

# 914. The engine for construction equipment.

44-149 kW at 2500 rpm



## These are the characteristics of the 914:

Air-cooled 3, 4, 5, 6 cylinder naturally aspirated in-line-engines.

3, 4, 6-cylinder turbocharged. 6-cylinder also charge air cooled.

Displacement: 1.1 l / cylinder.

Modular system with single cylinder unit.

Advanced injection and combustion system.

Electronic governor on request.

Worldwide approved: more than 3.0 Mio. engines in use.

Only few maintenance points.

Compact power-pack with low weight.

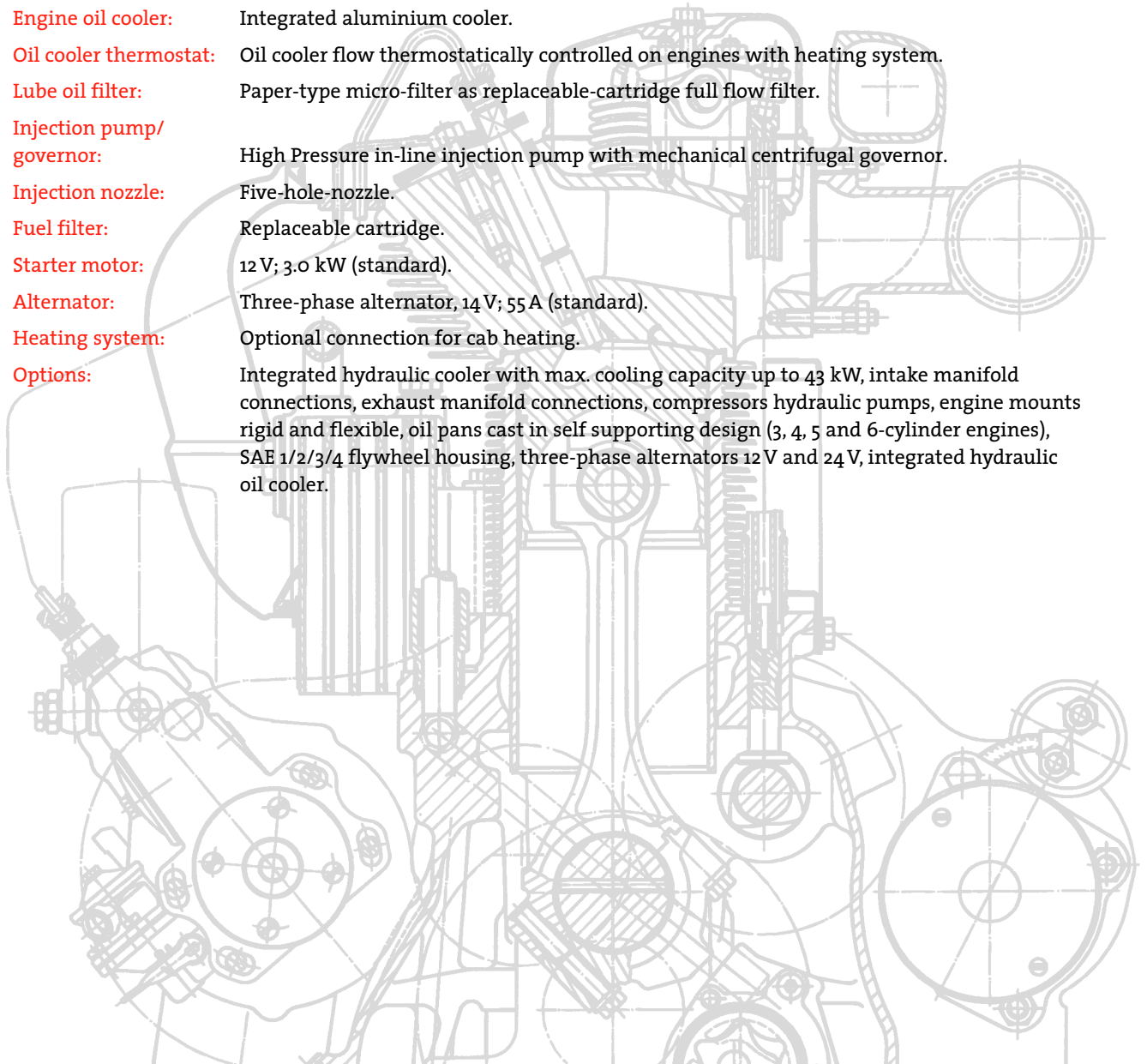


## Your benefits:

- ▶ Space saving and cost effective installation due to low weight and small installation space.
- ▶ Low exhaust emissions, meets exhaust regulations RL2000/88/EG, Step II + USA Nonroad CFR 40, Part 89, Tier II.
- ▶ Low maintenance requirements and legendary durability.
- ▶ Combination of high quality and sophisticated simple design.
- ▶ Global service network with over 1,000 locations.

