

# D 2008

The Engine for Construction Equipment.  
9 – 27 kW | 12 – 36 hp at 1500 – 3000 rpm



The engine company.



## Engine description

<b>Type of cooling:</b>	Water-cooled, water circulation pump driven by V-belt, thermostat and integrated bypass system.
<b>Crankcase:</b>	Ribbed, thin-wall grey cast iron, noise-optimized.
<b>Crankcase breather:</b>	Closed-circuit breather.
<b>Cylinder head:</b>	Cast iron cross flow cylinder head.
<b>Valve arrangement/ Timing:</b>	Overhead valves in cylinder head, two valve per cylinder, actuated via rocker arms, push rods and hydraulic tappets, driven by low-noise helical cut gears with "Anti Backlash Gear" and camshaft.
<b>Piston:</b>	Three-ring piston, two compressions rings and one oil scraper ring.
<b>Crankshaft:</b>	3-Cyl. made from high grade SG iron / 4-Cyl. made from drop-forged steel.
<b>Crankshaft and big end bearings:</b>	Bi-metal shell bearings.
<b>Connecting rod:</b>	Drop-forged steel rod.
<b>Camshaft:</b>	3-Cyl. made from steel / 4-Cyl. made from chilled cast iron.
<b>Lubrication system:</b>	Gear driven lubricating oil pump.
<b>Lube oil cooler:</b>	Water-cooled, integrated in the lube oil filter console.
<b>Lube oil filter:</b>	Full flow spin-on cartridge filter.
<b>Fuel injection system:</b>	Indirect injection (IDI).
<b>Injection nozzle:</b>	One-hole-nozzle.
<b>Injection pump/ Governor:</b>	Cassette in-line fuel injection pump, mechanical governing for fixed speed, for variable speed with rotary pump and mechanical governing.
<b>Fuel lift pump:</b>	Diaphragm pump.
<b>Fuel filter:</b>	Replaceable cartridge with water trap.
<b>Alternator:</b>	Three-phase alternator, 14 V / 50 A (Standard).
<b>Starter motor:</b>	12 V / 2.0 kW.
<b>Options:</b>	Intake manifold connections, exhaust manifolds connections, hydraulic pumps drives, engine mounts, multi oil pan drains, dipsticks, SAE 4/5 flywheel housings, fly wheels, alternator 14 V, oil filter position horizontal, vertical and remote, oil filler in cylinder head cover and low level fill on side of crankcase, electronic governing.

# Characteristics

3 and 4 Cylinder natural aspirated in-line engines | Water cooled | Compact engine design | Advanced fuel injection and combustion system | Full line customized options | Cold starting ability for extreme climatic conditions | Full power at flywheel end for axial or radial drives | Two optional PTOs from gear end cover.

## Your benefits

- Compact engine, for low cost and space saving installations.
- Competitive power to weight ratio.
- Low exhaust emissions meeting EU-Nonroad 2004/26/EU Stage III A and US-EPA Tier 3 / Tier 4 interim Nonroad.
- Simple design with high reliability.
- Long maintenance intervals reducing after sales cost for your customers.

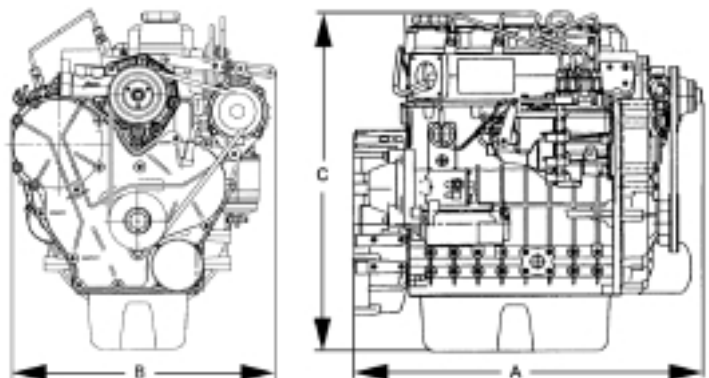
Engine model		D 2008 L3	D 2008 L4
Number of cylinders		3	4
Bore/Stroke	mm   inch	76/86   2.99/3.39	76/86   2.99/3.39
Displacement	l   cu inch	1.17   71	1.56   95
Compression ratio		23.5 : 1	23.5 : 1
Max. rated speed	rpm	3000	3000
Mean piston speed	m/s   ft/m	8.6   1693	8.6   1693

