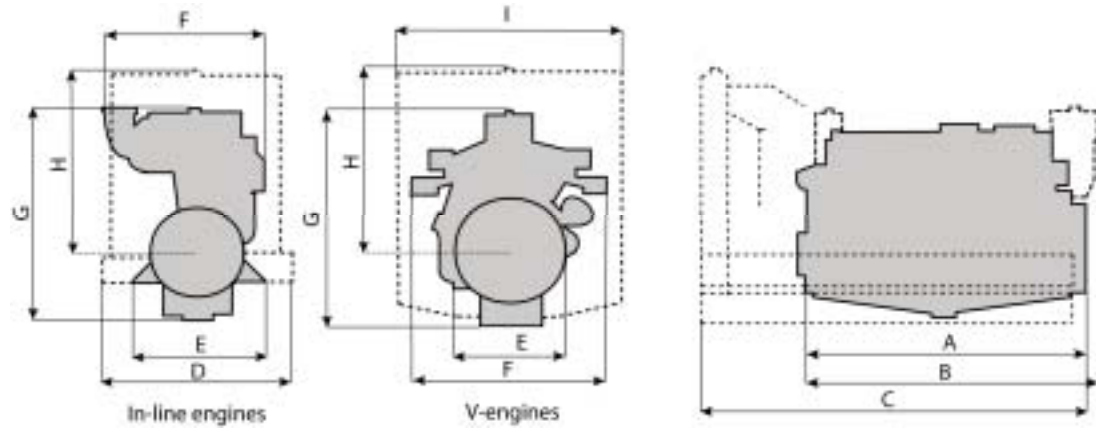


➤ Dimensions



Engine type		A	B	C	D	E	F	G	H	I
RHS518S	mm	1450	1700 ¹⁾	2020 ²⁾	1240	790	-	1295	1010 ³⁾	1030 ⁴⁾
RHS518A	mm	1800	2050 ¹⁾	2460 ²⁾	1300	790	-	1295	1110 ³⁾	1230 ⁴⁾
RHS518V12	mm	1730	1920 ¹⁾	2540 ²⁾	-	730	1275	1395	1490 ³⁾	1380 ⁴⁾
RHS518V16	mm	2240	2270 ¹⁾	3350 ²⁾	-	730	1275	1395	1640 ³⁾	1480 ⁴⁾
TRHS518S	mm	1450	1700 ¹⁾	2070 ²⁾	1340	790	860	1420	1110 ³⁾	1230 ⁴⁾
TRHS518A	mm	2110	2460 ¹⁾	2830 ²⁾	1340	790	1000	1545	1160 ³⁾	1230 ⁴⁾
TRHS518V12	mm	1950	2130 ¹⁾	3050 ²⁾	-	730	1340	1875	1640 ³⁾	1480 ⁴⁾
TRHS518V16	mm	2550	2660 ¹⁾	3570 ²⁾	-	730	1600	1695	1720 ³⁾	1880 ⁴⁾
TBRHS518S	mm	1450	1700 ¹⁾	2230 ²⁾	1500	790	860	1420	1110 ³⁾	1280 ⁴⁾
TBRHS518A	mm	2110	2460 ¹⁾	3000 ²⁾	1500	790	1000	1545	1160 ³⁾	1280 ⁴⁾
TBRHS518V12	mm	2150	2430 ¹⁾	3350 ²⁾	-	730	1340	1875	1760 ³⁾	1780 ⁴⁾
TBRHS518V16	mm	2550	2740 ¹⁾	3570 ²⁾	-	730	1600	1695	1480 ³⁾	2190 ⁴⁾

Engine type	RHS518S	RHS518A	RHS518V12	RHS518V16	TRHS518S	TRHS518A
Weight (t)	1.625 ⁵⁾	1.825 ⁵⁾	2.700 ⁵⁾	3.250 ⁵⁾	1.700 ⁵⁾	2.100 ⁵⁾
	1.700 ⁶⁾	2.000 ⁶⁾	3.000 ⁶⁾	3.900 ⁶⁾	1.800 ⁶⁾	2.400 ⁶⁾

