# Lincoln
# Multi-line and progressive systems

# People, capabilities and systems to save resources and increase productivity

**Industry leader**

Continually satisfying our customers with the world's best lubrication equipment and pumping systems has made Lincoln the largest and most successful company in our field. For nearly a century, companies have relied on our technical and quality leadership, our world-class manufacturing and customer service, and our vast network of distributors and support facilities.

**Research development**

In order to provide the best worldwide and regional application solutions, Lincoln develops new products and systems at research and development facilities in the United States, Germany, and India

**Providing solutions**

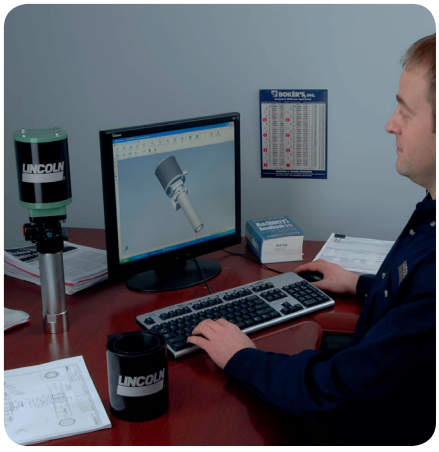
Industrial customers in large processing plants, automotive manufacturing, pulp and paper mills, food and beverage and other manufacturing facilities can rely on solutions from Lincoln. For the toughest mobile applications, on the road or in the field, Lincoln protects heavy equipment used in mining, construction, agriculture and over-the-road trucking. In addition, Lincoln offers the best lubrication equipment to meet the needs of automotive service professionals.

**Complete product line**

Lincoln supplies automated lubrication systems, pumps and pump stations and top quality lubrication equipment and accessories. Our quality systems in the Czech Republic, Germany, India and the United States are ISO 9001 registered. Additionally our production sites in the Czech Republic and Germany are ISO 14001 registered.

**Worldwide support**

With five technical support centers on three continents and a network of distributors supported by regional sales and service offices, our customers can always draw on our worldwide resources.



# Content



**⚠ ATTENTION**

See important product usage information on page 47.

# Multi-line and progressive systems

## Applications

**Multi-line systems**

- Dispersed, single lubrication points
- Large quantities of lubricant per lube point
- Individual adjustment for each lube point
- Continuous supply requirement

**Progressive systems**

- Several lubrication points within small to medium distances
- Ideal for machines and small systems

**Sample applications**

Small to medium sized systems and machines.

**Industries**

General industry, construction machines, mobile applications, multi-line and progressive systems constantly operate as long as lubricant is fed by the pump.

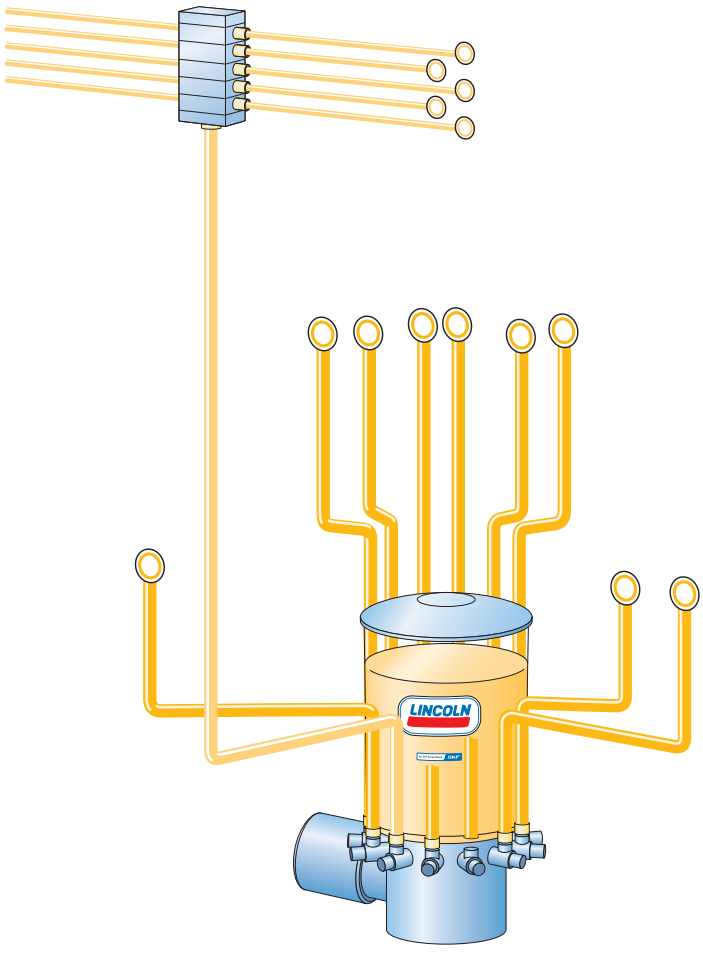
For systems that have more than one lubrication point within a relatively short distance, a pure multi-line system is not always economical. Additionally, pure multi-line systems are not easily monitored. As a result, progressive systems or combined progressive/multi-line systems often provide the best solution.

The high precision SSV progressive metering device divides the lubricant input into desired quantities.

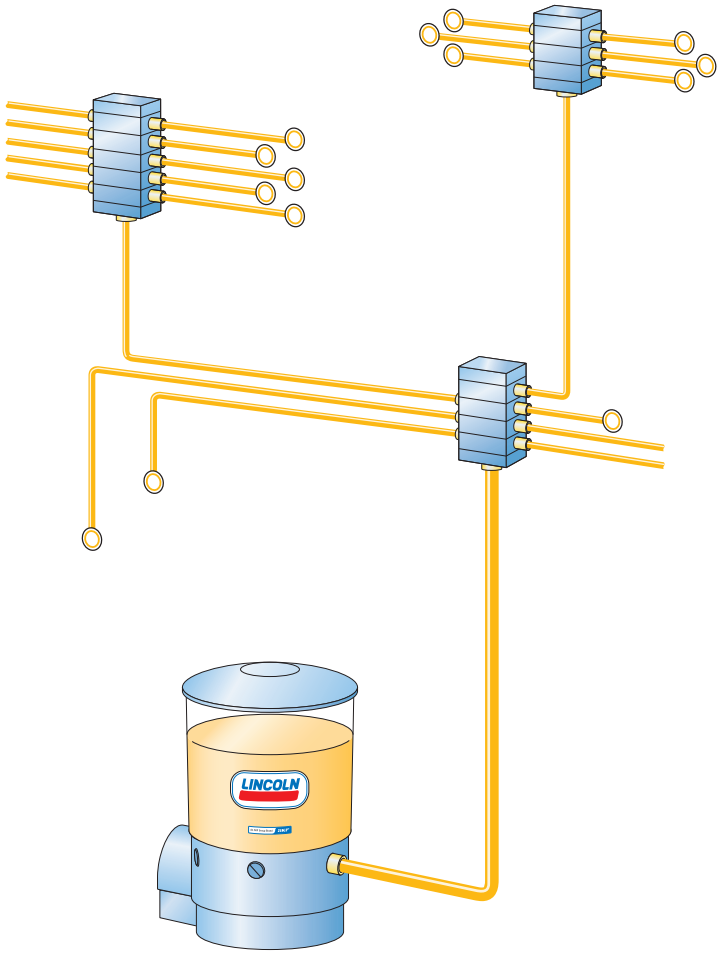
**Capabilities of progressive or combined progressive and multi-line systems**

- Visual or electric monitoring of the entire system via metering device
- Reliable lubrication even under severe conditions
- Easily extendible via available pump element
- Capable of completely supplying machines or small systems with lubricant.

**Schematic multi-line system**



Schematic progressive system




## Functions

The system will continue to operate as long as the pump is in operation. When the pump is turned off, the progressive metering device will stop in its current position. Upon restarting, the progressive metering device will carry on where it left off.

## Common components

- Manual pumps: HJ*, HP,HPG, HP500-SSV
- Electric pumps: 203, 233, 205, 215, 230, QLS 301, 401, ZPU01/02*
- Pneumatic pumps: PP, PPG
- Hydraulic pumps: FlowMaster**, HTL 101, HTL 201
- Metering Devices: SSV, SSVD, SSVM, SSVFL

* See Dual-line catalogue
** Not covered in this catalogue, ask your Lincoln representative for details

# Pumps HP, HPG

## Product survey

HPG15

These economically priced hand-operated single-stroke pumps deliver an accurately metered amount of lubricant, either grease or oil, depending on the version. The grease versions, HP and HPG, are equipped with a spring-loaded follower plate and a control rod for lubricant control. The oil version comes with a clear plastic reservoir for visual level control. When used in conjunction with SSV divider blocks, they can supply grease to 1 to 64 lubrication points

**Technical Data**

| | Unit | HP15 | HPG15 |
|---|---|---|---|
| **Output** per stroke | [cm³] | 1,6 | 1,6 |
| **Lubricant output** per outlet metering device | [cm³] | | 0,2 |
| **Pressure** Maximum operating pressure | [bar] | 250 | 250 |
| **Threaded outlet port** | [mm] | 6* | 6* |
| **Follower plate** | | spring-loaded | spring-loaded |

* see SSV metering device

**Dimensions**

| Model | Width* | Height | Depth |
|---|---|---|---|
| **HP 15** | 190 | 460 | 112 |
| **PPG 15** | 190 | 635 | 112 |

All lengths in mm, weights in g
* 335 mm with activated hand-lever level indicator fully extended

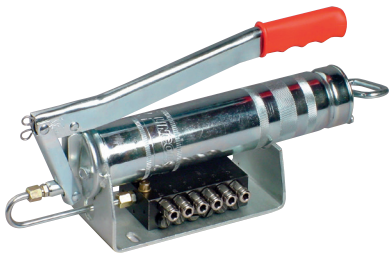
**Models**

| Part No. | Pumps | Reservoir capacity [l] | Outlets Piece | Level Indicator |
|---|---|---|---|---|
| **604-25103-1** | HP 15 | 1,5 | 1 | Indicator rod |
| **604-25109-2** | HPG 15 | 1,5 | 2 – 8 | Indicator rod |

# HP 500 and HP 500 SSV Pumps

## Product survey

HP 500 W



HP 500 W SSV

The HP 500 W and HP 500 W SSV manual pumps offer a special low-cost possibility of equipping a machine with a manual centralized lubrication pump.

The pumps are used where no automatic or continuous lubricant supply is required, but where a simple lubrication process by a centralized lubrication pump is desired.

The filling of the grease reservoir can be performed by means of a standard 400 g cartridge, or directly from a grease barrel or with a filling pump.

**Technical Data**

| | Unit | HP 500 W | HP 500 W–SSV5 |
|---|---|---|---|
| **Output** per stroke | [cm³] | 1,5 | 1,5 |
| **Lubricant output** per outlet metering device | [cm³] | | 0,2 |
| **Pressure** Maximum operating pressure | [bar] | 400 | 350 |
| **Threaded outlet port** | [mm] | M 10 x1 | M 10 x1 |
| **Lubricants** | | Grease NGLI-2 | Grease NGLI-2 |

**Models**

| Part No. | Pumps | Reservoir capacity [l] | Outlets Piece |
|---|---|---|---|
| **244-14164-1** | HP500 W | 0,5 | 1 |
| **604-28766-1** | HP500 W–SSV6 | 0,5 | 2 – 6 |
| **604-28767-1** | HP500 W–SSV8 | 0,5 | 2 – 8 |
| **604-28768-1** | HP500 W–SSV10 | 0,5 | 2 – 10 |
| **604-28769-1** | HP500 W–SSV12 | 0,5 | 2 – 12 |

# PP and PPG Pumps

## Product survey

PPG15-K

The PP pump series has been designed for progressive systems.

