Electric Grease Pumps (for Mobile Applications)

Supply up to NLGI #2 grease (depending on temperature) to divider valves.

Note: Customer must furnish a 12- or 24-volt D.C. power source.

Output/Min Per Element:**	.171 cu. in. / 2.8 cc
Lubricant Outlet:	⅛" NPT (F)
Max. System Operating Pressure:	3600 psig / 248 bar
Enclosure Rating:	IP6K9K*
Operating Temperature Range:	Min. -13°F / -25°C Max. 158°F / 70°C
Reservoir Capacity:	2-, 4-, 8- or 15-liter ***
Reservoir Fill Method:	By grease fitting
Pressure Relief Valve:	4000 psi, +/- 250 / 276 bar, +/- 17

* Protected from water sprayed in all directions.
** Single 6mm element standard; to increase pump output, add one or two additional element(s) #600-26876-2 and relief valve #270864.
*** Contact Lincoln for 15-liter reservoir models.

Model Specifications:

Model No.	Electrical Requirements	Interval Timer Setting				Reservoir Capacity		
		On Time* (2 minute increments)		Off Time (1 hour increment)		lb.	kg.	liter
		Min	Max	Min	Max			
94012	12 VDC 3.5 Amps	2 minutes	30 minutes	1 hour	15 hours	4	1.8	two
94412						8	3.6	four
94812						16	7.2	eight
94024	24 VDC 2 Amp					4	1.8	two
94424						8	3.6	four
94824						16	7.2	eight

* Can be set for either minutes or seconds.

Models 94124, 94224 and 94212 (for Industrial Applications)

These industrial lube pumps are electrically operated and are used in progressive type (Quicklub or Modular Lube) automated lubrication systems. The pump consists of a nylon housing, electric gear motor and a plastic reservoir with stirring paddle. One model incorporates a built-in timer, with the other two cycled by independent timers or machine controls. The pump's ability to develop high operating pressures allows it to supply lubricant up to NLGI #2 grease in most ambient temperatures.

Model Specifications:

Model No.	Electrical Requirements	Interval Timer Setting				Reservoir Capacity		
		On Time* (2 minute increments)		Off Time (1 hour increment)		lb.	kg.	liter
		Min	Max	Min	Max			
94124	24 VDC 2 Amps	2 min.	30 min.	1 hour	15 hours	4	1.8	two
94224								
94212	12 VDC 3.5 Amps	Timer not included wit Models 94224 and 94212. Select external timer from System Controls section						

* Can be set for either minutes or seconds.

Pump Accessories

Model No.	Description
256276	Remote push-button manual lube kit for pumps with round bayonet-style connectors
246322	Remote push-button manual lube kit for pumps with square DIN connectors
241419	12 VDC illuminated manual switch
241484	24 VDC illuminated manual switch

Electric Grease Pumps with Low-Level Sensor and Internal Microprocessor Controls for Feedback Monitoring

Supply up to NLGI #2 grease (depending on temperature) to divider valves.

Electrical Requirements	
Input:	12 VDC @ 3.5 amps, 24 VDC @ 2 amps 94 - 265 VAC (50 to 60 Hz)
Enclosure Rating:	IP6K9K *
Alarm Time:	30 minutes
Interval between Lube Cycles:	Min. 4 minutes / Max. 15 hours
Pump Output:	0.171 cu. in./min. / 2.8 cc/min.
Outlet Connection:	⅛" NPT (F)
Reservoir Capacity:	2-, 4-, 8- or 15-liter **
Maximum Recommended Operating Pressure:	3600 psi / 248 bar
Lubricant:	Greases up to NLGI grade 2 (depending on operating temperature and type of lubricant)
Temperature Range:	-13°F to 158°F / -25°C to 70°C
Pressure Relief Valve:	4000 psi, +/- 250 / 276 bar, +/- 17

Note: Do not use pump without pressure relief valve. * Protected from water sprayed in all directions.
** Contact Lincoln for 15-liter reservoir models.

Model Specifications

Model No.	Description	Power	Control Settings: Interval Between Lube Cycle Min.	Control Settings: Interval Between Lube Cycle Hrs.	Control Settings: Alarm Time Min.	Reservoir Capacity: Liters	Reservoir Capacity: In³	Reservoir Capacity: Lbs.
94222	P203-2XL-1K6-24-2A6.15-M13-A+SV	24 VDC	4 - 60	1 -15	5 or 30	2	122	4
94422	P203-4XLBO-1K6-24-2A6.15-M13-A+SV	24 VDC	4 - 60	1 -15	5 or 30	4	244	8
94822	P203-8XLBO-1K6-24-2A6.15-M13-A+SV	24 VDC	4 - 60	1 -15	5 or 30	8	488	16
644-40821-3*	P203-2XNBO-1K6-12-2A6.15-M08	12 VDC	4 - 60	1 -15	5 or 30	2	122	4
644-40843-8*	P203-4XLBO-1K6-12-2A6.15-M08	12 VDC	4 - 60	1 -15	5 or 30	4	244	8
644-40822-8*	P203-8XLBO-1K6-12-2A6.15-M16	12 VDC	4 - 60	1 -15	5 or 30	8	488	16
644-40873-1*	P203-8XLBO-1K6-AC-3A5.01-M08	120 VAC	4 - 60	1 -15	5 or 30	8	488	16

