monitors and operates the system. The software has the option to initiate dispenses, generate reports, view transactions, and make adjustments to the configuration as needed.



Control valves

Lincoln has a complete line of standard and high flow control valves and meters. These or any existing units can be used.



Control valves

Model 740



PMV pumps

Model V450400000

Medium duty 50:1 chassis grease pump for 400 lb. (181 kg) drum.

Model V406000000, a medium duty 6:1 pump, is also available for delivering engine, transmission lubricants, etc. over moderate distances. Suitable for simultaneous dispensing.*



Series 20, 25 and 40 pumps

Medium duty 3:1 and 5:1 pumps for delivering engine, transmission lubricants, etc. over moderate distances. Best for single or limited volume simultaneous dispensing.*



LFC 5000 overview

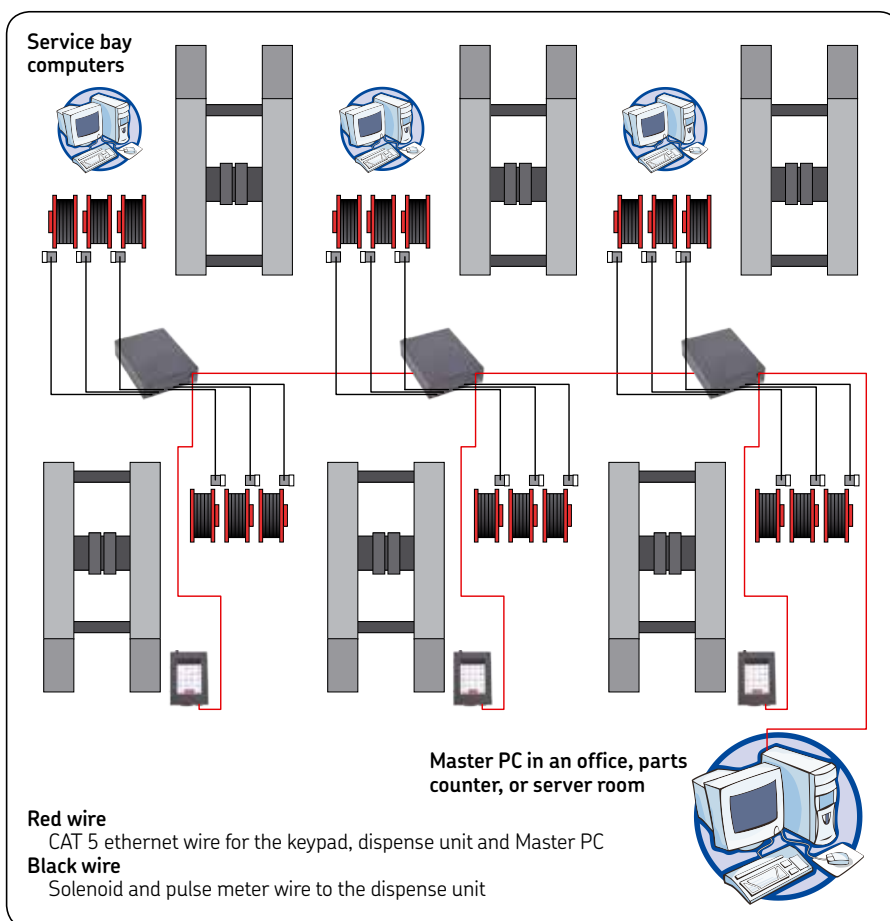
The LFC 5000 is a versatile system that can adapt to any location. The LFC 5000 wired system is based on an ethernet network that allows for easy, fast and 100% reliable communication which is key when the control system is interfaced with a dealer management system. The network connections are easy; simply plug each keypad and dispense unit into each other with the Cat 5 ethernet cable.

Every LFC 5000 system is hard wired from the dispense point to the dispense unit. This method is the most reliable and secure form of communication to virtually ensure the least amount of down time which deducts from your site's bottom line.

If a wired network is not possible, wireless capabilities exist from the dispense unit to the PC. Lincoln utilizes the 802.11 WiFi protocol which is a fast and mature protocol that easily integrates into a site's existing wireless network. You can also have a mixture of wired and wireless dispense units in the system.

