MFP AUTOMATION ENGINEERING

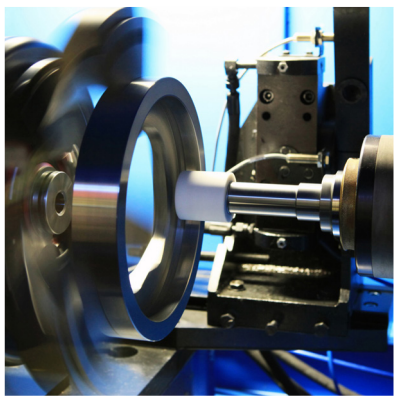
SKF®

SCAN ME

Single Line Oil Pump

Product series MCU2

For oil. For use in single-line lubrication systems.



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 (1013 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.

- Compact design and ease of installation
- CE mark
- Compulsory “start/stop” key

single line lubrication pump used with single-line lubrication system

CAD models for products shown in this brochure can be downloaded at: skf-lubrication.partcommunity.com

General information

Product Series MCU contain an electrically driven gear pump, a lubricant reservoir (plastic: 2-litre/5-litre rated capacity), a pressure switch for electrical pressure monitoring, a fill level switch for monitoring the minimum fill level, and a pressure gauge for visual pressure monitoring. A pressure relief valve and a Vent valve are also mounted inside the gear pump unit.

When the pump is switched on, the lubricant is drawn out of the lubricant reservoir by the gear pump and fed through the lubricant line to the single-line distributor via the pressure relief valve and the Vent valve. The distributor built up in the centralized lubrication system meters the lubricant separately for each lubrication point and feeds it to the lubrication points.

After the pump is switched-off, the pressure is relieved in the centralized lubrication system. In this process, the injectors are recharged. Now, the centralized lubrication system is ready for the next lubrication cycle.

The connected load of the system must be considered when planning the system. To ensure the reserves required for pressure build-up, the displacement of the pump should be at least 1.5 times the connected load.

When planning oil systems, the compressibility of the oil (approx. 1%) must also be taken into consideration when determining the connected load.

The connected load consists of:

1 The sum of all volumes metered by system distributors
2 + 25% of this value (safety margin)
3 + 1 cm^3/m of main line (expansion loss)
4 Compressibility loss with oil

SKF specialists can provide you with additional information.

Commissioning

Before the product is commissioned, all electrical and hydraulic connections must be inspected.

The lubricant reservoir must be filled with clean lubricant without introducing bubbles. The gear pump unit should be operated only approx. 15 min. after filling in order to allow possible air pockets to escape.

Air pockets in the lubricant adversely affect the function of the device and impair the reliability of lubricant delivery, which can result in damage to the bearings requiring lubrication. Prior to commissioning, the centralized lubrication system must be vented.

The venting process is facilitated by:

- Opening the ends of the main lines until bubble-free oil discharges from the ends.
- Filling long lubrication point lines, especially for distributor ports with low metering volumes, before connecting to the lubrication points.

Maintenance

1 Check the fill level and fill the reservoir in time. Use the lubricant in accordance with the information provided by the manufacturer. Always use a refilling filter when re-filling oil.
2 After using the machine for an extended period of time, inspect all pipe connections for leakage and actuate the piston pump to check whether lubricant discharges at all lubrication points.

Only use original SKF spare parts.

Pump order no. overview

Order no.	Lubricant	Output	Reservoir capacity	Electrical drive (XXX)[1]					Cable gland					
	Oil	[Liter/ minute]	[Liter]	230 VAC	200 VAC	110 VAC	100 VAC	24 V* DC	1 cable gland	2 cable gland	Pressure switch	Fill level switch	Push button/ manual switch	Page no.
MCU2-11BAA1010+xxx	•	0.2	2	•	•	•	•	•	•		•	•		4-6
MCU2-11BAA1000+xxx	•	0.2	2	•	•	•	•	•		•	•	•		4-6
MCU2-11AAA1010+xxx	•	0.2	2	•	•	•	•	•	•		•	•	•	4-6
MCU2-11AAA1000+xxx	•	0.2	2	•	•	•	•	•		•	•	•	•	4-6
MCU2-12BAA1010+xxx	•	0.2	5	•	•	•	•	•	•		•	•		4-6
MCU2-12BAA1000+xxx	•	0.2	5	•	•	•	•	•		•	•	•		4-6
MCU2-12AAA1010+xxx	•	0.2	5	•	•	•	•	•	•		•	•	•	4-6
MCU2-12AAA1000+xxx	•	0.2	5	•	•	•	•	•		•	•	•	•	4-6

