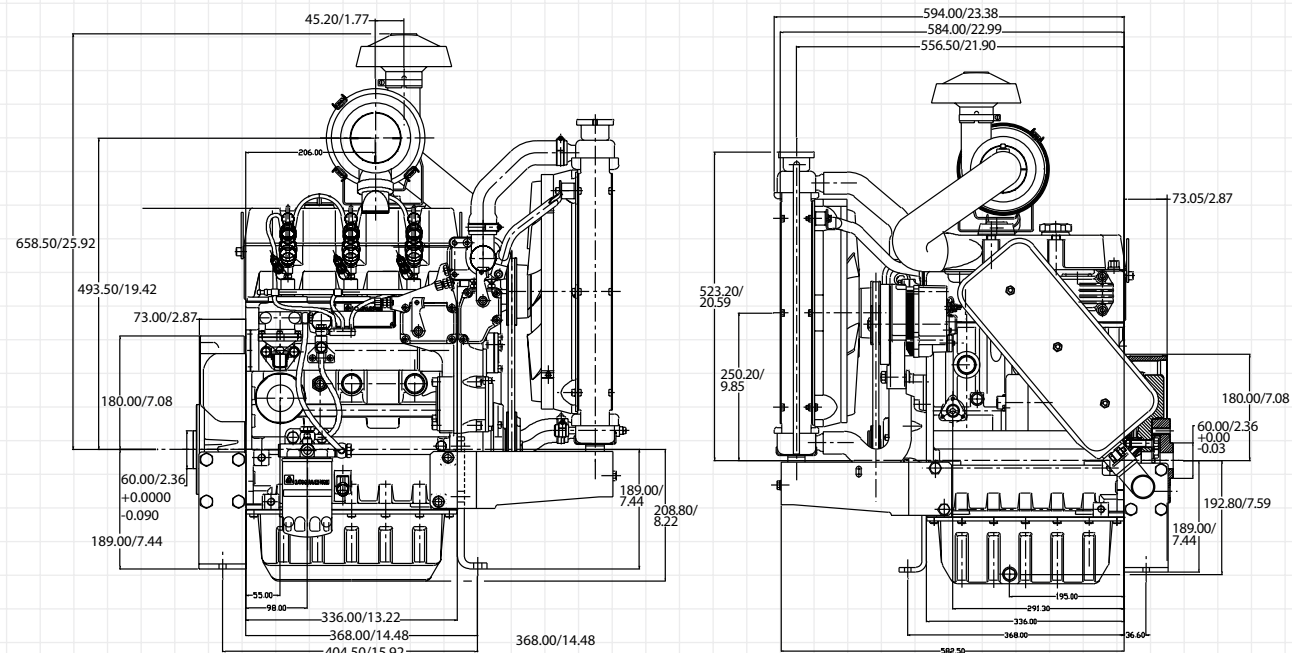


# KOHLER Diesel

## Model KDW1603

### High-Speed Open Power Unit

#### Technical Drawings

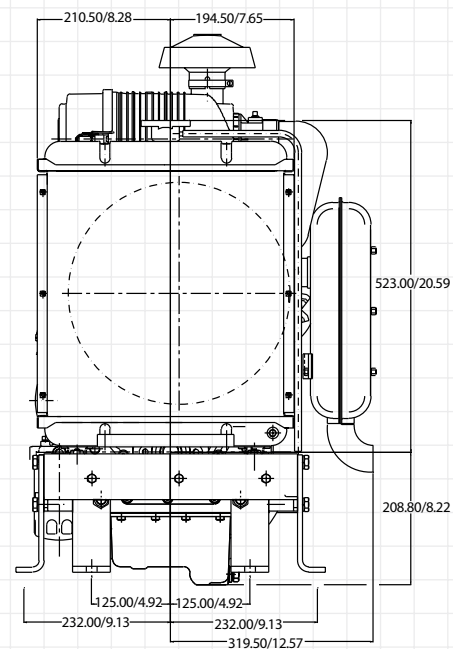


#### Standard Features (Open Power Unit)

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

#### Accessories

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



4 of 4

Form E-2157 3/09  
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**KOHLER**

Relentless Power. Legendary Performance.

