

# KDI 1903M

## QUICK SPECIFICS

**3** Mechanical Engine  
CYLINDER

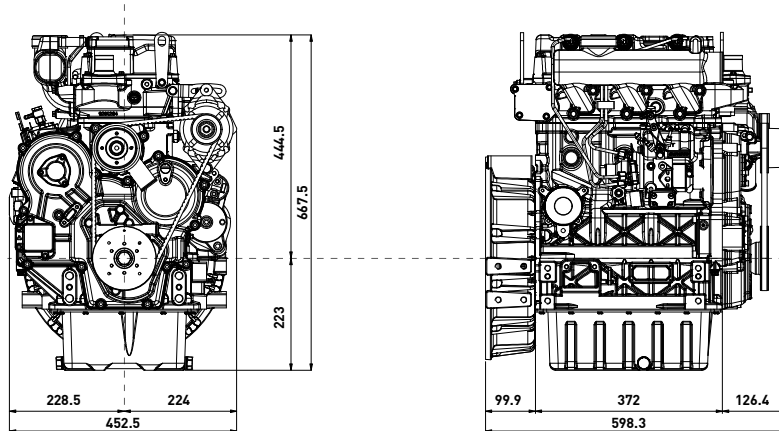
**42** | **31** @ 2600 rpm  
HP | kW STAGE III A

**133** @ 1500 rpm  
Nm



## DATA

### DIMENSIONS (mm)



## GENSET RATINGS

	rpm	1500	1800
NET ENGINE POWER*	Stand-by (kW)	19.5	20.5
	Prime (kW)	17.7	18.6
ELECTRICAL POWER**	Intermittent (kVA)	21.0	22.0
	Continuous (kVA)	19.1	20.0
EMISSION COMPLIANCE AVAILABLE		Stage III A	Stage III A / Tier 4 i (1)
MAX. EMISSION COMPLIANCE AVAILABLE***		Stage III A	Tier 4 F

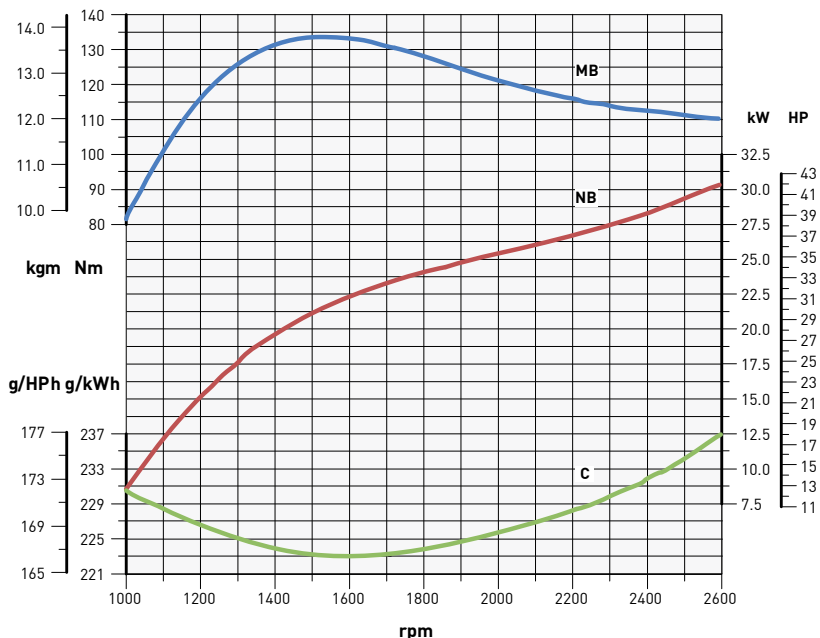
\* Engine power rating ISO IFN (Stand-by) and ICXN (Prime) according to ISO 3046 and ISO 14396, after running-in period at ambient condition +25°C, relative humidity 30%, and ambient pressure 100 kPa (1 bar). Fuel specification EN590

\*\*Electrical power includes fan power absorption, typical alternator efficiency and a power factor (cos φ) of 0.8  
Continuous (Prime) power can be overloaded of 10% for 1 h every 12 hours operation. Intermittent (Standby) power cannot be overloaded.

\*\*\* Possible de-rating might have to be taken in consideration to ensure emission compliance.

(1) for stationary + emergency applications EPA compliant.

