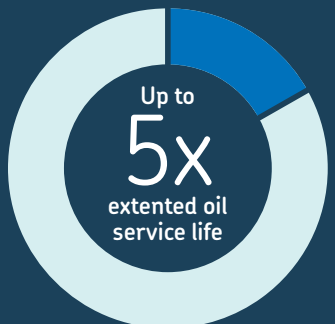
Oil conditioning unit OCU

Plug&play unit for cooling and filtering of lubrication and hydraulic oils

- Lubrication and hydraulic oils; 15 to 800 mm²/s
- up to 12 bar *(174 psi)*
- 10 to +80 °C *(50 to 176 °F)*
- 5 to 30 l/min *(10.5 to 63 pts/min)*
- 25, 12, 7 µ standard filter (1µ with depth filter)



Applications

- Large bearing houses
- Turbine systems
- Vacuum pumps
- Compressors
- Gearboxes

Sustainability, productivity, health and safety

OCU – a sustainable solution

Increased oil service life means reduced oil consumption. That leads to lower greenhouse gas emissions, which contribute to climate change. This has a very positve effect because it is connected to the full oil sife cycle as production, the transport of it but also the disposal of used oil. Transitioning away from waste of oil can result in cost savings for industrial plants over time. The shift towards sustainability encourages many companies to research in alternative energy sources and cleaner technologies.

- Reduced oil consumption
- Reduced waste / spillage

OCU - increases productivity and profitability

Oil that is optimally tempered and filtered not only has anm increaed service life. In fact, the lubricating properties of this oil are also much better as detrimental factors such as oil aging and oxidation are kept under control.

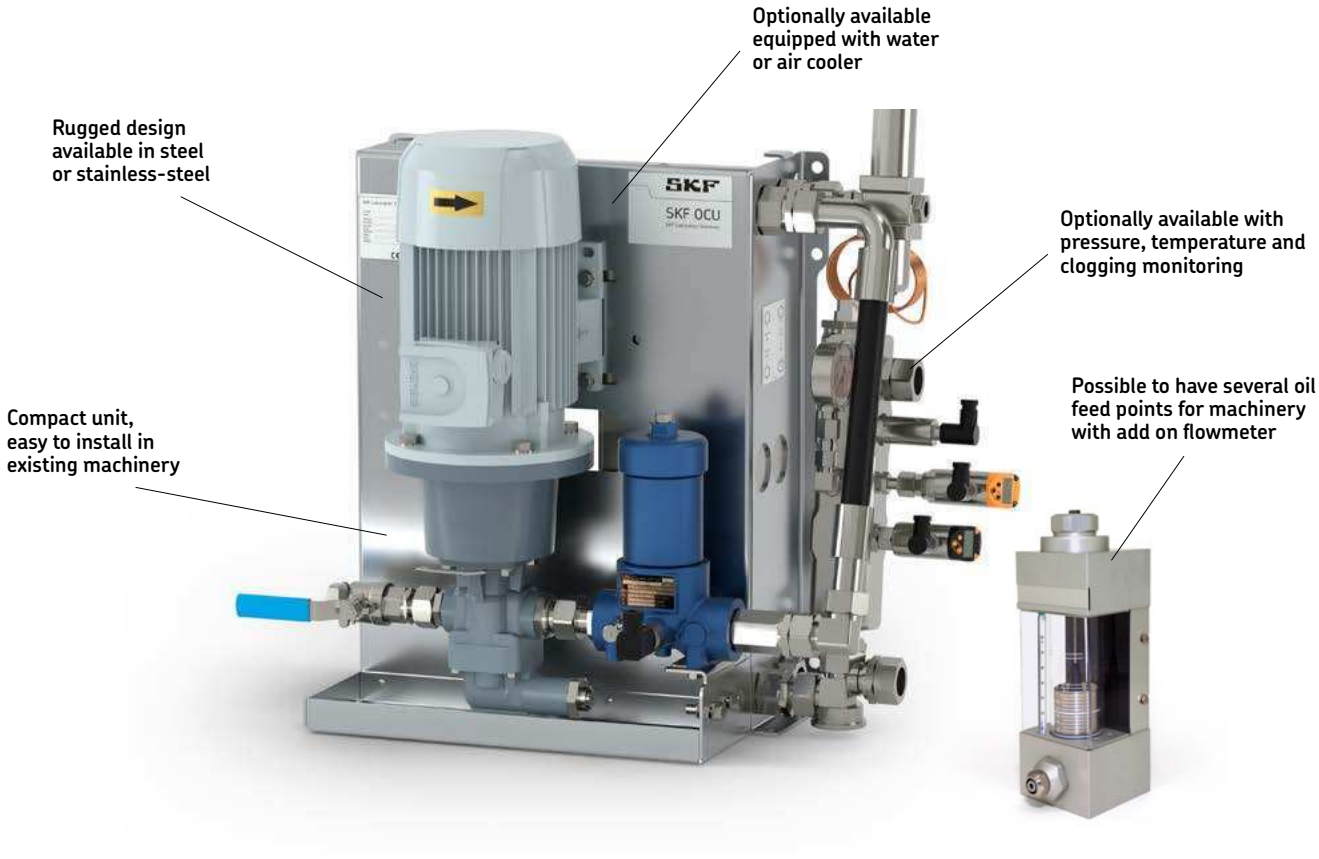
- Optimized machine lubrication – improved machine availability
- Reduced maintenance cost (less lubricant consumption and labor time)
- Reduced reclamation of used lubricant (Reclaiming and disposing of used lubricant cost 2 x initial cost)
- Reduced repair costs – decreased bearing failures (reliable lubrication)

