VOLVO PENTA

3.0 GS/SX Volvo-Penta AQUAMATIC

VOLVO PENTA INBOARD DIESEL

D25A MS

6-cylinder, 4-stroke, direct-injected, turbocharged marine diesel engine with aftercooler – crankshaft power* 485 kW (660 hp)

* Power rating – see Technical Data

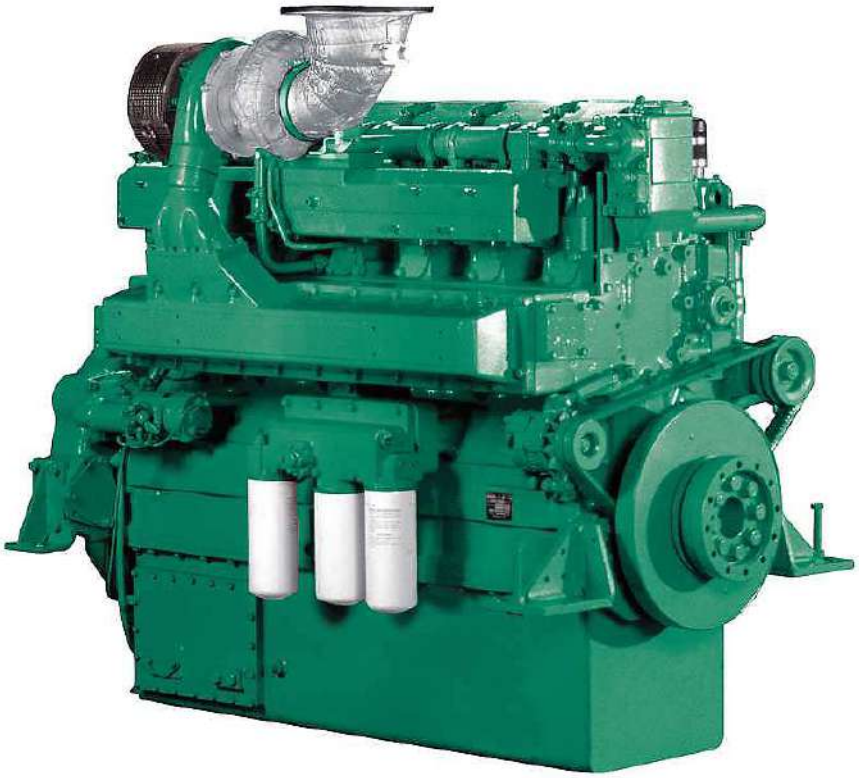
Powerful and reliable engine for demanding operation in commercial applications

The Volvo Penta D25A MS engine is constructed to meet the most demanding requirements, such as marine main propulsion or marine generator drive. Its compactness and durability applies the most advanced technologies and engineering know-how; all this to benefit the operator.

The Volvo Penta D25A MS diesel engine is built to the highest quality standards recognized by all the major marine classification societies, such as Germanischer Lloyds, Norske Veritas etc. as well as the national Shipping Inspections.

Volvo Penta is continuously making intensive research work on the marine application of the engine to produce an engine with a compact design, which gives many advantages, such as low running costs in relation to high output.

An optimal combination of combustion chambers, fuel injection system, and effective turbocharger and charge air cooling system, provide an excellent fuel consumption over the whole range of engine speeds, through which the engine is economical in operation.



Maintenance is very easy, as supplementary equipment such as fuel injection pump, governor, water pump and turbocharger do not need any separate lubrication. The cylinder heads are individually divided by cylinder, and the engine has large inspection covers in crankcase and oilpan.

As the dimensions of the D25A MS engine are kept as small as possible, it takes up surprisingly little space. This asset will be subscribed whole-heartedly by the person who is in charge of the engine room. An engine room equipped with this engine is a well-ordered engine room.

Warranty and Service

All Volvo Penta marine engines come with the additional benefit and security of the Cost Control Program, a unique system of operator support and financial control – from installation to after-sales service.

The optional international limited Volvo Penta three-year warranty provides the owner peace of mind. Qualified Volvo Penta dealers stand by for service and support in more than 100 countries all over the world.

VOLVO PENTA

D25A MS

Technical Data

Engine designation ..... **D25A MS**
No. of cylinders and configuration ..... in-line 6
Method of operation .... 4-stroke, direct-injected, turbocharged diesel engine with aftercooler
Bore, mm 170
Stroke, mm 180
Displacement, l 24.51
Compression ratio 14:1
Dry weight, kg 2300
Crankshaft power at calculated propeller load,
Rating 1, kW (hp) 1600 rpm 440 (598)
Rating 2, kW (hp) 1650 rpm 485 (660)
Torque at calculated propeller load,
Rating 1, Nm 1600 rpm ..... n.a.
Rating 2, Nm 1650 rpm ..... n.a.
Recommended fuel to
conform to ..... ASTM No. 2-D
Specific fuel cons. at calculated propeller load,
Rating 1, g/kWh 1600 rpm ..... n.a.
Rating 2, g/kWh 1650 rpm ..... n.a.

All data represent net performance with standard accessories such as fuel injection pump, water pump, L.O. pump and charging alternator under the conditions of 100kPa (750 mm Hg), barometric pressure 300K (27°C) ambient temperature and 60% relative humidity.

Standard Equipment:

Engine
- Flywheel housing with connection acc. to SAE 0
- Flywheel (18")
- Engine brackets

Lubrication system
- Fresh water cooled oil cooler
- Spin-on type oil filter with shift valve
- Spin-on type oil by-pass filter

Fuel system
- Hydraulic governor
- Jacketed fuel pipes
- Spin-on type fuel filter (change-over type)
- 24V fuel shut-off valve, electrically operated

Exhaust system
- Non-cooled turbocharger
- Air inlet filter/silencer

Cooling system
- Fresh water cooled exhaust mainfold
- Fresh water cooled aftercooler with insulator cover
- Fresh water pump (V-belt driven)

Electrical system
- Starter motor (DC 24V-7.5kW)
- Alternator (24V-35A)

Other equipment
- Front P.T.O. pulley (2x B groove)
- Front safety cover
- Standard tools

Optional Equipment:

- Electrical system including wiring, senders, switches and terminal box mounted on engine
- Instrument panel for engine-room and wheel-house
- Air starting system on request
- Oil drain pump
- Flexible exhaust hose for dry exhaust line
- Dry exhaust silencer
- Fuel filter/water separator with shift valve
- Classification under regulations of: LR, ABS, DNV or GL
- Gearbox on request
- Spare parts
- Spare parts according to classification recommendations

Contact Volvo Penta for further information.

Not all models, standard equipment and accessories are available in all countries. All specifications are subject to change without notice.

The engine illustrated may not be entirely identical to production standard engines.

