**9-litre engines**
**309 kW (420 hp) - 355 kW (483 hp)**

**12-litre engines**
**423 kW (575 hp) - 496 kW (675 hp)**

**14-litre engines**
**480 kW (653hp) - 588 kW (800 hp)**

# SCANIA

# MARINE DIESELS

**- For Pleaure & Patrol Craft -**

**ISO 9001 and ISO 14001 certified**

## 9-series

### Basic data

The DI9 is a turbocharged and charge-air cooled, 4-stroke and water-cooled diesel engine with direct injection.

| | |
|---|---|
| No. of cylinders | 6 in line |
| Displacement | 9.0 $dm^3$ |
| Bore | 115 mm |
| Stroke | 144 mm |
| Weight excl. oil and water | 905 kg |

### Standard equipment

Injection pump with electronic governing system (Scania DEC2) and with fuel shut-off valve, heat insulated turbocharger with separate lube oil filter. Charge-air cooler, heat exchanger with expansion tank, sea water pump, watercooled exhaust manifold, cyclone and centrifugal lube oil cleaner, fuel filter, oil cooler, hand pump for oil draining (shipped loose), alternator 2-pole 65 A 28 V, starting motor 2-pole 4.0 kW 24 V, oil pressure switch 2-pole. Flywheel for reverse gear, for industrial clutch or flexible coupling, flywheel housing SAE1 of silumin and operator's manual.

### Optional equipment

Classified crankshaft, optional oil sump, optional oil filling, reversible fuel filters, alternator 1-pole 90 A, 1-pole 24 V electrical system.

### Extra equipment

Fixed and various rubber engine suspensions. Side mounted power take-off for a hydraulic pump with different flange options and a maximum continuous torque of 375 Nm (38 kpm). Flexible couplings, crankshaft belt pulley with two extra grooves, exhaust connections, silencers, air cleaners, stopping solenoid, instrumentation, engine speed adjustment device, engine heater, spare parts sets and tool kit. Torsional vibration calculations for propulsion and genset applications. Certificate from most classification societies.

### Engine description

**Cylinder block** Made of alloy cast iron. **Cylinder heads** Six individual cylinder heads. Steel plate gasket between block and cylinder head. **Valves** Made of heat resistant steel. Double springs. Exhaust valves are stellite plated. **Camshaft** Mounted in high position and of press-forged alloy steel. **Pistons and cylinder liners** Pistons of light alloy. Top compression ring groove with a reinforcement of cast iron and a compression ring of Keystone type. Cylinder liners of exchangeable wet type with a cylinder liner ring in top end preventing coke build-up on piston top land. **Connection rods** I-section pressforgings of alloy steel. **Crankshaft** Press-forged of alloy steel. Hardened and polished bearing surfaces. **Oil sump** Made of aluminium. **Flywhee**l Made of cast iron. Direction of rotation seen from flywheel end – counter clockwise. **Electrical system** 2-pole 24 V. **Charge-air cooling** The charge-air cooler is mounted in connection to the heat exchanger and is cooled by sea water.

## 12-series

### Basic data

The DI12 is a turbocharged and charge-air cooled, 4-stroke and water-cooled diesel engine with direct injection.

| | |
|---|---|
| No. of cylinders | 6 in line |
| Displacement | 11.7 $dm^3$ |
| Bore | 127 mm |
| Stroke | 154 mm |
| Weight excl. oil and water | 1150 kg |

### Standard equipment

Injection pump with electronic governing system (Scania DEC2) and with fuel shut-off valve, heat insulated turbocharger, charge-air cooler, heat exchanger with expansion tank, sea water pump, watercooled exhaust manifold, centrifugal lube oil cleaner and full flow paper filter, fuel filter, oil cooler, hand pump for oil draining (shipped loose), alternator 2-pole 65 A 28 V, starting motor 2-pole 6.7 kW 24 V, oil pressure switch 2-pole, flywheel for reverse gear, industrial clutch or flexible coupling. Flywheel housing SAE1 of silumin, operator's manual.

### Optional equipment

Classified crankshaft, optional oil sump, optional oil filling, reversible fuel filters, alternator 1-pole 90 A, 1-pole 24 V electrical system.

### Extra equipment

Fixed and various rubber engine suspensions. Side mounted power take-off for hydraulic pump with a maximum continuous torque of 400 Nm (41 kpm). Front power take-off shaft 635 Nm (65 kpm) and 1200 Nm (122 kpm). Crankshaft belt pulley with two extra grooves. Air cleaners, exhaust connections, silencers, water cooled exhaust pipe, instrumentation, engine heater, spare parts sets and tool kit. Torsional vibration calculations for propulsion and genset applications. Certificate from most classification societies.

### Engine description

**Cylinder block** Made of alloy cast iron. **Cylinder heads** Six individual cylinder heads. Steel gasket between block and cylinder head. **Valves** Four valves per cylinder head. **Timing gear train** Mounted at the flywheel end of the crankshaft. **Camshaft** Mounted in high position and of alloy steel. **Pistons and cylinder liners** Pistons of light alloy. Top compression ring groove with a reinforcement of cast iron and a compression ring of Keystone type. Cylinder liners of exchangeable wet type with a cylinder liner ring in top end preventing coke build-up on piston top land. **Oil Cooler** Mounted inside of the engine block and of multi-plate type. **Connection rods** I-section pressforgings of alloy steel. **Crankshaft** Made of alloy steel with hardened and polished bearing surfaces. **Oil sump** Made of cast aluminium. **Flywheel** Made of cast iron. Direction of rotation seen from flywheel end – counter clockwise. **Electrical system** 2-pole 24 V. **Charge-air cooling** Located inside the air inlet manifold and cooled by fresh water. Cooling supplied from a separate cooling system within the heat exchanger.

