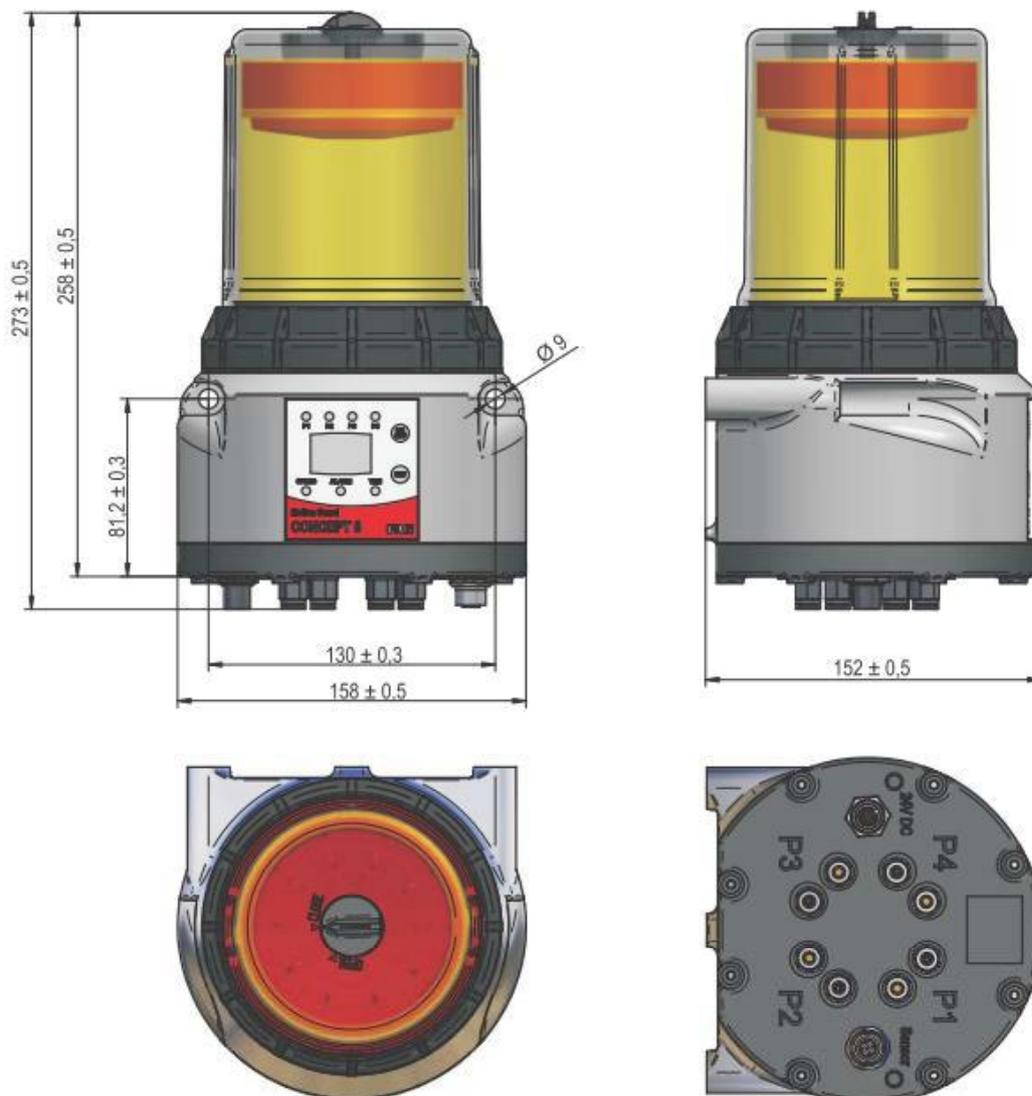


# FAG CONCEPT8

## The new generation lubrication pump for direct lubrication of lubrication points

**FAG CONCEPT8** is a really compact lubrication pump for oils and greases up to NLGI3. The pump is designed for 24 VDC operation and needs an external power supply. The lubricant reservoir for oil is direct in the main cover (reservoir appr. 1000 ccm). Greases are filled in a quick exchange cartridge. (Volume appr. 800 ccm). The lubrication pump is equipped with 4 independent working piston pumps with 2 outlets each pump. The lubrication pump can serve max. 8 lubrication points. The pumps can be operated individually and are able to dispense lubricant at different time and with different volume. The outlets of one pump serve 2 lubrication points with the same pre-adjusted volume in the same time period. The maximum operating pressure is 70 bar (1000psi).

