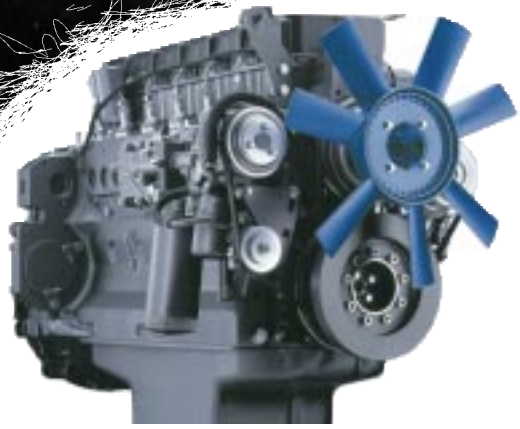
1012 E. The engine for construction equipment.

42 - 125 kW at 1500 - 2500 min^{-1}



Engines with conventional cooling system

These are the characteristics of the 1012E:

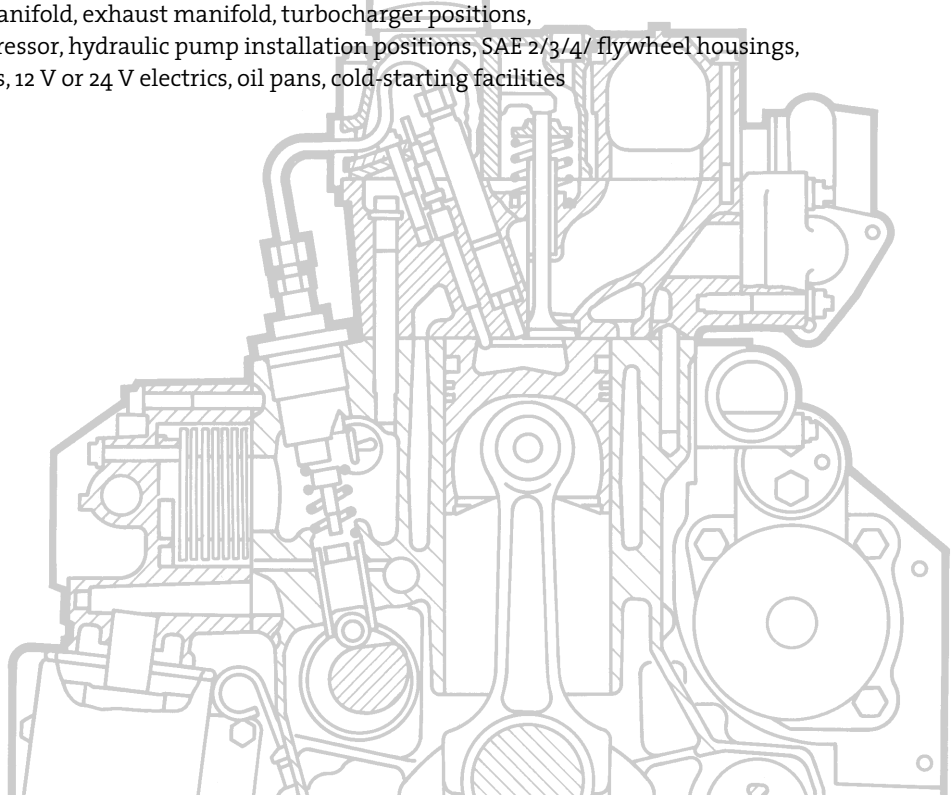
Modern water-cooled 4- and 6-cylinder in-line engines.
Turbocharging and turbocharging with charge air cooling.
High-pressure fuel injection up to 1600 bar.
Electronic engine governor with diagnostic facilities as option.
Three mounting options for gear-driven hydraulic pumps.
Compact design and high power-to-volume-ratio.
Long maintenance intervals, user-friendly.
Customer service available worldwide.

These are the benefits for you:

- Flexible and powerful response to changing operating duties.
- Low costs for noise insulation measures. High comfort in the driver's cab because of low noise level. Low noise emission, low environmental impact.
- High operating economy thanks to low fuel consumption, long oil change intervals and low maintenance requirement.
- High productivity through dynamic power development.
- Low exhaust emission for a clean environment. Meets exhaust regulation EU-RL 97/68.
- High reliability and long service life, even under extreme working conditions.