## PERFORMANCE CURVES (IFN-ACCORDING TO ISO 3046 AND ISO 14396)



— MB - Torque curve IFN — NB - Power curve IFN  
— C - Specific fuel consumption - (NB curve)

Power ratings refer to engines equipped with air filter, standard muffler, after running-in period at ambient conditions of +25°C, relative humidity 30% and 1 bar. Power levels drop by 1% every 100 m altitude and by 2% every 5°C above +25°C.

# MECHANICAL ENGINES



Model		KDI 1903M	KDI 2504M
<b>Engine specs</b>	4 stroke diesel with cylinder in line	•	•
	Liquid cooling	•	•
	4 valves per cylinder	•	•
	In crankcase camshaft, gear train driven	•	•
	Pushrod - rocker arms timing with hydraulic tappets	•	•
	Cast iron crankcase with bed-plate	•	•
	Cast iron cylinder head	•	•
	Closed crankcase ventilation system	•	•
	Waste-gate turbocharger	—	—
	Charge air cooling	—	—
<b>Technical features</b>	Cylinder	3	4
	Bore (mm)	88	88
	Stroke (mm)	102	102
	Engine displ (cm <sup>3</sup> )	1861	2482
	Injection system	DI	DI
	Injection Equipment	Mech-Rotary pump	Mech-Rotary pump
<b>Performance</b>	Emission compliance	STAGE III A	STAGE III A
	Max power (IFN - ISO 3046 and ISO 14396) (kW@rpm)	31@2600	36.4@2600 (STAGE III A) 41@2800 (TIER 2)
	Max torque (IFN - ISO 3046 and ISO 14396) (Nm@rpm)	133@1500	170@1500
	Low-end torque (Nm@1000 rpm)	80	110
<b>Fuel economy</b>	Best point (g/kWh)	223	220
	Max power (g/kWh@2600)	237	234
<b>Startability</b>	Unaided (°C)	down to -15	down to -15
	Aided* (°C)	below -15	below -15
	* Manifold grid heater		
<b>Fuel compatibility</b>	EN 590	•	•
	No 1 Diesel (US) - ASTM D 975-09 B - Grade 1-D S 15	•	•
	No 1 Diesel (US) - ASTM D 975-09 B - Grade 1-D S 500	•	•
	No 2 Diesel (US) - ASTM D 975-09 B - Grade 2-D S 15	•	•
	No 2 Diesel (US) - ASTM D 975-09 B - Grade 2-D S 500	•	•
	ARCTIC EN 590/ASTM D 975-09 B	•	•
	High Sulfur Fuel < 5000 ppm (< 0.5%)	•	•
	High Sulfur Fuel > 5000 ppm (> 0.5%)	•	•
	Military NATO Fuels F34 - F35 - F44 - F63 - F64 - F65 *	•	•
	Military US Fuels JP5 - JP8 (AVTUR) *	•	•
Civil Jet Fuels Jet A/ A1*	•	•	
* With restrictions			
<b>Service features</b>	Oil/filter change interval std/synthetic (hr)	500-750*	500-750*
	Valve adjustment	—	—
	Alternator belt replacement	36mth	36mth
	Coolant change	24 mth	24 mth
	Oil consumption [% fuel]	<0.1	<0.1
* according to operating conditions			
<b>Physical characteristics</b>	H x L x W [fan excluded] (mm)	667.5 x 598.3 x 452.5	667.5 x 704.3 x 452.5
	Weight (kg)	210	244
	Daily service points - positions	1 side service	1 side service
	Ambient operating temps (°C)	-40 to +50	-40 to +50
	Gradeability-all round (continuous) [deg]	25	25
	Gradeability-all round (intermittent-1min) [deg]	35	35
<b>Cooling &amp; lubrication</b>	Heat rejection to coolant (includes oil cooler) (kW)	24	28
	Cooling fluid: 50/50 water/antifreeze	•	•
	Oil type	API CH4-SAE 10W40	API CH4-SAE 10W40
<b>Vibration</b>	Max engine excitation at mounting locations	5g	5g
<b>Auxiliary PTOs (3rd &amp; 4th) (optional)</b>	Max torque (Nm)	100	100
	Drive ratio	1.23 times engine speed	1.23 times engine speed
	Provision for a double Gr.2 tandem hydraulic pump	•	•