### Main dimensions:



<b>Technical data</b>	
Functional principle	1-4 independent working piston pumps with 2 outlets each pumping element
Dispensing volume per piston stroke	0,15 cm <sup>3</sup> per outlet
Adjustable dispensing volume per lubrication cycle (per outlet)	0,15 cm <sup>3</sup> to 14,4 cm <sup>3</sup> (1 to 96 piston strokes)
Dispensable lubricants:	Oils and greases up to NLGI3
Reservoir volumes	
Oil	appr.. 1000 cm <sup>3</sup>
Grease	Quick-exchange cartridge with appr.. 800 cm <sup>3</sup> greases out of Arcanol program (Special greases on request)
Hose connectors	
Grease	Quick connector for hoses with 6 or 8 mm OD (please use only hoses with specific pressure resistance! )
Oil	Quick connector for hoses with 6 mm OD (please use only hoses with specific pressure resistance! )
Operating pressure, max.	70 bar, permanent 50 bar
Operating temperature	-20° C to + 70° C
Dimensions (WxHxD):	158 x 273 x 152 mm (with hose connectors)
Weight without lubricant:	appr.. 3,0 kg
Monitoring	integrated microelectronic; can be monitored with an external SPS or PLC too.
pause-time for lubrication cycle (internal):	1 – 240 hours
Pressure control (monitoring system pressure)	integrated, electronical
Low level control (lubricant)	integrated, reedcontact
Connector	M12x1, 4 pole
Operating voltage	24 VDC
Current consumption	max. 350 mA
Material	Housing: Aluminium, powder coated
Protection class	IP 65
Combination with progressive systems	possible
additional dispensing	for system control, additional lubricant volume, initial filling, internal functional tests

**Versions:**

**FAG CONCEPT8 – GREASE standard (hoses 8 mm OD)**

SAP-Nr.	designation	outlets	pumping elemens
082239754-0000-10	ARCALUB-C8-1P	2	P1
082249156-0000-10	ARCALUB-C8-2P	4	P1, P2
082266581-0000-10	ARCALUB-C8-3P	6	P1, P2, P3
082266646-0000-10	ARCALUB-C8-4P	8	P1, P2, P3, P4

**FAG CONCEPT8 – GREASE – Cold Climate (hoses 8 mm OD)**

SAP-Nr.	designation	outlets	pumping elements
083786031-0000-10	ARCALUB-C8-1P-CC	2	P1
083786333-0000-10	ARCALUB-C8-2P-CC	4	P1, P2
083786490-0000-10	ARCALUB-C8-3P-CC	6	P1, P2, P3
083786511-0000-10	ARCALUB-C8-4P-CC	8	P1, P2, P3, P4

**FAG CONCEPT8 – GREASE – Linear applications (hoses 6 mm OD)**

SAP-Nr.	designation	outlets	pumping elements
	ARCALUB-C8-1P-LIN	2	P1
	ARCALUB-C8-2P-LIN	4	P1, P2
	ARCALUB-C8-3P-LIN	6	P1, P2, P3
	ARCALUB-C8-4P-LIN	8	P1, P2, P3, P4

**FAG CONCEPT8 –OIL (hoses 6 mm OD)**

SAP-Nr.	designation	outlets	pumping elements
083786864-0000-10	ARCALUB-C8-1P-OIL	2	P1
083786910-0000-10	ARCALUB-C8-2P-OIL	4	P1, P2
083786953-0000-10	ARCALUB-C8-3P-OIL	6	P1, P2, P3
083787062-0000-10	ARCALUB-C8-4P-OIL	8	P1, P2, P3, P4