[1] *Different Voltages Options are available on request for all models*

Pump overview

MCU2 Pumps Without Manual Switch with 1 Cable Gland (→ page 5–6)

Lubricant	Oil viscosity 20 to 700 mm²/s
Reservoir capacity	2 litre / 5 litre [2]
Output	0.2 litre/minute
Operating pressure	18 bar, ± 1 bar
Manual switch	No
Cable gland	1 cable gland (1/2" NPT) [1]

MCU2 Pumps With Manual Switch with 2 Cable Glands (→ page 5–6)

Lubricant	Oil Viscosity 20 to 700 mm²/s
Reservoir capacity	2 litre / 5 litre [2]
Output	0.2 litre/minute
Operating pressure	18 bar, ± 1 bar
Manual switch	Yes
Cable gland	2 Cable gland (1/2" NPT and 3/8" NPT)

[1] cable gland version with additional 3/8" NPT is also available on request.
[2] 5 Litre Version is also available on request.

MCU2 2L/5L Pumps With and Without Manual switch

Without Manual Switch with 1 Cable Gland

With manual switch with 2 cable glands

MCU2 5L Pumps With Manual switch

Technical data

Pump drive	Electric motor 230,200,110,100VAC 50/60Hz [1] and 24VDC [1]
Output	0.2 litre/minute,
Reservoir capacity	2 litre, 5 Litre [1]
Reservoir material	Plastic, transparent
Outlets	2 Nos, M10x1 on left or right side
Operating pressure	18 bar, ± 1 bar
Ambient temperature	+10 to +40 °C
Lubricant	Oil with viscosity 20 to 700 mm²/s Compatible with plastics, NBR Elastomers, Copper alloys
Cable glands	1 cable gland or 2 cable glands [1]
Protection class	IP 54

Float switch (no contact, opens when fill level too low)

Switching current [max]	Max 0.5 A
Switching voltage [max]	200 V DC, 10 W, 50/60 Hz

Pressure switch (No contact)

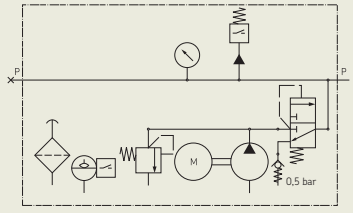
Operating pressure	14 ± 1 bar
Switching current	Max 2.5 A
Switching capacity	Max 30 V A
Switching frequency	2 Hz

Manual switch (available on request)

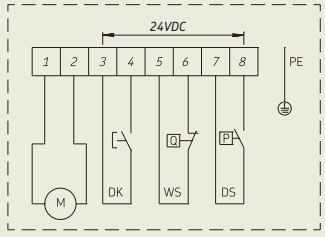
Switching details	6 A 125 V AC, 4 A 250 V AC

[1] Options are available on request

Hydraulic Circuit Diagram **Fig. 1**



Electrical circuit diagram 230/200/110/100 VAC,50/60 Hz and 24 VDC* **Fig. 2**



WS = Float switch (showing filled reservoir)
DS = Pressure switch wiring diagram
DK = Manual switch (optional)
M = Pump motor
PE = Protective earth connection

* Different Voltage options are available on request.
* Manual Switch versoin is optional and can be made on request.

