SCANIA

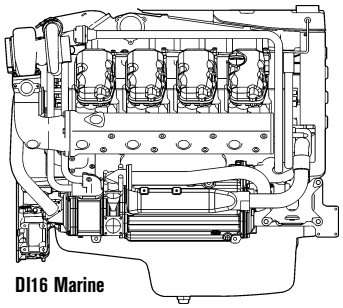
DIESEL ENGINES

FOR INDUSTRIAL, GENSET AND MARINE APPLICATIONS

New 16-litre marine engine

There's a new top-of-the-range Scania marine engine – a 16-litre V8 for those truly tough and demanding assignments. The DI16M is a watercooled, twin turbocharged, direct injection V8 diesel and the standard features include, among other things, unit injectors and Scania's electronic engine management system (EMS).

The EMS and unit injectors are also standard equipment on the 16-litre industrial engine series and are also available on selected models of the 12-litre engine series.



DI16 Marine

Industrial diesels

All-speed

				ICFN Continuous power. 3000 h/year service time.		**IFN** Full power 1 h/6 h. No limit on annual service time or full power 1 h/2 h and 1500 h/year service time.		Torque at 1500 r/min.	Specific fuel consumption at 1500 r/min.	
Engine type	**Intercooler**	**Displ. (litre)**	**Config.**	**kW (hp)**	**r/min**	**kW (hp)**	**r/min**	**Nm**	**g/kWh**	**g/hph**
D9	-	9.0	6 L	157 (213)	1900	168 (228)	2200	826	202	149
D9	-	9.0	6 L	181 (246)	1900	192 (261)	2200	954	202	149
D9	-	9.0	6 L	205 (279)	1900	216 (294)	2200	1095	196	144
DI9	I	9.0	6 L	161 (219)	1900	165 (224)	2200	895	203	149
DI9	I	9.0	6 L	170 (231)	1900	181 (246)	2200	899	200	147
DI9	I	9.0	6 L	221 (300)	1900	231 (314)	2200	1205	197	145
DI9 [3]	I	9.0	6 L	162 (220)	1800	165 (224)	2200	1019	207	152
DI9 [3]	I	9.0	6 L	173 (235)	1800	180 (245)	2200	1019	207	152
DC9 [3]	C	9.0	6 L	150 (204)	1800	169 (230)	2200	777	209	154
DC9 [3]	C	9.0	6 L	161 (219)	1800	181 (246)	2200	847	207	152
DC9 [3]	C	9.0	6 L	174 (237)	1800	193 (262)	2200	917	206	151
DC9 [3]	C	9.0	6 L	202 (275)	1800	217 (295)	2200	1082	204	150
DC9 [3]	C	9.0	6 L	227 (309)	1800	241 (328)	2200	1248	202	149
DC9*	C	9.0	6 L	162 (220)	1900	165 (224)	2200	898	199	146
DC9*	C	9.0	6 L	170 (231)	1900	180 (245)	2200	891	199	146
DC9*	C	9.0	6 L	180 (245)	1900	192 (261)	2200	955	198	146
DC9*	C	9.0	6 L	205 (279)	1900	216 (294)	2200	1095	196	144
DC9*	C	9.0	6 L	235 (320)	1900	238 (324)	2200	1337	197	145
DI12* [4]	I	11.7	6 L	-	-	243 (330)	2100	1509	193	142
DI12* [4]	I	11.7	6 L	-	-	272 (370)	2100	1732	190	140
DI12* [4]	I	11.7	6 L	-	-	280 (381)	2100	1872	193	142
DI12* [1]	I	11.7	6 L	240 (326)	1800	243 (330)	2100	1509	199	146
DI12*	I	11.7	6 L	269 (366)	1800	272 (370)	2100	1547	199	146
DI12*	I	11.7	6 L	291 (396)	1800	294 (400)	2100	1668	199	146
DI12* [2]	I	11.7	6 L	294 (400)	1800	280 (381)	2100	1872	199	146
DI12*	I	11.7	6 L	314 (427)	1800	316 (430)	2100	1795	199	146
DC12*	C	11.7	6 L	269 (366)	1800	272 (370)	2100	1547	191	140
DC12*	C	11.7	6 L	291 (396)	1800	294 (400)	2100	1668	191	140
DC12*	C	11.7	6 L	314 (427)	1800	316 (430)	2100	1795	192	141
DC16* [4]	C	15.6	V8	284 (386)	1800	294 (400)	2100	1693	196	144
DC16* [4]	C	15.6	V8	319 (434)	1800	331 (450)	2100	1789	195	143
DC16* [4]	C	15.6	V8	354 (481)	1800	368 (500)	2100	1884	194	143
DC16* [4]	C	15.6	V8	388 (528)	1800	404 (550)	2000	2088	197	145
DC16* [4]	C	15.6	V8	420 (571)	1800	432 (588)	2000	2292	197	145

