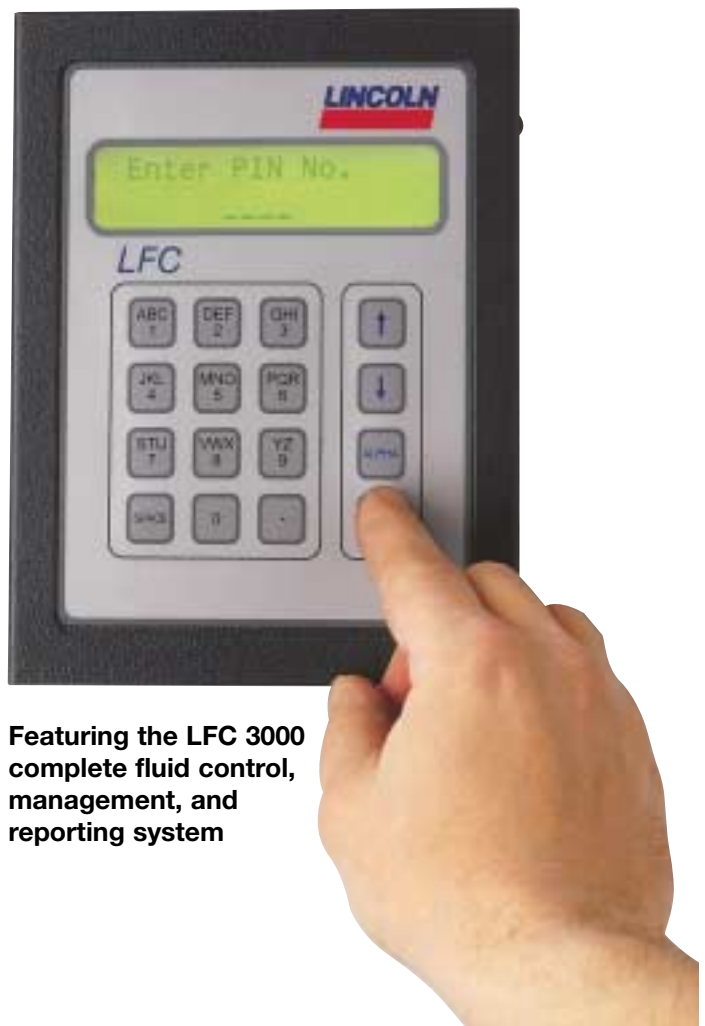


Vehicle Service Dispensing Systems

Lincoln's LFC Family of Fluid Inventory Control and Management Systems

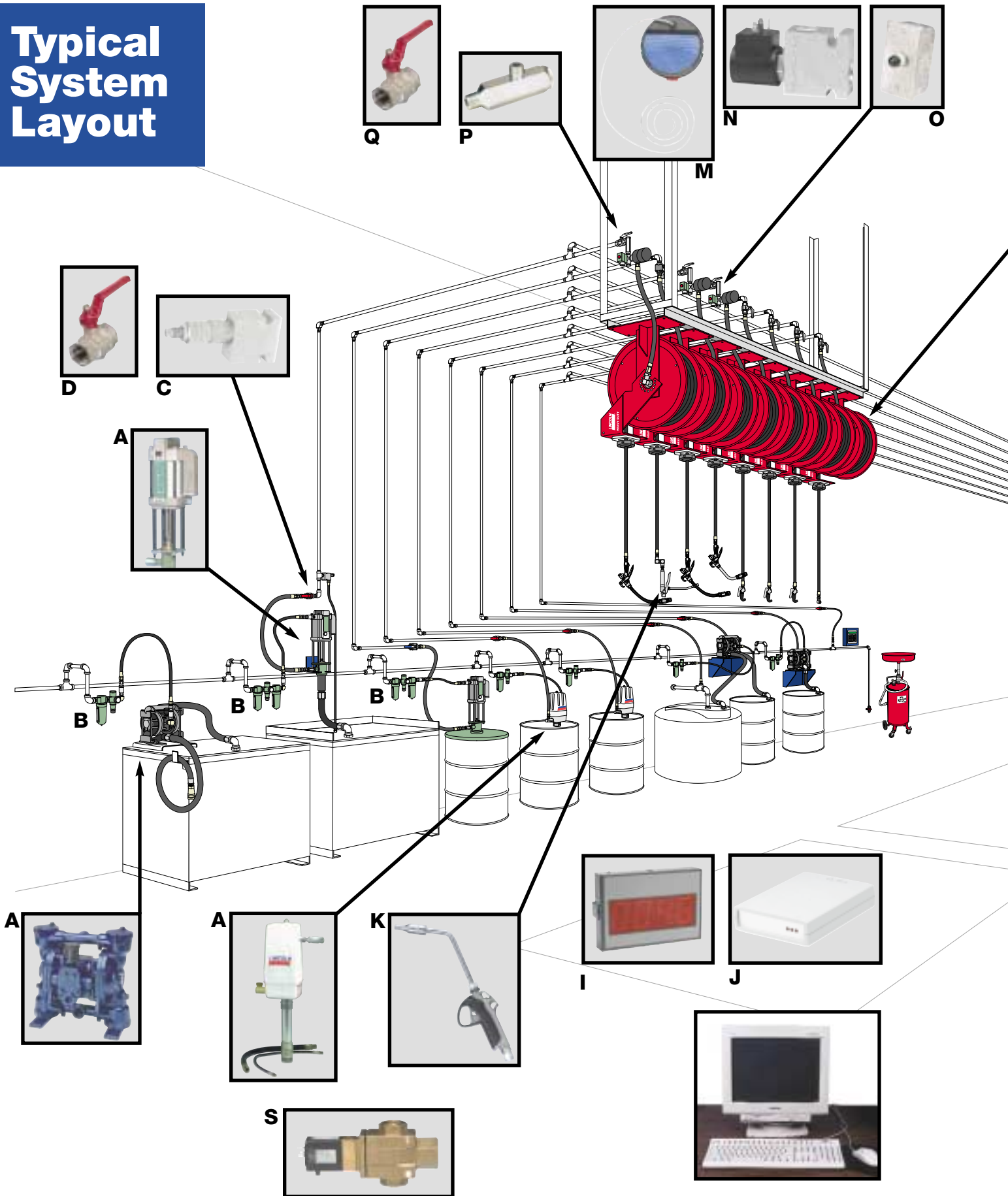
A complete offering of systems to meet the varying needs of vehicle service centers! Each system offers increased control over the authorization, management and recording of fluids used to service the growing fleets of private and commercial vehicles.

- Choice of three unique systems to meet your specific control level management need
- The latest technology including a totally wireless communication system eliminates hard wiring of components
- Supervisor and operator levels of security let you decide who can use, program, and monitor the system
- Manage up to eight fluids and 64 dispense locations with a single system
- PC interface packages offer enhanced set-up, control and reporting capabilities
- Complete System Source: controls, pumps, reels



Featuring the LFC 3000 complete fluid control, management, and reporting system

Typical System Layout



Lincoln Pumps and Accessories

