

# SKF Oil Conditioning Unit

Contamination is a fact of life in many mill systems. Removing contamination and maintaining oil temperature will contribute greatly to optimum lubrication with correct oil viscosity.

SKF has designed two units to enhance oil lubrication of industrial machines. SKF-OCU-XX models are used for applications where only filtration is required. SKF-OCU-CW and SKF-OCU-CA models also include a cooler to lower the operating temperature of lubricating oil. Both these units act in a side stream (kidney loop) configuration.

Low-volume off-loop or kidney loop filtration and cooling systems protect oil, extending its useful service life. Most importantly, wear and premature failures are virtually eliminated. Kidney loop filtration and cooling can be used effectively in many applications such as large bearing housings, compressors, turbine systems,

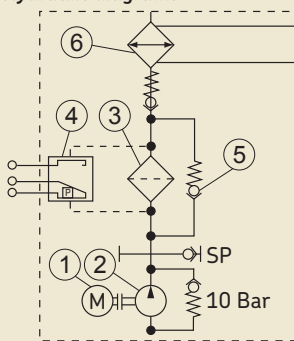
vacuum pumps and gearboxes. It can be useful on machinery where the existing filtration is not satisfactory or does not exist.

The unit is installed on the machine. Access ports should be located on opposing sides of the oil sump, so that suitable oil circulation is possible. Once connected to the sump, bearing housing, gearbox, etc, the system is ready for continuous operation. The design is fully integrated with a minimal number of connections. There is very little chance of error and, apart from periodic filter changes, there is no need for regular maintenance.

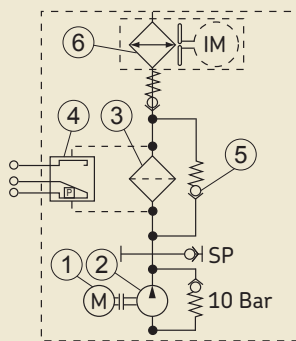
SKF Oil Conditioning Unit helps to protect your machinery from unexpected failures. The solution helps to extend machine service life by reduced wear and improved lubrication.



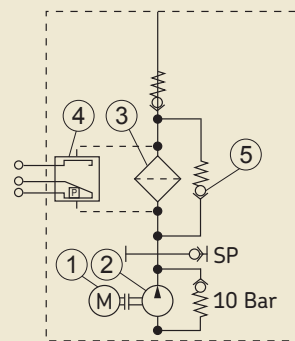
## Hydraulic diagrams



SKF-OCU-CW



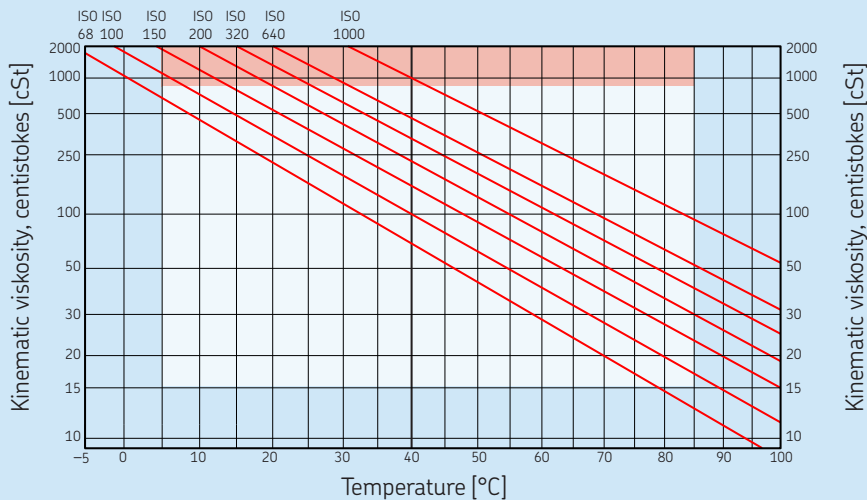
SKF-OCU-CA



SKF-OCU-XX

1 Motor, 2 Pump, 3 Filter, 4 Clogging Indicator, 5 Safety valve, 6 Cooler

### Viscosity and temperature limits



Normal operation rate  
Temporary operation range in cold start-up

1. Plot oil viscosity in centistokes at 40 °C and 100 °C  
2. Draw straight line through points.  
3. Read off centistokes at any temperature of interest.

Note: Lines shown indicate ISO preferred grades of 95 Viscosity Index.

### Options

- Electrical clogging indicator
- Temperature transmitter with display
- Pressure transmitter with display
- Manometer
- Thermometer
- Level switch assembly
- Shut-off valve before unit
- Flowmeter (SKF Flowline or SKF Safeflow)
- Moisture transmitter

#### Options with water cooler (CW)

- Self-acting water control valve or
- Automatic water control valve including PID controller

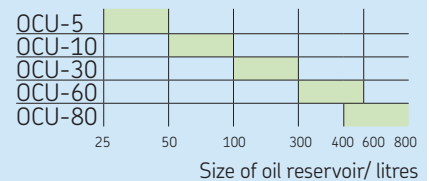
#### Options with air cooler (AC)

- Thermostat
- Frequency converter for air cooler

SKF-OCU-A-B-C-D	Abbreviation	Description	Example
A	5/10/30/60/80	Flow rate (l/min)	SKF-OCU-5-P-400-CW Flowrate Filter Motor Voltage Cooler
B	P = Upleat SRT H = Betamicon 4	Filter Filter	
C	400 = 400/690 V, 50 Hz 440-480 V, 60Hz	Motor voltage*	
D	CW = Water cooler AC = Air cooler XX = No Cooler	Cooler Cooler	

\*Other motor voltages available on special request

#### Size recommendation



Description	Unit	SKF-OCU-5	SKF-OCU-10	SKF-OCU-30	SKF-OCU-60	SKF-OCU-80
Flow rates	l/min	5	10	30	60	80
Oil side, max. operating pressure	bar	10	10	10	10	10
Water side, max. operating pressure	bar	10	10	10	10	10
Oil Viscosity	cSt	15-800	15-800	15-800	15-800	15-800
Max. viscosity at start-up	cSt	2000	2000	2000	2000	2000
Oil temperature	°C	5 to 85	5 to 85	5 to 85	5 to 85	5 to 85
Operation temperature	°C	-10 to +40	-10 to +40	-10 to +40	-10 to +40	-10 to +40
Oil pump motor power	kW	0,55	0,75	0,75	2,2	2,2
Rotation speed	r/min	1000	700	1500	1500	1500
Operating voltage(3-phase)	V, Hz	400/690-50	400/690-50	400/690-50	400/690-50	400/690-50
Filtration rating	µm	20	20	20	20	20
(Other filtration ratings available on special request)						
Visual clogging indicator switching pressure (P/H)	bar	3,5/2	3,5/2	3,5/2	3,5/2	3,5/2
Integrated pressure relief valve	bar	10,00	10,00	10,00	10,00	10,00

### SKF Lubrication Solutions

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