

Greenpower DEUTZ diesel engine

1500 RPM

Type GP 100DZ

Engine: BF4M1013EC
Alternator: ECP34-2S/4

These are the characteristics of the **BF4M1013EC**

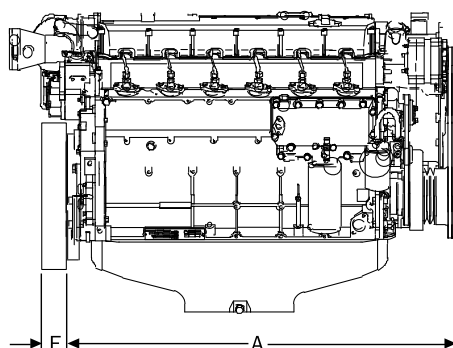
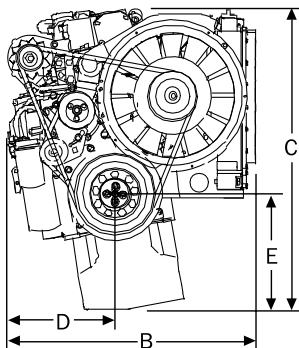
- Water cooled 4 cylinder in-line engine.
- Displacement: 1.2 l /cylinder.
- Modern high-pressure fuel injection system with single injection pumps.
- Electronic governor (option).
- All servicing points on one side.
- Compact design and low weight.

Your benefits:

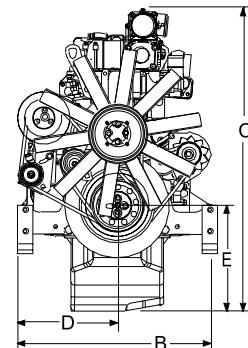
- ▶ Low noise radiation. This eliminates the need for costly noise attenuation measures.
- ▶ Exemplarily low fuel and oil consumption, long service intervals save operating costs.
- ▶ Easy and cost-effective installation with minimum weight and small space requirement.
- ▶ Outstanding load acceptance ensures immediate power supply.
- ▶ Incomparably low exhaust emission, meets all industrial exhaust regulations.
- ▶ Global service network with over 1,000 locations.

▶ Dimensions

Integrated cooling system



External cooling system



Engine		A	B	C	D	E	F
BF4M1013EC	mm inch	740 29.1	616 24.3	935 36.8	292 11.5	302 11.9	122 4.8

► Rating table: BF4M1013EC The Genset Engine 50Hz

Engine type		BF4M1013EC
Speed	min ⁻¹ rpm	1800
Frequency	Hz	50
Engine/genset ratings		
Continuous power, ICN (COP)	kW hp	92 123
Prime power, ICN (PRP)	kW hp	97 130
Limited- time running power, IFN (LTP)	kW hp	102 137
Typical generator power output		
Typical generator power output (COP)	kVA	98
Typical generator power output (PRP)	kVA	104
Typical generator power output (LTP)	kVA	109
Spec. fuel consumption PRP (LTP)		
100 % load	g/kWh lb/hp-hr	206 0.339
75 % load	g/kWh lb/hp-hr	205 0.337
50 % load	g/kWh lb/hp-hr	210 0.345

Scope of Supply:

The engine and the alternator are mounted together forming a rigid monoblock, the shafts are connected by a flexible disc connection. The monoblock is mounted on a steel base frame via silent blocks. The base frame is including a fuel tank. Starting is electric and it includes a battery. The genset monitoring system consist of a control module.

PRP* Kva/KW:

Available electrical power (at a variable load) with a medium of 80% of the indicated maximum power. A 10% overload capability is available

LTP** Kva/KW:

Available electrical load (at a variable load) during a maximum of 500 hours per year. No overload capability is available.

CONTROL PANEL

Manual or automatic start control panel

Manual or automatic remote boot controller, selector switch for Off, Man and Auto with the key.

Complete motor protection functions with alarms visualized via LEDs in the front.

The control unit 6 is set via DIP switches in the rear part of the case.

Standard circuit breaker and differential relay.