**Functional principle pumping elements (P1, P2, P3, P4)**

1 pumping element contents 2 pistons

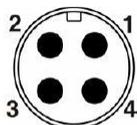
1 pumping element dispenses same volume on both outlets

Outlets are served alternately:  
 Outlet 1 – dosing, Outlet 2 - suction  
 Outlet 2 – dosing, Outlet 1 - suction

### Interface and connection to FAG CONCEPT8

FAG CONCEPT8 has a 4-pole plug integrated in order to connect the system with an external monitoring system (SPS or PLS). Connection is done with a cable (4 wires) and a M12x1 female connector. This connector is also used to serve the FAG CONCEPT8 with power. The voltage for operation respectively for switching on and off the FAG CONCEPT8 is +20...+30 VDC. If voltage is on, the CONCEPT8 is in operation the whole time. If there are no troubles (pump ok) voltage is given to PIN 4.

Is the pump switched off, the CONCEPT8 is going in „sleep“ mode and saves the actual position. If voltage is switched on again, the operation mode starts again at the point where it was stopped. Every lubrication cycle can be confirmed with a signal to the monitoring system.



#### Connector pin assignment M 12x1

- PIN 1: Input voltage + 24 VDC (-5% to +10%), Operation voltage 24 VDC stabilised; color: brown
- PIN 2: Impulse to monitor the single pumping outlets, color: white
- PIN 3: Outlet/ground(GND), color: blue
- PIN 4: Output signal, color: black

Details (all informations are based on 24 VDC)  
 Maximum current (during pump operation), ca. 350 mA, typical < 200 mA  
 Standby current < 50 mA, typical 20 mA  
 max. output current (at PIN 4): 100mA

The maximum current increases with the output current  
 Example: 350 mA + 100 mA = 450 mA

Output signal PIN 4: High = OK, LOW (0 V) = Error

Attention: Take care of polarity, not short-circuit-proof

Fuse protection with delay fuse 1A is recommended

#### Connection cable

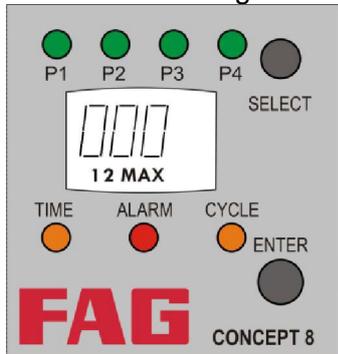
SAP-Nr.	designation	connector type	cable length
075592240-0000-10	ARCALUB-X.CABLE-M12-5M-LED	M12x1, angulate 90° with LED index	5 meter
077879805-0000-10	ARCALUB-X.CABLE-M12-10M-LED	M12x1, angulate 90° with LED index	10 meter
083788964-0000-10	ARCALUB-X.CABLE-M12-5M-LED-S	M12x1, straight with LED index	5 meter
083788980-0000-10	ARCALUB-X.CABLE-M12-10M-LED-S	M12x1, straight with LED index	10 meter

#### Power supply 24 VDC (optional)

083872507-0000-10	ARCALUB-X.POWER-SUPPLY-UNIT	Power supply 230 VAC / 24 VDC	
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**Functional details:**

- Menu navigation with 3 digit LCD display (background light for night operation)



pump unit P1 ... P4:	index green LED
Interval time (TIME):	index yellow LED
Status signal (ALARM):	index red LED
Lubrication volume (CYCLE):	index yellow LED

- Every pumping unit can be monitored independent
  - Interval time: Time between 2 lubrication cycles 1 - 240 H, free selectable
  - Lubrication volume per interval: 0,15 cm<sup>3</sup> - 14,4 cm<sup>3</sup>, free selectable
  - Interval monitoring with external SPS as an option
- Monitoring of backpressure up to lubrication point (analog QuickCheck). Done by measuring of current consumption of the drive motor. Output of an error signal if backpressure 3 times too high (> 70 bar).
- Level monitoring
  - Optical scale on the cartridge
  - electronic with reedcontact
  - electronic with counting the working cycles to give an info at 20% level
  - Output as an error signal on M12x1 connector
  - no pump operation with missing LC-unit, protection of the pump
- Pump operation only by using original LC-units
- LC-units can not be refilled
- cable break control
- Monitoring in time and impulse mode integrated
- no switch off

**QuickCheck function**



QuickCheck is an innovative and worldwide unique opportunity to safe your lubrication points – within seconds and without any additional efforts.

