

TCD 2013

The Agricultural Engine.
83 – 243 kW | 111 – 325.9 hp at 1800/2300 rpm



The engine company.



Engine description

| | |
|---|---|
| Cooling sytem: | Liquid cooling. |
| Crankcase/ cylinder: | Crankcase of grey cast iron, wet liners. |
| Crankcase breather: | Open. |
| Cylinder head: | Greycast block type cylinder head. |
| Valve arrangement/ timing: | Hanging in cylinder head, one intake and one exhaust valve per cylinder (2013 4V: two intake and exhaust valves each), actuated via tappets, pushrods and rocker arms, driven by camshaft in bi-metal bearings. |
| Piston: | Three-ring piston, two combustion rings, one oil scraper ring. |
| Piston cooling: | Oil-cooled with spray nozzles. |
| Turbocharging: | Wastegate turbocharger with charge air cooling (air/air). |
| Connecting rod: | Drop-forged steel. |
| Crankshaft bearings: | Bi-metal bearings, one fit bearing (2013 4V: tri-metal bearings). |
| Connecting rod berrings: | Four-metal, tri-metal sliding bearing. |
| Crankshaft: | Drop-forged steel. |
| Camshaft: | Steel in bi-metal bearings. |
| Camshaft drive: | From the camshaft via straight, high toothed spur gears. |
| Lubrication: | Forced-feed circulation lubrication. |
| Lube oil cooler: | Externally arranged. |
| Lubricating oil filter: | Paper-type microfilter as replaceable cartridge, full-flow filter. |
| Injection pump/ governor: | Two high-pressure plug pumps, electronical speed governor (EMR3). |
| Fuel lift pump: | Outer gear pump in belt drive (2013 4V: gear driven gear pump). |
| Injector: | 7-hole nozzle in Injector. |
| Fuel filter: | Replaceable cartridge. |
| Alternator: | Three-phase alternator, 14 V / 55 A (Standard). |
| Starter motor: | 12 V / 3 kW (Standard). |
| Heating: | Optional connection for cab heating. |
| Options for customized applications: | e.g. 12 V / 24 V electrical equipment, hydraulic pumps, flywheel housings, oil pans, cooling fan positions. |

Characteristics

Modern, liquid-cooled 4- and 6-cylinder in-line engines | Turbocharged with intercooler | Powerful, rugged engine providing high power density | PTO facilities integrated in geared drive | Electronic engine control with intelligent adaptation to drive management | High-pressure fuel injection with DEUTZ Common Rail System (DCR®) | 4-cylinder optional with mechanical injection pump up to 104 kW

Your benefits

- Outstanding efficiency: Very favorable fuel consumption, simple and cost-effective installation and long maintenance intervals.
- Low noise emission: Lower costs for sound deadening.
- Compact engine layout: Variable design of the front end for maximum flexibility.
- The 2013 with DVERT® platform for future exhaust emission levels Stage III B / IV as well as EPA Interim Tier 4 / Tier 4.
- Smooth running and exceptional power output: Ensure optimum operating comfort.
- The 2013 meets the exhaust emission regulations 2004/26/EU, Step III A as well as US-EPA Tier 3 for mobile machinery.

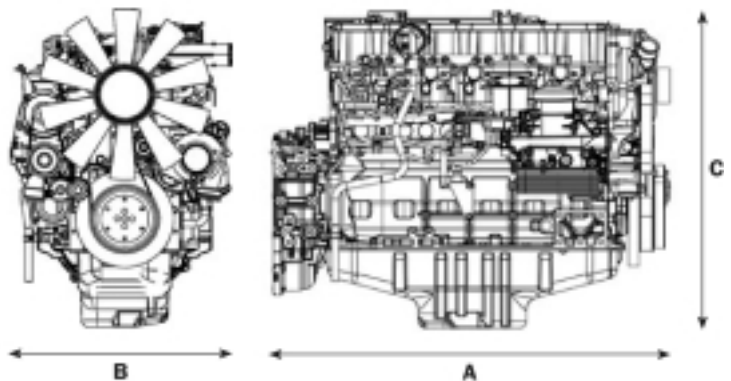
| Engine type | | TCD 2013 L4 2V | TCD 2013 L6 2V | TCD 2013 L6 4V |
|---------------------|--------------|-------------------|-------------------|-------------------|
| Number of cylinders | | 4 | 6 | 6 |
| Bore/stroke | mm inch | 108/130 4.3/5.1 | 108/130 4.3/5.1 | 108/130 4.3/5.1 |
| Displacement | l cu inch | 4.8 293 | 7.1 433 | 7.1 433 |
| Compression ratio | | 1 : 18.1 | 1 : 18.1 | 1 : 18.1 |
| Max. rated speed | rpm | 2300 | 2300 | 2200 |
| Mean piston speed | m/s ft/sec | 10.0 32.8 | 10.0 32.8 | 10.0 32.8 |