## 14-series

### Basic data

The DI14 is a turbocharged and charge-air cooled, 4-stroke and water-cooled diesel engine with direct injection.

| | |
|---|---|
| **No. of cylinders** | 8 in 90°V |
| **Displacement** | 14.2 $dm^3$ |
| **Cylinder heads** | Individual |
| **Bore** | 127 mm |
| **Stroke** | 140 mm |
| **Cylinder block** | Alloy cast iron |
| **Pistons** | Oil duct cooled pistons of light alloy. Keystone type compression ring |
| **Cylinder liners** | Wet type and with a liner ring in top end preventing coke build-up on piston top land |
| **Oil sump** | Aluminium |
| **Flywheel** | Cast iron. Direction of rotation seen from flywheel end: Counter clockwise |
| **Electrical system** | 2-pole 24V |

### DI14 68 M (675) and DI14 75 M (653)

| | |
|---|---|
| **Injection pump** | RSV-governor |
| **Turbocharger** | Single, heat insulated |
| **Charge-air coolers** | Inside air inlet manifolds Cooling supplied from a two-stage fresh water cooled compartment located inside the heat exchanger. |
| **Weight** | 1400 kg excl. oil and water |

### DSI14 69 M (750) and DI14 82 M (800)

| | |
|---|---|
| **Injection pump** | DEC-2 governor |
| **Turbochargers** | Twin, water-cooled |
| **Charge-air coolers** | As single turbo version but with an additional sea water cooled pre-cooler. |
| **Weight** | 1350 kg excl. oil and water |

### Standard equipment

Injection pump, turbocharger with separate lube oil filter. DI14 68M with exhaust outlet on left side (standard) or right side (see optional). Charge cooling, twin fuel filters, heat exchanger (without expansion tank), protection plate on top of engine, sea water pump, water-cooled exhaust manifolds, cyclone and centrifugal lube oil cleaner, oil cooler, hand pump for oil draining (shipped loose), alternator 2-pole 65 A 28 V, starting motor 2-pole 6.7 kW 24 V, oil pressure switch 2-pole. Flywheel for reverse gear, flywheel housing SAE1 of silumin (for reverse gear with ratio up 2:1 or water jets). Operator's manual.

### Optional equipment

Turbocharger with exhaust outlet on right side (only DI14 68M). Oil dipstick at front of engine, flywheel housing SAE 1 of nodular iron. Low profile oil sump with oil dipstick on left side. Reversible fuel filters, fuel delivery tubes with double walls, various alternators including twin installation, 1-pole 24V electrical system.

### Extra equipment

Engine suspension – fixed and rubber suspension. Reverse gears and suspension, exhaust connections, water-cooled exhaust bend, expansion tank, air cleaners, silencers, stopping solenoid, instrumentation, engine heater, engine speed adjustment devices, spare parts sets and tool kit. Torsional vibration calculation.

# Engine type DI9 for propulsion

| Engine type | | | DI9 55 M (420) | |
|---|---|---|---|---|
| | | | r/min | |
| **Engine output:** | | **Curve*** | **1900** | **2200** |
| 1 h/6 h and 1500 h/year | kW (hp) | IFN | 294 (400) | 309 (420) |
| **Torque:** | Nm (kpm) | IFN | 1478 (151) | 1341 (137) |
| **Spec. fuel consumption:** | | | | |
| 1/1 load | g/kWh (g/hph) | | 203 (149) | 212 (156) |
| 3/4 load | g/kWh (g/hph) | | 203 (149) | 211 (155) |
| 1/2 load | g/kWh (g/hph) | | 208 (153) | 220 (162) |
| **Spec. lube oil consumption:** | | | | |
| 1/1 load | g/kWh (g/hph) | | – | 0.3 (0.2) |
| **Compression ratio:** | | | 15:1 | |

***Power definitions: I** = ISO standard test conditions (ISO 3046), **F** = Fuel stop power, **N** = Net power.

**IFN – Intermittent service**

Applicable to planing vessels with a propulsion system laid out for full rated engine speed. Rated output available 1 h/6 h. Max. 1500 h/year service time. Fully continuous output is available 250 h/year.

# Engine type DI9 for propulsion

| Engine type | | | DI9 55 M (450) | DI9 47 M (450) |
|---|---|---|---|---|
| | | | r/min | r/min |
| **Engine output:** | | **Curve*** | **2200** | **2300** |
| 1 h/6 h and 500 h/year | kW (hp) | IFN | 331 (450) | 331 (450) |
| **Torque:** | Nm (kpm) | IFN | 1437 (146) | 1373 (140) |
| **Spec. fuel consumption:** | | | | |
| 1/1 load | g/kWh (g/hph) | | 213 (157) | 216 (159) |
| **Spec. lube oil consumption:** | | | | |
| 1/1 load | g/kWh (g/hph) | | 0.3 (0.2) | 0.3 (0.2) |
| **Compression ratio:** | | | 15:1 | 15:1 |

***Power definitions: I** = ISO standard test conditions (ISO 3046), **F** = Fuel stop power, **N** = Net power.

**IFN – Intermittent service**

Applicable to planing vessels with a propulsion system laid out for full rated engine speed. Rated output available 1 h/6 h. Max. 500 h/year service time. Fully continuous output is available 100 h/year.

