

- 3 cylinders
- 1649 cm³
- 30.0 kW/40.8 HP
- 3000 rpm
- Nm. 113@1600

Homologation

- EPA TIER 2 ■
- 97/68/CE Step 2 ●
- ECE R24-03 ▲

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.
- 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.



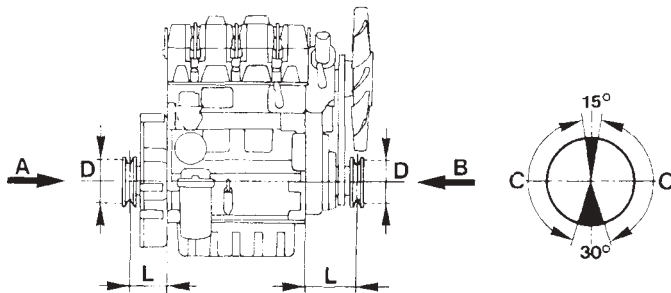
Applications

- 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	30.0/40.8
	NB ISO 3046 IFN	27.6/37.5
	NA ISO 3046 ICXN	25.4/34.5
Max. torque	Nm.	113@1600
Max. torque 3 P.T.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 (peak values)		25° (35°)
Vol. of air required for correct cooling @ 3000 r.p.m.	l/min.	2475
Vol. of air required for correct combustion @ 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	$D \text{ (mm)} \geq 76 [L \text{ (mm)} + 118]$	$\frac{N \text{ (kW)}}{n \text{ (RPM)}}$
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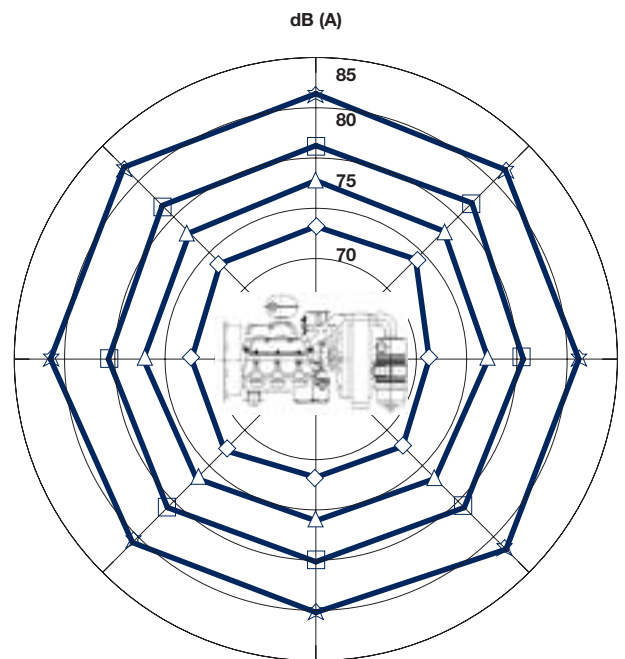
Cogged belt	$D \text{ (mm)} \geq 49 [L \text{ (mm)} + 118]$	$\frac{N \text{ (kW)}}{n \text{ (RPM)}}$
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Max. allowable axial load in both directions A-B = 300 kg
C - zone in which the radial load acts on the pulley



Sound pressure level dB (A)

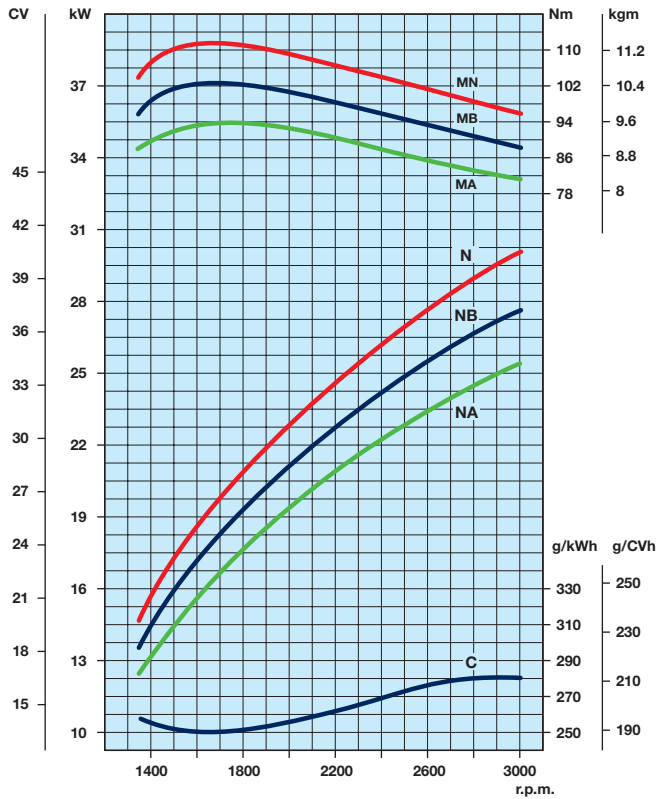
Sound level polar diagram open field - 7 meters microphone - no load running engine.