OCU - improves workers health and safety

Complicated machine maintenance/repair work is problematic because it means downtime and therefore production losses. Even more dramatic, these are the leading cause of injury for workers in the MMPC industry. Reliable lubrication ensures reliable machine and system operation, wear and tear caused by friction is minimized, with nthe result that repair and downtimes become reduced.

- Reduced machine maintenance/repair
- Reduced exposure to hazardous areas
- Reduced lubricant exposure
- Reduced fire hazard

Product information



Description

OCU (Oil Conditioning Unit) is an electrically operated oil cooling, filtering and pumping unit that comes without reservoir. Usually the unit is installed close to machines like large gear boxes and bearing housings having an oil bath. OCU removes contamination effectively and reduces oil temperature affecting positively to bearing and gear life. Three different OCU models are available, with air cooler, with water cooler and without cooler where only filtration is needed. Large oil bath volumes can be equipped with oil low level sensor and instrumentation block with temperature and pressure sensors to safeguard system operation. Even small oil circulation lubrication systems can be created by adding flowmeters and control system. For extremely high oil volumes several OCU units can be installed back to back for fail safe redundant operation. A number of corrosion-resistant designs for outdoor and off-shore applications shall complete the range.

Features and benefits

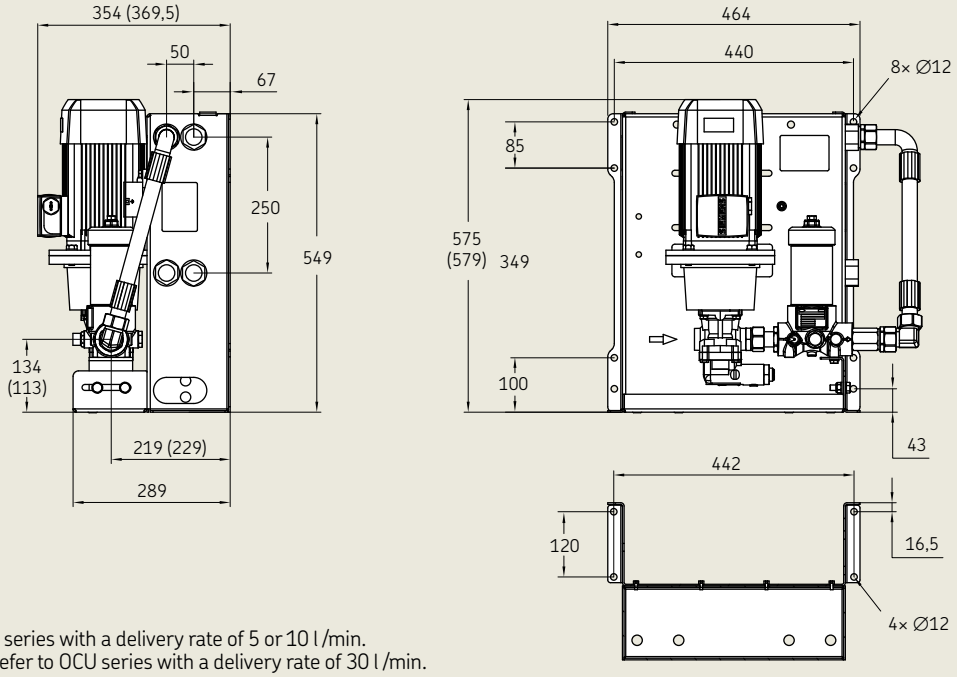
- Reduces wear in gears and bearings by good filtration
- Improves lubrication film and extends machine life
- Increases the service life of oil up to 5 times and more
- Optional available incl. monitoring and power supply unit
- Low noise, high efficiency pump unit