# Engine type DI9 for propulsion (Pleasure craft)

| Engine type | | | DI9 59 M (483) | |
|---|---|---|---|---|
| | | | r/min | |
| **Engine output:** | | **Curve*** | **2300** | |
| 0.5 h/6 h and 500 h/year | kW (hp) | IFN | 355 (483) | |
| **Torque:** | Nm (kpm) | IFN | 1474 (150) | |
| **Spec. fuel consumption:** | | | | |
| 1/1 load | g/kWh (g/hph) | | 220 (162) | |
| **Spec. lube oil consumption:** | | | | |
| 1/1 load | g/kWh (g/hph) | | 0.3 (0.2) | |
| **Compression ratio:** | | | 15:1 | |

***Power definitions: I** = ISO standard test conditions (ISO 3046), **F** = Fuel stop power, **N** = Net power.

**IFN – Intermittent service**

Applicable to planing vessels with a propulsion system laid out for full rated engine speed. Rated output available 0.5 h/6 h. Max. 500 h/year service time at total load factor 30%.

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**Power test code:** ISO 3046.

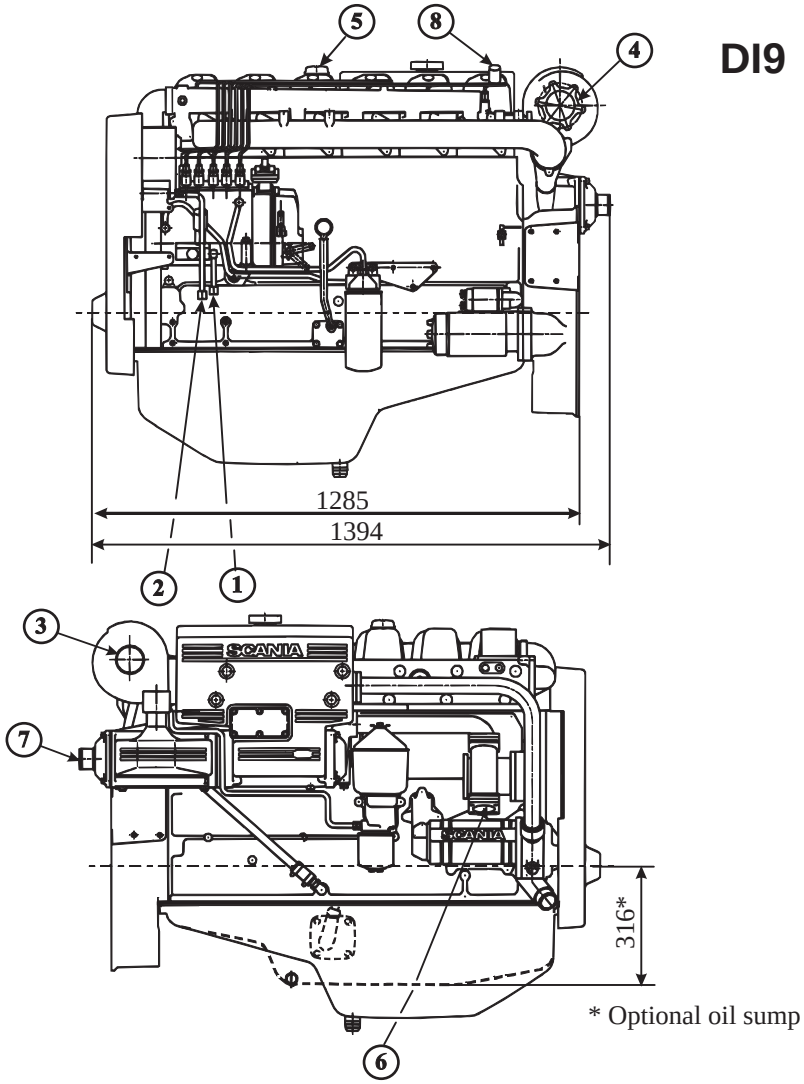
**Power and fuel values**: +/–3%.

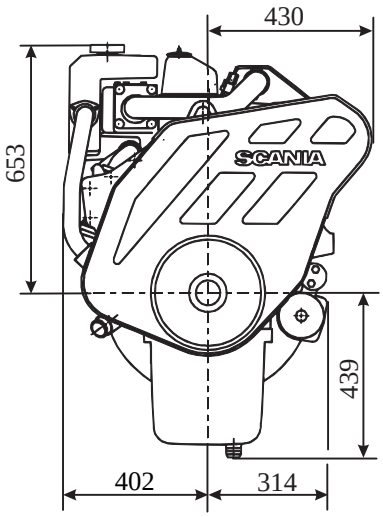
**Environment:**
For specific environmental requirements/ regulations, contact your Scania dealer.