The measurement of the backpressure is done in the lubrication hose up to the lubrication point. The result is shown direct in the display of the monitoring unit.

Example: QuickCheck notification



**Quick change cartridge:**

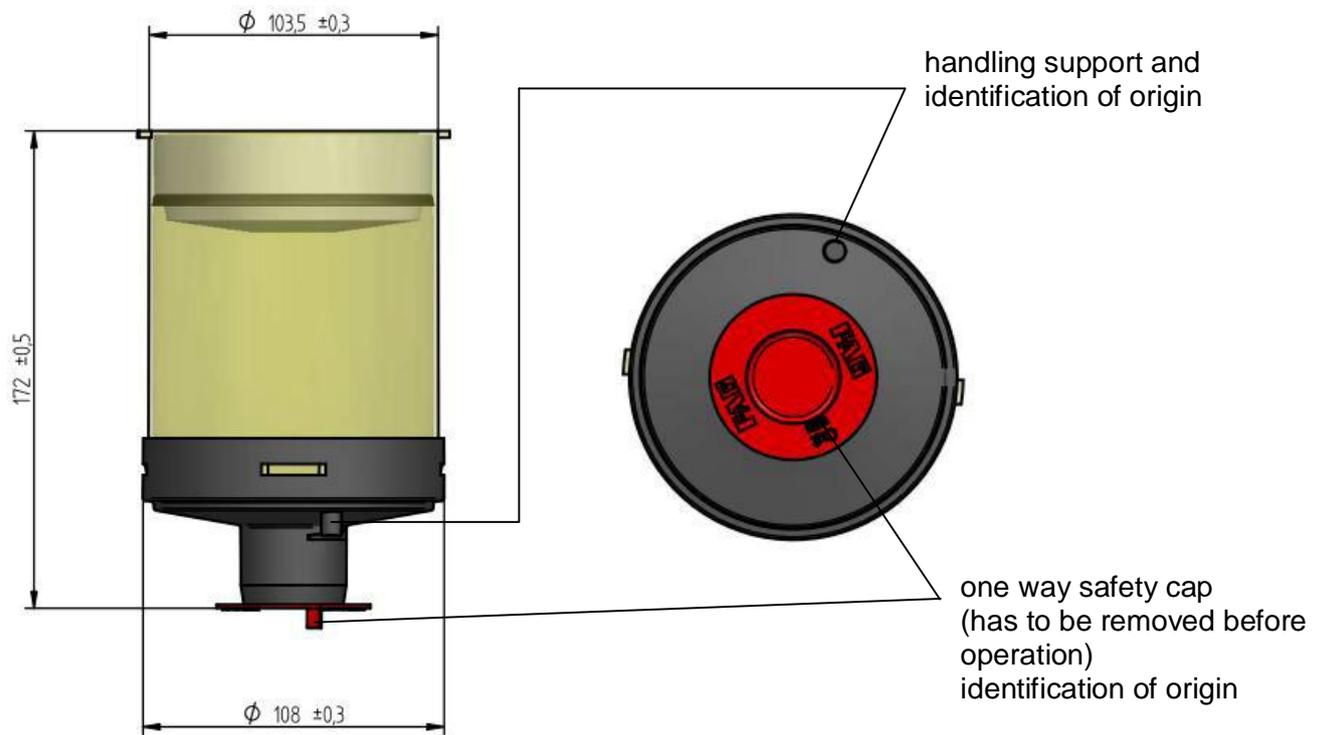
The FAG CONCEPT8 is equipped with quick change cartridges filled with Arcanol greases. The quick change cartridges are filled with 800 cm<sup>3</sup> Arcanol grease. The quick change cartridges has a cap as an one way transport lock. This transport lock is the verification of an original fill. The FAG CONCEPT8 can be operated only with origin Arcanol cartridges. The cartridge has for easy handling a positioning support system. This positioning support system is also identifying the original cartridges. If no original cartridge is used, the internal electronic stops operating the whole system. Cartridges can not be refilled because of operational safety issues.

