

Single-line lubrication systems



Lubrication systems catalogues

Single-line lubrication systems

Dual-line lubrication systems Progressive lubrication systems Multi-line lubrication systems

PUB LS/P1 17046 EN

PUB LS/P1 16132 EN PUB LS/P1 16964 EN PUB LS/P1 17478 EN

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This catalogue contains the global range of SKF lubrication systems products. Please contact your local country sales or $% {\displaystyle\int\limits_{i=1}^{\infty }} {{\left\| {{\mathbf{y}}_{i}}\right\| }} d\mathbf{y} d\mathbf{$ customer service organization for availability in your area.

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Oil and fluid grease



Grease



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SKF – the knowledge engineering company

From one simple but inspired solution to a misalignment problem in a textile mill in Sweden, and fifteen employees in 1907, SKF has grown to become a global industrial knowledge leader.





Over the years we have built on our expertise in bearings, extending it to seals, mechatronics, services and lubrication systems. Our knowledge network includes 46 000 employees, 15 000 distributor partners, offices in more than 130 countries, and a growing number of SKF Solution Factory sites around the world.

Research and development

We have hands-on experience in over forty industries, based on our employees' knowledge of real life conditions. In addition our world-leading experts and university partners who pioneer advanced theoretical research and development in areas including tribology, condition monitoring, asset management and bearing life theory. Our ongoing commitment to research and development helps us keep our customers at the forefront of their industries.

Meeting the toughest challenges

Our network of knowledge and experience along with our understanding of how our core technologies can be combined helps us create innovative solutions that meet the toughest of challenges. We work closely with our customers throughout the asset life cycle, helping them to profitably and responsibly grow their businesses.

Working for a sustainable future

Since 2005, SKF has worked to reduce the negative environmental impact from our own operations and those of our suppliers. Our continuing technology development introduced the SKF BeyondZero portfolio of products and services which improve efficiency and reduce energy losses, as well as enable new technologies harnessing wind, solar and ocean power. This combined approach helps reduce the environmental impact both in our own operations and in our customers.

SKF Solution Factory makes SKF knowledge and manufacturing expertise available locally, to provide unique solutions and services to our customers.



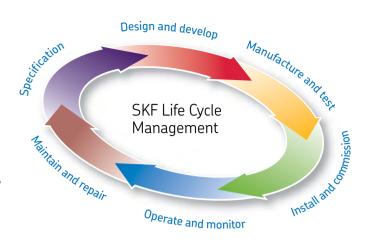
Working with SKF IT and logistics systems and application experts, SKF Authorized Distributors deliver a valuable mix of product and application knowledge to customers worldwide.



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Our knowledge – your success

SKF Life Cycle Management is how we combine our technology platforms and advanced services, and apply them at each stage of the asset life cycle, to help our customers to be more successful, sustainable and profitable.



Working closely with you

Our objective is to help our customers improve productivity, minimize maintenance, achieve higher energy and resource efficiency, and optimize designs for long service life and reliability.

Innovative solutions

Whether the application is linear or rotary or a combination of the two, SKF engineers can work with you at each stage of the asset life cycle to improve machine performance by looking at the entire application. This approach doesn't just focus on individual components like bearings or seals. It looks at the whole application to see how each component interacts with the next.

Design optimization and verification

SKF can work with you to optimize current or new designs with proprietary 3-D modeling software that can also be used as a virtual test rig to confirm the integrity of the design.



Bearings

SKF is the world leader in the design, development and manufacture of high performance rolling bearings, plain bearings, bearing units and housings.



Machinery maintenance

Condition monitoring technologies and maintenance services from SKF can help minimize unplanned downtime, improve operational efficiency and reduce maintenance costs.



Sealing solutions

SKF offers standard seals and custom engineered sealing solutions to increase uptime, improve machine reliability, reduce friction and power losses, and extend lubricant life.



Mechatronics

SKF fly-by-wire systems for aircraft and drive-bywire systems for off-road, agricultural and forklift applications replace heavy, grease or oil consuming mechanical and hydraulic systems.



Lubrication solutions

From specialized lubricants to state-of-the-art lubrication systems and lubrication management services, lubrication solutions from SKF can help to reduce lubrication related downtime and lubricant consumption.



Actuation and motion control

With a wide assortment of products – from actuators and ball screws to profile rail guides – SKF can work with you to solve your most pressing linear system challenges.

Two leading brands





One global leader

SKF and Lincoln have joined forces to provide you with the world's most complete portfolio of innovative lubrication solutions – from manual lubricators and tools, to the most advanced centralized and automatic lubrication systems available.

In addition to traditional lubrication products and systems, we offer customized solutions for many industries such as pulp and paper, steel, mining, agriculture, marine, rail, wind, construction, machine tool and automotive. SKF engineering and technical specialists partner with OEMs and end-users to develop system solutions based on customer requirements. We also offer a variety of control and monitoring equipment for ease of use and to help ensure proper lubrication.

Both SKF and Lincoln systems are available through our global network of lubrication experts, offering you world-class installation and ongoing support on a local level – today and into the future. With the power of this network, and more than 200 years of combined friction management experience, we can help you improve machine reliability, reduce maintenance, increase productivity, enhance safety and optimize manpower resources.



Classification of lubricants



Oil and fluid grease

The viscosity is an expression of a fluid's internal friction. Oils are classified in ISO VG viscosity classes from 2 to 3 200. NLGI 000, 00 and 0 greases are called fluid greases.

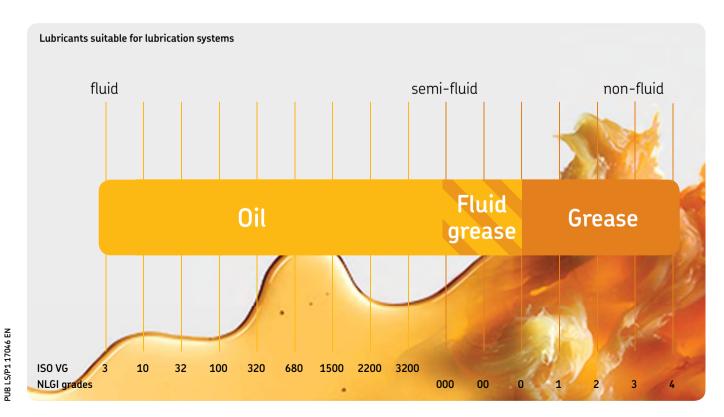
Different types of oils are available, including mineral oils, organic oils and synthetic oils. A compatibility check is recommended prior to using any oil with SKF lubrication systems.



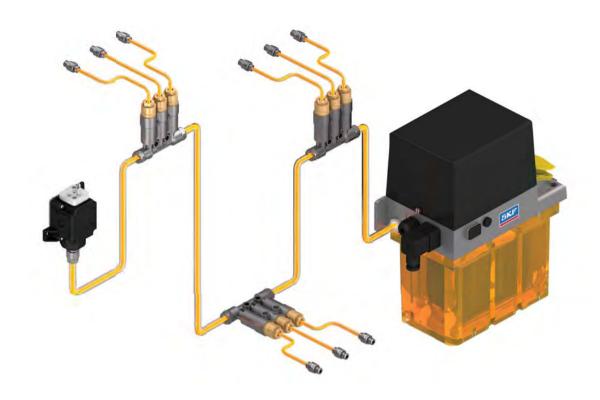
Grease

Greases are consistent lubricants (NLGI 1-6). They are soft to hard, triple-component mixtures of a base oil as the lubricating fluid, a thickening agent and additives.

In most instances, greases of NLGI 1 up to 3 are suitable for use in a lubrication system. A compatibility check should be made prior to using any grease with SKF lubrication systems.



Single-line lubrication systems for oil and fluid grease



System description

Regardless of the application, the principle of single-line lubrication remains the same: a central pump station automatically delivers lubricant through a single supply line to the lubricant metering device. Each metering device serves only one lubrication point and may be adjusted to deliver the precise amount of grease or oil required. Systems can service one machine, different zones on one machine or even several separate machines.

The SKF portfolio includes both SKF MonoFlex and Lincoln Centro-Matic system components including pumps, metering units, control and monitoring devices and accessories.

For planning a lubrication system, conditions the system will be used in need to be determined first.

The number of lubrication points, back pressures at the lubrication points, operating temperature range, lubricant, the feed pump's drive energy, control and monitoring etc. need to be defined correctly.

Attention to information on bearing or lubrication point information need to be paid too. The sum of all the quantities metered out by the system's metering devices needs to be completed by safety margin and expansion and compressibility loss. SKF application engineers, as well as SKF sales partners and distributors, are experts in laying out lubrication systems according to all these specifications. A lubrication system laid out by SKF and partners ensures the supply of the correct amount of lubricant at the best time to lubricate. This reduces wear and avoids pollution caused by over-lubrication.

Advantages:

- Easy to understand, install and maintain
- Available in both preset and adjustable models
- Suitable for almost all lubricants
- Easy system expansion
- System continues to operate if one point becomes blocked
- Integrated system control and monitoring
- Able to pump long distances and within a wide temperature range

System and applications







Applications

In total loss lubrication systems, fresh lubricant is fed to friction points during a lubrication cycle. The lubrication cycle is set up so that friction points are supplied with enough lubricant to build up an adequate film of lubricant, reducing wear and tear on bearings and friction points. Monoflex and Centromatic systems are designed to allow for easy expansion and simple assembly.

Applications for single-line systems include small-to-medium machine tools, mobile on-road (fleet vehicles, on-road transport), and assembly/automation food packaging, part assembly lines and injection molding:

- Small-to-medium line length
- Small-to-medium quantities of lubricant per lubrication point
- Ease of expansion
- Linear layout of lubrication points
- · Flexibility of lubricant distribution
- Easy monitoring of lubrication distribution



Pumps and pump units

































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Overview of oil and fluid grease pumps and pump units

Manually operated pumps and pump units										
Product	Lul oil	oricant grease NL	Metering qu .GI	antity	Operating pressure		Reservoir		Metering device	Page
			cm³/stroke	in³/stroke	bar	psi	l	gal		
1812 POE PFE	•	• -	2,6 15 15	0.16 0.9 0.9	69 30 30	1 000 435 435	2,1 0,5; 1; 1,7 0,5; 1; 1,7	0.55 0.13; 0.26; 0.45 0.13; 0.26; 0.45	2, 3, 4 1, 2 1, 2	14 15 16
¹⁾ Select the recommended fittings, adjust the pump pressure within the recommended metering device pressure range										

Air-operated pumps and pump units									
Product	Lubricant oil grease N 000/00	Metering q LGI	uantity	Operating pressure max.		Reservoir		Metering device category ¹⁾	Page
		cm³/stroke	e in³/stroke	bar	psi	l	gal		
82885, 83667 85438/40/41 ²⁾ P/PW/PF/PFW-289 POEP PFEP PPS30	• • • • • • • • • • • • • • • • • • •	7,4 7,4 10 15 15	0.45 0.45 0.61 0.9 0.9 1.83	69 69 40 60 60 27	1 000 1 000 580 870 870 392	0,6; 2 0,6; 2 1,5 0,5; 1; 1,7 0,5; 1; 1,7	0.16; 0.53 0.16; 0.53 0.39 0.13; 0.26; 0.45 0.13; 0.26; 0.45 0.39	2, 3, 4 2, 3, 4 1, 2, 3 1, 2, 3, 4 1, 2, 3, 4 1, 2	17 18 19 20 21 22
82676 82570 85430/31/32/33 ²⁾ PEF/PEU	• •	39,3 39,3 39,3 48	2.39 2.39 2.39 2.93	69 69 69 50	1 000 1 000 1 000 725	- 2 0,0; 2 3	- 0.53 0.0; 0.53 0.79	4 4 4 1, 2, 3	24 25 26 27
		cm ³ /min	in³/min	bar	psi	<u>l</u>	gal		
283167 1826 ²⁾		197 7 571	12.02 462	69 69	1 000 1 000	7,1 200	1.88 52.83	3, 4 2, 3, 4	28 29
1) Select the recommended fittings, adjust the pump pressure within the recommended metering device pressure range 2) Controller optionally									

icant Metering of grease NLGI 000/00	quantity	Operating pressure max.		Reservoir		Metering device category ¹⁾	Page
cm ³ /min	in³/min	bar	psi	l	gal		
500	, , ,	38 240 38 38 38 30 30	550 3500 550 550 550 435 435	0,38 4; 8 1 1 2,7; 6 2; 3; 6 2; 3; 6 3; 6; 15	0.086 1.05; 2.11 0.26 0.26 0.71; 1.56 0.53; 0.79; 1.56 0.53; 0.79; 1.56 0.79; 1.56; 3.96	1, 2, 3 2, 3, 4 1, 2, 3 1, 2, 3 1, 2, 3 1 1, 2	30 32 34 36 38 40 42
	grease NLGI 000/00 cm ³ /min 12 24,6 50 140 100; 200; 500 100; 200; 500	grease NLGI 000/00 cm³/min in³/min 12 0.73 24,6 1.5 50 3 50 3 140 8.5 100; 200; 6; 12; 31 500 100; 200; 6; 12; 31 500	grease NLGI pressure max. cm³/min in³/min bar 12 0.73 38 24,6 1.5 240 50 3 38 50 3 38 140 8.5 38 140 8.5 38 100; 200; 6; 12; 31 30 500 100; 200; 6; 12; 31 30 500	grease NLGI pressure max. cm³/min in³/min bar psi 12 0.73 38 550 24,6 1.5 240 3500 50 3 38 550 50 3 38 550 140 8.5 38 550 − 100; 200; 6; 12; 31 30 435 500 100; 200; 6; 12; 31 30 435 500	grease NLGI	grease NLGI 000/00 pressure max. cm³/min in³/min bar psi l gal • 12 0.73 38 550 0,38 0.086 • 24,6 1.5 240 3500 4;8 1.05; 2.11 • 50 3 38 550 1 0.26 • 50 3 38 550 1 0.26 • 140 8.5 38 550 2,7;6 0.71; 1.56 - 100; 200; 6; 12; 31 30 435 2; 3; 6 0.53; 0.79; 1.56 500 100; 200; 6; 12; 31 30 435 2; 3; 6 0.53; 0.79; 1.56 500	grease NLGI o00/00 pressure max. device category ¹) cm³/min in³/min bar psi l gal 12 0.73 38 550 0,38 0.086 1,2,3 24,6 1.5 240 3500 4;8 1.05;2.11 2,3,4 50 3 38 550 1 0.26 1,2,3 50 3 38 550 1 0.26 1,2,3 140 8.5 38 550 2,7;6 0.71;1.56 1,2,3 140,85 38 550 2,7;6 0.71;1.56 1,2,3 100;200; 6;12;31 30 435 2;3;6 0.53;0.79;1.56 1 500 100;200; 6;12;31 30 435 2;3;6 0.53;0.79;1.56 1,2

Select the recommended fittings, adjust the pump pressure within the recommended metering device pressure range
 Controller optionally
 With pressure transducer

1812



Product description

The 1812 pump features a translucent reservoir with filler cap and strainer. Its pump base has an integrated check/vent valve and an indicator pin to show when system pressure is achieved.

Features and benefits

- Provides precise lubrication where air or electricity are not available
- Built-in vent valve activates when handle is pushed all the way up
- Pressure stem indicates 58 bar; 850 psi
- Suitable for use with metering devices of category 2, 3, 4

Applications

- Textile
- Stationary
- Material handling including presses
- Agriculture and farming



Technical data

Order number	
	manually operated piston pump
Outlets	
Metering quantity	2,6 cm ³ /stroke, 0.16 in ³ /stroke
Lubricant	
Operating temperature	−23 to +65 °C
	–10 to +150 °F
Operating pressure	max. 70 bar, 1 000 psi
Reservoir	2,13 l; 2 130 cm ³
	0.5 gal, 130 in ³
Material (reservoir)	acrylic
Connection outlet	1/4 NPTF (F)
Dimensions	
	16.75 × 7.125 × 7.75 in
Mounting position	
mounting position	vertical

POE





These manually actuated plunger pumps were developed for intermittently operated, single-line centralized lubrication systems with metering devices. They include a set of valves required for pressure relief and pressure limitation. Versions are available with or without fill-level switches to monitor critical levels of lubricant, and reservoirs are offered in three different sizes.

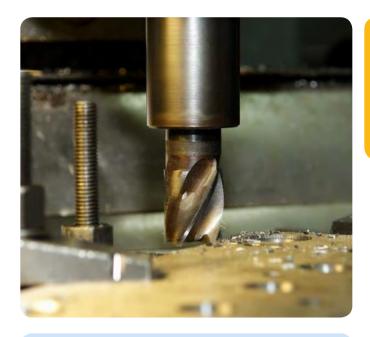
Features and benefits

- Suitable for amount of lube points per stroke:
 - 1-20: metering device 340
 - 1-18: metering device 350
 - 1-6: metering device 390
- Simple handling
- · Low-cost, efficient method of distributing lubricant
- · Optional low-level control for resevoir
- Suitable for use with metering devices of category 1

Applications

- Machine tool
- Industrial assembly and automation

POE pump units			
Order number	Reservoir		Fill-level switch
	l	gal	
P0E-15-0.5 P0E-15-1.0 P0E-15-1.0W P0E-15-1.7 P0E-15-1.7W	0,5 1,0 1,0 1,7 1,7	0.13 0.26 0.26 0.45 0.45	- - • -



Technical data

Function principle manually operated piston pump Outlets. 1 Lubricant..... mineral, synthetic, and environmentally compatible oils, operating viscosity 20 to 1 500 mm²/s Operating temperature 0 to +60 °C; +32 to +140 °F Operating pressure max. 30 bar, 435 psi Reservoir. 0,5; 1,0 or 1,7 l, 0.1, 0.3 or 0.4 gal Material (reservoir) plastic (PP), transparent Connection outlet G 1/4, on left or right depending on model min. 133×248×124 mm max. 190 × 448 × 124 mm min. 5.2 × 9.8 × 4.8 in max. 7.5 × 17.6 × 4.8 in Mounting position vertical

Fill-level switch for monitoring the minimum oil level

Type of contact	contact opens at minimum fill level
Switching voltage	max. 42 VDC
Switching capacity	max. 50 W
Plug	4-pin M12x1 circular plug
Mounting position	1, 2 or 3 possible (2 on delivery)

NOTE

For further technical information, technical drawings, accessories, spare parts or product function descriptions, see the following publication available on

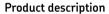
SKF.com/lubrication: 1-1110-EN, 951-170-011 EN

3D data and product configuration:

skf-lubrication.partcommunity.com/3d-cad-models/

PFE





These manually actuated plunger pumps were developed for intermittently operated, single-line centralized lubrication systems with metering devices. They include a set of valves required for pressure relief and pressure limitation. Versions are available with or without fill-level switches to monitor critical levels of lubricant, and reservoirs are offered in three different sizes.

Features and benefits

- Simple handling
- Low-cost, efficient method of distributing lubricant
- Optional low-level control for reservoir
- Suitable for use with metering devices of category 1 and 2

Applications

- Machine tool
- Printing machines
- · Industrial assembly and automation



Technical data

Function principle manually operated piston pump Lubricant.....fluid grease, NLGI 000, 00 Operating temperature 0 to +60 °C; +32 to +140 °F Operating pressure max. 30 bar, 435 psi Material (reservoir) plastic (PP), transparent Dimensions depending on model min. 133 × 248 × 124 mm max. 190 × 448 × 124 mm min. 5.2 × 9.8 × 4.8 in max. 7.5 × 17.6 × 4.8 in Mounting position vertical

Fill-level switch for monitoring the minimum grease level

Type of contactNPN, PNP/NO-contact - NC contact Current at switching output . . . max. 150 mA Connection 2 m PVC cable or 4-pin M8x1 circular plug

PFE pump units			
Order numbers	Reservoir		Fill-level switch
	l	gal	
PFE-15-0.5 PFE-15-1.0 PFE-15-1.0W2 PFE-15-1.7 PFE-15-1.7W2	0,5 1,0 1,0 1,7 1,7	0.13 0.26 0.26 0.45 0.45	- - • -

For further technical information, technical drawings, accessories, spare parts or product function descriptions, see the following publication available on

SKF.com/lubrication: 1-1110-EN, 951-170-011 EN

3D data and product configuration:

skf-lubrication.partcommunity.com/3d-cad-models/



16

82885, 83667



Product description

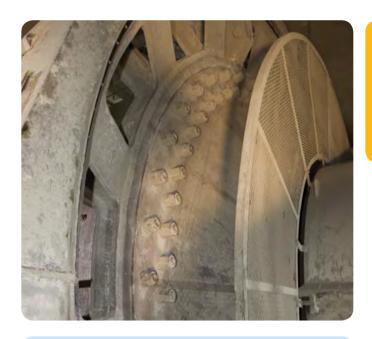
Model 82885, an air-operated, single-stroke oil pump, discharges lubricant on an air-powered forward stroke and releases pressure on the lubricant line on a spring-powered return stroke through an integrated check/relief valve (3 way). Its translucent reservoir is refilled through a filler cap with strainer. The pump unit is suitable for systems with a large number of lubrication points and clocked greasing strokes. Model 83667 offers the same features but includes a larger reservoir.

Features and benefits

- Reliable operation
- Reservoir with filler cap and internal strainer
- Suitable for use with metering devices of category 2, 3 and 4

Applications

- Textiles
- Steel mills
- Packaging
- Plastic processing
- Material handling
- · Food and beverage



Technical data

Function principle pneumatically operated piston pump

Metering quantity 7,4 cm³/stroke, 0.45 in³/stroke Lubricant oil, synthetic oils on request

Operating temperature . . . –23 to +65 °C

-10 to +150 °F

Operating pressure max. 70 bar, 1 000 psi

Material (reservoir) acrylic
Connection outlet 1/4 NPTF (F)
Air inlet connection 1/4 NPTF (F)

Transmission ratio 20:1

Air valve. required, 3-way

Dimensions min. 263×133×152 mm 10.375×5.25×6 in

max. 470×140×152 mm 18.5×5.5×6 in

Mounting position vertical

82885, 83667 pump units						
Order number	Reservoir					
	l	gal				
82885 83667	0,6 2	0.16 0.5				

NOTE

For further technical information, technical drawings, accessories, spare parts or product function descriptions, see the following publication available on SKF.com/lubrication: 442832

85438/40/41



Product description

Pump models 85438/40/41 are air-operated, positive displacement pumps that deliver a maximum volume by means of a single stroke of the pump. Solenoid air valve and adjustable solid-state time controls are integrated into the pump body. These pumps are designed to deliver fluid lubricants to single-line injectors and are filled via a spring-loaded filler cap and internal strainer. Acrylic reservoirs are available in two sizes. Supply voltages are offered in 120 VAC and 240 VAC.

Features and benefits

- Reservoir with filler cap and internal strainer
- Integrated, adjustable, solid-state time controls with LED indicators for "Power On," "Pump On" and "Alarm," along with a membrane-type "Manual Lube" switch
- Integrated solenoid air valve
- Suitable for use with metering devices of category 2, 3 and 4

Applications

- Textiles
- Steel mills
- · Plastic processing
- · Material handling
- Food and beverage

85438/40/41 pump units						
Order number	Voltage	Reservo	ir			
	VAC	l	gal			
85438 85440 85441	120 120 240	0,6 2 2	0.16 0.5 0.5			



Technical data

Function principle pneumatically operated piston pump

(single stroke)

Metering quantity 7,4 cm³/stroke; 0.45 in³/stroke

Lubricant......oil, synthetic oils on request Operating temperature ... –23 to +65 °C –10 to +150 °F

Operating pressure max. 70 bar, 1 000 psi

Reservoir

85438 0,6 l; 0.16 gal

85440, 85441 2,0 l; *0.5 gal* Material (reservoir) acrylic

Connection outlet1/4 NPTF (F)
Voltage120 VAC, 240 VAC

Transmission ratio 20:1

Dimensions:

85438.....133×184×305 mm

5.25×7.24×20.75 in

Mounting position vertical

Timer and controller

Off time 30 sec to 30 min. or 30 min. to 30 h

Alarm contacts 8 A at 250 VAC

Operating temperature . . . -23 to 65 °C; -10 to +150 °F

NOTE

For further technical information, technical drawings, accessories, spare parts or product function descriptions, see the following publication available on SKF.com/lubrication: 442832

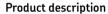
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18 **5KF**

P/PW/PF/PFW-289





These pneumatically actuated piston pumps were designed for intermittently operated, single-line centralized lubrication systems with metering devices. The valve set required for pressure relief and limitation is included.

Features and benefits

- Electrical monitoring via external controller or SPS
- Simple handling
- · Optional low-level control for reservoir
- Suitable for use with metering devices of category 1, 2 and 3

Applications

- Machine tool
- Printing machines
- Industrial assembly and automation

F	

Technical data

Function principle pneumatically operated piston pump (single stroke)

Metering quantity 10 cm³/stroke, 0.61 in³/stroke Lubricant.....mineral, synthetic, and environmentally

compatible oils, operating viscosity 20 to 1 500 mm²/s or fluid grease,

NLGI 000, 00

Operating temperature +10 to 40 °C; +50 to 104 °F

Operating pressure max. 40 bar, 580 psi Reservoir.....

Material (reservoir) polycarbonate Connection outlet 6 mm, 0.24 in, OD tube

Dimensions depending on model min. 170×248×128 mm

max. 170 × 270 × 128 mm min. 6.7 × 9.8 × 5.04 in max. 6.7 × 10.6 × 5.04 in

Mounting position vertical

Fill-level switch for monitoring the minimum fluid grease level

Type of contact 1 change-over Switching voltage230 VAC; 230 VDC Switching currentmax. 230 VAC/DC: 1,0 A Breaking capacity max. 230 VAC: 60 VA; max. 230 VDC:40 W

P, PW, PF, PFW pump units

Order number.	Lubricant Oil	Fluid grease	Fill-level switch
P-289 PW-289 PF-289 PFW-289	• • - -	- - •	- • -

For further technical information, technical drawings, accessories, spare parts or product function descriptions, see the following publication available on

SKF.com/lubrication: 1-1110-EN, 951-170-012

3D data and product configuration:

skf-lubrication.partcommunity.com/3d-cad-models/

POEP



Product description

These pneumatically actuated plunger pumps were developed for intermittently operated, single-line centralized lubrication systems with metering devices. They include a set of valves required for pressure relief and pressure limitation. Versions are available with or without fill-level switches to monitor critical levels of lubricant.

Features and benefits

- Electrical monitoring via external controller or SPS
- Simple handling
- Low-cost, efficient method of distributing lubricant
- Optional low-level control for reservoir
- Suitable for use with metering devices of category 1, 2, 3 and 4

Applications

- Machine tool
- Printing machines
- · Industrial assembly and automation

Technical data

Function principle pneumatically operated piston pump

Lubricant..... mineral, synthetic oils, operating viscosity

20 to 1 500 mm²/s

Operating temperature 0 to +60 °C; +32 to +140 °F Operating pressure max. 60 bar, 870 psi

Material (reservoir) plastic (PP), transparent Connection outlet G 1/4, on left or right

Transmission ratio 10:1

Dimensions depending on model

min. 133×248×124 mm max. 190 × 448 × 124 mm

min. 5.2 × 9.8 × 4.8 in max. 7.5 × 17.6 × 4.8 in

Mounting position vertical

Fill-level switch for monitoring the minimum oil level

Type of contact contact opens at minimum fill level

Switching voltage max. 42 VDC Switching capacity..... max. 50 W

Plug. 4-pin M12×1 circular plug Mounting position 1, 2 or 3 possible (2 on delivery)

Note: For a hydraulic system pressure of >45 bar, 653 psi, use cutting-sleeve screw unions conforming to DIN 2353 or plug connectors as connection fittings.

POEP pump units			
Order number	Reservoir		Fill-level switch
	l	gal	
POEP-15-0.5 POEP-15-1.0 POEP-15-1.0W POEP-15-1.7 POEP-15-1.7W	0,5 1,0 1,0 1,7 1,7	0.13 0.26 0.26 0.45 0.45	- - • -

For further technical information, technical drawings, accessories, spare parts or product function descriptions, see the following publication available on

SKF.com/lubrication: 1-1110-EN, 951-170-011 EN

3D data and product configuration:

skf-lubrication.partcommunity.com/3d-cad-models/



PUB LS/P1 17046 EN

PFEP



Product description

These pneumatically actuated plunger pumps were developed for intermittently operated, single-line centralized lubrication systems with metering devices. They include a set of valves required for pressure relief and pressure limitation. Versions are available with or without fill-level switches to monitor critical levels of lubricant.

Features and benefits

- Simple handling
- Optional low-level control for reservoir
- Suitable for use with metering devices of category 1, 2, 3 and 4

Applications

- Machine tool
- Industrial assembly and automation

5	T		
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Technical data

Reservoir.0,5; 1,0 or 1,7 l, 0.13, 0.26 or 0.45 gal Material (reservoir) ... plastic (PP), transparent Connection outlet ... $G^{1}/_{4}$, on left or right Air inlet $G^{1}/_{4}$ (on pump bottom)

Transmission ratio 10:1

Mounting position vertical

Fill-level switch for monitoring the minimum grease level

Mounting position 1, 2 or 3 possible (2 on delivery)

Note:

For a hydraulic system pressure of >45 bar, 653 psi, use cutting-sleeve screw unions conforming to DIN 2353 or plug connectors as connection fittings.

PFEP pump unitss			
Order number	Reservoir		Fill-level switch
	l	gal	
PFEP-15-0.5 PFEP-15-1.0 PFEP-15-1.0W2 PFEP-15-1.7 PFEP-15-1.7W2	0,5 1,0 1,0 1,7 1,7	0.13 0.26 0.26 0.45 0.45	- - •

NOTE

For further technical information, technical drawings, accessories, spare parts or product function descriptions, see the following publication available on

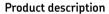
SKF.com/lubrication: 1-1110-EN, 951-170-011 EN

3D data and product configuration:

skf-lubrication.partcommunity.com/3d-cad-models/

PPS30





Setting new standards in design, this compact unit combines proven lubrication technology with integrated functional elements. The easy-to-clean PPS30 features an integrated relief valve and electronic sensors, as well as a central opening for easy filling from all sides. In addition to low investment costs, it offers very low operating costs due to minimal compressed air consumption. The lightweight unit is made almost entirely of functional, high-performance plastics.

Features and benefits

- · Compact, modern design with user friendly operation
- Quick and simple installation with flexible connection system
- Easy visual fill-level monitoring plus electric fill-level control
- Suitable for use with metering devices of category 1 and 2

Applications

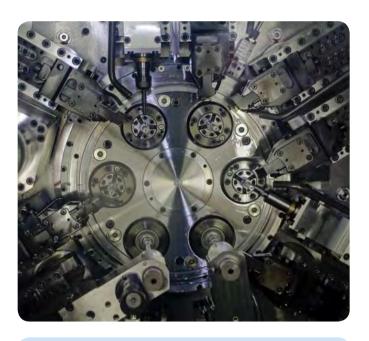
- Machine tool
- Automation
- Packaging
- Woodworking
- Printing
- Textiles

For further technical information, technical drawings, accessories, spare parts or product function descriptions, see the following publication available on

SKF.com/lubrication: 1-0942-EN, 951-170-220 EN

3D data and product configuration:

skf-lubrication.partcommunity.com/3d-cad-models/



Technical data

(single stroke) Outlets. max. 3

Metering quantity30 cm³/stroke, 1.83 in³/stroke Lubricant.....mineral and synthetic oils, operating

viscosity 20 to 1 500 mm²/s or fluid grease NLGI 000, 00

Operating temperature +10 to +50 °C; +50 to +122 °F Operating pressure max. 27 bar, 392 psi

Actuation pressure 4,5 to 6 bar; 65 to 87 psi

for pipes ø6 and ø8 mm or banjo fitting for pipe ø6 mm

for pipes ø6 and ø8 mm or banjo

fitting for pipe ø6 mm Air valve. required 3- way, see accessories

Pressure reducting valve required, see accessories Dimensions 187 × 246 × 129 mm;

7.3 × 9.6 × 5.1 in Installation space.....min. 230 × 300 × 250 mm

min. 9×11.8×9.8 in Mounting position vertical

Fill-level switch for monitoring the minimum lubricant level

Function capacitive, NC-contact Switching voltage10 to 36 VDC Power consumption. max. 150 mA

Pressure switch for monitoring pressure build-up and function

FunctionNO-contact

Electrical connection 4-pin M12×1 circular plug

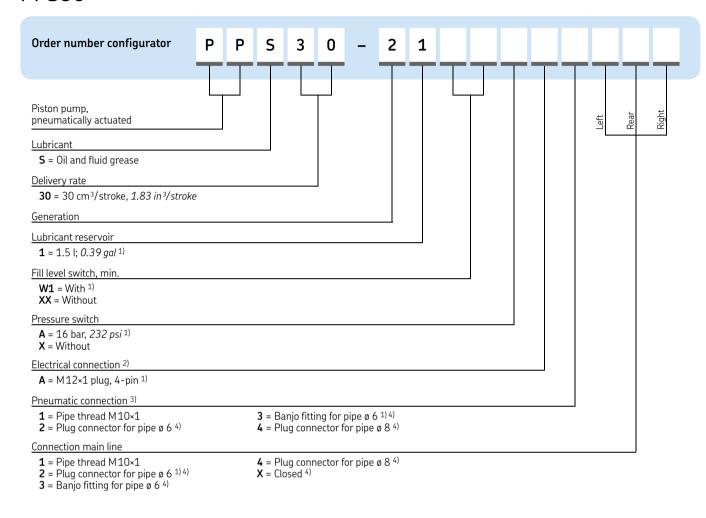
PUB LS/P1 17046 EN

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LINCOLN

PPS30



¹⁾ Standard design

Accessories









466-421-001	
0	



Order numbers for accessories					
Order number	Designation				
161/120-067+924 161-120-067+910 995-901-063	3/2-way air inlet valve, 24 VDC 3/2-way air inlet valve, 110 VAC Pressure-reducing valve				
Optional fittings for pneu	Optional fittings for pneumatic and main line connections				
406-004-VS 506-140-VS 408-004-VS 466-421-001	Plug connector for pipe ø 6; order code 2 Banjo fitting for pipe ø 6; order code 3 Plug connector for pipe ø 8; order code 4 Closed; order code X				
995-901-061	Adapter plate for mounting; $214 \times 48 \times 10$ mm, $8.4 \times 1.9 \times 0.4$ in				

January design
 Electrical connection required if fill-level switch and/or pressure switch is selected
 Must select pneumatic connection
 For fitting order numbers → accessories

82676





Product description

Pump model 82676 is a high-volume pump designed for remote or bulk-fill oil applications. It discharges lubricant on the air-powered forward stroke and releases pressure on the lubricant line through included check/relief valve through a 1/2 NPTF (F) oil inlet. (head pressure max. 5,5 bar; 80 psi)

Features and benefits

- Designed for remote or bulk-fill oil applications
- Remote system components available upon request
- Suitable for use with metering devices of category 4

Applications

- Steel mills
- Packaging
- Plastic processing
- Material handling
- · Food and beverage

Technical data

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Order number 82676

Function principle pneumatically operated piston pump

(single stroke)

Outlets.

Metering quantity 39,3 cm³/stroke, 2.4 in³/stroke Lubricant.....oil, synthetic oils on request

Operating temperature . . . -23 to +65 °C

-10 to +150 °F
Operating pressure max. 70 bar, 1 000 psi

Reservoir....extern Connection outlet 1/4 NPTF (F)

Transmission ratio 20:1

Air valve. required, 4-way

18.5 × 5.75 × 21 in

Mounting position vertical

82570



Product description

Pump model 82570 is a high-volume pump that discharges lubricant on the air-powered forward stroke and releases pressure on the lubricant line through included check/relief valve on the airpowered return stroke. Its acrylic reservoir is refilled through the filler cap with strainer.

Features and benefits

- Reservoir with filler cap and internal strainer
- Remote system components available upon request
- Suitable for use with metering devices of category 2, 3 and 4

Applications

- Textiles
- Steel mills
- Packaging
- Plastic processing
- Material handling
- Food and beverage



Technical data

Order number 82570

Function principle pneumatically operated piston pump

(single stroke)

Metering quantity 39,3 cm³/stroke, 2.4 in³/stroke

Operating temperature oil, synthetic oils on request -23 to +65 °C -10 to +150 °F

Operating pressure max. 70 bar, 1 000 psi Reservoir 2,0 l, 0.5 gal

Material (reservoir) acrylic Connection outlet 1/4 NPTF (F)

Transmission ratio 20:1

Air valve. required, 4-way

Mounting position vertical

85430/31/32/33





Product description

These air-operated, positive displacement pumps deliver maximum volume via a single stroke of the pump. Solenoid air valves and adjustable, solid-state time controls are integrated into the pump body. All pumps are designed to deliver fluid lubricants to single-line metering devices and are filled via a spring-loaded filler cap and internal filter. Acrylic reservoirs are available in several sizes. Pump models 85432 and 85433 do not include a reservoir and are designed for remote or bulk-fill oil applications.

Features and benefits

- Reservoir with filler cap and internal strainer
- Integrated, adjustable solid-state time controls with LED indicators
- Integrated solenoid air valves
- Suitable for use with metering devices of category 2, 3 and 4 (85432, 85433 are only suitable for use with category 4)

Applications

- Closing machines
- Packaging machines
- · Material handling
- · Plastic processing
- Tire presses

Technical data

Function principle pneumatically operated piston pump

(single stroke)

Metering quantity 39,3 cm³/stroke, 2.4 in³/stroke

Lubricant......oil, synthetic oils oils on request Operating temperature ... –23 to +65 °C; -10 to +150 °F Operating pressure max. 70 bar, 1000 psi

Transmission ratio 20:1

Dimensions 627 × 166 × 460 mm

 $24.7 \times 5.52 \times 18.11$ in Mounting position vertical

Timer and controller

On time 10 or 30 sec

Off time 30 sec to 30 min. or 30 min. to 30 h

Alarm contacts 8 A at 250 VAC

Operating temperature . . . -23 to 65 °C; -10 to +150 °F

85430/31/32/33 pump units

Order number	Voltage	Reservoir	
	VAC	l	gal
85430 85431 85432 85433	120 240 120 240	2 2 - -	0.5 0.5 - -





PEF/PEU



Product description

These pneumatically actuated piston pumps were designed for intermittently operated, single-line centralized lubrication systems with metering devices. The valve set required for pressure relief and limitation is included.

Features and benefits

- Driven by on-board compressed air system
- Optional integrated control
- · Electrical monitoring via external controller or SPS
- Simple handling
- Suitable for use with metering devices of category 1, 2 and 3

Applications

- Vehicles and trailer
- Machine tools
- Printing machines
- Industrial assembly and automation

PEF/PEU pump units	S		
Order number	Lubricant Oil	Fluid grease	Fill-level switch
PEF-90 PEF-99W PEF-99W-S1 PEF-99W-S2 PEF-99W-S3 PEU-99 PEU-99-S2 PEU-99-S3	• - - - • •	• • • • • • • • •	• • • - - -



Technical data

Function principle pneumatically operated piston pump

2.93 or 3.05 in³/stroke

Lubricant.....mineral, synthetic, and environmentally

compatible oils, operating viscosity 20 to 1500 mm²/s or fluid grease,

NLGI 000, 00

Operating temperature . . . -25 to +80 °C; -13 to +176 °F Operating pressure max. 50 bar, 725 psi

Reservoir. 3,0 l, 0.8 gal Material (reservoir) polycarbonate Connection outlet M16 × 1,5

Dimensions

PEF-90..... .248×194×341 mm 9.8 × 7.6 × 13.4 in

PEF-99 W..... 270×126×355 mm 10.6 × 4.9 × 13.9 in PEU-99......270×126×355 mm

10.6 × 4.9 × 13.9 in

Mounting position vertical

Fill-level switch for monitoring the minimum grease level

Type of contact NO-contact Switching voltage max. 10 to 35 VDC Output current 400 mA Capacity......15 mA Type of enclosure. IP 54

For further technical information, technical drawings, accessories, spare parts or product function descriptions, see the following publication available on

SKF.com/lubrication: 1-1110-EN, 951-170-012 EN

3D data and product configuration:

skf-lubrication.partcommunity.com/3d-cad-models/

283167



Product description

Pump model 283167 includes air motor, vent valve, translucent reservoir with filler cap, strainer and 1 200 psi (82 bar) safety unloader. Pump is an oscillating positive displacement pump with pneumatic drive. The change-over valve of the pump drive controls reciprocating of the pump strokes (discharges oil to outlet on forward stroke and sucks oil on back stroke). The reciprocating pump operates under air pressure and as such discharges material until the required system oil pressure is built up. The shut off and monitoring of the pump must be initiated by a pressure switch, 3/2 way air valve, components to limit and adjust the air operating pressure. These parts are to be furnished on site of the user.