Technical data

Function principle	electrically operated oil conditioning, pumping, cooling and filtration unit
Lubricant	lubrication and hydaulic oils; 15 to 800 mm²/s
Lubricant viscosity at start-up	2 000 mm²/s
Operating temperature	10 to +40 °C; *14 to +104 °F*
Oil temperature	10 to +80 °C; *50 to +176 °F*
Operating pressure	max. 12 bar; *max. 174 psi*
Flow rate	5 to 30 l/min, *10.5 to 63 pts/min*
Oil filtering rate	
Standard filter	25 microns (12 and 7 on request)
Depth filter	1 micron
Opening pressure, safety valve	adjustable 10-15 bar
Suction port connection:	
SKF-OCU 5, 10 l/min	G3/4
SKF-OCU 30 l/min	G1
Pressure port connection	G1
Water cooler inlet connection	G1
Water cooler oultet connection	G1
Cooling capacitiy, water cooler	0,13-0,5 kW/°C
Cooling capacitiy, air cooler	0,15-0,5 kW/°C
Protection class	IP 65
Motor voltage, oil pump	400/690 V, 50 Hz; 460 V, 60 Hz
Motor power, oil pump	0,55-1,1 kW
Motor voltage, air cooler	230/400 V, 50 Hz; 460/480 V, 60 Hz
Motor power, air cooler	0,37-0,75 kW
Materials:	
Housing	painted steel or stainless steel, depending on design selected
Mounting position	upright