Performance Data

Heavy Duty Rating 1

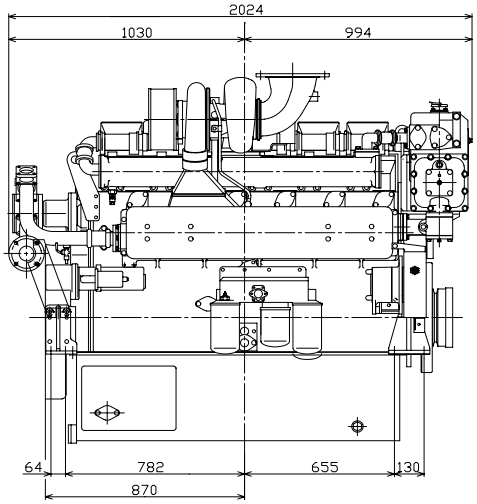
Crankshaft power at full load,
R1, kW (hp) 1600 rpm 440 (598)
R1, kW (hp) 1500 rpm 421 (573)
R1, kW (hp) 1400 rpm 397 (540)
R1, kW (hp) 1300 rpm 366 (497)
R1, kW (hp) 1200 rpm 328 (446)
Crankshaft power at calculated propeller load,
R1, kW (hp) 1600 rpm 440 (598)
R1, kW (hp) 1454 rpm 330 (449)
R1, kW (hp) 1270 rpm 220 (299)
R1, kW (hp) 1008 rpm 110 (150)
Torque at full load,
R1, Nm 1600 rpm 2732
R1, Nm 1500 rpm 2790
R1, Nm 1400 rpm 2815
R1, Nm 1300 rpm 2792
R1, Nm 1200 rpm 2716
Torque at calculated propeller load,
R1, Nm 1600 rpm 2732
R1, Nm 1454 rpm 2257
R1, Nm 1270 rpm 1721
R1, Nm 1008 rpm 1088
Specific fuel consumption at full load,
R1, g/kWh 1600 rpm 208
R1, g/kWh 1500 rpm 205
R1, g/kWh 1400 rpm 206
R1, g/kWh 1300 rpm 210
R1, g/kWh 1200 rpm 214
Specific fuel cons. at calculated propeller load,
R1, g/kWh 1600 rpm 208
R1, g/kWh 1454 rpm 209
R1, g/kWh 1270 rpm 217
R1, g/kWh 1008 rpm 235

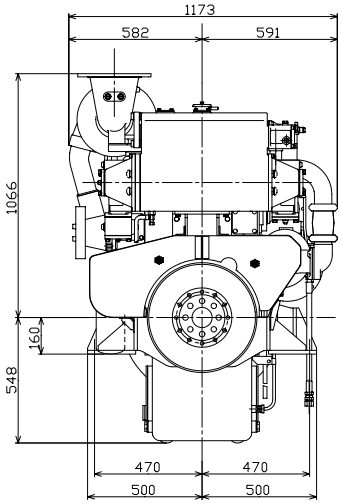
Medium Duty Rating 2

Crankshaft power at full load,
R2, kW (hp) 1650 rpm 485 (659)
R2, kW (hp) 1500 rpm 474 (644)
R2, kW (hp) 1400 rpm 453 (616)
R2, kW (hp) 1300 rpm 421 (573)
Crankshaft power at calculated propeller load,
R2, kW (hp) 1650 rpm 485 (659)
R2, kW (hp) 1500 rpm 364 (495)
R2, kW (hp) 1310 rpm 242 (330)
R2, kW (hp) 1039 rpm 122 (165)
Torque at full load,
R2, Nm 1650 rpm 2918
R2, Nm 1500 rpm 3136
R2, Nm 1400 rpm 3212
R2, Nm 1300 rpm 3219
Torque at calculated propeller load,,
R2, Nm 1650 rpm 2918
R2, Nm 1500 rpm 2410
R2, Nm 1310 rpm 1838
R2, Nm 1039 rpm 1162
Specific fuel consumption at full load,
R2, g/kWh 1650 rpm 216
R2, g/kWh 1500 rpm 213
R2, g/kWh 1400 rpm 213
R2, g/kWh 1300 rpm 213
Specific fuel cons. at calculated propeller load,
R2, g/kWh 1650 rpm 216
R2, g/kWh 1500 rpm 216
R2, g/kWh 1310 rpm 218
R2, g/kWh 1039 rpm 235

Dimensions D25A MS

Dimensions in mm.
Not for installation.





AB Volvo Penta
SE-405 08 Göteborg, Sweden

VOLVO PENTA INBOARD DIESEL

D25A MT

6-cylinder, 4-stroke, direct-injected, turbocharged marine diesel engine with aftercooler – crankshaft power* 520 kW (707 hp)

* Power rating – see Technical Data

Powerful and reliable engine for demanding operation in commercial applications

The Volvo Penta D25A MT engine is constructed to meet the most demanding requirements, such as marine main propulsion or marine generator drive. Its compactness and durability applies the most advanced technologies and engineering know-how; all this to benefit the operator.

The Volvo Penta D25A MT diesel engine is built to the highest quality standards recognized by all the major marine classification societies, such as Germanischer Lloyds, Norske Veritas etc. as well as the national Shipping Inspections.

Volvo Penta is continuously making intensive research work on the marine application of the engine to produce an engine with a compact design, which gives many advantages, such as low running costs in relation to high output.

An optimal combination of combustion chambers, fuel injection system, and effective turbocharger and charge air cooling system, provide an excellent fuel consumption over the whole range of engine speeds, through which the engine is economical in operation.

Maintenance is very easy, as supplementary equipment such as fuel injection pump, governor, water pump and turbocharger do not need any separate lubrication. The cylinder heads are individually divided by cylinder, and the engine has large inspection covers in crankcase and oilpan.

As the dimensions of the D25A MT engine are kept as small as possible, it takes up surprisingly little space. This asset will be subscribed whole-heartedly by the person who is in charge of the engine room. An engine room equipped with this engine is a well-ordered engine room.

Warranty and Service

All Volvo Penta marine engines come with the additional benefit and security of the Cost Control Program, a unique system of operator support and financial control – from installation to after-sales service.

The optional international limited Volvo Penta three-year warranty provides the owner peace of mind. Qualified Volvo Penta dealers stand by for service and support in more than 100 countries all over the world.

VOLVO PENTA

D25A MT

Technical Data

Engine designation ..... **D25A MT**
No. of cylinders and configuration ..... in-line 6
Method of operation .... 4-stroke, direct-injected, turbocharged diesel engine with aftercooler
Bore, mm 170
Stroke, mm 180
Displacement, l 24.51
Compression ratio 14:1
Dry weight, kg 2300
Crankshaft power at calculated propeller load,
Rating 1, kW (hp) 1600 rpm 470 (639)
Rating 2, kW (hp) 1650 rpm 520 (707)
Torque at calculated propeller load,
Rating 1, Nm 1600 rpm 2917
Rating 2, Nm 1650 rpm 3129
Recommended fuel to
conform to ..... ASTM No. 2-D
Specific fuel cons. at calculated propeller load,
Rating 1, g/kWh 1600 rpm 201
Rating 2, g/kWh 1650 rpm 204

All data represent net performance with standard accessories such as fuel injection pump, water pump, L.O. pump and charging alternator under the conditions of 100kPa (750 mm Hg), barometric pressure 300K (27°C) ambient temperature and 60% relative humidity.

Standard Equipment:

Engine
- Flywheel housing with connection acc. to SAE 0
- Flywheel (18")
- Engine brackets

Lubrication system
- Fresh water cooled oil cooler
- Spin-on type oil filter with shift valve
- Spin-on type oil by-pass filter

Fuel system
- Hydraulic governor
- Jacketed fuel pipes
- Spin-on type fuel filter (change over type)
- 24V fuel shut-off valve, electrically operated

Exhaust system
- Non-cooled turbocharger
- Air inlet filter/silencer

Cooling system
- Fresh water cooled exhaust mainfold
- Raw water cooled aftercooler with insulator cover
- Fresh water pump (V-belt driven)

Electrical system
- Starter motor (DC 24V-7.5kW)
- Alternator (24V-35A)

Other equipment
- Front P.T.O. pulley (2x B groove)
- Front safety cover
- Standard tools

Optional Equipment:

- Electrical system including wiring, senders, switches and terminal box mounted on engine
- Instrument panel for engine-room and wheel-house
- Air starting system on request
- Oil drain pump
- Flexible exhaust hose for dry exhaust line
- Dry exhaust silencer
- Fuel filter/water separator with shift valve
- Classification under regulations of: LR, ABS, DNV or GL
- Gearbox on request
- Spare parts
- Spare parts according to classification recommendations

Contact Volvo Penta for further information.