***These "644-" pumps do not come with the pressure relief valve. It must be ordered separately and is recommended. The 1/8" NPT adapter (304-19614-1) is also not included and must be ordered separately, if required.**

Model No.	Description
624-28894-1	Pressure Relief Valve 350-R ¼" A-D6
624-28895-1	Pressure Relief Valve 350-R ¼" A-D8
624-28931-1	Return to Reservoir Pressure Relief Valve

Quicklinc Push-In Style Fittings for Nylon Tubing

Model No.	Description
244053	¼" tube x ¼"-28 male 90° swivel fitting

Proximity Switches

Electric grease pumps with Feedback Monitoring require purchase of one of the following proximity switches:

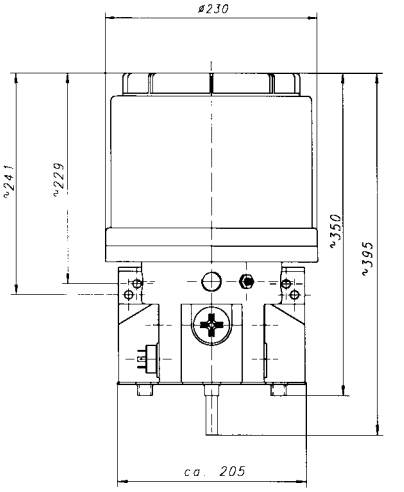
Model Number	Description	Use with Corresponding Pump Connection (see ID Code pg. 9)
234-13188-2	Bayonet 3m (9.8') cable length	6 - bayonet quarter turn
234-13188-3	Bayonet 7m (23.0') cable length	6 - bayonet quarter turn
234-13178-1	Proximity switch w/ open end plug	4 - AMP (existing field models)
234-13178-2	AMP 3m (9.8') cable length	4 - AMP (existing field models)
234-13178-5	AMP 7m (23.0') cable length	4 - AMP (existing field models)

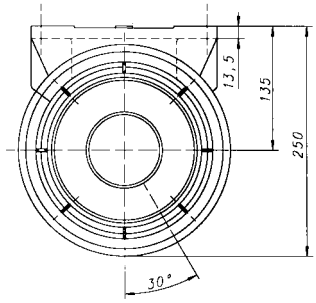
203 AC Models

This VAC pump automatically adjusts to handle a variety of electrical supply voltages (between 94- and 265-volt, 50 to 60 Hz.)

Input Voltage:	94 - 265 VAC
Operating Temperature:	-13° to 158°F / -25° to 70°C
Number and Element Size:	1 - 6mm
Reservoir Capacity:	2-, 4-, 8- or 15-liter *
Output per Minute:	Approx. 2.8 cc / 0.171 cu. in. per min.
Lubricant:	Greases up to NGLI #2 Oil with at least 40 cSt
On Time with PC Board:	2 to 30 minutes
Factory Set on Time:	6 minutes
Factory Set Pause Time:	6 hours
Max. Operating Pressure:	5000 psi / 350 bar
Connection Thread:	G¼" for 6mm or 8mm diameter tube

* Contact Lincoln for 15-liter reservoir models.





Model Specifications

Model No.	Description	Res. Cap.	Grease or Oil	Low level control	Printed circuit board
644-46073-5	P203-2XNBO-1K6-AC-1A1.01-V10 (UL)-A+SV	2 liter	Grease	No	Yes
644-46173-4	P203-4XNBO-1K6-AC-1A1.01-V10 (UL)-A+SV	4 liter	Grease	No	Yes
644-46173-5	P203-4YLBO-1K6-AC-1A1.01-V10 (UL)-A+SV	4 liter	Oil	Yes	Yes
644-46073-6	P203-2XNBO-1K6-AC-1A1.01 (UL)-A+SV	2 liter	Grease	No	No
644-46173-6	P203-4XLBO-1K6-AC-2A1.01 (UL)-A+SV	4 liter	Grease	Yes	No
644-46173-8	P203-4YLBO-1K6-AC-1A1.01 (UL)-A+SV	4 liter	Oil	Yes	No
644-46173-7	P203-4XNBO-1K6-AC-1A1.01 (UL)-A+SV	4 liter	Grease	No	No
644-46174-2	P203-8XLBO-1K6-AC-2A1.01-V10 (UL)-A+SV	8 liter	Grease	Yes	Yes
644-46073-4	P203-8XLBO-1K6-AC-2A1.01 (UL)-A+SV	8 liter	Grease	Yes	No

"(UL)" in the description refers to UL-approved, CSA-certified pumps.
Pumps with "-A+SV" come complete with the ⅛" NPT adapter and pressure relief valve.

