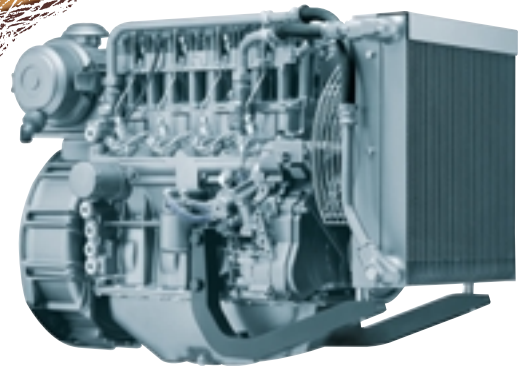


1011. The Genset Engine.



19-52 kVA at 1500/1800/3000 min⁻¹



The engine with external oil cooling system.

These are the characteristics of the 1011 GEN:

- 3- and 4-cylinder naturally aspirated in-line engine.
- 4-cylinder turbocharged too.
- Displacement: 0.73 l / cylinder.
- Fully oil cooled (with conventional cooling system).
- Acoustically optimized crankcase.
- All servicing points on one side.
- Low vibrations.
- Electronic governor (option).
- Compact design and low weight.
- Global service network with over 3,000 locations.

These are the benefits for you:

- ▶ Low noise emission. This eliminates the need for costly noise abatement measures.
- ▶ Long service intervals: 1.000 hours oil change intervals and low fuel consumption mean savings in operating costs.
- ▶ Low installation costs.
- ▶ Extremely high load acceptance ensures immediate power supply.
- ▶ Single fluid for both cooling and lubrication avoids corrosion and cavitation.
- ▶ High reliability and durability. Low maintenance costs and less wearing parts.

► Technical Data

Engine type		F3M 1011 F			F4M 1011 F			BF4M 1011 F	
Speed	min ⁻¹	1500	1800	3000	1500	1800	3000	1500	1800
Frequency	Hz	50	60	50	50	60	50	50	60
Engine/genset rating¹⁾									
Continuous power, ICN (COP) ²⁾	kW	17.2	22.0	32.0	23.8	29.9	43.8	33.7	41.4
Prime power, ICN (PRP) ³⁾	kW	18.0	23.1	33.5	24.9	31.3	45.9	35.3	43.3
Limited-time running power, IFN (LTP) ⁴⁾	kW	19.0	24.3	35.3	26.2	32.9	48.1	37.1	45.6
Typical generator power output (COP) ⁵⁾	kVA	19.0	24.0	35.0	26.0	33.0	47.0	37.0	45.0
Typical generator power output (PRP) ⁵⁾	kVA	20.0	25.0	36.0	28.0	34.0	49.0	38.0	47.0
Typical generator power output (LTP) ⁵⁾	kVA	21.0	27.0	38.0	29.0	36.0	52.0	41.0	49.0
Basic engine data									
Inertia moment J									
- Engine without flywheel	kg/m ²	0.0748			0.0738			0.0754	
- Flywheel	kg/m ²	1.2	1.2	1.2	1.2	1.2	1.2	1.71	1.71
Weight, engine with radiator	kg	285	285	285	320	320	320	342	342
Governing									
Governor mechanical		DEUTZ Governor			DEUTZ Governor			DEUTZ Governor	
- Speed droop (static)	%	4	4	4	4	4	4	4	4
Governor electronic		GAC	GAC	GAC	GAC	GAC	GAC	GAC	GAC
- Speed droop (static, option)	%	0	0	0	0	0	0	0	0
Control quality ⁶⁾		M3/M4			M3/M4			M3/M4	
Load acceptance									
Recovery time									
at 80 % continuous power (COP)	sec.	1	1	0.3	1	-	-	2	2
at 100 % continuous power (COP)	sec.	1	1	0.3	1	-	-	2	2
Fuel system									
Specific fuel consumption at COP ⁷⁾									
100 % load	g/kWh	217	217	234	214	214	235	212	205
75 % load	g/kWh	222	218	245	219	217	245	212	207
50 % load	g/kWh	240	235	280	238	233	280	228	218
25 % load	g/kWh	330	340	410	335	325	430	285	280
Cooling system/cooling capacity									
Cooling air volume	m ³ /h	1730	1730	2160	1730	1730	2160	2160	2160
Max. permissible air flow resistance	mbar	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Max. coolant temperature at engine outlet	°C	135	135	135	135	135	135	135	135
Heat radiation	kW	3.15	4.0	5.6	5.2	6.5	9.8	7.9	9.7
Lubrication system									
Lube oil consumption relative to fuel consumption at full load	ca. %	0.3	0.3	0.3	0.3	0.3	0.3	0.5	0.5
Lube oil specification		For further details on fuel specification see operation manual							
Lube oil volume, oil pan (max./min.)	l	5.5/4	5.5/4	5.5/4	10/9	10/9	10/9	10/9	10/9
Oil temperature max.	°C	130	130	130	130	130	130	130	130
Full-flow filter	No./l	1/0.2	1/0.2	1/0.2	1/0.2	1/0.2	1/0.2	1/0.2	1/0.2
Min. oil pressure (alarm)	bar	2.1	2.3	3.1	2.1	2.3	3.1	2.1	2.3