Intercooler: C = Air/Air, **I** = Air/Water

I = ISO Standard (ISO 3046).
C = Continuous power.
F = Fuel stop power.
N = Net, with de-clutched fan.

* The engine complies to 97/68/EC Stage 2, and US EPA Tier 2 regulations.

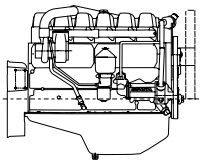
[1] Torque curve optimized for Clark 36000 transmission.

[2] Torque curve optimized for Clark 42000 transmission.

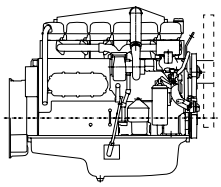
[3] The engine complies to 97/68/EC Stage 2 only.

[4] With Scania Engine Management System (EMS) and unit injectors.

Industrial engines air to water charge-cooled



DI9



DI12

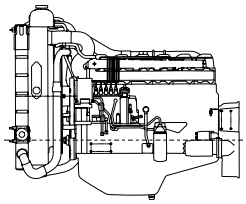
Industrial range

Dimensions (mm) and weights (kg) Guidance

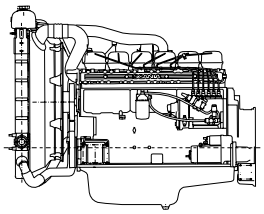
Engine type	**L**	**W**	**H**	**Weight dry**
D9*	1354	821	1131	825
DI9*	1354	821	1114	835
DC9**	1645	899	1422	890
DI12*	1434	795	1216	995
DC12**	1713	1154	1432	1065
DC16**	1747	1085	1350	1375

* Including fan.
** Including standard radiator and expansion tank.

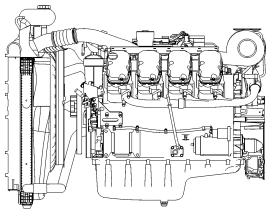
Industrial engines air to air charge-cooled



DC9



DC12



DC16

Power generation

Industrial diesels

Engine type	Intercooler	Displ. (litre)	Config.	Prime Power 50 Hz: Engine output gross kW	Prime Power 50 Hz: (kVA* range)	Prime Power 60 Hz: Engine output gross kW	Prime Power 60 Hz: (kVA* range)	Stand-by Power 50 Hz: Engine output gross kW	Stand-by Power 50 Hz: (kVA* range)	Stand-by Power 60 Hz: Engine output gross kW	Stand-by Power 60 Hz: (kVA* range)
D9	-	9.0	6 L	146	(160)	156	(175)	161	(175)	182	(200)
D9	-	9.0	6 L	154	(175)	178	(200)	176	(200)	201	(225)
D9	-	9.0	6 L	176	(200)	212	(225)	198	(225)	222	(250)
DC9	C	9.0	6 L	229	(250)	248	(275)	252	(275)	273	(300)
DC9	C	9.0	6 L	247	(275)	272	(300)	272	(300)	291	(325)
DC12	C	11.7	6 L	273	(300)	302	(325)	318	(350)	341	(375)
DC12	C	11.7	6 L	294	(325)	318	(350)	335	(375)	359	(400)
DC12	C	11.7	6 L	314	(350)	336	(375)	354	(400)	358	(400)
DC12	C	11.7	6 L	332	(375)	358	(400)	383	(425)	383	(425)
DC12	C	11.7	6 L	354	(400)	383	(425)	405	(450)	405	(450)
DC12 [4]	C	11.7	6 L	273	(325)	314	(350)	302	(350)	336	(375)
DC12 [4]	C	11.7	6 L	294	(325)	335	(375)	314	(350)	357	(400)
DC12 [4]	C	11.7	6 L	314	(350)	357	(400)	336	(375)	370	(425)
DC12 [4]	C	11.7	6 L	335	(375)	380	(425)	357	(400)	389	(450)
DC12 [4]	C	11.7	6 L	357	(400)	405	(475)	380	(425)	405	(475)
DC12 [4]	C	11.7	6 L	273	(325)	314	(350)	302	(350)	336	(375)
DC12 [4]	C	11.7	6 L	294	(325)	335	(375)	314	(350)	357	(400)
DC12 [4]	C	11.7	6 L	314	(350)	357	(400)	336	(375)	370	(425)
DC12 [4]	C	11.7	6 L	335	(375)	380	(425)	357	(400)	389	(450)
DC12 [4]	C	11.7	6 L	357	(400)	405	(475)	380	(425)	405	(475)
DC16 [4]	C	15.6	V8	357	(400)	378	(425)	400	(450)	421	(475)
DC16 [4]	C	15.6	V8	400	(450)	399	(450)	439	(500)	438	(500)
DC16 [4]	C	15.6	V8	439	(500)	438	(500)	481	(550)	480	(550)

