

912/913. The engine for agricultural equipment.



32 - 128 kW at 2500 rpm



These are the characteristics of the 912 and 913:

Air-cooled 3-to 6-cylinder naturally aspirated in-line engines.

4- and 6-cylinder 913 turbocharged, 6-cylinder also charge air cooled.

Advanced direct injection and combustion system.

Electronic governor on request.

100% PTO possibilities at flywheel and damper end.

Auxiliary PTOs for hydraulic pumps and compressor possible.

Enormous traction through high torque backup.

Thanks to sophisticated modular system high degree of parts commonality.

Extremely compact dimensions.

Your benefits:

- Noise-optimized technology reduces insulation requirements and increases driving comfort.
- Despite uprating high operating economy. Long service intervals, ease of service and low consumption values reduce operating costs.
- Space-saving design guarantees low installation space requirement. This in turn promotes the compactness of agricultural implements and enhances your competitive advantage in your markets.
- Logistic advantages and thus cost savings thanks to sophisticated modular system.
- All engines fulfill current exhaust emission standards. And they have the potential for meeting future exhaust emission standards via suitable provision for installation of advanced injection systems with no changes to installation envelope.

Engine description

Cooling system: Air-cooled with integrated axial-flow blower

Crankcase: Grey cast iron

Cylinder head: Aluminium single cylinder heads

Valve arrangement/

timing:... Overhead valves in the cylinder head, one inlet and one exhaust valve per cylinder,

actuated from gear-driven camshaft via tappets, push-rods and rocker arms

Piston: ... Three-ring piston: two compression rings and one oil scraper ring

Oil spray via nozzle Piston cooling:

Nodular cast iron with integrated counterweights Crankshaft:

Drop-forged steel rod, diagonally split Connecting rod:

Main and big end

Ready-to-install bi-metal plain bearings bearings:....

Steel, seated in bi-metal bearing on the blower side Camshaft:

Lubrication system: Forced-feed circulation lubrication with rotary pump which feeds both

lubricating and heating systems (if heating is fitted)

Engine oil cooler: Integrated aluminium cooler

Oil cooler thermostat:..... Oil cooler flow thermostatically controlled on engines with heating system

Paper-type micro-filter as replaceable-cartridge full flow filter Lube oil filter:

Injection pump/

governor:.. In-line injection pump with mechanical centrifugal governor

Injection nozzle: Five-hole-nozzle

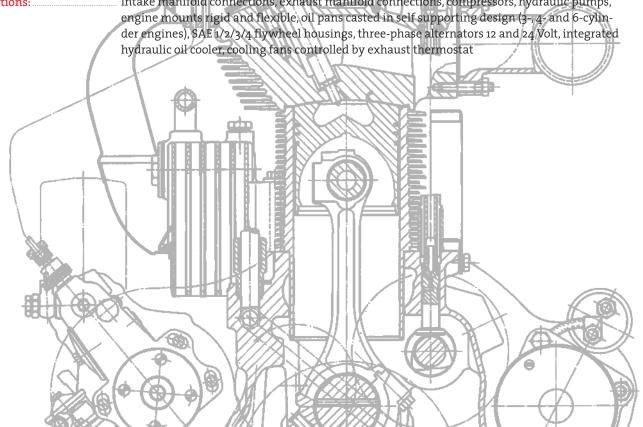
Fuel filter: Replaceable cartridge

12V; 2,7 kW (Standard) Starter motor:

Three-phase alternator, 14 V; 55A (Standard) Alternator:....

Heating system: Optional connection for cab heating

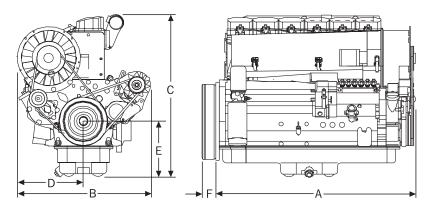
Intake manifold connections, exhaust manifold connections, compressors, hydraulic pumps, Options:



► Technical data

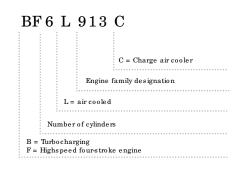
Engine type		F3L912	F4L912	F5L912	F6L912
Number of cylinders		3	4	5	6
Bore/stroke	mm	100/120	100/120	100/120	100/120
Displacement	1	2.827	3.770	4.712	5.660
Compression ratio		19	19	19	19
Max. rated speed	rpm	2500	2500	2500	2500
mean piston speed	m/s	10	10	10	10
Power ratings for agricultural ap	plication 1)				
Power to ISO 3046/1 ²⁾	kW	38	51	65	70
at speed	rpm	2350	2350	2300	2300
mean effective pressure	bar	6.84	6.90	7.20	6.45
Max. torque	Nm	176	238	307	364
at speed	rpm	1450	1450	1450	1450
Minimum idle speed	rpm	650	650	650	650
Specific fuel consumption 3)	g/ kWh	221	220	223	222
Weight to DIN 70020, part 7A	kg	285	320	405	440

Dimensions



Engine		Α	В	С	D	E	F
F3 L9 1 2	mm	589	679	796	329	268	108
F4 L9 1 2	mm	719	679	796	329	268	88
F5 L9 1 2	mm	866	679	833	329	305	88
F6 L9 1 2	mm	996	679	806	329	278	88