► Technical Data

Engine type		F3M 1011 F			F4M 1011 F			BF4M 1011 F	
Speed	min ⁻¹	1500	1800	3000	1500	1800	3000	1500	1800
Frequency	Hz	50	60	50	50	60	50	50	60
Combustion air system									
Combustion air volume (COP)	m ³ /h	80	95	160	110	130	220	140	180
Max. intake vacuum (filter clean)	mbar	10	10	25	10	10	30	10	10
Exhaust system									
Exhaust gas mass flow at full load (COP)	kg/h	100	120	195	136	160	275	168	215
Exhaust temperature at full load and 25°C ambient temperature	°C	490	525	580	480	525	600	545	510
Max. permissible exhaust backpressure	mbar	30	30	62	30	–	62	30	30
Exhaust flange	mm	45	45	45	45	45	45	45	45
TA-Luft (4000)	mg/nm ³	no	no	no	no	no	yes	yes	yes
Engine electrics									
Electrical equipment:									
- Voltage	V	12	12	12	12	12	12	12	12
- Starter	kW	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1
- Alternator	A/V	55/14	55/14	55/14	55/14	55/14	55/14	55/14	55/14
- Battery (min. capacity)	Ah	66	66	66	66	66	66	66	66
- Coolant preheating units	W	–	–	–	–	–	–	–	–
Cold-start capability									
Cold-start limit temperature:									
- with starting aid	°C	-30	-30	-30	-30	-30	-30	-30	-30
- without starting aid	°C	-10	-10	-10	-10	-10	-10	-10	-10
Noise emission⁸⁾									
Sound power level	dB(A)/1pW	99	101	106	99,5	101	106,5	97,5	99,5
Sound pressure level at full load, 1 m distance	dB(A)	86,5	88	93,5	86,5	88	99,5	84,5	86,5

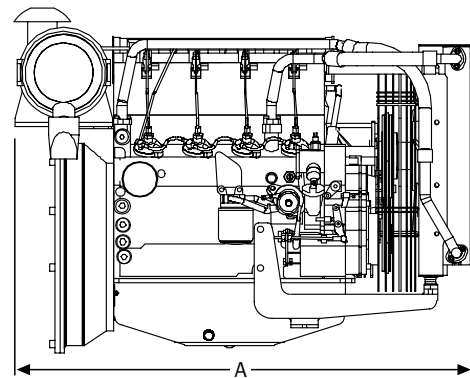
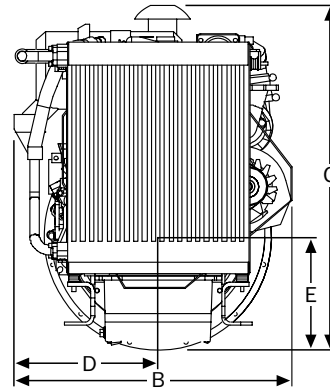
- 1) Power reduction caused by altitude and temperature possible. Power ratings without fan power requirement. For more details please contact DEUTZ.
- 2) Continuous power 100 % available at flywheel, no time limitation, plus 10 % extra power for governing purposes.
- 3) Prime power 100 %, permissible average power output equal to or below 60 %, no time limitation plus 5 % extra power for governing purposes.
- 4) Limited-time running power 100 %, which can be delivered during 500 running h/year, thereof max. 300 running h/year continuously, no overload permissible; the required extra power for governing purposes must be taken into account however.
- 5) Taking into account typical generator efficiency (0.9) and power factor $\cos(\varphi) = 0.8$.
- 6) Performance acc. to ISO 8528.
- 7) Fuel specification: see operation manual.
- 8) Without cooling system.

The values given in this data sheet are for information purposes only and not binding. The information given in the offer is decisive.

► Standard specification

- Standard engine:** Basic parts
- Cooling system:** Cooling system
Pusher-type fan
Guard
V-belt guard
- Exhaust system components:** Exhaust manifold (BF4 L/M 1011 F, Turbocharger (air inlet at flywheel end) and exhaust bend
Counterflange (loose)
Without exhaust silencer
- Filter:** Dry air cleaner mounted for restriction indicator
Restriction indicator (loose)
Fuel filter
- Governor:** Mech. governor
Fine speed control
- Flywheel:** Flywheel for 11.5" connection
 $J=1.2 \text{ kgm}^2$ for $n=1500/1800 \text{ min}^{-1}$,
 3000 min^{-1} (FM 1011 F)
 $J=1.8 \text{ kgm}^2$ for $n=1500/1800 \text{ min}^{-1}$
(BF4 L/M 1011 F)
- Adapter housing:** SAE 3 housing
- Engine mounting:** Rigid engine mounting, front end
- Engine electrics:** Electric engine shutdown (de-energized for shutdown)
Starter 12 V, 3.1 kW
Alternator 14 V, 55 A
Oil pressure switch (speed-dependent)
Oil temperature sensor with switch contact
Cable harness (mounted) with mating connector (loose)
- Miscellaneous:** Painting
Without operation manual

► Dimensions



Engine type		A	B	C	D	E
F3M 1011 F	mm	905	627	696	324	224
F4M 1011 F	mm	1032	629	740	326	245
BF4M 1011 F	mm	1034	629	781	326	245



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