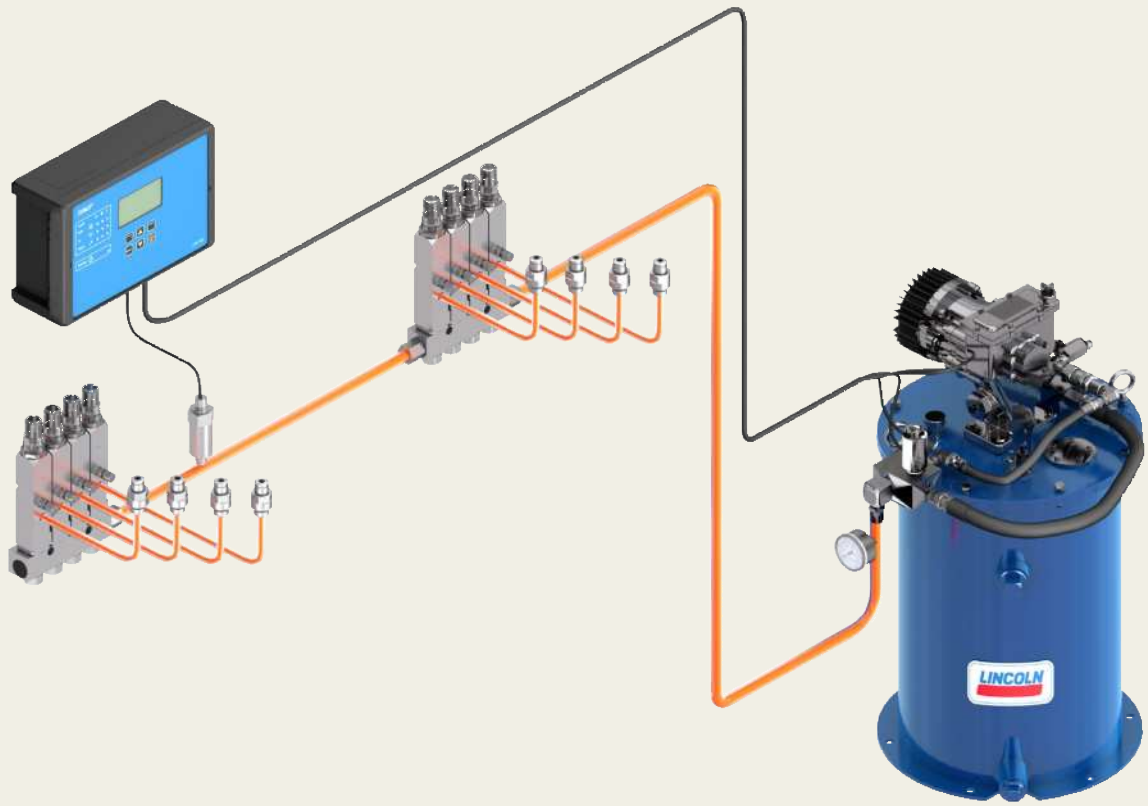
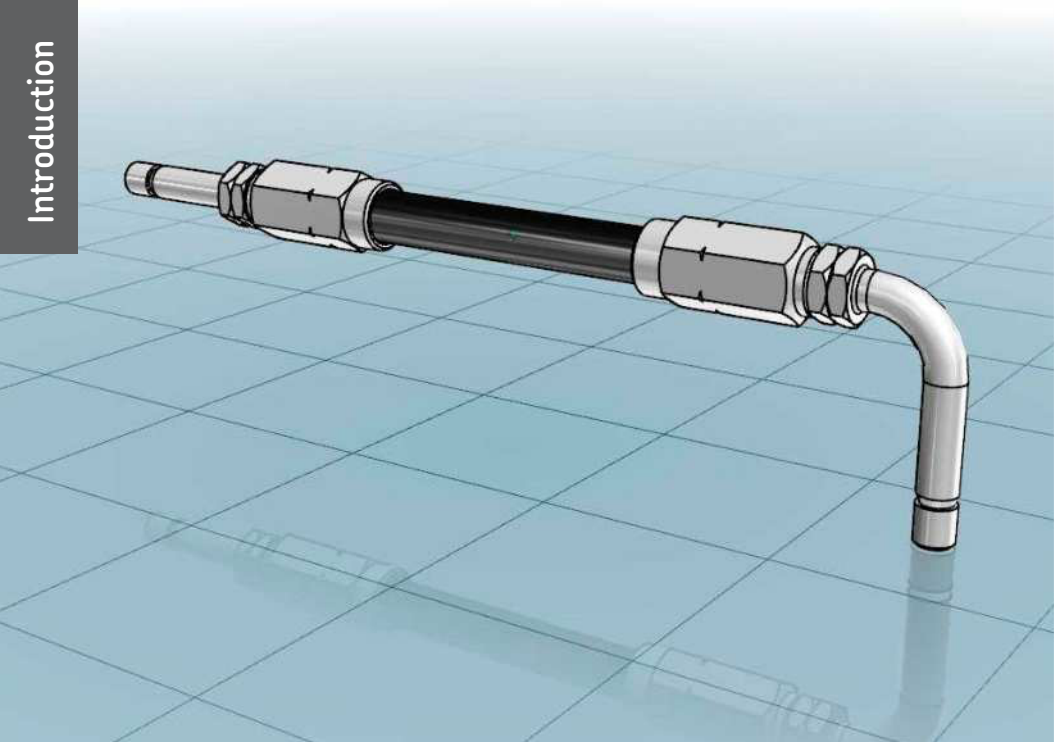
Single-line automatic lubrication systems

Product catalogue 2022



Electronic part library

CAD product data



Find your parts online

3D CAD data, technical drawings and data sheets of SKF automatic lubrication system components are now available in native format in the online parts library. In addition to enjoying easy CAD downloads, you can configure more complex lubrication system products and integrate them into your design process – completely free of charge. Integrate CAD data seamlessly into your layout plans without any delay.

https://skf-lubrication.partcommunity.com

Navigation

Introduction 2
Pumps and pump units for oil 13
Pumps and pump units for grease 51
Metering devices for oil 93
Metering devices for grease 129
Control units. 149
Pressure sensors 167
Flow monitors and sensors 185
Solenoid valves 189

Table of contents

Electronic part library 2
Two leading brands 6
Lubricants suitable for lubrication systems 7
Single-line lubrication systems for oil and fluid grease 8
Single-line lubrication systems for grease 10

Overview of oil and fluid grease pumps and pump units 13
MCP 14
1812 16
501 (fixed metering quantity) 17
501 (adjustable metering quantity) 18
P-846-2 19
283167 20
82885, 83667 21
85438/40/41 22
P/PW/PF/PFW-289 23
ACP 24
PPS30 26
P-886 28
82676 29
85430/31/32/33 30
82570 32
1826 33
ECP 34
P 653S (oil) 36
KFB 38
KFB-M 40
KFU 42
MKU 44
MKF 46
MFE 48

Overview of grease pumps and pump units 51
83817 54
1810 55
40PGA 56
82886, 83668 58
85442 59
85444/45 60
85434/35/36 61
82653/55, 83800/34 62
83167 63
83599 64
HG 1000, HG 2000 65
BPH 66
84944, 84961 68
84960, 84962 69
FlowMaster, hydraulic 70
MPB 72
84050, 85460 74
282288 75
P 603S 76
Minilube 78
KFG 80
Multilube MLPV/MLPI 82
P 653S 84
E-PUMP 86
FK 88
FlowMaster, electric 90

Overview of oil and fluid grease metering devices 93
341 94
340 96
361 98
310 100
351 102
350 104
370 106
391 108
Manifold 109
390 110
321 G, T, W, G4, Module, G7 112
AB 114
VN 116
OI-AL-SR 118
SL-42 120
SL-43 122
SL-41 124
SL-44 126

Table of contents

Overview of grease metering devices 129
SL-33 130
B-doser 132
LG-doser 134
SL-32HV 136
SL-1 137
QSL 138
VR 140
SLC 142
SL-11 144
SL-V 145
SL-V XL 146

Overview of control units 149
EXZT/IGZ 150
ST-2240-LUB 152
ST-1240 153
ST-1100i 154
ST-102 155
ST-102P 156
84501 157
LMC 101 158
EOT-1 / EOT-2 159
85307 160
IG502-2-E 161
LMC 2 162
LMC 301 164

Overview of pressure sensors 167
DSA 168
DSD 170
DSB 172
69630 174
DSC1 175
DSC2 176
DSC3 177
234-13161-9 178
2340-00000118 179
234-10330-4 180
234-11272-4 181
234-13161-5 182
2340-00000108 183

Overview of flow monitors and sensors 185
GS300 186
HCC 187

Overview of solenoid valves 189
35024 190
350282, 350283 191
253-14076-X 192
161-110-031 193
525-320XX-1 194
525-604XX-1 195
161-140-050 196

Notes 197
Index 200

Two leading brands

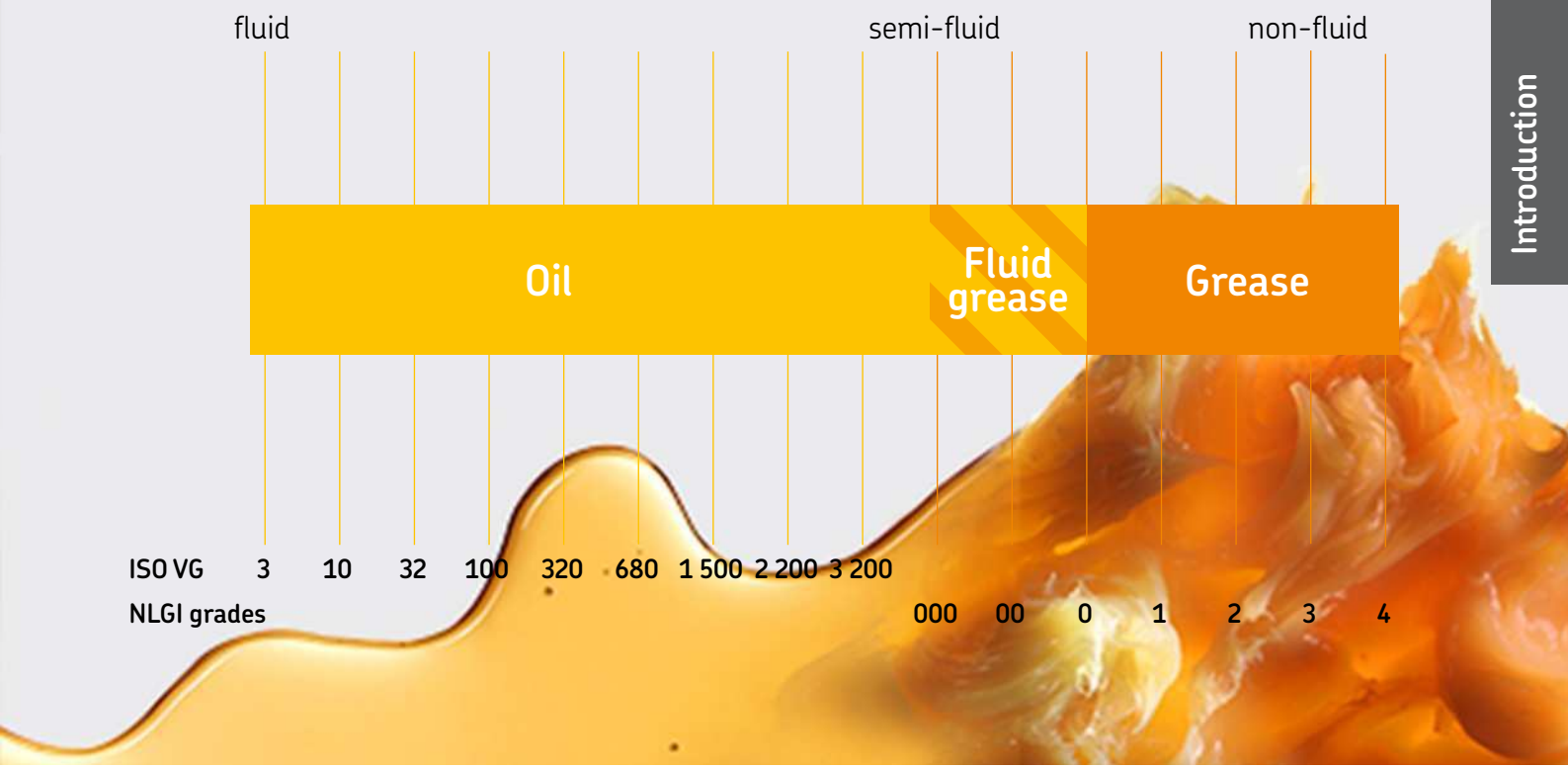
One global leader

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 optimise manpower resources.

Lubricants suitable for lubrication systems



Oil and fluid grease

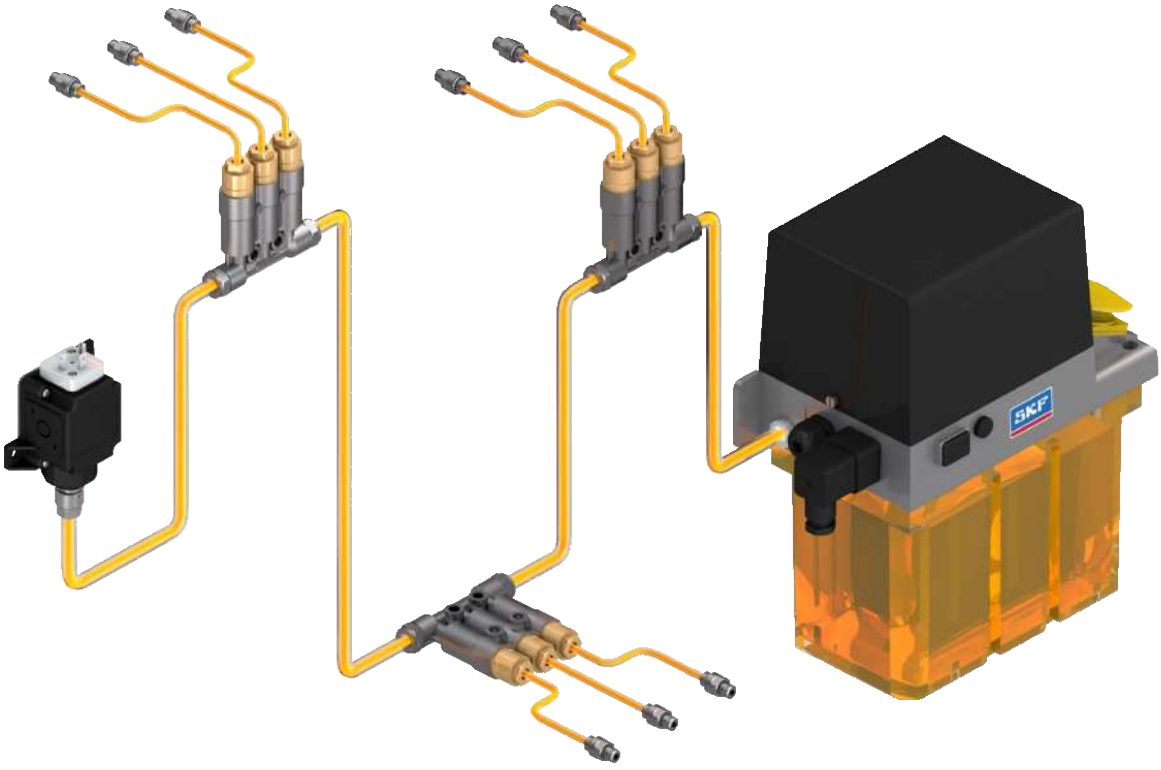
The viscosity is an expression of a fluid's internal friction. Oils are classified in ISO VG viscosity classes from 2 to 3 200. NLGI grade 000, 00 and 0 greases are called fluid greases. Different types of oils are available, including mineral oils, organic oils and synthetic oils. A compatibility check is recommended prior to using any oil with SKF lubrication systems.

Grease

Greases are consistent lubricants (NLGI grade 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 grade 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 video



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

Applications

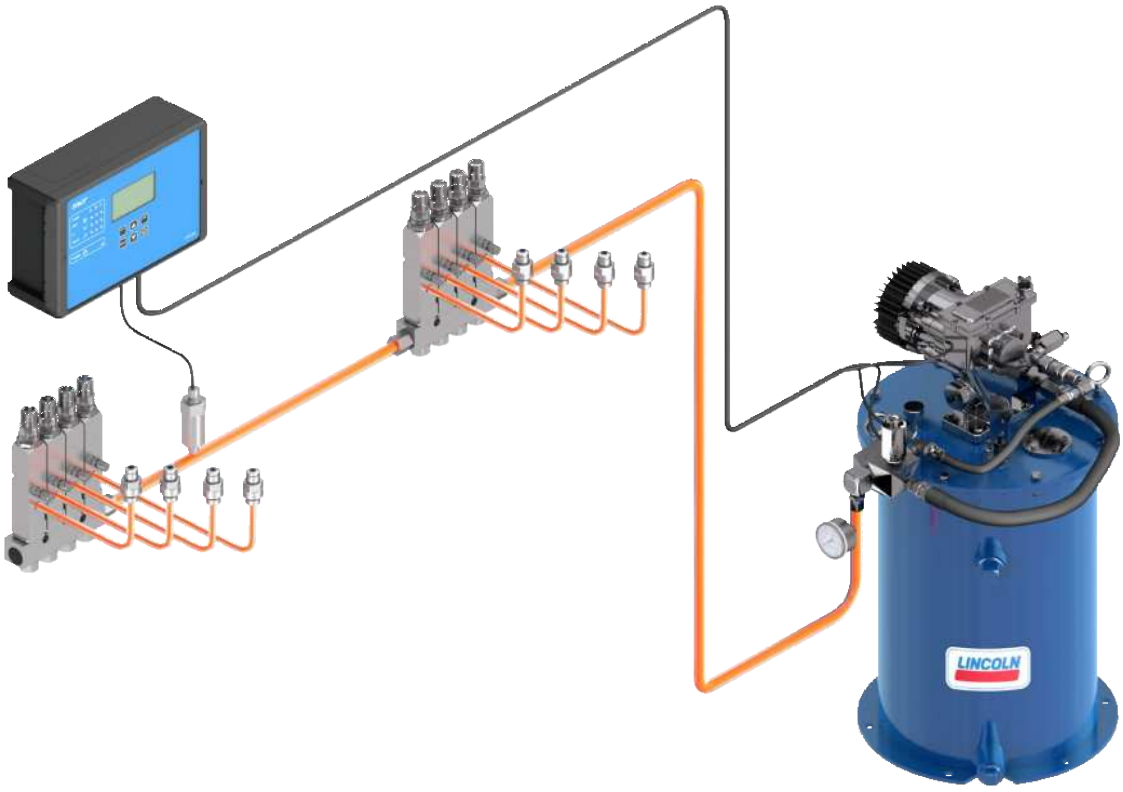
In total loss lubrication systems, fresh lubricant is fed to friction points during a lubrication cycle. The lubrication cycle is set up so that friction points are supplied with enough lubricant to build up an adequate film of lubricant, reducing wear and tear on bearings and friction points. Monoflex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

Single-line lubrication systems for grease

System video



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 worldwide 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:

- 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

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. 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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Overview of oil and fluid grease pumps and pump units

Manually operated pump units

Product	Lubricant		Metering quantity max.		Operating pressure max. [1]		Reservoir		Metering device category [2]				Page
	oil	fluid grease	cm³/stroke	*in³/stroke*	bar	*psi*	l	*gal*	1	2	3	4	
MCP	•	•	15	*0.91*	38	*551*	0,5; 1; 1,7	*0.13; 0.26; 0.45*	•	•	•	–	14
1812	•	–	2,6	*0.16*	69	*1 000*	2,1	*0.55*	–	•	•	•	16

1) Select the correct fittings, adjust the operating pressure to fit the pressure range of the selected metering devices.
2) Single-line metering devices are classified into categories according to their vent pressure in ascending order. Choosing the correct category guarantees the proper functioning of the lubrication system.

Air-operated pumps and pump units

Product	Lubricant		Metering quantity max.		Operating pressure max. [1]		Reservoir		Metering device category [2]				Page
	oil	fluid grease	cm³/stroke	*in³/stroke*	bar	*psi*	l	*gal*	1	2	3	4	
501 fixed	•	–	0,003	*0,00018*	38	*551*	0,25	*0,066*	–	–	–	–	17
501 adjustable	•	–	0,03	*0,0018*	38	*551*	0,20	*0,052*	–	–	–	–	18
P-846-2	•	–	7	*0.42*	45	*652*	–	–	•	•	•	–	19
283167	•	–	1,97	*0.12*	69	*1 000*	7,1	*1.88*	–	–	•	•	20
82885, 83667	•	–	7,4	*0.45*	69	*1 000*	0,6; 2	*0.16; 0.53*	–	•	•	•	21
85438 / 40 / 41 [3]	•	–	7,4	*0.45*	69	*1 000*	0,6; 2	*0.16; 0.53*	–	•	•	•	22
P/PW/PF/PFW-289	•	•	10	*0.61*	40	*580*	1,5	*0.39*	•	•	•	–	23
ACP	•	–	15	*0.91*	38	*551*	0,5; 1; 1,7	*0.13; 0.26; 0.45*	•	•	•	–	24
PPS30	•	•	30	*1.83*	27	*392*	1,5	*0.39*	•	•	–	–	26
P-886	•	–	30	*1.83*	35	*508*	–	–	•	•	•	–	28
82676	•	–	39,3	*2.39*	69	*1 000*	–	–	–	–	–	•	29
82570	•	–	39,3	*2.39*	69	*1 000*	2	*0.53*	–	–	–	•	32
85430 / 31 / 32 / 33 [3]	•	–	39,3	*2.39*	69	*1 000*	0,0; 2	*0.0; 0.53*	–	–	–	•	30

Air-operated barrel pumps

Product	Lubricant		Metering quantity max.		Operating pressure max. [1]		Reservoir		Metering device category [2]				Page
	oil	fluid grease	cm³/min	*in³/min*	bar	*psi*	l	*gal*	1	2	3	4	
1826 [3]	•	–	7 571	*462*	69	*1 000*	200	*52.83*	–	•	•	•	33

1) Select the correct fittings, adjust the operating pressure to fit the pressure range of the selected metering devices.
2) Single-line metering devices are classified into categories according to their vent pressure in ascending order. Choosing the correct category guarantees the proper functioning of the lubrication system.
3) Controller optionally

Electrically operated pumps and pump units

Product	Lubricant		Metering quantity max.		Operating pressure max. [1]		Reservoir		Metering device category [2]				Page
	oil	fluid grease	cm³/min	*in³/min*	bar	*psi*	l	*gal*	1	2	3	4	
ECP	•	•	12	*0.73*	38	*550*	0,38	*0.086*	•	•	•	–	34
P653S (oil) [3] [4]	•	–	24,6	*1.5*	240	*3500*	4; 8	*1.05; 2.11*	–	•	•	•	36
KFB [3]	–	•	50	*3*	38	*550*	1	*0.26*	•	•	•	–	38
KFB-M [3]	–	•	50	*3*	38	*550*	1	*0.26*	•	•	•	–	40
KFU	–	•	140	*8.5*	38	*550*	2,7; 6	*0.71; 1.56*	•	•	•	–	42
MKU [3]	•	–	100; 200; 500	*6; 12; 31*	30	*435*	2; 3; 6	*0.53; 0.79; 1.56*	•	–	–	–	44
MKF [3]	•	•	100; 200; 500	*6; 12; 31*	30	*435*	2; 3; 6	*0.53; 0.79; 1.56*	•	•	–	–	46
MFE	•	•	250; 500	*15; 31*	28	*405*	3; 6; 15	*0.79; 1.56; 3.96*	•	•	–	–	48

1) Select the correct fittings, adjust the operating pressure to fit the pressure range of the selected metering devices
2) Single-line metering devices are classified into categories according to their vent pressure in ascending order. Choosing the correct category guarantees the proper functioning of the lubrication system.
3) Controller optionally
4) With pressure transducer

Pump unit

MCP

Description

The model MCP is a manual operated compact pump unit. Featuring a compact, lightweight design, that cost-effective pump is compatible with oil and fluid grease. Constructed of robust material, the pump is reliable in demanding applications. An optional fill-level monitor with prewarning functionality helps users to take early action.

Low operating pressures of up to 38 bar (551 psi) enable the use of SKF Quick Connector fittings and SKF single-line metering devices of category 1 without additional pressure regulation.
The MCP pump replaces pump series POE/PFE.

Feature and benefits

- Simple to use, simple maintenance
- Easy system integration
- Reliable operation
- Lightweight and robust design, compact size
- Fill-level monitoring
- Suitable for use with oil and fluid grease metering devices of category 1, 2 and 3 (→ page 93)

Applications

- Simple machine tool and punching/laser machinery
- Process and packaging machinery
- Material handling devices
- Textile machinery
- Chain lubrication
- Cartesian robots
- Etc.

Technical data

Function priciple	manually operated piston pump
Outlets	2
Metering quantity	up to 15 cm^3/stroke *up to 0.91 in^3/stroke*
Lubricant	mineral and synthetic oils with an operating viscosity of 20–1 500 mm^2/s fluid greases: NLGI 000, 00
Operating temperature	0 to +60 °C; *32 to 140 °F*
Operating pressure	max. 38 bar, *551 psi*
Reservoir	0,5; 1,0; 1,7 l *0.13; 0.26; 0.45 gal*
Protection class	IP 54
Material (reservoir)	acrylic
Connection outlet	$G^1/_4$ × 12 mm
Dimensions	
0,5 l	124 × 190 × 289 mm; *4.89 × 7.48 × 11.38 in*
1,0 l	124 × 190 × 379 mm; *4.89 × 7.48 × 14.92 in*
1,7 l	124 × 190 × 489 mm; *4.89 × 7.48 × 19.25 in*
Mounting position	vertical
Weight (dep. on model)	1,3–2,6 kg; *2.8–5.7 lb*

NOTE
Further technical information, technical drawings, accessories, spare parts or product function descriptions available on SKF.com/lubrication.
18962 EN, 951-170-237-EN

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

Pump unit

MCP

Identification code M C P 1 5 – 1 _ _ 0 _ _ _ – _ _ _

Pump unit

Delivery rate

15 = 15 cm³/stroke; *0.91 in³/stroke*

Fill-level monitoring

0 = without fill-level monitor
W = with fill-level monitor

Wall bracket

0 = without wall bracket
A = with wall bracket (standard)

Outlet connection

X = closed
1 = G1/4

Back-in connection to reservoir

X = closed (for oil version)
2 = grease nipple for fluid grease

Lubricant

U = oil
F = fluid grease

Reservoir size

05 = 0,5 l; *0.13 gal* (without oil filling filter and without level monitor)
10 = 1,0 l; *0.26 gal* (oil version incl. oil filling filter)
17 = 1,7 l; ; *0.45 gal* (oil version incl. oil filling filter)

left

right

MCP standard product range

Order number	Description
MCP15-10A01X2-F05	MCP for fluid grease with 0,5 l reservoir, without fill level monitor
MCP15-10A01X2-F10	MCP for fluid grease with 1,0 l reservoir, without fill level monitor
MCP15-1WA01X2-F10	MCP for fluid grease with 1,0 l reservoir, with fill level monitor
MCP15-10A01X2-F17	MCP for fluid grease with 1,7 l reservoir, without fill level monitor
MCP15-1WA01X2-F17	MCP for fluid grease with 1,7 l reservoir, with fill level monitor
MCP15-10A01XX-U05	MCP for oil with 0,5 l reservoir, without fill level monitor
MCP15-10A01XX-U10	MCP for oil with 1,0 l reservoir, without fill level monitor
MCP15-1WA01XX-U10	MCP for oil with 1,0 l reservoir, with fill level monitor
MCP15-10A01XX-U17	MCP for oil with 1,7 l reservoir, without fill level monitor
MCP15-1WA01XX-U17	MCP for oil with 1,7 l reservoir, with fill level monitor

Order example

MCP15-10A01XX-U17

- manual-operated compact pump
- delivery rate 15 cm³/stroke
- without fill-level monitoring
- with wall bracket
- without inlet connection
- G1/4 outlet connection left
- closed outlet connection right
- refill connection closed
- oil version
- reservoir 1,7 liter (with oil filling filter)

Pump unit

1812

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.

Feature 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 oil metering devices of category 2, 3 and 4 (→ page 93)

Applications

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

Technical data

Order number	**1812**
Function priciple	manually operated piston pump
Outlets	1
Metering quantity	2,6 cm^3/stroke , *0.16 in^3/stroke*
Lubricant	oil, synthetic oil on request
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	425 × 181 × 197 mm *16.75 × 7.125 × 7.75 in*
Mounting position	vertical

NOTE
Further technical information, technical drawings, accessories, spare parts or product function descriptions available on SKF.com/lubrication.

501 (fixed metering quantity)

Description

The SKF Lincoln injection oiler is designed to constantly lubricate with small volumes and very precise dosage. An improved piston design with a smaller diameter provide high accuracy and very small volumes. The constant oil flow with very small volumes allows to reduce maintenance times while keeping the machine working. In addition, the very small volumes also help to reduce the total oil consumption. The oil can be supplied from one central reservoir, a standalone reservoir, or by a central pressurized oil line. Metering elements can be actuated individually but also in groups.

Feature and benefits

- High accuracy, precise oil metering with very small, fixed metering volume
- Reduced total oil consumption
- Improved process safety
- Direct supply to the lubrication point, no additional distributor required

Applications

- Material handling, presses and assemly lines
- Lubrication of pneumatic cylinders, machine tool spindles

Technical data

Function priciple	air-operated lubrication pump, injection oiler, mirco pump
Outlets	1
Metering quantity	3 mm³/ stroke , *0.018 in³/stroke*
Lubricant	mineral and synthetic oils with NBR-elastomeres, copper and copper alloys at an operating viscosity of 20–1100 mm²/s
Operating temperature	–10 to +55 °C *14 to 131 °F*
Operating pressure	max. 38 bar, *551 psi*
Reservoir	0,25 l; *0.066 gal*
Material	acrylic
Reservoir	PETP
Gaskets, seals	NBR, aluminum
Housing	aluminum anodized
Fittings	brass, steel zinc plated
Connection outlet	G1/4
Inlet air connection	G1/8
Inlet air pressure	5-8 bar, *72-116 psi*
Actuation frequency	min. 2 Hz
Protection class	IP 54
Dimensions	
501-301-303	95 × 57 × 40 mm; *3.74 × 2.23 × 1.57 in*
501-301-313	117 × 73 × 128 mm; *4.6 × 2.87 × 5.04 in*
Mounting position	oil duct vertical

Order information

Order number	Description
501-301-303	Injection oiler with fixed metering 1-port version **without** reservoir
501-301-313	Injection oiler with fixed metering 1-port version **with** reservoir

NOTE

Further technical information, technical drawings, accessories, spare parts or product function descriptions available on SKF.com/lubrication.

19063EN, 501-301-310-S1

Pump unit

501 (adjustable metering quantity)

Description

Metering pumps deliver lubricants in a measured amount. These piston pumps are for small delivery rates from 3 to 30 mm^3. The lubricant's delivery rate is partially adjustable. All injection oilers are set for maximum delivery volume at the plant. The delivery rate can be reduced in increments by turning the setting sleeve counterclockwise. The oil can be supplied from one central reservoir, a standalone reservoir, or by a central pressurized oil line. Metering elements can be actuated individually or in groups.

Feature and benefits

- Optimal metering of every lubrication point regardless of line lengths and cross sections
- Metering elements can be actuated individually or in groups
- Splash lubrication through high oil acceleration
- Fast sequence of pulses: up to 120 pulses per minute
- Space saving design

Applications

- Material handling, presses and assemly lines
- Lubrication of pneumatic cylinders, machine tool spindles

Technical data

Function priciple	air-operated lubrication pump, injection oiler, mirco pump
Outlets	1 or 3
Metering quantity	3–30 mm^3/stroke *0,00018– 0,0018 in^3/stroke*
Lubricant	mineral and synthetic oils with NBR-elastomeres, copper and copper alloys at an operating viscosity of 10–1100 mm^2/s
Operating temperature	–10 to +80 °C *14 to 176 °F*
Operating pressure	max. 38 bar, *551 psi*
Reservoir	0,20 l; *0.05 gal*
Material	
Reservoir	PA6-3-T
Seals	NBR
Housing	zinc die-cast
Fittings	brass, steel zinc plated
Connection outlet	SKF Quick Connector for tube ∅4 mm (VS) or M6×0,75 for tube ∅2,5 mm
Inlet air connection	G1/8
Inlet air pressure	5-8 bar, *72-116 psi*
Actuation frequency	max. 120 Hz
Protection class	IP 54
Dimensions without reservoir	
501-301-0...	105 × 45 × 21 mm; *4.13 × 1.77 × 0.82 in*
501-303-0...	105 × 72 × 21 mm; *4.13 × 2.83 × 0.82 in*
Mounting position	oil duct vertical

Order information

Order number	Description	Outlet
501-301-024-VS	1-port injection oiler **without** reservoir	VS
501-303-024-VS	3-port injection oiler **without** reservoir	VS
501-301-011	1-port version **with** reservoir	M6×0,75
501-303-011	3-port version **with** reservoir	M6×0,75

NOTE

Further technical information, technical drawings, accessories, spare parts or product function descriptions available on SKF.com/lubrication.

1-5012-4-EN, 501-301-310-S1

Pump unit

P-846-2

Description

Pump P-846-2 is an oil pump without reservoir made from metal, 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 M10x1 oil outlet.

Features and benefits

- Designed for remote or bulk-fill oil applications
- Remote system components available upon request
- Suitable for use with oil metering devices of category 1, 2 and 3 (→ page 93)

Applications

- Plastic processing
- Food and beverage
- Material handling
- Packaging

Technical data

Order number	**P-846-2**
Function principle	air operated piston pump
Outlets	1
Metering quantity	7 cm³/stroke, *0.42 in³/stroke*
Lubricant	mineral or synthetic oils, compliant with plastic, NBR-elastomeres, cooper and copper alloys
Operating temperature	10 to +60 °C *50 to +140 °F*
Operating pressure	max. 45 bar, *max. 652 psi*
Actuation pressure	2,5–8 bar, *36–116 psi*
Reservoir	external
Connection outlet	M10×1
Connection inlet	M14×1,5
Air inlet connection	M10×1
Protection class	IP 54
Dimensions	85 × 134 × 85 mm *3.34 × 5.27 × 3.34 in*
Mounting position	any

NOTE
Further technical information, technical drawings, accessories, spare parts or product function descriptions available on SKF.com/lubrication.

Pump unit

283167

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 oil metering devices of category 3 and 4 (→ page 93)

Applications

- Steel mills
- Glass manufacturing plants
- Packaging
- Plastic processing
- Material handling
- Food and beverage
- Metal cutting, metal forming
- Systems with many lubrication points

Technical data

Order number	**283167**
Function principle	air, reciprocating piston pump
Outlets	1
Metering quantity	1,97 cm^3/stroke, *0.12 in^3/min*
Working frequency	max. 100 cycles/min
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	7,1 l, 7 100 cm^3, *1.8 gal, 433 in^3*
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.

NOTE
Further technical information, technical drawings, accessories, spare parts or product function descriptions available on SKF.com/lubrication.

Pump unit

82885, 83667

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.

Feature and benefits

- Reliable operation
- Reservoir with filler cap and internal strainer
- Suitable for use with oil metering devices of category 2, 3 and 4 (→ page 93)

Applications

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

Technical data

Function principle	air operated piston pump
Outlets	1
Metering quantity	7,4 cm³/stroke, *0.45 in³/stroke*
Working frequency	
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	0,6 and 2,0 l; *0.16 and 0.5 gal*
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 max. 470 × 140 × 152 mm *min. 10.375 × 5.25 × 6 in* *max. 18.5 × 5.5 × 6 in*
Mounting position	vertical

Order information

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

NOTE
Further technical information, technical drawings, accessories, spare parts or product function descriptions available on SKF.com/lubrication.

Pump unit

85438/40/41

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 oil metering devices of category 2, 3 and 4 (→ page 93)

Applications

- Textiles, plastic processing
- Material handling
- Food and beverage
- Steel mills

Technical data

Function principle	air operated piston pump (single stroke)
Outlets	1
Metering quantity	7,4 cm³/stroke; *0.45 in³/stroke*
Working frequency	
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 outlet	1/4 NPTF (F)
Voltage	120 VAC, 240 VAC
Transmission ratio	20:1
Dimensions:	
85438	133 × 184 × 305 mm *5.25 × 7.24 × 12.02 in*
85440, 85441	133 × 184 × 527 mm *5.25 × 7.24 × 20.75 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*

Order information

Order number	Voltage	Reservoir	
	VAC	l	*gal*
85438	120	0,6	*0.16*
85440	120	2,0	*0.5*
85441	240	2,0	*0.5*

NOTE

Further technical information, technical drawings, accessories, spare parts or product function descriptions available on SKF.com/lubrication.

Pump unit

P/PW/PF/PFW-289

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

- Electrical monitoring via external controller or SPS
- Simple handling
- Optional low-level control for reservoir
- Suitable for use with oil and fluid grease metering devices of category 1, 2 and 3 (→ page 93)

Applications

- Machine tool
- Printing machines
- Industrial assembly and automation

Technical data

Function principle	air operated piston pump (single stroke)
Outlets	1
Metering quantity	10 cm^3/stroke, *0.61 in^3/stroke*
Working frequency	
Lubricant	mineral, synthetic, and environmentally friednly oils, operating viscosity 20 to 1 500 mm^2/s or fluid grease with NLGI 000, 00
Operating temperature	+10 to +40 °C; *+50 to +104 °F*
Operating pressure	max. 40 bar, *580 psi*
Reservoir	1,5 l, *0.4 gal*
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 voltage	230 V AC; 230 V DC
Switching current	max. 230 V AC/DC: 1,0 A
Breaking capacity	max. 230 V AC: 60 VA; max. 230 V DC:40 W
Type of enclosure	IP 65
Cable gland	PG11

Order information

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

NOTE

Further technical information, technical drawings, accessories, spare parts or product function descriptions available on SKF.com/lubrication:

1-1110-EN, 951-170-012

3D

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

Pump unit

ACP

Description

The model ACP is an air-operated compact pump unit. Featuring a compact, lightweight design, that cost-effective pump is compatible with oil and fluid grease. Constructed of robust material, the pump is reliable in demanding applications. An optional fill-level monitor with prewarning functionality helps users to take early action.
Low operating pressures of up to 38 bar (551 psi) enable the use of SKF Quick Connector fittings and SKF single-line metering devices of category 1 without additional pressure regulation.
The ACP pump replaces pump series POEP/PFEP.

Feature and benefits

- Simple to use
- Easy system integration
- Reliable operation, simple maintenance
- Lightweight and robust design, compact size
- Fill-level monitoring
- Suitable for use with oil and fluid grease metering devices of category 1, 2 and 3 (→ page 93)

Applications

- Simple machine tool and punching/laser machinery
- Process and packaging machinery
- Material handling devices
- Textile machinery
- Chain lubrication
- Cartesian robots
- Etc.

Technical data

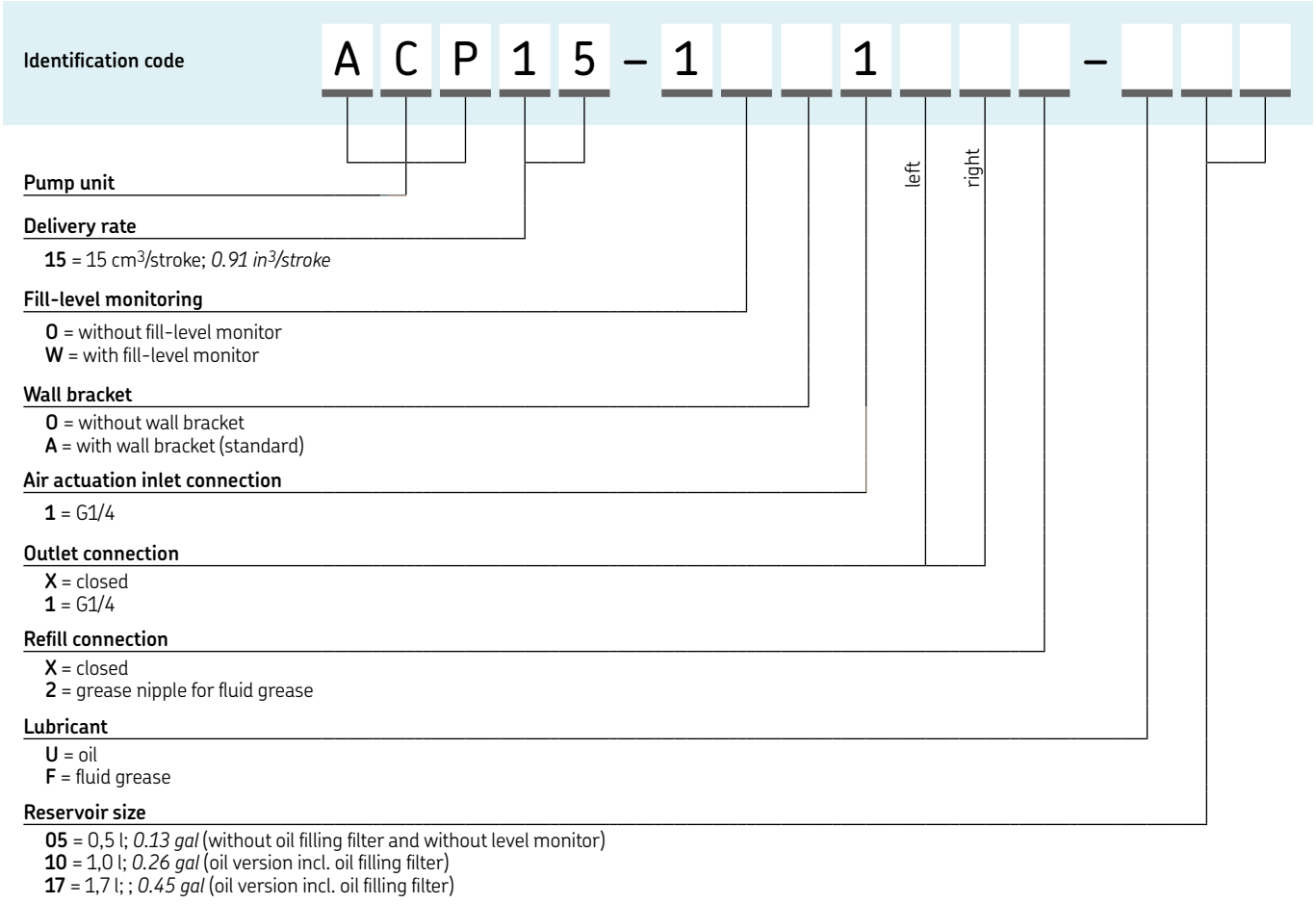
Function priciple	air operated piston pump
Outlets	2
Metering quantity	up to 15 cm^3/stroke *up to 0.91 in^3/stroke*
Lubricant	mineral and synthetic oils with an operating viscosity of 20–1 500 mm^2/s fluid greases: NLGI 000, 00
Operating temperature	0 to +60 °C; *32 to 140 °F*
Operating pressure	max. 38 bar, *551 psi*
Reservoir	0,5; 1,0; 1,7 l *0.13; 0.26; 0.45 gal*
Protection class	IP 54
Material (reservoir)	acrylic
Connection outlet	$G^1/_4$ × 12 mm
Air inlet connection	$G^1/_4$ × 12 mm
Air actuation pressure	*3,5–10 bar; 50–145 psi*
Dimensions	
0,5 l	124 × 108 × 251 mm; *4.89 × 4.25 × 9.88 in*
1,0 l	124 × 108 × 341 mm; *4.89 × 4.25 × 13.42 in*
1,7 l	124 × 108 × 451 mm; *4.89 × 4.25 × 17.75 in*
Mounting position	vertical
Weight (dep. on model)	1,3–2,6 kg; *2.8–5.7 lb*

NOTE
Further technical information, technical drawings, accessories, spare parts or product function descriptions available on SKF.com/lubrication.
18962 EN, 951-170-237-EN

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

Pump unit

ACP



ACP standard product range

Order number	Description
ACP15-10A11X2-F05	ACP for fluid grease with 0,5 l reservoir, without fill level monitor
ACP15-10A11X2-F10	ACP for fluid grease with 1,0 l reservoir, without fill level monitor
ACP15-1WA11X2-F10	ACP for fluid grease with 1,0 l reservoir, with fill level monitor
ACP15-10A11X2-F17	ACP for fluid grease with 1,7 l reservoir, without fill level monitor
ACP15-1WA11X2-F17	ACP for fluid grease with 1,7 l reservoir, with fill level monitor
ACP15-10A11XX-U05	ACP for oil with 0,5 l reservoir, without fill level monitor
ACP15-10A11XX-U10	ACP for oil with 1,0 l reservoir, without fill level monitor
ACP15-1WA11XX-U10	ACP for oil with 1,0 l reservoir, with fill level monitor
ACP15-10A11XX-U17	ACP for oil with 1,7 l reservoir, without fill level monitor
ACP15-1WA11XX-U17	ACP for oil with 1,7 l reservoir, with fill level monitor

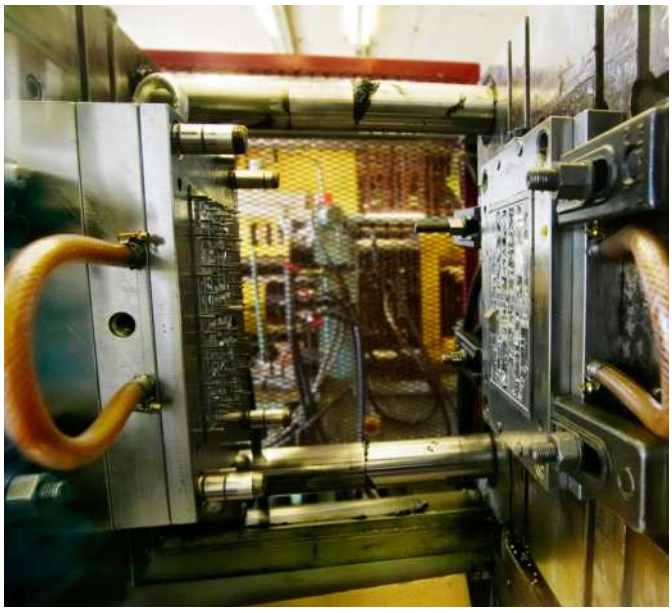
Order example

ACP15-1WA11X2-F10

- air-operated compact pump
- delivery rate 15 cm³/stroke
- with fill-level monitoring
- with wall bracket
- G1/4 air actuation connection
- G1/4 outlet connection left
- closed outlet connection right
- grease nipple refill connection
- fluid grease version
- reservoir 1,0 liter

Pump unit

PPS30



Description

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 oil and fluid grease metering devices of category 1 and 2 (→ page 93)

Applications

- Machine tools
- Automation
- Packaging
- Woodworking
- Printing
- Textiles

NOTE

Further technical information, technical drawings, accessories, spare parts or product function descriptions available on SKF.com/lubrication:
1-0942-EN, 951-170-220 EN

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

Technical data

Function principle	air operated piston pump (single stroke)
Outlets	max. 3
Metering quantity	30 cm³/stroke, *1.83 in³/stroke*
Working frequency	6 strokes/h
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*
Reservoir	1,5 l, *0.39 gal*
Material (reservoir)	plastic (SAN)
Connection outlet	M10 × 1 thread or plug connector for pipes ∅6 and ∅8 mm or banjo fitting for pipe ∅6 mm
Air inlet	M10 × 1 thread or plug connector for pipes ∅6 and ∅8 mm or banjo fitting for pipe ∅6 mm
Transmission ratio	4,5:1
Air valve	required 3-way, see accessories
Pressure reducing 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 voltage	10 to 36 V DC
Power consumption	max. 150 mA

Pressure switch for monitoring pressure build-up and function

Function	NO-contact
Rated pressure	16 bar, *232 psi*
Electrical connection	4-pin M12 × 1 circular plug

Pump unit

PPS30

Identification code P P S 3 0 – 2 _ _ _ _ A _ _ _ _

Piston pump, pneumatically actuated

Lubricant
S = Oil and fluid grease

Delivery rate
30 = 30 cm³/stroke, *1.83 in³/stroke*

Generation

Lubricant reservoir
1 = 1.5 l; 0.39 gal [1)]
2 = 1.5 l; 0.39 gal with oil filler screen [2)]

Fill level switch, min.
W1 = With [1)] **XX** = Without [2)]

Pressure switch
A = 16 bar, *232 psi* [1)] **X** = Without

Electrical connection [3)]
A = M12×1 plug, 4-pin [1)]

Pneumatic connection [4)]
1 = Pipe thread M10×1
2 = Plug connector for pipe ∅ 6 [5)]
3 = Banjo fitting for pipe ∅ 6 [1) 5)]
4 = Plug connector for pipe ∅ 8 [5)]

Connection main line
1 = Pipe thread M10×1
2 = Plug connector for pipe ∅ 6 [1) 5)]
3 = Banjo fitting for pipe ∅ 6 [5)]
4 = Plug connector for pipe ∅ 8 [5)]
X = Closed [5)]

Left
Rear
Right

1) Standard design
2) The oil filler screen option can be used only on PPS30 pumps produced after September 29, 2017.
3) Electrical connection required if fill-level switch and/or pressure switch is selected
4) Must select pneumatic connection
5) For fitting order numbers → **accessories**

Accessories

161-120-067+924

466-431-001

506-140-VS / 408-004-VS

169-400-405

995-901-063

995-901-061

Order numbers for accessories

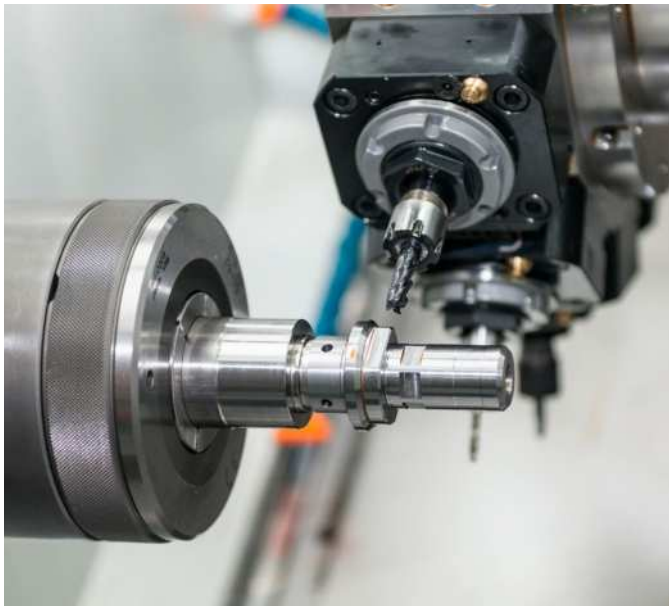
Order number	Designation
161-120-067+924	3/2-way air inlet valve, 24 V DC
161-120-067+910	3/2-way air inlet valve, 110 V AC
995-901-063	Pressure-reducing valve
169-400-405	Oil filler screen

Optional fittings for pneumatic and main line connections

406-004-VS	Plug connector for pipe ∅ 6; order code 2
506-140-VS	Banjo fitting for pipe ∅ 6; order code 3
408-004-VS	Plug connector for pipe ∅ 8; order code 4
466-431-001	Closure plug; order code X
995-901-061	Adapter plate for mounting; 214 × 48 × 10 mm, *8.4 × 1.9 × 0.4 in*

Pump unit

P-886



Description

Pump P-886 is a high-volume oil pump without reservoir made from metal 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 M10x1 oil outlet.

Features and benefits

- Designed for remote or bulk-fill oil applications
- Remote system components available upon request
- Suitable for use with oil metering devices of category 1, 2 and 3 (→ page 93)

Applications

- Plastic processing
- Food and beverage
- Material handling
- Packaging

Technical data

Order number	**P-886**
Function principle	air or hydraulically operated piston pump
Outlets	1
Metering quantity	30 cm³/stroke, *1.8 in³/stroke*
Lubricant	mineral or synthetic oils, compliant with plastic, NBR-elastomeres, cooper and copper alloys
Operating temperature	10 to +40 °C *50 to +104 °F*
Operating pressure	max. 35 bar, *max. 508 psi*
Actuation pressure	4–10 bar, *58–145 psi*
Reservoir	external
Connection outlet	M14×1,5 (for tube ∅8 mm)
Connection inlet	M16×1,5 (for tube ∅10 mm)
Air inlet connection	G1/4 (for tube ∅8 mm)
Return valve connection outlet	M10×1 (for tube ∅6 mm)
Protection class	IP 54
Dimensions	108 × 219 × 108 mm *4.25 × 8.62 × 4.25 in*
Mounting position	any

NOTE
Further technical information, technical drawings, accessories, spare parts or product function descriptions available on SKF.com/lubrication.

Pump unit

82676

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 outlet. (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 oil metering devices of category 4 (→ page 93)

Applications

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

Technical data

Order number	**82676**
Function principle	air operated piston pump (single stroke)
Outlets	1
Metering quantity	39,3 cm³/stroke, *2.4 in³/stroke*
Working frequency	
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	external
Connection outlet	1/4 NPTF (F)
Transmission ratio	20:1
Air valve	required, 4-way
Dimensions	470 × 146 × 533 mm *18.5 × 5.75 × 21 in*
Mounting position	vertical

NOTE
Further technical information, technical drawings, accessories, spare parts or product function descriptions available on SKF.com/lubrication.

Pump unit

85430/31/32/33

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 oil metering devices of category 2, 3 and 4; 85432, 85433 are only suitable for use with category 4 (→ page 93)

Applications

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

Technical data

Function principle	air operated piston pump (single stroke)
Outlets	1
Metering quantity	39,3 cm³/ stroke, 2.4 in³/ stroke
Working frequency	
Lubricant	oil, synthetic oils oils on request
Operating temperature	–23 to +65 °C; *–10 to +150 °F*
Operating pressure	max. 70 bar, *1 000 psi*
Reservoir	85430, 85431 only: 2 l, *0.5 gal*
Material (reservoir)	acrylic
Connection outlet	1/4 NPTF (F)
Voltage	120 V AC; 240 V AC
Transmission ratio	20:1
Dimensions	627 × 166 × 460 mm *24.7 × 5.52 × 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 V AC
Operating temperature	–23 to +65 °C *–10 to +150 °F*

NOTE
Further technical information, technical drawings, accessories, spare parts or product function descriptions available on SKF.com/lubrication.

Pump unit

85430/31/32/33

Order information

Order number	Voltage	Reservoir	
	VAC	l	*gal*
85430	120	2,0	*0.5*
85431	240	2,0	*0.5*
85432	120	–	–
85433	240	–	–

Pump unit

82570

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 air-powered 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 oil metering devices of category 2, 3 and 4 (→ page 93)

Applications

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

Technical data

Order number	**82570**
Function principle	air operated piston pump (single stroke)
Outlets	1
Metering quantity	39,3 cm³/stroke, *2.4 in³/stroke*
Working frequency	
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	2,0 l, *0.5 gal*
Reservoir material	acrylic
Connection outlet	1/4 NPTF (F)
Transmission ratio	20:1
Air valve	required, 4-way
Dimensions	451 × 146 × 464 mm *17.75 × 5.75 × 18.25 in*
Mounting position	vertical

NOTE
Further technical information, technical drawings, accessories, spare parts or product function descriptions available on SKF.com/lubrication.

Pump unit

1826

Description

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 oil metering devices of category 2, 3 and 4 (→ page 93)

Applications

- Steel mills, glass industry
- Plastic processing
- Food and beverage
- Material handling

Technical data

Order number	**1826**
Function principle	air operated reciprocating piston pump
Outlets	1
Metering quantity	7 571 cm³/min, *462 in³/min*
Lubricant	oil
Pump tube 84991	
Volume/cycle (up and down)	100 cm³; *6.10 in³*
Max. pump cycles/minute	70 permitted
Operating temperature	-34 to +93 °C *-29 to +199 °F*
Operating pressure	max. 70 bar; *1 000 psi*
Air inlet	3/8 NPTF (F)
Connection outlet	3/4 NPTF (F)
Transmission ratio	24:1
Dimensions	
Total length	1 464 mm; *57.64 in*
Immersion length	864 mm; *34.01 in*
Mounting position	vertical
Controller	
Voltage	110 V AC, 50 Hz; 120 V AC, 60 Hz

NOTE

Further technical information, technical drawings, accessories, spare parts or product function descriptions available on SKF.com/lubrication.

Pump unit

ECP

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 V DC 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.
Its 2 outlets can feed two lines simultaneously.