Engine description

Type of cooling:	Liquid cooling, thermostatically controlled, charge-air-cooled engines with air-to-air charge air cooler
Crankcase:	High grey cast iron crankcase, for monobloc construction, integrated liners
Crankcase breather:	Closed-circuit crankcase breather
Cylinder head:	Grey cast iron block-type cylinder head
Valve arrangement/ timing:	One inlet and one exhaust overhead 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
Piston cooling:	Oil cooled with spray nozzles
Connecting rod:	Forged steel rod
Crankshaft bearings:	Tri-metal plain bearings
Crankshaft:	With integral counterweights: 4-cylinder version with integral mass balancing shafts
Camshaft:	Forged steel shaft
Lubrication system:	Forced-feed circulation lubrication with gear pump
Lube oil cooler:	Oil cooler integrated in coolant circuit
Lube oil filter:	Paper-type microfilter as replaceable-cartridge full flow filter
Injection pump/ governor:	Single injection pumps for each cylinder integrated in crankcase Mechanical centrifugal governor (standard); electronic engine governor (EMR) optional
Fuel lift pump:	Integrated in V-belt tensioner
Injection nozzle:	Five-hole nozzle
Fuel filter:	Replaceable cartridge
Alternator:	Three-phase alternator 12 V or 24 V
Starter motor:	12 V or 24 V
Heating system:	Optional connection for cab heating to engine cooling circuit
Options:	Intake manifold, exhaust manifold, turbocharger positions, air compressor, hydraulic pump installation positions, SAE 2/3/4/ flywheel housings, flywheels, 12 V or 24 V electrics, oil pans, cold-starting facilities



Technical data

Engine type		BF4M1012E	BF4M1012EC	BF6M1012E	BF6M1012EC
Number of cylinders		4	4	6	6
Bore/stroke	mm	94/115	94/115	94/115	94/115
Displacement	l	3.19	3.19	4.79	4.79
Compression ratio		17.5	17.5	17.5	17.5
Max. rated speed	min^{-1}	2500	2500	2500	2500
Mean piston speed	m/s	9.58	9.58	9.58	9.58
Power ratings for construction equipment engines[1)]					
Power ratings for automotive engines[2)]	kW	66	84	100	125
at speed[3)]	min^{-1}	2500	2500	2500	2500
Mean effective pressure	bar	9.93	12.64	10.02	12,53
Power ratings for industrial engines[4)]					
highly intermittent operation	kW	63	80	95	120
at speed	min^{-1}	2500	2500	2500	2500
Mean effective pressure	bar	9.47	12.03	9.52	12.03
Intermittent operation[4)]	kW	59	76	90	113
at speed	min^{-1}	2500	2500	2500	2500
Mean effective pressure	bar	8.87	11.43	9.02	11.33
Max. torque	Nm	300	378	450	569
at speed	min^{-1}	1500	1500	1500	1500
Minimum idle speed	min^{-1}	650	650	650	650
Specific fuel consumption[5)]	g/kWh	208	200	208	200
Weight to DIN 70020, Part 7A[6)]	kg	330	332	435	437

Model designation

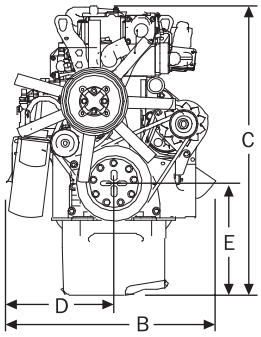
BF 6 M 1012 EC

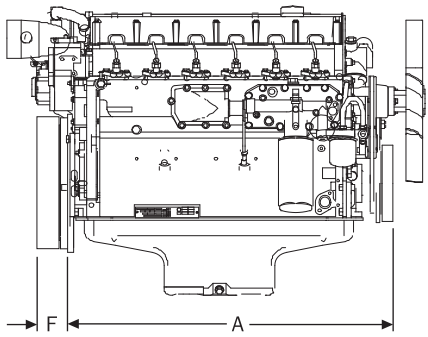
- E = with external cooling system
  C = with charge air cooler
- Engine family designation
- M = liquid cooled
- Number of cylinders
- B = turbocharging
  F = highspeed four-stroke engine

1) Power ratings without deduction of fan power requirement.
2) Power to ISO 1585, EG-RL80/1269/EWG and EG-RL88/195/EWG.
3) Speed 2600 min^{-1} also available with the same power.
4) Fuel stop power to ISO 3046/1 (IFN), DIN 6271.
5) Specific fuel consumption based on diesel fuel with a specific gravity of 0,835 kg/dm^3 at 15°C.
6) Without starter motor/alternator, radiator and liquids, however with flywheel and flywheel housing.