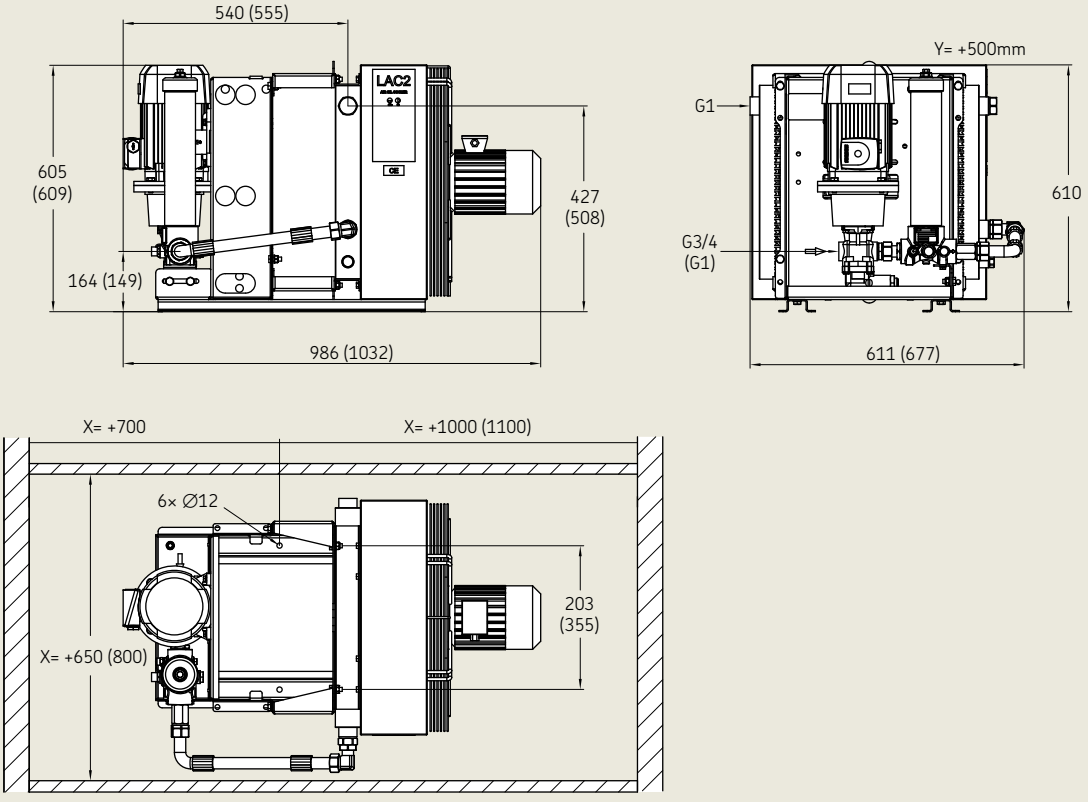
Installation drawings

OCU-XX-P-400-XX (no cooler),
OCU-XX-P-400-WAC (water cooler)



Values refer to OCU series with a delivery rate of 5 or 10 l /min.
Values in brackets refer to OCU series with a delivery rate of 30 l /min.

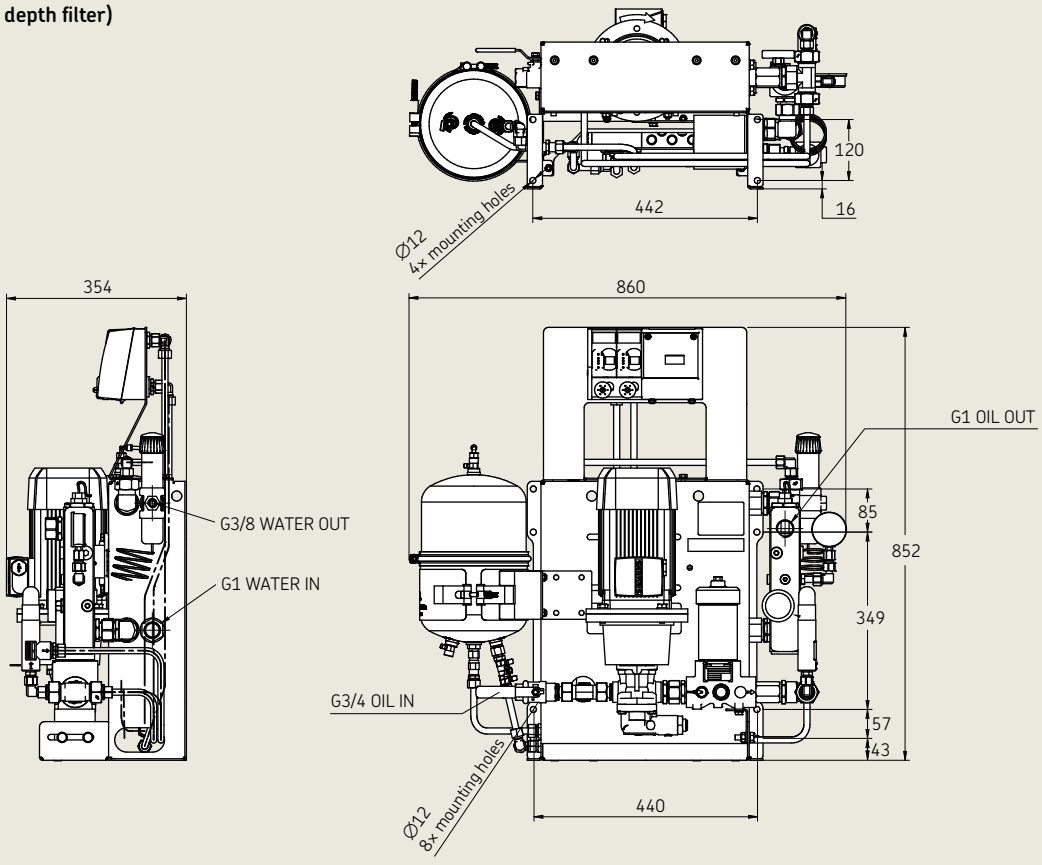
OCU-XX-P-400-AIC
(air cooler)



