

# Kohler® Diesel

## Model KDW1603

### High Speed Open Power Unit

3 Cylinders » 1649 cc » 30.0 kW/40.8 HP » 3000 RPM » 83.3 ft. lbs. @ 1600 RPM

### Certification

EPA INTERIM TIER 4 ■

97/68/CE ●

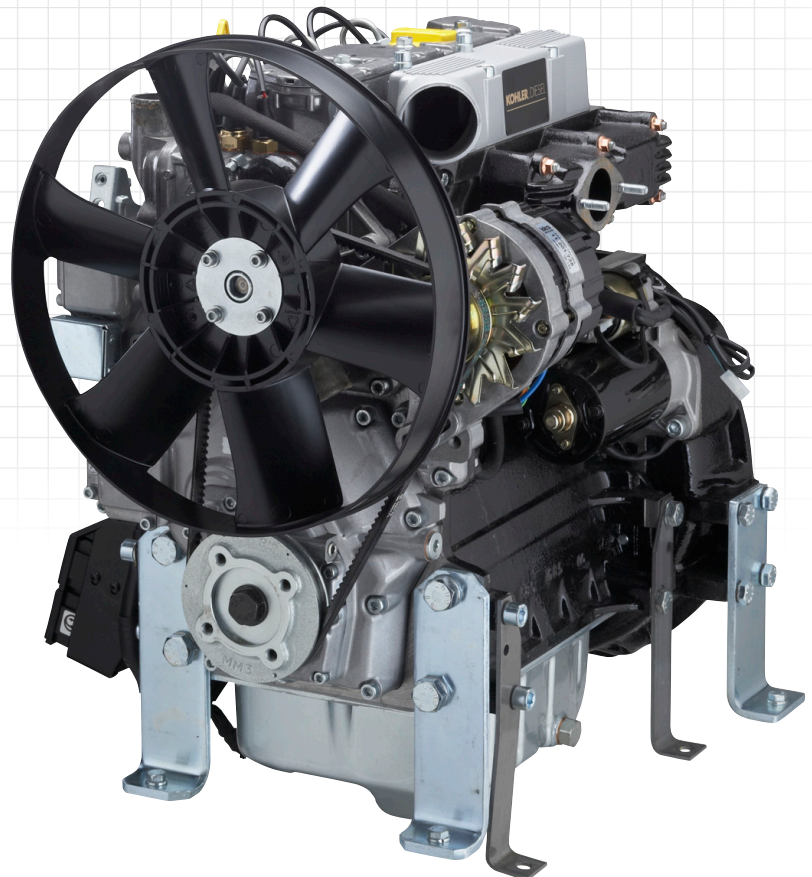
ECE R24-03 ▲

### Features

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

### Applications

- Mini Excavator
- Fork Lift
- Wood Chipper
- Power Buggy
- Generator
- Aerial Platform
- Compressor
- High-Pressure Cleaner
- Sweeper
- Pump
- Tractor



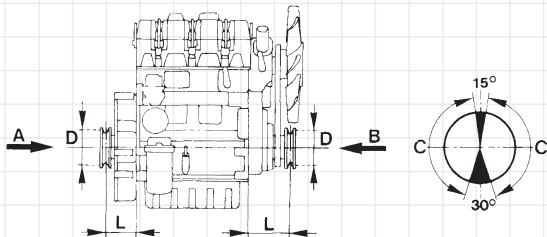
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### High Speed Open Power Unit

## Specifications

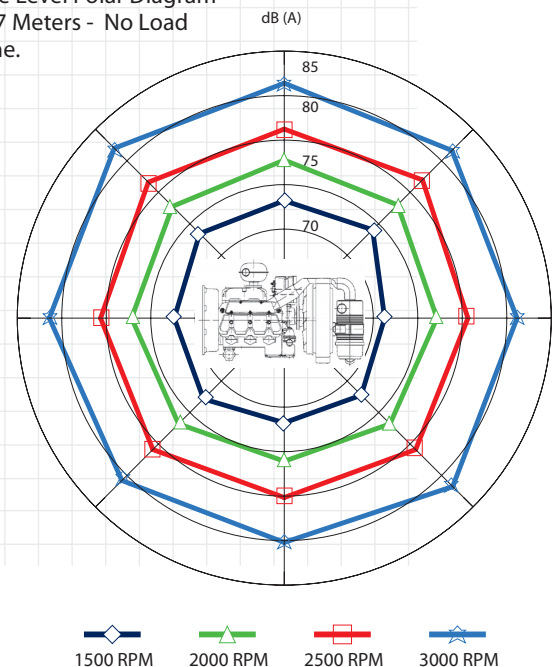
Cylinders	No. of Cylinders	3
Displacement	cc/cu. in.	1649/100.6
Bore	mm/in.	88/3.5
Stroke	mm/in.	90.4/3.6
Compression Ratio		22:1
Rating kW/HP	N (80/1269/CEE) ISO 1585	30.0/40.2
	NB ISO 3046 IFN	27.6/37.0
	NA ISO 3046 ICXN	25.4/34.1
Max. Torque	N·m/ft. lbs. @ 1600 RPM	113/83.3
Max. Torque 3 PTO	N·m/ft. lbs. @ 3000 RPM	39.2/29
Minimum Idling Speed RPM		900
Water Pump Delivery @ 3000 RPM	liters/min/gpm	75/20
Oil Consumption	kg/lbh	0.019/0.042
Oil Capacity	liters/quarts	3.8/4.0
Max. Allowable Angle of Operation (Peak Values)		25° (35°)
Volume of Air Required for Correct Combustion @ 3000 RPM	liters/min/cfm	2475/87
Volume of Air Required for Correct Cooling @ 3000 RPM	m <sup>3</sup> /min/cfm	96/3390
Dry Weight	kg/lbs	182/401
Recommended Battery	V/Ah	12/88
Minimum Pulley Diameters for Belt Drive		