Following cartridges are available:

SAP-Nr.	designation	grease -type
	<b>MULTI PURPOSE GREASES</b>	
082631492-0000-10	ARCALUB-C8.LC800-MULTITOP	Arcanol MULTITOP
083532412-0000-10	ARCALUB-C8.LC800-MULTI2	Arcanol MULTI2
083548289-0000-10	ARCALUB-C8.LC800-MULTI3	Arcanol MULTI3
	<b>HEAVY LOAD GREASES</b>	
083532439-0000-10	ARCALUB-C8.LC800-LOAD150	Arcanol LOAD150
083533583-0000-10	ARCALUB-C8.LC800-LOAD220	Arcanol LOAD220
083533761-0000-10	ARCALUB-C8.LC800-LOAD400	Arcanol LOAD400
083533818-0000-10	ARCALUB-C8.LC800-LOAD460	Arcanol LOAD460
083548343-0000-10	ARCALUB-C8.LC800-LOAD1000	Arcanol LOAD1000
	<b>HIGH TEMPERATURE GREASES</b>	
083533630-0000-10	ARCALUB-C8.LC800-TEMP90	Arcanol TEMP90
083548580-0000-10	ARCALUB-C8.LC800-TEMP110	Arcanol LEMP110
083548599-0000-10	ARCALUB-C8.LC800-TEMP120	Arcanol TEMP120
083548602-0000-10	ARCALUB-C8.LC800-TEMP200	Arcanol TEMP200
	<b>SPECIAL PURPOSE GREASES</b>	
083548629-0000-10	ARCALUB-C8.LC800-SPEED2,6	Arcanol SPEED2,6
083549099-0000-10	ARCALUB-C8.LC800-VIB3	Arcanol VIB3
083548947-0000-10	ARCALUB-C8.LC800-BIO2	Arcanol BIO2
083549064-0000-10	ARCALUB-C8.LC800-FOOD2	Arcanol FOOD2
083549129-0000-10	ARCALUB-C8.LC800-CLEAN-M	Arcanol CLEAN-M

Customer specific greases can be filled after consulting IAM service.  
 Minimum order number is 20 pcs.

**DIMENSION - QUICK CHANGE CARTRIDGE:**



**Connectors + accessories:**

Hose connectors for bearing housing:

As connection for the hoses you need the same number of hose connectors on bearing inlet side as you have on outlets side of the FAG CONCEPT8. Please select according the specific inlet threads on bearing inlet side. All accessories have to match the pressure level, that can be created by the pump. Compressed air components are not allowed to use, because they are designed for lower pressure level.

**GREASE:**

Version	angulate 90°, rotatable or straight
operational pressure	with FAG CONCEPT8: 70 bar
Temperature range:	- 20 to + 80° C
hose-Ø	8 mm OD
Suitability:	Greases and oils
Material housing	brass, nickel plated
Material O-ring	NBR70

Standard dimensions: (Code ...G = straight; ...W, angulate 90°, rotatable)

SAP-Nr.	designation	thread, type
083654216-0000-10	ARCALUB-X.TUBEFIT-M8X1-SAT088G	M8x1, straight
083654275-0000-10	ARCALUB-X.TUBEFIT-M8X1-SAT088W	M8x1, angulate, rotatable
083654356-0000-10	ARCALUB-X.TUBEFIT-M10X1-SAT108G	M10x1, straight
083654402-0000-10	ARCALUB-X.TUBEFIT-M10X1-SAT108W	M10x1, angulate, rotatable
083654534-0000-10	ARCALUB-X.TUBEFIT-G1/8-SAT188G	G1/8", straight
083654577-0000-10	ARCALUB-X.TUBEFIT-G1/8-SAT188W	G1/8", angulate, rotatable
083654607-0000-10	ARCALUB-X.TUBEFIT-G1/4-SAT148G	G1/4", straight
083654623-0000-10	ARCALUB-X.TUBEFIT-G1/4-SAT148W	G1/4", angulate, rotatable

If it is necessary to connect both outlets of one pump to one inlet it is recommended to use a Y-connector. Please do not use a T-connector!