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

Dimensions

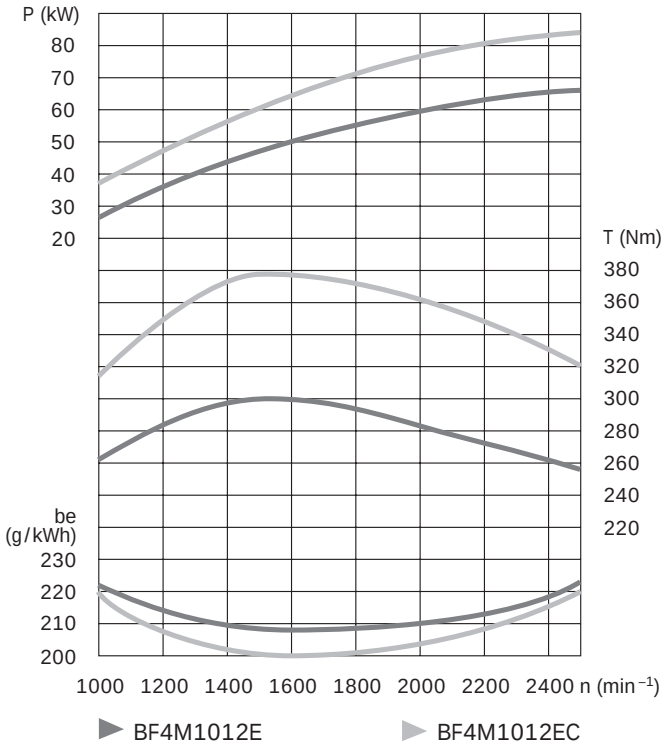


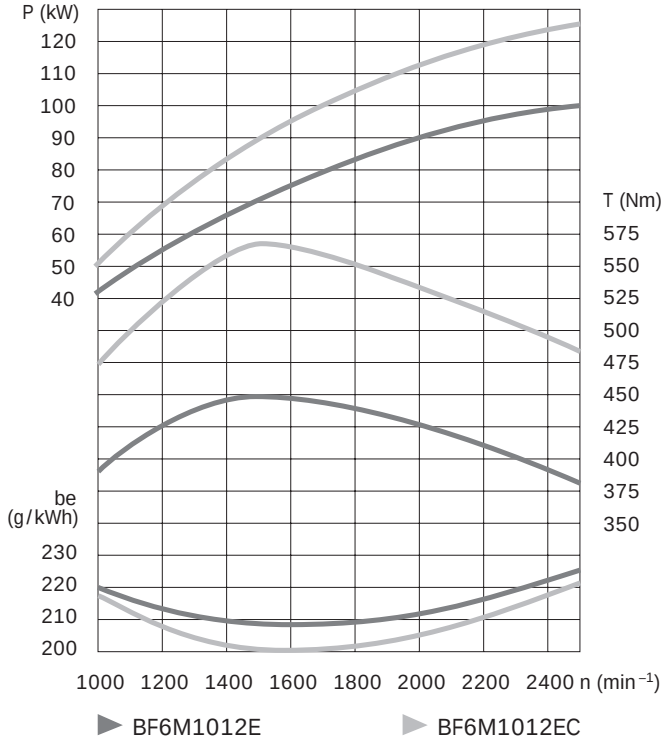


Engine		A	B	C	D	E	F
BF4M1012E	mm	653	540	742	290	235	122
BF4M1012EC*	mm	653	540	742	290	235	122
BF6M1012E	mm	881	540	827	290	320	122
BF6M1012EC*	mm	881	540	827	290	320	122

* Dimensions without charge air cooler • side mounted turbocharger optional

Standard engines





Best.-Nr. 0031 1756 / 05 / 99 / MM-V

Knowing it's DEUTZ.

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