

LUBRICATION EQUIPMENT

PART 1: GENERAL

1.1 SECTION INCLUDES

A. Lubricant equipment and accessories.

1. Filter Regulator Lubricators (FRL) : Ref Part 2.1
2. Lock Out Devices: Ref Part 2.2
3. Lubrication Fluid Control System: Ref Part 2.3
 - a. Features and Construction for Wireless RF System
 - b. Acceptable manufacturers and models.
 - c. Features and Construction for wired Tank Monitoring System
 - d. Acceptable manufacturers and models.
 - e. Features and Construction for Combination Hardwired/Wireless Fluid Inventory Control System
4. Fluid Recovery: Ref Part 2.4
 - a. Features and Construction for Pressurized Evacuation Drains
 - b. Acceptable manufacturers and models
 - c. Features and Construction for Gravity Portable Drain Pans
 - d. Acceptable manufacturers and models
 - e. Features and Construction for Filter Crushers
 - f. Acceptable manufacturers and models
5. Lubrication Pumps: Ref Part 2.5
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 - b. Prime manufacturers.
 - c. Features and construction of light to medium air operated portable grease pumps
 - d. Prime manufacturers
 - e. Features and Construction for Standard Duty Air Operated Pumps for Oil
 - f. Acceptable manufacturers and models
 - g. Features and Construction for Standard Duty Air Operated Pumps for Grease

- h. Acceptable manufacturers and models
 - i. Features and Construction for Heavy Duty Divorced Air Motor and Pump Tube for Oil
 - j. Acceptable manufacturers and models
 - k. Features and Construction for Heavy Duty Divorced Air Motor and Pump Tube for Grease
 - l. Acceptable manufacturers and models
 - m. Features and Construction for Piston Type Air Operated Fluid Transfer Pumps
 - n. Acceptable manufacturers and models
 - o. Features and Construction for Diaphragm Type Aluminum Housing Air Operated Fluid Transfer Pump
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 - q. Features and Construction for Standard Duty Integrated Air Motor and Pump Tube for Oil
 - r. Acceptable Manufacturers and models
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 - t. Acceptable Manufacturers and models
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 - g. Features and Construction of 14.4 VDC Battery Operated Grease Guns
 - h. Acceptable manufacturers and models
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 - d. Acceptable manufacturers and models
 - e. Features and Construction for 4 Way Reversing Valve
 - f. Acceptable manufacturers and models
 - g. Features and Construction for Stand Pipes
 - h. Acceptable manufacturers and models
 - i. Features and Construction Pressure Relief Valves

- j. Acceptable manufacturers and models
- k. Features and Construction for Pump Shut Off Valve
- l. Acceptable manufacturers and models
- m. Features and Construction for low Level Cut Off
- n. Acceptable manufacturers and models
- o. Features and Construction for Wall Mount Accessories
- p. Acceptable manufacturers and models
- q. Features and Construction for Suction Kits
- r. Acceptable manufacturers and models
- s. Features and construction of Pump Elevators
- t. Acceptable manufacturers and models

8. Hose Reels: Ref Part 2.8

- a. Features and Construction for Heavy Duty Reels
- b. Acceptable manufacturers and models
- c. Features and Construction for Standard Duty, Low Pressure Reels for: water, windshield wash and compressed air applications
- d. Acceptable manufacturers and models
- e. Features and Construction for Standard Duty, Medium Pressure Reels for: oil, gear oil and hydraulic and antifreeze applications
- f. Acceptable manufacturers and models
- g. Features and Construction for Standard Duty High Pressure Reel for Grease
- h. Acceptable manufacturers and models
- i. Features and Construction for High Flow, High Capacity Reel, Medium Pressure for Oils, Gear Oil and Hydraulic Fluid (84673)
- j. Acceptable manufacturers and models
- k. Features and Construction for Heavy Duty, Highflow Reel, Medium Pressure for Waste Oil, Fuel and Oil
- l. Acceptable manufacturers and models
- m. Features and Construction for High Pressure, High Capacity Reel for Grease
- n. Acceptable manufacturers and models
- o. Features and Construction for High Volume, Low Pressure Reel for: Fuel, Oil, Waste Oil, Air and Water
- p. Acceptable manufacturers and models
- q. Features and Construction for Air Reels
- r. Acceptable manufacturers and models

- 9 Misc./Hose Reel Accessories: Ref Part 2.9
 - a. Features and Construction for Mounting Brackets
 - b. Acceptable manufacturers and models
 - c. Features and Construction for Hoses
 - d. Acceptable Manufacturers and Models
 - e. High and Medium Oil and Grease Hose
 - f. Acceptable Manufacturers and Models
 - g. Features and Construction for Console/Cabinet
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- 10. Control Valves: Ref Part 2.10
 - a. Features and Construction of Non Metered Mechanical Valves
 - b. Acceptable Manufacturers and Models
 - c. Features and Construction of Non Metered Mechanical Valves
 - d. Acceptable Manufacturers and Models
 - e. Features and Construction of Metered Mechanical Valves
 - f. Acceptable Manufacturers and Models
 - g. Features and Construction of Metered Mechanical Valve
 - h. Acceptable Manufacturers and Models
 - i. Features and Construction of Metered Electrical Valves
 - j. Acceptable Manufacturers and Models
 - k. Features and Construction of Metered Electrical Valves
 - l. Acceptable Manufacturers and Models
 - m. Features and Construction of Metered Electrical Valves
 - n. Acceptable Manufacturers and Models
 - o. Features and Construction of Universal Swivels
 - p. Acceptable Manufacturers and Models

- 11. Filters: Ref Part 2.11
 - a. Features and Construction of Grease Filters
 - b. Acceptable Manufacturers and Models
 - c. Features and Construction of Oil Filters
 - d. Acceptable Manufacturers and Models

B. Roughing in, installation of equipment and final connections of utilities, with labor, services and incidentals necessary for complete and operational equipment installations.

C. Piping, wiring and switching between equipment and utilities.

1.2 SUBMITTALS

A. Product Data

1. Submit Product Data Sheets and operation and maintenance manual in accordance with Division 1 – General Requirements and Section 15008.

1.3 QUALITY ASSURANCE

A. Experience.

1. Equipment shall be produced by a manufacturer of established reputation with a minimum of five years experience in supplying specified equipment.
2. Equipment supplied shall have been designed under the direction of a licensed professional engineer.

B. Manufacturer's Representative.

1. Installation

- a. Provide contact information of a local manufacturer's representative for technical assistance and start up.
- b. Provide technical representative to train Owner's maintenance personnel in operation and maintenance of specified equipment.

C. Plumbing Certification.

1. Person installing lubrication equipment shall have a current State Plumbing License.

D. Manufactures model numbers listed under the acceptable manufacturers and models are provided to indicate the basic product series required. In addition, all features listed in the product description shall be included whether or not included with the listed model number.