### EU Stage III A / US-EPA Tier 3 / Tier 4 interim power ratings for mobile construction machines<sup>1)</sup>

Power acc. to ISO 14396	kW   hp	20   27	27   36
at engine speed	rpm	3000	3000
Mean effective pressure	bar   psi	6.8   99	6.9   100
Max. Torque	Nm   ft-lb	71   52	95   70
at engine speed	rpm	2000	2000
Minimum idle speed	rpm	900	900
Specific fuel consumption <sup>2)</sup>	g/kWh   lb/hph	243   0.4	245   0.4
Weight to DIN 70020, Part 7A <sup>3)</sup>	kg   lbs	155   342	189   417

### Dimensions

in mm   inch	A	B	C
D 2008 L3	538 21.2	480 18.9	620 24.4
D 2008 L4	627 24.7	480 18.9	620 24.4



1) Power ratings at flywheel gross, without cooling system.

2) At optimal operating point. Specific fuel consumption based on diesel fuel with a specific gravity of 0.835 kg/dm<sup>3</sup> at 15°C (6.96 lb/US gallon at 60°F).

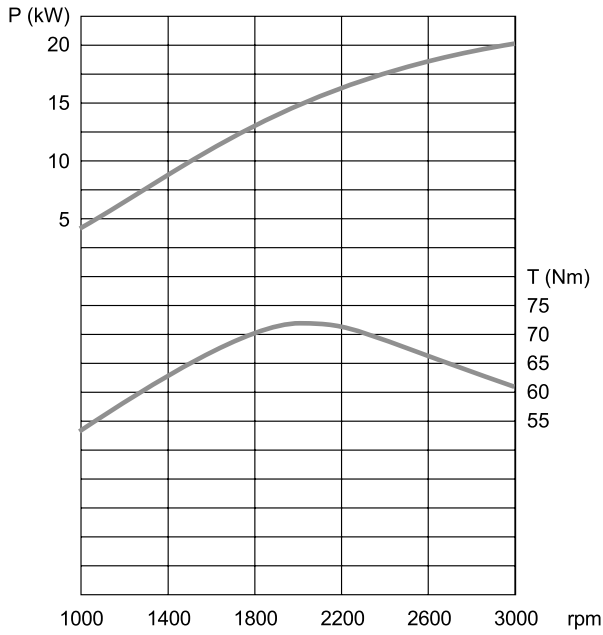
3) Not including starter motor/alternator, radiator and operating fluids but including flywheel and flywheel housing.

The values given in this data sheet are for information purposes only and not binding.

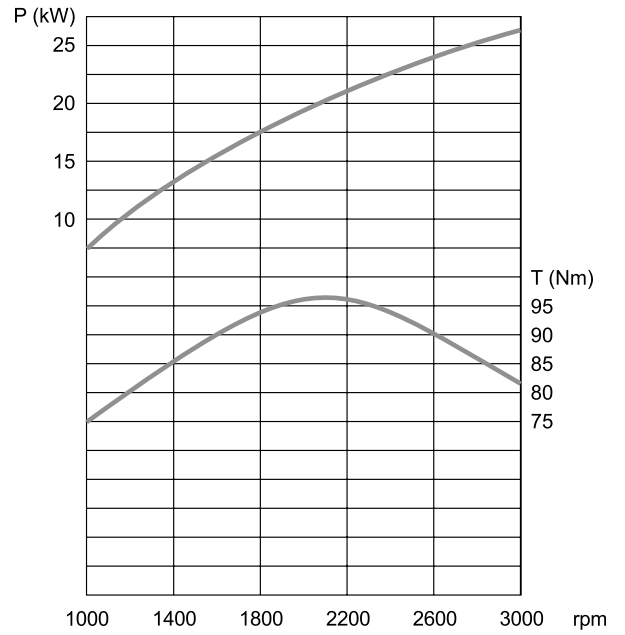
The information given in the offer is decisive.

# Standard engines

## Engine D 2008 L3



## Engine D 2008 L4



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