Order no. overview

→ Refer page 3 and page 7

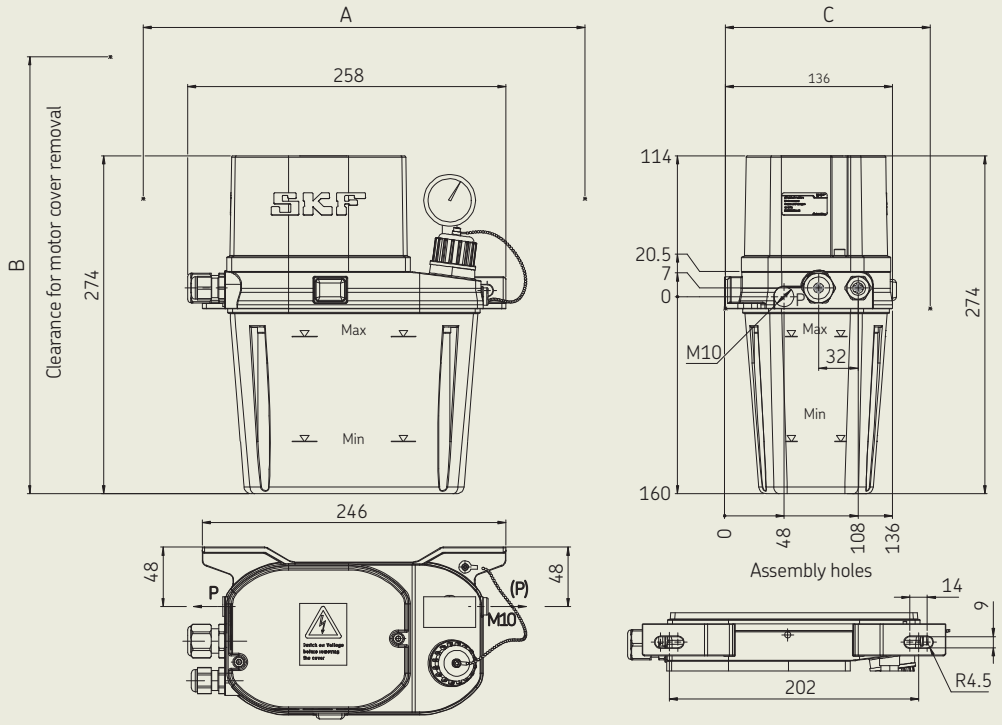
NOTE

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

For fittings and accessories → Brochure 1-0103-EN.
For connector systems → Brochure 1-0103-1-EN.