Model No.	Description
624-28894-1	Pressure Relief Valve 350-G 1/4" A-D6
624-28895-1	Pressure Relief Valve 350-G 1/4" A-D8
624-28931-1	Return to Reservoir Pressure Relief Valve

If the ⅛" NPT adapter (part #304-19614-1) is not included, it must be ordered separately, if required.

Quicklub® Lubrication Systems
Identification Code—Pump Models 203

Examples of Codes

P 203	2	X	N		1	K6	24	1A	1	10		
P 203	4	X	N	BO	1	KR	24	2A	6	15	M13	
P 203	2	X	N		2	K5	12	1A	1	10	H	
P 203	8	X	N	BO	1	K6	24	1A	5	14	V13	
P 203	4	Y	L	BO	1	K7	24	1A	1	10	V20	
P 203	2	X	L		1	K6	24	1A	7	16	V10	

Note
Any pumps combination other the above standard pumps can be composed and ordered in accordance with the valid model identification code

Basic pump model for grease or oil with 1-3 outlets

Reservoir Design
2 = 2 l transparent plastic reservoir
4 = 4 l transparent plastic reservoir
8 = 8 l transparent plastic reservoir

X = reservoir for grease
Y= reservoir for oil

N = standard design
L = low-level control

without designation = standard reservoir (2 l)
BO = filling from top
FL = flat type reservoir (for 2l, no low level)

Pumping Element
1 - 3 number of elements

Piston Type - Piston Diameter
K5 - 5 mm
K6 - 6 mm
K7 - 7 mm
KR adjustable - 7 mm
B7 - 7 mm (outlet same as K5)
S7 - 7 mm (food industry)

Operating Voltage
12 VDC or 24 VDC (DC motor)
AC = 94 - 265 VAC (47 - 63 HZ) with 24 VDC motor

Number of Connection Possibilities
1A = 1 connector (left), power supply [1]
1A = 1 connector (left), power supply [2]
1A = 1 connector, power supply left + illuminated push button for additional lubrication, low level [3, C]
2A = 2 connectors, power supply (left) [1, +] illuminated push button for additional lubrication, low-level (right) [1, C] (V10 - V13, V20 - V23, H)
2A = 2 connectors, power supply (left) + illuminated push button for additional lubrication , low-level (left))[3, C] and piston detector (right) [4] (M08 - M23)

Type of Connection
1 = square type connector (DIN 43650, type A) [1]
5 = bayonet plug, 4/3 , DIN 72585-1 [2] (V10-V13, V20-V23, H)
6 = bayonet plug, 7/5 , DIN 72585-13) (M08-M23)
7 = bayonet plug, 7/6 , DIN 72585-1 [3] (V10-V13, V20-V23)

Connection Outside the Pump
00 = without socket outlet, without cable
01 = socket outlet, without cable [1]
10 = socket outlet, with 10 m cable [1]
11 = socket outlet, with 10 m ADR cable [A, 1]
14 = socket for bayonet, with 10 m cable, 4/3 [2], V10-V13, V 20-V23, no low level, no illuminated push button [C]
15 = socket for bayonet with 10 m cable, 7/5 [3], M08-M23
16 = socket for bayonet, with 10 m cable, 7/6g [3], V10-V13, V 20-V23, with low level or illuminated push button [C]
17 = socket for bayonet with 10 m ADR-Cable [A], 4/3 [2], (V10-V13, H)

P.C.B. for 12 / 24 VDC
V10 - V13 = adjustable pause and operating time [1, 2, 3]
H = for trailers and semi trailers [1, 2]
without designation = without p.c.b. [1, 2]
M08 - M23 = with microprocessor control [3] different model in accordance to the jumper position
No designation, pump without control p.c.b.

The Figures [1, 2, 3] are in conjunction with those of the "Type of connection" determining the connector you could use
[A] For hazardous material transport
[B] C7 = for supply of chisel paste
[C] low level for oil; the connection for low level is not taken into consideration

233 Pumps with Data Logger QuickData

The 233 centralized lubrication pump is a powerful and robust compact multi-line pump that can drive up to three elements and is used in progressive (Quicklub or Modular Lube) automated lubrication systems. The 233 is ideal for mobile applications, rental machines and construction machines. Versatile, compact and economical, this pump is enhanced with low-level control, printed circuit board MDF00 with attached data logger module and a keypad with display.