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 efficient use of lubricants
- Suitable for use with oil and fluid grease metering devices of category 1, 2 and 3 (→ page 93)

Applications

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

Technical data

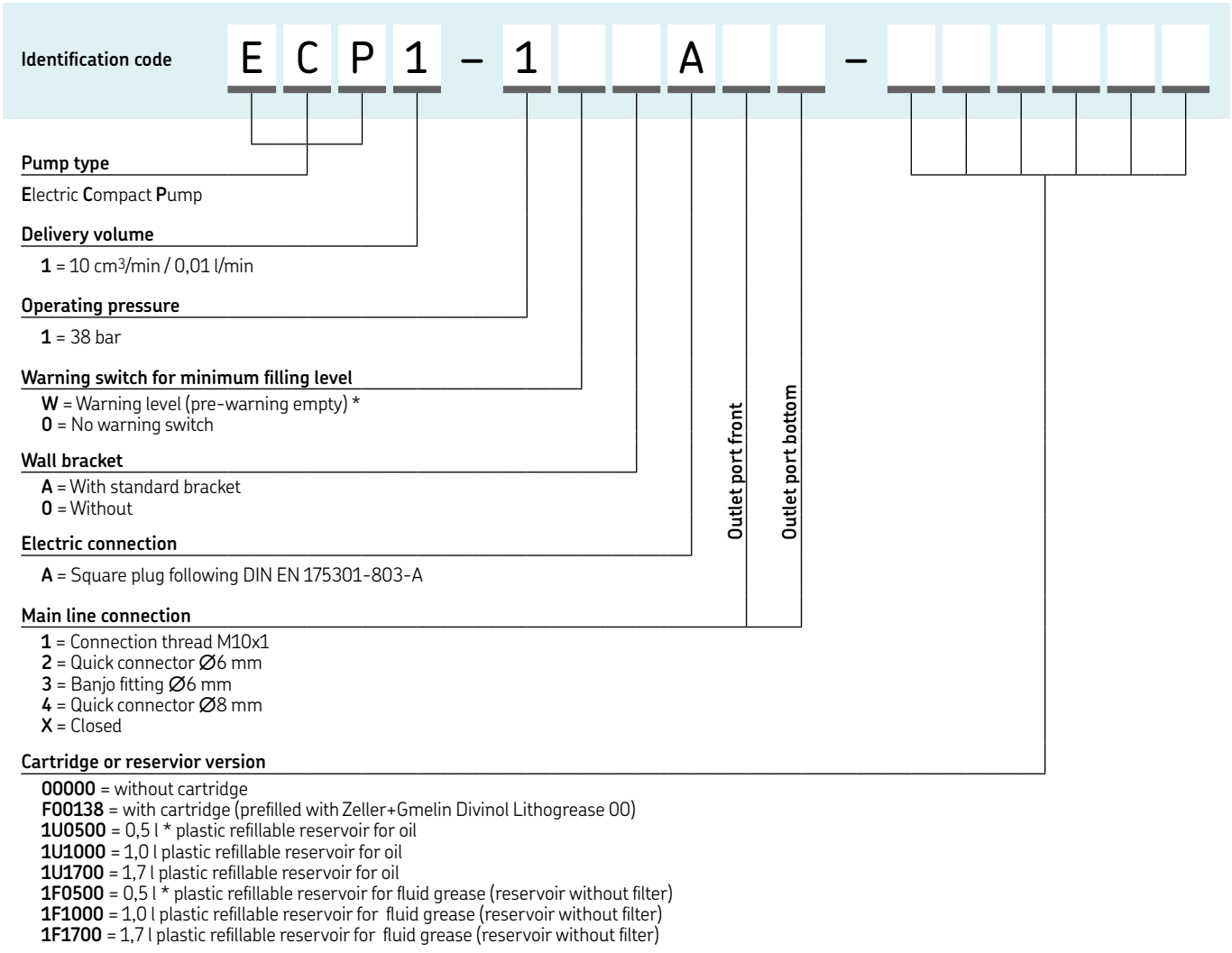
Function principle	electrically operated piston pump
Outlets	2
Metering quantity	fluid grease: 12 cm³/min; *0.73 in³/min* oil: 0,012 l/min; *0.0027 gal/min*
Lubricant	oil: 20 to 1 500 mm²/s fluid grease: NLGI 00, 000
Operating temperature	+10 to +50 °C; *+50 to +122 °F*
Operating pressure	max. 38 bar; *550 psi*
Reservoir	prefilled cartridge 380 ml; *12.8 l. oz.* or fixed reservoir 0,5; 1,0 or 1,7 l; *1.06; 2.1; 3.6 pt*
Outlet connection	M10×1 thread or SKF Quick Connector 6–8 mm
Operating voltage	24 V DC
Dimensions	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* with fixed reservoir: min. 240×239×210 mm *min 9.45×9.40×8.27 in* max. 240×439×210 mm *min 9.45×17.28×8.27 in*
Mounting position	upright

NOTE
Further technical information, technical drawings, accessories, spare parts or product function descriptions available on SKF.com/lubrication:
16966 EN, 951-170-232

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

Pump unit

ECP



* **NOTE**: The 0,5 liter version can not be ordered with warning switch and/or oil filling filter.

Accessories

Pre-filled standard cartridge, 380 ml

Lubricant	Package	Order code
Zeller Gmelin Divinol Lithograese 00	10 pcs	**LF001/MR380**

Main line connectors

Connection thread M10x1	**898-110-120**
Quick connector Ø6 mm	**406-004-VS**
Banjo fitting Ø6 mm	**506-140-VS**
Quick connector Ø8 mm	**408-0074-VS**
Closing plug	**466-431-001**

Electrical connectors

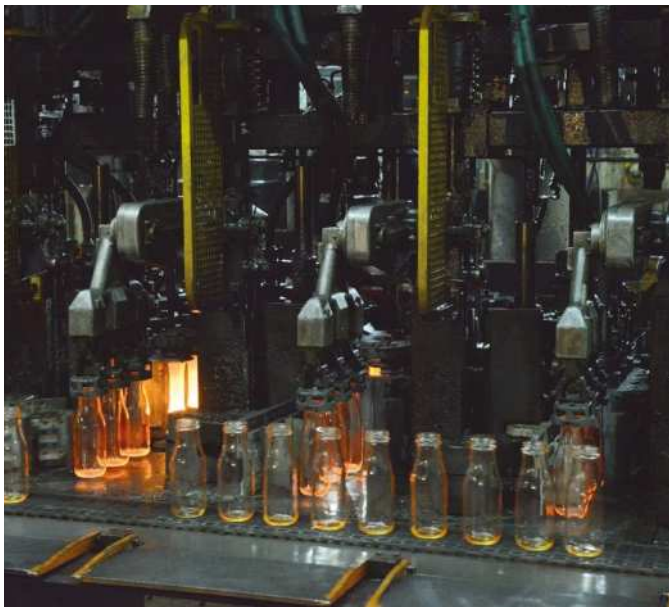
Rectangular connectors acc. to DIN EN175301-803-A	**179-990-033 / -147**
Circular plug M12×1, straight acc. to DIN EN61076-2-101	**179-990-371 / -381**
Circular plug M12×1, angled acc. to DIN EN61076-2-101	**179-990-372 / -382**
Wall bracket	**995-901-065**
Spare parts kit of gasket, adhesive	**541-34901-5**
Closure screw (ECP cartridge port)	**541-34901-4**

Pressure-relief valves 60 bar for use in main line

Pressure-relief valve Ø6 mm	**451-006-060**
Pressure-relief valve Ø8 mm	**451-008-060**

Pump unit

P 653S (oil)



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
- Suitable for use with oil metering devices of category 4 (→ page 93)

Applications

- Automation, machine tools
- Glass manufacturing plants
- Woodworking facilities
- Oil and Gas plants
- Steel plants

NOTE
Further technical information, technical drawings, accessories, spare parts or product function descriptions available on SKF.com/lubrication:
16072 EN

Technical data

Function principle	electrically operated piston pump
Outlets	1
Metering quantity	24,6 cm³/min, *1.5 in³/min*
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 82 bar, *1 200 psi*
Reservoir	4 l, 1 gal; *8 l, 2 gal*
Material (reservoir)	thermoplastic
Connection outlet	G 1/4
Incoming voltage	120/230 V AC [1]
Current	max. 1,7 A
Frequency	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	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	∅ 7 mm, *0.3 in*
Number connected	3
Protection	1P 6K9K

[1] 24 V DC version available on request.

Pump unit

P 653S (oil)

Order information

Order number	120/230 V AC 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	•	4	1	•	•	–	–
80128	•	8	2	•	•	–	–

Pump unit

KFB

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 V DC and 24 V DC 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
- Suitable for use with fluid grease metering devices of category 1, 2 and 3 (→ page 93)

Applications

- Commercial vehicles
- Industrial applications

Technical data

Function principle	electrically operated gear pump
Outlets	1
Metering quantity[1)]	50 cm³/min, *3.05 in³/min*
Lubricant	fluid grease of NLGI 000 or 00
Operating temperature	–25 to +75 °C; *–13 to +167 °F*
Operating pressure	max. 38 bar, *550 psi*
Reservoir	KFB(S)1-W: 1 l, *0.26 gal* KFB(S)1: 1,4 l, *0.37 gal*
Material (reservoir)	translucent plastic
Connection outlet	∅ 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	
Voltage	12, 24 V DC
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)*

NOTE
Further technical information, technical drawings, accessories, spare parts or product function descriptions available on SKF.com/lubrication:
1-1206-EN, 951-170-009 EN

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

Pump unit

KFB

Order information

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	Operating voltage	Design
KFB1+924	1)	•	–	–	•	–	24 V DC	Basic version
KFB1-W+924	1)	•	–	•	–	•	24 V DC	Basic version
KFBS1+924	1)	•	•	–	–	•	24 V DC	Basic version
KFBS1-W+924	1)	•	•	•	–	•	24 V DC	Basic version
KFB1-4-S1+924	1)	•	–	–	•	–	24 V DC	VN metering device, 4-outlets
KFBS1-4-S1+924	1)	•	•	–	–	•	24 V DC	VN metering device, 4-outlets
KFB1-6-S1+924	1)	•	–	–	•	–	24 V DC	VN metering device, 6-outlets
KFBS1-6-S1+924	1)	•	•	–	–	•	24 V DC	VN metering device, 6-outlets
KFB1-W-4-S1+924	1)	•	–	•	–	•	24 V DC	VN metering device, 4-outlets
KFBS1-W-4-S1+924	1)	•	•	•	–	•	24 V DC	VN metering device, 4-outlets
KFB1-W-6-S1+924	1)	•	–	•	–	•	24 V DC	VN metering device, 6-outlets
KFBS1-W-6-S1+924	1)	•	•	•	–	•	24 V DC	VN metering device, 6-outlets
KFB1+912	1)	•	–	–	•	–	12 V DC	Basic version
KFB1-W+912	1)	•	–	•	–	•	12 V DC	Basic version
KFBS1+912	1)	•	•	–	–	•	12 V DC	Basic version
KFBS1-W+912	1)	•	•	•	–	•	12 V DC	Basic version
KFB1-4-S1+912	1)	•	–	–	•	–	12 V DC	VN metering device, 4-outlets
KFBS1-4-S1+912	1)	•	•	–	–	•	12 V DC	VN metering device, 4-outlets
KFB1-6-S1+912	1)	•	–	–	•	–	12 V DC	VN metering device, 6-outlets
KFBS1-6-S1+912	1)	•	•	–	–	•	12 V DC	VN metering device, 6-outlets
KFB1-W-4-S1+912	1)	•	–	•	–	•	12 V DC	VN metering device, 4-outlets
KFBS1-W-4-S1+912	1)	•	•	•	–	•	12 V DC	VN metering device, 4-outlets
KFB1-W-6-S1+912	1)	•	–	•	–	•	12 V DC	VN metering device, 6-outlets
KFBS1-W-6-S1+912	1)	•	•	•	–	•	12 V DC	VN metering device, 6-outlets

1) All units for vehicle applications have type approval pursuant to ECE-R 10.

Additional technical data for 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	10 to 36 V DC
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 ∅ 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

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.

Pump unit

KFB-M

Description

Designed for industrial applications, KFB-M single-line pump units include a pressure-relief valve and a pressure-limiting valve supply fluid grease NLGI 000 and 00. The pumps are designed for supply voltages of 24 V DC 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
- Suitable for use with fluid grease metering devices of category 1, 2 and 3 (→ page 93)

Applications

- Automation
- Automotive
- Machine tools

NOTE
Further technical information, technical drawings, accessories, spare parts or product function descriptions available on SKF.com/lubrication:
1-1206-EN; 951-170-009

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

Technical data

Function principle	electrically operated gear pump
Outlets	1
Metering quantity [1]	50 cm³/min, *3.05 in³/min*
Lubricant	fluid grease of NLGI grade 000 or 00
Operating temperature	0 to +60 °C; *+32 to +140 °F*
Operating pressure	max. 38 bar, *550 psi*
Reservoir	KFB1-M: 1,4 l, *0.37 gal* KFB(S)1-M(-W): 1 l, *0.26 gal*
Material (reservoir)	translucent plastic
Connection outlet	∅ 8 × 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*
KFB1-M-W-S1	216 × 150 × 270 mm *8.5 × 5.9 × 10.6 in*
Mounting position	vertical
DC motor	
Voltage	24 V DC [2]
Current	1,7 A
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]	≤0.5 A
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 min
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

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

Pump unit

KFB-M

Order information

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
KFB1-M+924	–	•	–	–	•	–
KFBS1-M+924	–	•	•	–	•	•
KFB1-M-W+924	–	•	–	•	•	•
KFBS1-M-W+924	–	•	•	•	•	•

Pump unit

KFU

Description

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
- Suitable for use with fluid grease metering devices of category 1, 2 and 3 (→ page 93)

Applications

- Agriculture
- Construction machinery
- Trucks, trailers and buses

Technical data

Function principle	electrically operated gear pump
Outlets	1
Metering quantity 1)	140 cm³/min, *8.5 in³/min*
Lubricant	fluid grease, NLGI 000, 00
Operating temperature	–25 to +75 °C; *–13 to +167 °F*
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 ∅ 10 × 1.5 but also steel tubing ∅ 10 × 0.7 hose SLH10-...
Secondary connection	Mainly plastic tubing ∅ 4 × 0.85.; in case of large movement between lubrication point and chassis: hose 734 ...
Operating voltage	12 or 24 V DC
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)*

NOTE
Further technical information, technical drawings, accessories, spare parts or product function descriptions available on SKF.com/lubrication:
1-9420-EN, 951-170-006_EN

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

Pump unit

KFU

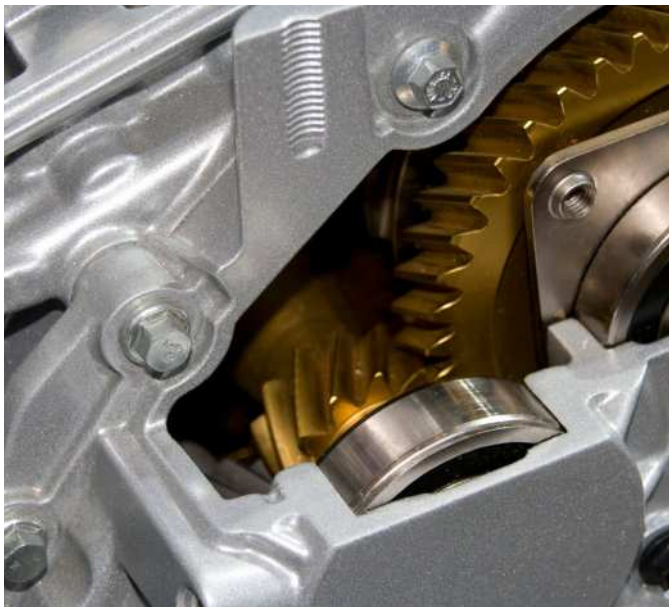
Order information

Order number	Reservoir		Operating voltage	
	l	*gal*	V DC	Amp
KFU2-40+912	2,7	*0.71*	12	7.5
KFU2-40+924	2,7	*0.71*	24	7.5
KFU6-20+912 1)	6	*1.6*	12	7.5
KFU6-20+924 1)	6	*1.6*	24	7.5
KFUS2-64+912	2,7	*0.71*	12	16
KFUS2-64+924	2,7	*0.71*	24	8

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

Pump unit

MKU



Description

MKU gear pump units are used in single-line oil lubrication 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 push-button 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
- Suitable for use with oil metering devices of category 1 (→ page 93)

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 cm^3/min *6; 12; 31 in^3/min*
Lubricant	mineral oil or synthetic oil, 20 to 1 500 mm^2/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
Operating voltage	24 V DC; 115 V AC; 230 V AC
Protection class	IP 54
Dimensions:	
pump unit with	
2 l; *0.5 gal* plastic reservoir	204 × 130 × 298 mm *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*
Mounting position	vertical

NOTE
Further technical information, technical drawings, accessories, spare parts or product function descriptions available on SKF.com/lubrication:
1-1203-EN, 951-170-005 EN

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

Pump unit

MKU

Identification code M K U _ – 1 _ _ _ _ _ 0 0 0 + _ _ _

Product series MKx

Lubricant

U = Oil

Code number for delivery rate

Selected code number for lubricant reservoir

Selected code letter for control

Selected code letter for monitoring

Selected code number for pressure gauge

Selected code number for electrical connection

Delivery rate

1 = 0.1 l/min	•	•	•	–
2 = 0.2 l/min	–	•	•	•
5 = 0.5 l/min	–	•	•	•

Lubricant reservoir, control

Lubricant reservoir	**1** 2 l, plastic	**2** 3 l, plastic	**3** 3 l, metal	**4** 6 l, plastic
Control				
A = No control, with terminal strip	•	•	•	•
B = No control, with terminal strip and push button	•	•	•	•
C = IG38-30-I[1]	–	•	•	•
D = IZ38-30-I[1]	–	•	•	•
E = IGZ36-20-S6-I[1][2]	–	•	•	•

[1] If control C, D or E is selected, monitoring C must be selected.
[2] If control E is selected, electrical connection 1 must be selected.
For description of control units, see page 149.

Voltage key

	Voltage	Frequency	Control
924 [3]	24 V DC	–	A, B, E
428	230 V AC	50/60 Hz	A, B, C, D, E
429	115 V AC		

[3] Only possible with delivery rates 0.1 und 0.2 l/min

Electrical connection

Control	**A, B**	**A,B**				**C, D**	**E**
Monitoring	X	A	B	C	D	E	C	C
Electrical connection								
0 = 2 cable fittings	–	•	•	•	•	•	•	–
1 = 1 cable fitting; 1 retangular connector	–	•	•	•	•	•	•	•
2 = 1 circular connector M12×1; 1 rectangular connector [4]	–	•	•	•	•	•	–	–
3 = 1 sealing plug; 1 cable fitting	•	–	–	–	–	–	–	–
4 = 1 sealing plug; 1 rectangular connector	•	–	–	–	–	–	–	–

[4] Only for design without control.

Pressure gauge

0 = without pressure gauge
1 = with pressure gauge

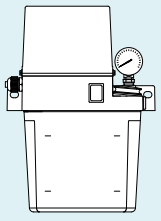
Monitoring

	X	**A**	**B**	**C**	**D**	**E**
Fill-level switch						
Without fill-level switch	•	•	–	–	–	–
NC contact (detection of wire breakage)	–	–	•	•	–	–
NO contact (no detection of wire breakage)	–	–	–	–	•	•
Pressure switch 20 bar						
Without pressure switch	•	–	•	–	•	–
NO contact	–	•	–	•	–	•

Order example

MKU1-11AC10000+924

- Gear pump unit for oil
- Delivery rate 0.1 l/min
- 1st generation
- 2 l plastic reservoir
- No control, with terminal strip
- NC fill-level switch,
- NO pressure switch
- With pressure gauge
- 2 cable fittings
- Voltage 24 V DC



Pump unit

MKF

Description

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
- Suitable for use with fluid grease metering devices of category 1 and 2 (→ page 93)

Applications

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

Technical data

Function principle	electrically operated gear pump
Metering quantity	100; 200; 500 cm^3/min *6; 12; 31 in^3/min*
Lubricant	fluid grease NLGI 000 or 00, compatible with plastics, NBR elastomers, copper and copper alloys
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	G1/4
Operating voltage	24 V DC; 115 V AC; 230 V AC
Protection class	IP 54
Dimensions: pump unit with	
2 l; *0.5 gal* plastic reservoir	204 × 130 × 298 mm *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*
Mounting position	vertical

NOTE

Further technical information, technical drawings, accessories, spare parts or product function descriptions available on SKF.com/lubrication:
1-1203-EN, 951-170-005 EN

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

Pump unit

MKF

Identification code M K F _ – 1 _ _ _ _ _ 0 0 0 + _ _ _

Product series MK

Lubricant

F = Fluid grease

Code number for delivery rate

Selected code number for lubricant reservoir

Selected code letter for control

Selected code letter for monitoring

Selected code number for pressure gauge

Selected code number for electrical connection

Delivery rate

1 = 0.1 l/min	•	•	–
2 = 0.2 l/min	–	•	•

Lubricant reservoir, control

Lubricant reservoir	**1** 2 l, plastic	**2** 3 l, plastic	**4** 6 l, plastic
Control			
A = No control, with terminal strip	•	•	•
B = No control, with terminal strip and push button	•	•	•
C = IG38-30-I[1]	–	•	•
D = IZ38-30-I[1]	–	•	•
E = IGZ36-20-S6-I[1][2]	–	•	•

[1] If control C, D or E is selected, monitoring C must be selected.
[2] If control E is selected, electrical connection 1 must be selected.
For description of control units, see page 149.

Voltage key

	Voltage	Frequency	Control
924	24 V DC	–	A, B, E
428	230 V AC	50/60 Hz	A, B, C, D, E
429	115 V AC		

Electrical connection

Control	**A, B**	**A,B**		**C, D**	**E**
Monitoring	X	A	B	C	C	C
Electrical connection						
0 = 2 cable fittings	–	•	•	•	•	–
1 = 1 cable fitting; 1 retangular connector	–	•	•	•	•	•
2 = 1 circular connector M12×1; 1 rectangular connector [3]	–	•	•	•	–	–
3 = 1 sealing plug; 1 cable fitting	•	–	–	–	–	–
4 = 1 sealing plug; 1 rectangular connector	•	–	–	–	–	–

[3] Only for design without control.

Pressure gauge

0 = without pressure gauge
1 = with pressure gauge

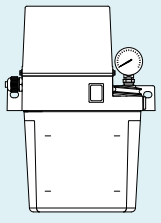
Monitoring

	X	**A**	**B**	**C**
Fill-level switch				
Without fill-level switch	•	•	–	–
NC contact (detection of wire breakage)	–	–	•	•
NO contact (no detection of wire breakage)	–	–	–	–
Pressure switch 20 bar				
Without pressure switch	•	–	•	–
NO contact	–	•	–	•

Order example

MKF1-11AC10000+924

- Gear pump unit for fluid grease
- Delivery rate 0.1 l/min
- 1st generation
- 2 l plastic reservoir
- No control, with terminal strip
- NC fill-level switch, NO pressure switch
- With pressure gauge
- 2 cable fittings
- Voltage 24 V DC



Pump unit

MFE

Description

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 oil and fluid grease metering devices of category 1 and 2 (→ page 93)

Applications

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

Technical data

Function principle	electrically operated gear pump
Outlets	1
Metering quantity	250 to 500 cm^3/min, *15 to 31 in^3/min*
Lubricant	oil 5 to 2 000 mm^2/s and fluid grease NLGI 00, 000
Operating temperature	–10 to +60 °C; *+14 to +140 °F*
Back pressure	max. 17,5; 28 bar *max. 255, 405 psi*
Reservoir	3; 6; 15 l, *0.8, 1.6, 4 gal*
Material (reservoir)	plastic, metal
Connection outlet	M14×1.5
Operating voltage	230/400 V AC
Protection class	IP 54
Dimensions:	
3 l; *0.8 gal* plastic reservoir	303 × 130 × 245 mm; *11.9 × 5.1 × 9.6 in*
3 l; *0.8 gal* metal reservoir	332 × 178 × 312 mm; *13 × 7 × 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 × 167 × 330 mm; *14.6 × 6.6 × 12.9 in*
15 l; *4 gal* metal reservoir	453 × 200 × 436 mm; *17.8 × 7.8 × 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 voltage	max. 230 V AC, 230 V DC
Switching current	max. 0,8 A; 1,0 A
Switching capacity	max. 60 VA, 40 W [1]
Type of enclosure	IP 65

[1] Take appropriate measures to protect contacts when switching inductive loads

NOTE
Further technical information, technical drawings, accessories, spare parts or product function descriptions available on SKF.com/lubrication:
1-1202-EN, 951-170-002 EN

Pump unit

MFE

MFE pump units for oil

Order number	Reservoir Capacity		Material	Design [1]
	l	*gal*		
MFE5-K3-2+299	3	*0.8*	Plastic	CE basic version without level monitoring
MFE5-KW3-2+299	3	*0.8*	Plastic	CE basic version with min. fill level switch
MFE5-KW3-2-S4+299	3	*0.8*	Plastic	CE basic version with min. fill level switch incl. pre-warning
MFE5-KW3-S37+1GD	3	*0.8*	Plastic	UL/CSA version with fill level monitoring incl. min. fill level pre-warning
MFE5-KW3-S35+1FW	3	*0.8*	Plastic	CCC version with fill level monitoring incl. min. fill level pre-warning
MFE5-KW3-S24+MPG	3	*0.8*	Plastic	CE version with 6 pin Harting plug with fill level monitoring incl. min. fill level pre-warning
MFE5-K6+299	6	*1.6*	Plastic	CE basic version without level monitoring
MFE5-KW6+299	6	*1.6*	Plastic	CE basic version with min. fill level switch
MFE5-KW6-S1+299	6	*1.6*	Plastic	CE basic version with min. fill level switch incl. pre-warning
MFE5-KW6-S42+1GD	6	*1.6*	Plastic	UL/CSA version with fill level monitoring incl. min. fill level pre-warning
MFE5-KW6-S102+1FW	6	*1.6*	Plastic	CCC version with fill level monitoring incl. min. fill level pre-warning
MFE5-KW6-S33+MPG	6	*1.6*	Plastic	CE version with 6 pin Harting plug with fill level monitoring incl. min. fill level pre-warning
MFE5-B3-2+299	3	*0.8*	Metal	CE basic version without level monitoring
MFE5-BW3-2+299	3	*0.8*	Metal	CE basic version with min. fill level switch
MFE5-BW3-2-S28+299	3	*0.8*	Metal	CE basic version with min. fill level switch incl. pre-warning
MFE5-BW3-2-S34+1GD	3	*0.8*	Metal	UL/CSA version with fill level monitoring incl. min. fill level pre-warning
MFE5-BW3-S41+MPG	3	*0.8*	Metal	CE version with 6 pin Harting plug with fill level monitoring incl. min. fill level pre-warning
MFE5-B7+299	6	*1.6*	Metal	CE basic version without level monitoring
MFE5-BW7+299	6	*1.6*	Metal	CE basic version with min. fill level switch
MFE5-BW7-S22+1GD	6	*1.6*	Metal	UL/CSA version with fill level monitoring incl. min. fill level pre-warning
MFE5-BW7-S97+1FW	6	*1.6*	Metal	CCC version with fill level monitoring incl. min. fill level pre-warning
MFE5-BW7-S107+MPG	6	*1.6*	Metal	CE version with 6 pin Harting plug with fill level monitoring incl. min. fill level pre-warning
MFE5-BW7-S222+MPG	6	*1.6*	Metal	CE version incl. gauge and vent filter, with 6 pin Harting plug with fill level monitoring incl. min. fill level pre-warning
MFE5-BW16+299	15	*4*	Metal	CE basic version with min. fill level switch incl. pre-warning
MFE5-BW16-S145+1GD	15	*4*	Metal	UL/CSA version with fill level monitoring incl. min. fill level pre-warning
MFE5-BW16-S96+MPG	15	*4*	Metal	CE version with 6 pin Harting plug with fill level monitoring incl. min. fill level pre-warning
MFE5-BW16-S222+MPG	15	*4*	Metal	CE version incl. gauge and vent filter, with 6 pin Harting plug with fill level monitoring incl. min. fill level pre-warning
MFE5-BW30+299	30	*8*	Metal	CE basic version with min. fill level switch
MFE5-BW30-S30+29E	30	*8*	Metal	CE basic version with min. fill level switch incl. pre-warning
MFE5-BW30-S35+MPG	30	*8*	Metal	CE version with 6 pin Harting plug with fill level monitoring incl. min. fill level pre-warning
MFE5-BW30-S222+MPG	30	*8*	Metal	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 request.

MFE pump units for fluid grease

Order number	Reservoir Capacity		Material	Design [1]
	l	*gal*		
MFE2-K3-2+299	3	*0.8*	Plastic	CE basic version without level monitoring
MFE2-K3F-2+299	3	*0.8*	Plastic	CE basic version with min. fill level switch
MFE2-KW3F-S13+1GD	3	*0.8*	Plastic	UL/CSA version with fill level monitoring incl. min. fill level pre-warning
MFE2-KW3F-S9+MPG	3	*0.8*	Plastic	CE version with 6 pin Harting plug with fill level monitoring incl. min. fill level pre-warning
MFE2-K6F+299	6	*1.6*	Plastic	CE basic version without level monitoring
MFE2-K6F-S2+299	6	*1.6*	Plastic	CE basic version with min. fill level switch
MFE2-KW6F-S1+299	6	*1.6*	Plastic	CE basic version with min. fill level switch incl. pre-warning
MFE2-KW6F-S37+1GD	6	*1.6*	Plastic	UL/CSA version with fill level monitoring incl. min. fill level pre-warning
MFE2-KW6F-S41+1FW	6	*1.6*	Plastic	CCC version with fill level monitoring incl. min. fill level pre-warning
MFE2-KW6F-S20+MPG	6	*1.6*	Plastic	CE version with 6 pin Harting plug with fill level monitoring incl. min. fill level pre-warning

[1] Further designs are available on request.


VENT HOLE
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Overview of grease pumps and pump units

Manually operated pump units

Product	Lubricant NLGI			Metering quantity max.		Operating pressure max. [1]		Reservoir		Metering device category [2]				Piston	Page
	0	1	2	cm³/stroke	*in³/stroke*	bar	*psi*	kg	*lb*	4	5	6	7		
83817	•	•	•	1,6	*0.09*	240	*3500*	0,5	*1*	–	•	•	•	multiple stroke	54
1810	•	•	•	2,6	*0.16*	240	*3500*	2,3	*5*	–	•	•	•	multiple stroke	55

1) Select the correct fittings, adjust the operating pressure to fit the pressure range of the selected metering devices.
2) Single-line metering devices are classified into categories according to their vent pressure in ascending order. Choosing the correct category guarantees the proper functioning of the lubrication system.

Air–operated pump units

Product	Lubricant NLGI			Metering quantity max.		Operating pressure max. [1]		Reservoir		Metering device category [2]				Piston	Page
	0	1	2	cm³/stroke	*in³/stroke*	bar	*psi*	kg	*lib*	4	5	6	7		
40PGA	•	•	•	40	*2.44*	10	*145*	1,7; 2; 4; 10	*3.7; 4.4; 8.8; 22*	–	•	•	•	single stroke	56
82886, 83886	•	•	•	7,4	*0.45*	240	*3 500*	0,5; 2,0	*1; 4.4*	–	•	•	•	single stroke	58
85442 [3]	•	•	•	7,4	*0.45*	240	*3 500*	0,5	*1*	–	•	•	•	single stroke	59
85444/45	•	•	•	7,4	*0.45*	240	*3 500*	1,8	*4*	–	•	•	•	single stroke	60
85434/35/36	•	•	•	18,7; 35,2	*1.14; 2.15*	240	*3 500*	2,0	*4.5*	–	•	•	•	single stroke	61
82653/55	•	•	•	22,9	*1.39*	240	*3 500*	2,0	*4.5*	–	•	•	•	single stroke	62
83800/34	•	•	•	35,2	*2.15*	240	*3 500*	2,0	*4.5*	–	•	•	•	single stroke	62
83167	•	•	•	197	*12*	240	*3 500*	5,0	*11*	–	•	•	•	reciprocating	63
83599	•	•	•	197	*12*	240	*3 500*	5,0	*11*	–	•	•	•	reciprocating	64

1) Select the correct fittings, adjust the operating pressure to fit the pressure range of the selected metering devices.
2) Single-line metering devices are classified into categories according to their vent pressure in ascending order. Choosing the correct category guarantees the proper functioning of the lubrication system.
2) Controller included or optional

Hydraulically operated pump units

Product	Lubricant NLGI			Metering quantity max.		Operating pressure max. [1]		Reservoir		Metering device category [2]				Piston	Page
	0	1	2	cm³/stroke	*in³/stroke*	bar	*psi*	kg	*lib*	4	5	6	7		
BPH	•	•	•	30	*1.83*	120	*1 740*	–	–	–	•	•	•	reciprocating	67
HG 1000	•	•	–	1 000	*61.02*	150	*2 176*	1,0	*2.2*	•	•	–	–	single stroke	65
HG 2000	•	•	–	2 000	*122*	150	*2 176*	2,0	*4.4*	•	•	–	–	single stroke	65
84944, 84961	•	•	•	180	*11*	206	*3 000*	30	*60*	–	•	•	•	reciprocating	68
84960, 84962	•	•	•	180	*11*	206	*3 000*	–	–	–	•	•	•	reciprocating	69
FlowMaster	•	•	•	737	*45*	206	*3 000*	16–180	*35–400*	–	•	•	•	reciprocating	70

1) Select the correct fittings, adjust the operating pressure to fit the pressure range of the selected metering devices.
2) Single-line metering devices are classified into categories according to their vent pressure in ascending order. Choosing the correct category guarantees the proper functioning of the lubrication system.

Air–operated barrel pumps

Product	Lubricant NLGI			Metering quantity max.		Operating pressure max. [1]		Reservoir		Metering device category [2]				Piston	Page
	0	1	2	cm³/min	*in³/min*	bar	*psi*	kg	*lb*	4	5	6	7		
MPB	•	•	•	305	*18.61*	300	*4 350*	18; 50; 180	*40; 120; 400*	–	•	•	•	reciprocating	72
84050/ 85460	•	•	•	492	*30*	240	*3 500*	27	*60*	–	•	•	•	reciprocating	74
282288	•	•	•	492	*30*	240	*3 500*	55	*120*	–	•	•	•	reciprocating	75
FlowMaster	•	•	•	737	*45*	206	*3 000*	16; 27; 41; 54; 180	*35; 60; 90; 120; 400*	–	•	•	•	reciprocating	74

1) Select the correct fittings, adjust the operating pressure to fit the pressure range of the selected metering devices.
2) Single-line metering devices are classified into categories according to their vent pressure in ascending order. Choosing the correct category guarantees the proper functioning of the lubrication system.


LINCOLN


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Multitube


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Overview of grease pumps and pump units

Electrically operated pump units

Product		Lubricant NLGI			Metering quantity max.		Operating pressure max.		Reservoir		Metering device category [1]				Voltage	Page
		0	1	2	cm³/min	*in³/min*	bar	*psi*	kg	*lb*	4	5	6	7		
P603S	[2] [3]	•	•	•	12	*0.7*	300	*4 350*	4; 8; 10; 15; 20	*8.8; 18; 22; 33; 44*	–	•	•	•	12/24 V DC	76
Minilube	[2]	•	•	–	13	*0.8*	250	*3 625*	2	*4.4*	–	•	•	•	12/24 V DC	78
KFG		•	•	•	15	*0.9*	300	*4 350*	2; 4; 6; 8; 10; 12; 15; 20	*4.4; 8.8; 13; 18; 22; 26; 33; 44*	–	•	•	•	12/24 V DC; 90-264 V AC	80
Multilube	[2]	•	•	–	16	*0.976*	200	*2 900*	4; 10	*8.8; 22*	–	•	•	•	24 V DC; 115/230 V AC	82
P653S	[2] [3]	•	•	•	24,6	*1.5*	317	*4 600*	4; 8; 15; 20	*8.8; 18; 22; 44*	–	•	•	•	24 V DC; 120/230 V AC	84

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

Electrically operated barrel pumps

Product		Lubricant NLGI			Metering quantity max.		Operating pressure max.		Reservoir		Metering device category [1]				Voltage	Page
		0	1	2	cm³/min	*in³/min*	bar	*psi*	kg	*lb*	4	5	6	7		
E-PUMP		•	•	•	55	*3.35*	240	*3 480*	18, 50, 180	*40; 120; 400*	–	•	•	•	20–32 V DC	86
FK	[2]	•	•	•	74	*4.5*	400	*5 800*	15; 30; 60	*22; 66; 132*	–	•	•	•	3 phase drive	88
FlowMaster		•	•	•	103	*6.3*	345	*5 000*	16; 25; 28; 35; 40; 55; 180	*35; 55; 60; 78; 90; 120; 400*	–	•	•	•	12/24 V DC; 120-460 V AC	90

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

Pump unit

83817

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
- Suitable for use with grease metering devices of category 5, 6 and 7 (→ page 129)

Applications

- Construction machinery
- Agriculture

Technical data

Order number	**83817**
Function principle	manually operated piston pump
Outlets	1
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*
Material	steel, brass, copper, polyurethane, nitrile
Filling method	0,4 kg, *14.5 oz*, grease cartridge/bulk fill
Connection outlet	1/8 NPTF (F)
Dimensions	387 × 127 × 141 mm *15.25 × 5 × 5.625 in*
Mounting position	vertical or horizontal

NOTE
Further technical information, technical drawings, accessories, spare parts or product function descriptions available on SKF.com/lubrication.

Pump unit

1810

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
- Suitable for use with grease metering devices of category 5, 6 and 7 (→ page 129)

Applications

- Construction machinery
- Agriculture

Technical data

Order number	**1810**
Function principle	manually operated piston pump
Outlets	1
Metering quantity	2,6 cm³/stroke, *0.16 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	2,3 kg, *5 lb*
Material	acrylic, steel, brass, copper, polyurethane, nitrile
Connection outlet	1/4 NPTF (F)
Dimensions	413 × 181 × 197 mm *16.25 × 7.125 × 7.75 in*
Mounting position	vertical or horizontal

NOTE
Further technical information, technical drawings, accessories, spare parts or product function descriptions available on SKF.com/lubrication.

Pump unit

40PGA

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
- Suitable for use with grease metering devices of category 5, 6 and 7 (→ page 129)

Applications

- Buses and trucks
- Heavy vehicles

Technical data

Function principle	air operated piston pump
Outlet	1
Metering quantity	40 cm³/stroke, *2.4 in³/stroke*
Lubricant	grease NLGI 0, 1
Operating temperature	-30 to +70 °C, *-22 to 158 °F*
Operating pressure (air)	max. 10 bar, *145 psi*
Reservoir	1,7; 2; 4 and 10 kg *3.75; 4.40; 8.82 and 22.05 lb*
Material	stainless steel, plastic, steel and aluminum
Connection outlet	R 1/4 in
Operating voltage	24 V
Transmission ratio	16:1
Protection class	IP 65
Dimensions (dep. on version)	min. 270 × 320 × 180 mm max. 570 × 325 × 245 mm *min. 10.63 × 12.59 × 7.0 in* *max. 22.44 × 12.79 × 9.65 in*
Mounting position	vertical and horizontally

NOTE
Further technical information, technical drawings, accessories, spare parts or product function descriptions available on SKF.com/lubrication:
11678 EN, 11390007_40PGA_01_EN

Pump unit

40PGA

Identification code 40PGA – ___ – ___ – 24 – PS

40PGA pump unit

Reservoir material

A = Aluminium
P = Plastic
S = Stainless steel

Reservoir volume

170 = 1,7 kg; *3.74 lb* (plastic reservoir)
2L = 2 kg; *4.4 lb* (stainless steel reservoir)
4L = 4 kg; *8.8 lb* (aluminum reservoir)
10L = 10 kg; *22 lb* (aluminum reservoir)

Operating voltage

24 = 24 V DC

Pressure monitoring

PS = Integrated pressure switch

Pump unit

82886, 83668

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
- Suitable for use with grease metering devices of category 5, 6 and 7 (→ page 129)

Applications

- Cement industry, wood-working,
- Food and beverage

Technical data

Function principle	air operated piston pump (single-stroke)
Outlets	1
Metering quantity	7,4 cm³/stroke, *0.45 in³/stroke*
Lubricant	grease NLGI 0, 1, 2
Operating temperature	–18 to +65 °C; *0 to +150 °F*
Operating pressure	min. 82 bar, *1 200 psi* max. 240 bar, *3 500 psi*
Reservoir	0,5 or 2 kg; *1 or 4.4 lb*
Material	acrylic
Connection outlet	1/4 NPTF (F)
Transmission ratio	20:1
Air inlet	1/4 NPTF (F)
Mounting position	vertical
Timer	
On time	min. 10 sec; max. 1 min. 24 sec
Cycle time	min. 20 sec; max. 24 h
Voltage	120 V AC, 60 Hz; 110 V AC, 50 Hz
Operating temperature	–23 to +65 °C; *–10 to +150 °F*

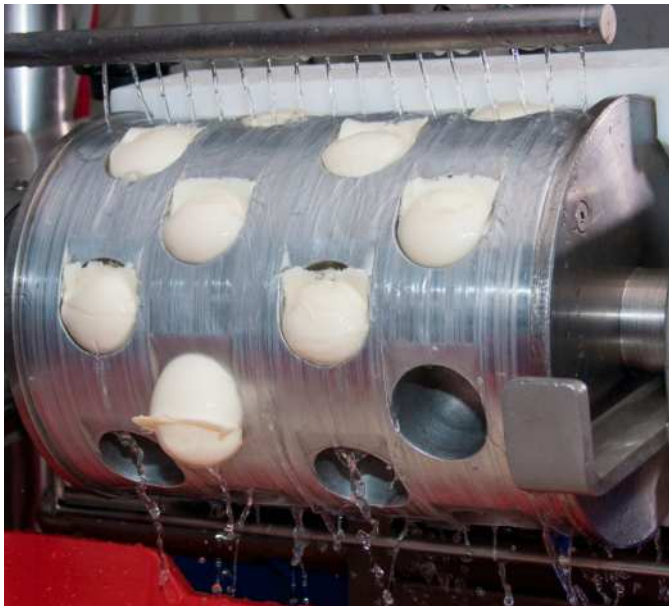
Order information

Order number	Reservoir capacity		Dimensions	
	kg	*lb*	mm	*in*
82886	0,5	*1.0*	263 × 133 × 152	*10.4 × 5.3 × 6.0*
83668	2,0	*4.4*	470 × 133 × 152	*18.5 × 5.3 × 6.0*

NOTE
Further technical information, technical drawings, accessories, spare parts or product function descriptions available on SKF.com/lubrication.

Pump unit

85442



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
- Suitable for use with grease metering devices of category 5, 6 and 7 (→ page 129)

Applications

- Cement industry
- Wood-working
- Food and beverage

Technical data

Order number	**85442**
Function principle	air operated piston pump (single-stroke)
Outlets	1
Metering quantity	7,4 cm³/stroke, *0.45 in³/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	0,5 kg; *1.0 lb*
Material	acrylic
Connection outlet	1/4 NPTF (F)
Voltage	120 V AC
Transmission ratio	20:1
Dimensions	133 × 184 × 305 mm *5.25 × 7.24 × 12.02 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 V AC
Operating temperature	–23 to +65 °C; *–10 to +150 °F*

NOTE
Further technical information, technical drawings, accessories, spare parts or product function descriptions available on SKF.com/lubrication.

Pump unit

85444/45

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
- Suitable for use with grease metering devices of category 5, 6 and 7 (→ page 129)

Applications

- Food and beverage, glass industry

Technical data

Function principle	air operated piston pump (single-stroke)
Outlets	1
Metering quantity	7,4 cm³/stroke, *0.45 in³/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	10 or 30 sec
Off time	1/2 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*

Order information

Order number	Voltage	Transmission ratio	Metering quantity	
	VAC		cm³/stroke	*in³/stroke*
85444	120	20:1	7,4	*0.45*
85445	240	20:1	7,4	*0.45*

NOTE
Further technical information, technical drawings, accessories, spare parts or product function descriptions available on SKF.com/lubrication.

Pump unit

85434/35/36

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
- Suitable for use with grease metering devices of category 5, 6 and 7 (→ page 129)

Applications

- Food and beverage, glass industry
- Machine tools

Technical data

Function principle	air operated piston pump (single-stroke)
Outlets	1
Metering quantity	depending on model: 18,7 or 35,2 cm³/stroke *1.14 or 2.15 in³/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	2,0 kg; *4.5 lb*
Material	acrylic
Connection outlet	1/4 NPTF (F)
Voltage	120 VAC; 240 VAC
Transmission ratio	31:1; 25:1
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 A at 250 VAC
Operating temperature	–23 to +65 °C; *–10 to +150 °F*

Order information

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

NOTE
Further technical information, technical drawings, accessories, spare parts or product function descriptions available on SKF.com/lubrication.

Pump unit

82653/55, 83800/34

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
- Suitable for use with grease metering devices of category 5, 6 and 7 (→ page 129)

Applications

- Oil and gas industry

Technical data

Function principle	air operated piston pump (single-stroke)
Outlets	1
Metering quantity	22,9 to 35,2 cm³/stroke *1.4 to 2.15 in³/stroke*
Lubricant	grease NLGI 0, 1, 2
Operating temperature	–18 to +65 °C; *0 to +150 °F*
Operating pressure	min. 82 bar, *1 200 psi* max. 240 bar, *3 500 psi*
Reservoir	2,0 kg; *4.5 lb*
Material	acrylic
Connection outlet	1/4 NPTF (F)
Transmission ratio	31:1; 25:1
Air inlet	1/4 NPTF (F)
Dimensions	470 × 146 × 533 mm *18.5 × 5.75 × 20.9 in*
Mounting position	vertical

Timer (for 82655 and 83800 only)

On time	min. 10 sec max. 1 minute, 24 sec
Cycle time	min. 20 sec max. 24 h
Operating voltage	120 V AC, 60 Hz; 110 V AC, 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

Order information

Order number	Ratio	Metering quantity		Designation
		cm³/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

NOTE
Further technical information, technical drawings, accessories, spare parts or product function descriptions available on SKF.com/lubrication.

Pump unit

83167

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 1/2 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
- Suitable for use with metering devices of category 5, 6 and 7 (→ page 129)

Applications

- Cement industry
- Food and beverage

Technical data

Order number	**83167**
Function principle	air operated reciprocating piston pump
Outlets	1
Metering quantity	197 cm³/stroke, *12 in³/stroke*
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	40:1
Reservoir	5,0 kg; *11.0 lb*
Material	acrylic, nitrile, neoprene, steel, aluminum, zinc
Connection outlet	3/4 NPTF (F)
Air inlet	1/8 NPTF (F)
Dimensions	413 × 229 × 571,5 mm *16.25 × 9.0 × 22.5 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

NOTE
Further technical information, technical drawings, accessories, spare parts or product function descriptions available on SKF.com/lubrication.

Pump unit

83599

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 1/2 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
- Suitable for use with grease metering devices of category 5, 6 and 7 (→ page 129)

Applications

- Machine tools
- Industrial machinery

Technical data

Order number	**83599**
Function principle	air operated, reciprocating piston pump
Outlets	1
Metering quantity	197 cm³/stroke, *12 in³/stroke*
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*
Transmission ratio	40:1
Reservoir	5,0 kg; *11.0 lb*
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

NOTE
Further technical information, technical drawings, accessories, spare parts or product function descriptions available on SKF.com/lubrication.

Pump unit

HG 1000, HG 2000

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 V DC
- Filling coupler with filter
- Suitable for use with metering devices of category 4 and 5

Applications

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

Technical data

Function principle	hydraulicly operated, piston pump
Outlets	1
Metering quantity:	
HG 1000	max. 1 000 cm^3/stroke; *61 in^3/stroke*
HG 2000	max. 2 000 cm^3/stroke; *122 in^3/stroke*
Lubricant	grease NLGI 0, 1
Operating temperature	–25 to +80 °C; *–13 to +176 °F*
Operating pressure	min. 50 bar, *725 psi*
	max. 150 bar, *2 176 psi*
Transmission ratio	1:1
Reservoir	1 and 2 kg; *2.2 and 4.4 lb*
Material (reservoir)	steel
Grease outlet connection	R 1/4 in ZN; main hose ∅ 8 mm, *0.341 in*
Hydraulic inlet connection	R 1/4 in ZN; main hose ∅ 8 mm, *0.341 in*
Operating voltage	12 or 24 V DC
Dimensions:	
HG 1000	345 × 100 × 100 mm; *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

Order information

Order number	Designation	Weight	
		kg	*lb*
11390060	HG-1000 Pump	7,2	*15.8*
11390070	HG-2000 Pump	10,2	*22.4*

NOTE

Further technical information, technical drawings, accessories, spare parts or product function descriptions available on SKF.com/lubrication.

Pump unit

BPH

Description

The hydraulically operated barrel pump series BPH offers all features needed to run the machine without unplanned interruptions. Constructed of heavy-duty material, the pump works reliable in demanding applications, including excavators, loaders, haul trucks and other heavy machinery in construction and mining environment. Featuring a fully encased pump head, damages during tough operation become less likely. The compact design allows to mount the pump even in applications, where space is limited. While hindering fluids to leak, the three-sealing-package provides the extra step to safe and reliable operation. In addition, it minimizes the risk of contamination of hydraulic oils as well as environmental concerns. Flow rate and reverse pressure can be adjusted to fit the application needs. Built-in sensors monitor oil pressure, temperature and piston movement helping to avoid malfunction prior the event.

Features and benefits

- Innovative sealing concept to avoidhydraulic oil and lubrication grease leakage
- Three possible outlet directions, front, left and right
- Compact and robust design for demanding applications
- Optional monitoring sensors for increased reliability
- Suitable for use with grease metering devices of category 5, 6 and 7 (→ page 129)

Applications

- Construction machinery
- Mining machinery

Technical data

Order numbers:	
BPH30 pump basic	**BPH30-3001AB-VA0M**
BPH30 pump with sensors	**BPH30-3101AB-VA0M**
Function principle	hydraulically operated barrel pump
Outlets	1
Metering quantity	30 cm^3/stroke; *1.83 in^3/stroke* 360 cm^3/min; *22 in^3*
Lubricant	grease NLGI 0, 1, 2
Operating temperature	–40 to +80 °C; *–40 to +176 °F*
Operating back pressure	max. 320 bar, *4 642 psi*
Transmission ratio	min. 10:1
Required viscosity of the hydraulic oil	13 mm – 380 mm^2/s
Nominal oil pressure	35–120 bar; *508–1 740 psi*
Suitable barrels	208 l; *55 gal*
Material	steel, FKM (FPM), NBR
Corrosion class	C3
Connection outlet	3/4 NPTF (F) or M27×2
Hydraulic oil inlet	G 3/8
Protection class	IP 65
Dimensions	245 × 155 × 1 260 mm *9.6 × 6.1 × 50 in*
Mounting position	upright

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

NOTE

Further technical information, technical drawings, accessories, spare parts or product function descriptions available on SKF.com/lubrication.

PUB LS/P2 19079 EN, 951-171-060-EN

Pump unit

BPH

Identification code BPH 30 – 3 _ 0 1 _ _ – _ _ _ _

Pump type
BPH = hydraulically operated barrel pump

Version
30 = BPH with hydraulic piston ∅45, delivery volume 30 cm³/double stroke

Corrosion class
3 = C3 (medium corrosivity category)

Sensors
0 = without sensors
1 = with sensor package (piston end position, pressure, temperature)

Suction tube
01 = Length 864 mm *(34 in)*, for 208 l *(55 gal)* drums, ratio 11,4:1

Reverse
A = adjustable 30–60 bar *(435–870 psi)*, 60 bar *(870 psi)* pre-set
D = 35 bar *(508 psi)*

Inlet connection
X = without *(open thread G3/8)*
A = GE thread G3/8 – tube ∅10 mm
B = GE12-L thread G3/8A – tube ∅12 mm
C = SWE12-L thread G3/8A – tube ∅12 mm

Outlet direction
V= front (standard)
L =left
R = right

Outlet connection
X = without *(open thread 1–1/8–20 UN)*
A = thread 3/4" – 14 NPTF
B = Thread M27×2 with counter bore ISO9974-1

Leakage signal
X = without
O = optical

Function control
X = without *(thread G1/4)*
M = gauge connection, thread M16×1.5

Order information

Order number	Description
BPH30-3001AB-VAOM 1)	BPH30 pump, basic without sensors
BPH30-3101AB-VAOM 1)	BPH30 pump, basic with sensors

1) Basic pump versions include:
- Corrosion class C3
- Suction tube 01 for drum size 55 gal / 208 liter
- Adjustable reverse pressure 30–60 bar (435–870 psi)
- Inlet connection GE12-L thread G3/8A – tube ∅12
- Front outlet direction
- Outlet connection thread 3/4" – 1/4 NPTF
- Optical leakage signal
- Function monitoring control with pressure gauge

Spare parts

Order number	Description
4090-00000011	Housing
5090-00000001	Pump tube
5090-00000013	Pressure control valve
2350-00000077	Flow control valve
6640-00000046	Cable harness
5090-00000012	Hydraulic piston ∅45 mm complete
5090-00000005	Sealing housing
5090-00000011	Leakage monitoring
6640-00000064	Proximity switch 10–30 V DC with plug
2340-00000083	Pressure sensor 10–30 V DC
6640-00000065	Temperature probe PT100 with plug

Pump unit

84944, 84961

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 V DC 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 design
- Pump operates by an electrical signal
- Supplied with metal reservoir with removable cover for easy filling
- Includes a hydraulic operated solenoid vent valve 24 V DC
- Includes a hydraulic pressure reduction valve rated 4 to 55 bar *(60 to 800 psi)* output
- Bulk filling method
- Suitable for use with grease metering devices of category 5, 6 and 7 (→ page 129)

Applications

- Construction machinery
- Heavy machines
- Vehicles

Technical data

Order number	**84944** **84961**
Function principle	hydraulically operated, double-acting piston pump
Outlets	1
Metering quantity	180 cm³/ stroke, *11 in³/stroke*
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*
Pressure ratio	16:1
Reservoir	27,0 kg; *60.0 lb*
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 V DC
Dimensions:	
84944	381 × 495,3 × 889 mm *15 × 19.5 × 35 in*
84961	76 × 177,8 × 866,8 mm *3 × 7 × 34.125 in*
Mounting position	vertical
Cycle timer	
Voltage	24 V DC
Cycle rate per min	min. 6, max. 60

NOTE
Further technical information, technical drawings, accessories, spare parts or product function descriptions available on SKF.com/lubrication.

Pump unit

84960, 84962

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 V DC power sources. These units can be used in conjunction with Models 244270 (not potted) or 249605 (potted) cycle timers. Included hydraulic solenoids require 24 V DC. 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
- Suitable for use with grease metering devices of category 5, 6 and 7 (→ page 129)

Applications

- Mining industry
- Cement industry

Technical data

Order number	**84960** **84962**
Function principle	hydraulically operated, double-acting piston pump
Outlets	1
Metering quantity	180 cm³/stroke, *11 in³/stroke*
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*
Pressure ratio	16:1
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*
Operating voltage	24 V DC
Dimensions:	
84960	76 × 177,8 × 1 083 mm *3 × 7 × 42.625 in*
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 V DC. 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)*.

NOTE
Further technical information, technical drawings, accessories, spare parts or product function descriptions available on SKF.com/lubrication.

Pump unit

FlowMaster, hydraulic

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)*. FlowMaster pumps are optionally available incl. mechanical overflow prevention system to improve worker and environmental safety by helping to prevent hazards associated with reservoir overfilling.

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
- Optional overflow prevention system to improve worker safety and minimize environmental concerns caused by overfilling
- For desert heat and cold climates
- Suitable for use with grease metering devices of category 5, 6 and 7 (→ page 129)

Applications

- Construction machinery
- Mining and mineral processing
- Automotive industry
- Food and beverage
- Paper mills
- Steel mills

Technical data

Function principle	hydraulically operated piston pump
Outlets	1
Metering quantity	adjustable 115 to 737 cm³/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	20 to 32 bar, *300 to 420 psi*
Supply inlet pressure	max. 200 bar, *3 000 psi*
Reservoir	16; 27; 41; 54; 180 kg *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	24 V DC
Hydraulic inlet port	SAE 4
Tank return port	SAE 6
Transmission ratio 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 pressure and flow
Dimensions:	
Pump, dip tube length	min. 348 mm; *13.7 in* max. 864 mm; *34.02 in*
Basic pump	min. 610 × 231 × 291 mm max. 1 126 × 231 × 291 mm *min. 24 × 9 × 11.5 in* *max. 44.3 × 9 × 11.5 in*
Pumps with bucket, follower and vent valve	min. 633 × 496mm max. 1 155 × 496 mm *min. 24.9 × 19.5 in* *max. 45.44 × 19.5 in*
Mounting position	vertical

Pump unit

FlowMaster, hydraulic

Order information

Order number	Description	Reservoir capacity		Solenoid manual override	Adjustable flow control	Adjustable pressure control
		kg	*lb*			
85722	FlowMaster pump and bucket with follower and low-level detection	27	*60*	–	•	•
85723	FlowMaster pump and reservoir	27	*60*	–	–	–
85724	FlowMaster pump and reservoir	27	*60*	–	–	–
85725	FlowMaster pum and bucket with follower and low-level detection	41	*90*	–	•	•
85726	FlowMaster pum and bucket	41	*90*	•	–	–
85727	FlowMaster pum and bucket with follower, low- and high-level detection	54	*120*	–	•	•
85722MSO	FlowMaster pump and bucket with follower and low-level detection, mechanical shut-off device and reservoir	27	*60*	–	•	•
85725MSO	FlowMaster pump and bucket with follower and low-level detection, mechanical shut-off device and reservoir	41	*90*	–	•	•
85727MSO	FlowMaster pump and bucket with follower, low- and high-level detection, mechanical shut-off device and reservoir	54	*120*	–	•	•
85731	FlowMaster pump only	16	*35*	–	•	•
85732	FlowMaster pump only	27	*60*	–	•	•
85733	FlowMaster pump only	54/41	*120/90*	–	•	•
85734	FlowMaster pump only	180	*400*	–	•	•
85735	FlowMaster pump only	27	*60*	–	–	–
85741	FlowMaster pump only	27	*60*	•	–	–
85742	FlowMaster pump only	54/41	*120/90*	•	–	–

Accessories

Drum cover, follower assembly, vent cvalves etc.

