

DEUTZ BFM 2011

For generator sets ■ 12-59 kW | 16-79 hp at 1500/1800 min⁻¹ | rpm ■ for markets without emission regulation

- Oil-cooled 2-, 3- and 4-cylinder naturally aspirated in-line engines. 4-cylinder engines also with turbocharging and optional charge air cooling.
- Direct injection with single injection pumps and optional electronic governor.
- High reliability combined with durability. No corrosion or cavitation due to oil cooling and lubrication.
- Minimised running costs due to low maintenance need and little wear.
- Low fuel consumption due to optimised combustion.
- Up to 1000 hours oil change intervals.
- A very good load response ensures an immediate power supply.



TECHNICAL DATA

Engine type		F2M 2011	F3M 2011	F4M 2011	BF4M 2011	BF4M 2011 C
No. of cylinders		2	3	4	4	4
Bore/stroke	mm in	94/112 3.7/4.4	94/112 3.7/4.4	94/112 3.7/4.4	94/112 3.7/4.4	94/112 3.7/4.4
Displacement	l cu in	1.6 95	2.3 142	3.1 190	3.1 190	3.1 190
Weight (incl. cooler and fan)	kg lb	224 494	265 584	303 667	304 671	362 798
Governing standard ¹⁾		G2	G2	G2	G2	G2

50 Hz / 1500 min⁻¹ | rpm

Power		F2M 2011	F3M 2011	F4M 2011	BF4M 2011	BF4M 2011 C
Continuous Power COP ²⁾	kW hp	11.8 15.8	19.4 26.0	27.9 37.4	37.2 49.9	53.2 71.3
Prime Power PRP ³⁾	kW hp	12.4 16.6	20.4 27.4	29.4 39.4	39.2 52.6	56.0 75.04
Limited Time Power LTP ⁴⁾	kW hp	13.0 17.4	21.4 28.7	30.9 41.4	41.2 55.3	59.0 79.1
Fan power consumption	kW hp	0.4 0.5	0.4 0.5	0.4 0.5	1.0 1.3	2.1 2.8
Typical Generator Output COP ⁵⁾	kVA	13	21	31	41	58
Typical Generator Output PRP ⁵⁾	kVA	13	22	33	43	61
Typical Generator Output LTP ⁵⁾	kVA	14	23	34	45	64

60 Hz / 1800 min⁻¹ | rpm

Power		F2M 2011	F3M 2011	F4M 2011	BF4M 2011	BF4M 2011 C
Continuous Power COP ²⁾	kW hp	14.3 19.2	22.1 29.6	31.8 42.6	42.8 57.4	-
Prime Power PRP ³⁾	kW hp	15.0 20.1	23.3 31.2	33.5 44.9	45.0 60.3	-
Limited Time Power LTP ⁴⁾	kW hp	15.8 21.2	24.5 32.9	35.2 47.2	47.3 63.4	-
Fan power consumption	kW hp	0.7 0.9	0.7 0.9	0.7 0.9	1.8 2.4	-
Typical Generator Output COP ⁵⁾	kWe	12	19	28	37	-
Typical Generator Output PRP ⁵⁾	kWe	13	20	30	39	-
Typical Generator Output LTP ⁵⁾	kWe	13	21	31	41	-

1) According to ISO 8528-5.

2) Continuous Power: No time limitation, plus 10% additional power for governing purpose only.

3) Prime Power: Average power output ≤ 80%, no time limitation, plus 5% additional power for governing purpose only.

4) Limited Time Running Power: For up to 500 h/year, thereof a maximum of 300 h/year continuous running.

5) In consideration of a generator efficiency level of 89 - 90 % and a power factor of 0.8.

