

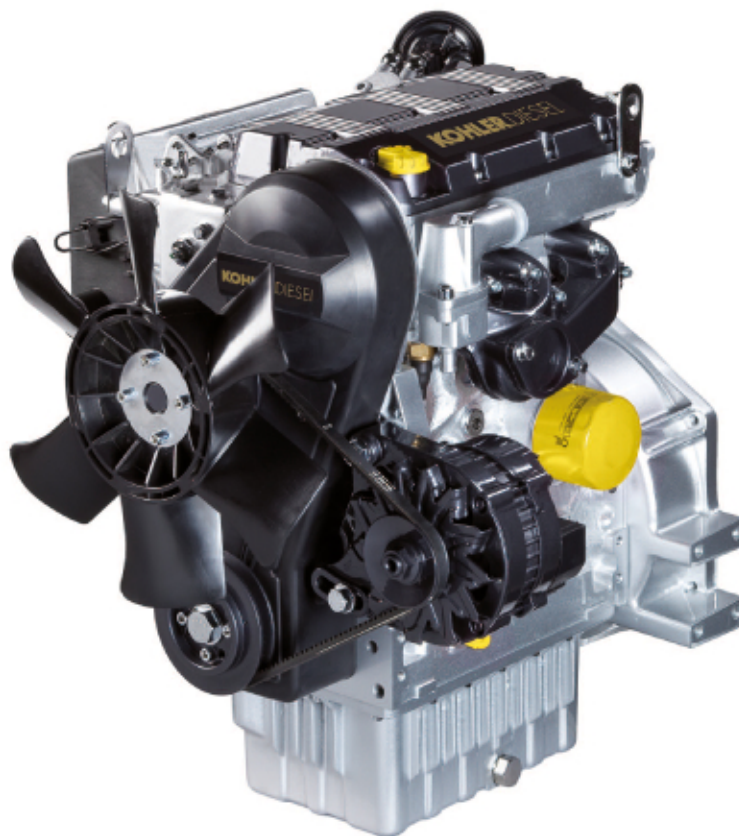
- 3 cylinders
- 1028 cm<sup>3</sup>
- 20,0 kW/27,2 HP
- 3600 r.p.m.
- Nm 67,0@2000

## Available homologation

- EPA Interim TIER IV ◇
- 2004/26/CE Stage 3A ◆
- ECE R 24 ▲

## Construction

- 4-stroke diesel engine with cylinders in li
- Liquid-cooled with axial fan.
- Indirect injection with injector-pump on head.
- Single-shaft distribution in head.
- Distribution control with timing belt.
- Double pto on the crankshaft.
- Pto on the distribution.
- Counterclockwise rotation (1° PTO).
- Forced lubrication with vane pump on the crankshaft.
- Total passage external oil filter.
- Water pump in the engine block.
- Automatic extra fuel starting device.
- Centrifugal governor.
- Torque regulator.
- Cast iron engine block with re-borable integral liners.
- Aluminium cylinder head.
- 3 years warranty.



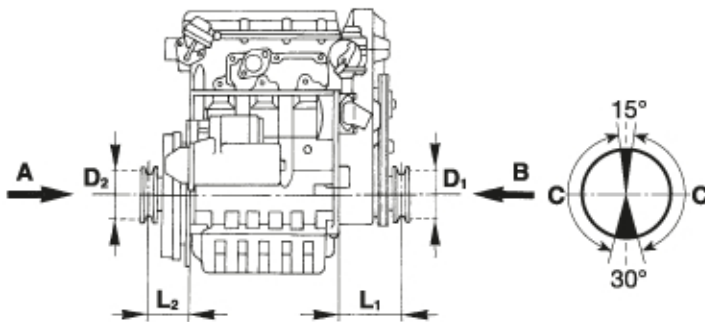
## Applications

- Excavator
- Generating set
- Refrigerating unit
- Sweeper
- Access platform
- Roller
- Lawn mower
- Dumper