These pumps are pneumatically driven single-stroke pumps that require a 3/2-way air valve to activate the air cylinder. The pumps (PP and PPG) can be used to supply grease. They are equipped with a spring-loaded follower plate and an indicator rod for level control purposes.

**Technical Data**

| | Unit | PP | PPG |
|---|---|---|---|
| **Pump pressure ratio** | | 40:1 | 40:1 |
| **Air pressure** minimum/maxinum | [bar] | 4/10 | 4/10 |
| **Pressure** Maximum operating pressure | [bar] | 300 | 250 |
| **Lubricant outlet** per outlet metering device | [mm] | | Rohr 6* |
| **Air inlet** | [in] | G 1/8 " female (BSPP) | G 1/8 female (BSPP) |

* see SSV metering devices

**Model**

| Part No. | Pump | Reservoir capacity [l] | Outlets Piece | Lubricant output/stroke [cm³] |
|---|---|---|---|---|
| **604-25105-2** | PP15 | 1,5 | 1 | 2,6 |
| **604-25111-3** | HPG15 | 1,5 | 8 | 2,6 |
| **604-29969-1** | PPG4-K | 0,4 | 8 | 0,2 per outlet |
| **604-25130-3** | PPG15-K | 1,5 | 8 | 0,2 per outlet |

**Dimensions**

| Model | Width | Height | Depth |
|---|---|---|---|
| **PP15** | 115 | 550 | 122 |
| **PPG15** | 115 | 725* | 112 |
| **PPG4-K** | 115 | 526* | 80 |
| **PPG15-K** | 115 | 725* | 122 |

All lengths in mm, weights in g
* level indicator fully extended

# HTL101 Hydraulic lubrication pump

## Product survey


HTL101

The HTL101 is a hydraulically driven centralized lubrication pump. It is used mainly for the lubrication of hydraulic hammers. However, it can also be used for the lubrication of other hydraulically driven devices.

As a compact small-sized pump, the HTL101 is ideal for being mounted directly on the hammer or any other attached devices. The drive is effected via the hydraulic system of the carrier device. While the hammer or any other attached device operates, the pump continuously supplies lubricants such as chisel paste or greases up to NLGI 2 to the connected lube points.

The pump is provided with lubricant by means of an exchangeable 380 g cartridge. The red follower piston in the cartridge serves as a visual control of the filling level. When the follower piston reaches the low-level position (control window), the cartridge must be replaced.

The pump's lubricant output can be controlled via an adjustable fine throttle and can therefore be adopted to most hammer sizes.

The pump's function can be checked by observing whether the eccentric shaft turns or whether the grease-level position of the follower piston changes. The pump is suitable for operating at ambient temperatures down to -25 °C as well as under water (10 m).

**Technical Data**

| | Unit | |
|---|---|---|
| **Lubricant output** | | |
| per rotation | [$cm^3$] | 0,22 |
| **Operating pressure** | | |
| Adjustment of pressure relief valve | [bar] | 120 (grease pressure) |
| Maximum hydraulic pressure | [bar] | 300 |
| Minimum hydraulic pressure | [bar] | 40 |
| **Temperature** | | |
| Operating temperature | [°C] | –25 to +80 |
| **Pressure connection** | | |
| Oil pressure connection | [mm] | M 16 x 5 or 6S |
| Oil return connection | [mm] | M 16 x 5 or 6S |
| **Lubricant feed line** | [in] | G 1/4 |
| **Lube point connections** | Piece | 3 (top, bottom, back) |
| **Eccentric shaft** | | |
| Factory setting | [rpm] | 4 |
| Adjusting range | [rpm] | 2-20 |
| **Dimensions** | | |
| Height (incl. cartridges) | [mm] | 302 |
| Width | [mm] | 173 |
| Depth | [mm] | 85 |

**Standard models**

| Part No. | Model |
|---|---|
| **642-40950-1** | HTL101 |
| **642-40950-4** | HTL101 flange |

**Standard cartridges**

| Part No. | Packages Piece | Qty Piece | Weight [$cm^3$] | Contents |
|---|---|---|---|---|
| **642-37631-1** | 5 | 12 | 380 | Chisel paste |
| **642-37631-2** | 10 | 12 | 380 | Chisel paste |
| **642-37609-2** | 1 | 12 | 380 | Grease NLGI 2 |
| **642-37608-1** | 1 | 12 | 380 | Chisel paste |
| **642-37608-8** | 1 | 12 | 380 | Chisel paste |

# HTL201 Hydraulic lubrication pumps


HTL201 pump

The HTL201 hydraulic lubrication pump was developed especially for the minimization of friction and wear on smaller hydraulic hammer series as of 300 kg. It is a miniature version of the successful HTL101 hydraulic pump. The HTL201 suits all types of hydraulic attachments like hammers, clamshells or grippers. It can also be used in mini excavators.
The HTL201 is extremely compact (length 183 mm x width 80 mm x height 80 mm – plus cartridge dimensions) and can therefore easily be attached to hammers or other devices, even to smaller equipment where normally there is no space for attachment.
The HTL201 is driven by the hydraulic system of the carrier device and facilitates a continuous adjustable lubricant supply during the operation of the hydraulic device.

## Technical Data

| | Unit | Hydraulic system (carrier device) |
|---|---|---|
| **Pressure** | | |
| Hydraulic inlet pressure P | [bar] | 80 – 210 |
| Minimum run-in pressure | [bar] | 30 |
| | **Unit** | **HTL 201 lubrication pump** |
| **Lubricant output/stroke** | | |
| per stroke | [cm³] | 0,22 |
| **Maximum operating pressure** | | |
| Pressure relief valve, standard | [bar] | 120 |
| Pressure relief valve, optional | [bar] | 270 |
| **Temperature** | | |
| Operating Temperature | [°C] | –25 to +75 |
| **Pressure connection P** | [in] | G 1/4 |
| **Return connection T** | [in] | G 1/4 |
| **Lubricant feed line** | [in] | G 1/4 |
| **Factory setting** | | |
| Throttle | | fully open |
| Maximum lubricant output | | depending on the inlet pressure P |

## Standard models

| Part No. | Model |
|---|---|
| **642-41184-2** | with K7 pump element |
| **642-41184-1** | with C7 pump element |

## Dimensions

| Model | Width* | Height | Depth |
|---|---|---|---|
| PP15 | 190 | 460 | 112 |
| PPG15 | 635* | 190 | 112 |

All lengths in mm, weight in g
* fully extended level indicator

# HTL201 Hydraulic lubrication pumps

## Product survey

**Accessories**

| Part No. | Description |
|---|---|
| **542-33136-1** | Adapter kit for 380 ml cartridges, trapezoidal thread TR 22 x 2,75 |
| **542-33135-1** | Adapter kit for 500 ml cartridges, trapezoidal thread TR 20 x 2,5 |
| **542-33134-1** | Reservoir capacity for oil, including strainer and adapter kit |

**Standard cartridges**

| Part No. | Qty<br>Piece | Weight<br>[g] | Contents |
|---|---|---|---|
| **642-37608-4** | 12 | 150 | Chisel paste |
| **642-37609-3** | 12 | 150 | Grease NLGI 2 |
| **642-37636-2** | 12 | 310 | Chisel paste |
| **642-37609-4** | 12 | 310 | Grease NLGI 2 |

# QLS 301 and QLS 311 Pumps with integrated controller


QLS 301 and QLS 311 with integrated controller

The QLS pumps 301 and 311 are completely monitored lubrication systems with low-level control for a maximum of 18 lubrication points. The QLS family includes pumps with or without mounted SSV metering devices. The pumps have been designed for standard high-pressure plastic tubing ø 6 x 1.5. The 1-liter reservoir pumps are available in 12 or 24 V DC and 120 and 230 V AC.

Refer to the pump identification codes for a complete listing of available pump configurations.

The pumps are equipped with an integrated controller for pause times and lubrication times.

**Technical data**

| | Unit | QLS 301 | QLS 311 |
|---|---|---|---|
| **Reservoir capacity** | | | |
| Clear plastic with electric low-level | [l] | 1 | 1 and 2 |
| **Lubricant output** | | | |
| per outlet and lube cycle | [cm³] | approx. 0,2 | approx. 0,2 |
| **Pressure** | | | |
| Max. operating pressure | [bar] | 205 | 80 |
| **Electric connections** | | | |
| Operating voltage | [V DC] | 12 / 24 | 12 / 24 |
| Current rating | [A] | 2,0 / 1,0 | 2,0 / 1,0 |
| Operating voltage | [V AC] | 110 / 230 | 110 / 230 |
| Current rating | [A] | 1,0 / 0,5 | 1,0 / 0,5 |
| **Type of protection** | | IP6K9K, NEMA 4 | IP6K9K, NEMA 4 |
| **Outlets** | Number | 1–18 | 1–18 |
| **Temperatures** | | | |
| Operating temperature | [°C] | –25 to +70 | –25 bis +70 |
| **Lubrication cycles** | | | |
| Qty | [times] | 1 – 5 all dividers (V DC)<br>1 – 3 for SSV6 / SSV8 (V AC)<br>1 for SSV12 / SSV 18 (V AC) | 1 – 5 all dividers (V DC)<br>1 – 3 for SSV6 / SSV8 (V AC)<br>1 for SSV12 / SSV 18 (V AC) |
| **Run time** | | | |
| in case of external controller | [min] | max. 4 | max. 4 |
| **Pause times** | | | |
| V AC | [min] | 20 – 3600 | 20 – 3600 |
| V DC | [min] | 4 – 3600 | 4 – 3600 |
| **Time memory** | | unlimited (EEPROM) | unlimited (EEPROM) |

# QLS 301 and QLS 311 Pumps without integrated controller


**QLS 301 and QLS 311 for use with external**

The QLS pumps 301 and 311 are completely monitored lubrication systems with low-level control for a maximum of 18 lubrication points. The QLS family includes pumps with or without mounted SSV metering devices. The pumps have been designed for standard high-pressure plastic tubing ø 6 x 1.5. The 1-liter reservoir pumps are available in 12 or 24 V DC and 120 and 230 V AC.

Refer to the pump identification codes for a complete listing of available pump configurations.

The pumps without integrated controller for pause times and lubrication times are available as an option. They have to be controlled by an external controller.