**Test conditions**

| | |
|---|---|
| Air temperature | +25°C |
| Barometric pressure | 100 kPa (750 mmHg) |
| Humidity | 30% |
| Diesel fuel acc. to | ECE R 24 Annex 6 |
| Density of fuel | 0.840 kg/dm$^3$ |
| Viscosity of fuel | 3.0 cSt at 40°C |
| Energy value | 42700 kJ/kg |

# DI9




1 Fuel inlet
2 Fuel return
3 Air inlet
4 Exhaust flange
5 Oil filling cap
6 Sea water inlet
7 Sea water outlet
8 Crankcase ventilation

* Optional oil sump

**1:20**

# Engine type DI12 for propulsion

| Engine type | | | DI12 42 M (575) | |
|---|---|---|---|---|
| | | | r/min | |
| **Engine output:** | | **Curve*** | **1800** | **2100** |
| 1 h/6 h and 1500 h/year | kW (hp) | IFN | 403 (548) | 423 (575) |
| **Torque:** | Nm (kpm) | IFN | 2138 (218) | 1924 (196) |
| **Spec. fuel consumption:** | | | | |
| 1/1 load | g/kWh (g/hph) | | 199 (146) | 209 (154) |
| 3/4 load | g/kWh (g/hph) | | 196 (144) | 203 (149) |
| 1/2 load | g/kWh (g/hph) | | 200 (147) | 209 (154) |
| **Spec. lube oil consumption:** | | | | |
| 1/1 load | g/kWh (g/hph) | | – (–) | 0.3 (0.2) |
| **Compression ratio:** | | | 15:1 | |

***Power definitions: I** = ISO standard test conditions (ISO 3046), **F** = Fuel stop power, **N** = Net power.

**IFN – Intermittent service**

Applicable to planing vessels with a propulsion system laid out for full rated engine speed. Rated output available 1 h/6 h. Max. 1500 h/year service time. Fully continuous output is available 250 h/year.

# Engine type DI12 for propulsion

| Engine type | | | DI12 43 M (625) | |
|---|---|---|---|---|
| | | | r/min | |
| **Engine output:** | | **Curve*** | **2200** | |
| 1 h/6 h and 500 h/year | kW (hp) | IFN | 460 (625) | |
| **Torque:** | Nm (kpm) | IFN | 1997 (204) | |
| **Spec. fuel consumption:** | | | | |
| 1/1 load | g/kWh (g/hph) | | 210 (154) | |
| **Spec. lube oil consumption:** | | | | |
| 1/1 load | g/kWh (g/hph) | | 0.3 (0.2) | |
| **Compression ratio:** | | | 13.5:1 | |

***Power definitions: I** = ISO standard test conditions (ISO 3046), **F** = Fuel stop power, **N** = Net power.

**IFN – Intermittent service**

Applicable to planing vessels with a propulsion system laid out for full rated engine speed. Rated output available 1 h/6 h. Max. 500 h/year service time. Fully continuous output is available 100 h/year.

# Engine type DI12 for propulsion (Pleasure craft)

| Engine type | | | DI12 44 M (675) | |
|---|---|---|---|---|
| | | | r/min | |
| **Engine output:** | | **Curve*** | **2300** | |
| 0.5 h/6 h and 500 h/year | kW (hp) | IFN | 496 (675) | |
| **Torque:** | Nm (kpm) | IFN | 2059 (210) | |
| **Spec. fuel consumption:** | | | | |
| 1/1 load | g/kWh (g/hph) | | 219 (161) | |
| **Spec. lube oil consumption:** | | | | |
| 1/1 load | g/kWh (g/hph) | | 0.3 (0.2) | |
| **Compression ratio:** | | | 13.5:1 | |

***Power definitions: I** = ISO standard test conditions (ISO 3046), **F** = Fuel stop power, **N** = Net power.

**IFN – Intermittent service**

Applicable to planing vessels with a propulsion system laid out for full rated engine speed. Rated output available 0.5 h/6 h. Max. 500 h/year service time at total load factor 30 %.

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**Power test code:** ISO 3046.

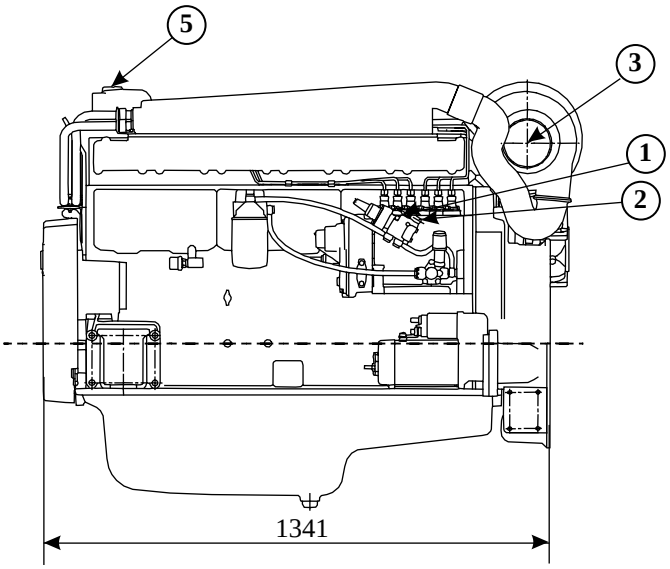
**Power and fuel values:** +/–3 %.

