

SKF Maxilube Solution

A SKF dual-line automatic lubrication system

MARKET-
PROVEN, ROBUST
AND RELIABLE
SYSTEM



Applications

- Pulp and paper
- Mineral processing
- Cement plants
- Steel and heavy industries
- Mining

SKF Maxilube Solution for Trouble-free Production



A pre-engineered solution

Frequent and controlled relubrication of process equipment has been shown to reduce machine failures and to prevent excessive wear by reducing heat and friction. By maintaining the proper lubrication service, the expected service life of equipment can be extended while energy consumption and use of the lubricant is reduced as well. Automatic lubrication systems eliminate the need for manual work in, or around, hazardous surroundings, which equates to a safer work environment for your team. In addition to cost savings, significant productivity increases can be realized when machine uptime increases. The SKF Maxilube Solution is a well-engineered product family for your most demanding applications.

SKF's broad range of components and accessories cover many of the world's most demanding industrial applications. And, we can help you to design a total solution with help from our extensive network of certified partners supporting pre-install engineering, on-site installation, and commissioning of the system to your specific needs.

-  Increased productivity/machine uptime
-  Less bearing failures
-  Increased safety at work
-  Lower maintenance costs
-  Reduced lubricant consumption
-  Reduced energy consumption

SKF Maxilube Solution - Lubricant Delivery

SKF Maxilube change-over valve

The SKF Maxilube pumping centre combines the previously separate components of hydraulic and control units. The hydraulic unit includes the solenoid and control valve groups and the pressure gauges for the main headers. The pumping centre is equipped with a compressed air regulator kit. Maxilube is usually delivered with integrated IF-105 control display but it can be also controlled with external control centers. For remote monitoring wireless and wired solutions are available including connections to customer process control.



MPB pump

Most common pump with Maxilube is air driven heavy duty SKF Lincoln MPB barrel pump with lid sets either for 18, 50 or 180 kg barrel size. MPB pump is especially designed for automatic lubrication systems and it has a unique magnetically operated air motor valve design. This will reduce the wear and extend pump service intervals. In case of extremely large lubricant consumption MPB pump can be installed on bulk containers or delivered with SKF Lincoln Dual Set valve assembly adding back up barrel in case of low level lubricant alarm.



SKF Maxilube



MPB pump



Dualset valve

SKF Maxilube change-over valve models

Designation	Description
MAX-1-2-230-IF105-R-V2	One-channel, 230 V AC, with control, Ø 12 mm pipe outlets
MAX-1-2-230-IF105-U-V2	One-channel, 230 V AC, with control, Ø 1/2" pipe outlets
MAX-1-2-115-IF105-R-V2	One-channel, 115 V AC, with control, Ø 12 mm pipe outlets
MAX-1-2-115-IF105-U-V2	One-channel, 115 V AC, with control, Ø 1/2" pipe outlets
MAX-1-2-24-IF105-R-V2	One-channel, 24 V DC, with control, Ø 12 mm pipe outlets
MAX-2-2-230-IF105-R-V2	Two-channel, 230 V AC, with control, Ø 12 mm pipe outlets
MAX-2-2-230-IF105-U-V2	Two-channel, 230 V AC, with control, Ø 1/2" pipe outlets
MAX-2-2-115-IF105-R-V2	Two-channel, 115 V AC, with control, Ø 12 mm pipe outlets
MAX-2-2-115-IF105-U-V2	Two-channel, 115 V AC, with control, Ø 1/2" pipe outlets
MAX-1-2-24-X-R-V2	One-channel, 24 V DC, no control, Ø 12 mm pipe outlets
MAX-1-2-24-X-U-V2	One-channel, 24 V DC, no control, Ø 1/2" pipe outlets

SKF Maxilube technical data

Operating temperature	0 to +50 °C, 32 to 122 °F
Protection class	IP65
Lubrication channels	Up to 2
Operating pressure	max. 300 bar, 4 350 psi
Pressure air supply	2,0 to 4,5 bar, 29 to 65 psi
Control voltage	24 V DC
Supply voltage	115/230 V AC 50/60 Hz
Alarm output	Relay contacts 1pcs, Modbus

MPB pump models

Designation	Description
SKF-MPB-PUMP-1/8	barrel pump, 18 kg (40 lb), air operated
SKF-MPB-PUMP-1/4	barrel pump, 50 kg (110 lb), air operated
SKF-MPB-PUMP-1/1	barrel pump, 180 kg (400 lb), air operated

