

General

Cylinders	2	
Cylinder arrangement	Vertical in-line	
Bore	94 mm	3.7 in.
Stroke	112 mm	4.4 in.
Cylinder Displacement	0.78 liter	47.4 in. ³
Total displacement	1.55 liter	94.8 in. ³
Compression ratio	19.0:1	
Combustion system	Direct injection	
Aspiration	Natural	

Fuel system

Lift pump suction head, max	3 m	118.1 in.
Lift pump flow @max rpm	19.5 l/h	5.2 GPH
Max restriction in fuel supply line	300 mbar	120 in. H ₂ O
Max restriction in fuel return line	200 mbar	80 in. H ₂ O
Max restriction in fuel pre-filter	200 mbar	80 in. H ₂ O
Fuel filter type	Spin-on cartridge	
Fuel consumption @ max rating	7.0 l/h	1.8 GPH
Fuel consumption @ peak torque	4.2 l/h	1.1 GPH

Combustion air system

Combustion air flow @ max rating	110.0 m ³ /h	64.7 CFM
Max allowable clean restriction	35 mbar	14 in. H ₂ O
Max allowable dirty restriction	45 mbar	18 in. H ₂ O
Max inlet temp rise over ambient	10 °C	18 °F

Exhaust system

Exhaust gas flow @ max rating	300.0 m ³ /h	176.6 CFM
Exhaust temp @ max rating	650 °C	1202 °F
Max allowable back pressure	50 mbar	20 in. H ₂ O

Cooling system

Type	Integrated oil cooling	
Cooling air flow rate @ max rpm	1453.0 m ³ /h	855.1 CFM
Max inlet air temp rise over ambient	10 °C	18 °F
Discharge air temp rise over inlet	40 °C	72 °F
Cowling pressure:		
Max loss due to inlet duct	10 %	
Max loss due to discharge duct	10 %	

Lubrication system

Lubrication type	Forced feed	
Oil flow through filter at max rpm	19.5 l/min	5.2 GPM
Oil pump relief valve setting	7 bar	102 psi
Max oil temperature in oil sump	135 °C	275 °F
Filter volume	0.4 liter	0.423 qt.
Oil change interval	1000 hours	

Electrical

Starter motor	12V, 2.3 kW	24V, 4.0 kW
Max battery CCA	950A	750A
Voltage drop, battery (+), max	1.0V	

Physical data

Length	487 mm	19.2 in.
Width	451 mm	17.8 in.
Height	683 mm	26.9 in.
Weight, dry	175 kg	385.0 lb.
Max bending @ housing:	450 Nm	331.7 lb-ft
Max force @ flywheel:		
Axial:	1500 N	337.8 lb.
Radial:	3700 N	833.3 lb.

Performance data

Peak torque	90 Nm	66.3 lb-ft
@ rpm	1700	
low idle speed	900 rpm	

	Genset	Variable speed		
		1800	2300	2500
Engine RPM				
kW, intermittent (LTP)	12.6	20.1	21.3	23.0
Hp, intermittent	17.1	27.3	29.0	31.3
kW, continuous (COP)	11.4	19.1	20.2	21.8
Hp, continuous	15.5	26.0	27.5	29.6

Fuel consumption

g/kWh	227.0	240.0	248.0	256.0
lb/hphr	0.372	0.394	0.407	0.420

Combustion air

m ³ /hr	67.0	90.0	98.0	110.0
CFM	39.4	53.0	57.7	64.7

Exhaust gas

m ³ /h	180.0	245.0	270.0	300.0
CFM	105.9	144.2	158.9	176.6

Cooling air

m ³ /h	934.0	1194.0	1297.0	1453.0
CFM	549.7	702.7	763.3	855.1

Noise, dB(A)

