

SKF Maxilube pumping centre

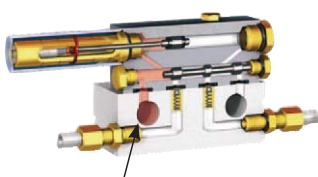
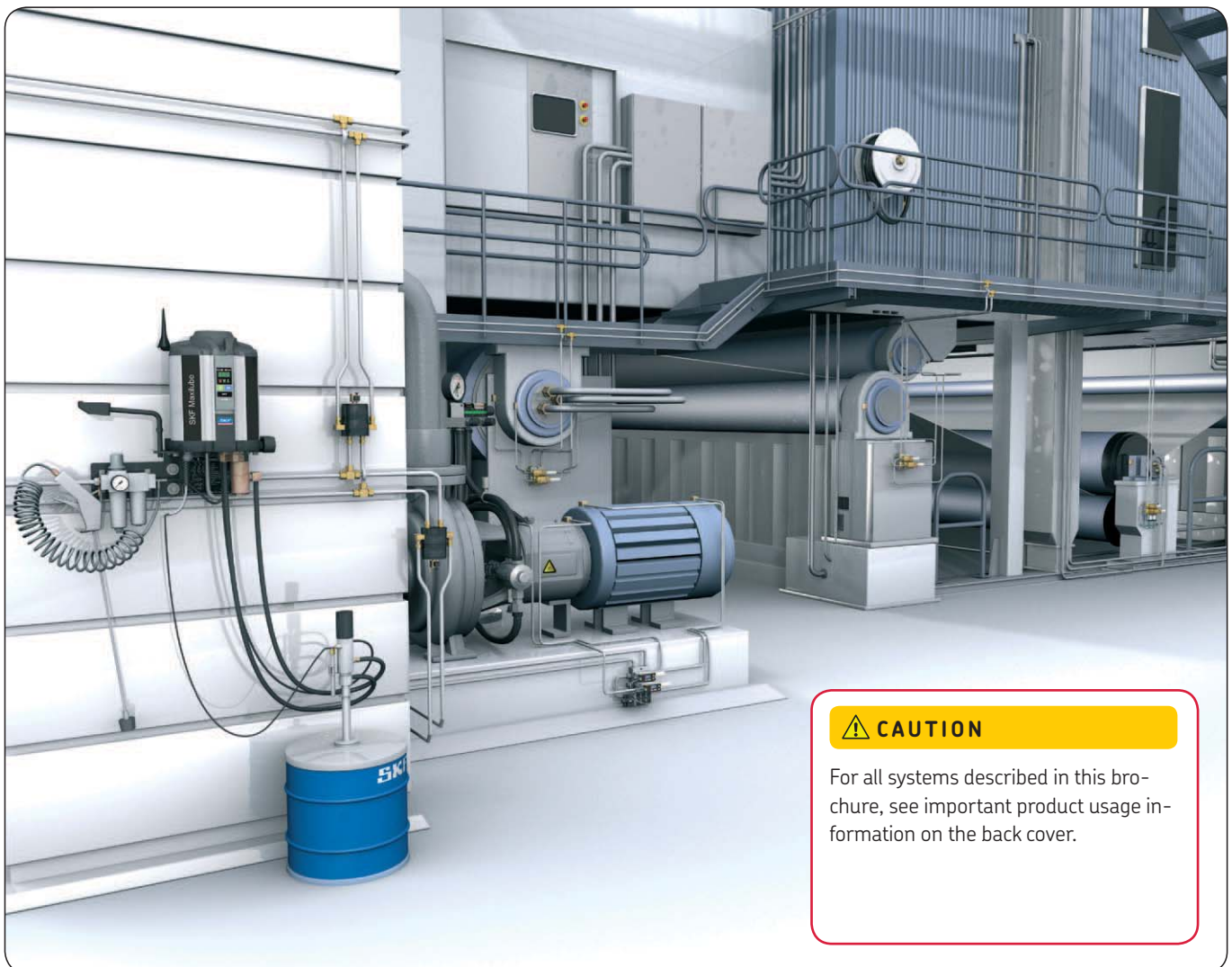
for SKF DuoFlex, dual-line lubrication systems



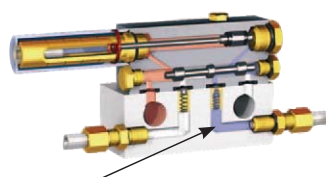
SKF Maxilube pumping centre for trouble-free production

Accurate lubrication prevents damage and shutdowns caused by inadequate lubrication. The service life of process equipment and machinery is extended while energy consumption and the used lubricant are reduced. Thanks to automation, optimum lubrication is achieved and the burden on the environment is minimised. All this brings savings.

