



Diesel Engines Series 2000

Stationary Power Generation



We provide the **Power You Need.**

MTU Friedrichshafen in Germany and the Detroit Diesel Corporation in the USA - two DaimlerChrysler companies - have combined their **off-highway operations.**

The combination of the MTU and Detroit Diesel product ranges, supplemented by Mercedes-Benz and VM Motori engines, has created a **leading global supplier** of engines and systems for the agricultural and construction sectors as well as for heavy-duty vehicles and marine, rail and power generation applications.

In the **power generation field** MTU system solutions provide **technical perfection** which is **commercially viable.** 100,000 MTU and DDC engines and gensets, delivered worldwide prove themselves daily in demanding operational conditions.

MTU has at its disposal a **unique drive system know how** and **excellent product quality**, which results from MTU's innovative capabilities, reliability, as well as an immense system competence.

MTU's complete product and customer support will ensure that the **highest availability** is achieved, wherever you are.

A world wide network of affiliates, agencies and support centers with MTU trained personnel assures **expert engine maintenance** 24 hours a day.



Series 2000

MTU engines are the basis for the realization of reliable and economically efficient drive solutions. Apart from their reliability and long life-time the engines of the **2000 series** have low fuel consumption and emission values at attractively competitive prices. A large choice of **integrated accessories**, reduces the engineering expenses the unit producer would otherwise have to invest. The **electronic engine management system** has been designed to take over a variety of control and monitoring functions to the



Model **18V 2000**

effect of a considerably reduced planning expenditure making the unit control easier and its price more reasonable. The **operator** benefits from the engines low fuel consumption and emission values, excellent load acceptance behaviour and, not to forget, from the safety of a world-wide service network.

Optimized for fuel consumption or exhaust emission, the switchable speed engines of the 2000 series cover a perfectly harmonized scope of performances and offer the **optimal solution** to comply with any individual application.

Your Benefits:

Very Low Assembly and Engineering Expenditure

- > Various accessories integrated (cooler, cooling fan etc.)
- > Optimal interface arrangement
- > Flexible system and unit planning

Optimal Operating Behaviour

- > Low vibration operation
- > Constant engine power available at intake air temperatures of up to 40°C and site altitudes of up to 400 m above sea level
- > Excellent load acceptance behaviour
- > High speed or frequency stability

Environmental Compatibility

- > Complies with international emission rules
- > Low fuel and lube-oil consumption
- > Low particle emissions
- > Low noise and vibration levels
- > Environmentally favourable paint finish

High Availability and Reliability

- > Long life-time
- > 24 hour service
- > World-wide customer service network with 2,250 support points
- > Electronic engine management system with selfdiagnosis function

Low Life Cycle Costs

- > Competitive price
- > Low fuel consumption
- > Low lube-oil consumption
- > Easy to service
- > High TBO
- > REMAN parts

Superior Technology: Module for Module.



Electronic Fuel Injection System

Single injection pumps mounted in the crankcase, camshaft acts directly on the pump element via roller follower. Short high-pressure lines, closed fuel circuits, electronically controlled injection nozzles

Benefits:

- > Exemplary smoothness of running and speed stability
- > Low exhaust gas emission and fuel consumption over entire performance range
- > Excellent acceleration and load acceptance behaviour
- > No fuel re-cooler needed
- > No loss of power even at high fuel temperatures

Cooling Systems

Single-circuit cooling system with air charge air cooling

Complete system solution with cooler, fan drive, fan and piping. Cooler size can be selected flexibly to meet with different ambient air temperatures (40°C / 50°C) and different pressure relations existing at the cooling side (100/200/300 Pa)

Benefits:

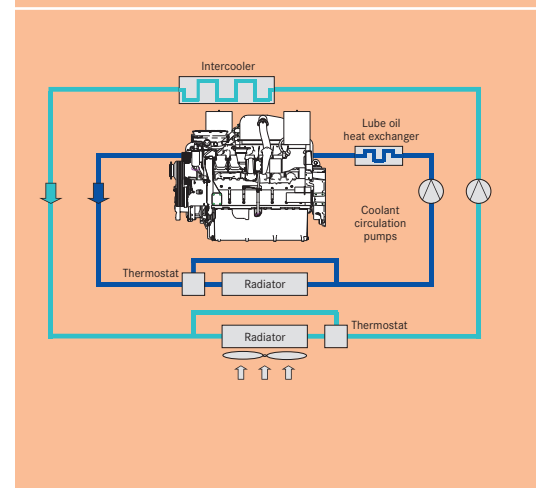
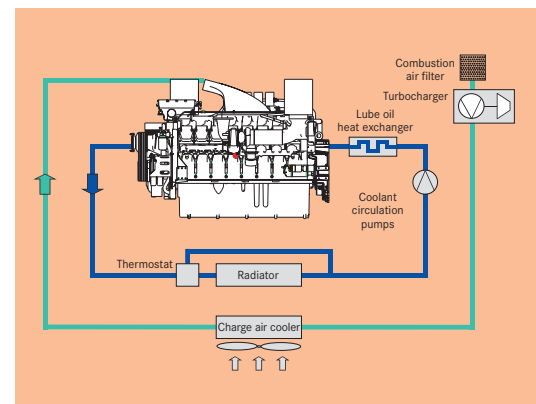
- > Optimized system solution
- > Compact design
- > Easy assembly and low assembly costs
- > Can be adapted individually

Dual-circuit cooling system with water charge air cooling

System solution apt for separate installation of mechanically or electromotor driven fan coolers, heat exchangers or desktop type coolers.

