



7.3 Fluids and lubricants

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Unit	Fluid/lubricant	Specification	Season/temperature	Capacities ¹
Diesel engine	Engine oil ²	SAE 10W-40	-15 °C (-5 °F) +45 °C (+104 °F)	About 3.4 l (0.9 gal)
Hydraulic oil reservoir	Hydraulic oil	Eurolub HVLP 46 ³	Year-round ⁴	30 liters (7.9 gal)
	Biodegradable oil ⁵	Panolin HLP Synth 46		
		BP BIOHYD SE-S 46		
Grease	Roller and friction bearings	KPF 2 K-20 ⁶ ISO-L-X-BCEB 2 ⁷	Year-round	As required
	Open transmissions live ring: ball bearing			
	Live ring gears			
	Grease zerks			
Battery terminals	Acid-proof grease ⁸	FINA Marson L2	Year-round	As required
Fuel ⁹	Diesel fuel ¹⁰	ASTM D975-94: 1D, 2D (USA)	Summer or winter diesel depending on outside temperatures	36 liters (9.5 gal)
		EN 590 (EU)		
		ISO 8217 DMX (International)		
		BS 2869-A1, A2 (GB)		
		JIS K2204 (Japan)		
		KSM-2610 (Korea)		
		GB252 (China)		
	Biodiesel	EN 14214 ASTM D-6751		
Engine cooling system	Coolant	Distilled water and anti-freeze SF D12 Plus/ASTM D4985 (reddish) ¹¹	Year-round	4.5 liters (1.2 gal)
		Distilled water and anti-freeze D40 Super/ASTM 6210 (violet) ¹²		
Control lever base	Adhesive fluid grease	Förch S401	Year-round	As required
Washer system	Cleaning agent	Glass cleaner and anti-freeze	Year-round	1.2 l (0.3 gal)

1. The capacities indicated are approximate values; the oil level check alone is relevant for the correct oil level.

Capacities indicated are no system fills

2. According to DIN 51511 (API CF, CF-4, CI-4; ACEA E3, E4, E5; JASO DH-1)

3. According to DIN 51524 section 3, ISO-VG 46.

4. Depending on local conditions – see *"Oil types for the diesel engine (temperature-dependent)"* on page 7-10.

5. Biodegradable hydraulic oil based on saturated synthetic esters with an iodine value of < 10, according to DIN 51524, section 3, HVLP, HEES.

6. KPF 2 K-20 according to DIN 51502 lithium-saponified grease.

7. ISO-L-X-BCEB 2 according to DIN ISO 6743-9, lithium-saponified grease.

8. Standard acid-proof grease NGLI category 2.

9. Sulfur content below 0.05 %, cetane number over 45

10. In countries where level IIIA (or higher) or Tier IV (or higher) exhaust emission regulations apply provisionally, use diesel fuels with a maximum sulfur content of 0.0015 % (= 15 mg/kg).

11. Up to serial number WNCE1002LPAL00499

12. From serial no. WNCE1002JPAL00500



Oil types for the diesel engine (temperature-dependent)

Engine oil grade	Ambient temperature (°C)													
	°C	-20	-15	-10	-5	0	5	10	15	20	25	30	35	40
API CF, CF-4, CI-4; ACEA E3, E4, E5; JASO DH-1														
		SAE 10W												
				SAE 20W										
		SAE 10W-40												
				SAE 15W-40										
					SAE 20									
						SAE 30								
							SAE 40							
		°F	-4	5	14	23	32	41	50	59	68	77	86	95

Additional oil change and filter replacement (hydraulic system)

Notice

An additional oil change and filter replacement can be required depending on how the machine is used. Failure to observe these replacement intervals can cause damage to hydraulic components.

► Observe the following intervals.

Application		Hydraulic oil	Hydraulic oil filter insert
Normal work		Every 1000 o/h	Replace the first time after 50 o/h, then every 500 o/h
Percentage of hammer work	20%	Every 800 o/h	300 o/h
	40%	Every 400 o/h	
	60%	Every 300 o/h	100 o/h
	Over 80 %	Every 200 o/h	


Oil types for hydraulic system (depending on temperature)

Hydraulics oil grade	Ambient temperature (°C)														
	°C	-20	-15	-10	-5	0	5	10	15	20	25	30	35	40	50
HVLP 46 ¹															
	°F	-4	5	14	23	32	41	50	59	68	77	86	95	104	122

1. According to DIN 51524 section 3, ISO-VG 46.

Important information regarding operation with biodegradable hydraulic oil

- Use only the biodegradable oils that have been tested and released by Wacker Neuson.
- Add only biodegradable oil of the same type. In order to avoid misunderstandings, attach a clear label to the hydraulic oil filler neck providing clear information regarding the type of oil currently used. The joint use of two different biodegradable oils can affect the quality of one of the oil types. Therefore ensure that the remaining amount of biodegradable oil complies with the national and regional regulations as you replace it. Observe the manufacturer's indications.
- Do not add mineral oil – the content of mineral oil should not exceed 2 % of the system fill in order to avoid foaming problems and to ensure biological degradability.
- When running the machine with biodegradable oil, the same oil and filter replacement intervals are valid as for mineral oil.
- Always have the condensation water in the hydraulic oil reservoir drained by a Wacker Neuson service center before the cold season. The water content may not exceed 0.1 % by weight.
- The instructions in this Operator's Manual concerning environmental protection are also valid for the use of biodegradable oil.
- Subsequent change from mineral oil to biodegradable oil may only be performed by a Wacker Neuson service center.