Order number	Description	Reservoir capacity	
		gal	*lb*
84616	drum cover	18	*120*
85492	follower assembly	18	*120*
84990	vent valve assembly	18	*120*
271606	drum cover	55	*400*
270982	follower assembly	55	*400*
271605	vent valve assembly	55	*400*
84980	vent valve	18, 55	*120, 400*
237-11204-8	ultrasonic high/low sensor	18, 55	*120, 400*

NOTE
Further technical information, technical drawings, accessories, spare parts or product function descriptions available on SKF.com/lubrication.

Pump unit

MPB

Description

The MPB pump unit is especially designed for automatic lubrication systems. The unique feature in it compared to traditional air-operated barrel pump with mechanical air motor valve is its magnetically operated air motor valve. This will reduce the amount of mechanical components in the air motor and also eliminates the need of lubrication in the air motor. The pump is suitable for use with 18, 50 and 180 kg (40, 120 and 400 lb) lubricant barrels. And when equipped with a suitable adapter MPB pump unit can also be used in lubricant bulk containers.

Features and benefits

- Lubrication-free, electronically controlled air motor enables accurate control of pump output
- Fewer mechanical components extend a service life of the air motor
- Includes self-diagnosing system
- Operates effectively in wide range of temperatures
- IP 65 protection rating
- Suitable for use with grease metering devices of category 5, 6 and 7 (→ page 129)

Applications

- Paper industry
- Steel industry
- Heavy industry

Technical data

Function principle	air operated piston pump for barrels
Operating temperature	–10 to +55 °C, *14 to 131 °F*
Operating pressure	max. 300 bar, *4 350 psi*
Pressure ratio	1:65
Pressure air supply	2 to 4,5 bar, *29 to 65 psi*
Air consumption	max. 300 l/min; 80 gal/min
Lubricant	grease up to NLGI 2 oil up to 20–10 000 mm^2/s
Metering quantity per cycle [1]	6,1 cm^3; *0.37 in^3*
Electrical connections	20–32 V DC
Drum capacity	18, 50 and 180 kg, *40, 120 or 400 lb* drum not included
Protection class	IP 65
Dimensions	depending on the model min. 650 × 130 × 130 mm max. 920 × 130 × 130 mm *min. 25.6 × 5.11 × 5.11 in* *max. 36.22 × 5.11 × 5.11 in*
Mounting position	vertical

[1] generally approx. 50 cycles/min are assumed

NOTE
Further technical information, technical drawings, accessories, spare parts or product function descriptions available on SKF.com/lubrication:
PUB LS/P8 17178 EN

Pump unit

MPB

Order information

Order number	Designation	Suitable barrel size	
		kg	*lb*
12381702	SKF-MPB-PUMP-1/8	18	*40*
12381701	SKF-MPB-PUMP-1/4	50	*120*
12381700	SKF-MPB-PUMP-1/1	180	*400*

Accessories

Air regulator unit

Air regulator unit

Order number	Designation
12382666	MAX-V2-SET-MPB

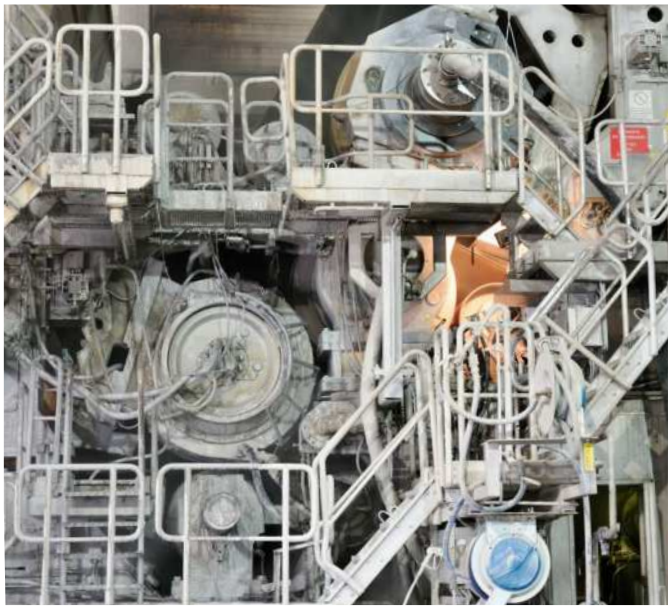
Lid sets

Lid sets

Order number	Designation
ECO version - dynamic pump position on barrel (acc. to filling level)	
12381381	MAXV2-LIDSET-1/1-ECO-MPB
12381382	MAXV2-LIDSET-1/4-ECO-MPB
12381383	MAXV2-LIDSET-1/8-ECO-MPB
STA version - static pump position on barrel	
12381384	MAXV2-LIDSET-1/1-STA-MPB
12381385	MAXV2-LIDSET-1/4-STA-MPB
12381386	MAXV2-LIDSET-1/8-STA-MPB

Pump unit

84050, 85460



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
- Suitable for use with grease metering devices of category 5, 6 and 7 (→ page 129)

Applications

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

Technical data

Order number	**84050** **85460**
Function principle	air operated, double-acting piston pump
Outlets	1
Metering quantity	492 cm^3/stroke, *30 in^3/stroke*
Lubricant	grease NLGI 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*
Transmission ratio	50:1
Reservoir	27,0 kg; *60.0 lb*
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 0,004 M^3/min, 0.15 ft^3/min, per stroke
Optional 92597 follower available

NOTE
Further technical information, technical drawings, accessories, spare parts or product function descriptions available on SKF.com/lubrication.

Pump unit

282288

Description

Model 282288 is an air-operated, positive-displacement pump delivering a maximum volume by means of a single stroke of the pump unit. A solenoid air valve is 58

integrated into the pump body. Designed to deliver grease to single-line metering devices, 282288 includes a special high-volume refill fitting, a 2½ in pneumatically driven pump, a vent valve assembly and air and lubricant connecting hoses.

Features and benefits

- Modular structure consists of 2½ in air motor, pump and vent assembly, air and lubricant connecting hoses
- For U. S. standard refinery drums (removable head)
- For clean and safe drum replacement
- Simplified, modular design
- Suitable for use with grease metering devices of category 5, 6 and 7 (→ page 129)

Applications

- Agriculture
- Chemical industry
- Steel industry

Technical data

Order number	**282288**
Function principle	air operated, reciprocating piston pump
Outlets	1
Metering quantity	492 cm³/stroke, *30 in³/stroke*
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; *120 lb*
Drum size	standard 120 lb. refinery drum
Material	nitrile, steel, polyurethane
Connection outlet	¾ NPTF (F)
Air inlet	⅜ 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 ft³/min, per stroke
83371 follower plate is available as an optional accessory

NOTE
Further technical information, technical drawings, accessories, spare parts or product function descriptions available on SKF.com/lubrication.

Pump unit

P 603S

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 down-time. An additional pressure switch/transducer 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

- Simple maintenance
- Easy system expandation
- Robust design with easy system layout
- Suitable for fast-separating lubricants
- SE2 suction elements for used lubricant
- C5 corrosion protection available on request
- QSL / SL/SLC metering devices suitable for high pressure
- Suitable for use with grease metering devices of category 5, 6 and 7 (→ page 129)

Applications

- Wind turbines, construction machinery
- Mining and mineral processing
- Commercial vehicles

Technical data

Function principle	electrically operated piston pump
Outlets	1
Metering quantity	12 cm³/min, *0.73 in³/min*
Lubricant	grease up to NLGI 2
Operating temperature	–40 to +70 °C, *–40 to +158 °F*
Operating pressure	max. 300 bar, *4 350 psi*
Reservoir	4, 8, 10, 15, 20, 30*, 40* or 100* kg *9, 18, 22, 33, 44, 66*, 88* or 220* lb*
Pumping elements	3 (∅ 7 mm, *0.27 in*)
Operating voltage	12, 24 V DC, 115/230 V AC
Current draw	max. 2 A
Protection class	IP 6K9K
Connectors	12, 24 V DC: bayonet style AC: bayonet style plus square type
Switching power supply	12, 24 V DC: no AC: yes
Material	cast aluminum alloy, polycarbonate resin
Connection outlet	G1/4
Approvals	UL/CSA, CE
Dimensions	min. 471 × 240 × 235 mm max. 949 × 240 × 235 mm *min. 18.54 × 9,44 × 9,25 in* *max. 37.08 × 9,44 × 9,25 in*
Mounting position	vertical (with follower plate; any)

* reservoir made of steel without follower plate

NOTE
Further technical information, technical drawings, accessories, spare parts or product function descriptions available on SKF.com/lubrication.

Pump unit

P 603S

Identification code P603S ___ ___ ___ ___ – ___ – ___ – ___ ___ . ___

Product design

Corrosion protection class

_ = C3
X = C5-M

Approval

_ = CE
U = UL/CSA

Reservoir capacities [1]

4 = plastic, transparent, 4 l; *1.05 gal*
8 = plastic, transparent, 8 l; *2.11 gal*
10 = plastic, transparent, 10 l; *2.64 gal*
15 = plastic, transparent, 15 l; *3.96 gal*
20 = plastic, transparent, 20 l; *5.28 gal*
30 = metal, 30 l; *7.92 gal*
40 = metal, 40 l; *10.56 gal*
100 = metal, 100 l; *26.4 gal*

Reservoir type

XN = grease reservoir without low-level indication (for metal reservoirs only)
XL = grease reservoir with low-level indication [2] (for metal reservoirs only)
XNBO = grease reservoir without low-level indication and refilling from top (for plastic reservoirs only)
XLBO = grease reservoir, with low-level indication and refilling from top (for plastic reservoirs only)
XLF = plastic, grease reservoir with empty message and follower plate [1] (for plastic reservoirs only)

Pump elements

... = without pump elements
1K7 = 4,0 cm^3/min; *0.24 in^3/min* (single pump element)
2K7 = 2 × 4,0 cm^3/min; *2 × 0.24 in^3/min* (2 outlets)
3K7 = 3 × 4,0 cm^3/min; *3 × 0.24 in^3/min* (3 outlets)
2Z7 = 8 cm^3/min; *0.48 in^3/min* (2 pump elements combined in one outlet)
3Z7 = 12 cm^3/min; *0.73 in^3/min* (3 pump elements combined in one outlet)

Power supply

12 = 12 V DC **24** = 24 V DC **AC** = 100-240 V AC, 50/60 Hz, with 24 V DC direct current motor

Electric connections

1A = AC: square-type plug for power supply, grounding equipment conductor
1A = DC: bayonet plug, 7/4-pole for power supply, low-level control, protective conductor
2A = AC: square-type plug for power supply, bayonet plug, 4-pole for low-level control or relay

Type of connection

1 = square plug **5** = bayonet plug 7/4-pole **7** = bayonet plug 7/7-pole

Connections from the pump to external devices

00 = without connection socket and without cable
01 = with connecting socket, without cable
14 = bayonet socket with cable (10 m; *33 ft*) 7/4-core
16 = bayonet socket with cable (10 m; *33 ft*) 7/7-core
20 = bayonet socket with cable (20 m; *66 ft*) 7/7-core

[1] Electrical signal should be taken from top of lid, 30 and 100 l (*7.92 and 26.4 gal*) reservoirs without follower plate

Pump element

Order number	Description	Metering quantity	
		cm^3/stroke	*in^3/stroke*
645-29873-1	pump element K7, corrosion class C3 incl. sealing ring	0,246	*0.015*
645-77196-1	outlet combinable pump element Z7, corrosion class C3 incl. sealing ring	0,246	*0.015*
645-77734-1	pump element K7, corrosion class C5M incl. sealing ring	0,246	*0.015*
645-77625-1	outlet combinable pump element Z7, corrosion class C5M incl. sealing ring	0,246	*0.015*

Pressure relief valve

Order number	Designation	Opening pressure		Connection
		bar	*psi*	∅ mm
624-29056-1	SVET-350-G 1/4A-D6	350	*5 075*	6
624-29054-1	SVET-350-G 1/4A-D8	350	*5 075*	8

Pump unit

Minilube

Description

Minilube is a handy solution for vehicles with few lubrication points, such as mini-excavators, mini wheel loaders, buses and delivery trucks. Installing 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. Pumped grease is distributed accurately through pre-engineered metering device groups.

Features and benefits

- Compact lubrication system for few lubrication points
- Improves worker safety as system lubricates all connected lubrication points regardless of machinery location
- Minimizes lubricant waste to environment by maintaining optimal lubrication level
- Easy and quick installation and commissioning
- Suitable for use with grease metering devices of category 4 and 5 (→ page 129)

Applications

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

Technical data

Function principle	electrically operated piston pump
Outlets	1
Metering quantity	
12 V DC	6,5 cm³/min, *0.4 in³/min*
24 V DC	13 cm³/min, *0.8 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*
Reservoir	2 kg, *4 lb*
Material	acrylic, steel, aluminum, polyurethane, nitrile
Connection outlet	R 1/4 in
Operating voltage	12/24 V DC
Power consumption	150 W, 0.2 HP
Protection class	IP 65
Dimensions	327 × 273 × 184 mm *12.9 × 10.75 × 7.25 in*
Mounting position	vertical

NOTE
Further technical information, technical drawings, accessories, spare parts or product function descriptions available on SKF.com/lubrication:
12236 EN

Minilube

Identification code MIN 170 – ____ – ____

Minilube pump unit

Reservoir

170 = 2 kg, *4 lb*

Control system

ST-102 = External control with ST-102 control unit
Empty = With integrated control ST-104

Operating voltage

12 V = 12 V DC
24 V = 24 V DC

Pump unit

KFG

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
- Suitable for use with grease metering devices of category 5, 6 and 7 (→ page 129)

Applications

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

Technical data

Function principle	electrically operated piston pump
Outlets	1–3
Metering quantity	5,0 to 15 cm^3/min *0.3 to 0.9 in^3/min*
Lubricant	NLGI 000 to 2 with EP additives, compatible with plastics, NBR elastomers, copper and copper alloys
Operating temperature	
with spring-return pump element	–25 to +70 °C, *–13 to +158 °F*
with posit. driven pump element	–30 to +70 °C, *–22 to +158 °F*
Operating pressure	max. 300 bar; *4 351psi*
Flow pressure	0,45 to 0,7 bar, *6.5 to 10.2 psi*
Reservoir	2; 4; 6; 8; 10; 12; 15; 20 kg *4, 9, 13, 18, 22, 26, 33, 44 lb*
Material (reservoir)	polyamide PA 6I, PMMA
Material (pump housing)	aluminum-silicon cast alloy
Connection outlet	M14×1,5 mm
Operating voltage	12 V DC, 24 V DC, 230 V AC (100–273 V AC)
Dimensions	min 229 × 268 × 208mm max 1 170 × 268 × 216 mm *min 9.01 × 10.55 × 8.2 in* *max 46 × 10.55 × 8.5 in*
Mounting position	vertical (with follower plate; any)

NOTE

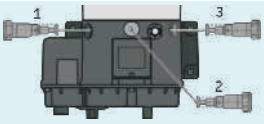
Further technical information, technical drawings, accessories, spare parts or product function descriptions available on SKF.com/lubrication:
1-3030 -EN, 951-170-211

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

Pump unit

KFG

Position of pump elements



Identification code

K	F	G												+			
								1	2	3							

Product series

Integrated control unit

X = No control unit **L** = LC502

Reservoir

1 = 2 kg, *4 lb* (not available for rotary application version)
2 = 4 kg, *9 lb* (only rotary application version)
3 = 6 kg, *13 lb*
4 = 8 kg, *18 lb* (only rotary application version)
5 = 10 kg, *22 lb*
6 = 12 kg, *26 lb* (only rotary application version)
7 = 15 kg, *33 lb*
8 = 20 kg, *44 lb* (not available for rotary application version)

Range of application

R = Rotary application **M** = Industry application **F** = Vehicle application

Filling

X = Without lubricant (not available for rotary application version)
A = Grease NLGI-Grade 2 for vehicles (not for capacitive fill-level monitor)
F = Customized grease

Fill-level monitor

X = Without fill-level monitor
1 = Mechanical level monitor (not available for rotary application version)
2 = Mechanical level monitor with signal smoothing (not available for rotary version; only possible with KFGX)
3 = Capacitive level monitor (only available for industry versio with 2 and 6 kg reservoir)
4 = Cylinder switch level monitor (only available for rotary application version)

Pump element or filler socket

Spring-return piston pump
X = No pump element
E = 5,0 cm^3/min; *0,30 in^3/min*
W = Socket for filling cylinder (not available for rotary application version)

Positively driven piston pump
Y = No pump element
L = 5,0 cm^3/min; *0,30 in^3/min*
V = Socket for filling cylinder (not available for rotary application version)

Fitting for main line connection and valves [3]

S = Pressure relief and restriction valve (200 bar/2 900 psi) with SKF Quick Connector for ∅ 6 mm tubes
T = Pressure relief and restriction valve (200 bar/2 900 psi) with SKF Quick Connector for ∅ 8 mm tubes
U = Pressure relief and restriction valve (200 bar/2 900 psi) with solderless pipe union for ∅ 10 mm tubes
V = Pressure relief and restriction valve (200 bar/2 900 psi) with solderless pipe union for ∅ 8 mm tubes
W = Pressure relief and restriction valve (200 bar/2 900 psi) with female thread solderless pipe union for ∅ G 1/4 tubes [2]

Pump cycle/interval time

No control unit
99 = none

LC502
EB = 4 min. run time/1 h interval time. Factory setting, additional setting times on request

Voltage key

912 = 12 V DC (only available for vehicle application version) **924** = 24 V DC **486** = 100–273 V AC (not available for vehicle application version)

1) For technical reasons, the first pump element must always be installed at outlet 1 in SKF MonoFlex systems
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

Pump unit

Multilube MLPV/MLPI

Description

Multilube pump units (MLPV for heavy vehicles, MLPI for industrial applications) 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
- Two reservoir sizes
- Pumping element equipped with pressure-relief valve
- Filling connection equipped with filling filter
- Visual and electric low-level monitoring in reservoir
- Pumping center is equipped with heating device
- Clear and versatile user interface
- Wide operating temperature range
- Suitable for use with grease metering devices of category 5, 6 and 7 (→ page 129)

Applications

- Stand-alone machines
- Construction machinery
- Mining applications

Technical data

Function principle	electrically operated piston pump
Outlets	1 (for single-line applications)
Metering quantity	16 cm^3/min; *0.976 in^3/min*
Lubricant	oil, fluid grease and grease up to NLGI 1
Operating temperature	–30 to +60 °C, *–22 to +140 °F*
Operating pressure	max. 200 bar, *2 900 psi*
Reservoir	4 or 10 kg, *9 or 22 lb*
Material	aluminum, polyurethane, nitrile
Connection outlet	G 1/4
Operating voltage	12/24 V DC, 115 V AC, 230 V AC
Power consumption	150 W, 0.2 HP
Protection class	IP 67 (IP 65 with user-interface IF-103)
Dimensions:	
with 4 kg reservoir	539 × 274 × 250 mm
with *9 lb* reservoir	*21.22 × 10.78 × 9.84 in*
with 10 kg reservoir	720 × 274 × 250 mm
with *22 lb* reservoir	*27.09 × 10.78 × 9.84 in*
Mounting position	vertical and horizontal

NOTE
Further technical information, technical drawings, accessories, spare parts or product function descriptions available on SKF.com/lubrication:
6407/2 EN

Pump unit

Multilube MLPV/MLPI

MLPV (vehicle applications)

Order number [1]	Designation	Reservoir capacity		Operating voltage		Control unit
		kg	*lb*	12 V DC	24 V DC	
11395200	MLPV-4-1-12	4	9	•	–	–
11395210	MLPV-4-1-24	4	9	–	•	–
11395211	MLPV-10-1-24	10	22	–	•	–
11395254	MLPV-4-1-24-IF103-PSE	4	9	–	•	IF103
11395227	MLPV-10-1-12-IF103-PSE	10	22	•	–	IF103

[1] Further MLPV versions available on request.

MLPI (industrial applications)

Order number [1]	Designation	Lubricant		Reservoir capacity		Operating voltage			Control unit	Build in pressure sensor
		oil	grease	kg	*lb*	24 V DC	115 V AC	230 V AC		
12389919	MLPI-4-1-24-IF103-PSE	–	•	4	9	•	–	–	IF103	•
12389942	MLPI-4-1-24-24-PSE	–	•	4	9	•	–	–	–	•
12389937	MLPI-4-1-115-IF103-PSE	–	•	4	9	–	•	–	IF103	•
12389944	MLPI-4-1-115-IF103-EPT	–	•	4	9	–	•	–	IF103	–
12389912	MLPI-4-1-230-IF103-PSE	–	•	4	9	–	–	•	IF103	•
12389925	MLPI-4-1-230-IF103-EPT	–	•	4	9	–	–	•	IF103	–
12389936	MLPI-10-1-115-IF103-PSE	–	•	10	22	–	•	–	IF103	•
12389943	MLPI-10-1-115-IF103-EPT	–	•	10	22	–	•	–	IF103	–
12389916	MLPI-10-1-230-IF103-PSE	–	•	10	22	–	–	•	IF103	•
12389924	MLPI-10-1-230-IF103-EPT	–	•	10	22	–	–	•	IF103	–
12389954	MLPI-10-1-230-24-EPT	–	•	10	22	–	–	•	–	–
12389953	MLPI-10-OS-230-IF103-PSE	•	–	10	22	–	–	•	IF103	•

[1] Further MLPI versions available on request.

Accessories

Control unit

Control unit

Order number	Designation	Description
11500610	ST-102	ST-102 control center to be located in machinery cabin
12380747	e-SMS-C	SMS control and monitoring module

Pump unit

P 653S

Description

The fully integrated P 653S 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 seven 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 costs
- Plug-and-play pump design for reduced installation time
- Neutral switch ensures reduces grease consuption
- C5 corrosion protection available on request
- Suitable for use with grease metering devices of category 5, 6 and 7 (→ page 129)

Applications

- Renewable energy
- Construction machinery
- Mining and mineral processing
- Commercial vehicles

Technical data

Function principle	electrically operated piston pump
Outlets	1
Metering quantity	24,6 cm³/ min, *1.5 in³/min*
Lubricant	grease up to NLGI 2
Operating temperature	V DC: –40 to +70 °C, *–40 to +158 °F* V AC: 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, 10, 15, 20, 30*, 40* or 100* kg *9, 18, 22, 33, 44, 66*, 88* or 220* lb*
Material (reservoir)	thermoplastic
Connection outlet	G 1/4
Incoming voltage	DC: 19 to 31 V DC AC: 100 to 240 V AC
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
Approvals	UL/CSA, CE
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

Piston	∅ 7 mm, *0.28 in*
Number connected	3
Protection	IP 6K9K

* reservoir made of steel without follower plate

Pump unit

P 653S

Identification code P653S ▢▢▢▢▢ – ▢▢▢ – ▢▢ – ▢▢ . ▢▢

Product design

Corrosion protection class

_ = C3
X = C5-M

Approval

_ = CE
U = UL/CSA

Reservoir capacities [1]

4 = plastic, transparent, 4 l; *1.05 gal*
8 = plastic, transparent, 8 l; *2.11 gal*
10 = plastic, transparent, 10 l; *2.64 gal*
15 = plastic, transparent, 15 l; *3.96 gal*
20 = plastic, transparent, 20 l; *5.28 gal*
30 = metal, 30 l; *7.92 gal*
40 = metal, 40 l; *10.56 gal*
100 = metal, 100 l; *26.4 gal*

Reservoir type

XN = grease reservoir without low-level indication (for metal reservoirs only)
XL = grease reservoir with low-level indication [2] (for metal reservoirs only)
XNBO = grease reservoir without low-level indication and refilling from top (for plastic reservoirs only)
XLBO = grease reservoir, with low-level indication and refilling from top (for plastic reservoirs only)
XLF = plastic, grease reservoir with empty message and follower plate [1] (for plastic reservoirs only)

Pump elements

... = without pump elements
1K7 = 4,0 cm³/min; *0.24 in³/min* (single pump element)
2K7 = 2 × 4,0 cm³/min; *2 × 0.24 in³/min* (2 outlets)
3K7 = 3 × 4,0 cm³/min; *3 × 0.24 in³/min* (3 outlets)
2Z7 = 8 cm³/min; *0.48 in³/min* (2 pump elements combined in one outlet)
3Z7 = 12 cm³/min; *0.73 in³/min* (3 pump elements combined in one outlet)

Power supply

12 = 12 V DC **24** = 24 V DC **AC** = 100-240 V AC, 50/60 Hz, with 24 V DC direct current motor

Electric connections

1A = AC: square-type plug for power supply, grounding equipment conductor
1A = DC: bayonet plug, 7/4-pole for power supply, low-level control, protective conductor
2A = AC: square-type plug for power supply, bayonet plug, 4-pole for low-level control or relay

Type of connection

1 = square plug **5** = bayonet plug 7/4-pole **7** = bayonet plug 7/7-pole

Connections from the pump to external devices

00 = without connection socket and without cable
01 = with connecting socket, without cable
14 = bayonet socket with cable (10 m; *33 ft*) 7/4-core
16 = bayonet socket with cable (10 m; *33 ft*) 7/7-core
20 = bayonet socket with cable (20 m; *66 ft*) 7/7-core

[1] Electrical signal should be taken from top of lid, 30 and 100 l (*7.92 and 26.4 gal*) reservoirs without follower plate

Pump element

Order number	Description	Metering quantity	
		cm³/stroke	*in³/stroke*
645-29873-1	pump element K7, corrosion class C3 incl. sealing ring	0,246	*0.015*
645-77196-1	outlet combinable pump element Z7, corrosion class C3 incl. sealing ring	0,246	*0.015*
645-77734-1	pump element K7, corrosion class C5M incl. sealing ring	0,246	*0.015*
645-77625-1	outlet combinable pump element Z7, corrosion class C5M incl. sealing ring	0,246	*0.015*

Pressure relief valve

Order number	Designation	Opening pressure		Connection
		bar	*psi*	∅ mm
624-29056-1	SVET-350-G 1/4A-D6	350	*5 075*	6
624-29054-1	SVET-350-G 1/4A-D8	350	*5 075*	8

Pump unit

E-PUMP

Description

The electrical barrel pumping unit E-PUMP is a versatile barrel pump and it is especially designed for pumping oil or grease lubricants up to NLGI grade 2 into a centralized lubrication system. When equipped with a change-over valve unit, as E-VALV e.g. or a shut-off valve as E-VALVE-S e.g. it can be used either in single-line, dual-line or progressive lubrication systems. A complete pumping center consists of a pumping unit and a lid set. EPUMP-XXX-ECO coding is referring to ECO lid sets (descending pump head with follower plate), which are suitable for greases in NLGI grades 1 and 2 while EPUMP-XXX-STA coding is referring to STA lid sets (pump head always at barrel bottom), which are suitable for oil or greases in NLGI 0, 00 and 000 classes.

Features and benefits

- EPUMP models reflecting typical and often used barrel sizes
- Compact electrically operated pump for applications where no air supply is available
- An internal pressure control and a heating element secure the pump's function in high-pressure conditions and cold climates
- Suitable for use with grease metering devices of category 5, 6 and 7 (→ page 129)

Applications

- Heavy industries (paper, steel and other process industries)
- Mining and mineral processing
- Machinery workshops
- Food and beverage
- Cement industry

Technical data

Function principle	electrically operated pump
Outlets	1
Number of pump elements	4
Metering quantity	55 g/min; *0.3880136 oz/min*
Operating temperature	–30 to +70 °C, *-20 to 160 °F*
Operating pressure	max. 240 bar, *3 480 psi*
Lubricant	grease up to NLGI 2 oil up 40–1 000 mm²/s
Operating voltage	20–32 V DC
Power consumption	150 W
Heater	40W/24V, heater resistor for pump elements in ECO models
Display	LED's 5 yellow, 1 green, 1 red
Drum capacity	18, 50 and 180 kg, *40, 120 or 400 lb* drum not included
Pressure sensor	50-240 bar adjustable in 25 bar steps *725.1 to 3480.9 psi in 362.6 psi steps*
Protection class	IP 65
Dimensions	depending on the model min. 400 × 400 × 800 mm max. 400 × 400 × 1 300 mm *min. 15.75 × 15.75 × 31.49 in* *max. 15.75 × 15.75 × 51.18 in*
Mounting position	vertical

NOTE
Further technical information, technical drawings, accessories, spare parts or product function descriptions available on SKF.com/lubrication

Pump unit

E-PUMP

Order information

Order number	Designation	Lubricant	Control	Suitable barrel size	
				kg	*lb*
12375000	SKF-EPUMP-1/8-ECO-24-1	Grease up to NLGI 2	integrated control unit for single-line systems	18	*40*
12375080	SKF-EPUMP-1/4-ECO-24-1	Grease up to NLGI 2	integrated control unit for single-line systems	50	*120*
12375160	SKF-EPUMP-1/1-ECO-24-1	Grease up to NLGI 2	integrated control unit for single-line systems	180	*400*
12375200	SKF-EPUMP-1/8-STA-24-1	Oil up to 1 000 mm²/s	integrated control unit for single-line systems	18	*40*
12375120	SKF-EPUMP-1/4-STA-24-1	Oil up to 1 000 mm²/s	integrated control unit for single-line systems	50	*120*
12375040	SKF-EPUMP-1/1-STA-24-1	Oil up to 1 000 mm²/s	integrated control unit for single-line systems	180	*400*
12375180	SKF-EPUMP-1/8-ECO-24-CC	Grease up to NLGI 2	external control unit	18	*4.5*
12375100	SKF-EPUMP-1/4-ECO-24-CC	Grease up to NLGI 2	external control unit	50	*13*
12375020	SKF-EPUMP-1/1-ECO-24-CC	Grease up to NLGI 2	external control unit	180	*45*
12375220	SKF-EPUMP-1/8-STA-24-CC	Oil up to 1 000 mm²/s	external control unit	18	*4.5*
12375140	SKF-EPUMP-1/4-STA-24-CC	Oil up to 1 000 mm²/s	external control unit	50	*13*
12375060	SKF-EPUMP-1/1-STA-24-CC	Oil up to 1 000 mm²/s	external control unit	180	*45*

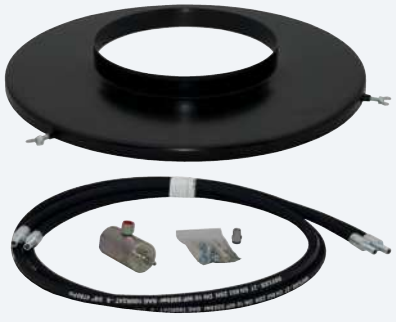
Accessories

Lid sets for grease barrels

Lid sets for grease barrels

Order number	Designation	Lubricant	for barrel size	
			kg	*lb*
12381280	E-LIDSET-1/8-ECO	Grease	18	*40*
12381285	E-LIDSET-1/4-ECO	Grease	50	*120*
12381290	E-LIDSET-1/1-ECO	Grease	180	*400*

Lid sets for oil



Lid sets for oil barrels

Order number	Designation	Lubricant	for barrel size	
			kg	*lb*
12381292	E-LIDSET-1/8-STA	Oil	18	*40*
12381294	E-LIDSET-1/4-STA	Oil	50	*120*
12381296	E-LIDSET-1/1-STA	Oil	180	*400*

Pump unit

FK

Description

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
- Suitable for use with grease metering devices of category 5, 6 and 7 (→ page 129)

Applications

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

NOTE
Further technical information, technical drawings, accessories, spare parts or product function descriptions available on SKF.com/lubrication:
1-3033-EN, 951-170-200-EN

Technical data

Function principle	electrically operated piston pump
Outlets	1
Metering quantity	12,3 to 74 cm³/min *0.75 to 4.5 in³/min*
Lubricant	mineral oils or environmentally 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	max. 400 bar, *5 800 psi*
Reservoir	15; 30 or 60 kg *33, 66 or 132 lb*
Material	steel-sheet housing, steel, aluminum
Operating voltage	230/400 V AC
Pumping elements	1 to 6
Filling method	via filler socket G 1/2
Gear type	screw drive, type 1M
Gear ratio	40:1
Nominal speed	1 500 rpm
Frequency	50 Hz
Nominal output	0,37 kW
Rated current	1,09 A
Protection	IP 55-F
Connection outlet	G 1/2
Dimensions:	
15 kg, *33 lb*	max. 470 × 598 × 335 mm *max. 18.5 × 23.54 × 13.18 in*
30 kg, *66 lb*	max. 665 × 598 × 335 mm *max. 26.2 × 23.54 × 13.18 in*
60 kg, *132 lb*	max. 1 035 × 598 × 335 mm *max. 40.74 × 23.54 × 13.18 in*
Mounting position	vertical

Pump unit

FK

Identification code FK __ – __ __ 1M 04 – __ – __ __ __ – __ AF 07

Product series

Version

1= Unit for single-line centralized lubrication systems
2 = Unit for dual-line centralized lubrication systems with change-over valves
3 = Unit for dual-line centralized lubrication systems without change-over valves
4 = Unit for progressive systems

Lubricant reservoir

15 = 15 kg, *33 lb*
30 = 30 kg, *66 lb*
60 = 60 kg, *132 lb*

Monitoring

X = Without lubricant level monitoring
U2 = Ultrasonic sensor with 2 switching points

Drive type

1M = Electrically operated

Gear ratio

04 = 40:1

Metering quantity

1 = 0,67 kg/h, *12.3 cm³/min.*
2 = 1,34 kg/h, *24.7 cm³/min.*
3 = 2,00 kg/h, *37.0 cm³/min.*
4 = 2,64 kg/h, *49.3 cm³/min.*
5 = 3,34 kg/h, *61.7 cm³/min.*
6 = 4,00 kg/h, *74.0 cm³/min.*

Pressure-regulating valve, factory-set to

200 = 200 bar, *2 900 psi* (for progressive, single-line and dual-line centralized lubrication systems)
300 = 300 bar, *4 350 psi* (for progressive, single-line and dual-line centralized lubrication systems)

Pressure gauge

/ = Without pressure gauge
MA = 1x pressure gauge
M2 = 2x pressure gauge

Filler socket/screw cap

0 = Without filler socket
1 = With filler socket
2 = Without filler socket, with screw cap
3 = With filler socket and screw cap

Version key

0001 = Basic design
4001 = Basic design with control cabinet and control unit (on request)

Motor data

AF = motor speed 1 500 rpm, rated voltage 230/400 V AC, 50 Hz

Motor protection class

07 = IP 55 F

Pump unit

FlowMaster, electric

Description

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 V DC, 120/230-1ph and 230/460-3ph V AC 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. FlowMaster pumps are optionally available incl. mechanical overflow prevention system to improve worker and environmental safety by helping to prevent hazards associated with reservoir overfilling.

Features and benefits

- Advanced technology: brushless DC motor
- Optional overflow prevention system to improve worker safety and minimize environmental concerns caused by overfilling
- Temperature and overload protection: durable and long-lasting product that reduces machinery downtime for maintenance; less repair costs
- Totally sealed: withstands washdowns
- Suitable for use with grease metering devices of category 5, 6 and 7 (→ page 129)

Applications

- Mining and mineral processing
- Construction machinery
- Food and beverage
- Paper mills
- Steel mills

Technical data

Function principle	electrically operated piston pump
Outlets	1
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 V DC	max. 251 bar; *3 500 psi*
24 V DC	max. 345 bar; *5 000 psi*
120 to 460 V AC	max. 345 bar; *5 000 psi*
Operating voltage	12/24 V DC; 120 to 460 V AC
Reservoir	40, 55, 180 kg; *90, 120, 400 lb*
Material	fluoroelastomer, polyurethane, steel, aluminum zinc casting
Connection outlet	1/4 NPTF
Gear ratio	17.8:1; 19:1; 34:1
Nominal power	5 to 50 and 9,5 to 100 rpm
Electric current:	
12/24 V DC	1 to 7.5 A
120 V AC	1 to 4.6 A
230-460 V AC	0,5 to 2,4 A
Dimensions:	
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
120 lb	*16.07 × 8.78 × 37.24 in*
180 kg	408 × 223 × 1 111 mm
400 lb	*16.07 × 8.78 × 43.24 in*
Mounting position	vertical

NOTE
Further technical information, technical drawings, accessories, spare parts or product function descriptions available on SKF.com/lubrication

Pump unit

FlowMaster, electric

Order information

Order number	Description	Power	Reservoir capacity		Ratio	Metering quantity min.		max.		Operating pressure max.		Speed
			kg	*lb*		cm^3/min	*in^3/min*	cm^3/min	*in^3/min*	bar	*psi*	rpm
85479	pump, follower, bucket cover, hardware	24 V DC	28	*60*	19:01	11,5	*0.7*	103	*6.3*	170	2 500	9,5–100
85728	pump and reservoir	24 V DC	28	*60*	19:1	11,5	*0.7*	103	*6.3*	345	*5 000*	9,5–100
85729	pump and reservoir	24 V DC	90	*41*	19:1	11,5	*0.7*	103	*6.3*	345	*5 000*	9,5–100
85730	pump and reservoir	24 V DC	120	*55*	19:1	11,5	*0.7*	103	*6.3*	345	*5 000*	9,5–100
85728MSO	pump, reservoir, mechanical filling level sensor, mso[1]	24 V DC	28	*60*	19:1	11,5	*0.7*	103	*6.3*	345	*5 000*	9,5–100
85729MSO	pump, reservoir, mechanical filling level sensor, mso[1]	24 V DC	90	*41*	19:1	11,5	*0.7*	103	*6.3*	345	*5 000*	9,5–100
85730MSO	pump, reservoir, mechanical filling level sensor, mso[1]	24 V DC	120	*55*	19:1	11,5	*0.7*	103	*6.3*	345	*5 000*	9,5–100
85763MSO	pump, reservoir, magnetical fill level sensor, mso[1)]	24 V DC	28	*60*	19:1	11,5	*0.7*	103	*6.3*	345	*5 000*	9,5–100
85762MSO	pump, reservoir, magnetical fill level sensor, mso[1)]	24 V DC	90	*41*	19:1	11,5	*0.7*	103	*6.3*	345	*5 000*	9,5–100
85878MSO	pump, reservoir, magnetical fill level sensor, mso[1)]	24 V DC	120	*55*	19:1	11,5	*0.7*	103	*6.3*	345	*5 000*	9,5–100
85736	pump	24 V DC	16	*35*	19:1	11,5	*0.7*	103	*6.3*	345	*5 000*	9,5–100
85737	pump	24 V DC	28	*60*	19:1	11,5	*0.7*	103	*6.3*	345	*5 000*	9,5–100
85738	pump	24 V DC	55/40	*120/90*	19:1	11,5	*0.7*	103	*6.3*	345	*5 000*	9,5–100
85739	pump	24 V DC	180	*400*	19:1	11,5	*0.7*	103	*6.3*	345	*5 000*	9,5–100
85740	pump	24 V DC	25	*55*	19:1	11,5	*0.7*	103	*6.3*	345	*5 000*	9,5–100
85743	pump	115 to 230 V AC	55/40	*120/90*	19:1	11,5	*0.7*	103	*6.3*	345	*5 000*	95
85744	pump	115 to 230 V AC	180	*400*	19:1	11,5	*0.7*	103	*6.3*	345	*5 000*	95
85745	pump	220 to 420 V AC, 50 Hz, 3 ph	55/40	*120/90*	19:1	11,5	*0.7*	103	*6.3*	345	*5 000*	9,5–100
85746	pump	220 to 420 V AC, 50 Hz, 3 ph	180	*400*	19:1	11,5	*0.7*	103	*6.3*	345	*5 000*	9,5–100
85747	pump	24 V DC	16	*35*	17.8:1	11,5	*0.7*	103	*6.3*	170	*5 000*	9,5–100
85748	pump	24 V DC	16	*35*	34:1	6,55	*0.4*	57,4	*3.5*	345	*5 000*	5–50
85749	pump	24 V DC	55/40	*120/90*	34:1	6,55	*0.4*	57,4	*3.5*	345	*5 000*	5–50
85750	pump	24 V DC	16	*35*	7:1	11,5	*0.7*	103	*6.3*	345	*5 000*	9,5–100
85751	pump	24 V DC	16	*35*	7:1	11,5	*0.7*	103	*6.3*	345	*5 000*	9,5–100
85752	pump	12 V DC	16	*35*	19:1	11,5	*0.7*	103	*6.3*	170	*2 500*	9,5–100
85753	pump	12 V DC	16	*35*	19:1	11,5	*0.7*	103	*6.3*	170	*2 500*	9,5–100
85754	pump	12 V DC	28	*60*	19:1	11,5	*0.7*	103	*6.3*	345	*5 000*	9,5–100

1) overflow prevention system

Accessories

Drum cover, follower and valves assembly

Order number	Description	Reservoir capacity	
		gal	lb
85474	drum cover	18	120
85492	follower assembly		
85664	vent valve assembly (24 V DC)		
272180	strainer		
85475	drum cover	55	400
270982	follower assembly		
85665	vent valve assembly		

Vent valves

Order number	Description
274899	24 V DC vent valve, IP 67 explosion-proof rating
276325	24 V DC vent valve, IP 65 rating
276903	24 V DC vent valve, IP 65 rating
276919	hardware kit for 276903
525-32083-1	24 V DC vent valve, IP 54 rating


SKF

Overview of oil and fluid grease metering devices

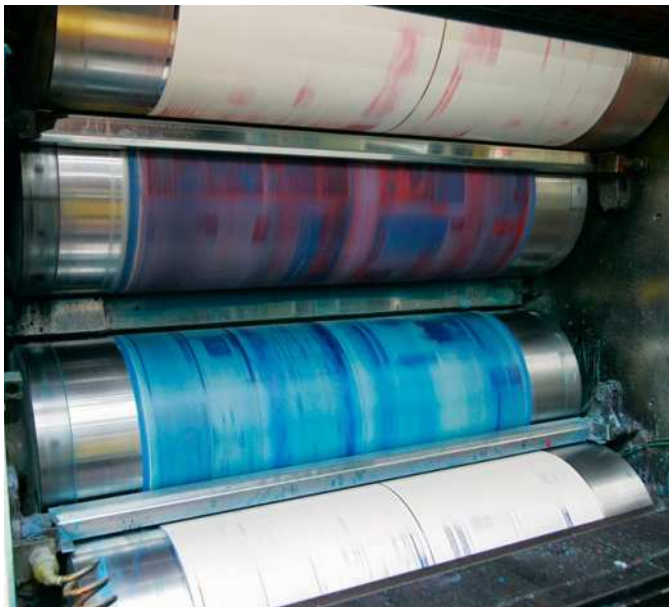
Single-line metering devices

Product		Category [1]	Lubricant		Metering quantity		Operating pressure		Relief pressure max.		Adjustable metering quantity	Function type	Page
			oil	fluid grease	cm³/stroke	*in³/stroke*	bar	*psi*	bar	*psi*			
341	[2]	1	•	–	0,01-0,16	*0.0006-0.0097*	6-80	*87-1 160*	1 [3]	*43.5*	–	prelubrication	94
340		1	•	–	0,01-0,16	*0.0006-0.0097*	6-80	*87-1 160*	1 [3]	*43.5*	–	prelubrication	96
361		1	•	–	0,02-0,10	*0.0010-0.0060*	8-40	*116-1 160*	1	*14.5*	–	dynamic pulse type	98
351	[2]	1	•	–	0,05-0,60	*0.0030-0.0366*	6-80	*87-1 160*	1	*14.5*	–	prelubrication	102
350		1	•	–	0,05-0,60	*0.0030-0.0366*	6-80	*87-1 160*	1	*14.5*	–	prelubrication	104
370		1	•	–	0,05-1,50	*0.0030-0.0915*	20-80	*290-1 160*	1	*14.5*	–	relubrication	106
391		1	•	–	0,20-1,50	*0.0122-0.0915*	8-45	*116-653*	1	*14.5*	–	prelubrication	108
390		1	•	–	0,20-1,50	*0.0122-0.0915*	8-80	*116-1 160*	1	*14.5*	–	prelubrication	110
321 G, T, W, Modul		2	•	•	0,01-0,10	*0.0006-0.0060*	12-45	174-653	3	43.5	–	special assembly arrangement	112
321 G4,		2	•	•	0,03-0,10	*0.0118-0.0060*	12-45	174-653	3	43.5	–	special assembly arrangement	112
361		2	•	•	0,01-0,20	*0.0006-0.0122*	8-80	*116-1 160*	3	*43.5*	–	dynamic pulse type	98
321 G7		2	•	•	0,01-0,30	*0.0006-0.0183*	12-45	*174-653*	3	*43.5*	–	special assembly arrangement	112
AB	[2]	2	•	•	0,01-0,60	*0.0006-0.0366*	18-50	*261-725*	3	*43.5*	–	prelubrication	114
341		2	•	•	0,03-0,10	*0.0018-0.0061*	6-80	*87-1 160*	3	*43.5*	–	prelubrication	94
340		2	•	•	0,03-0,10	*0.0018-0.0061*	6-80	*87-1 160*	3	*43.5*	–	prelubrication	96
310		2	•	•	0,03-0,16	*0.0018-0.0097*	12-38	*174-551*	3	*43.5*	–	prelubrication	100
VN		2	–	•	0,05-1,00	*0.0030-0.0610*	20-80	*290-1 160*	1	*14.5*	–	relubrication	116
351		2	•	•	0,10-0,60	*0.0061-0.0366*	6-80	*87-1 160*	3	*43.5*	–	prelubrication	102
350		2	•	•	0,10-0,60	*0.0061-0.0366*	6-80	*87-1 160*	3	*43.5*	–	prelubrication	104
Oi-Al-SR		3	•	•	0,02-0,10	*0.0012-0.0061*	30-100	*435-1 450*	5	*72.5*	–	cartridge arrangement	118
391		3	•	•	0,10-0,30	*0.0061-0.0183*	8-45	*116-653*	7	*101.5*	–	prelubrication	108
390		3	•	•	0,10-0,30	*0.0061-0.0183*	8-45	*116-653*	7	*101.5*	–	prelubrication	110
SL-42		4	•	•	0,016-0,049	*0.001-0.0029*	52-69	*750-1 000*	10	*150*	•	prelubrication	120
SL-43		4	•	•	0,016-0,131	*0.001-0.0080*	52-69	*750-1 000*	10	*150*	•	prelubrication	122
SL-41		4	•	•	0,13-1,31	*0.0079-0.0799*	52-69	*750-1 000*	10	*150*	•	prelubrication	124
SL-44		4	•	•	0,13-1,31	*0.0079-0.0799*	52-69	*750-1 000*	10	*150*	•	prelubrication	126

1) The category allows a simple assignment of the metering device to a pump of the same category. The category results from the relief pressure, the operating principle and the lubricant suitable for the metering device.
2) Stainless steel or C5M available
3) For the metering quantity version 0,01 cm³ and 0,02 cm³ max. relief pressure is 3 bar

Metering device

341



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 cm^3 are exchangeable to yield different output quantities

Applications

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

Technical data

Function principle	Metering device
Outlets	1
Metering quantity	oil: 0,01 to 0,16 cm^3 *0.0006 to 0.0097 in^3* fluid grease: 0,03 to 0,10 cm^3 *0.0018 to 0.0061 in^3*
Lubricant	mineral and synthetic oil, 20 to 2 000 mm^2/s, *0.031 to 3.100 in^2/s* fluid grease of NLGI 000, 00
Operating temperature	0 to +80 °C; +32 to 176 °F
Operating pressure	min. 6 bar, *87 psi* max. 80 bar, *1 160 psi*
Relief pressure [1)]	max. 3 bar, *43.5 psi*
Materials	steel (galvanized, Cr6-free), stainless steel, nickel-plated brass, brass, copper, FKM (FPM)/ NBR
Connection main line	pipe ∅ 6 to 10 mm, solderless pipe connection for threads G 1/8; G 1/4; M10 × 1 or M14 × 1,5
Connection outlet	pipe ∅ 2,5 mm and ∅ 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* max. 53 × 12 mm; *2.086 × 0.472 in*
Mounting position	any

1) For oil metering quantity version 0,01 cm^3 and 0,02 cm^3 max. relief pressure is 3 bar

NOTE

Further technical information, technical drawings, accessories, spare parts or product function descriptions available on SKF.com/lubrication:

1-5001-EN

3D

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

Metering device

341

Identification code 3 4 1 – _ _ _ – _ 0 0 0 0 – 0 0

Product series

Number of metering points (1)

Design and metering quantity

Design code	2	4		8		5		9	1		7		6
Lubricant	Oil	Oil		Oil		Fluid grease		Fluid grease	Oil		Fluid grease		Oil
∅ Outlet [mm]	2,5	4		4		4		4	4		4		4
Distributor body	Steel	Steel		Steel		Steel		Steel	Steel		Steel		Steel (1.4305)
Metering nipple	Brass	Brass		Brass		Brass (n.p.)		Brass (n.p.)	Brass		Brass (n.p.)		Steel (1.4305)
Elastomer	NBR	NBR		KFM (FPM)		NBR		FKM (FPM)	NBR		NBR		FKM (FPM)
Threaded seal	FW [2]	FW [2]		FW [2]		FW [2]		Flat	O-ring [3]		O-ring [3]		O-ring [3]
Connection outlet	00	VS	00	VS	00	VS	00	00	VS	00	VS	00	00
Metering quantity code 0,01 cm³ [1]	1	1	1	1	1	–	–	–	1	1	–	–	1
Metering quantity code 0,02 cm³ [1]	–	–	6	–	6	–	–	–	–	6	–	–	–
Metering quantity code 0,03 cm³	2	2	2	2	2	2	2	2	2	2	2	2	2
Metering quantity code 0,06 cm³	3	3	3	3	3	3	3	3	3	3	3	3	3
Metering quantity code 0,10 cm³	4	4	4	4	4	4	4	4	4	4	4	4	4
Metering quantity code 0,16 cm³	5	5	5	5	5	–	–	–	5	5	–	–	5

1) Subsequent modification of the metering quantity is not technically possible.
2) FW=Flat washer must be ordered separately. Order number: **DIN7603-A8×11.5-CU**
3) O-ring is part of the shipment

Accessory

Manifold

Manifold VL

Description

For 341 metering devices, VL-manifolds are utilized for one to six screw-in points with thread M8x1 mm for O-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.

Identification code V L – _ _ _ _ _ _

Product series

Number of ports

01 = 1 screw-in point
02 = 2 screw-in points
03 = 3 screw-in points
04 = 4 screw-in points
05 = 5 screw-in points
06 = 6 screw-in points
(other numbers of ports available on request)

Design of metering device pipe thread

A = Normal profile, M8x1 with counterbore for O-ring
D = Small profile, M8x1 without counterbore

Material

A = Aluminum **E** = Stainless steel (1.4305) **(can only be selected for normal profile)**

Design of main line connection

G1 = G1/8 per DIN 3852-2, Form X, small
G2 = G1/4 per DIN 3852-2, Form X, small
M3 = M10x1 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)**

Metering device

340

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, *1 160 psi*
Relief pressure [1)]	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 ∅ 6 to 10 mm or closure plugs for thread M10×1
Connection outlet	pipe ∅2,5 and ∅ 4 mm metering nipple (VS) with SKF quick connector, metering nipple (00) for solderless pipe connection
Dimensions	min. 48 × 53 × 15 mm max. 99 × 58 × 15 mm *min. 1.889 × 2.086 × 0.590 in* *max. 3.897 × 2.283 × 0.590 in*
Mounting position	any

1) For oil metering quantity version 0,01 cm³ and 0,02 cm³ max. relief pressure is 3 bar

NOTE

Further technical information, technical drawings, accessories, spare parts or product function descriptions available on SKF.com/lubrication:

1-5001-EN

3D

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

Metering device

340

Identification code 3 4 _ – _ _ _ – _ _ _ _ _ – _ _

Product series

Number of metering points (2, 3, 5)

Design and metering quantity

Design code	**2**	**4**		**8**		**5**	
Lubricant	Oil	Oil		Oil		Fluid grease	
∅ Outlet [mm]	2,5	4		4		4	
Metering nipple	Brass	Brass		Brass		Brass (n.p.)	
Elastomer	NBR	NBR		FKM (FPM)		NBR	
Connection outlet	**00**	**VS**	**00**	**VS**	**00**	**VS**	**00**
Metering quantity code: 0,01 cm³ [1]	**1**	**1**	**1**	**1**	**1**	**–**	**–**
0,02 cm³ [1]	**–**	**–**	**6**	**–**	**6**	**–**	**–**
0,03 cm³	**2**	**2**	**2**	**2**	**2**	**2**	**2**
0,06 cm³	**3**	**3**	**3**	**3**	**3**	**3**	**3**
0,10 cm³	**4**	**4**	**4**	**4**	**4**	**4**	**4**
0,16 cm³	**5**	**5**	**5**	**5**	**5**	**–**	**–**
closed [2]	**V**	**V**	**V**	**V**	**V**	**V**	**V**

1) Subsequent modification of the metering quantity is not technically possible.
2) V = Metering quatity of 0,03 cm³, closed

Fittings for main line connection

Designation	∅ main line [mm]	Code
Straight adapter DIN 3862 with flat washer [1]	6	**B**
	8	**C**
	10	**D**
Banjo fitting DIN 3862 with flat washer, lockable [1] [2]	6	**F**
Screw plug with flat washer	–	**H**
Straight adapter with EO-2 functional nut	6	**M**
	8	**N**
	10	**P**
Straight adapter with SKF Quick Connector	6	**T**
	8	**U**
Banjo fitting with SKF Quick Connectors, not lockable	6	**V**
Vent plug with profile sealing ring	–	**Y**
Without fitting; for solderless pipe connection [1]	6	**Z**

1) Solderless pipe connection according to DIN 3862 (operating pressure max. 45 bar)
2) Banjo bolt only inserted in delivery condition, not tightened

Accessory

Exchangeable metering nipples

Solderless pipe connection

Order numbers for solderless pipe connection metering nipples

Outlet ∅		Elastomer	Lubricant	Order numbers sorted by metering quantity			
mm	*in*			0,03 cm³ *0.00183 in³*	0,06 cm³ *0.00366 in³*	0,10 cm³ *0.0061 in³*	0,16 cm³ *0.0097 in³*
2,5	*0.10*	NBR	oil	**995-994-003**	**995-994-006**	**995-994-010**	**995-994-016**
4	*0.16*	NBR	oil	**995-994-103**	**995-994-106**	**995-994-110**	**995-994-116**
4	*0.16*	NBR	oil	**341-453-K-S8**	**341-456-K-S8**	**341-460-K-S8**	**341-466-K-S8**
4	*0.16*	NBR	fluid grease	**341-853-K**	**341-856-K**	**341-860-K**	**–**

SKF Quick Connector

Order numbers for SKF Quick Connector metering nipples

Outlet ∅		Elastomer	Lubricant	Order numbers sorted by metering quantity			
mm	*in*			0,03 cm³ *0.00183 in³*	0,06 cm³ *0.00366 in³*	0,10 cm³ *0.0061 in³*	0,16 cm³ *0.0097 in³*
4	*0.16*	NBR	oil	**995-994-103-VS**	**995-994-106-VS**	**995-994-110-VS**	**995-994-116-VS**
4	*0.16*	FKM	oil	**341-453-S8-VS**	**341-456-S8-VS**	**341-460-S8-VS**	**341-466-S8-VS**
4	*0.16*	NBR	fluid grease	**341-853-VS**	**341-856-VS**	**341-860-VS**	**–**

Metering device

361

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
Outlets	1
Metering quantity	oil and fluid grease: 0,01 to 0,20 cm^3; *0.0006 to 0.012 in^3* synthetic oil: 0,02 to 0,10 cm^3; *0.001 to 0.006 in^3*
Lubricant	mineral and synthetic oil: 10 to 1 000 mm^2/s, *0.015 to 1.55 in^2/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
Connection main line	pipe ∅ 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 outlet	pipe ∅ 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

NOTE

Further technical information, technical drawings, accessories, spare parts or product function descriptions available on SKF.com/lubrication:

1-5001-EN

3D

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

Metering device

361

Identification code 3 6 1 – _ 0 0 – _ 0 0 0 0 – 0 0

Product series

Number of metering points (1)

Design and metering quantity

Design code	**1**	**2**
Lubricant	Oil, fluid grease	Oil
∅ Outlet [mm]	4	4
Distributor body	Steel, galvanized	Brass
Metering nipple	Steel, galvanized	Brass
Elastomer	NBR	NBR
Connection outlet	**00**	**00**
Metering quantity code: 0,01 cm³	**1**	–
0,02 cm³	**2**	**2**
0,03 cm³	**3**	**3**
0,05 cm³	**4**	**4**
0,10 cm³	**5**	**5**
0,20 cm³	**6**	–

Flat washer must be ordered separately. Order number: **504-019**

Accessory

Manifold

Manifold VL

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.