1.4 SYSTEM START UP AND OWNER'S INSTRUCTIONS COMMISSIONING

1.5 MAINTENANCE

PART 2: PRODUCTS

2.1 FILTER REGULATOR LUBRICATORS (FRL)

A. Features and Construction

1. Bayonet connection for bowl removal
2. Prismatic sight glass
3. Modular quick clamp

B. Acceptable manufacturers and models

1. Prime manufacturers: Specifications are based on the equipment identified herein by manufacturers name and model to establish acceptable standards of quality, performance, features and construction.

Lincoln Industrial; St. Louis, MO.

2.2 LOCK OUT DEVICES

A. Features and Construction

1. Device to accept modular and pipe thread connections.

B. Acceptable manufacturers.

1. Prime manufacturers: Specifications are based on the equipment identified herein by manufacturers name and model to establish acceptable standards of quality, performance, features and construction.

Lincoln Industrial; St. Louis, MO.

2.3 LUBRICATION FLUID CONTROL SYSTEM

A. Features and Construction for Wireless RF System

1. Totally wireless. Communication directly between keypad and dispense valves – no hard wiring required to install system.
2. Supervisor and operator levels of security for programming and system monitoring.
3. System manages up to 16 fluids, 99 dispense points and 150 users.
4. PC and host terminal interface
5. Master keypad includes built-in ticket printer and accepts external report printer
6. Job verification capability (pre-approved authorization to dispense)
7. Can dispense in Quarts/Gallons or Liters

B. Acceptable manufacturers and models.

1. Prime manufacturers: Specifications are based on the equipment identified herein by manufacturers name and model to establish acceptable standards of quality, performance, features and construction.

Lincoln Industrial; St. Louis, MO.

LFC 2000 Series, LFC 2500 Series

C. Features and Construction for wired Tank Monitoring System

1. Differential pressure, magneostriptive, and high level float based tank level monitor
2. Ability to monitor the amount of fluid in thirty two tanks
3. Can remote monitor tanks using an internet or GSM connection.

D. Acceptable manufacturers and models.

1. Prime manufacturers: Specifications are based on the equipment identified herein by manufacturers name and model to establish acceptable standards of quality, performance, features and construction.

Lincoln Industrial; St. Louis, MO.

E. Features and Construction for Combination Hardwired/Wireless Fluid Inventory Control System

1. Hardwired Keypads include parallel port printer connection, 9 pin serial connector, RJ45 network jack, and 120VAC power input from wall plug-in.
2. Dispense Units included 120VAC power input from wall plug-in, 6 solenoid and pulse meter input plugs, 1 manual override key switch, and a 4 port Ethernet hub.
3. The Dispense Units and Keypads network communication connection can be connected via Cat5 Ethernet cables, wireless 802.11 cards, or a combination of both
4. Solenoid and pulse meters are wired to the control box (Dispense Unit) via pre-made wire assemblies
5. System managers up to 32 fluids, 300 dispense points, 200 users
6. PC software: Master PC software (1 per system), Virtual Keypad Shop PC software (30 per system), Remote Report Software (30 per system), Remote Flash Update Software (5 per system)
7. Can dispense in quarts, gallons, pints and liters
8. Languages: English, Spanish, and French
9. Create reports by product, users, tanks, hoses, or other optional fields
10. Assign degrees of access with three distinct levels of user codes
11. Allows for use of a master air solenoid as an optional safety feature
12. Can dispense in simultaneous (high end) and non-simultaneous (low end) dispenses per tank
13. Can grab tank information from the wireless and wired tank monitor systems
14. Can interface with ADP, Maximus, and Reynolds & Reynolds

F. Acceptable manufacturers and models.

1. Prime Manufacturer: Specifications are based on the equipment identified by manufacturers name and model to establish acceptable standards of quality, performance, features, and construction.

Lincoln Industrial: St. Louis, MO.

LFC5000 Series

2.4 FLUID RECOVER SYSTEM

A. Features and Construction for Pressurized Evacuation Drains.

Steel Construction

1. 14, 20" Bowl, 20 gallon tank with lock handle to set height adjustment from 47" to 72".
2. Preset non-adjustable regulator to prevent over pressure.
3. Preset relief valve for additional level of safety.
4. Low profile and balance rugged steel construction with large 6" wheels and casters.
5. Extra 18 inch offset bowl.
6. Main drain valve design to allow evacuation of fluid with bowl at any height.

Plastic Construction

1. Durable high strength polyethylene construction.
2. Real fixed axel with 6 inch wheels and two free to rotate front wheels in caster construction for ease in maneuvering.
3. 26 gallon tank with locking handle to set height from 51.5 inches to 78.5 inches.

Lubrication Business Unit

SKF Industrial Market, Strategic Industries

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4. Built in oil filter drain.
5. Built in tool tray and sight gauge
6. Fixed pressure relieve valve and air regulator for safety
7. Compatible with all lubrication fluids

AntiFreeze Recovery

1. 20" bowl and 18 gallon tank with lock handle to set height adjustment from 48" to 76 inches.
2. Preset non-adjustable regulator to prevent over pressure
3. Preset relief valve for additional level of safety
4. Rugged steel construction with large 6 wheels and casters.
5. 1/2" NPT outlet at bottom of tank for closed loop system set up

B. Acceptable manufacturers and models.

1. Prime manufacturers: Specifications are based on the equipment identified herein by manufacturers name and model to establish acceptable standards of quality, performance, features and construction.

Lincoln Industrial; St. Louis, MO.

Models 3624,3614,3633,3653,3634

C. Features and Construction for Gravity Portable Drain Pans.

1. 16 gallon (120#) drum with float gauge to indicate when drum is full.
2. 17" square rolling base.
3. Capability to accommodate oil suction tube.
4. 14" drain bowl adjustable to 42-3/4" to 70".

D. Acceptable manufacturers and models

1. Prime manufacturers: Specifications are based on the equipment identified herein by manufacturers name and model to establish acceptable standards of quality, performance, features and construction.

Lincoln Industrial; St. Louis, MO.

Models 613, 3644, 3605, 84714

E. Features and Construction for Filter Crushers.

1. Heavy Gauge steel construction.
2. Dual safety interlock.
3. Operating Pressure 150 psig.
4. Crushing force 3-1/4 to 17 1/2 tons.
5. Ability to compact filter to 1.5".
8. Operate on a 15 second cycle.

F. Acceptable manufacturers and models.

1. Prime manufacturers: Specifications are based on the equipment identified herein by manufacturers name and model to establish acceptable standards of quality, performance, features and construction.

Lincoln Industrial; St. Louis, MO.

