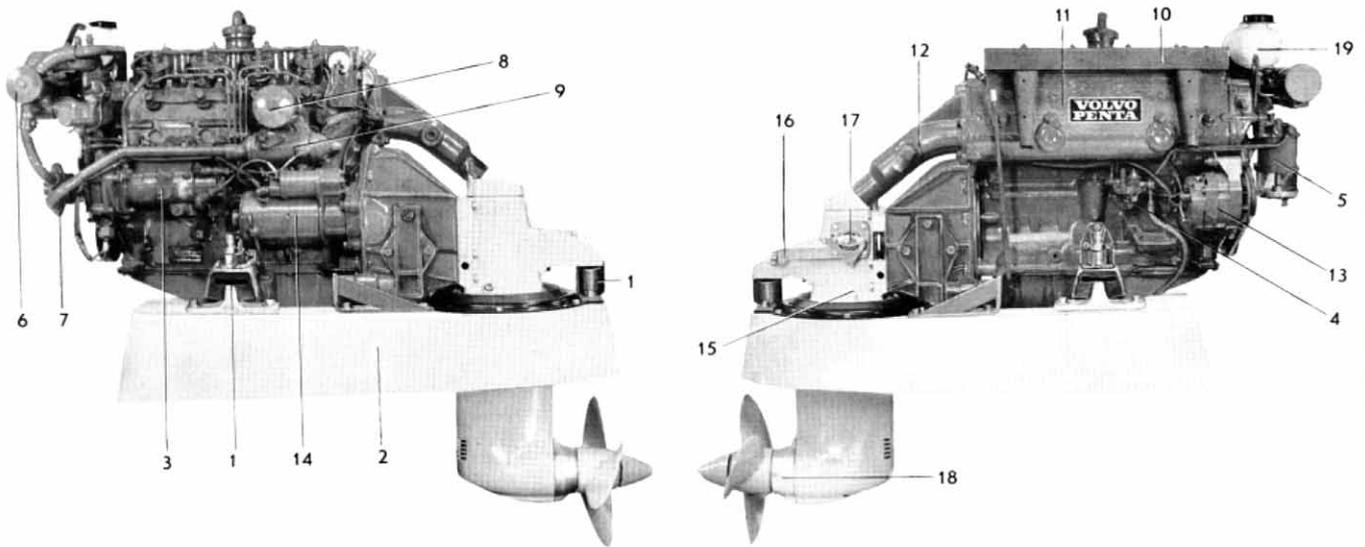


MD 21B/110S



4-cylinder, 4-stroke marine diesel engine with swirl chambers and drive 110S
Propeller shaft output 45 kW (61 hp)



STANDARD EQUIPMENT

ENGINE BODY – Cylinder block made of cast iron and cylinder head of light-alloy. Pistons made of light-alloy with three compression rings and one oil scraper ring. Crankshaft journalled in five bearings. Overhead valves with replaceable seats.

Tool kit supplied with engine.

Engine and drive are mounted to one unit which is rubber-suspended in the engine bed (1).

Bed of glass-fibre reinforced plastic with installation parts (2).

FUEL SYSTEM – Rotor-type injection pump with mechanical governor for accurate speed regulation (3).

Feed pump (4) with hand primer and flexible hoses with fuel pipe connection for suction and return lines.

Fine filter (5) with water separator.

COOLING SYSTEM – Thermostat-controlled fresh-water cooling with heat exchanger (6) and circulation pump. Expansion tank for firm or separate mounting (19). Sea-water pump with neoprene rubber impeller (7). Cleanable sea-water filter supplied.

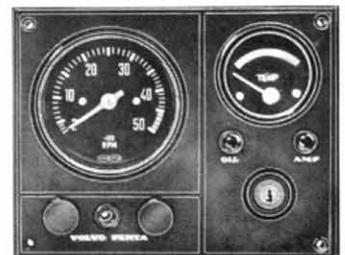
LUBRICATING SYSTEM – Pressure lubricating system with full-flow lubricating oil filter of the spin-on type (8). Cleanable, tubular-type oil cooler (9). Sealed crankcase ventilation.

INTAKE SYSTEM – Intake silencer (10) with filter.

EXHAUST SYSTEM – Sea-water cooled exhaust manifold (11) and exhaust manifold elbow of cast iron (12).

ELECTRICAL SYSTEM – Corrosion-proof 12 V electrical system, with complete instrument panel. Main fusing with built-in spare fuse is mounted on engine. Brushless alternator with built-in transistor regulator, 35 A, 420 W (13). Starter motor output 1.3 kW (1.8 h.p.) (14). Automatic alarm for oil pressure and water temperature.

The instrument panel is provided with a key switch, rev counter, temperature gauge, warning lamps for battery charging, oil pressure and for connection of glow plugs, switch for instrument panel light and one extra switch. Cable harness, 7 m (23 ft.) in length, with plug-in contact already fitted.



DRIVE – Complete with rubber diaphragm and attachments against the bed (15). Silent Shift cone clutch (patented) ensures reliability in operation and quiet engagement with small manoeuvring forces. Both speed and manoeuvring are operated by one and the same control lever. Bracket for control cable (16). Lever for shift mechanism (17). Protective ring of zinc which prevents corrosion (18).