**Technical data**

| | Unit | QLS 301 | QLS 311 |
|---|---|---|---|
| **Reservoir capacity** | | | |
| Clear plastic with electric low-level | [l] | 1 | 1 and 2 |
| **Lubricant output** | | | |
| per outlet and lube cycle | [cm³] | approx. 0,2 | approx. 0,2 |
| **Pressure** | | | |
| max. operating pressure | [bar] | 205 | 80 |
| **Electric connections** | | | |
| Operating voltage | [V DC] | 12 / 24 | 12 / 24 |
| Current rating | [A] | 2,0 / 1,0 | 2,0 / 1,0 |
| Operating voltage | [V AC] | 110 / 230 | 110 / 230 |
| Current rating | [A] | 1,0 / 0,5 | 1,0 / 0,5 |
| **Type of protection** | | IP6K9K, NEMA 4 | IP6K9K, NEMA 4 |
| **Outlets** | Number | 1–18 | 1–18 |
| **Temperatures** | | | |
| Operating temperature | [°C] | –25 to +70 | –25 to +70 |
| **Lube cycles** | | | |
| Qty | [times] | 1 – 5 all dividers (V DC)<br>1 – 3 for SSV6 / SSV8 (V AC)<br>1 for SSV12 / SSV 18 (V AC) | 1 – 5 all dividers (V DC)<br>1 – 3 for SSV6 / SSV8 (V AC)<br>1 for SSV12 / SSV 18 (V AC) |
| **Run time** | | | |
| in case of external controller | [min] | max. 4 | max. 4 |
| **Pause times** | | | |
| V AC | [min] | 20 – 3600 | 20 – 3600 |
| V DC | [min] | 4 – 3600 | 4 – 3600 |
| **Time memory** | | unlimited (EEPROM) | unlimited (EEPROM) |

# QLS 301 and QLS 311 Pumps

**Standard models QLS 301 for grease lubrication**

| Part No. | Type of divider | Divider installation position | Voltage [V DC] | [V AC] | Cable |
|---|---|---|---|---|---|
| **P30131211154*** | SSV6 | back | 12 | | 10 |
| **P30131411154*** | SSV6 | back | 24 | | 10 |
| **P30142611114*** | SSV8 | bottom | | 120 | – |
| **P30142811114*** | SSV8 | bottom | | 230 | – |
| **P30161211154*** | SSV12 | back | 12 | | 10 |
| **P30161411154*** | SSV12 | back | 24 | | 10 |
| **P30162611114*** | SSV12 | bottom | | 120 | – |
| **P30162811114*** | SSV12 | bottom | | 230 | – |
| **P30191211154*** | SSV18 | back | 12 | | 10 |
| **P30191411154*** | SSV18 | back | 24 | | 10 |
| **P30192611114*** | SSV18 | bottom | | 120 | – |
| **P30192811114*** | SSV18 | bottom | | 230 | – |

***** primed with Renocal FN 745 grease

**Standard models QLS 311 for oil lubrication**

| Part No. | Type of divider | Divider installation position | Voltage [V DC] | [V AC] | Cable |
|---|---|---|---|---|---|
| **P31131211154** | SSV6 | back | 12 | | 10 |
| **P31131411154** | SSV6 | back | 24 | | 10 |
| **P31142611114** | SSV8 | bottom | | 120 | – |
| **P31142811114** | SSV8 | bottom | | 230 | – |
| **P31161211154** | SSV12 | back | 12 | | 10 |
| **P31161411154** | SSV12 | back | 24 | | 10 |
| **P31162611114** | SSV12 | bottom | | 120 | – |
| **P31162811114** | SSV12 | bottom | | 230 | – |
| **P31191211154** | SSV18 | back | 12 | | 10 |
| **P31191411154** | SSV18 | back | 24 | | 10 |
| **P31192611114** | SSV18 | bottom | | 120 | – |
| **P31192811114** | SSV18 | bottom | | 230 | – |

**Standard models QLS 311 for external controller**

| Part No. | Type of divider | Divider installation position | Voltage [V DC] | [V AC] | Lubricant |
|---|---|---|---|---|---|
| **P30131411110** | SSV6 | back | 24 | | Grease |
| **P30161411110** | SSV12 | back | 24 | | Grease |
| **P30191411110** | SSV18 | bottom | 24 | | Grease |
| **P31131411110** | SSV6 | bottom | 24 | | Oil |
| **P31161411110** | SSV12 | back | 24 | | Oil |
| **P31191411110** | SSV18 | back | 24 | | Oil |
| **650-40768-3** | SSV8 | bottom | | 120 | Grease |
| **650-40768-4** | SSV12 | bottom | | 120 | Grease |
| **650-40768-5** | SSV18 | back | | 120 | Grease |
| **650-40765-4** | SSV8 | back | | 120 | Oil |
| **650-40765-5** | SSV18 | bottom | | 120 | Oil |
| **650-40765-6** | SSV18 | bottom | | 120 | Oil |

# QLS301 and QLS311 Pumps- Type Identification Code

The complete pump aggregate is defined by a type designation (see type identification plate).
Examples of type designations:

**Designation** P 301 6 2 4 1 0 1 5 4

**Basic type**
P301 Pumps for grease
P311 Pumps for oil

**SSV metering device**
0 external, SSV6/SSV8, or SSV12/SSV18 without control pcb[1)]
1 external, SSV12/SSV18[1)]
3 SSV6 back mounted
4 SSV8 bottom mounted
6 SSV12
9 SSV18

**SSV metering device**
0 without
1 back mounted, vertical alignment
2 bottom mounted, horizontal alignment[2)]

**Voltage supply[3)]**
2 12 V DC
4 24 V DC
6 110 V AC
8 230 V AC

**Reservoir capacity**
1 1 Liter with low-level
2 2 Liters with low-level (P311 only)

**Number of possible connections**

0 1 connection, left side, square plug, supply voltage V DC / V AC
1 2 connections, 1 connection left side, supply voltage V DC / V AC, 1 connection right side, low-level indication or fault display, square plug
2 1 connection, left side, bayonet plug, supply voltage V DC, low-level indication or fault display

**Socket**
1 Square plug, DIN EN 175301-803, form of construction A[4)]
5 Bayonet plug, DIN 72585-1, 4-pole[5)]

**Electrical connection**
1 Socket, without cable[4)]
5 Socket, with 10 m cable[4)]
6 Socket, 10 m ADR cable[4)]
7 Socket, bayonet, 10 m cable[5)]
8 Socket, bayonet, 10 m ADR cable[5)]

**Control printed circuit boards**
0 None, connecting printed circuit board only
4 Printed circuit board S4 for 12/24 V DC, NO or NC contact programmable, 1 – 5 cycles
4 Printed circuit board S4 for 120 V AC, NO or NC contact programmable, 1 – 3 cycles for SSV6/8, 1 cycle for SSV12/18
4 Printed circuit board S4 for 230 V AC, NO or NC contact programmable, 1 – 3 cycles for SSV6/8 ,1 cycle for SSV12/18

[1)] for external metering devices that use the intended SSV....KNQLS metering devices only
[2)] do not use in the mobile sector or in machines that are subject to shocks and impacts, see below Safety Indications
[3)] standard 120 and 230 V AC for industrial applications come as a standard without connecting cable
[4)] in combination with a square plug only
[5)] in combination with a bayonet plug only

**Extension kits for QLS systems**

| Part No. | Type of divider | Dimension of the kit | Lubrication fitting |
|---|---|---|---|
| **550-36970-1** | SSV6/8 | metric | no |
| **550-36970-2** | SSV12 | metric | no |
| **550-36970-3** | SSV18 | metric | no |

# QLS 401 Pumps


QLS 401 Pump

The QLS 401 is a completely monitored lubrication system with or without low-level indication for up to 18 lubrication points.

The QLS family includes pumps available with or without mounted SSV metering devices. The pumps are made for standard high- pressure plastic tubing ø 6 x 1,5. The pumps with 1- or 2-liter reservoir are available in 12 or 24 V DC and 120 and 230 V AC. Refer to the type identification codes for a complete listing of available pump configurations.

The pumps are available with integrated controller for the control of pause and operating times, or are available without controller as an option.

**Standard Models QLS 401** without low-level indication

| Part No. | Type of divider | Divider installation position | Voltage V DC | Voltage V AC | Cable [m] |
|---|---|---|---|---|---|
| **P40131201154** | SSV6 | back | 12 | | 10 |
| **P40131401154** | SSV6 | back | 24 | | 10 |
| **P40142601114** | SSV8 | bottom | | 120 | – |
| **P40142801114** | SSV8 | bottom | | 230 | – |
| **P40161201154** | SSV12 | back | 12 | | 10 |
| **P40161401154** | SSV12 | back | 24 | | 10 |
| **P40162601114** | SSV12 | bottom | | 120 | – |
| **P40162801114** | SSV12 | bottom | | 230 | – |
| **P40191201154** | SSV18 | back | 12 | | 10 |
| **P40191401154** | SSV18 | back | 24 | | 10 |
| **P40192601114** | SSV18 | bottom | | 120 | – |
| **P40192801114** | SSV18 | bottom | | 230 | – |

**Standard Models QLS 401** with low-level indication

| Part No. | Type of divider | Divider installation position | Voltage V DC | Voltage V AC | Cable [m] |
|---|---|---|---|---|---|
| **P40131211154** | SSV6 | back | 12 | | 10 |
| **P40131411154** | SSV6 | back | 24 | | 10 |
| **P40142611114** | SSV8 | bottom | | 120 | – |
| **P40142811114** | SSV8 | bottom | | 230 | – |
| **P40161211154** | SSV12 | back | 12 | | 10 |
| **P40161411154** | SSV12 | back | 24 | | 10 |
| **P40162611114** | SSV12 | bottom | | 120 | – |
| **P40162811114** | SSV12 | bottom | | 230 | – |
| **P40191211154** | SSV18 | back | 12 | | 10 |
| **P40191411154** | SSV18 | back | 24 | | 10 |
| **P40192611114** | SSV18 | bottom | | 120 | – |
| **P40192811114** | SSV18 | bottom | | 230 | – |

# QLS 421 Pumps

GEHT DAS FOTO???


QLS 421 Pump

The QLS 421 pump is a lubrication system for up to 18 lubrication points. The QLS 421 has been designed especially for the lubrication of truck trailers and semi-trailers. The pump is available with a back-mounted SSV metering device only. It is made for standard high-pressure plastic tubing ø 6 x 1,5. The 1- liter reservoir pump is available in 12 or 24 V DC.

Refer to the type identification codes for a complete listing of available pump configurations.