### Specifications

Cylinders	N.	3
Displacement	cm <sup>3</sup>	1028
Bore	mm	75
Stroke	mm	77,6
Compression ratio		22,8:1
Rating kW/HP	N (80/1269/CEE) ISO 1585	20,0/27,2
	NB ISO 3046 IFN	18,0/24,5
	NA ISO 3046 ICXN	16,5/22,4
Max. torque	Nm	67,0@2000
Max. torque 3 P.T.O.	Nm	37,0@1800
Min. idling speed		900
Water pump delivery at 3600 r.p.m.	l/min.	50 (-)
Oil consumption	kg/h.	0,012
Oil sump capacity	l	2,4
Min. allowable oil pressure	bar	1,5
Max. allowable inclination for:		
- short periods of operation (max. time 30 minutes)		25°
- peak values (max. time 1 minute)		35°
Cap. of air required for correct combustion @ 3600 r.p.m.	l/min.	1850
Cap. of air required for correct cooling @ 3600 r.p.m.	m <sup>3</sup> /min.	80 (1:1)
Dry weight	kg	85
Recommended battery	V/Ah	12/70

Minimum pulley diameters for belt drive



V belt	$D_2 \text{ (mm)} \geq 114 [L_2 \text{ (mm)} + 101]$	$\frac{N \text{ (kW)}}{n \text{ (RPM)}}$
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Cogged belt	$D_1 \text{ (mm)} \geq 79 [L_1 \text{ (mm)} + 101]$	$\frac{N \text{ (kW)}}{n \text{ (RPM)}}$
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Max. intermittent axial load in both directions A-B = 300 kg  
C - zone in which the radial load acts on the pulley

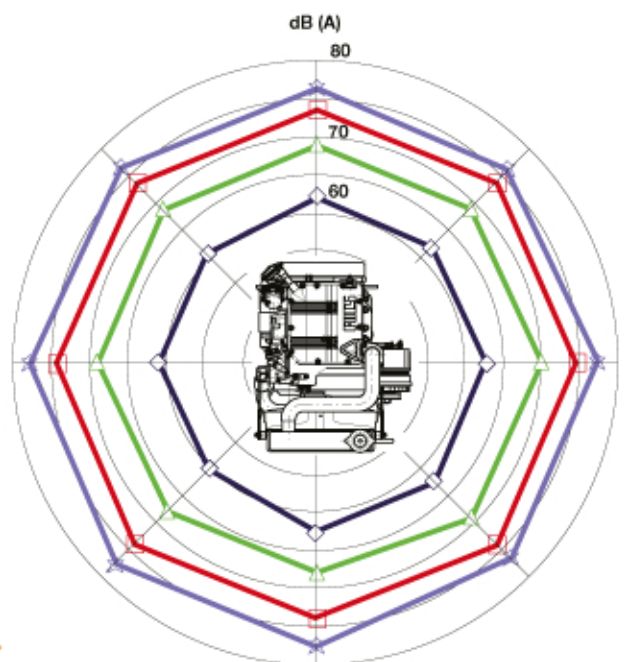
HOMOLOGATIONS EPA Interim TIER IV and 2004/26/CE Stage 3A ◆ ◆

Rating kW @ 3600 rpm	ISO 14396	19,5
Max. torque	Nm	64,0@2100



### Sound pressure level dB (A)

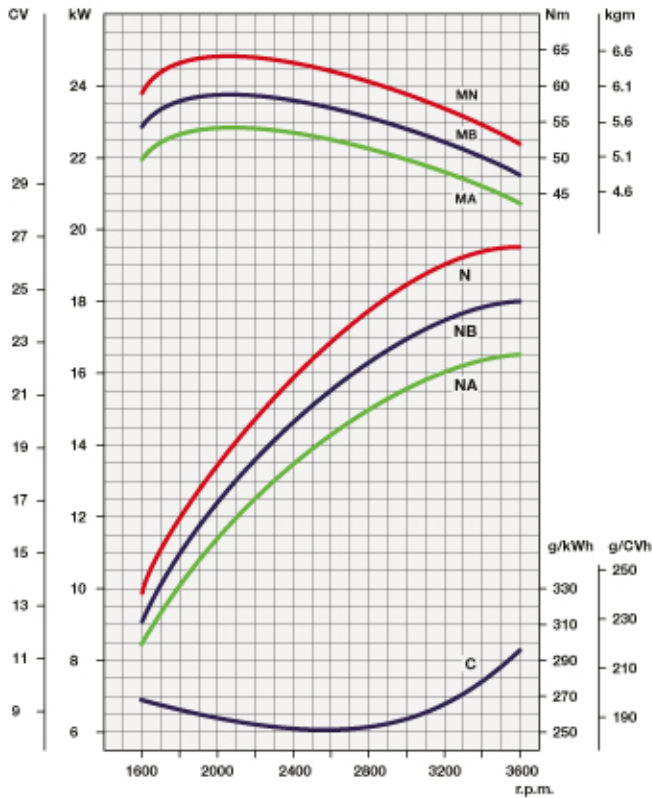
Sound level polar diagram open field - 7 meters microphone - no load running engine.