Standard specification

Standard engine:	Connection housing SAE 2, with flywheel 10"/11.5
Cooling system:	Cooling system HAT, depending on engine version incl. charge air cooler, pressure fan.
Exhaust system:	Without silencer, with counterflange for exhaust system on the turbocharger.
Filter:	Lube oil filter, air filter depending on engine version loose as kit or assembled.
Engine electrics:	12 Volt version, electrical engine governor standard in 4-cylinder FC engines.
Governor:	Mechanical standard, optional electronic governor.
Miscellaneous:	Painted dark gray.

TECHNICAL DATA

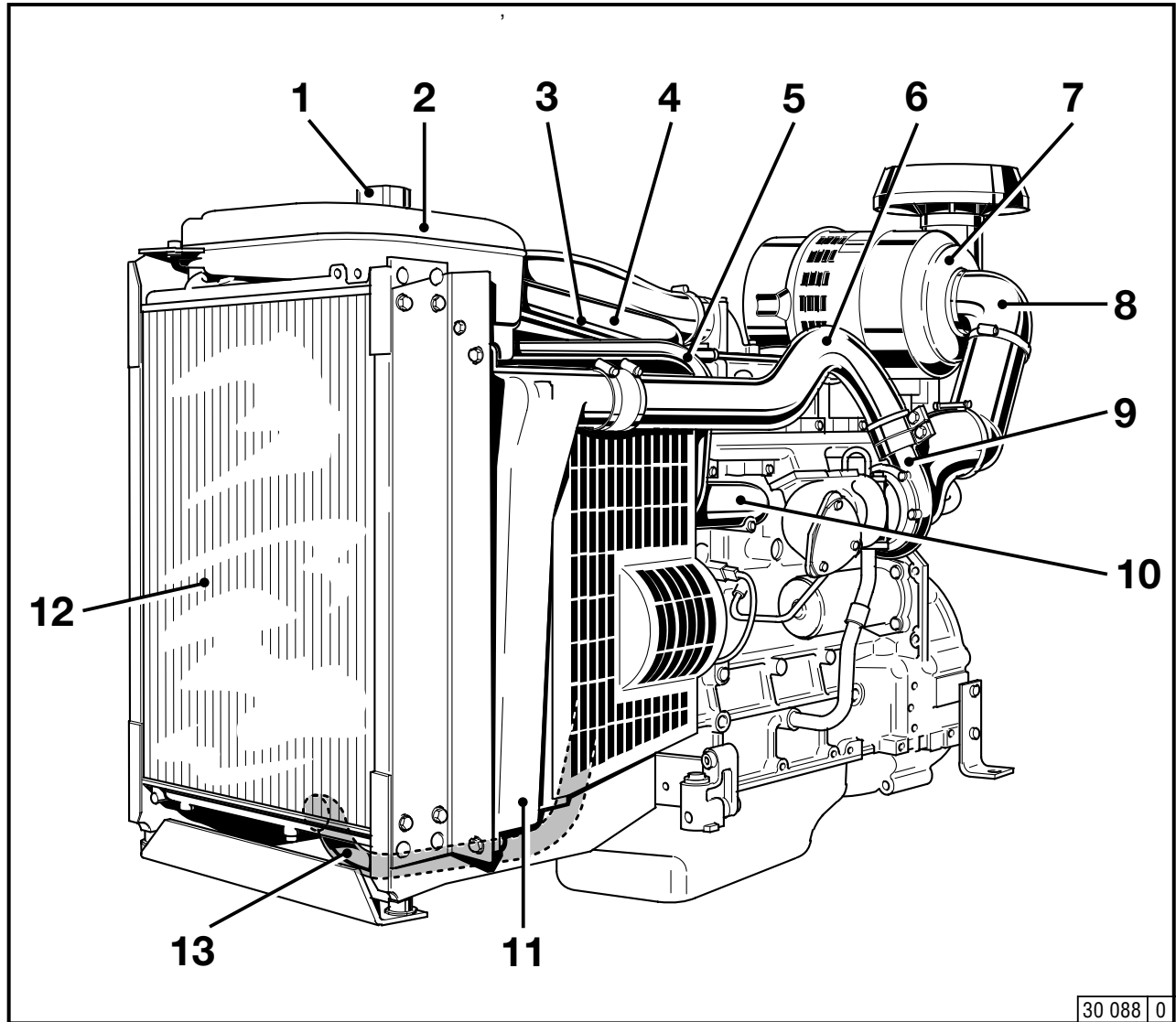
Engine		Alternator	
Engine type:	BF4M1013EC	Alternator Type:	ECP34-2S/4
Eng. Power kW COP:	86,1	N° of poles:	4
Eng. Power kW PRP:	91,1	Eff. At 3/4 %:	92,5
Eng. Power kW LTP:	96,1	Eff. At 4/4 %:	92,2
N° Cylinders:	4	Alt. rating PRP kVA III Kw II:	105
Displacement cm3:	4760	Alt. rating LTP kVA III kW II:	115,5
Bore/stroke (mm/mm):	108/130	Output Power PRP kVA III kW II:	105
Compression ratio:	-	Output Power LTP kVA III kW II:	110,8
Cooling:	WATER	Current Amp PRP:	150,8
Injection:	DIRECT	Current Amp LTP:	159
Aspiration:	TURBO/INTERCOOLER	Standard Circuit Breaker (Amp):	160
Standard governor:	ELECTRONIC	Xd (%):	230
Governing control quality:	G2	X'd (%):	17,6
Speed droop mech gov. (%):	4-5	X:	5,7
Exhaust gases temperature (°C):	526	N° of wires:	12
Exhaust gases flow (m3/h):	1048	Insulation:	H
Max Exh. Back pres. (mbar):	30	Regulator AVR:	UVR6
Coolant capacity (lit.):	11	Protection:	IP21
Cooling air flow (m3/h):	6120		
Max allow. Intake dep. (mbar):	50		
Combustion air flow (m3/h):	377		
Oil cap. (Litres):	11		
Oil cons. (kg/hr or % of fuel cons):	0,30%		
Min oil press warning (bar):	2,7		
Fuel cons. 25% lit/h:	6,9		
Fuel cons. 50% lit/h:	12,2		
Fuel cons. 75% lit/h:	17,8		
Fuel cons. 100% lit/h:	23,8		
Electric system VDC:	12		
Type:	Neg to ground.		
Battery (Ah):	120		
Starting motor (kW):	3,1		
Flywheel Housing:	SAE2/10		