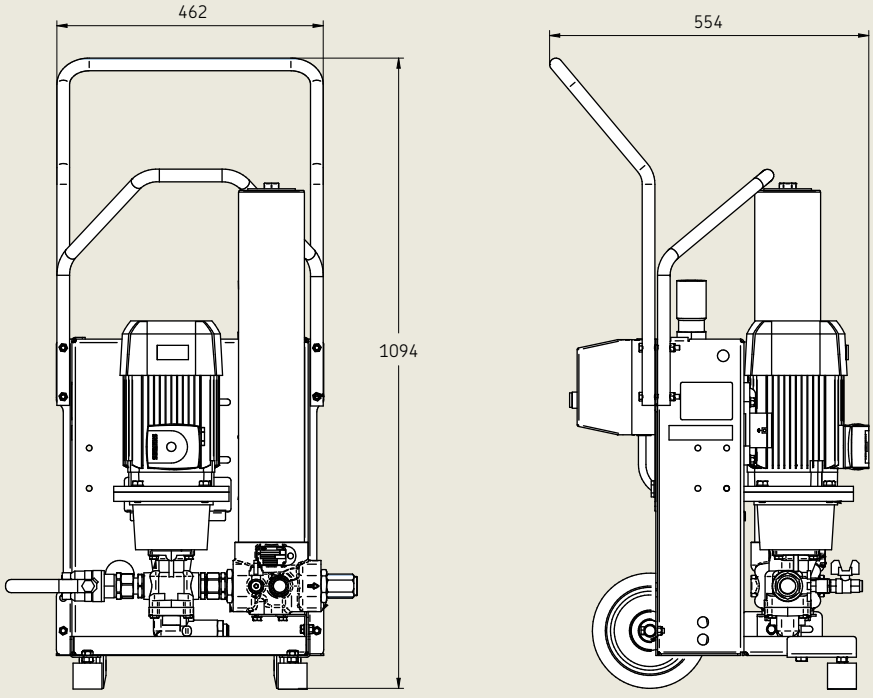
Values refer to OCU series with a delivery rate of 5 or 10 l /min. Values in brackets refer to OCU series with a delivery rate of 30 l /min.

Installation drawings

OCU-XX-P-400-WAC-DP-FL15
(water cooler and depth filter)



OCU-30-P-400-XX-310-MOB
(mobile version)



Designs and variants

OCU, oil conditioning units

Order number	Designation	Cooler	Flow rate [1]		Cooling capacity	Pump motor [2] (50 Hz)		Cooler motor [3] (50 Hz)	Dimensions	Weight	
			l/min	*pts/min*	kW/°C	kW	min^{-1}	kW	mm	kg	*lbs*
OCU with back plate and fittings made of steel											
13140919	OCU-05-PL-400-XX	-	5	*10,5*	-	0,55	935	-	360×600×620	35	*77.16*
13140921	OCU-10-PL-400-XX	-	10	*21*	-	0,75	1 450	-	360×600×620	35	*77.16*
13140909	OCU-30-P-400-XX	-	30	*63*	-	1,10	1 450	-	370×600×620	45	*99.20*
13140922	OCU-05-PL-400-AIC	Air cooler	5	*10,5*	0,15	0,55	935	0,37	1000×620×620	46	*101.41*
13140931	OCU-10-PL-400-AIC	Air cooler	10	*21*	0,15	0,75	1 450	0,37	1000×620×620	46	*101.41*
13140913	OCU-30-P-400-AIC	Air cooler	30	*63*	0,50	1,10	1 450	0,75	1050×620×680	83	*182.98*
13140924	OCU-05-PL-400-WAC	Water cooler	5	*10,5*	0,13	0,55	935	-	360×600×620	40	*88.18*
13140929	OCU-10-PL-400-WAC	Water cooler	10	*21*	0,13	0,75	1 450	-	360×600×620	40	*88.18*
13140906	OCU-30-P-400-WAC	Water cooler	30	*63*	0,50	1,10	1 450	-	370×600×600	53	*116.84*
OCU with back plate and fittings made of stainless steel											
13140927	OCU-05-PL-400-WAC SS	Water cooler	5	*10,5*	0,13	0,55	935	-	360×600×620	40	*88.18*
13140930	OCU-10-PL-400-WAC SS	Water cooler	10	*21*	0,13	0,75	1 450	-	360×600×620	40	*88.18*
13140928	OCU-30-P-400-WAC SS	Water cooler	30	*63*	0,5	1,10	1 450	-	370×600×620	53	*116.84*
OCU with back plate and fittings made of steel and with depth filter											
13140965	OCU-5-P-400-WAC-DP-FL15	Water cooler	5	*10,5*	0,13	0,55	935	-	360×860×860	65	*143.3*
13140966	OCU-10-P-400-WAC-DP-FL15	Water cooler	10	*21*	0,13	0,75	1 450	-	360×860×860	65	*143.3*
OCU with back plate and fittings made of steel (mobile version)											
13140950	OCU-30-P-400-XX-310-MOB	-	30	*63*	-	1,10	1 450	-	550×1100×520	69	*152.1*