QuickData Displays
- Current status and operating data
- Malfunctions of the lubrication system with the time of occurrence
- Remedying of the malfunction with date, time and duration of malfunction
- Low-level signal of reservoir and regular refilling
- Modifications in the pause time programming
- Number of automatically and manually triggered lube cycles as well as the corresponding lubricant consumption
- Power supply interruptions

All data can be read out by means of a laptop or p.d.a. via an integrated or separate IR interface. All indications enable the users to draw their conclusions regarding the condition, function, reliability, usability and duration of service of the machine or the device. All information can be analyzed and documented and is then available as a written protocol. The family of 233 pumps includes 12 and 24 VDC and 120 VAC pumps. They are available with 1, 2 or 3 elements in 5, 6 or 7 mm or with an adjustable output element. Reservoir sizes are 2, 4 or 8 liters. Refer to the pump identification code for a complete listing of available pump configurations.

Model Specifications

Model No.	Description	Power	Reservoir Capacity			Grease	Low-Level Control	Printed Circuit Board
			Liters	In^3	Lbs.			
644-40824-1	P233-2XL-1K6-24-2A5.10-MDF00	24 VDC	2	122	4	Grease	Yes	Yes
644-40824-2	P233-2XLBO-1K6-24-2A5.10-MDF00	24 VDC	2	122	4			
644-40826-1	P233-4XLBO-1K6-24-2A5.10-MDF00	24 VDC	4	244	8			
644-40827-1	P233-8XLBO-1K6-24-2A5.10-MDF00	24 VDC	8	488	16			
644-40868-1	P233-2XL-1K6-12-2A5.10-MDF00-A	12 VDC	2	122	4			
644-40869-1	P233-4XLBO-1K6-12-2A5.10-MDF00-A	12 VDC	4	244	8			
644-40870-1	P233-8XLBO-1K6-12-2A5.10-MDF00-A	12 VDC	8	488	16			
644-40867-1	P233-8XLBO-1K6-AC-2A6.15-MDF00	120 VAC	8	488	16			

These pumps do not include a pressure relief valve which must be ordered separately.
Other technical data and dimensions are identical to the P203.

Accessories

Model No.	Description
236-10127-1	Infrared interface
810-55291-1	Diagnostic software
234-13188-2	Piston detector

QLS 401

The QLS 401, the newest automated Quicklub Lubrication System features a newly enhanced stirring paddle in the reservoir to prevent grease separation—even with long refill intervals. All components including an internal pressure relief valve are part of the complete package. Standard features include a built-in controller with LED display and keypad for easy programming and monitoring, and a divider block with 6, 8, 12 or 18 outlets. The integrated, all-in-one system concept reduces installation time and costs. The 12 and 24 VDC models are available with bayonet, quarter-turn type plugs for improved protection in mobile applications.

Operating Voltage:	12 and 24 VDC 120 and 230 VAC, 50/60 Hz
Operating Current:	12 VDC / 2.0 A 24 VDC / 1.0 A 120 VAC / 1.0 A 230 VAC / 0.5 A
Operating Temperature:	-10° to 158°F / -25° to 70°C
Number of Outlets:	6, 8, 12 or 18
Reservoir Capacity:	61 in^3 / 1.0 L
Protection:	NEMA 4
Lubrication Cycle Time:	20 min. to 59 hours
Number of Cycles:	For VDC: 1 to 5 cycles For VAC – SSV6/SSV8: 1 to 3 cycles For SSV12/SSV18: 1 cycle
Timer Memory:	Indefinite
Maximum Operating Pressure:	3000 psig / 205 bar
Output per Outlet & Cycle:	approx. 0.012 in^3 / approx. 0.2 cm^3
Lubricant:	NLGI 2 grease
Weight:	12.5 lbs. / 5.7 kg

Model Specifications

Model No.	Valve Type	Valve Mount	Volt	Cable
P401 31202573	SSV6	Back	12 VDC	30' / 10m
P401 31402573	SSV6	Back	24 VDC	30' / 10m
P401 42601113	SSV8	Bottom	120 VAC	none
P401 42801113	SSV8	Bottom	230 VAC	none
P401 61202573	SSV12	Back	12 VDC	30' / 10m
P401 61402573	SSV12	Back	24 VDC	30' / 10m
P401 62601113	SSV12	Bottom	120 VAC	none
P401 62801113	SSV12	Bottom	230 VAC	none
P401 91202573	SSV18	Back	12 VDC	30' / 10m
P401 91402573	SSV18	Back	24 VDC	30' / 10m
P401 92601113	SSV18	Bottom	120 VAC	none
P401 92801113	SSV18	Bottom	230 VAC	none

QLS 401 for Remote Control

The QLS 401 for Remote Control allows customers to be in control of the lubrication process. The 24 VDC models monitor system cycling with a proximity switch. An external timer or PLC controls the interval between lube cycles. The 120 VAC models have no cycle monitoring and are on/off controlled by the user's external timer or PLC. The minimum pause time requirements should be followed when setting up the external controller.