Features and benefits

- · Reservoir with filler cap and internal strainer
- Vent valve assembly enclosed
- Remote system components available upon request
- Suitable for use with metering devices of category 3 and 4

Applications

- Steel mills
- Glass manufacturing plants
- Packaging

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- Plastic processing
- Material handling
- · Food and beverage
- Metal cutting, metal forming
- Systems with many lubrication points



Technical data

Ord	der nu	mbe	r.		 		283167
_							

Function principle pneumatic, reciprocating piston pump

Outlets. . . .

Metering quantity 197 cm³/min, 12 in³/min Pump cycles/minute max. 100 permitted Lubricant..... oil, synthetic oils on request

Operating temperature -23 to +65 °C -10 to +150 °F

Material (reservoir) acrylic Air inlet connection 1/8 NPTF (F Connection outlet 3/4 NPTF (F)

Transmission ratio 40:1 Air valve required, 3-way Dimensions 591 × 229 × 413 mm 23.25 × 9 × 16.25 in

Mounting position vertical

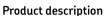
Note: When operating the pump with air pressure > 1,7 bar a pressure switch for oil is required to limit the oil pressure (max. 68 bar) of the central lubrication system.

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1826





Pump model 1826 is modular assembled and consists of air motor, attached pump tube, vent valve assembly, drum cover, controller, lubricant connecting hoses and safety unloader. Modular structured air motor is fully pneumatically monitored. Supplied compressed air to air motor moves oscillating piston in cylinder up and down. Simultaneously outlet air pours out of opposite cylinder chamber via exhausting baffle. A signal valve operates as a sensor and forwards pneumatic signal pressure to a relay valve as soon as piston has reached its fully stroke in one direction. Relay valve now switches pneumatically movement of piston opposite. Oscillation operation is working. Pumps consist in two devices, air motor and pump tube with integrated shovel piston. Oscillation piston initiates shovel piston to pump operation by sucking and pumping function. Pumps are supplied in moduls must be furnished on side of user but can also supplied completely on request.

Features and benefits

- Midsize volume PowerMaster air motor
- Carbon steel pump tube with shovel-foot design, selected fit plunger and bushing
- Vent valve assembly and safety unloader included
- Drum cover for standard U.S. 55 gal. (200 l) drums (removable head)
- Simplified, modular design
- · Wear-resistant and robust construction, reliable
- Suitable for use with metering devices of category 2, 3 and 4

Applications

- Steel mills
- Plastic processing
- Food and beverage
- · Glass industry
- Material handling



Technical data

Order number	
Outlets	
Metering quantity	

Connection outlet 3/4 NPTF (I

Dimensions

Controller

Voltage 110 VAC, 50 Hz; 120 VAC, 60 Hz

ECP



Product description

The Electric Cartridge Pump ECP was developed to lubricate bearings and linear guides in small machines. It includes an integrated pressure-relief. This electrically driven piston pump uses 24 VDC and is controlled by an external programmable logic controller (PLC) for convenience. In addition, the pump is capable of manually activating a lubrication cycle and can be used with an optional, integrated level switch to monitor the oil level of the cartridge. Utilizing easy-to-exchange cartridges, it is compatible with oil viscosities from 20 to 1 500 mm²/s and fluid grease grades of NLGI 00 and 000.

Features and benefits

- Cost effective solution
- · Simple to operate
- · Increases reliability
- Minimizes risk of using wrong or contaminated lubricant
- Reduces unplanned downtime
- Extends maintenance intervals
- Minimizes environmental impact via eficient use of lubricants

Applications

- Automation
- Machine tools
- Material handling
- Plastic processing
- Food and beverage



Technical data

Function principle electrically operated piston pump

oil: 20 to 1 500 mm²/s

Lubricant...... fluid grease: NLGI 00, 000

+10 to +50 °C; +50 to 122 °F Operating temperature . . . Operating pressure max. 38 bar; 550 psi

Reservoir..... 380 ml; 12.8 l. oz. Outlet connection M10x1 thread or

SKF Quick Connector 6-8 mm

Output voltage..... 24 VDC

without cartridge:

143×172×121 mm; 5.63×6.77×4.76 in

with cartridge:

307,5×172×121 mm; 12.1×6.77×4.76 in

Mounting position upright

For further technical information, technical drawings, accessories, spare parts or product function descriptions, see the following publication available on SKF.com/lubrication: 16966 EN, 951-170-232

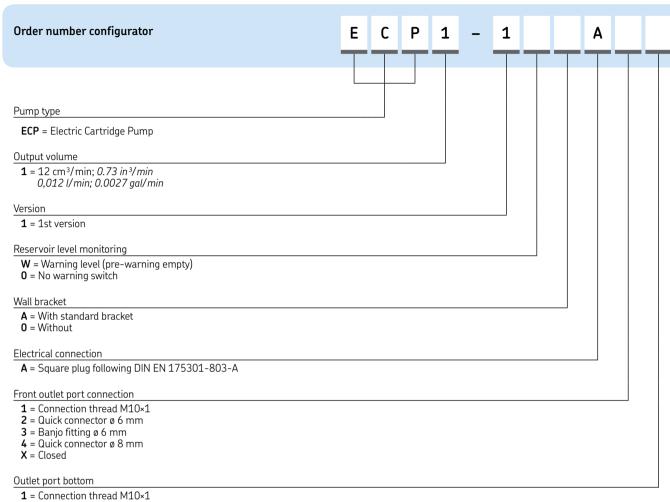
3D data and product configuration:

skf-lubrication.partcommunity.com/3d-cad-models/



PUB LS/P1 17046 EN

ECP



- 2 = Quick connector ø 6 mm
- 3 = Banjo fitting ø 6 mm
- 4 = Quick connector ø 8 mm
- \mathbf{X} = Closed

P 653S (oil)



Product description

Suitable for multiple applications, the Lincoln P 653S electrically driven oil pump simplifies the design of your lubrication system and delivers significant flexibility. A member of the Centro-Matic family, the pump comes complete with a reservoir, pressure switch/transducer, vent valve and controller in one compact unit.

Features and benefits

- Integration of major system components reduces labor and overall costs
- Simplifies lubrication system design
- Reduces installation time via "plug-and-go" capability
- Minimizes lubricant consumption by running only when the machine is operating

Applications

- Automation
- Machine tools
- Glass manufacturing plants
- · Woodworking facilities
- Oil and Gas plants
- Steel plants

NOTE

For further technical information, technical drawings, accessories, spare parts or product function descriptions, see the following publication available on SKF.com/lubrication: **PUB LS/P2 16072 EN**



Technical data

Function	nrincinle	electrically	onerated	niston	numn

Lubricant...... oil, minimum 40 mm²/s (cST) Operating temperature ... 0 to +50 °C; +32 to 122 °F

Operating pressure with pressure switch: 240 bar, 3 500 psi with pressure transducer: factory preset to

min. 4 min;
Pause time increments . . . 1 hr or 1 min
Minimum pause time 4 min
Maximum pause time 59h. 59 min

Pumping time max. 12 min

Dimensions depending on model

min. 240×467×235 mm max. 240×508×235 mm min. 9.5×18.4×9.25 in max. 9.5×20×9.25 in

Mounting position upright

Pump elements

 Piston
 ø 7 mm, 0.3 in

 Number connected
 3

 Protection
 1P 6K9K

1) 24 VDC version available on request.

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P 653S (oil)

P653S (oil) Order number	120/230 VAC 50/60 Hz	Reservoir capacity		Internal pressure switch	Internal pressure transducer	Internal and end-of-line pressure switch	Internal and end-of-line pressure transducer
		l	gal				
80127 80128	:	4 8	1 2	:	•	_ _ _	<u>-</u> -
	•	8	2			-	-

KFB



Product description

Used with SKF single-line systems, the KFB series gear pump units supply fluid grease NLGI 000 and 00 and include a pressure-relief valve and a pressure-limiting valve. The pumps are designed for supply voltages of 12 VDC and 24 VDC and are controlled either by an integrated electronic control unit or externally, via the machine control system. Depending on the design, the gear pump units are filled via a filler socket or attached filler coupling.

Features and benefits

- Compact pump unit
- Integrated pressure-relief valve and pressure-regulating valve
- Visual or optional electrical fill-level monitoring
- Optional integrated control
- Optional pre-assembled lubrication distributor of VN series

Applications

- Commercial vehicles
- Industrial applications



Technical data

Function principle electrically operated gear pump

Metering quantity¹⁾

50 cm³/min, 3.05 in³/min fluid grease of NLGI 000 or 00 Lubricant..... Operating temperature –25 to +75 °C; –13 to +167 °F

KFB(S)1: 1,4 l, 0.37 gal Material (reservoir) translucent plastic

Connection outlet ø 10×1.5 (max. 16 m, 52.5 ft)

Dimensions:

KFB(S)1, KFB(S)1-W......216×150×235 mm; 8.5×5.9×9.3 in

KFB(S)1-4-S1, KFB(S)1-W-4-S1, KFB(S)1-6-S1,

KFB(S)1-W-6-S1.....245×150×294 mm; 9.6×5.9×11.6 in

Mounting position vertical

DC motor

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Current 3,8 A; 1,7 A Rated output 46 W, 41 W Protection class IP 6K6K / IP 6K9K

1) At back pressure of 10 bar (145 psi) and a temperature of +25 °C (+77 °F)



For further technical information, technical drawings, accessories, spare parts or product function descriptions, see the following publication available on SKF.com/lubrication: 1-1206-EN, 951-170-009 EN

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PUB LS/P1 17046 EN

KFB

KFB pump units

Order number.	Lubricant Fluid grease NLGI 000, 00	Control unit	Fill-level switch	Electrical connections Circular connector AMP, 4-pin	Circular connector AMP, 7-pin	Design
KFB1 ²⁾ KFB1-W ²⁾ KFBS1 ²⁾ KFBS1-W ²⁾	<u>:</u>	- - •	- • -	•	- :	Basic version Basic version Basic version Basic version
KFB1-4-S1 ²⁾ KFBS1-4-S1 ²⁾ KFB1-6-S1 ²⁾ KFBS1-6-S1 ²⁾	:	- • -	- - - -	•	- • -	VN metering device, 4-outlets VN metering device, 4-outlets VN metering device, 6-outlets VN metering device, 6-outlets
KFB1-W-4-S1 ²⁾ KFBS1-W-4-S1 ²⁾ KFB1-W-6-S1 ²⁾ KFBS1-W-6-S1 ²⁾	<u>:</u>	- • -	• • •	- - -	:	VN metering device, 4-outlets VN metering device, 4-outlets VN metering device, 6-outlets VN metering device, 6-outlets

For units

KFB(S)1, KFB(S)1-W, KFB(S)1-4-S1, KFB(S)1-W-4-S1, KFB(S)1-6-S1, KFB(S)1-W-6-S1

Fill-level switch (for KFB(S)1-W) opens when fill level too low

Switching voltage	
Switching current	Resistive load ¹): ≤0.5 A
Switching capacity	Resistive load ¹): ≤12 W

Relubrication metering device VN (KFB(S)1(-W)4-S1, KFB(S)1(-W)-6-S1)

Lubrication point connection	Push-to-connect fitting for tube ø 4 mm
Metering quantity	0.1; 0.2; 0.4 cm ³
Feeder body material	Die-cast zinc, black corrosion protection

Control unit IG502-2-I (KFBS1)

Interval, adjustable	0.1 99.9 h
Pump run time, adjustable	0.1 99.9 min
Max. pump run time	3.0 min ²⁾
Elapsed-hours counter	0 99999.9 h
Fault-hours counter	0 99999.9 h

Additional input power for units

with control unit (without output load). 4 W

All units for vehicle applications have type approval pursuant to ECE-R 10.
 When ordering, quote the code for voltage to be used 12 VDC: Order code +912 24 VDC: Order code +924

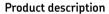
¹⁾ When switching inductive loads, take appropriate measures to protect contacts
2) The operating mode S3 (periodic duty) describes the ratio of pump run time to subsequent down time. If the relative ON-time is 2.5% and the duty cycle time is 10 to 120 min., then the limit values are as follows:

Min. duty cycle time: 10 min×0.025 = 0.25 min. pump run time with subsequent down time of 9.75 min.

Max. duty cycle time: 120 min×0.025 = 3 min. pump run time with subsequent down time of 117 min.

KFB-M





Used with SKF MonoFlex single-line systems, the KFB series gear pump units supply fluid grease NLGI 000 and 00 and include a pressure-relief valve and a pressure-limiting valve. The pumps are designed for supply voltages of 24 VDC and are controlled either by an integrated electronic control unit or externally, via the machine control system. Depending on the design, the gear pump units are filled via a filler socket or attached filler coupling.

Features and benefits

- Compact pump unit
- Integrated pressure-relief valve and pressure-regulating valve
- Visual or optional electrical fill-level monitoring
- Optional integrated control

Applications

- Automation
- Automotive
- Machine tools

For further technical information, technical drawings, accessories, spare parts or product function descriptions, see the following publication available on SKF.com/lubrication: 1-1206-EN



Technical data

Function principle	
Metering quantity ¹⁾	
Lubricant	
	grade 000 or 00
Operating temperature	0 to +60 °C: +32 to 140 °F
Operating pressure	max. 38 bar. <i>550 psi</i>
Reservoir	
	KFB(S)1-M(-W): 1 I, 0.26 gal
Material (reservoir)	translucent plastic
Connection outlet	ø8×1,25;
	(max. 16 m, 52.5 ft)
Dimensions KFB1-M, KFB1-M-W,	
KFBS1-M, KFBS1-M-W	216×150×235 mm
	8.5 × 5.9 × 9.3 in
Dimensions KFB1-M-W-S1	216×150×270 mm
	8.5×5.9×10.6 in
Mounting position	vertical
DC motor	

DC motor

Voltage	 24 V DC ²⁾
Current	
Rated output	 41 W
Protection class.	 IP 65

Fill-level switch (KFB1-M-W) (change-over contact)

Switching voltage	. 24 V DC ²⁾
Switching current (resistive load) ³⁾	
Switching capacity (resistive load) ³⁾	.≤12 W

Control unit IG502-2-I (KFBS1)

Interval, adjustable	0.1	99.9 h
Pump run time, adjustable	0.1	99.9 min
Max. pump run time	2.4 m	in
Elapsed-hours counter	J 9	9999.9 h
Fault-hours counter	J 9	9999.9 h
Additional input power for units with		
control unit (without output load) 4	4 W	

At back pressure of 10 bar and a temperature of +25 °C; +77 °F
 Safety measures to be applied for correct operation:
 Protective extra-low voltage (PELV), standards: EN 60204-1/IEC 60204-1;
 HD 60364-4-41/DI RN 0100-410/IEC 60364-4-41
 When switching inductive loads, take appropriate measures to protect contacts

KFB-M

KFB-M pump units						
Order number	Lubricant Oil viscosity 50–50 000 mm²/s	Fluid grease NLGI 000, 00	Control unit	Fill-level switch	Electrical connections Square connector 3-pin +PE	Circular connector M12×1, 4-pin
VED4 N. 027						
KFB1-M+924 KFBS1-M+924	_ _	•	•	_	•	•
KFB1-M-W+924	_	•	-	•	•	•
KFBS1-M-W+924	-	•	•	•	•	•
KFB1-M-W-S1+924	•	_	_	•	•	_

KFU





The gear pump continuously supplies lubricant to relubrication metering devices via the main line network when the pump is in operation. When the metering chambers of the metering devices are full, excess lubricant flows back into the reservoir via the safety valve. At the end of the pump running time, the pressure relief valve opens so that pressure in the main line drops to a residual pressure of 0.2 to 1.0 bar $(2.9\ to\ 14.5\ psi)$, allowing the spring-loaded pistons of the metering devices to deliver lubricant from the metering chambers to the lubrication points.

Features and benefits

- Includes gear pump with relief valve, safety valve, DC motor, transparent lubricant reservoir, filler socket and angle bracket
- Hood protects DC motor and filler socket from contaminants
- Minimizes wear and tear
- Reduces downtime
- Lowers maintenance costs via automatic lubrication

Applications

- Agriculture
- · Construction machinery
- Trucks, trailers and buses



Technical data

Function principle electrically operated gear pump

Operating pressure max. 38 bar, 550 psi Reservoir 2,7 or 6 l; 0.7 or 1.6 gal

Material..... Steel, plastic

Sealings: FKM, NBR

Reservoir: Translucent plastic

Main connection Mainly plastic tubing \emptyset 10 × 1.5

but also steel tubing ø 10 × 0.7

hose SLH10-...

Secondary connection Mainly plastic tubing \emptyset 4 × 0.85.;

in case of large movement between lubrication point and chassis:

hose 734 ...

Operating voltage 12 or 24 VDC

Protection class IP 59k

Dimensions min. 268 × 154 × 325 mm

max. 343 × 184 × 364 mm *min.* 10.5 × 6 × 12.7 *in*

max. 13.5×7.2×14.3 in

Mounting position vertical

 $^{1)}$ At back pressure 38 bar (550 psi) and temperature +25 °C (+77 °F)



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For further technical information, technical drawings, accessories, spare parts or product function descriptions, see the following publication available on

SKF.com/lubrication: 1-9420-EN, 951-170-006_EN

3D data and product configuration:



KFU

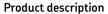
KFU pump units					
Order number	Reservo	ir	Operating v	oltage	
	l	gal	VDC	Amp	
KFU2-40+912 KFU2-40+924 KFU6-20+912 ¹⁾ KFU6-20+924 ¹⁾ KFUS2-64+912 KFUS2-64+924		12 12 1.6 1.6 1.2 12	12 24 12 24 12 24	7.5 7.5 7.5 7.5 16 8	

¹⁾ This unit should only be used for systems with a minimum lubricant consumption of 6 l (1.6 gal) per year.

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MKU





MKU gear pump units are used in single-line systems and include a pre-installed pressure-regulating valve and pressure-relief valve. These units can be supplied with an optional pressure gauge for visual monitoring of pressure changes in the main line. Electrical pressure monitoring is performed by an integrated pressure switch, and fill-level monitoring also is possible. The pump units are controlled externally via the machine control system or an integrated control unit. Also, MKU units can be supplied with a pushbutton to activate interim lubrication at any time. Main functions are integrated into the lid, and a plastic cap protects the electrical components from contaminants such as dirt and dust.

Features and benefits

- Integrated pressure limitation and pressure relief valve
- Optional: electrical pressure switch, pressure gauge, float switch
- External control via SPS or by means of internal control unit possible
- All important functions integrated into the lid
- Modular construction

Applications

- Material handling
- Automotive
- Machine tool
- Printing and finishing
- · Industrial assembly and automation
- Textiles



Technical data

Function principle..... electrically operated gear pump Metering quantity..... 100; 200; 500 cm³/min 6; 12; 31 in³/min Lubricant mineral oil or synthetic oil, 20 to 1 500 mm²/s Operating temperature. +10 to 40 °C; +50 to 104 °F Operating pressure. max. 30 bar, 435 psi Reservoir 2,0; 3,0 and 6,0 l, 0.5, 0.8 and 1.6 gal Material (reservoir). plastic, metal Connection outlet G 1/4 Protection class IP 54 Dimensions pump unit with 204×130×298 mm 2 l; 0.5 gal plastic reservoir. . . 8 × 5.2 × 11.7 in 3 l; 0.8 gal plastic reservoir . . 286×132×298 mm 11.3×5.2×11.7 in 3 l; 0.8 gal metal reservoir . . . 286×132×313 mm 11.3 × 5.2 × 12.3 in 6 l; 1,5 gal plastic reservoir. . . 290×178×334 mm 11.4 × 7 × 13.2 in

NOTE

For further technical information, technical drawings, accessories, spare parts or product function descriptions, see the following publication available on SKF.com/lubrication: **1-1203-EN**, **951-170-005 EN**

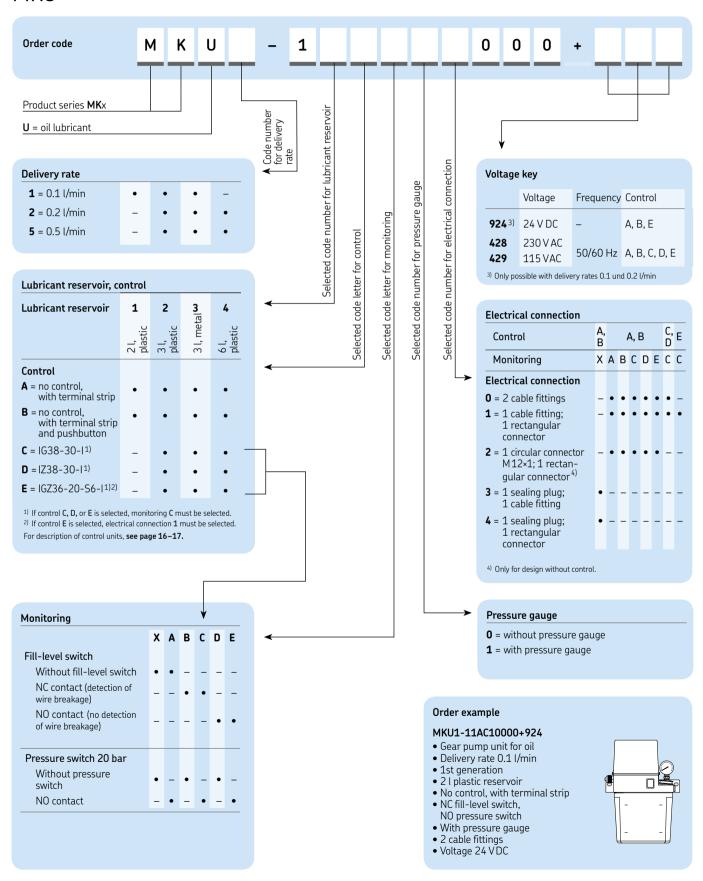
3D data and product configuration:

Mounting position vertical

skf-lubrication.partcommunity.com/3d-cad-models/



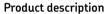
MKU



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MKF





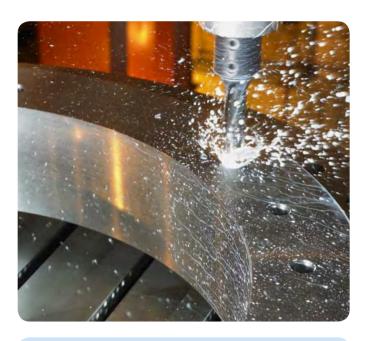
MKF gear pump units are used in single-line systems to supply fluid greases NLGI 000 and 00 and include a pressure-regulating valve and pressure-relief valve. Electrical pressure monitoring is performed by an integrated pressure switch, and fill-level monitoring also is possible. These units are controlled externally via the machine control system or an integrated control unit. Also, MKF units can be supplied with a pushbutton to activate interim lubrication at any time. Main functions are integrated into the lid, and a plastic cap protects the electrical components from contaminants such as dirt and dust.

Features and benefits

- Integrated pressure-limitation and pressure-relief valve
- Optional: electrical pressure switch, pressure gauge, float switch
- External control via SPS or by means of internal control unit possible
- All important functions integrated into the lid
- Modular construction

Applications

- Material handling
- Automotives
- Machine tool
- Printing and finishing
- Industrial assembly and automation
- Textiles



Technical data

Function principle	electrically operated gear pump 100; 200; 500 cm³/min 6; 12; 31 in³/min MKF: fluid grease NLGI 000 or 00, compatible with plastics, NBR
Operating temperature Operating pressure	elastomers, copper and copper alloys +10 to 40 °C; +50 to 104 °F max. 30 bar, 435 psi 2,0; 3,0 and 6,0 l, 0.5, 0.8 and 1.6 gal
Material (reservoir) Connection outlet	plastic, metal G ¹ / ₄
Protection class	IP 54
2 l; <i>0.5 gal</i> plastic reservoir 3 l; <i>0.8 gal</i> plastic reservoir	8×5.2×11.7 in
3 l; 0.8 gal metal reservoir	11.3 × 5.2 × 11.7 in
6 l; 1,5 gal plastic reservoir	11.3×5.2×12.3 in
Mounting position	11.4 × 7 × 13.2 in vertical

NOTE

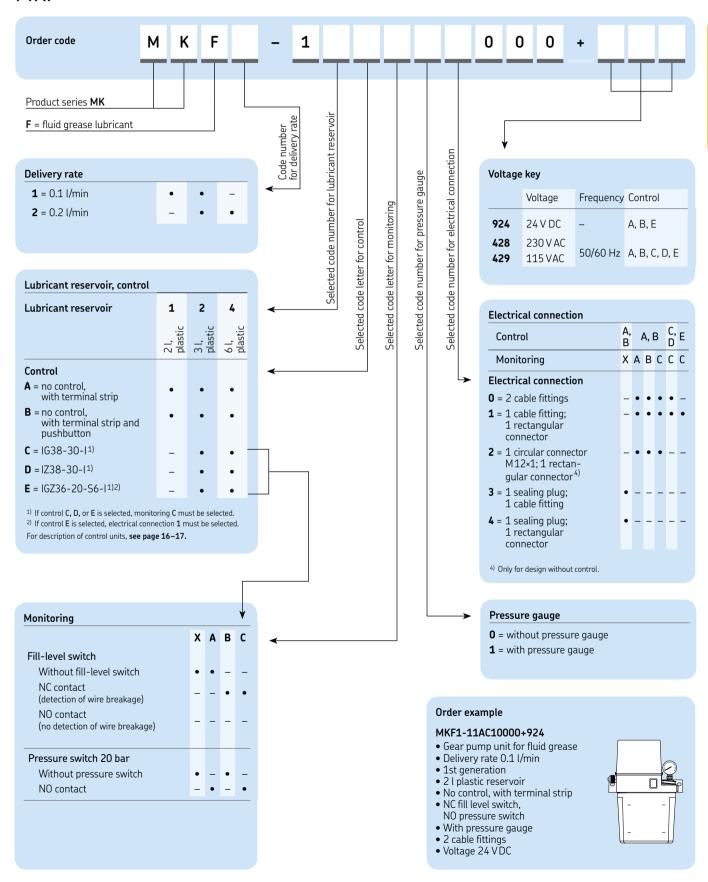
For further technical information, technical drawings, accessories, spare parts or product function descriptions, see the following publication available on SKF.com/lubrication: **1-1203-EN**, **951-170-005 EN**

3D data and product configuration:

skf-lubrication.partcommunity.com/3d-cad-models/



MKF



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MFE





The gear pump units comprising the MFE series are designed to supply lubricant used in intermittently operated, single-line centralized lubrication systems. The basic setup includes a gear pump unit with motor, a 3- or 6 l lubricant reservoir in metal or plastic, or a 15 l metal reservoir and float switch to monitor the minimum permissible level of lubricant. In addition to the basic models, units can be outfitted with add-ons.

Features and benefits

- Integrated float switch for fill-level monitoring
- Integrated pressure-relief valve and pressure-regulating valve
- Motors available for various voltage ranges and approvals
- Special designs offered for a wide range of applications
- Suitable for intermittent operation
- For remote installation out of reservoir or for built-in reservoir
- Reliable and versatile
- Suitable for use with metering devices of category 1 and 2

Applications

- Automotive manufacturing
- Metal, including presses
- Machine tools
- Printing and finishing
- · Industrial assembly and automation



Technical data

Function principle electrically operated gear pump

NLGI 00, 000

Operating temperature -10 to +60 °C; +14 to +140 °F

Back pressure max. 17,5; 28 bar, max. 255, 405 psi

Material (reservoir) plastic, metal

Connection outlet M14×1.5

Dimensions pump unit with

3 l; 0.8 gal plastic reservoir . .303 \times 130 \times 245 mm; 11.9 \times 5.1 \times 9.6 in 3 l; 0.8 gal metal reservoir. . . 332×178×312 mm; $13 \times 7 \times 12.3$ in 6 l; 1,5 gal plastic reservoir . .319 × 128 × 265 mm; 12.6 × 5 × 10.4 in 6 l; 1,5 gal metal reservoir. . . $370 \times 167 \times 330$ mm; $14.6 \times 6.6 \times 12.9$ in 15 l; 4 gal metal reservoir . . . 453 × 200 × 436 mm; $17.8 \times 7.8 \times 17.2$ in

Mounting position vertical

Floating switch for low-level monitoring of oil

Type of contact 1 change-over;

2 change-over contacts (reed contacts)

Switching voltagemax. 230 VAC, 230 VDC Switching currentmax. 0,8 A; 1,0 A

Switching capacity......max. 60 VA, 40 W¹⁾

NOTE

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For further technical information, technical drawings, accessories, spare parts or product function descriptions, see the following publication available on SKF.com/lubrication: 1-1202-EN, 951-170-002 EN

INCOLN

MFE

MFE pump units for oil				
Order number	Reservoir		Reservoir material	Design ¹⁾
	l	gal		
MFE5-K3-2 MFE5-KW3-2 MFE5-KW3-2-S4 MFE5-KW3-S37+1FV MFE5-KW3-S35+1FW MFE5-KW3-S24+MPG	3 3 3 3 3	0.8 0.8 0.8 0.8 0.8	Plastic Plastic Plastic Plastic Plastic Plastic	CE basic version without level monitoring CE basic version with min. fill level switch CE basic version with min. fill level switch incl. pre-warning UL/CSA version with fill level monitoring incl. min. fill level pre-warning CCC version with fill level monitoring incl. min. fill level pre-warning CE version with 6 pin Harting plug with fill level monitoring incl. min. fill level pre-warning
MFE5-K6 MFE5-KW6 MFE5-KW6-S1 MFE5-KW6-S42+1FV MFE5-KW6-S102+1FW MFE5-KW6-S33+MPG	6 6 6 6 6	1.6 1.6 1.6 1.6 1.6 1.6	Plastic Plastic Plastic Plastic Plastic Plastic	CE basic version without level monitoring CE basic version with min. fill level switch CE basic version with min. fill level switch incl. pre-warning UL/CSA version with fill level monitoring incl. min. fill level pre-warning CCC version with fill level monitoring incl. min. fill level pre-warning CE version with 6 pin Harting plug with fill level monitoring incl. min. fill level pre-warning
MFE5-B3-2 MFE5-BW3-2 MFE5-BW3-2-S28 MFE5-BW3-S-S34+1FV MFE5-BW3-S41+MPG	3 3 3 3	0.8 0.8 0.8 0.8 0.8	Metal Metal Metal Metal Metal	CE basic version without level monitoring CE basic version with min. fill level switch CE basic version with min. fill level switch incl. pre-warning UL/CSA version with fill level monitoring incl. min. fill level pre-warning CE version with 6 pin Harting plug with fill level monitoring incl. min. fill level pre-warning
MFE5-B7 MFE5-BW7 MFE5-BW7-S22+1FV MFE5-BW7-S97+1FW MFE5-BW7-S107+MPG MFE5-BW7-S222+MPG	6 6 6 6 6	1.6 1.6 1.6 1.6 1.6 1.6	Metal Metal Metal Metal Metal Metal	CE basic version without level monitoring CE basic version with min. fill level switch UL/CSA version with fill level monitoring incl. min. fill level pre-warning CCC version with fill level monitoring incl. min. fill level pre-warning CE version with 6 pin Harting plug with fill level monitoring incl. min. fill level pre-warning CE version incl. gauge and vent filter, with 6 pin Harting plug with fill level monitoring incl. min. fill level pre-warning
MFE5-BW16 MFE5-BW16-S145+1FV MFE5-BW16-S96+MPG MFE5-BW16-S222+MPG	15 15 15 15	4 4 4 4	Metal Metal Metal Metal	CE basic version with min. fill level switch incl. pre-warning UL/CSA version with fill level monitoring incl. min. fill level pre-warning CE version with 6 pin Harting plug with fill level monitoring incl. min. fill level pre-warning CE version incl. gauge and vent filter, with 6 pin Harting plug with fill level monitoring incl. min. fill level pre-warning
MFE5-BW30 MFE5-BW30-S30 MFE5-BW30-S35+MPG MFE5-BW30-S222+MPG		8 8 8 8	Metal Metal Metal Metal	CE basic version with min. fill level switch CE basic version with min. fill level switch incl. pre-warning CE version with 6 pin Harting plug with fill level monitoring incl. min. fill level pre-warning CE version incl. gauge and vent filter, with 6 pin Harting plug with fill level monitoring incl. min. fill level pre-warning
1) Further designs are available on r	equest.			

MFE pump units for fuid grease								
Order number	Reservoir		Reservoir material	Design ¹⁾				
	l	gal						
MFE2-K3-2 MFE2-K3F-2 MFE2-KW3F-S13+1FV MFE2-KW3F-S9+MPG	3 3 3 3	0.8 0.8 0.8 0.8	Plastic Plastic Plastic Plastic	CE basic version without level monitoring CE basic version with min. fill level switch UL/CSA version with fill level monitoring incl. min. fill level pre-warning CE version with 6 pin Harting plug with fill level monitoring incl. min. fill level pre-warning				
MFE2-K6F MFE2-K6F-S2 MFE2-KW6F-S1 MFE2-KW6F-S37+1FV MFE2-KW6F-S41+1FW MFE2-KW6F-S20+MPG	6 6 6 6 6 6	1.6 1.6 1.6 1.6 1.6 1.6	Plastic Plastic Plastic Plastic Plastic Plastic	CE basic version without level monitoring CE basic version with min. fill level switch CE basic version with min. fill level switch incl. pre-warning UL/CSA version with fill level monitoring incl. min. fill level pre-warning CCC version with fill level monitoring incl. min. fill level pre-warning CE version with 6 pin Harting plug with fill level monitoring incl. min. fill level pre-warning				

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Overview of oil and fluid grease metering devices

Product finder Metering device series	r Category	Lubricant oil fluid grease 000/00	Metering quan	ntity	Operating	pressure	Adjustment metering quantity	Function type	Page
			cm ³	in ³	bar ————	psi ————————————————————————————————————	_		
341 * 340 L522 * L521 * 361	1 1 1 1 1,2	• - • - • -	0,01-0,16 0,01-0,16 0,01-0,16 0,025-0,5 0,02-0,10	0.0006-0.0097 0.0006-0.0097 0.0006-0.0097 0.0015-0.0305 0.0010-0.0060	6–80 6–80 12–20 12–80 8–80	87–1 160 87–1 160 174–290 174–1 160 116–1 160	- - - •	prelubrication prelubrication prelubrication prelubrication dynamic pulse type	48 50 52 53 54
351 * 350 370 391 390	1 1 1 1	- - - -	0,05–0,60 0,05–0,60 0,05–1,50 0,20–1,50 0,20–1,50	0.0030-0.0366 0.0030-0.0366 0.0030-0.0915 0.0122-0.0915 0.0122-0.0915	6–80 6–80 20–80 8–45 8–80	87–1 160 87–1 160 290–1 160 116–653 116–1 160	- - - -	prelubrication prelubrication relubrication prelubrication prelubrication	56 58 60 62 64
321 G, G4, T, W, Module 361 321 G7	2 2 2	• •	0,01–0,10 0,01–0,20 0,01–0,30	0.0006-0.0060 0.0006-0.0122 0.0006-0.0183	12–45 8–80 12–45	174–653 116–1 160 174–653	- - -	special assembly arrangement dynamic pulse type special assembly arrangement	66 54 66
AB * 341 340 VN 351 350	2 2 2 2 2 2 2	• • • • • • • • • • • • • • • • • • • •	0,01-0,60 0,03-0,10 0,03-0,10 0,05-1,00 0,10-0,60 0,10-0,30	0.0006-0.0366 0.0018-0.0061 0.0018-0.0061 0.0030-0.0610 0.0061-0.0366 0.0061-0.0183	18–50 6–80 6–80 20–80 6–80	261–725 87–1 160 87–1 160 290–1 160 87–1 160 87–1 160	- - - - -	prelubrication prelubrication prelubrication relubrication prelubrication prelubrication prelubrication	68 48 50 70 56 58
0i-Al-SR 391 390	3 3 3	• •	0,02–0,10 0,10–0,30 0,10–0,30	0.0012-0.0061 0.0061-0.0183 0.0061-0.0183	30–100 8–45 8–80	435–1 450 116–653 116–1 160	- - -	cartridge arrangement prelubrication prelubrication	72 62 64
SL-42 SL-43 SL-41 SL-44	4 4 4 4	• •		0.001-0.0029 0.001-0.0080 0.0079-0.0799 0.0079-0.0799	52–69 52–69 52–69 52–69	750–1 000 750–1 000	:	prelubrication prelubrication prelubrication prelubrication	74 76 78 80

* Stainless steel or C5M available

341



Product description

Developed for installation in manifolds, series 341 single-port, prelubrication metering devices are suitable for use with single-line, centralized lubrication systems for oil and fluid grease. The combination of these metering devices with one- to six-port manifolds provides flexible options for lubrication system design. Manifolds customized for product series 341 are available in aluminum and stainless steel.

Features and benefits

- Suitable with manifolds having one to six ports to match number of lubrication points
- Provides flexible options for systems with remote single lubrication points or multiple-port metering devices with up to six ports
- Select optional push-in or screw-in type metering nipples for feed line connections via order code
- Choose separately manifold models with different thread sizes for main line connection and materials
- Current metering nipples above 0,03 cm³ are exchangeable to yield different output quantities

Applications

- Machine tools
- Printing machines
- Packaging industry
- · Textile industry



Technical data

Function principle	1
Metering quantity	0.0006 to 0.0097 in ³ fluid grease: 0,03 to 0,10 cm ³ 0.0018 to 0.0061 in ³
Lubricant	
Operating temperature Operating pressure	0 to +80 °C; +32 to 176 °F
Relief pressure	max. 3 bar, 43.5 psi
Connection main line	pipe ø 6 to 10 mm, solderless pipe connection for threads G ¹ / ₈ ; G ¹ / ₄ ; M 10×1 or M 14×1,5
Connection outlet	
Dimensions	min. 43,5 × 12 mm; 1.713 × 0.472 in max. 53 × 12 mm; 2.086 × 0.472 in
Mounting position	•

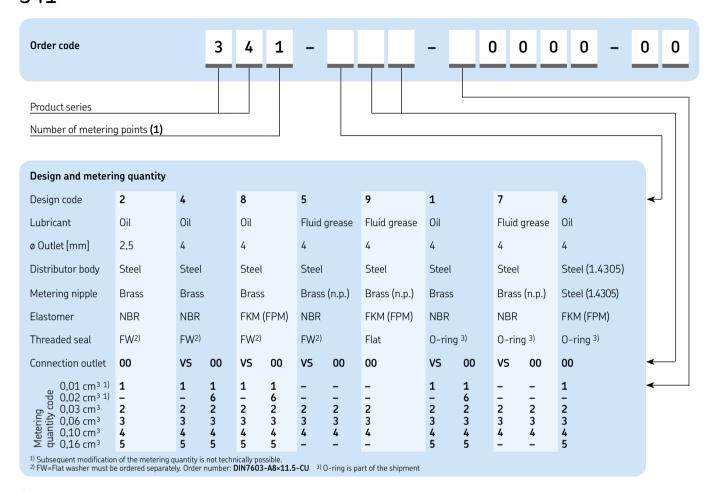
NOTE

For further technical information, technical drawings, accessories, spare parts or product function descriptions, see the following publication available on SKF.com/lubrication: **1-5001-EN**

3D data and product configuration:



341



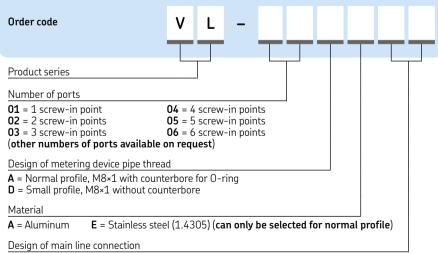
Accessory

Manifold



Product description

For 341 metering devices, VL-manifold s are utilized for one to six screw-in points with thread M8x1 mm for 0-ring or flat (copper) washer sealing. Normal-profile manifolds are available in aluminum and stainless steel, while narrow-profile manifolds are offered in aluminum only.



