

General

Cylinders	4	
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	3.11 liter	189.7 in. ³
Compression ratio	17.5:1	
Combustion system	Direct injection	
Aspiration	Turbocharged	

Fuel system

Lift pump suction head, max	3 m	118.1 in.
Lift pump flow @max rpm	47.2 l/h	12.5 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	15.9 l/h	4.2 GPH
Fuel consumption @ peak torque	9.5 l/h	2.5 GPH

Combustion air system

Combustion air flow @ max rating	350.0 m ³ /h	206.0 CFM
Max allowable clean restriction	50 mbar	20 in. H ₂ O
Max allowable dirty restriction	65 mbar	26 in. H ₂ O
Max inlet temp rise over ambient	10 °C	18 °F

Exhaust system

Exhaust gas flow @ max rating	940.0 m ³ /h	553.2 CFM
Exhaust temp @ max rating	530 °C	986 °F
Max allowable back pressure	75.0 mbar	30 in. H ₂ O

Cooling system

Type	Integrated oil cooling	
Cooling air flow rate @ max rpm	0.0 m ³ /h	0.0 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	20.5 l/min	5.4 GPM
Oil pump relief valve setting	7 bar	102 psi
Max oil temperature in oil sump	130 °C	266 °F
Filter volume	0.4 liter	0.423 qt.
Oil change interval	500 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	710 mm	28.0 in.
Width	495 mm	19.5 in.
Height	703 mm	27.7 in.
Weight, dry	255 kg	561.0 lb.
Max bending @ housing:	900 Nm	663.3 lb-ft
Max force @ flywheel:		
Axial:	1500 N	337.8 lb.
Radial:	3700 N	833.3 lb.

Performance data

Peak torque	230 Nm	169.5 lb-ft
@ rpm	1600	
low idle speed	900 rpm	

	Genset	Variable speed			
		1800	2300	2500	2800
Net power					
Engine RPM	1800	2300	2500	2800	
kW, intermittent (LTP)		50.0	53.5	58.1	
Hp, intermittent	0.0	68.0	72.8	79.0	
kW, continuous (COP)	41.0	47.5	50.8	55.1	
Hp, continuous	55.8	64.6	69.1	74.9	

Fuel consumption

g/kWh	205.0	211.0	219.0	230.0
lb/hphr	0.336	0.346	0.359	0.377

Combustion air

m ³ /hr	190.0	265.0	295.0	350.0
CFM	111.8	156.0	173.6	206.0

Exhaust gas

m ³ /h	520.0	725.0	810.0	940.0
CFM	306.0	426.7	476.7	553.2

Cooling air

m ³ /h				
CFM	0.0	0.0	0.0	0.0

Noise, dB(A)