MPB technical data

Operating temperature	-10 to +55 °C 32 to 122 °F
Lubricant pressure	max. 300 bar 4350 psi
Lubricant	Grease up to NLGI 2

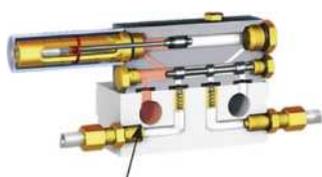
SKF Maxilube Solution - Lubricant Metering

Metering device SG/SGA

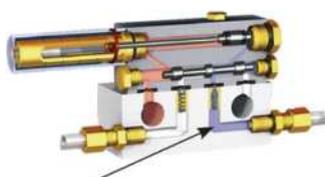
SGA and SG metering devices feature a modular design with separate base plate that makes system modification simple. Each doser has an independent hydraulic piston for redundancy and can deliver lubricant for one or two lubrication point. Available in six basic sizes, the SGA and SG metering devices meet industrial needs ranging from small joints to large roller bearings. Made of zinc-coated carbon steel or stainless steel, these metering devices are installed on aluminium or stainless steel BPSG base plates. Standard base plates are available for groups of 1 to 6 dosers, up to 12 lubrication points. To ensure precise lubrication base plates include built-in check valves.



Find out more!



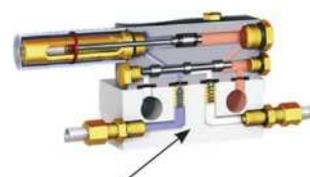
Lubricant inflow from line 1 ...



... to lubrication point A



Lubricant inflow from line 2 ...



... to lubrication point B

Types and dosage ranges of grease dosing modules

Doser	Outlets	Metering quantity		Designation of material models	
		cm ³ /stroke	in ³ /stroke	Mild steel	Stainless steel AISI-316
SGA-011	1	0,30–1,45	0.02–0.09	SGA-011-ZN-WI	SGA-011-SS
SGA-012	2	0,15–0,70	0.01–0.04	SGA-012-ZN-WI	SGA-012-SS
SGA-011	1	0,50–2,55	0.03–0.16	SGA-011-ZN-WI	SGA-011-SS
SGA-012	2	0,25–1,25	0.02–0.08	SGA-012-ZN-WI	SGA-012-SS
SGA-021	1	1,50–8,75	0.09–0.53	SGA-021-ZN-WI	SGA-021-SS
SGA-022	2	0,70–4,35	0.04–0.27	SGA-022-ZN-WI	SGA-022-SS
SG-31	1	8,50–56,00	0.51–3.41	SG-031-ZN-WI	SG-031-SS
SG-32	2	4,30–28,00	0.29–1.94	SG-032-ZN-WI	SG-032-SS
SG-41	1	19,00–92,00	1.15–5.61	–	SG-041-SS
SG-42	2	9,65–46,00	0.66–3.20	–	SG-042-SS
SG-51	1	86,00–177,00	5.24–10.80	–	SG-051-SS
SG-52	2	43–88,00	2.93–6.12	–	SG-052-SS

SKF Maxilube Solution - System Monitoring

Pressure monitoring BPSG2-PTA-MOD

End of the line pressure control unit shall be installed between the base plate and SGA metering device. Usually this unit shall be BPSG2-PTA-MOD pressure transmitter assembly, enabling real time pressure readings of both main headers. It is an excellent tool for operator monitoring system or maintenance during trouble shooting. Optionally further pressure switch assemblies are available on request.



Find out more!

Shut-off valve CLV 2

In the grease lubrication system, the lubrication channels controlled by one pumping centre are separated from each other with shut-off valves. The shut-off valve can also be used directly from the machine to be lubricated (interlocking), if needed. When the machine to be lubricated starts, it opens the valve and makes it possible to lubricate the machine during pressurisation.



Find out more!

Doser monitor

Designed for use with SGA and SG metering devices, this monitor senses the movement of the metering device piston. Each Doser monitor has individual LED for main header A and main header B according dual-line principle. LED-signals of each metering device should be on same phase and change the status after each pressurization. In case of piston movement failure an alarm will be triggered to control center and can be verified with LED status. The doser monitor comes complete with electrical sensors, connection cable and a junction box.



Find out more!