G1 = $G^{1}/_{8}$ per DIN 3852-2, Form X, small **G2** = $G^{1}/_{4}$ per DIN 3852-2, Form X, small $M3 = M10 \times 1$ with counterbore for solderless pipe connection per DIN 3862

M4 = M14×1,5 with counterbore for solderless pipe connection per DIN 3862

(can only be selected for normal profile)

340





Product description

Offered in two-, three- and five-port models, series 340 metering devices were developed for use with single-line, centralized lubrication systems for oil and fluid grease. These metering devices are designed for installation directly on the machine/system requiring lubrication. Series 340 metering devices can be ordered with fittings for the main line connection by selecting the appropriate order code.

Features and benefits

- Designed for installation directly on the machine/system requiring lubrication
- Select optional push-in or screw-in type metering nipples for feed line connections
- Choose optional push-in or screw-in type main line fittings
- Metering nipples above 0,03 cm³ are exchangeable to yield different output quantities

Applications

- Machine tools
- Printing machines
- · Packaging industry
- Textile industry

Technical data

Function principle metering device

Outlets. 2, 3 or 5

Metering quantity oil: 0,01 to 0,16 cm³

0.0006 to 0.0097 in³ grease: 0,03 to 0,10 cm³ 0.0018 to 0.0061 in³

Lubricant mineral and synthetic oil,

20 to 2 000 mm²/s and fluid grease NLGI 000, 00

Operating temperature . . . 0 to +80 °C; +32 to 176 °F Operating pressure min. 6 bar, 87 psi; max. 80 bar, 1160 psi

Relief pressure. max. 3 bar, 43.5 psi

Materials zinc die-cast, brass (oil),

nickel-plated brass (fluid grease), copper, steel, FKM (FPM)/NBR

Connection main line. different fittings for pipe ø 6 to 10 mm or closure plugs for thread M10×1

Connection outlet pipe ø2,5 and ø 4 mm metering nipple (VS) with SKF guick connector,

metering nipple (00) for solderless

pipe connection Dimensions min. 48 × 53 × 15 mm

min. 1.889 × 2.086 × 0.590 in

max. 99 × 58 × 15 mm

max. 3.897 × 2.283 × 0.590 in

Mounting position any

For further technical information, technical drawings, accessories, spare parts or product function descriptions, see the following publication available on SKF.com/lubrication: 1-5001-EN

3D data and product configuration:

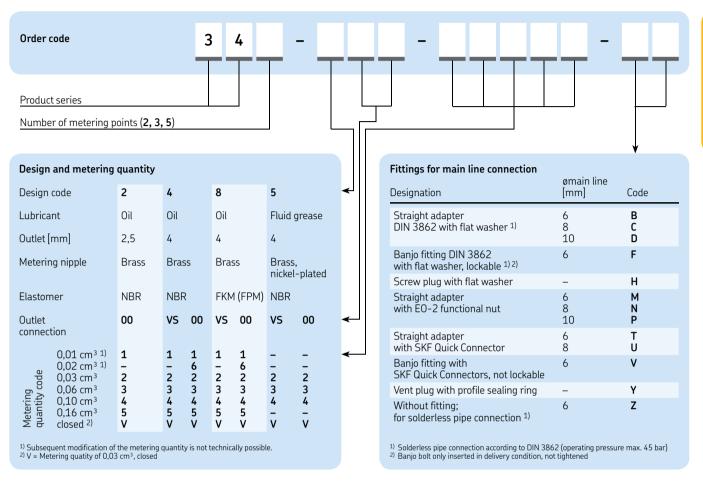
skf-lubrication.partcommunity.com/3d-cad-models/



LINCOLN

Metering device

340



Accessory

Exchangeable metering nipples



	Order numbers for solderless pipe connection metering nipples Outlet Ø Order numbers sorted by metering quantity						
mm	in	Elastomer	Lubri- cant	0,03 cm³ 0.00183 in³	0,06 cm³ 0.00366 in³	0,10 cm ³ 0.0061 in ³	0,16 cm ³ 0.0097 in ³
2,5 4 4 4	0.1 0.16 0.16 0.16	NBR NBR FKM NBR	oil oil oil fluid grease	995-994-003 995-994-103 341-453-K-S8 341-853-K	995-994-006 995-994-106 341-456-K-S8 341-856-K	995-994-010 995-994-110 341-460-K-58 341-860-K	995-994-016 995-994-116 341-466-K-S8



Orde	r num	bers for SK	F Quick Conne	ctor metering nipples	5		
Outle	et ø			Order numbers sort	ted by metering quant	tity	
mm	in	Elastomer	Lubri- cant	0,03 cm³ 0.00183 in³	0,06 cm³ 0.00366 in³	0,10 cm³ 0.0061 in³	0,16 cm ³ 0.0097 in ³
4 4 4	0.16 0.16 0.16	NBR FKM NBR	oil oil fluid grease	995-994-103-VS 341-453-S8-VS 341-853-VS	995-994-106-VS 341-456-S8-VS 341-856-VS	995-994-110-VS 341-460-S8-VS 341-860-VS	995-994-116-VS 341-466-58-VS -

LS22





Product description

Developed for installation in manifolds, LS22 are single-port metering devices for oil and special lubricants. When used in combination with one- to five-port manifolds, these prelubrication metering devices provide flexible options for lubrication system design. Connections with or without (M8x1) a quick-release connector are offered for feed lines and connections with a quick-release connector are available for main line tubes.

Features and benefits

- For use with manifolds having one to five ports to match number of lubrication points
- Compatible with ø 4 mm for feed lines and ø 8 for main lines
- Suitable for push-in or screw-in type fittings for dosers and push-in type fittings for manifolds
- Robust, reliable
- Suitable for up to 200 lubrication points

Applications

- Conveyor chain surfaces and guides
- · Food and beverage
- Packaging

_				
Tec	hn	ıca	l d	ata

Function principle metering device 0.0006 to 0.0097 in 3 mineral and synthetic oil, Lubricant 5 to 2 500 mm²/s; 0.007 to 3.875 in²/s or LDTS1 (dry film lubricant with synthetic oil and PTFE additions) Operating temperature . . . Ó to +50 °C; +32 to 122 °F Operating pressure min. 12 bar; 174 psi max. 20 bar; 290 psi Relief pressure. max. 3 bar; 43.5 psi Materials stainless steel 303, FKM (FPM), high phosphorus FDA chem. nickel-plated brass Connection main line.... push-in connectors for pipe ø 8 mm and thread G 1/4 Connection outlet with or without push-in connectors for pipe ø 4 mm and thread M10x1 Dimensions min. 89 × 68,5 × 20 mm

min. 3.5 × 2.67 × 0.8 in max. 179 × 84 × 20 mm

max. 7.0 × 3.3 × 0.8 in

Order numbers		
Order number.	Outlet(s)	
LS2210	1	
LS2220 LS2230	2 3	
LS2240 LS2250	4 5	

NOTE

Mounting position any

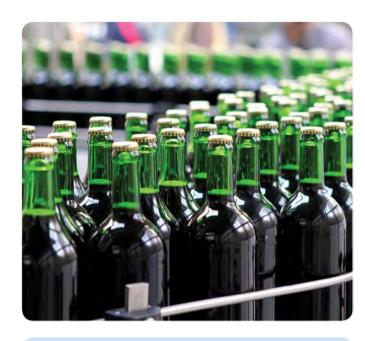
For further technical information, technical drawings, accessories, spare parts or product function descriptions, see the following publication available on SKF.com/lubrication: **15848 EN**





LS21





Product description

Developed for installation in manifolds, LS21 are single-port metering devices for oil and special lubricants. When used in combination with one- to five-port manifolds, these adjustable prelubrication metering devices provide flexible options for lubrication system design. Connections with or without (M8x1) a quick-release connector are offered for feed lines, and connections with a quick-release connector are available for main line tubes.

Features and benefits

- For use with manifolds having one to five ports to match number of lubrication points
- Compatible with ø 4 mm for feedlines and ø 8 for main lines
- Suitable for push-in type fittings for dosers and manifolds
- Robust, reliable
- Suitable for up to 200 lubrication points

Applications

- Conveyor chain surfaces and guides
- Food and beverage
- Packaging

Technical data

Function principle adjustable metering device Outlets 1
Metering quantity adjustable 0,025 to 0,5 cm ³ 0.0015 to 0.0305 in ³
Lubricant mineral and synthetic oil, 5 to 2 500 mm²/s; 0.007 to 3.875 in²/s or LDTS1 (dry film lubricant with synthetic oil and PTFE additions)
Operating temperature 0 to + 50 °C; +32 to 122 °F
Operating pressure min. 12 bar; 174 psi
max. 20 bar; <i>290 psi</i>
Relief pressure max. 3 bar; 43.5 psi
Materials stainless steel 303, FKM (FPM), high
phosphorus FDA chem. nickel-plated brass
Connection main line push-in connectors for pipe
\emptyset 8 mm and thread G $1/_{4}$
Connection outlet with or without push-in connectors
for pipe ø 4 mm and thread M10×1
Working frequency ≤ 1 stroke/2 s
Dimensions min. 89 × 92 × 20 mm
min. 3.5 × 3.622× 0.8 in
max. 179×110×20 mm
max. 7.0 × 4.330 × 0.8 in
Mounting position any

Order numbers	Order numbers						
Order number.	Outlet(s)						
LS2110 LS2120 LS2130 LS2140 LS2150	1 2 3 4 5						



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For further technical information, technical drawings, accessories, spare parts or product function descriptions, see the following publication available on

SKF.com/lubrication: 15848 EN

361

Metering device



Product description

Designed for installation in manifolds, series 361 single-port, dynamic metering devices were developed for use with single-line, centralized lubrication systems for oil and fluid grease. When used in combination with one- to six-port manifolds, these metering devices provide flexible options for lubrication system design. Customized manifolds for series 361 metering devices are available in aluminum.

Features and benefits

- For use with manifolds having one to six ports to match number of lubrication points
- Designed for installation directly on the machine/ system requiring lubrication
- Select screw-in type distributor with feed line connections via order code
- · Choose separately optional manifold models with different thread sizes for main line connection

Applications

- · Chain lubrication
- Transport and conveyor belts



Technical data

Function principle metering device

0,01 to 0,20 cm³; 0.0006 to 0.012 in³

synthetic oil:

0,02 to 0,10 cm³; 0.001 to 0.006 in³ Lubricant mineral and synthetic oil: 10 to

1 000 mm²/s, 0.015 to 1.55 in²/s

fluid grease of NLGI 000, 00

Operating temperature 0 to +80 °C; +32 to 176 °F

Operating pressure min. 8 bar, 116 psi max. 80 bar, 1 160 psi

Relief pressure. max. 3 bar; 43.5 psi

Materials steel (galvanized, Cr6-free),

(oil, grease), brass (oil), copper, flat washer (copper), NBR

. pipe ø 6 to 12 mm, Connection main line.....

0.236 to 0.472 in; solderless pipe

connection for threads G 1/8 G 1/4; M10×1 or M14×1,5 (DIN 3862)

Connection outlet pipe ø 4 mm straight

compression nut fitting

Dimensions min. 42×14 mm max. 46,5×14 mm

min. 1.653 × 0.551 in

max. 1.830 × 0.551 in

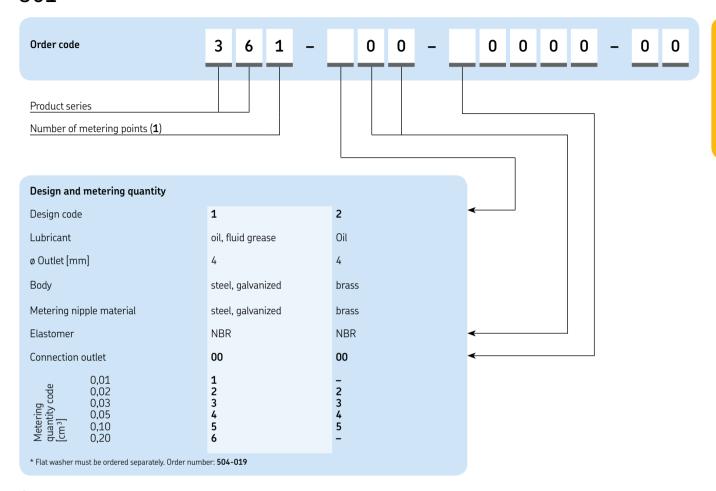
Mounting position any

For further technical information, technical drawings, accessories, spare parts or product function descriptions, see the following publication available on SKF.com/lubrication: 1-5001-EN

3D data and product configuration:



361



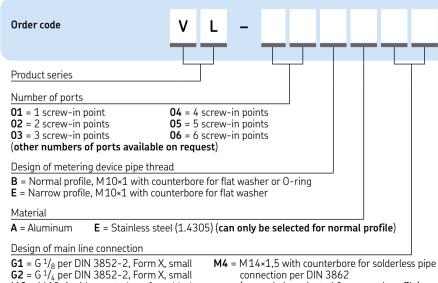
Accessory

Manifold



Product description

For 361 metering devices, VL-manifolds are utilized for one to six screw-in points with thread M10×1 mm for flat washer sealing. Various main line connections can be selected via order code.



PUB LS/P1 17046 EN

 $M3 = M10 \times 1$ with counterbore for solderless pipe connection per DIN 3862

(can only be selected for normal profile)

351



Product description

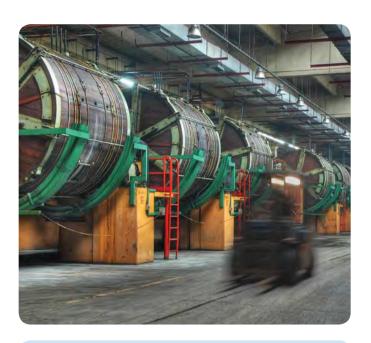
Designed for installation in manifolds, series 351 single-port, prelubrication metering devices were developed for use with single-line, centralized lubrication systems for oil and fluid grease. When used in combination with one- to six-port manifolds, these metering devices provide flexible options for lubrication system design. Customized manifolds for series 351 metering devices are available in aluminum and stainless steel.

Features and benefits

- For use with manifolds having one to six ports to match number of lubrication points
- Provides flexible options for systems with remote single lubrication points or multiple-port metering devices with up to six ports
- Select optional push-in or screw-in type nipples for feed line connections
- Choose separately manifold models with different thread sizes for main line connection and materials
- Current metering nipples are exchangeable to yield different output quantities

Applications

- Machine tools
- Printing machines
- Packaging industry
- Textile industry



Technical data

recinical data	
Function principle Outlets	.1
Metering quantity	0.0030 to 0.0366 in ³
	fluid grease: 0,10 to 0,60 cm ³ 0.0061 to 0.0366 in ³
Lubricant	
	20 to 2 000 mm ² /s and fluid grease NLGI 000, 00
Operating temperature	
Operating pressure	. min. 6 bar, 8 <i>7 psi</i> ;
Relief pressure	max. 80 bar, 1 160 psi
	. Hiak. 3 bal, 43.3 ps/ . aluminum, stainless steel, brass (oil), nickel-plated brass (grease), flat washer (copper, stainless steel), FKM (FPM)/NBR
Connection main line	pipe \emptyset 6 to 12 mm solderless pipe connection for threads G $1/8$; G $1/4$; M10×1 or M14×1,5 (DIN 3862)
Connection outlet	pipe ø 4 mm metering nipple (VS) with SKF Quick Connector - metering nipple (00) for solderless pipe connection
Dimensions	. min. 43,5×12 mm; 1.713×0.472 in
Manusaliana arabitan	max. 53×12 mm; 2.086×0.472 in
Mounting position	. ally

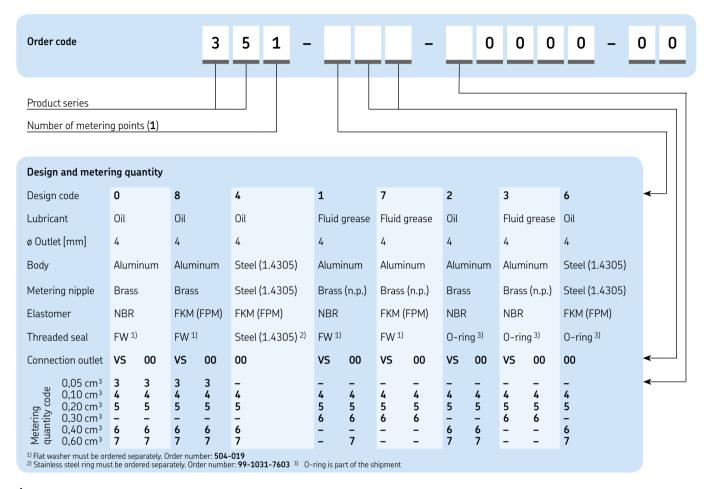
NOTE

For further technical information, technical drawings, accessories, spare parts or product function descriptions, see the following publication available on SKF.com/lubrication: **1-5001-EN**

3D data and product configuration:



351



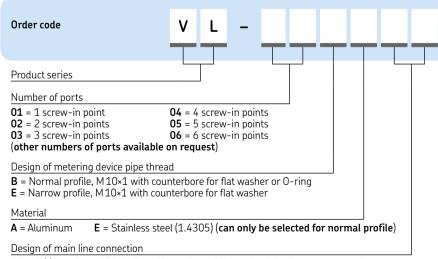
Accessory

Manifold



Product description

For 351 metering devices, VL-manifolds are utilized for one to six screw-in points with thread M10×1 mm for O-ring or flat (copper) washer sealing. Various main line connections can be selected via order code.



e selected via order code.

Design of main line connu

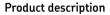
G1 = G¹/₈ per DIN 3852-2, Form X, small G2 = G¹/₄ per DIN 3852-2, Form X, small M3 = M10×1 with counterbore for solderless pipe connection per DIN 3862

M4 = M14x1,5 with counterbore for solderless pipe connection per DIN 3862

(can only be selected for normal profile)

350





Designed for installation directly on the machine/system requiring lubrication, series 350 single-line, prelubrication metering devices are available in two-, three- and five-port models. These metering devices were developed for use with single-line, centralized lubrication systems for oil and fluid grease. Series 350 metering devices can be ordered with fittings for the main line connection by selecting the appropriate order code.

Features and benefits

- For use with distributor bodies having two, three and five ports to match number of lubrication points
- Designed for installation directly on the machine/system requiring lubrication
- Select push-in or screw-in type metering nipples for feed line connection with metering device bodies
- Choose push-in or screw-in type main line fittings with metering device bodies
- Current metering nipples above 0,03 cm³ are exchangeable to yield different output quantities

Applications

- Machine tools
- Printing machines
- Packaging industry
- Textile industry
- Agriculture



Technical data

Function principle	. metering device
Outlets	. 2, 3 or 5
Metering quantity	
3 1	0.003 to 0.037 in ³
	grease: 0,10 to 0,30 cm ³
	0.0061 to 0.0183 in ³
Lubricant	. mineral and synthetic oil.
	20 to 2 000 mm ² /s and
	fluid grease NLGI 000, 00
Operating temperature	
Operating pressure	
	max. 80 bar, 1 160 psi
Relief pressure	
	zinc die-cast, brass (oil), nickel-plated
Triaterials	brass (fluid grease), copper, steel,
	FKM (FPM)/NBR
Connection main line	different fittings for pipe \emptyset 6 to 10 mm
connection main time	0.236 to 0.393 in or closure plugs for
	thread M 12×1
Connection outlet	. pipe ø 4 mm metering nipple (VS) with
connection oddet	SKF Quick Connector - metering nipple
	(00) for solderless pipe connection
Dimensions	
Difficilisions	min. 1.811 × 3.267 × 0.708 in
	max. 97 × 86 × 18 mm
	max. 3.818×3.385×0.708 in
Mounting position	
Mounting position	. arry

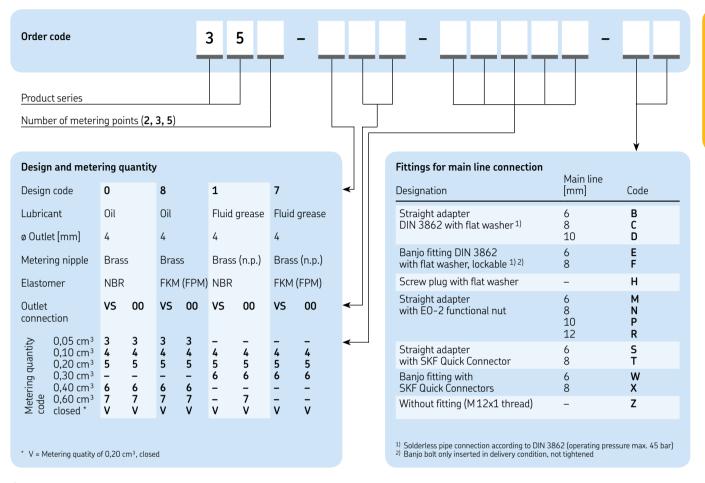
NOTE

For further technical information, technical drawings, accessories, spare parts or product function descriptions, see the following publication available on SKF.com/lubrication: **1-5001-EN**

3D data and product configuration:



350



Accessory

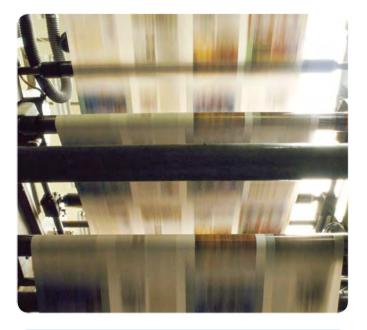
Exchangeable metering nipples

Order n	rder numbers for metering nipples for oil (replaceable)							
Outlet ø)	Material	Metering	Metering quantity 0.05 cm ³	0.10 cm ³	0.20 cm ³	0.40 cm ³	0.60 cm ³
mm	in	Elastomer	nipple	0.003 in ³	0.006 in ³	0.012 in ³	0.024 in ³	0.036 in ³
4	0.16	NBR	00	352-005-K	352-010-K	352-020-K	352-040-K	352-060-K
4 4	0.16 0.16	NBR FKM (FPM)	VS 00	352-005-VS 352-005-K-S8	352-010-VS 352-010-K-S8	352-020-VS 352-020-K-S8	352-040-VS 352-040-K-S8	352-060-VS 352-060-K-S8
4	0.16	FKM (FPM)	VS	352-005-S8-VS	352-010-S8-VS	352-020-S8-VS	352-040-S8-VS	352-060-S8-VS

Order n	numbers fo	or metering nip	ples for fluid	d grease (replaceable)			
Outlet ø	in	Material Elastomer	Metering nipple	Metering quantity 0,10 cm ³ 0.006 in ³	0,20 cm ³ 0.012 in ³	0,30 cm³ 0.018 in³	0,60 cm³ <i>0.036 in³</i>
4 4 4 4	0.16 0.16 0.16 0.16	NBR NBR FKM (FPM) FKM (FPM)	00 VS 00 VS	995-993-610 995-993-610-VS 352-010-K-S82 352-010-S82-VS	995-993-620 995-993-620-VS 352-020-K-S82 352-020-S82-VS	995-993-630 995-993-630-VS 352-030-K-582 352-030-582-VS	995-993-660 - - -

370





Product description

Series 370 relubrication metering devices were developed for use with single-line, centralized lubrication systems for oil. Designed for installation directly on the machine/system requiring lubrication, these metering devices are available in two-, three- and five-port models. Series 370 metering devices can be ordered with fittings for the main line connection by selecting the appropriate order code.

Features and benefits

- For use with distributor bodies having two, three and five ports to match number of lubrication points
- Designed for installation directly on the machine/ system requiring lubrication
- Choose optional metering nipples and push-in or screw-in type fittings for feed line connections
- Select SKF Quick Connector or screw-in type main line fittings
- Current metering nipples are easily exchangeable to yield different output quantities

Applications

- Machine tools
- · Printing machines
- · Packaging industry
- Textile industry

Technical data

Function principle metering device Metering quantity 0,05 to 1,50 cm³ 0.003 to 0.091 in 3 Lubricantmineral and synthetic oil 20 to 2 000 mm²/s 0.031 to 3.100 in 2/s Operating temperature -20 to +80 °C; -4 to 176 °F Operating pressure min. 20 bar, 290 psi max. 80 bar, 1 160 psi Relief pressure. ≤1 bar, 14.5 psi Materials zinc die-cast, brass, copper, steel, NBR Connection main line different fittings for pipe ø 6 to 12 mm; 0.236 to 0.472 in or closure plugs for thread M12×1 Connection outlet pipe ø 4 mm; 0.16 in - metering nipple (VS) with SKF Quick Connector metering nipple (00) for solderless pipe connection (DIN 3862) min. 37×75×50,5 mm min. 1.456×2.952×1.988 in max. 88 × 75 × 56,5 mm max. 3.464 × 2.952 × 2.224 in Mounting position any

NOTE

For further technical information, technical drawings, accessories, spare parts or product function descriptions, see the following publication available on SKF.com/lubrication: **1-5001-EN**

3D data and product configuration:

skf-lubrication.partcommunity.com/3d-cad-models/



PUB LS/P1 17046 EN

60

370

Order number configurator	3 7 - 2	
Product series	I point 1 I point 2 I point 3 On VN2) I point 4 On VN2) I point 5 On VN2)	
Number of metering points (2, 3, 5)	ing por ing po	
Lubrication line fitting	Metering Metering present, c Metering present, c Metering present, c metering present, c	
00 = Solderless pipe connectionVS = SKF Quick Connector		
Metering quantity		
3 = 0,05 cm ³ , 0.0030 in ³ 4 = 0,10 cm ³ , 0.0061 in ³ 5 = 0,20 cm ³ , 0.0122 in ³ 6 = 0,40 cm ³ , 0.0244 in ³	7 = 0,60 cm ³ , 0.0366 in ³ 8 = 1,00 cm ³ , 0.0610 in ³ 9 = 1,50 cm ³ , 0.0915 in ³	

- **B** = Solderless pipe connection ø 6 mm, 0.23 in. **C** = Solderless pipe connection ø 8 mm, 0.31 in.
- **D** = Solderless pipe connection ø 10 mm, 0.39 in.
- **E** = Banjo fitting DIN 3862 with flat washer, lockable ø 6 mm, 0.23 in. **F** = Banjo fitting DIN 3862 with flat washer, lockable ø 8 mm, 0.31 in.

- H = Screw plug with flat washer
 M = Straight adapter with E0-2 functional nut ø 6 mm, 0.23 in.
 N = Straight adapter with E0-2 functional nut ø 8 mm, 0.31 in.
- P = Straight adapter with E0-2 functional nut ø 10 mm, 0.39 in.

 R = Straight adapter with E0-2 functional nut ø 12 mm, 0.47 in.

 S = Straight adapter with SKF Quick Connector ø 6 mm, 0.23 in.

 T = Straight adapter with SKF Quick Connector ø 8 mm, 0.31 in.

 W = Banjo fitting with SKF Quick Connector ø 8 mm, 0.23 in.

 X = Banjo fitting with SKF Quick Connector ø 8 mm, 0.31 in.

- **Z** = Without fitting, solderless pipe connection

Accessory

Exchangeable metering nipples





Order	numbers	for metering nip	ples* (replaceabl	e)						
Outlet mm	ø in	Material Elastomer	Metering qua 0,05 cm ³ 0.003 in ³	antity 0,10 cm³ <i>0.006 in</i> ³	0,20 cm ³ 0.012 in ³	0,40 cm³ 0.024 in³	0,60 cm³ 0.036 in³	1,00 cm³ 0.061 in³	1,50 cm³ <i>0.092 in</i> ³	
4 4	0.157 0.157	NBR NBR	V72-005	V71-010	V71-020	V71-040	V71-060	V71-100	V71-150	
* Meterir	ng nipples are	e made of brass.								

391



Product description

Series 391 single-port prelubrication metering devices were developed for use with single-line, centralized lubrication systems for oil and fluid grease. Designed for installation in manifolds, these metering devices provide flexible system design when combined with one- to six-port manifolds. Customized manifolds for series 391 are available in aluminum.

Features and benefits

- For use with manifolds having one to six ports to match number of lubrication points
- Provides flexible options for systems with remote single lubrication points or multiple-port metering devices with up to six ports
- Select screw-in type metering nipples with feed line connections via order code
- Choose separately manifold models with different thread sizes for main line connection
- Current metering nipples are exchangeable to yield different output quantities

Applications

- Machine tools
- Printing machines
- Packaging industry
- · Textile industry



Technical data

Function principle metering device

Metering quantity oil: 0,2 to 1,5 cm 3 ; 0.01 to 0.09 in 3

fluid grease: 0,1 to 0,3 cm³

0.006 to 0.02 in³

Lubricant mineral and synthetic oil, 20 to 2 000 mm²/s,

fluid grease NLGI 000, 00

Operating temperature 0 to +80 °C; +32 to 176 °F

Operating pressure min. 8 bar, 116 psi

max. 45 bar, 6*53 psi*

Relief pressure. max. 7 bar; 101.5 psi

Materials aluminum, brass (oil), nickel-plated brass (fluid grease), copper, FKM

(FPM)/NBR

Connection main line.....pipe ø 6 to 12 mm

0.236 to 0.472 in

solderless pipe connection

for threads G ¹/₈; G ¹/₄; M10×1 or M14×1,5 (DIN 3862)

Connection outletpipe ø 4 mm; 0.16 in - metering nipple

(00) for solderless pipe connection

Dimensions min. 67,5 × 22 mm

min. 2.657 × 0.866 in

max. 78,5 × 22 mm

max. 3.091 × 0.866 in

Mounting position any

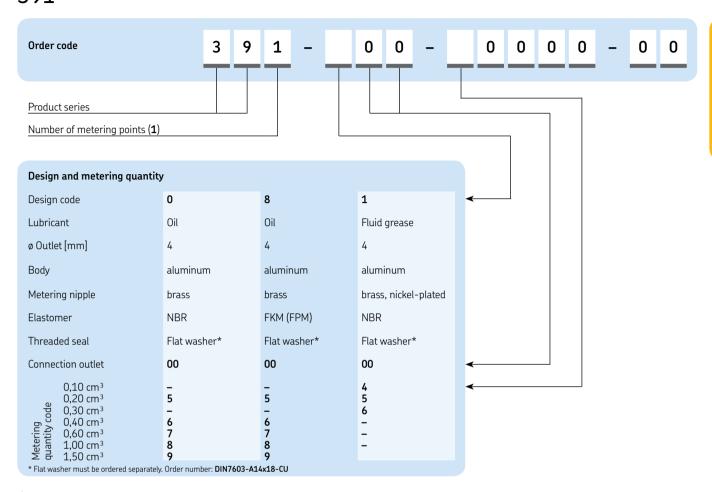
NOTE

For further technical information, technical drawings, accessories, spare parts or product function descriptions, see the following publication available on SKF.com/lubrication: **1-5001-EN**

3D data and product configuration:



391



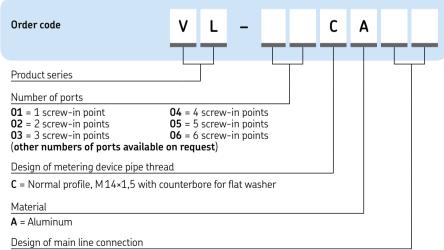
Accessory

Manifold



Product description

For 391 metering devices, VL-manifolds are utilized for one to six screw-in points with thread M14×1,5 mm for flat (copper) washer sealing. Various main line connections can be selected via order code.



G1 = $G^{1}/_{8}$ per DIN 3852-2, Form X, schmal **G2** = $G^{1}/_{4}$ per DIN 3852-2, Form X, schmal

G2 = G¹/₄ per DIN 3852-2, Form X, schmal M3 = M10×1 with counterbore for solderless pipe connection per DIN 3862

M4 = M14x1,5 with counterbore for solderless pipe connection per DIN 3862

(can only be selected for normal profile)

390



Product description

Series 390 prelubrication metering devices were developed for use with single-line, centralized lubrication systems for oil and fluid grease. Designed for installation directly on the machine/system requiring lubrication, these metering devices can be ordered with fittings for the main line connection by selecting the appropriate order code.

Features and benefits

- For use with distributor bodies having two or three ports to match number of lubrication points
- Designed for installation directly on the machine/ system requiring lubrication
- Select screw-in type metering nipples for feed line connections
- Choose push-in or screw-in type main line fittings
- Current metering nipples are exchangeable to yield different output quantities

Applications

- Machine tools
- · Printing machines
- Packaging industry
- · Textile industry



Technical data

Metering quantity	. oil: 0,2 to 1,5 cm ³ 0.01 to 0.915 in ³
	fluid grease: 0,1 to 0,3 cm ³ 0.006 to 0.0183 in ³
Linkstone	
Lubricant	
	20 to 2 000 mm²/s
	0.031 to 3.100 in ² /s
	fluid grease of NLGI 000, 00
Operating temperature	.0 to +80 °C; +32 to 1/6 °F
Operating pressure	
	max. 45 bar, 6 <i>53 psi</i>
Relief pressure	
Materials	. zinc die-cast, brass (oil), nickel-plated
	brass (fluid grease), copper, steel,
	FKM (FPM)/NBR
Connection main line	. different fittings for pipe
	ø 6 to 12 mm; 0.236 to 0.472 in
	or closure plugs for thread M12×1
Connection outlet	. pipe ø 4 mm; 0.16 in - metering nipple
	(00) for solderless pipe connection
	(DIN 3862)
Dimensions	. min. 50×89×23 mm
	min. 1.968 × 3.503 × 0.905 in
	max. 71 × 89 × 23 mm

Function principle metering device Outlets. 2 or 3

NOTE

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For further technical information, technical drawings, accessories, spare parts or product function descriptions, see the following publication available on SKF.com/lubrication: **1-5001-EN**

max. 5.393 × 3.503 × 0.905 in

3D data and product configuration:

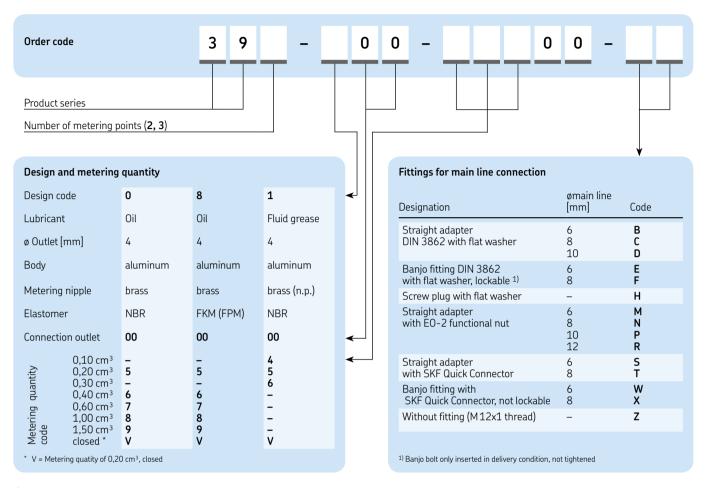
Mounting position any

skf-lubrication.partcommunity.com/3d-cad-models/



SKF

390



Accessory

Exchangeable metering nipples

Order numbers for metering nipples for oil (replaceable)								
Outlet	Ø	Material		Metering quantity 0.2 cm ³	0.4 cm ³	0.6 cm ³	1.0 cm ³	1,5 cm ³
mm	in	Elastomer	metering nipple	0.012 in ³	0.024 in ³	0.036 in ³	0.061 in ³	0.092 in ³
4	0.16	NBR	brass	391-020-K	391-040-K	391-060-K	391-100-K	391-150-K
4	0.16	FKM (FPM)	brass	391-020-K-S8	391-040-K-S8	391-060-K-S8	391-100-K-S8	391-150-K-S8

Orde	Order numbers for metering nipples for fluid grease (replaceable)							
Outle mm	in	Material Elastomer	metering nipple	Metering quantity 0,1 cm ³ 0.006 in ³	0,2 cm³ 0.012 in³	0,3 cm³ 0.006 in³		
4	0.16	NBR	brass, nickel-plated	391-010-K-S1	391-020-K-S1	391-030-K-51	_	

321 G, T, W, G4, Module, G7





Product description

Series 321 single-port prelubrication metering devices were developed for use with single-line, centralized lubrication systems for oil and fluid grease. These metering devices are designed for installation directly in a lubrication point, which eliminates feeding lubricant via a lubrication point line, as well as the lubrication line at the lubrication point. This can be beneficial where space is limited. Choose from six types to meet application requirements.