V Belt	$D \text{ (mm)} \geq 100 [L \text{ (mm)} + 118] \frac{N \text{ (kW)}}{n \text{ (RPM)}}$
Cogged Belt	$D \text{ (mm)} \geq 49 [L \text{ (mm)} + 118] \frac{N \text{ (kW)}}{n \text{ (RPM)}}$
Maximum Allowable Axial Load in Both Directions A-B = 300 kg/661 lbs.	
C - Allowable Zone for Radial Load	

### Sound Pressure Level dB (A)

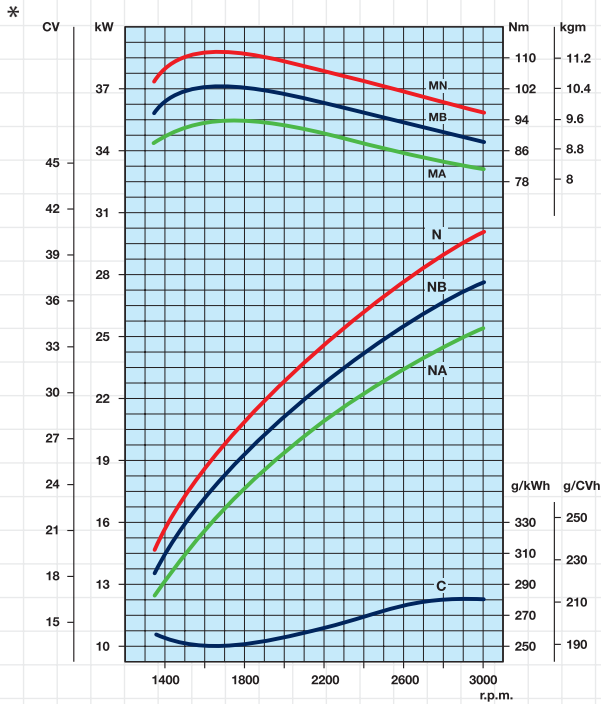
Sound Pressure Level Polar Diagram  
Open Field at 7 Meters - No Load  
Running Engine.



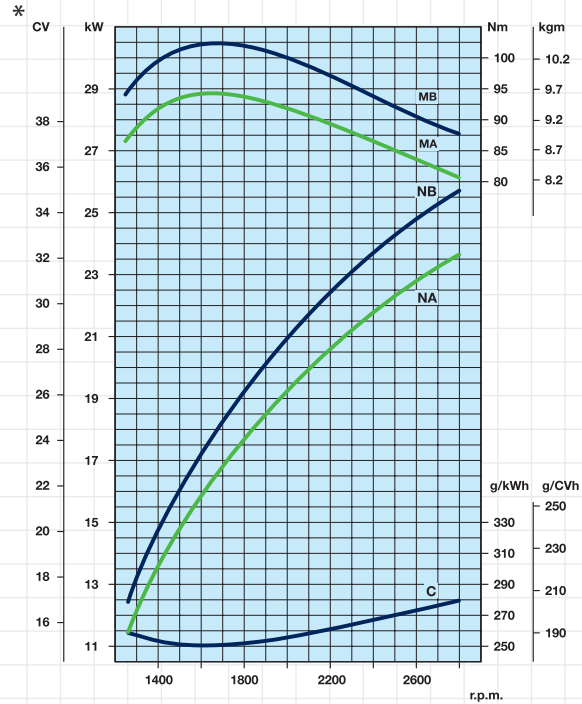
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## Curves

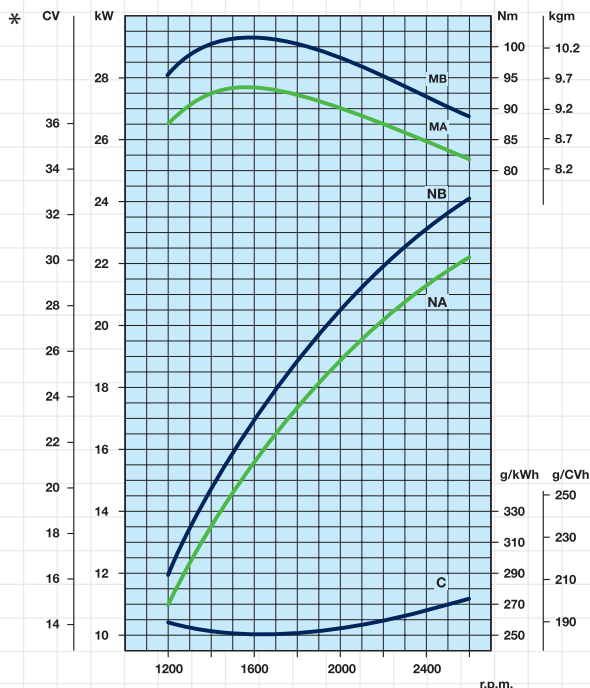
KDW1603 @ 3000 RPM



KDW1603 B1 @ 2800 RPM



KDW1603 B2 @ 2600 RPM



- 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 Generator Sets)