**Standard models QLS 421** for grease lubrication of trailers

| Part No. | Type of divider | Divider installation position | Voltage [V DC] | Capacity [l] |
|---|---|---|---|---|
| **P42131202531** | SSV6 | back | 12 | 1 |
| **P42131402531** | SSV6 | back | 24 | 1 |
| **P42131402541** | SSV6 | back | 24 | 1 |
| **P42161202531** | SSV12 | back | 12 | 1 |
| **P42161222531** | SSV12 | back | 12 | 2 |
| **P42161402531** | SSV12 | back | 24 | 1 |
| **P42191202531** | SSV18 | back | 12 | 1 |
| **P42191402531** | SSV18 | back | 24 | 1 |

# QLS 401 and QLS 421 Pumps

**Technical Data QLS 401 and QLS 421**

| | Unit | QLS 401 | QLS 421 |
|---|---|---|---|
| **Reservoir capacity** | | | |
| Clear plastic with stirring paddle | [l] | 1 – 2 | 1 |
| **Pressure** | | | |
| Maximum operating pressure | [bar] | 205 | 205 |
| **Electrical connections** | | | |
| Operating voltage | [V DC] | 12 / 24 | 12 / 24 |
| Current rating | [A] | 2,0 / 1,0 | 2,0 / 1,0 |
| Operating voltage | [V AC] | 120 / 230 | |
| Frequency | [Hz] | 50 / 60 | |
| **Temperature** | | | |
| Operating temperature | [°C] | –25 to +70 | –25 to +70 |
| **Type of protection** | | IP6K9K, NEMA 4 | IP6K9K |
| **Lubricants** | | | |
| Grease | | up to NLGI 2 | up to NLGI 2 |
| **Outlets** | Piece | 1–18 | 1–18 |
| **Lubricant output** | | | |
| per outlet and lube cycle | [$cm^3$] | approx. 0,2 | approx. 0,2 |
| **Lube cycles** | | | |
| with control pcb | times | 1–5 all dividers (V DC)<br>1–3 for SSV6/SSV8 (V AC)<br>1 for SSV12/SSV 18 (V AC) | |
| without control pcb | duration | max. 4 minutes | |
| **Pause times** | | | |
| with integrated controller | V DC | 4 min - 60 h | 1 - 16 h |
| | V AC | 20 min - 60 h | |
| external control pcb | V DC | at least 4 minutes | at least 4 minutes |
| | V AC | at least 20 minutes | at least 20 minutes |
| **Operating time** | | | 1 – 32 minutes |
| **Time memory** | | unlimited (EEPROM) | |

**Extension kits for QLS systems**

| Part No. | Type of divider | Dimension of the kits | Lube point and fitting included |
|---|---|---|---|
| **550-36970-1** | SSV6/8 | metric | no |
| **550-36970-2** | SSV12 | metric | no |
| **550-36970-3** | SSV18 | metric | no |

# QLS401 Pumps - Type Identification Code

The complete pump aggregate is defined by a type designation (see type identification plate). Examples of type designations:

**Designation** P 401 6 2 4 1 1 5 7 4

**Basic type**
P401 Pumps for grease

**SSV metering device**
0 external, SSV6/SSV8[1)]
1 external, SSV12/SSV18[1)]
3 SSV6 back mounted
4 SSV8 bottom mounted
6 SSV12
9 SSV18

**SSV metering device**
0 without
1 back mounted
2 bottom mounted[2)]

**Voltage supply[3)]**
2 12 V DC
4 24 V DC
6 120 V AC, with control pcb only
8 240 V AC, with control pcb only

**Reservoir capacity**
0 1 Liter without low-level indication
1 1 Liter with low-level indication
2 2 Liters without low-level indication
3 2 Liters with low-level indication

**Number of possible connections**
0 1 connection, left side, square plug, supply voltage V DC / V AC, industrial applications
1 2 connections, 1 connection left side, supply voltage V DC / V AC, 1 connection right side, low-level indication or fault display, square plug
2 1 connection, left side, bayonet plug, supply voltage V DC / V AC, low-level indication or fault signal

**Socket**
1 Square plug following DIN 175301-803, form of construction A[4)]
5 Bayonet plug, DIN 72585-1, 4-pole[5)]

**Electric type of connection**
1 Socket, without cable[4)]
5 Socket, with 10 m cable[4)]
6 Socket, 10 m ADR cable[4)]
7 Socket (bayonet), 10 m cable[5)]
8 Socket (bayonet), 10 m ADR cable[5)]

**Control printed circuit boards**
0 None, connecting pcb only
4 Control pcb S4 for 12/24 V DC, V AC, NO or NC contact programmable, 1 – 5 cycles
4 Control pcb S4 for 120 V AC, NO or NC contact programmable, 1-3 cycles for SSV 6/8, 1 cycle for SSV 12/18
4 Control pcb S4 for 230 V AC, NO or NC contact programmable, 1-3 cycles for SSV 6/8, 1 cycle for SSV 12/18

[1)] For external metering devices that use the intended SSV....KNQLS metering devices only
[2)] Do not use in the mobile sector or in machines subject to shocks or impacts; see below Safety Indications
[3)] Standard 120 and 230 V AC pumps for industrial applications come without connecting cable as a standard. Pumps for mobile applications (12/24 V DC) can be provided with a 10 m cable, see „Electric type of connection"
[4)] In combination with square plug only
[5)] In combination with bayonet plug only

# QLS 421 Pumps- Type Identification Code

The complete pump aggregate is defined by a type designation (see type identification plate). Examples of type designations:

**Designation** P 421 6 1 4 0 1 5 7 1

**Basic type**
P421 Pumps for grease

**SSV metering device**
3 SSV6 back mounted
6 SSV12
9 SSV18

**SSV metering device alignment**
1 back mounted, vertical alignment

**Voltage supply**
2 12 V DC
4 24 V DC

**Reservoir capacity**
0 1 Liter without low-level indication

**Number of possible connections**
1 1 connection left side, bayonet, supply voltage V DC

**Socket**
5 Bayonet plug, DIN 72585-1, 4-pole

**Type of electrical connection**
7 Socket, bayonet, 6 m cable
8 Socket, bayonet, 6 m ADR cable

**Control PCB**
1 with variably adjustable stand-by and lubrication time

# P203 Pumps


P203 Pump

The P203 centralized lubrication pump is a powerful and robust compact multi-line pump that can drive up to 3 elements and is used in progressive automated lubrication systems. The P203 pump is perfect for mobile applications, small- and medium-sized machinery and general industries. Versatile, compact and economical, this pump can be enhanced with low-level control and printed circuit board that allow for controlling the lubrication cycles.

The family of P203 pumps includes 12 and 24 V DC, and V AC pumps that can be connected to 110 or 230 V AC supply voltages. The pumps are available with 1, 2 or 3 pump elements in 5, 6 or 7 mm piston diameter or with adjustable pump elements. Reservoir sizes are 2, 4, 8 or 15 liters. Refer to the type identification code for a complete listing of available pump configurations.

**Technical Data**

| | Unit | | | | | |
|---|---|---|---|---|---|---|
| **Reservoir capacity**<br>Clear plastic | [l] | 2, 4, 8, and 15 | | | | |
| **Outlets** | Number | 1–3 | | | | |
| **Threaded connection** | | G 1/4" female | | | | |
| **Lubricants**<br>Grease<br>Oil | | up to NLGI 2<br>with a viscosity of at least 40 $mm^2/s$ | | | | |
| **Lubricant output per element** | | **K5/B7** | **K6** | **K7/S7** | **C7**<br>for chisel paste | **KR**<br>adjustable |
| | [$cm^3$/min] | approx. 2 | approx. 2,8 | approx. 4 | approx. 4 | approx. 0,7 – 3 |
| **Operating voltage** | [V DC]<br>[V AC] | 12, 24<br>110 – 230 (motor and controller 24 V DC) | | | | |
| **Pressure**<br>Maximum operating pressure | [bar] | 350 | | | | |
| **Type of protection** | | IP6K 9K following DIN 40050 T9 | | | | |
| **Temperature**<br>Operating temperature | [°C] | –25 to +75 | | | | |

# P203 Pumps

## Product selection table

**Standard models**

| Part No. | Model* | Voltage V DC | Voltage V AC | Reservoir [l] | Lubricant Grease | Lubricant Oil | Low-level | Control PCB |
|---|---|---|---|---|---|---|---|---|
| 644-37426-1 | P203-2XN-1K6-24-2A1.10-V10 | 24 | | 2 | • | | | • |
| 644-40716-2 | P203-2XNB0-1K6-AC-1A1.01-V10 | | • | 2 | • | | | • |
| 644-40717-5 | P203-2XNB0-1K6-AC-1A1.01 | | • | 2 | • | | | |
| 644-40583-3 | P203-2YLB0-1K6-24-1A1.01 | 24 | | 2 | | • | • | |
| 644-40718-7 | P203-4XNB0-1K6-AC-1A1.01 | | • | 4 | • | | | |
| 644-40719-5 | P203-4XNB0-1K6-AC-1A1.01-V10 | | • | 4 | • | | | • |
| 644-40719-6 | P203-4YLB0-1K6-AC-1A1.01-V10 | | • | 4 | | • | • | • |
| 644-40718-1 | P203-4XLB0-1K6-AC-2A1.01 | | • | 4 | • | | • | |
| 644-40718-8 | P203-4YLB0-1K6-AC-1A1.01 | | • | 4 | | • | • | |
| 644-40718-5 | P203-4XLB0-1K7-AC-2A1.01 | | • | 4 | • | | • | |
| 644-40721-5 | P203-8XLB0-1K6-AC-2A1.01 | | • | 8 | • | | • | |
| 644-40762-2 | P203-8XLB0-1K6-AC-2A1.01-V10 | | • | 8 | • | | • | • |
| 644-40645-2 | P203-8YLB0-1K6-24-1A1.10 | 24 | | 8 | | • | • | |
| 644-40550-4 | P203-8XLB0-1K7-24-2A1.01 | 24 | | 8 | • | | • | |
| 644-40645-3 | P203-8XLB0-1K7-24-2A1.10 | 24 | | 8 | • | | • | |

★ These pumps do not include any pressure relief valve. The pressure relief valve must be ordered separately.

**Accessories**

| Part No. | Description |
|---|---|
| **600-26875-2** | Pump element with piston ø 5 mm (K5) |
| **600-26876-2** | Pump element with piston ø 6 mm (K6) |
| **600-26877-2** | Pump element with piston ø 7 mm (K7) |
| **600-28750-1** | Pump element with piston for chisel paste and grease based on silicon oil (C7) |
| **600-29185-1** | Pump element with piston ø 7 mm (B7 = bypass element) |
| **655-28716-1** | Adjustable pump element (KR) |
| **624-28894-1** | Pressure relief valve SVTE-350-1/4 for tube 6 mm, 350 bar |
| **624-28892-1** | Pressure relief valve SVTE-270-1/4 for tube 6 mm, 270 bar |
| **624-28859-1** | Pressure relief valve SVTSV-270-1/4 with grease fitting for manual operation |
| **624-28891-1** | Pressure relief valve SVTE-200-1/4, for tube 6 mm, 200 bar |
| **624-28931-1** | Pressure relief valve with return to reservoir SVTSV-350-1/4 for tube 6 mm, 350 bar |
| **226-14105-5** | Adapter for pressure relief valve for 2-l-flat reservoir as well as 4 and 8-l reservoirs |
| **244-14161-1** | Filling pump (without connecting parts) FP-500 |
| **638-37549-1** | Filling pump with straight connection fitting, for 2-l reservoir |
| **638-37548-1** | Filling pump with 90° connection fitting, for 2-l reservoir |
| **638-37561-1** | Filling pump with 90° connection fitting, for 2-l flat reservoir as well as 4 and 8-l reservoirs |
| **638-37549-2** | Filling pump with straight adapter, for 2-l flat reservoir, as well as 4 and 8-l reservoirs |
| **538-36763-5** | Straight adapter for filling pump, for 2-l flat reservoir as well as 4 and 8-l reservoirs |
| **538-36763-4** | 90° connection fitting for filling pump, for 2-l flat reservoir as well as 4 and 8-l reservoir |

**Dimensions**

| Reservoir | Description | Width | Height | Depth |
|---|---|---|---|---|
| 2 | Standard | 205 | 367 | 224 |
| 4 | | 232 | 395 | 250 |
| 8 | | 232 | 495 | 250 |
| 15 | Stirring paddle | 216 | 705 | 243 |
| 15 | Follower plate | 216 | 743 | 243 |

All lengths dimensions in mm, reservoir in l

# P203 V DC Type Identification Code with/without PCB V10-V13, H

Any pumps differing from the standard pumps described here can be combined and ordered by making use of the currently valid type identification code.

| Designation | P 203 | 2XL | – | 1 K6 | 24 | 1A | 7 | 16 | V10 |
|---|---|---|---|---|---|---|---|---|---|

