

LFC 6000 and LFC Enterprise software

Control fluids with your management software programs



Control fluids with your management software programs



Dispense points, such as hose reels, are locked out by solenoids. Each dispense request opens up a solenoid valve, activating a green ready light to indicate that the dispense is ready to proceed.



System provides ability to start a dispense from a shop PC.



All transactions can be viewed from any network computer.

The Lincoln LFC 6000 fluid inventory control and management system and LFC Enterprise software are designed to accurately track, monitor and dispense fluids in vehicle service applications. Utilizing a standard Internet browser to access the software, this fluid management system provides a significant savings by operating up to 50 sites with one server installation.



LFC 6000 system advantages:

- Saves money and time by accurately tracking and accounting for dispensed fluids
- Provides reliable interface with multiple management software programs
- Manages up to 50 sites with one central server installation
- User interface for dispensing, configuring and tracking is accessible throughout the web browser
- Measures any type of oil, grease, transmission fluid or windshield washer fluid
- Multiple report generating options available to track dispenses by user, RO, product, etc.
- Controller has one Ethernet connection and "talks" to server computer; can add optional switch to connect additional units
- Electric bypass measures what is dispensed in bypass mode

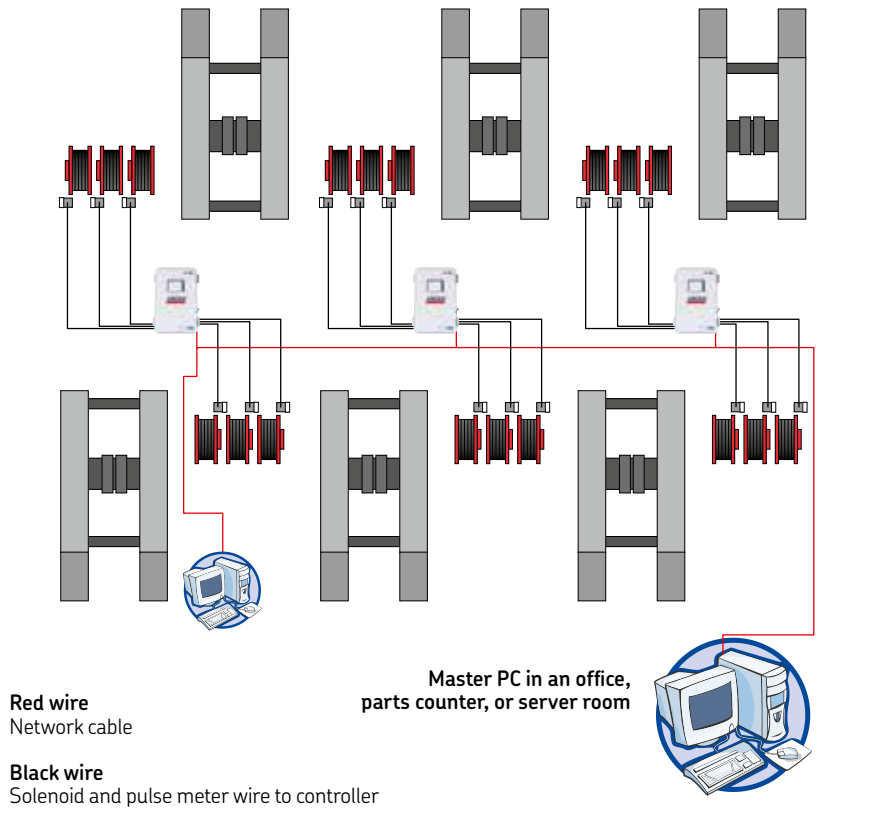
LFC 6000 tracks fluids accurately and efficiently

The LFC 6000 is a versatile system that can adapt to any location. Based on an Ethernet network, the system enables fast, easy and 100% reliable communication, which is key when the control system interfaces with a management system. Network connections are easy; simply connect the controller with the Cat 5 or Cat 6 Ethernet cable.

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

For a more advanced setup, each LFC controller can be connected over your existing network. The controller has a unique MAC address and IP address that allows the unit to route information over an existing network to the PC running the system. The unit comes preconfigured with a static IP address but can be used in dynamic IP mode if running a DHCP server. This method can save on wiring costs and helps a site maintain complete control of its components.