For a stand-alone system, the dispense units and keypads can be wired on their own network; separate from the site's existing network. This offers an easy deployment and avoids any security concerns.

For a more advanced setup to adapt to your site's existing network, each of the dispense units and keypads can be connected over your existing network. Each dispense unit and keypad have a unique MAC address and IP address which allows the units to route information over an existing network to the PC running the system. This method can save on wiring costs and helps a site maintain complete control of their components.



LFC 5000 dispensing unit

Connections for wiring the solenoids and pulse meters



4 port ethernet switch for connecting into the network to the PC and keypads

Keylock switch to activate the solenoids in case of emergency

CAUTION

For all systems described in this brochure, see important product usage information on the back cover.

Software capabilities

Master PC software

- Used to configure the system, print and export reports, initiate dispenses, view tank levels, view the completed dispenses, close open dispenses, and update the firmware of Lincoln components
- Installed on one PC
- Connected to Lincoln network of dispense units (DUs) and keypads
- Enable 5 different optional fields or headings such as work order numbers, equipment numbers, and odometer reading to be entered at the keypad or PCs prior to a dispense
- 4 unique timeout settings: initial, pre-dispense, post dispense and free dispense
- 3 different levels of authorization: configurator, manager and service technician.
- 300 unique hoses that can be setup for either preselect or free dispense
- 3 different language options per user: English, French and Spanish.
- Configure up to 32 tanks with 4 different alarm set points with self-declining tank level status
- Optional automatic tank monitor with real time level update

Lincoln LFC5000 Main Screen - version = 1.1.22

Transaction Log (displaying only open transactions, sorted on Trans Num in descending order)

Trans ID	Status	Hose	Date Time Complete	Tank	Tank Level	Work Order #	Qty Dispensed	Dispense Mode
0129	Complete OK	17	10/30/2013 09:09:45 AM	1. MAX 5W30 (B) 08	9623 Liters	1279131	6.00 Liters	Preselect
0121	Complete OK	16	10/29/2013 02:12:27 PM	2. Duron15W40 (A)	5289 Liters	1278711	30.00 Liters	Preselect
0120	Complete OK	16	10/29/2013 02:01:33 PM	2. Duron15W40 (A)	6287 Liters	1278711	30.00 Liters	Preselect
0119	Complete OK	16	10/29/2013 10:10:34 AM	2. Duron15W40 (A)	6418 Liters	1278155	30.00 Liters	Preselect
0118	Complete OK	16	10/29/2013 08:04:58 AM	2. Duron15W40 (A)	6393 Liters	1278798	30.00 Liters	Preselect
0117	Complete OK	16	10/29/2013 07:55:18 AM	2. Duron15W40 (A)	6410 Liters	1278798	28.27 Liters	Preselect
0112	Complete OK	16	10/29/2013 12:50:15 PM	2. Duron15W40 (A)	1742 Liters	1278798	14.00 Liters	Preselect
0091	Complete OK	2	10/27/2013 03:44:58 PM	1. MAX 5W30 (B) 09	4209 Liters	1278595	46 Liters	Preselect
0090	Complete OK	2	10/27/2013 03:42:54 PM	1. MAX 5W30 (B) 08	4232 Liters	1278595	4.95 Liters	Preselect
0085	Complete OK	2	10/27/2013 10:09:44 AM	1. MAX 5W30 (B) 08	4235 Liters	1278367	5.00 Liters	Preselect
0084	Complete OK	17	10/27/2013 07:13:02 AM	1. MAX 5W30 (B) 08	4210 Liters	1278599	21 Liters	Preselect
0083	Complete OK	17	10/27/2013 07:05:11 AM	1. MAX 5W30 (B) 08	4232 Liters	1278599	41 Liters	Preselect
0082	Complete OK	17	10/27/2013 07:02:15 AM	1. MAX 5W30 (B) 08	4234 Liters	1278599	54 Liters	Preselect
0081	Complete OK	17	10/27/2013 07:00:53 AM	1. MAX 5W30 (B) 08	4219 Liters	1278599	6.00 Liters	Preselect
0080	Complete OK	2	10/26/2013 03:41:11 PM	1. MAX 5W30 (B) 08	4209 Liters	1278560	3.88 Liters	Preselect
0078	Complete OK	2	10/26/2013 11:05:16 AM	1. MAX 5W30 (B) 08	4222 Liters	1278379	6.00 Liters	Preselect
0069	Complete OK	16	10/25/2013 12:12:43 PM	2. Duron15W40 (A)	1796 Liters	1278370	28.00 Liters	Preselect
0067	Complete OK	2	10/25/2013 11:48:36 AM	1. MAX 5W30 (B) 08	4223 Liters	1278048	5.00 Liters	Preselect
0066	Complete OK	16	10/25/2013 09:23:13 AM	2. Duron15W40 (A)	1784 Liters	1278176	26.46 Liters	Preselect
0064	Pending OK	16	10/25/2013 08:10:43 AM	2. Duron15W40 (A)	1811 Liters	1278048	10.00 Liters	Preselect