Avg. @ 1 meter

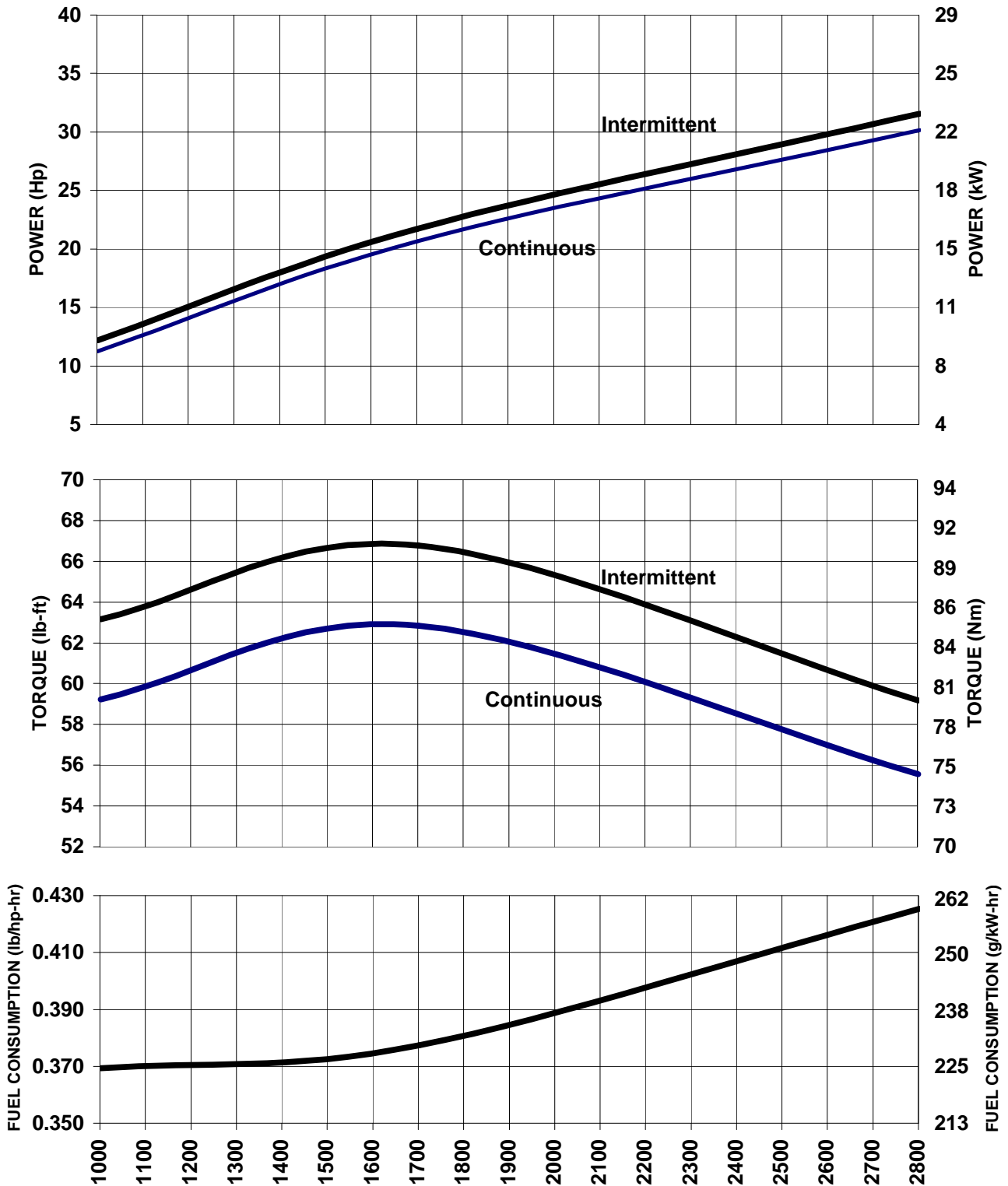
Certifications

U.S. EPA Non Road Tier 2
European COM 2

ENGINE PERFORMANCE CURVES

ENGINE MODEL
RATING STANDARD
RATED INTERMITTENT POWER
MAX. TORQUE
EMISSION CERTIFICATION

F2L2011
ISO 3046
31.3 Hp at 2800 rpm
66.3 lb-ft at 1700 rpm
EPA Tier 2 / COM 2



Tolerance: +/- 5% per ISO 3046

Reference conditions: 25 °C (77 °F) 99 kPa (29.31 in. Hg)

Fuel: 40 °C (104 °F) 0.850 kg/l (7.07 lb/gal)

Curves are based on current data and are subject to change without notice.

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