**Basic type**

| | |
|---|---|
| P203 | Pumps für grease or oil, with 1-3 outlets and DC motor |
| P203 UL | for the USA |
| P203 ADR | for transport of hazardous goods (on request) |

**Reservoir**

| | |
|---|---|
| 2 | Plastic reservoir, transparent, 2 l |
| 4 | Plastic reservoir, transparent, 4 l |
| 8 | Plastic reservoir, transparent, 8 l |
| 15 | Plastic reservoir, transparent, 15 l |
| X | Reservoir for grease |
| Y | Reservoir for oil |
| N | Standard version |
| L | Low-level control |

**Version**

| | |
|---|---|
| – | Standard reservoir (2, 4, and 8 l) |
| B0 | Filling from top |
| BF | Reservoir with follower plate |
| FL | Flat reservoir (only available in 2 l without low-level control) |

**Pump elements**

| | |
|---|---|
| 1-3 | Number of elements used |
| K5, K6 or K7 | Piston diameter (mm) |
| KR | Pump elements, adjustable, piston 7 mm |
| B7 | Piston diameter = 7 mm, output of K5 |
| C7 | Piston diameter = 7 mm** |

**Voltage supply**

| | |
|---|---|
| 12 | 12 V DC |
| 24 | 24 V DC |

**Number of possible connections**

| | |
|---|---|
| 1A | 1 connection, left side, supply voltage[1) 2)] |
| 1A | 1 Connection, voltage supply, left side + illuminated pushbutton for additional lubrication, Low-level control)*** |
| 2A | 2 connections, supply voltage, left side[1)] + illuminated pushbutton for additional lubrication, Low-level control (right side) [1)]*** |

**Type of connection**

| | |
|---|---|
| 1 | Square plug (DIN 175301-803, form of construction A) [1)], industrial applications |
| 5 | Bayonet plug, 4/3-pole, DIN 72585-1 [2)] (V10-V13, V3 bei V20-V23, H), for mobile applications only |
| 7 | Bayonet plug, 7/6-pole, DIN 72585-1 [3)] (V10-V13, V20-V23), for mobile applications only |
| 6 | Bayonet plug, 7/5-pole, DIN 72585-1 [2)] (M08-M23) |

**Place of connection outside of pump**

| | |
|---|---|
| 01 | Connection socket, without cable [1)] |
| 10 | Connection socket, with 10 m cable [1)] |
| 11 | Connection socket, 10 m ADR cable [1)]* |
| 14 | Bayonet socket with cable 10 m, 4/3-core [2)], V10-V13, 7/3 for V 20-V23, without low-level control and without illuminated pushbutton *** |
| 15 | Bayonet socket with cable 10 m, 7/5-core (M08-M23) |
| 16 | Bayonet socket with cable 10 m, 7/6-core [3)], V10-V13, V 20-V23, with low-level control or with illuminated pushbutton*** |
| 17 | Bayonet socket with 10 m ADR cable *, 4/3-core [2)], (V10-V13, H) |

**Control printed circuit boards 12/24 V DC**

| | |
|---|---|
| V10 – V13 | with variably adjustable pause and lubricating time [1)2)3)] |
| H | for trailers and semi-trailers [1)2)] |
| M08-M23 | with microprocessor control (piston detector 4 pole), different setting variants, see jumper setting combinations |
| – | without control printed circuit board [1)2)] |

[1)2)3)] Numbers to be referred to the connection plugs
* for transports of hazardous material
** C7 = Designation of pump elements for the supply of chisel paste and lubricants containing silicone
*** Low-level control for oil; connection of low-level control is considered

# P203 V DC Type Identification Code with/without control printed circuit board V10-V13, V20-24, M08-M23

Any pumps differing from the standard pumps described here can be combined and ordered by making use of the currently valid type identification code.

| Designation | P 203 | 2XL | – | 1 K6 | AC | 2A | 7 | 16 | V10 |
|---|---|---|---|---|---|---|---|---|---|

**Basic type**

| | |
|---|---|
| P203 | Pumps for grease and oil,, with 1-3 outlets and DC motor |
| P203 UL | for transports of hazardous material (on request) |

**Reservoir**

| | |
|---|---|
| 2 | Plastic reservoir, transparent, 2 l |
| 4 | Plastic reservoir, transparent, 4 l |
| 8 | Plastic reservoir, transparent, 8 l |
| 15 | Plastic reservoir, transparent, 15 l |
| X | Reservoir for grease |
| Y | Reservoir for oil |
| N | Standard version |
| L | Low-level control |

**Version**

| | |
|---|---|
| – | Standard reservoir (2, 4 and 8 l) |
| BO | Filling from the top |
| FL | Flat reservoir (only 2 l without low-level control) |

**Pump elements**

| | |
|---|---|
| 1-3 | Number of pump elements used |
| K5, K6 or K7 | Piston diameter (mm) |
| KR | Pump element adjustable, piston 7 mm |
| B7 | Piston diameter = 7 mm, output of K5 |
| S7 | Piston diameter = 7 mm, food industry |

**Voltage supply**

| | |
|---|---|
| AC | 110 - 230 V AC, +/- 10%, 50-60 Hz +/-5% |

**Number of possible connections**

| | |
|---|---|
| 1A | 1 connection, supply voltage (square plug only), bottom left |
| 2A | 2 connections, supply voltage, (square plug only) bottom left, illuminated pushbutton + low-level control (bayonet plug), top left, and piston detector (bayonet plug) top right |
| 3A | 3 connections, supply voltage (square plug only), bottom left, illuminated pushbutton + low-level control (bayonet plug), bottom left, and piston detector (bayonet plug), top right |

**Type of connection**

| | |
|---|---|
| 1 | Square plug (DIN EN 175301-803, form of construction A) |
| 5 | Bayonet plug, 4/3-pole, DIN 72585-1 |
| 6 | Bayonet plug, 7/6-pole, DIN 72585-1 |
| 7 | Bayonet plug, 7/6-pole, DIN 72585-1 |

**Place of connection outside of the pump**

| | |
|---|---|
| 01 | Connection socket, without cable |
| 14 | Bayonet socket with cable 10 m, 4/3-core, V10-V13, 7/3 bei V 20-V23, without low-level control and without illuminated pushbutton |
| 15 | Bayonet socket with cable 10 m, 7/5-core |
| 16 | Bayonet socket with cable 10 m, 7/6-core, V10-V13, V 20-V23, with low-level control or with illuminated pushbutton |

**Control printed circuit boards 12/24 V DC**

| | |
|---|---|
| V10 – V13 | with variably adjustable pause and lubricating time |
| V20 – V23 | with variably adjustable pause and lubricating time (US market) |
| M08-M23 | with microprocessor control (different setting variants, see jumper setting combinations) |
| – | without control printed circuit board |

# P223 and P233 Pumps


P233 Pump

The P 223 and P 233 centralized lubrication pumps are powerful and robust compact multi-line pumps. They can drive up to 3 elements and are used in progressive automated lubrication systems. The pumps are ideal for mobile applications like in utility vehicles and construction machines as well as for stationary systems. Versatile, compact and economical, the P 233 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 occurence
- 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 pda via an integrated or separate infrared interface. All indications enable the users to draw their conclusions regarding the condition, function, reliability, usability and duration of service of the machine or device. All information can be analysed and documented and is then available as a written protocol.

The family of P 223/P 233 pumps includes 12 and 24 V DC 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.

**Standard models P 223 without and P 233 with QuickData data logger**

| Part No. | Model | Reservoir [l] | Lubricant Grease | Lubricant Oil | Low-level | Control PCB |
|---|---|---|---|---|---|---|
| **644-40864-2** | P 223-2XL-1K6-24-2A5.14-MF01 | 2 | • | | • | • |
| **644-40864-6** | P 223-2XL-1K6-24-2A6.15-MF01 | 2 | • | | • | • |
| **644-40864-3** | P 223-2XLBO-1K6-24-2A5.14-MF01 | 2 | • | | • | • |
| **644-40864-5** | P 223-2XLBO-1K6-24-2A6.15-MF01 | 2 | • | | • | • |
| **644-40864-1** | P 223-2XLBO-1K7-24-2A5.14-MF01 | 2 | • | | • | • |
| **644-40864-4** | P 223-2XLBO-1K7-24-2A6.15-MF01 | 2 | • | | • | • |
| **644-46172-3** | P 223-2XN-1K6-24-2A6.15-MF01 | 2 | • | | • | • |
| **644-41037-1** | P 223-4XLBO-1K6-24-2A6.15-MF01 | 4 | • | | • | • |
| **644-40866-3** | P 223-8XLBO-1K6-24-2A6.15-MF01 | 8 | • | | • | • |
| **644-40866-2** | P 223-8XLBO-1K7-AC-3A6.15-MF01 | 8 | • | | • | • |
| **644-40866-4** | P 223-8XLBO-1KR-AC-3A6.15-MF01 | 8 | | | • | • |
| **644-40866-1** | P 223-8YLBO-1K7-24-2A5.14-MF01 | 8 | | • | • | • |
| **644-40866-5** | P 223-8YLBO-1K7-24-2A6.15-MF01 | 8 | | • | • | • |

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

# P223 and P233 V DC Type Identification Code

Any pumps differing from the standard pumps described here can be combined and ordered by making use of the currently valid type identification code.

| Designation | P 223 | 2XL | BO | 1KR | 24 | 2A | 6 | 15 | MDF01 |
|---|---|---|---|---|---|---|---|---|---|

**Basic type**

| | |
|---|---|
| P223 | Pump for grease, with 1-3 outlets and DC motor, without data logger |
| P233 | Pump with data logger |

**Reservoir**

| | |
|---|---|
| 2 | Plastic reservoir, transparent, 2 l |
| 4 | Plastic reservoir, transparent, 4 l |
| 8 | Plastic reservoir, transparent, 8 l |
| 15 | Plastic reservoir, transparent, 15 l |
| X | Reservoir for grease |
| L | Low-level control |

**Version**

| | |
|---|---|
| – | Standard reservoir (2, 4, 8 and 15l) |
| BO | Filling from the top |

**Pump elements**

| | |
|---|---|
| 1-3 | Number of elements used |
| K5, K6 or K7 | Piston diameter (mm) |
| KR | Pump element, adjustable, piston 7 mm |
| B7 | Piston diameter = 7 mm, output of K5 |
| C7 | Piston diameter = 7 mm |

**Voltage supply**

| | |
|---|---|
| 12 | 12 V DC |
| 24 | 24 V DC |

**Number of possible connections**

| | |
|---|---|
| 2A | 1 connection, left side, for supply voltage, external illuminated pushbutton for additional lubrication and fault display, low-level control and 2. connection, right side, for piston detector[1)] |

**Type of connection**

| | |
|---|---|
| 6 | Bayonet plug, 7/6-pole, DIN 72585-1 |

**Place of connection outside of the pump**

| | |
|---|---|
| 15 | Bayonet socket with cable 10 m, 7/5-core |

**Control printed circuit boards 12/24 V DC**

| | |
|---|---|
| MF01 | with microprocessor and membrane keypad (P223) |
| MDF01 | with microprocessor and membrane keypad and data logger (P233) |

[1)] Piston detector, bayonet plug 4 pole

# P223 and P233 AC Type Identification Code

Any pumps differing from the standard pumps described here can be combined and ordered by making use of the currently valid type identification code.