# KOHLER Diesel

## Model KDW1603

### High-Speed Open Power Unit

3 Cylinders • 1649 cc • 30.0 kW/40.2 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 Starting Device
- Variable-Speed Governor
- Cast-Iron Crankcase with Reborable Cylinders
- Cast-Iron Cylinder Head
- Hydraulic Valve Lifters

#### Applications

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



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1 of 4  
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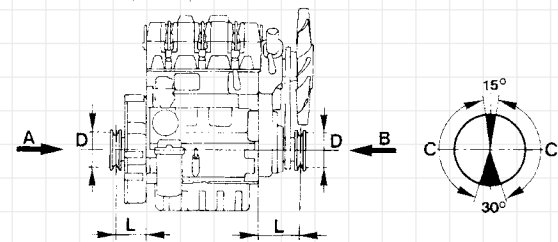
# KOHLER Diesel

## Model KDW1603

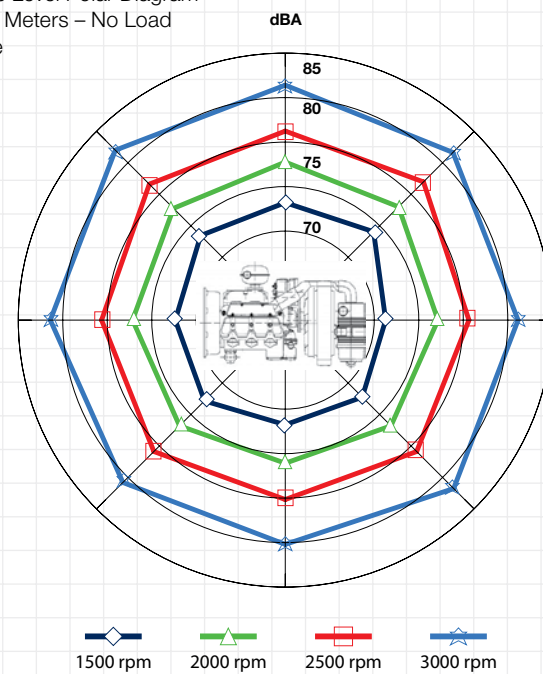
### High-Speed Open Power Unit

#### 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<br>NB ISO 3046 IFN<br>NA ISO 3046 ICXN | 30.0/40.2<br>27.6/37.0<br>25.4/34.1 |
| Maximum Torque   | Nm/ft lbs @ 1600 rpm  | 113/83.3                            |
| Maximum Torque 3 PTO                                     | Nm/ft lbs   | 39.2/29                             |
| Minimum Idling Speed rpm                                 |   | 900                                 |
| Water Pump Delivery @ 3000 rpm                           | liters/min/gpm  | 75/20                               |
| Oil Consumption  | kg/h/lb/h   | 0.019/0.042                         |
| Oil Capacity   | liters/quarts   | 3.8/4.0                             |
| Maximum 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/lb   | 182/401                             |
| Recommended Minimum Battery Size                         | V/CCA Standard, Heavy-Duty                                      | 12/660, 900                         |
| Minimum Pulley Diameters for Belt Drive                  |   |                                     |



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



|   |  |
|---|--|
| V-Belt  | $D \geq 76 [L (mm) + 118] \frac{N (kW)}{n (rpm)}$      |
| Cogged Belt                                     | $D (mm) \geq 49 [L (mm) + 118] \frac{N (kW)}{n (rpm)}$ |
| Maximum Allowable Axial Load in Both Directions |  |
| A-B   | 300 kg/661 lb  |
| C   | Allowable Zone for Radial Load                         |