Avg. @ 1 meter

Certifications

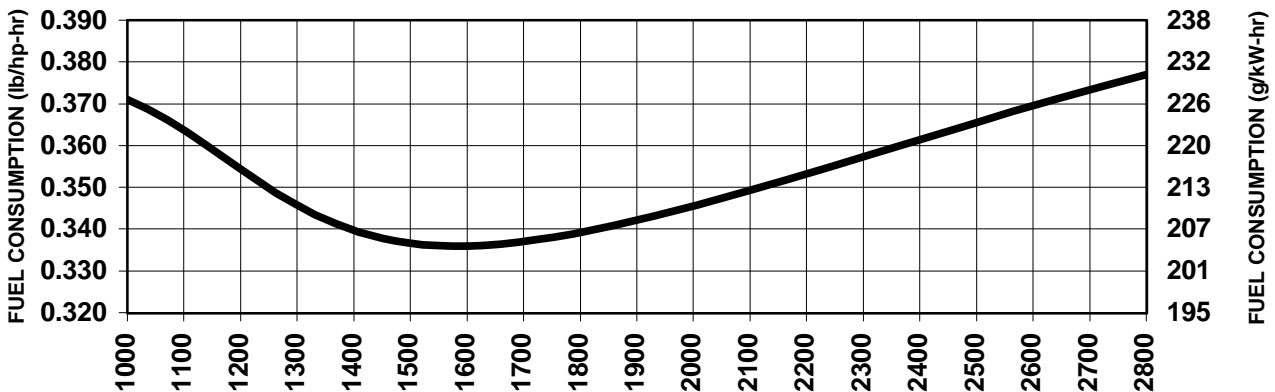
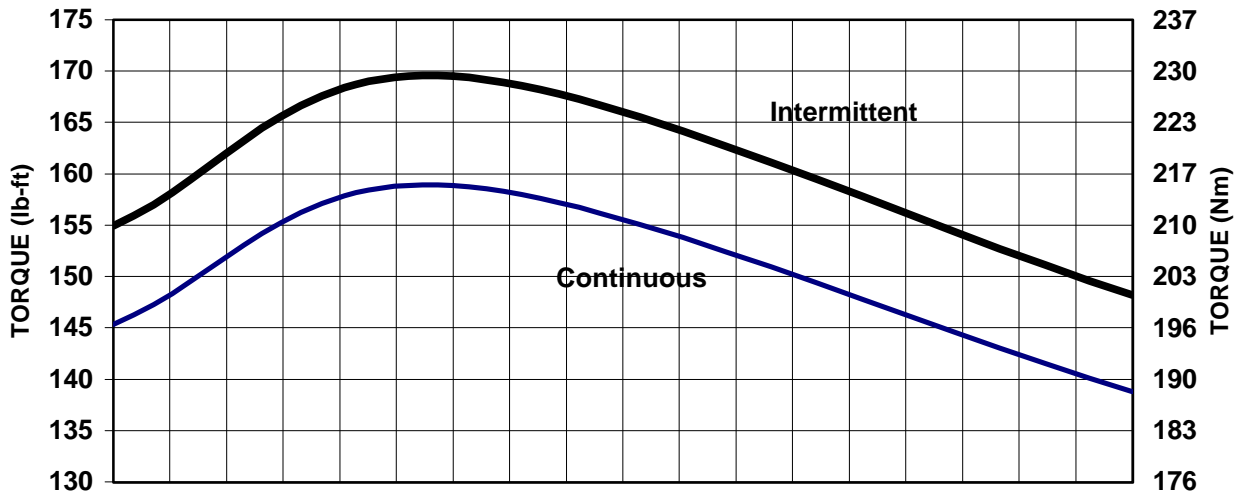
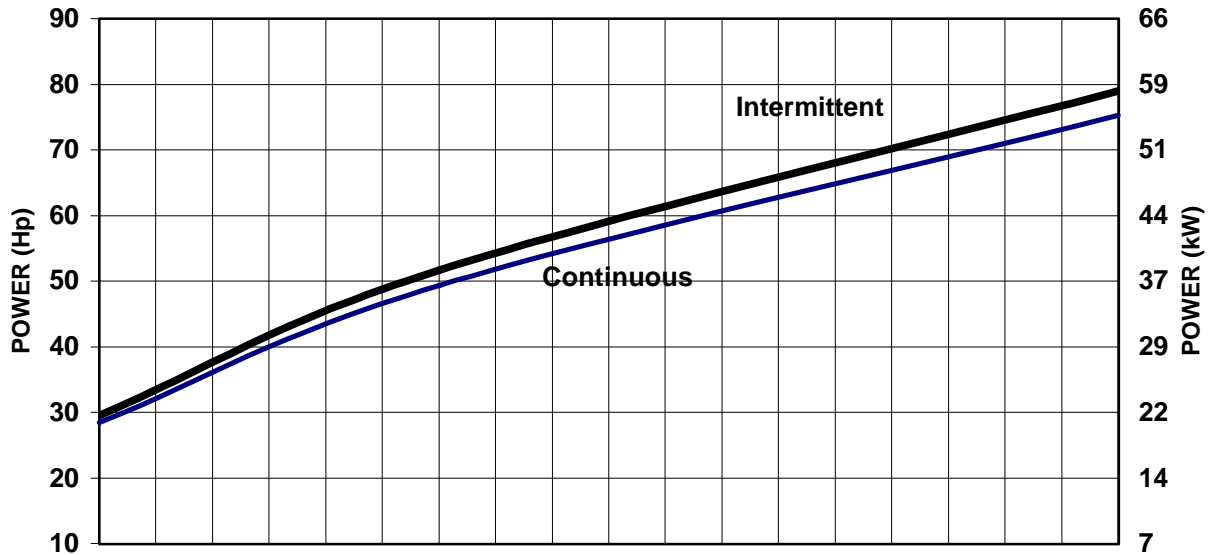
U.S. EPA Non Road Tier 1
 European COM 1 (37 - 75 KW)
 and COM 2 (18 - 37 KW)



ENGINE PERFORMANCE CURVES

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

BF4L2011
 ISO 3406
 79 Hp at 2800 rpm
 169.5 lb-ft at 1600 rpm
 EPA Tier 1 / COM 1/2



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)

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