EXTRA EQUIPMENT

FUEL SYSTEM

Water-separating filter with or without flexible hoses
Fuel line kit with copper piping and installation parts

COOLING SYSTEM

Cooling water intake complete with cock and hose

EXHAUST SYSTEM

Exhaust manifold flange
Hull through fitting
Exhaust rubber hose
Exhaust boot

ELECTRICAL SYSTEM

Charging distributor for charging 2-battery system
Instrument panel for extra instrument
Master switch
Cable harness extension for instrument panel

POWER TRANSMISSION

Extra belt pulley

BOAT ACCESSORIES

Electrically operated bilge pump
Original paint
Oils

CONTROLS AND CONTROL SYSTEM

VP single-control lever for both speed and forward-reverse operation, top-mounted or side-mounted. Single or twin installation.
Neutral position switch – automatic safety interlock, VP controls
Control cables
Steering gears
Steering wheels
Steering cables
Ball joint and fork kit for steering cable

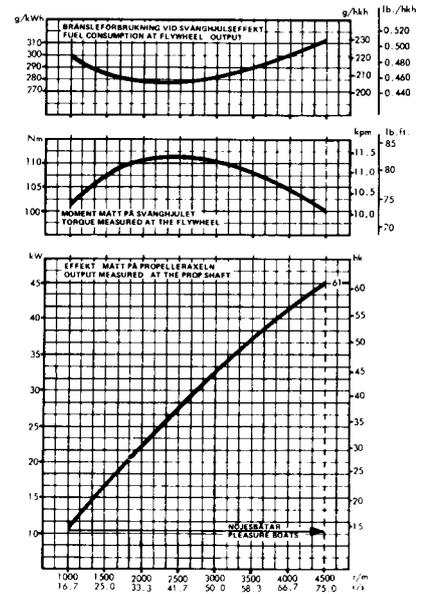
PROPELLERS

15x13, Three-bladed
16x11, Three-bladed

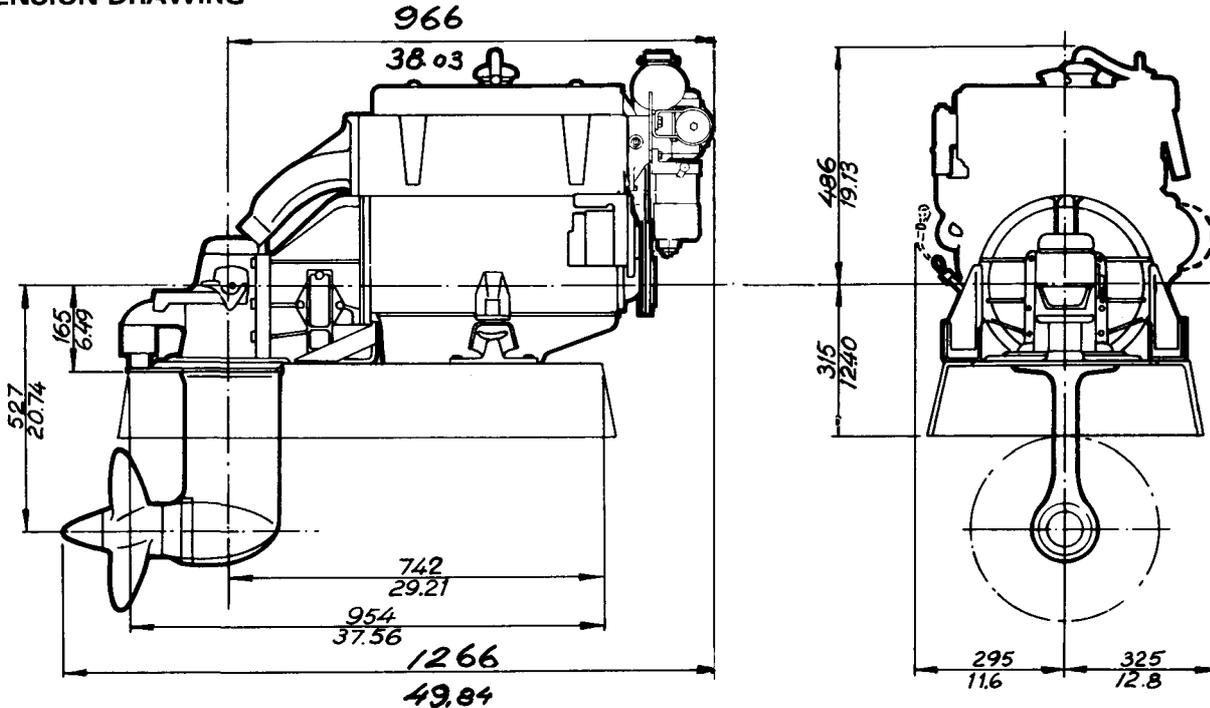
DATA

Type of operation 4-stroke diesel engine with swirl chambers
Designation MD21B/110S
Propeller shaft output¹⁾ 45 kW at 75 r/s (61 hp at 4500 rpm)
Number of cylinders 4 in-line
Capacity, dm³ (in³) 2.112 (129)
Bore/stroke, mm (in) 90.0/83.0 (3.54/3.27)
Valves overhead
Sailboat drive model/ratio 110S/2.15:1
Weight, engine with sailboat drive 325 kg (717 lb)

1) The diagram indicates the propeller shaft output for a run-in engine with Sailboat drive according to DIN 6270 Leistung B. The engine flywheel output is approx. 5% higher. The engine is delivered to be used for pleasure boats adjusted to 75 r/s (4500 rpm). 1 hk = 1 hp (metric system) = 0.986 HP (Imp./US meas.system)



DIMENSION DRAWING



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