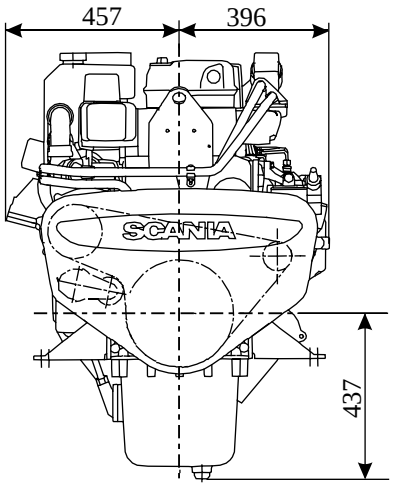
**Environment:**
For specific environmental requirements/ regulations, contact your Scania dealer.

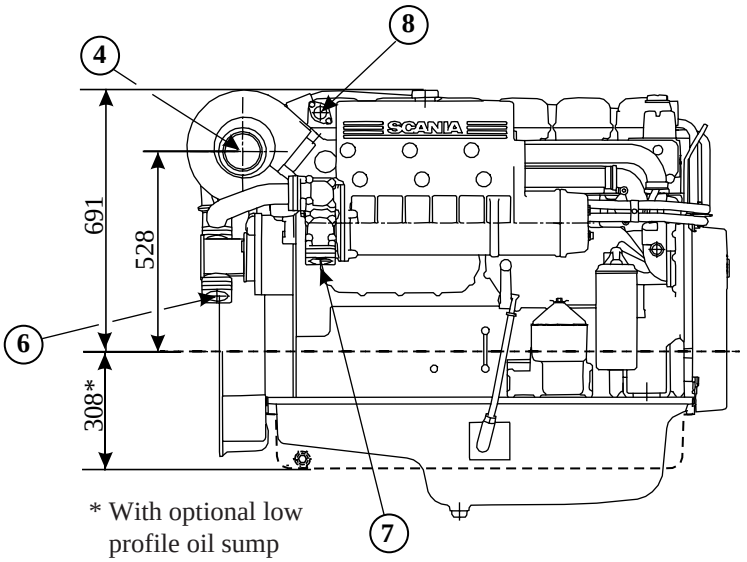
**Test conditions**

| | |
|---|---|
| Air temperature | +25°C |
| Barometric pressure | 100 kPa (750 mmHg) |
| Humidity | 30 % |
| Diesel fuel acc. to | ECE R 24 Annex 6 |
| Density of fuel | 0.840 kg/dm$^3$ |
| Viscosity of fuel | 3.0 cSt at 40°C |
| Energy value | 42700 kJ/kg |

# DI12




* With optional low profile oil sump

1 Fuel inlet
2 Fuel return
3 Air inlet
4 Exhaust flange
5 Oil filling cap
6 Sea water inlet
7 Sea water outlet
8 Crankcase ventilation

**1:20**

# Engine type DI14 for propulsion

| Engine type | | | DI14 75 M (653) | |
|---|---|---|---|---|
| | | | r/min | |
| **Engine output:** | | **Curve*** | **1800** | **2100** |
| 1 h/6 h and 1500 h/year | kW (hp) | IFN | 456 (620) | 480 (653) |
| **Torque:** | Nm (kpm) | IFN | 2419 (247) | 2183 (223) |
| **Spec. fuel consumption:** | | | | |
| 1/1 load | g/kWh (g/hph) | | 208 (153) | 218 (160) |
| 3/4 load | g/kWh (g/hph) | | 207 (152) | 216 (159) |
| 1/2 load | g/kWh (g/hph) | | 214 (157) | 222 (163) |
| **Spec. lube oil consumption:** | | | | |
| 1/1 load | g/kWh (g/hph) | | – (–) | 0.3 (0.2) |
| **Compression ratio:** | | | 13.5:1 | |

***Power definitions: I** = ISO standard test conditions (ISO 3046), **F** = Fuel stop power, **N** = Net power.

**IFN – Intermittent service**

Applicable to planing vessels with a propulsion system laid out for full rated engine speed. Rated output available 1 h/6 h. Max. 1500 h/year service time. Fully continuous output is available 250 h/year.

# Engine type DI14 for propulsion

| Engine type | | | DI14 68 M (675) | DI14 69 M (750) |
|---|---|---|---|---|
| | | | r/min | r/min |
| **Engine output:** | | **Curve*** | **2100** | **2200** |
| 1 h/6 h and 500 h/year | kW (hp) | IFN | 496 (675) | 551 (750) |
| **Torque:** | Nm (kpm) | IFN | 2255 (230) | 2392 (244) |
| **Spec. fuel consumption:** | | | | |
| 1/1 load | g/kWh (g/hph) | | 216 (159) | 228 (168) |
| **Spec. lube oil consumption:** | | | | |
| 1/1 load | g/kWh (g/hph) | | 0.3 (0.2) | 0.3 (0.2) |
| **Compression ratio:** | | | 13.5:1 | 13.5:1 |

***Power definitions: I** = ISO standard test conditions (ISO 3046), **F** = Fuel stop power, **N** = Net power.

**IFN – Intermittent service**

Applicable to planing vessels with a propulsion system laid out for full rated engine speed. Rated output available 1 h/6 h. Max. 500 h/year service time. Fully continuous output is available 100 h/year.

