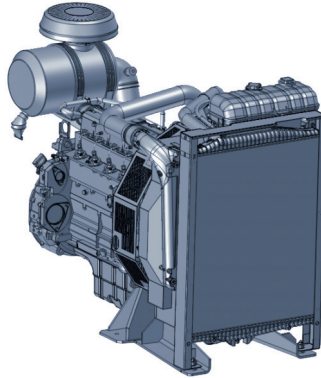


# BFM 1013

Deutz BF6M1013EC  
for generator sets

81 - 225 kW | 109 - 302 hp at 1500/1800 min<sup>-1</sup>|rpm  
EU Stage II / US EPA Tier 2

- Water-cooled 4 and 6-cylinder inline engines with turbocharging and charge air cooling
- The robust engine design allows worldwide operation even with high sulphur fuels.
- Easy, inexpensive installation due to minimum weight and small installation space.
- Best cold starting performance even under extreme conditions.



- Low noise emissions due to acoustically optimized components with very smooth running and high durability.
- Also available with an electronic motor regulator (EMR) to allow easy integration into the electronic device control and monitoring system.
- A very good load response ensures an immediate power supply.

## Technical data

Engine type		BF4M1013EC	BF4M1013FC	BF6M1013EC	BF6M1013FC
No. of cylinders		4	4	6	6
Bore/stroke	mm   in	108/130   4.25/5.12	108/130   4.25/5.12	108/130   4.25/5.12	108/130   4.25/5.12
Displacement	l   cu in	4.8   291	4.8   291	7.2   436	7.2   436
Weight (incl. cooler and fan)	kg   lb	560   1235	560   1235	770   1698	770   1698
Governing standard <sup>1)</sup>		G2	G2	G2	G2

## 50 Hz / 1500 min<sup>-1</sup>

Power		BF4M1013EC	BF4M1013FC	BF6M1013EC	BF6M1013FC
Continuous Power (COP) <sup>2)</sup>	kW   hp	81.0/92.0   108.6/123.4	106.0   142.1	139.0   186.4	166.0   222.6
Prime Power (PRP) <sup>3)</sup>	kW   hp	85.0/97.0   114.0/130.1	117.0   156.9	146.0   195.8	183.0   245.4
Limited Time Power (LTP) <sup>4)</sup>	kW   hp	89.0/102.0   119.4/136.8	129.0   173.0	153.0   205.2	201.0   269.5
Fan power consumption	kW   hp	5.9   7.9	5.0   6.7	7.2   9.7	7.2   9.7
Typical Generator Output COP <sup>5)</sup>	kVA	85/97	116	152	183
Typical Generator Output PRP <sup>5)</sup>	kVA	89/103	129	160	202
Typical Generator Output LTP <sup>5)</sup>	kVA	94/108	143	168	223

## 60 Hz / 1800 min<sup>-1</sup>

Power		BF4M1013EC	BF4M1013FC	BF6M1013EC	BF6M1013FC
Continuous Power (COP) <sup>2)</sup>	kW   hp	86.0/100.0   115.3/134.1	112.0   150.2	148.0   198.5	186.0   249.4
Prime Power (PRP) <sup>3)</sup>	kW   hp	90.0/105.0   120.7/140.8	124.0   166.3	155.0   207.9	204.0   273.6
Limited Time Power (LTP) <sup>4)</sup>	kW   hp	95.0/110.0   127.4/147.5	136.0   182.4	163.0   218.6	224.9   301.6
Fan power consumption	kW   hp	10.2   13.7	8.7   11.7	8.7   11.7	12.4   16.6
Typical Generator Output COP <sup>5)</sup>	kWe	68/81	93	128	160
Typical Generator Output PRP <sup>5)</sup>	kWe	72/85	104	135	176
Typical Generator Output LTP <sup>5)</sup>	kWe	76/90	115	142	196

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 90 - 92 % and a power factor of 0.8.