Benefits:

- > Re-cooling system can be installed separately and be located away from the genset it serves
- > Units can be planned flexibly and individually



Turbocharging and Exhaust System

Single stage exhaust gas turbo charging with two high-efficiency turbochargers, charge air cooling and exhaust gas elbow with vertical exhaust discharge

Benefits:

- > High engine efficiency
- > Optimum load acceptance
- > Easily connected with external exhaust system

Engine and Generator Mounts

Elastic engine and generator mounts with rubber elements for different generator construction types

Benefits:

- > Also suitable for cost-advantageous base frames
- > Easy installation
- > Effective solid-born noise silencing
- > Highly efficient vibration damping

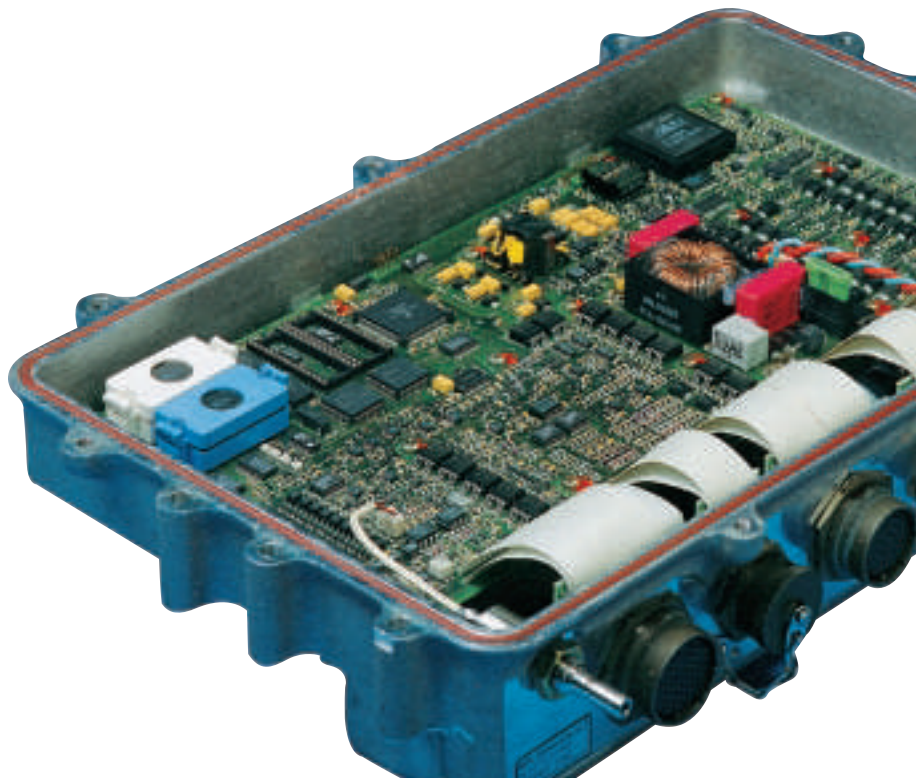


Engine Management

Electronic control and monitoring system with all-speeds or charging control and integrated safety and self-diagnosis functions extendable by means of interface modules with plug-in connections ready for plug in starting automatics and load profile recorder, engine optimally harmonized in regard to fuel consumption and emissions complete with engine sensory analysis and cabling, suitable for combination with all common power set control systems many additional functions available (e.g. variable p-grade adjustment, changeable speed etc.)

Benefits:

- > Optimal operating behaviour
- > Easy, fast and cost-advantageous connection possible to external systems
- > Maintenance-free design



Technical Data

Diesel Engine Series 2000

Configuration	8V, 12V, 16V, 18V
Bore	mm 130/150
Swept volume	l/cyl. 1.99
Fuel specification	EN 590; Grade Nr. 1-D/2-D (ASTM D975-00)

Application Group	Standby Power	Prime Power Limited	Prime Power	Continuous Power
	3D	3C	3B	3A
Mode of operation	Standby with variable load	Standby with variable load	Contin. operation with variable load	Contin. operation with 100 % load
Load factor	< 85%	< 75%	< 75%	≤ 100%
Annual operating hours	max. 500	max. 1000	unrestricted	unrestricted
Rating definition DIN ISO 3046	fuel stop power ICFN	10% overload capability ICXN	10% overload capability ICXN	10% overload capability ICXN