Operating Voltage:	24 VDC 120 VAC, 50/60 Hz
Operating Current:	24 VDC / 1.0 A 120 VAC / 1.0 A
Operating Temperature:	-10° to 158°F / -25° to 70°C
Number of Outlets:	6, 8, 12 or 18
Reservoir Capacity:	61 in^3 / 1.0 L
Protection:	NEMA 4
Minimum Pause Time:	4 min. DC models / 20 min. AC models
Maximum Operating Time:	25 min. DC models / 15 min. AC models
Timer Memory:	Indefinite
Maximum Operating Pressure:	3000 psig / 205 bar
Output per Outlet & Cycle:	approx. 0.012 in^3 / approx. 0.2 cm^3
Lubricant:	up to NLGI 2 grease
Weight:	12.5 lbs. / 5.7 kg

Model Specifications

Model No.	Valve Type	Valve Mount	Volt
P401 31401110	SSV6	Back	24 VDC
P401 42600110	SSV8	Bottom	120 VAC
P401 61401110	SSV12	Back	24 VDC
P401 62600110	SSV12	Bottom	120 VAC
P401 91401110	SSV18	Back	24 VDC
P401 92600110	SSV18	Bottom	120 VAC

Pump Models
Examples of part numbers

P40100400113
P40162400153

P401	6	2	4	0	0	1	5	3

Pump 401 for grease **P401**

SSV Divider Block
External, SSV 6, SSV 8[2]) (or SSV 12 and 18 without control p.c.b.) **0**
External, SSV 12, SSV 18[2]) **1**
SSV 6 (back) **3**
SSV 8 (bottom) **4**
SSV 12 . . . . . **6**
SSV 18 . . . . . **9**

[2] Note: For external divider block application only use the specific divider blocks SSV....KNQLS.

SSV Divider Block Position
External divider block. **0**
Back (vertical order) **1**
Bottom[3] (horizontal order) **2**

[3] Note: Do not use QLS 401 with SSV block in bottom-mounting position for mobile applications. Do not install the pump in areas exposed to shock.

Operating Voltage
12 VDC[1]. **2**
24 VDC[1]. **4**
120 VAC[2] (with control p.c.b. only). **6**
230 VAC[2] (with control p.c.b. only). **8**

[1] Note: Standard 12 and 24 VDC pump models for mobile applications can be supplied with 10-meter (30') electrical cable.
[2] Note: Standard 120 and 230 VAC pump models for industry are supplied without electrical cable.

Reservoir with and/or without Low-Level Control
1 L reservoir without low-level control (monitored by "Er" malfunction) . . **0**

Number of Possible Connections
- 1A = connection left-side (square-type), supply voltage **0**
- 2A = 2 connections (square-type)
  1 connection left-side, supply voltage. **1**
  1 connection right-side, low-level control or fault indication
  1A = 1 connection (quarter-turn type) supply voltage;
  low-level control or fault indication (DC models only). **2**

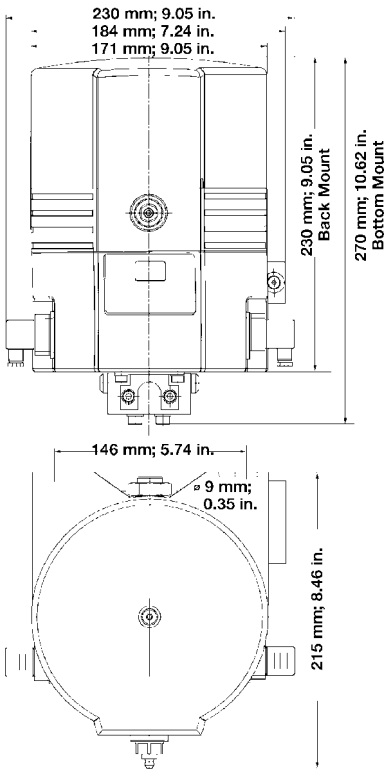
Type of Plug Connector
* Square-type, acc. to DIN 43650 type of construction A **1**
(industrial application)
** Quarter-turn type plug, DIN 72585-1, 4-pole
(mobile application; DC models only) **5**

Electrical Connectors
With socket, without cable * **1**
With socket, with cable 10 m **5**
With socket, with cable 10 m (DC models only) ** **7**

Control p. c. b.
p. c. b. without time control (DC models) **0**
p. c. b. S3:
Normally closed or normally open contact (programmable),
monitored:1 to 5 cycles (DC models) **3**
1 cycle with SSV 12, SSV 18 (AC models)
1 to 3 cycles with SSV 6, SSV 8 (AC models). **3**

QLS 301

It's compact, rugged, easy to install and easy to use. It has a long list of standard features including built-in controller with LED display and keypad for easy programming, system cycle monitoring, a built-in low-level control and remote monitoring capability. For those who thought the reduced downtime and improved safety of automated lubrication were out of reach, and for those waiting for a cost-effective system for their smaller machinery, the reliable QLS 301 is the answer. It's automated lubrication "made easy."