Not all models, standard equipment and accessories are available in all countries. All specifications are subject to change without notice.

The engine illustrated may not be entirely identical to production standard engines.

Performance Data

Heavy Duty Rating 1

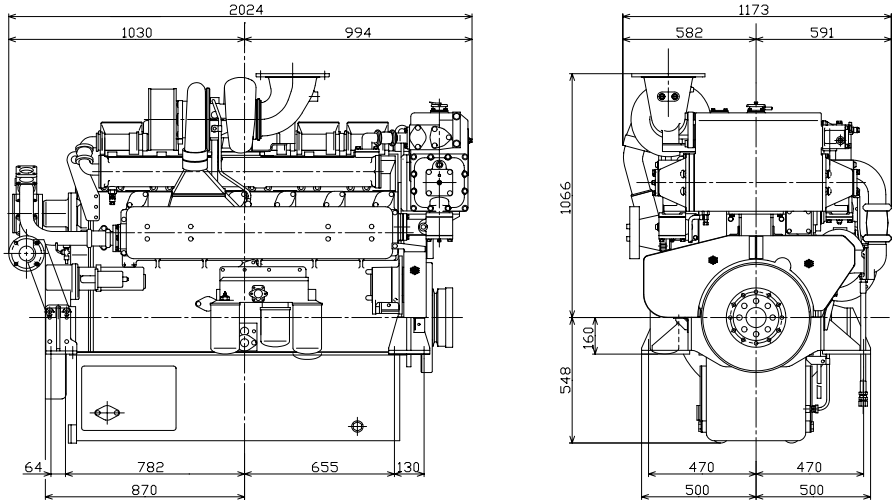
Crankshaft power at full load,
R1, kW (hp) 1600 rpm 470 (639)
R1, kW (hp) 1500 rpm 457 (621)
R1, kW (hp) 1400 rpm 440 (598)
R1, kW (hp) 1300 rpm 418 (568)
R1, kW (hp) 1200 rpm 385 (523)
Crankshaft power at calculated propeller load,
R1, kW (hp) 1600 rpm 470 (639)
R1, kW (hp) 1454 rpm 353 (480)
R1, kW (hp) 1270 rpm 235 (319)
R1, kW (hp) 1008 rpm 118 (160)
Torque at full load,
R1, Nm 1600 rpm 2917
R1, Nm 1500 rpm 3022
R1, Nm 1400 rpm 3122
R1, Nm 1300 rpm 3191
R1, Nm 1200 rpm 3185
Torque at calculated propeller load,
R1, Nm 1600 rpm 2917
R1, Nm 1454 rpm 2410
R1, Nm 1270 rpm 1837
R1, Nm 1008 rpm 1161
Specific fuel consumption at full load,
R1, g/kWh 1600 rpm 201
R1, g/kWh 1500 rpm 200
R1, g/kWh 1400 rpm 200
R1, g/kWh 1300 rpm 198
R1, g/kWh 1200 rpm 202
Specific fuel cons. at calculated propeller load,
R1, g/kWh 1600 rpm 201
R1, g/kWh 1454 rpm 200
R1, g/kWh 1270 rpm 206
R1, g/kWh 1008 rpm 225

Medium Duty Rating 2

Crankshaft power at full load,
R2, kW (hp) 1650 rpm 520 (707)
R2, kW (hp) 1500 rpm 500 (680)
R2, kW (hp) 1400 rpm 470 (639)
R2, kW (hp) 1300 rpm 448 (609)
Crankshaft power at calculated propeller load,
R2, kW (hp) 1650 rpm 520 (707)
R2, kW (hp) 1500 rpm 390 (530)
R2, kW (hp) 1310 rpm 260 (354)
R2, kW (hp) 1039 rpm 130 (176)
Torque at full load,
R2, Nm 1650 rpm 3129
R2, Nm 1500 rpm 3309
R2, Nm 1400 rpm 3333
R2, Nm 1300 rpm 3419
Torque at calculated propeller load,,
R2, Nm 1650 rpm 3129
R2, Nm 1500 rpm 2583
R2, Nm 1310 rpm 1973
R2, Nm 1039 rpm 1241
Specific fuel consumption at full load,
R2, g/kWh 1650 rpm 204
R2, g/kWh 1500 rpm 202
R2, g/kWh 1400 rpm 208
R2, g/kWh 1300 rpm 210
Specific fuel cons. at calculated propeller load,
R2, g/kWh 1650 rpm 204
R2, g/kWh 1500 rpm 202
R2, g/kWh 1310 rpm 206
R2, g/kWh 1039 rpm 214

Dimensions D25A MT

Dimensions in mm.
Not for installation.



AB Volvo Penta
SE-405 08 Göteborg, Sweden

VOLVO PENTA INBOARD DIESEL

D30A MS

6-cylinder, 4-stroke, direct-injected, turbocharged marine diesel engine with aftercooler – crankshaft power* 490 kW (666 hp)

* Power rating – see Technical Data

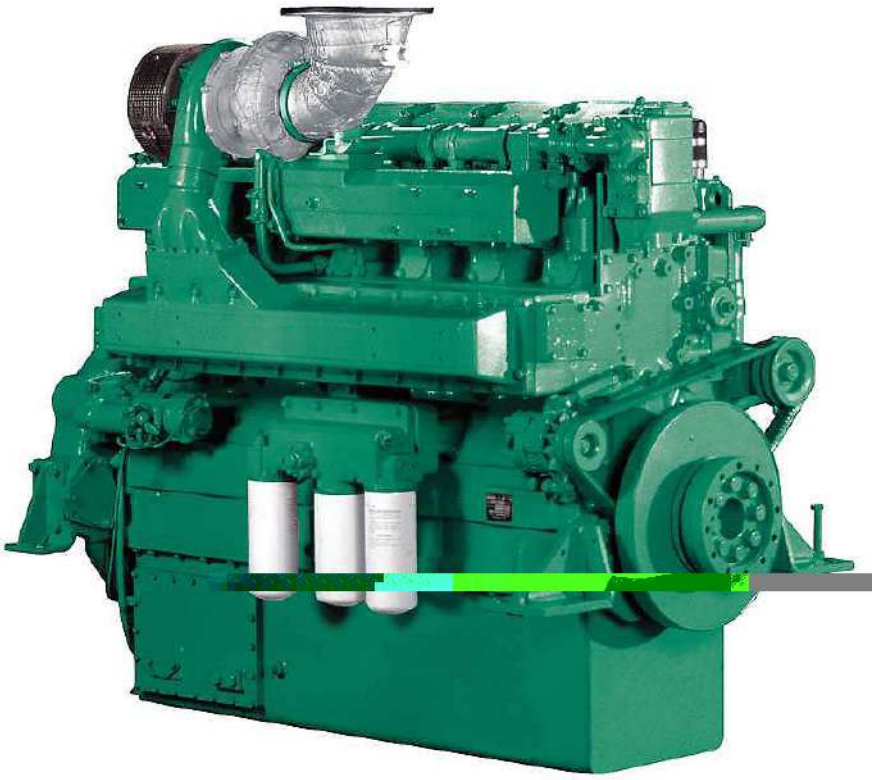
Powerful and reliable engine for demanding operation in commercial applications

The Volvo Penta D30A MS engine is constructed to meet the most demanding requirements, such as marine main propulsion or marine generator drive. Its compactness and durability applies the most advanced technologies and engineering know-how; all this to benefit the operator.