## 50 Hz / 1500 min<sup>-1</sup>

Fuel Consumption (PRP) <sup>1)</sup>		BF4M1013EC	BF4M1013FC	BF6M1013EC	BF6M1013FC
Fuel consumption 25% load	g/kWh   lb/hph	246/237   0.40/0.39	221   0.36	234   0.38	222   0.36
Fuel consumption 50% load	g/kWh   lb/hph	215/214   0.35/0.35	204   0.34	213   0.35	210   0.35
Fuel consumption 75% load	g/kWh   lb/hph	210/211   0.35/0.35	203   0.33	209   0.34	208   0.34
Fuel consumption 100% load	g/kWh   lb/hph	209/212   0.34/0.35	210   0.35	209   0.34	212   0.35
Heat balance & cooling system		BF4M1013EC	BF4M1013FC	BF6M1013EC	BF6M1013FC
Heat dissipation (engine radiator) <sup>2)</sup>	kW   hp	47.8/52.5   64.1/70.4	62.7   84.1	68.4   91.7	96.1   128.9
Heat dissipation (CAC) <sup>2)</sup>	kW   hp	9.9/13.1   13.3/17.6	23.7   31.8	24.0   32.2	42.0   56.3
Heat dissipation (convection)	kW   hp	9.0/10.0   12.0/13.0	13.0   17.0	15.5   20.8	20.0   26.8
Cooling air flow	m <sup>3</sup> /h   cfm	6100   3590	9000   5297	10800   6357	11520   6780
Inlet & exhaust data		BF4M1013EC	BF4M1013FC	BF6M1013EC	BF6M1013FC
max. intake depression	mbar   psi	25   0.36	25   0.36	25   0.36	25   0.36
Combustion air volume	m <sup>3</sup> /h   cfm	329/365   194/215	482   284	639   376	746   439
max. exhaust gas temperature	°C   °F	540/560   1004/1040	530   986	535   995	530   986
Exhaust gas flow	m <sup>3</sup> /h   cfm	951/1102   560/649	1389   818	1799   1059	2112   1243

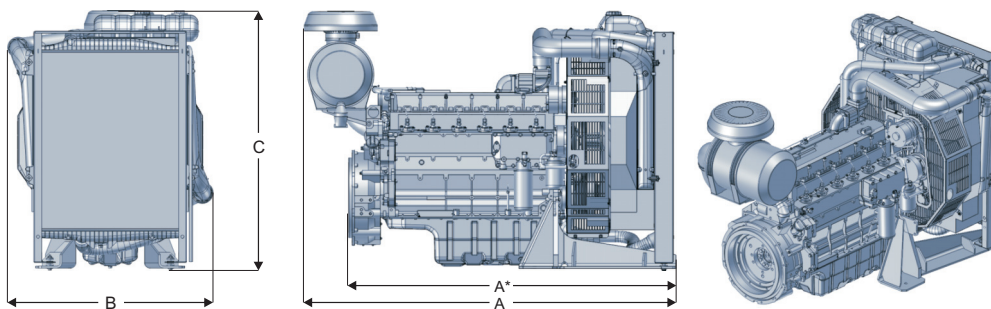
## 60 Hz / 1800 min<sup>-1</sup>

Fuel Consumption (PRP) <sup>1)</sup>		BF4M1013EC	BF4M1013FC	BF6M1013EC	BF6M1013FC
Fuel consumption 25% load	g/kWh   lb/hph	270/251   0.44/0.41	235   0.39	253   0.42	231   0.38
Fuel consumption 50% load	g/kWh   lb/hph	228/219   0.37/0.36	212   0.35	220   0.36	215   0.35
Fuel consumption 75% load	g/kWh   lb/hph	217/213   0.36/0.35	211   0.35	214   0.35	214   0.35
Fuel consumption 100% load	g/kWh   lb/hph	215/212   0.35/0.35	219   0.36	214   0.35	221   0.36
Heat balance & cooling system		BF4M1013EC	BF4M1013FC	BF6M1013EC	BF6M1013FC
Heat dissipation (engine radiator) <sup>2)</sup>	kW   hp	51.8/53.3   69.5/71.5	68.1   91.3	73.5   98.6	109.8   147.2
Heat dissipation (CAC) <sup>2)</sup>	kW   hp	17.3/21.0   23.2/28.2	30.7   41.2	33.7   45.2	50.9   68.3
Heat dissipation (convection)	kW   hp	9.5/11.0   12.7/14.8	13.5   18.1	16.0   21.5	22.5   30.2
Cooling air flow	m <sup>3</sup> /h   cfm	7600   4473	11520   6780	11500   6769	14760   8687
Inlet & exhaust data		BF4M1013EC	BF4M1013FC	BF6M1013EC	BF6M1013FC
max. intake depression	mbar   psi	25   0.36	25   0.36	25   0.36	25   0.36
Combustion air volume	m <sup>3</sup> /h   cfm	425/466   250/274	576   339	801   472	946   557
max. exhaust gas temperature	°C   °F	490/520   914/968	530   986	480   896	530   986
Exhaust gas flow	m <sup>3</sup> /h   cfm	1160/1316   683/775	1653   973	2097   1234	2666   1569

1) Refers to diesel with a density of 0.835 kg/dm<sup>3</sup> 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



		A	A*	B	C
BF4M1013EC/FC	mm   in	1479   58	1250   49	728   29	1151   45
BF6M1013EC	mm   in	1870   74	1641   65	866   34	1239   49
BF6M1013FC	mm   in	1923   76	1694   67	1003   39	1586   62

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