| Designation | P 223 | 8XL | B0 | 1K7 | AC | 3A | 7 | 15 | MF01 |
|---|---|---|---|---|---|---|---|---|---|

**Basic type**

| | |
|---|---|
| P223 | Pumps for grease and oil, with 1-3 outlets and DC motor, without data logger |

**Reservoir**

| | |
|---|---|
| 2 | Plastic reservoir, transparent, 2 l |
| 4 | Plastic reservoir, transparent, 4 l |
| 8 | Plastic reservoir, transparent, 8 l |
| 15 | Plastic reservoir, transparent, 15 l |
| X | Reservoir for grease |
| Y | Reservoir for oil |
| L | Low-level control |

**Version**

| | |
|---|---|
| – | Standard reservoir (2, 4 and 8 l) |
| B0 | Filling from the top |
| FL | Flat reservoir (only 2 l without low-level control) |

**Pump elements**

| | |
|---|---|
| 1-3 | Number of elements used |
| K5, K6 or K7 | Piston diameter (mm) |
| KR | Pump element, adjustable, piston 7 mm |
| B7 | Piston diameter = 7 mm, output of K5 |
| C7 | Piston diameter = 7 mm, food industry |

**Voltage supply**

| | |
|---|---|
| AC | 110 - 230 V AC, +/- 10%, 50-60 Hz +/-5% |

**Number of possible connections**

| | |
|---|---|
| 3A | 3 connections, supply voltage (square plug only), bottom left, illuminated pushbutton + low-level control (bayonet plug), top left, and piston detector (bayonet plug) top right |

**Type of connection**

| | |
|---|---|
| 1 | Square plug (DIN EN 175301-803, form of construction A) |
| 7 | Bayonet plug, 7/5-pole, DIN 72585-1 |

**Place of connection outside of the pump**

| | |
|---|---|
| 00 | Connection socket, without cable, special equipment |
| 16 | Bayonet socket with cable 10 m, 7/5-core, connection for low-level control and illuminated pushbutton |

**Control printed circuit boards 12/24 V DC**

| | |
|---|---|
| MF01 | with microprocessor and membrane keypad |
| MDF01 | with microprocessor and membrane keypad and data logger |

# P205 Pumps


**P205 Pump**

The P205 centralized lubrication pump is a high pressure multi-line pump that can drive up to 5 elements and is used in progressive automated lubrication systems. It is capable of handling direct supply of lubrication points or can be used as a centralized lubrication pump in larger progressive systems.

The design of the drive and eccentric shaft, the high efficiency worm gear, a minimal number of parts, and the multi-range motor, provide the P205 pump with several advantages. The P205 pumps are available with a three-phase flange mount and multi-range motor for 380-420 volts at 50 Hz or 440-480 volts at 60 Hz, or with a free shaft end for use with other motors. Various gear ratios and reservoir sizes, with or without level control, are available. The reservoir, available in 4, 5 or 8 liter sizes, is suitable for both, grease and oil.

**Technical Data**

| | | Unit | | | | |
|---|---|---|---|---|---|---|
| **Reservoir** | | | | | | |
| Transparent plastic | | [l] | 4 and 8 | | | |
| Metal | | [l] | 5 | | | |
| **Outlets** | | Qty | 1 – 5 | | | |
| **Threaded connection** | | | G 1/4" female (BSPP) | | | |
| **Lubricants** | | | | | | |
| Grease | | | up to NLGI 2, NLGI 3 on request | | | |
| Oil | | | at a viscosity of of at least 20 $mm^2/s$ | | | |
| **Piston diameter** | | [mm] | 5 | 6 | 7 | adjustable |
| Lubricant output per piston stroke | | [$cm^3$] | 0,11 | 0,16 | 0,23 | 0,04 – 0,18 |
| Maximum lubricant output per hour | **Ratio** | | | | | |
| | 70:1 | [$cm^3$] | 115 | 172 | 253 | 46 – 200 |
| | 280:1 | [$cm^3$] | 29 | 43 | 63 | 11,5 – 52 |
| | 700:1 | [$cm^3$] | 11 | 17 | 25 | 5 – 22 |
| **Pressure** | | | | | | |
| Maximum operating pressure | | [bar] | 350 | | | |
| **Type of protection** | | | IP55 | | | |
| **Temperature** | | | | | | |
| Operating temperature | | [°C] | –20 up to +70 | | | |
| **Level indicator** | | | | | | |
| (option) | | | ultrasonic sensor for high- and low-level control | | | |

# P205 pumps

## Product selection table

**Standard models**

| Part No. | Description | Motor | Gear ratio | Reservoir | Level control | Elements | |
|---|---|---|---|---|---|---|---|
| | | alternating current | | [l] | | Unit | mm |
| **655-40655-9** | P205-M280-4XYN-4K6-380/420-440/480 | • | 280:1 | 4 | | 4 | 6 |
| **655-40654-2** | P205-M070-5XYN-1K7-380-420/440-480 | • | 70:1 | 5 | | 1 | 7 |
| **655-40655-3** | P205-M280-5XYBU-1K6-380-420/440-480 | • | 280:1 | 5 | • | 1 | 6 |
| **655-40673-2** | P205-M070-8XYBU-1K6-380-420/440-480 | • | 70:1 | 8 | • | 1 | 6 |
| **655-40704-2** | P205-M070-5XYN-4K6-380-420/440-480 | • | 70:1 | 5 | | 4 | 6 |

These pumps do not include a pressure relief valve. This must be ordered separately.

**Accessories**

| Part-No. | Description |
|---|---|
| **624-29056-1** | Pressure relief valve SVET-350-G 1/4" D6 for tube 6 mm |
| **624-29054-1** | Pressure relief valve SVET-350-G 1/4" D8 for tube 8 mm |
| **304-17571-1** | Filling connector G 1/4" female* |
| **304-17574-1** | Filling connector G 1/2" female* (BSPP) |
| **600-26875-2** | Pump element with assy. piston ø 5 (K5) |
| **600-26876-2** | Pump element with assy. piston ø 6 (K6) |
| **600-26877-2** | Pump element with assy. piston ø 7 (K7) |
| **655-28716-1** | Adjustable pump element (KR) |

***** Filling connector fits for vacant outlet ports.

**Dimensions**

| Reservoir | Material | Width* | Height | Depth* |
|---|---|---|---|---|
| 4 | Transparent plastic | 280/360 | 406 | 227/300 |
| 8 | Transparent plastic | 280/360 | 539 | 227/300 |
| 5 | Metal | 280/360 | 520 | 227/300 |

All lengths dimensions in mm, reservoir capacity in l

# P205 Type Identification Code

The complete pump aggregate is defined by a type designation (see type identification plate).
Examples of type designations:

| **Designation** | | P 205 | F | 280 | 4XYBU | 1K7 | 440-480 |
|---|---|---|---|---|---|---|---|

**Basic type**

| | |
|---|---|
| P205 | Housing assy for all pump variants |

**Drive**

| | |
|---|---|
| M | AC flange motor designation with supplement , e.g. for voltages, frequencies, is attached to the end of the Type Identification Code |
| F | Free shaft end |

**Gear ratio**

| | |
|---|---|
| 280 | Gear ratio i = 1 : 280 |
| 700 | Gear ratio i = 1 : 700 |
| 070 | Gear ratio i = 1 : 70 |

**Reservoir**

| | |
|---|---|
| 4 | Plastic reservoir, 4 l |
| 8 | Plastic reservoir, 8 l |
| 5 | Plastic reservoir, 5 l |
| XY | Reservoir for grease and oil |
| N | Reservoir without level indicator |
| BU | Reservoir with level indicator (ultrasonic sensor)[1)] |

**Pump element**

| | |
|---|---|
| 1 – 5 | Number of pump elements |
| K5, K6, K7 | Piston diameter (mm) |
| KR | Pump elements, adjustable, piston diameter 7 mm |

**Pump element**

| | |
|---|---|
| 380-420 | Standard multi-range motor for nominal supply voltages 380-420 V/50 Hz |
| 440-480 | Multi-range motor for nominal supply voltages 440-480 V/60 Hz |
| 000 | Pumps without motor, but with connection flange |

[1)] The sensor for the level indicator generally possesses 2 switch points: low- and high-level controls. If a low-level control is desired only, the corresponding contacts must be connected. The sensor requires a voltage of 24 V DC.

# P215 Pumps


P215 Pump

The P215 centralized lubrication pump is a high-pressure multi-line pump that can drive up to 15 adjustable pump elements and is used in progressive automated lubrication systems. It is capable of handling direct supply of lubrication points or as a central lubrication pump in large-sized progressive systems.

P215 pumps are available with a three-phase multi-range motor for 380–420 volts at 50 Hz or 440–480 volts at 60 Hz, with a single-range 500 volt, 50 Hz motor, with a free shaft end for use with other motors, or with an oscillating drive. Various gear ratios and reservoir sizes, with or without level control, are available. The reservoir, available in 4, 8, 10 or 30 liter sizes, is suitable for both, grease and oil.

**Technical Data**

| | | Unit | | |
|---|---|---|---|---|
| **Reservoir** | | | | |
| Transparent plastic | | [l] | 4 and 8 | |
| Metal | | [l] | 10 and 30 | |
| **Outlets** | | Qty | 1–15 | |
| **Threaded connection** | | | G 1/4“ female | |
| **Lubricants** | | | | |
| Grease | | | up to NLGI 2, NLGI 3 on request | |
| Oil | | | at a viscosity of at least 20 $mm^2/s$ | |
| **Piston diameter** | | [mm] | 6 | 7 |
| Adjusting range from 25% to maximum 100% | | [$cm^3$] | 0,04–0,16 | 0,057–0,23 |
| Maximum output per hour | | | | |
| (Output increases by 20% | **Ratio** | | | |
| in case of 60 Hz motors) | 490:1 | [$cm^3$] | 27 $cm^3$ | 39 $cm^3$ |
| | 100:1 | [$cm^3$] | 132 $cm^3$ | 189 $cm^3$ |
| | 49:1 | [$cm^3$] | 268 $cm^3$ | 386 $cm^3$ |
| | 7:1 | [$cm^3$] | (for F and P only) | |
| **Pressure** | | | | |
| Maximum operating pressure | | [bar] | 350 | |
| **Type of protection** | | | IP55 | |
| **Temperature** | | | | |
| Operating temperature | | [°C] | –20 up to +70 | |
| **Level indicator** | | | | |
| (option) | | | Ultrasonic sensor for high- and low-level control | |

# P 215 Pumps

## Product selection table

**Standard models**

| Part No. | Description | Motor | Gear ratio | Reservoir capacity | Level Control | Number of Elements | |
|---|---|---|---|---|---|---|---|
| | | AC | | [l] | | Qty | mm |
| **660-40707-1** | P215-M100-30XYBU-13K7-380-420/440-480 | • | 100:1 | 30 | • | 13 | 7 |
| **660-40724-4** | P215-M490-10XYBU-2K7-380-420/440-480 | • | 490:1 | 10 | • | 2 | 7 |
| **660-40729-4** | P215-M100-10XYBU-1K6-380-420/440-480 | • | 100:1 | 10 | • | 1 | 6 |
| **660-40751-1** | P215-M100-10XYBU-6K7-380-420/440-480 | • | 100:1 | 10 | • | 6 | 7 |
| **660-40569-7** | P215-F049-30XYN-13K7-000 | free shaft end no motor | 49:1 | 30 | | 13 | 7 |
| **660-40751-6** | P215-M100-10XYBU-2K6-380-420/440-480 | • | 100:1 | 10 | • | 2 | 6 |

These pumps do not include any pressure relief valve. The pressure relief valve must be ordered separately.