Features and benefits

- Specially designed, single-port metering device for prelubrication
- For direct connection to the main line
- No separate lubrication line and fittings are necessary
- Screw-in type can be monitored by a pressure switch in the main line; suitable for feed line Ø 4 mm (oil) and Ø 6 mm (fluid grease)

Applications

- Machine tools
- · Printing machines
- Packaging industry
- · Textile industry

NOTE

For further technical information, technical drawings, accessories, spare parts or product function descriptions, see the following publication available on SKF.com/lubrication: **1-5001-EN**

3D data and product configuration:

skf-lubrication.partcommunity.com/3d-cad-models/

Technical data

Function principle	
Outlets	
Metering quantity	
	0,01 to 0,10 cm ³ ; 0.0006 to 0.006 in
	Model G7: 0,01 to 0,3 cm ³
	0.0006 to 0.018 in ³ . mineral and synthetic oil, 20 to 2 000
Lubricant	
	mm ² /s, 0.031 to 3.100 in ² /s
	fluid grease of NLGI 000, 00,0
Operating temperature	
Operating pressure	. min. 12 bar, <i>174 psi</i>
	max. 45 bar, 6 <i>53 psi</i>
Relief pressure	. max. 3 bar, <i>max</i> . 43.5 psi
Materials	. steel (galvanized, Cr6-free) or brass,
	NBR, G7 FKM (FPM)
Connection main line	. different fittings for pipe ø 6 to 10 mm
	0.236 to 0.393 in or closure plugs for
	thread M 10×1
Connection outlet	. pipe ø 4 and ø 6 mm; 0.157 to 0.236
	in - straight compression nut fitting
	- solderless pipe union (DIN 3862)
Dimensions: 321 G	. length: 50 mm: 1.968 in
	ø: 16.2 mm: 0.638 in
	wrench size 14 mm
Dimensions: 321 W	length: 46 mm: 1.811 in
5	width: 26 mm; 1.023 in
	ø: 11,5 mm; <i>0.453 in</i>
	wrench size 10 mm
Dimensions: 321 G4	
Billensions. 321 0 1	ø: 19.6 mm: 0.771 in
Dimensions: 321 T	length: 43 mm: 1 692 in
Diffictions. 321 1	width: 61 mm; 2.401 in
	ø: 16,2 mm; 0.638 in
	wrench size 14 mm
Dimensions: 321 Module	
	height or thickness: 11 mm; 0.433 in
Dimensions: 321 G7 small	
Dimensions: 321 G7 large	V. 10,5 IIIII, 0.405 III
Difficitions. 321 67 large	. terigui. 50 mm, 1. 900 m

ø: 13.5 mm: 0.531 in

LINCOLN

PUB LS/P1 17046 EN

Mounting position any

321 G, T, W, G4, Module, G7

Order number. 321 G	321 T	321 W	ø Outle	et	Lubrica	nt	Meterii quantit		Pipe thread of lubrication point line
			mm	in	Oil	Fluid grease	cm ³	in³	
321-40161	_	_	4	0.157	•	_	0.01	0.0006	M8×1 taper
321-401G2	321-401T2	321-401W2	4	0.157	•	_	0.01	0.0006	M10×1 taper
			4	0.157		_	0,01	0.0006	R 1/8 taper
321-401G3	_	_			•		.,.		70 4
321-403G1	321-403T1	321-403W1	4	0.157	•	_	0,03	0.0018	M8×1 taper
321-403G2	321-403T2	321-403W2	4	0.157	•	_	0,03	0.0018	M10×1 taper
321-403G3	321-403T3	321-403W3	4	0.157	•	_	0,03	0.0018	R ¹ / ₈ taper
321-406G1	321-406T1	321-406W1	4	0.157	•	_	0,06	0.0036	M8×1 taper
321-406G2	321-406T2	321-406W2	4	0.157	•	_	0,06	0.0036	M10×1 taper
321-406G3	321-406T3	321-406W3	4	0.157	•	_	0,06	0.0036	R 1/8 taper
321-410G1	321-410T1	321-410W1	4	0.157	•	_	0,10	0.0061	M8×1 taper
321-410G2	321-410T2	321-410W2	4	0.157	•	-	0,10	0.0061	M10×1 taper
321-410G3	321-410T3	321-410W3	4	0.157	•	-	0,10	0.0061	R 1/8 taper
321-601G1	_	321-601W1	6	0.236	•	•	0,01	0.0006	M8×1 taper
321-601G2	321-601T2	321-601W2	6	0.236	•	•	0,01	0.0006	M10×1 taper
-	321-601T3	321-601W3	6	0.236	•	•	0,01	0.0006	R ¹ / ₈ taper
321-603G1	321-603T1	321-603W1	6	0.236	•	•	0,03	0.0018	M8×1 taper
321-603G2	321-603T2	321-603W2	6	0.236	•	•	0,03	0.0018	M10×1 taper
321-603G3	321-603T3	321-603W3	6	0.236	•	•	0,03	0.0018	R ¹ / ₈ taper
321-606G1	_	321-606W1	6	0.236	•	•	0,06	0.0036	M8×1 taper
321-606G2	321-606T2	321-606W2	6	0.236	•	•	0,06	0.0036	M10×1 taper
321-606G3	321-606T3	321-606W3	6	0.236	•	•	0,06	0.0036	R 1/8 taper
321-610G1	321-610T1	321-610W1	6	0.236	•	•	0,10	0.0061	M8×1 taper
321-610G2	321-610T2	321-610W2	6	0.236	•	•	0,10	0.0061	M10×1 taper
321-610G3	321-610T3	321-610W3	6	0.236	•	•	0,10	0.0061	R 1/8 taper

Order numbers 321 G4, Module, G7									
Order number. 321 G4	321 Module	321 G7 small	321 G7 large	ø Outlet		Lubricant		Metering quantity	
				mm	in	Oil	Fluid grease	cm ³	in³
21-40364 - 321-40664 - 321-41064	321-101 321-103 - 321-106 -	321-40167 321-40367 321-40367-58 321-40667 321-40667-58 321-41067	- - - - - 321-61067	4 4 4 4 4	0.157 0.157 0.157 0.157 0.157 0.157	:	•	0,01 0,03 0,03 0,06 0,06 0,10 0,10	0.0006 0.0018 0.0018 0.0036 0.0036 0.0061
=	-	- - -	321-61667 321-62067 321-63067	6 6 6	0.236 0.236 0.236	•	•	0,16 0,20 0,30	0.0098 0.0122 0.0180

AB



Product description

Designed for installation in manifolds, series AB single-port, prelubrication metering devices were developed for use with single-line, centralized lubrication systems for oil and fluid grease. When combined with one- to six-port manifolds, these metering devices provide flexibility in lubrication system design. The metering device body is available in steel and stainless steel versions with copper or stainless steel sealing rings.

Features and benefits

- For use with manifolds having one to six ports to match number of lubrication points
- Provides flexible options for systems with remote single lubrication points or multiple-port metering devices with up to six ports
- · Virtually maintenance-free
- Select screw-in type metering device for feed line connection via order code
- Choose separately manifold models with different thread sizes for main line connection and materials

Applications

- Machine tools
- Printing machines
- Packaging industry
- · Textile industry



Technical data

Function principle metering device

Metering quantity 0,01 to 0,60 cm 3 , 0.0006 to 0.04 in 3

Lubricant mineral and synthetic oil,

20 to 2 000 mm²/s, 0.031 to 3.100 in²/s

fluid grease of NLGI 000, 00 Operating temperature 0 to +80 °C; +32 to 176 °F

Operating pressure min. 18 bar, 260 psi

Materials steel (galvanized, Cr6-free), stainless steel,

copper, steel, flat washer (copper, stainless

steel), FKM (FPM)

Connection main line..... pipe ø 6 to 10 mm; 0.236 or 0.393 in;

solderless pipe connection for threads $G^{1}/_{8}$; $G^{1}/_{4}$; M10×1 or M14×1,5

(DIN 3862)

Connection outlet Connection outlet: pipe ø 4 mm; 0.16 in,

straight compression nut fitting

Dimensions min. 43 × 14 mm

min. 1.692 × 0.551 in max. 82,5 × 14 mm

max. 1.228 × 0.551 in

Mounting position any

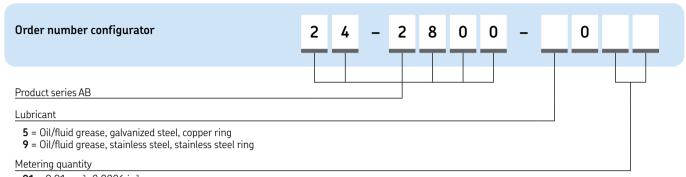
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For further technical information, technical drawings, accessories, spare parts or product function descriptions, see the following publication available on SKF.com/lubrication: 1-5001-EN

3D data and product configuration:



AB



01 = 0.01 cm^3 . 0.0006 in^3

02 = 0,02 cm³, 0.0012 in³

 $03 = 0.03 \text{ cm}^3, 0.0018 \text{ in}^3$

05 = 0,05 cm³, 0.0030 in³ **10** = 0,10 cm³, 0.0061 in³

20 = 0,20 cm³, 0.0122 in³ **40** = 0,40 cm³, 0.0244 in³

60 = 0,60 cm³, 0.0366 in³

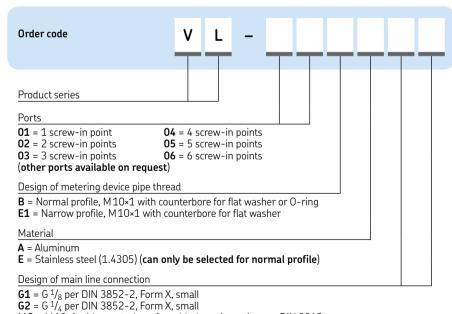
Accessory

Manifold



Product description

For series AB metering devices, VL-manifolds are utilized for one to six screw-in points with thread M10x1 mm for flat (copper) washer sealing. Normal-profile manifolds are available in aluminum or stainless steel, while narrow-profile manifolds are offered only in aluminum. Various main line connections can be selected via order code.



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(can only be selected for normal profile)

M3 = M10×1 with counterbore for solderless pipe union per DIN 3862 M4 = M14×1.5 with counterbore for solderless pipe union per DIN 3862

VN

Metering device





Product description

Developed for use with single-line, centralized lubrication systems for fluid grease, series VN relubrication metering devices are offered with two, four or six ports. These metering devices were designed for installation directly on the vehicle or construction machine requiring lubrication. Series VN metering devices can be ordered with fittings for the main line connection via the appropriate order code.

Features and benefits

- Choose metering device with two, four or six points to match number of lubrication points
- Designed for installation directly on the vehicle/machine requiring lubrication
- Select metering nipples and push-in or screw-in type fittings for feed line or main line connections
- Easy metering adjustment by replacing metering nipples
- Black-coloured surface for optimized corrosion protection

Applications

- Commercial vehicles
- Construction machinery

Technical data

Metering quantity 0,05 to 1,00 cm³ 0.003 to 0.061 in 3 Operating temperature $-25 \text{ to } +80 \,^{\circ}\text{C}$; $-13 \text{ to } +176 \,^{\circ}\text{F}$ Operating pressure min. 20 bar; 290 psi max. 80 bar; 1160 psi Relief pressure. ≤1 bar, ≤14.5 psi Materials zinc die-cast, brass, steel, flat washer (copper), NBR Connection main line.......different fittings for pipe ø 6 to 10 mm; 0.236 to 0.393 in or closure plugs for thread M8x1 Connection outlet pipe ø 4 mm metering nipple (VS) with SKF Quick Connector - metering nipple (00) for solderless pipe connection Dimensions min. 62 × 83,5 × 52 mm

max. 130,5 × 83,5 × 58 mm min. 2.440 × 3.287 × 2.047 in

max. 5.118 × 3.287 × 2.283 in

Function principle metering device

Mounting position any

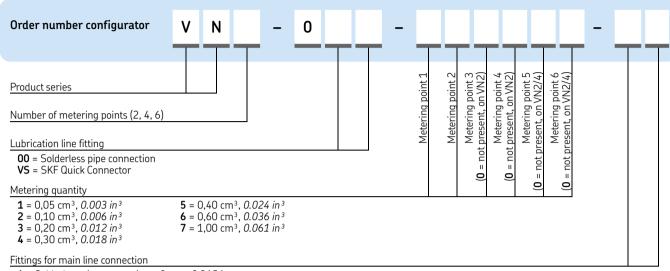
NOTE

For further technical information, technical drawings, accessories, spare parts or product function descriptions, see the following publication available on SKF.com/lubrication: **1-5001-EN**

3D data and product configuration:



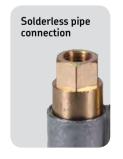
VN



- **A** = Solderless pipe connection ø 8 mm, 0.315 in **E** = Solderless pipe connection ø 6 mm, 0.236 in
- **H** = Screw plug with flat washer
- **S** = SKF Quick Connector Ø 10 mm, 0.01 in
- **Z** = Without fitting

Accessory

Exchangeable metering nipples



1) Metering nipples are made of brass.



4	0.16	NBR	VKU005-K	VKU010-K	VKU020-K	VKU030-K	VKU040-K	VKU060-K	VKU100-K
mm	in	Elastomer	0.003 in ³	0.006 in ³	0.012 in ³	0.018 in ³	0.024 in ³	0.036 in ³	0.061 in ³
Outlet ø		Material	Metering qua 0.05 cm ³	ntity 0.10 cm³	0.20 cm ³	0.30 cm ³	0.40 cm ³	0.60 cm ³	1.00 cm ³
Oluei III	umbers it	or metering mp	ples ¹⁾ (replaceal	oic,					

OI-AL-SR



Product description

Developed for use in single-line, centralized lubrication systems, series OI-AL-SR single-port, prelubrication metering devices (cartridges) feature an integrated control pin and are designed for installation in manifolds or in base plates with up to 40 lubrication points. Three cartridge models with different fixed metering quantities provide flexible lubrication system design. Reduced feeding of main lines and feed lines in machines/systems saves on materials and installation costs.

Features and benefits

- Screw-in type, single-port metering device with cartridges for prelubrication
- For use with manifolds having one to eight ports or with base plates with up to 40 ports to match number of lubrication points
- Suitable for many lubrication points in constricted rooms
- All main line and feed line connections are located internally in the manifolds or base plates
- Simplifies installation, control function and replacement by use of one unit

Applications

· Glass industry



Technical data

Metering quantity 0,02; 0,05; 0,10 cm³

0.001; 0.003; 0.006 in³
Lubricant mineral and synthetic oil, 22 to

1 000 mm²/s, 0.034 to 1.55 in²/s fluid grease of NLGI 000, 00

Operating temperature . . . +5 to 120 °C; +41 to 248 °F
Operating pressure min. 30 bar; 435 psi
max. 100 bar: 1 450 psi

Relief pressure. max. 5 bar; 72.5 psi

Material cartridge aluminum

Material manifold AlCuMgPb F37 DIN 1796 Material base plate AlMgSi1 F28-32 or AlCuMg1 F28

FKM (FPM)

Connection main line.... SKF Quick Connector or solderless pipe

connection for thread G ¹/₈ (F)

Connection outlet SKF Quick Connector or solderless pipe connection for thread G 1/8 (F)

Dimensions min. 120 × 35 × 105 mm

in. 4.72×1.38×4.13 in max. 300×35×105 mm

max. 11.81 × 1.38 × 4.13 in

Mounting position any

NOTE

For further technical information, technical drawings, accessories, spare parts or product function descriptions, see the following publication available on SKF.com/lubrication: **951-231-001-EN**



OI-AL-SR

Order number	Number of outlets	Meter	ing quai	ntity													
	or outlets	Outle	t 1	Outlet	2	Outlet	: 3	Outlet	4	Outlet	: 5	Outlet	: 6	Outle	: 7	Outle	t 8
		cm³	in³	cm³	in³	cm³	in³	cm³	in³	cm³	in³	cm³	in³	cm³	in³	cm³	in³
47-41151-2	2	0,02	0.001	0,02	0.001	_	_	_	_	_	_	_	_	_	_	_	_
47-41152-2	3	0,02	0.001	0,02	0.001	0,02	0.001	_	_	_	_	_	_	_	-	_	-
47-41152-4	3	0,10	0.006	0,05	0.003	0,05	0.003	-	-	-	-	-	-	-	-	-	-
47-41153-2	4	0,05	0.003	0,05	0.003	0,05	0.003	-	-	-	-	-	-	-	-	-	-
47-41154-4 47-41154-5	5 5	0,02	0.001 0.001	0,02	0.001 0.001	0,02	0.001 0.001	0,02	0.001 0.001	0,02	0.001	-	_	-	-	-	-
47-41154-5	5 5	0.02	0.001	0.05	0.001	0.05	0.001	0.05	0.001	0.05	0.003	_	_	_		_	_
47-41154-6	5	0,02	0.001	0.05	0.003	0,05	0.003	0.05	0.003	-	-	_	_	_	_	_	_
47-41155-2	6	0,10	0.006	0,05	0.003	0,05	0.003	0,05	0.003	0,05	0.003	0,05	0.003	_	_	_	_
47-41156-2	8	0.05	0.003	0,05	0.003	0,05	0.003	0,05	0.003	0,02	0.001	0,02	0.001	0,02	0.001	_	_

Accessories

Cartridges, manifolds, base plates







Cartridges	
Order number	Metering quantity
547-33924-1 547-33925-1 547-33926-1	0,02 cm³/stroke 0,05 cm³/stroke 0,10 cm³/stroke

Order number Number of ports
447-71901-1 2 447-71902-1 3 447-71903-1 4 447-71904-1 5 447-71906-1 8

Base plate					
Order number	Number of ports				
447-71899-1	40				

SL-42



Product description

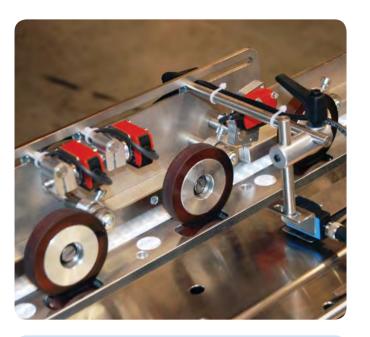
Series SL-42 metering devices were developed for single-line, centralized lubrication systems dispensing oil or fluid grease. Lubricant output is externally adjustable, and the indicator stem permits a visual check of metering device operation. These carbon steel metering devices are available with nitrile or fluoroelastomer packings. Metering devices with fluoroelastomer packings (indicated by black adjustment caps) are used for applications requiring heat resistance or when a lubricant requires it for compatibility.

Features and benefits

- Screw-in type, single-port metering device for prelubrication affixed by adapter bolts
- Suitable for use with manifolds having one to 15 ports to match number of lubrication points
- Output is externally adjustable
- Indicator stem permits visual check of metering device operation
- May be combined in a circuit with SL-41, SL-43 and/or SL-44 metering devices
- Individual metering devices can be removed easily for inspection or replacement

Applications

- Paper converting
- · Plastic processing
- Printing
- Packaging
- Metalworking
- · Material handling equipment



Technical data

Function	nrıncınl	metering	device

Metering quantity adjustable from 0,016 to 0,049 cm³,

0.001 to 0.003 in³

Lubricant mineral and synthetic oil and fluid grease Operating temperature . . . standard: -26 to +93 °C; -15 to +200 °F heat resistant: max. +176 °C; +350 °F

Operating pressure min. 52 bar, 750 psi max. 70 bar, 1 000 psi

Relief pressure. < 10 bar, 150 psi

Materials carbon steel, stainless steel, brass, steel, Nitrile (NBR) or fluoroelastomer

(FKM, FPM) packings

(indicated by black adjustment caps)

(heat resistance application)

1/8 NPTF (F)

Connection main line....

Connection outlet pipe $^1/_8$ 0.D connections $^1)$ Dimensions min. $^41 \times 62 \times 43$ mm min. 1.6 × 2.4 × 1.7 in max. 308 × 62 × 43 mm

max. 12.1 × 2.4 × 1.7 in

Mounting position any

¹⁾ different adapters are possible see accessories; Note: When using feed line tubing of 1/8 0.D. the feed line must not exceed a length of 7,5 m; 295 in based on oil +18 °C; +65 °F

SL-42

Order number configurator Product series **83311** = standard with nitrile packings **84428** = heat resistant with fluoroelastomer packings **85352** = standard with nitrile packings for metric tube connection O.D. 4 and 6 mm, up to 6 outlets Number of metering devices 1 = 1 metering device, mounted in a manifold

- 2 = 2 metering devices, mounted in a manifold
- **3** = 3 metering devices, mounted in a manifold
- **4** = 4 metering devices, mounted in a manifold
- **5** = 5 metering devices, mounted in a manifold
- **6** = 6 metering devices, mounted in a manifold
- 10 = 10 metering devices, mounted in a manifold
- 15 = 15 metering devices, mounted in a manifold

Accessories

Metering devices, manifolds and adapters







Replacement for manifold injectors				
Order number	Designation			
83535	standard single metering device/no manifold, 1 outlet, ¹/ ₈ NPTF (M) inlet			
83313	metering device for standard manifold			
84048	metering device for heat-resistant manifold			

Order number 1)	Number of ports
91863-1	1
91864-1	2
91865-1	3
91866-1	4 5
14361	
91976-1	6
14312	10
14253	15
1) Injectors except replacem include compression nut 0.D. as standard. Injector two mounting clips and s	and ferrule for tubing 1/8 in rs with manifolds include

75

$\mathrm{G}^{1}\!/_{8}$ to metric fitting adapters						
Order number	Pipe ø mm	Material				
249281 249279	4	steel stainless steel				
249282 249280	6 6	steel stainless steel				

249649

metric replacement injector

SL-43





Product description

Series SL-43 metering devices were developed for single-line, centralized lubrication systems dispensing oil or fluid grease. Lubricant output is externally adjustable, and the indicator stem permits a visual check of metering device operation. These carbon steel metering devices are available with nitrile or fluoroelastomer packings. Metering devices with fluoroelastomer packings (indicated by black adjustment caps) are used for applications requiring heat resistance or when a lubricant requires it for compatibility.

Features and benefits

- Screw-in type, single-port metering device for prelubrication affixed by adapter bolts
- Suitable for use with manifolds having one to four ports to match number of lubrication points
- Output is externally adjustable
- Indicator stem permits visual check of metering device operation
- May be combined in a circuit with SL-41, SL-42 and/or SL-44 metering devices
- Individual metering devices can be removed easily for inspection or replacement

Applications

- Glass processing
- Paper converting
- Plastic processing
- Printing and packaging
- Metalworking
- Material handling equipment

Technical data

Function principle metering device

Outlets. 1

Metering quantity adjustable from 0,016 to 0,131 cm³

0.001 to 0.008 in³

Lubricant mineral and synthetic oil Operating temperature ... standard:

-26 to +93 °C; -15 to +200 °F heat resistant:

max. +176 °C; +350 °F Operating pressure min. 52 bar, 750 psi

max. 70 bar; 1 000 psi < 10 bar, 150 psi

Relief pressure..... Materials carbon steel, stainless steel, brass, steel,

Nitrile (NBR) or fluoroelastomer (FKM, FPM) packings (indicated by black adjustment caps) (heat resistance

application)

1/4 NPTF (F) Connection main line....

Connection outlet pipe 1/8 0.D connections 1)
Dimensions min. 44×79×52 mm

max. 102 × 79 × 52 mm min. 1.7 × 3.1 × 2.0 in

max. 4.0 × 3.1 × 2.0 in

Mounting position any

 $^{(1)}$ different adapters are possible see accessories; Note: When using feed line tubing of 1/8 0.D. the feed line must not exceed a length of 7,5 m; 295 in based on oil +18 °C; +65 °F

SL-43



- 1 = 1 metering device, mounted in a manifold
- 2 = 2 metering devices, mounted in a manifold
- **3** = 3 metering devices, mounted in a manifold
- 4 = 4 metering devices, mounted in a manifold

Accessories

Metering devices, manifolds and adapters





Number of ports

1 2 3



Replacement for manifold injectors				
Order number Designation				

83662 standard single metering device/no manifold, 1 outlet, 1/8 NPTF (M) inlet

83660 metering device for

standard manifold

84110 metering device for heat-resistant manifold

¹⁾ Injectors except replacement injectors for manifold, include compression nut and ferrule for tubing 1/8 in O.D. as standard. Injectors with manifolds include two mounting clips and screws.

G $^{1}\!/_{8}$ to metric fitting adapters

Order number	Pipe ø mm	Material
249281 249279	4 4	steel stainless steel
249282 249280	6	steel stainless steel

Manifolds

91883-1

91884-1

91885-1 91886-1

Order number 1)



SL-41



Product description

Series SL-41 metering devices are designed for use in high-temperature applications, depending on the lubricant. These metering devices are available installed only in manifolds with 3/8-inch NPT female inlets and feature a tamper-resistant adjustment screw that does not incorporate a visual indicator.

Features and benefits

- Screw-in type, single-port metering device affixed by adapter bolts
- Suitable for use with manifolds having one to five ports to match number of lubrication points
- Output is externally adjustable.
- Individual injectors can be removed easily for inspection or replacement
- Carbon steel with fluoroelastomer packings

Applications

- Glass processing
- Metalworking



Technical data

Function principle metering device

Lubricant mineral and synthetic oil
Operating temperature . . . standard: -26 to +93 °C; -15 to 200 °F
heat resistant: max. +176 °C; +350 °F

Operating pressure min. 52 bar, 750 psi

max. 70 bar; 1 000 psi < 10 bar, 150 psi Relief pressure.....

Materials carbon steel, FKM (FPM)

Connection main line.... 3/₈ NPTF (F) 1/₈ NPTF (F) 1) Connection outlet

min. 63×163,5×52,4 mm

min. 2.5 × 6.4 × 2.1 in

max. 171×163,5×52,4 mm

max. 6.75 × 6.4 × 2.1 in

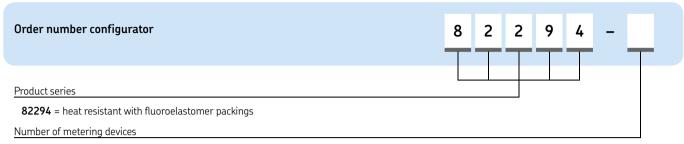
Mounting position any

 $^{1)}$ When using feed line tubing of 1/8 0.D. the feed line must not exceed a length of 7,5 m; 295 in based on oil +18 °C; +64 °F 1/8 NPTF (F). When using feed line tubing of 1/8 0.D. the feed line must not exceed a length of 7,5 m; 295 in based on oil +18 °C; +64 °F





SL-41



- 1 = 1 metering device, mounted in a manifold
- 2 = 2 metering devices, mounted in a manifold 3 = 3 metering devices, mounted in a manifold
- 4 = 4 metering devices, mounted in a manifold 5 = 5 metering devices, mounted in a manifold

Accessories

Metering devices and manifolds





Replacement for manifold injectors				
Order number	Designation			
82295	metering device for manifold NPTF (F)			
82292	single metering device			

Manifolds					
Order number 1)	Number of ports				
12658 11962 11963 11964 11965	1 2 3 4 5				
Each injector has two outlets closure plug, but can be used quantity combined with anot	l to increase outlet				

SL-44



Product description

Series SL-44 metering devices were developed for single-line, centralized lubrication systems dispensing fluid or semi-fluid lubricants. Lubricant output is externally adjustable, and the indicator stem permits a visual check of metering device operation. These carbon steel metering devices feature fluoroelastomer packings. Metering devices with fluoroelastomer packings (indicated by black adjustment caps) are used for applications requiring heat resistance or when a lubricant requires it for compatibility.

Features and benefits

- Screw-in type, single-port metering device for prelubrication affixed by adapter bolts
- Suitable for use with manifolds having one to five ports to match number of lubrication points
- Output is externally adjustable
- Indicator stem permits visual check of operation
- May be combined in a circuit with SL-41, SL-42 and/or SL-43 metering devices
- Individual metering devices can be removed easily for inspection or replacement

Applications

- Glass processing
- Paper converting
- · Plastic processing
- Printing
- Packaging
- Metalworking
- · Material handling equipment



Technical data

Function principle metering device

Outlets. 1

Metering quantity adjustable from 0,13 to 1,31 $\,$ cm 3

0.008 to 0.080 in³

Lubricant mineral and synthetic oil
Operating temperature ... -26 to +93 °C; -15 to +200 °F
Operating pressure min. 52 bar, 750 psi

max. 70 bar; 1 000 psi Relief pressure. < 10 bar, 150 psi

Materials carbon steel, FKM (FPM)

Connection main line..... 3/8 NPTF (F)
Connection outlet 1)...... 1/8 NPTF (F)

Dimensions min. 63 × 179,4 × 52,4 mm min. 2.5 × 7.1 × 2.1 in

max. 171 × 179,4 × 52,4 mm max. 6.75 × 7.1 × 2.1 in

Mounting position

80

 $^{1)}$ When using feed line tubing of 1/8 0.D. the feed line must not exceed a length of 7,5 m; 295 in based on oil 18 °C; 64.5 °F





SL-44



- 1 = 1 metering device, mounted in a manifold
- 2 = 2 metering devices, mounted in a manifold 3 = 3 metering devices, mounted in a manifold
- **4** = 4 metering devices, mounted in a manifold
- **5** = 5 metering devices, mounted in a manifold

Accessories

Metering devices and manifolds

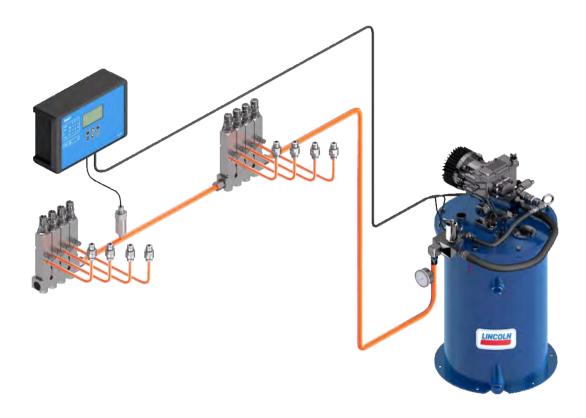




Replacement for manifold injectors				
Order number	Designation			
83748	metering device for manifold NPTF (F)			

Manifold				
Order number 1)	Number of ports			
12658 11962 11963 11964 11965	1 2 3 4 5			
Each injector has two outlets. One is closed by a closure plug, but can be used to increase outlet quantity combined with another injector.				

Single-line lubrication systems for grease



System description

Regardless of the application, the principle of single-line lubrication remains the same: a central pump station automatically delivers lubricant through a single supply line to the lubricant metering device. Each metering device serves only one lubrication point and may be adjusted to deliver the precise amount of grease or oil required. Systems can service one machine, different zones on one machine or even several separate machines.

All single-line systems include a pump, injectors, controller and a pressure switch / transducer. These components are very easy to install and modify on any application as needed.

SKF offers two brands of single line parallel lubrication systems: the Lincoln Centro-Matic and the SKF MonoFlex. These systems are recognized world wide for their reliability to lubricate in adverse conditions in virtually any application.

For planning a lubrication system, conditions the system will be used in need to be determined first. The number of lubrication points, back pressures at the lubrication points, operating temperature range, lubricant, the feed pump's drive energy, control and monitoring etc. need to be defined correctly.

Attention to information on bearing or lubrication point specifications need to be paid too. The sum of all the quantities metered out by the system's metering devices needs to be completed by safety margin and compressibility loss. SKF application engineers, as well as SKF sales partners and distributors, are experts in laying out lubrication systems according to all these specifications. A lubrication system laid out by SKF and partners ensures the supply of the correct amount of lubricant at the best time to lubricate. This reduces wear and it avoids pollution caused by over-lubrication.

Advantages of a single-line lubrication system:

- Easy to understand, install and maintain
- Fully adjustable or customizable for any application
- Suitable for almost all lubricants
- Simple system expansion
- System continues to operate if one point becomes blocked
- Integrated system control and monitoring
- Able to pump long distances within a wide temperature range







System and applications

Applications

Mining applications have been installed in the far north including the Oil Sands of Canada and Siberia and in the hot deserts of Africa and Australia. Major food, beverage, oil/gas, cement, steel, construction and rail customers also rely on SKF's single-line products. All single-line applications benefit from SKF's method of delivering precise amounts of lubricant at controlled intervals to the lubrication point.

- Mining
- On/Off-road
- · Construction machinery
- Cement industry
- Food and beverage
- Machine tools
- Railroad
- Forestry
- Steel
- And more



Bumps and pump units































Overview of grease pumps and pump units

Manually operated pumps and pump units								
Product	Lubricant grease NLGI	Metering quamax.	antity	Reservoir		Metering device category ¹⁾	Remarks	Page
	0 1 2	cm³/stroke	in³/stroke	kg	lb			
83817 1810	:::	1,6 2,6	0.09 0.16	0,5 2,3	1 5	5, 6, 7 5, 6, 7	multiple stroke possible multiple stroke possible	88 89

 $^{^{1)}}$ Select the recommended fittings, adjust the pump pressure within the recommended metering device pressure range

Product	Lubri greas NLGI		Metering qu max.	antity	Reservoir		Metering device category ¹⁾	Remarks	Page
	0 1	2	cm ³ /stroke	in³/stroke	kg	lb			
40PGA 82886, 83668 85442 2) 85444/45 2) 85434/35/36 2) 82653/55 83800/34		•	40 7,4 7,4 7,4 18,7; 35,2 22,9 35,2	2.44 0.45 0.45 0.45 1.14; 2.15 1.39 2.15	1,7; 2; 4; 10 0,5; 2,0 0,5 1,8 2,0 2,0 2,0	3.7; 4.4; 8.8; 22 1; 4.4 1 4.5 4.5 4.5	5, 6, 7 5, 6, 7 5, 6, 7 5, 6, 7 5, 6, 7 5, 6, 7 5, 6, 7	single stroke single stroke, 120 VAC single stroke, 120/240 VAC single stroke, 120/240 VAC single stroke, 120/240 VAC single stroke, 120/240 VAC	90 92 93 94 95 96
	0 1	2	cm³/min	in³/min	kg	lb			
83167 83599 84050, 85460 282288 ²⁾	• •	•	197 197 492 492	12 12 30 30	5,0 5,0 27 55	11 11 60 120	5, 6, 7 5, 6, 7 5, 6, 7 5, 6, 7	reciprocating reciprocating reciprocating reciprocating drum, 120 VAC	97 98 99 100

²⁾ Controller included or optional

Hydraulically operated pumps and pump units							
Product	Lubricant grease NLGI	Metering quantity max.	Reservoir		Metering device category ¹⁾	Remarks	Page
	0 1 2	cm ³ /stroke in ³ /stroke	kg	lb			
HG 1000/2000	• • -	0–1 000	1,0; 2,0	2.2; 4.4	4, 5	single stroke	101
	0 1 2	cm ³ /min in ³ /min	kg	lb			
84944,84961 84960,84962 FlowMaster	• • •	180 11 180 11 115–737 7–45	30 - 16; 27; 41; 54; 180	- 35; 60; 90; 120; 400	5, 6, 7 5, 6, 7 5, 6, 7	reciprocating reciprocating drum drum, solenoid, 24 VDC	102 103 104

 $^{1)}$ Select the recommended fittings, adjust the pump pressure within the recommended metering device pressure rang $^{2)}$ Controller included or optional

Single-line lubrication systems















FK



Overview of grease pumps and pump units

Electrically operated pumps and pump units							
Product	Lubricant Met grease max NLGI	ering quantity ĸ.	Reservoir capacity		Metering device category	Remarks	Page
	0 1 2 cm ³	³/min in³/min	kg	lb			
P603S 2), 3)	• • • 12	0.7	4; 8; 10; 15; 20	8.8; 18; 22; 33; 44	5, 6, 7	12/24 V D C	106
Minilube 2)	• • - 13	0.8	2	4.4	5, 6, 7	12/24 V D C	108
KFG 2), 3)	• • • 15	0.9	2; 4; 6; 8; 10; 12; 15; 20	4.4; 8.8; 13; 18; 22; 26; 33; 44	5, 6, 7	12/24 VDC, 90264 VAC	110
Multilube 2)	• • - 16	0.976	4; 10	8.8; 22	5, 6, 7	24 V DC, 115/230 VAC	112
P653S 2), 3)	• • • 24,	6 1.5	4; 8; 15; 20	8.8; 18; 22; 44	5, 6, 7	24 V DC, 120/230 VAC	114
FK 2)	• • • 74	4.5	15; 30; 60	22; 66; 132	5, 6, 7	3 phase drive	116
FlowMaster, electric	• • • 103	6.3	16, 25, 28, 35, 40, 55, 180	35, 55, 60, 78, 90, 120, 400	5, 6, 7	12/24 V DC; 120 to 460 VAC	118

Select the recommended fittings, adjust the pump pressure within the recommended metering device pressure range
 Controller included or optional
 Stainless steel or C5M available

83817



Product description

This manual pump unit has a metal reservoir and a spring-loaded follower. The indicator pin in the pump base shows when 172 bar (2 500 psi) system operating pressure has been achieved.

Features and benefits

- Number of strokes dependent on connected lubrication points and their dosage
- Metal reservoir with spring-loaded follower also suitable for replaceable 400 g grease cartridges
- Simple handling
- Low-cost, efficient method of lubricant distribution
- Pump base with built-in check vent valve and indicator pin for visual control of max. or vent pressure
- Vents when handle is pushed all the way back
- Two different filling couplers available
- For use with metering devices of category 5, 6, 7

Applications

- Construction machinery
- Agriculture



Technical data

88

Order	h a w	83817
Order num	her	83817

Function principle manually operated piston pump

Metering quantity 1,6 cm³/stroke, 0.10 in³/stroke

Lubricant. grease NLGI 0, 1, 2 Operating temperature . . . -20 to +65 °C; -4 to +149 °F

Operating pressure min. 82 bar, 1 200 psi

max. 240 bar, 3 *500 psi* Reservoir............. 0,5 kg, *1 lb*

Filling method 0,4 kg, 14.5 oz, grease cartridge/bulk fill

15.25 × 5 × 5.625 in

Mounting position vertical or horizontal



1810



Product description

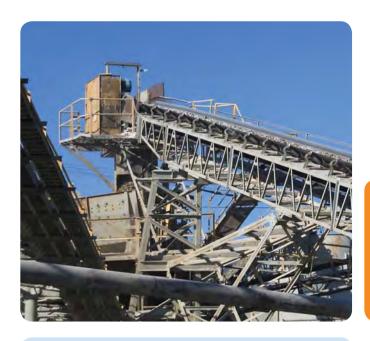
The Model 1810 pump unit features a translucent reservoir with spring-loaded follower. The indicator pin in the pump base shows when 172 bar (2 500 psi) system operating pressure has been achieved. It can be refilled via the included fitting using the Model 81834 filler pump or other manual pumps equipped with a Model 645006 coupler.

Features and benefits

- Number of strokes dependent on connected lubrication points and their dosage
- Reservoir with spring-loaded follower
- Simple handling
- Low-cost, efficient method of lubricant distribution
- Pump base with built-in check vent valve and indicator pin for visual control of max. or vent pressure
- Releases pressure on the lubricant line when handle is pushed all the way back
- Two different filling couplers available
- For use with metering devices of category 5, 6, 7

Applications

- Construction machinery
- Agriculture



Technical data

reenmeat data
Order number
Function principle manually operated piston pump
Outlets
Metering quantity 2,6 cm ³ /stroke, 0.16 in ³ /stroke
Lubricant grease NLGI 0, 1, 2
Operating temperature20 to +65 °C; -4 to +149 °F
Operating pressure min. 82 bar, 1 200 psi
max. 240 bar, 3 <i>500 psi</i>
Reservoir 2,3 kg, 5 lb
Material acrylic, steel, brass,
copper, polyurethane, nitrile
Connection outlet
Dimensions 413 × 181 × 197 mm
16 25 x 7 125 x 7 75 in

Mounting position vertical or horizontal

40PGA





Product description

Pump Model 40PGA is a compact lubrication pump unit. The splash-proof pump operates pneumatically and can be controlled and monitored by the remote electric control unit ST-102 or ST-102P. The pump is available with a choice of different kind of reservoir sizes and materials, each featuring a spring-loaded intermediate piston. A low-level alarm is available in aluminum and steel version and pump is available with an integrated pressure switch.

Features and benefits

- Compact, air-operated lubrication pump unit for demanding conditions
- Part of a modular and modifiable system
- Splash-proof pump is offered with:
 - choice of four different reservoir sizes
 - spring-loaded, intermediate piston in reservoir
 - steel and aluminum reservoirs are equipped with low level alarm
 - optional an integrated pressure switch
- Mechanical relief valve
- · Controlled and monitored by a remote timer continuously
- Safe and environmentally friendly
- For use with metering devices of category 5, 6 and 7

Applications

- · Buses and trucks
- Vehicles

Technical data

Function principle pneumatically operated piston pump

utlet 1

Operating temperature . . . $-20 \text{ to } +65 ^{\circ}\text{C}$ -4 to +150 $^{\circ}\text{F}$ Operating pressure max. 10 bar

3.75; 4.4; 8.8 and 22 lb
Material.....stainless steel, plastic, steel

Protection class IP 65 Dimensions (dep. on version). . . min. 270 × 320 × 180 mm

min. 10.63 × 12.59 × 7.0 in max. 570 × 320 × 245 mm max. 22.44 × 12.59 × 9.65 in

Mounting position vertical and horizontally

NOTE

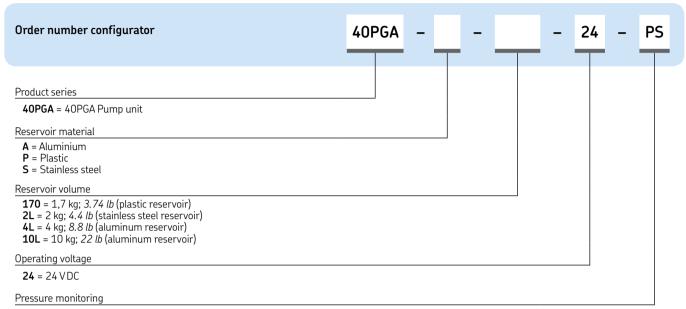
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For further technical information, technical drawings, accessories, spare parts or product function descriptions, see the following publication available on

SKF.com/lubrication: **11678 EN, 11390007_40PGA_01_EN**

LINCOLN

40PGA



PS = integrated pressure switch

82886, 83668





Product description

All models are air-operated, positive-displacement pumps delivering a maximum volume by means of a single stroke of the pump. Solenoid air valves and adjustable, solid-state time controls are integrated into the pump body, and translucent, acrylic reservoirs with spring-loaded followers are available in several sizes. Pump discharges lubricant on air-powered forward stroke and releases pressure on the lubricant line on spring-powered return stroke through built-in check/relief valve. Includes filler fitting for refilling reservoir with Model 81834 or other manual pump equipped with Model 645006 coupler.

