

- 3 cylinders
- 1028 cm³
- 20,0 kW/27,2 HP
- 3600 r.p.m.
- Nm 67,0@2000

Available homologation

- EPA Interim TIER IV ◇
- 2004/26/CE Stage 3A ◆
- ECE R 24 ▲

Construction

- 4-stroke diesel engine with cylinders in line
- Liquid-cooled with axial fan.
- Indirect injection with injector-pump on head.
- Single-shaft distribution in head.
- Distribution control with timing belt.
- Double pto on the crankshaft.
- Pto on the distribution.
- Counterclockwise rotation (1° PTO).
- Forced lubrication with vane pump on the crankshaft.
- Total passage external oil filter.
- Water pump in the engine block.
- Automatic extra fuel starting device.
- Centrifugal governor.
- Torque regulator.
- Cast iron engine block with re-borable integral liners.
- Aluminium cylinder head.



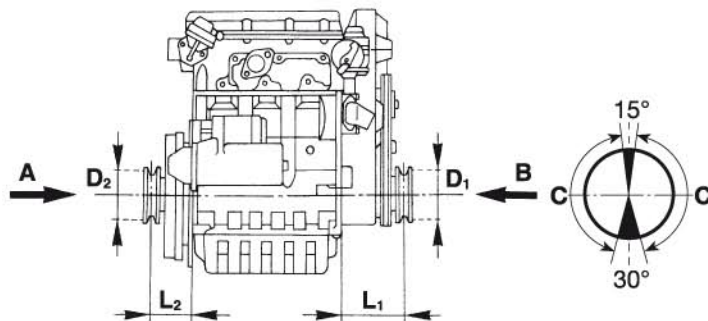
Applications

- Excavator
- Generating set
- Refrigerating unit
- Sweeper
- Access platform
- Roller
- Lawn mower
- Dumper

Specifications

Cylinders	N.	3
Displacement	cm ³	1028
Bore	mm	75
Stroke	mm	77,6
Compression ratio		22,8:1
Rating kW/HP	N (80/1269/CEE) ISO 1585	20,0/27,2
	NB ISO 3046 IFN	18,0/24,5
	NA ISO 3046 ICXN	16,5/22,4
Max. torque	Nm	67,0@2000
Max. torque 3 PT.O.	Nm	37,0@1800
Min. idling speed		900
Water pump delivery at 3600 r.p.m.	l/min.	50 (~)
Oil consumption	kg/h.	0,012
Oil sump capacity	l	2,4
Min. allowable oil pressure	bar	1,5
Max. allowable inclination for:		
- short periods of operation (max. time 30 minutes)		25°
- peak values (max. time 1 minute)		35°
Cap. of air required for correct combustion @ 3600 r.p.m.	l/min.	1850
Cap. of air required for correct cooling @ 3600 r.p.m.	m ³ /min.	80 (1:1)
Dry weight	kg	85
Recommended battery	V/Ah	12/70

Minimum pulley diameters for belt drive



V belt	$D_2 \text{ (mm)} \geq 114 [L_2 \text{ (mm)} + 101]$	$\frac{N \text{ (kW)}}{n \text{ (RPM)}}$
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Cogged belt	$D_1 \text{ (mm)} \geq 79 [L_1 \text{ (mm)} + 101]$	$\frac{N \text{ (kW)}}{n \text{ (RPM)}}$
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Max. intermittent axial load in both directions A-B = 300 kg
C - zone in which the radial load acts on the pulley

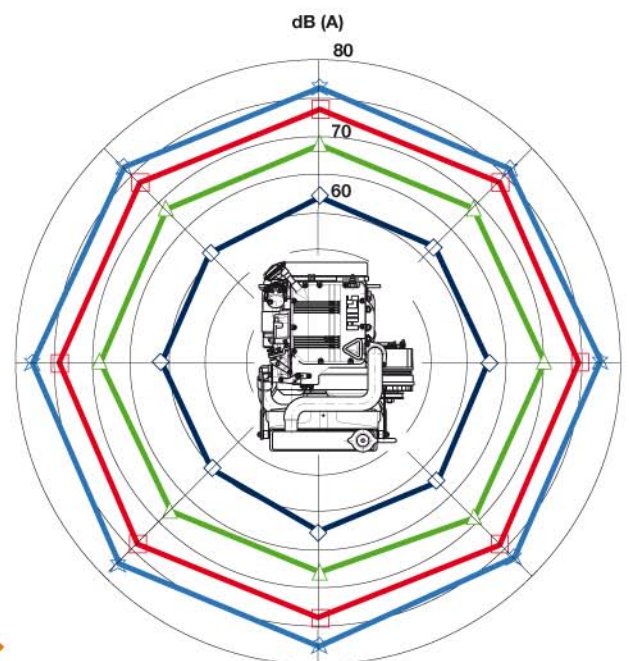
HOMOLOGATIONS EPA Interim TIER IV and 2004/26/CE Stage 3A

Rating kW @ 3600 rpm	ISO 14396	19,5
Max. torque	Nm	64,0@2100



Sound pressure level dB (A)