# Engine type DI14 for propulsion (Pleasure craft)

| Engine type | | | DI14 82 M (800) |
|---|---|---|---|
| | | | r/min |
| **Engine output:** | | **Curve*** | **2200** |
| 0.5 h/6 h and 500 h/year | kW (hp) | IFN | 588 (800) |
| **Torque:** | Nm (kpm) | IFN | 2552 (260) |
| **Spec. fuel consumption:** | | | |
| 1/1 load | g/kWh (g/hph) | | 230 (169) |
| **Spec. lube oil consumption:** | | | |
| 1/1 load | g/kWh (g/hph) | | 0.3 (0.2) |
| **Compression ratio:** | | | 13.5:1 |

***Power definitions: I** = ISO standard test conditions (ISO 3046), **F** = Fuel stop power, **N** = Net power.

**IFN – Intermittent service**

Applicable to planing vessels with a propulsion system laid out for full rated engine speed. Rated output available 0.5 h/6 h. Max. 500 h/year service time at total load factor 30 %.

---

**Power test code:** ISO 3046.

**Power and fuel values:** +/–3 %.

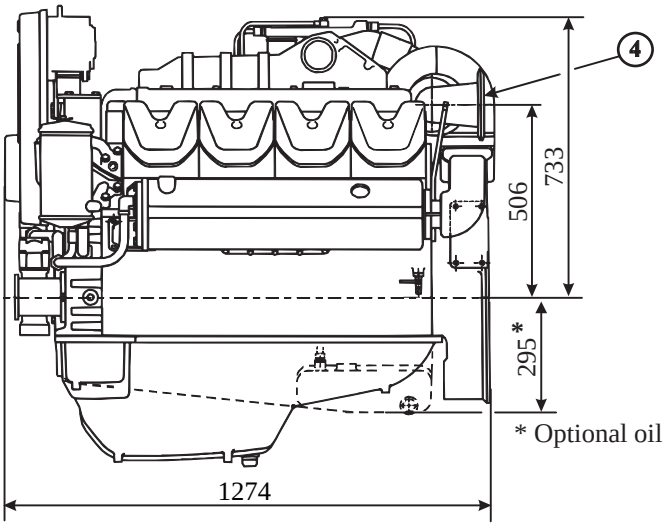
**Environment:**
For specific environmental requirements/ regulations, contact your Scania dealer.

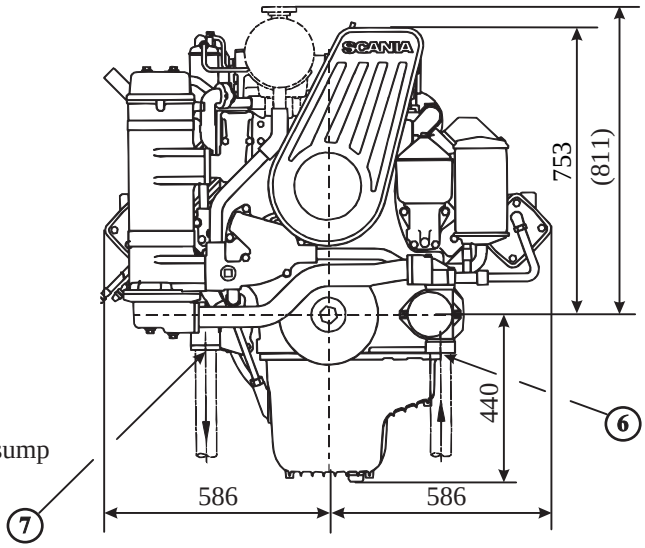
**Test conditions**

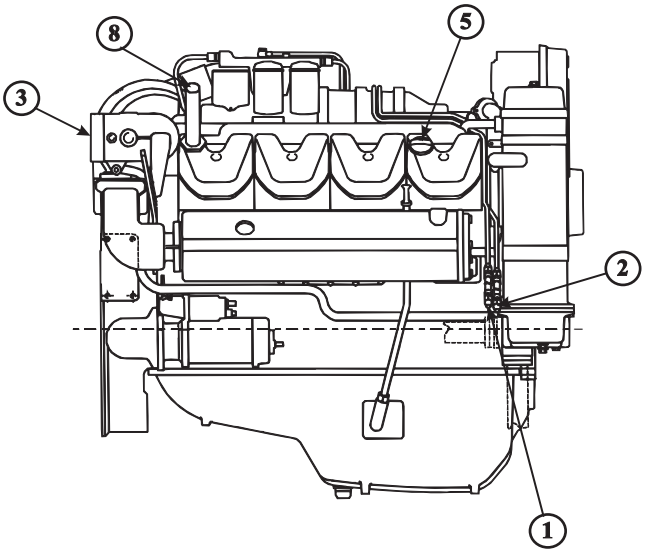
| | |
|---|---|
| Air temperature | +25°C |
| Barometric pressure | 100 kPa (750 mmHg) |
| Humidity | 30 % |
| Diesel fuel acc. to | ECE R 24 Annex 6 |
| Density of fuel | 0.840 kg/dm$^3$ |
| Viscosity of fuel | 3.0 cSt at 40°C |
| Energy value | 42700 kJ/kg |