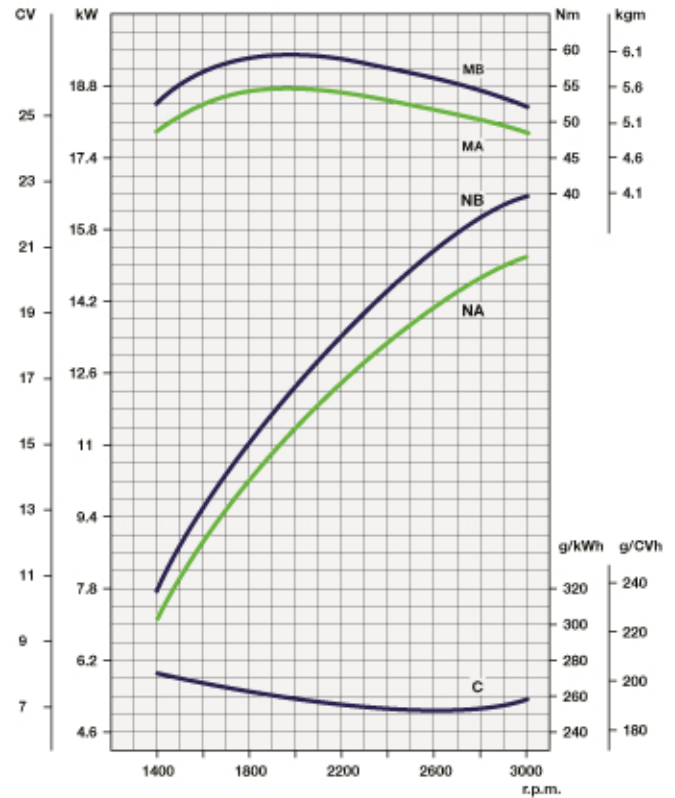
◆ 1000 RPM   
 ◆ 2000 RPM   
 ◆ 3000 RPM   
 ◆ 3600 RPM