Identification code V L – _ _ _ _ _ _

Product series

Number of ports

01 = 1 screw-in point
02 = 2 screw-in points
03 = 3 screw-in points
04 = 4 screw-in points
05 = 5 screw-in points
06 = 6 screw-in points
(other numbers of ports available on request)

Design of metering device pipe thread

B = Normal profile, M10×1 with counterbore for flat washer or O-ring

Material

A = Aluminum **E** = Stainless steel (1.4305) **(can only be selected for normal profile)**

Design of main line connection

G1 = G1/8 per DIN 3852-2, Form X, small
G2 = G1/4 per DIN 3852-2, Form X, small
M3 = M10x1 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)**

Metering device

310

Description

As the industry's first non-metallic metering device, SKF's Series 310 has a unique appearance. However, its sleek, contemporary design provides proven SKF reliability for a minimum of 400 000 lubrication cycles. Developed for pre-lubrication applications using oil and fluid grease, this metering device is simple to install utilizing plastic or metallic lines and can be mounted in either an upright or inverted position. It also features easily identiiable dosing elements to meet various lubrication requirements.

Features and benefits

- Suitable for use with plastic tubes or metal pipes
- Color-coded dosing elements to identify lubricant volumes
- Provides precise metering of lubricant
- Simple, lexible machine mounting in any position
- 2-, 3- or 5-port manifolds available
- Suitable for oil and fluid grease

Applications

- Machine tools
- Textile and wood industry
- Printing machines
- Conveyors

Technical data

Function principle	metering device
Outlets	2, 3 or 5
Metering quantity	0,03 to 0,16 cm^3 *0.0018 to 0.0097 in^3*
Lubricant	mineral and synthetic oil, 20 to 1 500 mm^2/s fluid grease: NLGI 00 and 000
Operating temperature	+5 to +50 °C; *+41 to +122 °F*
Operating pressure	min. 12 bar, *174 psi* max. 38 bar, *551 psi*
Relief pressure	max. 3 bar; *43.5 psi*
Materials	high-performance PA66 resin
Connection main line	fittings for ∅ 6 mm lines
Connection outlet	fittings for ∅ 4 mm lines
Dimensions	min. 68 × 70 × 20,5 mm max. 119 × 70 × 20,5 mm *min. 2.67 × 2.75 × 8.07 in* *max. 4.68 × 2.75 × 8.07 in*
Mounting position	any

NOTE

Further technical information, technical drawings, accessories, spare parts or product function descriptions available on SKF.com/lubrication:

17505 EN

3D

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

Metering device

310

Identification code 3 1 _ – 8 0 0 – _ _ _ _ _ – _ _

Product series

Number of metering points
2 = 2 outlets
3 = 3 outlets
5 = 5 outlets

Elastomer
8 = Elastomer (FPM)

Metering quantity (Outlet 1 / Outlet 2 / Outlet 3 [1] / Outlet 4 [2] / Outlet 5 [2])
0 = no outlet
2 = blue; 0,03 cm³; *0.0018 in³*
3 = white; 0,06 cm³; *0.0036 in³*
4 = grey; 0,10 cm³; *0.0061 in³*
5 = black; 0,16 cm³; *0.0097 in³*
Y = grey; closed; blind plug

Connection main line
B = ∅6 mm
Y = closed (with #898-210-001)

1) Not available for 2-outlet manifold 312 = 0
2) Not available for 2- and 3-outlet manifold 312 = 0; 313 = 0

Accessory

End-of-line plug

End-of-line plug

Order number	Description
898-210-001	End-of-main-line plug

Description

End-of-line plug suitable to plug main line outlet of 310 metering device to close the lubrication system. The red colour singalizes the end of the lubrication system.

Metering device

351

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

Function principle	metering device
Outlets	1
Metering quantity	oil: 0,05 to 0,60 cm^3 *0.0030 to 0.0366 in^3* fluid grease: 0,10 to 0,60 cm^3 *0.0061 to 0.0366 in^3*
Lubricant	mineral and synthetic oil, 20 to 2 000 mm^2/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, *1 160 psi*
Relief pressure	max. 3 bar, *43.5 psi*
Materials	aluminum, stainless steel, brass (oil), nickel-plated brass (grease), flat washer (copper, stainless steel), FKM (FPM)/NBR
Connection main line	pipe ∅ 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 ∅ 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* max. 53 × 12 mm; *2.086 × 0.472 in*
Mounting position	any

NOTE

Further technical information, technical drawings, accessories, spare parts or product function descriptions available on SKF.com/lubrication:

1-5001-EN

3D

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

Metering device

351

Identification code 3 5 1 – _ _ _ – _ 0 0 0 0 – 0 0

Product series

Number of metering points (1)

Design and metering quantity

Design code	0		8		4	1		7		2		3		6
Lubricant	Oil		Oil		Oil	Fluid grease		Fluid grease		Oil		Fluid grease		Oil
∅ Outlet [mm]	4		4		4	4		4		4		4		4
Distributor body	Aluminum		Aluminum		Steel (1.4305)	Aluminum		Aluminum		Aluminum		Aluminum		Steel (1.4305)
Metering nipple	Brass		Brass		Steel (1.4305)	Brass (n.p.)		Brass (n.p.)		Brass		Brass (n.p.)		Steel (1.4305)
Elastomer	NBR		FKM (FPM)		FKM (FPM)	NBR		FKM (FPM)		NBR		NBR		FKM (FPM)
Threaded seal	FW [1]		FW [1]		Steel (1.4305) [2]	FW [1]		FW [1]		O-ring [3]		O-ring [3]		O-ring [3]
Connection outlet	VS	00	VS	00	00	VS	00	VS	00	VS	00	VS	00	00
Metering quantity code 0,05 cm³	3	3	3	3	–	–	–	–	–	–	–	–	–	–
0,10 cm³	4	4	4	4	4	4	4	4	4	4	4	4	4	4
0,20 cm³	5	5	5	5	5	5	5	5	5	5	5	5	5	5
0,30 cm³	–	–	–	–	–	6	6	6	6	–	–	6	6	–
0,40 cm³	6	6	6	6	6	–	–	–	–	6	6	–	–	6
0,60 cm³	7	7	7	7	7	–	7	–	–	7	7	–	–	7

1) FW=Flat washer must be ordered separately. Order number: **504-019**
2) Stainless steel ring must be ordered separately. Order number: **99-1031-7603**
3) O-ring is part of the shipment

Accessory

Manifold

Manifold VL

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.

Identification code V L – _ _ _ _ _ _

Product series

Number of ports

01 = 1 screw-in point
02 = 2 screw-in points
03 = 3 screw-in points
04 = 4 screw-in points
05 = 5 screw-in points
06 = 6 screw-in points
(other numbers of ports available on request)

Design of metering device pipe thread

B = Normal profile, M10×1 with counterbore for flat washer or O-ring

Material

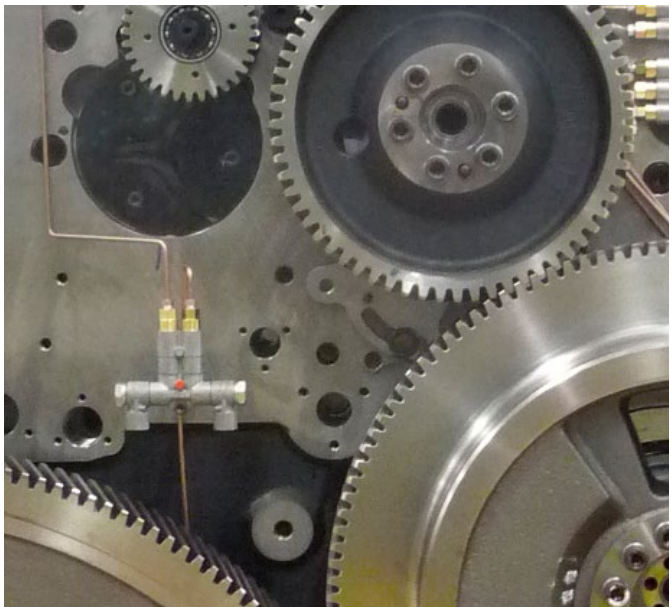
A = Aluminum **E** = Stainless steel (1.4305) **(can only be selected for normal profile)**

Design of main line connection

G1 = G1/8 per DIN 3852-2, Form X, small
G2 = G1/4 per DIN 3852-2, Form X, small
M3 = M10x1 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)**

Metering device

350



Description

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 cm^3 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	oil: 0,05 to 0,60 cm^3 *0.003 to 0.037 in^3* grease: 0,10 to 0,60 cm^3 *0.0061 to 0.037 in^3*
Lubricant	mineral and synthetic oil, 20 to 2 000 mm^2/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, *1 160 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 ∅ 6 to 10 mm; *0.236 to 0.393 in* or closure plugs for thread M 12×1
Connection outlet	pipe ∅ 4 mm metering nipple (VS) with SKF Quick Connector - metering nipple (00) for solderless pipe connection
Dimensions	min. 46 × 83 × 18 mm max. 97 × 86 × 18 mm *min. 1.811 × 3.267 × 0.708 in* *max. 3.818 × 3.385 × 0.708 in*
Mounting position	any

NOTE

Further technical information, technical drawings, accessories, spare parts or product function descriptions available on SKF.com/lubrication:

1-5001-EN

3D

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

Metering device

350

Identification code 3 5 _ – _ _ _ – _ _ _ _ _ – _ _

Product series

Number of metering points (2, 3, 5)

Design and metering quantity

Design code	**0**		**8**		**1**		**7**	
Lubricant	Oil		Oil		Fluid grease		Fluid grease	
∅ Outlet [mm]	4		4		4		4	
Metering nipple	Brass		Brass		Brass (n.p.)		Brass (n.p.)	
Elastomer	NBR		FKM (FPM)		NBR		FKM (FPM)	
Connection outlet	**VS**	**00**	**VS**	**00**	**VS**	**00**	**VS**	**00**
Metering quantity code: 0,05 cm³	**3**	**3**	**3**	**3**	–	–	–	–
0,10 cm³	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**
0,20 cm³	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**
0,30 cm³	–	–	–	–	**6**	**6**	**6**	**6**
0,40 cm³	**6**	**6**	**6**	**6**	–	–	–	-
0,60 cm³	**7**	**7**	**7**	**7**	–	**7**	–	–
closed*	**V**	**V**	**V**	**V**	**V**	**V**	**V**	**V**

V = Metering quatity of 0,20 cm³, closed

Fittings for main line connection

Designation	Main line [mm]	Code
Straight adapter DIN 3862 with flat washer [1]	6	**B**
	8	**C**
	10	**D**
Banjo fitting DIN 3862 with flat washer, lockable [1] [2]	6	**E**
	8	**F**
Screw plug with flat washer	–	**H**
Straight adapter with EO-2 functional nut	6	**M**
	8	**N**
	10	**P**
	12	**R**
Straight adapter with SKF Quick Connector	6	**S**
	8	**T**
Banjo fitting with SKF Quick Connectors	6	**W**
	8	**X**
Without fitting (M12x1 thread)	–	**Z**

1) Solderless pipe connection according to DIN 3862 (operating pressure max. 45 bar)
2) Banjo bolt only inserted in delivery condition, not tightened

Accessory

Exchangeable metering nipples

Order numbers for metering nipples for oil (replaceable)

Outlet ∅		Material elastomer	Metering nipple	Metering quantity				
mm	*in*			0,05 cm³ *0.003 in³*	0,10 cm³ *0.006 in³*	0,20 cm³ *0.012 in³*	0,40 cm³ *0.024 in³*	0,60 cm³ *0.036 in³*
4	*0.16*	NBR	00	**352-005-K**	**352-010-K**	**352-020-K**	**352-040-K**	**352-060-K**
4	*0.16*	NBR	VS	**352-005-VS**	**352-010-VS**	**352-020-VS**	**352-040-VS**	**352-060-VS**
4	*0.16*	FKM (FPM)	00	**352-005-K-S8**	**352-010-K-S8**	**352-020-K-S8**	**352-040-K-S8**	**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 numbers for metering nipples for fluid grease (replaceable)

Outlet ∅		Material elastomer	Metering nipple	Metering quantity			
mm	*in*			0,10 cm³ *0.006 in³*	0,20 cm³ *0.012 in³*	0,30 cm³ *0.018 in³*	0,60 cm³ *0.036 in³*
4	*0.16*	NBR	00	**995-993-610**	**995-993-620**	**995-993-630**	**995-993-660**
4	*0.16*	NBR	VS	**995-993-610-VS**	**995-993-620-VS**	**995-993-630-VS**	–
4	*0.16*	FKM (FPM)	00	**352-010-K-S82**	**352-020-K-S82**	**352-030-K-S82**	–
4	*0.16*	FKM (FPM)	VS	**352-010-S82-VS**	**352-020-S82-VS**	**352-030-S82-VS**	–

Metering device

370

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
Outlets	2, 3 or 5
Metering quantity	0,05 to 1,50 cm^3 *0.003 to 0.091 in^3*
Lubricant	mineral and synthetic oil 20 to 2 000 mm^2/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 ∅ 6 to 12 mm; *0.236 to 0.472 in* or closure plugs for thread M12×1
Connection outlet	pipe ∅ 4 mm; 0.16 in - metering nipple (VS) with SKF Quick Connector - metering nipple (00) for solderless pipe connection (DIN 3862)
Dimensions	min. 37 × 75 × 50,5 mm max. 88 × 75 × 56,5 mm *min. 1.456 × 2.952 × 1.988 in* *max. 3.464 × 2.952 × 2.224 in*
Mounting position	any

NOTE

Further technical information, technical drawings, accessories, spare parts or product function descriptions available on SKF.com/lubrication:

1-5001-EN

3D

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

Metering device

370

Identification code 3 7 _ – 2 _ _ – _ _ _ _ _ – _ _

Product series

Number of metering points
2 = 2 outlets
3 = 3 outlets
5 = 5 outlets

Lubrication line fitting
00 = Solderless pipe connection
VS = SKF Quick Connector

Metering quantity
3 = 0,05 cm³, *0.0030 in³*
4 = 0,10 cm³, *0.0061 in³*
5 = 0,20 cm³, *0.0122 in³*
6 = 0,40 cm³, *0.0244 in³*
7 = 0,60 cm³, *0.0366 in³*
8 = 1,00 cm³, *0.0610 in³*
9 = 1,50 cm³, *0.0915 in³*

Metering point 1
Metering point 2
Metering point 3 (0 = not present, on VN2)
Metering point 4 (0 = not present, on VN2)
Metering point 5 (0 = not present, on VN2)

Fittings for main line connection
B = Solderless pipe connection ∅ 6 mm, 0.23 in.
C = Solderless pipe connection ∅ 8 mm, 0.31 in.
D = Solderless pipe connection ∅ 10 mm, 0.39 in.
E = Banjo fitting DIN 3862 with flat washer, lockable ∅ 6 mm, 0.23 in.
F = Banjo fitting DIN 3862 with flat washer, lockable ∅ 8 mm, 0.31 in.
H = Screw plug with flat washer
M = Straight adapter with EO-2 functional nut ∅ 6 mm, 0.23 in.
N = Straight adapter with EO-2 functional nut ∅ 8 mm, 0.31 in.
P = Straight adapter with EO-2 functional nut ∅ 10 mm, 0.39 in.
R = Straight adapter with EO-2 functional nut ∅ 12 mm, 0.47 in.
S = Straight adapter with SKF Quick Connector ∅ 6 mm, 0.23 in.
T = Straight adapter with SKF Quick Connector ∅ 8 mm, 0.31 in.
W = Banjo fitting with SKF Quick Connector ∅ 6 mm, 0.23 in.
X = Banjo fitting with SKF Quick Connector ∅ 8 mm, 0.31 in.
Z = Without fitting, solderless pipe connection

Accessory

Exchangeable metering nipples

Solderless pipe connection

SKF Quick Connector

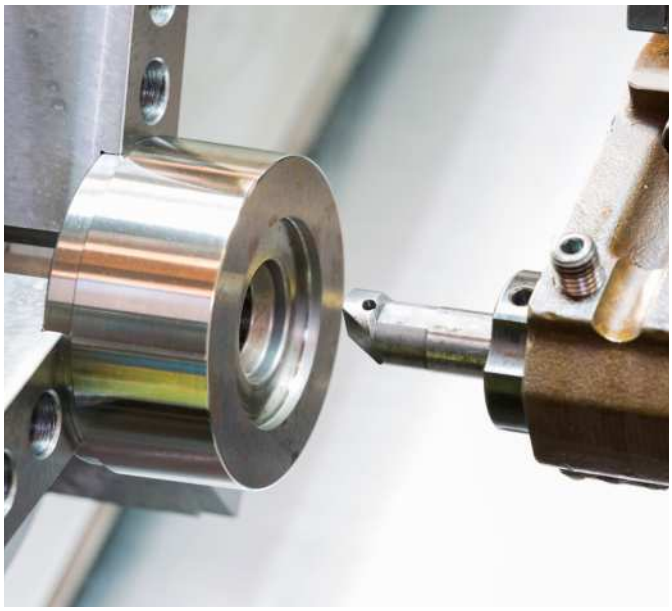
Order numbers for metering nipples* (replaceable)

Outlet ∅		Elastomer	Metering quantity						
mm	*in*		0,05 cm³ *0.003 in³*	0,10 cm³ *0.006 in³*	0,20 cm³ *0.012 in³*	0,40 cm³ *0.024 in³*	0,60 cm³ *0.036 in³*	1,00 cm³ *0.061 in³*	1,50 cm³ *0.092 in³*
4	*0.157*	NBR	**V72-005**	**V71-010**	**V71-020**	**V71-040**	**V71-060**	**V71-100**	**V71-150**

* Metering nipples are made of brass.

Metering device

391



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
Outlets	1
Metering quantity	oil: 0,2 to 1,5 cm^3; *0.01 to 0.09 in^3*
	fluid grease: 0,1 to 0,3 cm^3
	0.006 to 0.02 in^3
Lubricant	mineral and synthetic oil,
	20 to 2 000 mm^2/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, *653 psi*
Relief pressure	max. 7 bar; *1 01.5 psi*
Materials	aluminum, brass (oil), nickel-plated brass (fluid grease), copper, FKM (FPM)/NBR
Connection main line	pipe ∅ 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 outlet	pipe ∅ 4 mm; *0.16 in* - metering nipple (00) for solderless pipe connection
Dimensions	min. 67,5 × 22 mm
	max. 78,5 × 22 mm
	min. 2.657 × 0.866 in
	max. 3.091 × 0.866 in
Mounting position	any

NOTE

Further technical information, technical drawings, accessories, spare parts or product function descriptions available on SKF.com/lubrication:

1-5001-EN

3D

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Metering device

391

Identification code 3 9 1 – _ 0 0 – _ 0 0 0 0 – 0 0

Product series

Number of metering points (1)

Design and metering quantity

Design code	**0**	**8**	**1**
Lubricant	Oil	Oil	Fluid grease
∅ Outlet [mm]	4	4	4
Distributor body	Aluminum	Aluminum	Aluminum
Metering nipple	Brass	Brass	Brass, nickel-plated
Elastomer	NBR	FKM (FPM)	NBR
Threaded seal	Flat washer*	Flat washer*	Flat washer*
Connection outlet	**00**	**00**	**00**
Metering quantity code 0,10 cm³	–	–	**4**
0,20 cm³	**5**	**5**	**5**
0,30 cm³	–	–	**6**
0,40 cm³	**6**	**6**	–
0,60 cm³	**7**	**7**	–
1,00 cm³	**8**	**8**	–
1,50 cm³	**9**	**9**	–

* Flat washer must be ordered separately. Order number: **DIN7603-A14x18-CU**

Accessory

Manifold

Manifold VL

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.

Identification code V L – _ _ C A _ _

Product series

Number of ports

01 = 1 screw-in point
02 = 2 screw-in points
03 = 3 screw-in points
04 = 4 screw-in points
05 = 5 screw-in points
05 = 6 screw-in points
(other numbers of ports available on request)

Design of metering device pipe thread

C = Normal profile, M14×1,5 with counterbore for flat washer

Material

A = Aluminum

Design of main line connection

G1 = G1/8 per DIN 3852-2, Form X, small
G2 = G1/4 per DIN 3852-2, Form X, small
M3 = M10x1 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)**

Metering device

390

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

Function principle	metering device
Outlets	2 or 3
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*
Lubricant	mineral and synthetic oil 20 to 2 000 mm^2/s *0.031 to 3.100 in^2/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. 45 bar, *653 psi*
Relief pressure	max. 7 bar, *1 01.5 psi*
Materials	zinc die-cast, brass (oil), nickel-plated brass (fluid grease), copper, steel, FKM (FPM)/NBR
Connection main line	different fittings for pipe ∅ 6 to 12 mm; *0.236 to 0.472 in* or closure plugs for thread M12×1
Connection outlet	pipe ∅ 4 mm; *0.16 in* - metering nipple (00) for solderless pipe connection (DIN 3862)
Dimensions	min. 50 × 89 × 23 mm max. 71 × 89 × 23 mm *min. 1.968 × 3.503 × 0.905 in* *max. 5.393 × 3.503 × 0.905 in*
Mounting position	any

NOTE

Further technical information, technical drawings, accessories, spare parts or product function descriptions available on SKF.com/lubrication:

1-5001-EN

3D

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Metering device

390

Identification code 3 9 _ – _ _ 0 0 – _ _ _ _ 0 0 – _ _

Product series

Number of metering points (2, 3)

Design and metering quantity

Design code	**0**	**8**	**1**
Lubricant	Oil	Oil	Fluid grease
∅ Outlet [mm]	4	4	4
Distributor body	Zinc die-cast	Zinc die-cast	Zinc die-cast
Metering nipple	Brass	Brass	Brass (n.p.)
Elastomer	NBR	FKM (FPM)	NBR
Connection outlet	**00**	**00**	**00**
Metering quantity code: 0,10 cm³	–	–	**4**
0,20 cm³	**5**	**5**	**5**
0,30 cm³	–	–	**6**
0,40 cm³	**6**	**6**	–
0,60 cm³	**7**	**7**	–
1,00 cm³	**8**	**8**	–
1,50 cm³	**9**	**9**	–
closed *	**V**	**V**	**V**

* V = Metering quatity of 0,20 cm³, closed

Fittings for main line connection

Designation	Main line [mm]	Code
Straight adapter DIN 3862 with flat washer	6	**B**
	8	**C**
	10	**D**
Banjo fitting DIN 3862 with flat washer, lockable [1]	6	**E**
	8	**F**
Screw plug with flat washer	–	**H**
Straight adapter with EO-2 functional nut	6	**M**
	8	**N**
	10	**P**
	12	**R**
Straight adapter with SKF Quick Connector	6	**S**
	8	**T**
Banjo fitting with SKF Quick Connectors, not lockable	6	**W**
	8	**X**
Without fitting (M12x1 thread)	–	**Z**

[1] Banjo bolt only inserted in delivery condition, not tightened

Accessory

Exchangeable metering nipples

Order numbers for metering nipples for oil (replaceable)

Outlet ∅		Material elastomer	Metering nipple	Metering quantity				
mm	*in*			0,2 cm³ *0.012 in³*	0,4 cm³ *0.024 in³*	0,6 cm³ *0.036 in³*	1,0 cm³ *0.061 in³*	1,5 cm³ *0.092 in³*
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**

Order numbers for metering nipples for fluid grease (replaceable)

Outlet ∅		Material elastomer	Metering nipple	Metering quantity		
mm	*in*			0,10 cm³ *0.006 in³*	0,20 cm³ *0.012 in³*	0,30 cm³ *0.018 in³*
4	*0.16*	NBR	brass, nickel-plated	**391-010-K-S1**	**391-020-K-S1**	**391-030-K-S1**

Metering device

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

G

G4

T

Module

W

G7

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 ∅ 4 mm (oil) and ∅ 6 mm (fluid grease)

Applications

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

NOTE

Further technical information, technical drawings, accessories, spare parts or product function descriptions available on SKF.com/lubrication:

1-5001-EN

3D

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

Technical data

Function principle	metering device
Outlets	1
Metering quantity	Model G, G4, T, W, Modular: 0,01 to 0,10 cm³; *0.0006 to 0.006 in³* Model G7: 0,01 to 0,3 cm³ *0.0006 to 0.018 in³*
Lubricant	mineral and synthetic oil, 20 to 2 000 mm²/s, 0.031 to 3.100 in²/s fluid grease of NLGI 000, 00,0
Operating temperature	0 to +80 °C; *+32 to +176 °F*
Operating pressure	min. 12 bar, *174 psi* max. 45 bar, *653 psi*
Relief pressure	max. 3 bar, *max. 43.5 psi*
Materials	steel (galvanized, Cr6-free) or brass, NBR , G7 FKM (FPM)
Connection main line	different fittings for pipe ∅ 6 to 10 mm; *0.236 to 0.393 in* or closure plugs for thread M 10×1
Connection outlet	pipe ∅ 4 and ∅ 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* ∅: 16,2 mm; *0.638 in* wrench size 14 mm
Dimensions: 321 W	length: 46 mm; *1.811 in* width: 26 mm; *1.023 in* ∅: 11,5 mm; *0.453 in* wrench size 10 mm
Dimensions: 321 G4	length: 40,5 mm; *1.594 in* ∅: 19,6 mm; *0.771 in* wrench size 17 mm
Dimensions: 321 T	length: 43 mm; *1.692 in* width: 61 mm; *2.401 in* ∅: 16,2 mm; *0.638 in* wrench size 14 mm
Dimensions: 321 Module	∅: 30 mm; *1.181 in* height or thickness: 11 mm; *0.433 in*
Dimensions: 321 G7 small	length: 30 mm; *1.181 in* ∅: 10,3 mm; *0.405 in*
Dimensions: 321 G7 large	length: 50 mm; *1.968 in* ∅: 13,5 mm; *0.531 in*
Mounting position	any

Metering device

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

Order information

Order number			Outlet ∅		Lubricant		Metering quantity		Pipe thread of lubrication point line
321 G	321 T	321 W			Oil	Fluid grease			
			mm	*in*			cm^3	*in^3*	
321-401G1	**–**	**–**	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
321-401G3	**–**	**–**	4	*0.157*	•	–	0,01	*0.0006*	R 1/8 taper
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

* Designs G, T, W elastomer material NBR

Order numbers 321 G4, Module, G7

Order number				Outlet ∅		Lubricant		Metering quantity	
321 G4	321 Module	321 G7 small	321 G7 large			Oil	Fluid grease		
				mm	*in*			cm^3	*in^3*
–	**321-101**	**321-401G7**	**–**	4	*0.157*	•	•	0,01	*0.0006*
321-403G4	**321-103**	**321-403G7**	**–**	4	*0.157*	•	•	0,03	*0.0018*
–	**–**	**321-403G7-S8**	**–**	4	*0.157*	•	•	0,03	*0.0018*
321-406G4	**321-106**	**321-406G7**	**–**	4	*0.157*	•	•	0,06	*0.0036*
–	**–**	**321-406G7-S8**	**–**	4	*0.157*	•	•	0,06	*0.0036*
321-410G4	**–**	**321-410G7**	**321-610G7**	4	*0.157*	•	•	0,10	*0.0061*
–	**–**	**321-410G7-S8**	**–**	4	*0.157*	•	•	0,10	*0.0061*
–	**–**	**–**	**321-616G7**	6	*0.236*	•	•	0,16	*0.0098*
–	**–**	**–**	**321-620G7**	6	*0.236*	•	•	0,20	*0.0122*
–	**–**	**–**	**321-630G7**	6	*0.236*	•	•	0,30	*0.0180*

Metering device

AB

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
Outlets	1
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 mm^2/s, *0.031 to 3.100 in^2/s*, fluid grease of NLGI 000, 00
Operating temperature	0 to +80 °C; *+32 to +176 °F*
Operating pressure	min. 18 bar, *260 psi* max. 50 bar, *725 psi*
Relief pressure	max. 3 bar, *43.5 psi*
Materials	steel (galvanized, Cr6-free), stainless steel, copper, steel, flat washer (copper, stainless steel), FKM (FPM)
Connection main line	pipe ∅ 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 ∅ 4 mm; *0.16 in*, straight compression nut fitting
Dimensions	min. 43 × 14 mm max. 82,5 × 14 mm *min. 1.692 × 0.551 in* *max. 1.228 × 0.551 in*
Mounting position	any

NOTE

Further technical information, technical drawings, accessories, spare parts or product function descriptions available on SKF.com/lubrication:

1-5001-EN

3D

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

Metering device

AB

Identification code 2 4 – 2 8 0 0 – _ 0 _ _

Product series AB

Lubricant

5 = Oil/fluid grease, galvanized steel, copper ring
9 = Oil/fluid grease, stainless steel, stainless steel ring

Metering quantity

01 = 0,01 cm^3, *0.0006 in^3*
02 = 0,02 cm^3, *0.0012 in^3*
03 = 0,03 cm^3, *0.0018 in^3*
05 = 0,05 cm^3, *0.0030 in^3*
10 = 0,10 cm^3, *0.0061 in^3*
20 = 0,20 cm^3, *0.0122 in^3*
40 = 0,40 cm^3, *0.0244 in^3*
60 = 0,60 cm^3, *0.0366 in^3*

Accessory

Manifold

Manifold VL

Description

For series AB metering devices, VL-manifolds are utilized for one to six screw-in points with thread M 10x1 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.

Identification code V L – _ _ _ _ _ _

Product series

Number of ports

01 = 1 screw-in point
02 = 2 screw-in points
03 = 3 screw-in points
04 = 4 screw-in points
05 = 5 screw-in points
05 = 6 screw-in points
(other numbers of ports available on request)

Design of metering device pipe thread

B = Normal profile, M10×1 with counterbore for flat washer or O-ring

Material

A = Aluminum **E** = Stainless steel (1.4305) **(can only be selected for normal profile)**

Design of main line connection

G1 = G1/8 per DIN 3852-2, Form X, small
G2 = G1/4 per DIN 3852-2, Form X, small
M3 = M10x1 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)

Metering device

VN

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

Function principle	metering device
Outlets	2, 4 or 6
Metering quantity	0,05 to 1,00 cm^3 *0.003 to 0.061 in^3*
Lubricant	fluid grease of NLGI 000, 00
Operating temperature	–25 to +80 °C; *–13 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, steel, flat washer (copper), NBR
Connection main line	different fittings for pipe ∅ 6 to 10 mm; *0.236 to 0.393 in* or closure plugs for thread M8x1
Connection outlet	pipe ∅ 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*
Mounting position	any

NOTE
Further technical information, technical drawings, accessories, spare parts or product function descriptions available on SKF.com/lubrication:
1-5001-EN

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

Metering device

VN

Identification code V N _ – 0 _ _ – _ _ _ _ _ _ – _ _

Product series

Number of metering points
2 = 2 outlets
4 = 4 outlets
6 = 6 outlets

Lubrication line fitting
00 = Solderless pipe connection
VS = SKF Quick Connector

Metering quantity
1 = 0,05 cm³, *0.003 in³*
2 = 0,10 cm³, *0.006 in³*
3 = 0,20 cm³, *0.012 in³*
4 = 0,30 cm³, *0.018 in³*
5 = 0,40 cm³, *0.024 in³*
6 = 0,60 cm³, *0.036 in³*
7 = 1,00 cm³, *0.061 in³*

Metering point 1
Metering point 2
Metering point 3 (0 = not present, on VN2)
Metering point 4 (0 = not present, on VN2)
Metering point 5 (0 = not present, on VN2/4)
Metering point 6 (0 = not present, on VN2/4)

Fittings for main line connection
A = Solderless pipe connection ∅ 8 mm, 0.315 in
E = Solderless pipe connection ∅ 6 mm, 0.236 in
H = Screw plug with flat washer
S = SKF Quick Connector ∅ 10 mm, 0.01 in
Z = Without fitting

Accessory

Exchangeable metering nipples

Solderless pipe connection

SKF Quick Connector

Order numbers for metering nipples* (replaceable)

Outlet ∅		Elastomer	Metering quantity						
mm	*in*		0,05 cm³ *0.003 in³*	0,10 cm³ *0.006 in³*	0,20 cm³ *0.012 in³*	0,30 cm³ *0.018 in³*	0,40 cm³ *0.024 in³*	0,60 cm³ *0.036 in³*	1,00 cm³ *0.061 in³*
4	*0.16*	NBR	**VKU005-K**	**VKU010-K**	**VKU020-K**	**VKU030-K**	**VKU040-K**	**VKU060-K**	**VKU100-K**

* Metering nipples are made of brass.

Metering device

OI-AL-SR

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

Function principle	metering device
Outlets	1
Metering quantity	0,02; 0,05; 0,10 cm^3; *0.001; 0.003; 0.006 in^3*
Lubricant	mineral and synthetic oil, 22 to 1 000 mm^2/s, *0.034 to 1.55 in^2/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 max. 300 × 35 × 105 mm *min. 4.72 × 1.38 × 4.13 in* *max. 11.81 × 1.38 × 4.13 in*
Mounting position	any

NOTE
Further technical information, technical drawings, accessories, spare parts or product function descriptions available on SKF.com/lubrication:
951-231-001

Metering device

OI-AL-SR

Order information

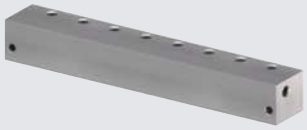
Order number	Number of outlets	Metering quantity Outlet 1		Outlet 2		Outlet 3		Outlet 4		Outlet 5		Outlet 6		Outlet 7		Outlet 8	
		cm^3	in^3	cm^3	in^3	cm^3	in^3	cm^3	in^3	cm^3	in^3	cm^3	in^3	cm^3	in^3	cm^3	in^3
647-41151-2	2	0,02	*0.001*	0,02	*0.001*	–	–	–	–	–	–	–	–	–	–	–	–
647-41152-2	3	0,02	*0.001*	0,02	*0.001*	0,02	*0.001*	–	–	–	–	–	–	–	–	–	–
647-41152-4	3	0,10	*0.006*	0,05	*0.003*	0,05	*0.003*	–	–	–	–	–	–	–	–	–	–
647-41153-2	4	0,05	*0.003*	0,05	*0.003*	0,05	*0.003*	–	–	–	–	–	–	–	–	–	–
647-41154-4	5	0,02	*0.001*	0,02	*0.001*	0,02	*0.001*	0,02	*0.001*	0,02	*0.001*	–	–	–	–	–	–
647-41154-5	5	0,02	*0.001*	0,02	*0.001*	0,02	*0.001*	0,02	*0.001*	–	–	–	–	–	–	–	–
647-41154-7	5	0,02	*0.001*	0,05	*0.003*	0,05	*0.003*	0,05	*0.003*	0,05	*0.003*	–	–	–	–	–	–
647-41154-6	5	0,05	*0.003*	0,05	*0.003*	0,05	*0.003*	0,05	*0.003*	–	–	–	–	–	–	–	–
647-41155-2	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*	–	–	–	–
647-41156-2	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 and base plates

Cartridge

Manifold



Base plate

Cartridges

Order number	Metering quantity
547-33924-1	0,02 cm^3/stroke
547-33925-1	0,05 cm^3/stroke
547-33926-1	0,10 cm^3/stroke

Manifolds

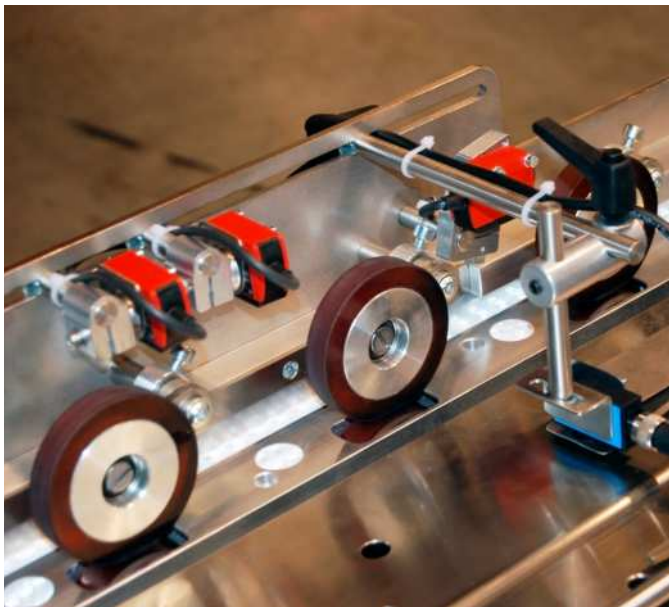
Order number	Number of ports
447-71901-1	2
447-71902-1	3
447-71903-1	4
447-71904-1	5
447-71905-1	6
447-71906-1	8

Baseplates

Order number	Number of ports
447-71899-1	40

Metering device

SL-42



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 principle	metering device
Outlets	1
Metering quantity	adjustable from 0,016 to 0,049 cm^3, *0.001 to 0.003 in^3*
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)
Connection main line	1/8 NPTF (F)
Connection outlet	pipe 1/8 O.D connections [1]
Dimensions	min. 41 × 62 × 43 mm max. 308 × 62 × 43 mm *min. 1.6 × 2.4 × 1.7 in* *max. 12.1 × 2.4 × 1.7 in*
Mounting position	any

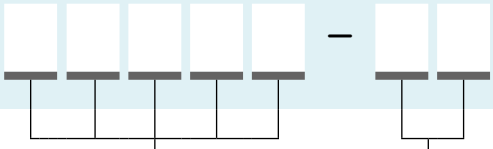
[1] Different adapters are possible → see accessories
Note: When using feed line tubing of 1/8 O.D. the feed line must not exceed a length of 7,5 m; *295 in* based on oil +18 °C; *+65 °F*

NOTE
Further technical information, technical drawings, accessories, spare parts or product function descriptions available on SKF.com/lubrication.

Metering device

SL-42

Identification code



Product series

83311 = SL-42 standard with nitrile packings
84428 = SL-42 heat resistant with fluoroelastomer packings
85352 = SL-42 standard with nitrile packings for metric tube connection
O.D. 4 and 6 mm

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

Metering device

Manifold

This picture shows a manifold example. Please note, the real manifold differs in terms of size and design.

Adapter

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
249649	metric replacement injector

Manifolds

Order number [1]	Number of ports
91863-1	1
91864-1	2
91865-1	3
91866-1	4
14361	5
91976-1	6
14312	10
14253	15

[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 ∅ mm	Material
249281	4	steel
249279	4	stainless steel
249282	6	steel
249280	6	stainless steel

Metering device

SL-43

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 cm^3 *0.001 to 0.008 in^3*
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*
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)
Connection main line	1/4 NPTF (F)
Connection outlet	pipe 1/8 O.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

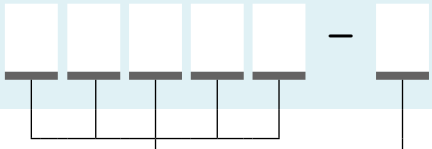
[1] Different adapters are possible → see accessories
Note: When using feed line tubing of 1/8 O.D. the feed line must not exceed a length of 7,5 m; *295 in* based on oil +18 °C; *+65 °F*

NOTE
Further technical information, technical drawings, accessories, spare parts or product function descriptions available on SKF.com/lubrication.

Metering device

SL-43

Identification code



Product series

83661 = SL-43 standard with nitrile packings
84429 = SL-43 heat resistant with fluoroelastomer packings

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

Accessories

Metering devices, manifolds and adapters

Metering device

Manifold

This picture shows a manifold example. Please note, the real manifold differs in terms of size and design.

Adapter

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

Manifolds

Order number [1]	Number of ports
91883-1	1
91884-1	2
91885-1	3
91886-1	4

[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 ∅ mm	Material
249281	4	steel
249279	4	stainless steel
249282	6	steel
249280	6	stainless steel

Metering device

SL-41

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
Outlets	1 to 5
Metering quantity	adjustable from 0,13 to 1,31 cm^3 *0.008 to 0.0689 in^3*
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*
Relief pressure	< 10 bar, *150 psi*
Materials	carbon steel, FKM (FPM)
Connection main line	3/8 NPTF (F)
Connection outlet	1/8 NPTF (F) [1]
Dimensions	min. 63 × 163,5 × 52,4 mm max. 171 × 163,5 × 52,4 mm *min. 2.5 × 6.4 × 2.1 in* *max. 6.75 × 6.4 × 2.1 in*
Mounting position	any

[1] When using feed line tubing of 1/8 O.D., feed line must not exceed a length of 7,5 m; *295 in* based on oil +18 °C; *+64 °F* 1/8 NPTF (F).

NOTE

Further technical information, technical drawings, accessories, spare parts or product function descriptions available on SKF.com/lubrication.

Metering device

SL-41

Identification code

8	2	2	9	4	–	

Product series

82294 = SL-41 heat resistant with fluoroelastomer packings

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

Accessories

Metering devices and manifolds

Metering device

Manifold

This picture shows a manifold example. Please note, the real manifold differs in terms of size and design.

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	1
11962	2
11963	3
11964	4
11965	5

[1] Each injector has two outlets. One is closed by a closure plug, but can be used to increase outlet quantity combined with another injector.

Metering device

SL-44

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 in^3*
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 max. 171 × 179,4 × 52,4 mm *min. 2.5 × 7.1 × 2.1 in* *max. 6.75 × 7.1 × 2.1 in*
Mounting position	any

1) When using feed line tubing of 1/8 O.D. the feed line must not exceed a length of 7,5 m; *295 in* based on oil +18 °C; *+65 °F*

NOTE
Further technical information, technical drawings, accessories, spare parts or product function descriptions available on SKF.com/lubrication.

Metering device

SL-44

Identification code

8 3 7 4 9 – ☐

Product series

83749 = SL-44 heat resistant with fluoroelastomer packings

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

Accessories

Metering devices and manifolds

Metering device

Manifold

This picture shows a manifold example. Please note, the real manifold differs in terms of size and design.

Replacement for manifold injectors

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

Manifolds

Order number [1]	Number of ports
12658	1
11962	2
11963	3
11964	4
11965	5

[1] Each injector has two outlets. One is closed by a closure plug, but can be used to increase outlet quantity combined with another injector.


LINCOLN
1
2
3
4
5
6

Overview of grease metering devices

Single-line metering devices

Product	Category [1]	Lubricant grease NLGI			Metering quantity		Operating pressure max.		Relief pressure max.		Adjustable metering quantity	Function type	Page
		0	1	2	cm^3/stroke	*in^3/stroke*	bar	*psi*	bar	*psi*			
SL-33 [2]	5	•	•	–	0,016–0,05	*0.0009–0.0030*	83-240	*1 200-3 500*	14	*200*	•	prelubrication	130
B-doser [2]	5	•	•	–	0,02–0,50	*0.0012–0.0305*	max. 150	*max. 2 180*	15 [3]	*218* [3]	•	prelubrication	132
LG-doser [2]	5	•	•	–	0,02–0,50	*0.0012–0.0305*	max. 150	*max. 2 180*	10 [3]	*145* [3]	•	prelubrication	134
SL-32 HV [2]	6	•	•	•	0,016–0,13	*0.0009–0.0079*	83–240	*1 200–3 500*	28	*400*	•	prelubrication	136
SL-1 [2]	6	•	•	•	0,13–1,31	*0.0079–0.0799*	127–240	*1 850–3 500*	41	*600*	•	prelubrication	137
QSL [2]	7	•	•	•	0,05–0,40	*0.0030–0.0244*	140–300	*2 030–4 350*	60	*870*	•	prelubrication	138
VR [2]	7	•	•	•	0,10–1,30	*0.0061–0.0793*	100–315	*1 450–4 570*	30 [3]	*435* [3]	•	prelubrication	140
									70 [3]	*1 000* [3]	•	prelubrication	
SLC	7	•	•	•	0,10–1,40	*0.0061–0.0840*	150–315	*2 175–4 570*	68	*990*	•	prelubrication	142
SL-11	7	•	•	•	0,82–8,20	*0.0500–0.5002*	70–240	*1 000–3 500*	55	*800*	•	prelubrication	144
SL-V	7	•	•	•	0,25–1,31	*0.0152–0.0799*	128–413	*1 850–6 000*	70	*1 000*	•	prelubrication	145
SL-V XL	7	•	•	•	0,25–5,00	*0.0152–0.3050*	128–413	*1 850–6 000*	70	*1 000*	•	prelubrication	146

1) The category allows a simple assignment of the metering device to a pump of the same category. The category results from the relief pressure, the operating principle and the lubricant suitable for the metering device.
2) Stainless steel or C5M available
3) Depending on design

Metering device

SL-33

Description

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 cm^3 *0.001 to 0.003 in^3*
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*
Relief pressure	14 bar, *200 psi*
Materials	carbon steel, stainless steel 304
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
Dimensions	min. 41 × 62 × 43 mm max. 156 × 62 × 43 mm *min. 1.6 × 2.4 × 1.7 in* *max. 6.1 × 2.4 × 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 in)* O.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 cm^3 *(0.001 in^3)*. Maximum output is achieved with two turns at 0,016 cm^3/turn *(0.001 in^3/turn)*

NOTE
Further technical information, technical drawings, accessories, spare parts or product function descriptions available on SKF.com/lubrication.

Metering device

SL-33

Order information

Order number	Designation	Material	Number of 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	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	2	1/8 NPTF (F)
83715-3	metering device including manifold	stainless steel 304	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	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	–	–

Metering device

B-doser

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 mm^3.

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 ∅ 4 and 6 mm of feedlines

Applications

- Heavy vehicles
- Heavy industrial application

Technical data

Function principle	metering device
Outlets	1 to 6
Metering quantity	0,02 to 0,50 cm^3 *0.0012 to 0.0305 in^3*
Lubricant	oil and grease NLGI 000 to 1
Operating temperature	–25 to +80 °C; *–13 to +176 °F*
Operating pressure	max. 150 bar, *2 180 psi*
Relief pressure	B1, B2=15 bar; *218 psi* B3, B4=10 bar; *145 psi* B5, B6=5 bar; *72 psi*
Materials	zinc-coated and yellow-passivated steel
Connection main line (manifold)	R 1/4 for ∅ 8 mm or pipe ∅ 1/2 in
Connection outlet	1/8 NPT(F) for ∅ 4 and 6 mm feedlines
Lubricant point	solderless pipe connection (DIN 3862)
Dimensions	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

NOTE
Further technical information, technical drawings, accessories, spare parts or product function descriptions available on SKF.com/lubrication:
11276 EN

Metering device

B-doser

Identification code B _ – G 1 / 8 – Z N – _

Product series

Metering quantity

1 = 0,02 cm³, *0.0012 in³*
2 = 0,05 cm³, *0.0030 in³*
3 = 0,10 cm³, *0.0061 in³*
4 = 0,15 cm³, *0.0091 in³*
5 = 0,20 cm³, *0.0122 in³*
6 = adjustable 0,2 to 0,5 cm³; *0.012 to 0.03 in³*

Mounting rail fitting

G1/8 = G1/8 fitting

Material

ZN = zinc-coated steel

Lubricant outlet

4 = connector for ∅ 4 mm pipe
6 = connector for ∅ 6 mm pipe
U = female thread NPT 1/8

Accessory

Manifold

Description

For B-doser metering devices, manifolds utilized are for 1 to 6 screw-in points with thread G 1/8 for O-ring sealing. Mainline fitting for G 1/4 for ∅ 8 mm or pipe ∅ 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.

Identification code B P L D – _____ – Z N

Manifold

Size

02 = 2-place mounting rail
04 = 4-place mounting rail
06 = 6-place mounting rail
0202 = 4-place mounting rail, 2 places on opposite sides
0303 = 6-place mounting rail, 3 places on opposite sides

Material

ZN = Zinc-coated and yellow-passivated steel

Metering device

LG-doser

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 ∅ 4 and ∅ 6 mm
- Robust and reliable

Applications

- Food and beverage

Technical data

Function principle	metering device
Outlets	1 to 6
Metering quantity	0,02 to 0,50 cm^3 *0.0012 to 0.0305 in^3*
Lubricant	oil and grease NLGI 000 to 1
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 ∅ 4 and 6 mm or pipe ∅ 1/4 in
Connection lubricant point	solderless pipe connection (DIN 3862)
Materials	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

NOTE
Further technical information, technical drawings, accessories, spare parts or product function descriptions available on SKF.com/lubrication:
1276 EN

Metering device

LG-doser

Identification code L G – _ _ _ – _ – _

Product series

Doser size

001 = 0,02 to 0,20 cm³
0.0012 to 0.0122 in³
002 = 0,20 to 0,50 cm³
0.0122 to 0.0305 in³

Material

S = stainless steel AISI 304

Lubricant outlet

4 = pipe connector ∅ 4 mm
6 = pipe connector ∅ 6 mm
U = lubrication pipe ∅ 1/4 in

Accessory

Manifold

Description

For LG-doser metering devices, manifolds utilized are for 1 to 6 screw-in points with thread G 1/8 for O-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.

Identification code B P L D – _ _ – S

Manifold

Size

02 = 2-place mounting rail
04 = 4-place mounting rail
06 = 6-place mounting rail
0303 = 6-place mounting rail, 3 places on opposite sides

Material

S = stainless steel AISI 303

Metering device

SL-32HV

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

NOTE
Further technical information, technical drawings, accessories, spare parts or product function descriptions available on SKF.com/lubrication.

Technical data

Function principle	metering device
Outlets	1 to 10
Metering quantity	0,016 to 0,131 cm^3 *0.001 to 0.008 in^3*
Lubricant	grease NLGI 0, 1, 2
Operating temperature	max. +93 °C; *+200 °F*
Operating pressure	83 to 240 bar, *1 200 to 3 500 psi*
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

Order information

Order number	Designation	Outlet
83336HV-1	metering device	1
83336HV-2	metering device	2
83336HV-3	metering device	3
83336HV-4	metering device	4
83336HV-5	metering device	5
83336HV-6	metering device	6
83336HV-7	metering device	7
83336HV-8	metering device	8
83336HV-9	metering device	9
83336HV-10	metering device	10
83338HV	metering device, single, no manifold	1
83337HV	metering device, single replacement	–

Metering device

SL-1

Description

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 ere-moved 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 (lubrication 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

NOTE
Further technical information, technical drawings, accessories, spare parts or product function descriptions available on SKF.com/lubrication.

Technical data

Function principle	metering device
Outlets	1 to 6
Metering quantity	0,131 to 1,31 cm^3 *0.008 to 0.080 in^3*
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*
Material	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

Order information

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

Metering device

QSL

Description

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* ∅ 28 mm; *1.1 in*
Mounting position	any

NOTE
Further technical information, technical drawings, accessories, spare parts or product function descriptions available on SKF.com/lubrication:
12735 EN

Metering device

QSL

QSL order numbers

Order number[1]	Designation Injectors	Metering quantity per stroke		Ring color
		cm^3	*in^3*	
554-32810-1	QSL 0,05	0,05	*0.00305*	blue
554-32811-1	QSL 0,1	0,10	*0.00610*	white
554-32812-1	QSL 0,2	0,20	*0.01220*	yellow
554-32813-1	QSL 0,3	0,30	*0.01830*	red
554-32814-1	QSL 0,4	0,40	*0.02440*	green

[1] In the case of backpressures in lubrication point lines of ≥ 100 bar or if several injectors are combined to one lubrication point, use check valves, order number 223-12289-7.

Accessory

Manifold, check valves and closure kit

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 O-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	Dimensions fixing hole		length, total	
		mm	*in*	mm	*in*
454-71505-1	divider bar, 2-fold	74	*2.91*	130	*5.11*
454-71506-1	divider bar, 3-fold	42	*1.65*	130	*5.11*
454-71507-1	divider bar, 4-fold	84	*3.3*	172	*6.77*
454-71508-1	divider bar, 5-fold	126	*4.96*	214	*8.42*
454-71509-1	divider bar, 6-fold	84[1]	*3.3*	256	*10.07*

[1] Instead of the planned injectors a divider bar can also be equipped with a closure kit 5, order number: **554-34387-1**

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

Metering device

VR

Description

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	block metering device
Outlets	1 to 12
Metering quantity	non-adjustable: 0,1 to 1,3 cm^3/min *0.006 to 0.079 in^3/ min* adjustable: 0,1 to 1,1 cm^3/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*
Relief pressure	30 or 70 bar; *435 or 1 015 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

NOTE

Further technical information, technical drawings, accessories, spare parts or product function descriptions available on SKF.com/lubrication:

1-5001-EN, 951-230-007

3D

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

Metering device

VR

Identification code

V	R														
					1	2	3	4	5	6	7	8	9	10	11	12	

Product series

Number of metering points

01 = 1 **07** = 7
02 = 2 **08** = 8
03 = 3 **09** = 9
04 = 4 **10** = 10
05 = 5 **11** = 11
06 = 6 **12** = 12

Code letter

Metering quantity letter
(0 = not present, e.g. for VR06 assign 0 for metering points 7–12)

Code for fittings for main line connection

Design for fluid grease and grease

Design code	A	B	C	D	E	F	G	H	N	P
Max. relief pressure [bar]	30	70	30	70	30	70	30	70	30	70
Secondary line connection	G 1/8	G 1/8	VS	VS	VS	VS	G 1/8	G 1/8	SRV[1)]	SRV[1)]
Secondary line ∅ [mm]	–	–	4	4	6	6	–	–	6	6
Corrosivity category [2)]	C3	C3	C3	C3	C3	C3	C5-M	C5-M	C5-M	C5-M

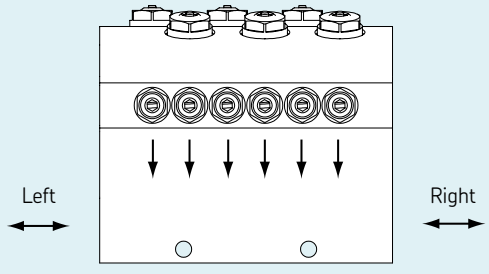
1) SRV = cutting-sleeve screw union, see page 2
2) Corrosivity categories per DIN EN ISO 12944 (certified by Germanischer Lloyd)

Metering

Metering quantity letter	A [1)]	B [1)]	D [1)]	F [1)]	H [1)]	J [1)]	M [1)]	R [2)]	X
Metering [cm³]	0,1	0,2	0,4	0,6	0,8	1	1,3	0,1–1,1	Closed

1) Fixed metering with indicator pin for visual function monitoring
2) Adjustable metering with indicator pin for visual function monitoring

Order example



VR06FFFFFFF000000Z

- Single-line distributor, 6-port
- Relief pressure max. 70 bar
- Lubrication point line connection using SKF plug connector for pipe ∅ 6 mm
- Metering quantity 1–6 = 0,6 cm
- Without fitting for main line connection (G 1/4 thread)

Fittings for main line connection

Left fitting	Right fitting	∅ Main 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** **J**
E0-2 screw union	E0-2 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**

Metering device

SLC

Description

The SKF Lincoln SLC metering device is designed for use in high-pressure singleline lubrication systems and features a modular design. Also, delivery volume can be adjusted via metering screws to ensure each lubrication point receives the required amount of lubricant. Featuring a spring-reset control piston, the metering device has a high venting capability compatible with greases up to NLGI 2. The SLC offers easy configuration to meet your needs, including different output quantity, fitting and adjustment options. With the most compact construction in its class, the SLC is suitable for many applications in renewable energy, construction, mining as well as in heavy industry.