11/18/2013 10:15:25 AM NO PENDING DISPENSES

Master PC software



Master PC software system configuration

Remote report software

- Allows any user to print reports from the system if it is on the sites same internal network as the master PC software

Virtual keypad software

- Initiate dispenses from shop PCs
- PC must be on the same internal network as the Master PC
- Can be used with or without physical keypads

Tank monitor software

- Real time level updates
- Can be used with the LFC 5000 system or as a stand-alone system
- E-mail notification for tank set points and alarms
- Reports on tank levels, product deliveries, and a special 10 day variance report that shows any variances between what the LFC 5000 system dispensed and what the tank monitor system shows

Virtual Keypad<1.1.22>

Hose #6 (Product = Duron15W40 (A))

Select a hose Display Group Summary

1276871 Work Order #

7315 Job Code

6.80 Quantity Units = Quarts

**** Your PIN

Dispense Clear Entry

Virtual keypad software

Interface capabilities

Interfaces with fleet management systems and dealer management systems with the following offering:

- Validate up to five unique fields such as work orders and job numbers that are configurable in the system setup
- Validate fluid type and fluid quantity for the equipment number
- Direct billing to accounting and inventory systems with five different rounding and pricing methods
- Export more than 15 fields after each transaction
- Interfaces are available for ADP, AssetWorks, Procede Software and many more

LFC 5000 can easily interface with your existing dealer management systems

- Site has ability to create their own interface with a configurable flat file output which is standard in the software package
- Lincoln's transaction-to-disk method allows a site to easily adapt their business solution software to validate and directly bill using the LFC 5000

Preload and group preload capabilities

- Preload up to five different fields for the system to verify before a dispense is accepted.
- Preload fluid types and quantities to a work order or equipment number to verify the mechanic's dispense request
- Initiate one dispense request to multiple hoses with preset quantities from a single field such as an equipment number or work order

LFC 5000 technical data

System specifications

Dispense Points per DU	6
Dispense Units per System	50
Maximum Dispense Points	300
Maximum Number of Fluids	32
Maximum Number of Keypads	50
Maximum Number of Virtual Keypads	30
Master Air Solenoid Output per System Printer	1 1 parallel port is on each keypad that will use any standard printer with a parallel port connection

Electrical specifications

Keypad Power Input	90 to 240 V AC, 50/60 Hz
Dispense Unit Power Input	100 to 240 V AC, 50/60 Hz
Ready Light	0.1 Amp @ 24 V DC
Combo Unit	0.8 Amp @ 24 V DC
Master Air Solenoid	0.1 Amp @ 24 V DC

Network and PC specifications

- Software works with Windows XP, Vista, 7, Server 2003, Server 2008 and Server 2012
- Two network cards for default IP configuration if using a separate network
- Pentium 4 or newer PC with 2 GB of RAM
- Requires administrative access to install and run the Master PC software
- The system can be configured to use any available IP addresses on the same IP block

