

Technical Data, Measures and Adjusting Values

Job No.

18-0

Oil pump

Model	OM 636	OM 621
Inner dia. of the bearing bushings on the oil pump housing upper and lower part for the shaft of the oil pump gear and the drive shaft	$\frac{12.000}{12.018}$	
Dia. of the drive shaft	$\frac{11.984}{11.973}$	
Dia. of the shaft of the oil pump gear	$\frac{11.973}{11.964}$	
Radial clearance of the drive shaft	0.016–0.045	
Radial clearance of oil pump gear shaft	0.027–0.054	
Dia. of both oil pump gears	$\frac{29.960}{29.927}$	$\frac{36.450}{36.411}$
Dia. of bore in oil pump housing upper part (OM 636) and/or lower part (OM 621) for the oil pump gears	$\frac{30.000}{30.021}$	$\frac{36.500}{36.525}$
Clearance between the two oil pump gears and the oil pump housing	radial 0.020–0.047	0.025–0.057
	axial 0.020–0.062	0.016–0.052
Height of both oil pump gears	$\frac{28.980}{28.959}$	$\frac{15.984}{15.966}$
Distance between separating surface of oil pump housing upper part (OM 636) and/or lower part (OM 621) and contact surface of the two oil pump gears	$\frac{29.000}{29.021}$	$\frac{16.000}{16.018}$
Backlash of oil pump gear set	0.05–0.15	0.05–0.10
Min. distance in axial direction between the oil pump housing upper part and the helical gear (oil pump drive gear)	0.25	–
Dia. of collar a and b on oil pump housing (see Figure 18–14/2 and 18–43/3)	$\frac{33.011}{32.995}$	$\frac{30.009}{29.996}$
Bore for the oil pump in the cylinder crankcase	$\frac{33.000}{33.025}$	$\frac{30.000}{30.021}$
Overlap + or clearance – between the collar a and b and the bore in the cylinder crankcase	+ 0.011 – 0.030	+ 0.009 – 0.025

Feed capacity of the oil pump

Model	Height of gears mm	Pump speed r. p. m.	Feed capacity kg/min.	Vacuum suction side mm mercury	Over-pressure side atm.	Oil temperature °C	Oil brand
OM 636	29	2000	12.5–16.5	400	5	100	Motor oil SAE 10
OM 621	16	2500	19.5–24.5	400	5	100	Motor oil SAE 10

Oil pump drive shaft with helical gear, OM 621

Dia. of drive shaft	$\frac{13.968}{13.950}$
Inner dia. of upper and lower bearing bushing for the drive shaft	$\frac{14.000}{14.018}$
Radial clearance of drive shaft	0.032–0.068
Axial clearance of drive shaft	0.10–0.25
Backlash of the helical gear	0.05–0.15

Testing values for the pressure spring of the oil relief valve in the main oilway on the cylinder crankcase

Model	Outer dia.	Wire thickness	Length untempered	Length pre-tensioned		Length block		Opening pressure of relief valve atm.	Part. No.**
	mm			mm	mm	kg	mm		
OM 636	8.2	0.9	~ 65	27	3.1	20	3.6	$8^{+0,5}_{-0,2}$	136 993 07 05
	8.2	0.9	47.4	22	2.7	16.2	3,32	$7^{+0,5}_{-0,2}$	636 993 01 01
OM 621	7.1–9.4	1.4	43.6	39	2.4	25	9.6	6 ± 0.5	186 993 17 01

* Load tolerance $\pm 5\%$.

Oil pressure on oil pressure gauge under normal operating conditions: 2 — 8 atm.
With hot engine, the oil pressure must not drop below 0.5 atm. during idling.

** List of the oil pressure relief valves installed in the engines of the individual types (see Job No. 18–5, Section C).

Testing values of the pressure spring of the oil pressure relief valve, in the horizontal oil filter, OM 636

Model	Outer dia.	Wire thickness	Length untempered	Length pre-tensioned		Length block		Opening pressure of relief valve atm.	Part. No.**
	mm			mm	mm	kg	mm		
OM 636	8.4	0.9	35.8	29.2	0.77	—	—	1.8–2.2	136 933 04 05

Testing values for the pressure spring of the oil pressure relief valve in the **bowl-type oil filter**
OM 636 and OM 621

OM 636 and OM 621	12.25	1.25	49	32	2.26	24	3.30	2.2–2.5	181 993 06 01
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*Load tolerance $\pm 10\%$