Features and benefits

- High venting capability
- Wide delivery volume range
- Compact construction
- Easy to monitor and maintain
- Simplified failure analysis
- Reduced risk of leaks
- Reliable operation in harsh conditions with a wide operating temperature range
- Patented design and functionality
- Easy to clean

Applications

- Renewable energy
- Construction and mining
- Heavy industry

Technical data

Function principle	block metering device
Outlets	SLC1: 1 to 12 SLC2: 1 to 6
Metering quantity	optionally adjustable or fixed SLC1: 0,1–0,7 cm^3/stroke; *0.006–0.042 in^3/stroke* SLC2: 0,2–1,4 ^{3}/stroke; *0.012–0.084 in^3/stroke*
Lubricant	grease up to NLGI 2
Operating temperature	–40 to +100 °C; *–40 to +212 °F*
Operating pressure	150 to 315 bar; *2 175 to 4 570 psi*
Relief pressure	68 bar; *990 psi*
Materials	steel
Corrosion protection class	C3-High, C4-Medium (DIN EN ISO 12944)
Dimensions	SLC1: min. 75 × 50 × 80 mm max. 215 × 50 × 180 mm *min. 2.95 × 1.97 × 3.15 in* *max. 8.46 × 1.97 × 7.08 in* SLC2: min. 75 × 40 × 80 mm max. 215 × 40 × 205 mm *min. 2.95 × 1.57 × 3.15 in* *max. 8.46 × 1.57 × 8.07 in*
Mounting position	any, preferably vertical

NOTE

Further technical information, technical drawings, accessories, spare parts or product function descriptions available on SKF.com/lubrication:

17717EN

3D

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

Metering device

SLC

Identification code S L C _ _ 3 _ – _ _ _ _ _ _ – _ _ _

1 2 3 4 5 6 section

L R

Product series

Doser size
1 = SLC1 (1–2 outlets per section)
2 = SLC2 (1 outlet per section)

Main line connections
G = BSP thread for metric tubing
A = NPTF thread for imperial tubing

Corrosion protection class
3 = C3-H, C4-M

Layout variants
A = Top: stroke adjustment
B = Top: stroke adjustment, buttom: visual memory indicator
C = Top: stroke adjustment, buttom: electrical performance detector
D = Buttom: stroke adjustment
E = Top: electrical performance detector, buttom: stroke adjustment

Metering quantity

SLC1 single outlet/section version:
1 = 0,2 cm³/stroke; *0,012 in³/stroke*
2 = 0,3 cm³/stroke; *0,018 in³/stroke*
3 = 0,4 cm³/stroke; *0,024 in³/stroke*
4 = 0,5 cm³/stroke; *0,030 in³/stroke*
5 = 0,6 cm³/stroke; *0,036 in³/stroke*
6 = 0,8 cm³/stroke; *0,048 in³/stroke*
7 = 1,0 cm³/stroke; *0,060 in³/stroke*
8 = 1,2 cm³/stroke; *0,072 in³/stroke*
9 = 1,4 cm³/stroke; *0,084 in³/stroke*
S = adjustable 0,2–1,4 cm³/stroke; *0,012–0,084 in³/stroke*
V = reserve outlet, closed
Z = adjustable, reserve outlet, closed
X = no metering section

SLC1 twin outlet/section version:
B = 0,1 cm³/stroke; *0,006 in³/stroke*
C = 0,15 cm³/stroke; *0,009 in³/stroke*
D = 0,2 cm³/stroke; *0,012 in³/stroke*
E = 0,25 cm³/stroke; *0,015 in³/stroke*
F = 0,3 cm³/stroke; *0,018 in³/stroke*
G = 0,4 cm³/stroke; *0,024 in³/stroke*
H = 0,5 cm³/stroke; *0,030 in³/stroke*
K = 0,6 cm³/stroke; *0,036 in³/stroke*
L = 0,7 cm³/stroke; *0,042 in³/stroke*
R = adjustable 0,1–0,7 cm³/stroke; *0,006–0,042 in³/stroke*
X = no metering section

SLC2 single outlet/section version:
1 = 0,2 cm³/stroke; *0,012 in³/stroke*
2 = 0,3 cm³/stroke; *0,018 in³/stroke*
3 = 0,4 cm³/stroke; *0,024 in³/stroke*
4 = 0,5 cm³/stroke; *0,030 in³/stroke*
5 = 0,6 cm³/stroke; *0,036 in³/stroke*
6 = 0,8 cm³/stroke; *0,048 in³/stroke*
7 = 1,0 cm³/stroke; *0,060 in³/stroke*
8 = 1,2 cm³/stroke; *0,072 in³/stroke*
9 = 1,4 cm³/stroke; *0,084 in³/stroke*
S = adjustable 0,2–1,4 cm³/stroke; *0,012–0,084 in³/stroke*
V = reserve outlet, closed
Z = adjustable, reserve outlet, closed
X = no metering section

Lubricant inlet connections, main line
X = no fitting
A = ∅8 mm tube straight fitting, ferrule and nut
B = ∅8 mm tube straight fitting, E02 seal
C = ∅8 mm tube straight fitting without ferrule and nut
D = ∅10 mm tube straight fitting, ferrule and nut
E = ∅10 mm tube straight fitting, E02 seal
F = ∅10 mm tube straight fitting without ferrule and nut
G = ∅12 mm tube straight fitting, ferrule and nut
H = ∅12 mm tube straight fitting, E02 seal
I = ∅12 mm tube straight fitting without ferrule and nut
K = ∅10 mm tube banjo fitting, ferrule and nut
L = ∅10 mm tube banjo fitting without ferrule and nut
M = ∅12 mm tube banjo fitting, ferrule and nut
N = ∅12 mm tube banjo fitting without ferrule and nut
O = ∅8 mm tube adjustable elbow fitting, ferrule and nut
P =∅8 mm tube adjustable elbow fitting, E02 seal
R = ∅8 mm tube adjustable elbow fitting without ferrule and nut
S = ∅10 mm tube adjustable elbow fitting, ferrule and nut
T = ∅10 mm tube adjustable elbow fitting, E02 seal
U = ∅10 mm tube adjustable elbow fitting without ferrule and nut
V = ∅12 mm tube adjustable elbow fitting, ferrule and nut
W = ∅12 mm tube adjustable elbow fitting, E02 seal
Y = ∅12 mm tube adjustable elbow fitting without ferrule and nut

Z = closure plug

Lubricant outlet connections, feed line

SLC1G:
X = no fitting
A = ∅6 mm tube plug in fitting
R = ∅1/4 tube plug in fitting

SLC1A:
X = no fitting
R = ∅1/4 tube plug in fitting

SLC2G:
X = no fitting
A = ∅6 mm tube plug in fitting
E = ∅8 mm tube plug in fitting
I = ∅10 mm tube plug in fitting

SLC2A:
X = no fitting

Metering device

SL-11

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

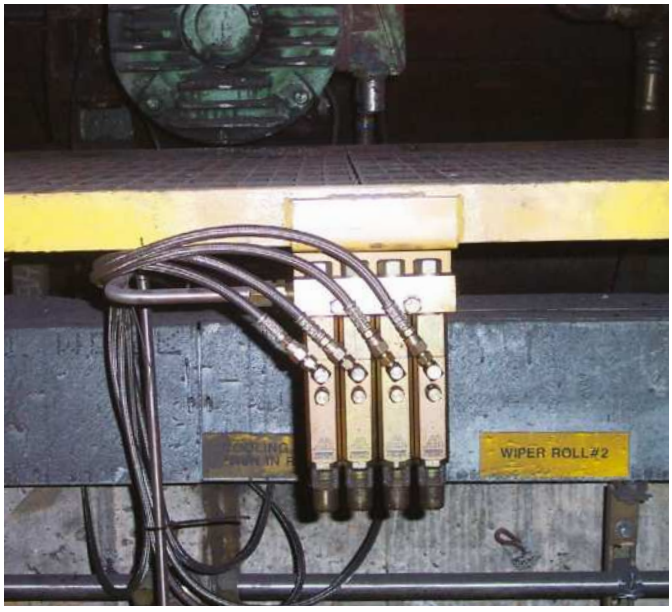
Order number	**85497**
Function principle	metering device
Outlets	1
Metering quantity	0,82 to 8,2 cm^3 *0.050 to 0.500 in^3*
Lubricant	grease NLGI 0, 1, 2
Operating temperature	-40 to +93 °C; *-40 to +200 °F*
Operating pressure	70 to 240 bar, *1 000 to 3 500 psi*
Relief pressure	55 bar, *800 psi*
Materials	carbon steel, FKM, PTFE
Connection main line	1/2 NPTF (F)
Connection outlet	1/4 NPTF (F)
Lubricant point	solderless pipe connection (DIN 3862) or plug connector
Dimensions	73 × 241 mm *2.87 × 9.48 in*
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 cm^3 *(0.05 in^3)*; maximum output is achieved with 11 1/2 turns at 0,66 cm^3/turn *(0.04 in^3/turn)*.

NOTE
Further technical information, technical drawings, accessories, spare parts or product function descriptions available on SKF.com/lubrication.

Metering device

SL-V



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

NOTE
Further technical information, technical drawings, accessories, spare parts or product function descriptions available on SKF.com/lubrication.

Technical data

Function principle	metering device
Outlets	1 to 6
Metering quantity	0,25 to 1,31 cm^3 *0.015 to 0.08 in^3*
Lubricant	grease NLGI 0, 1, 2
Operating temperature	max. +82 °C; *+180 °F*
Operating pressure	128 to 413 bar, *1 850 to 6 000 psi* typical: 172 bar, *2 500 psi*
Relief pressure	70 bar, *1 000 psi*
Materials	carbon steel
Connection main line	3/8 NPTF (F)
Connection outlet	1/8 NPTF (F)
Dimensions	min. 63 × 222 × 35 mm max. 203 × 222 × 35 mm *min. 2.5 × 8.7 × 1.4 in* *max. 6.1 × 8.7 × 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 feedlines via alternate outlet port; output with adjustment screw hand-tightened is 0,246 cm^3 *(0.015 in^3)*; maximum output is achieved with five turns at 0,229 cm^3/turn *(0.014 in^3/turn)*.

Order information

Order number	Outlets	Designation
85770-1	1	Metering device incl. manifold
85770-2	2	Metering device incl. manifold
85770-3	3	Metering device incl. manifold
85770-4	4	Metering device incl. manifold
85770-5	5	Metering device incl. manifold
85770-6	6	Metering device incl. manifold
85771	1	Replacement metering device for manifold
85772	1	Single metering device, no manifold inlet *3/8 NPTF (M)*

Metering device

SL-V XL

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; *1 850 to 6 000 psi*
Relief pressure	70 bar, *1 000 psi*
Materials	carbon steel
Connection main line	3/8 NPTF (F)
Connection outlet	1/8 NPTF (F)
Lubricant point	solderless pipe connection (DIN 3862) or plug connector
Dimensions	min. 63 × 284 × 35 mm 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 cm^3 *(0.015 in^3)*; maximum output is achieved with 20.5 turns at 0,229 cm^3/turn *(0.014 in^3/turn)*.

NOTE
Further technical information, technical drawings, accessories, spare parts or product function descriptions available on SKF.com/lubrication.

Metering device

SL-V XL

Identification code

8 5 7 8 _ – _

Product series, carbon steel

85780 = metering device incl. manifold, *3/8 NPTF (M)* inlet
85781 = replacement for manifold metering device (only one outlet possible)
85782 = single metering device, no manifold, *3/8 NPTF (M)* inlet (only one outlet possible)

Outlets

1 = 1
2 = 2
3 = 3
4 = 4
5 = 5
6 = 6


SKF


SKF


SKF
SETUP
PLS
cyc
sec
min
hrs
ENTER
RUN
PAUSE
PUMP
PROXY 1
PROXY 2
RESERVOIR
Flow
89307 Controller


SKF


SKF
POWER
ALARM
SKF ST-1240


LINCOLN

Overview of control units

Control units

Product	Operating temperature		Supply voltage max.		Adjustable	Level monitoring	Page
	°C	°F	VDC	VAC			
EXZT2A02	0 to 60	*+32 to 140*	12/24	120	•	–	150
EXZT2A05	0 to 60	*+32 to 140*	12/24	120	•	•	150
EXZT2A07	0 to 60	*+32 to 140*	12/24	120	•	•	150
IGZ36-20	0 to 60	*+32 to 140*	12/24	120	•	–	150
IGZ36-20-S6	0 to 60	*+32 to 140*	12/24	120	•	•	150
IGZ38-30	0 to 60	*+32 to 140*	12/24	120	–	•	150
IGZ38-30-S1	0 to 60	*+32 to 140*	12/24	120	–	•	150
IGZ51-20-S3	0 to 60	*+32 to 140*	12/24	120	–	–	150
ST-2240-LUB	0 to 50	*+32 to 140*	–	132/264	•	•	152
ST-1240	0 to 50	*+32 to 140*	–	132/264	•	•	153
ST-1100i	-20 to +60	*-4 to +142*	–	93-264	•	•	154
ST-102	-40 to +80	*-40 to +176*	12/24	–	•	•	155
ST-102P	-40 to +80	*-40 to +176*	12/24	–	•	•	156
84501	-18 to +54	*0 to +130*	–	120/230	•	–	157
LMC 101	-40 to +65	*-40 to +150*	12/24	–	•	•	158
EOT-1	-25 to +70	*-13 to +158*	12/24	–	•	•	157
EOT-2	-25 to +70	*-13 to +158*	12/24	–	•	•	157
85307	-15 to +50	*+5 to 122*	12/24	–	•	•	160
IG502-2-E	-25 to +75	*-13 to +167*	12/24	–	•	•	161
LMC 2	-10 to +70	*+14 to 158*	12/24	230	•	•	162
LMC 301	-40 to +70	*-40 to +158*	24	90–264	•	•	164

Control unit

EXZT/IGZ

Description

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 V AC and 200 to 240 V AC; and +472 for 24 V DC and 24 V AC. 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; *+32 to 140 °F*
Output voltage	24 V DC +10% /-15%
Connector for class	II
Protection class	IP 30, clamps IP 20
Dimensions	70 × 75 × 110 mm *2.7 × 3 × 4.3 in*
Version + 471	
Input voltage	100 – 120 V AC; 200 – 240 V AC
Input current rated	70 mA / 35 mA
Power input	8 W
Frequency	50 – 60 Hz
Fuse	max. 6.3 A
Switching current	max. 5 A
Input voltage sensors	24 V DC
Version + 472	
Input voltage	20 to 24 V DC; 20 to 24 V AC
Input current rated	75 mA at max. fan-out of 250 mA
Power input	5 W
Frequency	DC or 50 – 60 Hz
Fuse	max. 6.3 A
Switching current	max. 5 A
Input voltage sensors	24 V DC

NOTE

Further technical information, technical drawings, accessories, spare parts or product function descriptions available on SKF.com/lubrication:
1-1700-4-EN, 951-180-001

Control unit

EXZT / IGZ

Order information

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 level warning, contact	Pulse monitoring	Adjustable failure memor EEPROM
EXZT2A02+471	120 VAC	•	•	NO [1]	NO [1]	•	–	–	–
EXZT2A02+472	24 VDC	•	•	NO [1]	NO [1]	•	–	–	–
EXZT2A05+471	120 VAC	•	•	–	NC [2]	•	–	•	–
EXZT2A05+472	24 VDC	•	•	–	NC [2]	•	–	•	–
EXZT2A07+471	120 VAC	•	•	–	NC [2]	•	•	–	–
EXZT2A07+472	24 VDC	•	•	–	NC [2]	•	•	–	–
IGZ36-20+471	120 VAC	•	•	NC [2]	NO [1]	–	–	–	–
IGZ36-20+472	24 VDC	•	•	NC [2]	NO [1]	–	–	–	–
IGZ36-20-S6+471	120 VAC	•	•	NC [2]	NC [2]	–	–	–	–
IGZ36-20-S6+472	24 VDC	•	•	NC [2]	NC [2]	–	–	–	–
IGZ38-30+471	120 VAC	–	–	–	NC [2]	–	–	–	–
IGZ38-30+472	24 VDC	–	–	–	NC [2]	–	–	–	–
IGZ38-30-S1+471	120 VAC	–	–	–	NO [1]	–	–	–	–
IGZ38-30-S1+472	24 VDC	–	–	–	NO [1]	–	–	–	–
IGZ51-20-S3+471	120 VAC	•	•	NC [2]	NO [1]	•	–	–	•
IGZ51-20-S3+472	24 VDC	•	•	NC [2]	NO [1]	•	–	–	•

[1] NO = contact normally open
[2] NC = contact normally closed

Control unit

ST-2240-LUB

Description

ST-2240-LUB-6 and ST-2240-LUB-14 lubrication control centers are suitable for use in dual-line lubrication systems, as well as single-line and progressive systems. These units have a touchscreen display and are only differentiated by the cabinet size and maximum number of lubrication channels served. The ST-2240-LUB-6 controls up to 6 separate lubrication channels, while ST-2240-LUB-14 controls up to 14 channels, each having independent lubrication parameters and/allows use of different lubricants if required. The lubrication system is adjustable at field site by adding or reducing channel modules, and configuration can be changed in the field by the user. Pressure switches and transmitters or piston detectors can be used in all channels. Also the new lubricant low level ultrasonic sensor is supported.

Features and benefits

- Versatile and durable, automatic pump change (Dualset)
- Modular units provide easy system modification
- Compatible with ultrasonic low level sensor
- Grease spraying control with air monitoring
- Compatible with SKF doser monitor

Technical data

Function principle	control center
Operating temperature	0 to +50 °C, *+32 to +122 °F*
Lubricant channels	1-14
Supply voltage	115/230 V AC, automatic range selection
Supply voltage frequency	47 to 63 Hz
Control voltage	24 V DC, ± 10 %
Overload protection	automatic fuse, 6 A
Cable connection	screw terminals for 2,5 mm^2 wires
Protection class	IP 65
Interface	5.7" TFT touch screen , 320 × 240, 64k colors, ethernet and USB port mobile app for monitoring
Data logging	Log files on USB memory
Fieldbus	ModbusTCP slave, other protocols on request
Alarm Outputs	relays K1 & K2: potential-free change over contact; maximum load 230 V/1 A; channel modules: potential-free contact; maximum load 50 V DC/1A
Dimensions	600 × 600 × 250 mm *23.6 × 23.6 × 9.8 in*

Order information

Order number	Designation
12380760	ST-2240-LUB-6 control center
12380765	ST-2240-LUB-14 control center
12501270	CM channel module

NOTE
Further technical information, technical drawings, accessories, spare parts or product function descriptions available on SKF.com/lubrication:
PUB LS/P2 17950 EN

Control unit

ST-1240

Description

The ST-1240 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. Configuration can be set in the field by 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 control software

Technical data

Function principle	control center
Operating temperature	0 to +50 °C, *+32 to +122 °F*
Lubricantion channels	2
Supply voltage	93 to 132 V AC, 186 to 264 V AC
Supply voltage frequency	47 to 63 Hz
Supply current	5,4 A/115 V AC, 2,2 A/230 V AC
Control voltage	24 V DC, ± 10%
Overload protection	automatic fuse, 6 A
Cable connection	screw connections for 2,5 mm^2 wires
Protection class	IP 65
Interface	touchscreen display RS-422 port for SKF online software
Dimensions (without cable glands)	380 × 300 × 210 mm *14.9 × 11.8 × 8.3 in*

Order information

Order number	Designation
12380210	ST–1240 GRAPH control centre
12380220	**ST-1240-IF control centre**
12380747	SMS control and monitoring module for ST-1240-IF control centre

NOTE

Further technical information, technical drawings, accessories, spare parts or product function descriptions available on SKF.com/lubrication:

PUB LS/P8 12404/1 EN
PUB LS/P2 18265 EN

Control unit

ST-1100i

Description

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

- 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

- Construction machinery, mining applications

Technical data

Function priciple	control unit
Operating temperature	*–20 to +60 °C; –4 to +142 °F*
Lubricant	oil and grease
Lubricant channels	1
Operating voltage	93 to 132 VAC, 186 to 264 VAC
Operating voltage frequency	50/60 Hz
Control voltage	24 VDC, ± 10%
Protection class	IP 65
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 × 11.8 × 4.7 in*
Mounting position	vertical

Order information

Order number [1]	Designation
12380600	ST-1100i-ENG (menu: english language version)
12380692	ST-1100i-SS-ENG (menu: english language version) stainless steel enclosure

[1] Further product versions available on request.

NOTE
Further technical information, technical drawings, accessories, spare parts or product function descriptions available on SKF.com/lubrication:
13165 EN

Control unit

ST-102

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 V DC 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 -30 to +80 °C *(-22 to +176 °F)* and features an IP 30 protection class. All lubrication configurations can be set in the field by the user.

Features and benefits

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

Applications

- Service vehicles
- Construction machinery
- Agriculture machinery

Technical data

Order number	**11500610**
Function principle	control and monitoring device
Operating temperature	-30 to +80 °C; *-22 to +176 °F*
Power supply	12 and 24 V DC; (10,5 to 32 V DC)
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
Interface	1-button user interface, 3 LED's
Input	4 digital
Output	4 digital
Standard	CE
Dimensions	26 × 60 × 160 mm *1.02 × 2.36 × 6.3 in*
Mounting position	vertical

NOTE
Further technical information, technical drawings, accessories, spare parts or product function descriptions available on SKF.com/lubrication:
6408 EN

Control unit

ST-102P

Description

The ST-102P one-channel lubrication control centre is designed for the control and monitoring of lubrication systems in 12 V DC or 24 V DC 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 V DC 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,
- Trucks and buses

Technical data

Order number	**11500608**
Function principle	control unit
Operating temperature	–40 to +80 °C *–40 to +176 °F*
Operating voltage	12 or 24 V DC (10,5 to 32 V DC)
Pump output control	max. 5 A
Protection class	IP 65
Self-setting fuse	4 A on printed circuit board
Time, cycle settings:	
Pressurization time	1 to 20 min
Interval time	5, 10...120 min
Interface	1-button user interface, 3 LEDs
Dimensions	67 × 80 × 170 mm *2.64 × 3.14 × 6.7 in*
Mounting position	vertical

NOTE
Further technical information, technical drawings, accessories, spare parts or product function descriptions available on SKF.com/lubrication:
13165 EN

Control unit

84501

Description

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	control unit
Operating temperature	–18 to +54 °C; *0 to +130 °F*
Operating voltage	120/230 VAC
Operating voltage frequency	50/60 Hz
Switch capacity	120 VAC: 5 A 230 VAC: 1,5 A
Off-time cycle	min. 20 sec; max. 24 h
Off-time pumping	min. 10 sec; max. 1 min 24 sec
Prelube on time	40 sec
Protection class	NEMA 1
Standards	UL, CSA
Dimensions	173 × 210 × 125 mm *7 × 8 × 5 in*
Mounting position	vertical

NOTE
Further technical information, technical drawings, accessories, spare parts or product function descriptions available on SKF.com/lubrication.

Control unit

LMC 101

Description

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

Function principle	control unit
IVoltage input	12 V DC and 24 V DC -20%/ +30%
Current consumption	60 mA (less external load)
Vent relay contact	20 A at 30 V DC
Pump relay contact	2 A at 30 V DC
Alarm relay contact	2 A at 30 V DC
Enclosure rating	NEMA 12
Operating temperature	–40 to +65 °C; *–40 to +150 °F*
Net weight	0,9 kg, *2 lbs*
Off-time adjustable	15 sec to 99 h
On-time adjustable	15 sec to 99 h
Lubrication systems	single-line and progressive systems
Enclosure size	209 × 127 × 89 mm *8.25 × 5 × 3.50 in*
Mounting dimensions	222 × 95 mm *8.75 × 3.75 in*

Order information

Order number [1]	Designation
86535	LMC 101 controller
236-10980-2	motor starter 0,6 A; 24V DC
236-10980-3	motor starter 1,0 A; 24V DC
236-10980-4	motor starter 1,6 A; 24V DC
236-10980-5	motor starter 4,0 A; 24V DC

[1] For use with electrically driven, 3-phase pump, motor starter must be ordered separately.

NOTE
Further technical information, technical drawings, accessories, spare parts or product function descriptions available on SKF.com/lubrication:
15625 EN

Control unit

EOT-1 / EOT-2

Description

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

Order information

Order number [1]	Designation
664-34135-6	EOT 1 controller for SKF Lincoln EOP pumps
664-34135-7	EOT 2 controller for one pump unit (not EOP)
236-10980-2	motor starter 0,6 A; 24V DC
236-10980-3	motor starter 1,0 A; 24V DC
236-10980-4	motor starter 1,6 A; 24V DC
236-10980-5	motor starter 4,0 A; 24V DC

[1] For use with electrically driven, 3-phase pump, motor starter must be ordered separately.

Technical data

Function principle	control unit
Supply voltage	12/24 V DC
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. 75 min
Running time	4 sec, unvaried
EOT 2	
Pause time	min. 4 min, max. 15 h
Running time	min. 8 sec, max. 30 min
Factory setting	
EOT 1	
Pause time	15 sec
Running time	4 sec
EOT 2	
Pause time	6 h
Running time	6 min
Dimensions	122 × 118 × 56 mm *4.8 × 4.6 × 2.2 in*
Mounting position	any

NOTE
Further technical information, technical drawings, accessories, spare parts or product function descriptions available on SKF.com/lubrication:
951-181-005 EN

Control unit

85307

Description

The SKF 85307 lubrication controller provides confidence that machinery is receiving proper lubrication. Equipped with both visual and audible fault notifications, the unit's three-digit LED displays easy-to-identify codes so that lubrication system issues can be addressed quickly and efficiently. Compatible with single-line, dual-line and progressive lubrication systems, the lubrication controller has a durable, compact housing with a small footprint. Also, it is simple to install because the wiring harness attaches directly into the controller.

Optional data shuttle 85307-DS collects log files from 85307 controllers on site for later download to a PC for analysis. Up to 256 files are stored by serial number. 85307-DS also features lock/unlock 85307 controller configuration.

Features and benefits

- Easy-to-identify error codes
- Visual and audible fault notification
- Small footprint; fits in any vehicle cab
- Simple to install
- Monitors reservoir level
- Counts lubrication cycles
- Operating temperature range of –15 to +50 °C *(5 to 122 °F)*
- 12-volt or 24-volt operation
- Timing intervals from five seconds to 24 hours

Applications

- Off-road and mobile construction equipment
- General industry applications
- Chain lubrication systems
- Agriculture machinery

Technical data

Order number	**85307**
Function principle	electronic control unit with datalogger capabilities
Operating temperature	–15 to +50 °C; *+5 to +122 °F*
Connection input	wiring harness - 14 way MOLEX MINIFIT – JR
Output	4-pin connector to DataShuttle
Supply voltage	12 or 24 V DC
Protection class	IP 54
Dimensions	70 × 145 × 38 mm *2.8 × 5.7 × 1.5 in*
Mounting position	any

Accessories

Order number	Description
279630	Wiring harness
85307-DS	Data shuttle

NOTE
Further technical information, technical drawings, accessories, spare parts or product function descriptions available on SKF.com/lubrication:
17963 EN, Form 404766 v2

Control unit

IG502-2-E

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

Function principle	control unit
Control voltage	max. 12 or 24 V DC
Contact load connector M	5 A at 12 or 24 V DC
SL-output	4 W
Protection class	IP 20 DIN 40050, plug IP 00
Temperature range	–25 to +75 °C; *-13 to +167 °F*
Storage temperature	–40 to +75 °C; *-40 to +167 °F*
Fuse protection	max. 5 A
Adjustable pause time	0,1 h to 99,9 h
Adjustable pump running time	0,1 min to 99,9 min
Adjustable pulse time	1 to 999
Operation hours storage	0 to 99999,9 h
Operation- failed hours storage	0 to 99999,9 h
Dimensions	138 × 65 × 40 mm *5.43 × 2.56 × 1.57 in*

Order information

Order number	Description
IG 502-2-E+912	Controller 12 V DC
IG 502-2-E+924	Controller 24 V DC
997-000-185	Wire set

NOTE

Further technical information, technical drawings, accessories, spare parts or product function descriptions available on SKF.com/lubrication:
951-180-002 EN

Control unit

LMC 2

Description

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. The desired application can be selected by a dip switch. Parameters can be set by using the menu and keypad. Special set-up configurations are also available on request. Two basic models are available (24 V DC and 230 V AC). The unit is mounted in its own IP54 enclosure and does not need to be integrated in a control cabinet. Besides time dependent intervals, an integrated counter also facilitates a cycle-dependent control of the lubrication intervals. The LMC2 can be integrated into common field bus systems via procedure-neutral interfaces.

Features and benefits

- Integrated, flexible lubrication programs
- Well-structured prompting on the display for parameter settings and output signals
- 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
- IP54 enclosure

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 control unit
Operating temperature	–10 to +70 °C; *+14 to +158 °F*
Inputs	max. 8 digital inputs
Outputs	4 relay outputs, 1 electronic
Display	4 x 7-segment display, voltage on, ready for operation/fault, pump on, low-level signal
Interfaces	cable insert through 16 x multiple cable gland + 1 x PG bus interface and programming
Supply voltage	depending on model: 230 V AC, 24 V DC
Protection class	IP 54
Dimensions	200 × 120 × 90 mm *7.9 × 4.7 × 3.5 in*
Mounting position	any

NOTE
Further technical information, technical drawings, accessories, spare parts or product function descriptions available on SKF.com/lubrication:
14004 EN

Control unit

LMC 2

Order information

Order number [1]	Designation
236-10567-6	LMC 2 230 AC (230 V AC)
236-10567-5	LMC 2 24 DC (24 V DC)

[1] For use with electrically driven, 3-phase pump, a motor starter must be ordered separately.

Accessories

Order number	Designation
236-10980-2	motor starter 0,6 A; 24V DC
236-10980-3	motor starter 1,0 A; 24V DC
236-10980-4	motor starter 1,6 A; 24V DC
236-10980-5	motor starter 4,0 A; 24V DC
236-10980-7	motor starter 0,6 A; 230 V DC
236-10980-8	motor starter 1,0 A; 230 V DC
236-10980-9	motor starter 1,6 A; 230 V DC
236-10980-6	motor starter 4,0 A; 230 V DC

Control unit

LMC 301

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 and steel, food and beverage industry
- Mining; stationary and mobile excavators

Technical data

Function principle	electronic control unit
Operating temperature V AC	–10 to +50 °C; *+14 to +122 °F*
Operating temperature V DC	–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	depending on model: 90-264 V AC, 24 V DC ± 20%
Protection class	IP 65
Dimensions	270 × 170 × 90 mm *10.7 × 6.7 × 3.5 in*
Mounting position	vertical

Order information

Order number	Designation
086500	LMC 301; 24 V DC, master, incl. LCD display
086501	LMC 301; 100-240 V AC, master, incl. LCD display
086502	LMC 301; 24 V DC, I/O board, slave, without display
086503	LMC 301; 100-240 AC, I/O board, slave, without display

NOTE
Further technical information, technical drawings, accessories, spare parts or product function descriptions available on SKF.com/lubrication:
15967 EN, 951-150-029 EN

LMC 301 - Accessories

LMC 301 motor relay assembly

Order number	Description
236-10850-7	with motor starter 0,4–0,6 A
236-10850-8	with motor starter 0,6–1,0 A
236-10850-9	with motor starter 1,0–1,6 A
236-10980-6	with motor starter 2,4–4,0 A

LMC 301 housing

Order number	Description
086504	door housing, complete
086505	cable USB

Motor starter 24V

Order number	Designation
236-10980-2	motor starter 0,6 A; 24V DC
236-10980-3	motor starter 1,0 A; 24V DC
236-10980-4	motor starter 1,6 A; 24V DC
236-10980-5	motor starter 4,0 A; 24V DC

Motor starter 230V

Order number	Designation
236-10980-7	motor starter 0,6 A; 230 V DC
236-10980-8	motor starter 1,0 A; 230 V DC
236-10980-9	motor starter 1,6 A; 230 V DC
236-10980-6	motor starter 4,0 A; 230 V DC

General LMC 301 accessories

Order number	Description
	PG-M20 Cable gland kit, IP 65
086506	Multiple cable gasket set (3 x)
086507	Cable gasket set (3 x)
	Cable glands PG-M20; complete, with cap nut, cable gasket set, screw plug cartridge
3515-10-6020	Cable gasket set; 2-wire, ∅ 0.6 mm
3515-10-6620	Cable gasket set; 4-wire, ∅ 0.5 mm
3515-10-7620	**Blind plug**
3515-10-6320	Gasket
3515-10-6120	Counter nut
	Conduit glands, IP 65, with flexible metal tube (FMC), UL approved
3515-07-6120	Conduit glands AMG-M 20 x 1,5; UL 514B
3515-10-2021	Counter nut M 20 x 1,5
3515-07-2022	Protection hose, liquid-proof protective; UL 360 (sold by the metre, when ordering specify the required length)
179-990-486	Fuse, blade-type, FK1 3A (32 V) according to ISO 8820-3
236-11066-1	Battery, 3 V lithium button cell, model CR3032
www.skf.com/LMC301	**LMC 301 software,** free download

[1] The installation of the cable glands and cable sets to be provided and done by the customer. The customer is responsible for proper installation.


S13
psi
bar


SKF


LINCOLN
S1
AL
S2
M

Overview of pressure sensors

Mechanical pressure sensors with digital output signal

Product	Lubricant oil/fluid	grease	Pressure ranges		Operating temperature		Voltage		Contact type	Page
			bar	*psi*	° C	*° F*	V DC	V AC		
DSA	•	–	1–45	*14.5–650*	+10 to +60	*+50 to +140*	30	250	change-over	168
DSD	•	–	0,5–45	*7.25–650*	-30 to +100	*-22 to +212*	36	250	change-over	170
DSB	–	•	20–300	*290–4 350*	-25 to +80	*-13 to +176*	36	30	change-over	172
69630	•	•	19–207	*275–3 000*	-25 to +65	*-13 to +149*	–	125/250/480	NO/NC	174

Digital pressure sensors with digital or analogue output signal

Product	Lubricant oil/fluid	grease	Pressure ranges		Operating temperature		Voltage		Contact type	Page
			bar	*psi*	° C	*° F*	V DC	V AC		
DSC1	[1] •	–	0–40	*0–580*	-25 to +80	*-13 to +176*	18–30	–	2xPNP	175
DSC2	[2] •	–	0–300	*0–4 350*	-10 to +80	*+14 to +176*	18–30	–	2xPNP/NPN	176
DSC3	[2] •	–	0–300	*0–4 350*	-25 to +80	*-13 to +176*	9–35	–	2xPNP	177
234-13161-9	[2] •	•	0–250	*0–3 625*	-25 to +80	*-13 to +176*	20-32	–	NO/NC 4–20 mA	178
2340-00000118	[1] •	•	0–400	*0–5 800*	-40 to +85	*-40 to +185*	18–30	–	NO/NC 4–20 mA	179
234-10330-4	[1] •	–	0–600	*0–8 700*	-20 to +85	*-4 to +185*	24	–	NO/NC 4–20 mA	180
234-11272-4	[1] •	•	10–600	*145–8 700*	-25 to +100	*-13 to +212*	18-32	–	NO/NC 4–20 mA	181
234-13161-5	[2] •	•	0–600	*0–8 700*	-25 to +80	*-13 to +176*	20-32	–	NO/NC 4–20 mA	182
2340-00000108	[1] •	•	0–600	*0–8 700*	-40 to +85	*-40 to +185*	18–30	–	NO/NC 4–20 mA	183

[1] Pressure sensor with analogue and digital output signal
[2] Pressure sensor with digital output signal

Pressure sensor

DSA

Description

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

NOTE
Further technical information, technical drawings, accessories, spare parts or product function descriptions available on SKF.com/lubrication:
1-1701-EN

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

Technical data

Function principle	digital 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 type	change-over
Contact rating	max. 125 VA
Switch current	min. 2 mA , max. 300 mA
Switching rate	max. 30 per min
Switching voltage	max. 250 V AC / 30 V DC
Electrical connection [2]	DIN EN 175301-803, plug
Connection fitting	∅ 6 mm; connector DIN 3862, for solderless pipe union, plug connector for pipe
Materials:	
Housing	PA6 6GF30
Contact	AuAg25Pt6
Membrane	FKM (FPM)
Protection class with cable box	IP 65
Safety class	II
Dimensions	min. 76 × 120 × 41 mm max. 83 × 129 × 41 mm *min. 3.0 × 4.7 × 1.6 in* *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

Identification code

D S A 1 - _ _ _ W – _ _ _ A

Product series DS

Pressure switch type A

Switching direction

S = switch on increasing pressure
F = switch on decreasing pressure

Rated switching pressure

01 = 1 bar
02 = 2 bar
03 = 3 bar
05 = 5 bar
08 = 8 bar
12 = 12 bar
20 = 20 bar
25 = 25 bar
30 = 30 bar

Type of contact

W = change-over

Pressure port

1 = DIN 3862, ∅ 6 mm for solderless pipe union
2 = plug connector for pipe ∅ 6 mm

Position of electrical connection

M = middle
R = right
L = left

Electrical connection

1 = DIN EN 175301-803 A (DIN plug)
2 = M12×1 circular plug (only for design with electrical connection in center)

Switching voltage, max.

A = 250 V AC, 30 V DC

Pressure sensor

DSD

Description

DSD sensors are single, mechanical-diaphragm pressure switches. They are used for pressure monitoring and vary in regard of preadjusted pressures, electrical connections and dimensions. 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, DSD sensors can be integrated before the last metering device at the end of the lubrication line.

Features and benefits

- Very small and compact design
- Available for a pressure rating from 0 to 45 bar *(0 to 653 psi)* in fixed increments
- Electrical connection is established via screwed contacts, tab connectors, circular or cubic 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
- Minerals and mining
- Food and beverage
- Wind turbines

Technical data

Function principle	digital pressure switch
Lubricant	oil and fluid grease NLGI 000, 00, 0
Operating temperature:	
FKM membrane	-10 to +100 °C; *-13 to +212 °F*
NBR membrane	-25 to +100 °C; *14 to 212 °F*
Operating pressure	max. 150 bar; *max. 2 175 psi*
Overpressure	max. 300 bar; *max. 4 350 psi*
Switching pressure	0,5 to 45 bar; *7.25 to 653 psi*
Switch type	mechanical diaphragm pressure switch
Contact type	NO, NC (change-over with cubic plug connector only)
Contact rating:	
DSD3-A...A12/DSD3-A...A14	100 VA
DSD3-A...A13	24 VA
Switching voltage/current:	
DSD3-A...A12	48V DC/AC 2,5 A (min. 20 mA)
DSD3-A...A13	48V DC/AC 0,5 A (min. 20 mA)
DSD3-A...A14	30V DC 2,5 A/250V AC 5 A (min. 20 mA)
Electrical connection:	
DSD3-A...A12	combination plug - tab connector 6,3 × 0,8 mm or M3 screw
DSD3-A...A13	M12×1 plug
DSD3-A...A14	cubic plug DIN EN 175301-803-A
Pressure port	M10×1 tapered
Materials:	
Housing	steel, galvanized, Cr6-free
Contact	silver plated
Membrane	NBR or FKM
Protection class (housing)	IP 65
Dimensions, ∅ × h:	
DSD3-A...A12	26,75 × 50 mm; *1.05 × 1.97 in*
DSD3-A...A13	26,75 × 71 mm; *1.05 × 2.79 in*
DSD3-A...A14 [1)]	26,75 × 85 mm; *1.05 × 3.34 in*
Mounting position	any

[1)] Dimensions without cubic plug

Pressure sensor

DSD

Identification code D S D _ - A _ _ _ _ _ – _ _ A 1 _

Product series DS

Pressure switch type D

Manufacturer marking

3 = marking 3

Type A

Rated switching pressure

0005 = 0,5 bar, *7 psi*
0020 = 2 bar, *29 psi*
0030 = 3 bar, *44 psi*
0080 = 8 bar, *116 psi*
0120 = 12 bar, *174 psi*
0200 = 20 bar, *290 psi*
0280 = 28 bar, *405 psi*
0450 = 45 bar, *653 psi*

Further switching pressures on request

Membrane material

N = NBR
F = FKM

Type of contact

NC = closed (only with electrical connection 1–2 available)
NO = open (only with electrical connection 1–2 available)
CO = change-over (only with electrical connection 3 available)

Contact material

A = silver contacts

Pipe thread [1)]

1 = M10×1 tapered

Electrical connection

2 = combination plug - tab connector 6,3 × 0,8 or M3 screwed contacts [2)]
3 = circular connector M12×1
4 = cubic plug connector DIN EN 175301-803-A (only as change-over (CO) available)

1) More versions available on request.
2) Protection cap 898-420-001 to be ordered separately

NOTE
Further technical information, technical drawings, accessories, spare parts or product function descriptions available on SKF.com/lubrication:
19175EN

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

Pressure sensor

DSB

Description

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

Function principle	digital pressure switch
Lubricant	grease NLGI 1, 2
Operating temperature	–25 to +80 °C; *–13 to +176 °F*
Operating pressure	max. 300 bar; *4 350 psi*
Operating voltage	max. 30 V AC; max. 36 V DC
Operating current	max. 50 mA, min. 1 mA
Breaking capacity	max. 1,2 VA
Mechanical service life	10^5 switching cycles
Pressure port	G 1/4 (F)
Electrical connection	connector socket 3+PE: DIN EN 175 301-803 A cable: ∅ 4.5 to 7 mm; *∅ 0.177 to 0.275 in*
Switch type	micro switch
Contact type	change-over
Switching pressure range	20 to 300 bar; *290 to 4 350 psi*; increasing and decreasing
Materials:	
Housing	aluminum, anodized
Contact	silver alloy, hard gold plating
Protection class	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)

NOTE
Further technical information, technical drawings, accessories, spare parts or product function descriptions available on SKF.com/lubrication:
1-1701-EN

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

Pressure sensor

DSB

Identification code D S B 1 - _ _ _ _ _ _ _ – 1 _ – 0 1

Product series DS

Pressure switch type B

Pressure switch I

S = switch on increasing pressure
F = switch on decreasing pressure

Rated switching pressure I

02 = 20 bar; *290 psi*
03 = 30 bar; *435 psi*
04 = 40 bar; *580 psi*
... (in 10-bar increments up to)
30 = 300 bar; *4 350 psi*

Pressure switch II

0 = no pressure switch
S = switch on increasing pressure
F = switch on decreasing pressure

Rated switching pressure II

00 = no pressure switch
02 = 20 bar; *290 psi*
03 = 30 bar; *435 psi*
04 = 40 bar; *580 psi*
... (in 10-bar increments up to)
30 = 300 bar; *4 350 psi*

Measurement connector

A = measurement connector for pressure gauge M16×2
G = with pressure gauge 250 bar; 3 625 psi
H = with pressure gauge 400 bar; 5 800 psi
X = no measurement connector

Electrical connection

1 = DIN EN 175301-803 A (DIN plug)

Design

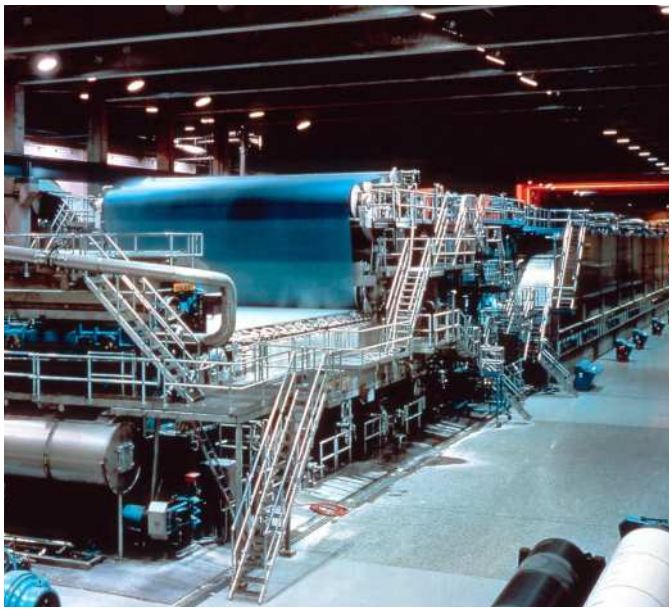
A = standard, based on corrosivity category C3 per ISO 12944, certified by Germanischer Lloyd
B = based on corrosivity category C5M per ISO 12944, certified by Germanischer Lloyd, suitable for offshore applications

Design key

01 = basic design (with thread G 1/4)

Pressure sensor

69630



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	**69630**
Function principle	digital pressure switch
Operating temperature	–25 to +65 °C *–13 to +150 °F*
Switching capacity	125, 250 or 480 V AC: 10 A 6 V DC: 15 A 24 V DC: 5 A 250 V DC: 0,3 A
Operating pressure:	
decreasing	max. 190 bar *max. 2 775 psi*
increasing	max. 207 bar *max. 3 000 psi*
Pressure port	1/4 NPTF (F)
Electrical connection	27/32 in hole for conduit connector 1/2 in
Protection class	housing and UL-listed switching elements: NEMA 3
Dimensions	57 × 146 mm *2.25 × 5.75 in*
Mounting position	vertical

NOTE
Further technical information, technical drawings, accessories, spare parts or product function descriptions available on SKF.com/lubrication:
442832

Pressure sensor

DSC1

Description

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. The values are displayed as 4-digit alphanumeric characters, at the same time there is an alternating display (red / green) to indicate the switching status. DSC1 can be operated with both hysteresis and window functions and the mode can be set separately for each switching output.

Features and benefits

- IO-Link
- Available for rising and falling pressures from 1 to 40 bar in 0,5 bar increments
- Can be operated with both, 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

Order number	**DSC1-B040E-2A2B**
Function principle	analogue/digital pressure switch
Lubricant	oil and fluid grease NLGI 000, 00, 0
Operating temperature	–25 to +80 °C *–13 to +176 °F*
Operating pressure	1–40 bar in 0,5 bar steps *14–580 psi in 7 psi steps*
Burst pressure	500 bar; *7 251 psi*
Operating voltage	18 to 30 V DC
Power consumption	max. 35 mA
Output signal	2 signal outputs; 1 x PNP transistor stages or IO-Link
Vibration resistance	20 g (10-2 000 Hz)
Service life	100×10^6 pressure changes
Material:	
Housing	stainless steel
Control panel	polycarbonate
Electrical connection	M12×1; 4-pin
Pressure port	G 1/4
Protection class	IP 67
Dimensions	34 × 91× 49,4 mm *1.33 × 3.58 × 37.4 in*
Mounting position	any

NOTE
Further technical information, technical drawings, accessories, spare parts or product function descriptions available on SKF.com/lubrication:
1-1701-EN

Pressure sensor

DSC2

Description

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
- 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	digital 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*
Operating voltage	18 to 30 V DC
Power consumption	max. 35 mA
Output signal	2 x PNP/NPN
Vibration resistance	20 g (10–2 000 Hz)
Service life	100 × 10^6 pressure changes
Material:	
Housing	aluminum, stainless steel
Control panel	polyester film
Electrical connection	M12×1, 4-pin
Pressure port	G 1/4 (F)
Protection class	IP 67
Dimensions	34 × 90,7 × 49,4 mm *1.33 × 3.57 × 37.4 in*
Mounting position	any

NOTE
Further technical information, technical drawings, accessories, spare parts or product function descriptions available on SKF.com/lubrication:
1-1701-EN

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

Pressure sensor

DSC3

Description

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
- 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	digital pressure switch
Lubricant	oil and fluid grease NLGI: 000–0
Operating temperature	–25 to +80 °C *–13 to 176 °F*
Operating pressure	max. 300 bar *max. 4 350 psi*
Operating voltage	9 to 35 V DC
Power consumption	max. 35 mA
Output signal	2 x PNP transitor stages
Vibration resistance	20 g (5–500 Hz)
Service life	100×10^6 pressure changes
Material:	
Housing	plastic
Electrical connection	M12×1, 4-pin
Pressure port	via t connector, 2 × G 1/8 (F)
Protection class	IP 67
Dimensions	42 × 115 × 40 mm *1.65 × 4.53 × 1.57 in*
Mounting position	any

NOTE

Further technical information, technical drawings, accessories, spare parts or product function descriptions available on SKF.com/lubrication:

1-1701-EN

3D

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

Pressure sensor

234-13161-9

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
- 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

Applications

- Marine and off-shore applications
- Steel and heavy industries
- Wind turbines
- Service vehicles

Technical data

Order number	**234-13161-9**
Function principle	digital pressure switch
Lubricant	oil, fluid grease and grease up to NLGI 2
Operating temperature	–25 to +80 °C; *–13 to +175 °F*
Operating pressure	max. 250 bar; *max. 3 625 psi*
Operating voltage	20–32 V DC
Output signal	1 × PNP, 4-20 mA
Current consumption	approx. 100 mA (without switching outlet)
Electrical connection	plug DIN 43650 (3pin+ PE) or plug 4-pin binder 714, M18 × 1
Pressure port	G1/4
Protection class	IP 65
Dimensions	35 × 119 × 48 mm *1.37 × 4.68 × 1.89 in*
Mounting position	any

NOTE
Further technical information, technical drawings, accessories, spare parts or product function descriptions available on SKF.com/lubrication.

Pressure sensor

2340-00000118

Description

This maintenance-free analogue pressure sensors is suitable for pressure measurements for gases and fluids. It is 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. Switching output for analogue or digital signals incl. IO-Link. It comes with reverse polarity protection of the supply voltage, excess voltage, override and short circuit protection. Different value units such as bar, mbar, psi or MPa can be selected.

Features and benefits

- IO-link incl. counter for operating hours, pressure peaks and inner temperature
- Menu-guided adjustments via push buttons
- Pre-adjustable hysteresis
- Programmable parameters, password protected
- Compact housing with 320° pivot

Applications

- Marine and off-shore applications
- Steel and heavy industries
- Wind turbines
- Service vehicles

Technical data

Order number	**2340-00000118**
Function principle	analogue/digital pressure switch, flush
Lubricant	oil, fluid grease and grease up to NLGI 2
Approval	CE, EAC, UL/CSA
Operating temperature	–40 to +85 °C; *–40 to +185 °F*
Operating pressure	max. 400 bar; *max. 5 800 psi*
Overload pressure	600 bar; *8 700 psi*
Burst pressure	1 000 bar; *14 500 psi*
Operating voltage	18–30 V DC
Operating current	max. 150 mA
Current draw	≤ 50 mA
Output signal	2x PNP/NPN (NO/NC) adjustable
Analogue Output	voltage 0 .. 10 V / current 4 .. 20 mA adjustable
Interface	IO-Link 1.1
Switching frequency	170 Hz
Switching cycles	100 Mio.
Material:	
Housing	PA6.6, stainless steel 1.4301, FKM
Measuring cell	Stainless steel 1.4435
Electrical connection	M12×1; 4-pole, A-coded
Pressure port	G1/2
Protection class	IP 67
Dimensions	116 × 34 × 49 mm *4.56 × 1.33 × 1.92 in*
Mounting position	any

NOTE
Further technical information, technical drawings, accessories, spare parts or product function descriptions available on SKF.com/lubrication.

Pressure sensor

234-10330-4

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

Order number	**234-10330-4**
Function principle	analogue/digital pressure switch
Lubricant	oil, fluid grease and grease up to NLGI 2
Operating temperature	–20 to +85 °C ; *–4 to +185 °F*
Operating pressure	0–600 bar; *0–8 700 psi*
Overload pressure	1 200 bar; *17 400 psi*
Burst pressure	2 400 bar; *34 800 psi*
Analog output signal	0/4–20 mA, apparent ohmic resistance ≤ 500 Ω
Operating voltage	15–30 V DC, nominal 24 V DC
Signal output type	PNP-Transistor
Switching current	max. 0,7 A
Current consumption	< 100 mA
Switching cycle.	≥ 20 Mio.
Electrical connection	M12 × 1; 5 pin
Pressure port	G 1/4 (BSPP)
Material:	
Housing	stainless steel 1.4404, NBR
Control panel	zinc die casting, surface treated
Protection class	IP 67
Dimensions	39,5 × 105,5 × 46,3 mm *1.55 × 4.15 × 1.82 in*
Mounting position	any

NOTE
Further technical information, technical drawings, accessories, spare parts or product function descriptions available on SKF.com/lubrication.

Pressure sensor

234-11272-4

Description

The electronic pressure switch with internal stainless steel diaphragm, suits for pressure control in automatic single-line lubrication systems. It has a 4 digit 7 segment digital display, two solid state contacts or two solid state contacts plus one analog output for switching point and hysteresis. All contacts can be adjusted via push buttons. The pressure switch is virtually maintenance free.

Features and benefits

- Alphanumeric 4-digit 7 segment LED display
- Microprocessor controlled
- Self monitoring with error display
- Scalable analog output
- Programmable parameters via keypad
- Adjustable password protection
- Revers polarity and overvoltage protected, short-circuit proof max 60 VDC temporary
- Rugged stainless steel construction
- Vibration and shock-proof, longterm stability

Applications

- Machine tools
- Chemical technics
- Wind, vehicle, steel and heavy industries
- Automation

Technical data

Order number	**234-11272-4**
Function principal	electrically operated dual output signal analogue/digital pressure switch
Lubricant	oil, fluid grease and grease up to NLGI 2
Operating temperature	–25 to +100 °C ; *–13 to +212 °F*
Operating pressure	10 to 600 bar; *145 to 8702 psi*
Operating elements	3 easy-response push buttons
Protection class	IP 65 with plug
Pressure port	G 1/4 M
Electrical connection	M12 × 1; for 4 pin or 5 pin plug
Current output	4-20 mA, apparent ohmic resistance 600 Ω at 24 V DC
Power supply	18-32 V DC reversed polarity protected (SELV, PELV)
Digital display	4-digit 7 segment LED display
Power consumption	approx. 50 mA at 24 V DC without load
Material:	
Wetted parts	stainless steel 1.4301
Electronics housing	aluminum die-cast
Seals	FKM
Dimensions	75 × 130 × 55 mm *2.95 × 5.12 × 2.16 in*
Mounting position	vertical

NOTE
Further technical information, technical drawings, accessories, spare parts or product function descriptions available on SKF.com/lubrication.

Pressure sensor

234-13161-5

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
- 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

Applications

- Marine and off-shore applications
- Steel and heavy industries
- Wind turbines
- Service vehicles

Technical data

Order number	**234-13161-5**
Function principle	digital pressure switch
Lubricant	oil, fluid grease and grease up to NLGI 2
Operating temperature	–25 to +80 °C; *–13 to +175 °F*
Operating pressure	max. 600 bar; *max. 8 700 psi*
Operating voltage	20–32 V DC
Output signal	1 × PNP, 4-20 mA
Current consumption	approx. 100 mA (without switching outlet)
Electrical connection	plug DIN 43650 (3pin+ PE) or plug 4-pin binder 714, M18 × 1
Pressure port	G1/4
Protection class	IP 65
Dimensions	35 × 119 × 48 mm *1.37 × 4.68 × 1.89 in*
Mounting position	any

NOTE
Further technical information, technical drawings, accessories, spare parts or product function descriptions available on SKF.com/lubrication.

Pressure sensor

2340-00000108

Description

This maintenance-free analogue pressure sensors is suitable for pressure measurements for gases and fluids. It is 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. Switching output for analogue or digital signals incl. IO-Link. It comes with reverse polarity protection of the supply voltage, excess voltage, override and short circuit protection. Different value units such as bar, mbar, psi or MPa can be selected.

Features and benefits

- IO-link incl. counter for operating hours, pressure peaks and inner temperature
- Menu-guided adjustments via push buttons
- Pre-adjustable hysteresis
- Programmable parameters, password protected
- Compact housing with 320° pivot

Applications

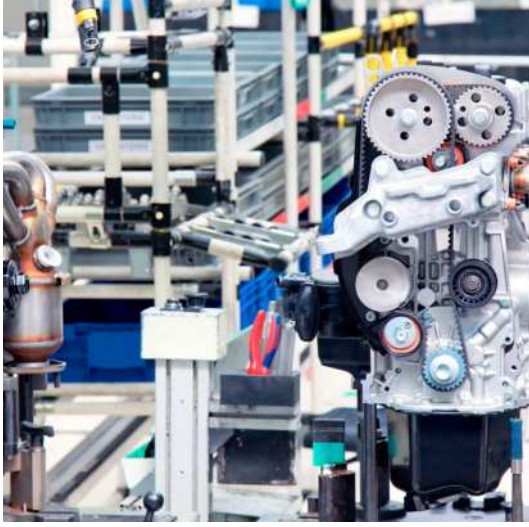
- Marine and off-shore applications
- Steel and heavy industries
- Wind turbines
- Service vehicles

Technical data

Order number	**2340-00000108**
Function principle	analogue/digital pressure switch
Lubricant	oil, fluid grease and grease up to NLGI 2
Approval	CE, EAC, UL/CSA
Operating temperature	–40 to +85 °C; *–40 to +185 °F*
Operating pressure	max. 600 bar; *max. 8 700 psi*
Overload pressure	1 000 bar; *14 500 psi*
Burst pressure	1 570 bar; *22 770 psi*
Operating voltage	18–30 V DC
Operating current	max. 150 mA
Current draw	≤ 50 mA
Output signal	2x PNP/NPN (NO/NC) adjustable
Analogue Output	voltage 0 .. 10 V / current 4 .. 20 mA adjustable
Interface	IO-Link 1.1
Switching frequency	170 Hz
Switching cycles	100 Mio.
Material:	
Housing	PA6.6, stainless steel 1.4301, FKM
Measuring cell	Ceramics Al203
Apapter	stainless steel
Electrical connection	M12×1; 4-pole, A-coded
Pressure port	G¼
Protection class	IP 67
Dimensions	95 × 34 × 49 mm *3.74 × 1.33 × 1.92 in*
Mounting position	any

NOTE
Further technical information, technical drawings, accessories, spare parts or product function descriptions available on SKF.com/lubrication.