Model 4160C, 4163

2.5 LUBRICATION PUMPS

A. Features and construction of light to medium duty oil pumps.

1. 20 psi minimum and 120 maximum psi pre lubricated air motor requires no external oiler.
2. Integrated muffler for quiet operation
3. Single acting pump.
4. Pump ratio or 3.5: 1
5. Pump sizes to accommodate stub pump, 16 – 55 gallon or 250 to 275 gallon tank pump.
6. Strong, light weight, corrosion-resistant zinc aluminum pump casting.
7. Capable of providing quick dispense, fill or transfer with high volume output.
8. Maximum delivery of 6 gpm

B. Prime manufacturers: Specifications are based on the equipment identified herein by manufacturers name and model to establish acceptable standards of quality, performance, features and construction.

Lincoln Industrial; St. Louis, MO.

Models 4490, 4491, 4492

C. Features and construction of light to medium air operated portable grease pumps.

1. 120 psi pre lubricated air motor requires no external oiler.
2. Pump ratio of 40:1
3. Single action pumping.
4. Shovel design inlet mechanism for pump heavy grease.
5. Hardened piston and plunger design with machined fit to .00005 inches.
6. 2 inch air motor diameter.
7. Output of 5 in³ per minute (82 cm³ per minute)
8. 150 psi maximum air pressure
9. 40 psi minimum air pressure
10. Pump tube sizes for 5,16 and 55 gallon.
11. Accommodate portable 4 wheel caster dolly.

D. Prime manufacturers: Specifications are based on the equipment identified herein by manufacturers name and model to establish acceptable standards of quality, performance, features and construction.

Lincoln Industrial; St. Louis, MO.

Models 4417, 4459, 4489

E. Features and Construction for Standard Duty Air Operated Pumps for Oil.

1. 150 PSI pre-lubricated air motor requires no external oiler.
2. Patented integrated muffler exceeds OSHA noise standards.
3. Double acting pump action. Equal amount of output for up and down stroke.
4. Stall pressure equal for up and down stroke.
5. Pump ratios of 3:1 or 5:1
6. Full 4.5" stroke.
7. Ball check valve with grade 25 ball quality.
8. Hardened bushing and plunger to machined and honed to .0005 inch clearance or better.
9. Lightweight, corrosion-resistant zinc head casting incorporates uniform wall thickness.
10. Precision machined, hardened steel slide valve and springless airmotor design.
11. Accessories for tank, drum or wall mounting.
12. Single acting pump action.
13. Ratio of 0.7:1 to 0.8:1.
14. Drum pump to fit 55 gallon drum.
15. Spigot extension with On/Off valve.
16. Portable pump for tank and meter package (4481, 4482)

F. Acceptable manufacturers and models.

Prime manufacturers: Specifications are based on the equipment identified herein by manufacturers name and model to establish acceptable standards of quality, performance, features and construction.

Lincoln Industrial; St. Louis, MO.

Series 20 or Series 40 Models, 4475, 4480, 4481, 4482.

G. Features and Construction for Standard Duty Air Operated Pumps for Grease

1. 40 PSI to 150 PSI pre-lubricated air motor requires no external oiler.
2. Patented integrated muffler exceeds OSHA standards.
3. Double acting pump action. Equal output of grease for up and down stroke.
4. Equal amount of stall pressure for up and down stroke.
5. 50:1 pump ratio.
6. 2.5" stroke on Series 20 pump and 4.5" stroke on Series 40 pump.
7. Shovel-type foot valve.
8. Ball check seats using grade 25 ball quality.
9. Hardened steel bushing and plunger machined and honed to .0005 inch clearance or less.
10. Lightweight, corrosion-resistant zinc head casting.
11. Precision machined, hardened steel slide valve and springless airmotor design ensure longer pump life.
12. Follower plates are necessary to insure positive pump prime.
13. Accessories for drum mounting.

H. Acceptable Manufacturers and models.

1. Prime manufacturers: Specifications are based on the equipment identified herein by manufacturers name and model to establish acceptable standards of quality, performance, features and construction.

Lincoln Industrial; St. Louis, MO.

Series 20 and 40 Pumps.

I. Features and Construction for Heavy Duty Divorced Air Motor and Pump Tube for Oil

1. Air motor with 40 to 150 psig of working pressure
2. Full 6" stroke for greater output on per cycle.
3. Oil output from pump equal for up and down stroke.
4. Stall pressure equal at both up and down stroke.
5. Air motor to allow for integrated automatic air shut off to prevent run away condition. (with 4-10 inch diameter airmotor).
6. Ball check seats with grade 25 quality.
7. Integrated muffler exceeds OSHA noise requirements.
8. Corrosion resistant air motor is fully pneumatic, modular design with only 5 moving parts for longer life and ease of maintenance.
9. Pump tube to contain carbon steel plunger case hardened to depth of .010" with polyurethane seal arrangement.
10. Pumps available in 6:1 to 24:1 ratios and can be wall, tank or drum mounted.

J. Acceptable Manufacturers and models.

1. Prime manufacturers: Specifications are based on the equipment identified herein by manufacturers name and model to establish acceptable standards of quality, performance, features and construction.

Lincoln Industrial; St. Louis, MO.

PowerMaster Series

K. Features and Construction for Heavy Duty Divorced Air Motor and Pump Tube for Grease

1. 40 psig to 150 psig working pressure air motor incorporates integrated muffler which exceeds OSHA noise requirements.
2. Full 6" stroke for greater output per cycle and longer pump life.
3. Grease output from pumps equal for both up and down stroke.
4. Pump stall pressure equal at up and down stroke.
5. Air motor to allow for integrated automatic air shut off to prevent run away condition.
6. Minimum 4" air motor diameter.
7. Ball check seats with grade 25 quality.
8. Corrosion resistant air motor is fully pneumatic, modular design with only 5 moving parts for longer life and ease of maintenance.
9. Pump tube to contain carbon steel plunger case hardened to depth of .010 " with polyurethane seal arrangement.
10. Air motor/Pump tube available in 10:1 through 75:1 exclusive patented, leakless gland assembly.
11. Follower plate required for positive pump prime.
12. Mechanical shovel for positive priming.

L. Acceptable Manufacturers and models

1. Prime manufacturers: Specifications are based on the equipment identified herein by manufacturers name and model to establish acceptable standards of quality, performance, features and construction.

Lincoln Industrial; St. Louis, MO.

PowerMaster Series Pump

M. Features and Construction for Piston Type Air Operated Fluid Transfer Pumps.

1. Air motor with 40 psig to 150 psig of working pressure.
2. Air motor to allow for 6 " stroke.
3. Equal output of fluid for each up and down stroke
4. Equal stall pressure for each up and down stroke.
5. Air Motor to allow for integrated automatic air shut off to prevent run away condition.
6. Ball check seats with grade 25 quality.
7. Minimum 4 " air motor diameter.
8. Corrosion resistant air motor.
9. Pump tube to contain carbon steel plunger case hardened to depth of .010 " with polyurethane seal arrangement.
10. Air Motor/Pump tube to allow for 10:1 to 75:1 air over fluid ratio.

