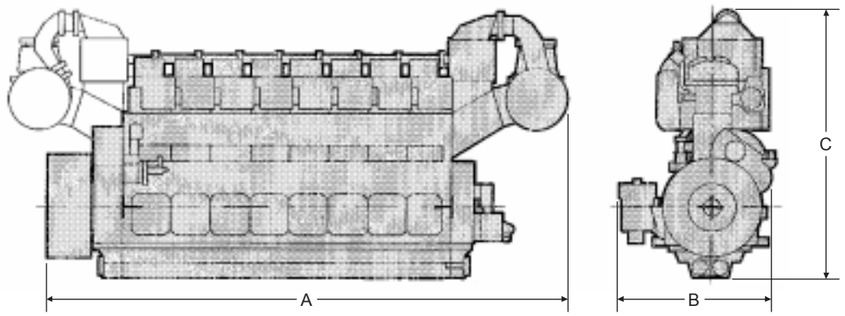
540

2010-7120 kW at 550-630 min^{-1}

➢ Dimensions



Engine type		A	B	C
BV6M 540	mm	6345	2230	3831
BV8M 540	mm	7485	2230	3831
BV12M540	mm	6632	3346	3765
BV16M540	mm	7662	3694	3760

Engine type		BV6M540	BV8M540	BV12M540	BV16M540
Weight (without flywheel)	t	29	37	48	60

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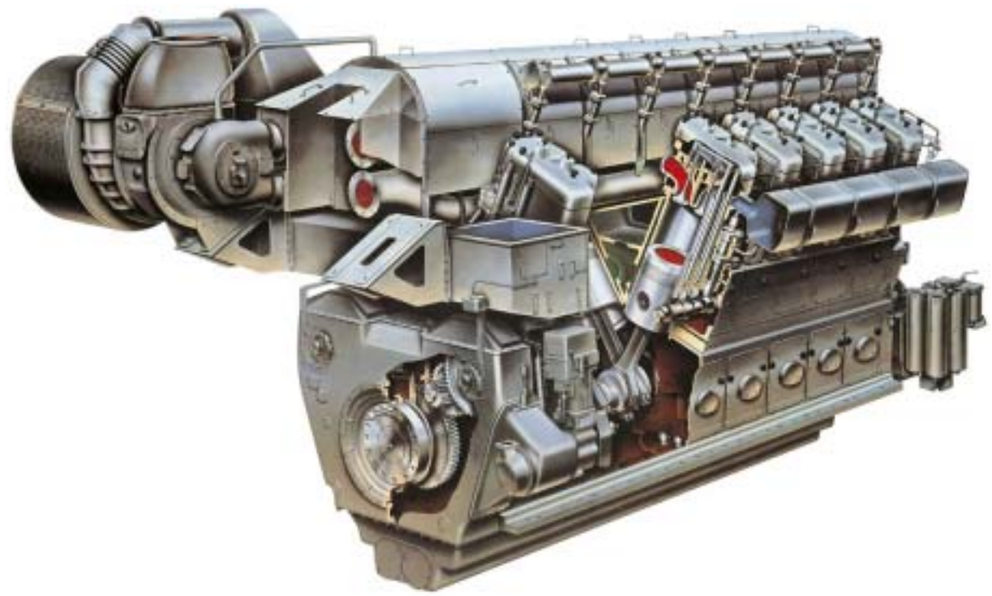
WÄRTSILÄ

Total Service



WÄRTSILÄ DEUTZ marine engines

Characteristics

- Water-cooled 6, 8, 12 and 16 cylinder engines.
- Turbocharger(s).
- Hydraulic speed governor and overspeed shutdown.
- Single injection pumps.
- Suitable for heavy fuel oil to 3500 R.I.

Benefits

- Electronic engine monitoring enhances safety and reliability of your engine.
- Active contributions towards environmental protection due to compliance with IMO MARPOL 73/78 annex VI.
- Fulfils SOLAS requirements.