SAP-Nr.	designation	thread, type
083654640-0000-10	ARCALUB-X.TUBEFIT-Y-D8	Y-connector, 3 x 8 mm

If it is necessary to extend the length of the hoses or to reduce the diameter please use specific connectors.

SAP-Nr.	designation	thread, type
083867309-0000-10	ARCALUB-X.CONNECT-8-8	OD 8 mm to OD 8mm
083867279-0000-10	ARCALUB-X.CONNECT-8-6	OD 8 mm to OD 6mm

**Oil:**

Version	angulate 90°, rotatable or straight
operational pressure	with FAG CONCEPT8: 70 bar
Temperature range:	- 20 to + 80° C
hose-Ø	6 mm OD
Suitability:	Greases and oils
Material housing	brass, nickel plated
Material O-ring	NBR70

Standard dimensions: (Code ...G = straight; ...W, angulate 90°, rotatable

SAP-Nr.	designation	thread, type
077937490-0000-10	ARCALUB-X.TUBEFIT-M5-SAT056G	M5, straight
079567401-0000-10	ARCALUB-X.TUBEFIT-M5-SAT056W	M5, angulate, rotatable
075527472-0000-10	ARCALUB-X.TUBEFIT-M6-SAT066G	M6, straight
075676621-0000-10	ARCALUB-X.TUBEFIT-M6-SAT066W	M6, angulate, rotatable
079567428-0000-10	ARCALUB-X.TUBEFIT-M8X1-SAT086G	M8x1, straight
079567584-0000-10	ARCALUB-X.TUBEFIT-M8X1-SAT086W	M8x1, angulate, rotatable
075527626-0000-10	ARCALUB-X.TUBEFIT-M10X1-SAT106G	M10x1, straight
076968553-0000-10	ARCALUB-X.TUBEFIT-M10X1-SAT106W	M10x1, angulate, rotatable
084465905-0000-10	ARCALUB-X.TUBEFIT-G1/8-SAT186G	G 1/8" straight
084465964-0000-10	ARCALUB-X.TUBEFIT-G1/8-SAT186W	G 1/8" angulate, rotatable
079567606-0000-10	ARCALUB-X.TUBEFIT-G1/4-SAT146G	G 1/4" straight
079567622-0000-10	ARCALUB-X.TUBEFIT-G1/4-SAT146W	G 1/4" angulate, rotatable

If it is necessary to connect both outlets of one pump to one inlet it is recommended to use a Y-connector. Please do not use a T-connector!

SAP-Nr.	designation	thread, type
076693180-0000-10	ARCALUB-X.TUBEFIT-Y-D6	Y-connector, 3 x 6 mm

If it is necessary to extend the length of the hoses please use specific connectors.

SAP-Nr.	designation	thread, type
083867112-0000-10	ARCALUB-X.CONNECT-6-6	2 x 6 mm

**Oil back pressure valve**

In order to avoid the self emptying of the hose, please use at the end of the hose an oil back pressure valve.

SAP-Nr.	designation	thread, type
083405607-0000-10	ARCALUB-X.OILVALVE-G1/8	G1/8" FM (2x)
021941882-0000-10	ARCALUB.OILVALV-G1/4	G1/4" FM / G1/4 M

**Hoses:****Greases:**

In order to connect the FAG CONCEPT8 with the lubrication point we recommend our specific hoses. The hoses have a specific dimension (inner diameter 5 mm, outer diameter 8 mm), a specific material (PA 6.6) and a specific pressure resistance (> 70 bar /1000 psi). The hoses have a optimised purchase in the connectors and create because of the large inner diameter only a low additional backpressure during dispensing the grease.