N. Acceptable Manufacturers and models.

1. Prime manufacturers: Specifications are based on the equipment identified herein by manufacturers name and model to establish acceptable standards of quality, performance, features and construction.

Lincoln Industrial; St. Louis, MO.

PowerMaster Series

O. Features and Construction for Diaphragm Type Aluminum Housing Air Operated Fluid Transfer Pump

1. 1/2 " NPT internal or 1 " NPT external discharge.
 - a. Capacity from 0 to 15 GPM
 - b. Solids handling to .125"
 - c. Working pressure up to 125 psig.
 - d. Produce Head Pressure to 125 psig.
 - e. 1/4" NPT air inlet
 - f. ATEX 100 a certified
 - g. Operating temperature range 50-130° F.

2. Acceptable Manufacturers and models.

a. Prime manufacturers: Specifications are based on the equipment identified herein by manufacturers name and model to establish acceptable standards of quality, performance, features and construction.

Lincoln Industrial; St. Louis, MO.

Models 85631,85632,85633,85622

3. 1 " NPT Discharge

- a. Capacity from 0 to 45 GPM,
- b. Solids handling to .25" dia.
- c. Working air pressure to 125 psig.
- d. Displacement/stroke .11 gallons.
- e. 1/2" NPT air inlet
- f. Atex 100a certified
- g. Operating temperature 50-130° F

4. Acceptable Manufacturers and models.

a. Prime manufacturers: Specifications are based on the equipment identified herein by manufacturers name and model to establish acceptable standards of quality, performance, features and construction.

Lincoln Industrial; St. Louis, MO

Models 85629,85628,85627

5. 1-1/2 " NPT Discharge

- a. Wetted components Nitrile only.
- b. Capacity from 0 to 106 GPM
- c. Solids handling to .25" diameter.
- d. Head Pressure up to 125 psig.
- e. Displacement/stroke of .41 gallons.
- f. 3/4" NPT air inlet
- g. ATEX 100a certified
- h. Operating Temperature 50-140° F.

6. Acceptable Manufacturers and models.

a. Prime manufacturers: Specifications are based on the equipment identified herein by manufacturers name and model to establish acceptable standards of quality, performance, features and construction.

Lincoln Industrial; St. Louis, MO
Model 85621

7. 2" NPT Discharge

- a. Wetted components Nitrile Only.
- b. Capacity from 0 to 150 GPM.
- c. Solids handling to .25" diameter.
- d. Head pressure up to 125 psig.
- e. Displacement stroke of .42 gal
- f. 3/4" NPT air inlet
- g. ATEX 100a certified.
- h. Operating temperature 50-140° F.

8. Acceptable manufacturers and models.

a. Prime manufacturers: Specifications are based on the equipment identified herein by manufacturers name and model to establish acceptable standards of quality, performance, features and construction.

Lincoln Industrial; St. Louis, MO.
Model 85624

P. Features and Construction for Diaphragm type Plastic Housing Air Operated Fluid Transfer Pumps.

1. ½" NPT internal or 1" NPT external discharge.

- a. Wetted components Nitrile, Sanoprene & PTFE.
- b. Capacity from 0 to 14 GPM.
- c. Solids handling to .125" diameter.
- d. Working pressure up to 100 psig.
- e. Head pressure up to 100 psig.
- f. Displacement/stroke of .026 gal.
- g. 1/4" NPT air inlet
- h. Operating temperature 50-140° F.

2. Acceptable manufacturers and models.

- a. Prime manufacturers: Specifications are based on the equipment identified herein by manufacturers name and model to establish acceptable standards of quality, performance, features and construction.

Lincoln Industrial; St. Louis, MO.

Model 85622,85623,85626

Q. Features and Construction for Standard Duty Integrated Air Motor and Pump Tube for Oil

- 1. 3 Inch Air motor with 40 to 150 psig of working pressure
- 2. 3.5 inch pump stroke
- 3. Double acting pump. Oil output from pump equal for both up and down stroke
- 4. Stall pressure equal for both up and down stroke.
- 5. Ball check seats with grade 25 quality.
- 6. Integrated muffler exceeds OSHA noise requirements.

7. Corrosion resistant air motor is fully pneumatic and separate modular design with only 5 moving parts for longer life and ease of maintenance.
8. Pump tube to contain carbon steel plunger case hardened to depth of .010" with polyurethane seal arrangement.
9. Separate high pressure seals for air motor and pump tube
10. Pumps available in 5:1 and 50:1 ratios and can be wall, tank or drum mounted.

R. Acceptable Manufacturers and models.

1. Prime manufacturers: Specifications are based on the equipment identified herein by manufacturers name and model to establish acceptable standards of quality, performance, features and construction.

Lincoln Industrial; St. Louis, MO.

PM V Series Pumps

S. Features and Construction for Heavy Duty Integrated Air Motor and Pump Tube for Grease

1. 40 psig to 150 psig working pressure air motor incorporates integrated muffler which exceeds OSHA noise requirements.
2. 3.5 " pump stroke.
3. Double acting pump. Grease output equal for both up and down stroke.
4. Stall pressure equal for both up and down stroke
5. Minimum 4 1/4" air motor diameter.
6. Ball check seats with grade 25 quality.
7. Corrosion resistant air motor is fully pneumatic, separate modular design with only 5 moving parts for longer life and ease of maintenance.
8. Pump tube to contain carbon steel plunger case hardened to depth of .010 " with polyurethane seal arrangement.
9. Air motor/Pump tube available in 6:1, 10:1 and 50:1
10. Separate high pressure seals for air motor and pump tube.
11. Follower plate required for positive pump prime.
12. Mechanical shovel for positive priming.

T. Acceptable Manufacturers and models

1. Prime manufacturers: Specifications are based on the equipment identified herein by manufacturers name and model to establish acceptable standards of quality, performance, features and construction.

Lincoln Industrial; St. Louis, MO.

PMV Series Pumps

2.6 LUBRICATION TOOLS

A. Features and Construction for Manual Grease Guns

1. Lever Gun to be of rigid construction with metal cartridge holder wall thickness of .045".
2. Develop 8,000 psig of pressure
3. Ball check seat with grade 25 or better.
4. Cast Iron Head Construction
5. Case hardened piston to depth of .010".
6. Must have follower flip over or universal seal to accommodate either bulk filling or standard grease cartridge.

B. Acceptable manufacturers and models.

1. Prime manufacturers: Specifications are based on the equipment identified herein by manufacturers name and model to establish acceptable standards of quality, performance, features and construction.