► Engine description

Type of cooling:	Liquid cooling, thermostatically controlled, charge-air-cooled engines with air-to-air charge air cooler
Crankcase:	High grey cast iron crankcase, for monobloc construction
Crankcase breather:	Closed-circuit crankcase breather
Cylinder head:	Grey cast iron block-type cylinder head
Valve arrangement/ timing:	One inlet and one exhaust valve per cylinder, actuated via tappets, push rods and rocker arms, camshaft driven by geartrain
Piston:	Three-ring piston, two compression rings and one oil scraper ring
Piston cooling:	Oil cooled with spray nozzles (channel-cooled piston)
Connecting rod:	Forged steel rod
Crankshaft bearings:	Tri-metal plain bearings
Crankshaft:	With integral counterweights
Camshaft:	Forged steel shaft
Lubrication system:	Forced-feed circulation lubrication with gear pump
Lube oil cooler:	Oil cooler integrated in coolant circuit
Lube oil filter:	Paper-type microfilter as replaceable-cartridge full flow filter
Injection pump/ governor:	Single injection pumps for each cylinder integrated in crankcase Mechanical centrifugal governor (standard); electronic governor (EMR) optional
Fuel lift pump:	Integrated in belt drive
Injection nozzle:	Six-hole nozzle
Fuel filter:	Replaceable cartridge
Alternator:	Three-phase alternator 12 V or 24 V
Starter motor:	12 V or 24 V
Heating system:	Optional connection for cab heating to engine cooling circuit