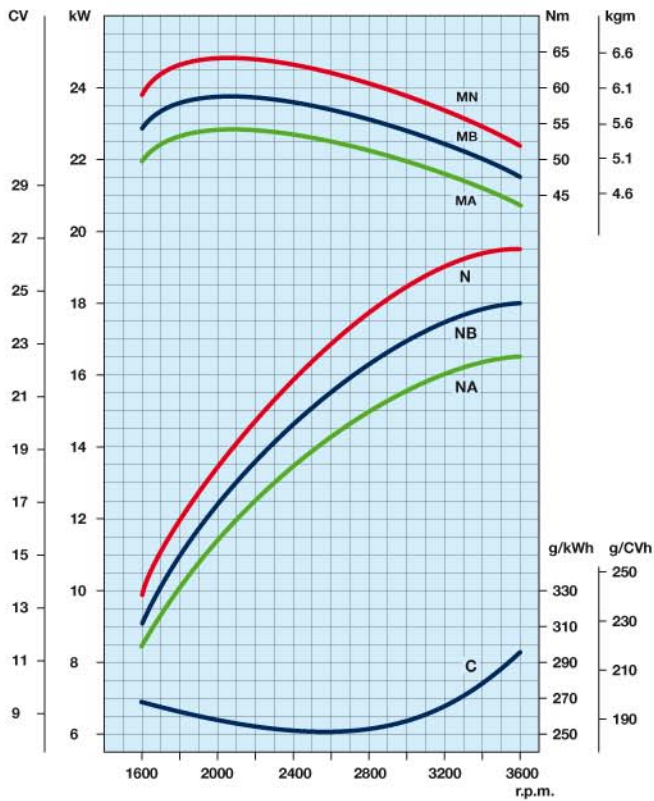
Sound level polar diagram open field - 7 meters microphone - no load running engine.