EU Stage III A / US-EPA Tier 3 Power ratings for mobile machinery¹⁾

| | | TCD 2013 L4 2V | TCD 2013 L6 2V | TCD 2013 L6 4V |
|--|------------------|----------------|--------------------------|----------------|
| Power output to ISO 14396 | kW hp | 120 160.9 | 200 268 | 243 325.9 |
| At engine speed | rpm | 2300 | 2300 | 2100 |
| Mean effective pressure | bar psi | 14.1 205 | 14.6 212 | 19.4 282 |
| Max. torque | Nm lb-ft | 670 494 | 1050 ⁴⁾ 775 | 1310 966 |
| At engine speed | rpm | 1600 | 1500 | 1450 |
| Minimum idle speed | rpm | 650 | 650 | 800 |
| Specific fuel consumption ²⁾ | g/kWh lb/hp-hr | 209 0.34 | 205 0.34 | 195 0.32 |
| Weight to DIN 70020, Part 7A ³⁾ | kg lb | 500 1102 | 610 1344 | 660 1455 |

Dimensions

| | | A | B | C |
|----------------|------|------|------|------|
| TCD 2013 L4 2V | mm | 1138 | 657 | 991 |
| | inch | 44.8 | 25.9 | 39.0 |
| TCD 2013 L6 2V | mm | 874 | 631 | 941 |
| | inch | 34.4 | 24.9 | 37.1 |
| TCD 2013 L6 4V | mm | 1174 | 691 | 972 |
| | inch | 46.3 | 27.2 | 38.3 |



1) Power ratings without deduction for fan power requirement.

2) Specific full load fuel consumption based on diesel fuel with a specific gravity of 0.835 kg/dm³ 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.

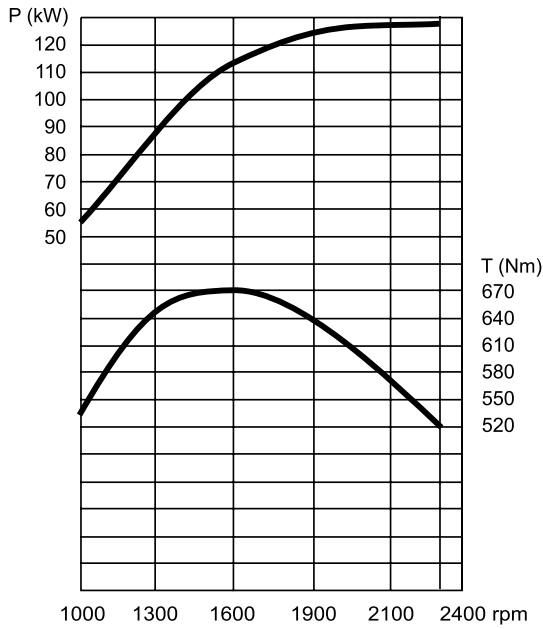
4) 1100 Nm | 811 lb-ft with switched EGR.

The values specified in this datasheet are for information-purposes only and are not binding.

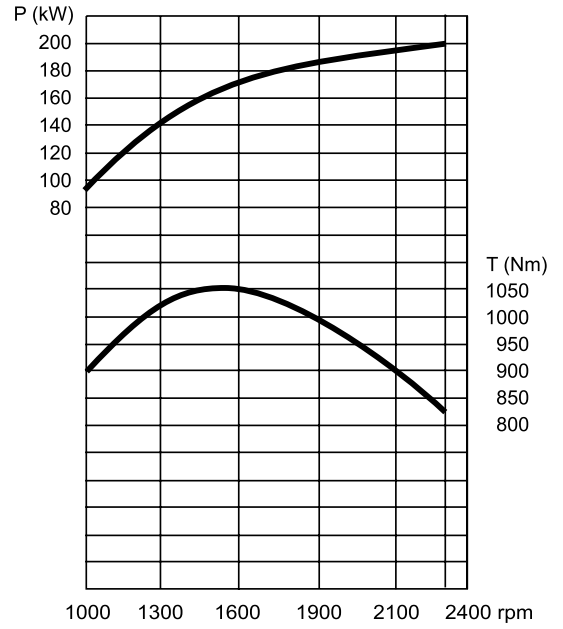
The information given in the quotation is decisive.

Standard engines

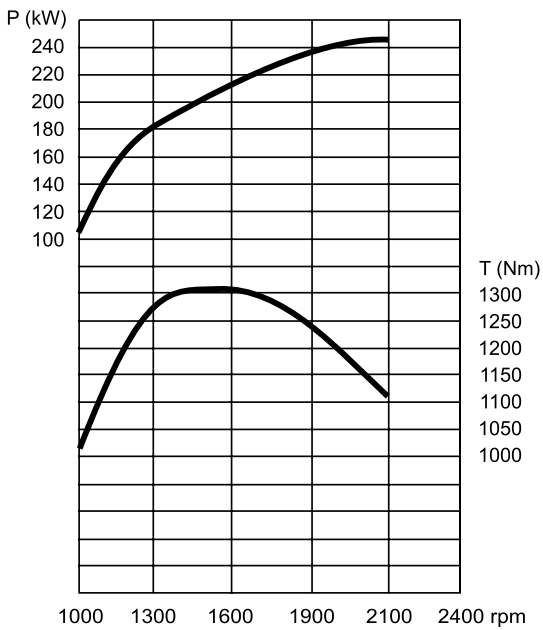
Engine TCD 2013 L4 2V



Engine TCD 2013 L6 2V



Engine TCD 2013 L6 4V



Bestell-Nr. 0031 2169 / 10 / 2007 / VP-K