Default static IP addresses

Dispense unit 1 through 50	10.10.10.1-50
Keypad 1 through 50	10.10.10.101-150
PC	10.10.10.101
Tank monitoring	10.10.10.251

Wiring

500006-A	1 ft. (0,3 m) combo unit pigtail
276068-10	10 ft. (3 m) combo unit to dispense unit cable assembly
276068-25	25 ft. (7,6 m) combo unit to dispense unit cable assembly 276068-25
276068-50	50 ft. (15,2 m) combo unit to dispense unit cable assembly 276068-25
276068-75	75 ft. (22,9 m) combo unit to dispense unit cable assembly 276068-25
276068-100	100 ft. (30,5 m) combo unit to dispense unit cable assembly 276068-25
276068-150	150 ft. (45,7 m) combo unit to dispense unit cable assembly 276068-25
500041	Dispense unit 12 ft. (3,7 m) power cable
500042	Dispense unit 20 ft. (6 m) power cable
Master air solenoid wire	Any of the combo-unit-to-dispense-unit assemblies listed above

Network wire (Cat 5 or Cat 6) not supplied by Lincoln

Report capability

Transaction ticket	Prints a transaction per page to the default printer on the master PC and/or one or two different printers connected to keypads
All user reports	List of user names with their corresponding pin numbers and levels of access
System configuration report	Record of system set-up for reconfiguration and service
Tank status report	Record of current levels, capacities and alarm alerts
Transaction report	Record of product usage and total with filters shown below
Transaction report condensed	Print-friendly report designed to minimize paper
Filters	Date range Transaction state – completed but not closed, failed with error, pending dispense, completed and closed, canceled by user Hose Tank User Sort by any input

Dispense timeouts

Initial timeout	0 to 1 200 seconds
Predispense timeout	0 to 1 200 seconds
Postdispense timeout	0 to 1 200 seconds

Tank levels and alarms

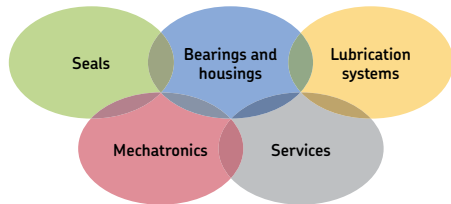
Tank capacity	1 to 99999 units
Delivery-level warning	0 to 99999
Low-level warning	0 to 99999
High-level warning	0 to 99999
Stop-level warning	0 to 99999
Type	New/used

Operator capacities

Number of users	200
Simultaneous dispenses	300
Transaction logs	Unlimited

Character lengths

User name	16
User code	16
Optional fields 1 through 5	16
Tank descriptions	16



The Power of Knowledge Engineering

Combining products, people, and application-specific knowledge, SKF delivers innovative solutions to equipment manufacturers and production facilities in every major industry worldwide. Having expertise in multiple competence areas supports SKF Life Cycle Management, a proven approach to improving equipment reliability, optimizing operational and energy efficiency and reducing total cost of ownership.

These competence areas include bearings and units, seals, lubrication systems, mechatronics, and a wide range of services, from 3-D computer modelling to cloud-based condition monitoring and asset management services.

SKF's global footprint provides SKF customers with uniform quality standards and worldwide product availability. Our local presence provides direct access to the experience, knowledge and ingenuity of SKF people.



Important information on product usage

All products from Lincoln may be used only for their intended purpose as described in this brochure and in any instructions. If operating instructions are supplied with the products, they must be read and followed.

Not all lubricants are suitable for use in centralized lubrication systems. Lincoln does offer an inspection service to test customer supplied lubricant to determine if it can be used in a centralized system. Lincoln lubrication systems or their components are not approved for use with gases, liquefied gases, pressurized gases in solution and fluids with a vapor pressure exceeding normal atmospheric pressure (1 013 mbar) by more than 0,5 bar at their maximum permissible temperature.

Hazardous materials of any kind, especially the materials classified as hazardous by European Community Directive EC 67/548/EEC, Article 2, Par. 2, may not be used to fill SKF centralized lubrication systems and components and delivered and/or distributed with the same.

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