Lincoln Industrial; St. Louis, MO.

Lincoln Models 1142, 1148, 1147, 1151, 1132, 1133, 1134, 1013, 1145, 1035, 1037

C. Features and Construction for Air Operated Grease Guns

1. Air motor to allow for 150 psig of working pressure.
2. Rigid construction with metal cartridge holder wall thickness of .045 "es.
3. Pump ratio of 40:1 minimum.
4. Have grease follower flip over seal to accommodate either bulk filling or standard grease cartridge.
5. Ball check seats with grade 25 ball quality.
6. Piston/Ball seat configured to allow for self priming capability

D. Acceptable manufacturers and models.

1. Prime manufacturers: Specifications are based on the equipment identified herein by manufacturers name and model to establish acceptable standards of quality, performance, features and construction.

Lincoln Industrial; St. Louis, MO.

PowerLuber model 1163

E. Features and Construction for Electrically Operated 12 VDC Grease Guns

1. Device to work with 12 volt rechargeable battery.
2. Develop 6,000 psig of pressure.
3. Ball check seats with grade 25 quality.
3. Contain an integrated safety relief valve to relieve pressure at 6,000 psig.
4. Rigid construction with metal cartridge holder wall thickness of .045".
5. Provide output of no more than .025 grams/minute.
6. Have grease follower flip over seal to accommodate either bulk filling or standard grease cartridge

F. Acceptable manufacturers and models.

1. Prime manufacturers: Specifications are based on the equipment identified herein by manufacturers name and model to establish acceptable standards of quality, performance, features and construction.

Lincoln Industrial; St. Louis, MO.

PowerLuber Model 1242, 1244.

G. Features and Construction of 14.4 VDC Battery Operated Grease Guns.

1. Device to work with 14.4 volt, 17 m amp hr rechargeable battery.
2. Develop 7,000 psig of pressure.
3. Ball check seats with grade 25 quality.
4. Contain an integrated circuit breaker for over current protection.
5. Stoke indicator for counting number of strokes and for calibration of grease output.
6. Two stage transmission. One set for high pressure and other for high output.
7. Output 10 oz/minute at 1,000 psi of backpressure
8. Slotted power head to accept shoulder strap.
9. One hour smart charge battery.
10. Rigid construction with metal cartridge holder wall thickness of .045".
11. Provide output of no more than .025 grams/minute.
12. Have grease follower flip over seal to accommodate either bulk filling or standard grease cartridge

H. Acceptable manufacturers and models.

1. Prime manufacturers: Specifications are based on the equipment identified herein by manufacturers name and model to establish acceptable standards of quality, performance, features and construction.

Lincoln Industrial; St. Louis, MO.

PowerLuber Model 1442, 1444.

2.7 PUMP ACCESSORIES

A. Features and Construction for High Level Shut Off (84815)

1. Air operated overfill warning valve for single wall tanks.
2. 1/4" NPT female air inlet
3. Unit to shut off air to pump and sound alarm as float valve detects high level of product.

B. Acceptable manufacturers and models.

1. Prime manufacturers: Specifications are based on the equipment identified herein by manufacturers name and model to establish acceptable standards of quality, performance, features and construction.

Lincoln Industrial; St. Louis, MO.

Model 84515

C. Features and Construction for Elevator Hoist

1. Single post design
2. 2 ¾ " lifting cylinder
3. 400# lift capacity
4. Cast iron base for anchoring to floor

D. Acceptable manufacturers and models.

1. Prime manufacturers: Specifications are based on the equipment identified herein by manufacturers name and model to establish acceptable standards of quality, performance, features and construction.

Lincoln Industrial; St. Louis, MO.

Models 1716,2716,1709

E. Features and Construction for 4 Way Reversing Valve

1. Four port, two position valve allows used oil tank to be filled or emptied using the same pump.
2. 1" ports

F. Acceptable manufacturers and models.

1. Prime manufacturers: Specifications are based on the equipment identified herein by manufacturers name and model to establish acceptable standards of quality, performance, features and construction.

Lincoln Industrial; St. Louis, MO.

G. Features and Construction for Stand Pipes

1. Mounting holes for anchoring to floor.
2. 3 " NPT inlet.
3. Cast Iron material

H. Acceptable manufacturers and models.

1. Prime manufacturers: Specifications are based on the equipment identified herein by manufacturers name and model to establish acceptable standards of quality, performance, features and construction.

Lincoln Industrial; St. Louis, MO.

I. Features and Construction Pressure Relief Valve

1. 100 PSI valve, 3/4" ports

J. Acceptable manufacturers and models.

1. Prime manufacturers: Specifications are based on the equipment identified herein by manufacturers name and model to establish acceptable standards of quality, performance, features and construction.

Lincoln Industrial; St. Louis, MO.

K. Features and Construction for Pump Shut Off Valve

1. Modular integrated design for 4" and larger PowerMaster III airmotors.
2. Shuts down pump immediately when excessive pump cycle speed occurs.
3. Indicates system fault caused by empty container or broken supply line.

L. Acceptable manufacturers and models.

1. Prime manufacturers: Specifications are based on the equipment identified herein by manufacturers name and model to establish acceptable standards of quality, performance, features and construction.

Lincoln Industrial; St. Louis, MO.

M. Features and Construction for low Level Cut Off

1. Fastens to bottom of pump suction tube.
2. Brass Float.

N. Acceptable manufacturers and models.

1. Prime manufacturers: Specifications are based on the equipment identified herein by manufacturers name and model to establish acceptable standards of quality, performance, features and construction.

Lincoln Industrial, St. Louis, MO.

O. Features and Construction for Wall Mount Accessories

1. Mounting hardware to be made from steel materials.

P. Acceptable manufacturers and models.

1. Prime manufacturers: Specifications are based on the equipment identified herein by manufacturers name and model to establish acceptable standards of quality, performance, features and construction.

Lincoln Industrial; St. Louis, MO.

Q. Features and Construction for Suction Kit.

1. Used with stub pumps for convenient transfer of product from drums or bulk tanks.
2. Includes 2" bung bushing, suction tube, 5' hose and coupling assembly.

R. Acceptable manufacturers and models.

1. Prime manufacturers: Specifications are based on the equipment identified herein by manufacturers name and model to establish acceptable standards of quality, performance, features and construction.

Lincoln Industrial; St. Louis, MO.

S. Features and construction of Pump Elevators

1. Elevators operated by up/down control valve. No air pressure on down position
2. Priming of pump obtained through gravity only.
3. Manually operated port to expel air from under the follower.
4. Separate air line connected to the follower and "push to hold" valve to admit compressed air under the follower during extraction from the drum to.
5. Adjustable brackets for positioning and mounting Series 40 and PM III pumps in 400 lb and 120 lb drums.
6. Elevator drum follower seal compatible with mineral and synthetic based grease.
7. Air inlet plug for quick connect of air coupler
8. Steady steel construction including floor base for stability during operation.