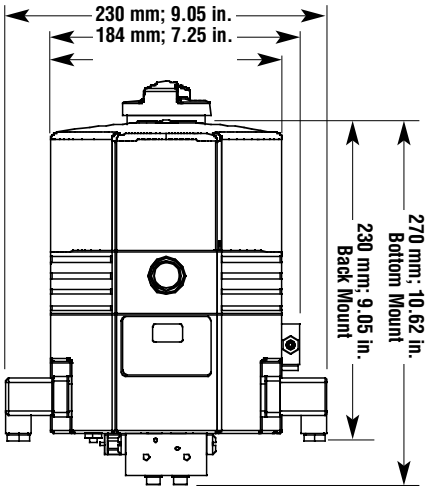


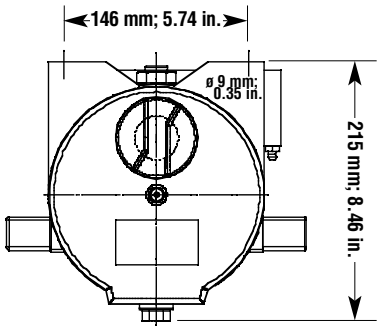
Operating Voltage:	12 and 24 VDC 120 and 230 VAC, 50/60 Hz
Operating Current:	12 VDC / 2.0 A 24 VDC / 1.0 A 120 VAC / 1.0 A 230 VAC / 0.5 A
Operating Temperature:	-10° to 158°F / -25° to 70°C
Number of Outlets:	6, 8, 12 or 18
Reservoir Capacity:	61 in^3 / 1.0 L
Protection:	NEMA 4
Lubrication Cycle Time:	20 min. to 59 hours
Number of Cycles:	For VDC: 1 to 5 cycles For VAC – SSV6/SSV8: 1 to 3 cycles For SSV12/SSV18: 1 cycle
Timer Memory:	Indefinite
Maximum Operating Pressure:	3000 psig / 205 bar
Output per Outlet & Cycle:	approx. 0.012 in^3 / approx. 0.2 cm^3
Lubricant:	NLGI 2 grease
Weight:	12.5 lbs. / 5.7 kg

Model Specifications

Model No.	Valve Type	Valve Mount	Volt	Cable
P301 31211153	SSV6	Back	12 DC	30' / 10m
P301 31411153	SSV6	Back	24 DC	30' / 10m
P301 42611113	SSV8	Bottom	120 AC	none
P301 42811113	SSV8	Bottom	230 AC	none
P301 61211153	SSV12	Back	12 DC	30' / 10m
P301 61411153	SSV12	Back	24 DC	30' / 10m
P301 62611113	SSV12	Bottom	120 AC	none
P301 62811113	SSV12	Bottom	230 AC	none
P301 91211153	SSV18	Back	12 DC	30' / 10m
P301 91411153	SSV18	Back	24 DC	30' / 10m
P301 92611113	SSV18	Bottom	120 AC	none
P301 92811113	SSV18	Bottom	230 AC	none

Note: All models include low-level and remote contacts.





QLS 311

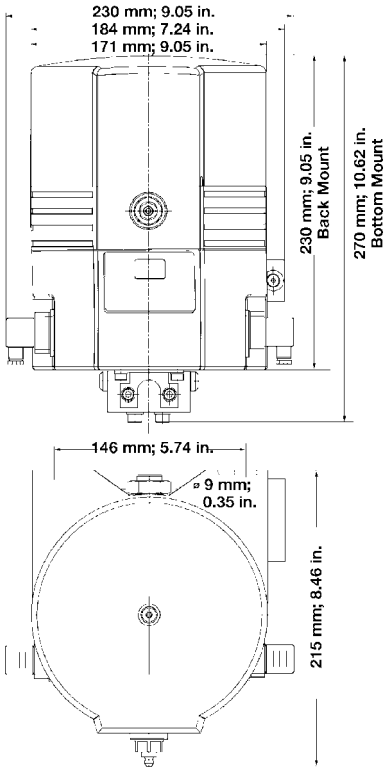
Unit includes pump, control monitor and metering valve and is ready to go "out of the box." Pump includes built-in controller with LED display and keypad for easy programming, system cycle monitoring, a built-in low-level control and remote monitoring capability. Unit offers the advantages of automated lubrication, including reduced downtime and improved safety, to machinery large and small.

