4 Cylinders » 2199 cc » 38 kW/51 HP » 3000 RPM » 106.2 N·m @ 2000 RPM

#### Certification

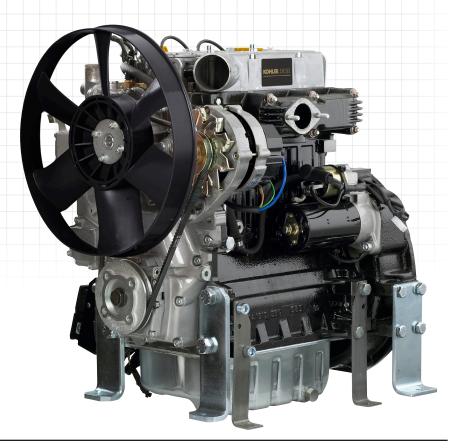
EPA TIER 2 ■ 97/68/CE Step 2 ● ECE R24-03 ▲

#### **Features**

4-Stroke Diesel Engine
Liquid-Cooled with Axial Fan
Indirect Fuel Injection
Water-Oil Heat Exchanger
Double PTO on the Crankshaft
Counter-Clockwise Rotation (PTO Side)
Full-Pressure Lubrication
Automatic Extra Fuel Starting Device
Full-Flow Oil Filter
Variable Speed Governor
Cast-Iron Crankcase with Re-Borable Cylinders
Cast-Iron Cylinder Head

# **Applications**

Mini Excavator
Excavator
Fork Lift
Dumper
Generator Set
Aerial Platform
Compressor
High-Pressure Cleaner
Sweeper
Pump
Tractor



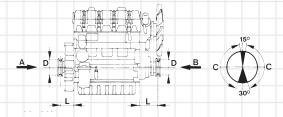




Specifications		
Cylinders	No. of Cylinders	4
Displacement	cc/cu. in.	2199/134.2
Bore	mm/in.	88/3.5
Stroke	mm/in.	90.4/3.6
Compression Ratio		22.5:1
Rating kW/HP	N (80/1269/CEE) ISO 1585	48/64.4
	NB ISO 3046 IFN	44.3/59.4
	NA ISO 3046 ICXN	40.8/54.7
Max. Torque	N·m/ft. lbs. @ 2000 RPM	144/100.2
Max. Torque 3 PTO	N·m/ft. lbs. @ 3000 RPM	39.2/29
Minimum Idling Speed RPM		900
Water Pump Delivery @ 3000 RPM	liters/gallons per min.	100/26
Oil Consumption	kg/lbs. per hour	0.025/0.055
Oil Capacity		
with Dynamic Horizontal Stabilizer	liters/quarts	4.5/4.8
without Dynamic Horizontal Stabilizer	liters/quarts	5.7/6
Max. Allowable Angle of Operation (Peak Values)		25° (35°)
Volume of Air Required for Correct Combustion @ 3000 R.P.M.	liters/gallons per min.	3300/117
Volume of Air Required for Correct Cooling @ 3000 R.P.M.	m³/cu. ft. per min.	128/4520
Dry Weight	kg/lbs.	192/423
Recommended Battery	V/Ah	12/88
Minimum Pulley Diameters for Belt Drive		

Sound Pressure Level dB (A)
Sound Pressure Level Polar Diagram Open Field at
7 Meters - No Load Running Engine.

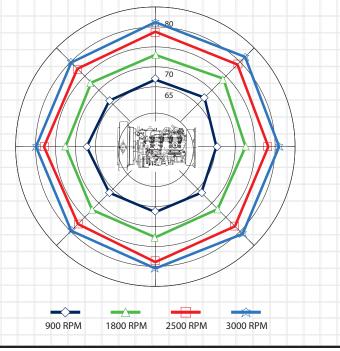
dB (A)