The Volvo Penta D30A MS diesel engine is built to the highest quality standards recognized by all the major marine classification societies, such as Germanischer Lloyds, Norske Veritas etc. as well as the national Shipping Inspections.

Volvo Penta is continuously making intensive research work on the marine application of the engine to produce an engine with a compact design, which gives many advantages, such as low running costs in relation to high output.

An optimal combination of combustion chambers, fuel injection system, and effective turbocharger and charge air cooling system, provide an excellent fuel consumption over the whole range of engine speeds, through which the engine is economical in operation.



Maintenance is very easy, as supplementary equipment such as fuel injection pump, governor, water pump and turbocharger do not need any separate lubrication. The cylinder heads are individually divided by cylinder, and the engine has large inspection covers in crankcase and oilpan.

As the dimensions of the D30A MS engine are kept as small as possible, it takes up surprisingly little space. This asset will be subscribed whole-heartedly by the person who is in charge of the engine room. An engine room equipped with this engine is a well-ordered engine room.

Warranty and Service

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VOLVO PENTA

D30A M

Technic

Engine des
No. of cylin
Method of
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Bore, mm ...
Stroke, mm
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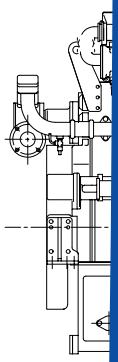

AB Volvo Penta
SE-405 08 Göteborg, Sweden

VOLVO PENTA INBOARD DIESEL

D30A MT

6-cylinder, 4-stroke, direct-injected, turbocharged marine diesel engine with aftercooler – crankshaft power* 530 kW (721 hp)

* Power rating – see Technical Data

Powerful and reliable engine for demanding operation in commercial applications

The Volvo Penta D30A MT engine is constructed to meet the most demanding requirements, such as marine main propulsion or marine generator drive. Its compactness and durability applies the most advanced technologies and engineering know-how; all this to benefit the operator.

The Volvo Penta D30A MT diesel engine is built to the highest quality standards recognized by all the major marine classification societies, such as Germanischer Lloyds, Norske Veritas etc. as well as the national Shipping Inspections.

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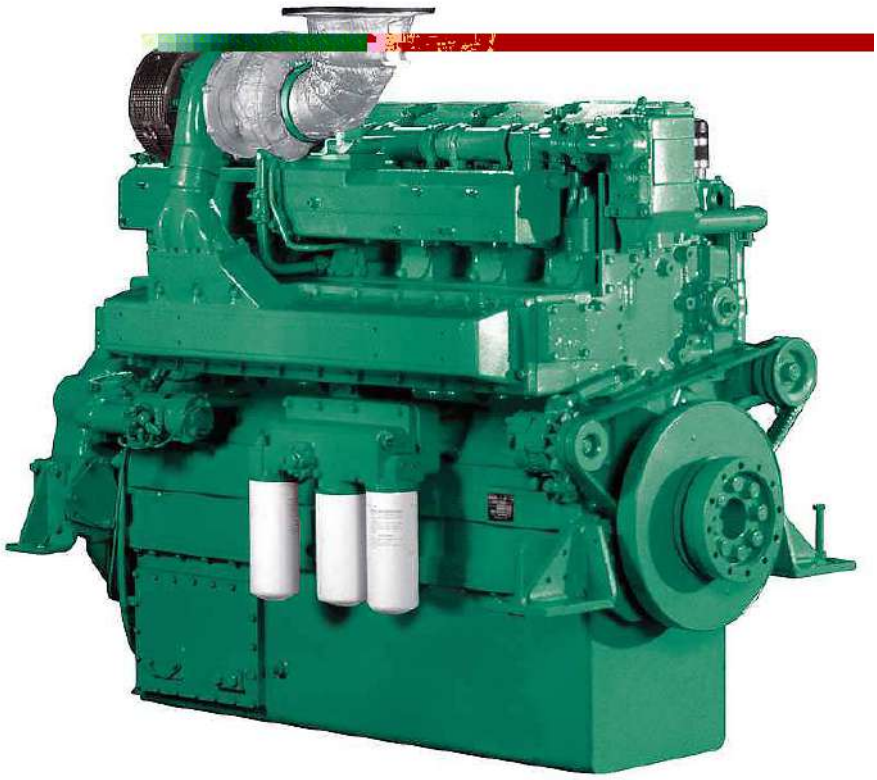
An optimal combination of combustion chambers, fuel injection system, and effective turbocharger and charge air cooling system, provide an excellent fuel consumption over the whole range of engine speeds, through which the engine is economical in operation.



Maintenance is very easy, as supplementary equipment such as fuel injection pump, governor, water pump and turbocharger do not need any separate lubrication. The cylinder heads are individually divided by cylinder, and the engine has large inspection covers in crankcase and oilpan.

As the dimensions of the D30A MT engine are kept as small as possible, it takes up surprisingly little space. This asset will be subscribed whole-heartedly by the person who is in charge of the engine room. An engine room equipped with this engine is a well-ordered engine room.

Warranty and Service

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VOLVO PENTA

D30A MT

Technical Data

Engine designation ..... **D30A MT**
No. of cylinders and configuration ..... in-line 6
Method of operation .... 4-stroke, direct-injected, turbocharged diesel engine with aftercooler
Bore, mm 170
Stroke, mm 220
Displacement, l 29.96
Compression ratio 14:1
Dry weight, kg 2400
Crankshaft power at calculated propeller load,
Rating 1, kW (hp) 1350 rpm 480 (653)
Rating 2, kW (hp) 1400 rpm 530 (721)
Torque at calculated propeller load,
Rating 1, Nm 1350 rpm 3528
Rating 2, Nm 1400 rpm ..... n.a.
Recommended fuel to
conform to ..... ASTM No. 2-D
Specific fuel cons. at calculated propeller load,
Rating 1, g/kWh 1350 rpm 198
Rating 2, g/kWh 1400 rpm ..... n.a.

All data represent net performance with standard accessories such as fuel injection pump, water pump, L.O. pump and charging alternator under the conditions of 100kPa (750 mm Hg), barometric pressure 300K (27°C) ambient temperature and 60% relative humidity.

Standard Equipment:

Engine
- Flywheel housing with connection acc. to SAE 0
- Flywheel (18")
- Engine brackets

Lubrication system
- Fresh water cooled oil cooler
- Spin-on type oil filter with shift valve
- Spin-on type oil by-pass filter

Fuel system
- Hydraulic governor
- Jacketed fuel pipes
- Spin-on type fuel filter (change over type)
- 24V fuel shut-off valve, electrically operated

Exhaust system
- Non-cooled turbocharger
- Air inlet filter/silencer

Cooling system
- Fresh water cooled exhaust mainfold
- Raw water cooled aftercooler with insulator cover
- Fresh water pump (V-belt driven)

Electrical system
- Starter motor (DC 24V-7.5kW)
- Alternator (24V-35A)

Other equipment
- Front P.T.O. pulley (2x B groove)
- Front safety cover
- Standard tools

Optional Equipment:

- Electrical system including wiring, senders, switches and terminal box mounted on engine
- Instrument panel for engine-room and wheel-house
- Air starting system on request
- Oil drain pump
- Flexible exhaust hose for dry exhaust line
- Dry exhaust silencer
- Fuel filter/water separator with shift valve
- Classification under regulations of: LR, ABS, DNV or GL
- Gearbox on request
- Spare parts
- Spare parts according to classification recommendations

Contact Volvo Penta for further information.