Features and benefits

- Remote system components such as 3/2-way valves, adjustments for air power, and monitoring of pump and system are available separately on request
- For use with metering devices of category 5, 6 and 7

Applications

- Cement industry
- Wood-working
- · Food and beverage



Technical data

Timer

Mounting position vertical

Pumps				
Order number	Reserv capacit		Dimensions	
	kg	lb	mm	in
82886 83668	0,5 2	1 4.4	263×133×152 470×133×152	10.4×5.3×6.0 18.5×5.3×6.0



85442



Product description

Model 85442 is an air-operated, positive-displacement pump delivering a maximum volume by means of a single stroke of the pump. Solenoid air valves and adjustable, solid-state time controls are integrated into the pump body. This pump unit is designed to deliver grease to single-line metering devices and includes a special high-volume refill fitting. Acrylic reservoirs are available in several sizes. Integrated controls feature LED indicators for "Power On", "Pump On" and "Alarm" along with a membrane-type, "Manual Lube" switch.

Features and benefits

- Reservoir 0,45 kg / 1 lb with spring-loaded follower
- Integrated solenoid air valve
- High-volume refill fitting
- For use with metering devices of category 5, 6 and 7

Applications

- Cement industry
- Wood-working
- Food and beverage



Technical data

Order number	85442
Function principle	
· ·	piston pump (single-stroke)
Outlets	1
Metering quantity	7,4 cm ³ /stroke, 0.45 in ³ /stroke
	grease NLGI 0, 1, 2
Operating temperature	−23 to +65 °C; −10 to +150 °F
Operating pressure	
	max. 240 bar, 3 500 psi
Reservoir	0,5 kg, 1.0 lb
Material	acrylic
Connection outlet	1/4 NPTF (F)
Voltage	
Transmission ratio	
Dimensions	133×184×305 mm

Mounting position vertical

Timer and controller

On time	10 or 30 sec
Ott 1;	1/ +- 20: 20 -

5.25 × 7.24 × 12.02 in

85444/45



Product description

All models are air-operated, positive-displacement pumps delivering a maximum volume by means of a single stroke of the pump. Solenoid air valves and adjustable, solid-state time controls are integrated into the pump body. These pump units are designed to deliver grease to single-line metering devices and include a special high-volume refill fitting. Acrylic reservoirs are available in several sizes. Integrated controls feature LED indicators for "Power On", "Pump On" and "Alarm," along with a membrane-type, "Manual Lube" switch.

Features and benefits

- Reservoir 1,8 kg/4 lb with spring-loaded follower
- Integrated, adjustable, solid-state time controls with LED indicators
- Integrated solenoid air valve
- High-volume refill fitting
- For use with metering devices of category 5, 6 and 7

Applications

- Food and beverage
- Glass industry



Technical data

Order number	85444, 85445
Function principle	pneumatically operated
	piston pump (single-stroke)
Outlets	1
Metering quantity	7,4 cm ³ /stroke, 0.45 in ³ /stroke
Lubricant	grease NLGI 0, 1, 2
Operating temperature	-23 to +65 °C; -10 to +150 °F
Operating pressure	min. 82 bar, 1 200 psi
	max. 240 bar, 3 500 psi
Reservoir	1,8 kg, 4.0 lb
Material	acrylic
Connection outlet	1/4 NPTF (F)
Voltage	120 VAC; 240 VAC
Transmission ratio	20:1
Dimensions	133×184×527 mm
	5.25 × 7.24 × 20.75 in
Mounting position	vertical

Timer and controller

On time	
Off time	. $\frac{1}{2}$ to 30 min. or 30 min. to 30 h
Alarm contacts	
Operating temperature	23 to +65 °C; -10 to +150 °F

Pumps				
Order number	Voltage	Transmission ratio	Lubricant output	
	VAC		cm³/stroke	in³/stroke
85444 85445	120 240	20:1 20:1	7,4 7,4	0.45 0.45



85434/35/36





Product description

All models are air-operated, positive-displacement pumps delivering a maximum volume by means of a single stroke of the pump. Solenoid air valves and adjustable, solid-state time controls are integrated into the pump body. These pumps are designed to deliver grease to single-line metering devices and include a special high-volume refill fitting. Acrylic reservoirs are available in several sizes. Integrated controls feature LED indicators for "Power On", "Pump On" and "Alarm," along with a membrane-type, "Manual Lube" switch.

Features and benefits

- Integrated, adjustable, solid-state time controls with LED indicators
- Integrated solenoid air valves
- High-volume refill fitting
- For use with metering devices of category 5, 6 and 7

Applications

- Food and beverage
- Glass industry
- Machine tools

Technical data

Function principle	pneumatically operated psiton pump (single-stroke)
Outlet	, ,
Metering quantity	
	18,7 or 35,2 cm ³ /stroke
	1.14 or 2.15 in ³ /stroke
Lubricant	grease NLGI U, 1, 2
Operating temperature	
Operating pressure	
	max. 240 bar, 3 <i>500 psi</i>
Reservoir	2,0 kg, 4.5 lb
Material	acrylic
Connection outlet	1/4 NPTF (F)
Voltage	120 VAC; 240 VAC
Transmission ratio	
Dimensions	627×166×460 mm
	24.70×6.52×18.11 in
Mounting position	vertical

Timer and controller

On time	10 or 30 sec
Off time	¹ / ₂ to 30 min. or 30 min. to 30 h
Alarm contacts	8 amps at 250 VAC
On a wating to wan a water wa	22 to . (E OC. 10 to .1E0 OF

Operating temperature -23 to +65 °C; -10 to +150 °F

Pumps				
Order number	Voltage	Transmission ratio	Metering quantity	
	VAC		cm³/stroke	in³/stroke
85434 85435 85436	120 240 120	31:1 31:1 25:1	18,70 18,70 35,20	1.14 1.14 2.15

82653/55, 83800/34



Product description

All models are air-operated, positive-displacement pumps delivering a maximum volume by means of a single stroke of the pump. Solenoid air valves and adjustable, solid-state time controls are integrated into the pump body. These pump units are designed to deliver grease to single-line metering devices and include a special high-volume refill fitting. Translucent, acrylic reservoirs with spring-loaded followers are available in several sizes. Pump uses air for forward and return stroke but dispenses lubricant on forward stroke only. Return stroke releases pressure on the lubricant line through included check/relief valve.

Features and benefits

- Remote system components such as 4/2-way valves, adjustments for air power, and monitoring of pump and system are available separately on request
- High-volume refill fitting
- For use with metering devices of category 5, 6 and 7

Applications

- · Oil and gas industry
- Chain lubrication



Technical data

Mounting position vertical

Timer (for 82655 and 83800 only)

On time min. 10 sec

max. 1 minute, 24 sec

18.5 × 5.75 × 20.9 in

Cycle time min. 20 sec max. 24 h

Operating voltage 120 VAC, 60 Hz; 110 VAC, 50 Hz Operating temperature . . . -23 to +65 °C; -10 to +150 °F

Air consumption at 6,9 bar, 100 psi, is 0,004 M³/min, 0.15 ft³/min, per stroke

Pumps

96

Order number	Ratio	Lubricant ou	itput	Designation			
		cm ³ /stroke	in³/stroke				
82653	31:1	22,9	1.4	bare pump			
82655	31:1	22,9	1.4	pump with controls			
83800	25:1	35,2	2.15	pump with controls			
83834	25:1	35,2	2.15	bare pump			

LINCOLN

Greas

83167



Product description

Model 83167 is an air-operated, positive-displacement pump delivering a maximum volume by means of a single stroke of the pump. Solenoid air valves and adjustable, solid-state time controls are integrated into the pump body. This pump unit is designed to deliver grease to single-line metering devices and includes a special high-volume refill fitting. Acrylic reservoirs are available in several sizes. Model 83167 includes a transparent reservoir, spring-loaded follower, vent valve assembly and filler fitting for refilling the reservoir.

Features and benefits

- 2 ½ inch air motor
- Vent valve assembly
- Operation by air-powered reciprocating strokes and releases pressure on the lubricant line through included check/relief valve (3-way) on air-powered return stroke
- Remote system components such as 3/2-way valves, adjustments for air power, and monitoring of pump are available separately on request
- Two different filling couplers available
- For use with metering devices of category 5, 6 and 7

Applications

- Cement industry
- Food and beverage



Technical data

Function principle	
	reciprocating piston pump
Outlets	1
Metering quantity	197 cm ³ /min, <i>12 in</i> ³ / <i>min</i>
Lubricant	grease NLGI 0, 1, 2
Operating temperature	−35 to +104 °C
	−30 to +220 °F
Operating pressure	min. 82 bar, 1 200 psi
	max. 240 bar, 3 500 psi
Transmission ratio	

Reservoir. 5 kg, 11.0 lb

Material acrylic, nitrile, neoprene, steel, aluminum, zinc

Connection outlet . . . 3/4 NPTF (F)

Mounting position vertical

Order number 83167

Pump requires 3-way air valve Air consumption at 6,9 bar, 100 psi, is 0,004 M³/min, 0.15 ft³/min, per stroke

83599

Pump unit



Product description

Model 83599 is an air-operated, positive-displacement pump delivering a maximum volume by means of a single stroke of the pump. Solenoid air valves and adjustable, solid-state time controls are integrated into the pump body. The pump is designed to deliver grease to single-line metering devices and includes a special high-volume refill fitting. Acrylic reservoirs are available in several sizes.

Model 83599 is similar to Model 83167 except that it includes a base-mounting kit and metal reservoir with indicator rod for visual check of grease level. The reservoir includes a spring-loaded follower.

Features and benefits

- 2 ½ inch air motor
- Reservoir with spring-loaded follower and indicator rod for visual check of grease level
- Vent valve assembly
- Base mounting kit
- Operation by air-powered reciprocating strokes and releases pressure on the lubricant line through included check/relief valve (3-way) on air-powered return stroke
- Remote system components such as 3/2-way valves, adjustments for air power, and monitoring of pump are available separately on request
- Two different filling couplers available
- For use with metering devices of category 5, 6 and 7

Applications

- Machine tools
- · Industrial machinery



Technical data

	reciprocating piston pump
Outlets	.1
Metering quantity	. 197 cm ³ /min
	12 in³/min
Lubricant	grease NLGI 0, 1, 2
Operating temperature	. –34 to +121 °C
	−30 to +250 °F
Operating pressure	. min. 82 bar, 1 200 psi
	max. 240 bar, 3 500 psi

Function principle pneumatically operated,

Transmission ratio 40:1 Reservoir 5 kg, *11 lb*

Order number 83599

Material.....acrylic, nitrile, neoprene,

steel, aluminum, zinc

 Connection outlet
 .3/4 NPTF (F)

 Air inlet
 .1/4 NPTF (F)

 Dimensions
 .462 × 229 × 697 mm

 18.19 × 9.0 × 27.44 in

 Mounting position
 .vertical

Pump requires 3-way air valve Air consumption at 6,9 bar, 100 psi, is 0,004 M³/min, 0.15 ft³/min, per stroke



84050, 85460



Product description

Models 84050 and 85460 are air-operated, double-acting pumps for high-volume displacement. Both pumps are supplied with a 27 kg (60 lb) capacity metal reservoir with removable cover for easy filling. It includes an air-operated vent valve and air and lubricant connecting hoses. Model 85460 features a visual low-level and follower plate assembly.

Features and benefits

- Rugged, 14-gauge steel walls
- Large 1 inch NPT inlet for fast filling, 1 1/4 in overflow outlet
- 2 inch foam follower that virtually eliminates grease bypass
- Vent valve to bucket coupling
- Thick mounting ring that withstands severe vibration
- · Bulk filling method
- Remote system components such as 3/2-way valves, adjustments for air power, and monitoring of pump are available separately on request
- For use with metering devices of category 5, 6 and 7

Applications

- Pulp and paper industry
- · Construction machinery
- Food and beverage
- Mining



Technical data

Order number	84050, 85460
Function principle	pneumatically operated
	double-acting piston pump

Outlets. 1

Metering quantity 492 cm³/min 30 in³/min

Lubricant..... grease xNLGI 0, 1, 2

Operating temperature -23 to +60 °C; -10 to +140 °F Operating pressure min. 82 bar, 1 200 psi max. 240 bar, 3 500 psi

 Material (reservoir)
 steel

 Connection outlet
 3/4 NPTF (F)

 Air inlet
 3/8 NPTF (F)

 Dimensions
 806 × 392 × 395 mm

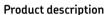
 31.75 × 15.44 × 15.56 in

Mounting position vertical

Pump requires 3-way air valve Air consumption at 6,9 bar, 100 psi, is 0,012 M³/min, 0.42 ft³/min, per stroke Optional 92597 follower available

282288





All models are air-operated, positive-displacement pumps delivering a maximum volume by means of a single stroke of the pump. Solenoid air valves and adjustable, solid-state time controls are integrated into the pump body. Designed to deliver grease to single-line metering devices, these pump models include a special high-volume refill fitting. Integrated controls feature LED indicators for "Power On", "Pump On" and "Alarm," along with a membrane-type, "Manual Lube" switch. Model 1823 includes a 2 1/2 inch pneumatically driven pump, vent valve assembly, pump elevator, air and lubricant connecting hoses and control panel. Model 282288 has the same specifications as Model 1823 but does not include an elevator or controller.

Features and benefits

- Modular structure consists of 2 ¹/₂ in air motor, pump and vent assembly, controller, pump elevator, air and lubricant connecting hoses, as well as an optional control panel
- For U. S. standard refinery drums (removable head)
- For clean and safe drum replacement
- Simplified, modular design
- For use with metering devices of category 5, 6 and 7.

Applications

- Agriculture
- · Chemical industry
- Steel industry



Technical data

Order number	
Function principle	reciprocating piston pump
Outlets	1
Metering quantity	492 cm ³ /min, 30 in ³ /min
Lubricant	grease NLGI 0, 1, 2
Operating temperature	–15 to +121 °C; +5 to 250 °F
Operating pressure	min. 82 bar, 1 200 psi
	max. 240 bar, 3 500 psi
Transmission ratio	50:1
Reservoir	55 kg, <i>120 lb</i>
Drum size	standard 120 lb. refinery drum
Material	nitrile, steel, polyurethane
Connection outlet	3/4 NPTF (F)
Air inlet	³ / ₈ NPTF (F)
Voltage (controller)	120 V, 60 Hz; 110 V, 50 Hz
Dimensions	381 × 381 × 975 mm;
	15×15×38.375 in
Mounting position	vertical

Air consumption at 6,9 bar, 100 psi, is 0,004 M³/min, $0.15~ft^3$ /min, per stroke 83371 follower plate is available as an optional accessory



HG 1000, HG 2000





Product description

The hydraulic lubricator HG is an lubrication system developed for a cost-efficient automatic lubrication in machines and implements having a hydraulic circuit. With the help of the hydraulic lubricator, centralized automatic lubrication can be adapted to such units as dismountable hoists, small lift trucks and rear lifts of vehicles.

Features and benefits

- Simple piston pump utilizes self-relieving hydraulic lines
- Provides cost-efficient automatic lubrication
- Suitable for use in vehicles or machines having a safe hydraulic circuit that is not constantly in operation
- Pressure rise and fall operation in the pump is activated by powering-on and powering-off the adapted hydraulic circuit
- Pressure rise and fall operation in the lube line, as well as the amount of lube remaining, can be verified from the pressure gauge of the pump unit
- Optional low-level limit alarm can be indicated by a buzzer or indicator lamp 12 or 24 VDC
- Filling coupler with filter
- For use with metering devices of category 4 and 5

Applications

- Vehicles
- Machines
- Dismountable hoists
- Small lift trucks
- · Rear lifts of trucks

Technical data

Order number.							HG 1000
							HG 2000

Function principle hydraulically operated

piston pump

Metering quantity depending on the inlet pressure

Operating pressure min. 50 bar; 725 psi max. 150 bar; 2 176 psi

Material (reservoir) steel
Hydraulic inlet connection R 1/4 in ZN;

main hose ø 8 mm, 0.341 in

Grease outlet connection R 1/4 in ZN;

Operating voltage 12 or 24 VDC

13.58 × 3.94 × 3.94 in HG 2000; 520 × 100 × 100 mm

20.47×3.94×3.94 in

Mounting position vertical or horizontal

84944, 84961



Product description

Models 84944 and 84961 are pumping systems designed to operate centralized lubrication systems that utilize single-line, parallel grease metering components. The pump is double acting, dispensing lubricant on both the up and down strokes. These units are designed for off-road equipment that utilizes 24 VDC power sources. These units can be used in conjunction with: Models 244270 (not potted) or 249605 (potted) cycle timers; Model 84944 hydraulically operated pump with 60 lb metal reservoir and vent valve (basic pump); and Model 84961 basic pump (similar to Model 84944 but without reservoir or vent valve). These products include a pump and hydraulic control.

Features and benefits

- Robust
- Pump operates by an electrical signal
- Supplied with metal reservoir with removable cover for easy filling
- Includes a hydraulic operated solenoid vent valve 24 VDC
- Includes a hydraulic pressure reduction valve rated 4 to 55 bar (60 to 800 psi) output
- Bulk filling method
- For use with metering devices of category 5, 6 and 7

Applications

- · Construction machinery
- · Heavy machines
- Vehicles



Technical data

Order number						84944
						0/0/1

hydraulically operated, Function principle double-acting piston pump

Metering quantity 180 cm³/min, 11 in³/min Lubricant..... grease NLGI 0, 1, 2

Operating temperature -40 to +57 °C; -40 to +135 °F Fluid inlet temperature max. +99 °C; +210 °F Hydraulic inlet pressure. . . . min. 20 bar, 300 psi

max. 205 bar, 3 000 psi

16:1

Material..... steel, brass, copper, polyurethane, nitrile

Connection outlet 3/4 NPTF (M) Hydraulic inlet/outlet 1/4 NPTF (M)

Flow rate at 30 cycles/min: 3,8 l/min, 1.0 gal/min

Operating voltage 24 VDC

Dimensions 84944....

..... 381×495,3×889 mm; 15×19.5×35 in 76×177,8×866,8 mm; 3×7×34.125 in

Mounting position vertical

Cycle timer

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Voltage 24 V DC Cycle rate per min min. 6, max. 60

Greas

84960, 84962



Product description

Models 84960 and 84962 are pumps designed to operate centralized lubrication systems that utilize single-line parallel grease metering components. The pumps are double acting, dispensing lubricant on both the up and down strokes. These units are designed for off-road equipment that utilizes 24 VDC power sources. These units can be used in conjunction with Models 244270 (not potted) or 249605 (potted) cycle timers. Included hydraulic solenoids require 24 VDC. Model 84960 is a hydraulic pump for use with U.S. standard 120 lb refinery drums. System components (pump, vent assembly, drum cover and follower plate) must be ordered separately. Model 84962 is a hydraulic pump for custom lubricant container installations. Pump length is sized for U.S. standard 400 lb refinery drum depth.

Features and benefits

- For use with U.S. standard 54 kg/120 lb refinery drum
- Robust
- Includes a hydraulic pressure reduction valve rated 4 to 55 bar (60 to 800 psi) output
- System components (pump, vent valve assembly, drum cover and follower plate) must be ordered separately
- For use with metering devices of category 5, 6 and 7

Applications

- Mining industry
- · Cement industry



Technical data

Order	number						84960
							84962

Function principle hydraulically operated double-acting piston pump

Metering quantity 180 cm³/min, 11 in³/min

Lubricant..... grease NLGI 0, 1, 2

Operating temperature -40 to +57 °C; -40 to +135 °F Fluid inlet temperature max. +99 °C; +210 °F

Hydraulic inlet pressure. . . . min. 20 bar, 300 psi

Material..... steel, brass, copper, polyurethane, nitrile

Connection outlet 3/4 NPTF (F) Hydraulic inlet/outlet 1/4 NPTF (M)

Flow rate at 30 cycles/min: 3,8 l/min, 1.0 gal/min

Dimensions

84962......76×177,8× 862 mm; 3×7×33.94 in

Mounting position vertical

Cycle timer

Voltage 24 V DC

Cycle rate per min min. 6, max. 60

Pumps require a timed electrical signal to operate. Use 244270 (not potted) or 249605 (potted) cycle timer. Included hydraulic solenoids require 24 VDC. All pumps have a hydraulic pressure-reducing valve rated for 4 to 55 bar, 60 to 800 psi, output. Maximum input is 207 bar, 3 000 psi.

FlowMaster, hydraulic



Product description

High-performance FlowMaster hydraulic pumps combine rotary-driven pump motors with reciprocating pump tubes and flexible control features that perform in desert heat and arctic cold. The integrated control manifold adjusts the amount of lubricant and operating pressure. The pump's output is adjustable from 115 to 737 cm³/min (7 to 45 in³/min).

Features and benefits

- Increases pump life and simplifies pump installation, operation and service
- Pump and reservoir combination models are automatically level-sensor and shut-off system ready
- Premium-choice pump for single-line parallel lubrication systems
- Flexible ranges of use pump only or pump and bucket with follower low- and high-level detection
- For desert heat and cold climates
- For use with metering devices of category 5, 6 and 7

Applications

- Construction machinery, mining and mineral processing
- Steel mills, paper mills, automotive
- Food and beverage, packaging



Technical data

Function principle	. hydraulically operated piston pump
Outlets	
Metering quantity	
Metering quantity	
	115 to 737 cm ³ /min
	7 to 45 in³/min
Lubricant	. grease NLGI 0, 1, 2
Hydraulic fluid temperature	. max. +93 °C; +200 °F
Operating temperature	. –29 to +65 °C; –20 to +150 °F
Operating inlet pressure	
Supply inlet pressure	
Reservoir	
Reservoir	
	35; 60; 90; 120; 400 lb
Material	. fluoroelastomer, polyurethane,
	steel, aluminum zinc casting
Connection outlet	. ¹ / ₄ NPTF
Hydraulic inlet flow	. max. 28 l/min, 7 gal/min
Solenoid valve coil	
Hydraulic inlet port	
Tank return port	
Transmission ratio	. JAL 0
	0.1 -+ /20 +- 25 +
with manifold	. 9:1 at low inlet pressure (20 to 25 bar,
	300 to 350 psi) and flow (below 7 lpm,
	2 gpm); approaches 11:1 at higher inlet
	2 gpm); approaches 11:1 at higher inlet

Dimensions:

Pump, dip tube length	min. 348 mm; 13.7 in
	max. 864 mm; 34.02 in
Basic pump	min. 610×231×291 mm
	min. 24×9×11.5 in
	max. 1 126 × 231 × 291 mm
	max. 44.3 × 9 × 11.5 in

pressure and flow

Pumps with bucket, follower

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and vent valve min. 633 × 496mm min. 24.9 × 19.5 in max. 1 155 × 496 mm max. 45.44 × 19.5 in

Mounting position vertical



FlowMaster, hydraulic

order number	Designation	Reservoir		Solenoid manual override	Adjustable flow control	Adjustable pressure control
		kg	lb			
5722 5723 5724 5725 5726 5727	pump and bucket with follower and low-level detection reservoir and pump reservoir and pump pump and bucket with follower and low-level detection pump and bucket pump and bucket with follower, low- and high-level detection	27 27 27 41 41 54	60 60 60 90 90 120	- - - -	• - - •	• - - • -
5731 5732 5733 5734 5735 5741 5742	pump only	16 27 54/41 180 27 27 54/41	35 60 120/90 400 60 60 120/90	- - - - •	•	• • • •

Accessory

Drum covers, follower assemblies and vent valve assemblies

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rder number	Designation	Reservoir	
nuel number	Designation	Reservoir	
		gal	lb
4616	drum cover	18	120
35492 34990	follower assembly vent valve assembly	18 18	120 120
271606	drum cover	55	400
270982 271605	follower assembly vent valve assembly	55 55	400 400
34980	vent valve	18, 55	120, 400
237-11204-8	ultrasonic high/low sensor	18, 55	120, 400

PUB LS/P1 17046 EN

<u>LINCOLN</u>

P 603S



Product description

The simple-to-install, all-in-one design of the P 603S pump includes the programmable controller, a pressure switch/transducer and a vent valve. It is quick and easy to change out a metering device as the main line or nearby metering devices do not have to be removed. The exchange can be performed between lubrication cycles so that there is no wasted lubricant or excessive costly downtime. An additional pressure switch at the end of larger systems can be used for added pressure control to ensure correct lubrication. For rotating operation in wind turbines, the reservoir is equipped with a follower plate and stirring paddle, which also facilitates the use of fast-separating lubricants. For stationary operations, a stirring and fixed paddle is sufficient.

Features and benefits

- Robust design with easy system layout
- Simple maintenance
- Easy system expandation
- SE1/SE2 suction elements for used lubricant
- QSL/SL metering devices suitable for high pressure
- Suitable for fast-separating lubricants
- For use with metering devices of category 5, 6, 7

Applications

- Wind turbines
- Construction machinery
- Mining and mineral processing
- Commercial vehicles



Technical data

Function principle	piston pump 1 12 cm³/min, 0.73 in³/min grease up to NLGI 2 -40 to +70 °C; -40 to +158 °F max. 300 bar; 4 350 psi 4; 8; 10; 15 or 20 kg 9, 18, 22, 33 or 44 lb 3 (ø 7 mm, 0.27 in) 18 rpm 12, 24 VDC, 115/230 VAC max. 2 A
Connectors	12, 24 V DC: bayonet style AC: bayonet style plus square typi 12, 24 V DC: no AC: yes cast aluminum alloy, polycarbonate resin
Connection outlet	G ¹ / ₄



P 603S

Designation	Power	Reservoi capacity	r	Follower plate	Internal transducer
	V	kg	lb		
P603S-4XLF -3Z7-AC-2A7.16-S13-SE P603S-8XLF -3Z7-AC-2A7.16-S13-SE P603S-8XLB0-3Z7-AC-3A7.16-S12-SE P603S-8XLB0-3Z7-AC-3A7.16-S19-SE P603S-10XLF -3Z7-AC-2A1.01-S13-SE P603S-15XLF -3Z7-AC-2A7.16-S13-SE	115 / 230 AC 115 / 230 AC	4 8 8 8 10 15	9 18 18 18 22 33	• • - - •	: : :
P603S-4XLF1-3Z7-12-1A7.16-S01-SE P603S-4XNB0 -3Z7-12-1A7.16-S22-SE P603S-4XNB0-3Z7-12-2A7.16-S01-SE P603S-8XLF1-3Z7-12-1A7.16-S01-SE	12 DC 12 DC 12 DC 12 DC	4 4 4 8	9 9 9 18	• (bayonet) • (bayonet)	•
P603S-4XLB0-3Z7-24-1A7.16-S17-SE P603S-4XLF-3Z7-24-1A7.16-S13-SE P603S-4XNB0-3Z7-24-1A7.16-S01-SE P603S-8XLF-3Z7-24-1A7.16-S01-SE P603S-8XLB0-3Z7-24-2A7.16-S19-SE P603S-8XLF-3Z7-24-1A7.16-S03-SE P603S-10XLF-3Z7-24-1A7.16-S13-SE	24 DC 24 DC 24 DC 24 DC 24 DC 24 DC 24 DC 24 DC	4 4 4 8 8 8 10	9 9 9 18 18 18 22	- • • - •	: : :
	P603S-4XLF -3Z7-AC-2A7.16-S13-SE P603S-8XLF -3Z7-AC-2A7.16-S13-SE P603S-8XLB0-3Z7-AC-3A7.16-S12-SE P603S-8XLB0-3Z7-AC-3A7.16-S19-SE P603S-10XLF -3Z7-AC-2A1.01-S13-SE P603S-15XLF -3Z7-AC-2A7.16-S13-SE P603S-4XLF1-3Z7-12-1A7.16-S01-SE P603S-4XNB0-3Z7-12-1A7.16-S01-SE P603S-4XNB0-3Z7-12-1A7.16-S01-SE P603S-4XLB0-3Z7-12-1A7.16-S01-SE P603S-4XLB0-3Z7-24-1A7.16-S13-SE P603S-4XNB0-3Z7-24-1A7.16-S13-SE P603S-4XNB0-3Z7-24-1A7.16-S01-SE P603S-8XLF -3Z7-24-1A7.16-S01-SE P603S-8XLF -3Z7-24-1A7.16-S01-SE P603S-8XLF -3Z7-24-1A7.16-S01-SE	P603S-4XLF -3Z7-AC-2A7.16-S13-SE	Capacity V kg P603S-4XLF -3Z7-AC-2A7.16-S13-SE	V kg lb	Capacity Plate

Accessory

P653S and P603S reservoir kits

Reservoir kits			
Order number	Reserv	oir size	Designation
	kg	lb	
27/7//	4.5	22	C + / 01 0 40 / 1 1 1 1 1 1 1 2 1 2 1 1 1 1 1 1 1 1 1
276764 276765	15 20	33 44	Converts 4 or 8 kg, 9 or 18 lb, reservoirs without follower to 15 kg, 33 lb reservoir Converts 4 or 8 kg, 9 or 18 lb, reservoirs without follower to 20 kg, 44 lb reservoir

Minilube





Product description

SKF Minilube is a handy solution for vehicles with fewer lubrication points, such as mini-excavators, mini wheel loaders, buses and delivery trucks. Installing SKF Minilube is easy and quick, because everything is already integrated: control centre, pressure switch and alarm lights. Additional alarm lights can be installed, for example, in the vehicle's cabin. For each lubrication point, there is a specifically selected doser that is set according to the size of and the load on the lubrication point.

Features and benefits

- Compact handy lubrication system for fewer lubrication points
- Increases worker safety as system lubricates all points regardless of location
- Makes driving more environmentally friendly by maintaining optimal lubrication level
- Easy and quick installing and commissioning
- For use with metering devices of category 4 and 5

Applications

- Small excavators
- · Wheel loaders
- Buses
- Delivery trucks
- Vehicles

Technical data

Function principle electrically operated piston pump Outlets. Metering quantity 12 V D C 6,5 cm³/min, 0.4 in³/min Lubricant..... grease up to NLGI 1 Operating temperature -30 to +70 °C; -22 to +158 °F Operating pressure max. 250 bar, 3 625 psi acrylic, steel, aluminum, Material.... polyurethane, nitrile Operating voltage 12/24 VDC 150 W, 0.2 HP Consumption.... Protection class IP 65

12.9×10.75×7.25 in

NOTE

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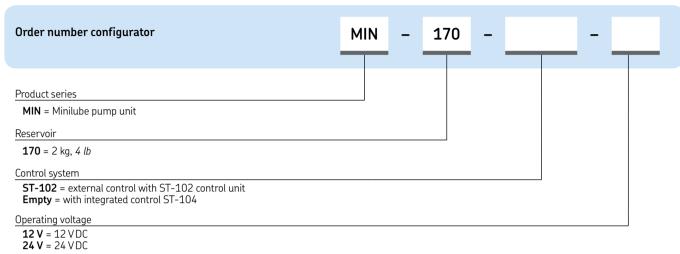
For further technical information, technical drawings, accessories, spare parts or product function descriptions, see the following publication available on SKF.com/lubrication: **12236 EN**



SKF

Mounting position vertical

Minilube





KFG

Pump unit



Product description

The KFG pump unit is an electrically driven piston pump. The pump is comprised of four main components: housing with pump elements; reservoir with fill-level monitoring; internal control units; and attachments. The housing integrates the motor, the drive shaft with an eccentric and up to three pump elements for delivering the lubricant. Positively driven pump elements should be used in order to maintain the delivery rate in areas with extremely low temperatures or in applications where an increased influence of dirt is unavoidable.

Features and benefits

- Reliable: due to durable materials, robust components and designs for extreme conditions (with positively driven pump elements)
- Plug-and-play pump design for reduced installation time
- Application-oriented: individual designs through user-friendly product customizer
- Versatile: can be used as a single-line (SKF MonoFlex) and as a progressive pump (SKF ProFlex)
- Safe: through fill-level monitoring, lubrication system monitoring, pressure relief and control unit
- Options: Top filling, several electronic options, Can bus
- For use with metering devices of category 5, 6 and 7

Applications

- Wind turbines
- Construction machinery
- Vehicle aftermarket
- · Rotary applications
- Industry



Technical data

Function principle	
Lubricant	,,
Operating temperature: with spring-return pump element with posit. driven pump element Operating pressure Flow pressure Reservoir.	-30 to +70 °C; -22 to +158 °F max. 300 bar; 4 351psi 0,45 to 0,7 bar, 6.5 to 10.2 psi
Material (reservoir)	polyamide PA 6I, PMMA aluminum-silicon cast alloy M14×1,5 mm 12 V DC, 24 V DC, 230 VAC
Dimensions	(90–264 VAC) min 229 × 268 × 208mm min 9.01 × 10.55 × 8.2 in max 1 170 × 268 × 216 mm max 46 × 10.55 × 8.5 in
Mounting position	

For further technical information, technical drawings, accessories, spare parts or product function descriptions, see the following publication available on

SKF.com/lubrication: 1-3030 -EN, 951-170-211

3D data and product configuration:

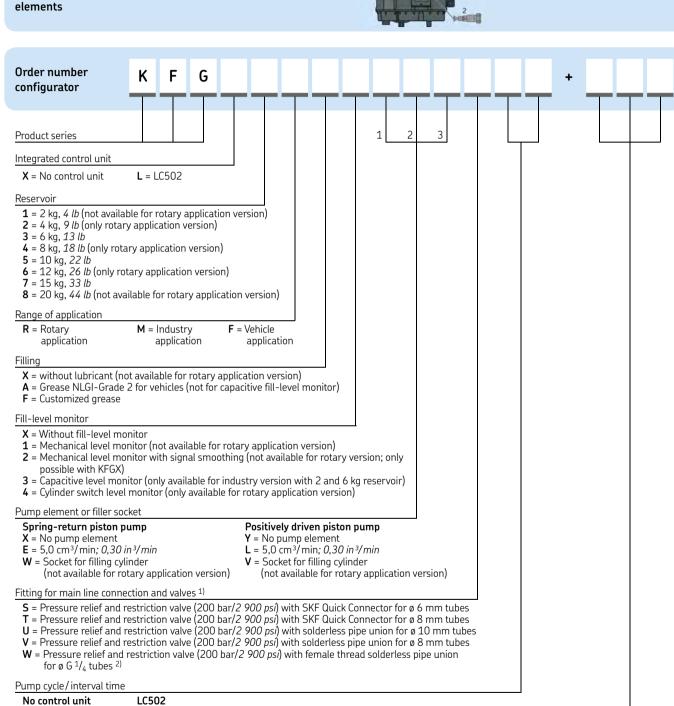
skf-lubrication.partcommunity.com/3d-cad-models/



KFG

Position of pump





99 = none **EB** = 4 min. run time/1 h interval time. Factory setting, additional setting times on request

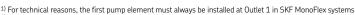
Voltage key

912 = 12 VDC (only available for vehicle application version)

924 = 24 VDC

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486 = 90–264 VAC (not available for vehicle application version)



²⁾ If the relief valve is configured together with several pump elements, then the lines leading from the pump elements will be joined together ahead of the relief valve

Multilube, MLP



Product description

Multilube pump units help to ensure that the lubrication result is optimal, while reducing energy and lubricant consumption. All relevant components (control unit, pump, reservoir, directional valve and pressure monitoring) are integrated into its modular pumping unit. Built-in heating allows it to be operated even under demanding and cold circumstances.

Features and benefits

- Compact, all-in-one structure
- Modular and durable design
- Easy to install and start-up
- Can be used in single-line, dual-line and progressive lubrication systems
- For use in oil and grease lubrication systems
- Two reservoir sizes
- Pumping element equipped with pressure-relief valve
- Filling connection equipped with safety valve
- Visual and electric low-level monitoring in reservoir
- Pumping center is equipped with heating resistor
- Clear and versatile user interface
- Wide operating temperature range
- For use with metering devices of category 5, 6 and 7

Applications

- Stand-alone machines
- Construction machinery
- Mining applications



Technical data

Function principle electrically operated piston pump

Metering quantity 16 cm³/min; 0.976 in³/min

Lubricant..... grease up to NLGI 1

Operating temperature –30 to +80 °C; –22 to +176 °F Operating pressure max. 200 bar, 2 900 psi

Reservoir.... 4 or 10 kg,

9 or 22 lb aluminum, polyurethane, nitrile

Connection outlet G 1/4

Operating voltage 12/24 VDC, 115 VAC, 230 VAC

Protection class IP 67 (with user-interface IP 65)

Dimensions:

with 4 kg reservoir 539 × 274 × 250 mm with 22 lb reservoir 27.09 × 10.78 × 9.84 in

Mounting position vertical

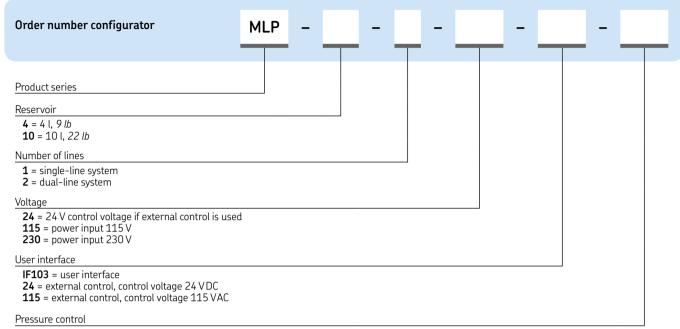


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For further technical information, technical drawings, accessories, spare parts or product function descriptions, see the following publication available on SKF.com/lubrication: 6407/2 EN



Multilube, MLP



PSE = Built-in pressure sensor

C2 = Single-line, dual-line lubrication pump used with single-line metering devices

C2P = Progressive, dual-line lubrication pump used with progressive metering devices

E = ATEX-certified version for Zone 20 and 22

P653S



Product description

The fully integrated P653S pump unit is an example of the Lincoln brand's commitment to providing innovative, cost-effective solutions through industry-leading advances in technology. This next-generation, lower-cost pump package can be fitted with one of four reservoir sizes and easily adapts to many applications. It also interfaces with telematics technology in today's heavy equipment. A neutral switch allows mobile equipment to remain idling with pump power on, but the timer is deactivated, allowing manual lubrication functionality. All pumps include low-level and system fault alarms. Simply mount the pump, connect the power and supply lines, and the system is ready for operation.

Features and benefits

- Integration of major system components reduces operation and overall costs
- Plug-and-play pump design for reduced installation time
- Neutral switch ensures lubrication only when the machine is operating, eliminating wasted grease
- For use with metering devices of category 5, 6, 7

Applications

- Renewable energy, construction machinery
- Mining and mineral processing, commercial vehicles



Technical data

Function principle	electrically operated histon numn
Function principle	electrically operated histon humb

Metering quantity 24,6 cm³/min, 1.5 in³/min Lubricant grease up to NLGI 2

Operating temperature . . . VDC: -40 to +70 °C; -40 to +158 °F

VAC: 0 to +50 °C; +32 to 122 °F Operating pressure pressure switch, fixed: 240 bar, 3 500 psi

pressure transducer, adjustable:

96 to 317 bar, 1 400 to 4 600 psi end of line pressure switch and transducer

setting, not adjustable: 172 bar, 2 500 psi

Reservoir. 4; 8; 15 or 20 kg, 8.8; 18; 33 or 44 lb

Material (reservoir) thermoplastic

Connection outlet G 1/4

Incoming voltage DC: 19 to 31 V DC

AC: 100 to 240 VAC Current DC: max. 10 A

AC: max. 1,7 A

Frequency AC: 47 to 63 Hz

Pause time max. 59 h, 59 min;

min. 4 min;

Pause time increments . . . 1 hr or 1 min Pumping time max. 12 min

Dimensions min. 240 × 235 × 467 mm

max. 240 × 235 × 800 mm

min. 9.45 × 9.25 × 18.4 in

max. 9.45 × 9.25 × 31 in

Mounting position vertical

Pump elements

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Number connected 3

Protection 1P 6K9K

LINCOLN

PUB LS/P1 17046 EN

5**K**F

P653S

raer number	Operating	voltage	Reser	voir	Follower plate	Internal pressure switch	Internal pressure transducer	Internal and end-of-line pressure switch	Internal and end-of-line pressure transducer
	24 VDC	120/230 VAC	kg	lb					
0086 0087 0105	•	- - -	4 4 4	9 9	- - -	• - -	- • -	- - •	- - -
0106 0076	•	_	4 4	9 9	•	•	_ _	-	• -
0077 0109 0110 0090 0091	•	- - - -	4 4 4 8 8	9 9 9 18 18	• • • -	- - - •	• - - -	- • - -	- • -
0107 0108 0080 0081 0111	•	_ _ _	8 8 8 8	18 18 18 18 18	- - • •	- - • -	- - - •	• - - -	- • - -
0112 0121 0122 0120	•	- - - -	8 15 15 20	18 33 33 44	• • - -	- - -	- • •	- - -	• - -
0083 0084	- -	•	4	9 9	- -	- -	•	- •	- -
0085 0072 0073 0074 0075	- - - -	•	4 4 4 4	9 9 9 9	- • •	- • - -	- - • -	- - -	• - - -
0088 0089 0078 0079 0134	- - - -	•	8 8 8 8 15	18 18 18 18 18 33	- - • •	•	- • - •	-	-
	_	•	20	44	•	_	-	-	•

Note: All models are designed for grease and include stirring paddle and low-level detection. Pumps include remote signaling cable, relief valve, electrical connectors and external pressure switch or transducer (as indicated for each model).