**P215 Pump accessories**

| Part No. | Description | Tube diameter | Pressure [mm] |
|---|---|---|---|
| **624-25478-1** | Pressure relief valve | Tube stud 6 mm via T-piece | 200 |
| **624-25479-1** | Pressure relief valve | Tube stud 6 mm via T-piece | 350 |
| **624-25480-1** | Pressure relief valve | Tube stud 8 mm via T-piece | 200 |
| **624-25481-1** | Pressure relief valve | Tube stud 8 mm via T-piece | 350 |
| **624-25482-1** | Pressure relief valve | Tube stud 10 mm via T-piece | 200 |
| **624-25483-1** | Pressure relief valve | Tube stud 10 mm via T-piece | 350 |
| **304-17571-1** | Filler fitting G 1/4“ female* | | |
| **304-17574-1** | Filler fitting G 1/4“ female* | | |
| **600-25047-3** | Pump element K7 | | |
| **600-25046-3** | Pump element K6 | | |

***** filling connector fits for vacan outlets bores

**Dimensions**

| Reservoir capacity* [l] | Material | Width* | Height | Depth |
|---|---|---|---|---|
| 4 | Transparent plastic | 411/453 | 438 | 326 |
| 8 | Transparent plastic | 411/453 | 539 | 326 |
| 10 | Metal | 411/453 | 520 | 326 |
| 30 | Metal | 411/453 | 760 | 326 |
| Low-level sensor | | 125 | 30 | 65 |

All lengths dimensions in mm, weight in g
***** In case of versions with low-level control

# P215 Type Identification Code

The complete pump aggregate is defined by a type designation (see type identification plate).
Examples of type designations:

**Designation** — **P 215 M 049 10XYBU 5K6 380-420**

**Basic type**

| | |
|---|---|
| P215 | Housing assy for all pump variants |

**Drive**

| | |
|---|---|
| M | AC flange motor<br>Motor designation with supplement, e.g. for voltages, frequencies, is attached to the end of the Type Identification Codes |
| F | Free shaft end |
| P | Oscillating drive |

**Gear ratio**

| | |
|---|---|
| 490 | Gear ratio i = 1 : 490 |
| 100 | Gear ratio i = 1 : 100 |
| 049 | Gear ratio i = 1 : 49 (for oil only) |
| 007 | Gear ratio i = 1: 7 (for P and F drive assemblies only) |

**Reservoir**

| | |
|---|---|
| 4 | Plastic reservoir, 4 l |
| 8 | Plastic reservoir, 8 l |
| 10 | Steel plate reservoir, 10 l |
| 30 | Steel plate reservoir, 30 l |
| XY | Reservoir for grease and oil |
| N | Reservoir without level control |
| BU | Reservoir with level control (ultrasonic sensor)[1)] |

**Pump elements**

| | |
|---|---|
| 1-15 | Number of pump elements |
| K6 or K7 | Piston diameter (mm) |

**Supplements to motor designation**

| | |
|---|---|
| 380-420 | Standard multi-range motor for nominal voltages 380-420 V/50 Hz |
| 440-480 | Multi-range motor for nominal voltages 440-480 V/60 Hz |
| 500 | Single-range motor for nominal voltage 500 V/50 Hz |
| 000 | Pump without motor, but with coupling flange |

[1)] The sensor for the level control generally possesses 2 switch points: low- and high-level. If a low-level control is desired only, connect the corresponding contacts only. The sensor requires a voltage of 24 V DC.

# P230 Pumps

The P230 pump is a variant of the P215 multi-line pump. The P230 pump can drive up to 30 adjustable pump elements. As a result of the increased number of possible pump elements, an 0.25 kW motor is used. All other technical specifications, including accessories, are equivalent to the P215 pump.

Dimensions: height 831 mm x  width 463mm x depth 328 mm

# Multi-line and Progressive Systems

## SSV metering devices - Product survey

SSV metering devices

SSV progressive metering devices are piston-type metering devices which reliably dispense the lubricant volume fed to the inlet in predetermined single quantities. By closing one outlet, the lubricant is fed to the next outlet below.

This combining of outlets provides a large variety of metering possibilities. Additionally the internal porting avoids cumbersome external T-fittings. A special feature of the progressive metering device is that a previous feed line must supply lubricant before the next one can be supplied. This makes the progressive system easy to visually or electrically monitor. It is available with 6 to 22 outlets and can be used for greases up to NLGI 2 or oils of at least 40 $mm^2/s$.

Lincoln progressive metering devices in block design have no defect-prone rubber seals.

They can therefore be used with no problem at high differential pressure (up to 100 bar between two outlets) and for a wide range of temperatures. The max. operating pressure is 350 bar.

## Advantages

- No rubber seals
- Single block design
- Internal combining of outlets
- Exact lubricant metering
- Easy to monitor
- Fault-free replacement: Should a metering device be exchanged, connection and output or adjustment errors are avoided
- High operating pressure

**Standard models without monitoring**

| **Outlets** | **Inlet thread:** R 1/8" female | | | **Inlet thread:** R 1/8" NPT female | |
|---|---|---|---|---|---|
| | **Material** Steel | Stainless steel 1.4305 | Stainless steel 1.4571 | **Material** Steel | Stainless steel 1.4305 |
| 6 | **619-26473-1** | **619-27471-1** | **619-27824-1** | **619-27121-1** | **619-27792-1** |
| 8 | **619-25730-2** | **619-27473-1** | **619-27825-1** | **619-26396-2** | **619-27796-1** |
| 10 | **619-26841-1** | **619-27475-1** | **619-27889-1** | **619-26844-1** | **619-27800-1** |
| 12 | **619-25731-2** | **619-27477-1** | **619-27900-1** | **619-26398-2** | **619-27804-1** |
| 14 | **619-28862-1** | **619-29063-1** | | **619-29400-1** | |
| 16 | **619-28863-1** | **619-29064-1** | | **619-29401-1** | |
| 18 | **619-28864-1** | **619-29065-1** | | | |
| 20 | **619-28865-1** | **619-29066-1** | | | |
| 22 | **619-28866-1** | **619-29775-1** | | | |

# SSV Metering Devices with Indicator Pin for Visual Monitoring

## Product Survey

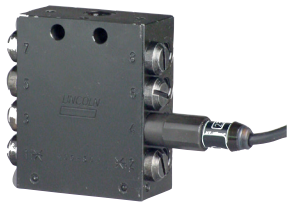
SSV6 K with indicator pin

**Indicator pin for visual monitoring**

| **Outlets** | **Inlet thread** R 1/8“ female<br>**Material** | | | **Inlet thread** R 1/8“ NPT female<br>**Material** | |
|---|---|---|---|---|---|
| | Steel | Stainless steel 1.4305 | Stainless steel 1.4571 | Steel | Stainless steel 1.4305 |
| 6 | **619-26474-3** | **619-27472-1** | **619-28840-1** | **619-27122-1** | **619-27793-1** |
| 8 | **619-25754-4** | **619-27474-1** | **619-28841-1** | **619-26646-2** | **619-27797-1** |
| 10 | **619-26842-2** | **619-27476-1** | **619-28842-1** | **619-26845-2** | **619-27801-1** |
| 12 | **619-25755-4** | **619-27478-1** | **619-28843-1** | **619-26648-2** | **619-27805-1** |
| 14 | **619-28871-1** | **619-29067-1** | | **619-28899-1** | |
| 16 | **619-28872-1** | **619-29068-1** | | **619-28900-1** | |
| 18 | **619-28873-1** | **619-29069-1** | | **619-28901-1** | |
| 20 | **619-28874-1** | **619-29074-1** | | **619-28902-1** | |
| 22 | **619-28875-1** | | | | |

# SSV Metering Devices with Piston Detector for Electronic Monitoring

## Product survey



SSV8 N with piston detector

**Technical data - SSV metering devices with piston detector (N)**

| | Unit | |
|---|---|---|
| **Outlets** | Qty | 6 - 22 |
| **Pressure** | | |
| Max. operating pressure | [bar] | 350 |
| Max. differential pressure | [bar] | 100 |
| **Output** | | |
| per outlet and stroke | [cm³] | 0,2 |
| **Outlet thread** | | M 10 x 1 |
| **Material** | | |
| Steel | | Surface, black chromate-treated |
| Stainless steel | | 1.4305 |
| Stainless steel | | 1.4571, for SSV6-12 |
| **Temperature** | | |
| Operating temperature | [°C] | –25 to +75 |

**Dimensions**

| Outlets | Width | Width | Depth |
|---|---|---|---|
| 6 | 60 | 60 | 30 |
| 8 | 75 | 60 | 30 |
| 10 | 90 | 60 | 30 |
| 12 | 105 | 60 | 30 |
| 14 | 120 | 60 | 30 |
| 16 | 135 | 60 | 30 |
| 18 | 150 | 60 | 30 |
| 20 | 165 | 60 | 30 |
| 22 | 180 | 60 | 30 |

All lengths dimensions in mm

**SSV metering devices with piston detector for electronic monitoring**

| Outlets | **Inlet thread** 1/8" female **Material** Steel | Stainless steel 1.4305 | **Inlet thread** 1/8" NPT female **Material** Steel |
|---|---|---|---|
| 6 | **619-28257-1** | **619-29003-1** | **619-28653-1** |
| 8 | **619-28258-1** | | **619-28654-1** |
| 10 | **619-28259-1** | **619-28529-1** | |
| 12 | **619-28260-1** | **619-29004-1** | |
| 14 | **619-28890-1** | **619-77088-1** | |
| 16 | **619-28907-1** | **619-77617-1** | |
| 18 | **619-28957-1** | | |
| 20 | **619-28935-1** | | **619-28937-1** |
| 22 | **619-29015-1** | | |

# SSVD Metering Devices with Metering Screw Technology

## Product survey

**SSVD 12**

SSVD metering devices are adjustable per outlet pair. The metering occurs within the metering block via metering screws that are available in different sizes. The output of the progressive metering device can be easily changed, even after installation.

One or more outlet pairs of the metering device can be internally combined to achieve greater lubricant outputs. The primary function of the SSV remains unchanged in the SSVD.

The SSVD metering device's dimensions have been changed from those of the standard SSV in order to allow the same thread sizes. As a result, both metering device types use the same components such as piston detector and piston-side closure plugs.

The SSVD offers a greater metering range flexibility. The SSVD can be integrated into systems using standard SSV metering devices.

**System properties**

The adjustable SSVD metering devices are available in the standard sizes from 6 to 22 outlets – using Lincoln's single-block technology.

Metering screws can be pre-assembled or supplied as a separate set.