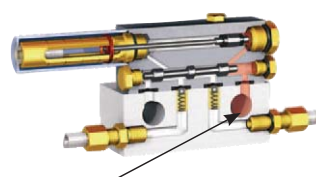
Centralized lubrication systems eliminate the need for manual lubrication and therefore creates a safer work environment. In addition, cost savings can be reached when machine uptime increases.



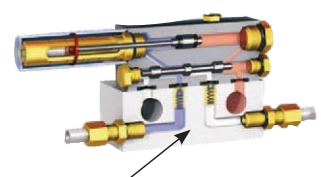
Lubricant inflow from line 1



To lubrication point A



Lubricant inflow from line 2



To lubrication point B

Control and monitoring

Control centers

The SKF control centers can be used for controlling many individual lubrication channels, each having independent lubrication parameters and/or lubricants.

- SKF ST-1240, 2 channel controller
- SKF ST-1340, 4 channel controller
- SKF ST-1440, 14 channel controller



The SKF ST-1440 control center can be used for controlling max. 14 lubrication channels.

Technical specifications, Control centers

Operation temperature
 $t = 0 \text{ to } +50 \text{ }^\circ\text{C}$ (32 to 122 °F)

Control voltage
 $U_{in} = 24 \text{ V DC}$, 10 A max

Power Input
 $U_{in} = 230 \text{ V } \pm 15\% \text{ V AC}$, 50/60 Hz, 2,2 A max
 $115 \text{ V } \pm 15\% \text{ V AC}$, 50/60 Hz, 5,4 A max

Automatic fuse
 $F = 6 \text{ A}$

Protection classification
 IP65



The ST-105 control unit is integrated to the SKF Maxilube pumping centre and it can be used for controlling max. two lubrication channels

SKF Maxilube – pumping centre

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 lubrication lines.

The pumping centre is equipped with a compressed air regulator. The SKF Maxilube pumping centre is controlled and monitored by an integrated control unit, ST-105. It can also be controlled and monitored by a separate control unit or with SMS messages.



Technical specifications, SKF Maxilube pumping centre

Operation temperature
 $t = 0 \text{ to } +50 \text{ }^\circ\text{C}$ (32 to 122 °F)

Control voltage
 $U = 24 \text{ V DC}$, 5 A max

Power input, 150 W max
 $U_{in} = 230 \pm 15\% \text{ V AC}$; 50/60 Hz
 $115 \pm 15\% \text{ V AC}$; 50/60 Hz

Air pressure range
 $p = 4 \text{ to } 7 \text{ bar}$ (60 to 100 psi)

Connections
 Inputs: compressed air (1 pcs)
 pipe 0,5 in = 12,7 mm
 Outputs: lubricant (2 pcs)
 pipe 0,5 in = 12,7 mm

SKF Doser monitor

SKF Doser monitor is a monitoring unit for SGA- and SG-dosers in a dual-line central lubrication system. It senses the movement of the doser piston.

The status of the doser monitor can be seen from the LED-signals of the electronic part:

- yellow LED signal A: waiting status, relay contact is open
- green LED-signal B: sensing status, relay contact is closed.



Technical specifications, SKF Doser monitor

Operation temperature
t = -20 to +70 °C (-4 to 158 °F)

Supply voltage
U = 24 V DC

Protection classification
IP 67

Connections
4-pole M12 male connector
Input: Supply voltage 24 V DC
Output: Potential-free relay contact

Alarms monitored and viewed in control center. Two optional operation modes: pulse operation mode and latching operation mode.

SMS service

The SKF control centers can be equipped with SMS connection. This way SKF Maxi-lube pumping centre, SKF Maxi-lube pumping unit and control centers can be controlled by SMS messages. The connection is created between a GSM modem installed in the pumping or control center and a GSM mobile phone.