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FK





The FK pump unit is a multi-function piston pump with a versatile, modular structure. The FK pump unit can be used as a single-line, dual-line or progressive pump unit with or without integrated reversing valves. The modular structure of the pump also allows it to be retrofitted from one of the above-mentioned lubrication systems to another system without much effort or expense. The pump, which was designed to handle demanding usage, is available with reservoir sizes of 15 kg (33 lb), 30 kg (66 lb) and 60 kg (132 lb).

Features and benefits

- Versatile, modular system; easy to retrofit to other systems
- High functional reliability due to positively driven pistons
- Fill-level monitoring (using ultrasonic sensor) with two adjustable switching points

Applications

- Automotive industry
- Rotary applications
- Assembly lines
- Printing presses

For further technical information, technical drawings, accessories, spare parts or product function descriptions, see the following publication available on

SKF.com/lubrication: 1-3033-EN, 951-170-200-EN



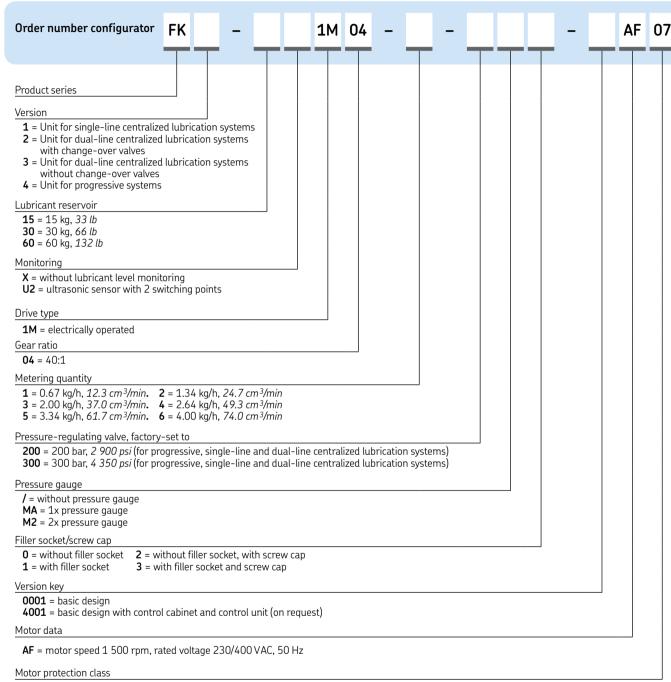
Technical data

Function principle	electrically operated piston pump
Outlets	
Metering quantity	
Metering quantity	0.75 to 4.5 in 3/min
Linkstone	
Lubricant	
	compatible oils from ISO VG 46 to
	greases of NLGI Class 2
	(consultation required for synthetic
	oils)
Operating temperature	-25 to +60 °C: -13 to 140 °F
Operating pressure	
Reservoir	
Nesel voll	33, 66 or 132 lb
Material	
Material	
	steel, aluminum
Operating voltage	
Pumping elements	
Filling method	via filler socket G ¹ / ₂
Gear type	screw drive, type 1M
Gear ratio	40:1
Nominal speed	1 500 rpm
Frequency	
Nominal output	0.37 kW
Rated current	1 00 A
Protection	
Connection outlet	G - /2
Dimensions:	
15 kg (33 <i>lb</i>)	max. 4/0×598×335 mm
	max. 18.5 × 23.54 × 13.18 in
30 kg (66 <i>lb</i>)	
	max. 26.2×23.54×13.18 in
60 kg (132 lb)	max. 1 035 × 598 × 335 mm
3, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1,	max. 40.74 × 23.54 × 13.18 in
NA	

Mounting position vertical

LINCOLN

FK

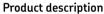


117

07 = IP 55 F

FlowMaster, electric





The high-performance FlowMaster product line is a new generation of pump technology. Compact and versatile, its unique rotary drive and modular gear set let you adjust the speed of the pump's motor to exactly fit your application. FlowMaster pumps can save the cost of air and plug in 12/24 VDC, 120/230-1ph and 230/460-3ph VAC models. The motion of pump created by the electric rotary motor is converted into reciprocating pump motion, providing an efficient lubricant flow. Because of its rotary drive, the motor can be placed directly on the pump. As a result, the pump is so compact it fits almost anywhere.

Features and benefits

- Advanced technology: brushless DC motor
- Temperature and overload protection: durable and long-lasting product that reduces machinery downtime for maintenance; less repair costs
- Totally sealed: withstands washdowns
- For use with metering devices of category 5, 6 and 7

Applications

- Mining and mineral processing, construction machinery
- Steel mills, paper mills, food and beverage

NOTE

For further technical information, technical drawings, accessories, spare parts or product function descriptions, see the following publication available on SKF.com/lubrication: 12938-EN



Technical data

Function principle electrically operated piston pun	Function principle.		electrically	operated	piston	num
---	---------------------	--	--------------	----------	--------	-----

Metering quantity max. 103 cm³/min

max. 6.3 in³/min

Lubricant.....grease NLGI Grade 0, 1, 2 Operating temperature....-40 to +65 °C; -40 to +150 °F

Operating pressure:

12 VDC max. 251 bar; 3 500 psi max. 345 bar; 5 000 psi 24 V DC.

120 to 460 VAC..... max. 345 bar; 5 000 psi Operating voltage 12/24 VDC; 120 to 460 VAC

fluoroelastomer, polyurethane, steel, Material....

aluminum zinc casting

Connection outlet 1/4 NPTF 17.8:1; 19:1; 34:1

Nominal power 5 to 50 and 9,5 to 100 rpm

Electric current

12/24 VDC 1 to 7.5 A 120 VAC

120 VAC 1 to 4.6 A 230-460 VAC 0,5 to 2,4 A

Dimensions:

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16, 25, 28, 35, 40 kg 360×350×170 mm 35, 55, 60, 78, 90 lb...... 14.17×13.78×6.7 in 55 Kg 408×223×946 mm

Mounting position vertical

PUB LS/P1 17046 EN



SKF

FlowMaster, electric

Order number	Designation	Power	Reservo	ir	Ratio	Metering min.	quantity	max.		Operat pressu	ing re max.	Speed
			kg	lb		cm³/min	in³/min	cm³/min	in³/min	bar	psi	rpm
85479	pump, follower, bucket cover, hardware	24 VDC	28	60	19:1	11,5	0.7	103	6.3	170	2 500	9,5-100
85728 85729 85730	reservoir and pump reservoir and pump reservoir and pump	24 VDC 24 VDC 24 VDC	28 90 120	60 41 55	19:1 19:1 19:1	11,5 11,5 11,5	0.7 0.7 0.7	103 103 103	6.3 6.3 6.3	345 345 345	5 000 5 000 5 000	9,5-100 9,5-100 9,5-100
85736 85737 85738 85739 85740 85743	pump pump pump pump pump pump	24 V D C 24 V D C 24 V D C 24 V D C 24 V D C 115 to 230 V A C	16 28 55/40 180 25 55/40	35 60 120/90 400 55 120/90	19:1 19:1 19:1 19:1 19:1 19:1	11,5 11,5 11,5 11,5 11,5 11,5	0.7 0.7 0.7 0.7 0.7 0.7	103 103 103 103 103 103	6.3 6.3 6.3 6.3 6.3	345 345 345 345 345 345	5 000 5 000 5 000 5 000 5 000 5 000	9,5-100 9,5-100 9,5-100 9,5-100 9,5-100
85744 85745	pump	115 to 230 VAC 220 to 420 VAC, 50 Hz, 3 ph	180 55/40	400 120/90	19:1 19:1	11,5 11,5	0.7	103 103	6.3	345 345	5 000 5 000	95 9,5-100
85746 85747 85748 85749 85750 85751 85752 85753 85754	pump pump pump pump pump pump pump pump	220 to 420 VAC, 50 Hz, 3 ph 24 VDC 24 VDC 24 VDC 24 VDC 24 VDC 12 VDC 12 VDC 12 VDC	180 16 16 55/40 16 16 16 16 28	35 35 120/90 35 35 35 35 35 60	19:1 17.8:1 34:1 34:1 7:1 7:1 19:1 19:1 19:1	11,5 6,55 6,55 11,5 11,5 11,5 11,5 11,5	0.7 0.4 0.4 0.7 0.7 0.7 0.7 0.7	103 57,4 57,4 103 103 103 103 103	6.3 3.5 3.5 6.3 6.3 6.3 6.3 6.3	345 170 345 345 345 345 170 170 345	5 000 5 000 5 000 5 000 5 000 2 500 2 500 5 000	9,5-100 9,5-100 5-50 9,5-100 9,5-100 9,5-100 9,5-100 9,5-100

Accessory

Drum covers, follower assemblies and vent valve assemblies

rder number	Designation	Reservoir		
		gal	lb	
85474 85492 85664 272180	drum cover follower assembly vent valve assembly (24 VDC) strainer	18	120	
35475 270982 35665 272180	drum cover follower assembly vent valve assembly strainer	55	400	
274899 276325 276903 276919 525-32083-1	24 VDC vent valve, IP 67 explosion-pro 24 VDC vent valve, IP 65 rating 24 VDC vent valve, IP 65 rating hardware kit for 276903 24 VDC vent valve, IP 54 rating	of rating		

PUB LS/P1 17046 EN

<u>LINCOLN</u>







[§] Metering devices













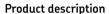


Overview of grease metering devices

Product finder									
Metering device series	Category	Lubricant grease NLG 0 1	Metering qu il per stroke 2	uantity	Operating pr	ressure	Adjustable metering quantity	Function type	Page
			cm ³	in ³	bar	psi			
SL-33 *	5	• • .	- 0,016-0,05	0.0009–0.0030	83–240	1 200–3 500	•	prelubrication	122
B-doser *	5	• • .	- 0,02–0,50	0.0012-0.0305	max. 150	max. 2 180	•	prelubrication	124
LG-doser *	5	• • .	- 0,02–0,50	0.0012-0.0305	max. 150	max. 2 180	•	prelubrication	126
SL-32 HV* SL-1 *	6 6		0,016–0,13 0,13–1,31	0.0009–0.0079 0.0079–0.0799	83–240 127–240	1 200–3 500 1 850–3 500	•	prelubrication prelubrication	128 129
QSL *	7	• •	0,05-0,40	0.0030-0.0244	140-300	2 030–4 350	•	prelubrication	130
VR *	7	• •	0,10-1,30	0.0061-0.0793	100-315	1 450–4 570	•	prelubrication	132
SL-11 SL-V SL-V XL	7 7 7	• • •	0,82–8,20 0,25–1,31 0,25–5,00	0.0500-0.5002 0.0152-0.0799 0.0152-0.3050	70–240 128–413 128–413	1 000–3 500 1 850–6 000 1 850–6 000	•	prelubrication prelubrication prelubrication	134 135 136
* Stainless steel or (C5M available								

SL-33





The series SL-33 metering devices are for single-line, high-pressure centralized lubrication systems dispensing petroleum-based lubricants with a viscosity up to NLGI 2. Output is externally adjustable. Its indicator stem permits visual check of metering device operation. May be combined in a circuit of metering devices SL-32, SL-V, SL-V XL, SL-1 and/or SL-11. Individual metering devices can be removed easily for inspection or replacement. Available in stainless steel SAE 304 for applications where environmental conditions are hazardous to carbon steel or in industries preferring stainless steel.

Features and benefits

- For use with manifolds from 1 to 7 ports to match number of lube points
- Output is externally adjustable
- Can be removed easily for inspection or replacement

Applications

· Food and beverage



Technical data

Function principle metering device

Outlets. 1 to 4

Metering quantity 0,016 to 0,049 cm³

0.001 to 0.003 in³

Lubricant grease NLGI 0, 1 Operating temperature ... max. +93 °C; +200 °F

Operating pressure 83 to 240 bar, 1 200 to 3 500 psi

typical: 100 bar, *1 500 psi*

Connection main line. 1/8 NPTF (F), 1/8 NPTF (M)

Connection outlet 1/8 in O.D. tube

Lubricant point solderless pipe connection (DIN 3862)

or plug connector min. 41×62×43 mm

max. 156×62×43 mm

min. 1.6 × 2.4 × 1.7 in

 $max. 6.1 \times 2.4 \times 1.7 in$

Mounting position any

Metering devices, except replacement metering devices for manifold, include compression nut and ferrule for tubing, 3,175 mm $(0.125 \, \text{in}) \, 0.D$. as standard. Other outlet connectors for feed line optional; metering devices with manifolds include two mounting clips and screws; metering devices have nitrile packings. Check packing compatibility with synthetic lubricants; output with indicator cap hand-tightened is $0.016 \, \text{cm}^3 (0.001 \, \text{in}^3)$. Maximum output is achieved with two turns at $0.016 \, \text{cm}^3 / \text{turn} (0.001 \, \text{in}^3 / \text{turn})$

LINCOLN

SL-33

SL-33				
Order number 1)	Designation	Material	Outlets	Manifold inlet
83309-1	metering device including manifold	carbon steel	1	¹ / ₈ NPTF (F)
83309-2	metering device including manifold	carbon steel	2	¹ / ₈ NPTF (F)
83309-3	metering device including manifold	carbon steel	3 4	¹ / ₈ NPTF (F)
83309-4	metering device including manifold	carbon steel	4	1/8 NPTF (F)
83309-5	metering device including manifold	carbon steel	5	1/8 NPTF (M)
83309-6	metering device including manifold	carbon steel	6	¹ / ₈ NPTF (F)
83900	single metering device, no manifold needed	carbon steel	1	¹ / ₈ NPTF (M)
83314	single metering device for replacement	carbon steel	-	_
83715-1	metering device including manifold	stainless steel 304	1	1/8 NPTF (F)
83715-2	metering device including manifold	stainless steel 304		1/8 NPTF (F)
83715-3	metering device including manifold	stainless steel 304	2 3	¹ / ₈ NPTF (F)
83715-4	metering device including manifold	stainless steel 304	4	¹ /8 NPTF (F)
83715-6	metering device including manifold	stainless steel 304	6	1/8 NPTF (F)
83715-7	metering device including manifold	stainless steel 304	6 7	1/8 NPTF (F)
83900-9	single metering device, no manifold needed	stainless steel 304	1	1/8 NPTF (M)
83314-9	single metering device for replacement	stainless steel 304	-	- ' '

B-doser



Product description

B-dosers are used in single-line, heavy vehicle and industrial lubrication applications. The doser group consists of a mounting rail with one or more dosers attached to it. Dosing modules and mounting rails are made of zinc-coated and yellow-passivated steel. The dosage ranges of B-dosers are from 20 to 500 mm³.

Features and benefits

- The output quantity of the used dosers is visible on amount of notches at the housing
- Suitable with optionally manifold sizes for 2-, 3- and 6-ports to match amout of lube points (1-6)
- Material of manifold: stainless steel AISI 303
- Suits for ø 4 and 6 mm of feedlines

Applications

- Heavy vehicles
- · Heavy industrial application



Technical data

Function principle metering device

Lubricant oil and grease NLGI 000 to 1

Operating temperature . . . -25 to +80 °C; -13 to +176 °F

B3, B4=10 bar; 145 psi B5, B6=5 bar; 72 psi

Materials zinc-coated and yellow-passivated steel

Connection main line

R $\frac{1}{4}$ for ø 8 mm or pipe ø $\frac{1}{2}$ in

Lubricant point solderless pipe connection, DIN 3862 min. 15 × 90 × 15 mm

max. 17×110×17 mm min. 0.6 × 3.5 × 0.6 in max. 0.7 × 4.3 × 0.7 in

Mounting position any

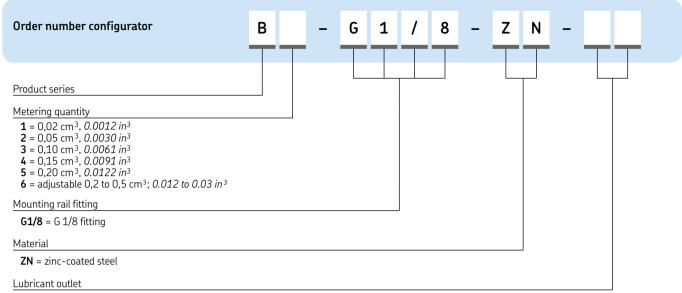


For further technical information, technical drawings, accessories, spare parts or product function descriptions, see the following publication available on SKF.com/lubrication: 11276 EN





B-doser



- 4 = pipe connector ø 4 mm
- **6** = pipe connector ø 6 mm
- = pipe connector mm
- U = female thread NPT 1/8

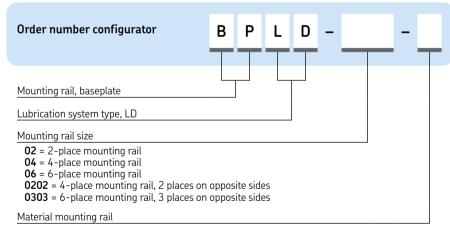
Accessory

Manifold



Product description

For B-doser metering devices, manifolds utilized are for 1 to 6 screw-in points with thread G $^1\!/_8$ for 0-ring sealing . Mainline fitting for G $^1\!/_4$ for ø 8 mm or pipe ø $^1\!/_2$ in. Normal profile and opposite-side profile design manifolds are available in zinc-coated and yellow-passivated steel. Various designs of main line and feed line connection can be selected by order code.



ZN = Zinc-coated and yellow-passivated steel

LG-doser



Product description

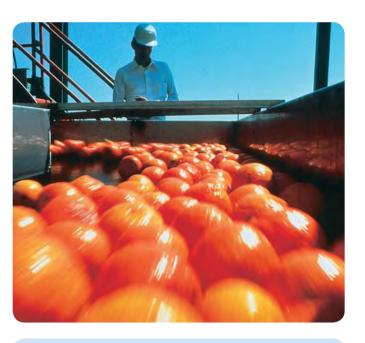
LG-dosers are used in single-line lubrication applications. The doser group consists of a mounting rail with one or more dosers attached to it. Dosing modules and mounting rails are made of stainless steel.

Features and benefits

- Two adjustable doser sizes are selectable by the used output quantity
- Manifold material: stainless steel AISI 303
- Compatible with screw-in type fittings for dosers and manifolds
- Suitable for feed line ø 4 and ø 6 mm
- · Robust and reliable

Applications

· Food and beverage



Technical data

Function principle metering device

Operating temperature . . . -25 to +80 °C; -13 to +176 °F Operating pressure max. 150 bar, 2 180 psi Relief pressure LG001=10 bar; 145 psi LG002=5 bar; 72 psi

Materials stainless steel AISI 304 Connection main line.... manifold: R 1/4 in

Connection outlet pipe connector ø 4 and 6 mm

or pipe ø 1/4 in

Connection lubricant point. solderless pipe connection (DIN 3862)

Material..... stainless steel AISI 303 Dimensions min. 15 × 112 × 15 mm max. 17 × 110 × 17 mm

min. 0.6 × 4.4 × 0.6 in max. 0.7 × 4.3 × 0.7 in

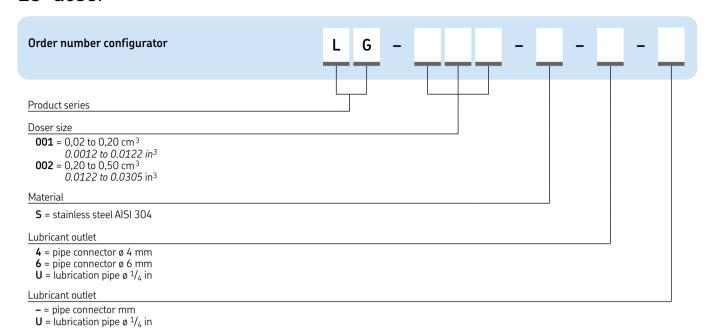
Mounting position any

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For further technical information, technical drawings, accessories, spare parts or product function descriptions, see the following publication available on SKF.com/lubrication: 11276 EN



LG-doser



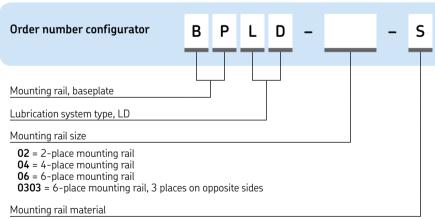
Accessory

Manifold



Product description

For LG-doser metering devices, manifolds utilized are for 1 to 6 screw-in points with thread G $^{1}/_{8}$ for 0-ring sealing . Normal profile and opposite-side profile design manifolds are available in stainless steel AISI 303. Various designs of main line and feed line connections can be selected by order code.



S = stainless steel AISI 303

SL-32HV



Product description

The series SL-32HV (high venting) metering devices are for single-line, high-pressure centralized lubrication systems dispensing petroleum-based lubricants with a viscosity up to NLGI 2 (refer to Design Guide). Output is externally adjustable. The indicator stem permits visual check of metering device operation. Individual metering devices can be removed easily for inspection or replacement.

Features and benefits

- Shipped with manifolds from 1 to 10 ports to match number of lube points
- Output is externally adjustable
- Indicator stem permits visual check of operation
- Can be removed easily for inspection or replacement
- Available in stainless steel SAE 304

Applications

- · Food and beverage
- Industrial automation
- Machine tools
- Oil and gas
- Steel industry
- Pulp and paper
- Marine and forestry
- Construction
- Wind energy
- Mobile on-road



Technical data

Function principle metering device 0.001 to 0.008 in³

Relief pressure. 28 bar, 400 psi

Material carbon steel, nitrile packings Connection main line 1/4 NPTF (F), 1/4 NPTF (M)

Connection outlet 1/8 in O.D. tube

Lubricant point solderless pipe connection (DIN 3862)

Dimensions min. 44,5 × 93 × 52 mm max. 215 × 93 × 52 mm min. 1.8 × 3.6 × 2.1 in max. 8.5 × 3.6 × 2.1 in

Mounting position any

SL-32HV

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Order number	Designation	Outlet
83336HV-1 83336HV-2 83336HV-3 83336HV-4 83336HV-5 83336HV-7 83336HV-8 83336HV-9 83336HV-9 83338HV 83338HV	metering device metering device, single, no manifold metering device, single replacement	1 2 3 4 5 6 7 8 9 10 1



SL-1





The series SL-1 metering devices are for single-line, high-pressure centralized lubrication systems dispensing lubricants compatible with flouroelastomer packings and viscosity up to NLGI 2. Output is externally adjustable. An indicator stem permits visual check of metering device operation. Individual metering devices can be eremoved easily for inspection or replacement. Available in stainless steel SAE 316, for applications where environmental conditions are hazardous to carbon steel or in industries preferring stainless steel.

Features and benefits

- Shipped with manifolds from 1 to 6 ports to match number of lube points
- Output is externally adjustable
- Each indicator stem permits visual check of injector operation
- Individual metering devices can be removed easily for inspection or replacement
- Includes fitting for feed lines via alternate outlet port
- Available in stainless steel SAE 316

Applications

- Mining and mineral processing
- Construction machinery
- Steel/heavy industry



Technical data

Function principle metering device

Lubricant grease NLGI 0, 1, 2 Operating temperature . . . -26 to +176 °C; -15 to +350 °F

Operating pressure 127 to 240 bar, 1 850 to 3 500 psi

Relief pressure. 41 bar, 600 psi

Materials carbon steel, stainless steel 316

Connection main line.... 3/8 NPTF (F) Connection outlet 1/8 NPTF (F)

Lubricant point solderless pipe connection Dimensions min. 63 × 179,4 × 52,4 mm

max. 203 × 179,4 × 52,4 mm min. 2.5 × 7.0 × 2.0 in

max. 8.0 × 7.0 × 2.0 in

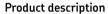
Mounting position any

SL-1		
Order number	Designation	Outlets
81770-1 81770-2 81770-3 81770-4 81770-5 81770-6	metering device metering device metering device metering device metering device metering device	1 2 3 4 5

SKF

QSL





QSL metering devices are designed for 300 bar pressure. As a result, NLGI 2 greases can be pumped at temperatures below zero without problems. All metering devices operate independently of each other. This means that in the event of a blockage or fault of one metering device, all other metering devices will continue to supply lubricant. A control pin on top shows proper function of each metring device.

Features and benefits

- Suitable for use with manifolds from 1 to 6 ports to match number of lube points; must be ordered separately
- Corrosion-resistant, black-cromated or nickel-plated surface
- Each indicator stem permits visual check of operation
- Can be removed easily for inspection or replacement
- Controlled via main line

Applications

- Renewable energy
- · Construction machinery
- Mining and mineral processing
- Compact and medium-sized machines and industrial applications
- Commercial vehicles



Technical data

Function principle metering device

Outlets. 1 to 6
Metering quantity 0,05 to 0,4 cm³, 0.003 to 0.024 in³

Lubricant grease NLGI 0, 1, 2

Operating temperature . . . -40 to +70 °C; -40 to +158 °F Operating pressure 140 to 300 bar, 2 030 to 4 350 psi

Relief pressure. ≤ 60 bar, ≤ 870 psi

Materials steel, black cromated, polyurethane

Connection main line. G 3/₈ for steel pipe 16×2 mm; 0.63×0.08 in

Connection outlet G 1/8 for tubes/hoses

4,1×2,3 mm; 0.16×0.09 in Lubricant point solderless pipe connection, DIN 3862

or SKF quick connector Dimensions length: max. 160 mm, 6.3 in

ø 28 mm; 1.1 in

Mounting position any

For further technical information, technical drawings, accessories, spare parts or product function descriptions, see the following publication available on SKF.com/lubrication: PUB LS/P2 12735 EN





QSL

rder number ¹⁾	Designation Injectors	_	Metering quantity per stroke	
		cm ³	in ³	
54-32810-1	QSL 0,05	0,05	0.00305	blue
54-32811-1	QSL 0,1	0,10	0.00610	white
54-32812-1 54-32813-1	QSL 0,2 QSL 0.3	0,20 0.30	0.01220 0.01830	yellow red
54-32814-1	QSL 0,4	0,40	0.02440	green

Accessory

Manifold, check valves and closure kit



Product description

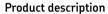
For QLS metering devices, manifolds utilized are for 1 to 6 push-in points tightened by a hollow screw with thread G $^3/_8$ for 0-ring sealing. Normal profile design manifolds are available in steel. The main line connection G $^3/_8$ is for steel pipe 16×2 mm (0.63×0.08 in). The lubrication connection is for plastic tube 4.1×2.3 mm; (0.16×0.09 in).

Manifolds 1)					
Order number	Designation	2	Dimensions fixing hole		tal
		mm	in	mm	in
454-71505-1 454-71506-1 454-71507-1 454-71508-1 454-71509-1	divider bar, 2-fold divider bar, 3-fold divider bar, 4-fold divider bar, 5-fold divider bar, 6-fold	74 42 84 126 84 ¹⁾	2.91 1.65 3.30 4.96 3.30	130 130 172 214 256	5.11 5.11 6.77 8.42 10.07
1) Instead of the planne 2) 3 bores	ed injectors a divider bar can als	o be equipped v	with a closure kit !	o, order number: 55	4-34387-1

Check valves and closure kit					
Order number	Designation				
223-12289-7	check valves for connection at lubrication point outlets				
554-34387-1	closure kit 5				

VR





Product series VR are 1- to 12-port prelubrication metering devices for single-line, centralized lubrication systems for fluid grease and grease up to NLGI 2. These metering devices are characterized by an innovative, compact and sturdy design with SKF Quick Connector systems.

Features and benefits

- Innovative, extremely compact design
- Optional metering devices for 1 to 12 ports to match number of lubrication points
- Metering nipples with indicator pin for visual monitoring of each lubrication point
- Optional push-in type or screw-in type fittings for feed line or main line connections are selectable
- Easy metering adjustment by replacing the metering nipples
- Black anodized surface for optimized corrosion protection
- Suitable for corrosivity category C3 and C5 per DIN EN ISO 12944 and certified by Germanischer Loyd
- High functional reliability when using stiff greases at low working temperatures

Applications

- Onshore and offshore wind energy systems
- · Construction machinery
- Steel industry
- Heavy industry
- General mechanical engineering applications



Technical data

Function principle metering device

Metering quantity non-adjustable: 0,1 to 1,3 cm³/min

0.006 to 0.079 in 3/ min adjustable: 0,1 to 1,1 cm³/min 0.006 to 0.067 in 3/ min

Lubricant..... fluid greases and grease NLGI 0, 1, 2

Operating temperature -25 to +80 °C; -13 to +176 °F

Operating pressure 100 to 315 bar; 1 450 to 4 570 psi

Materials anodized aluminum, stainless steel,

FKM (FPM) Connection main line..... G 1/4 for pipes 4 or 6 mm,

0.16 or 0.24 in Connection outlet

 $G^{1}/_{8}$ for pipes 4 or 6 mm, 0.16 or 0.24 in

Lubricant point solderless pipe connection (DIN 3862)

Dimensions depending on model:

min. 97 × 130 × 54 mm; max. 281 × 121 × 119 mm; min. 3.82 × 5.12 × 2.13 in max. 11.06 × 4.76 × 4.68 in

Mounting position any

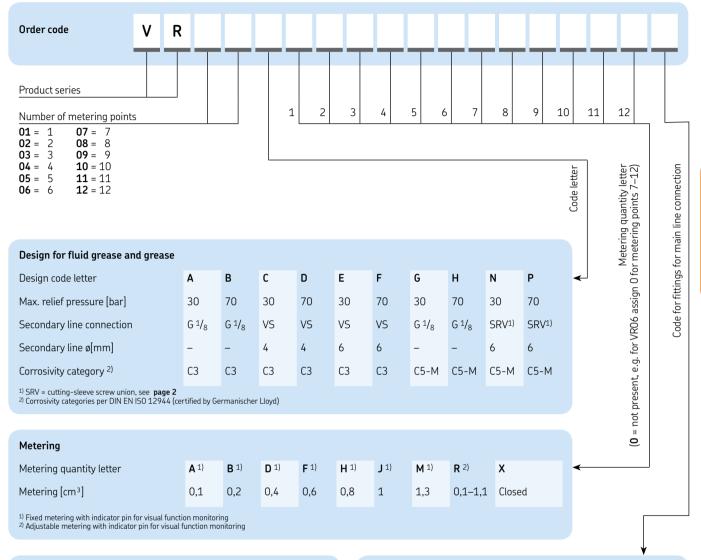
For further technical information, technical drawings, accessories, spare parts or product function descriptions, see the following publication available on SKF.com/lubrication: 1-5001-EN, 951-230-007

3D data and product configuration:

skf-lubrication.partcommunity.com/3d-cad-models/

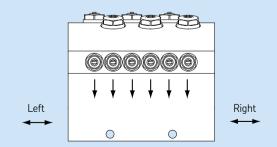


VR



133





VR06FFFFFF000000Z

- Single-line distributor, 6-port
- Relief pressure max. 70 bar
- Lubrication point line connection using SKF plug connector for pipe ø 6 mm
- Metering quantity 1-6 = 0.6 cm³
- Without fitting for main line connection (G ¹/₄ thread)

Fittings for main line connection									
Left fitting	Right fitting	line [mm]	Code						
Cutting-sleeve screw union*	Cutting-sleeve screw union*	8 10	A G						
Cutting-sleeve screw union*	Closed	8 10	B H						
Closed	Cutting-sleeve screw union	8 10) C						
EO-2 screw union	EO-2 screw union	8 10	D K						
E0-2 screw union	Closed	8 10	E L						
Closed	E0-2 screw union	8 10	F M						
G ¹ / ₄	G ¹ / ₄	-	Z						

SL-11



Product description

Series SL-11 metering devices are for single-line, high-pressure centralized lubrication systems dispensing lubricants compatible with flouroelastomer packings and viscosity up to NLGI 2. Output is externally adjustable. An indicator stem permits visual check of metering device operation. Available only as single unit with 1/2 inch NPTF (F) inlet.

Features and benefits

- Output is externally adjustable
- Indicator stem permits visual check of injector operation
- May be combined in a circuit of metering devices SL-32, SL-33, SL-V XL, SL-V and/or SL-1
- Can be removed easily for inspection or replacement
- Includes fitting for filling feed lines via alternate outlet port
- Available in stainless steel SAE 316

Applications

- Construction machinery
- · Mining and mineral processing
- Steel industry
- · Heavy industry



Technical data

 Order number
 85497

 Function principle
 metering device

 Outlets
 1

 Metering quantity
 0,82 to 8,2 cm³;

 0.050 to 0.500 in³

 Lubricant
 grease NLGI 0, 1, 2

Operating temperature . . . -40 to +93 °C; -40 to +200 °F Operating pressure 70 to 240 bar, 1000 to 3500 psi

Connection main line $^{1}/_{2}$ NPTF (F) Connection outlet $^{1}/_{4}$ NPTF (F)

Lubricant point solderless pipe connection (DIN 3862)

Mounting position any

Metering devices have flouroelastomer packings. Check packing compatibility with synthetic lubricants; metering devices supplied with fitting for filling feed line via alternate outlet port Output with adjustment screw hand-tightened is $0.82~{\rm cm}^3$ $(0.05~in^3)$; maximum output is achieved with $11^4/{\rm 2}$ turns at $0.66~{\rm cm}^3/{\rm turn}$ $(0.04~in^3/{\rm turn})$



SL-V



Product description

Series SL-V metering devices are for single-line, high-pressure centralized lubrication systems dispensing lubricants compatible with polyurethane seals up to NLGI 2. Output is externally adjustable. An indicator stem permits visual check of metering device operation. Individual metering devices can be removed easily for inspection or replacement. Each SL-V metering device includes a clear, polycarbonate protective cap.

Features and benefits

- Shipped with manifolds from 1 to 6 ports
- Output is externally adjustable
- Clear, polycarbonate protected cap over indicator stem permits visual check of operation
- Can be removed easily for inspection or replacement
- Available in carbon steel or stainless steel SAE 304
- Output setting system by a set of color-coded sleeves

Applications

- · Construction machinery
- · Mining and mineral processing
- Steel industry



Technical data

Metering device manifolds have 10,3 mm (0.4~in) dia. mounting holes for 9,5 mm (0.375~in) bolt; metering devices have polyurethane seals; check compatibility with synthetic lubricants; metering devices include fitting for filling feedlines via alternate outlet port; output with adjustment screw hand-tightened is $0.246~\mathrm{cm}^3~(0.015~in^3)$; maximum output is achieved with five turns at $0.229~\mathrm{cm}^3/\mathrm{turn}~(0.014~in^3/\mathrm{turn})$

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	v	

Order number	Outlets	Designation
85770-1 85770-2 85770-3 85770-4 85770-5 85770-6 85771 85772	1 2 3 4 5 6	One metering device manifold Two metering device manifold Three metering device manifold Four metering device manifold Five metering device manifold Six metering device manifold Replacement for manifold metering device Single metering device, no manifold,

SL-VXL



Product description

Series SL-V XL high-output metering devices are for single-line, high-pressure centralized lubrication systems dispensing lubricants compatible with polyurethane seals up to NLGI 2. Output is externally adjustable. An indicator stem permits visual check of metering device operation. Individual metering devices can be removed easily for inspection or replacement. Two SL-V XL metering devices are required to replace one SL-11 metering device. Each SL-V XL metering device includes a clear, polycarbonate protective cap.

Features and benefits

- Suitable for use with manifolds from 1 to 6 ports to match number of lubrication points
- Output is externally adjustable
- Includes a clear, polycarbonate protective cap over indicator stem that permits visual check of operation
- Can be removed easily for inspection or replacement
- Includes fitting for filling feed lines via alternate outlet port
- Available in carbon steel or stainless steel SAE 304

Applications

- Construction machinery
- Mining and mineral processing
- Heavy industry



Technical data

Function principle metering device

Outlets. 1 to 6

Metering quantity 0,25 to 5,00 cm 3 , 0.015 to 0.305 in 3

Lubricant grease NLGI 0, 1, 2

Operating temperature . . . -40 to +82 °C; -40 to +180 °F Operating pressure 128 to 413 bar; 1850 to 6000 psi

Lubricant point solderless pipe connection (DIN 3862)

max. 203 × 284 × 35 mm min. 2.5 × 11.2 × 1.4 in max. 6.1 × 11.2 × 1.4 in

Mounting position any

Metering device manifolds have 10,3 mm (0.4~in) dia. mounting holes for 9,5 mm (0.375~in) bolt; metering devices have polyurethane seals. Check compatibility with synthetic lubricants; metering devices include fitting for filling feed lines via alternate outlet port; output with adjustment screw hand-tightened is $0.246~\mathrm{cm}^3 (0.015~in^3)$; maximum output is achieved with $20.5~\mathrm{turns}$ at $0.229~\mathrm{cm}^3/\mathrm{turn}$ $(0.014~in^3/\mathrm{turn})$.