T. Acceptable manufacturers and models.

1. Prime manufactures: Specification are based on the equipment identified herein by manufacturers name and model to establish acceptable standards of quality, performance, features and construction.

Lincoln Industrial: St. Louis, MO.

Models 2740, 2710

2.8 HOSE REELS

A. Features and Construction for Heavy Duty Reels.

1. Working pressure rating of 8,000 psig. Bare reel is designed for high, medium and low pressure applications such as: grease, oils, synthetic oil, gear oil, hydraulic oil, waste oil, antifreeze, windshield wash, water and air.
2. Base support and single outlet arm are welded 1/4" steel plate construction. Reel spring tension can be adjusted without disconnecting hose, control valve or ball stop.
3. Two hardened, pre-lubricated needle bearing shaft supports.
4. Components are individually powder coat painted prior to assembly.
5. Quick disconnect 1/2 NPT outlet.
6. Quick disconnect 1/2 NPT 90° inlet swivel.
7. Reel can accommodate 50' of 1/2" I.D. hose or 60' of 3/8" or 1/4" hose.
8. 5-1/2" sheave width
9. Twelve position, 270° arm adjustment in 22.5° increments.
10. 180° opposed double ratchet non-sparking reel stop mechanism.
11. Spring is enclosed in canister with seals.
12. Anti-lockout hose clamp.
13. Operating temperature - 20° to 225° F.
14. Five year limited warranty.
15. Dual arm with rigid support available in low, medium and high pressure models.

B. Acceptable manufacturers and models.

1. Prime manufacturers: Specifications are based on the equipment identified herein by manufacturers name and model to establish acceptable standards of quality, performance, features and construction.

Lincoln Industrial; St. Louis, MO.

Lincoln 82206, 82207, 83206, 83201, 83202, 83203 Series Reels

C. Features and Construction for Standard Duty, Low Pressure Reels for:
water, windshield wash and compressed air applications.

1. Low pressure, fully ported swivel designed to be corrosion resistant when used with air and water.
2. Working pressure rating of 1,000 psig.
3. Spring tension adjustable without disconnected hose, control valve or ball stop.
4. Components are individually powder coat painted prior to assembly.
5. Strain relief for hose connection through reel sheave.
6. 1/2" NPT thread inlet and outlet connections with 90° swivel.
7. 3/8" and 1/4" I.D. hose 60' in length.
8. Seven position, 270° arm adjustment at 45° increments.
9. 180° opposed double ratchet non-sparking hose reel stop mechanism.
10. Anti-lockout hose clamp.
11. Rolled sheave edges.
12. Dual needle bearings reduce friction to rotate reels providing smooth balanced operation during both hose extension and retraction.
13. Operating temperature – 10° - 225° F.
14. Easily accessible yet fully contained power springs designed for optimum performance at various operating pressures.
15. Five year limited warranty.

D. Acceptable manufacturers and models.

1. Prime manufacturers: Specifications are based on the equipment identified herein by manufacturers name and model to establish acceptable standards of quality, performance, features and construction.

Lincoln Industrial; St. Louis, MO.

Lincoln 94100 Series Reels

E. Features and Construction for Standard Duty, Medium Pressure Reels for: oil, gear oil and hydraulic and antifreeze applications.

1. Medium pressure , fully ported swivel designed to be corrosion resistant when used with air and water.
2. Working pressure rating of 2,500 psig.
3. Spring tension adjustable without disconnected hose, control valve or ball stop.
4. Components are individually powder coat painted prior to assembly.
5. Strain relief for hose connection through reel sheave.
6. 1/2" NPT thread inlet and outlet connections with 90° swivel.
7. 3/8" and 1/4" I.D. hose 60' in length.
8. Seven position, 270° arm adjustment at 45° increments.
9. 180° opposed double ratchet non-sparking hose reel stop mechanism.
10. Anti-lockout hose clamp.
11. Rolled sheave edges.
12. Dual needle bearings reduce friction to rotate reels providing smooth balanced operation during both hose extension and retraction.
13. Operating temperature – 10° - 225° F.
14. Easily accessible yet fully contained power springs designed for optimum performance at various operating pressures.
15. Five year limited warranty.

F. Acceptable Manufacturers and Models.

1. Prime manufacturers: Specifications are based on the equipment identified herein by manufacturers name and model to establish standards of quality, performance, features and construction.

Lincoln Industrial; St. Louis, MO.
Lincoln 94300 Series Reels.

G. Features and Construction for Standard Duty High Pressure Reel for Grease.

1. High pressure , fully ported swivel designed to be corrosion resistant when used with air and water.
2. Working pressure rating of 8,000 psig.
3. Spring tension adjustable without disconnected hose, control valve or ball stop.
4. Components are individually powder coat painted prior to assembly.
5. Strain relief for hose connection through reel sheave.
6. 1/2" NPT thread inlet and outlet connections with 90° swivel.
7. 3/8" and 1/4" I.D. hose 60' in length.
8. Seven position, 270° arm adjustment at 45° increments.
9. 180° opposed double ratchet non-sparking hose reel stop mechanism.
10. Anti-lockout hose clamp.
11. Rolled sheave edges.
12. Dual needle bearings reduce friction to rotate reels providing smooth balanced operation during both hose extension and retraction.
13. Operating temperature – 10° - 225° F.
14. Easily accessible yet fully contained power springs designed for optimum performance at various operating pressures.
15. Five year limited warranty.

H. Acceptable manufacturers and models.

1. Prime manufacturers: Specifications are based on the equipment identified herein by manufacturers name and model to establish acceptable standards of quality, performance, features and construction.

Lincoln Industrial; St. Louis, MO.

Lincoln 94500 Series Reels

I. Features and Construction for High Flow, High Capacity Reel, Medium Pressure for Oils, Gear Oil and Hydraulic Fluid (84673)
Working pressure rating of 2,000 psig.

1. Double base hose guide support.
2. Two heavy duty seals for life ball bearing axle support.
3. 3/4" NPT inlet and outlet sizes.
4. Heavy duty, ball bearing support 90° swivel inlet connection.
5. 3/4" I.D. 75' hose length.
6. Four position, 270° hose guide arm adjustment.
7. Double ratchet non-sparking reel stop mechanism.
8. Stationary (non-rotating) power spring.
9. Base and outlet are 1/4" steel plate welded construction.
10. Anti-lockout hose clamp.
11. Operating temperature – 20° - 225° F.

J. Acceptable manufacturers and models.

1. Prime manufacturers: Specifications are based on the equipment identified herein by manufacturers name and model to establish acceptable standards of quality, performance, features and construction.