Ref.	Component	Description	Model	Qty.
A	Pump	Std. 3:1 / Series 25 Stub / Basic Fluids	282398	
		Med. 5:1 / Series 40 Stub / Basic Fluids	84934	
		H.D. 12:1 / PowerMaster III / Basic Fluids	2001	
		H.D. 12:1 / PowerMaster III Stub / Basic Fluids	2014	
		1/2" Diaphragm Pump/Polypropylene Santoprene/Water & AF	85622	
B	Airline Filter, Regulator, Lubricator	1/4" for Series 25 & 40 Stub Mount	85387-4	
		1/2" for Diaphragm Pumps	85388-4	
		1/2" for H.D. 12:1 PowerMaster III	85387-8	
		1" for Diaphragm Pump	85388-8	
C	Pressure Relief Valve	1000 PSI (69 bar)	282876	
D	1/4 Turn Valve	1/2" NPTF, 2000 psi (139 bar)	69503	
OPT	Suction Kits	Universal Drum and Tank for Series 25 & 40	85949	
		Remote (Wall Mount) for Series 25 & 40	85945	
		For Polypropylene Diaphragm Pump (55 gal)	240994	
	Mounting Brackets	Wall Mount - Series 25 & 40	84940	
		Tank Flange - Series 25 & 40	84942	
		Wall Mount - PowerMaster III	84826	
		Tank Flange - PowerMaster III	84963	
	Low Level (Pump)	Wall Mount - Diaphragm Pumps	84817	
		For 1.5" NPTM Suction Pipe	82439	
		For 1" NPTM Suction Pipe	84946	

