

1011. Der Gen Motor.



18-60 kVA at 1500/1800/3000 min⁻¹



The engine with integrated cooling system.

These are the characteristics of the 1011 GEN:

- 2-, 3- and 4-cylinder naturally aspirated in-line engine.
- 4-cylinder turbocharged too.
- Displacement: 0.68 l/cylinder.
- Integrated cooling system (complete package with integraf cooling system)
- Acoustically optimized crankcase.
- All service points on one side.
- Low vibrations characteristics.
- Electronical engine governor.
- 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 saving in operating costs.
- ▶ Low installation costs.
- ▶ Extremely high load acceptance ensures an immediately available energy supply.
- ▶ Single fluid for both cooling and lubrication avoids corrosion and caritation.
- ▶ High reliability and durability. Low maintenance costs and low wear and tear.

► Technical data

Engine type		F2L 1011 F			F3L 1011 F			F4L 1011 F			BF4L 1011 F		
Speed	min ⁻¹	3000	1500	1800	3000	1500	1800	3000	1500	1800	3000		
Frequency	Hz	50	50	60	50	50	60	50	50	60	50		
Engine/genset ratings¹⁾													
Continuous power, ICN (COP) ²⁾	kW	20.0	16.0	20.5	30.0	21.5	27.5	40.0	28.5	36.0	48.0		
Prime power, ICN (PRP) ³⁾	kW	21.0	17.0	22.0	31.0	22.5	29.0	42.0	30.5	38.0	50.0		
Limited-time running power, IFN (LTP) ⁴⁾	kW	22.0	18.0	23.0	33.0	24.0	30.5	44.0	32.0	40.0	53.0		
Typical generator power output (COP) ⁵⁾	kVA	23.0	18.0	23.0	34.0	24.0	31.0	45.0	32.0	41.0	54.0		
Typical generator power output (PRP) ⁵⁾	kVA	24.0	19.0	25.0	35.0	25.0	33.0	47.0	34.0	43.0	56.0		
Typical generator power output (LTP) ⁵⁾	kVA	25.0	20.0	26.0	37.0	27.0	34.0	50.0	36.0	45.0	60.0		
Basic engine data													
Inertia moment J													
- Engine without flywheel	kg/m ²	0.059	0.0678			0.0668			0.0694				
- Flywheel	kg/m ²	0.499	0.8	0.8	0.499	0.8	0.8	0.405	0.8	0.8	0.405		
Weight, engine with radiator	kg	167	208	208	208	249.5	249.5	249.5	256.5	256.5	256.5		
Governing													
Governor mechanical		DEUTZ Regler			DEUTZ Regler			DEUTZ Regler			DEUTZ Regler		
- Speed droop (static)	%	4	4	4	4	4	4	4	4	4	4		
Governor electronic		GAC			GAC			GAC			GAC		
- Speed droop (static, option)	%	0	0	0	0	0	0	0	0	0	0		
Control quality ⁶⁾		M3/M4			M3/M4			M3/M4			M3/M4		
Load acceptance													
Recovery time													
at 80 % continuous power (COP)	sec.	-	1	1	0.3	1	-	-	2	2	2		
at 100 % continuous power (COP)	sec.	-	1	1	0.3	1	-	-	2	2	2		
Fuel system													
Specific fuel consumption at COP ⁷⁾													
100 % load	g/kWh	251	225	224	240	220	220	242	224	218	238		
75 % load	g/kWh	270	237	230	256	228	225	256	227	223	255		
50 % load	g/kWh	325	260	255	288	252	246	300	245	240	300		
25 % load	g/kWh	525	380	350	450	370	360	465	340	330	500		
Cooling system/cooling capacity													
Cooling air volume	m ³ /h	1015	788	945	1575	1075	1267	2111	1301	1563	2601		
Max. permissible air flow resistance	mbar	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5		
Heat quantity dissipated via radiation	kW	3.7	3.0	3.8	5.4	4.4	5.6	7.2	6.3	7.6	9.7		
Lubrication system													
Lube oil consumption of fuel consumption at full load	ca. %	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.5	0.5	0.5		
Lube oil specification		For further details on fuel specification see operating manual											
Lube oil volume, oil pan (max./min.)	l	6/5	5.5/4			10/8.5			10/8.5				
Oil temperature max.	°C	130	130	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	1/0.2	1/0.2		
Min. oil pressure (alarm)	bar	3.1	2.1	2.3	3.1	2.1	2.3	3.1	2.1	2.3	3.1		