Lincoln Industrial; St. Louis, MO.

Lincoln 84673 Series Reels

K. Features and Construction for Heavy Duty, Highflow Reel, Medium Pressure for Waste Oil, Fuel and Oil.

1. Working pressure rating of 2,000 psig.
2. 3/4" inlet swivel
3. 3/4" hose I.D. and 30' length
4. Base support and single outlet arm are 1/4" thick steel plate welded construction.
5. Adjust spring tension without disconnecting hose, control valve or ball stop
6. Two hardened, pre-lubricated needle bearing shaft supports.
7. Components are individually powder coat painted prior to assembly.
8. 5-1/2" sheave width.
9. Twelve position, 270° arm adjustment in 22.5° increments.
10. Double ratchet non-sparking reel stop mechanism.
11. Spring is canistered with seals.
12. Anti-lockout hose clamp.
13. Operating temperature -20° - 225° F.

L. Acceptable manufacturers and models.

1. Prime manufacturers: Specifications are based on the equipment identified herein by manufacturers name and model to establish acceptable standards of quality, performance, features and construction.

Lincoln Industrial; St. Louis, MO.

Lincoln 84672 Series Reels

M. Features and Construction for High Pressure, High Capacity Reel for Grease.

1. Working pressure rating of 5,000 psig.
2. 3/4" & 1/2 "I.D., 75 feet hose length.
3. Double base hose guide support.
4. Two heavy duty seals for life ball bearing axle support.
5. 3/4" & 1/2 "NPT inlet and outlet sizes.
6. Heavy duty ball bearing support 90° swivel inlet connection.
7. Four position, 270° hose guide arm adjustment.
8. 180° opposed double ratchet non-sparking reel stop mechanism.
9. Stationary (non-rotating) power spring.
10. Base and outlet are 1/4" steel plate.
11. Anti-lockout hose clamp.
12. Operating temperature -20° - 225° F.

N. Acceptable manufacturers and models.

1. Prime manufacturers: Specifications are based on the equipment identified herein by manufacturers name and model to establish acceptable standards of quality, performance, features and construction.
Lincoln Industrial; St. Louis, MO.

Lincoln Series 84275

O. Features and Construction for High Volume, Low Pressure Reel for: Fuel, Oil, Waste Oil, Air and Water.

1. Working pressure rating of 300 lbs.
2. 1 Inch Inlet swivel
3. For use with maximum 1" I.D. x 40' hose.

P. Acceptable manufacturers and models.

1. Prime manufacturers: Specifications are based on the equipment identified herein by manufacturers name and model to establish acceptable standards of quality, performance, features and construction.
Lincoln Industrial; St. Louis, MO.

Lincoln Series 84432

Q. Features and Construction for Air Reels

1. Durable heavy-gauge steel construction.
2. Heavy duty rubber air hoses.
3. Slotted mounting base for easy attachment to ceilings, walls and work benches.
4. Five position adjustable outlet roller arm.
5. Spring power automatic recoil.
6. Angled hose guide for smooth, parallel hose pull-out and retraction.
7. Eight position ratchet gearing that locks the reel at the desired length

R. Acceptable manufacturers and models.

1. Prime manufacturers: Specifications are based on the equipment identified herein by manufacturers name and model to establish acceptable standards of quality, performance, features and construction.

Lincoln Industrial; St. Louis, MO.

Lincoln Series 83753, 83754

2.9 HOSE REEL ACCESSORIES

A. Features and Construction for Mounting Brackets

1. High quality carbon steel. 12 ga. Plain galvanized.
2. Twirl nut 3/8 -16 thread corrosion resistant plating.
3. Steel bolt 3/8 " grade 5 minimum with corrosion resistant plating.

B. Acceptable Manufacturers and Models.

1. Prime manufacturers: Specifications are based on the equipment identified herein by manufacturers name and model to establish acceptable standards of quality, performance, features and construction.

Lincoln Industrial; St. Louis, MO.

C. Features and Construction for Hoses

1. Low pressure Water and Air Hose
 - a. Multi-purpose exceed RMA class A high oil resistant.
 - b. Electrically non-conductive minimum elec. Resistance 1 megah/in at 1000 VDC.
 - c. Working pressure of 300 psig with safety rating of 4:1.
 - d. Synthetic nitrile tube .
 - e. Cover black neoprene, smooth style surface.
 - f. Reinforced multiple textile spiral.
 - g. Fitting to conform to SAE J516 standards.
 - h. Operating temperature -20° F to 212° F.
 - i. Hose end has sleeve for strain relief

D. Acceptable Manufacturers and Models.

1. Prime manufacturers: Specifications are based on the equipment identified herein by manufacturers name and model to establish acceptable standards of quality, performance, features and construction.

Lincoln Industrial; St. Louis, MO.

E. High and Medium Oil and Grease Hose.

- a. Working pressure 4,000 psig. Minimum burst pressure and bend radius per SAE 100R1 & 100R2. With 4:1 safety factor.
- b. Grease and oil resistant synthetic nitrile rubber type C.
- c. Cover black, oil abrasion and weather resistant synthetic rubber, smooth type finish.
- d. Reinforcement one or two braid high tensile wire.
- e. Fittings to conform to SAE J516 standards.
- f. Operating temperature -40° to 212° F.

F. Acceptable Manufacturers and Models

1. Prime manufacturers: Specifications are based on the equipment identified herein by manufacturers name and model to establish acceptable standards of quality, performance, features and construction.

Lincoln Industrial; St. Louis, MO.

G. Features and Construction for Console/ Cabinet

1. Light weight durable engineered resin, modular design panels and enclosures.
2. Included assembled hose roller outlet.
3. Universal mounting bracket.
4. Quarter turn fasteners.
5. Dent and scratch resistant.
6. Electrically non- conductive.

H. Acceptable Manufacturers and Models.

1. Prime manufacturers: Specifications are based on the equipment identified herein by manufacturers name and model to establish acceptable standards of quality, performance, features and construction.

Lincoln Industrial; St. Louis, MO.

I. Features and Construction for Oil Bar

1. Spring loaded spigot, ½ " NPT inlet.
2. Dispense motor oil, ATF and other free flowing automotive fluids.
3. Expandable to dispense 3 fluids.
4. Removable base to dispose overflow fluids.
5. All steel construction.

J. Acceptable Manufacturers and Models.

1. Prime manufacturers: Specifications are based on the equipment identified herein by manufacturers name and model to establish acceptable standards of quality, performance, features and construction.

Lincoln Industrial; St. Louis, MO.

Models 84959, 84957, 84950

2.10 CONTROL VALVES

A. Features and Construction of Non Metered Mechanical Valves

1. Working pressure of 7,500 psig for 740, 1000 psig for others
2. All steel handle body and guard.
3. Precision inlet check valve for ease of operation at high pressure.
4. Trigger guard prevents pinching during operation.
5. Reversible check for long life.