Power
Signal
GS300
CE
PNP
Made in Germany




SKF
Power
GS304P
Signal
CE
PNP


SKF


LINCOLN
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SKF

Overview of flow monitors and sensors

Digital flow sensors with digital output signal

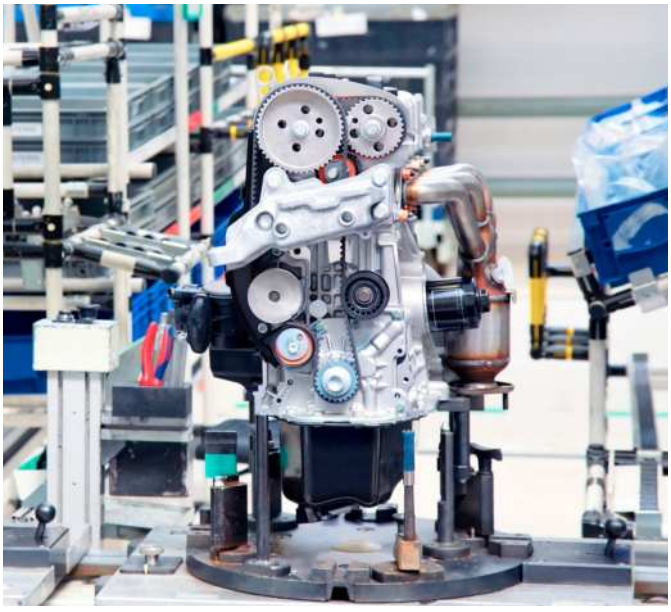
Product	Lubricant oil/fluid	grease	Function type	Operating temperature		Voltage		Page
				° C	° *F*	V DC	V AC	
GS300	•	–	Digital oil flow sensor	+10 to +50	*+50 to +122*	24	–	186

Hose connection monitor

Product	Lubricant oil/fluid	grease	Function type	Operating temperature		Voltage		Page
				° C	° *F*	V DC	V AC	
HCC	•	•	Monitoring device for hose connections	-50 to +70	*-58 to +158*	12/24	–	187

Flow sensor

GS300



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

Function principle	flow sensor
Measuring principle	calorimetrical
Lubricant 1)	oil (10 to 2 000 mm²/s)
Metering quantity	0,01 - 0,6 cm³/pulse *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	max. 40 bar; *580 psi*
Rated voltage	24 V DC
Residual ripple	10%
Working range UA	18 to 30 V DC
Max. power consumption IE	25 mA
Pulse output	3 s
Load current IA for GS300	max. 10 mA
for GS304	max. 500 mA per output
Output protection	short-circuit protection
Built-in plug	circular connector with M12×1 screw plug
Fluid connection	M 8x1 mm, port tapped for solderless Ø 4 mm tube connection
Dimensions	95 × 50 × 20 mm *3.74 × 1.96 × 0.78 in*
Mounting position	directly upstream of lubrication point
Vibration resistance	20 g (DIN / IEC 68-2-27, 10-2000 Hz)
Impact resistance	50 g (DIN / IEC 68-2-27, 11 ms)

1) Sensor needs 30 sec. of warm-up time
2) The use of oils containing corrosive and/or abrasive additives may impair sensor function and possibly damage the sensor

Order information

Order number	Switching function
GS300	Pin 1 (BN - brown): + 24 V; Pin 3 (BU - blue): 0 V Pin 4 (BK - black): PNP/NO – closes in event of flow
GS304P	Pin 1 (BN - brown): + 24 V Pin 2 (WH - white): PNP/NC – opens in event of flow Pin 3 (BU - blue): 0 V Pin 4 (BK - black): PNP/NO – closes in event of flow

NOTE

Further technical information, technical drawings, accessories, spare parts or product function descriptions available on SKF.com/lubrication:

1-1704-EN

3D

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

Hose connection control unit

HCC

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, forklifts
- Wood-handling and agriculture machine

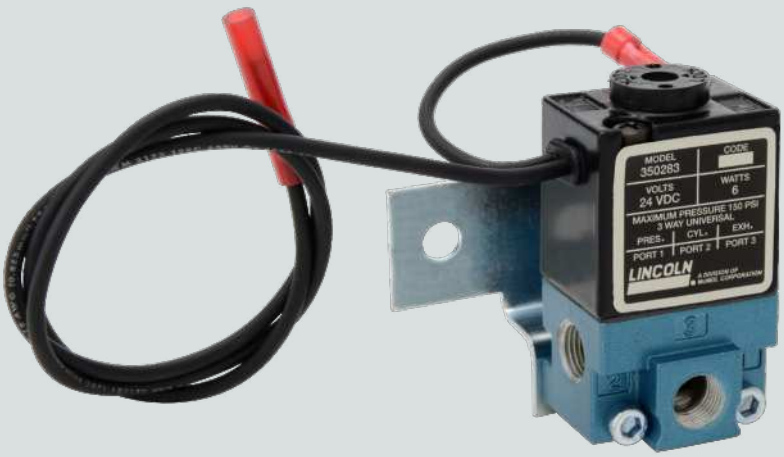
NOTE
Further technical information, technical drawings, accessories, spare parts or product function descriptions available on SKF.com/lubrication:
16966 EN, 951-170-232

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*
Power supply	12/24 V DC
Monitored hose per monitoring unit	max. 15 pieces at 12 V DC max. 24 pieces at 24 V DC
Positive ok signal	12/24 V PNP
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
Dimensions	100 × 85 × 40 mm *3.93 × 3.34 × 1.57 in*

Order information

Order number	Designation
236-10986-1	HCC, evaluation unit
236-10153-3	HCC, with cable 20 m
532-34839-2	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


MODEL
350283
CODE
VOLTS
24 VDC
WATTS
6
MAXIMUM PRESSURE 150 PSI
3 WAY UNIVERSAL
PRES.
CYL.
EXH.
PORT 1
PORT 2
PORT 3
LINCOLN

Overview of solenoid valves

Solenoid valves

Product	Type	Operating pressure max.		Operating temperature range		Voltage		Page
		bar	*psi*	° C	*° F*	V DC	V AC	
350241	3-way air valve	10,3	*150*	-18 to +60	*0 to 140*	–	110–240	190
350242	3-way air valve	10,3	*150*	-18 to +60	*0 to 140*	–	110–240	190
350244	4-way air valve	10,3	*150*	-18 to +49	*0 to 120*	–	110–240	190
350245	4-way air valve	10,3	*150*	-18 to +49	*0 to 120*	–	110–240	190
350282	3-way air valve	10,3	*150*	-18 to +60	*0 to 140*	12	–	191
350283	3-way air valve	10,3	*150*	-18 to +60	*0 to 140*	24	–	191
253-14076-6	3/2-way air valve	16	*232*	-10 to +55	*14 to 131*	–	110	192
253-14076-7	3/2-way air valve	16	*232*	-10 to +55	*14 to 131*	–	230	192
161-110-031	2/2-way oil/grease valve	500	*7 250*	-25 to +80	*-13 to +176*	24	–	193
525-32080-1	2/2-way oil/grease valve	400	*5 800*	-20 to +60	*-4 to +140*	24	–	196
525-32081-1	2/2-way oil/grease valve	400	*5 800*	-20 to +60	*-4 to +140*	–	110	196
525-32082-1	2/2-way oil/grease valve	400	*5 800*	-20 to +60	*-4 to +140*	–	230	196
525-32083-1	2/2-way oil/grease valve	400	*5 800*	-20 to +60	*-4 to +140*	24	–	196
525-32098-1	2/2-way oil/grease valve	400	*5 800*	-20 to +60	*-4 to +140*	–	110	196
525-32084-1	2/2-way oil/grease valve	400	*5 800*	-20 to +60	*-4 to +140*	–	230	196
525-32085-1	3/2-way oil/grease valve	400	*5 800*	-20 to +60	*-4 to +140*	24	–	196
525-32086-1	3/2-way oil/grease valve	400	*5 800*	-20 to +60	*-4 to +140*	–	110	196
525-32087-1	3/2-way oil/grease valve	400	*5 800*	-20 to +60	*-4 to +140*	–	230	196
525-60463-1	2/2-way oil/grease valve	700	*10 150*	-40 to +80	*-40 to +176*	24	–	195
525-60464-1	2/2-way oil/grease valve	700	*10 150*	-40 to +80	*-40 to +176*	–	110	195
525-60465-1	2/2-way oil/grease valve	700	*10 150*	-40 to +80	*-40 to +176*	–	230	195
525-60466-1	2/2-way oil/grease valve	700	*10 150*	-40 to +80	*-40 to +176*	24	–	195
525-60467-1	2/2-way oil/grease valve	700	*10 150*	-40 to +80	*-40 to +176*	–	110	195
525-60468-1	2/2-way oil/grease valve	700	*10 150*	-40 to +80	*-40 to +176*	–	230	195
525-60469-1	3/2-way oil/grease valve	700	*10 150*	-40 to +80	*-40 to +176*	24	–	195
525-60470-1	3/2-way oil/grease valve	700	*10 150*	-40 to +80	*-40 to +176*	–	110	195
525-60471-1	3/2-way oil/grease valve	700	*10 150*	-40 to +80	*-40 to +176*	–	230	195
161-140-050	4/2-way oil/grease valve	320	*4 350*	-25 to +80	*-13 to +176*	24	220	196

Solenoid valve

35024 ...

Description

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 V AC 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	
Model 350241, 350242	–18 to +60 °C, *0 to +140 °F*
Model 350244, 350245	–18 to +49 °C, *0 to +120 °F*
Operating pressure	max. 10 bar; *150 psi*
Operating voltage	110–240 V AC
Current	8,4 A
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

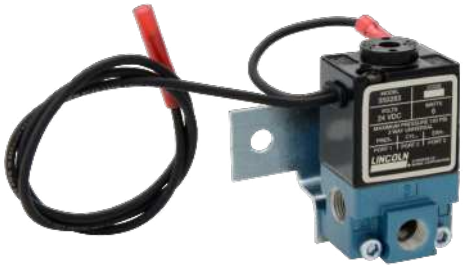
Order information

Order number	Designation	Type
350241	110 V AC, 50 Hz, 120 V AC, 60 Hz, 8,4 VA	3-way
350242	220 V AC, 50 Hz, 240 V AC, 60 Hz, 8,4 VA	3-way
350244	110 V AC, 50 Hz, 120 V AC, 60 Hz, 8,4 VA	4-way
350245	220 V AC, 50 Hz, 240 V AC, 60 Hz, 8.4 VA	4-way

NOTE
Further technical information, technical drawings, accessories, spare parts or product function descriptions available on SKF.com/lubrication.

Solenoid valve

350282, 350283



Description

Electric solenoid-operated air valves 350282 and 350283 operate as DC 3-way solenoid air valves. They are used to operate single-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) 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 V DC power requirements

Applications

- Mining and mineral processing
- Heavy machines

Technical data

Order number	**350282** **350283**
Function principle	3-way solenoid air valve
Voltage supply:	
Model 350282	12 V DC, 6 VA
Model 350283	24 V DC, 6 VA
Operating temperature	–18 to +60 °C, *0 to +140 °F*
Operating pressure .	max. 10 bar; *150 psi*
Air inlet/outlet	1/8 NPT (F)
Cv factor	0.18
Mounting position	any

NOTE
Further technical information, technical drawings, accessories, spare parts or product function descriptions available on SKF.com/lubrication:
442832

Solenoid valve

253-14076-X

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

Technical data

Function principle	3/2-way solenoid air valve with servo piston
Initial state	outlet A open
Operating temperature	–10 to +55 °C *+14 to +131 °F*
Operating pressure	0,5–16 bar; *7.3–232 psi*
Supply voltage	
Model 253-14076-6	110 V AC, 50 Hz
Model 253-14076-7	230 V AC, 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 in*, socket
Materials	brass, NBR
Output connection	socket for cable ∅ 7 mm *∅ 0.28 in*
Dimensions	179,5 × 76 × 33 mm *7.06 × 3 × 1.3 in*
Mounting position	any, especially impulse upward

Order information

Order number	Type	Operating voltage	Connection thread BSPP (F)
253-14076-6	3/2-way valve	110-120 V AC	G 1/2
253-14076-7	3/2-way valve	230 V AC	G 1/2

NOTE
Further technical information, technical drawings, accessories, spare parts or product function descriptions available on SKF.com/lubrication:

Solenoid valve

161-110-031

Description

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	**161-110-031**
Function principle	2/2-way solenoid valve
Lubricant	oil and grease up to NLGI 2
Operating temperatures:	
Oil, 4–1 500 mm/s²	–40 to +80 °C; *–40 to +176°F*
Grease, 700 mbar	–25 to +80 °C; *–13 to +176°F*
Operating pressure	max. 500 bar, *max. 7 250 psi*
Hydraulic connector	G1/4
Materials	aluminum
Supply voltage	24 V DC
Rated current	0,67 A
Rated power	16 W, 5 W
Electrical connection	DIN EN175301-803
Protection class	IP 65 with plug
Dimensions	146,5 × 55 × 45 mm *5.77 × 2.17 × 1.77 in*
Mounting position	any
Dimensions	179,5 × 76 × 33 mm 7.06 × 3 × 1.3 in

NOTE
Further technical information, technical drawings, accessories, spare parts or product function descriptions available on SKF.com/lubrication: | **1-1703-EN**

Solenoid valve

525-320XX-1

Description

525-320XX-1 are 2/2 and 3/2-way solenoid valves suitable to supply lubricant in different lubrication circuits. 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. 525-320XX-1 solenoid valves are switchable and suitable for bidirectional flows. These valves can also be used as release valves.

Features and benefits

- Suitable for bidirectional flow operation
- Suitable to divide lubricant in different lubrication circuits on different time sequences
- Cone-seated solenoid valve with dry actuation
- Switchable and resistant to compression in both flow directions

Applications

- Construction machinery
- Wind turbines
- Mining

NOTE
Further technical information, technical drawings, accessories, spare parts or product function descriptions available on SKF.com/lubrication:

Technical data

Function principle	2/2 or 3/2-way solenoid valves
Lubricant	oil, fluid grease and grease NLGI 0, 1, 2
Operating temperature	–40 to +70 °C; *–40 to +158 °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 V DC, 110 V AC, 50 Hz 230 V AC, 50-60 Hz
Current draw	0,83 A; 0,2 A; 0,1 A
Rated power	20 W
Pressure connection	G 1/2 or G 3/8
Protection class	IP 54
Isolation class	F
Materials	steel, aluminum
Dimensions	147 × 50 × 45 mm *5.78 × 1.96 × 1.77 in*
Mounting position	any

Order information

Order number	Designation	Closed circuit current	Valve type	Operating voltage
525-32080-1	WV-M-W2G-1/2- 24DC	closed	2/2	24 V DC
525-32081-1	WV-M-W2G-1/2-110AC	closed	2/2	110 V AC
525-32082-1	WV-M-W2G-1/2-230AC	closed	2/2	230 V AC
525-32083-1	WV-M-W20-1/2- 24DC	open	2/2	24 V DC
525-32098-1	WV-M-W20-1/2-110AC	open	2/2	110 V AC
525-32084-1	WV-M-W20-1/2-230AC	open	2/2	230 V AC
525-32085-1	WV-M-W3 -3/8- 24DC	n.a.	3/2	24 V DC
525-32086-1	WV-M-W3 -3/8-110AC	n.a.	3/2	110 V AC
525-32087-1	WV-M-W3 -3/8-230AC	n.a.	3/2	230 V AC

Solenoid valve

525-604XX-1

Description

525-604XX-1 are 2/2 and 3/2-way solenoid valves suitable to supply lubricant in different lubrication circuits. 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 are always open to the return line and activated by a return spring. The current switching positions remain as long as current is switched on. 525-604XX-1 solenoid valves are switchable and suitable for bidirectional flows. These valves can also be used as release valves.

Features and benefits

- Suitable for bidirectional flow operation
- Suitable to divide lubricant in different lubrication circuits on different time sequences
- Cone-seated solenoid valve with dry actuation
- Switchable and resistant to compression in both flow directions

Applications

- Construction machinery
- Wind turbines
- Mining

NOTE
Further technical information, technical drawings, accessories, spare parts or product function descriptions available on SKF.com/lubrication:

Technical data

Function principle	2/2 or 3/2-way solenoid valves
Initial state	outlet B to R is open
Lubricant	oil, fluid grease and grease NLGI 0, 1, 2
Operating temperature	–40 to +80 °C; *–40 to +176 °F*
Operating pressure	0–700 bar; *0–10 150 psi*
Flow rate	max. 2 400 cm^3/min *max. 146.5 in^3/min*
Supply voltage	24 V DC, 110 V AC, 50 Hz 230 V AC, 50-60 Hz
Current draw	0,83 A; 0,2 A; 0,1 A
Rated power	20 W
Pressure connection	G 1/2 or G 3/8
Protection class	IP 65
Isolation class	F
Materials	steel, aluminum
Dimensions	147 × 50 × 45 mm *5.78 × 1.96 × 1.77 in*
Mounting position	any

Order information

Order number	Designation	Closed circuit current	Valve type	Operating voltage
525-60463-1	WV-M-W2G-1/2- 24DC-BI	closed	2/2	24 V DC
525-60464-1	WV-M-W2G-1/2-110AC-BI	closed	2/2	110 V AC
525-60465-1	WV-M-W2G-1/2-230AC-BI	closed	2/2	230 V AC
525-60466-1	WV-M-W2O-1/2- 24DC-BI	open	2/2	24 V DC
525-60467-1	WV-M-W2O-1/2-110AC-BI	open	2/2	110 V AC
525-60468-1	WV-M-W2O-1/2-230AC-BI	open	2/2	230 V AC
525-60469-1	WV-M-W3 -3/8- 24DC-BI	n.a.	3/2	24 V DC
525-60470-1	WV-M-W3 -3/8-110AC-BI	n.a.	3/2	110 V AC
525-60471-1	WV-M-W3 -3/8-230AC-BI	n.a.	3/2	230 V AC

Solenoid valve

161-140-050

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

Technical data

Order number	**161-140-050**
Function principle	4/2-way valve
Lubricant	oil and grease up to NLGI 2
Valve, basic position	sliding, open P to A
Operating temperatures:	
oil, 4-1 500 mm^2/s	–40 to +80 °C; *–40 to +176 °F*
grease, 700 mbar	–25 to +80 °C; *–13 to +176 °F*
Operating pressure	max. 320 bar; *max. 4 350 psi*
Hydraulic connector	base plate G 1/4
Materials	aluminum
Supply voltage	DC and AC
Rated current	1,33 A at 24 V DC; 0,17 A at 220 V AC, 50 Hz
Rated power	16 W, 5 W
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
Further technical information, technical drawings, accessories, spare parts or product function descriptions available on SKF.com/lubrication:
1-1703-EN

Notes

Notes

Notes

Index

161-110-031 193
161-120-067+910 27
161-120-067+924 27
161-140-050 196
169-400-405 27
179-990-033 / -147 35
179-990-371 / -381 35
179-990-372 / -382 35
179-990-486 165
223-12289-7 139
234-10330-4 180
234-11272-4 181
234-13161-5 182
234-13161-9 178
236-10153-3 187
236-10567-5 163
236-10567-6 163
236-10850-7 165
236-10850-8 165
236-10850-9 165
236-10980-2 158
236-10980-2 159
236-10980-2 163
236-10980-2 165
236-10980-3 158
236-10980-3 159
236-10980-3 163
236-10980-3 165
236-10980-4 158
236-10980-4 159
236-10980-4 163
236-10980-4 165
236-10980-5 158
236-10980-5 159
236-10980-5 163
236-10980-5 165
236-10980-6 163
236-10980-6 165
236-10980-6 165
236-10980-7 163
236-10980-7 165
236-10980-8 163
236-10980-8 165
236-10980-9 163
236-10980-9 165
236-10986-1 187
236-11066-1 165
237-11204-8 71
253-14076-6 192
253-14076-7 192
321-101 113
321-103 113
321-106 113
321-401G1 113
321-401G2 113
321-401G3 113
321-401G7 113
321-401T2 113
321-401W2 113
321-403G1 113
321-403G2 113
321-403G3 113
321-403G4 113
321-403G7 113
321-403G7-S8 113
321-403T1 113
321-403T2 113
321-403T3 113
321-403W1 113
321-403W2 113
321-403W3 113
321-406G1 113
321-406G2 113
321-406G3 113
321-406G4 113
321-406G7 113
321-406G7-S8 113
321-406T1 113
321-406T2 113
321-406T3 113
321-406W1 113
321-406W2 113
321-406W3 113
321-410G1 113
321-410G2 113
321-410G3 113
321-410G4 113
321-410G7 113
321-410G7-S8 113
321-410T1 113
321-410T2 113
321-410T3 113
321-410W1 113
321-410W2 113
321-410W3 113
321-601G1 113
321-601G2 113
321-601T2 113
321-601T3 113
321-601W1 113
321-601W2 113
321-601W3 113
321-603G1 113
321-603G2 113
321-603G3 113
321-603T1 113
321-603T2 113
321-603T3 113
321-603W1 113
321-603W2 113
321-603W3 113
321-606G1 113
321-606G2 113
321-606G3 113
321-606T2 113
321-606T3 113
321-606W1 113
321-606W2 113
321-606W3 113
321-610G1 113
321-610G2 113
321-610G3 113
321-610G7 113
321-610T1 113
321-610T2 113
321-610T3 113
321-610W1 113
321-610W2 113
321-610W3 113
321-616G7 113
321-620G7 113
321-630G7 113
341-453-K-S8 97
341-453-S8-VS 97
341-456-K-S8 97
341-456-S8-VS 97
341-460-K-S8 97
341-460-S8-VS 97
341-466-K-S8 97
341-466-S8-VS 97
341-853-K 97
341-853-VS 97
341-856-K 97
341-856-VS 97
341-860-K 97
341-860-VS 97
352-005-K 105
352-005-K-S8 105
352-005-S8-VS 105
352-005-VS 105
352-010-K 105
352-010-K-S8 105
352-010-K-S82 105
352-010-S8-VS 105
352-010-S82-VS 105
352-010-VS 105
352-020-K 105
352-020-K-S8 105
352-020-K-S82 105
352-020-S8-VS 105
352-020-S82-VS 105
352-020-VS 105
352-030-K-S82 105
352-030-S82-VS 105
352-040-K 105
352-040-K-S8 105
352-040-S8-VS 105
352-040-VS 105
352-060-K 105
352-060-K-S8 105
352-060-S8-VS 105
352-060-VS 105
391-010-K-S1 111
391-020-K 111
391-020-K-S1 111
391-020-K-S8 111
391-030-K-S1 111
391-040-K 111
391-040-K-S8 111
391-060-K 111
391-060-K-S8 111
391-100-K 111
391-100-K-S8 111
391-150-K 111
391-150-K-S8 111
406-004-VS 27
406-004-VS 35
408-004-VS 27
408-0074-VS 35
447-71899-1 119
447-71901-1 119
447-71902-1 119
447-71903-1 119
447-71904-1 119
447-71905-1 119
447-71906-1 119

Index

451-006-060 35
451-008-060 35
454-71505-1. 139
454-71506-1. 139
454-71507-1. 139
454-71508-1. 139
454-71509-1. 139
466-431-001. 27
466-431-001. 35
501-301-011. 18
501-301-024-VS 18
501-301-303 17
501-301-313. 17
501-303-011 18
501-303-024-VS 18
506-140-VS 27
506-140-VS 35
525-32080-1 194
525-32081-1. 194
525-32082-1. 194
525-32083-1. 91
525-32083-1. 194
525-32084-1. 194
525-32085-1. 194
525-32086-1. 194
525-32087-1. 194
525-32098-1. 194
525-60463-1. 195
525-60464-1. 195
525-60465-1. 195
525-60466-1. 195
525-60467-1. 195
525-60468-1. 195
525-60469-1. 195
525-60470-1. 195
525-60471-1. 195
532-34839-2 187
532-34839-3 187
532-34839-5 187
532-34839-6 187
532-37731-1 187
541-34901-4. 35
541-34901-5. 35
547-33924-1 119
547-33925-1 119
547-33926-1 119
554-32810-1. 139
554-32811-1. 139
554-32812-1 139
554-32813-1. 139
554-32814-1. 139
554-34387-1. 139
624-29054-1 77
624-29054-1 85
624-29056-1 77
624-29056-1 85
645-29873-1. 77
645-29873-1. 85
645-77196-1 77
645-77196-1 85
645-77625-1 77
645-77625-1 85
645-77734-1. 77
645-77734-1. 85
647-41151-2. 119
647-41152-2. 119
647-41152-4. 119
647-41153-2. 119
647-41154-4. 119
647-41154-5. 119
647-41154-6. 119
647-41154-7. 119
647-41155-2. 119
647-41156-2. 119
664-34135-6. 159
664-34135-7. 159
898-110-120. 35
898-210-001 101
995-901-061 27
995-901-063 27
995-901-065 35
995-993-610 105
995-993-610-VS 105
995-993-620 105
995-993-620-VS 105
995-993-630 105
995-993-630-VS 105
995-993-660 105
995-994-003 97
995-994-006 97
995-994-010 97
995-994-016 97
995-994-103 97
995-994-103-VS 97
995-994-106 97
995-994-106-VS 97
995-994-110. 97
995-994-110-VS 97
995-994-116. 97
995-994-116-VS 97
997-000-185 161
1810. 55
1812. 16
1826. 33
2340-00000083. 67
2340-00000108. 183
2340-00000118 179
2350-00000077 67
3515-07-2022 165
3515-07-6120. 165
3515-10-2021. 165
3515-10-6020 165
3515-10-6120. 165
3515-10-6320 165
3515-10-6620 165
3515-10-7620. 165
4090-00000011 67
5090-00000001. 67
5090-00000005. 67
5090-00000011 67
5090-00000012 67
5090-00000013 67
6640-00000046. 67
6640-00000064. 67
6640-00000065. 67
11962. 125
11962. 127
11963. 125
11963. 127
11964. 125
11964. 127
11965. 125
11965. 127
12658. 125
12658. 127
14253. 121
14312 121
14361 121
69630. 174
80127. 37
80128. 37
81770-1 137
81770-2 137
81770-3 137
81770-4 137
81770-5 137
81770-6 137
82292. 125
82295. 125
82570. 32
82653. 62
82655. 62
82676. 29
82885. 21
82886. 58
83167. 63
83309-1. 131
83309-2 131
83309-3 131
83309-4 131
83309-5 131
83309-6 131
83313. 121
83314. 131
83314-9. 131
83336HV-1 136
83336HV-2 136
83336HV-3 136
83336HV-4 136
83336HV-5 136
83336HV-6 136
83336HV-7 136
83336HV-8 136
83336HV-9 136
83336HV-10 136
83337HV 136
83338HV 136
83535. 121
83599. 64
83660. 123
83662. 123
83667. 21
83668. 58
83715-1 131
83715-2 131
83715-3 131
83715-4 131
83715-6 131
83715-7 131
83748. 127
83800 62
83817. 54
83834. 62
83900 131
83900-9 131
84048. 121

Index

84050. 74
84110. 123
84501. 157
84616. 71
84944. 68
84960. 69
84961. 68
84962. 69
84980. 71
84990. 71
85307. 160
85307-DS 160
85430. 31
85431. 31
85432. 31
85433. 31
85434. 61
85435. 61
85436. 61
85438. 22
85440. 22
85441. 22
85442. 59
85444. 60
85445. 60
85460. 74
85474 91
85475 91
85479 91
85492. 71
85492. 91
85497. 144
85664. 91
85665. 91
85722. 71
85722MS0. 71
85723. 71
85724. 71
85725. 71
85725MS0. 71
85726. 71
85727. 71
85727MS0. 71
85728. 91
85728MS0. 91
85729. 91
85729MS0. 91
85730. 91
85730MS0. 91
85731. 71
85732. 71
85733. 71
85734. 71
85735. 71
85736. 91
85737 91
85738. 91
85739. 91
85740 91
85741 71
85742 71
85743 91
85744 91
85745 91
85746 91
85747 91
85748 91
85749 91
85750 91
85751 91
85752 91
85753 91
85754 91
85762MS0. 91
85763MS0. 91
85770-1. 145
85770-2. 145
85770-3. 145
85770-4. 145
85770-5. 145
85770-6. 145
85771 145
85772 145
85878MS0. 91
086500 164
086501 164
086502 164
086503 164
086504 165
086505 165
086506 165
086507. 165
86535. 158
91863-1. 121
91864-1. 121
91865-1. 121
91866-1. 121
91883-1. 123
91884-1. 123
91885-1. 123
91886-1. 123
91976-1 121
249279. 121
249279. 123
249280. 121
249280. 123
249281. 121
249281. 123
249282. 121
249282. 123
249649. 121
270982. 71
270982. 91
271605. 71
271606. 71
272180. 91
274899. 91
276325. 91
276903. 91
276919 91
279630. 160
282288 75
283167. 20
350241. 190
350242. 190
350244. 190
350245. 190
350282 191
350283 191
11390060 65
11390070. 65
11395200. 83
11395210. 83
11395211. 83
11395227. 83
11395254. 83
11500608 156
11500610. 83
11500610. 155
12375000. 87
12375020. 87
12375040. 87
12375060. 87
12375080. 87
12375100. 87
12375120. 87
12375140. 87
12375160. 87
12375180. 87
12375200. 87
12375220. 87
12380210 153
12380220 153
12380600 154
12380692 154
12380747. 83
12380747. 153
12380760. 152
12380765. 152
12381280. 87
12381285. 87
12381290. 87
12381292. 87
12381294. 87
12381296. 87
12381381. 73
12381382. 73
12381383. 73
12381384. 73
12381385. 73
12381386. 73
12381700. 73
12381701. 73
12381702. 73
12382666 73
12389912. 83
12389916. 83
12389919. 83
12389924. 83
12389925. 83
12389936 83
12389937. 83
12389942 83
12389943. 83
12389944. 83
12389953 83
12389954 83
12501270. 152
ACP15-1WA11X2-F10. 25
ACP15-1WA11X2-F17. 25
ACP15-1WA11XX-U10 25
ACP15-1WA11XX-U17 25
ACP15-10A11X2-F05 25
ACP15-10A11X2-F10 25
ACP15-10A11X2-F17 25
ACP15-10A11XX-U05. 25

Index

ACP15-10A11XX-U10 25
ACP15-10A11XX-U17 25
BPH30-3001AB-VA0M . . . 66
BPH30-3001AB-VA0M 1) . 67
BPH30-3101AB-VA0M . . . 66
BPH30-3101AB-VA0M 1) . 67
DSC1-B040E-2A2B 175
DSC2–A100E–2A2B 176
DSC3–A100K–3A2B 177
EXZT2A02+471 151
EXZT2A02+472 151
EXZT2A05+471 151
EXZT2A05+472 151
EXZT2A07+471 151
EXZT2A07+472 151
GS300 186
GS304P 186
IG 502-2-E+912 161
IG 502-2-E+924 161
IGZ36-20+471 151
IGZ36-20+472 151
IGZ36-20-S6+471 151
IGZ36-20-S6+472 151
IGZ38-30+471 151
IGZ38-30+472 151
IGZ38-30-S1+471 151
IGZ38-30-S1+472 151
IGZ51-20-S3+471 151
IGZ51-20-S3+472 151
KFB1+912 39
KFB1+924 39
KFB1-4-S1+912 39
KFB1-4-S1+924 39
KFB1-6-S1+912 39
KFB1-6-S1+924 39
KFB1-M+924 41
KFB1-M-W+924 41
KFB1-W+912 39
KFB1-W+924 39
KFB1-W-4-S1+912 39
KFB1-W-4-S1+924 39
KFB1-W-6-S1+912 39
KFB1-W-6-S1+924 39
KFBS1+912 39
KFBS1+924 39
KFBS1-4-S1+912 39
KFBS1-4-S1+924 39
KFBS1-6-S1+912 39
KFBS1-6-S1+924 39
KFBS1-M+924 41
KFBS1-M-W+924 41
KFBS1-W+912 39
KFBS1-W+924 39
KFBS1-W-4-S1+912 39
KFBS1-W-4-S1+924 39
KFBS1-W-6-S1+912 39
KFBS1-W-6-S1+924 39
KFU2-40+912 43
KFU2-40+924 43
KFU6-20+912 43
KFU6-20+924 43
KFUS2-64+912 43
KFUS2-64+924 43
LF001/MR380 35
MCP15-1WA01X2-F10 15
MCP15-1WA01X2-F17 15
MCP15-1WA01XX-U10 15
MCP15-1WA01XX-U17 15
MCP15-10A01X2-F05 15
MCP15-10A01X2-F10 15
MCP15-10A01X2-F17 15
MCP15-10A01XX-U05 15
MCP15-10A01XX-U10 15
MCP15-10A01XX-U17 15
MFE2-K3-2+299 49
MFE2-K3F-2+299 49
MFE2-K6F+299 49
MFE2-K6F-S2+299 49
MFE2-KW3F-S9+MPG 49
MFE2-KW3F-S13+1GD 49
MFE2-KW6F-S1+299 49
MFE2-KW6F-S20+MPG . . . 49
MFE2-KW6F-S37+1GD 49
MFE2-KW6F-S41+1FW . . . 49
MFE5-B3-2+299 49
MFE5-B7+299 49
MFE5-BW3-2+299 49
MFE5-BW3-2-S28+299 . . . 49
MFE5-BW3-2-S34+1GD . . 49
MFE5-BW3-S41+MPG 49
MFE5-BW7+299 49
MFE5-BW7-S22+1GD 49
MFE5-BW7-S97+1FW 49
MFE5-BW7-S107+MPG . . . 49
MFE5-BW7-S222+MPG . . . 49
MFE5-BW16+299 49
MFE5-BW16-S96+MPG . . . 49
MFE5-BW16-S145+1GD . . . 49
MFE5-BW16-S222+MPG . . 49
MFE5-BW30+299 49
MFE5-BW30-S30+29E . . . 49
MFE5-BW30-S35+MPG . . . 49
MFE5-BW30-S222+MPG . . 49
MFE5-K3-2+299 49
MFE5-K6+299 49
MFE5-KW3-2+299 49
MFE5-KW3-2-S4+299 49
MFE5-KW3-S24+MPG 49
MFE5-KW3-S35+1FW 49
MFE5-KW3-S37+1GD 49
MFE5-KW6+299 49
MFE5-KW6-S1+299 49
MFE5-KW6-S33+MPG 49
MFE5-KW6-S42+1GD 49
MFE5-KW6-S102+1FW . . . 49
P-289 23
P-846-2 19
P-886 28
PF-289 23
PFW-289 23
PW-289 23
V71-010 107
V71-020 107
V71-040 107
V71-060 107
V71-100 107
V71-150 107
V72-005 107
VKU005-K 117
VKU010-K 117
VKU020-K 117
VKU030-K 117
VKU040-K 117
VKU060-K 117
VKU100-K 117

Important information on product usage
SKF and Lincoln lubrication systems or their components are not approved for use with gases, liquefied gases, pressurized gases in solution and fluids with a vapor pressure exceeding normal atmospheric pressure (1 013 mbar) by more than 0,5 bar at their maximum permissible temperature.

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Dual-line automatic lubrication systems

Product catalogue 2022

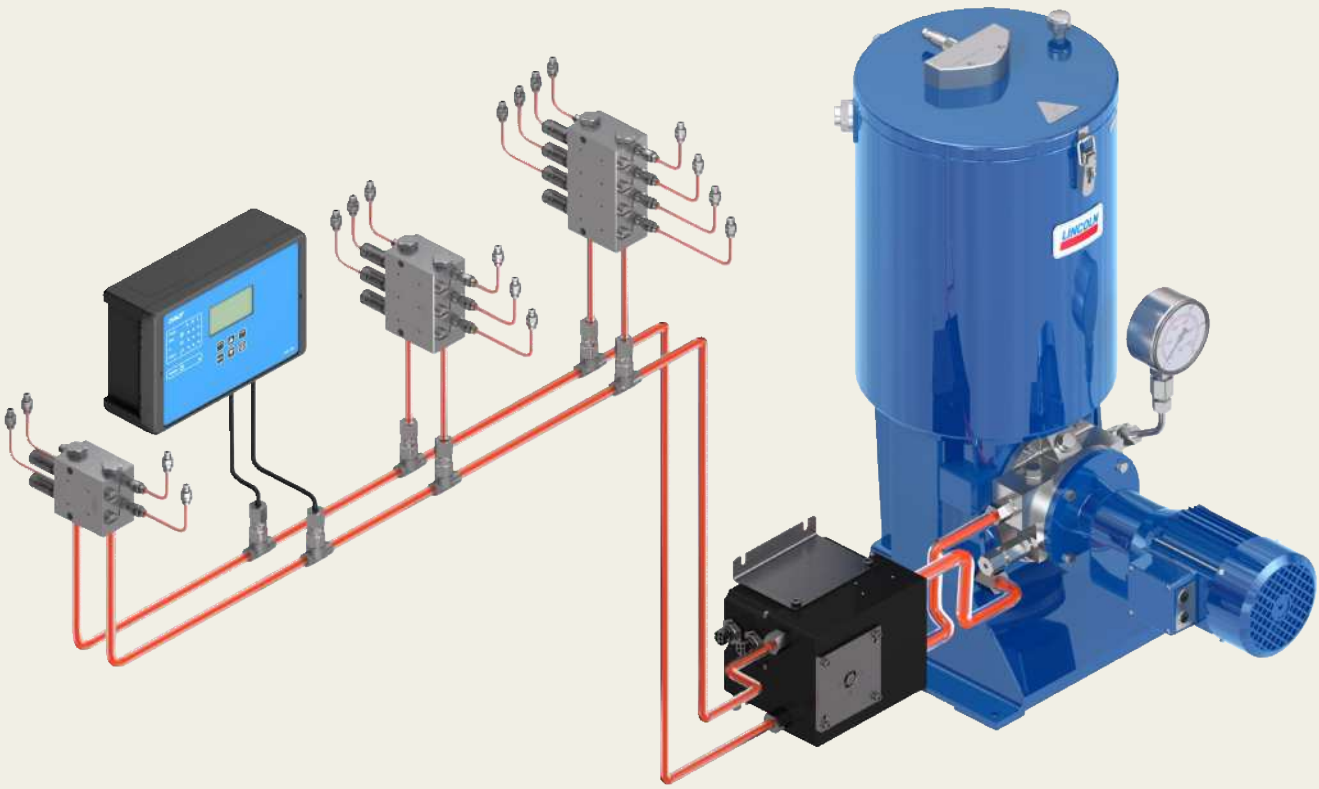


Table of content

Electronic part library **4**
Lubricants suitable for lubrication systems **5**
System description **6**
Applications **7**

Overview of pump units **9**
HJ 2 10
Multilube 12
ZPU 01/02 14
FK 16
ZPU 08/14/24 18
E-PUMP 20
MPB 22
Lubrigun 24
PowerMaster III 26

Overview of metering devices **29**
VSKH/VSKV 30
VSG 34
VSL 38
SGA/SG 42

Overview of valves **47**
DU 1 48
MP 2 49
E-VALV 50
Maxilube 52
EMU 3 54
DVA Dualset valve assembly 55
CLV-2 56
E-VALV-S 58
WSE 60

Overview of pressure sensors **63**
DSB 1 64
EDW 66
DW 67
BPSG PTA-MOD 68
DDS 50/1 69
DPC 1 70

Overview of control units **73**
LMC 2 74
LMC 301 75
ST-1240 76
ST-2240-LUB 77

Index **78**

Introduction 2

Pumps units 9

Metering devices 29

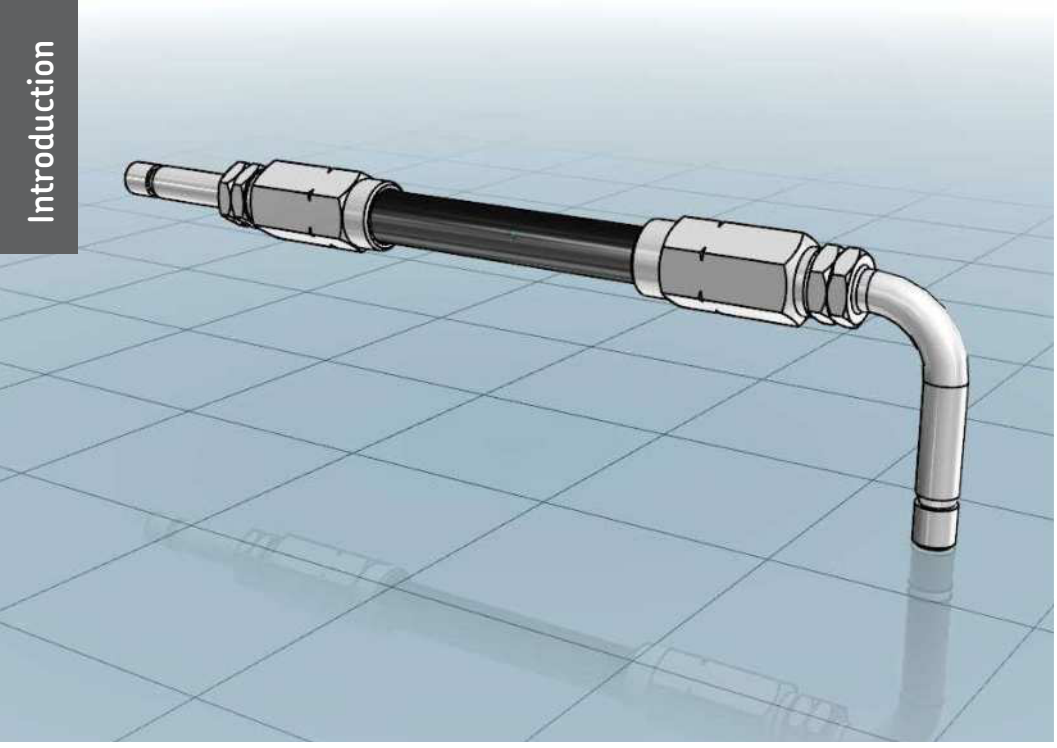
Valves 47

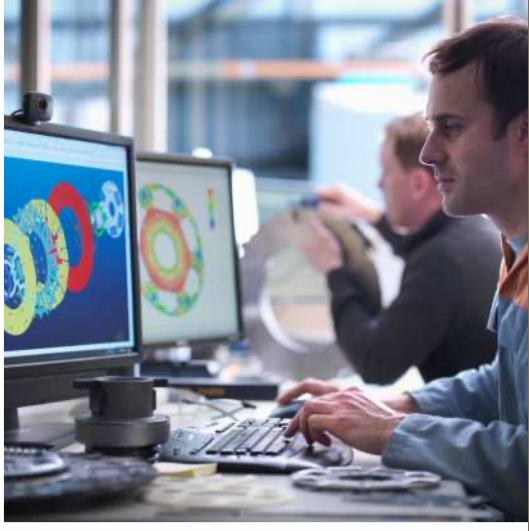
Pressure sensors 63

Control units 73

Electronic part library

CAD product data



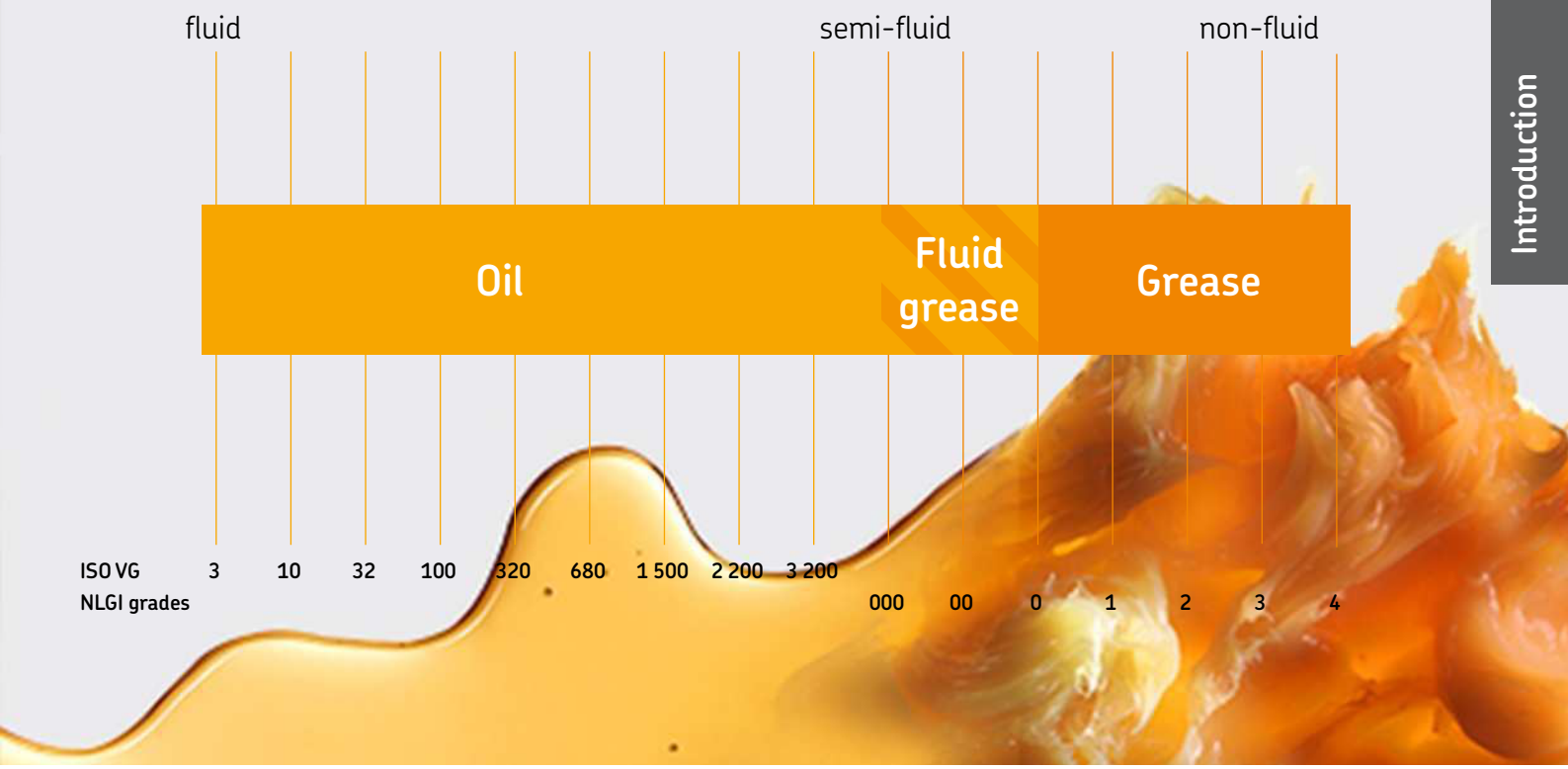


Find your parts online

3D CAD data, technical drawings and data sheets of SKF automatic lubrication system components are now available in native format in the online parts library. In addition to enjoying easy CAD downloads, you can configure more complex lubrication system products and integrate them into your design process – completely free of charge. Integrate CAD data seamlessly into your layout plans without any delay.

https://skf-lubrication.partcommunity.com

Lubricants suitable for lubrication systems



Oil and fluid grease

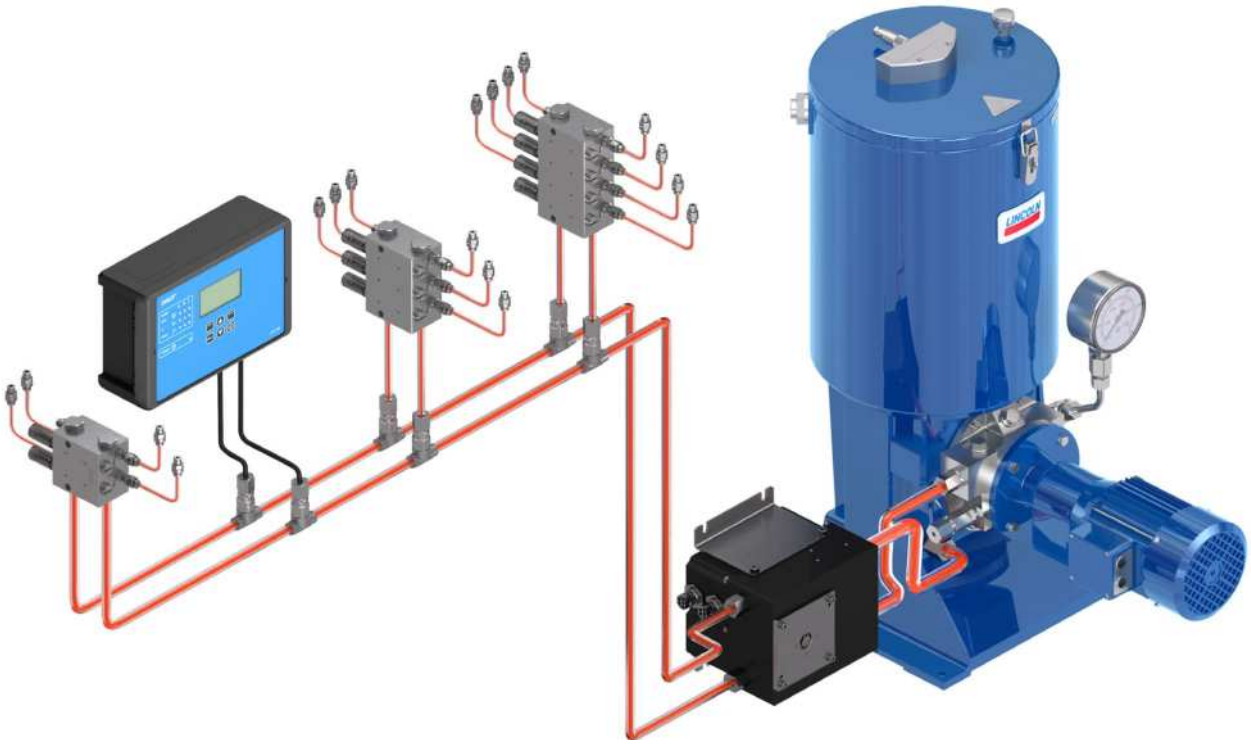
The viscosity is an expression of a fluid's internal friction. Oils are classified in ISO VG viscosity classes from 2 to 3 200. NLGI grade 000, 00 and 0 greases are called fluid greases. Different types of oils are available, including mineral oils, organic oils and synthetic oils. A compatibility check is recommended prior to using any oil with SKF lubrication systems.

Grease

Greases are consistent lubricants (NLGI grade 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 grade 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.

Dual-line lubrication systems

System video



System description

SKF dual-line systems can be used on large systems with dispersed lubrication points that require varying lubrication quantities. These systems utilize two main lines that are supplied alternately with lubricant from a high-pressure pump via a change-over valve at up to 400 bar (5 800 psi). Branch lines, along the main lines, are connected with dual-line metering devices to supply a large volume of lubricant to the lubrication points. Within large dual-line systems, end-of-line pressure switches are used to control and monitor the system. These flexible systems are simple to design and can be extended or reduced easily by installing additional metering devices or by removing them. A redesign of the system is not required. Dual-line metering devices can be combined with downstream progressive metering devices to increase the total number of lubrication points receiving small lubricant amounts. SKF offers dual-line systems that can dispense a precise, metered amount of lubricant to up to 2 000 lubrication points over long distances up to 120 m (131 yd) and more, depending on case values.
Even if one pair of outlets becomes blocked inside one metering device, SKF dual-line systems provide sufficient lubrication for the rest of the system's lubrication points. Lubricant volume can be metered individually for each pair of outlets and can be monitored visually or electrically.

The function principle of the dual-line systems consists of two half-cycles. In the first half-cycle, the lubricant is pumped into the main line (A) and the main line (B) is connected to the relief line. The lubricant, which is conducted by the change-over valve, is supplied to the metering devices. The pistons of the metering devices are moved into their adjusted end positions, thus dispensing an exact, metered quantity of grease. Once all metering devices have dispensed their lubricant to the consumption point, the system is hydraulically closed, which causes the pressure in main line (A) to rise until to the preset pressure at the end-of-line pressure switch (mounted in the main lines prior the last metering device) is reached. This pressure switch then signals an electric pulse to the control unit, whitch turns the pump off and signals the change-over valve to relieve main line (A), and the pause time starts. At this stage, half of the lubrication points in the system have been lubricated.

In the second half-cycle, main line (B) is pressurized and the cycle continues as before.

Applications

SKF dual-line lubrication systems are developed for use with oil, semi-fluid grease and hard grease up to NLGI grade 2. Harder greases of NLGI grade 3 only can be used if so determined after consultation. SKF dual-line lubrication systems are suitable for a variety of applications, including heavy industry, metal working plants, pulp and paper production, mining, mineral processing, power plants, cement factories, steel works and more. These reliable systems operate effectively in the harsh conditions associated with these industries, including potentially high lubrication-point back pressure, dirty, wet or humid environments and low temperatures.


SKF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SKF Multilube


LINCOLN

Overview of pump units

Manually operated pumps

Product	Lubricant class	Function principle	Metering quantity max.		Reservoir		Operation pressure max.		Page
	NLGI		cm³/stroke	*in³/stroke*	l	*gal*	bar	*psi*	
HJ 2	up to 3	Piston pump	1 - 2	*0.06 - 0.12*	3	*0.79*	300	*4 350*	10

Electrically operated pumps

Product	Lubricant class	Function principle	Metering quantity max.		Reservoir		Operation pressure max.		Page
	NLGI		cm³/h	*in³/h*	l	*gal*	bar	*psi*	
Multilube	up to 2	Piston pump	960	*58.5*	4–10	*1.05–2.65*	220	*2 900*	12
ZPU 01/02	up to 2, 3 on request	Piston pump	800–1 600	*49–97.5*	10–30	*2.6–8*	400	*5 800*	14
FK	up to 3	Piston pump	740–4 440	*45–270*	15–60	*4–16*	400	*5 800*	16
ZPU 08/14/24	up to 2, 3 on request	Piston pump	8 000–24 000	*490–1 465*	40–100	*10–26*	400	*5 800*	18

					Applicabale barrel sizes				
			cm³/h	*in³/h*	kg	*lb*	bar	*psi*	
E-PUMP	up to 2	Barrel pump unit	3 300	*1 299*	18, 50, 180	*40; 120; 400*	300	*4 350*	20

Air - operated pumps

Product	Lubricant class	Function principle	Metering quantity[1] max.		Applicabale barrel sizes		Operation pressure max.		Page
	NLGI		cm³/stroke	*in³/stroke*	l	*gal*	bar	*psi*	
MPB	1 + 2	Piston pump for barrels	6,1	*0.37*	18, 50, 180	*40, 120, 400*	300	*4 350*	22
Lubrigun	1 + 2	Piston pump for barrels	5,7	*0.35*	50, 180	*120, 400*	515	*7 500*	24
PowerMaster III	1 + 2	Piston pump for barrels	34–60,5	*2.1–3.7*	50, 180	*120, 400*	515	*7 500*	26

[1] Total metering quantity per time depends on air pressure, counter pressure, grease properties and ambient temperature

Pump unit

HJ 2

Description

The manually operated HJ 2 pump unit was developed to provide lubricant to points that do not require continuous lubrication. Comprised of two supply pistons and a 3 liter *(0.8 gal)* reservoir with an integrated stirring device, this robust pump unit operates effectively, even at low temperatures. Operating pressure is 300 bar *(4 350 psi)*.

Features and benefits

- Suitable for use with dual-line or progressive systems
- Dispenses greases up to NLGI 3
- Available with left- or right-hand lever

Applications

- Metal forming machines
- Roll straighteners
- Tyre heating presses
- Harbor cranes
- Ski lifts

Technical data

Function principle	manually operated pump unit
Outlets	1
Lubricant output per stroke	1–2 cm3, *0.06–0.12 in3*
Lubricant	grease: up to NLGI 3, depending on operating temperature oil: with a viscosity minimum 150 mm2/s at operating temperature
Operating temperature	–20 to +70 °C, *–4 to +160 °F*
Operating pressure	max. 300 bar, *4 350 psi*
Hand force at max. pressure	300 N
Reservoir capacity	3 l, *0.8 gal*
Outlet connection	G 1/4
Dimensions	410 × 135 × 393 mm *16.1 × 5.5 × 15.5 in*
Mounting position	vertical

NOTE
Further technical information, technical drawings, accessories, spare parts or product function descriptions are available on SKF.com/lubrication.

Pump unit

HJ 2

Order information

Order number	Designation	Position hand lever	Outlet
603-41200-2	HJ 2 L–3 XYN	left	1
603-41200-1	HJ 2 R–3 XYN	right	1

Note: for two outlet versions refer to progressive catalogue

Check valves

Order number	Designation	Tube ∅
		mm
223-13052-1	GERV 6-S G 1/4 AVCF	6
223-13052-2	GERV 8-L G 1/4 AVCF	8
223-13052-3	GERV 10-L G 1/4 AVCF	10

Note: must be ordered with pump

223-13052-1

223-13052-2

Pump unit

Multilube

Description

The Multilube pumping unit is especially designed for heavy machines and equipments. It has a very compact size, but still includes all key components and functions required for a lubrication pumping unit as control unit, pump, reservoir, directional valve and pressure monitor. The Multilube pumping unit is combatible with all oil and grease metering devices used in SKF single-line, dual-line and progressive lubrication systems. As one of the built-in features there is a heating device which enables also an operation in extremely cold and demanding environments. Depending on application requirements, auxiliary equipment, such as sliding surface nozzles and lubrication brushes, can be used.