Over all mounting dimensions with minimum mounting dimensions MCU2 2L

Fig. 3

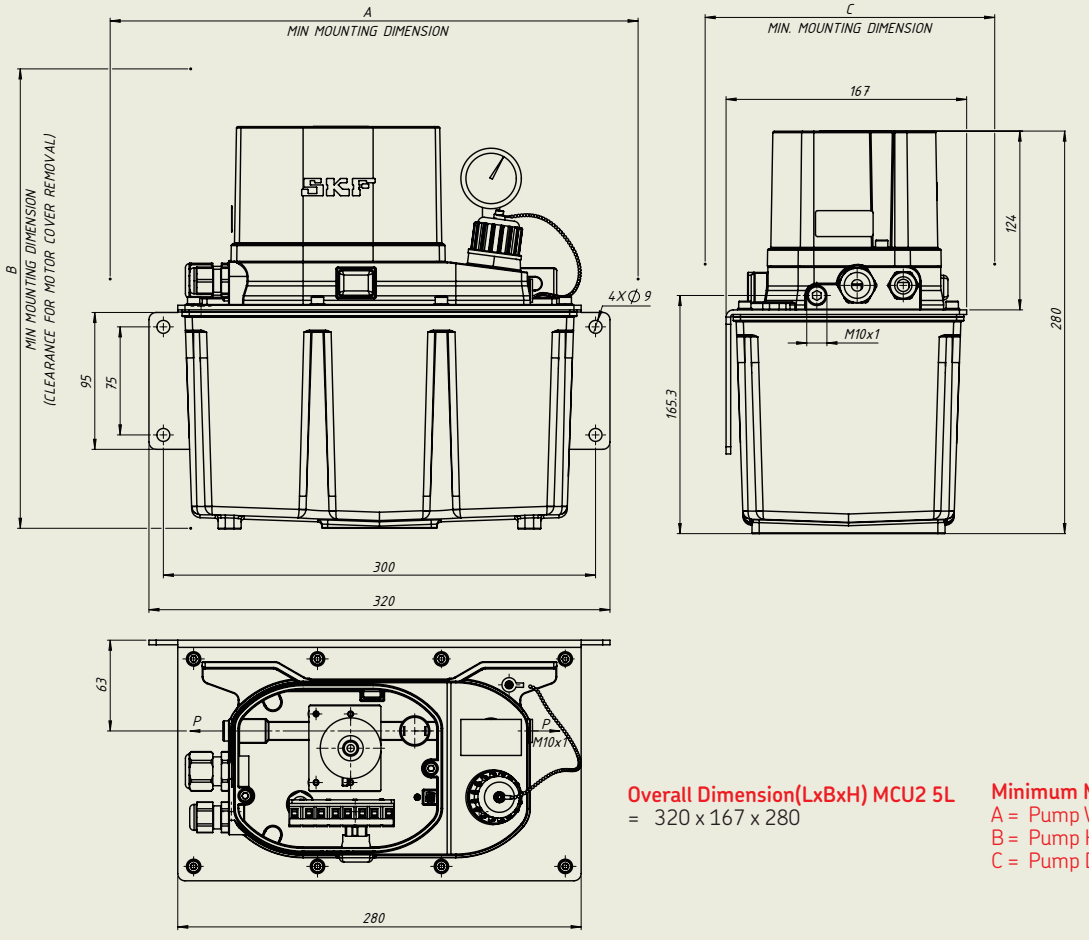


Overall Dimensions (LxBxH) MCU2 2L:
= 258 x 136 x 274

Minimum Mounting Dimensions 2L
A = Pump Width: 360 mm (14.1")
B = Pump Height: 375 mm (14.8")
C = Pump Depth: 240 mm (9.5")

Overall mounting dimensions with minimum mounting dimensions MCU 5L

Fig. 4



Overall Dimension(LxBxH) MCU2 5L
= 320 x 167 x 280

Minimum Mounting dimensions 5L:
A = Pump Width: 420 mm (16.5")
B = Pump Height: 380 mm (15")
C = Pump Depth: 270 mm (10.6")

MCU2 pump ordering code

Order code

MC	U	2	-	1	1	A	A	A	1	0	0	0	+	428

MC Product series

Medium

U Oil

Delivery rate

2 0.2 LPM

Version no.

1 Version 1

Reservoir size

1 2 L plastic*
2 5 L plastic

Controller and manual switch

A No controller, with push button
B No controller, without push button*

Float switch

0 Without float switch
A With float switch*

Pressure switch

0 Without pressure switch
A With pressure switch*

Pressure gauge

0 Without pressure gauge
1 With pressure gauge (Mpa/bar)*
2 With pressure gauge (Mpa/Psi)

Thermal switch

0 With thermal switch

Cable glands

0 2 cable glands
1 1 cable gland*

Default

0 Default*

Voltage

434 100 VAC 50 / 60 HZ
411 110 VAC 50 / 60 HZ
436 200 VAC 50 / 60 HZ
428 230 VAC 50 / 60 HZ*
924 24 VDC

Order example:
Order no. for 1 phase oil pump; Version 1; 0.2 lpm; 2 L plastic reservoir; W/o controller, with push button; with float switch NO; with Pr switch NO; with Pr gauge (Mpa/bar); with thermal switch; with 2 cable glands; 230 VAC is as follows:

MCU2 - 11AAA1000 + 428

* Standard version

SCAN ME

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Further brochures

1-0103-EN	Fittings and Accessories
1-1701-EN	Pressure switches DSA, DSB, DSC, DSD
1-1702-EN	Fill level switch WSx
1-1730-EN	Electrical plug and socket connectors
1-5001-EN	Lubricant distributors
1-9201-EN	Transport of Lubricants in Centralized

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