## ► Engine description

<b>Cooling system:</b>	Air-cooled with integrated axial-flow blower.
<b>Crankcase:</b>	Grey cast iron.
<b>Cylinder head:</b>	Aluminium single cylinder heads.
<b>Valve arrangement/ timing:</b>	Overhead valves in the cylinder head, one inlet and one exhaust valve per cylinder, actuated via tappets, push-rods and rocker arms, driven by gears and camshaft.
<b>Piston:</b>	Three-ring piston: two compression rings and one oil scraper ring.
<b>Piston cooling:</b>	Oil spray via nozzle.
<b>Connecting rod:</b>	Drop-forged steel rod, diagonally split.
<b>Crankshaft:</b>	Nodular cast iron with integrated counterweights.
<b>Camshaft:</b>	Steel, seated in bi-metal bearing on the blower side.
<b>Lubrication system:</b>	Forced-feed circulation lubrication with rotary pump which feeds both lubricating and heating systems (if heating is fitted).
<b>Engine oil cooler:</b>	Integrated aluminium cooler.
<b>Oil cooler thermostat:</b>	Oil cooler flow thermostatically controlled on engines with heating system.
<b>Lube oil filter:</b>	Paper-type micro-filter as replaceable-cartridge full flow filter.
<b>Injection pump/ governor:</b>	High Pressure in-line injection pump with mechanical centrifugal governor.
<b>Injection nozzle:</b>	Five-hole-nozzle.
<b>Fuel filter:</b>	Replaceable cartridge.
<b>Starter motor:</b>	12 V; 3,0 kW (standard).
<b>Alternator:</b>	Three-phase alternator, 14 V; 55 A (standard).
<b>Heating system:</b>	Optional connection for cab heating.
<b>Options:</b>	Integrated hydraulic cooler with max. cooling capacity up to 43 kW, intake manifold connections, exhaust manifold connections, compressors hydraulic pumps, engine mounts rigid and flexible, oil pans cast in self supporting design (3, 4, 5 and 6-cylinder engines), SAE 1/2/3/4 flywheel housing, three-phase alternators 12 V and 24 V, integrated hydraulic oil cooler.



## ► Technical data

Engine type		F 3 L 914	F 4 L 914	F 5 L 914	F 6 L 914	BF 3 L 914	BF 4 L 914	BF 6 L 914	BF 6 L 914 C
Number of cylinders		3	4	5	6	3	4	6	6
Bore/stroke	mm   inch	102/132   4.01/5.19	102/132   4.01/5.19	102/132   4.01/5.19	102/132   4.01/5.19	102/132   4.01/5.19	102/132   4.01/5.19	102/132   4.01/5.19	102/132   4.01/5.19
Displacement	l   cu. inch	3.2   197	4.3   263	5.4   329	6.5   395	3.2   197	4.3   263	6.5   395	6.5   395
Compression ratio		20	20	20	20	18	18	18	18
Max. rated speed	rpm	2500	2500	2500	2500	2500	2500	2500	2500
Mean piston speed	m/s   ft/sec	11   36	11   36	11   36	11   36	11   36	11   36	11   36	11   36