Not all models, standard equipment and accessories are available in all countries. All specifications are subject to change without notice.

The engine illustrated may not be entirely identical to production standard engines.

Performance Data

Heavy Duty Rating 1

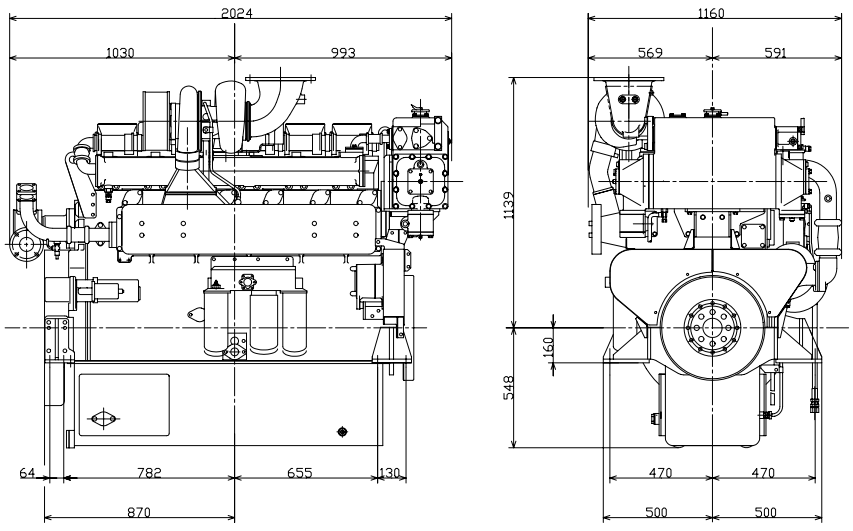
Crankshaft power at full load,
R1, kW (hp) 1350 rpm 480 (652)
R1, kW (hp) 1200 rpm 451 (614)
R1, kW (hp) 1100 rpm 418 (568)
R1, kW (hp) 1000 rpm 384 (522)
Crankshaft power at calculated propeller load,
R1, kW (hp) 1350 rpm 480 (652)
R1, kW (hp) 1227 rpm 360 (489)
R1, kW (hp) 1072 rpm 240 (327)
R1, kW (hp) 850 rpm 120 (163)
Torque at full load,
R1, Nm 1350 rpm 3528
R1, Nm 1200 rpm 3735
R1, Nm 1100 rpm 3771
R1, Nm 1000 rpm 3815
Torque at calculated propeller load,
R1, Nm 1350 rpm 3528
R1, Nm 1227 rpm 2910
R1, Nm 1072 rpm 2225
R1, Nm 850 rpm 1403
Specific fuel consumption at full load,
R1, g/kWh 1350 rpm 198
R1, g/kWh 1200 rpm 196
R1, g/kWh 1100 rpm 194
R1, g/kWh 1000 rpm 194
Specific fuel cons. at calculated propeller load,
R1, g/kWh 1350 rpm 198
R1, g/kWh 1227 rpm 196
R1, g/kWh 1072 rpm 197
R1, g/kWh 850 rpm 205

Medium Duty Rating 2

Crankshaft power at full load,
R1, kW (hp) 1400 rpm 530 (720)
R1, kW (hp) 1300 rpm 518 (704)
R1, kW (hp) 1200 rpm 495 (672)
R1, kW (hp) 1100 rpm 466 (633)
R1, kW (hp) 1000 rpm 430 (585)
Crankshaft power at calculated propeller load,
R1, kW (hp) 1400 rpm 530 (720)
R1, kW (hp) 1272 rpm 398 (541)
R1, kW (hp) 1111 rpm 265 (360)
R1, kW (hp) 882 rpm 133 (181)
Torque at full load,
R1, Nm 1400 rpm 3757
R1, Nm 1300 rpm 3954
R1, Nm 1200 rpm 4093
R1, Nm 1100 rpm 4202
R1, Nm 1000 rpm 4274
Torque at calculated propeller load,
R1, Nm 1400 rpm 3757
R1, Nm 1272 rpm 3104
R1, Nm 1111 rpm 2367
R1, Nm 882 rpm 1495
Specific fuel consumption at full load,
R1, g/kWh 1400 rpm 194
R1, g/kWh 1300 rpm 190
R1, g/kWh 1200 rpm 190
R1, g/kWh 1100 rpm 190
R1, g/kWh 1000 rpm 196
Specific fuel cons. at calculated propeller load,
R1, g/kWh 1400 rpm 194
R1, g/kWh 1272 rpm 193
R1, g/kWh 1111 rpm 194
R1, g/kWh 882 rpm 205

Dimensions D30A MT

Dimensions in mm.
Not for installation.



AB Volvo Penta
SE-405 08 Göteborg, Sweden

VOLVO PENTA INBOARD DIESEL

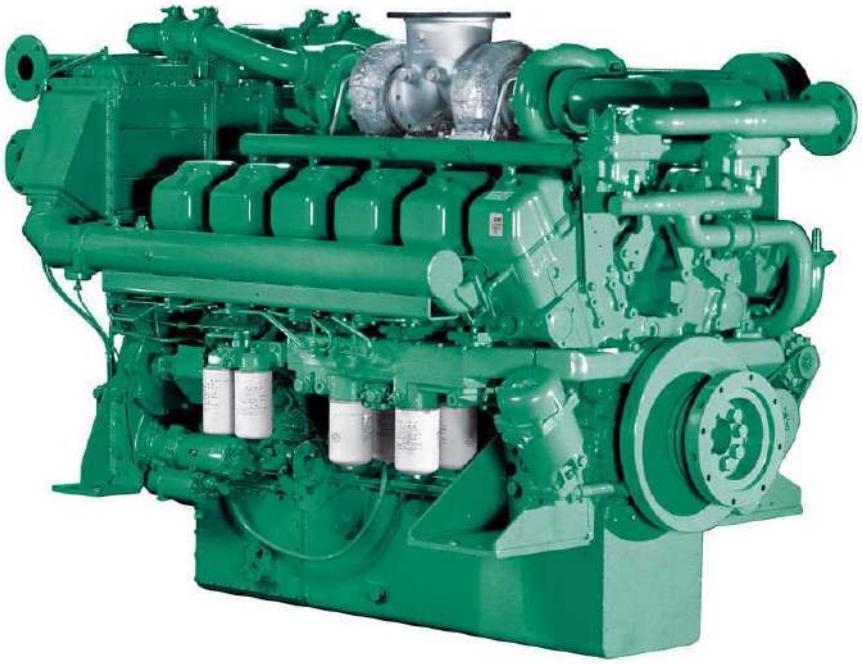
D34A MS

12-cylinder, 4-stroke, direct-injected, turbocharged marine diesel engine with aftercooler – crankshaft power* 701 kW (953 hp)

* Power rating – see Technical Data

Powerful and reliable engine for demanding operation in commercial applications

The Volvo Penta D34A MS engine is constructed to meet the most demanding requirements, such as marine main propulsion or marine generator drive. Its compactness and durability applies the most advanced technologies and engineering know-how; all this to benefit the operator.