Intercooler: **C** = Air/Air, **I** = Air/Water
kVA* range: With a generator efficiency common on the market.
Environment: For specific environmental requirements/regulations, contact your Scania dealer.

Prime Power
For continuous operation and unlimited yearly operating time at a varying load with a max. load factor of 70 % of rated power. 10 % overload capacity 1 h/12h.
Rating codes: ISO 3046, ISO 8528.

Maximum Stand-by Power
For operation under normal varying load during a power outage. Not overloadable. Not for applications intended for more than 500 h/year service time.
Rating code: ISO 3046.

Marine diesels

	Engine type	Intercooler	Displ. (litre)	Config.	Propulsion ICFN Workboats [1] Continuous Output kW (hp)	ICFN Workboats [1] r/min	IFN Workboats [2] Intermittent Output kW (hp)	IFN Workboats [2] r/min	IFN Patrol craft [3] Longer service time Output kW (hp)	IFN Patrol craft [3] r/min	IFN Patrol craft [4] Shorter service time Output kW (hp)	IFN Patrol craft [4] r/min	Auxiliary 50Hz [5] Output kW	Auxiliary 60Hz [5] Output kW
Heat exchanger	D9	-	9.0	6 L	155 (211)	1900	164 (223)	2200	-	-	-	-	135	155
	D9	-	9.0	6 L	189 (257)	1900	201 (273)	2200	-	-	-	-	196	217
	DI9	I	9.0	6 L	234 (318)*	1900	259 (352)*	2200	309 (420)*	2200	331 (450)**	2200**	218*	234*
	DI12	I	11.7	6 L	265 (360)*	1800	313 (426)*	2100	423 (575)*	2100	460 (625)*	2200	275*	285*
	DI12	I	11.7	6 L	301 (409)*	1800	368 (500)*	2100	-	-	-	-	310*	335*
	DI14	I	14.2	V8	339 (461)	1800	428 (582)	2100	-	-	496 (675)	2100	334*	371*
	DI14	I	14.2	V8	389 (529)*	1800	450 (612)*	2100	-	-	473 (643)*	2100	-	-
	DI14	I	14.2	V8	406 (552)	1800	-	-	480 (653)	2100	551 (750)	2200	-	-
	DI16	I	15.6	V8	386 (525)*	1800	423 (575)*	2100	515 (700)*	2100	588 (800)*	2200	366*	405*
	DI16	I	15.6	V8	441 (600)*	1800	478 (650)*	2100	550 (750)*	2100	-	-	413*	455*
Keel cooled	D9	-	9.0	6 L	155 (211)	1900	164 (223)	2200	-	-	-	-	135	155
	D9	-	9.0	6 L	189 (257)	1900	201 (273)	2200	-	-	-	-	196	217
	DI9	I	9.0	6 L	224 (305)*	1900	232 (316)*	2200	-	-	-	-	-	-
	DI12	I	11.7	6 L	265 (360)*	1800	313 (426)*	2100	-	-	-	-	275*	285*
	DI12	I	11.7	6 L	301 (409)*	1800	368 (500)*	2100	-	-	-	-	310*	335*
	DI14	I	14.2	V8	339 (461)	1800	428 (582)	2100	-	-	-	-	334*	371*
	DI14	I	14.2	V8	389 (529)*	1800	450 (612)*	2100	-	-	-	-	-	-
	DI14	I	14.2	V8	406 (552)	1800	-	-	-	-	-	-	-	-
	DI16	I	15.6	V8	386 (525)*	1800	423 (575)*	2100	-	-	-	-	366*	405*
	DI16	I	15.6	V8	441 (600)*	1800	478 (650)*	2100	-	-	-	-	413*	455*