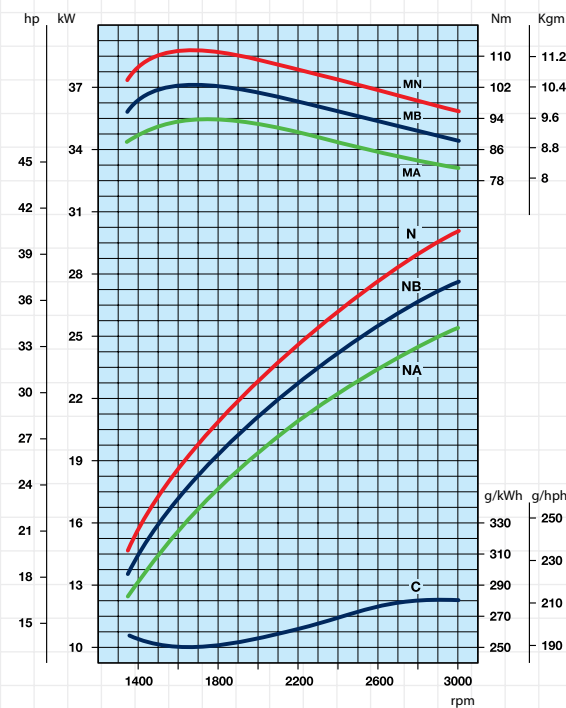
# KOHLER Diesel

## Model KDW1603

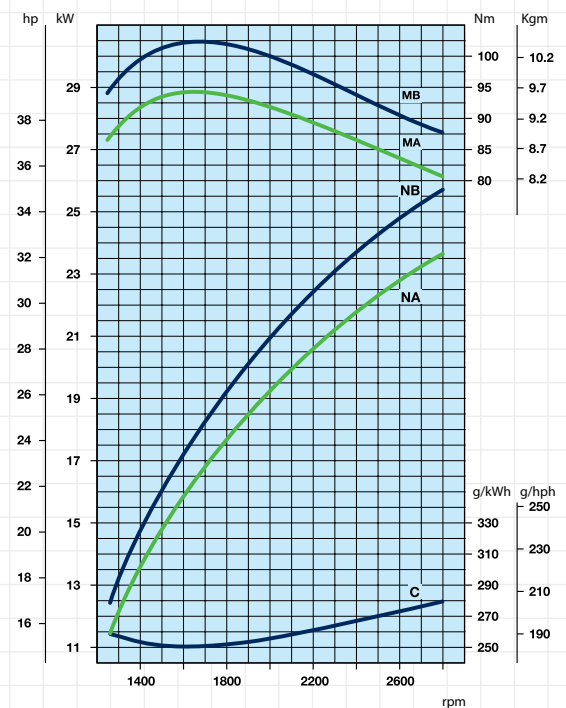
### High-Speed Open Power Unit

#### Curves

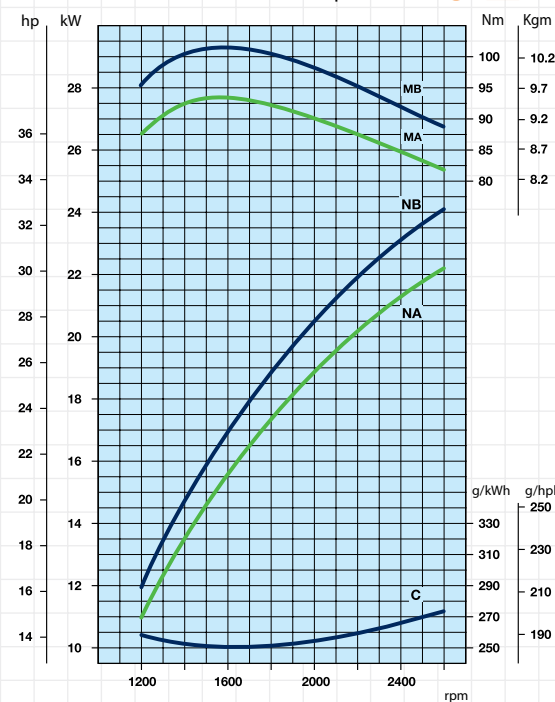
KDW1603 @ 3000 rpm



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)

| rpm  | Intermittent (NB) | Continuous (NA) |
|------|-------------------|-----------------|
| 3000 | 26.7              | 24.3            |
| 1800 | 18.5              | 16.8            |
| 1500 | 15.5              | 14.0            |

- EPA Interim TIER 4
- 97/68/CE
- ▲ ECE R24-03