Engine Power kW

RPM	Intermittent (NB)	Continuous (NA)
3000	26.7	24.3
1800	18.5	16.8
1500	15.5	14

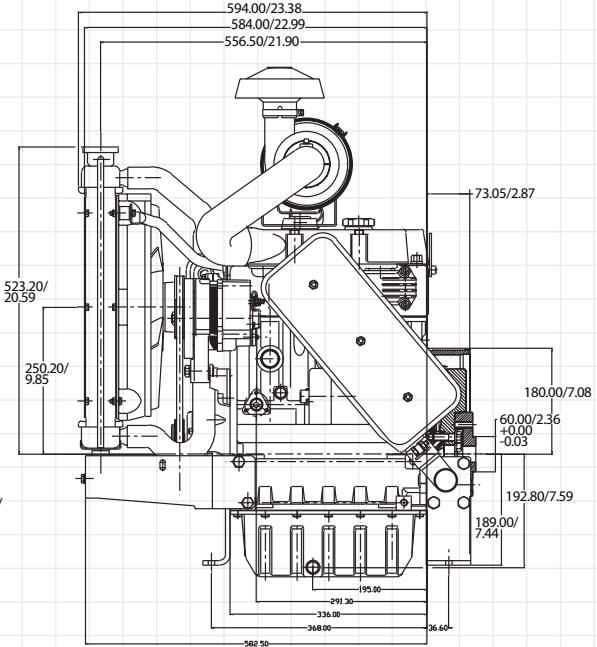
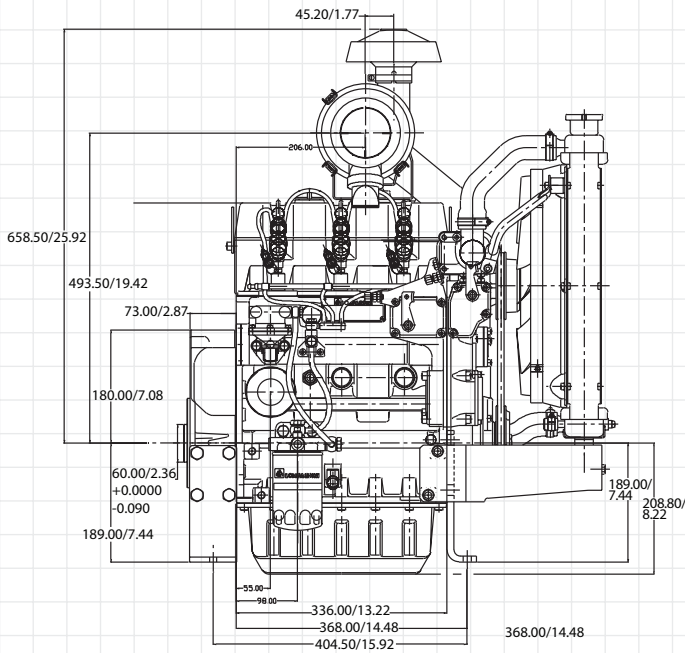
\*European Equivalent of HP (1 CV = 0.986 HP)

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## Technical Drawings



## Standard Equipment (Open Power Unit)

- |                            |                               |
|----------------------------|-------------------------------|
| Base Engine                | Mounted Control Panel         |
| Mounted Top Tank Radiator  | Group 5 Interchange Housing   |
| Radiator Fan Guard         | 3000 RPM                      |
| Suction Fan                | High Coolant Temp and Low Oil |
| Mounted Air Cleaner        | Pressure Safety Shutdown      |
| Muffler and Guard          |                               |
| 12 V Electric Starter      |                               |
| 45 Amp External Alternator |                               |
| Fuel Filter with Valve     |                               |
| Mounting Feet              |                               |

## Accessories

- |                                    |                           |
|------------------------------------|---------------------------|
| Optional Charging Systems          | Wiring Harness Extension  |
| SAE Housings and Drives            | 2nd PTO Two-Groove Pulley |
| Shaft Extensions                   | Extended Dipstick         |
| Hydraulic Drives                   |                           |
| Dry Air Cleaners                   |                           |
| Various Mufflers and Manifolds     |                           |
| Various Muffler Guards and Flanges |                           |
| Remote Oil Filter                  |                           |
| Top Tank and Cross-Flow Radiators  |                           |
| Suction and Pusher Fans            |                           |
| High-Capacity Oil Sump             |                           |