# DI14

## Single turbo version

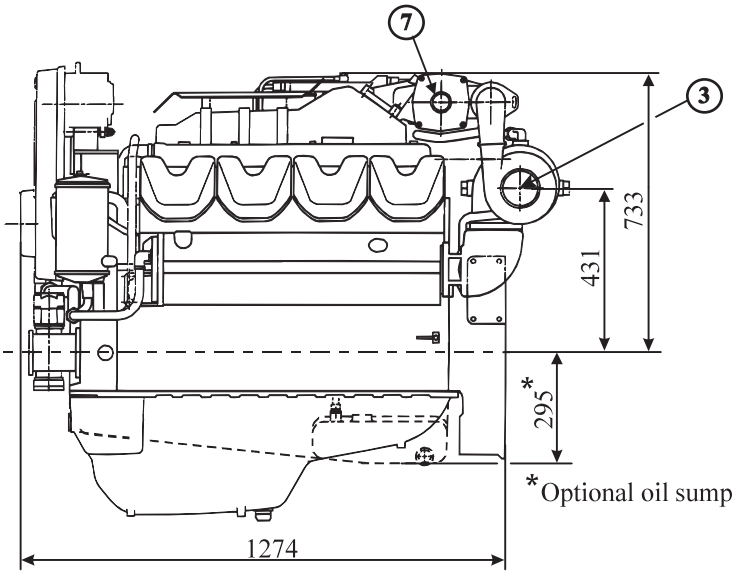


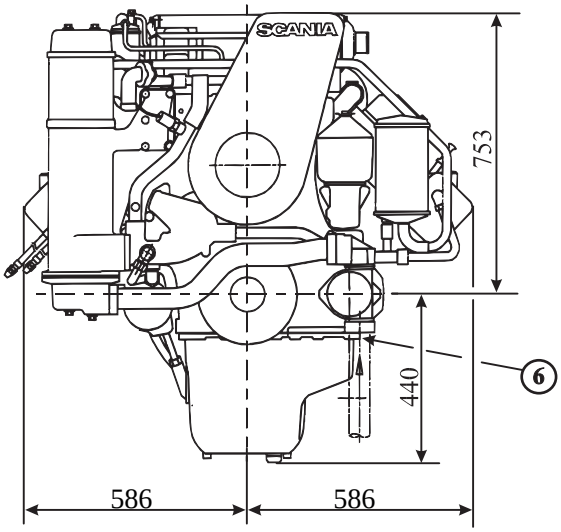

1 Fuel inlet
2 Fuel return
3 Air inlet
4 Exhaust flange
5 Oil filling cap
6 Sea water inlet
7 Sea water outlet
8 Crankcase ventilation

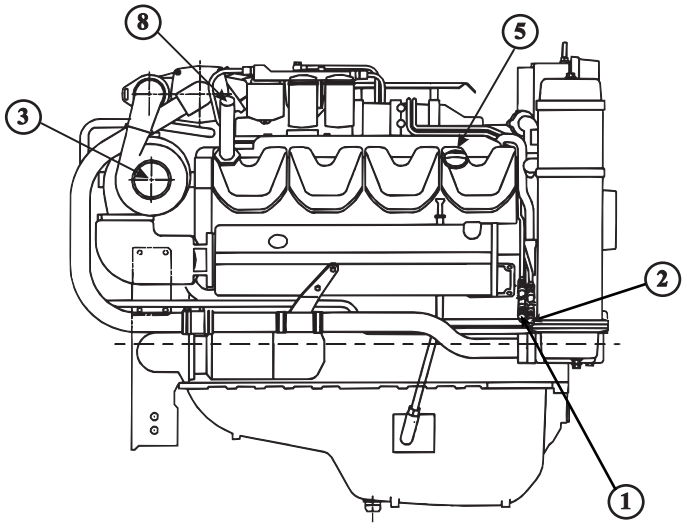
**1:20**




# DI14

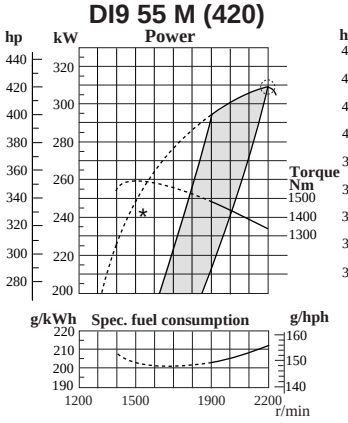
## Twin turbo version



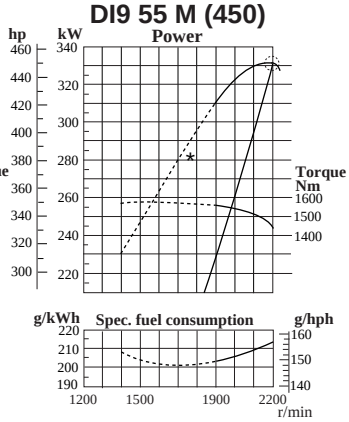




This specification may be revised without notice.