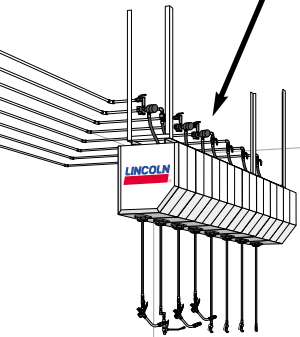
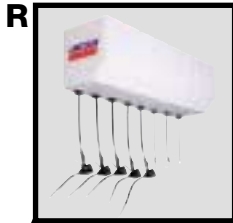
See page 7
for LFC 2000
and page 8
for LFC 1000

Lincoln LFC 3000 Fluid Control Components

E	Input/Output Module	1 for every 8 dispense points, maximum 8 I/O modules	282860	
F	Power Supply	1 for every I/O module in network	282865	
G	Keypad	1 each control location, 64 maximum	282868	
H	Serial Printer	Packaged Report Printer with cable	282889	
		Packaged Ticket Printer	282887	
		Packaged Ticket Printer Cable	282879	
I	Large LCD Display	Optional use with keypad at control location	282866	
J	PC Interface	Optional 1 per network	282880	

Lincoln Hose Reels and Dispense Valves

K	Control Valve for Basic Fluids (include with water and AF reel)	Standard / Rigid Extension	758	
		Standard / Flex Extension	758F	
		Heavy Duty Hi-Flo / Rigid Extension	774	
		Heavy Duty Hi-Flo / Flex Extension	776	
L	Hose Reel / Ball Stop	Golden Std. / 1/2" x 30' / Basic Fluids	6M34	
		Golden Std. / 1/2" x 50' / Basic Fluids	6M54	
		Golden Std. / 3/8" x 50' / Bibb Cock / AF & Water	6L53W	
		Heavy Duty / 1/2" x 30' / Basic Fluids	83463-30	
		Heavy Duty / 1/2" x 50' / Basic Fluids	83464-50	
		Heavy Duty. / 3/8" x 50' / Bibb Cock / AF & Water	85065	
M	Pulse Meter	Universal - All Fluids	85544	
N	Fluid Solenoid	24 VDC - 1/2" NPTF, 16 Watts	282873	
O	Ready Light	24V - 1 each dispense location	83929	
P	Filter	1/2" - 140 micron	84004	
Q	1/4 Turn Valve	1/2" NPTF, 2000 PSI (139 bar)	69503	
R	Decorative Cabinet Option	Golden Standard Cabinet (1 each reel)	85640	
		Golden Standard Mounting Kit (single reel)	85642	
		Heavy Duty Cabinet (1 each reel)	85240	
		Heavy Duty Mounting Kit (single reel)	85242	
		Universal Mounting Kit (1-12 reels)	85641	
S	Master Air Solenoid Valve	24 VDC, 145 psi (10 bar), 1.8 W 3/4" NPT	282886	



Lincoln LFC 3000

Fluid Inventory Control and Management System



- Simultaneously control, dispense and monitor up to 64 locations using modular “building block” system components
- Create reports by product, user, customer or location and monitor stock level with standard software package
- Assign degrees of system access and control with three distinct security code levels
- Enhance set-up, control and report capability with PC interface package
- Assured dependability and reliability with components designed specifically to “live” in the shop floor environment
- Advanced system set-up allows for 99 different operators, and the capability to log 2000 transactions

LFC 3000 Technical Data

System Specifications

Maximum number of dispense points (24 VDC fluid solenoids & pulse meters)	Per Input/Output (I/O) unit: 8 Per network: 64
Maximum number of fluids	8
Number of Input/Output boxes (I/O) per system	1 - 8
Maximum number of I/O's per 24 VDC power supply	1
Keypads	1 - 64
Number remote displays (56 mm, 2.25" character)	1 - 16
Printers	1-64
Waste oil tank level input (per I/O)	1
Main air supply output (per I/O)	1

Electrical Specifications

Power supply input	90 to 120 VAC, 50/60 Hz
Power supply output	24 VDC with 310 VA of power available
Input/Output	2VA @ 24 VDC
Keypad	3.6 VA @ 24 VDC
Display	3.6 VA @ 24 VDC
Network printer extender	3.6 VA
Fluid valve 282873 and lamp 83929	17 VA @ 24 VDC
Air valve 282866	1.8 VA @ 24 VDC

Network Cable Specifications

Description	Type	Distance
Network	Belden "Apple Talk" 9999 Belden 8451, 8760 Alpha 24561	Total Network: 2460 feet (750 meters) Junction Box to Network Component: 9 feet (3 meters)
Printer	3 wire, 24 AWG with shield	STD. 45 feet (13 meters) from keypad or I/O Longer distance use 282884 printer-extender

Component Cable Specifications

Wire Size	Power Supply to I/O	Fluid Sol. - 282873 Lamp - 83929	Air Solenoid 282886	Pulse Meter 85544	P/S to Keypad or Display
18 AWG	10 ft.	150 ft.	600 ft.	600 ft.	500 ft.
16 AWG	20 ft.	250 ft.			
14 AWG	30 ft.	400 ft.			
12 AWG	50 ft.	400 ft.			