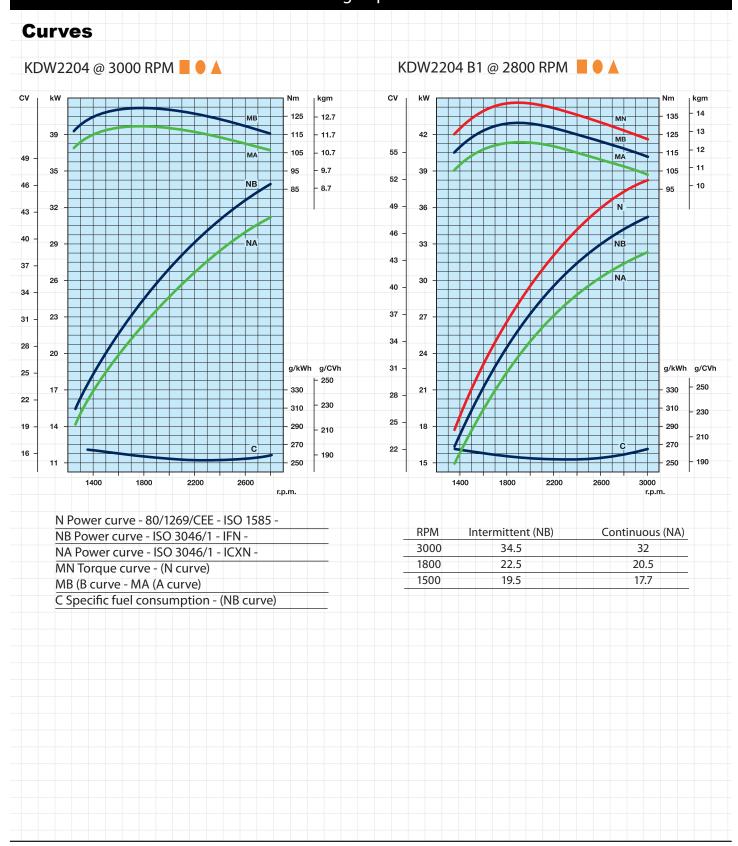


V Belt	D (mm) ≥ 73 [L (mm) + 118]	N (kW)
		n (RPM)
Cogged	<u>D (mm)</u> ≥ 46 [L (mm) + 118]	N (kW)
Belt		n (RPM)

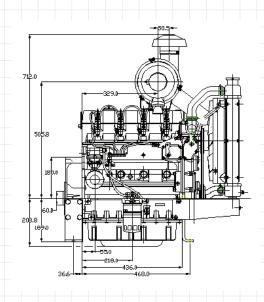
Maximum Allowable Axial Load in Both Directions A-B=300 kg/661 lbs.

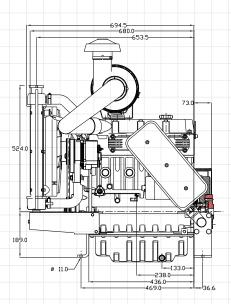
C - Zone in Which the Radial Load Acts on the Pulley

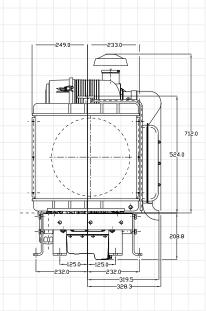




## **Technical Drawings**







# Standard Equipment (Open Power Unit)

Base Engine
Mounted Top Tank Radiator
Radiator Fan Guard
Suction Fan
Mounted Air Cleaner
12 V Electric Starter
Fuel Filter with Valve
45 Amp External Alternator
Mounting Feet
Mounted Control Panel
3000 RPM
Group 5 Interchange

### **Accessories**

12 V Electric Starter
Optional Charging Systems
SAE Housings and Drives, Shaft Extensions, Hydraulic Drives
Dry Type Air Cleaners
Various Design Mufflers and Manifolds
Muffler Guards and Loose Flanges
High Coolant Temperature and Low Oil Pressure Safety
Shutdown Systems
Remote Fuel Filters
Fuel Lift Pump
Engine Mounted and Remote Radiators
Suction and Pusher Fans
Mounting Feet
Control Panels