Identification of engine parts

Service side *BF4M1013EC*

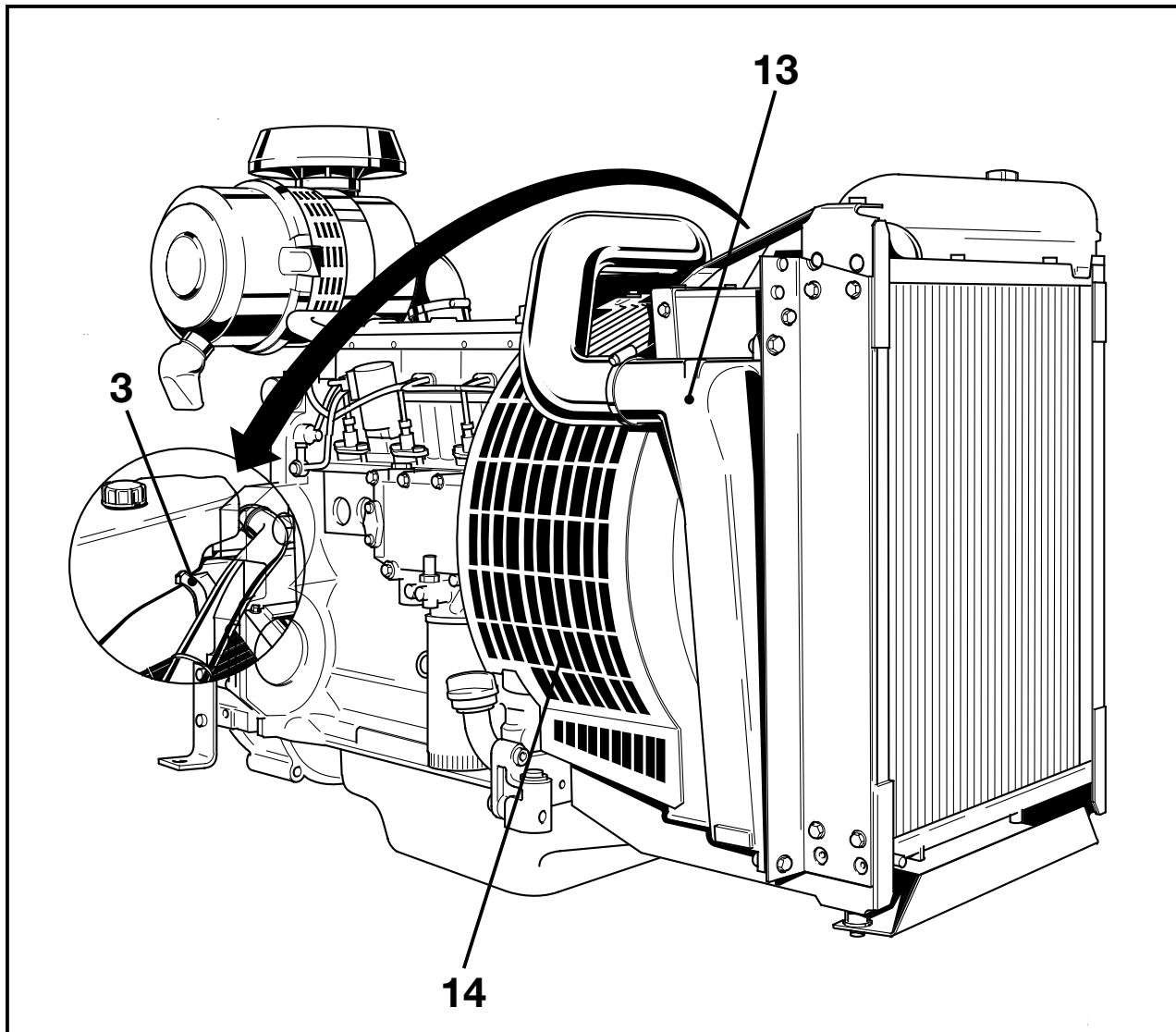


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- 1 Coolant filler neck with cap
- 2 Reservoirs (ABH)
- 3 Vent pipe from the cylinder head to the off-ervoir
- 4 Coolant line from the engine crankcase to the engine liquid cooler
- 5 Compensation line of the coolant pump to the reservoir
- 6 Turbo pipe from the exhaust turbocharger to intercooler (LLK)
- 7 Dry air filter
- 8 Intake air line between dry air filter and turbocharger
- 9 Turbocharger (ATL)
- 10 Coolant return the connection port
- 11 Intercooler (LLK)
- 12 Motor Chillers (MFK)
- 13 Coolant pipe from the engine chillers motor thermostat

Identification of engine parts

Starter side *BF4M1013EC*



- 3 Vent pipe from the cylinder head to expansion tank
- 13 Charge air ducting to the engine
- 14 Guard



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