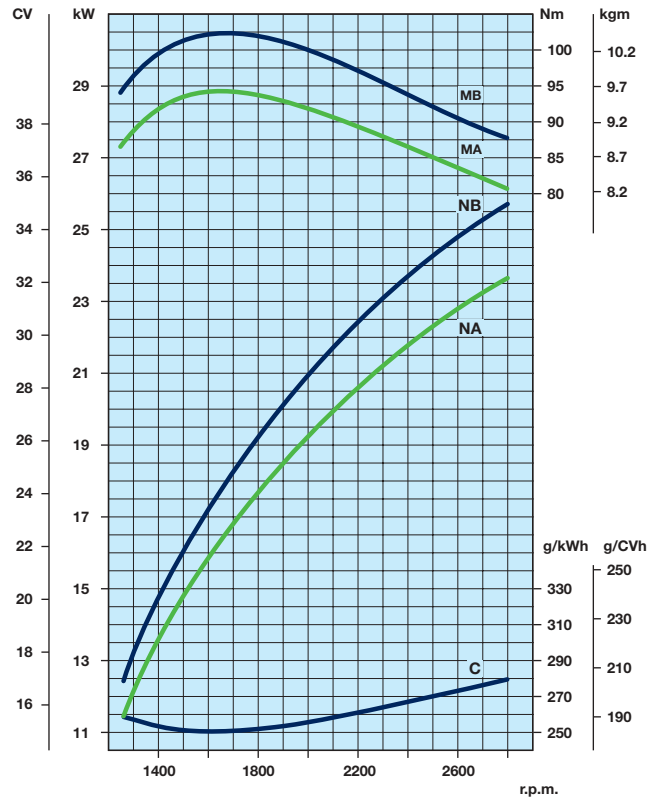
1500 RPM 2000 RPM 2500 RPM 3000 RPM

Curves

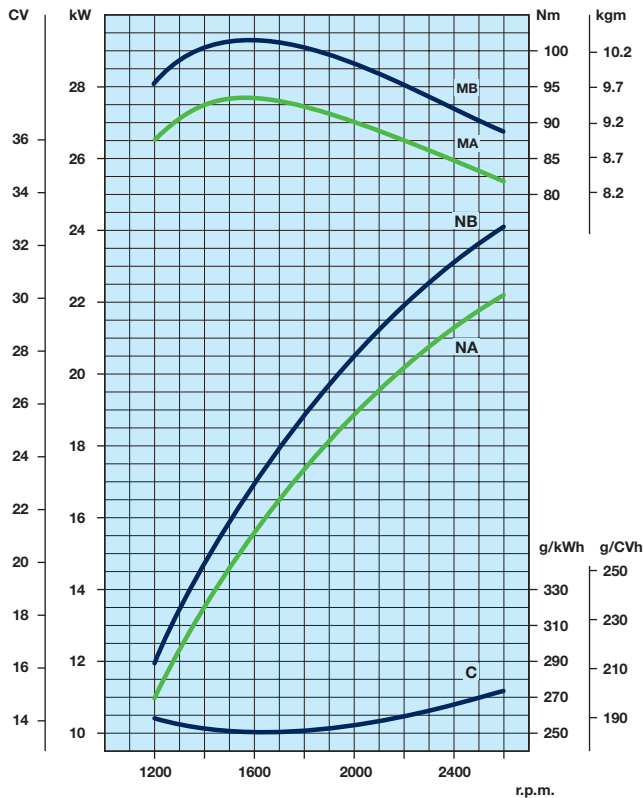
LDW 1603 @ 3000 r.p.m. ■ ● ▲



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 3046/1 - IFN -

NA Power curve - ISO 3046/1 - ICXN -

MN Torque curve - (N curve)

MB (B curve - **MA** (A curve))

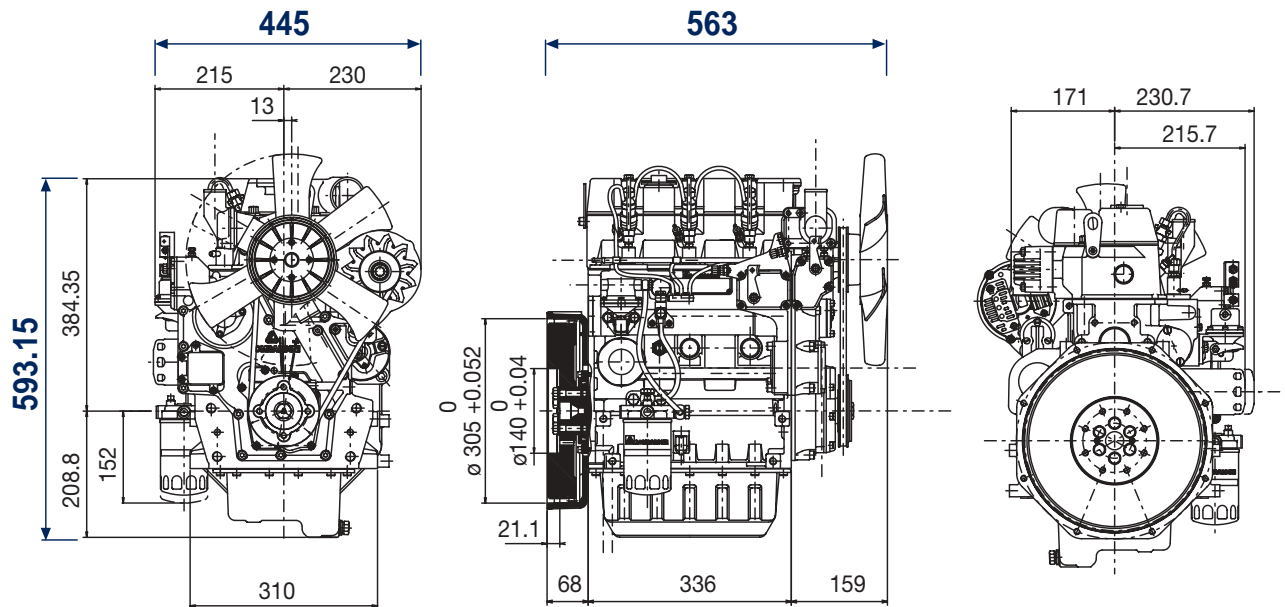
C Specific fuel consumption - (NB curve)

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

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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mod. 50996/5