Features and benefits

- Durable, compact structure featuring modular design for simple installation and start up
- Two reservoir sizes available including overfill relief valve and electric low-level switch
- Double ball pumping element for operational reliability
- Filling connection equipped with filter
- External pressure relief valve
- Optional internal or external control
- Suitable for oil and grease systems

Applications

- Paper and heavy industry
- Cranes and stackers
- Reclaimers

Technical data

Function principle	electrically operated piston pump
Operating temperature	–30 to +60 °C, *–22 to +140 °F*
Operating pressure	max. 200 bar, *2 900 psi*
Lubricant	grease: up to NLGI 2 oil: operating viscosity > 46 mm^2/s
Metering quantity	approx. 960 cm^3/h, *58.6 in^3/h*
Outlet connection	G 1/4
Electrical connections	24 V DC; 115, 230 V AC / 50 or 60 Hz
Protection class	IP 67 (IP 65 with user interface)
Dimensions	depending on the model min. 535 × 274 × 244 mm max. 720 × 274 × 244 mm *min. 21.06 × 10.8 × 9.6 in* *max. 28.35 × 10.8 × 9.6 in*
Reservoir capacity	4 and 10 l, *1.05* and *2.65 gal*
Mounting position	horizontal and vertical

NOTE
Further technical information, technical drawings, accessories, spare parts or product function descriptions are available on SKF.com/lubrication:
PUB LS/P2 6407/2 EN

Pump unit

Multilube

Identification code

MLPI – ___ – 2 – ___ – ___ – ___

Product series

MLPI = Industrial application

Reservoir

4 = 4 l, *1.06 gal*
10 = 10 l, *2.65 gal*

System

2 = DuoFlex-dual-line system

Power supply

24 = 24 V DC
115 = 115 V AC
230 = 230 V AC

User interface

IF103 = user interface
24 = external control, control voltage 24 V DC

Pressure control

PSE = built-in pressure sensor
EPT = external pressure transmitter

Pump unit

ZPU 01/02

Description

The ZPU 01/02 high-pressure, high-volume pumps can be used as a supply pump unit for small to midsize dual-line systems or for progressive systems. Depending on the system layout, these electric pumps can supply lubricant within a 50 m (54 yd) radius at a maximum pressure of 400 bar (5 800 psi). Available with 10 or 30 l (*2.6 or 8 gal*) reservoirs, these units are compatible with oil and grease up to NLGI 2 (NLGI 3 upon request). Featuring one or two elements, the ZPU 01/02 pumps work effectively in temperatures ranging from –20 to +70 °C (*–4 to +158 °F*) thanks to the integrated stirring device.

Features and benefits

- Reliable
- Versatile
- Ultrasonic low- and high-level control options
- Free shaft end for use with other motors

Applications

- Light to medium industrial applications
- Mixing machines
- Power plants
- Reclaimers
- Stackers

Technical data

Function principle	electrically operated piston pump unit
Operating temperature	–20 to +70 °C; *–4 to +158 °F*
Operating pressure	M100, M490: max. 350 bar, *5 075 psi* M049: max. 400 bar, *5 800 psi*
Lubricant	grease: up to NLGI 2, NLGI 3 on request oil: with a viscosity of min 40 mm^2/s at operating temperature
Metering quantity [1]	ZPU 01: 800 cm^3/h, *48.8 in^3/h* ZPU 02: 1 600 cm^3/h, *97.5 in^3/h* ZPU 02-M049: 3 200 cm^3/h, *195.2 in^3/h*
Reservoir capacity	10 or 30 l, 2.6 or 8 gal
Main line connection [2]	model F: for tube 10 mm
Electrical connection	380–420 V AC/50 Hz, 440–480 V AC/60 Hz
Protection class	IP 65
Dimensions	depending on the model: min. 514 × 379 × 317 mm max. 754 × 431 × 337 mm *min. 20.25 × 15 × 12.5 in* *max. 29.75 × 17 × 15 in*
Dimensions low level sensor	30 × 125 × 65 mm *1.2 × 5 × 2.75 in*
Mounting position	vertical

[1] output increase by 20% for 60 Hz applications

[2] for model E and V refer to progressive catalogue

NOTE
Further technical information, technical drawings, accessories, spare parts or product function descriptions are available on SKF.com/lubrication.

Pump unit

ZPU 01/02

Identification code ZPU [ ] – [ ] [ ] – [ ] [ ] – F – [ ]

Product series

Outlets

01 = 1 element
02 = 2 elements

Drive assemblies

M = three-phase flanged motor, motor designation with extension, e.g. for voltage frequencies, explosion-proof design is added to the pump type code

F = free shaft end

Gear ratio

490 = 1:490
100 = 1:100
049 = 1:49

Reservoir capacity

10 = 10 l, *2.6 gal*
30 = 30 l, *8 gal*

Reservoir design

XYN = reservoir without level control
XYBU = reservoir with low- and high-level control (ultrasonic sensor)

Pump elements

F = bracket with elements, filter block, pressure gauge and safety valve

Extension for motor designation

380–420.440–480 = standard multi-range motor for 380–420 V AC/50 Hz and 440–480 V AC/60 Hz
000 = pump without motor, with connecting flange

Pump unit

FK

Description

The FK grease lubrication pump unit is suitable for use in small to midsize dual-line lubrication systems. Its compact, modular construction enables it to be retrofitted from one system to another with minimal effort and expense. Depending on the volume of lubricant required, this radial-piston pump unit can be equipped with up to six internal pumping elements and with optional change-over valves.

Available with reservoir sizes of 15, 30 and 60 kg (*33, 66 and 132 lb*), this robust pump unit has an operating pressure of max. 400 bar (*5 800 psi*).

Features and benefits

- Positively driven pump pistons for maximum reliability
- Fill level monitoring (using ultrasonic sensors) with two adjustable switching points
- Operates effectively in temperatures ranging from –25 to +60 °C *(–13 to +140 °F)*
- Screw conveyor design permits delivery of highly viscous lubricants
- Internal pressure-regulating valve and filter
- Integrated change-over valves optional

Applications

- Crushers
- Heavy equipment
- Rope manufacturing machinery

Technical data

Function principle	radial piston pump unit
Operating temperature	–25 to +60 °C; *–13 to +140 °F* with control cabinet: 0 to +60 °C; *+32 to +140 °F*
Lubricant	grease: NLGI 2 and 3 oil: mineral or enviromentally compatible oils from ISO VG 46, operating viscosity ≥ 50 mm^2/s
Operating pressure	max. 400 bar, *max. 5 800 psi*
Metering quantity	see order number configurator next page
Reservoir	15, 30 and 60 l; *4, 8 and 16 gal*
Outlet connection	G 1/2
Electrical connection	motor: 230/400 V AC, 50 Hz solenoid valves, sensor: 24 V DC
Protection class	IP 55, with control cabinet: IP 54
Dimensions	depending on the model 598 × 335 × 990 mm *23.5 × 13.2 × 39 in*
Mounting position	vertical

NOTE

Further technical information, technical drawings, accessories, spare parts or product function descriptions are available on SKF.com/lubrication:
PUB 3033 EN, 951-170-200-EN

Pump unit

FK

Identification code FK [ ] – [ ] [ ] 1M 04 – [ ] – [ ] [ ] [ ] – [ ] AF 07

Product series FK

Version

2 = Unit for dual-line centralized lubrication systems with change-over valves

3 = Unit for dual-line centralized lubrication systems without change-over valves

Reservoir capacity

15 = 15 l; *4 gal*
30 = 30 l; *8 gal*
60 = 60 l; *16 gal*

Lubricant level monitoring

X = without lubricant level monitoring
U2 = Ultrasonic sensor with 2 switching points

Drive type 1M

Gear ratio

04 = 40:1

Delivery volume per h

1 = 740 cm^3/h; *45 in^3/h*
2 = 1 480 cm^3/h; *90 in^3/h*
3 = 2 220 cm^3/h; *156 in^3/h*
4 = 2 960 cm^3/h; *180 in^3/h*
5 = 3 700 cm^3/h; *226 in^3/h*
6 = 4 440 cm^3/h; *270 in^3/h*

Pressure-regulating valve, factory-set to

200 = 200 bar; *2 900 psi*
300 = 300 bar; *4 350 psi*
400 = 400 bar; *5 800 psi*

Pressure gauge

/ = without pressure gauge
MA = 1 × pressure gauge
M2 = 2 × pressure gauge

Filler socket/Screw cap

0 = without filler socket
1 = with filler socket
2 = without filler socket, with screw cap
3 = with filler socket and screw cap

Version key

0001 = basic design
4001 = basic design with control cabinet and control unit

Motor data [1)]

AF = motor speed 1 500 min^{-1}, rated voltage 230/400 V AC, 50 Hz

Motor protection class

07 = IP 55 F as standard

1) other specifications available on request

Pump unit

ZPU 08/14/24

Description

The ZPU 08/14/24 pumps are used primarily in dual-line systems or as supply pumps and have a maximum operating pressure of 400 bar (*5 800 psi*). Depending on the system layout, these electric pumps can supply lubricant at distances of up to 120 meters (*131 yd*) and more. Available with a 40 or 100 l (*10 or 26 gal*) reservoir, the pressure ZPU 08/14/24 pumps come standard with a pressure relief valve, check valve, lubricant filter and a pressure gauge. These robust units operate effectively at temperatures ranging from –20 to +80 °C (*–4 to +176 °F*) thanks to the integrated stirring device.

Features and benefits

- Reliable
- Simple to service
- Three options for high lubricant output
- Ultrasonic low- and high-level control options
- Built-in lubricant filter

Applications

- Cement plants
- Steel mills
- Power plants
- Mining
- Large machines

Technical data

Function principle	electrically operated piston pump
Drive speed	depending on model 60 – 180 min^{-1}
Operating temperature	–20 to +80 °C, *–4 to +176 °F*
Lubricant	grease: up to NLGI 2, NLGI 3 on request oil: with a viscosity of min 20 mm^2/s
Metering quantity [1]	ZPU 08: 8 000 cm^3/h, *488 in^3/h* ZPU 14: 14 000 cm^3/h, *855 in^3/h* ZPU 24: 24 000 cm^3/h, *1 465 in^3/h*
Operating pressure	max. 400 bar, *5 800 psi*
Reservoir capacity	40 or 100 l, 10 or 26 gal
Main line connection	G 3/4 female
Electrical connection	380–415V AC/50Hz, 420–480 V AC/60 Hz, 500 V AC/50 Hz
Protection class	IP 65
Dimensions	depending on the model min. 760 × 670 × 410 mm max. 975 × 825 × 500 mm *min. 30 × 26 × 16 in* *max. 38.5 × 32.5 × 20 in*
Mounting position	vertical

[1] output increase by 20% for 60 Hz applications

NOTE
Further technical information, technical drawings, accessories, spare parts or product function descriptions are available on SKF.com/lubrication.

Pump unit

ZPU 08/14/24

Identification code ZPU [ ][ ] – [ ][ ] – [ ]

Product series

Metering quantity

08 = 8 000 cm³/h, *488 in³/h*
14 = 14 000 cm³/h, *855 in³/h*
24 = 24 000 cm³/h, *1 465 in³/h*

Drive assemblies

F = with free shaft end
G = with flanged gear motor construction IMB5
S = with worm gear and 3-phase motor construction IMV1
SF = with worm gear and shaft end, suitable for 3-phase motor construction
S /SF is only available for model ZPU 08

Reservoir capacity

040 = 40 l, *10 gal*
100 = 100 l, *26 gal*

Reservoir design

XN = grease reservoir, standard design
XL = grease reservoir with low-level control
XB = grease reservoir with high- and low-level control
XYBU = reservoir with low- and high-level control via ultrasonic sensor

Extension for motor designation

380-415/440-480 = standard multi-range motor for 380-415 V AC/50 Hz, and 420-480 V AC/60 Hz
500 = 500 V AC/50 Hz

Pump unit

E-PUMP

Description

The electrical barrel pumping unit E-PUMP is a versatile barrel pump and it is especially designed for pumping oil or grease lubricants up to NLGI grade 2 into a centralized lubrication system. When equipped with a change-over valve unit, as E-VALV e.g. or a shut-off valve as E-VALVE-S e.g. it can be used either in single-line, dual-line or progressive lubrication systems. A complete pumping center consists of a pumping unit and a lid set. EPUMP-XXX-ECO coding is referring to ECO lid sets (descending pump head with follower plate), which are suitable for greases in NLGI grades 1 and 2 while EPUMP-XXX-STA coding is referring to STA lid sets (pump head always at barrel bottom), which are suitable for oil or greases in NLGI 0, 00 and 000 classes. To run E-PUMP accurately in dual-line lubrication systems an additional change-over valve needs to be implemented.

Features and benefits

- EPUMP models reflecting typical and often used barrel sizes
- Compact electrically operated pump for applications where no air supply is available
- An internal pressure control and a heating element secure the pump's function in high-pressure conditions and cold climates

Applications

- Heavy industries (paper, steel and other process industries)
- Mining and mineral processing
- Machinery workshops
- Food and beverage
- Cement industry

Technical data

Function principle	electrically operated pump
Outlets	1
Number of pump elements	4
Metering quantity	55 g/min; *0.3880136 oz/min*
Operating temperature	–30 to +70 °C, *-20 to 160 °F*
Operating pressure	max. 240 bar, *3 480 psi*
Lubricant	grease up to NLGI 2 oil up to 1 000 mm²/s
Supply voltage	20–32 V DC
Power consumption	150 W
Heater	40W/24V, heater resistor for pump elements in ECO models
Display	LED's 5 yellow, 1 green, 1 red
Drum capacity	18, 50 and 180 kg, *40, 120 or 400 lb* drum not included
Pressure sensor	50–240 bar adjustable in 25 bar steps *725.1 to 3480.9 psi in 362.6 psi steps*
Protection class	IP 65
Dimensions	depending on the model min. 400 × 400 × 800 mm max. 400 × 400 × 1 300 mm *min. 15.75 × 15.75 × 31.49 in* *max. 15.75 × 15.75 × 51.18 in*
Mounting position	vertical

NOTE
Further technical information, technical drawings, accessories, spare parts or product function descriptions are available on SKF.com/lubrication.

Pump unit

E-PUMP

Order information

Order number	Designation	Lubricant	Control	Suitable barrel size	
				kg	*lb*
12375180	SKF-EPUMP-1/8-ECO-24-CC	Grease up to NLGI 2	external control unit	18	*40*
12375100	SKF-EPUMP-1/4-ECO-24-CC	Grease up to NLGI 2	external control unit	50	*120*
12375020	SKF-EPUMP-1/1-ECO-24-CC	Grease up to NLGI 2	external control unit	180	*400*

Accessories

Lid sets for grease barrels

Lid sets for grease barrels

Order number	Designation	Lubricant	for barrel size	
			kg	*lb*
12381280	E-LIDSET-1/8-ECO	Grease	18	*40*
12381285	E-LIDSET-1/4-ECO	Grease	50	*120*
12381290	E-LIDSET-1/1-ECO	Grease	180	*400*

Pump unit

MPB

Description

The MPB pump unit is especially designed for automatic lubrication systems. The unique feature in it compared to traditional air-operated barrel pump with mechanical air motor valve is its magnetically operated air motor valve. This will reduce the amount of mechanical components in the air motor and also eliminates the need of lubrication in the air motor. The pump is suitable for use with 18, 50 and 180 kg (40, 120 and 400 lb) lubricant barrels. And when equipped with a suitable adapter MPB pump unit can also be used in lubricant bulk containers.

Features and benefits

- Lubrication-free, air motor
- Fewer mechanical components extend a service life of the air motor
- Operates effectively in wide range of temperatures
- IP 65 protection rating

Applications

- Paper industry
- Steel industry
- Heavy industry

Technical data

Function principle	air operated piston pump for barrels
Metering quantity	850 g/min; *30 oz/min* 5,5 g/stroke; *0.2 oz/stroke*
Operating temperature	–10 to +55 °C, *14 to 131 °F*
Operating pressure	max. 300 bar, *4 350 psi*
Pressure ratio	1:65
Pressure air supply	2 to 4,5 bar, *29 to 65 psi*
Air consumption	max. 300 l/min; 80 gal/min
Lubricant	grease up to NLGI 2 oil up to 10 000 mm^2/s
Drum capacity	18, 50 and 180 kg, *40, 120 or 400 lb* drum not included
Protection class	IP 65
Dimensions	depending on the model min. 650 × 130 × 130 mm max. 920 × 130 × 130 mm *min. 25.6 × 5.11 × 5.11 in* *max. 36.22 × 5.11 × 5.11 in*
Mounting position	vertical

NOTE
Further technical information, technical drawings, accessories, spare parts or product function descriptions are available on SKF.com/lubrication:
PUB LS/P8 17178 EN

Pump unit

MPB

Order information

Order number	Designation	Suitable barrel size	
		kg	*lb*
12381702	SKF-MPB-PUMP-1/8	18	*40*
12381701	SKF-MPB-PUMP-1/4	50	*120*
12381700	SKF-MPB-PUMP-1/1	180	*400*

Accessories

Air regulator unit

Air regulator unit

Order number	Designation
12382666	MAX-V2-SET-MPB

Lid sets

Lid sets

Order number	Designation	Suitable barrel size	
		kg	*lb*
12381383	MAXV2-LIDSET-1/8-ECO-MPB	18	*40*
12381382	MAXV2-LIDSET-1/4-ECO-MPB	50	*120*
12381381	MAXV2-LIDSET-1/1-ECO-MPB	180	*400*
12381386	MAXV2-LIDSET-1/8-STA-MPB	18	*40*
12381385	MAXV2-LIDSET-1/4-STA-MPB	50	*120*
12381384	MAXV2-LIDSET-1/1-STA-MPB	180	*400*

Pump unit

Lubrigun

Description

The performance-proven Lubrigun air-operated pump units are found in industrial facilities worldwide. Ideal for high-pressure applications, these pumps include a powerful displacement air motor with 63,5 mm (*2.5 in*) stroke and are available for 50 kg (*120 lb*) and 180 kg (*400 lb*) drums. For dual-line applications, the Lubrigun utilizes a pump hoist, return-line connection, low-level switch, maintenance unit and connection hoses.

Features and benefits

- Lightweight, zinc head casting design for corrosion resistance
- One-piece pump outlet body withstands high lubricant pressure
- Double-acting design provides high pressure and uniform delivery on both up and down strokes
- Integrated, patented muffler minimizes noise
- Pre-lubricated air motor requires no external oiler
- Pneumatically assisted mechanical air valve for positive priming
- Hardened steel plunger and bushing resist abrasion and extend pump life

Applications

- Power plants
- Mining equipment
- Cement plants

Technical data

Function principle	air-operated piston pump unit for barrels
Operating temperature	–34 to +93 °C, *–30 to +200°F*
Operating pressure	max. 515 bar, *7 500 psi*
Lubricant	NLGI 1 and 2
Cycles per minute [1)]	max. 120
Metering quantity per cycle	5,7 cm^3, *0.35 in^3*
Pressure ratio	50:1
Lubricant outlet connection	1/4 NPTF
Dimensions with pump lift	950 × 700 × 2 800 mm *374 × 275 × 1 102 in*
Mounting position	vertical

[1)] generally approx. 50 cycles/min are assumed

Order information

Order number	Designation
082054	Lubrigun barrel pump, 180 kg, *400 lb*
082050	Lubrigun barrel pump, 50 kg, *120 lb*

NOTE
Further technical information, technical drawings, accessories, spare parts or product function descriptions are available on SKF.com/lubrication.

Lubrigun

001709

Pump hoist

Order number	Designation
001709	pump hoist without pump

Description

Ideal for easy and clean drum change-over. Used for fast power-operated drum changing. Lifts any air-operated pump with a 60 or 200 l (15 or 55 lb) drum and lowers it into another. Can serve one or a cluster of drums from one location.

274681

Single-post primer

Order number	Designation
274681	single-post primer without pump

Description

For use with Lubrigun pumps, air-operated single-post pump hoist for 200 l (55 gal) drums performs several functions in applications of low- to medium-viscosity materials. The primer facilitates drum change-overs and includes a follower and wiper that use normal suction to help maintain pump prime. The unit also includes a mounting bracket suitable for all Lubrigun pump units.

Pump unit

PowerMaster III

Description

Designed to fit large drums or containers, PowerMaster III pump units are ideal for lubrication systems using substantial quantities of lubricant. The modular combination of various air motors with pump tubes enables optimum adaptation to lubrication system requirements. The PowerMaster III is available in carbon steel to fit any drum size. A complete line of priming equipment and mounting devices are offered.

Features and benefits

- Uses air motors with diameters of 76, 101, 152 and 203 mm (*3, 4, 6 or 8 in*)
- Full 152 mm (6 in) stroke for greater output per cycle
- Modular design for easy repair
- Only five moving parts and no metal-to-metal contact for longer service life
- Pump tubes provide ratios and outputs for any application
- Hydraulically operated drive motors offered for lubrication systems on hydraulic excavators
- Shovel-foot-style for high-viscosity, non-fluid materials

Applications

- Hydraulic excavators
- Sinter plants
- Beverage bottling plants

Technical data

Function principle	air-operated piston pump unit for barrels
Operating temperature	–34 to +93 °C, *–30 to +200 °F*
Operating pressure	max. 500 bar, *7 300 psi*
Lubricant	NLGI 1 and 2
Cycles per minute	max. 70
Metering quantity per cycle	34–60,5 cm³, *2.1–3.7 in³*
Pressure ratio	50:1, 75:1 (recommended for lubrication systems)
Lubricant outlet connection	3/4 NPTF
Dimensions	950 × 700 × 2 800 mm *374 × 275 × 1 103 in*
Mounting position	vertical

Order information

Order number	Designation
002004	PowerMaster III barrel pump with pump tube model 84997 and air motor model 84804 (ratio 75:1)
084723	PowerMaster III air motor cover kit

NOTE
Further technical information, technical drawings, accessories, spare parts or product function descriptions are available on SKF.com/lubrication:
PUB 15169 EN

PowerMaster III

001709

Pump hoist

Order number	Designation
001709	single-post primer elevator

Description

This single-post elevator is ideal for quick and easy power-operated drum changes. Lifts any air-operated pump from 60 and 200 l, 15 or 55 lb drum and lowers it into another. Can serve one or a cluster of drums from one location.

002716

Single post primer

Order number	Designation
002716	single-post primer

Description

For use with PowerMaster III Series 2000 pumps, this air-operated, single-post pump hoist for 200 l (*55 gal)* drums performs several functions in applications of low- to medium-viscosity materials. The primer facilitates drum change-overs and includes a follower and wiper that use normal suction to help maintain pump prime. The unit also includes a mounting bracket for all PowerMaster III pumps.

84723

Air motor cover panel kit

Order number	Designation
84723	series III air motor cover panel kit

Description

Metal cover fits tie rods and encloses the moving plunger rod.


SKF Doser monitor

Overview of metering devices

Block design metering devices

Product	Material housing and design	Operation pressure max.		Outlets	Metered quantity per stroke		Page
	steel galvanized or stainless steel	bar	*psi*		cm^3	*in^3*	
VSKH-KR	with indicator pin, adjustable output	400	*5 800*	1–8	0–1,5	*0–0.09*	30
VSKH–KRFKM	with FKM seals	400	*5 800*	1–8	0–1,5	*0–0.09*	30
VSKV–KR	with indicator pin, adjustable output	400	*5 800*	1–8	0–1,5	*0–0.09*	30
VSKV–KRFKM	with FKM seals	400	*5 800*	1–8	0–1,5	*0–0.09*	30
VSG–KR	with indicator pin, adjustable output	400	*5 800*	1–8	0–2,2	*0–0.13*	34
VSG–KRFKM	with FKM seals	400	*5 800*	1–8	0–2,2	*0–0.13*	34
VSG–KR–NP	with piston detector	400	*5 800*	1–8	0–2,2	*0–0.13*	34
VSG–KR–KA	with adapter for limit switch	400	*5 800*	2, 4, 6, 8	0–2,2	*0–0.13*	34
VSG–KR–KS	with limit switch	400	*5 800*	1–8	0–2,2	*0–0.13*	34
VSG–KR–KD, D	with fixed metering screw	400	*5 800*	1–8	0,55; 1,1; 1,65; 2,2	*0.04, 0.07, 0.1, 0.13*	34
VSL–KR	with indicator pin, adjustable output	400	*5 800*	1–8	0–5	*0–0.3*	38
VSL–KR-FKM	with FKM seals	400	*5 800*	1–8	0–5	*0–0.3*	38
VSL–KR–NP	with piston detector	400	*5 800*	1–8	0–5	*0–0.3*	38
VSL–KR–KA	with adapter for limit switch	400	*5 800*	2, 4, 6, 8	0–5	*0–0.3*	38
VSL–KR–KS	with limit switch	400	*5 800*	1–8	0–5	*0–0.3*	38
VSL–KR–KD, D	with fixed metering screw	400	*5 800*	1–8	1,25; 2,5; 3,75; 5	*0.07, 0.15, 0.23, 0.3*	38

Modular design metering devices

Product	Material housing and design	Operation pressure max.		Outlets [1]	Metered quantity per stroke		Page
	steel galvanized or stainless steel	bar	*psi*		cm^3	*in^3*	
SGA	with indicator pin, adjustable output	250	*3 600*	1–12	0,17-4,85	*0.01-0.29*	42
SG	with indicator pin, adjustable output	250	*3 600*	1–12	4,88-98	*0.29-5.98*	42

[1] Metering device outlets 1 or 2, metering device groups up to 12 outlets (on top of base plate BPSG)

Metering device

VSKH/VSKV

Description

The durable, galvanized steel VSK metering devices are designed for dual-line systems with pressures of up to 400 bar (5 800 psi). These metering devices are available with up to eight outlets, and each pair of outlets is equipped with an indicator pin for visual monitoring. Also, the VSK metering devices are available with low-wear proximity switches, or piston detectors, for electrical monitoring (except VSK..-D version). Additional features include rust-resistant material or rust- and acid-resistant material.

Features and benefits

- Solid-block construction for durability and error-free exchange
- Operates effectively in a wide range of temperatures
- Easy to monitor
- Available with horizontal VSKH outlets or vertical VSKV outlets for limited installation conditions
- Optional available piston detectors and limit switches

Applications

- Cement plants
- Mining excavators
- Steel plants

Technical data

Function principle	metering devices
Outlets	1-8
Operating temperature	KR: max. +80 °C, *+176 °F* MD, KR–FKM: max. +120 °C, *+248 °F*
Operating pressure	max. 400 bar, *5 800 psi*
Lubricant	grease up to NLGI 3, oil with a viscosity of min. 20 mm^2/s
Materials	carbon steel galvanized or stainless steel
Metering quantity per stroke	0–1,5 cm^3, *0–0.09 in^3* or fixed output Version D: 0,3; 0,6; 1,2; 1,5 cm^3 *0.018; 0.037; 0.073; 0.092 in^3* order numbers on request
Main line connection inlet	G 1/4
Outlet connection	G 1/4
Dimensions	depending on the model: min. 124 × 52 × 57 mm max. 124 × 136 × 57 mm *min. 4.88 × 2.05 × 2.24 in* *max. 4.88 × 5.35 × 2.24 in*

NOTE
Further technical information, technical drawings, accessories, spare parts or product function descriptions are available on SKF.com/lubrication.

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

Metering device

VSKH/VSKV

VSKH and VSKV, with connection thread BSPP

Order number		Outlets	Material			Indicator pin adjustable output 0–1,5 cm^3 (*0–0.09 in^3*)	
VSKH–KR ..	VSKV–KR ..		Steel galvanized	Stainless steel 1.4305/303	Stainless steel 1.4571/316 Ti	KR	FKM U-cup seal
620-27438-1	**620-27442-1**	1	•	–	–	•	–
620-27418-1	**620-27422-1**	2	•	–	–	•	–
620-27439-1	**620-27443-1**	3	•	–	–	•	–
620-27419-1	**620-27423-1**	4	•	–	–	•	–
620-27440-1	**620-27444-1**	5	•	–	–	•	–
620-27420-1	**620-27424-1**	6	•	–	–	•	–
620-27441-1	**620-27445-1**	7	•	–	–	•	–
620-27421-1	**620-27425-1**	8	•	–	–	•	–
620-27488-1	**620-27496-1**	1	–	•	–	•	–
620-27489-1	**620-27497-1**	2	–	•	–	•	–
620-27490-1	**620-27498-1**	3	–	•	–	•	–
620-27491-1	**620-27499-1**	4	–	•	–	•	–
620-27492-1	**620-27500-1**	5	–	•	–	•	–
620-27493-1	**620-27501-1**	6	–	•	–	•	–
620-27494-1	**620-27502-1**	7	–	•	–	•	–
620-27495-1	**620-27503-1**	8	–	•	–	•	–
620-27766-1	**620-27857-1**	1	–	–	•	•	–
620-27767–1	**620-27858-1**	2	–	–	•	•	–
620-27768-1	**620-27859-1**	3	–	–	•	•	–
620-27769-1	**620-27860-1**	4	–	–	•	•	–
620-27770-1	**620-27861-1**	5	–	–	•	•	–
620-27771-1	**620-27862-1**	6	–	–	•	•	–
620-27772-1	**620-27863-1**	7	–	–	•	•	–
620-27773-1	**620-27864-1**	8	–	–	•	•	–
620-28409-1	**620-28413-1**	1	•	–	–	•	•
620-28376-1	**620-28392-1**	2	•	–	–	•	•
620-28410-1	**620-28414-1**	3	•	–	–	•	•
620-28366-1	**620-28393-1**	4	•	–	–	•	•
620-28411-1	**620-28415-1**	5	•	–	–	•	•
620-28367-1	**620-28374-1**	6	•	–	–	•	•
620-28412-1	**620-28416-1**	7	•	–	–	•	•
620-28391-1	**620-28394-1**	8	•	–	–	•	•

VSKH–MD.. , with connection thread BSPP

Order number	Outlets	Material			Metering quantity max.	
		Metering device	Regulating sleeve	Protection cap	cm^3	*in^3*
620-41086-1	2	steel, galvanized	brass	brass	1,50	*0.09*
620-41122-1	2	steel, galvanized	brass	plastic	1,50	*0.09*
620-41086-5	3	steel, galvanized	brass	brass	1,50	*0.09*
620-41086-2	4	steel, galvanized	brass	brass	1,50	*0.09*
620-41122-2	4	steel, galvanized	brass	plastic	1,50	*0.09*
620-41086-6	5	steel, galvanized	brass	brass	1,50	*0.09*
620-41086-3	6	steel, galvanized	brass	brass	1,50	*0.09*
620-41122-3	6	steel, galvanized	brass	plastic	1,50	*0.09*
620-41086-7	7	steel, galvanized	brass	brass	1,50	*0.09*
620-41086-4	8	steel, galvanized	brass	brass	1,50	*0.09*
620-41122-4	8	steel, galvanized	brass	plastic	1,50	*0.09*

Metering device

VSKH/VSKV

VSKV–MD.. , with connection thread BSPP

Order number	Outlets	Material			Metering quantity max.	
		Metering device	Regulating sleeve	Protection cap	cm^3	*in^3*
620-41123-2	2	steel, galvanized	brass	plastic	1,50	*0.09*
620-41089-2	2	steel, galvanized	brass	brass	1,50	*0.09*
620-41123-4	4	steel, galvanized	brass	plastic	1,50	*0.09*
620-41089-4	4	steel, galvanized	brass	brass	1,50	*0.09*
620-41123-6	6	steel, galvanized	brass	plastic	1,50	*0.09*
620-41089-6	6	steel, galvanized	brass	brass	1,50	*0.09*
620-41123-8	8	steel, galvanized	brass	plastic	1,50	*0.09*
620-41089-8	8	steel, galvanized	brass	brass	1,50	*0.09*

Accessories

Metering screw for VSKH/VSKV

Order number	Output		Material
	cm^3	*in^3*	
303-19351-1	0,30	*0.018*	Steel
303-19352-1	0,60	*0.037*	Steel
303-19354-1	1,20	*0.073*	Steel
303-19375-1	1,50	*0.091*	Steel
303-19356-1	0,30	*0.018*	Stainless steel 1.4571/316 Ti
303-19357-1	0,60	*0.037*	Stainless steel 1.4571/316 Ti
303-19359-1	1,20	*0.073*	Stainless steel 1.4571/316 Ti
303-19374-1	1,50	*0.091*	Stainless steel 1.4571/316 Ti

Extensions for VSK, VSG and VSL

Order number	Model
420-23628-1	VSKH
420-23790-1	VSKH, 1.4305

Accessories

VSKH/VSKV

520-33075-1

Magnetic indicator for VSKH/VSKV

Order number	Output setting		Protection cap material
	cm^3	*in^3*	
520-33109-1	0,30	*0.018*	Brass
520-33110-1	0,60	*0.037*	Brass
520-33112-1	1,20	*0.073*	Brass
520-33075-1	1,50	*0.091*	Brass
520-33266-1	0,30	*0.018*	Plastic
520-33267-1	0,60	*0.037*	Plastic
520-33268-1	1,20	*0.073*	Plastic
520-33269-1	1,50	*0.091*	Plastic

VSG4–KR with welding plate and extension

Welding plates for VSK, VSG and VSL

Order number	Model
432-23698-1	VSK2
432-23699-1	VSK4
432-23700-1	VSK6
432-23701-1	VSK8
432-21791-1	VSG2/VSL2
432-21792-1	VSG4/VSL4
432-21793-1	VSG6/VSL6
432-21794-1	VSG8/VSL8

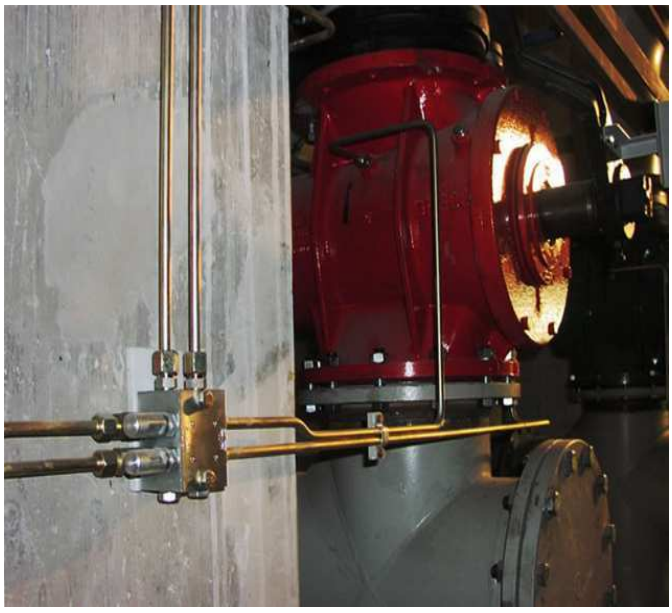
223-13052-1

Check valve

Order number	Tube	Designation
	∅ mm	
223-13052-1	6	GERV 6-S G 1/4 AVCF
223-13052-2	8	GERV 8-L G 1/4 AVCF
223-13052-3	10	GERV 10-L G 1/4 AVCF

Metering device

VSG



Description

The durable, galvanized steel VSG metering devices are designed for dual-line systems with pressures of up to 400 bar (5 800 psi). These metering devices are available with up to eight outlets, and each pair of outlets is equipped with an indicator pin for visual monitoring. Also, the VSG metering devices are available with low-wear proximity switches, or piston detectors, for electrical monitoring (except VSG-D version). Additional features include rust-resitant material or rust- and acid-resistant material.

Features and benefits

- Easy cross-porting with external screw to combine
- Solid-block construction for durability and error-free exchange
- Operates effectively in a wide range of temperatures
- Easy to monitor

Applications

- Steel plants
- Cement plants
- Mining excavators

Technical data

Function principle	metering devices
Outlets	1-8
Operating temperature	KR-..., KD, D: max. +80 °C, *+176 °F* MD, KR–FKM: max. +120 °C, *+248 °F*
Lubricant	grease up to NLGI 3, oil with a viscosity of min. 20 mm^2/s
Operating pressure	max. 400 bar, *5 800 psi*
Materials	carbon steel galvanized or stainless steel
Metering quantity per stroke	0–2,2 cm^3 , *0–0.13 in^3* or fixed output Version D: 0,55; 1,1; 1,65; 2,2 cm^3, *0.033; 0.067; 0.01; 0.13 in^3* order numbers on request
Main line connection inlet	G 3/8, 3/8 NPTF
Outlet connection	G 1/4, 1/4 NPTF
Dimensions	min. 148 × 94 × 54 mm max. 148 × 190 × 54 mm *min. 5.83 × 3.70 × 2.13 in* *max. 5.83 × 7.48 × 2.13 in*

NOTE
Further technical information, technical drawings, accessories, spare parts or product function descriptions are available on SKF.com/lubrication.

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

Metering device

VSG

VSG

Order number		Outlets	Material				Indicator pin adjustable output	
BSPP	NPTF		Steel galvanized	Steel nickel-plated	Stainless steel 1.4305/303	Stainless steel 1.4571/316Ti	KR	FKM U-cup seal
620-40022-1	**620-40022-2**	1	•	–	–	–	•	–
620-40015-1	**620-40015-2**	2	•	–	–	–	•	–
620-40022-3	**620-40022-4**	3	•	–	–	–	•	–
620-40015-3	**620-40015-4**	4	•	–	–	–	•	–
620-40022-5	**620-40022-6**	5	•	–	–	–	•	–
620-40015-5	**620-40015-6**	6	•	–	–	–	•	–
620-40022-7	**620-40022-8**	7	•	–	–	–	•	–
620-40015-7	**620-40015-8**	8	•	–	–	–	•	–
620-41321-1	–	1	–	•	–	–	•	–
620-41321-2	–	2	–	•	–	–	•	–
620-41321-3	–	3	–	•	–	–	•	–
620-41321-4	–	4	–	•	–	–	•	–
620-41321-5	–	5	–	•	–	–	•	–
620-41321-6	–	6	–	•	–	–	•	–
620-41321-7	–	7	–	•	–	–	•	–
620-41321-8	–	8	–	•	–	–	•	–
620-40567-1	–	1	–	–	•	–	•	–
620-40567-2	–	2	–	–	•	–	•	–
620-40567-3	–	3	–	–	•	–	•	–
620-40567-4	–	4	–	–	•	–	•	–
620-40567-5	–	5	–	–	•	–	•	–
620-40567-6	–	6	–	–	•	–	•	–
620-40567-7	–	7	–	–	•	–	•	–
620-40567-8	–	8	–	–	•	–	•	–
620-40839-1	–	1	–	–	–	•	•	•
620-40839-2	–	2	–	–	–	•	•	•
620-40839-3	–	3	–	–	–	•	•	•
620-40839-4	–	4	–	–	–	•	•	•
620-40839-5	–	5	–	–	–	•	•	•
620-40839-6	–	6	–	–	–	•	•	•
620-40839-7	–	7	–	–	–	•	•	•
620-40839-8	–	8	–	–	–	•	•	•
620-40525-2	–	1	•	–	–	–	•	•
620-40525-1	–	2	•	–	–	–	•	•
620-40525-3	–	3	•	–	–	–	•	•
620-40525-4	–	4	•	–	–	–	•	•
620-40525-5	–	5	•	–	–	–	•	•
620-40525-6	–	6	•	–	–	–	•	•
620-40525-7	–	7	•	–	–	–	•	•
620-40525-8	–	8	•	–	–	–	•	•

Metering device

VSG

Order numbers VSG

Connection thread		Outlets	Material	Indication and monitoring					
BSPP	NPTF		Steel galvanized	Indicator pin adjustable KR	Piston detector NP	Adapter for limit switch KA [1]	Limit switch KS	Indicator pin; fixed output; metering screws KD [2]	Metering screws D [2]
620-40733-1	–	1	•	•	•	–	–	–	–
620-40733-2	–	2	•	•	•	–	–	–	–
620-40733-3	–	3	•	•	•	–	–	–	–
620-40733-4	–	4	•	•	•	–	–	–	–
620-40733-5	–	5	•	•	•	–	–	–	–
620-40733-6	–	6	•	•	•	–	–	–	–
620-40733-7	–	7	•	•	•	–	–	–	–
620-40733-8	–	8	•	•	•	–	–	–	–
620-40605-1	–	1	•	•	–	•	–	–	–
620-40605-2	–	2	•	•	–	•	–	–	–
620-40605-3	–	1	•	•	–	•	–	–	–
620-40605-4	–	4	•	•	–	•	–	–	–
620-40605-5	–	1	•	•	–	•	–	–	–
620-40605-6	–	6	•	•	–	•	–	–	–
620-40605-7	–	7	•	•	–	•	–	–	–
620-40605-8	–	8	•	•	–	•	–	–	–
620-40027-1	**620-40027-2**	1	•	•	–	–	•	–	–
620-40027-3	**620-40027-4**	2	•	•	–	–	•	–	–
620-40027-5	**620-40027-6**	3	•	•	–	–	•	–	–
620-40027-7	**620-40027-8**	4	•	•	–	–	•	–	–
620-40028-1	**620-40028-2**	5	•	•	–	–	•	–	–
620-40028-3	**620-40028-4**	6	•	•	–	–	•	–	–
620-40028-5	**620-40028-6**	7	•	•	–	–	•	–	–
620-40028-7	**620-40028-8**	8	•	•	–	–	•	–	–
620-40023-1	**620-40023-2**	1	•	–	–	–	–	•	–
620-40023-3	**620-40023-4**	2	•	–	–	–	–	•	–
620-40023-5	**620-40023-6**	3	•	–	–	–	–	•	–
620-40023-7	**620-40023-8**	4	•	–	–	–	–	•	–
620-40024-1	**620-40024-2**	5	•	–	–	–	–	•	–
620-40024-3	**620-40024-4**	6	•	–	–	–	–	•	–
620-40024-5	**620-40024-6**	7	•	–	–	–	–	•	–
620-40024-7	**620-40024-8**	8	•	–	–	–	–	•	–
620-40025-1	**620-40025-2**	1	•	–	–	–	–	–	•
620-40025-3	**620-40025-4**	2	•	–	–	–	–	–	•
620-40025-5	**620-40025-6**	3	•	–	–	–	–	–	•
620-40025-7	**620-40025-8**	4	•	–	–	–	–	–	•
620-40026-1	**620-40026-2**	5	•	–	–	–	–	–	•
620-40026-3	**620-40026-4**	6	•	–	–	–	–	–	•
620-40026-5	**620-40026-6**	7	•	–	–	–	–	–	•
620-40026-7	**620-40026-8**	8	•	–	–	–	–	–	•

[1] thread M12×1

[2] fixed output 0,55; 1,1; 1,65; 2,2 cm3; *0.033; 0.067; 0.01; 0.13 in3*

Check valves

Order number	Tube	Designation
	∅ mm	
223-13052-1	6	GERV 6-S G 1/4 AVCF
223-13052-2	8	GERV 8-L G 1/4 AVCF
223-13052-3	10	GERV 10-L G 1/4 AVCF

Metering device

VSG

VSG–MD.. , with connection thread BSPP

Order number	Outlets	Material			Metering quantity max.	
		Metering device	Regulating sleeve	Protection cap	cm^3	*in^3*
620-41081-7	1	steel, galvanized	brass	brass	2,20	*0.13*
620-41124-1	1	steel, galvanized	brass	plastic	2,20	*0.13*
620-41081-4	2	steel, galvanized	brass	brass	2,20	*0.13*
620-41124-2	2	steel, galvanized	brass	plastic	2,20	*0.13*
620-41124-3	3	steel, galvanized	brass	plastic	2,20	*0.13*
620-41081-8	3	steel, galvanized	brass	brass	2,20	*0.13*
620-41081-5	4	steel, galvanized	brass	brass	2,20	*0.13*
620-41124-4	4	steel, galvanized	brass	plastic	2,20	*0.13*
620-41081-6	6	steel, galvanized	brass	brass	2,20	*0.13*
620-41124-6	6	steel, galvanized	brass	plastic	2,20	*0.13*
620-41081-1	8	steel, galvanized	brass	brass	2,20	*0.13*
620-41133-1	1	stainless steel, 1.4571	stainless steel, 1.4571	stainless steel, 1.4571	2,20	*0.13*
620-41133-9	2	stainless steel, 1.4571	stainless steel, 1.4571	stainless steel, 1.4571	2,20	*0.13*
620-41133-3	3	stainless steel, 1.4571	stainless steel, 1.4571	stainless steel, 1.4571	2,20	*0.13*
620-41133-5	4	stainless steel, 1.4571	stainless steel, 1.4571	stainless steel, 1.4571	2,20	*0.13*
620-41133-7	6	stainless steel, 1.4571	stainless steel, 1.4571	stainless steel, 1.4571	2,20	*0.13*
620-41124-7	7	steel, galvanized	brass	plastic	2,20	*0.13*
620-41081-2	7	steel, galvanized	brass	brass	2,20	*0.13*
620-41124-8	8	steel, galvanized	brass	plastic	2,20	*0.13*
620-41081-1	8	steel, galvanized	brass	brass	2,20	*0.13*

Accessories

Welding plates for VSG and VSL

Order number	Model
432-21791-1	VSG2/VSL2
432-21792-1	VSG4/VSL4
432-21793-1	VSG6/VSL6
432-21794-1	VSG8/VSL8

Extensions for VSG and VSL

Order number	Model
420-23872-1	VSG, 1.4305
420-22139-1	VSG
420-24832-1	VSL
420-22140-1	VSL

Metering screw for VSG

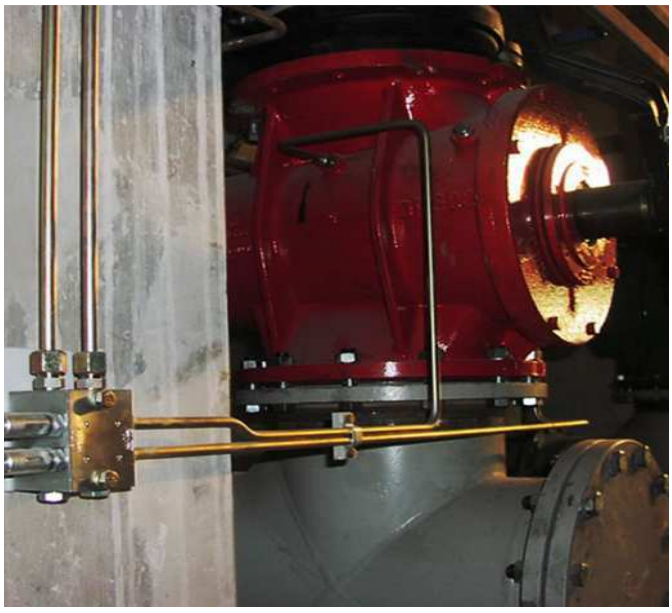
Order number	Output		Material
	cm^3	*in^3*	
303-17505-1	0,55	*0.33*	steel
303-17506-1	1,10	*0.67*	steel
303-17507-1	1,65	*0.10*	steel
303-17508-1	2,2	*0.13*	steel
303-16283-1	0,55	*0.33*	stainless steel 1.4305/303
303-16698-1	1,10	*0.67*	stainless steel 1.4305/303
303-16760-1	1,65	*0.10*	stainless steel 1.4305/303
303-19759-1	2,2	*0.13*	stainless steel 1.4305/303
303-16696-1	0,55	*0.33*	stainless steel 1.4571/316Ti
303-16695-1	1,10	*0.67*	stainless steel 1.4571/316Ti
303-16694-1	1,65	*0.10*	stainless steel 1.4571/316Ti
303-16224-1	2,2	*0.13*	stainless steel 1.4571/316Ti

Magnetic indicator for VSG

Order number	Metering quantity		Protection cap material
	cm^3	*in^3*	
520-33105-1	0,55	*0.033*	brass
520-33106-1	1,10	*0.043*	brass
520-33107-1	1,65	*0.065*	brass
520-33073-1	2,20	*0.087*	brass
520-33270-1	0,55	*0.033*	plastic
520-33271-1	1,10	*0.043*	plastic
520-33272-1	1,65	*0.065*	plastic
520-33273-1	2,20	*0.087*	plastic

Metering device

VSL



Description

The durable, galvanized steel VSL metering devices are designed for dual-line systems with pressures of up to 400 bar (5 800 psi). These metering devices are available with up to eight outlets, and each pair of outlets is equipped with an indicator pin for visual monitoring. Also, the VSL metering devices are available with low-wear proximity switches, or piston detectors, for electrical monitoring. Additional features include rust-resitant material.

Features and benefits

- Easy cross-porting with external screw to combine
- Solid-block construction for durability and error-free exchange
- Operates effectively in a wide range of temperatures
- Easy to monitor

Applications

- Steel plants
- Cement plants
- Mining excavators

Technical data

Function principle	metering devices
Outlets	2-8
Operating temperature	KR, KA, KD, D: max. +80 °C, *+176 °F* MD, KR–FKM: max. +120 °C, *+248 °F*
Lubricant	grease up to NLGI 3 oil with a viscosity of min 20 mm^2/s
Operating pressure	max. 400 bar, *5 800 psi*
Materials	steel galvanized or stainless steel 1.4305/303 on request
Metering quantity per stroke	0–5 cm^3, *0–0.3 in^3* or fixed output: 1.25; 2,5; 3,75; 5 cm^3, *0.076; 0.15; 0.23; 0.31 in^3*, order number on request
Main line connection inlet	G 3/8, 3/8 NPTF
Outlet connection	G 1/4, 1/4 NPTF
Dimensions	min. 148 × 94 × 54 mm max. 148 × 220 × 54 mm *min. 5.83 × 3.70 × 2.13 in* *max. 5.83 × 8.66 × 2.13 in*

NOTE
Further technical information, technical drawings, accessories, spare parts or product function descriptions are available on SKF.com/lubrication.

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

Metering device

VSL

VSL carbon steel galvanized

Order number BSPP	NPTF	Outlets	Material Steel galvanized	Indication and monitoring Indicator pin adjustable output KR	FKM U-cup seal	Piston detector NP	Adapter for limit switch KA [1]	Limit switch KS
620-40062-1	620-40062-2	1	•	•	–	–	–	–
620-40062-3	620-40062-4	2	•	•	–	–	–	–
620-40062-5	620-40062-6	3	•	•	–	–	–	–
620-40062-7	620-40062-8	4	•	•	–	–	–	–
620-40064-1	620-40064-2	5	•	•	–	–	–	–
620-40064-3	620-40064-4	6	•	•	–	–	–	–
620-40064-5	620-40064-6	7	•	•	–	–	–	–
620-40064-7	620-40064-8	8	•	•	–	–	–	–
620-40527-1	–	1	•	•	•	–	–	–
620-40526-1	620-40937-2	2	•	•	•	–	–	–
620-40526-9	–	3	•	•	•	–	–	–
620-40526-4	620-40937-4	4	•	•	•	–	–	–
620-40526-5	–	5	•	•	•	–	–	–
620-40526-6	620-40937-6	6	•	•	•	–	–	–
620-40526-7	–	7	•	•	•	–	–	–
620-40526-8	620-40937-8	8	•	•	•	–	–	–
620-40853-1	–	1	•	•	–	•	–	–
620-40853-2	–	2	•	•	–	•	–	–
620-40853-3	–	3	•	•	–	•	–	–
620-40853-4	–	4	•	•	–	•	–	–
620-40853-6	–	6	•	•	–	•	–	–
620-40853-8	–	8	•	•	–	•	–	–
620-40637-2	–	2	•	•	–	–	•	–
620-40637-4	–	4	•	•	–	–	•	–
620-40637-6	–	6	•	•	–		•	–
620-40637-8	–	8	•	•	–	–	•	–
620-40068-1	620-40068-2	1	•	•	–	–	–	•
620-40068-3	620-40068-4	2	•	•	–	–	–	•
620-40068-5	620-40068-6	3	•	•	–	–	–	•
620-40068-7	620-40068-8	4	•	•	–	–	–	•
620-40069-1	620-40069-2	5	•	•	–	–	–	•
620-40069-3	620-40069-4	6	•	•	–	–	–	•
620-40069-5	620-40069-6	7	•	•	–	–	–	•
620-40069-7	620-40069-8	8	•	•	–	–	–	•

[1] thread M12x1

VSL

Order number BSPP	NPTF	Outlets	Material Carbon steel galvanized	Indication and monitoring Indicator pin; fixed output; metering screw KD [1]	Metering screw D [1]
620-40065-1	620-40065-2	1	•	•	–
620-40065-3	620-40065-4	2	•	•	–
620-40065-5	620-40065-6	3	•	•	–
620-40065-7	620-40066-8	4	•	•	–
620-40066-1	620-40066-2	5	•	•	–
620-40066-3	620-40066-4	6	•	•	–
620-40066-5	620-40066-6	7	•	•	–
620-40066-7	620-40066-8	8	•	•	–
620-40063-1	620-40063-2	1	•	–	•
620-40063-3	620-40063-4	2	•	–	•
620-40063-5	620-40063-6	3	•	–	•
620-40063-7	620-40063-8	4	•	–	•
620-40067-1	620-40067-2	5	•	–	•
620-40067-3	620-40067-4	6	•	–	•
620-40067-5	620-40067-6	7	•	–	•
620-40067-7	620-40067-8	8	•	–	•

[1] also available: 1,25; 2,5; 3,75 cm³, *0.07, 0.15, 0.228 in³*

Metering device

VSL

VSL–MD.. , with connection thread BSPP

Order number	Outlets	Material			Metering quantity max.	
		Metering device	Regulating sleeve	Protection cap	cm³	*in³*
620-41125-1	1	steel, galvanized	brass	plastic	5,00	*0.30*
620-41079-6	1	steel, galvanized	brass	brass	5,00	*0.30*
620-41079-2	2	steel, galvanized	brass	brass	5,00	*0.30*
620-41125-2	2	steel, galvanized	brass	plastic	5,00	*0.30*
620-41125-3	3	steel, galvanized	brass	plastic	5,00	*0.30*
620-41079-7	3	steel, galvanized	brass	brass	5,00	*0.30*
620-41079-4	4	steel, galvanized	brass	brass	5,00	*0.30*
620-41125-4	4	steel, galvanized	brass	plastic	5,00	*0.30*
620-41125-5	5	steel, galvanized	brass	plastic	5,00	*0.30*
620-41079-8	5	steel, galvanized	brass	brass	5,00	*0.30*
620-41079-5	6	steel, galvanized	brass	brass	5,00	*0.30*
620-41125-6	6	steel, galvanized	brass	plastic	5,00	*0.30*
620-41125-7	7	steel, galvanized	brass	plastic	5,00	*0.30*
620-41079-9	7	steel, galvanized	brass	brass	5,00	*0.30*
620-41079-3	8	steel, galvanized	brass	brass	5,00	*0.30*
620-41125-8	8	steel, galvanized	brass	plastic	5,00	*0.30*

Metering screw for VSL

Order number	Metering quantity		Material
	cm³	*in³*	
303-17509-1	1,25	*0.49*	steel
303-17510-1	2,50	*0.98*	steel
303-17511-1	3,75	*1.48*	steel
303-17512-1	5,00	*1.97*	steel
303-16106-1	2,50	*0.98*	stainless steel 1.4305/303
303-19809-1	3,75	*1.48*	stainless steel 1.4305/303
303-19760-1	5,00	*1.97*	stainless steel 1.4305/303

Extensions for VSL

Order number	Model
420-24832-1	VSL
420-22140-1	VSL

Accessories

VSL

223-13052-1

Check valve

Order number	Tube	Designation
	∅ mm	
223-13052-1	6	GERV 6-S G 1/4 AVCF
223-13052-2	8	GERV 8-L G 1/4 AVCF
223-13052-3	10	GERV 10-L G 1/4 AVCF

VSG4–KR with welding plate and extension

Welding plate for VSG and VSL

Order number	Model
432-21791-1	VSG2/VSL2
432-21792-1	VSG4/VSL4
432-21793-1	VSG6/VSL6
432-21794-1	VSG8/VSL8

520-33277-1

Magnetci indicator for VSL

Order number	Metering quantity		Protection cap material
	cm^3	*in^3*	
520-33103-1	1,25	*0.49*	brass
520-33104-1	2,50	*0.98*	brass
520-33108-1	3,75	*1.48*	brass
520-33074-1	5,00	*1.97*	brass
520-33274-1	1,25	*0.49*	plastic
520-33275-1	2,50	*0.98*	plastic
520-33276-1	3,75	*1.48*	plastic
520-33277-1	5,00	*1.97*	plastic

Metering device

SGA/SG

Description

Designed for use in dual-line lubrication systems, SGA and SG metering devices feature a modular design with separate base plate that makes system modification simple. Made of zinc-coated carbon steel or stainless steel, these metering devices are installed on aluminium or stainless steel BPSG base plates. Available in six basic sizes, the SGA and SG metering devices meet industrial needs ranging from small joints to large roller bearings.