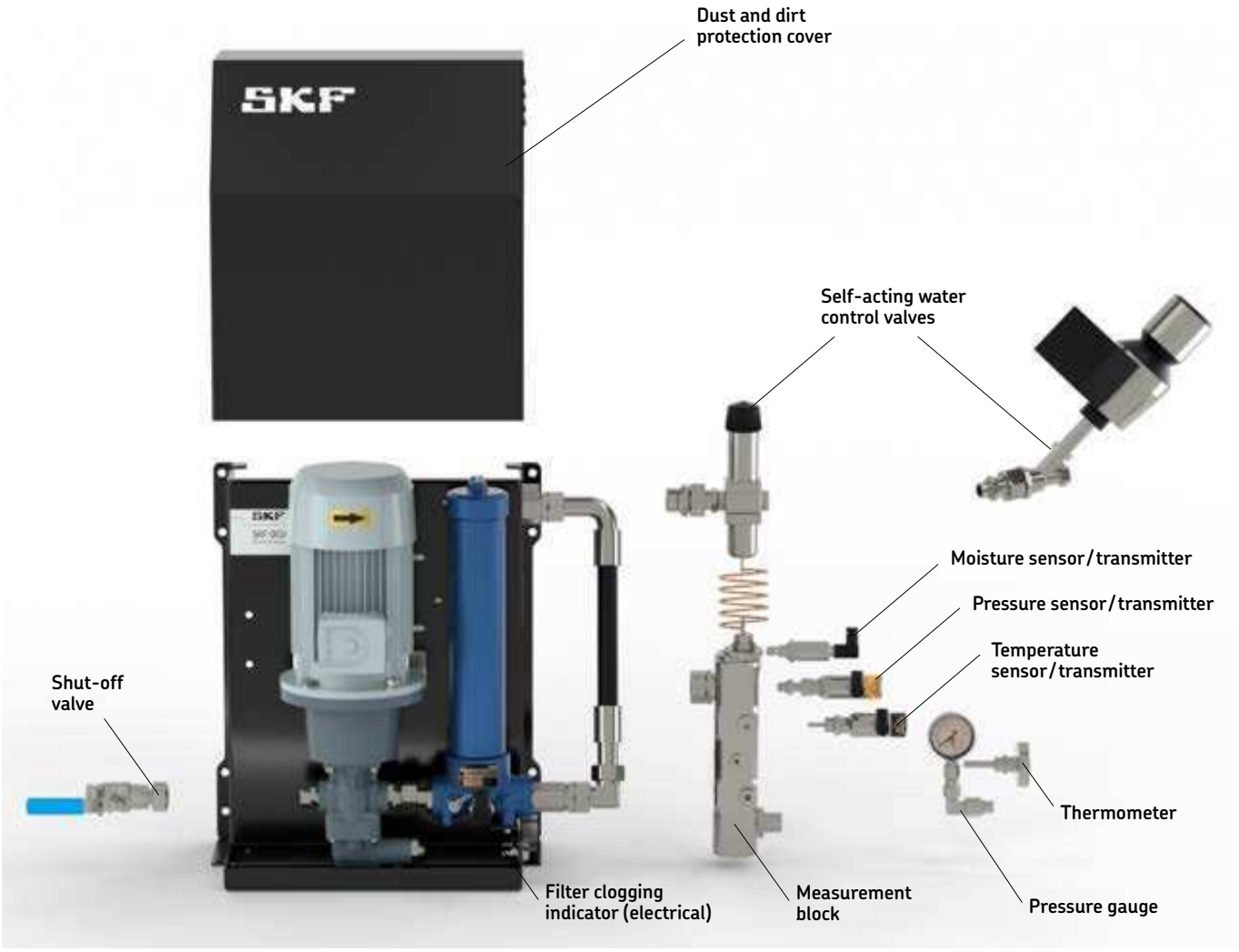
Oil filter elements (OCU with basic filtration)