50 Hz / 1500 min⁻¹ | rpm

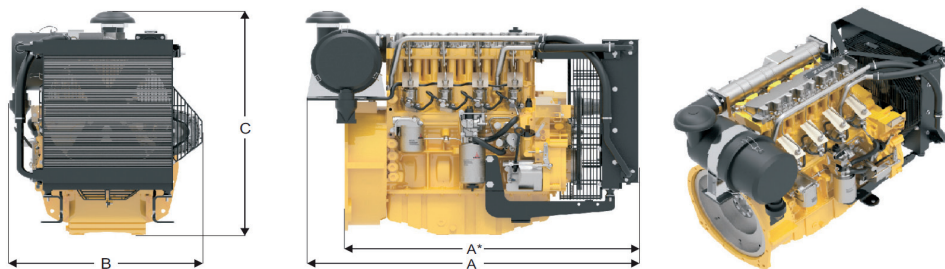
Fuel Consumption PRP ¹⁾		F2M 2011	F3M 2011	F4M 2011	BF4M 2011	BF4M 2011 C
Fuel consumption 25% load	g/kWh lb/hph	300 0.49	300 0.49	298 0.49	253 0.42	229 0.38
Fuel consumption 50% load	g/kWh lb/hph	237 0.39	230 0.38	226 0.37	219 0.36	206 0.34
Fuel consumption 75% load	g/kWh lb/hph	222 0.36	218 0.36	217 0.36	215 0.35	206 0.34
Fuel consumption 100% load	g/kWh lb/hph	227 0.37	225 0.37	225 0.37	221 0.36	209 0.34
Heat balance & cooling system		F2M 2011	F3M 2011	F4M 2011	BF4M 2011	BF4M 2011 C
Heat dissipation (engine radiator) ²⁾	kW hp	6.8 9.1	10.9 14.6	16.1 21.6	23.0 30.8	28.3 38.0
Heat dissipation (CAC) ²⁾	kW hp	-	-	-	-	7.4 9.9
Heat dissipation (convection)	kW hp	2.2 3.0	2.7 3.6	4.0 5.4	5.3 7.1	7.9 10.6
Cooling air flow	m ³ /h cfm	1800 1059	1800 1059	1800 1059	2370 1395	3200 1883
Inlet & exhaust data		F2M 2011	F3M 2011	F4M 2011	BF4M 2011	BF4M 2011 C
max. intake depression	mbar psi	20 0.29	20 0.29	20 0.29	20 0.29	20 0.29
Combustion air volume	m ³ /h cfm	61 34	86 51	122 72	168 99	241 142
max. exhaust gas temperature	°C °F	540 1004	611 1132	599 1110	611 1132	570 1058
Exhaust gas flow	m ³ /h cfm	169 99	236 139	337 198	468 275	704 414

60 Hz / 1800 min⁻¹ | rpm

Fuel Consumption PRP ¹⁾		F2M 2011	F3M 2011	F4M 2011	BF4M 2011	BF4M 2011 C
Fuel consumption 25% load	g/kWh lb/hph	305 0.50	303 0.50	272 0.45	260 0.43	-
Fuel consumption 50% load	g/kWh lb/hph	244 0.40	235 0.39	228 0.37	220 0.36	-
Fuel consumption 75% load	g/kWh lb/hph	227 0.37	223 0.37	218 0.36	217 0.36	-
Fuel consumption 100% load	g/kWh lb/hph	231 0.38	229 0.38	225 0.37	223 0.37	-
Heat balance & cooling system		F2M 2011	F3M 2011	F4M 2011	BF4M 2011	BF4M 2011 C
Heat dissipation (engine radiator) ²⁾	kW hp	8.7 11.7	13.5 18.1	20.2 27.1	28.7 38.5	-
Heat dissipation (CAC) ²⁾	kW hp	-	-	-	-	-
Heat dissipation (convection)	kW hp	2.5 3.4	3.4 4.6	5.0 6.7	6.5 8.7	-
Cooling air flow	m ³ /h cfm	2160 1271	2160 1271	2160 1271	2850 1677	-
Inlet & exhaust data		F2M 2011	F3M 2011	F4M 2011	BF4M 2011	BF4M 2011 C
max. intake depression	mbar psi	20 0.29	20 0.29	20 0.29	20 0.29	-
Combustion air volume	m ³ /h cfm	68 40	104 61	137 81	191 112	-
max. exhaust gas temperature	°C °F	570 1058	580 1076	660 1220	600 1112	-
Exhaust gas flow	m ³ /h cfm	212 125	312 184	428 252	560 330	-

1) Refers to diesel with a density of 0.835 kg/dm³ at 15°C | 6.96 lb/US gallon at 60°F.

2) The heat quantities are valid for the dimensioning of the cooling system.

DIMENSIONS

Engine type		A	A*	B	C
F2M 2011	mm	845	720	645	760
F3M 2011	mm	955	830	645	760
F4M 2011	mm	1065	940	645	780
BF4M 2011	mm	1070	940	625	805
BF4M 2011 C	mm	1185	1055	725	805

* The engine dimensions and weights vary depending on the scope of delivery.

The data on this data sheet are for information purposes only and are not binding values. For more information please contact your responsible sales partner.

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