## Curves

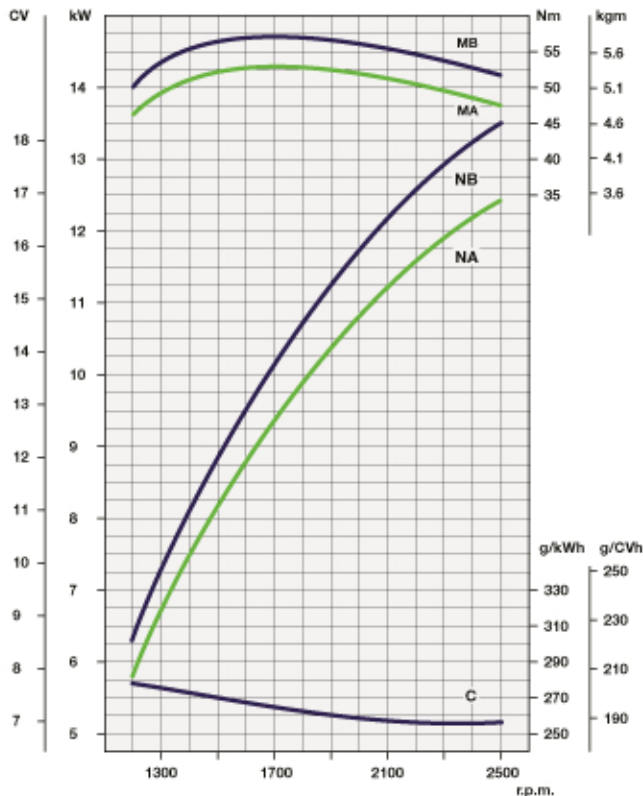
### KDW 1003 @ 3600 r.p.m. ▲



### KDW 1003/ B1 @ 3000 r.p.m. ▲



### KDW 1003 / B5 @ 2500 r.p.m. ▲



**N** Power curve - 80/1269/CEE - ISO 1585 -

**NB** Power curve - ISO 3046 - IFN -

**NA** Power curve - ISO 3046 - ICXN -

**MN** Torque curve - (N curve)

**MB** (NB curve) - **MA** (NA curve)

**C** Specific fuel consumption - (NB curve)

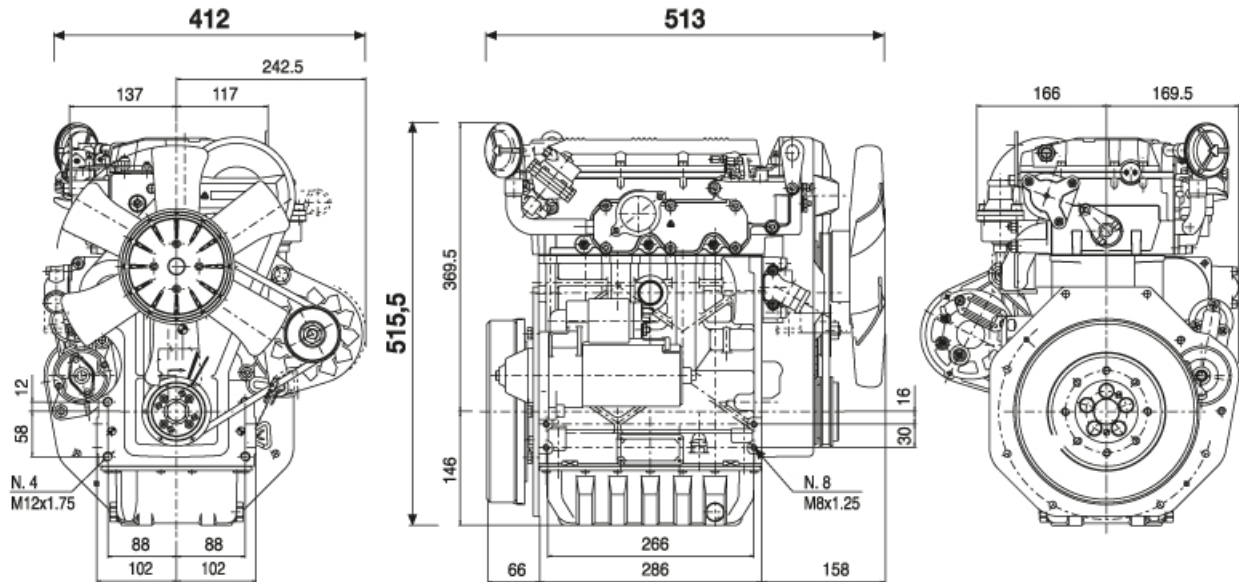
Power ratings refer to engines equipped with air filter, standard muffler, after being run in and in ambient conditions of 20°C and 1 bar. Power levels drop by 1% every 100m altitude and by 2% every 5°C above 20°C.

### Output power for fixed speed application (including generating sets)

#### Engine power kW

r.p.m.	Intermittent (NB)	Continuous (NA)
3600	18,0	16,4
3000	16,5	15,0
1800	10,0	9,1
1500	8,5	7,7

### Technical drawings \*



### Standard equipment

- External oil filter
- Intake manifold
- Exhaust manifold
- Intake fan
- Accelerator control
- Electric starter and 12V alternator
- Thermostatic valve
- Fuel feed diaphragm pump
- Water pump
- Flanging plate
- Flywheel with ring gear
- Use, maintenance and spare parts booklet

### Accessories

- Different guards according to use
- Clutch flywheels
- Flanges
- Transmission adaptors
- Keyswitch panel
- Electric stop
- Electronic plant for plugs
- Alternators 12V or 24V
- Radiators
- Blowing fan
- Engine feet
- Fuel tanks
- Mufflers
- Dry air-cleaners mounted and separated
- Cyclonic precleaners
- Fuel filter on engine
- High capacity oil sumps (see picture)
- Cab heating system



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UNI EN ISO 9001 - cert. n° 0446  
 ISO/TS 16949 - cert. n° 3792

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