The Volvo Penta D34A MS diesel engine is built to the highest quality standards recognized by all the major marine classification societies, such as Germanischer Lloyds, Norske Veritas etc. as well as the national Shipping Inspections.

Volvo Penta is continuously making intensive research work on the marine application of the engine to produce an engine with a compact design, which gives many advantages, such as low running costs in relation to high output.

An optimal combination of combustion chambers, fuel injection system, and effective turbocharger and charge air cooling system, provide an excellent fuel consumption over the whole range of engine speeds, through which the engine is economical in operation.

Maintenance is very easy, as supplementary equipment such as fuel injection pump, governor, water pump and turbocharger do not need any separate lubrication. The cylinder heads are individually divided by cylinder, and the engine has large inspection covers in crankcase and oilpan.

As the dimensions of the D34A MS engine are kept as small as possible, it takes up surprisingly little space. This asset will be subscribed whole-heartedly by the person who is in charge of the engine room. An engine room equipped with this engine is a well-ordered engine room.

Warranty and Service

All Volvo Penta marine engines come with the additional benefit and security of the Cost Control Program, a unique system of operator support and financial control – from installation to after-sales service.

The optional international limited Volvo Penta three-year warranty provides the owner peace of mind. Qualified Volvo Penta dealers stand by for service and support in more than 100 countries all over the world.

VOLVO PENTA

D34A MS

Technical Data

Engine designation ..... **D34A MS**
No. of cylinders and configuration ..... V 12
Method of operation .... 4-stroke, direct-injected, turbocharged diesel engine with aftercooler
Bore, mm 150
Stroke, mm 160
Displacement, l 33.93
Compression ratio 14.5:1
Dry weight, kg 2920
Crankshaft power at calculated propeller load,
Rating 1, kW (hp) 1940 rpm 634 (862)
Rating 2, kW (hp) 2000 rpm 701 (953)
Torque at calculated propeller load,
Rating 1, Nm 1940 rpm ..... n.a.
Rating 2, Nm 2000 rpm ..... n.a.
Recommended fuel to
conform to ..... ASTM No. 2-D
Specific fuel cons. at calculated propeller load,
Rating 1, g/kWh 1940 rpm ..... n.a.
Rating 2, g/kWh 2000 rpm ..... n.a.

All data represent net performance with standard accessories such as fuel injection pump, water pump, L.O. pump and charging alternator under the conditions of 100kPa (750 mm Hg), barometric pressure 300K (27°C) ambient temperature and 60% relative humidity.

Standard Equipment:

Engine
- Flywheel housing with connection acc. to SAE 0
- Flywheel (18")
- Engine brackets

Lubrication system
- Fresh water cooled oil cooler
- Spin-on type oil filter with shift valve
- Spin-on type oil by-pass filter

Fuel system
- Hydraulic governor
- Jacketed fuel pipes
- Spin-on type fuel filter (change over type)
- 24V fuel shut-off valve, electrically operated

Exhaust system
- Dry exhaust mainfold with insulator cover
- Non-cooled turbocharger
- Air inlet filter/silencer

Cooling system
- Fresh water cooled aftercooler with insulator cover
- Fresh water pump (V-belt driven)

Electrical system
- Starter motor (DC 24V-7.5kW)
- Alternator (24V-35A)

Other equipment
- Front P.T.O. pulley (2x B groove)
- Front safety cover
- Standard tools

Optional Equipment:

- Electrical system including wiring, senders, switches and terminal box mounted on engine
- Instrument panel for engine-room and wheel-house
- Air starting system on request
- Oil drain pump
- Flexible exhaust hose for dry exhaust line
- Dry exhaust silencer
- Fuel filter/water separator with shift valve
- Classification under regulations of: LR, ABS, DNV or GL
- Gearbox on request
- Spare parts
- Spare parts according to classification recommendations

Contact Volvo Penta for further information.

Not all models, standard equipment and accessories are available in all countries. All specifications are subject to change without notice.

The engine illustrated may not be entirely identical to production standard engines.

Performance Data

Heavy Duty Rating 1

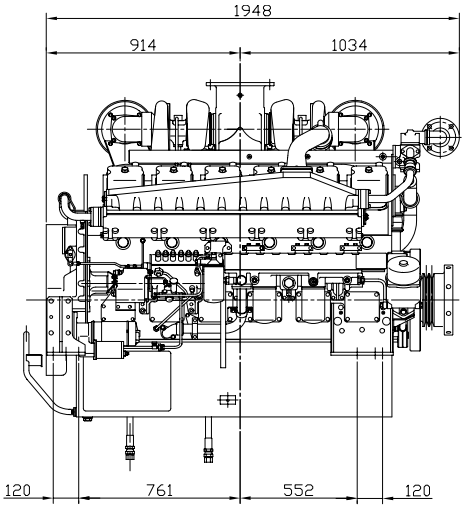
Crankshaft power at full load,
R1, kW (hp) 1940 rpm 634 (862)
R1, kW (hp) 1900 rpm 634 (962)
R1, kW (hp) 1800 rpm 615 (837)
R1, kW (hp) 1700 rpm 595 (809)
R1, kW (hp) 1600 rpm 571 (776)
Crankshaft power at calculated propeller load,
R1, kW (hp) 1940 rpm 634 (862)
R1, kW (hp) 1763 rpm 476 (647)
R1, kW (hp) 1540 rpm 317 (431)
R1, kW (hp) 1222 rpm 159 (216)
Torque at full load,
R1, Nm 1940 rpm 3246
R1, Nm 1900 rpm 3314
R1, Nm 1800 rpm 3395
R1, Nm 1700 rpm 3477
R1, Nm 1600 rpm 3542
Torque at calculated propeller load,
R1, Nm 1940 rpm 3246
R1, Nm 1763 rpm 2681
R1, Nm 1540 rpm 2044
R1, Nm 1222 rpm 1291
Specific fuel consumption at full load,
R1, g/kWh 1940 rpm 214
R1, g/kWh 1900 rpm 213
R1, g/kWh 1800 rpm 212
R1, g/kWh 1700 rpm 209
R1, g/kWh 1600 rpm 208
Specific fuel cons. at calculated propeller load,
R1, g/kWh 1940 rpm 214
R1, g/kWh 1763 rpm 213
R1, g/kWh 1540 rpm 218
R1, g/kWh 1222 rpm 232

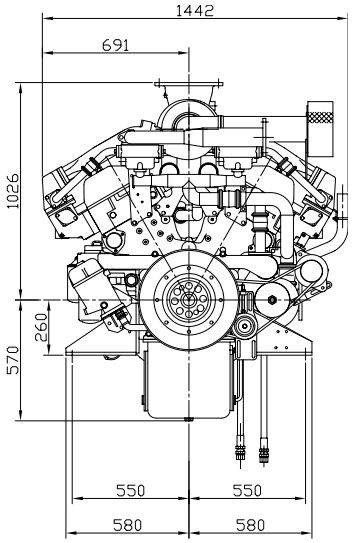
Medium Duty Rating 2

Crankshaft power at full load,
R2, kW (hp) 2000 rpm 701 (953)
R2, kW (hp) 1900 rpm 668 (909)
R2, kW (hp) 1800 rpm 639 (868)
R2, kW (hp) 1700 rpm 597 (811)
R2, kW (hp) 1600 rpm 555 (755)
Crankshaft power at calculated propeller load,
R2, kW (hp) 2000 rpm 701 (953)
R2, kW (hp) 1817 rpm 526 (715)
R2, kW (hp) 1587 rpm 351 (477)
R2, kW (hp) 1260 rpm 175 (238)
Torque at full load,
R2, Nm 2000 rpm 3482
R2, Nm 1900 rpm 3493
R2, Nm 1800 rpm 3523
R2, Nm 1700 rpm 3486
R2, Nm 1600 rpm 3444
Torque at calculated propeller load,,
R2, Nm 2000 rpm 3482
R2, Nm 1817 rpm 2874
R2, Nm 1587 rpm 2194
R2, Nm 1260 rpm 1382
Specific fuel consumption at full load,
R2, g/kWh 2000 rpm 218
R2, g/kWh 1900 rpm 217
R2, g/kWh 1800 rpm 214
R2, g/kWh 1700 rpm 213
R2, g/kWh 1600 rpm 214
Specific fuel cons. at calculated propeller load,
R2, g/kWh 2000 rpm 218
R2, g/kWh 1817 rpm 216
R2, g/kWh 1587 rpm 217
R2, g/kWh 1260 rpm 225

Dimensions D34A MS

Dimensions in mm.
Not for installation.