LED-signals of the electronic part:

- Yellow LED signal: waiting status, relay contact is open
- Green LED-signal: sensing status, relay contact is closed

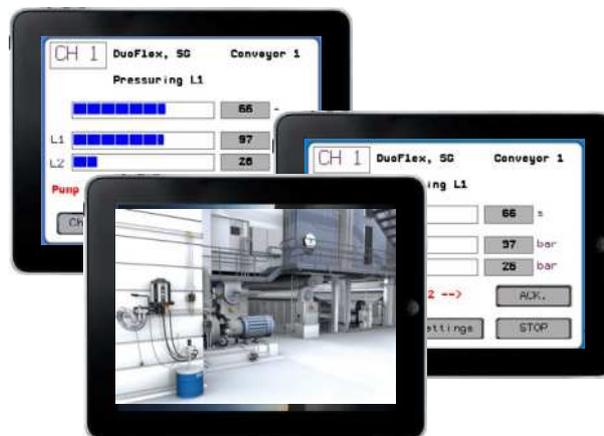
SKF Maxilube Solution - System Remote Monitoring

Depending on selected control center we can offer multiple ways to monitor and operate lubrication system remotely. Most common is the Modbus connection over ethernet to customer control room or to maintenance office PC. If wired network is not available wireless routers can be used normal way to create connection needed. Remote monitoring with mobile device is a handy tool for field maintenance while inspecting and troubleshooting systems. These mobile interface can be done either with an App or with traditional and robust SMS technology.



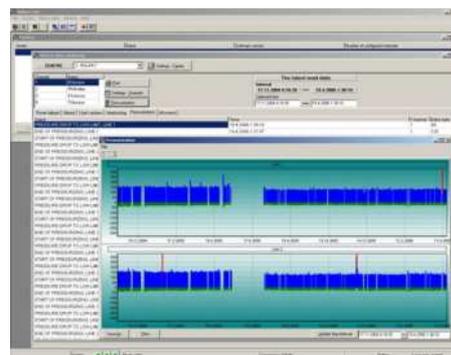
Web Gate

Web Gate is a remote monitoring software running on web browser and communicating to control centers via Ethernet. This interface offers full remote functionality equal way than local HMI panel on the field. Alarm acknowledgement, extra lubrication, trend displays or even setting valves can be reached with handy tool. Vijeo is an App for Android and iOS offering similar functionality than Web gate but on mobile platform. These software are available for ST-2240-LUB and ST-1240-GRAPH control centers as a standard.



SKF Online SW

SKF Online SW is a Windows software which is designed for controlling, monitoring and analysing up to 20 control centers via Ethernet. Software offers two main functions, remote operation and analysis of lubrication history data. Software enables user to monitor system operation, start extra lubrication, reset alarms and even set control parameters. The history-data-function enables the user to read and analyses lubrication history, lubrication trends, alarms, user actions etc. This software is available for Maxilube/IF-105 and ST-1240-IF control centers as a standard.



E-SMS-C

E-SMS-C is a remote monitoring kit for lubrication systems that cannot be checked easily due environment or application. The E-SMS-C utilizes a SIM card to send and receive SMS text messages on mobile phone. The monitoring system can transmit alert messages to up to nine contacts. These contacts will receive low level and pressure alarm as well as status information. The user can remotely start an extra lubrication cycle and can acknowledge the alarms.



Find out more!

SKF Maxilube Solution - Control Panel

Control and monitoring

The SKF control center family ST-1240 and ST-2240 are multi-channel controls that can handle channels separated by shut-off valves or channels with individual pumping center. Each channel will have independent lubrication parameters and interlocking allowing on demand lubrication per desired area. End of the line pressure switches, transmitters or piston detectors are supported for reliable monitoring. Besides traditional lubricant low level alarm switch also advanced ultrasonic sensor is supported. These lubrication controls are operated with touch display and configuration can be changed by the user after password. Advanced alarm functions and bus connections enables communication to process control or even SKF condition monitoring system. For dual line system use ST-2240-LUB can include up to 14 individual channels and ST-1240 up to 2 individual channels.



ST-1240



ST-2240-LUB

Technical data

Operating temperature	t = 0 to +50 °C; 32 to 122 °F
Protection class	IP65
Lubrication channels	ST-1240 up to 4 ST-2240-LUB up to 14
Control voltage	24 V DC
Supply voltage	93...132 V AC, 186...264 V AC, 47...63 Hz
Data logging	USB memory, Modbus
Alarm output	Relay alarm, Modbus
Remote monitoring	Modbus, Web browser, Mobile app, SMS



SKF Maxilube Solution - Accessories



Spray nozzle

The compressed-air assisted spray nozzle, designed for applying the lubricant onto the lubricated object, such as trunnions, bull gears, chains, etc.



Tubing and installation

Tubing is an essential part of the lubrication system. The system's reliability and durability depend on correct dimensioning and selection of tubing material.

skf.com/lubrication

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