Engine type	TRHS518V12	TRHS518V16	TBRHS518S	TRHS518VA	TBRHS518V12	TBRHS518V16
Weight (t)	2.900 ⁵⁾	3.900 ⁵⁾	1.750 ⁵⁾	2.300 ⁵⁾	3.150 ⁵⁾	4.300 ⁵⁾
	3.300 ⁶⁾	4.400 ⁶⁾	2.200 ⁶⁾	2.600 ⁶⁾	4.575 ⁶⁾	4.725 ⁶⁾

¹⁾ Dimension with indirect cooling
²⁾ Dimension with ventilator cooling
³⁾ Cooler height
⁴⁾ Cooler width
⁵⁾ Standard engine with indirect cooling
⁶⁾ Standard engine with ventilator cooling

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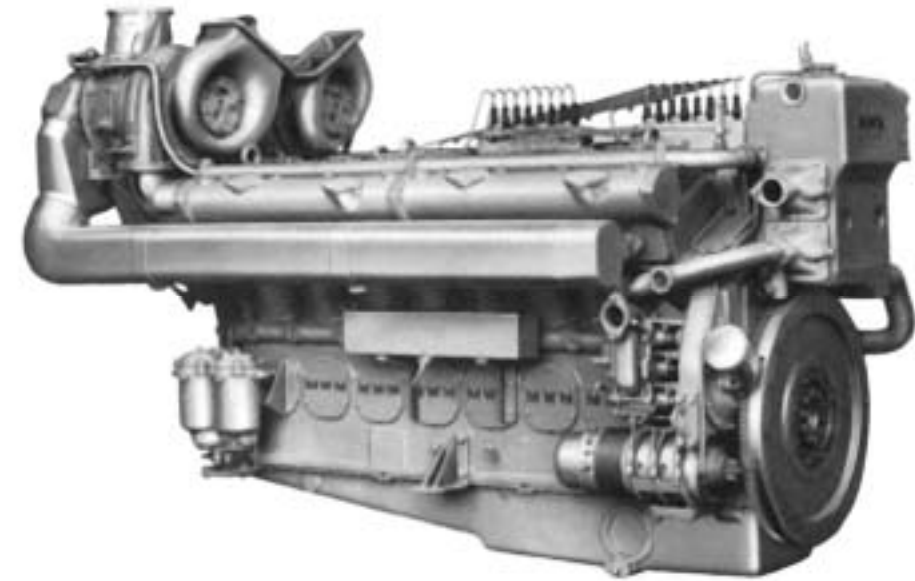
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Total Service



WÄRTSILÄ DEUTZ marine engines

Characteristics

- Water-cooled 6, 8 cylinder in-line engine and 12, 16 cylinder 50° V-engine.
- Four-stroke engine.
- Pre-combustion chamber process.
- Electronic starting system with glow plug.

Benefits

- Sturdy construction.
- Easy access to all engine parts.
- Easy maintenance and easy engine operation.
- Running on HFO.



➤ Engine description

Crankcase	The crankcase with reinforced ribs is made of grey cast iron and is made in one piece.
Crankshaft	The crankshaft is made of drop forged steel.
Torsional vibration damper	A fluid-viscosity vibration damper is mounted on the V-engine. A viscous-fluid or frictional damper is mounted on the in-line engine.
Connecting rod	The obliquely split connecting rod is made of heat treated steel. The bearings are of the lead bronze type with a steel back and a galvanic plated running-in layer.
Piston	The piston is made of a special light metal alloy and has 5 piston rings. The top ring is chrome plated.
Cylinder head	The cylinder head is made of special grey cast iron. The cylinder head contains one inlet and one exhaust valve, a starting valve, a pre-combustion chamber with injection valve and a glow plug.
Camshaft	The camshaft with the inlet and exhaust cams is made of one piece. The cams are case-hardened and polished.
Injection pump	Block pump with internal camshaft. V-engine has two coupled block pumps.
Governor	The 6, 8, and 12 cylinder engines have a mechanical governor. The 16 cylinder engine has a hydraulic governor. Optional: electronic.
Fuel system	The in-line engine has one fuel supply pump and a single fuel filter. (optional: duplex switch-over filter) The V-engine has two fuel supply pumps and a duplex switch-over fuel filter.
Lubricating oil system	Forced oil circulation by engine mounted gear lubricating oil pump. A dry sump lubricating circuit is optional.
Lube oil filter	A strainer or gap filter in main stream is mounted on the in-line engines. A single-stage filter, duplex filter, paper filter or strainer filter in main stream is mounted on the V-engines. A fine filter or a centrifugal filter in partial flow is optional.
Starting system	Electronic (24 V) with glow plug. Optional: compressed air.
Cooling water system	The engine can have the following cooling water systems: <ul style="list-style-type: none"> • Circulation cooling system: with a centrifugal pump or a gear type pump and cooling water thermostat. • Ventilator cooling: with a centrifugal pump, cooling water thermostat and air propulsion by the engine or air propulsion from electromotor and a separate mounted/fitted cooler. • Indirect (two-circuit) cooling system: with a fresh water centrifugal pump, raw water pump, heat-exchanger, expansion tank and cooling water thermostat. Optional: electro pumps aggregate for raw water.
Exhaust gas system	Water-cooled or uncooled.
Turbochargers	Turbochargers are mounted on engine types beginning with 'T'. The engine types TRHS518V16 and TBRHS518V16 have two turbochargers.
Optional	Generator, coupling, etceteras.
Classification	By all established classification societies.