AB Volvo Penta
SE-405 08 Göteborg, Sweden

VOLVO PENTA INBOARD DIESEL

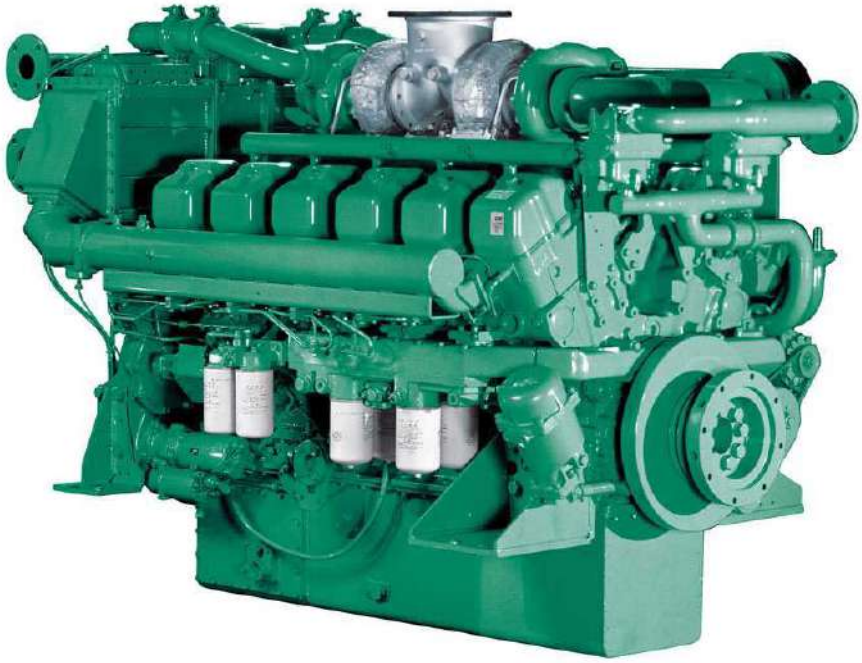
D34A MT

12-cylinder, 4-stroke, direct-injected, turbocharged marine diesel engine with aftercooler – crankshaft power* 776 kW (1055 hp)

* Power rating – see Technical Data

Powerful and reliable engine for demanding operation in commercial applications

The Volvo Penta D34A MT engine is constructed to meet the most demanding requirements, such as marine main propulsion or marine generator drive. Its compactness and durability applies the most advanced technologies and engineering know-how; all this to benefit the operator.



The Volvo Penta D34A MT diesel engine is built to the highest quality standards recognized by all the major marine classification societies, such as Germanischer Lloyds, Norske Veritas etc. as well as the national Shipping Inspections.

Volvo Penta is continuously making intensive research work on the marine application of the engine to produce an engine with a compact design, which gives many advantages, such as low running costs in relation to high output.

An optimal combination of combustion chambers, fuel injection system, and effective turbocharger and charge air cooling system, provide an excellent fuel consumption over the whole range of engine speeds, through which the engine is economical in operation.

Maintenance is very easy, as supplementary equipment such as fuel injection pump, governor, water pump and turbocharger do not need any separate lubrication. The cylinder heads are individually divided by cylinder, and the engine has large inspection covers in crankcase and oilpan.

As the dimensions of the D34A MT engine are kept as small as possible, it takes up surprisingly little space. This asset will be subscribed whole-heartedly by the person who is in charge of the engine room. An engine room equipped with this engine is a well-ordered engine room.

Warranty and Service

All Volvo Penta marine engines come with the additional benefit and security of the Cost Control Program, a unique system of operator support and financial control – from installation to after-sales service.

The optional international limited Volvo Penta three-year warranty provides the owner peace of mind. Qualified Volvo Penta dealers stand by for service and support in more than 100 countries all over the world.

VOLVO PENTA

D34A MT

Technical Data

Engine designation ..... **D34A MT**
No. of cylinders and configuration ..... V 12
Method of operation .... 4-stroke, direct-injected, turbocharged diesel engine with aftercooler
Bore, mm 150
Stroke, mm 160
Displacement, l 33.93
Compression ratio 14.5:1
Dry weight, kg 2920
Crankshaft power at calculated propeller load,
Rating 1, kW (hp) 1940 rpm 701 (953)
Rating 2, kW (hp) 2000 rpm 776 (1055)
Torque at calculated propeller load,
Rating 1, Nm 1940 rpm 3589
Rating 2, Nm 2000 rpm ..... n.a.
Recommended fuel to
conform to ..... ASTM No. 2-D
Specific fuel cons. at calc ulated propeller load,
Rating 1, g/kWh 1940 rpm 214
Rating 2, g/kWh 2000 rpm ..... n.a.

All data represent net performance with standard accessories such as fuel injection pump, water pump, L.O. pump and charging alternator under the conditions of 100kPa (750 mm Hg), barometric pressure 300K (27°C) ambient temperature and 60% relative humidity.

Standard Equipment:

Engine
- Flywheel housing with connection acc. to SAE 0
- Flywheel (18")
- Engine brackets

Lubrication system
- Fresh water cooled oil cooler
- Spin-on type oil filter with shift valve
- Spin-on type oil by-pass filter

Fuel system
- Hydraulic governor
- Jacketed fuel pipes
- Spin-on type fuel filter (change over type)
- 24V fuel shut-off valve, electrically operated

Exhaust system
- Dry exhaust mainfold with insulator cover
- Non-cooled turbocharger
- Air inlet filter/silencer

Cooling system
- Raw water cooled aftercooler
- Fresh water pump (V-belt driven)
- Raw water pump (V-belt driven)

Electrical system
- Starter motor (DC 24V-7.5kW)
- Alternator (24V-35A)

Other equipment
- Front P.T.O. pulley (2x B groove)
- Front safety cover
- Standard tools

Optional Equipment:

- Electrical system including wiring, senders, switches and terminal box mounted on engine
- Instrument panel for engine-room and wheel-house
- Air starting system on request
- Oil drain pump
- Flexible exhaust hose for dry exhaust line
- Dry exhaust silencer
- Fuel filter/water separator with shift valve
- Classification under regulations of: LR, ABS, DNV or GL
- Gearbox on request
- Spare parts
- Spare parts according to classification recommendations

Contact Volvo Penta for further information.

Not all models, standard equipment and accessories are available in all countries. All specifications are subject to change without notice.

The engine illustrated may not be entirely identical to production standard engines.