Information from SKF Maxi-lube in SMS message

SKF Maxi-lube
Channel (1) SG2
Lub. cycle (130 min)
Press. Time (700 s)
Low press. limit (50 bar)
High press. limit (120 bar)

SKF Online 1440

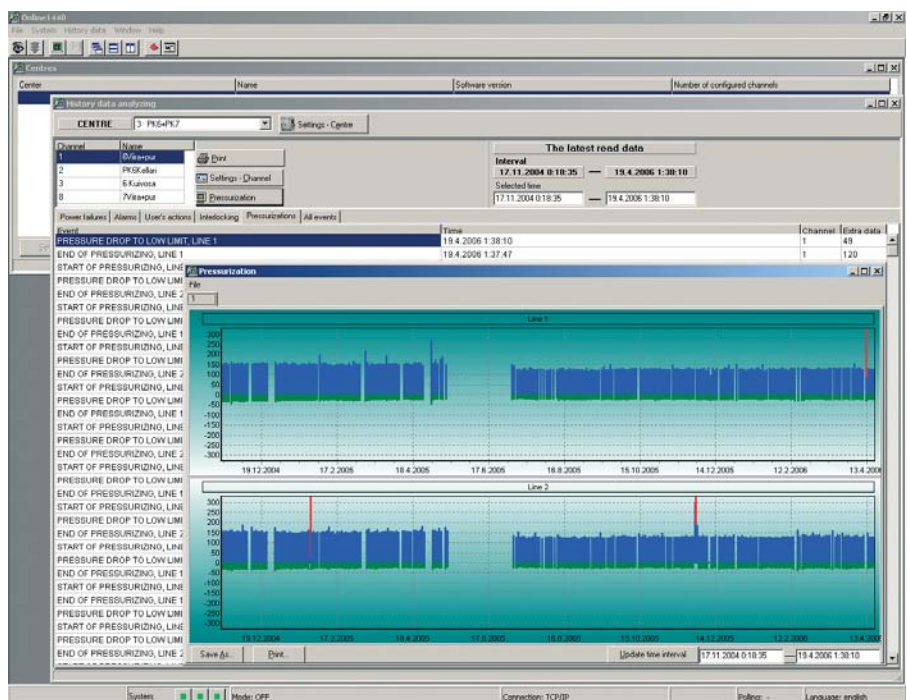
SKF Online 1440 is a database application designed for controlling, monitoring and analysing lubrication systems. The maximum number of control centers connected to the system is 20.

The application can be run from PCs which are connected into the control center by direct cable or by Ethernet. The application has two main functions:

- System control – online
- Analyzing the lubrication history data.

Online -function enables the user to monitor system operation online: starting extra lubrication cycles, resetting alarms and setting the parameters for the centre and the lubrication channels.

The system settings can be saved into a file and they can be restored as parameter values for the system, if necessary.



Control centers

The versatile control centers enable monitoring of the largest systems from a single convenient location. State-of-the-art multi-channel control centers are also available, so one single controller may handle several

lubrication systems or one system can be divided into several individual lubrication channels, which may have independent lubrication parameters and/or lubricants.



SKF Control center 1440

SKF Maxilube pumping centre

A pumping centre is comprised of a hydraulic part and a barrel pump and their auxiliary equipment. The centre is equipped with a compressed air regulator/oiler assembly and a grease filter. The hydraulic part includes a solenoid valve group and a control valve group. The solenoid valves control the pump and control valve operation. The pump

should be equipped with following parts and assemblies: lidset which includes: lid, follower plate, hoses to SKF Maxilube and low level switch, and assembly of airpressure service unit.



Dosing module groups

The dosing modules are hydraulically operated piston units and are installed onto base plates. Because of this construction, various dosing module groups can be built. There are six basic sizes of modules, covering all industrial needs from small joints to large roller bearings. Dosing modules are made of

zinc-coated and yellow-passivated steel or stainless steel AISI-316. The base plates are made of aluminium or stainless steel AISI-316. The base plates contain built-in check valves to ensure the precise dosage distribution. Standard base plates are available for groups of 1 to 6 dosers.



Shut-off valve

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.



Pressure control unit

The pressure switch/transmitter assembly is the adjusting and control unit of the operating pressure in a centralised lubrication system.



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.



Total Responsibility

The value-added that distinguishes SKF from other companies specialising in lubrication is our way of assuming total responsibility right from the planning stage and carrying it through manufacturing, installation, training and service in the interests of trouble-free operation.