I = ISO standard (ISO 3046).
C = Continuous power.
F = Fuel stop power.
N = Net power.

* Engines meeting IMO Marpol 73/78 annex VI limits.
** DI9 331 (450) also available at 2300 r/min. Engine version rated at 2200 r/min meets IMO Marpol 73/78 annex VI limits.

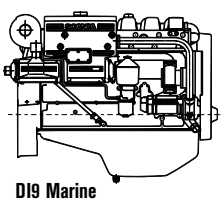
1) Continuous service. Max. 3000 h/year at a load factor of 100 %. Total service time depending on load factor.

2) Rated output available 1 h/6 h. Max. 3000 h/year service time at total load factor 80 %. Total service time depending on load factor.

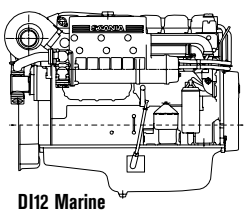
3) Applicable to planing vessels with a propulsion system laid out for full rated engine speed. Rated output available 1 h/6 h. Max. 1500 h/year service time. Fully continuous output is available 250 h/year.

4) 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.

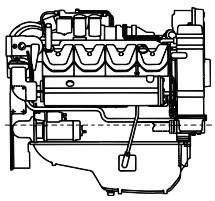
5) For continuous operation under varying load factors and with 10 % overload capacity 1 h/12 h.



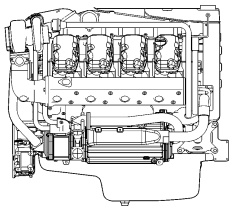
DI9 Marine



DI12 Marine



DI14 Marine



DI16 Marine

Dimensions and weights (mm/kg)

Guidance

With heat exchanger

Engine type	L	W	H	Weight dry
D9	1285	832	1092	890
DI9	1285	832	1092	905
DI12	1341	853	1128	1150
DI14	1274	1172	1193	1400*
DI16	1236	1172	1198	1550

For keel cooling

Engine type	L	W	H	Weight dry
D9	1285	820	1080	855
DI9	1285	820	1132	895
DI12	1341	853	1128	1100
DI14	1274	1172	1193	1325

* DI14 (2 x turbo) 1350 kg.

Advantage Scania

Reliability, availability and durability are all important Scania benefits. As is the combination of low fuel consumption and low exhaust emissions.

Just how do we manage this? The answer lies in dedication to R&D work resulting in advanced technical solutions. Solutions which function impeccably in the toughest of conditions and at the same time provide instant response and detailed feedback at micro-level.

And which at the same time interface smoothly to give the user tangible benefits.

FEWER COMPONENTS – HIGHER AVAILABILITY

Scania's engine production is based on a modular approach, where components such as cylinder heads, cylinders and pistons are used in a wide variety of engine models. This brings many benefits, not least in terms of availability, since parts maintenance is simpler, which in turn ensures that standstill times are the shortest possible.

INDIVIDUAL CYLINDER HEADS SIMPLIFY SERVICE AND REPAIRS

All the engines feature individual cylinder heads, which means that dismantling and reassembly can be carried out by one single mechanic.

EFFECTIVE OIL FILTRATION

All Scania engines feature a two-stage lubrication oil cleaning process, comprising a centrifugal oil cleaner in combination with a cyclone cleaner or a full-flow paper element filter. High filtration capacity is a decisive factor in ensuring long engine life.

LOW EXHAUST EMISSIONS

Irrespective of the area of use, increasing numbers of applications are subject to norms that regulate exhaust emissions. For this reason, Scania's ambition is to always at least meet, and preferably exceed, national or international standards – but without impaired fuel consumption.

SCANIA
Industrial & Marine Engines

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