




- 3 cylinders
- 1649 cm³
- 29,5 kW/40,1 HP
- 3000 r.p.m.
- Nm 113,0@1600

Available omologation

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

Construction

- 4-stroke diesel engine with cylinders in line
- Fluid-cooled with axial fan.
- Indirect injection.
- Single-shaft distribution with rod, valve levers and hydraulic tappets.
- Geared distribution control.
- Double pto on the crankshaft.
- Two pto on the distribution.
- Counterclockwise, rotation (1° PTO).
- Forced lubrication with vane pump on the crankshaft.
- Total passage external oil filter.
- Positionable fan and water pump.
- Automatic extra fuel starting device.
- Centrifugal governor.
- Torque regulator.
- Cast iron engine block with re-borable integral liners.
- Cast iron cylinder head.



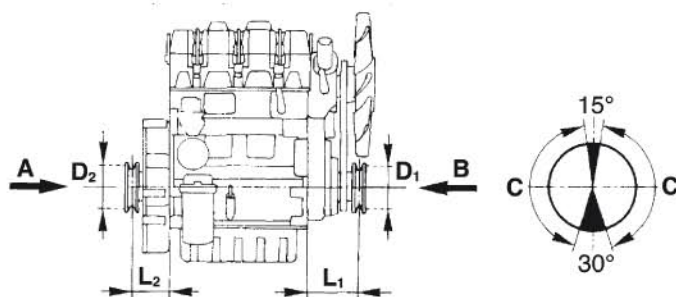
Applications

- Mini excavator
- Fork lift
- Wood chipper
- Dumper
- Gen set
- Aerial platform
- Compressor
- High pressure cleaner
- Sweeper
- Pump
- Tractor

Specifications

Cylinders	N.	3
Displacement	cm ³	1649
Bore	mm	88
Stroke	mm	90,4
Compression ratio		22:1
Rating kW/HP	N (80/1269/CEE) ISO 1585	29,5/40,1
	NB ISO 3046 IFN	27,6/37,5
	NA ISO 3046 ICXN	25,4/34,5
Max. torque	Nm	106,5@1600
Max. torque 3 PT.O.	Nm	39,2@3000
Min. idling speed		900
Water pump delivery at 3000 r.p.m.	l/min.	75
Oil consumption	kg/h.	0,019
Oil sump capacity	l	3,8
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 @ 3000 r.p.m.	l/min.	2475
Cap. of air required for correct cooling @ 3000 r.p.m.	m ³ /min.	96
Dry weight	kg	156
Recommended battery	V/Ah	12/88

Minimum pulley diameters for belt drive



V belt	$D_2 \text{ (mm)} \geq 76 [L_2 \text{ (mm)} + 118]$	$\frac{N \text{ (kW)}}{n \text{ (RPM)}}$
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Cogged belt	$D_1 \text{ (mm)} \geq 49 [L_1 \text{ (mm)} + 118]$	$\frac{N \text{ (kW)}}{n \text{ (RPM)}}$
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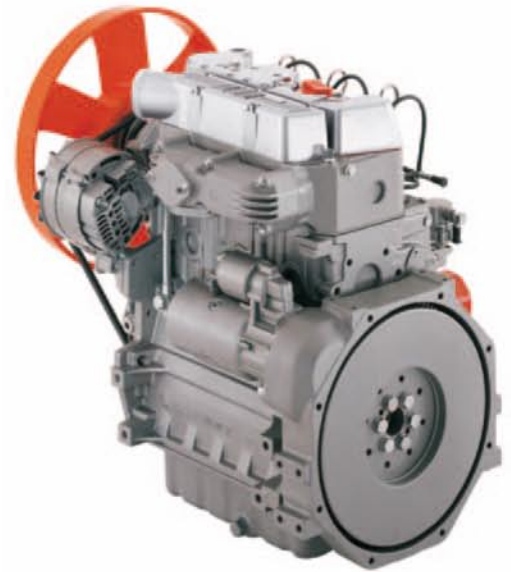
Max. intermittent axial load in both directions A-B = 300 kg
C - zone in which the radial load acts on the pulley