Typical service bay configuration



LFC 6000 controller



Unit shown with optional four port switch

Complete lubrication solutions for vehicle service facilities

Diaphragm pump

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.



Air solenoid

Model 282886-A
Optional safety feature used to activate air to the pump. Can use one per system or one per pump. Varying sizes based on pump inlet size.



Tank level probe

Model 500267
The LFC 6000 controller's ultrasonic sensor simultaneously monitors up to six tanks of any size or shape.



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.



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 lights

Model 500083
A ready light is used so that mechanic knows hose reel is ready to dispense.



PowerMaster III

Model 2014
Heavy-duty 12:1 pump for delivering engine and transmission lubricants, etc. over long distances. Suitable for simultaneous dispensing.*



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.

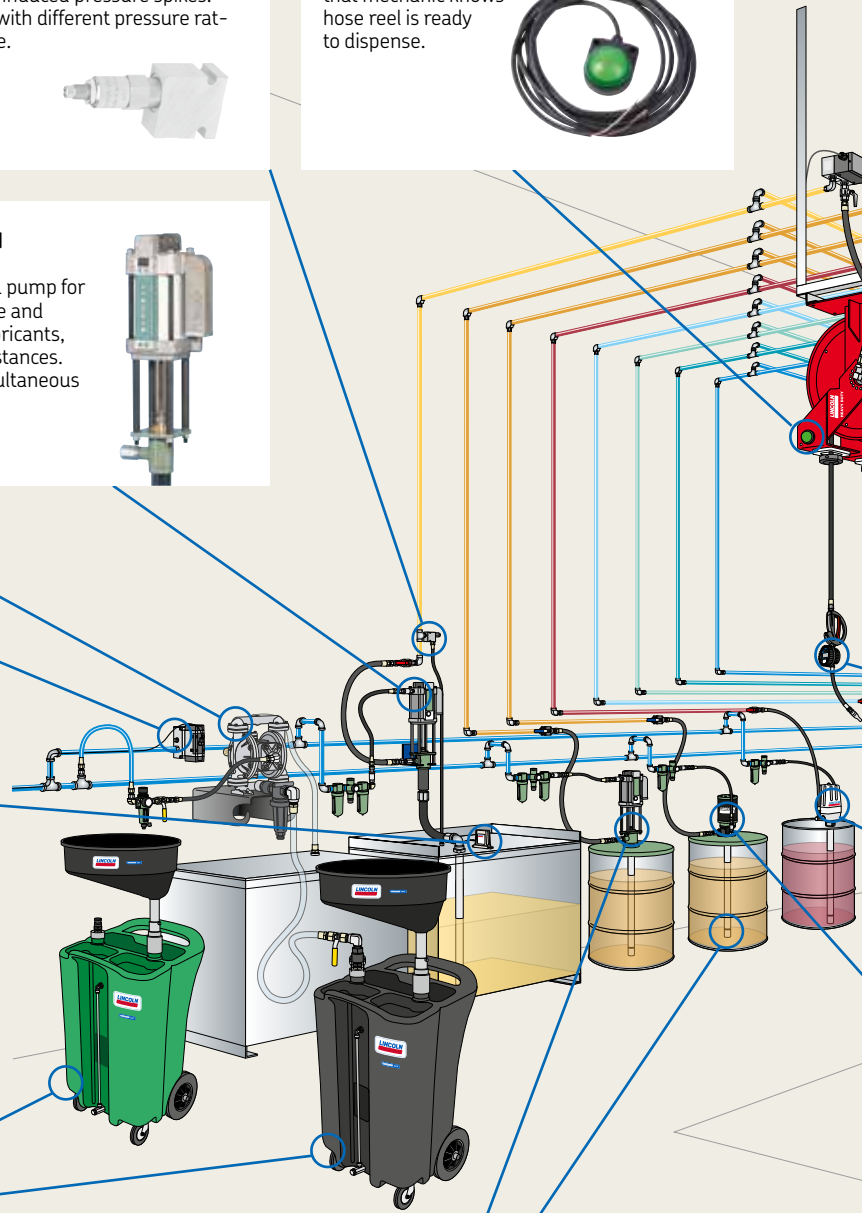


PowerMaster III

Model 2010
Heavy-duty 50:1 chassis grease pump for 400 lb (181 kg) drum.