Operating Voltage:	12 and 24 VDC 120 and 230 VAC; 50/60 Hz
Operating Current:	12 VDC / 2.0 A 24 VDC / 1.0 A 120 VAC / 1.0 A 230 VAC / 0.5 A
Operating Temperature:	-10° to 158°F / -25° to 70°C
Number of Outlets:	6, 8, 12 or 18
Reservoir Capacity:	61 in^3 / 1.0 L
Protection:	NEMA 4
Lubrication Cycle Time:	20 min. to 59 hours
Number of Cycles:	For VDC: 1 to 5 cycles For VAC – SSV6/SSV8: 1 to 3 cycles For SSV12/SSV18: 1 cycle
Timer Memory:	Indefinite
Max. Operating Pressure:	3000 psig / 205 bar
Output per Outlet & Cycle:	approx. 0.012 in^3 / approx. 0.2 cm^3
Lubricant:	oil
Weight:	12.5 lbs. / 5.7 kg

Model Specifications

Model No.	Valve Type	Valve Mount	Volt	Cable
P311 31211153	SSV6	Back	12 DC	30' / 10m
P311 61211153	SSV12	Back	12 DC	30' / 10m
P311 91211153	SSV18	Back	12 DC	30' / 10m
P311 31411153	SSV6	Back	24 DC	30' / 10m
P311 61411153	SSV12	Back	24 DC	30' / 10m
P311 91411153	SSV18	Back	24 DC	30' / 10m
P311 42611113	SSV8	Bottom	120 AC	none
P311 42811113	SSV8	Bottom	230 AC	none
P311 62611113	SSV12	Bottom	120 AC	none
P311 92611113	SSV18	Bottom	120 AC	none
P311 62811113	SSV12	Bottom	230 AC	none
P311 92811113	SSV18	Bottom	230 AC	none

Note: All models come with a low-level indicator and remote contacts.



QLS 301/311 for Remote Control

The QLS 301/311 for Remote Control allows customers to be in control of the lubrication process. The 24 VDC models monitor system cycling with a proximity switch. An external timer or PLC controls the interval between lube cycles. The 120 VAC models have no cycle monitoring and are on/off controlled by the user's external timer or PLC. The minimum pause time requirements should be followed when setting up the external controller.

Operating Voltage:	24 VDC 120 VAC, 50/60 Hz
Operating Current:	24 VDC / 1.0 A 120 VAC / 1.0 A
Operating Temperature:	-10° to 158°F / -25° to 70°C
Number of Outlets:	6, 8, 12 or 18
Reservoir Capacity:	61 in^3 / 1.0 L
Protection:	NEMA 4
Minimum Pause Time:	4 min. DC models / 20 min. AC models
Maximum Operating Time:	25 min. DC models / 15 min. AC models
Timer Memory:	Indefinite
Maximum Operating Pressure:	
Grease:	3000 psig / 205 bar
Oil:	1200 psi / 80 bar
Output per Outlet & Cycle:	approx. 0.012 in^3 / approx. 0.2 cm^3
Lubricant:	up to NLGI 2 grease or oil
Weight:	12.5 lbs. / 5.7 kg

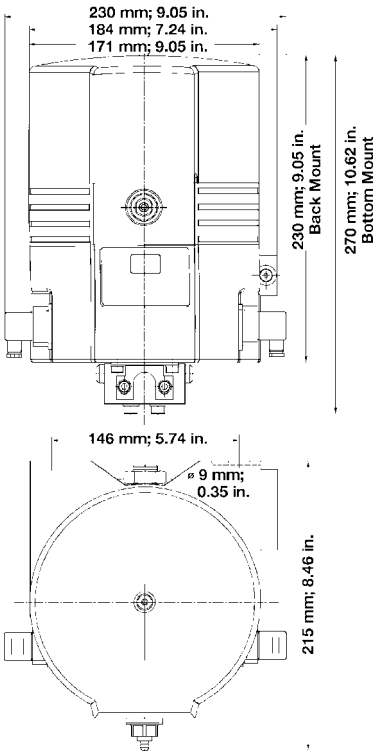
Model Specifications

Model No.	Valve Type	Valve Mount	Volt	Lubricant
P301 31411110	SSV6	Back	24 VDC	Grease
P301 61411110	SSV12	Back	24 VDC	Grease
P301 91411110	SSV18	Back	24 VDC	Grease
P311 31411110	SSV6	Back	24 VDC	Oil
P311 61411110	SSV12	Back	24 VDC	Oil
650-40768-3	SSV8	Bottom	120 VAC	Grease
650-40768-4	SSV12	Bottom	120 VAC	Grease
650-40768-5	SSV18	Bottom	120 VAC	Grease
650-40765-4	SSV8	Bottom	120 VAC	Oil
650-40765-5	SSV12	Bottom	120 VAC	Oil
650-40765-6	SSV18	Bottom	120 VAC	Oil

QLS 421/321

Accurate lubrication without the need for continuous power—that's what over-the-road trailers need. That's exactly what Lincoln's QLS 421/321 supplies. With a unique controller card that keeps track of the time a trailer is in use by monitoring its vibration, the QLS 421/321 delivers the precise lubrication an OTR trailer requires exactly when it's needed—by using the power of the trailer's brake lights.