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

Rating kW @ 3000 rpm	ISO 14396	29,0
Max. torque	Nm	104,0@1650

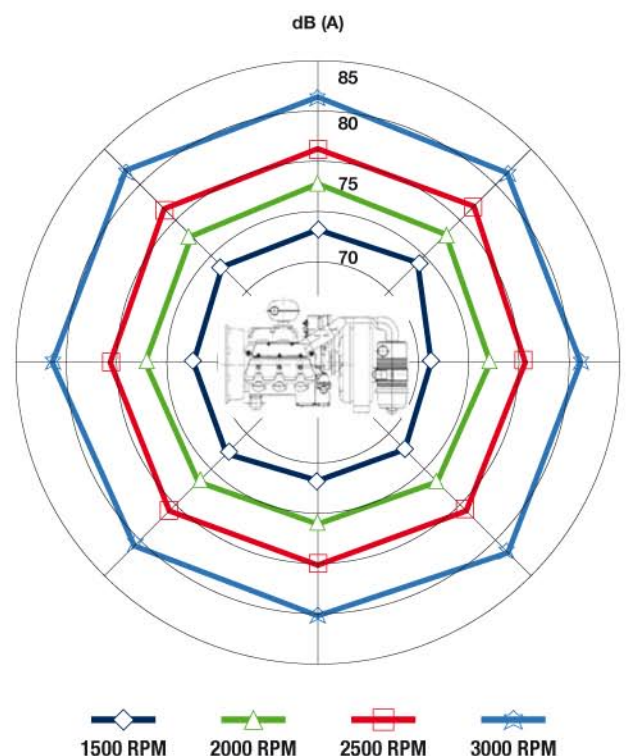
HOMOLOGATION ECE R24 ▲

Rating kW @ 3000 rpm	ISO 14396	27,6
Max. torque	Nm	103,0@1650



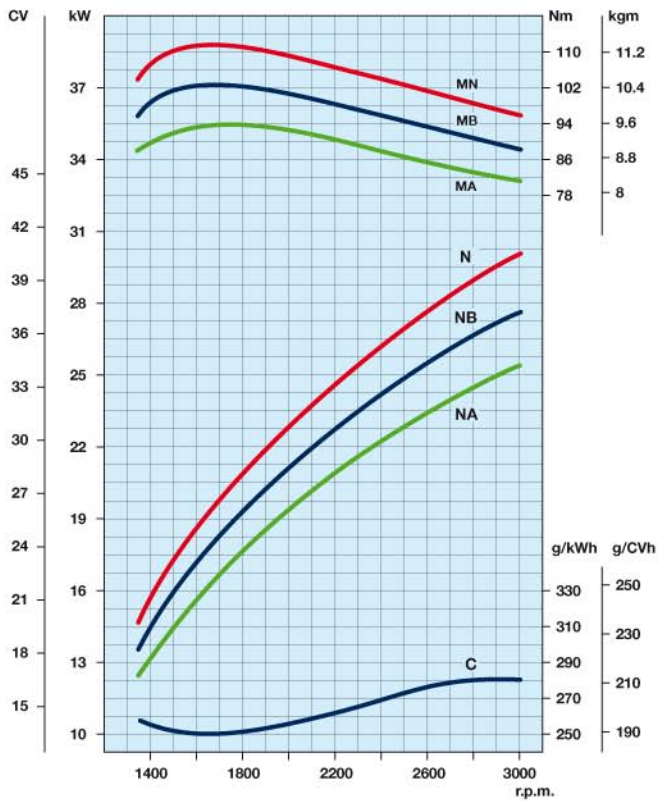
Sound pressure level dB (A)