➤ Technical data

Engine type ¹⁾		(T)(TB) RHS518S	(T)(TB) RHS518A	(T)(TB) RHS518V12	(T)(TB) RHS518V16
Model		in-line	in-line	50° V-engine	50° V-engine
Number of cylinders		6	8	12	16
Bore / stroke	mm	140 / 180	140 / 180	140 / 180	140 / 180
Displacement	l	16.61	22.16	33.24	44.32
Compression ratio			19 17.5	engines without charge air cooler engines with charge air cooler	
Direction of rotation ²⁾		clockwise or counter-clockwise			

Power ratings for marine propulsion units and on board generating sets.

Rated speed	min ⁻¹	750-1800	750-1800	750-1800	750-1800
Engine output ³⁾					
according to A ³⁾	kW	68-224 ⁷⁾	91-298 ⁷⁾	136-449 ⁷⁾	181-596 ⁷⁾
according to B ³⁾	kW	74-236 ⁷⁾	98-313 ⁷⁾	147-471 ⁷⁾	195-626 ⁷⁾
Mean effective pressure					
according to A ³⁾	bar	6.53-10.78 ⁷⁾	6.53-10.78 ⁷⁾	6.53-10.78 ⁷⁾	6.53-10.78 ⁷⁾
according to B ³⁾	bar	7.05-11.27 ⁷⁾	7.05-11.27 ⁷⁾	7.05-11.27 ⁷⁾	7.05-11.27 ⁷⁾
Fuel consumption ⁴⁾					
according to A ³⁾	g/kWh	126-127 ⁷⁾	126-127 ⁷⁾	126-127 ⁷⁾	126-127 ⁷⁾
according to B ³⁾	g/kWh	127-129 ⁷⁾	127-129 ⁷⁾	127-129 ⁷⁾	127-129 ⁷⁾
Lubricating oil consumption ⁵⁾	kg/h	0.14-0.46	0.18-0.61	0.28-0.92	0.36-1.22
Idling speed	min ⁻¹	400-450	400-450	600-650	600-650
Total oil capacity of engine ⁶⁾	l	40	48	76	95

¹⁾ Explanation of model designation

T= engine with turbocharger

B= engine with charge air cooler.

RHS= engine designation for crude oil, high-pressure and high speed.

S= 6 cylinder in-line engine

A= 8 cylinder in-line engine

²⁾ According to ISO 1204.

³⁾ Output according to DIN 6270, referring to 736 mm Hg, 20 °C and 60% air humidity, and for TBRHS 518 engines also for 32 °C raw water inlet temperature at the charge air cooler. The power requirement of the cooling-water circulation pump is included in the output declarations. A= continuous output A: 10% exceedable for one hour within 12 hours. B= output B: blocked, not exceedable.

⁴⁾ The fuel consumption values are related to the indicated engine output, referred to a fuel with a calorific value of at least 10,000 kcal/kg.

Guarantee at full load according to DIN 6270 and BBS with a tolerance of 5% after a running-in time of 100 hours.

⁵⁾ Without considering lube oil changes.

⁶⁾ Total oil capacity with standard oil sump

⁷⁾ Output values depending on charge air cooler/turbocharger configuration.

Note:

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

The data provided in the offer is decisive.