► Technical data

Engine type		F2L 1011 F			F3L 1011 F			F4L 1011 F			BF4L 1011 F		
Speed	min ⁻¹	3000	1500	1800	3000	1500	1800	3000	1500	1800	3000		
Frequency	Hz	50	50	60	50	50	60	50	50	60	50		
Combustion air system													
Combustion air volume flow (COP)	m ³ /h	102	78	92	155	105	124	200	122	158	330		
Max. intake vacuum (filter clean)	mbar	20	10	10	25	10	10	30	10	10	30		
Exhaust system													
Exhaust gas mass flow at full load (COP)	kg/h	122	94	112	190	128	150	245	150	190	395		
Exhaust temperature at full load and 25°C ambient temperature	°C	550	445	490	525	440	490	565	480	500	415		
Max. permissible exhaust backpressure	mbar	48	30	30	60	30	30	70	30	30	70		
Exhaust flange	mm	45	45	45	45	45	45	45	45	45	45		
TA-Luft (4000)	mg/nm ³	yes	no	yes	yes	no	no	yes	yes	yes	yes		
Engine electrics													
Electrical equipment:													
- Voltage	V	12	12	12	12	12	12	12	12	12	12		
- Starter	kW	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3		
- Alternator	A/V	60/14	60/14	60/14	60/14	60/14	60/14	60/14	60/14	60/14	60/14		
- Battery (min. capacity)	Ah	66	66	66	66	66	66	66	66	66	66		
Cold-start capability													
Cold-start limit temperature:													
- with starting aid	°C	-30	-30	-30	-30	-30	-30	-30	-30	-30	-30		
- without starting aid	°C	-10	-10	-10	-10	-10	-10	-10	-10	-10	-10		
Noise emission⁸⁾													
Sound power level	dB(A)/1 pW	107	101	102	108	101	103	109	98	99.5	109		
Sound pressure level at full load, 1 m distance	dB(A)	94	88	89	95	88	89.5	96	85	89.5	96		

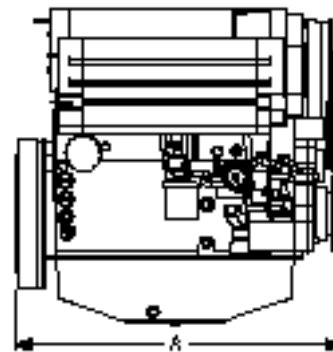
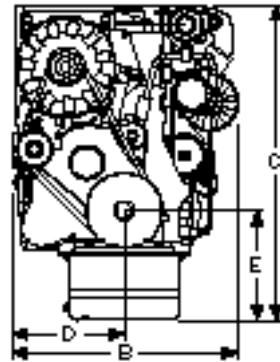
- 1) Power reduction caused by altitude and temperature possible. For details refer to DEUTZ. Emission optimized version.
- 2) Net-continuous power 100 % available at flywheel, no time limitation, plus 10 % extra power for governing purposes.
- 3) Net-prime power 100 %, permissible average power output equal to or below 60 %, no time limitation plus 5 % extra power for governing purposes.
- 4) Net-limited-time running power 100 %, which can be delivered during 500 running h/a, there of max. 300 running h/a continuously, no overload permissible; the required extra power for governing purposes must be taken into account however.
- 5) Taking into account typical generator efficiency, fan power input (NT-cooling system) and power factor $\cos(\varphi) = 0.8$. Generator efficiency: 0.9.
- 6) Performance acc. to ISO 8528.
- 7) Fuel specification: see operation manual.
- 8) With standard 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:**..... Integrated cooling system
Guard in front of fan
V-belt guard
- Exhaust system-
components:**..... Exhaust manifold (NA engines)
Turbocharger (air inlet at flywheel end)
Counterflange (loose)
Without exhaust silencer
- Filter:**..... Dry air cleaner (NA engines:
mounted / TC engines: loose)
Restriction indicator (loose)
Fuel filter
- Governor:**..... Mech. governor
Fine speed control
- Flywheel:**..... Flywheel for 6.5" connection
(2/3 cyl.) at 3000 min⁻¹
or for 8" and 10" connection
(4 cyl.) at 3000 min⁻¹
or for 8" connection
(3/4 cyl.) at 1500/1800 min⁻¹
J = 0.8 kgm² for n = 1500/1800 min⁻¹
(3/4 cyl.)
J = 0.499 kgm² for n = 3000 min⁻¹
(2/3 cyl.)
J = 0.405 kgm² for n = 3000 min⁻¹
(4 cyl.)
- Adapter housing:**..... For n = 1500 min⁻¹ SAE 4 housing
(3/4 cyl.)
For n = 3000 min⁻¹ SAE 4 housing
(4 cyl.)
For n = 3000 min⁻¹ SAE 5 housing
(2/3 cyl.)
- Engine mounting:**.... Rigid engine mounting, front end
- Engine electrics:**..... Electric engine shutdown
(de-energized for shutdown)
Starter motor 12 V, 2.2 kW
Alternator 14 V, 60 A
Oil pressure switch (speed-dependent)
Oil temperature sensor with
switch contact
Cable harness with connector
- Miscellaneous:**..... Painting
Without operation manual

► Dimensions



Engine type		A	B	C	D	E
F2L 1011 F	mm	500	456	678	248	215
F3L 1011 F	mm	611	456	678	248	215
F4L 1011 F	mm	722	501	702	293	239
BF4L 1011 F	mm	722	501	702	248	239



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