

- 2 cylinders
- 686 cm³
- 12,5 kW/17,0 HP
- 3600 r.p.m.
- Nm 40,5@2000

Available homologation

- EPA TIER IV ■
- ECE R 24 ▲
- 80/1269 CE ◆

Construction

- 4-stroke diesel engine with cylinders in line
- 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.



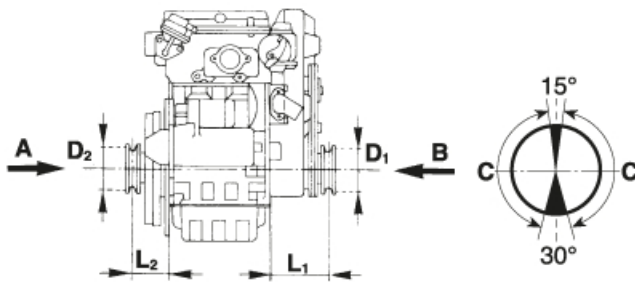
Applications

- Excavator
- Dumper
- Roller
- Access platform
- Generating set
- Sweeper
- High pressure cleaner
- Lawn mower

Specifications

Cylinders	N.	2
Displacement	cm ³	686
Bore	mm	75
Stroke	mm	77,6
Compression ratio		22,8:1
Rating kW/HP	N (80/1269/CEE) ISO 1585	12,5/17,0
	NB ISO 3046 IFN	11,7/16,0
	NA ISO 3046 ICXN	10,7/14,5
Max. torque	Nm	40,5@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.	40 (~)
Oil consumption	kg/h.	0,008
Oil sump capacity	l	1,6
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.	1240
Cap. of air required for correct cooling @ 3600 r.p.m.	m ³ /min.	65 (1:1,23)
Dry weight	kg	66
Recommended battery	V/Ah	12/66

Minimum pulley diameters for belt drive



V Belt	$D_2 \text{ (mm)} \geq 143 [L_2 \text{ (mm)} + 101]$	$\frac{N \text{ (kW)}}{n \text{ (RPM)}}$
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Cogged belt	$D_1 \text{ (mm)} \geq 99 [L_1 \text{ (mm)} + 101]$	$\frac{N \text{ (kW)}}{n \text{ (RPM)}}$
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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

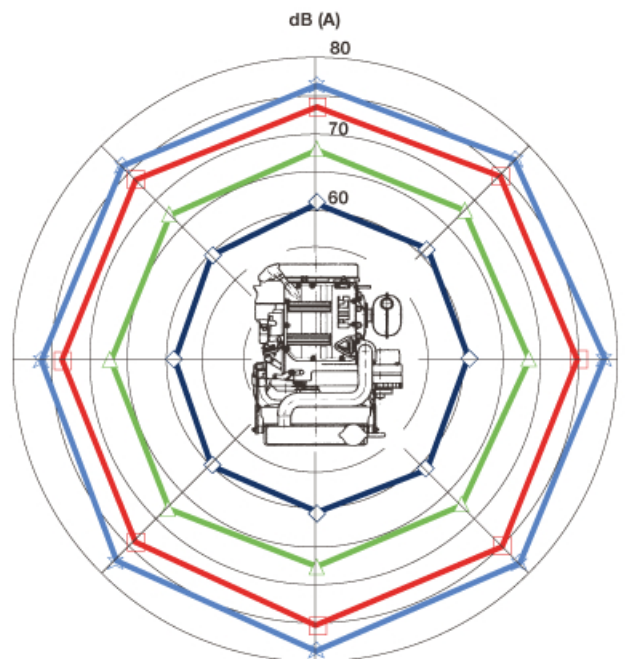
HOMOLOGATION EPA TIER IV ■

Rating kW @ 3600 rpm	ISO 14396	12,5
Max. torque	Nm	38,0@2200



Sound pressure level dB (A)