6. ½ " NPTF inlet/outlet.
7. Rigid pipe and flexible extensions with nozzle or cap.

B. Acceptable Manufacturers and Models.

1. Prime manufacturers: Specifications are based on the equipment identified herein by manufacturers name and model to establish acceptable standards of quality, performance, features and construction.

Lincoln Industrial; St. Louis, MO.

Model 774,780,775, 740, 776,

C. Features and Construction of Non Metered Mechanical Valves

1. Working pressure of 1,500 psig
3. Precision inlet check valve for ease of operation at high pressure.
4. Trigger guard prevents pinching during operation.
5. ½ " NPTF inlet/outlet.
6. Rigid pipe and flexible extensions with nozzle or cap.

D. Acceptable Manufacturers and Models.

1. Prime manufacturers: Specifications are based on the equipment identified herein by manufacturers name and model to establish acceptable standards of quality, performance, features and construction.

Lincoln Industrial; St. Louis, MO.

Model 708F, 708R, 712F. 712R. 708RSF

E. Features and Construction of Metered Mechanical Valves

1. Working pressure of 1,000 psig.
2. Capable of being preset for desired output.
3. Available in Quarts, Gallon and Liters
4. Dispense Motor Oil, ATF and Gear Lube.
5. ½ " NPTF inlet and outlet.
6. Standard with built in strainer.
7. Standard with built in inlet swivel.
8. Dispense up to 4.0 GPM.

F. Acceptable Manufacturers and Models

1. Prime manufacturers: Specifications are based on the equipment identified herein by manufacturers name and model to establish acceptable standards of quality, performance, features and construction.

Lincoln Industrial; St. Louis, MO.

Models 867, 876, 877, 883, 68410, 899, 878, 881, 3866, 3867, 3868, 3942

G. Features and Construction of Metered Mechanical Valves

1. Working pressure of 1,500 psig.
2. Available in Quarts, Gallon and Liters
3. Dispense Motor Oil, ATF and Gear Lube.
4. ½" NPTF inlet and outlet.
5. Standard with built in strainer.
6. Standard with built in inlet swivel.
7. Dispense up to 8.0 GPM.

H. Acceptable Manufacturers and Models

1. Prime manufacturers: Specifications are based on the equipment identified herein by manufacturers name and model to establish acceptable standards of quality, performance, features and construction.

Lincoln Industrial; St. Louis, MO.

Models 908MFQ, 908MFM, 908MFQ, 908MRG, 908MRM, 908MRQ

I. Features and Construction of Metered Electrical Valves

1. Working pressure up to 1,500 psig. 1,000 psi working pressure 905 meter.
2. Rigid and Flexible Nozzle.
3. Dispense up to 6 GPM.
4. 2 decimal point accuracy count.
5. Non-resettable totalizer in gallons or liters.
6. Field replaceable batteries with low battery indicator.
7. Model 905 has preset option for desired outputs. Available in quarts, gallons, liters and pints.

J. Acceptable Manufacturers and Models.

1. Prime manufacturers: Specifications are based on the equipment identified herein by manufacturers name and model to establish acceptable standards of quality, performance, features and construction.

Lincoln Industrial; St. Louis, MO.

Models 905, 953, 954, 967, 980, 981, 982

K. Features and Construction of Metered Electrical Valves

1. Working pressure up to 1,500 psig
2. Rigid and Flexible Nozzle.
3. Dispense up to 8 GPM.
4. ½ " NPTF inlet and outlet.
5. 2 decimal point accuracy count.
6. Non-resettable totalizer in gallons or liters.
7. Field replaceable batteries with low battery indicator.
8. Available in quarts, gallons, liters and pints.

L. Acceptable Manufacturers and Models.

1. Prime manufacturers: Specifications are based on the equipment identified herein by manufacturers name and model to establish acceptable standards of quality, performance, features and construction.

Lincoln Industrial; St. Louis, MO.

Models 908EF, 908ER

M. Features and Construction of Metered Electrical Valves

9. Working pressure up to 1,500 psig.
10. Rigid and Flexible Nozzle.
11. Dispense up to 12 GPM.
12. ¾" NPTF inlet and ½" outlet.
13. 2 decimal point accuracy count.
14. Non-resettable totalizer in gallons or liters.
15. Field replaceable batteries with low battery indicator.
16. Available in quarts, gallons, liters and pints.

N. Acceptable Manufacturers and Models.

2. Prime manufacturers: Specifications are based on the equipment identified herein by manufacturers name and model to establish acceptable standards of quality, performance, features and construction.

Lincoln Industrial; St. Louis, MO.

Models 912EF, 912ER

O. Features and Construction of Universal Swivels

1. Working pressure of 5,000 psig.
2. Available in Straight, 90 degree and Universal.
3. ¼ " NPTF, 1/8 " NPTF and ½ " -27 thread.
4. Rotates freely under high pressure.
5. Compatible for use in Motor Oil, ATF and Gear Lube.

P. Acceptable Manufacturers and Models.

1. Prime manufacturers: Specifications are based on the equipment identified herein by manufacturers name and model to establish acceptable standards of quality, performance, features and construction.

Lincoln Industrial; St. Louis, MO.

2.11 FILTERS

A. Features and Construction of Grease Filters

1. Pleated construction with filtration size of 149 micron 100 mesh or 238 60 mesh.
2. Filter physical size of 1.5 " diameter x 3 " length minimum.

B. Acceptable manufacturers and models.

1. Prime manufacturers: Specifications are based on the equipment identified herein by manufacturers name and model to establish acceptable standards of quality, performance, features and construction.

Lincoln Industrial; St. Louis, MO.

C. Features and Construction of Oil Filters.

1. Pleated construction with 50 micron 270 mesh filtration size.
2. Filter physical size of 1.5 " diameter x 3 " length minimum.

D. Acceptable Manufacturers and Models.

1. Prime manufacturers: Specifications are based on the equipment identified herein by manufacturers name and model to establish acceptable standards of quality, performance, features and construction.

Lincoln Industrial; St. Louis, MO.

Change Log

1. Added Item E in Section 1.1 A 3 – revised 4/20/10
2. Added Item K & L in Section 2.3 – revised 4/20/10
3. Added Items Q, R, S and T in section 2.5 – revised 4/20/10
4. Remove the LFC1000, LFC3000, wireless tank monitor and replaced with the new wired tank monitor. Also corrected specifications on the LFC5000, corrected the pressure rating on the nonmetered control valves, added the Macnaught nonmetered control valves, mechanical, electrical regular flow, and electrical high flow under their own sections— revised 8/31/10
5. Converted to Lincoln-SKF letterhead; minor formatting updates – revised 10/01/13

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