Metering screws per outlet pair are available in 10 sizes – 0.08cm$^3$, 0.14cm$^3$, 0.2cm$^3$, 0.3cm$^3$, 0.4cm3, 0.6cm$^3$, 0.8cm$^3$, 1.0cm$^3$, 1.4cm$^3$, and 1.8cm$^3$ per outlet and stroke

**Technical data**

| | Unit | |
|---|---|---|
| **Outlets** | Qty | 6 to 22 |
| **Pressure** | | |
| Max. operating pressure | [bar] | 350 |
| Max. differential pressure | [bar] | 100 |
| Max. run-in pressure | [bar] | 20 |
| **Output** | | |
| per outlet and stroke | [cm$^3$] | 0,08; 0,14; 0,2; 0,3; 0,4; 0,6; 0,8; 1,0; 1,4; 1,8 |
| **Thread** | | |
| Outlet | | M 10 x 1 |
| Piston-side closure plug | | M 11 x 1 |
| Inlet | | R $^1/_8$" or $^1/_8$" NPTF |
| **Material** | | |
| Steel | | Surface, black-chromate treated |

**Standard models**

| Outlets | Inlet thread R $^1/_8$" NPT |
|---|---|
| 6 | **649-29485-1** |
| 8 | **649-29486-1** |
| 10 | **649-29487-1** |
| 12 | **649-29488-1** |
| 14 | **649-29489-1** |
| 16 | **649-29587-1** |
| 18 | **649-29588-1** |
| 20 | **649-29589-1** |
| 22 | **649-29590-1** |

# SSVD Metering Devices with Metering Screw Technology

## Product survey

**SSVD metering devices with piston detectors**

| Outlets | Part No. |
|---|---|
| 6-.-...N | **649-29495-1** |
| 8-.-....N | **649-29496-1** |
| 10-.-...N | **649-29497-1** |
| 12-.-...N | **649-29498-1** |
| 14-.-...N | **649-29499-1** |
| 16-.-...N | **649-29611-1** |
| 18-.-...N | **649-29612-1** |
| 20-.-...N | **649-29613-1** |
| 22-.-...N | **649-29614-1** |

**SSVD metering devices with combined outlets 1 & 2**

| Outlets | Part No. |
|---|---|
| 6/5 | **649-29490-1** |
| 8/7 | **649-29491-1** |
| 10/9 | **649-29492-1** |
| 12/11 | **649-29493-1** |
| 14/13 | **649-29494-1** |
| 16/15 | **649-29591-1** |
| 18/17 | **649-29592-1** |
| 20/19 | **649-29593-1** |
| 22/21 | **649-29594-1** |

**SSSVD metering device with combined outlets, inlet thread 1/8“ NPTF**

| Outlets | Part No. |
|---|---|
| 6/5 | **649-29540-1** |
| 8/7 | **649-29541-1** |
| 10/9 | **649-29542-1** |
| 12/11 | **649-29543-1** |
| 14/13 | **649-29544-1** |
| 16/15 | **649-29631-1** |
| 18/17 | **649-29632-1** |
| 20/19 | **649-29633-1** |
| 22/21 | **649-29634-1** |

Check valve, screwable

Quicklinc, check valve

Outlet closure plug

**SSV and SSVD accessories**

**Outlet fittings, screwable**

| Part No. | Description |
|---|---|
| **504-30345-2** | Check valve for tube 4 mm |
| **504-30344-4** | Check valve for tube 6 mm |
| **504-31709-1** | Check valve for tube 4 mm – stainless steel |
| **504-31705-1** | Check valve for tube 6 mm – stainless steel |

**Quicklinc quick coupling**

| Part No. | Description |
|---|---|
| **226-14091-4** | Check valve for tube 6 mm – high pressure (for main metering device) |
| **226-14091-6** | Check valve for tube 4 mm – medium pressure (for secondary metering device) |
| **226-14091-2** | Check valve for tube 6 mm – medium pressure (for secondary metering device) |

**Other accessories**

| Part No. | Description |
|---|---|
| **303-17499-3** | Outlet closure plug M10 x 1 |
| **303-19346-2** | Outlet closure plug M10 x 1 – stainless steel |
| **219-13798-3** | O-ring for stainless steel closure plug |

# SSVM Metering Devices

## Product survey

SSVM metering devices

SSVM metering devices offer similar benefits as the SSV, but are smaller in size and output. This makes the SSVM ideal for compact applications – little space and short distances.

They can be monitored visually or electronically depending on the options selected. They are available with 6 to 12 outlets and can be used for grease up to NLGI 2, or oil of at least 40 cSt.

**Technical data**

| | Unit | |
|---|---|---|
| **Outlets** | Qty | 6 - 12 |
| **Pressure** | | |
| Max. operating pressure | [bar] | 200 |
| Max. back pressure | [bar] | 40 |
| **Output** | | |
| per outlet and stroke | [cm³] | 0,07 |
| **Outlet thread** | | M 8 x 1 |
| **Material** | | |
| Steel | | Surface, black-chromate treated |
| **Temperature** | | |
| Operating temperature | [°C] | –25 to +70 |

**Dimensions**

| Outlets | Height | Width | Depth |
|---|---|---|---|
| 6 | 48,5 | 50 | 25 |
| 8 | 60 | 50 | 25 |
| 10 | 71,5 | 50 | 25 |
| 12 | 83 | 50 | 25 |

All lengths dimensions in mm

**Accessories**

| Part No. | Description |
|---|---|
| **519-31661-1** | Threaded connections, check valve for tube 4 mm |
| **226-14091-5** | Quicklinc quick coupling, check valve for tube 4 mm |
| **303-16284-1** | Outlet closure plug M 8 x 1, with sealing edge |

# SSVM Metering Devices

## Product survey

**Standard models**

| Outlets | Inlet thread R 1/8" female | R 1/8" NPT female |
|---|---|---|
| 6 | **619-26761-1** | **619-26764-1** |
| 8 | **619-37044-1** | **619-26650-1** |
| 10 | **619-26846-1** | **619-26848-1** |
| 12 | **619-37049-1** | **619-26653-1** |

**with indicator pin (K)**

| Outlets | Inlet thread R 1/8" female | R 1/8" NPT female |
|---|---|---|
| 6 | **619-26762-3** | **619-26765-3** |
| 8 | **619-37045-3** | **619-26651-3** |
| 10 | **619-26847-2** | **619-26849-2** |
| 12 | **619-37050-3** | **619-26654-3** |

**With indicator pin and limit switch (KS)**

| Outlets | Inlet thread R 1/8" female |
|---|---|
| 6 | **619-27078-1** |
| 8 | **619-27079-1** |
| 10 | **619-27080-1** |
| 12 | **619-27081-1** |

**With indicator pin and proximity switch**

| Outlets | Inlet thread R 1/8" female |
|---|---|
| 6 | **619-27667-1** |
| 8 | **619-27668-1** |
| 10 | **619-27669-1** |
| 12 | **619-27670-1** |

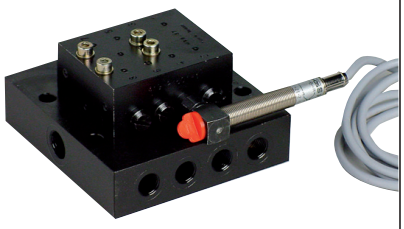
**With indicator pin and adapter for proximity switch**

| Outlets | Inlet thread R 1/8" female |
|---|---|
| 6 | **619-27663-1** |
| 8 | **619-27664-1** |
| 10 | **619-27665-1** |
| 12 | **619-27666-1** |

# SSVFL Flange Metering Devices

## Product survey

SSVFL flange metering device



SSVFL 8 KN

The SSVFL is based on the standard SSV, flanged to a manifold block. Ideal for rigorous conditions such as those foand in steel plants.

This design allows for connections up to dia. 10 mm tubing. Additionally, the metering devices can easily be exchanged during maintenance routines without having to disconnect lubricant feed lines – thus saving valuable time.

They can be monitored visually (SSVFL-K) or electronically via a proximity switch (SSVFL-KN). They are available with 1 to 12 outlets and can be used for grease up to NGLI 2 or oil of at least 40 cST.

**Technical Data**

| | Unit | |
|---|---|---|
| **Outlets** | Qty | 1 - 2 |
| **Pressure** | | |
| max. operating pressure | [bar] | 350 |
| max. back pressure | [bar] | 100 |
| **Output** | | |
| per outlet and stroke | [$cm^3$] | 0,2 |
| **Thread** | | |
| Outlet | | G $^1/_4$ female |
| Piston-side closure plug | | G $^3/_8$ female |
| **Material** | | |
| Steel | | Surface, black-chromate treated |
| **Temperature** | | |
| Operating temperature | [°C] | –25 up to +70 |

**Standard models**

| Outlets | SSVFL metering devices | SSVFL-KN metering devices |
|---|---|---|
| 1 | **619-40646-1** | **619-40678-1** |
| 2 | **619-40646-2** | **619-40678-2** |
| 3 | **619-40646-3** | **619-40678-3** |
| 4 | **619-40646-4** | **619-40678-4** |
| 5 | **619-40646-5** | **619-40678-5** |
| 6 | **619-40646-6** | **619-40678-6** |
| 7 | **619-40646-7** | **619-40678-7** |
| 8 | **619-40646-8** | **619-40678-8** |
| 9 | **619-40646-9** | **619-40678-9** |
| 10 | **619-40647-1** | **619-40679-1** |
| 11 | **619-40647-2** | **619-40679-2** |
| 12 | **619-40647-3** | **619-40679-3** |

# SSVFL Flange Metering Devices

## Product survey

**Dimensions**

| Outlets | Heigth | Width | Depth |
|---|---|---|---|
| 1-3 | 97 | 120 | 66 |
| 4 | 112 | 120 | 66 |
| 5-6 | 97 | 120 | 66 |
| 7-8 | 112 | 120 | 66 |
| 9-10 | 127 | 120 | 66 |
| 11-12 | 142 | 120 | 66 |

All lengths dimensions in mm

**Accessories**

| Part No. | Description |
|---|---|
| **223-13052-1** | Outlet check valve for tube 6 mm |
| **223-13052-2** | Outlet check valve for tube 8 mm |
| **223-13052-3** | Outlet check valve for tube 10 mm |

Notes

Notes

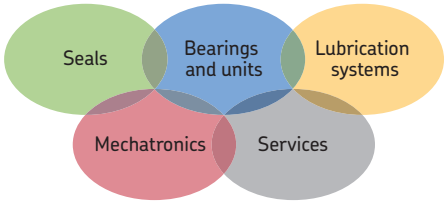
Notes

# A complete line of lubrication solutions and industrial pumping products

**Automatic lubrication**
Our automatic systems dispense measured amounts of lubricant at predetermined intervals. Systems include Helios and Duo-Matic dual-line systems, and Centro-Matic, Modular Lube, Quicklub and ORSCO precision oil lubrication. With our BearingSaver programme, we find the best automatic solution for you from our wide range of systems for grease, fluid grease and oil.

**General lubrication**
Sometimes a simple approach is the best solution. Our wide range of products includes smaller, self-contained automatic lubricators and general lubrication equipment.

**Industrial pumping**
Lincoln has developed specialized pumps and pumping stations to handle the difficult job of transferring thick fluids. From the industry-best PileDriver III and PowerMaster III pumps and air motors to specialty pumps, controls and mounting accessories, Lincoln is the preferred pumping system for many tough applications.




**The Power of Knowledge Engineering**

Drawing on five areas of competence and application-specific expertise amassed over more than 100 years, SKF brings innovative solutions to OEMs and production facilities in every major industry worldwide. These five competence areas include bearings and units, seals, lubrication systems, mechatronics (combining mechanics and electronics into intelligent systems), and a wide range of services, from 3-D computer modelling to advanced condition monitoring and reliability and asset management systems. A global presence provides SKF customers uniform quality standards and worldwide product availability.

**Important information on product usage**

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

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

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

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