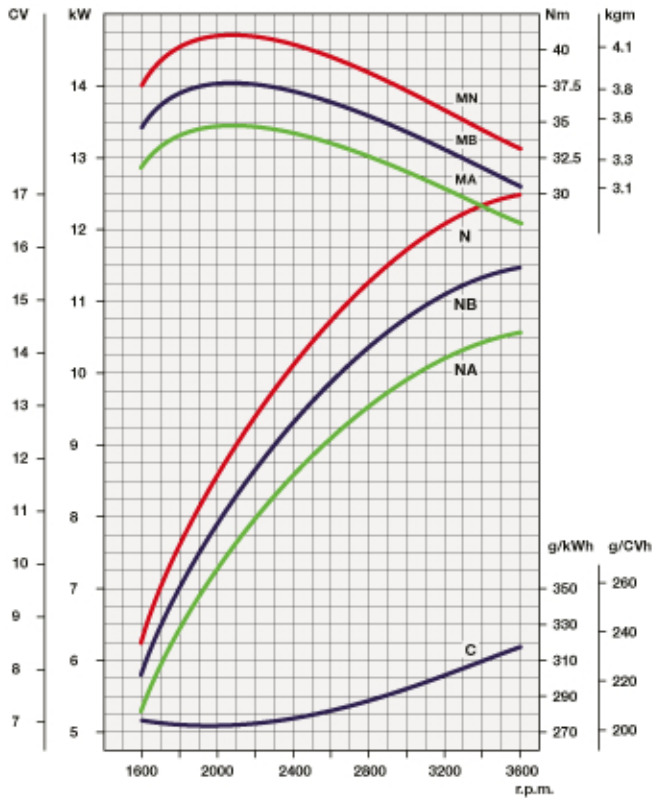
Sound level polar diagram open field - 7 meters microphone - no load running engine.



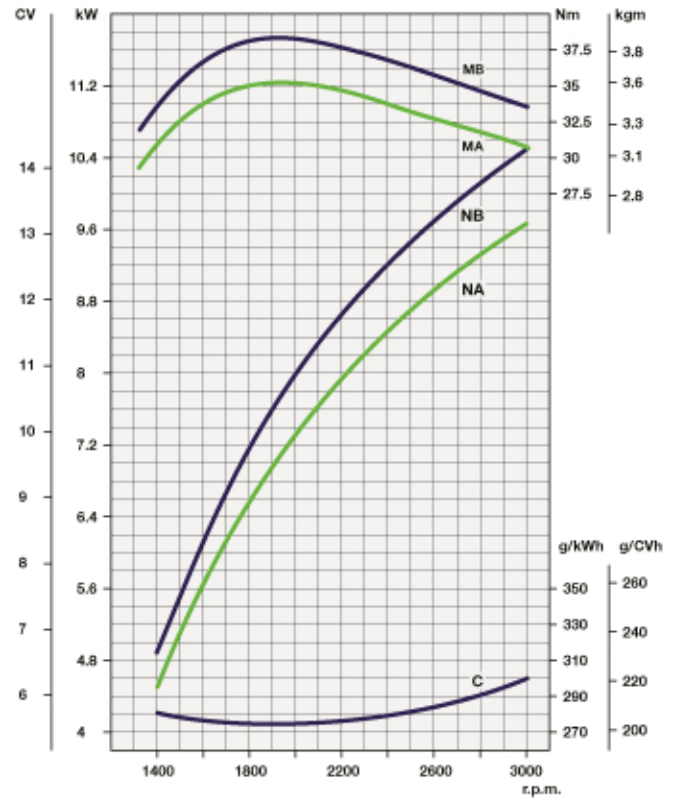
◆ 1000 RPM
 ▲ 2000 RPM
 ■ 3000 RPM
 ★ 3600 RPM