Features and benefits

- Versatile and durable
- Modular units provide easy system modification and maintenance without costly piping work
- Manufactured from zinc-coated carbon steel or stainless steel AISI-316 L to resist corrosion
- Suitable for lubricants up to NLGI 2

Applications

- Paper industry
- Steel Industry
- Heavy industry

Technical data

Function principle	metering devices
Outlets	1–12
Operating temperature	–25 to +80 °C, *–13 to +176 °F*
Lubricant	oil and greases NLGI 000–2
Operating pressure	SGA 01: max. 250 bar, *3 625 psi* SG/SGA 1–5: max. 300 bar, *4 350 psi*
Material	carbon steel galvanized or stainless steel
Metering quantity per stroke	0,15–177 cm^3, *0.01-10.8 in^3*
Outlet connection	BSPP and NPTF
Dimensions	min. 73 × 30 × 30 mm max. 307 × 62 × 60 mm *min. 2.87 × 1.18 × 1.18 in* *max. 12.08 × 2.44 × 2.36 in*

NOTE
Further technical information, technical drawings, accessories, spare parts or product function descriptions are available on SKF.com/lubrication:
PUB LS/P8 11277 EN

Metering device

SGA/SG

Order information

Order number	Designation	Output per outlet		Outlets	Material		
		cm^3/stroke	in^3/stroke		Carbon steel galvanized	Stainless steel	Without mechanical indicator
12387460	SGA-011-ZN	0,30–1,45	*0.02–0.09*	1	•	–	–
12387560	SGA-11-ZN	0,50–2,55	*0.03–0.16*	1	•	–	–
12387660	SGA-21-ZN	1,50–8,75	*0.09–0.53*	1	•	–	–
12388110	SG-31-ZN [1]	8,50–56,0	*0.52–3.42*	1	•	–	–
12387510	SGA-012-ZN	0,15–0,70	*0.01–0.04*	2	•	–	–
12387610	SGA-12-ZN	0,25–1,25	*0.02–0.08*	2	•	–	–
12387710	SGA-22-ZN	0,70–4,35	*0.04–0.27*	2	•	–	–
12388160	SG-32-ZN [1]	4,30–28,00	*0.26–1.71*	2	•	–	–
12386560	SGA-011-SS	0,30–1,45	*0.02–0.09*	1	–	•	–
12386660	SGA-11-SS	0,50–2,55	*0.03–0.16*	1	–	•	–
12386760	SGA-21-SS	1,50–8,75	*0.09–0.53*	1	–	•	–
12386610	SGA-012-SS	0,15–0,70	*0.01–0.04*	2	–	•	–
12386710	SGA-12-SS	0,25–1,25	*0.02–0.08*	2	–	•	–
12386810	SGA-22-SS	0,70–4,35	*0.04–0.27*	2	–	•	–
12387160	SG-31-SS [1]	8,5–56,0	*0.297–1.941*	1	–	•	–
12387260	SG-41-SS [1]	10,96–52,57	*0.668–3.208*	1	–	•	–
12387360	SG-51-SS [1]	48,03–100,45	*2.930–6.129*	1	–	•	–
12387210	SG-32-SS [1]	4,88–31,81	*0.297–1.941*	2	–	•	–
12387310	SG-42-SS [1]	10,96–52,57	*0.668–3.208*	2	–	•	–
12387410	SG-52-SS [1]	48,03–100,45	*2.930–6.129*	2	–	•	–
12387470	SGA-011-ZN-WI [2] [3]	0,17–0,79	*0.010–0.048*	1	•	–	–
12387570	SGA-11-ZN-WI [2] [3]	0,28–1,42	*0.017–0.086*	1	•	–	–
12387670	SGA-21-ZN-WI [2] [3]	0,80–4,94	*0.048–0.301*	1	•	–	–
12387520	SGA-012-ZN-WI [2] [3]	0,17–0,79	*0.010–0.048*	2	•	–	–
12387620	SGA-12-ZN-WI [2] [3]	0,28–1,42	*0.017–0.086*	2	•	–	–
12387720	SGA-22-ZN-WI [2] [3]	0,80–4,94	*0.048–0.301*	2	•	–	–
12387525	SGA-011-ZN-NI [3]	0,17–0,79	*0.010–0.048*	1	•	–	•
12387625	SGA-11-ZN-NI [3]	0,28–1,42	*0.017–0.086*	1	•	–	•
12387680	SGA-21-ZN-NI [3]	0,80–4,94	*0.048–0.301*	1	•	–	•
12387530	SGA-012-ZN-NI [3]	0,17–0,79	*0.010–0.048*	2	•	–	•
12387630	SGA-12-ZN-NI [3]	0,28–1,42	*0.017–0.086*	2	•	–	•
12387685	SGA-22-ZN-NI [3]	0,80–4,94	*0.048–0.301*	2	•	–	•

[1] That design requires two places on base plate.

[2] In WI models there is a metal indicator pin on indicator end (pin moves out and in).

[3] In both WI and NI models there is included 3 different size of metering screws.

Accessories

SGA/SG

BSPG Base plates

BSPG Base plates

Order number	Designation	Connections		Material	
		inlet	outlet	anodized aluminium	stainless steel
12383250	BPSG-01-AL	BSPP 1/4	BSPP 1/8	•	–
12383300	BPSG-02-AL	BSPP 1/4	BSPP 1/8	•	–
12383350	BPSG-03-AL	BSPP 1/4	BSPP 1/8	•	–
12383400	BPSG-04-AL	BSPP 1/4	BSPP 1/8	•	–
12383450	BPSG-05-AL	BSPP 1/4	BSPP 1/8	•	–
12383500	BPSG-06-AL	BSPP 1/4	BSPP 1/8	•	–
12384300	BPSG-01-SS	BSPP 1/4	BSPP 1/8	–	•
12384350	BPSG-02-SS	BSPP 1/4	BSPP 1/8	–	•
12384400	BPSG-03-SS	BSPP 1/4	BSPP 1/8	–	•
12384450	BPSG-04-SS	BSPP 1/4	BSPP 1/8	–	•
12384500	BPSG-05-SS	BSPP 1/4	BSPP 1/8	–	•
12384550	BPSG-06-SS	BSPP 1/4	BSPP 1/8	–	•
12384600	BPSG-01-SS-U	NPTF 1/4	NPTF 1/8	–	•
12384650	BPSG-02-SS-U	NPTF 1/4	NPTF 1/8	–	•
12384700	BPSG-03-SS-U	NPTF 1/4	NPTF 1/8	–	•
12384750	BPSG-04-SS-U	NPTF 1/4	NPTF 1/8	–	•
12384800	BPSG-05-SS-U	NPTF 1/4	NPTF 1/8	–	•
12384850	BPSG-06-SS-U	NPTF 1/4	NPTF 1/8	–	•
12386350	SGA-0-AL	BSPP 1/4	BSPP 1/8	•	–
12386400	SGA-0-SS	BSPP 1/4	BSPP 1/8	–	•

SGA/SG

Doser monitor

Order number	Designation
12388184	Doser monitor SGA-2
12388188	Doser monitor SG-3-4-5
12388192	Doser monitor junction box
12771677	Doser monitor extension cable M 12, l= 1 m
12771678	Doser monitor extension cable M 12, l= 5 m

Description

Designed for use with SGA and SG metering devices in dual-line lubrication systems, this monitor senses the movement of the metering device piston. The doser monitor comes complete with electrical sensors, connection cable and a junction box.

Features and benefits

- Increases metering device operation monitoring level when dosage piston movement is monitored; sensor has no contact with lubricant because of sensor adapter.
- Sensor is easy to install and maintain with separate sensor adapter
- Status of monitor can be confirmed visually by LED signals
- Compatible with all SGA and SG metering devices
- IP 67 protection rating

Applications

- Heavy industry

Technical data

Function principle	monitoring devices
Operating temperature	–20 to +70 °C, *–4 to +160 °F*
Operating pressure	0–250 bar, *0–3 600 psi*
Supply voltage	24 (20–28) V DC
Output signal	potential-free relay contact
Connection	M 12
Protection class	IP 67
Dimensions	68 × 30 × 20 mm 2.67 × 1.18 × 0.78 in

NOTE
Further technical information, technical drawings, accessories, spare parts or product function descriptions are available on SKF.com/lubrication:
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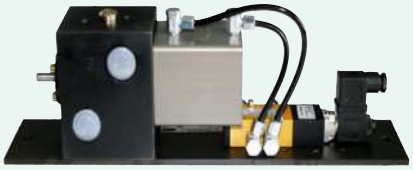


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Overview of valves

Change-over valves

Product	Function principle	Operation pressure max.		Supply voltage		Page
		bar	*psi*	V DC	V AC	
DU 1	Pressure operated change-over valve	350	*5 075*	–	–	48
MP 2	Pneumatic ally operated change-over valve	400	*5 800*	24, 110	110, 230	49
E-VALV	Electrically operated change-over valve	300	*4351*	24	–	50
Maxilube	Electro-pneumatically operated change-over valve	300	*4 350*	24	115, 230	52
EMU 3	Electrically operated change-over valve	400	*5 800*	24	230	54

Way valves

Product	Function principle	Operation pressure max.		Supply voltage		Page
		bar	*psi*	V DC	V AC	
CLV-2	Electro-pneumatically operated shut-off (way) valve	300	*4351*	24	115, 230	56
E-VALV-S	Electrically operated shut-off (way) valve	300	*4351*	24	110, 230	58
WSE	Electrically operated shut-off (way) valve	400	*5 800*	24	230	60

Valve assemblies

Product	Function principle	Operation pressure max.		Supply voltage	Page
		bar	*psi*	V DC	
DVA	valve assembly	300	*4351*	24	63

Change-over valve

DU 1

Description

Available in pneumatic, electric or hydraulic versions, DU 1 change-over valves are designed primarily for use in dual-line lubrication systems. These change-over valves alternately discharge lubricant, fed by the pump into one of the two main lines while the other line is connected to the return line connection of the pump. The switching pressure is adjustable.

Features and benefits

- Reliable, even for hard grease
- Change-over process initiated automatically once preset pressure is reached
- Maximum operating pressure of 350 bar *(5 076 psi)*
- Various mounting positions
- Works effectively in temperatures ranging from –20 to +80 °C *(–4 to +176 °F)*

Applications

- Ideal for small, electrically driven dual-line systems that requires minimal monitoring

Technical data

Function principle	change-over valve, hydraulic, pressure operated 4/2 way valves
Operating temperature	–20 to +80 °C *–4 to +176 °F*
Lubricant	grease up to NLGI 3, oil with a viscosity of min 20 mm^2/s
Flow rate	14 dm^3/h, *3.7 gal/h*
Operating pressure	max. 350 bar, *5 075 psi*
Change-over pressure	min. 140 bar, max. 350 bar, *min. 2 030 psi, max. 5 075 psi*
Main line connection	G 1/2 female BSPP
Electrical connection	max. 500 V, 25–60 Hz
Protection class	IP 67
Dimensions	depending on the model min. 195 × 190 × 100 mm max. 195 × 195 × 195 mm *min. 7.8 × 7.8 × 4.0 in* *max. 7.8 × 7.8 × 7.8 in*
Mounting position	any

DU 1 Change-over valves mounted on a base plate

Order number	Designation	Description
617-28683-1	DU1–G	
617-28619-1	DU1–GK	with indicator pin
617-36148-9	DU1–GKN	with proximity switch
617-28620-1	DU1–GKS	with indicator pin and limit switch

NOTE

Further technical information, technical drawings, accessories, spare parts or product function descriptions are available on SKF.com/lubrication.

3D

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

Change-over valve

MP 2

Description

Designed for use in dual-line systems, the pneumatically operated MP 2 change-over valve works like a 4/2-way valve. It alternately discharges the lubricant fed by the pump into one of the main lines while the other main line is connected to the pump's return line connection.

Features and benefits

- Available in four voltages – 24 and 110 V DC, 110 and 220 V AC
- Can be used as a 3/2-way valve for grease systems
- Maximum operating pressure of 400 bar *(5 800 psi)*
- Works effectively in temperatures ranging from –20 to +70 °C *(–4 °F to +158 °F)*

Applications

- Particularly suitable in connection with pneumatically operated pumps like PowerMaster or Lubrigun
- Bottle filling machines in food and beverage plants
- For small, medium and large dual-line systems

Technical data

Function principle	change-over valve, hydraulic, pressure operated 4/2 way valves
Operating temperature	–20 to +70 °C *–4 to +158 °F*
Lubricant	grease up to NLGI 3, oil with a viscosity of min 20 mm^2/s
Flow rate	65 dm^3/h, *17 gal/h*
Operating pressure	max. 400 bar, *5 800 psi*
Compressed air pressure	max. 10 bar, *max. 145 psi*
Operating hydraulic pressure	max. 69 bar, *max. 870 psi*
Main line connection	G 3/4 female BSPP
Voltage	24 or 110 V DC, 110 or 220 V AC
Protection class	IP 65
Dimensions	135 × 400 × 180 mm *5.4 × 16 × 7.2 in*
Mounting position	any

MP 2 Change-over valves

Order number	Designation	Voltage
618-28965-2	MP 2-24 V DC	24 V DC
618-28963-1	MP 2-110 V DC	110 V DC
618-28964-2	MP 2-110 V AC	110 V AC
618-28966-2	MP 2-220 V AC	220 V AC

NOTE
Further technical information, technical drawings, accessories, spare parts or product function descriptions are available on SKF.com/lubrication.

Change-over valve

E-VALV

Description

The electrically operated line valve E-VALV is a modular 3/2 valve in which each module has an internal pressure and tank connection. The benefit of the modular structure is that it enables the longest possible pressure discharge time for each lubrication line in a single- or dual-line system. Several lines or channels can be installed with the same valve assembly.

Features and benefits

- Cost efficient electrically operated change-over valve
- Compact and modular design (easy reduce- or extendable)
- System performance optimizing because it enables long pressure discharge time for each lubrication line

Applications

- General industry
- Mining industry
- Steel industry
- Food and beverage
- Cement industry

Technical data

Function principle	electrically operated change-over valve
Operating temperature	-10 to +50 °C *14 to +122 °F*
Lubricant	grease up to NLGI 2
Operating pressure	max. 300 bar *max. 4 351 psi*
Available designs	2, 4, 6, 8, 10, 12, 14 valves (for dual line)
Inlet and outlet connection	12 mm or 1/2 inch pipe connection
Supply voltage	24 V DC
Protection class	IP 67
Dimensions	59 × 100 × 230 mm *2.32 × 3.93 × 9.05 in*
Mounting position	any

NOTE
Further technical information, technical drawings, accessories, spare parts or product function descriptions are available on SKF.com/lubrication.
0EVL2BEN

Change-over valve

E-VALV

Order information

Order number [1]	Designation	Number of valves	Description	Lubricant line	Voltage
				∅	24 V DC
12375470	E-VALV-L2-24	2	Change-over valve L2	12 mm	•
12375475	E-VALV-L2-24-U	2	Change-over valve L2 (US)	1/2 in	•
12375490	E-VALV-L4-24	4	Change-over valve L4	12 mm	•
12375495	E-VALV-L4-24-U	4	Change-over valve L4 (US)	1/2 in	•

[1] Futher designs available on request.

Change-over valve

Maxilube

Description

Maxilube change-over valve is an essential part of heavy industry dual-line systems. It has proven its reliability in various applications throughout Pulp & Paper, Steel and Mining industries over past decades. The Maxilube is a compact solution including the main feature as change-over valve but also often with integrated IF-105 control feature. The Maxilube is an air-operated change-over valve unit and it is a vital part of dual-line pumping centre together with a barrel pump (MPB, etc.) package and a pressure air regulator. But even if it is often used in dual line systems it can also be used in single line and progressive systems. There are multiple control options for Maxilube unit such as the integrated control unit IF-105, an external control unit like ST-2240-LUB or control by customer's DCS. There is also an option to monitor Maxilube unit with an external control box which utilizes SMS technology.

Features and benefits

- Reliable, trouble-free operation
- Suitable for lubricants up to NLGI 2
- Available with integrated control IF-105
- Compact and rugged heavy duty design
- Includes control features for spray applications

Applications

- Heavy industry
- Pulp and paper industry
- Mining and steel industry

Technical data

Function principle	change-over valve, electro-pneumatically operated
Operating temperature	0 to +50 °C, *+32* to *+122 °F*
Operating pressure	max. 300 bar, *4 350 psi*
Pressure air supply	2,0 to 4,5 bar, *29 to 65 psi*
Air flow	max. 300 l/min
Lubricant	grease: up to NLGI 2 oil: 5 000 mm²/s
Electrical connections	control voltage: 24 V DC power supply: 115/230 V AC 50/60 Hz
Protection class	IP 65
Dimensions	depending on the model min. 650 × 130 × 130 mm max. 1 020 × 130 × 130 mm *min. 25.6 × 5.12 × 5.12 in* *max. 40.16 × 5.12 × 5.12 in*
Mounting position	vertical

NOTE
Further technical information, technical drawings, accessories, spare parts or product function descriptions are available on SKF.com/lubrication:
PUB 06414/2 EN

Change-over valve

Maxilube

Identification code MAX [ ] – 2 [ ] – [ ] – [ ] V2

Product series
MAX = Maxilube change-over valve

Number of zones
1 = one zone to control
2 = two zones to control

Number of lines
2 = dual-line system

Power supply
24 = 24 V control voltage if external control is used
115 = power input 115 V
230 = power input 230 V

User interface
IF105 = user interface
X = external control

Lubricant outlets
R = BSPP threads
U = NPT-threads

Identification of versions
V2 = version 2

Optional

SMS monitoring and control unit

Description

SKF control centres can be equipped with a SMS connection. By using this connection the Maxilube pumping unit and control centres can be controlled by SMS messages. The connection is created between a GSM modem installed in the pumping or control centre and a GSM mobile phone.

SMS unit

Order number	Designation
12380747	E-SMS-C, SMS monitoring and control unit

Change-over valve

EMU 3

Description

The electrically operated EMU 3 change-over valve is designed for use with dual-line systems. It is particularly suitable for extended dual-line systems in combination with pneumatically operated supply pumps with large flow rates.

Features and benefits

- Features mid position with option to relieve both main lines toward the pump reservoir during pause time
- System components are pressurized for shorter time periods and have a longer service life
- Risk of bleeding (soap and oil separation) is reduced
- Large connection thread and line distance allow larger tube diameters up to 30 mm (*1 1/4 in*)

Applications

- Continuous casting machines in steel industry
- Bottle filling machines in food and beverage plants with a few thousand lubrication points
- Large bucket wheel excavators in mining and basic materials industry

Technical data

Function principle	change-over valve, electrically operated 4/3 way valve
Operating temperature	–25 to +70 °C, *–13 to +158 °F*
Lubricant	grease up to NLGI 3
Flow rate	max. 400 l/h, *105 gal/h*
Operating pressure	max. 400 bar, *max. 5 800 psi*
Main line connection	G 3/4 BSPP
Electrical connection	bayonet plug DIN 72585
Operating voltage	24 V DC or 230 V AC
Protection class	IP 65
Dimensions	220 × 238 × 180 mm *8.64 × 9.35 × 7.07 in*
Mounting position	any

Order information

Order number	Voltage	Hydraulic connection ports
EMU-03-00-0000+924	24 V DC	G 3/4 BSPP
EMU-03-00-0000+1KF	230 V AC	G 3/4 BSPP

NOTE

Further technical information, technical drawings, accessories, spare parts or product function descriptions are available on SKF.com/lubrication:
951-171-001 EN

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

Valve assembly

DVA Dualset valve assembly

Description

With the SKF Lincoln Dualset valve assembly you can easily operate an additional barrel pump next to the main pump. This functionality is valuable when grease consumption is high and automatic barrel change is required. Dualset provides confidence in critical applications providing redundant operation in case of pump failure.

DVA can be used with all type of lubrication systems utilizing an air-operated barrel pump and control center supporting Dualset feature. Besides SKF control centers like ST-1340, ST-1440, ST-1240 or ST-2240, Dualset can be controlled by customer's DCS. Dualset comes with a hose kit for Maxilube / MPB pump with "plug and play" connections.

Features and benefits

- Automatic pump change while barrel empty
- Redundant operation in case of pump failure
- Can be added to many existing pumping stations
- Dualset support included on IF-105, ST-1340, ST-1440, ST-1240 and ST-2240 control units

Applications

- Steel industry
- Pulp and paper industry
- Mining industry

Technical data

Function principle	valve assembly for air-operated barrel pumps
Operating temperature	0 to +50 °C, *–32 to +122 °F*
Operating pressure	max. 300 bar, *max. 4 350 psi*
Lubrication line connections	Ø12 mm connectors acc. to DIN2353 / ISO8434-1
Air connection	Ø8 mm push in connectors
Electrical connection	bayonet plug DIN 72585
Operating voltage	24 V DC or 230 V AC
Protection class	IP 65
Dimensions	220 × 238 × 180 mm *8.64 × 9.35 × 7.07 in*
Mounting position	any

Order information

Order number	Designation
12386002	DUALSET VALVE ASSEMBLY

NOTE
Further technical information, technical drawings, accessories, spare parts or product function descriptions are available on SKF.com/lubrication:
18528 EN

Shut-off (way) valve

CLV-2

Description

In grease lubrication systems, lubrication channels connected to one pump unit are separated from each other by shut-off (way) valves. CLV-2 air-operated shut-off valve can be controlled by SKF control centre or directly by the machine controls.

Features and benefits

- Very simple and reliable operation
- Low maintenance costs
- Robust design with visual indicator pin

Applications

- Heavy industry
- Pulp and Paper industry
- Steel industry
- Mining industry

Technical data

Function principle	electro-pneumatically operated shut-off (4/2 way) valve
Operating temperature	–10 to +50 °C, *14 to +122 °F*
Lubricant	grease up to NLGI 2
Operating pressure	max. 300 bar, *max. 4 351 psi*
Air pressure	4–7 bar; *58 to 101 psi*
Lubrication line connection	G 3/4 BSPP or NPTF
Air connection	G 1/8 BSPP or NPTF
Electrical connection	MPM-712 DIN 43650-A
Supply voltage	24 V DC, 115 V AC or 230 V AC
Protection class	IP 65
Dimensions	230 ×125 ×103 mm *9.05 × 4.92 × 4.05 in*
Mounting position	any

NOTE
Further technical information, technical drawings, accessories, spare parts or product function descriptions are available on SKF.com/lubrication.

Shut-off (way) valve

CLV-2

Order information

Order number	Designation	Voltage		
		24 V DC	115 V AC	230 V AC
12385860	CLV-2-24-NC shut-off valve	•	–	–
12385865	CLV-2-24-NO shut-off valve	•	–	–
12385900	CLV-2-24-NC-U shut-off valve	•	–	–
12385950	CLV-2-24-NO-U shut-off valve	•	–	–
12385880	CLV-2-230-NC shut-off valve	–	–	•
12385885	CLV-2-230-NO shut-off valve	–	–	•
12385550	CLV-2-115-NC-U shut-off valve	–	•	–
12385600	CLV-2-115-NO-U shut-off valve	–	•	–

Shut-off (way) valve

E-VALV-S

Description

The shut-off valve E-VALV-S is either 2/2- or 4/2-way valve and some models are equipped with check valves. E-VALV-S consists of the valve body, an optional thrust valve and a solenoid valve, a coil, and a plug with a maintenance power reducer in 110 and 230 VDC. All E-VALV-S units can be connected directly to machine control (interlocking).

Features and benefits

- Cost efficient electrically driven shut-off valve that requires no pressurized air
- System performance optimizing because it enables long pressure discharge time for each lubrication line

Applications

- General industry
- Mining industry
- Pulp and Paper industry
- Steel industry
- Food and beverage
- Cement industry

Technical data

Function principle	electrically operated shut-off (way) valve
Operating temperature	–10 to +50 °C *14 to +122 °F*
Lubricant	grease up to NLGI 2
Operating pressure	max. 300 bar *max. 4 351 psi*
Inlet and outlet connection	12 mm or 1/2 in pipe connection
Supply voltage	24 V DC, 110 and 230 V AC
Protection class	IP 67
Dimensions	123 × 90 × 200 mm *4.84 × 3.54 × 7.87 in*
Mounting position	any

NOTE
Further technical information, technical drawings, accessories, spare parts or product function descriptions are available on SKF.com/lubrication.

Shut-off (way) valve

E-VALV-S

Order information

Order number [1]	Designation	Description	Lubricant line	Voltage		
			∅	24 V DC	110 V AC	230 V AC
12375780	E-VALV-S2-NC-24	Shut-off valve, normally (de-energized) closed	12 mm	•	–	–
12375785	E-VALV-S2-NC-24-U	Shut-off valve, normally (de-energized) closed	1/2 in	•	–	–
12375790	E-VALV-S2-NC-110-U	Shut-off valve, normally (de-energized) closed	1/2 in	–	•	–
12375795	E-VALV-S2-NC-230	Shut-off valve, normally (de-energized) closed	12 mm	–	–	•

1) Futher designs available on request.

Shut-off (way) valve

WSE

Description

The factory-set closing of certain connection ports of the EMU 3 allows its use as a reliable and efficient shut-off or way valve. In this case, the “M” position cannot be used. The designation for these way valves is WSE.

Features and benefits

- Functions reliably under harsh conditions due to an electrically operated piston slide valve
- Provides resistance against solid additives in greases
- Large connection thread and line distance allow larger tube diameters up to 30 mm (*1 1/4 in*)

Applications

- Continuous casting machines in steel industry
- Bottle-filling machines in food and beverage plants with a few thousand lubrication points
- Large bucket wheel excavators in mining and basic materials industry

Technical data

Function principle	change-over valve, electrically operated 4/3 way valve
Operating temperature	–25 to +70 °C, *–13 to +158 °F*
Lubricant	grease up to NLGI 3
Flow rate	max. 400 l/h, *105 gal/h*
Operating pressure	max. 400 bar, *max. 5 800 psi*
Main line connection	G 3/4 BSPP
Electrical connection	bayonet plug DIN 72585
Operating voltage	24 V DC or 230 V AC
Protection class	IP 65
Dimensions	220 × 238 × 180 mm *8.64 × 9.35 × 7.07 in*
Mounting position	any

NOTE
Further technical information, technical drawings, accessories, spare parts or product function descriptions are available on SKF.com/lubrication:
951-171-001 EN

Shut-off (way) valve

WSE

Order information

Order number	Designation	Voltage		Hydraulic connection ports
		24 V DC	230 V AC	
WSE-22-66-0000+924	WS–E 2/2 way valve	•	–	connection ports B and R closed
WSE-22-66-0000+1KF	WS–E 2/2 way valve	–	•	connection ports B and R closed
WSE-32-06-0000+924	WS–E 3/2 way valve	•	–	connection port R closed
WSE-32-06-0000+1KF	WS–E 3/2 way valve	–	•	connection port R closed
WSE-32-60-0000+924	WS–E 3/2 way valve	•	–	connection port B closed
WSE-32-60-0000+1KF	WS–E 3/2 way valve	–	•	connection port B closed


S13


SKF


LINCOLN

Overview of pressure sensors

Mechanical pressure switches

Product	Function principle	Operation pressure max.		Supply voltage		Page
		bar	*psi*	V DC	V AC	
DSB 1	Mechanical pressure switch	300	*4 350*	36	30	64

Electric pressure switches/transmitter

Product	Function principle	Operation pressure max.		Supply voltage		Page
		bar	*psi*	V DC	V AC	
EDW	Electric pressure switch	600	*8 700*	–	–	66
DW	Electric pressure switch	175/400	*2 465/5 800*	24	–	67
BPSG PTA-MOD	Electric pressure transmitter for SGA systems	250	*3 600*	24	–	68
DDS 50/1	Differential pressure switch	400	*5 800*	24	400/500	69
DPC 1	End-of-line pressure switch unit	400	*5 800*	24	–	70

Pressure switch

DSB 1

Description

Product series DSB consists of mechanical-piston pressure switches designed for use with NLGI Grade 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. This reliably prevents the same grease from being pressurized repeatedly, which could cause lubricant soap and oil separation, also known as grease bleeding. Based on the application, the pressure switch can be configured as a single or double design and with or without a measurement connector or pressure gauge. The pressure switch generally is installed upstream of the last lubricant distributor.

Features and benefits

- Available in pre-adjusted versions ranging from 20 to 300 bar *(290 to 4 350 psi)*
- Prevents oil separation-related faults
- Reliable micro-switch technology with change-over contact (NO and NC)
- Includes built-in manifold for continuous lubricant flow without dead volume
- IP 65 protection rating, corrosivity category C3 or C5M

Applications

- General industry
- Steel industry
- Wind industry
- Mining industry
- Heavy industry

Technical data

Function principle	mechanical piston pressure switch
Operating temperature	–25 to +80 °C, *–13 to +132 °F*
Operating pressure	max. 300 bar, *4 350 psi*
Lubricant	oil and grease NLGI 1 and 2
Breaking capacity, ohm load	max. 1,2 VA
Supply voltage	max. 30 V AC/36 V DC
Supply current	min. 1 mA, max. 50 mA
Type of contact	change-over
Connection method	clamps
Mechanical service life	10^5 switching cycles
Housing material	aluminium, anodized
Contact material	silver alloy, hard gold plating
Connector socket 3+PE	DIN EN 175 301-803 A
Connection	G 1/4
Dimensions	60 × 76 × 105 mm *2.36 × 3 × 4.13 in*
Protection class	IP 65
Mounting position	any
Certification	Germanischer Loyd (GL) certification

NOTE
Further technical information, technical drawings, accessories, spare parts or product function descriptions are available on SKF.com/lubrication:
1-1701 EN

Pressure switch

DSB 1

Identification code D S B 1 – _ _ _ _ _ _ _ – 1 _ – 0 1

Pressure switch DS

Pressure switch type B

for grease, 20–300 bar, 290–4 350 psi

Pressure switch I

S = switch on increasing pressure
F = switch on decreasing pressure

Pressure switch I

in 10-bar increments from 20–300 bar; 290–4 350 psi

02 = 20 bar; 290 psi
04 = 40 bar; 580 psi

.....
30 = 300 bar; 4 350 psi

Pressure switch II

0 = no pressure switch
S = switch on increasing pressure
F = switch on decreasing pressure

Pressure switch II

in 10-bar increments up to 20–300 bar; 290–4 350 psi

00 = no pressure switch
02 = 20 bar, 290 psi
03 = 30 bar, 435 psi
04 = 40 bar, 580 psi

.....
30 = 300 bar; 4 350 psi

Measurement connector

A = measurement connector for pressure gauge M16x2
H = with pressure gauge 400 bar; 5 800 psi
G = with pressure gauge 250 bar; 3 625 psi
X = no measurement connector

Electrical connection

1 = DIN EN 175301-803 A (DIN plug)

Design

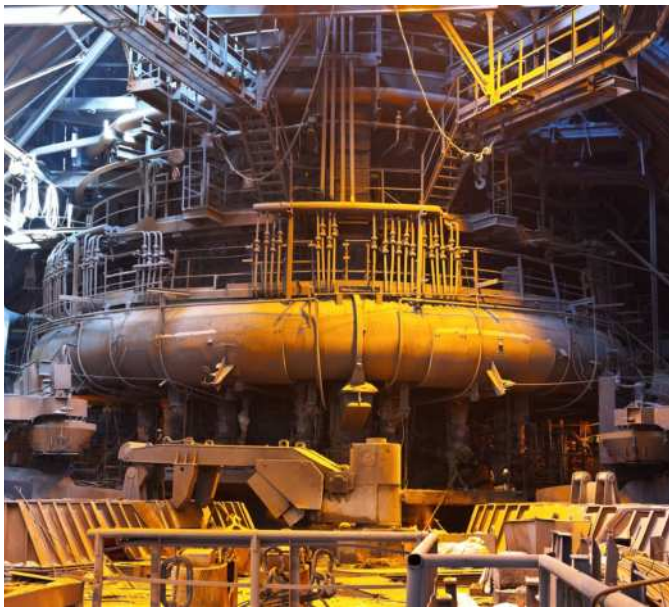
A = standard, based on corrosivity category C3 per ISO 12944, certified by Germanischer Lloyd
B = based on corrosivity category C5M per ISO 12944, certified by Germanischer Lloyd, suitable for offshore applications

Design key

01 = basic design (with thread G1/4)

End - of - line pressure unit

EDW



Description

EDW end-of-line pressure switches are key components in a dual-line lubrication system. Designed to monitor the system, these switches detect the pressure at the end of the respective main line and start the change-over procedure. If the pressure at the end of the line is not reached within a specific period of time, a fault signal will be generated at the electronic control unit.

Features and benefits

- Controls proper functioning of the pump and change-over unit
- Monitors for leaks in the tube line system
- Available with limit switches or with electronic pressure switches with LED display
- Proven, rigid design for tough conditions

Applications

- Large dual-line systems
- Steel mills
- Cement plants
- Minerals and mining

Technical data

Function principle	electronic pressure switch with 4-digit 7-segment LED display
Operating temperature	–25 to +85 °C *-13 to +185 °F*
Operating pressure	0–600 bar, *0–8 700 psi*
Main line connection	G 1/4 male
Electrical connections	4 pin plug, M 12 × 1
Supply voltage	18–36 V DC
Dimensions	150 × 250 × 60 mm *5.9 × 9.9 × 2.4 in*
Protection class	IP 67
Mounting position	any

Order information

Order number	Designation
632-36501-1	EDW end-of-line pressure unit with limit switches and pressure gauges
632-36627-3	EDW end-of-line pressure unit with electronic pressure switches with LED display

NOTE
Further technical information, technical drawings, accessories, spare parts or product function descriptions are available on SKF.com/lubrication.

Electric pressure switch

DW

Description

Electric pressure switches are used to monitor the operating pressure of the pump. They are installed at the pressure outlet of the pump and will switch off the pump if an overpressure occurs downstream in the system.

Features and benefits

- Protects the system from damage caused by overpressure
- All parameters can be set by keypad
- Adjustable keypad lock
- Rugged construction, vibration and shock-proof
- Long-term stability

Applications

- Dual-line pumps
- Steel mills
- Cement plants
- Minerals and mining

Technical data

Function principle	electric pressure switch
Operating temperature	–25 to +85 °C, *+13 to +185 °F*
Operating pressure	0–600 bar, *0–8 700 psi*
Input data measuring range	0–600 bar; *0–8 700 psi* overload pressure: 750 bar; *10 870 psi* burst pressure: 800 bar; *11 600 psi*
Output data	accuracy >=0,5% full scale
Analog output	signal 4–20 mA
Switching output	type PNP transistor output switching current max. 0,5 A
Supply voltage	18–36 V DC
Hydraulic connection	G 1/4
Protection class	IP 67
Dimensions	94 × 34 × 49 mm; *3.7 × 1.34 × 1.93 in*
Mounting position	any

Order information

Order number	Designation
623-37567-1	Electric pressure switch with transducer kit for 40 and 100 l, *10 and 26 gal*, reservoir versions, includes electronic pressure and digital display

NOTE
Further technical information, technical drawings, accessories, spare parts or product function descriptions are available on SKF.com/lubrication.

Pressure transmitter

BPSG PTA-MOD

Description

The BPSG2-PTA-MOD pressure transmitter assembly features a modular design for easy installation and service. Located between the base plate and metering device, the assembly's pressure transmitters measure the pressure of passing lubricant and notify the control unit. These end-of-line (main lines) pressures can also be monitored from the lubrication system's control unit.

Features and benefits

- Simple to install; no extra parts required
- Suitable for oils and greases up to NLGI Grade 2
- Helps to ensure that fresh lubricant flows through transmitters; no clogging
- Operates effectively in a wide range of temperatures
- IP 67 protection rating (for models with enclosure)

Applications

- Paper industry
- Steel industry
- Heavy industry

Technical data

Function principle	monitoring device
Operating temperature	–30 to +85 °C, *–22 to +185 °F*
Operating pressure	0–250 bar, *0–3 600 psi*
Materials	metering device: carbon steel galvanized or stainless steel transmitter: stainless steel
Supply voltage	24 (10-30) V DC
Output connection	4...20 mA, 2 wire cable
Protection class	IP 67
Dimensions	110 × 105 × 33 mm *4.33 × 4.13 × 1.29 in*
Mounting position	any

Order information

Order number	Designation	Carbon steel zinc coated	Stainless steel
12385333	BSPG2-PTA-MOD-D-ZN	•	–
12385331	BSPG2-PTA-MOD-D-SS	–	•

NOTE
Further technical information, technical drawings, accessories, spare parts or product function descriptions are available on SKF.com/lubrication:
PUB LS/P8 11277 EN

Differential pressure switch

DDS 50/1

Description

This differential pressure switch measures the difference in pressure between main feed lines 1 and 2. A signal is sent to the electrical control unit when a differential pressure of p = 50 bar is reached. This non-adjustable differential pressure provides a high degree of functional reliability for dual-line systems. The DDS 50/1 pressure switch is installed upstream of the lubricant metering device.

Features and benefits

- Provides fixed differential pressure; no regulating screws needed
- Reliable design for harsh environments
- Maintains system pressure on the lowest and most economical pressure level during summer and winter
- Reduces risk of grease bleeding (soap and oil separation)

Applications

- Mining industry
- Steel industry
- Heavy industry

Technical data

Function principle	differential pressure switch
Operating temperature	–25 to +80 °C, *–13 to +176 °F*
Operating pressure	max. 400 bar, max. *5 800 psi*
Differential pressure	50 bar, *725 psi*
Supply voltage	400 V AC
Nominal current	10 A
Used contact	2 closer
Connection method	clamps
Dimensions	min. 215 × 80 × 59 mm max. 221 × 80 × 59 mm *min. 8.46 × 3.15 × 2.32 in* *max. 8.7 × 3.15 × 2.32 in*
Protection class	IP 65
Mounting position	any

Order information

Order number	Designation
24-2583-2563	DDS 50/1 (Ui 500 V AC)

NOTE

Further technical information, technical drawings, accessories, spare parts or product function descriptions are available on SKF.com/lubrication.

Dual pressure controller

DPC 1

Description

The DPC 1 dual pressure controller was designed for dual-line lubrication systems that use a change-over valve controlled by an end-of-line pressure switch unit. The controller increases the energy efficiency of the system by matching the operating pressure to the ambient conditions. As a result, the pump motor only runs for as long as is required for pressure buildup. In the case of air-operated driven pumps, compressed air is conserved. The DPC 1 controller consists of a housing with integrated control electronics, an LCD and a membrane keypad. For the operation, there are two pressure sensors available, which will be installed in each main line.

Features and benefits

- Monitors proper function of system with regard to pump and change-over valve and detects tube line leaks
- Self-adjusting operating pressure increases service cycle of system components
- Integrated timer enables system operation without separate controller
- Measures the absolute min. and max. in the main lines
- Measures the differential pressure minimum and maximum
- IP 65 protection rating and Shockproof for rigorous environments

Applications

- Paper mills
- Steel mills
- Heavy industry
- Beverage industry

Technical data

Function principle	end-of-line-pressure switch unit
Operating temperature	–25 to 70 °C *–13 to +158 °F*
Lubricant	oil and grease
Operating or absolute pressure	max. 400 bar, *5 800 psi*
Differential pressure	max. 400 bar, *5 800 psi*
Monitoring time	1 sec to 99 min 59 sec
Cycle	1 min to 99 hh 59 min
Shock resistance	20 g
Supply voltage	24 V DC, ± 10%
Overload protection	up to 40 V
EMC	DIN EN 61000-6-2 and 61000-6-3
Reverse polarity protection	integrated
Protection class	IP 65
Dimensions without cable glands	100 × 100 × 62 mm *3.9 × 3.9 × 2.4 in*
Mounting position	any

NOTE
Further technical information, technical drawings, accessories, spare parts or product function descriptions are available on SKF.com/lubrication:
PUB 13597 EN

Dual pressure controller

DPC 1

Order information

Order number	Designation
234-10723-3 **234-10663-7**	DCP 1 end-of-line-pressure switch unit pressure sensor (two required for use with DPC 1)

DPC 1 accessories

Order number	Designation
236-10980-3	motor starter 1,0 A (e.g. for pump unit ZPU 02)
236-10980-4	motor starter 1,6 A (e.g. for pump unit ZPU 08)
236-10980-5	motor starter 4,0 A (e.g. for pump unit ZPU 24)

[1] motor starters to operate electrically driven pumps without separate controller


LINCOLN
Time or Cycle
POWER ON
O.K./FAULT
PUMP ON
LOW LEVEL
LMC 2
MENU
RUN
ENTER
RESET
Menu < 2 s = Setup Info
Run > 2 s = Run Cycle
HL
High Level
LL
Low Level
ER
Error
LINCOLN Multi Controller


SKF


SKF


SKF
PUMP
A B C
RUN
LL
FAULT
POWER
RESET
LMC 301


SKF ST-1240

Overview of control units

Product finder

Product	Function principle	Designation	Supply voltage		Lubrication channels	Temperature		Page
			V DC	*V AC*		°C	°F	
LMC 2	Electronic controller	Programmable for all kind of lubrication systems: time- or cycle- dependent lubrication, the counter for chain links.	24	230	2	–10 to +70	*+14 to +158*	74
LMC 301	Lubrication monitor controller	Can handle up to 3 pumps and various types of lubrication systems. Function keys with menu display.	24	90–264 (47–63 Hz)	3	–40 to +70	*-40 to +158*	75
ST-1240	Lubrication control center	Can operate 1 or 2 channels 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 centers and different lubricants. Configuration can be set in the field by touchscreen display. Pressure switches, pressure transmitters or piston detectors can be used in both channels.	–	93–132, 186–264	2	0 to +50	*+32 to +122*	76
ST-2240-LUB	Lubrication control center (modular)	This modular control centre can operate 1 to 14 channels of single-line, dual-line and progressive lubrication systems. Configuration can be set in the field by touchscreen display.	–	93–132, 186–264	1–14	0 to +50	*+32 to +122*	77

Control units

LMC 2

Description

The LMC 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. For dual-line systems, it controls the pump unit, change-over valve and end-of-line devices.

Features and benefits

- Integrated, flexible lubrication programmes
- 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 single-line, dual-line, multi-line and progressive 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	–10 to +70 °C, *+14 to +158 °F*
Inputs	max. 8 digital inputs
Outputs	4 relay outputs, 1 electronic
Supply voltage	depending on model 230 V AC, 24 V DC
Protection class	IP 54
Mounting position	any
Dimensions	200 × 120 × 90 mm *7.9 × 4.7 × 3.5 in*

Order information

Order number	Designation
236–10567–6	LMC2 230 AC (230 V AC)
236–10567–5	LMC2 24 DC (24 V DC)

For use with electric driven 3-phase pump; need to order motor starter separately.

NOTE
Further technical information, technical drawings, accessories, spare parts or product function descriptions are available on SKF.com/lubrication:
PUB 14004 EN

LMC 301

Description

The LMC 301 is a compact, modularly expandable control and monitoring device. The device is equipped with an LCD display and 6 functional keys for programming, parameter setting and signalization. The user is guided through the setting menu. Additionally, 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 industry
- Steel industry
- Mining – stationary and mobile excavators
- Food and beverage

Technical data

Function principle	electronic controller
Operating temperature	V AC: –10 to +50 °C, *+14 to +122 °F*
	V DC: –40 to +70 °C, *-40 to +158 °F*
Inputs	10 count, short-circuit proof, 2 with analog
Outputs	8 count, relay outputs NO-contact 8 A, 2 of which up to 20 A
Supply Voltage	depending on model 90-264 V AC, 24 V DC ±20%
Protection class	IP 65
Mounting position	vertical
Dimensions	270 × 170 × 90 mm *10.7 × 6.7x 3.5 in*

Order information

Order number	Designation
86500	LMC 301: 24 V DC, master, incl. LCD display
86501	LMC 301: 100–240 V AC, master, incl. LCD display

NOTE
Further technical information, technical drawings, accessories, spare parts or product function descriptions are available on SKF.com/lubrication:
PUB LS/P2 15967/1 EN

Control units

ST-1240

Description

The ST-1240 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. Configuration can be set in the field by 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 control software

Technical data

Function principle	control center
Operating temperature	0 to +50 °C, *+32 to +122 °F*
Lubricantion channels	2
Supply voltage	93 to 132 V AC, 186 to 264 V AC
Supply voltage frequency	47 to 63 Hz
Supply current	5,4 A/115 V AC, 2,2 A/230 V AC
Control voltage	24 V DC, ± 10%
Overload protection	automatic fuse, 6 A
Cable connection	screw connections for 2,5 mm^2 wires
Protection class	IP 65
Interface	touchscreen display RS-422 port for SKF online software
Dimensions without cable glands	380 × 300 × 210 mm *14.9 × 11.8 × 8.3 in*

Order information

Order number	Designation
12380210	ST–1240 GRAPH control centre
12380220	ST-1240-IF control centre
12380747	SMS control and monitoring module for ST-1240-IF control centre

NOTE

Further technical information, technical drawings, accessories, spare parts or product function descriptions are available on SKF.com/lubrication:
PUB LS/P8 12404/1 EN

Control units

ST-2240-LUB

Description

ST-2240-LUB-6 and ST-2240-LUB-14 lubrication control centers are suitable for use in dual-line lubrication systems, as well as single-line and progressive systems. These units have a touchscreen display and are only differentiated by the cabinet size and maximum number of lubrication channels served. The ST-2240-LUB-6 controls up to 6 separate lubrication channels, while ST-2240-LUB-14 controls up to 14 channels, each having independent lubrication parameters and/allows use of different lubricants if required. The lubrication system is adjustable at field site by adding or reducing channel modules, and configuration can be changed in the field by the user. Pressure switches and transmitters or piston detectors can be used in all channels. Also the new lubricant low level ultrasonic sensor is supported.

Features and benefits

- Versatile and durable, automatic pump change (Dualset)
- Modular units provide easy system modification
- Compatible with ultrasonic low level sensor
- Grease spraying control with air monitoring
- Compatible with SKF doser monitor

Technical data

Function principle	control center
Operating temperature	0 to +50 °C, *+32 to +122 °F*
Lubricant channels	1-14
Supply voltage	115/230 V AC, automatic range selection
Supply voltage frequency	47 to 63 Hz
Control voltage	24 V DC, ± 10 %
Overload protection	automatic fuse, 6 A
Cable connection	screw terminals for 2,5 mm^2 wires
Protection class	IP 65
Interface	5.7" TFT touch screen , 320 × 240, 64k colors, ethernet and USB port mobile app for monitoring
Data logging	Log files on USB memory
Fieldbus	ModbusTCP slave, other protocols on request
Alarm Outputs	relays K1 & K2: potential-free change over contact; maximum load 230 V/1 A; channel modules: potential-free contact; maximum load 50 V DC/1A
Dimensions	600 × 600 × 250 mm *23.6 × 23.6 × 9.8 in*

Order information

Order number	Designation
12380760	ST-2240-LUB-6 control center
12380765	ST-2240-LUB-14 control center
12501270	CM channel module

NOTE
Further technical information, technical drawings, accessories, spare parts or product function descriptions are available on SKF.com/lubrication:
PUB LS/P2 17950 EN

Index

24-2583-2563 69
223-13052-1 11
223-13052-1 33
223-13052-1 36
223-13052-1 41
223-13052-2 11
223-13052-2 33
223-13052-2 36
223-13052-2 41
223-13052-3 11
223-13052-3 33
223-13052-3 36
223-13052-3 41
234-10663-7 71
234-10723-3 71
236–10567–5 74
236–10567–6 74
236-10980-3 71
236-10980-4 71
236-10980-5 71
303-16106-1 40
303-16224-1 37
303-16283-1 37
303-16694-1 37
303-16695-1 37
303-16696-1 37
303-16698-1 37
303-16760-1 37
303-17505-1 37
303-17506-1 37
303-17507-1 37
303-17508-1 37
303-17509-1 40
303-17510-1 40
303-17511-1 40
303-17512-1 40
303-19351-1 32
303-19352-1 32
303-19354-1 32
303-19356-1 32
303-19357-1 32
303-19359-1 32
303-19374-1 32
303-19375-1 32
303-19759-1 37
303-19760-1 40
303-19809-1 40
420-22139-1 37
420-22140-1 37
420-22140-1 40
420-23628-1 32
420-23790-1 32
420-23872-1 37
420-24832-1 37
420-24832-1 40
432-21791-1 33
432-21791-1 37
432-21791-1 41
432-21792-1 33
432-21792-1 37
432-21792-1 41
432-21793-1 33
432-21793-1 37
432-21793-1 41
432-21794-1 33
432-21794-1 37
432-21794-1 41
432-23698-1 33
432-23699-1 33
432-23700-1 33
432-23701-1 33
520-33073-1 37
520-33074-1 41
520-33075-1 33
520-33103-1 41
520-33104-1 41
520-33105-1 37
520-33106-1 37
520-33107-1 37
520-33108-1 41
520-33109-1 33
520-33110-1 33
520-33112-1 33
520-33266-1 33
520-33267-1 33
520-33268-1 33
520-33269-1 33
520-33270-1 37
520-33271-1 37
520-33272-1 37
520-33273-1 37
520-33274-1 41
520-33275-1 41
520-33276-1 41
520-33277-1 41
603-41200-1 11
603-41200-2 11
617-28619-1 48
617-28620-1 48
617-28683-1 48
617-36148-9 48
618-28963-1 49
618-28964-2 49
618-28965-2 49
618-28966-2 49
620-27418-1 31
620-27419-1 31
620-27420-1 31
620-27421-1 31
620-27422-1 31
620-27423-1 31
620-27424-1 31
620-27425-1 31
620-27438-1 31
620-27439-1 31
620-27440-1 31
620-27441-1 31
620-27442-1 31
620-27443-1 31
620-27444-1 31
620-27445-1 31
620-27488-1 31
620-27489-1 31
620-27490-1 31
620-27491-1 31
620-27492-1 31
620-27493-1 31
620-27494-1 31
620-27495-1 31
620-27496-1 31
620-27497-1 31
620-27498-1 31
620-27499-1 31
620-27500-1 31
620-27501-1 31
620-27502-1 31
620-27503-1 31
620-27766-1 31

Index

620-27767–1 31
620-27768-1 31
620-27769-1 31
620-27770-1 31
620-27771-1 31
620-27772-1 31
620-27773-1 31
620-27857-1 31
620-27858-1 31
620-27859-1 31
620-27860-1 31
620-27861-1 31
620-27862-1 31
620-27863-1 31
620-27864-1 31
620-28366-1 31
620-28367-1 31
620-28374-1 31
620-28376-1 31
620-28391-1 31
620-28392-1 31
620-28393-1 31
620-28394-1 31
620-28409-1 31
620-28410-1 31
620-28411-1 31
620-28412-1 31
620-28413-1 31
620-28414-1 31
620-28415-1 31
620-28416-1 31
620-40015-1 35
620-40015-2 35
620-40015-3 35
620-40015-4 35
620-40015-5 35
620-40015-6 35
620-40015-7 35
620-40015-8 35
620-40022-1 35
620-40022-2 35
620-40022-3 35
620-40022-4 35
620-40022-5 35
620-40022-6 35
620-40022-7 35
620-40022-8 35
620-40023-1 36
620-40023-2 36
620-40023-3 36
620-40023-4 36
620-40023-5 36
620-40023-6 36
620-40023-7 36
620-40023-8 36
620-40024-1 36
620-40024-2 36
620-40024-3 36
620-40024-4 36
620-40024-5 36
620-40024-6 36
620-40024-7 36
620-40024-8 36
620-40025-1 36
620-40025-2 36
620-40025-3 36
620-40025-4 36
620-40025-5 36
620-40025-6 36
620-40025-7 36
620-40025-8 36
620-40026-1 36
620-40026-2 36
620-40026-3 36
620-40026-4 36
620-40026-5 36
620-40026-6 36
620-40026-7 36
620-40026-8 36
620-40027-1 36
620-40027-2 36
620-40027-3 36
620-40027-4 36
620-40027-5 36
620-40027-6 36
620-40027-7 36
620-40027-8 36
620-40028-1 36
620-40028-2 36
620-40028-3 36
620-40028-4 36
620-40028-5 36
620-40028-6 36
620-40028-7 36
620-40028-8 36
620-40062-1 39
620-40062-2 39
620-40062-3 39
620-40062-4 39
620-40062-5 39
620-40062-6 39
620-40062-7 39
620-40062-8 39
620-40063-1 39
620-40063-2 39
620-40063-3 39
620-40063-4 39
620-40063-5 39
620-40063-6 39
620-40063-7 39
620-40063-8 39
620-40064-1 39
620-40064-2 39
620-40064-3 39
620-40064-4 39
620-40064-5 39
620-40064-6 39
620-40064-7 39
620-40064-8 39
620-40065-1 39
620-40065-2 39
620-40065-3 39
620-40065-4 39
620-40065-5 39
620-40065-6 39
620-40065-7 39
620-40066-1 39
620-40066-2 39
620-40066-3 39
620-40066-4 39
620-40066-5 39
620-40066-6 39
620-40066-7 39
620-40066-8 39
620-40066-8 39
620-40067-1 39
620-40067-2 39
620-40067-3 39

Index

620-40067-4 39
620-40067-5 39
620-40067-6 39
620-40067-7 39
620-40067-8 39
620-40068-1 39
620-40068-2 39
620-40068-3 39
620-40068-4 39
620-40068-5 39
620-40068-6 39
620-40068-7 39
620-40068-8 39
620-40069-1 39
620-40069-2 39
620-40069-3 39
620-40069-4 39
620-40069-5 39
620-40069-6 39
620-40069-7 39
620-40069-8 39
620-40525-1 35
620-40525-2 35
620-40525-3 35
620-40525-4 35
620-40525-5 35
620-40525-6 35
620-40525-7 35
620-40525-8 35
620-40526-1 39
620-40526-4 39
620-40526-5 39
620-40526-6 39
620-40526-7 39
620-40526-8 39
620-40526-9 39
620-40527-1 39
620-40567-1 35
620-40567-2 35
620-40567-3 35
620-40567-4 35
620-40567-5 35
620-40567-6 35
620-40567-7 35
620-40567-8 35
620-40605-1 36
620-40605-2 36
620-40605-3 36
620-40605-4 36
620-40605-5 36
620-40605-6 36
620-40605-7 36
620-40605-8 36
620-40637-2 39
620-40637-4 39
620-40637-6 39
620-40637-8 39
620-40733-1 36
620-40733-2 36
620-40733-3 36
620-40733-4 36
620-40733-5 36
620-40733-6 36
620-40733-7 36
620-40733-8 36
620-40839-1 35
620-40839-2 35
620-40839-3 35
620-40839-4 35
620-40839-5 35
620-40839-6 35
620-40839-7 35
620-40839-8 35
620-40853-1 39
620-40853-2 39
620-40853-3 39
620-40853-4 39
620-40853-6 39
620-40853-8 39
620-40937-2 39
620-40937-4 39
620-40937-6 39
620-40937-8 39
620-41079-2 40
620-41079-3 40
620-41079-4 40
620-41079-5 40
620-41079-6 40
620-41079-7 40
620-41079-8 40
620-41079-9 40
620-41081-1 37
620-41081-1 37
620-41081-2 37
620-41081-4 37
620-41081-5 37
620-41081-6 37
620-41081-7 37
620-41081-8 37
620-41086-1 31
620-41086-2 31
620-41086-3 31
620-41086-4 31
620-41086-5 31
620-41086-6 31
620-41086-7 31
620-41089-2 32
620-41089-4 32
620-41089-6 32
620-41089-8 32
620-41122-1 31
620-41122-2 31
620-41122-3 31
620-41122-4 31
620-41123-2 32
620-41123-4 32
620-41123-6 32
620-41123-8 32
620-41124-1 37
620-41124-2 37
620-41124-3 37
620-41124-4 37
620-41124-6 37
620-41124-7 37
620-41124-8 37
620-41125-1 40
620-41125-2 40
620-41125-3 40
620-41125-4 40
620-41125-5 40
620-41125-6 40
620-41125-7 40
620-41125-8 40
620-41133-1 37
620-41133-3 37
620-41133-5 37
620-41133-7 37
620-41133-9 37

Index

620-41321-1 35
620-41321-2 35
620-41321-3 35
620-41321-4 35
620-41321-5 35
620-41321-6 35
620-41321-7 35
620-41321-8 35
623-37567-1 67
632-36501-1 66
632-36627-3 66
001709 25
001709 27
002004 26
002716 27
082050 24
082054 24
084723 26
84723 27
86500 75
86501 75
274681 25
12375020 21
12375100 21
12375180 21
12375470 51
12375475 51
12375490 51
12375495 51
12375780 59
12375785 59
12375790 59
12375795 59
12380210 76
12380220 76
12380747 53
12380747 76
12380760 77
12380765 77
12381280 21
12381285 21
12381290 21
12381381 23
12381382 23
12381383 23
12381384 23
12381385 23
12381386 23
12381700 23
12381701 23
12381702 23
12382666 23
12383250 44
12383300 44
12383350 44
12383400 44
12383450 44
12383500 44
12384300 44
12384350 44
12384400 44
12384450 44
12384500 44
12384550 44
12384600 44
12384650 44
12384700 44
12384750 44
12384800 44
12384850 44
12385331 68
12385333 68
12385550 57
12385600 57
12385860 57
12385865 57
12385880 57
12385885 57
12385900 57
12385950 57
12386002 55
12386350 44
12386400 44
12386560 43
12386610 43
12386660 43
12386710 43
12386760 43
12386810 43
12387160 43
12387210 43
12387260 43
12387310 43
12387360 43
12387410 43
12387460 43
12387470 43
12387510 43
12387520 43
12387525 43
12387530 43
12387560 43
12387570 43
12387610 43
12387620 43
12387625 43
12387630 43
12387660 43
12387670 43
12387680 43
12387685 43
12387710 43
12387720 43
12388110 43
12388160 43
12388184 45
12388188 45
12388192 45
12501270 77
12771677 45
12771678 45
EMU-03-00-0000+1KF 54
EMU-03-00-0000+924 54
WSE-22-66-0000+1KF 61
WSE-22-66-0000+924 61
WSE-32-06-0000+1KF 61
WSE-32-06-0000+924 61
WSE-32-60-0000+1KF 61
WSE-32-60-0000+924 61

Notes

Notes

Important information on product usage
SKF and Lincoln lubrication systems or their components are not approved for use with gases, liquefied gases, pressurized gases in solution and fluids with a vapor pressure exceeding normal atmospheric pressure (1 013 mbar) by more than 0,5 bar at their maximum permissible temperature.

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