### Power ratings for construction equipment engines<sup>1)</sup>

Power ratings	kW   hp net	44.0   59.0	59.0   79.1	71.7   96.1	89.0   119.3	51.0   68.4	71.7   96.1	110.0   147.5	141.0   189.0
	kW   hp gross	46.2   61.9	61.5   82.5	74.9   100.4	92.2   123.6	53.4   71.6	74.9   100.4	114.9   154.0	148.5   199.1
At speed	rpm	2500	2500	2500	2500	2300	2500	2500	2500
Mean effective pressure	bar   psi	6.53   94.6	6.56   95.0	6.41   92.8	6.60   95.6	8.01   116.0	8.01   116.0	8.16   118.2	10.46   151.5
Power ratings for engines highly intermittent operation									
	kW   hp net	44.0   59.0	59.0   79.1	71.7   96.1	89.0   119.3	51.0   68.4	71.7   96.1	110.0   147.5	141.0   189.0
	kW   hp gross	46.2   61.9	61.5   82.5	74.9   100.4	92.2   123.6	53.4   71.6	74.9   100.4	114.9   154.0	148.5   199.1
At speed	rpm	2500	2500	2500	2500	2300	2500	2500	2500
Mean effective pressure	bar	6.53   94.6	6.56   95.0	6.41   92.8	6.60   95.6	8.01   116.0	8.01   116.0	5.16   118.2	10.46   151.5
Intermittent operation									
	kW   hp net	42.0   56.3	56.0   75.1	70.0   93.9	85.0   114.0	–	71.7   96.1	109.0   146.2	131.0   175.7
	kW   hp gross	44.2   59.3	58.5   78.4	73.2   98.2	88.2   118.3	–	74.9   100.4	113.9   152.7	138.5   185.7
At speed	rpm	2500	2500	2500	2500	–	2500	2500	2500
Mean effective pressure	bar	6.23   90.2	6.33   91.7	6.23   90.2	6.30   91.3	–	8.01   116.0	8.08   117.0	9.71   140.6
Max. torque	Nm   lb-ft	202   149.0	270   199.1	333   245.6	400   295.0	257   189.5	355   264.7	550   405.6	700   516.2
At speed	rpm	1500	1500	1500	1500	1600	1600	1600	1600
Minimum idle speed	rpm	650	650	650	650	650	650	650	650
Specific fuel consumption <sup>2)</sup>	g/kWh   lb/hp-hr	215   0.348	215   0.348	215   0.348	220   0.356	220   0.356	220   0.356	220   0.356	210   0.340
Weight to DIN 70020, part 7A <sup>3)</sup>	kg   lb	277   610.7	307   676.8	380   837.7	430   948.0	312   687.8	350   771.6	485   1069.2	510   1124.3

1) Power ratings without deduction fan power requirement, incl. cooling system.

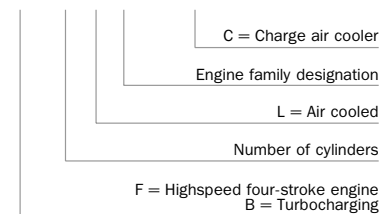
2) At optimal operating point without cooling fan, based on diesel fuel with a specific gravity of 0.835 kg/dm<sup>3</sup> at 15°C.

3) Without starter motor/alternator, radiator and liquids, but with flywheel and flywheel housing and complete integrated cooling system. Characteristics based on max. possible torque.

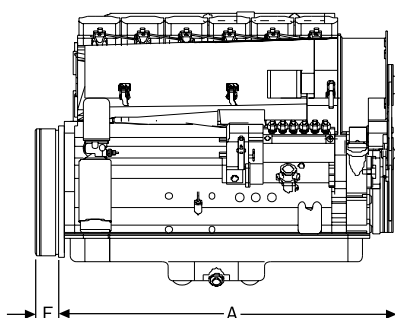
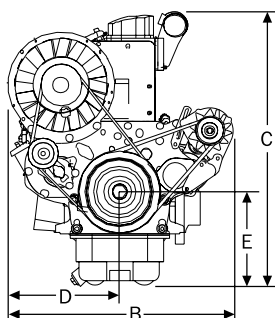
The values given in this data sheet are for information purposes and are not binding. The information given in the offer is decisive.