Curves

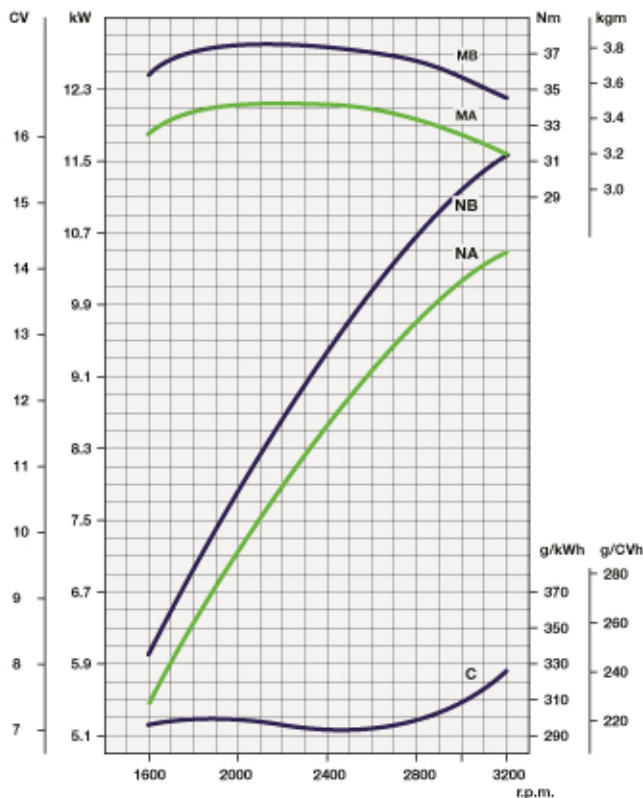
KDW 702 @ 3600 r.p.m. ▲◆



KDW 702 / B1 @ 3000 r.p.m. ▲◆



KDW 702 @ 3200 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)

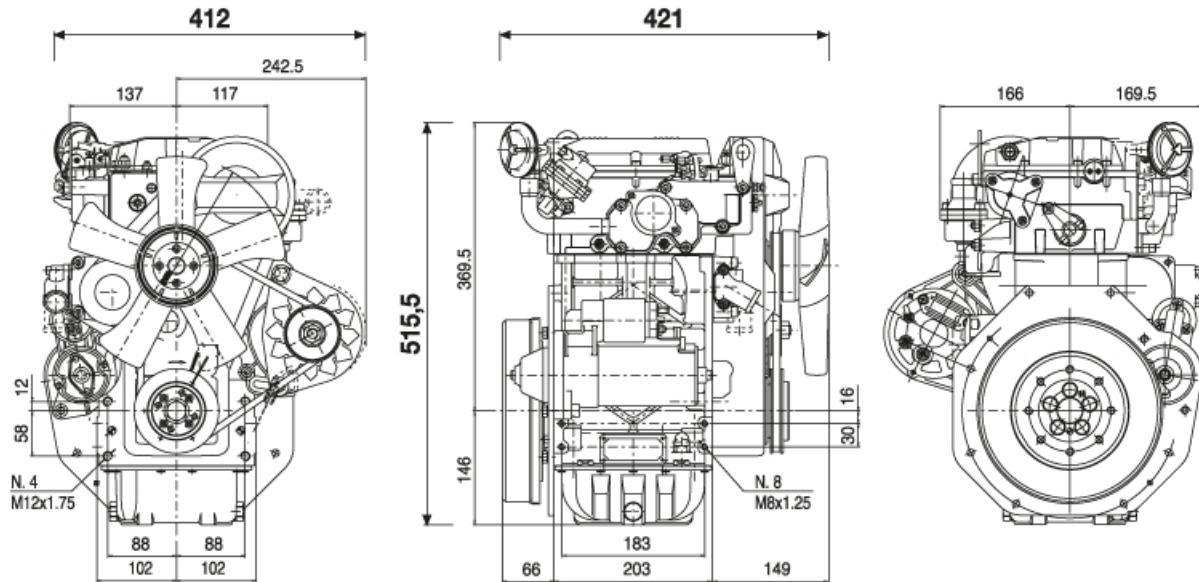
Power ratings refer to engines equipped with air filter, standard muffler, after being run in and in ambient conditions of 20°C and 1 bar. Power levels drop by 1% every 100m altitude and by 2% every 5°C above 20°C.

Output power for fixed speed application (including generating sets)

Engine power kW

r.p.m.	Intermittent (NB)	Continuous (NA)
3600	11,5	10,4
3000	11,0	10,0
1800	6,5	5,9
1500	5,5	5,0

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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