WÄRTSILÄ

➢ Engine description

Crankcase	The crankcase is made of spheroidal graphite iron. The crankcase has large inspection holes.
Main bearings	Nowadays the bearings are of the rillen-type. The bearings have a steel back.
Crankshaft	The crankshaft is hammer-forged and made of high-grade heat-treated steel. It is fitted in the crankcase in underslung arrangement. Counterweights are fitted on some of the crank webs.
Cylinder liner	The water-cooled cylinder liner is made of cast iron.
Connecting rod	The drop forged connecting rod is made of heat-treated steel. The big end is split diagonally. Four extra strong anti-fatigue bolts secure the big end bearing cap to the connecting rod.
Piston	The piston crown is made of steel; the piston skirt is made of light metal. The piston is cooled by oil.
Cylinder head	The cylinder head is hydraulically tightened with eight socket head screws. The cylinder head has two inlet and two exhaust valves and four valve rotators. The exhaust valves are mounted in valve cages.
Camshaft and gear assembly	The camshaft has individual hardened cams. The camshaft is gear-driven at flywheel side. The gears are hardened and polished.
Fuel injection pump	Single injection pump, i.e. each cylinder has its own fuel injection pump.
Governor	A Woodward hydraulic governor controls the engine speed.
Lubricating oil system	Lubricating oil is supplied to all bearings. The lubricating oil cooler is installed separately from engine.
Starting system	The engine is started via starting air valves, which are fitted in the cylinder heads.
Cooling water system	This engine type is water-cooled. Re-cooling of circulating coolant is done by separately installed heat exchanger. Two engine driven rotary pumps are optional and can be provided with cut-in/cut-out facility to serve the system.
Exhaust system	The piping of the exhaust system is made of heat resisting materials and is provided with heat shielding.
Operation control system	These engine type can be provided with: • control facilities for periodically unattended operation. • remote control. • monitoring and data logger systems.
Turbocharging	In-line engines have one turbocharger. V-engines have two turbochargers. The turbochargers have a separate lubricating oil system.

➢ Technical Data

Engine type		**BV6M540**	**BV8M540**	**BV12M540**	**BV16M540**
Model		In-line	In-line	V-type	V-type
Number of cylinders		6	8	12	16
Bore / stroke	mm	370/400	370/400	370/400	370/400
Displacement	l	258	344.08	516.12	688.16
Compression ratio		12	12	12	12
Direction of rotation		clockwise or counter-clockwise			
Marine propulsion with 'A' rating. Continuous to DIN 6270.					
Engine speed	min^{-1}	550 – 630	550 – 630	550 – 630	550 – 630
Mean piston speed	m/s	7.3 – 8.4	7.3 – 8.4	7.3 – 8.4	7.3 – 8.4
Heavy duty[1)]	kW	2010 – 2305	2685 – 3075	4025 – 4610	5370 – 6150
Normal duty[1)]	kW	2120 – 2425	2825 – 3235	4235 – 4855	5650 – 6470
BMEP	bar	17.9	17.9	17.9	17.9
Fuel consumption[2)] (gas oil or MDF distillate with lower calorific value of 41,900 kJ/kg)	g/kWh	197.0	193.0	192.0	190.0
Light duty[1)]	kW	2120 – 2425	2825 – 3235	4235 – 4855	5650 – 6470
Marine auxiliary service (power generation on board)					
'A' rating to DIN 6270 (Continuous)[1)]	kW	2425	3235	4855	6470
Stationary power generation to VDMA 6280					
Base load 'A' rating to DIN 6270[1)]	kW	2425	3235	4855	6470
Standby service; maximum 1000 running hours/year:					
'A' rating to DIN 6270 (Continuous)[1)]	kW	2425	3235	4855	6470
'B' rating to DIN 6270 (Intermittent)[1)]	kW	2670	3560	5340	7120
Standby service; maximum 300 running hours/year:					
'A' rating to DIN 6270 (Continuous)[1)]	kW	2425	3235	4855	6470
'B' rating to DIN 6270 (Intermittent)[1)]	kW	2670	3560	5340	7120
Lubricating oil consumption	kg/h	3.4	4.5	6.8	9.0
Minimum idling speed	min^{-1}	150	150	150	150

[1)] Depending on application, use of heavy fuel oil up to 3500 R.I. possible

[2)] Specific fuel consumption with a tolerance of 5%.

Reference conditions deviating from DIN 6270:

Altitude:	300 m above sea level
Air intake temperature:	45 °C
Water temperature at charge air cooler inlet:	50 °C