## ► Modell designation

### BF 6 L 914 C

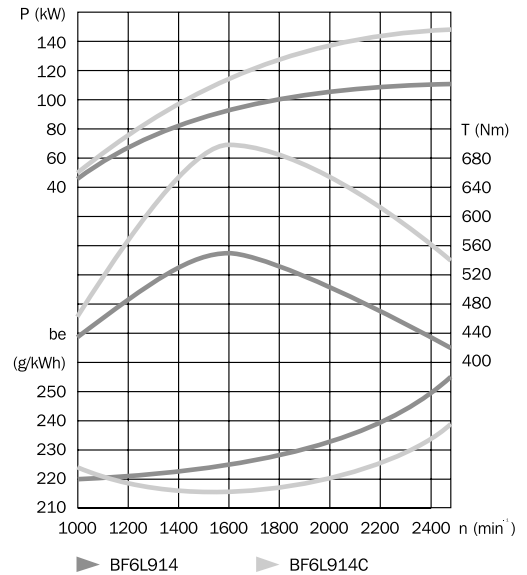
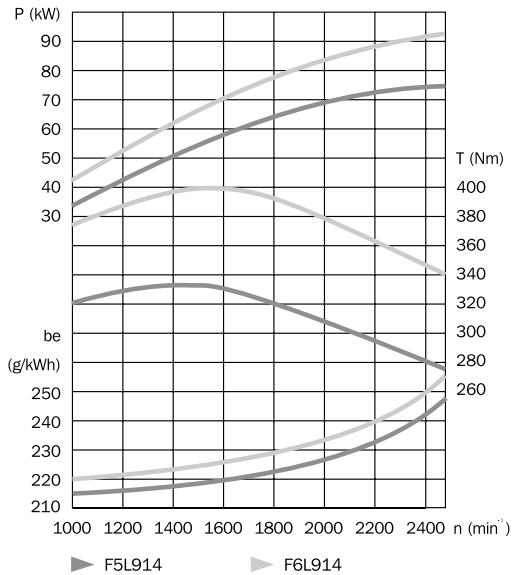
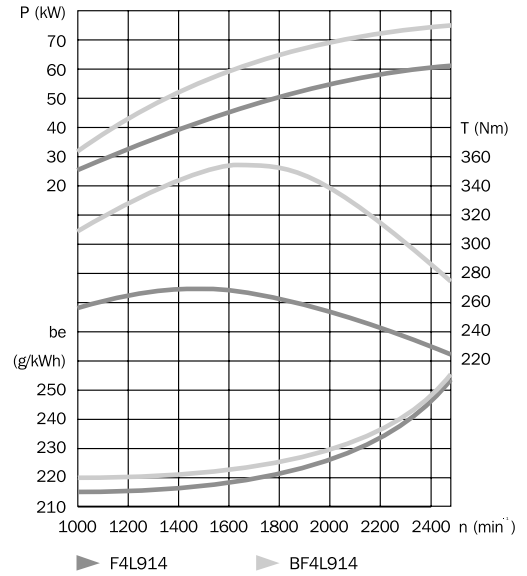
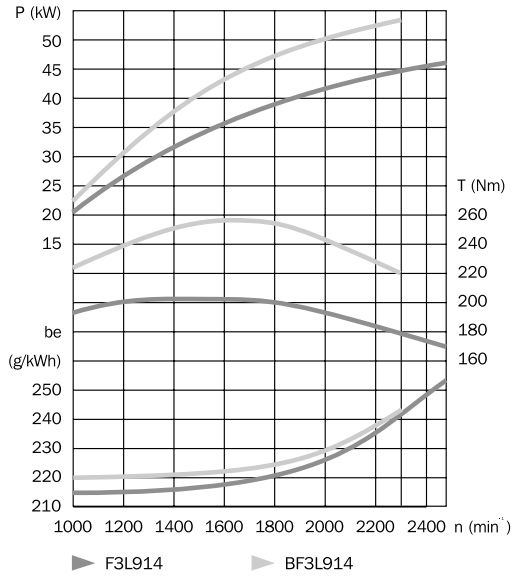


## ► Dimensions



Engine		A	B	C	D	E	F	A+F
F 3 L 914	mm	595	696	795	346	267	108.5	703.5
	inch	23.4	27.4	31.3	13.6	10.5	4.3	27.7
F 4 L 914	mm	725	696	796	346	268	86	811
	inch	28.5	27.4	31.3	13.6	10.6	3.4	31.9
F 5 L 914	mm	870	696	833	346	305	88.5	958.5
	inch	34.3	27.4	32.8	13.6	12.0	3.5	37.7
F 6 L 914	mm	995	675.5	885	335	341	88.5	1083.5
	inch	39.2	26.6	34.8	13.2	13.4	3.5	42.7
BF 3 L 914	mm	600.9	624.5	870.5	341.5	345	108.5	709.4
	inch	23.7	24.6	34.3	13.4	13.6	4.3	27.9
BF 4 L 914	mm	726	644.5	872	388.5	267	88.5	814.5
	inch	28.6	25.4	34.3	15.3	10.5	3.5	32.1
BF 6 L 914	mm	1043	713.5	919	352.5	341	88	1131
	inch	41.1	28.1	36.2	13.9	13.4	3.5	44.5
BF 6 L 914 C	mm	1174	720	987.5	352.5	328	88	1262
	inch	46.2	28.3	38.9	13.9	12.9	3.5	49.7

## ► Standard engines



The engine company.

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