SAP-Nr.	designation	type
083788573-0000-10	ARCALUB-X.HOSE-PA66-5M	hose PA 6.6, unfilled, 8 x 5 mm (OD x ID) length 5 m, black
083788581-000-10	ARCALUB-X.HOSE-PA66-10M	hose PA 6.6, unfilled, 8 x 5 mm (OD x ID) length 10 m, black
083788603-0000-10	ARCALUB-X.HOSE-PA66-50M	hose PA 6.6, unfilled, 8 x 5 mm (OD x ID) length 50 m, black

**Oil:**

In order to connect the FAG CONCEPT8 with the lubrication point we recommend our specific hoses. The hoses have a specific dimension (inner diameter 4 mm, outer diameter 6 mm), a specific material (PA 1.2) and a specific pressure resistance (> 70 bar /1000 psi). The hoses have a optimised purchase in the connectors and create because of the large inner diameter only a low additional backpressure during dispensing the grease.

SAP-Nr.	designation	type
075526336-0000-10	ARCALUB-X.HOSE-PA12-5M-CLEAR	hose PA 1.2, unfilled, 6 x 3 mm (OD x ID) length 5 m, transparent
083788441-000-10	ARCALUB-X.HOSE-PA12-10M-CLEAR	hose PA 1.2, unfilled, 6 x 3 mm (OD x ID) length 10 m, transparent

**Cut tool:**

In order to cut the hoses in a professional way, you can use our cut tool

SAP-Nr.	designation	type
083788620-0000-10	ARCALUB-X.HOSE-CUTTOOL	hose cut tool

**Configuration example**

Number of lubrication points: **8 pcs**

Pump P1		Pump P2		Pump P3		Pump P4	
Time T1 – interval time (1 – 240 h) Example: 10 h		Time T2 - interval time (1 – 240 h) Example: 20 h		Time T3 - interval time (1 – 240 h) Example: 100 h		Time T4- interval time (1 – 240 h) Example: 180 h	
Cycle 1 – piston strokes 1 piston stroke = 0,15 cm <sup>3</sup> (1 -96 pcs) Example: 6		Cycle 2 – piston strokes 1 piston stroke = 0,15 cm <sup>3</sup> (1 -96 pcs) Example: 10		Cycle 3 – piston strokes 1 piston stroke = 0,15 cm <sup>3</sup> (1 -96 pcs) Example: 4		Cycle 4 – piston strokes 1 piston stroke = 0,15 cm <sup>3</sup> (1 -96 pcs) Example: 20	
Volume P1		Volume P2		Volume P3		Volume P4	
P1.1	P1.2	P2.1	P2.2	P3.1	P3.2	P4.1	P4.2
0,90 cm <sup>3</sup>	0,90 cm <sup>3</sup>	1,50 cm <sup>3</sup>	1,50 cm <sup>3</sup>	0,60 cm <sup>3</sup>	0,60 cm <sup>3</sup>	3,00 cm <sup>3</sup>	3,00 cm <sup>3</sup>

Standard version:

**CONCEPT8**

SAP-Nr.	designation	number
082266646-0000-10	ARCALUB-C8-4P	1 pc

**Quick change cartridge:**

(Example: Arcanol MULTITOP, other greases according list)

SAP-Nr.	designation	number
082631492-0000-10	ARCALUB-C8.LC800-MULTITOP	1 pc (+1 pc spare).

**Hose connectors SAT**

(Example: connection thread M10x1, angulate, rotatable, other SAT according list)

SAP-Nr.	designation	number
083654402-0000-10	ARCALUB-X.TUBEFIT-M10X1-SAT108W	8 pcs

**Hose**

(Example: single pieces á 5 m):

SAP-Nr.	designation	number
083788573-0000-10	ARCALUB-X.HOSE-PA66-5M	8 pcs

Option: coil with 50 m:

SAP-Nr.	designation	number
083788603-0000-10	ARCALUB-X.HOSE-PA66-50M	1 pcs

**Connection cable:**

(Example: connection cable, connector M12x1 with LED index, angulate, other versions out of list)

SAP-Nr.	designation	number
075592240-0000-10	ARCALUB-X.CABLE-M12-5M-LED	1 pc