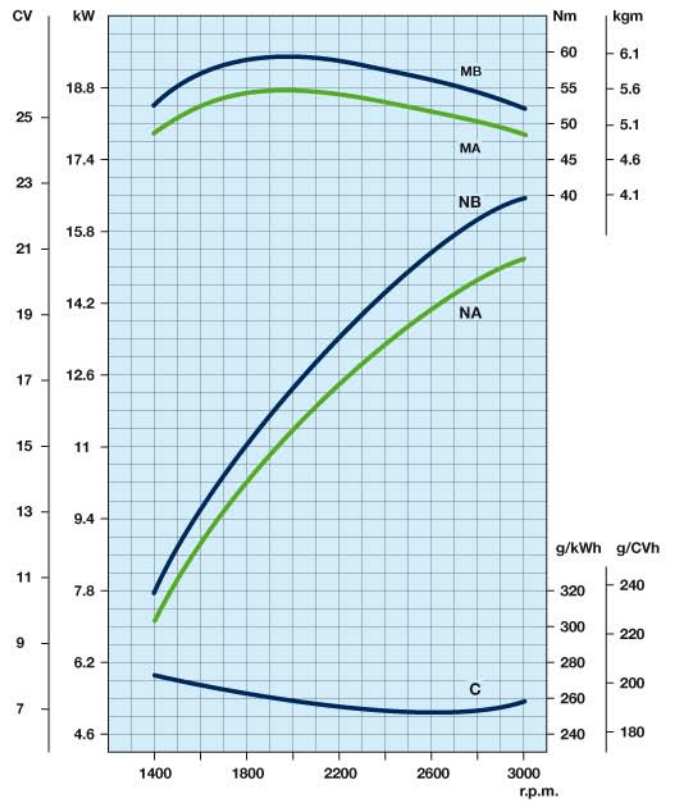
1000 RPM 2000 RPM 3000 RPM 3600 RPM

Curves

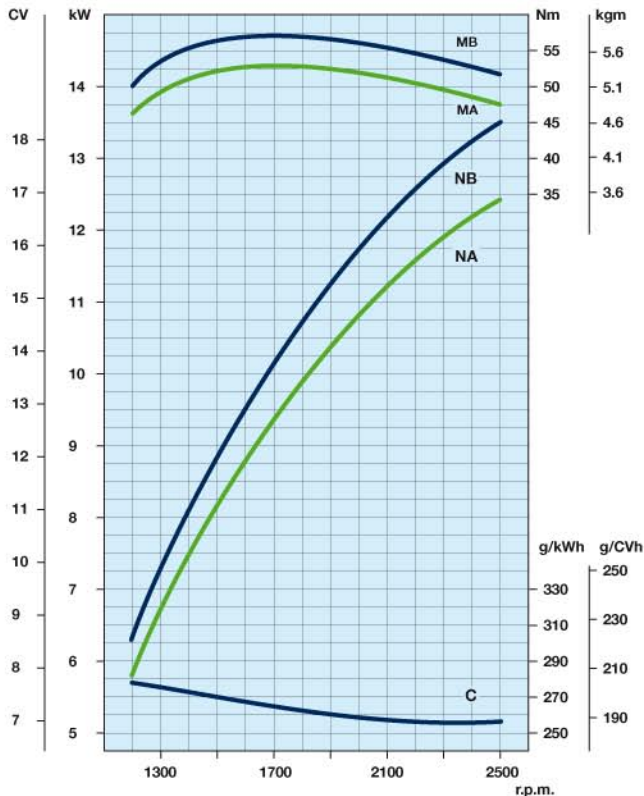
LDW 1003 @ 3600 r.p.m. ▲



LDW 1003/ B1 @ 3000 r.p.m. ▲



LDW 1003 / B5 @ 2500 r.p.m. ▲



N Power curve - 80/1269/CEE - ISO 1585 -

NB Power curve - ISO 3046 - IFN -

NA Power curve - ISO 3046 - ICXN -

MN Torque curve - (N curve)

MB (NB curve) - MA (NA curve)

C Specific fuel consumption - (NB curve)

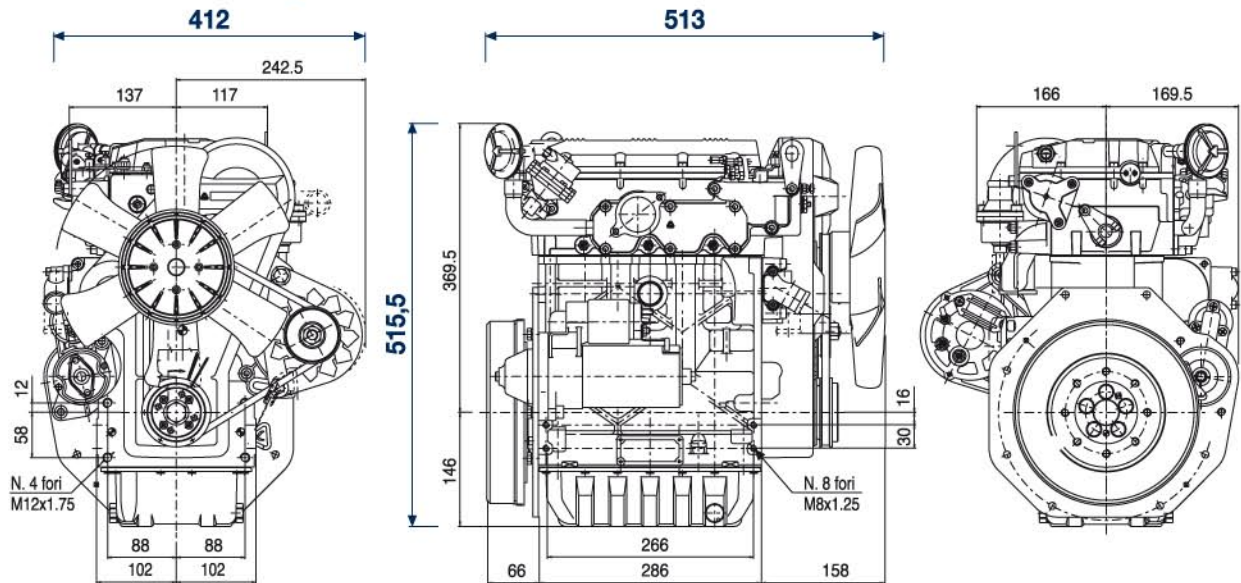
Power ratings refer to engines equipped with air filter, standard muffler, after being run in and in ambient conditions of 20°C and 1 bar. Power levels drop by 1% every 100m altitude and by 2% every 5°C above 20°C.

Output power for fixed speed application (including generating sets)

Engine power kW

r.p.m.	Intermittent (NB)	Continuous (NA)
3600	18,0	16,4
3000	16,5	15,0
1800	10,0	9,1
1500	8,5	7,7

Technical drawings *



* More specific dimensions are available on www.lombardini.it (see table at the bottom of the page)

Standard equipment

- External oil filter
- Intake manifold
- Exhaust manifold
- Intake fan
- Accelerator control
- Electric starter and 12V alternator
- Thermostatic valve
- Fuel feed diaphragm pump
- Water pump
- Flanging plate
- Flywheel with ring gear
- Use, maintenance and spare parts booklet

Accessories

- Different guards according to use
- Clutch flywheels
- Flanges
- Transmission adaptors
- Keyswitch panel
- Electric stop
- Electronic plant for plugs
- Alternators 12V or 24V
- Radiators
- Blowing fan
- Engine feet
- Fuel tanks
- Mufflers
- Dry air-cleaners mounted and separated
- Cyclonic precleaners
- Fuel filter on engine
- High capacity oil sumps (see picture)
- Cab heating system



ISO 9001 Cert. n. 0446 - 1405
QS. 9000 Cert. n. 2231/0



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Files for this product available on www.lombardini.it

Data sheet	LDW1003DS.PDF
Owner manual	LDW1003OM.PDF
Service manual	LDW1003SM.PDF
Technical drawing	LDW1003TD.DWG
Power curve	LDW1003PC.PDF

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