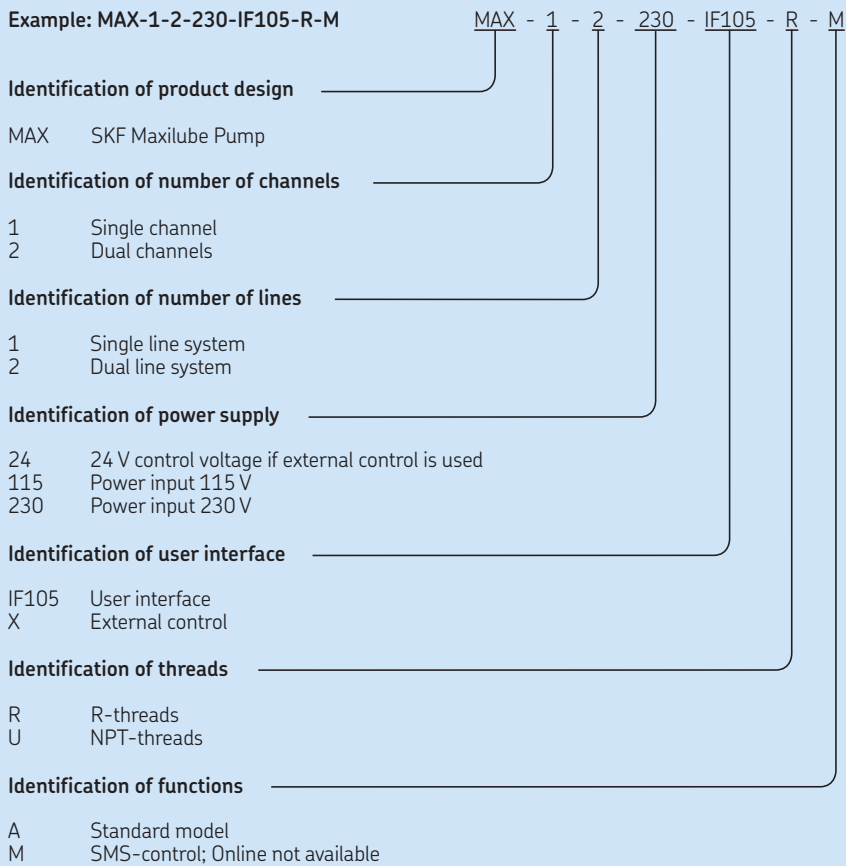
The SKF lubrication system brings significant benefits

- Increased productivity
- Lower maintenance costs
- Less bearing failures
- Increased safety at work
- Less problems in production and maintenance.

Types and dosage ranges of grease dosing modules

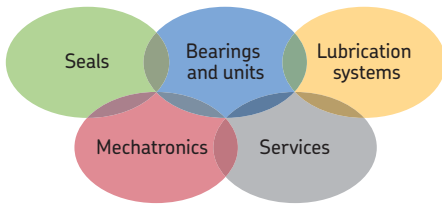
Dosing module	Dosage range g/cycle	Material	
		Mild steel	Stainless steel AISI-316
SGA-011	0,30–1,45	X	X
SGA-012	0,15–0,70	X	X
SGA-11	0,50–2,55	X	X
SGA-12	0,25–1,25	X	X
SGA-21	1,50–8,75	X	X
SGA-22	0,70–4,35	X	X
SG-31	8,50–56,00	X	X
SG-32	4,30–28,00	X	X
SG-41	19,00–92,00		X
SG-42	9,65–46,00		X
SG-51	86,00–177,00		X
SG-52	43–88,00		X

Designation system for SKF Maxilube pumping centre



Main properties of control centres

Designation	Application	Lubrication cycle	Pressurisation time	Max. number of pumping stations	Number of lubrication channels	Online	SMS
SKF ST-1240	two-channel Industrial systems	1 min to 999 h	1 s to 999 min	2	1-2	X	X
SKF ST-1340	multichannel Industrial systems	1 min to 999 h	1 s to 9999 s	4	1-4	X	X
SKF ST-1440	multichannel Industrial systems	1 min to 999 h	1 s to 9999 s	14	1-14	X	X



The Power of Knowledge Engineering

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

SKF lubrication systems

e-mail: skf-lube@skf.com



Important information on product usage

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

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

Hazardous materials of any kind, especially the materials classified as hazardous by European Community Directive EC 67/548/EEC, Article 2, Par. 2, may only be used to fill SKF centralized lubrication systems and components and delivered and/or distributed with the same after consulting with and receiving written approval from SKF.

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