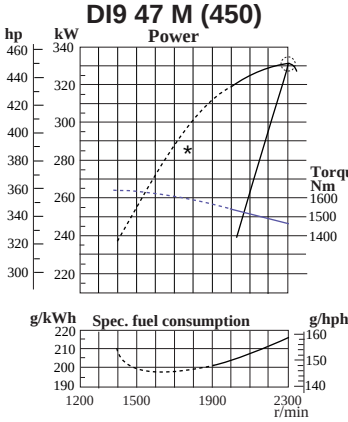
## DI9 55 M (420)



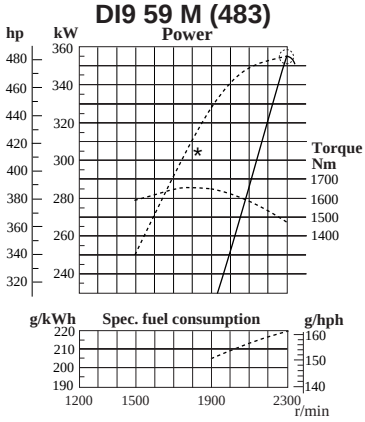

## DI9 55 M (450)



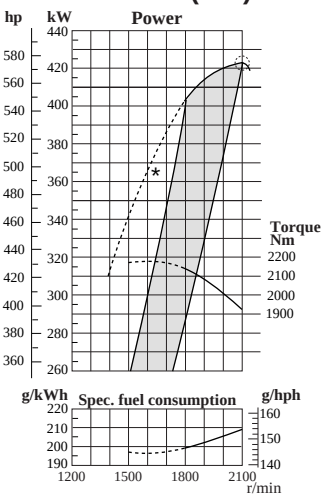

## DI9 47 M (450)



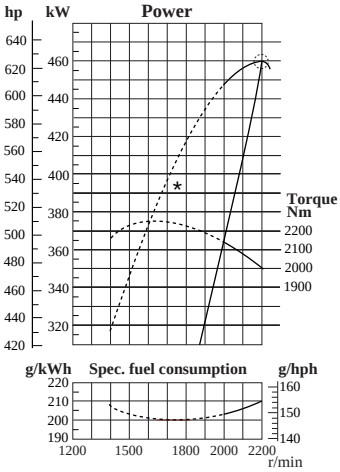

## DI9 59 M (483)



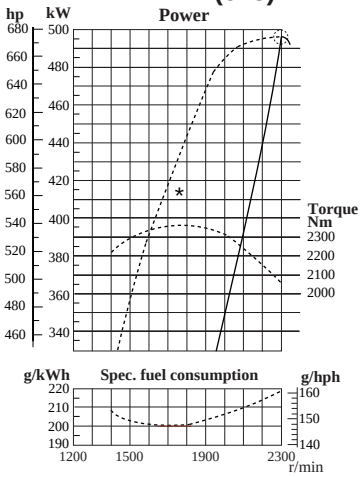

## DI12 42 M (575)



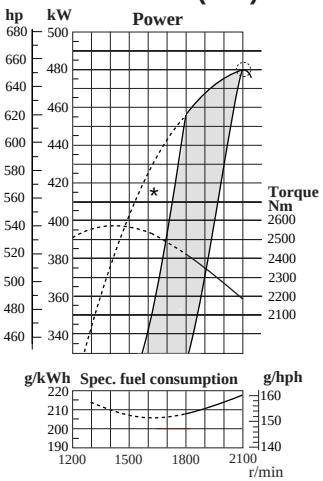

## DI12 43 M (625)



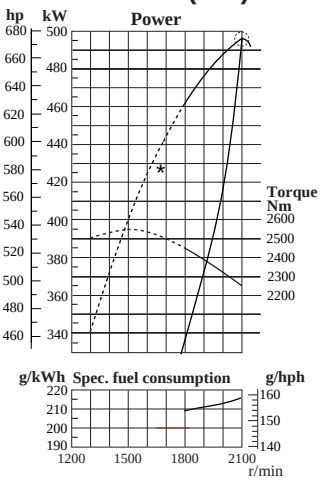

## DI12 44 M (675)



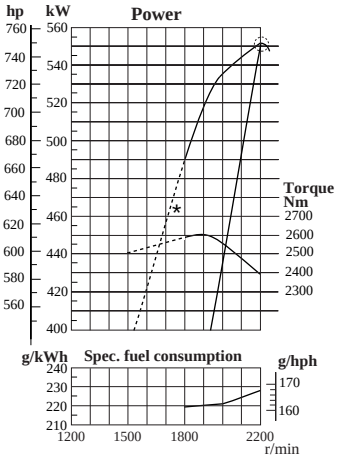

## DI14 75 M (653)



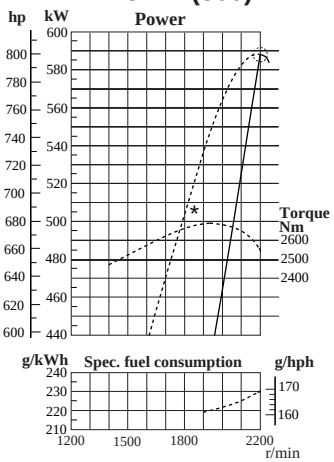

## DI14 68 M (675)




## DI14 69 M (750)




## DI14 82 M (800)




*For normal acceleration to planing speed only
Propeller curve. Assumed exponent 2.5.

**Ref. No. 1588937. 2000.08** This specification may be revised without notice.

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