Order number	Description
13101039	Filter element for OCU units 05 & 10, filtration ratio 22µ
13101038	Filter element for OCU units 05 & 10, filtration ratio 12µ
13101037	Filter element for OCU units 05 & 10, filtration ratio 7µ
13101044	Filter element for OCU unit 30, filtration ratio 22µ
13101043	Filter element for OCU unit 30, filtration ratio 12µ
13101042	Filter element for OCU unit 30, filtration ratio 7µ

Oil filter elements (OCU with depth filtration)

Order number	Description
ROBX500/HY	Filter element for OCU units 05 & 10, filtration ratio 1µ

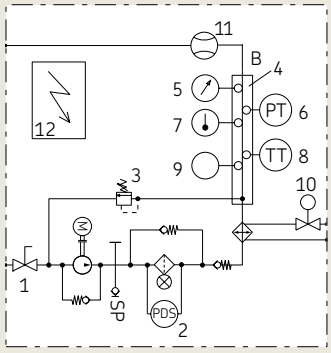
Accessories



Accessory options

Order number	Identifier	Description
13396105	1	Shut-off valve, suction connection
13396100	1	Shut-off valve OCU-30, suction connection
13608504	2	Electrical filter clogging indicator
13602245	3	Pressure regulator for flowmeter
13396140	4	Measurement block for instruments
13396200	5	Pressure gauge
13396180	6	Pressure transmitter+display
13396240	7	Thermometer
13396220	8	Temperature transmitter+display
13396160	9	Moisture sensor
13396260	10	Thermostatic water control valve
*	11	Flow meter
*	12	Junction box, power supply, control
13149108	–	Protection cover OCU-5/10/30, painted
13149128	–	Protection cover OCU-5/10/30, AISI 304
13609058	–	Frequency converter, OCU-05/10
13609060	–	Frequency converter, OCU-30

Hydraulic plan



Typical combinations

A) OCU unit with water cooler, shut-off valve, clogging indicator, measurement block, thermostatic water control valve, temperature gauge and pressure transmitter (→ identifier 1, 2, 4, 6, 7)

B) OCU unit with air cooler, shut-off valve, clogging indicator, measurement block, temperature transmitter and pressure gauge (→ identifier 1, 2, 4, 5, 8)

C) Above models with suitable flowmeter and pressure regulator valve (→ identifier 11, 3)

Related products

Flowline monitor flow meters

With the Flowline monitor, SKF introduces a digital dimension for measuring and controlling low rates of circulating oil lubrication systems. The monitor is available with up to 10 low meters that can be adjusted and programmed individually. SKF Flowline's user friendly visual design allows operators to see the low rate status of each individual lubrication point.

- Control and monitoring system to meet customer requirements
- Interface to process control
- Reliable operation
- Easy-to-use interface

Safeflow flow meters

SKF Safeflow flow meters control and indicate the flow rate. Each flow meter can be calibrated individually according to oil viscosity and desired flow. Safeflow covers a flow rate of 0,04 to 56 l/min (0.08-118 pts/min) per lubrication point. It can be banked (up to 10 units wide) to reduce piping and simplify installation. These flow meters offer excellent readability and visual monitoring due to their operating principle of straight glass flow tubes with internal calibration cones.

- Easy and individual calibration of flow meters with adjustable flow rate
- SF05A, SF10A and SF15A can be combined in same module
- Common or individual electronic alarms available

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