LINCOLN

Metering device

SL-VXL

Order number configurator	8	5	7	8	0	-	
Product series, carbon steel							
· · · · · · · · · · · · · · · · · · ·			-				
85781 = replacement for manifold metering device							
85781 = replacement for manifold metering device 85782 = single metering device, no manifold; 9,5 mm NPTF (M), 0.375 NPTF (M) inlet							
85782 = single metering device, no manifold; 9,5 mm NPTF (M), 0.375 NPTF (M) inlet							
85782 = single metering device, no manifold; 9,5 mm NPTF (M), 0.375 NPTF (M) inlet Outlets 1 = 1							
85782 = single metering device, no manifold; 9,5 mm NPTF (M), 0.375 NPTF (M) inlet Outlets							
85782 = single metering device, no manifold; 9,5 mm NPTF (M), 0.375 NPTF (M) inlet Outlets 1 = 1 2 = 2							

Accessories for single-line lubrication systems

























Controllers













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Overview of controllers

Product	Operating temperature		Voltage		Adjustable	Level monitoring	Page
	°C	°F	VDC	VAC			
EXZT2A02 EXZT2A05 EXZT2A07	0 to 60 0 to 60 0 to 60	+32 to 140 +32 to 140 +32 to 140	12/24 12/24 12/24	120 120 120	• •	- •	140 140 140
GZ36-20 GZ36-20-S6 GZ38-30 GZ38-30-S1 GZ51-20-S3	0 to 60 0 to 60 0 to 60 0 to 60 0 to 60	+32 to 140 +32 to 140 +32 to 140 +32 to 140 +32 to 140	12/24 12/24 12/24 12/24 12/24	120 120 120 120 120	• • - -	- • •	140 140 140 140 140
G502-2-E _C502	-25 to +75 0 to 60	-13 to +167 +32 to 140	12/24 12/24	<u>-</u> -	:	:	142 143
5T-1440 5T-1340 5T-1240-GRAPH 5T-1240-GRAPH-4 5T-1100i 5T-102 5T-102P	0 to 60 0 to 60 0 to 50 0 to 50 -20 to +60 -40 to +80 -40 to +80	+32 to 140 +32 to 140 +32 to 140 +32 to 140 -4 to +142 -40 to +176 -40 to +176	- - - - 12/24 12/24	93–264 93–264 93–264 93–264 93–264	•	•	144 144 145 145 146 147 148
84501 84015 85520 85535 85530	-18 to +54 -18 to +55 -25 to +65 -40 to +65 0 to 50	0 to +130 0 to +131 -13 to +150 -40 to +150 +32 to 122	- 12/24 - 12/24 12/24	120/230 - 120 -	•	- - •	149 150 151 152 153
MC 101 EOT-1 EOT-2	-40 to +65 -25 to +70 -25 to +70	-40 to +150 -13 to +158 -13 to +158	12/24 12/24 12/24	- - -	:	:	154 155 155
.MC 301 .MC 2	-40 to +70 -10 to +70	-40 to +158 +14 to 158	24 12/24	90–264 230	•	•	156 157

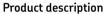
Controller kits										
Product	Designation	Operating temperature		Voltage		Adjustable	Level monitoring	Page		
		°C	°F	VDC	VAC					
85525 85208 85209	Kit: controller and pressure sensor Kit: controller, pressure sensor, solenoid valve Kit: controller, pressure sensor, solenoid valve	-25 to +65 0 to +50 0 to +50	-13 to +150 +32 to +122 +32 to +122	- - -	120 110/120 220	•	•	158 159 159		

Connection and flow controllers								
Product	Designation	Operating temperature		Voltage		Page		
		°C	°F	VDC	VAC			
HCC Flow sensor	Hose tear-off control Flow sensor	-25 to +70 +10 to +50	-58 to +158 50 to 122	12/24 12/24	- -	158 159		

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EXZT/IGZ





Universal electronic control and monitoring devices are used in single- line and progressive lubrication systems for stationary industrial applications, installed in a switching cabinet or internally in a compact lubrication unit. Two different versions are required: +471 for 100 to 120 VAC and 200 to 240 VAC; and +472 for 24 VDC and 24 VAC. The universal devices can be used as time-dependent or pulse-dependent controllers. The main task is to initiate a

lubrication cycle after a set time. The devices also monitor the piston strokes and run the pump during the lubrication time in clogged operation. All devices have custom-built functions integrated and can be configured to meet the requirements of the application. Mentioned device models must be selected based on their special function configuration and additional features according to the user manual.

Features and benefits

- Easy installation via top hat rail mounting
- One unit for different operating modes such as timer, counter and monitoring functions; other features are adjustable
- Pulse generator/counter with adjustable interval time
- Time operation or machine clogged operation
- Pump run time limitation
- Monitoring of pressure build-up, contact (NO)
- · Low-level control and EEPROM as an additional feature

Applications

All single-line lubrication systems for stationary industrial applications



Technical data

Function principle Universal electronic control and monitoring device

Operating temperature 0 to 60 °C

. . 70×75×110 mn 2.7×3×4.3 in

Version + 471

Input voltage100 – 120 VAC; 200 – 240 VAC

Power input8 W

Switching currentmax. 5 A Input voltage sensors24 VDC

Version + 472

 Frequency
 .DC or 50 – 60 Hz

 Fuse
 .max. 6.3 A

 Switching current
 .max. 5 A

 Input voltage sensors
 .24 VDC

NOTE

For further technical information, technical drawings, accessories, spare parts or product function descriptions, see the following publication available on SKF.com/lubrication: **1-1700-4-EN**

LINCOLN

Controller

EXZT/IGZ

Models									
Order number	Input voltage	Adjustable monitoring time	Adjustable pump delay time	Monitoring of pressure relief, contact	Lubricant level monitoring, contact	Interval time extension	Early lubricant leve warning, contact	el Pulse monitoring	Activatable failure memory EEPROM
EXZT2A02+471	120 VDC	•	•	NO 1)	NO 1)	•	_	_	_
EXZT2A02+472	24 VAC	•	•	NO ¹⁾	NO ¹⁾	•	-	-	_
EXZT2A05+471	120 VDC	•	•	-	NC ²⁾	•	-	•	_
EXZT2A05+472	24 VAC	•	•	-	NC ²⁾	•	-	•	-
EXZT2A07+471	120 VDC	•	•	-	NC ²⁾	•	•	-	-
EXZT2A07+472	24 VAC	•	•	-	NC ²⁾	•	•	-	-
IGZ36-20+471	120 VDC	•	•	NC ²⁾	NO 1)	-	-	-	-
IGZ36-20+472	24 VAC	•	•	NC ²⁾	NO 1)	-	-	-	-
IGZ36-20-S6+47	1 120 VDC	•	•	NC ²⁾	NC ²⁾	-	-	-	-
IGZ36-20-S6+47	2 24 VDC	•	•	NC ²⁾	NC ²⁾	-	-	-	-
IGZ38-30+471	120 VDC	-	-	-	NC ²⁾	-	-	-	-
IGZ38-30+472	24 VDC	-	-	-	NC ²⁾	-	-	-	-
IGZ38-30-S1+47	1 120 VDC	-	-	-	NO ¹⁾	-	-	-	-
IGZ38-30-S1+47	2 24 VDC	-	-	-	NO ¹⁾	-	_	-	_
IGZ51-20-S3+47	1 120 VDC	•	•	NC ²⁾	NO 1)	•	-	-	•
IGZ51-20-S3+47	2 24 VDC	•	•	NC ²⁾	NO 1)	•	_	-	•
1) NO = contact normally 2) NC = contact normally									

IG502-2-E



SCANIA SCANIA

Product description

The IG 502-2-E is a universal control and monitoring device for centralized lubrication in single-line and progressive lubrication systems. The compact device is equipped with a display panel for parameter settings and function monitoring. Different operating modes such as timer, counter and monitoring functions for pressure and cycle switches are programmable in their individual functions. The display panel is protected against moisture and dirt. A red LED shows faults as a collective message. Two integrated electronic counters are used for permanent operation control and failed hours, where pump could not operate properly. In both counters, saved times cannot be deleted. The working-hour meter summarizes times when supply voltage at the device is switched on. The device has its own database independent of supply voltage for saving configuration and parameters. To avoid environmental influences, it is advisible to install the device inside of a cabin.

Features and benefits

- Universal control and monitoring device
- Compact design
- Easy to handle operations
- Different operating modes such as timer, counter and monitoring functions
- Red LED for failure indication and cause
- Integrated counters for permanent operation, failed hours and working-hour meter show complete life cycle of system

Applications

- · Commercial vehicles
- Construction machinery
- Agriculture

Technical data

 Order number
 IG502-2-E

 Wire set
 997-000-185

 $\begin{tabular}{lll} Function principle & ...$

SL-output 4 W

NOTE

For further technical information, technical drawings, accessories, spare parts or product function descriptions, see the following publication available on SKF.com/lubrication: **1-1703-EN**



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SKF

Controller

LC502



Product description

The compact LC502 is an all-purpose controller suitable for single-line, progressive and dual-line systems. Supplied as a separate unit or already integrated in the pump, this versatile controller includes a basic power switch, motor circuit breaker (230/400 VAC types) start button and fault indicator light. The unit's user-friendly display enables input of customer-specific settings in up to seven languages (optional). Integration of the LC502, configuration of technical ratings and characteristics depend on the customer's specific application.

Features and benefits

- Easy-to-operate, programmable controller
- System monitoring and error detection/failure remedy
- Integrated temperature-overload safety device
- Up to three lubrication circuits can be controlled or monitored separately

Applications integrated in the pump

- Construction machinery
- Special-purpose machinery
- · Commercial vehicles
- Fork lifts

Applications stand alone

- Special-purpose machinery
- General industry
- · Cement and steel plants
- Food and beverage



Technical data

Order number	LC502
Function principle	
Operating temperature	0 to +60 °C; +32 to 140 °F
Operating voltage	
24 V D C	
230 VAC	
400 VAC 3-phase	
Operating voltage frequency	
Electrical connectors	•
Electrical output connectors	
Input voltage	
Protection class	
Off time (cycle)	
On time (pumping)	1 h
Fuses	
F1: 400 VAC and 203 VAC	
F2: 400 VAC, 230 VAC 24 VDC	5×20 mm / 2 A
Cycle settings dependent on	time, machine pulse
	pump revolutions
Possible low-level controls: W1	
Possible low-level controls: W2	Wipe /capacitive / static
	Analog
Lubrication circuits	
Rotation	10 (for industry and vehicle pumps)
	corresponds to 10 agitator rotations
Dimensions, for control cubicle	
	15.75×15.75×23.62 in
Mounting position	vertical, cable terminals pointing
	downwards

NOTE

For further technical information, technical drawings, accessories, spare parts or product function descriptions, see the following publication available on SKF.com/lubrication: **950-180-004-EN**

ST-1340 and ST-1440





Product description

SKF ST-1340 and ST-1440 CPUs are microprocessor-based control centres for use in single-line lubrication systems, as well as dual-line and progressive lubrication systems. Featuring an alphanumeric keypad and display, the two units are identical with the exception of case size and maximum number of lubrication channels served. The ST-1340 controls up to four separate lubrication channels, while the ST-1440 controls up to 14 channels, each having independent lubrication parameters and/or lubricants. The lubrication system is expandable by installing new channel modules, and configuration is determined in the field by the user. Pressure switches and transmitters or piston detectors can be used in all channels.

Features and benefits

- Versatile and durable
- Modular units provide easy system modification
- Automatic pump change (Dualset)
- Grease-spraying control with air monitoring
- Compatible with SKF Doser monitor
- Works with SKF Online 1440 control software
- Program status and lubrication history data are protected by a back-up battery

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Function principle control centre Operating temperature 0 to +60 °C; +32 to +140 °F Lubricant..... oil and grease Lubricant channels ST-1340: up to 4 ST-1440: up to 14 Operating voltage 93 to 132 VAC. 186 to 264 VAC Operating voltage frequency . . . 47 to 63 Hz Operating current 5,4 A/115 VAC, 2,2 A/ 230 VAC Control voltage 24 VDC, ± 10% Overload protection..... automatic fuse, 6 A screw terminals for 2,5 mm² wires IP 65 alphanumeric keypad and display, 4 × 20 characters, RS-422 Modbus port

Dimensions:

 ST-1340.
 600 × 380 × 210 mm

 23.6 × 14.9 × 8.3 in

 ST-1440.
 600 × 600 × 210 mm

 23.6 × 23.6 × 8.3 in

 Options.
 SMS control feature

 Off time (cycle).
 1 min to 999 h 59 min

ST-1340 and ST-1440	
Order number	Designation
VGEV 12380695 VGEV 12501254	ST–1340 control centre 1 channel module

ST-1440 control centre

4 channel module

- a

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For further technical information, technical drawings, accessories, spare parts or product function descriptions, see the following publication available on SKF.com/lubrication:

PUB LS/P8 13166 EN



VGEV 12380700

VGEV 12501254

PUB LS/P1 17046 EN

5KF

Accessories

ST-1240-GRAPH/-4





Product description

The SKF ST-1240-GRAPH is a two-channel lubrication control centre that supports any combination of single-line, dual-line and progressive lubrication systems. The lubrication channels can be zones, separated by shut-off valves, or complete lubrication systems with separate pumping centres and varying lubricants. The ST-1240 control centre enables configuration in the field via an alphanumeric touchscreen display.

Features and benefits

- Automatic pump change (Dualset)
- Grease-spraying control with air monitoring
- IP 65 protection rating
- Compatible with SKF Doser monitor
- Works with SKF Online 1440 control software

Applications

• Large lubrication systems where dispensing of lubricant by zones or complete lubrication systems with separate pumping centres and varying lubricants are requested

Technical data

Function principle control centre

Operating temperature 0 to +50 °C; +32 to 122 °F

Lubricant..... oil and grease

93 to 132 VAC, 186 to 264 VAC

Overload protection..... automatic fuse, 6 A

Cable connection screw connections for 25 mm² wires

Protection class IP 65

alphanumeric touchscreen display

RS-422 Modbus port Dimensions without cable glands 380 × 300 × 210 mm

14.9×11.8×8.3 in

Mounting position vertical

ST-1240-GRAPH	
Order number	Designation
ST-1240 GRAPH ST-1240 GRAPH-4	2-channel control centre 4-channel control centre

NOTE

For further technical information, technical drawings, accessories, spare parts or product function descriptions, see the following publication available on SKF.com/lubrication:

PUB LS/P8 12404 EN

Controller

ST-1100i





SKF ST-1100i is an one-channel, microprocessor-based control centre for single-line, dual-line and progressive lubrication systems. All lubrication configurations can be set in the field by user interface. The centre controls lubrication according to the desired settings, and lubrication events can be monitored. Lubrication programming, alarm acknowledgements and lubrication event monitoring can be performed via both the control panel and the LED signals. The control panel is located inside the casing. The user interface is a three-button, six-digit display and can be used for setting the default values for the lubrication program and for turning on manual control.

Features and benefits

- Microprocessor-based control centre
- Simple monitoring via control panel and cover LED signals
- All lubrication configurations can be set in field by user interface
- Set values and program status at the power failure are stored in an EEPROM-memory; no battery

Applications

- Stand-alone machines and plants
- · Construction machinery
- Mining applications



Technical data

Order number ST-1100i

Function principle control centre

Operating temperature -20 to +60 °C; -4 to +142 °F

Lubricant.....oil and grease

Lubricant channels 1

 Interface
 6-digit, 3-button user interface

 Lubrication cycle
 0 min 00 s to 9 999 min

 Pressurization
 0 min 00 s to 999 min

 Dimensions
 200×300×120 mm

 $8.66 \times 11.8 \times 4.7$ in Mounting position vertical

NOTE

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For further technical information, technical drawings, accessories, spare parts or product function descriptions, see the following publication available on SKF.com/lubrication: PUB LS/P8 13165 EN







Product description

The ST-102 controller is designed for the control and monitoring of single-line, dual-line and progressive lubrication systems in vehicles with a 12 or 24 VDC power supply. It is a one-channel lubrication control centre for systems with pneumatic or electrical pumps. The ST-102 is suitable for environments with temperatures ranging from -40 to +80 °C (-40 to +176 °F) and features an IP 40 protection class. All lubrication configurations can be set in the field by the user.

Features and benefits

- Available for 12 or 24V DC
- Suitable for operational environments with extreme temperatures
- One-button user interface
- · Power failure memory

Applications

- Vehicles
- · Construction machinery
- Agriculture

Technical data

Function principle control and monitoring device
Operating temperature ...-40 to +80 °C; -40 to +176 °F
Power supply 12 and 24 VDC; (10,5 to 32 VDC)

Pump output control ... max. 5 A
Protection class ... IP 30
Self-setting fuse ... 4 A on pcb
Time, cycle settings:

 Max. pressurization time
 ...1 to 20 min

 Interval time
 ...5, 10...120 min

 Pressurization time
 ...1,2,3...10 min

Input 4 digital Output 4 digital Standard CE

Mounting position vertical

ST-102	
Order number	Designation
11500607 11500610	V1 for progressive and single-line systems V2 for progressive, dual- and single-line systems

NOTE

For further technical information, technical drawings, accessories, spare parts or product function descriptions, see the following publication available on SKF.com/lubrication: 6408 EN

ST-102P

Controller





Product description

The ST-102P one-channel lubrication control centre is designed for the control and monitoring of lubrication systems in 12VDC or 24VDC vehicles. It supports single-line and dual-line lubrication systems. All lubrication configurations can be set in the field by the user. The ST-102P casing has an IP 65 rating.

Features and benefits

- Designed for control and monitoring in 12/24 VDC lubrication systems
- Reliable and durable, one-channel lubrication controller
- Supports single-line and dual-line lubrication systems
- All lubrication configurations can be set in the field by user
- IP 65 rating

Applications

- Control of lubrication systems with pneumatic pump SKF 40PGAS and electrical pump SKF Minilube
- Small excavators
- Wheel loaders
- · Delivery trucks
- Buses, vehicles

Technical data

Order number ST-102P

Protection class IP 65

Self-setting fuse 4 A on printed circuit board

Time, cycle settings:

Interface 1-button user interface, 3 LEDs

Mounting position vertical

NOTE

For further technical information, technical drawings, accessories, spare parts or product function descriptions, see the following publication available on SKF.com/lubrication: **13165 EN**

Accessori





Model 84501 program timer is used to control the lubrication cycle frequency of air-operated, single-stroke pumps. The timer turns pump on/off at programmed intervals via a 3-way or 4-way air solenoid valve (not included) installed in the air line to the pump. It is capable of retaining memory for three hours during machine shut down or power failure. Timing is suspended during power interruptions. This feature eliminates over-lubrication due to pre-lube when machine is frequently started and stopped. Using two programmable jumper pins, four options are available with the memory and prelube feature.

Features and benefits

- Program timer controls lubication cycle frequency of air-operated, single-stroke pumps
- Timer turns pump on/off via solenoid air valves in programmed intervals
- Retains memory for three hours during machine shut down or power interruption
- Suspended timing during power interruptions eliminates over-lubrication due to pre-lube when machine is frequently started and stopped

Applications

- Cement industry
- Food and beverage
- Assembly lines
- Conveyors



Technical data

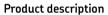
Order number	. 84501
Function principle	
Operating temperature Operating voltage	. 120/230 VAC
Operating voltage frequency Switch capacity	
Off-time cycle	230 VAC: 1,5 A
Off-time pumping	. min. 10 sec; max. 1 min 24 sec
Prelube on time	
Standards	
	7 × 8 × 5 in

Mounting position vertical

84015

Controller





Model 84015 is a 12/24 VDC-powered, solid-state controller for lubrication systems. It is microprocessor-based and can be used for automatic lubrication systems on mobile equipment or where AC power is not available. Its rugged construction with liquid- and dust-tight enclosure includes a manual push-button for remote initiation of a lubrication cycle. The controller always will start with an "off-time" period.

Features and benefits

- 12/24 VDC-powered, solid-state controller
- Microprocessor-based
- For automatic lubrication systems on mobile equipment
- Rugged construction with liquid- and dust-tight enclosure

Applications

- Construction machinery
- Delivery trucks
- Buses, vehicles



Technical data

Order number	84015
Function principle	controller
Operating temperature	-18 to +55 °C; 0 to +131 °I
Operating voltage	24 VDC, (10-30 VDC)
Operating current	25 mA ¹⁾
Switch capacity	
Off-time cycle	
Off-time pumping	
Protection class	
Off-time (cycle) ²⁾	min. 90 sec
, , , , , , , , , , , , , , , , , , , ,	max. 80 min
On-time (pumping)	fixed. 75 sec
Dimensions	
	3.1 × 5.2 × 3 in
Mounting position	

²⁾ Available selections are 2.5, 5, 10, 20, 40 or 80 min





Product description

Model 85520 is a microprocessor-controlled, 120 VAC unit. It is fully programmable and can be used either as a timer or a controller. Controllers have a wider off-time range than timers and a memory switch to turn pre-lube option on or off. The controller is used to program the cycle frequency of a lubrication pump. Lubrication cycles are determined by the setting of internal switches, and the cycle times are selected to meet system requirements. During the "on" time, the air to the pump solenoid will be energized.

Features and benefits

- Microprocessor-controlled, 120 VAC unit
- Simple adjustment via dip switches and rotary switches
- Fully programmable
- Can be operated in timer or controller mode

Applications

- Paper converting
- Plastic processing
- Printing
- Packaging
- Metalworking
- Material handling equipment

Technical data

Order number	85520
Function principle Operating temperature Operating voltage Operating voltage frequency Current consumption. Relay contact load Relay contact alarm Off-timecycle Off-time pumping Protection class	-25 to +65 °C; -13 to 150 °F 120 VAC 50/60 Hz 20 mA (less external load) 120 VAC: 2 amps inductive load 120 VAC: 2 amps inductive load min. 30 sec; max. 30 h min. 30 sec; max. 5 min
Dimensions	

Mounting position vertical

5 × 7.5 × 3.5 in

85535

Controller





Product description

Model 85535 is a microprocessor-controlled, 24 VDC unit. It is fully programmable and can be used either as a timer or a controller. Controllers have a wider off-time range than timers and a memory switch to turn pre-lube option on or off. The controller is used to program the cycle frequency of a lubrication pump. Lube cycles are determined by the setting of internal switches, and the cycle times are selected to meet system requirements. During the "on" time, the air to the pump solenoid will be energized.

Features and benefits

- Microprocessor-controlled, 24 VDC unit
- Simple adjustment via dip switches and rotary switches
- Fully programmable
- Can be operated in timer or controller mode

Applications

- Paper converting
- Plastic processing
- Printing
- Packaging
- Metalworking
- Material handling equipment

Technical data

Order number	85535
Function principle	-40 to +65 °C; -40 to +150 °F
Operating voltage	50/60 Hz 100 mA (less external load)
Relay contact load	30 VDC: 2 amps inductive load
On-time pumping	min. 30 sec; max. 120 sec NEMA 12
Dimensions	5 × 7.5 × 3.5 in
Mounting position	vertical

Accessories

85525





Product description

Model 85525 is a microprocessor-controlled, 120 VAC unit that includes a pressure switch and mounting brackets. It is fully programmable and can be used either as a timer or a controller. Controllers have a wider off-time range than timers and a memory switch to turn pre-lube option on or off. The controller is used to program the cycle frequency of a lubrication pump. Lubrication cycles are determined by the setting of internal switches, and the cycle times are selected to meet system requirements. During the "on" time, the air to the pump solenoid will be energized. The enclosed pressure switch senses supply line pressure rise/fall to signal system operation to controller or system alarm.

Features and benefits

- Microprocessor-controlled, 120 VAC unit
- Includes pressure switch and brackets
- Simple setting via dip switches and rotary switches
- Fully programmable
- Can be operated in timer or controller mode

Applications

- · Paper converting
- Plastic processing
- Printing
- Packaging
- Metalworking
- Material handling equipment

Technical data

Order number							85525
unction principle							control un

 Off-time (cycle)
 min. 30 s, max. 30 h

 On-time (pumping)
 min. 30 s, max. 5 min

Protection class NEMA 12

Mounting position vertical

Pressure switch 69630

Protection class housing and UL-listed

switching elements: NEMA 3

LMC 101





LMC 101 is a universal control and monitoring device for single-line and progressive lubrication systems. In single-line systems, pressure switches or pressure transducers can be installed at the pump and/ or end of the supply line. While designed for off-the-road and mobile equipment use, the controller can be used for any low-voltage lubrication application. Timer or controller mode can be set for both systems. The device features various alarm condition settings, including cycle frequency or alarm triggers. Programming, data logging and reporting are possible, including system resets, downloads to controllers, lubrication activity, lubrication cycles and alarms. The controller must be programmed via USB connection to PC. In timer mode, the lubrication cycle ends when pre-assigned time has expired. In controller mode, the lubrication cycle ends when pressure switch, pressure transducer or piston detector actuates. System allows pressure to dissipate to end of supply line once pressure at pump is reached.

Features and benefits

- Various alarm condition settings including cycle frequency and alarm triggers
- Programming, data logging and reporting, including system resets, downloads to controllers, lubrication activity, lubrication cycles and alarms
- Display: LEDs, pump on and system fault (alarm)
- Controller must be programmed via USB connection to PC
- Manual lubrication push-button

Applications

- Off-highway vehicles
- Mobile equipment use



Technical data

Order number LMC 101
Function principle control unit

Vent relay contact20 A at 30 VDCPump relay contact2 A at 30 VDCAlarm relay contact2 A at 30 VDCEnclosure ratingNEMA 12

Operating temperature -40 to +65 °C; -40 to +150 °F

Net weight0,9 kg, 2 lbsOff-time adjustable15 sec to 99 hOn-time adjustable15 sec to 99 h

Lubrication systems. single-line and progressive systems

8.75 × 3.75 in

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For further technical information, technical drawings, accessories, spare parts or product function descriptions, see the following publication available on SKF.com/lubrication: **15625 EN**



Accessorie

EOT-1/2 664-34135-6, 664-34135-7





EOT-1 / EOT-2 are time controllers for lubrication pumps in single-line or progressive lubrication systems. EOT-1 has a fixed running time of 4 seconds and flexible pause time adjustments and, therefore, is suitable for chain lubrication. EOT-2 features flexible time settings. Both controllers are required if pumps without timers are used in lubrication systems or there is no customer-related request for pumps with an integrated pump controller. It also is suitable for retrofit installation. Simply set time using the red (running time) and a blue (pause time) switches and use the push-button to activate an additional lubrication cycle for easy and safe pump operation.

Features and benefits

- Time controller for installation in driver's cabin
- Suitable for retrofit
- Simple handling of time setting and function control

Applications

- Agriculture
- · Chain lubrication systems

EOT 1/2		
Order number	Designation	
664-34135-6	EOT 1	
664-34135-6 664-34135-7	EOT 1	



Technical data

Function principle	control unit
Supply voltage	
Max. current draw	≤ 7 A
Protection class	IP 65, SELV/PELV
Operating temperature	-25 to +70 °C; -13 to +158 °F
Noise suppression	class A VDE 0875 T11
Interference resistance	DIN EN 61000-6-1
Transient emissions	DIN EN 61000-6-3
Outputs	transistor/ no
EEPROM	non-dissipative storage of data

EOT 1

Pause time	min. 5 sec, max. /5 min
Running time	4 sec, unvaried
EOT 2	
Pause time	min. 4 min, max. 15 h
Dunning time	min 8 coc may 30 min

Factory setting

EUI 1	
Pause time	15 sec
Running time	4 sec
EOT 2	

Mounting position any

NOTE

For further technical information, technical drawings, accessories, spare parts or product function descriptions, see the following publication available on SKF.com/lubrication:

951-181-005 EN

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LMC 301





Product description

The LMC 301 is a compact, modularly expandable control and monitoring device. The device is equipped with an LCD display and six functional keys for programming, parameter setting and signalization. The user is guided through the setting menu. Also, there is a simple-to-use PC software for parameter setting and diagnostics available.

Features and benefits

- Integrated, flexible lubrication programs
- Basic device with 10 digital inputs, of which two can be used analogously, and eight outputs
- Up to seven extension modules can be added, whereby each module has 10 E 8 A just like the basic device
- Three lubrication pumps can be controlled and monitored, each of which provides up to three lubrication circuits
- Single modules are connected by a bus interface

Applications

- · Cement ans steel industry
- Mining; stationary and mobile excavators
- · Food and beverage

Technical data

Function principle electronic controller Operating temperature VAC. ... -10 to +50 °C; +14 to +122 °F Operating temperature VDC ... -40 to +70 °C; -40 to +158 °F Inputs 10 count, short-ciruit Outputs 8 counts, relay outputs NO-contact 8 A, 2 of which up to 20 A Supply voltage

Protection class IP 64

Mounting position vertical

LMC 301	
Order number	Designation
86500	LMC 301 230 AC (230 VAC)
86501	LMC 301 24 DC (24 VDC)

NOTE

For further technical information, technical drawings, accessories, spare parts or product function descriptions, see the following publication available on SKF.com/lubrication:

15967 EN





Controller

LMC 2





The LMC 2 is a controller for the electronic management and monitoring of lubrication systems. It combines the advantages of a specially developed printed circuit board (PCB) and a PLC in an economical, compact unit.

Features and benefits

- Integrated, flexible lubrication programs
- 8 inputs / 5 outputs; suitable for complex lubrication systems
- Time- or cycle-dependent control of lubrication intervals
- Can be interfaced with common field bus systems

Applications

- Lincoln and SKF progressive systems, single-line, dual-line and multi-line systems
- Railway lubrication and spray lubrication systems
- Food and beverage
- Chain lubrication systems like Cobra and PMA



Technical data

Function principle	electronic controller
Operating temperature	
	14 to 158 °F
Inputs	max. 8 digital inputs
Outputs	4 relay outputs, 1 electronic
Supply voltage	
	230 VAC, 24 V DC
Protection class	IP 54
Dimensions	200×120×90 mm
	7.9×4.7×3.5 in
Mounting position	any

LMC2	
Order number	Designation
236–10567–6	LMC 2 230 AC (230 VAC)
236-10567-5	LMC 2 24 DC (24 VDC)
For use with electrically drive	en, 3-phase pump, a motor starter must be ordered separately.

NOTE

For further technical information, technical drawings, accessories, spare parts or technical descriptions of functional types, see the following publication available on SKF.com/lubrication:

14004 EN

Hose connection control

HCC





Product description

The hose connection control (HCC) is intended to monitor electrically conductive, high-pressure lubrication hoses for line breakage. If there is a fault in the main line or feed lines, the unit alerts the machine operator immediately. Operation of the HCC is not affected by line lengths, ambient temperature, pressure differential or pressure losses. Utilizing non-conductive lubricants or hydraulic fluids, this monitoring system has an operating pressure of up to 300 bar (4 350 psi) and can be used in temperatures ranging from -40 to +70 °C (-40 to +158 °F).

Features and benefits

- · Immediately detects hose ruptures
- Expandable at any time
- Easy retrofit in existing lubrication systems
- Monitors difficult-to-access hoses to lubrication points
- Common LED signal of all connected hoses on the display

Applications

- Construction and mining machines; cranes
- · Wood-handling machines
- · Forklifts, reach stackers and machines with movable units or accessories
- Agriculture

INCOLN

For further technical information, technical drawings, accessories, spare parts or product function descriptions, see the following publication available online at SKF.com/lubrication: 13615 EN

Technical data

Function principle control and monitoring device for

hose connections

Operating temperature Isolator: -50 to +70 °C; -58 to +158 °F

Controller:

-25 to +70 °C; -13 to +158 °F Controller storage:

-40 to +70 °C; -40 to +158 °F

.12/24 VDC Power supply.

Monitored hose per

monitoring unit max. 15 pieces at 12 VDC

Signal cable to

one cut-off connector 20 m; 65 ft

Signal cable at cut-off approx. 150 mm; 5.90 in

Protection class IP 65

3.93 × 3.34 × 1.57 in

HCC Hose connection control

Order number	Designation
236-10986-1 236-10153-3 532-34839-2	HCC, evaluation unit HCC, with cable 20 m HCC, endlink HCC DN 8-10L-E
532-37731-1	basic kit consisting of above three parts
532-34839-6	HCC, endlink HCC DN 4-6L-E
532-34839-3	HCC, interlink HCC DN 8-10L-I
532-34839-5	HCC, Interlink HCC DN 4-6L-I

Flow controller

Flow sensor





Product description

Flow sensors keep an eye on the flow of oil from a metering point to the lubrication point, metering out a small amount of oil for only a short period of time. They are suitable for intermittent, centralized lubrication systems e. g. with piston metering devices, metering elements, injection oilers, oil and air centralized lubrication systems.

Features and benefits

- Provide simple control
- Monitor flow of lubricant from the metering point to the lubrication point
- Meter out a small amount of oil for only a short period of time

Applications

- Machine tools
- Automotive manufacturing
- Industrial assembly and automation

Technical data

Ordner number	GS304P
Function principle	
Measuring principle	
Lubricant 1)	
Metering quantity	
2)	0.0006 - 0.03 in³/pulse
Clock frequency ²⁾	max. 4 pulse/min
Operating temperature	+10 to 50 °C, +50 to 122 °F
Operating pressure	
Rated voltage	
Residual ripple	
Working range UA	
Max. power consumption IE	
Pulse output	
Load current IA for GS300	
for GS304	
Output protection	
Built-in plug	
EL 11	M12×1 screw plug
Fluid connection	
	solderless Ø 4 mm tube
B	connection
Dimensions	
	3.74×1.96×0.78 in
Mounting position	
Vibration resistance	
	(DIN / IEC 68-2-27, 10-2000 Hz)
Impact resistance	5U a

(DIN / IEC 68-2-27, 11 ms)

For further technical information, technical drawings, accessories, spare parts or product function descriptions, see the following publication available on SKF.com/lubrication: 1-1704-EN

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SKF

Sensor needs 30 sec. of warm-up time
 The use of oils containing corrosive and/or abrasive additives may impair sensor function and possibly damage the sensor

Accessories for single-line lubrication systems

























Pressure sensors

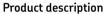
SKF

Overview of pressure sensors

Pressure sensors Product	Lubricant oil/fluid grease grea	Switching	pressure	Operating temparature		Voltage		Contact type	Page	
		bar	psi	°C	°F	VDC	VAC			
DSA	• -	1–30	14.5–435	+10 to +60	+50 to +140	-	250	change-over	162	
DSB	- •	20–300	290–4 350	-25 to +80	-13 to +176	30	-	change-over	164	
DSC1 DSC2 DSC3	• - • -	0–40 0–40 0–100	0–580 0–580 0–1 450	-10 to +80 -10 to +80 -25 to +80	+14 to+176 +14 to+176 -13 to +176	10–32 18–30 9–35	- - -	change-over change-over change-over	166 167 168	
247333	• -	0–276	0–4 000	-29 to +82	-20 to +180	10-30	-	transducer	169	
DSD	• -	0,5–45	7.25–653	-30 to +100	-22 to +212	36	-	change-over	170	
69630	• •	19–207	275–3 000	-25 to +65	-13 to +149	-	125/250/480	NO/NC	172	
234-11145-3/4/5/9 234-10330-4 234-13161-5/9 234-10825-8	• • • • • • • • • • • • • • • • • • •	0–400 0–600 0–600 100–400	0–5 800 0–8 700 0–8 700 1 450–5 800	-25 to +125 -20 to +85 -25 to +80 -25 to +85	-13 to +257 -4 to +185 -13 to +176 -13 to +185	18–36 24 20-32 30-250	- - - 125–250	NO/NC NO/NC NO/NC change-over	173 174 175 176	

DSA





SKF pressure switches of the DSA series monitor the pressure of a centralized lubrication system to assess and help to ensure its proper function. Important monitoring parameters in an intermittently operated centralized lubrication system with single-line metering devices are pressure buildup, pressure head and pressure reduction.

Features and benefits

- Inexpensive mechanical diaphragm pressure switches
- Micro switch is designed as a change-over switch and can be used as both a normally closed contact (NC) and a normally open contact (NO)
- Switches are available for rising and falling pressures from 1 to 30 bar (14.5 to 435 psi) and have non-adjustable increments

Applications

- Machine tools
- Printing machines
- Wind
- Vehicle
- Steel and heavy industries

For further technical information, technical drawings, accessories, spare parts or product function descriptions, see the following publication available on SKF.com/lubrication: 1-1701-EN

3D data and product configuration:

skf-lubrication.partcommunity.com/3d-cad-models/



Technical data

Function principle pressure switch

Lubricant. oil and fluid grease NLGI 000, 00, 0

oiled compressed air

Operating temperature +10 to 60 °C; +50 to 140 °F Operating pressure 1).....max. 45 bar; max. 650 psi Switching pressure range 1 to 30 bar; 14.5 to 435 psi

Switch type micro switch

Contact rating max. 125 VA Switch current.....min. 2 mA, max. 300 mA

Switching rate max. 30 per min

Switching voltage max. 250 VAC / 30 VDC Electrical connection ²⁾. DIN EN 175301-803, plug Connection fittingø 6 mm; connector DIN 3862,

for solderless pipe union, plug connector for pipe

Materials:

Housing......PA6 6GF30 Membrane......

Protection class with cable box IP 65

Dimensions min. 76 × 120 × 41 mm

min. 3.0 × 4.7 × 1.6 in max. 83 × 129 × 41 mm

max. 3.3 × 5.1 × 1.6 in

Mounting position any

1) A pressure-regulating valve must be installed in the system to prevent operating

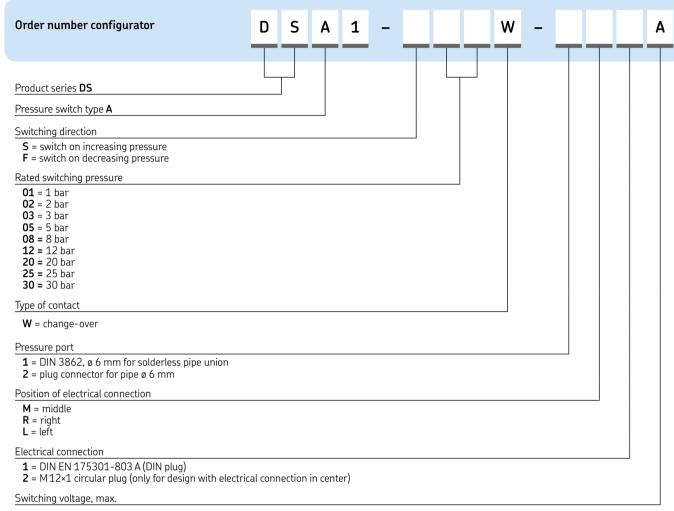
pressure from exceeding the permissible level

2) M 12x1 circular plug, only for design with electrical connection center



Pressure sensor

DSA



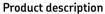
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A = 250 VAC, 30 VDC

DSB1

Pressure sensor





SKF pressure switches of product series DSB are mechanical piston pressure switches that are specially designed for use with NLGI 1-2 greases. The location of the actuating piston inside the pressure switch housing helps to ensure a continuous exchange of grease around the measuring point (pressurization point between grease and actuating piston). This reliably prevents the same grease from being pressurized repeatedly, which could cause grease bleeding (separation of the soap skeleton of the grease from the stored oil). Pressure switches of product series DSB are designed for corrosivity category C3 or C5M per ISO 12944.

Features and benefits

- Adaptable to VR lubricant metering devices due to same hole pattern, wall distance and connections
- Micro switch is designed as a change-over switch; can be used as both a normally closed contact (NC) and a normally open contact (NO)
- Available for rising and falling pressures from 20 to 300 bar in 10-bar increments
- No grease bleeding at measuring point Pressure switch permits continuous lubricant flow without dead space
- Suitable for use with unstable greases with a tendency to separate into soap and oil under high pressure

Applications

- Machine tools
- Printing machines
- Wind
- Vehicle
- Steel and heavy industries



Technical data

Operating pressure max. 300 bar; 4 350 psi Operating voltage max. 30 VAC; max. 36 VDC Operating current max. 50 mA, min. 1 mA Breaking capacity max. 1,2 VA
Mechanical service life 10⁵ switching cycles Pressure port G 1/4 (F) connector socket 3+PE: Electrical connection DIN EN 175 301-803 A cable: ø 4.5 to 7 mm; ø 0.177 to 0.275 in micro switch Contact type change-over Switching pressure range 20 to 300 bar; 290 to 4 350 psi; increasing and decreasing Housing..... aluminum, anodized Contact silver alloy, hard gold plating IP 65; DIN EN 60529 Dimensions depending on model min. 60 × 105 × 76 mm: max. 150 × 153 × 76 mm; min. 2.36 × 4.13 × 2.99 in max. 5.90 × 6.02 × 2.99 in Mounting position any Certification......Germanischer Lloyd (GL)

Function principle pressure switch

For further technical information, technical drawings, accessories, spare parts or product function descriptions, see the following publication available on SKF.com/lubrication: 1-1701-EN

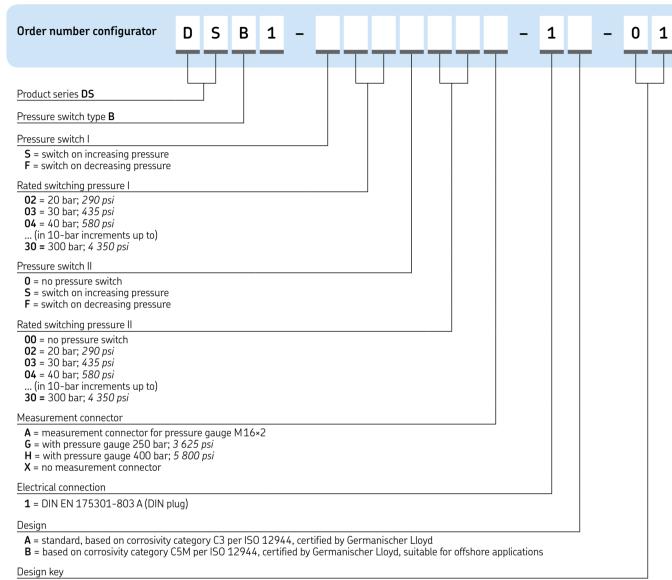
3D data and product configuration:

skf-lubrication.partcommunity.com/3d-cad-models/



Pressure sensor

DSB1



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01 = basic design (with thread $G^{1/4}$)

DSC₁

Pressure sensor





DSC1 pressure switches are electronic pressure switches with integrated digital display for relative pressure measurement. They are used primarily for pressure monitoring. Depending on the design, they also can assume control functions. Pressure switch points, pressure indication, and the switching logic can be configured and programmed easily. A backlit, four-digit, digital display indicates switching with LEDs. DSC1 can operate in switching point, hysteresis and window function modes. The switching mode can be programmed separately for each output.