► Model designation

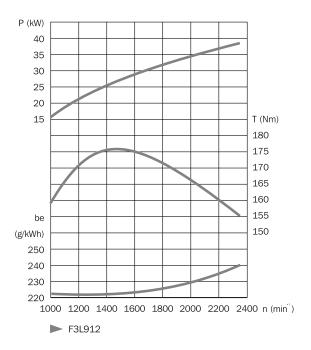


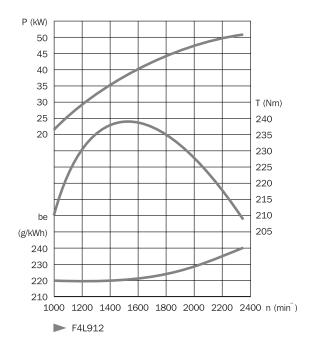
- $\begin{tabular}{ll} 1) & Power ratings & without deduction fan power requirement, & with integrated cooling system. \end{tabular}$
- 2) For specific engines (e.g. combine engines) higher customized power ratings possible.
- 3) At optimal operating point. Specific fuel consumption based on die sel fuel with a specific gravity of 0,835 kg/dm³ at 15 $^{\circ}$ C.
- Without starter motor/ alternator, radiator and liquids, however with flywheel and flywheel housing and complete integrated cooling system.

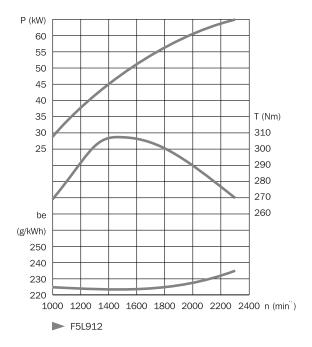
Characteristics based on max. possible torque.

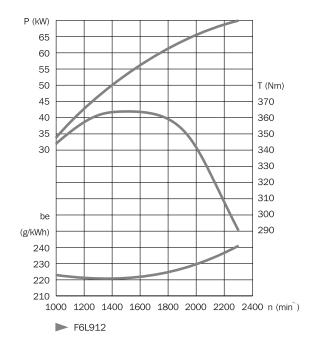
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Standard engines





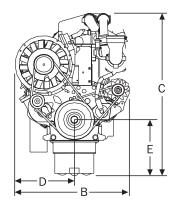


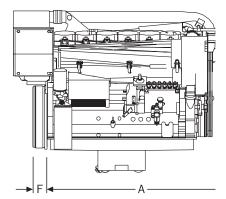


► Technical data

Engine type		F3L913	F4L913	BF4L913	F6L913	BF6L913	BF6L913C
Number of cylinders		3	4	4	6	6	6
Bore/stroke	mm	102/125	102/125	102/125	102/125	102/125	102/125
Displacement	1	3.064	4.086	4.086	6.128	6.128	6.128
Compression ratio		19	19	18	19	18	17
Max. rated speed	rpm	2500	2500	2500	2500	2500	2500
mean piston speed	m/s	10.4	10.4	10.4	10.4	10.4	10.4
Power ratings for agricultural app	lications 1)						
Power ratings to ISO $3046/1^{20}$	kW	44	56	65	76	95	128
atspeed	rpm	2400	2350	2300	2300	2300	2300
mean effective pressure	bar	6.89	7.00	8.30	6.50	8.09	10.90
Max. torque	Nm	201	264	338	394	532	717
atspeed	min ⁻¹	1450	1450	1600	1450	1600	1600
Minimum idle speed	min ⁻¹	650	650	650	650	650	650
Specific fuel consumption $^{\scriptscriptstyle 3)}$	g/ kWh	228	223	223	222	223	205
Weight to DIN 70020, part 7A ⁴⁾	kg	290	330	370	460	515	540

Dimensions





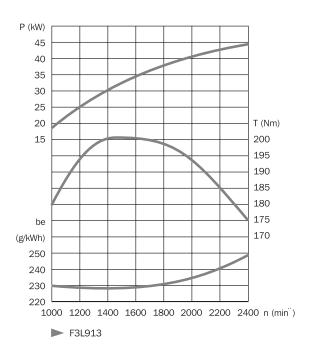
Engine		A	В	С	D	E	F
F3 L9 1 3	mm	697	679	796	329	268	108
F4L913	mm	807	679	796	629	268	88
BF4 L9 1 3	mm	814	692	853	341	268	88
F6L913	mm	1084	679	806	329	278	88
BF6L913	mm	1108	714	876	363	341	88
BF6L913C	mm	1137	714	876	363	341	88

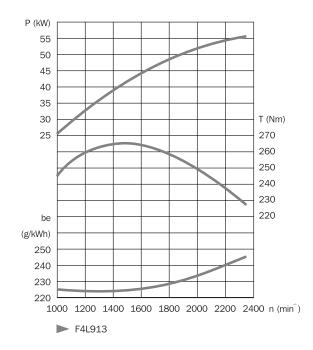
- $1) \ \ Power \ ratings \ without \ deduction \ fan \ power \ requirement, \ with \\ integrated \ cooling \ system.$
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- 3) At optimal operating point. Specific fuel consumption based on die sel fuel with a specific gravity of 0,835 kg/dm³ at 15 $^{\circ}$ C.
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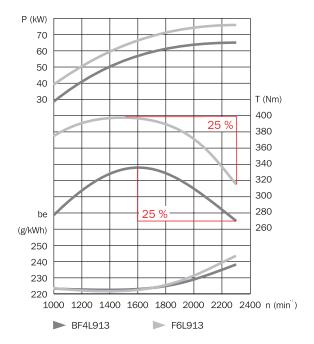
Characteristics based on max. possible torque.

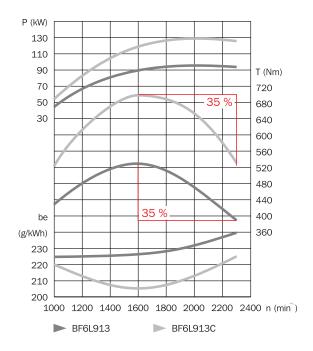
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Standard engines











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