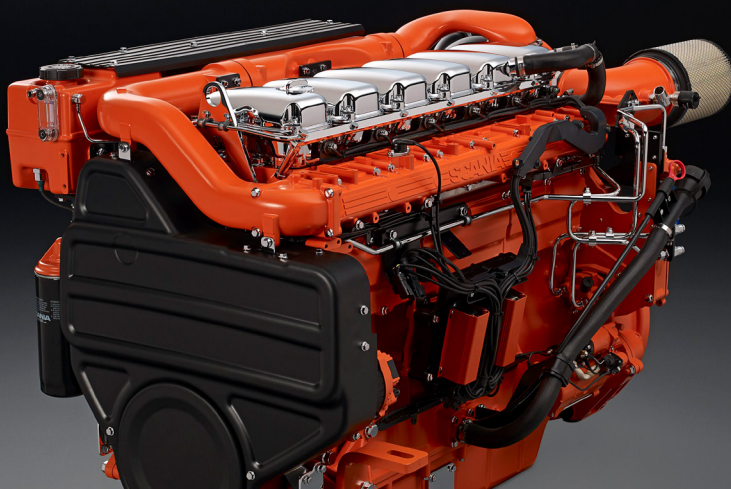




## DI13 089M. 222-234 kW CCNR II



The marine engines from Scania are based on a robust design with a strength optimised cylinder block containing wet cylinder liners that can easily be exchanged. Individual cylinder heads with 4 valves per cylinder promotes repairability and fuel economy. The engines are type approved in all major classification societies.

The engine is equipped with a Scania developed Engine Management System, EMS, in order to ensure the control of all aspects related to engine performance. The injection system is based on electronically controlled unit injectors that gives low exhaust emissions with good fuel economy and a high torque already at low revs. The engine can be fitted with many accessories such as air cleaners, PTOs, transmissions and type approved instrumentation in order to suit a variety of installations.

	Rating	Engine speed (rpm)	
		1500	1800
Gross power (kW)	PRP	222	234
Gross torque (Nm)	PRP	1413	1241
Spec fuel consumption. Full load (g/kWh)		204	219
Spec fuel consumption. 3/4 load (g/kWh)		210	228
Spec fuel consumption. 1/2 load (g/kWh)		217	230
Optimum fuel consumption (g/kWh)		195	
Heat rejection to coolant (kW)		169	202

**PRP – Prime power:** For continuous operation and unlimited yearly operation at varying load. Max. mean load factor of 70% of rated power over 24 h of operation.  
1 h/12 h of accumulated peak overload to 110%.

### Standard equipment

- Scania Engine Management System, EMS
- Unit injectors, PDE
- Turbocharger
- Fuel pre-filter with water separator
- Fuel filter
- Oil filter, full flow
- Centrifugal oil cleaner
- Oil cooler, integrated in block
- Oil filler, in engine block
- Oil dipstick, in block
- Deep front oil sump
- Starter, 2-pole 7.0 kW
- Alternator, 2-pole 100A
- Flywheel SAE 14
- Silumin flywheel housing, SAE 1 flange
- Front-mounted engine brackets
- Protection covers
- Closed crankcase ventilation
- Operator's manual

### Engines with heat exchanger:

- Sea water pump
- Heat exchanger with expansion tank

### Optional equipment

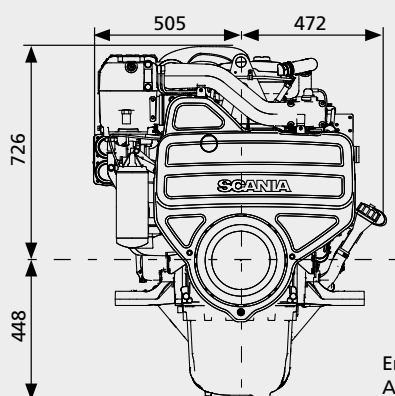
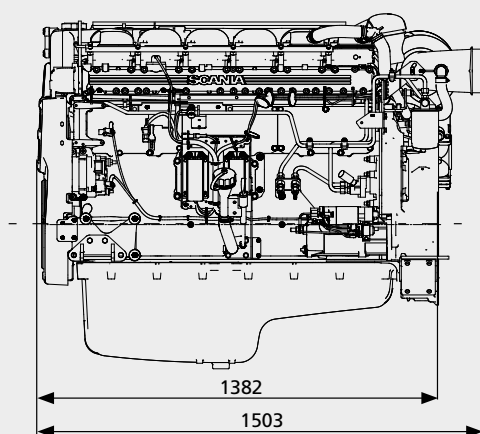
- Hydraulic pump
- Side-mounted PTO
- Front-mounted PTO
- Exhaust connections
- Engine heater
- Power pack engine bracket
- Stiff rubber suspension
- Air cleaner
- Studs in flywheel housing
- Reversible fuel filter
- Low coolant level reaction
- Variable idle speed setting
- Low and extra low oil sump
- Long oil dipstick
- Oil level sensor
- Bilge pump

# DI13 089M. 222-234 kW

## CCNR II

### Engine description

No of cylinders	6 in-line
Working principle	4-stroke
Firing order	1 - 5 - 3 - 6 - 2 - 4
Displacement	12.7 litres
Bore x stroke	130 x 160 mm
Compression ratio	17.3:1
Weight (excl oil and coolant)	1285 kg (Engine with heat exchanger) 1180 kg (Engine with keel cooling)
Piston speed at 1500 rpm	8.0 m/s
Piston speed at 1800 rpm	9.6 m/s
Camshaft	High position alloy steel
Pistons	Steel pistons
Connection rods	I-section press forgings of alloy steel
Crankshaft	Alloy steel with hardened and polished bearing surfaces
Oil capacity	30-36 dm <sup>3</sup> (standard oil sump)
Electrical system	2-pole 24V



Engine with heat exchanger  
All dimensions in mm



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