Features and benefits

- Available for rising and falling pressures from 0 to 40 bar in 0.2-bar increments
- Micro switch is designed as a change-over switch, can be used as both a normally closed contact (NC) and a normally open contact (NO)
- Backlit, four-digit digital display indicates switching with LEDs on a backlit
- Can operate in switching point, hysteresis and window function modes
- Encodable access protection
- · Digital and analog output

Applications

- Machine tools
- Printing machines
- Wind
- Vehicle
- Steel and heavy industries



Technical data

Function principle pressure switch

Lubricant.....oil and fluid grease NLGI 000, 00, 0 Operating temperature -10 to +80 °C

+14 to 176 °F Operating pressure max. 100 bar

Switch type micro switch Contact typechange-over Operating voltage 10 to 32 VDC Power consumption. max. 50 mA
Output signal. 2, PNP transistor stages

Materials:

Housing... aluminum, stainless steel Control panelpolycarbonate

Pressure port $G_{1/8}(F)$

1.33 × 3.57 × 37.4 in

Mounting position any

For further technical information, technical drawings, accessories, spare parts or product function descriptions, see the following publication available on SKF.com/lubrication: 1-1701-EN

3D data and product configuration:

skf-lubrication.partcommunity.com/3d-cad-models/



DSC₂





DSC2 sensors are electronic pressure switches with an integrated digital display for relative pressure measurement. They are used primarily for pressure monitoring. Depending on the design, they also can assume control functions. Pressure switch points, pressure indication and the switching logic can be configured and programmed easily. The four-digit, digital display that indicates switching with LEDs. DSC2 can operate in switching point, hysteresis and window function modes. The switching mode can be programmed separately for each output.

Features and benefits

- Available for rising and falling pressures from 0 to 100 bar in 0.5-bar increments
- Micro switch is designed as a change-over switch; can be used as both a normally closed contact (NC) and a normally open contact (NO)
- Four-digit, digital display indicates switching with LEDs
- Can operate in switching point, hysteresis and window function modes
- Diagnostic output based on the DESINA specification
- UL certification

Applications

- Machine tools
- Printing machines
- Wind
- Vehicle
- Steel and heavy industries



Technical data

Order number	DSC2-A100E-2A2B

Function principle pressure switch
Lubricant oil and fluid grease NLGI: 000–0

Operating temperature ... -10 to +80 °C +14 to 176 °F
Operating pressure ... max. 300 bar max. 4 350 psi

Switch type . micro switch
Contact type . change-over
Operating voltage . 18 to 30 VDC
Power consumption. max. 35 mA
Output signal . 2, PNP/NPN
Vibration resistance . 20 g (10–2 000 Hz)
Service life . 100×106 pressure changes

Material:

Housing aluminum, stainless steel

Control panel..... polyester film

Mounting position any

NOTE

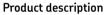
For further technical information, technical drawings, accessories, spare parts or product function descriptions, see the following publication available on SKF.com/lubrication: **1-1701-EN**

3D data and product configuration:

skf-lubrication.partcommunity.com/3d-cad-models/

DSC3





DSC3 sensors are electronic pressure switches with an integrated digital display for relative pressure measurement. They are used primarily for pressure monitoring. Depending on the design, they also can assume control functions. Pressure switch points, pressure indication and the switching logic can be configured and programmed easily. The display is a pivoted, four-digit, digital display. DSC3 can be integrated into lubrication line. It operates in switching point, hysteresis, and window function modes. The switching mode can be programmed separately for each output.

Features and benefits

- Available for rising and falling pressures from 0 to 100 bar in 0.5-bar increments
- Micro switch is designed as a change-over switch; can be used as both a normally closed contact (NC) and a normally open contact (NO)
- Easy to install into a lubrication line
- Pivoted, four-digit, digital display
- Can operate in switching point, hysteresis and window function modes
- Programmming lock to protect against unauthorized adjustment of drive
- Switching displayed using LEDs

Applications

- Machine tools
- · Printing machines
- Wind
- Vehicle
- Steel and heavy industries



Technical data

Order number	DSC3-A100K-3A2B
Function principle	pressure switch oil and fluid grease: 000-0
Operating temperature	−25 to +80 °C
Operating pressure	-13 to +176 °F max. 300 bar
Switch type	4 350 psi micro switch
Contact type	change-over
Operating voltage	9 to 35 VDC
Power consumption	max. 35 mA
Output signal	2, PNP transitor stages
Vibration resistance	20 g (5–500 Hz)
Service life	100 × 106 pressure changes
Material housing	plastic
Electrical connection	M12×1, 4-pin
Pressure port	via t connector, $2 \times G^{1/8}(F)$
Protection class	IP 67
Dimensions	
	1.65 × 4.53 × 1.57 in

NOTE

For further technical information, technical drawings, accessories, spare parts or product function descriptions, see the following publication available on SKF.com/lubrication: **1-1701-EN**

3D data and product configuration:

Mounting position any

skf-lubrication.partcommunity.com/3d-cad-models/



ccessories

247333





Product description

The 24733 analog pressure transducer signals actual system pressure to a monitoring controller. It can be installed in end of single-line metering device manifolds or by the use of adapters. Comes with 1,8 m (72 in), shielded, shielded 24-gauge connecting wire. Maximum length of wire between transducer and monitor is 9,1 m (30 ft).

Features and benefits

- Analog pressure transducer signals actual system pressure from 0 bar to 276 bar (0 to 4 000 psi)
- Complete unit with 1,8 m (72 in), shielded, 24-gauge connecting wire
- Installable on end of single-line metering device manifolds or by the use of adapters
- Sturdy, easy-to-handle product
- Cost-saving alternative to high-end sensors

Applications

- Metalworking
- Material handling equipment
- Off-road applications
- Mobile equipment use
- Food and beverage

Technical data

Order number	247333
Function principal	
Switching pressure range	0 to 275 bar 0 to 4 000 psi
Accuracy	±1%
Operating pressure	max. 515 bar max. 7 500 psi
Operating temperature	–29 to +82 °C
Electrical input	
Voltage output	
Enclosure	NEMA 4X Rating
Pressure port	1/4 NPT (m)
Electrical connection	24 AWG 360° PVC shielded UL approved
Materials	
Dimensions	
Mounting position	0.625 × 3 in
Mounting position	dily

DSD

Pressure sensor





Product description

DSD sensors are single, mechanical-diaphragm pressure switches. They are used for pressure monitoring and are dependent upon the mechanical design of resulting pressure and preloaded spring force of the pressure spring. Under pressure, a pressure plunger carries the contact washer and moves it to the opposing contact and closes the electrical circuit. If the pressure is reduced by the amount of hysteresis, the switch opens again. On an NC contact, contacts are made in the opposite way. In single-line systems, it can be integrated into metering devices at the end of the lubrication line.

Features and benefits

- Available for a pressure rating from 0 to 45 bar in fixed increments
- · Electrical connection is established via screwed contacts, tab connectors, circular connectors or rectangular plug connectors
- Pressure monitoring, dependent upon the mechanical design of resulting pressure and preloaded spring force of the pressure spring
- Mechanical switch can be used as both a normally closed contact (NC) and a normally open contact (NO)

Applications

• Machine tools, printing machines, vehicles

For further technical information, technical drawings, accessories, spare parts or product function descriptions, see the following publication available on SKF.com/lubrication: 1-1701-EN

3D data and product configuration:

skf-lubrication.partcommunity.com/3d-cad-models/

Technical data

		•. •
Function	nrincinle	 nressure switch

-22 to +212 °F

Operating pressure static:

max. 300 bar; max. 4 350 psi

dynamic

max. 150 bar; max. 2 175 psi Switch type mechanical diaphragm pressure

switch

Contact type No, NC (change-over with

rectangular plug connector only)

250 VAC/5 A M3 or M 12×1 or

DIN EN 175301-803-A

Pressure port M10×1 taper

Materials:

Contact silver plated

Housing..... steel, galvanized, Cr6-free

Protection class IP 65

Dimensions depending on model, ø×h

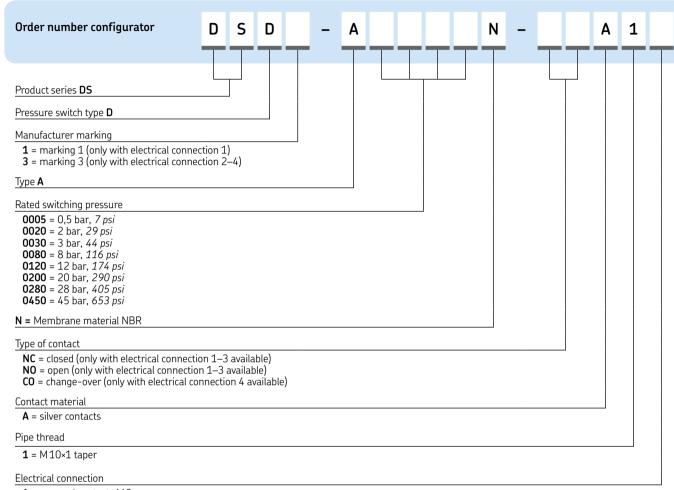
27,7 × 50 mm; 1.09 × 1.97 in 31,2 × 85 mm; 1.23 × 3.35 in

Mounting position any



Pressure sensor

DSD



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- 1 = screwed contacts M3
- 2 = tab connector 6,3×0,8/screwed contacts M3
- **3** = circular connector M12×1
- 4 = rectangular plug connector DIN EN 175301-803-A (only as change-over (CO) available)

Pressure sensor

69630



Product description

Pressure switch 69630 senses supply line pressure when pressure is rising or falling. One single contact signals system operation to controller or system alarm.

Features and benefits

- Simple pressure switch
- Adjustable pressure ranges for decreasing and increasing pressures to match system requirements
- Use as single pressure switch or in a system with controller and solenoid valve

Applications

- Paper converting
- · Plastic processing
- Printing
- Packaging
- Metalworking
- Material handling equipment



Technical data

Order number.																. 6963	30
---------------	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--------	----

Function principle . . . pressure switch Operating temperature . . -25 to +65 °C; -13 to +150 °F

Operating pressure:

 decreasing.
 max. 190 bar

 max. 2 775 psi
 increasing.

 increasing.
 max. 207 bar

 max. 3 000 psi
 1/ NPTE (E)

Pressure port 1 /₄ NPTF (F) Electrical connection 27 /₃₂ in hole for 1 /₂ in; conduit

connector

Protection class housing and UL-listed switching

elements: NEMA 3

Mounting position vertical

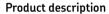
NOTE

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For further technical information, technical drawings, accessories, spare parts or product function descriptions, see the following publication available on SKF.com/lubrication: 442832







These maintenance-free electronic pressure sensors are suitable for pressure measurements for gases and fluids. They are user friendly and can be applied easily in standard or superior applications. The space-saving housing is pivotable up to 320° for optimal readability of the 4-digit, digital display. One or two switching outputs and an analog output signal for switching point and hysteresis. Both can be adjusted via push buttons. Different value units such as bar, mbar, psi or MPa can be selected.

Features and benefits

- Menu-guided adjustments via 2 push buttons
- Indication of status of outputs
- Pre-adjustable hysteresis
- Programmable parameters
- Password protected
- Reverse polarity protection of the supply voltage, excess voltage, override and short circuit protection are provided
- Compact housing with 320 (degree symbol) pivot
- For standard and superior applications

Applications

- Marine
- Off-shore applications
- Wind
- Vehicle
- Steel and heavy industries



Technical data

Order number	. 234-11145
Function principle	oil and fluid grease NLGI 000-00, grease NLGI 1,2
Operating temperature	25 to +125 °C; -134 to +185 °F
Operating pressure	. max. 600 bar; <i>max</i> . 8 700 psi 234-11145-5:
0	max. 400 bar; <i>max</i> . 5 800 psi
Operating voltage	
Operating current	
Current draw	
Output signal	
	NO or NC adjustable
Switching frequency	. max. 200 Hz
Switching point adjusted Material:	
Housing	
Measuring cell	. ceramics Al203
Apapter	. stainless steel
EL	142 4 / : 1
Electrical connection	. M 12 × 1; 4 pin plug
Pressure port	. 6 ¹ / ₄ or 6 3/8; DIN3852
Protection class	
Dimensions	
	min. 1.34×3.7×1.9 in
	max. 34 × 134,5 × 49 mm
A.A. are the	max. 1.34 × 5.3 × 1.9 in
Mounting position	. any

Order number

Order number	Designation
234-11145-4	$1 \times PNP$, 4-20 MA, with adapter G $^{1}/_{4}$ and connector $1 \times PNP$, 4-20 MA, basic model $2 \times PNP$, 0-20 MA, with adapter G $^{1}/_{4}$ and connector,
	front flushed $1 \times PNP$, 4-20 MA, with adapter $6^3/_8$ and connector

Pressure sensor

234-10330-4



Product description

This electronic pressure switch has a 4-digit, digital display, two switching outputs and an analog output signal for switching point and hysteresis. Both can be adjusted via push buttons. The water-proofed housing is pivotable up to 290° for optimal readability of digital display. The pressure switch is virtually maintenance free.

Features and benefits

- Menu-guided adjustments via 3 push buttons indicating status of outputs
- Peak value storage
- Adjustable hysteresis and absorption
- Programmable parameters
- Password protected
- Reverse polarity and overvoltage protected; short-circuit proof

Applications

- Machine tools
- Printing machines
- Wind
- Vehicles
- Steel and heavy industries



Technical data

recillicat data	
Order number	. 234-10330-4
Function principle	oil, fluid grease NLGI 00, 000, 0, grease NLGI 1,2 .–20 to +85 °C; –4 to +185 °F .max. 1 000 bar; $max. 14 500 \ psi$.0/4–20 mA, apparent ohmic resistance $\leq 500 \ \Omega$.15–30 V DC, nominal 24 V DC .PNP-Transistor .max. 0,7 A . $< 100 \ mA$
Switching cycle Electrical connection	.M12×1; 5 pin
Materials: Housing. Control panel.	. stainless steel 1.4404, NBR . zinc die casting, surface treated
Protection class	

1.55 × 4.15 × 1.82 in

PUB LS/P1 17046 EN



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Mounting position any

Accessorie

234-13161-...



Product description

This compact, maintenance-free electronic pressure switch has a 3-digit, digital display, one switching output and an analog output signal for switching point and hysteresis. Both can be adjusted via push buttons. For optimum adaptation to a particular application, the instrument has many additional adjustment parameters, e.g. switching delay times, NO and NC function of the outputs.

Features and benefits

- Integrated pressure sensor with thin-film strain gauge on stainless steel membrane
- 3-digit, digital display
- Compact and robust design
- Independently adjustable switch-back hysteresis and switching point
- Reverse polarity protection of the supply voltage, excess voltage, override and short-circuit protection are provided
- Password protected
- Directly installable via G 1/4 adapter into pressure line
- Many useful additional functions

Applications

- Marine
- Off-shore applications
- Wind
- Vehicle

SKF

• Steel and heavy industries



Technical data

recimient data	
Order number	. 234-13161-5 234-13161-9
Function principle Lubricant	
Operating temperature Operating pressure	25 to +80 °C; -13 to +175 °F
Operating voltage	.20–32 VDC
Electrical connection	
Protection class	. IP 65
Mounting position	. any

Order number	
Order number	Designation
234-13161-5	1×PNP, 4-20 MA, G ¹ / ₄ , with digital display
234-13161-9	$1 \times PNP$, 4-20 MA, G $^{1}/_{4}$, with digital display

Pressure sensor

234-10825-8



Product description

This pressure switch reliably monitors pressure in single-line lubrication systems at a pre-adjusted pressure value. When adjusted value is reached, pressure switch opens or closes an electric circuit via a defined piston stroke (depending on pressure power and pre-load spring). A micro switch can be used for DC or AC voltage. The switch's housing can be pivoted up to 360 (degree symbol). The pre-adjusted switching point pressure value is set at the factory.

Features and benefits

- Simple, mechanically operated pressure switch
- Designed as a change-over pressure switch
- Monitors a pre-adjusted pressure value
- Suitable for DC and AC voltage
- Pivotable housing up to 360°
- Maintenance free

Applications

- Machine tools
- · Construction machinery
- Wind energy
- Vehicle
- Steel and heavy industries



Technical data

Order number234-10825-8	
Function principle rotatable pressure switch Lubricant oil and fluid grease NLGI 000, (Operating temperature25 to +85 °C -40 to +185 °F	00
Operating pressure	
Switching pressure	
Adjustabilityunder pressure Operating voltageadjustable: 30 to 250 V DC; 125; 250 V AC	
Load resistance	
piston Contact type	
ø 2,5 mm Material:	
Housingzinc-coated steel, UR Contact electricalelectroplated silver gilt	
Protection class	



Notes	

Accessories for single-line lubrication systems













Solenoid valves

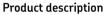
Overview of solenoid valves

Solenoid valves								
Product	Туре	Operating pressure max.		Operating temperature		Voltage		Page
		bar	psi	°C	°F	VDC	VAC	
350241 350242 350244 350245	3-way 3-way 4-way	10,3 10,3 10,3	150 150 150	-18 to +60 -18 to +60 -18 to +49 -18 to +49	0 to 140 0 to 140 0 to 120 0 to 120	- - -	110-240 110-240 110-240 110-240	180 180 180 180
350243 350282 350283	4-way 3-way 3-way	10,3 10,3 10,3	150 150 150	-18 to +60 -18 to +60	0 to 140 0 to 140	- 12 24	- -	181 181
253-14076-6 253-14076-7	3/2-way 3/2-way	0,5–16 0,5–16	7.3–232 7.3–232	-10 to +55 -10 to +55	14 to 131 14 to 131	_ _	110 230	182 182
525-32085-1 525-32086-1 525-32087-1	3/2-way 3/2-way 3/2-way	0–400 0–400 0–400	0–5 800 0–5 800 0–5 800	-20 to +60 -20 to +60 -20 to +60	-4 to +140 -4 to +140 -4 to +140	24 - -	- 110 230	183 183 183
161-110-031 161-140-050	2/2-way 4/2-way	max. 500 max. 320	max. 7 250 max. 4 350	-25 to +80 -25 to +80	-13 to +176 -13 to +176	24 24	_ 220	184 185

Solenoid valve

35024 ...





Electric solenoid-operated air valves 350241 to 350245 operate as 3-way or 4-way solenoid air valves. They are used to operate single-stroke or reciprocating-stroke, air-controlled pumps in single-line systems. Timer- and pressure-controlled air is supplied to the pumps, activating air-powered forward strokes and spring-(3-way) or air-powered (4-way) return strokes. In doing so, pumps discharge lubricant to the connected metering devices.

Features and benefits

- Timer- and pressure-controlled pump operation
- Use as 3-way or 4-way solenoid valves
- For operation of single-stroke or reciprocating-stroke pumps
- Flexible usage selectable on electrical VAC power requirements

Applications

- Mining and mineral processing
- Heavy machines



Technical data

Function principle

Model 350241, 350242 3-way, solenoid-operated air valve Model 350244, 350245 4-way, solenoid-operated air valve

Operating temperature

350241, 350242 ... -18 to +60 °C, 0 to +140 °F 350244, 350245 ... -18 to +49 °C, 0 to +120 °F Operating pressure ... max. 10 bar; 150 psi

Current inrush

Model 350241, 350244 0,11 A Model 350242, 350245 0,055 A

Current holding

Model 350241, 350244 ... 0,7 A

Model 350242, 350245 ... 0,35 A

Air inlet/outlet ... 1/4 NPT (F)

Conduit connection ... 1/2 NPS (F)

Mounting position ... any

Order number

Order number	Operating voltage	Type	
350241	110 VAC, 50 Hz, 120 VAC, 60 Hz, 8,4 VA	3-way	
350242	220 VAC, 50 Hz, 240 VAC, 60 Hz, 8,4 VA	3-way	
350244	110 VAC, 50 Hz, 120 VAC, 60 Hz, 8,4 VA	4-way	
350245	220 VAC, 50 Hz, 240 VAC, 60 Hz, 8.4 VA	4-way	



350282, 350283





Product description

Electric solenoid-operated air valves 350282 and 350283 operate as DC 3-way solenoid air valves. They are used to operate singlestroke, air-controlled pumps in single-line systems. Timer- and pressure-controlled air is supplied to the pumps, activating air-powered forward strokes and spring- (3-way) return strokes. In doing so, pumps discharge lubricant to the connected metering devices.

Features and benefits

- Timer- and pressure-controlled pump operation
- Use as 3-way solenoid valves
- For operation of single-stroke pumps
- Flexible usage selectable on electrical 12 or 24 VDC power requirements

Applications

- · Mining and mineral processing
- Heavy machines

Technical data

Function principle 3-way solenoid air valve

Voltage supply:

350282.....

 $\begin{array}{lll} \text{Operating pressure} & \text{max. 10 bar; } 150 \text{ psi} \\ \text{Air inlet/outlet} & \frac{1}{8} \text{ NPT (F)} \\ \text{Cv factor} & 0.18 \\ \end{array}$ Mounting position any

NOTE

For further technical information, technical drawings, accessories, spare parts or product function descriptions, see the following publication available on SKF.com/lubrication: 442832

PUB LS/P1 17046 EN

253-14076-X



Product description

Pumps in single-line systems can be supplied and actuated with compressed air via servo-controlled, 3/2-way piston valves (magnetic valve). For function and operation of the valve, a minimum differential pressure of 0,5 bar is requested. The valve is equipped with a control for initiation and check of function. Currentless, the valve is open to outlet A. It has a smooth-running servo piston. A 3/2-way pilot valve (tilting armature valve) provides safe and reliable operation.

Features and benefits

- Simple to install; no extra parts required
- Service friendly manual control of function
- Medium, separated pilot valve for higher operational safety
- Ground-optimized piston design for low switching pressure
- Power-saving pulse inductor

Applications

- Conveyors, transportation systems
- Chain lubrication
- Spray systems

NOTE

For further technical information, technical drawings, accessories, spare parts or product function descriptions, see the following publication available on SKF.com/lubrication: **W-115-EN-1212**



Technical data

Function principle	. 3/2-way solenoid air valve with servo piston
Initial state	
Operating temperature	
O	+14 to 131 °F
Operating pressure	. 0,5–16 bar; 7.3–232 psi
Supply voltage	7.5 252 psi
253-14076-6	
253-14076-7	. 230 VAC, 50-60 Hz
Power consumption	. 8 W
Protection class	. IP 65
Air inlet	. G ¹ / ₂
Air return connection	. G ³ / ₄
Nominal width	. 12 mm; 8.35 <i>in</i> , socket
Materials	. brass, NBR
Output connection	. socket for cable ø 7 mm
	ø 0.28 in
Dimensions	
	7.06 × 3 × 1.3 in
Mounting position	. any, especially impulse upward

Solenoid valves 253-1XXXX-X series

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Order number	Туре	Operating voltage	Connection thread BSPP (F)
253-14076-6	3/2-way valve	110-120 VAC	G ¹ / ₂
253-14076-7	3/2-way valve	230 VAC	G ¹ / ₂





525-320 ...-1



Product description

3/2-way solenoid valves are suitable to supply lubricant in different lubrication circuits and also are used as release valves. Each lubrication circuit can be connected to one pump outlet by switching off or switching on separately. Thereby, the pressure inlet is connected either to one or to the other circuit. Solenoid valves are equipped with a dry magnetic rotor and a conical seat valve. In their initial state, the valves always are open to the return line and are activated by a return spring. The current switching positions remain as long as current is switched on. Solenoid valves are switchable and resistant to compression in both flow directions.

Features and benefits

- Suitable to divide lubricant in different lubrication circuits on different time sequences
- Equipped with a dry magnetic rotor and a conical seat valve
- Switchable and resistant to compression in both flow directions

Applications

- · Construction machinery
- Wind turbines
- Mining



For further technical information, technical drawings, accessories, spare parts or product function descriptions, see the following publication available on SKF.com/lubrication: W-115-EN-1212



Technical data

Function principle	
Lubricant	
	-20 to +60 °C, -4 to +140 °F
Operating pressure	0-400 bar; 0-5 800 psi
Flow rate	max. 2 400 cm ³ /min
	max. 146.5 in 3/min
Supply voltage	24 VDC, 110 VAC, 50 Hz,
,	230 VAC, 50-60 Hz
Current draw	0,83 A; 0,2 A; 0,1 A
Rated power	
Pressure connection	
Protection class	
Isolation class	
Materials	
Dimensions	
	5.78×1.96×1.77 in
Mounting position	any

Solenoid valves 525-320XX-1 series

Order number	Туре	Operating voltage	Connection thread BSPP (F)
525-32085-1	3/2-way valve	24 VDC	G ³ / ₈
525-32086-1	3/2-way valve	110 VAC	G ³ / ₈
525-32087-1	3/2-way valve	230 VAC	G ³ / ₈

PUB LS/P1 17046 EN

161-110-031





The directional valves are used to control the flow of lubricants, e.g. to divide up a central lubrication system into a number of lubrication circuits (zoned actuation) or to switch between circulating and intermittently operated lubrication circuits. Valves for a maximum pressure of up to 45 bar can be used for single-line lubrication systems with metering devices. Valves for a pressure range of up to 300 or 500 bar also are suitable for progressive systems.

Features and benefits

- Directional valves for oil with a low or high effective viscosity and greases up to NLGI Grade 2
- 2-, 4- or 5-way valve switching functions selectable for zoned actuations
- For single-line systems with sectional supplying of lubricants dependent upon different times and quantities
- Manual action possible

Applications

- Paper industry
- Steel industry
- Heavy industry



Technical data

Order number Function principle Lubricant. Operating temperatures: Oil, 4–1 500 mm/s². Grease, 700 mbar. Operating pressure Hydraulic connector. Materials Supply voltage. Rated current Rated power Electrical connection Protection class Dimensions	2/2-way solenoid valve oil and grease up to NLGI 2 -40 to +80 °C; -40 to +176°F -25 to +80 °C; -13 to +176°F max. 500 bar, max. 7 250 psi G¹/4 aluminum 24 VDC 0,67 A 16 W, 5 W DIN EN175301-803 IP 65 with plug 146,5×55×45 mm 5.77×2.17×1.77 in
Mounting position	5.77×2.17×1.77 in

NOTE

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For further technical information, technical drawings, accessories, spare parts or product function descriptions, see the following publication available on SKF.com/lubrication: **1-1703-EN**





161-140-050



Product description

These directional valves are used to control the flow of lubricants, e.g. to divide up a central lubrication system into a number of lubrication circuits (zoned actuation) or to switch between circulating and intermittently operated lubrication circuits. Valves for a maximum pressure of up to 45 bar can be used for single-line lubrication systems with metering devices. Valves for a pressure range of up to 300 or 500 bar also are suitable for progressive systems.

Features and benefits

- Directional valves for oil with a low or high effective viscosity and greases up to NLGI Grade 2
- 2-, 4- or 5-way valve switching functions selectable for zoned actuations
- For single-line systems with sectional supplying of lubricants dependent upon different times and quantities
- Manual action possible

Applications

- Paper industry
- Steel industry
- · Heavy industry



161-140-050

Technical data Order number

Function principle	oil and grease up to NLGI 2
Operating temperatures:	40. 00.00
oil, 4-1 500 mm/s ²	
700 h	-40 to +176°F
grease, 700 mbar	
0	–13 to +176°F
Operating pressure	max. 4 350 psi
Hydraulic connector	
Materials	aluminum
Supply voltage	
Rated current	
nated carrent	0.17 A at 220 VAC. 50 Hz
Rated power	
Electrical connection	DIN EN175301-803
Protection class	IP 65 with plug
Dimensions	148×58×45 mm
	5.83 × 2.28 × 1.77 in
Mounting position	any

NOTE

For further technical information, technical drawings, accessories, spare parts or product function descriptions, see the following publication available on SKF.com/lubrication: 1-1703-EN

PUB LS/P1 17046 EN

40004	004 /4070 /7	
40PGA	321-410T3 67	341-856-K51
161-120-067+910 23	321-410W167	341-860-K51
161/120-067+924	321-410W267	35047
223-12289-7 131	321-410W367	350 47
234-10330-4	321-601G1 67	351 47
234-10330-4 174	321-601G2 67	351 47
234-10663-1 161	321-601T2 67	352-005-K59
234-10825-8 161	321-601T3 67	352-005-K-S859
234-10825-8 176	321-601W167	352-005-S8-VS 59
234-11145 173	321-601W267	352-005-VS59
234-11145-3/4/5/9 161	321-601W367	352-010-K59
234-13161-5 175	321-603G1 67	352-010-K-S859
234-13161-5/9	321-603G2 67	352-010-K-S82
234-13161-9 175	321-603G3 67	352-010-S8-VS
234-13161-9 175	321-603T1 67	352-010-S82-VS
236-10153-3 158	321-603T2 67	352-010-VS
236-10986-1	321-603T3 67	352-020-K
237-11204-8 105	321-603W167	352-020-K-S8
321-401G1 67	321-603W267	352-020-K-S82
321-40101	321-603W367	352-020-K-382
321-40102 67	321-606G1 67	352-020-38-V3
321-40103	321-606G2 67	352-020-362-v3
321-401V2 67	321-606G3 67	352-020-v3
321-401W2	321-606T2	352-030-N-582
321-403G1 67		352-030-562-v5
	321-606T3	352-040-K
321-403G3 67	321-606W1	352-040-8-VS
321-403G4 67	321-606W267	
321-403T1 67	321-606W367	352-040-VS
321-403T2 67	321-610G1 67	352-060-K
321-403T3 67	321-610G2 67	352-060-K-S8
321-403W1	321-610G3 67	352-060-S8-VS 59
321-403W267	321-610T1 67	352-060-VS
321-403W367	321-610T2 67	36147
321-406G1 67	321-610T3 67	36147
321-406G2 67	321-610W167	37047
321-406G3 67	321-610W267	39047
321-406G4 67	321-610W367	39047
321-406T1 67	321 G7 47	391 47
321-406T2 67	321 G, G4,	39147
321-406T3 67	T, W, Module 47	391-010-K-S165
321-406W167	34047	391-020-K65
321-406W267	34047	391-020-K-S165
321-406W367	341 47	391-020-K-S865
321-410G1 67	341 47	391-030-K-S165
321-410G2 67	341-453-K-S851	391-040-K65
321-410G3 67	341-456-K-S851	391-040-K-S865
321-410G4 67	341-460-K-S851	391-060-K65
321-410T1 67	341-466-K-S851	391-060-K-S865
321-410T2 67	341-853-K51	391-100-K65



391-100-K-S865	645-41119-2 107	69630161
391-150-K65	645-41175-5 107	69630172
391-150-K-S865	647-41151-2 73	80072115
406-004-VS	647-41152-2 73	80073115
408-004-VS	647-41152-4 73	80074115
447-71899-1 73	647-41153-2 73	80075115
447-71901-1 73	647-41154-4 73	80076115
447-71902-1 73	647-41154-5 73	80077115
447-71903-1 73	647-41154-6 73	80078115
447-71904-1 73	647-41154-7 73	80079115
447-71905-1 73	647-41155-2 73	80080115
447-71906-1 73	647-41156-2 73	80081115
454-71505-1	664-34135-6	80083115
454-71506-1	664-34135-7	80084115
454-71507-1	995-901-061 23	80085115
454-71508-1	995-901-063	80086115
454-71509-1	995-993-610 59	80087115
466-421-001	995-993-610-VS 59	80088115
506-140-VS	995-993-620	80089115
525-32083-1119	995-993-620-VS 59	80090115
532-34839-2 158	995-993-630	80091115
532-34839-3	995-993-630-VS 59	80105115
532-34839-5 158	995-993-660 59	80106115
532-34839-6	995-994-003 51	80107115
532-37731-1 158	995-994-006	80108115
547-33924-1	995-994-010 51	80109115
547-33925-1	995-994-016 51	80110115
547-33926-1	995-994-103 51	80111115
554-32810-1	995-994-103-VS 51	80112115
554-32811-1 131	995-994-106 51	80120115
554-32812-1 131	995-994-110 51	80121115
554-32813-1 131	995-994-116 51	80122115
554-32814-1 131	181085	8012733
554-34387-1	1810 89	8012833
645-41062-3 107	182629	80134115
645-41062-4 107	1196279	80135115
645-41062-7 107	11962 81	81770-1129
645-41062-8 107	1196379	81770-2129
645-41062-9 107	11963 81	81770-3129
645-41064-2 107	1196479	81770-4129
645-41064-3 107	11964	81770-5129
645-41064-4 107	1196579	81770-6129
645-41064-6 107	11965 81	8229279
645-41064-7 107	1265879	8229579
645-41064-8 107	12658 81	8257025
645-41073-5 107	1425375	8265396
645-41110-2 107	14312 75	82653/5585
645-41110-3 107	1436175	8265596
645-41119-1 107	69630153	8267624

8288692	84050, 85	85725105
82886,	0.000,00.00.	85726
83167 85	84110	85727
83167		85728119
	84501149	85729119
83309-2	84616	85730119
83309-3	84944,	85731
83309-4	84960,	85732105
83309-5	8496185	85733105
83309-6	8496285	85734
8331375	84980	85735105
83314	84990	85736119
83314-9	85208	85737119
83336HV-1	85209	85738119
83336HV-2	85430	85739119
83336HV-3	85431	85740119
83336HV-4	85432	85741
83336HV-5	8543326	85742
83336HV-6 128	8543495	85743119
83336HV-7 128	85434/35/36 85	85744119
83336HV-8 128	8543595	85745119
83336HV-9	85436 95	85746119
83336HV-10 128	8543818	85747119
83337HV	8544018	85748119
83338HV 128	8544118	85749119
8353575	85442 85	85750119
8359985	85442 93	85751119
83599 98	85444 94	85752119
8366077	85444/4585	85753119
83662 77	85445 94	85754119
8366885	85460 85	85770-1
8366892	85474119	85770-2135
83715-1 123	85475119	85770-3135
83715-2 123	85479119	85770-4
83715-3 123	85492 105	85770-5
83715-4	85492 119	85770-6135
83715-6123	85497 134	85771135
83715-7123	85520	85772135
83748 81	85520151	91863-175
83800 96	85525139	91864-175
83800/34	85525153	91865-175
83817 85	85530139	91866-175
83817 88	85535139	91883-1 77
83834 96	85535152	91884-177
83900123	85664119	91885-177
83900-9 123	85665119	91886-177
84015139	85722105	91976-175
84015150	85723105	247333
8404875	85724105	247333



249279 75	HG 2000101	LS22 47
249279 77	IG502-2-E	LS211053
249280 75	IGZ36-20 139	LS212053
249280 77	IGZ36-20+471141	LS213053
249281 75	IGZ36-20+472141	LS214053
249281 77	IGZ36-20-S6 139	LS215053
249282 75	IGZ36-20-S6+471 141	LS221052
249282 77	IGZ36-20-S6+472 141	LS222052
249649 75	IGZ38-30 139	LS223052
270982 105	IGZ38-30+471141	LS2240 52
270982	IGZ38-30+472141	LS225052
271605 105	IGZ38-30-S1 139	MFE2-K3-2 45
271606 105	IGZ38-30-S1+471141	MFE2-K3F-2 45
272180	IGZ38-30-S1+472141	MFE2-K6F 45
272180	IGZ51-20-S3 139	MFE2-K6F-S2 45
274899	IGZ51-20-S3+471141	MFE2-KW3F-S9+MPG 45
276325	IGZ51-20-S3+472141	MFE2-KW3F-S13+1FV 45
276903	KFB135	MFE2-KW6F-S1
276919	KFB1-4-S1 35	MFE2-KW6F-S20+MPG 45
282288	KFB1-6-S1	MFE2-KW6F-S37+1FV 45
282288 100	KFB1-M+92437	MFE2-KW6F-S41+1FW 45
283167 28	KFB1-M-W+924 37	MFE5-B3-2 45
AB	KFB1-M-W-S1+924 37	MFE5-B7 45
B-doser 121	KFB1-W35	MFE5-BW3-2
DSA161	KFB1-W-4-S135	MFE5-BW3-2-S28 45
DSB 161	KFB1-W-6-S135	MFE5-BW3-S41+MPG45
DSC1	KFBS1 35	MFE5-BW3-S-S34+1FV 45
DSC1-A040A-1A2A	KFBS1-4-S1	MFE5-BW7
DSC2 161	KFBS1-6-S1	MFE5-BW7-S22+1FV 45
DSC2-A100E-2A2B167	KFBS1-M+92437	MFE5-BW7-S97+1FW
DSC3 161	KFBS1-M-W+924 37	MFE5-BW7-S107+MPG 45
DSC3-A100K-3A2B168	KFBS1-W35	MFE5-BW7-S222+MPG 45
DSD	KFBS1-W-4-S1	MFE5-BW16
EOT-1139	KFBS1-W-6-S1	MFE5-BW16-S96+MPG 45
EOT-2139	KFG87	MFE5-BW16-S145+1FV 45
EXZT2A02	KFU2-40+912 39	MFE5-BW16-S222+MPG 45
EXZT2A02+471 141	KFU2-40+924 39	MFE5-BW30 45
EXZT2A02+472 141	KFU6-20+912 39	MFE5-BW30-S30 45
EXZT2A05	KFU6-20+924 39	MFE5-BW30-S35+MPG 45
EXZT2A05+471141	KFUS2-64+912	MFE5-BW30-S222+MPG 45
EXZT2A05+472	KFUS2-64+924	MFE5-K3-2 45
EXZT2A07	LC502	MFE5-K6 45
EXZT2A07+471	LC502	MFE5-KW3-2
EXZT2A07+472	LG-doser	MFE5-KW3-2-S4
FK	LMC 2	MFE5-KW3-S24+MPG 45
FlowMaster	LMC 101	MFE5-KW3-S35+1FW 45
FlowMaster, electric 87	LMC 101	MFE5-KW3-S37+1FV 45
HG 1000	LMC 301	MFE5-KW6
HG 1000/200085	LS21 47	MFE5-KW6-S1
110 1000/2000	LJC14/	1711 LJ-1\VVU-JI 43

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MFE5-KW6-S33+MPG 45
MFE5-KW6-S42+1FV 45
MFE5-KW6-S102+1FW 45
Minilube
Multilube
0i-Al-SR 47
P603S
P653S
PEF-9027
PEF-99W 27
PEF-99W-S127
PEF-99W-S2 27
PEF-99W-S327
PEU-9927
PEU-99-S2 27
PEU-99-S3 27
PFEP-15-0.5
PFEP-15-1.0
PFEP-15-1.0W2 21
PFEP-15-1.7
PFEP-15-1.7W2
QSL 121
SL-1121
SL-11121
SL-32 HV 121
SL-33121
SL-41 47
SL-42 47
SL-43 47
SL-44 47
SL-V
SL-V XL
ST-102139
ST_102

ST-102P14	3+
ST-1100i 13	39
ST-1100i 14	+6
ST-1240-GRAPH 13	39
ST-1240-GRAPH-413	39
ST-134013	39
ST-144013	39
V71-010	1
V71-020	1
V71-040 6	1
V71-060	1
V71-100	1
V71-150 6	1
V72-0056	1
VKU005-K 7	1
VKU010-K 7	1
VKU020-K 7	1
VKU030-K 7	1
VKU040-K 7	1
VKU060-K 7	1
VKU100-K 7	1
VN	+ 7
VR 13	1



Notes	