Engine Model	Engine Power (kW) at 1500 rpm (50 Hz) with Air or Water Charge Air Cooling			
	☒	☒	☒ or ①	☒
8V 2000 G*	365	330	330	303
8V 2000 G*	405	365 ¹⁾	365 ¹⁾	336
8V 2000 G*	455	409	409	-
12V 2000 G23	625	-	565	452
12V 2000 G63	680	-	625	515
16V 2000 G23	805	-	720	-
16V 2000 G63	895	-	805	655
18V 2000 G63	985	-	895	720

Engine Model	Engine Power (kW) at 1800 rpm (60 Hz) with Air or Water Charge Air Cooling			
	②		②	②
8V 2000 G*	455	-	410	370
8V 2000 G*	511 ²⁾	-	465	-
8V 2000 G*	570	-	-	-
12V 2000 G43	735	-	668	561
12V 2000 G83	835	-	761	625
16V 2000 G43	1007	-	915	743
16V 2000 G83	1115	-	1013	835
18V 2000 G83	1250	-	1040	900

* Engines available with Air Charge Air Cooling only.

¹⁾ also with Optimization ①

²⁾ with Optimization ③

Application Group	Standby Power	Prime Power Limited	Prime Power	Continuous Power
	3D	3C	3B	3A
Mode of operation	Standby with variable load	Standby with variable load	Contin. operation with variable load	Contin. operation with 100 % load
Load factor	< 85%	< 75%	< 75%	≤ 100%
Annual operating hours	max. 500	max. 1000	unrestricted	unrestricted
Rating definition DIN ISO 3046	fuel stop power ICFN	10% overload capability ICXN	10% overload capability ICXN	10% overload capability ICXN

Engine Model	Engine Power (kW) at 1500/1800 rpm (50/60 Hz switchable) with Air or Water Charge Air Cooling			
Optimization	<input checked="" type="checkbox"/> ② / ②		<input checked="" type="checkbox"/> or ① ② / ②	<input checked="" type="checkbox"/> ② / ②
12V 2000 G23	625 / 692	-	565 / 620	-
12V 2000 G63	680 / 761	-	625 / 692	515 / 561
16V 2000 G23	805 / 914	-	720 / 830	-
16V 2000 G63	895 / 1007	-	805 / 914	655 / 740
18V 2000 G63	985 / 1115	-	895 / 1010	720 / 820

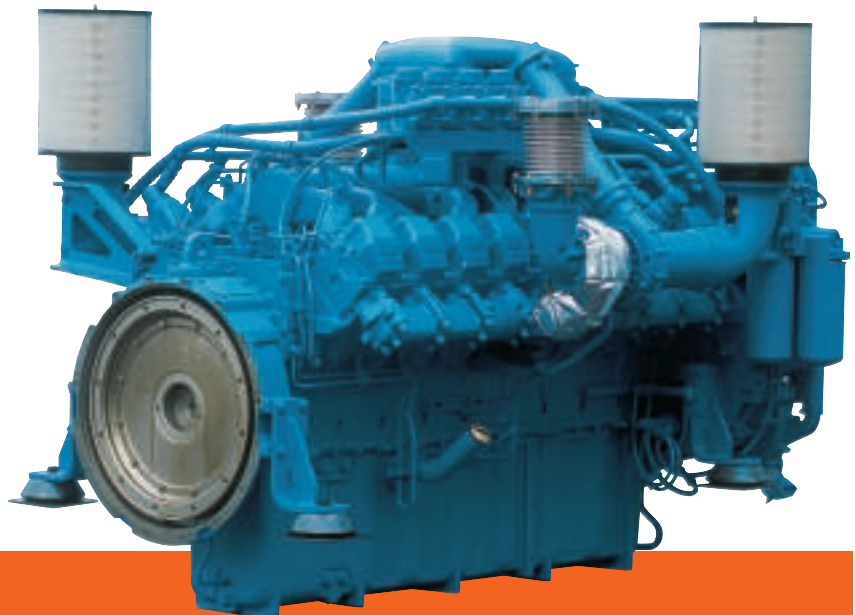
Reference Conditions	Standard	Power Available up to
Intake air temperature	25°C	40°C
Altitude above sea level	100 m	400 m
Charge-air coolant temp.*	55°C	60°C
Charge-air coolant temperature with ① (TA-Luft)*	55°C	55°C

* Charge-air coolant temperature for engines equipped with Water-to Air Charge Air Cooling.

Optimization

- ① Exhaust emission (TA-Luft, Edition 1986)
- ② Exhaust emission (EPA 40 CFR 89, Tier 1)
- ③ Exhaust emission (EPA 40 CFR 89, Tier 2)
- Fuel consumption

If a cooler fan is fitted, the fan power must be deducted from the engine power.



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