Because it doesn't need power to monitor the time between lubrication events, the QLS 421/321 is ready when its controller card says "go." And the QLS 421/321 keeps lubricating each time the trailer's brakes are applied until its controller card adds up the "on times" and determines that the pre-set time for a complete lubrication cycle has been reached. The QLS 421 features an enhanced stirring paddle to help prevent grease separation in applications with long refill intervals.



Operating Voltage:	12 and 24 VDC
Operating Current:	12 VDC / 2.0 A 24 VDC / 1.0 A
Operating Temperature:	-10° to 158°F / -25° to 70°C
Number of Outlets:	6, 12 or 18
Reservoir Capacity:	61 in^3 / 1.0 L
Protection:	NEMA 4
Time Between Cycles:	1 hour to 16 hours
On Time Range:	1 to 32 min.
Timer Memory:	Indefinite
Maximum Operating Pressure:	3000 psig / 205 bar
Output per Outlet per Valve Cycle:	approx. 0.012 in^3 / approx. 0.2 cm^3
Lubricant:	up to NLGI 2 grease
Weight:	12.5 lbs. / 5.7 kg

Model Specifications

Model No.	Voltage	Valve Type	Valve Mount	Cable
P421 31402531	24 VDC	SSV6	Bottom	19 feet 6 meters
P421 61202531	12 VDC	SSV12		
P421 91202531	12 VDC	SSV18		
P421 91402531	24 VDC	SSV18		
P321 31210531	12 VDC	SSV6		
P321 31410531	24 VDC	SSV6		
P321 61210531	12 VDC	SSV12		
P321 91210531	12 VDC	SSV18		
P321 91410531	24 VDC	SSV18		

HTL Hydraulic Lubricator Pump for Hammers

- Delivers precise lubrication every time the hammer cycles
- Increase productivity—no work interruption
- Reduces machine repairs and replacement costs

Arms and breakers move constantly and exert enough force to demolish a building or repair roads in a tough environment filled with grit and debris. OEMs recommend bearing lubrication of that hammer every two hours to achieve optimal performance and to hold down maintenance and repair costs. However, deadline-driven operators rarely halt work to grease the hammer, which can lead to breakdowns that grind down productivity and inflate repair expenses. Lincoln's HTL Pumps make precise, consistent lubrication a reality. Now your operator can lubricate the hammer without leaving the cab. The pumps attach directly to the hammer, and your operator, with the push of a pedal, automatically sends a single shot of hydraulic fluid to the pump. Then the pump gives one shot of grease to lubricate the bearing points. When the operator's foot comes off the pedal, pressure releases the spring in the pump so it's ready to lubricate again.

Applications: construction OEMs, hydraulic hammer retrofits, demolition attachments and medium to larger breakers/hammers

- Withstands vibrations of an operating hammer
- Travels with hammer, perfect for rental equipment or hammers used on various machines
- Hydraulic power supply
- Pedal-actuated
- Attached grease fitting allows for manual filling and fast priming of pump
- Uses standard 14.5-ounce grease cartridges and handles chisel paste
- To adjust output, metering plugs are available (0.006 in^3 [0.1cm^3] to 0.031 in^3 [0.5cm^3])
- Convenient visual low level indicator

Model:	85429	85425
Hydraulic Ratio at Max. Output and Pressure*	2.4:1	0.7:1
Max. Hydraulic Operating Pressure:	3000 psig / 207 bar	5000 psig / 345 bar
Max. Recharge (or Vent) Pressure:	400 psig / 28 bar	1100 psig / 75 bar
Max. Lube Outlet Pressure:	6500 psig / 448 bar	
Output/Stroke (Std. Metering Plug):	0.018 in^3 / 0.3 cm^3 Std. 0.006 – 0.031 in^3 / 0.1 – 0.5 cm^3 Optional*	
Grease Reservoir Volume:	14.5 oz cartridge / 429 ml cartridge	
Operating Temperature:	-10°F to +180°F / -23°C to +80°C	
Hydraulic Port:	SAE #4 (7/16-20 UNF) O-ring	
Pump Outlet:	SAE #4 (7/16-20 UNF) O-ring	
Weight (Empty):	16.3 lbs. / 7.4 kg	
Weight (Full):	17.3 lbs. / 7.8 kg	

*Optional metering plugs are available for different output volume. See Pump Output Adjustment chart below.

Pump Output Adjustment

Metering Plug	Output per Stroke
271924	0.006 in^3 / 0.1 cm^3
271925	0.012 in^3 / 0.2 cm^3
271926*	0.018 in^3 / 0.3 cm^3
271927	0.031 in^3 / 0.5 cm^3

*Note: Standard plug included with pump