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

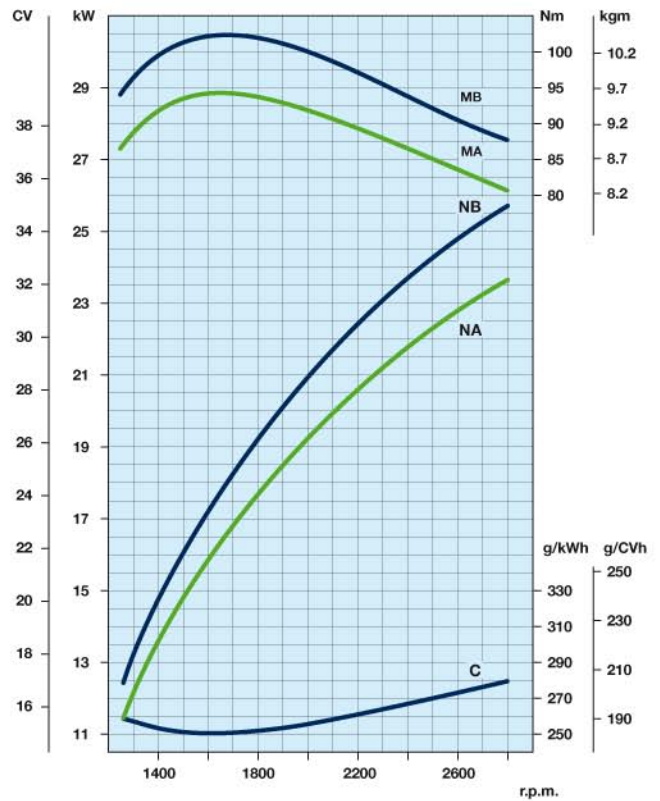


Curves

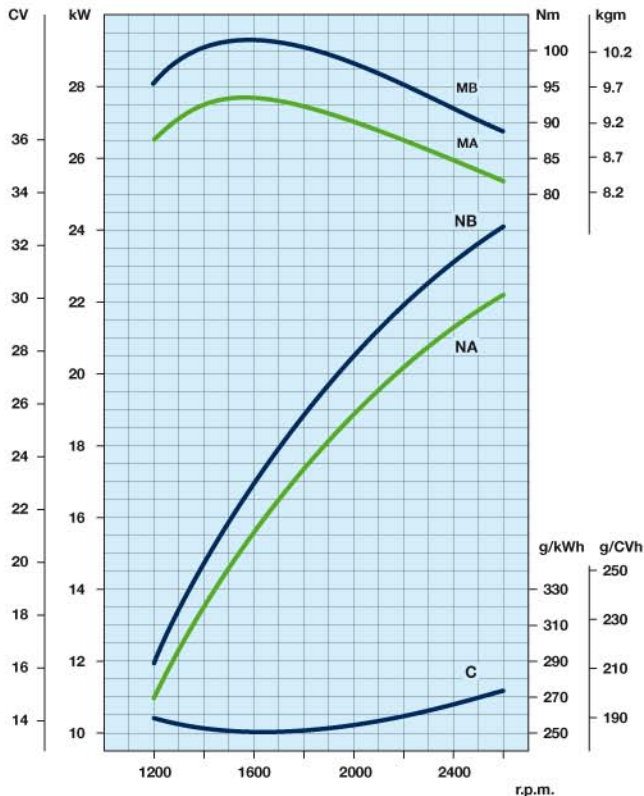
LDW 1603 @ 3000 r.p.m.



LDW 1603 B1 @ 2800 r.p.m. ▲



LDW 1603 B2 @ 2600 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)

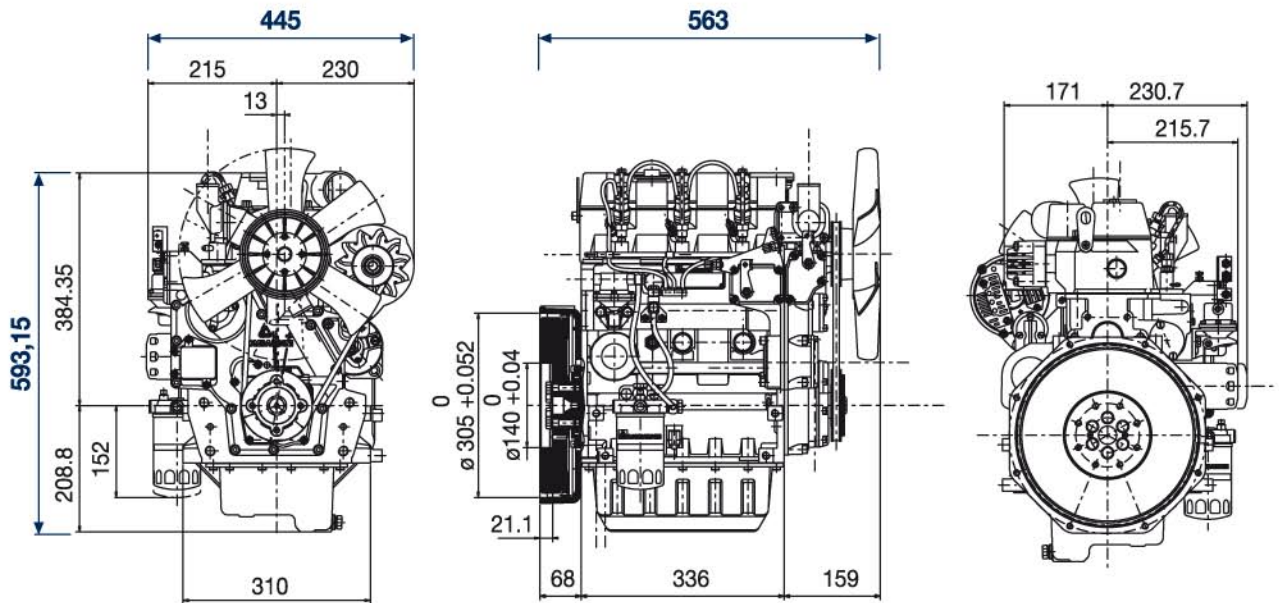
Power ratings refer to engines equipped with air filter, standard muffler, after being run in and in ambient conditions of 20°C and 1 bar. Power levels drop by 1% every 100m altitude and by 2% every 5°C above 20°C.

Output power for fixed speed application (including generating sets)

Engine power kW

r.p.m.	Intermittent (NB)	Continuous (NA)
3000	26,7	24,3
1800	18,5	16,8
1500	15,5	14,0

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
- Clutches
- Clutch flywheels
- Flanges
- Hydraulic pump adaptors
- Keyswitch panel
- Electric stop
- Electronic plant for plugs
- Alternators
- Radiators
- Blowing fan
- Engine feet
- Fuel tanks
- Mufflers
- Dry air-cleaners mounted and separated
- Cyclonic precleaners
- Fuel filter on engine
- Cab heating system
- High capacity oil sump



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	LDW1603DS.PDF
Owner manual	LDW1603OM.PDF
Service manual	LDW1603SM.PDF
Technical drawing	LDW1603TD.DWG
Power curve	LDW1603PC.PDF

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