Report Capability

Transaction ticket	Audit trail of all completed jobs
Stock level	Current level/minimum stock level for all products
Product delivery	Date, quantity, corrections for all products delivered to tanks
Transactions (product usage and totals)	By product By dispense location By user By all transactions
Alarm ticket	Indicates high waste oil level
Low level ticket	When minimum tank level is reached
Job report	(PC level only)
License plate number	Historic report by license plate number (PC level only)
Configuration	Records system "set up" for reconfiguration and service

Operating Capacities

Number of different operators	99
Simultaneous dispenses	64
Transaction logs	2000

Lincoln LFC 2000

Wireless Fluid Inventory Control and Management System



- **Totally wireless communication directly between keypad and dispense valve—no hard wiring required to install system**
- **Easy to install: Attach the dispense valves to the hoses; plug the keypad into a standard 120 VAC outlet. There's nothing else to connect!**
- **Supervisor and operator levels of security let you decide who can use, program and monitor the system**
- **Manage up to 8 fluids and 48 dispense locations with a single system**
- **Built in ticket printer delivers a written record for each transaction**
- **Optional PC interface for enhanced capabilities available soon**
- **Wide operating band seeks frequency that minimizes interference at each installation location**

Contact your Lincoln representative for specific site survey and bill of material content.

LFC 2000 Technical Data

System Specifications

Console/Keypad	1
Dispense Valve-Meters	1 - 48
Number of Fluids	1 - 8
Serial Printer Port	1

Console/Keypad Specifications

Supervisor Accounts	1
Supervisor Authority	Initialization Configuration Communication Report
Operator Accounts	1 - 50
Operator Authority	Dispense Orders
Tank Calibration	Quarts, Liters, Pints, Gallons
CPU	TI MSP430, 8 bit
Communications—Latin America and Mexico (pending communication approval)	2-Way 902-928MHz Frequency Hopping Spread Spectrum
Communications—U.S.	2-Way 902-928MHz Frequency Hopping Spread Spectrum
Power Requirements	120 VAC, 60 Hz
Operating Temperature Range	14°F to 140°F (-10°C to 60°C)

Dispense Valve - Meter Specifications

Maximum Flow	8 gpm (30 lpm)
Minimum Flow	0.25 gpm (1 lpm)
Maximum Operating Pressure	1000 psi (67 bar)
Minimum Operating Pressure	5 psi (0.35 bar)
Operating Temperature Range	20°F to 120°F (5°C to 50°C)
Accuracy	+/- 0.5%
LCD Display	5 char; 10mm H x 5mm W
Calibration	Quarts, Liters, Pints, Gallons
Inlet/Outlet Connections	1/2" NPT

Lincoln LFC 2000 Wireless Fluid Control Components

Component	Description	Model	Quantity
Console/Keypad	One for each system controls 1-48 dispense valves	282900	
Dispense Valve-Meter	915 MHz dispense valve	915	
External Printer	Report printer	282889	
Printer Cable	Required for use with external printer	282912	

Lincoln LFC 1000

Entry Level Fluid Inventory Control and Management System

- Low cost introduction to fluid inventory control and management
- Manage up to four fluids at four dispense locations
- Easy upgrade to LFC 3000 for enhanced management and reporting capability
- Optional kit to connect remote printer and PC interface to configure system and create reports



LFC 1000 Technical Data

System Specifications

Maximum number of dispense points (24 VDC fluid solenoids & pulse meters)	4
Maximum number of fluids	4
Control box/display keypad	1
Levels of authority	3
Tank Calibration	Liters

Electrical Specifications

Power supply input	90 to 120 VAC, 50/60 Hz
Power supply output	24 VDC
Input/Output	2VA @ 24 VDC
CPU	Atmel, AT103, 8 bit
Memory	Flash, 1Mbit
Programming	With adapter
Interfaces	1xSerial, Printer/PC 9600/n/8, Linefeed LF/CR



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