* 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 representative for details.



Combo unit

Model 284207
Includes integrated pulse meter, solenoid and contamination filter in one unit. For use with petroleum-based products.



Fluid solenoid

Model 284196
Available in several sizes, a solenoid is used to lock out the flow of fluid. Specialized for use with corrosive fluids (antifreeze and washer fluid).



Pulse meter

Model 85545
Pulse meters are used to measure the amount of fluid dispensed and are available in several sizes. For use with antifreeze and washer fluid.



Heavy-duty hose reels

Model 94300
Various-sized single- and dual-arm reels are available with different hose sizes and pressure ratings.



Decorative overhead cabinets

These cabinets give the shop a clean, modern look.



Control valves

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



LFC 6000 controller

Model 500200
Controller has one Ethernet connection and "talks" to server computer. Monitors six dispense points and six tanks. Additional units can be connected using an optional switch (model 500211).



PMV pumps

Model V450400000
Medium-duty 50:1 chassis grease pump for 400 lb (181 kg) drum.

Model V406000000
Medium-duty 6:1 pump is available for delivering engine and 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 and transmission lubricants, etc. over moderate distances. Best for single- or limited-volume, simultaneous dispensing.*



LFC Enterprise software

Model 500234
User interface for dispensing, configuring and tracking is accessible via web browser on a standard PC, laptop or tablet. One server installation operates up to 50 sites. All software comes from one source for simple IT support, backup and reporting.



Software and interface capabilities

LFC Enterprise software

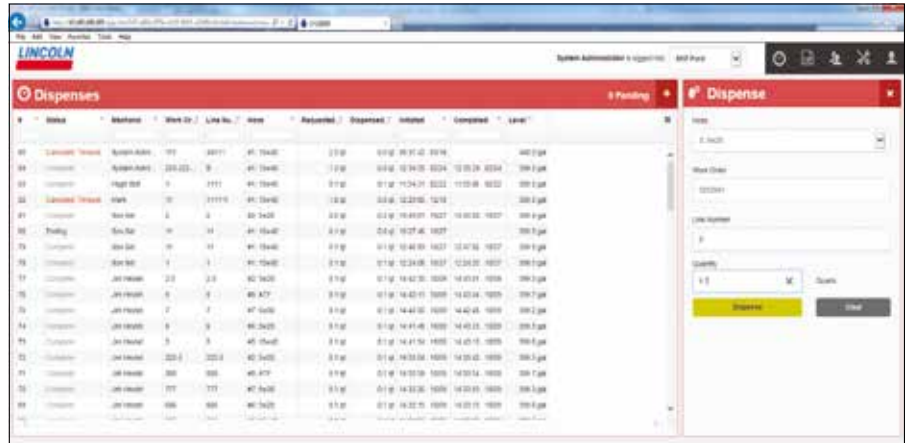
Lincoln LFC Enterprise software is used with LFC 6000 hardware to accurately track, monitor and dispense fluids using your Enterprise dealer management system. The LFC 6000 fluid management system utilizes a standard Internet browser to access the software and can operate up to 50 sites with one server installation, which can deliver a substantial savings.

LFC Enterprise software advantages:

- All software comes from one source for simple IT support, backup and reporting
- No need to install software on multiple PCs
- Integration of Enterprise Resource Planning (ERP) provides accurate tracking with no missed steps

LFC Enterprise software features:

- Compatible with LFC 6000 and LFC 5000 hardware
- Software on one server operates up to 50 sites
- Runs as a Windows service so user does not need to be logged into PC for it to work
- Provides four levels of access: system administrator, site administrator, manager and technician
- Offers security protocols across the network
- User interface for dispensing, configuring and tracking is accessible throughout the web browser
- Can use the site's SQL database or use SQL Express
- Can be installed on a server for multi-site usage or on a standard PC for the traditional LFC 5000 setup



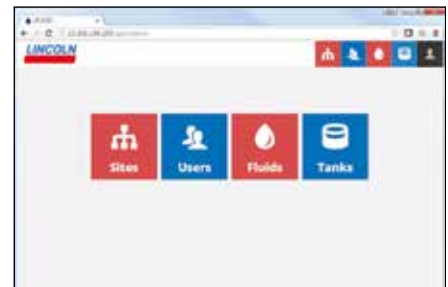
User interface screen

Interface capabilities

The LFC 6000 interfaces with fleet and dealer management systems by providing:

- Validation of unique fields that are configurable in system setup, such as work order, line number and equipment number
- Validation of fluid type and quantity for work order or equipment number
- Direct billing to accounting and inventory systems with five different rounding and pricing methods
- Export of more than 15 fields after each transaction
- Available interfaces include CDK Dealer Services, AssetWorks, Procede Software, TMW, Faster, Veeder-Root and more
- Group preload capabilities include:
 - Preloading up to five different fields for system to verify before a dispense is accepted
 - Preloading fluid types and quantities to work order or equipment number to verify mechanic's dispense request
 - Initiating one dispense request to multiple hoses with preset quantities from a single field

Configuration screen



LFC Enterprise and LFC 6000 technical data

Server installation requirements

Windows Server 2008 R2 or above

Dedicated or virtualized server

Internet Information Services (IIS) version 7.5 or above

.NET version 4.5.2 or above

.NET version 3.5.x enabled
(Windows feature that can be turned on or off)

TCP ports open for our intranet website –
80 or 81 or 82 for the web client
if HTTPS or other secure access technology is used:
for SSL – 443/8443/8444
for web – API required

Our web server must only be accessible on your internal Intranet.
Any connection to the Internet must be secured through a VPN

SQL Server 2008 R2* or above, or SQL Express 2012 or above, or SQL
2012 Standard or above

An SQL instance name of "SKFFLUIDCONTROL" for our use is
preferred, but not required

Dispense units communicate via TCP/IP and appear as TCP/IP servers
at TCP ports 60000-60019. We also use TCP port 5000 on rare
occasions
(LFC 6000 tank monitoring hardware may eventually use TCP ports
60021-60026)

PC installation requirements

Windows Professional Edition – Windows 7 or 8.1 or 10

**A computer program is available to check the PC for the following
requirements and update the PC to these requirements if
necessary**

Internet Information Services (IIS) version 7.5 or above

.NET version 4.5.2 or above

.NET version 3.5.x enabled
(Windows feature that can be turned on or off)

6 – 8 GB real or virtual RAM (multi-site requirement)
4 GB real or virtual RAM (single site)

2 – 4 real or virtual CPUs (multi-site)
2 real or virtual CPUs (single site)

64 bit operating system

TCP ports open for our intranet website – 80 or 81 or 82 for the web
client

Our web server must only be accessible on your internal Intranet. Any
connection to the Internet must be secured through a VPN

An SQL instance name of "SKFFLUIDCONTROL" for our use is pre-
ferred, but not required

Dispense units communicate via TCP/IP and appear as TCP/IP servers
at TCP ports 60000-60019. We also use TCP port 5000 on rare
occasions (our LFC6000 tank monitoring hardware may eventually
use TCP ports 60021-60026)

Client requirements (user PCs, laptops or tablets)

Any PC, laptop or tablet that supports one of the browsers below
is acceptable

Internet Explorer version 10 or 11
Google Chrome
Microsoft Edge
Safari

System specifications

Dispense points per controller	6 (6 valve outputs and 6 pulse switch inputs)
Tank level sensor inputs per controller	6
Max. controllers per site	50
Max. dispense points per site	300
Max. sites per software installation	50
Max. dispense points per software installation	15,000
Master air solenoid output per system	1 per tank

Report capability

Reports can be run from the central database using the following filters

End date	Fluid
Site(s)	State description
User	Status description
Hose	HW status code
Tank	

Electrical specifications

Controller supply voltage	100 to 240 V AC, 50/60 Hz
Max controller supply current	4.5 A
Dispense valve output voltage	24 V
Max. dispense valve output current	1.85 A
Pulse meter switch input voltage	24 V
Pulse meter switch input current	5.1 mA
Pulse meter switch power requirement	125 mW

Wiring

The LFC 6000 provides spring loaded wire to board connections on the internal control PCB for the purpose of wiring electrical connections from the controller to external electronic devices. The following cable options are available for those wiring purposes:

500232-100	100 ft (30,5 m) roll of 4 conductor 18 AWG shielded cable
500232-250	250 ft (76 m) roll of 4 conductor 18 AWG shielded cable
500232-500	500 ft (152 m) roll of 4 conductor 18 AWG shielded cable

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