Performance Data

Heavy Duty Rating 1

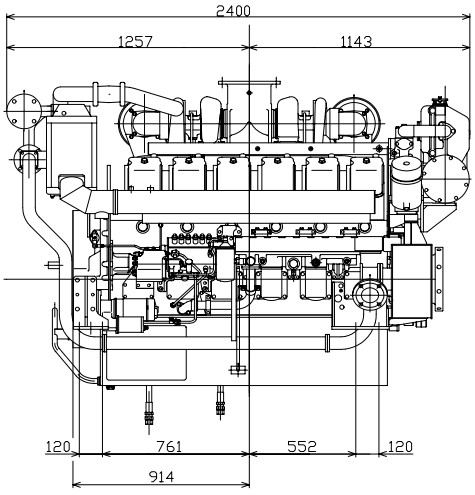
Crankshaft power at full load,
R1, kW (hp) 1940 rpm 701 (953)
R1, kW (hp) 1900 rpm 695 (945)
R1, kW (hp) 1800 rpm 677 (921)
R1, kW (hp) 1700 rpm 651 (885)
R1, kW (hp) 1600 rpm 619 (842)
Crankshaft power at calculated propeller load,
R1, kW (hp) 1940 rpm 701 (953)
R1, kW (hp) 1763 rpm 526 (715)
R1, kW (hp) 1540 rpm 351 (477)
R1, kW (hp) 1222 rpm 175 (238)
Torque at full load,
R1, Nm 1940 rpm 3589
R1, Nm 1900 rpm 3634
R1, Nm 1800 rpm 3737
R1, Nm 1700 rpm 3804
R1, Nm 1600 rpm 3843
Torque at calculated propeller load,
R1, Nm 1940 rpm 3589
R1, Nm 1763 rpm 2962
R1, Nm 1540 rpm 2261
R1, Nm 1222 rpm 1425
Specific fuel consumption at full load,
R1, g/kWh 1940 rpm 214
R1, g/kWh 1900 rpm 214
R1, g/kWh 1800 rpm 212
R1, g/kWh 1700 rpm 210
R1, g/kWh 1600 rpm 212
Specific fuel cons. at calculated propeller load,
R1, g/kWh 1940 rpm 214
R1, g/kWh 1763 rpm 213
R1, g/kWh 1540 rpm 214
R1, g/kWh 1222 rpm 225

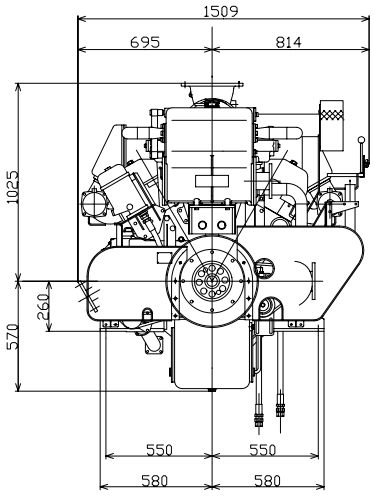
Medium Duty Rating 2

Crankshaft power at full load,
R1, kW (hp) 2000 rpm 776 (1055)
R1, kW (hp) 1900 rpm 757 (1029)
R1, kW (hp) 1800 rpm 731 (994)
R1, kW (hp) 1700 rpm 705 (958)
R1, kW (hp) 1600 rpm 671 (913)
Crankshaft power at calculated propeller load,
R1, kW (hp) 2000 rpm 776 (1055)
R1, kW (hp) 1817 rpm 582 (791)
R1, kW (hp) 1587 rpm 388 (527)
R1, kW (hp) 1260 rpm 194 (264)
Torque at full load,
R1, Nm 2000 rpm 3852
R1, Nm 1900 rpm 3957
R1, Nm 1800 rpm 4033
R1, Nm 1700 rpm 4118
R1, Nm 1600 rpm 4167
Torque at calculated propeller load,
R1, Nm 2000 rpm 3852
R1, Nm 1817 rpm 3180
R1, Nm 1587 rpm 2427
R1, Nm 1260 rpm 1529
Specific fuel consumption at full load,
R1, g/kWh 2000 rpm 220
R1, g/kWh 1900 rpm 217
R1, g/kWh 1800 rpm 214
R1, g/kWh 1700 rpm 212
R1, g/kWh 1600 rpm 212
Specific fuel cons. at calculated propeller load,
R1, g/kWh 2000 rpm 220
R1, g/kWh 1817 rpm 216
R1, g/kWh 1587 rpm 213
R1, g/kWh 1260 rpm 227

Dimensions D34A MT

Dimensions in mm.
Not for installation.





AB Volvo Penta
SE-405 08 Göteborg, Sweden

VOLVO PENTA INBOARD DIESEL

D49A MS

12-cylinder, 4-stroke, direct-injected, turbocharged marine diesel engine with aftercooler – crankshaft power* 970 kW (1319 hp)

* Power rating – see Technical Data

Powerful and reliable engine for demanding operation in commercial applications

The Volvo Penta D49A MS engine is constructed to meet the most demanding requirements, such as marine main propulsion or marine generator drive. Its compactness and durability applies the most advanced technologies and engineering know-how; all this to benefit the operator.

The Volvo Penta D49A MS diesel engine is built to the highest quality standards recognized by all the major marine classification societies, such as Germanischer Lloyds, Norske Veritas etc. as well as the national Shipping Inspections.

Volvo Penta is continuously making intensive research work on the marine application of the engine to produce an engine with a compact design, which gives many advantages, such as low running costs in relation to high output.

An optimal combination of combustion chambers, fuel injection system, and effective turbocharger and charge air cooling system, provide an excellent fuel consumption over the whole range of engine speeds, through which the engine is economical in operation.

Maintenance is very easy, as supplementary equipment such as fuel injection pump, governor, water pump and turbocharger do not need any separate lubrication. The cylinder heads are individually divided by cylinder, and the engine has large inspection covers in crankcase and oilpan.

As the dimensions of the D49A MS engine are kept as small as possible, it takes up surprisingly little space. This asset will be subscribed whole-heartedly by the person who is in charge of the engine room. An engine room equipped with this engine is a well-ordered engine room.

Warranty and Service

All Volvo Penta marine engines come with the additional benefit and security of the Cost Control Program, a unique system of operator support and financial control – from installation to after-sales service.

The optional international limited Volvo Penta three-year warranty provides the owner peace of mind. Qualified Volvo Penta dealers stand by for service and support in more than 100 countries all over the world.

VOLVO
PENTA

D49A MS

Technical Data

Engine designation ..... **D49A MS**
No. of cylinders and configuration ..... V 12
Method of operation .... 4-stroke, direct-injected, turbocharged diesel engine with aftercooler
Bore, mm 170
Stroke, mm 180
Displacement, l 49.03
Compression ratio 14:1
Dry weight, kg 4800
Crankshaft power at calculated propeller load,
Rating 1, kW (hp) 1600 rpm 880 (1197)
Rating 2, kW (hp) 1650 rpm 970 (1319)
Torque at calculated propeller load,
Rating 1, Nm 1600 rpm ..... n.a.
Rating 2, Nm 1650 rpm ..... n.a.
Recommended fuel to
conform to ..... ASTM No. 2-D
Specific fuel cons. at calculated propeller load,
Rating 1, g/kWh 1600 rpm ..... n.a.
Rating 2, g/kWh 1650 rpm ..... n.a.

All data represent net performance with standard accessories such as fuel injection pump, water pump, L.O. pump and charging alternator under the conditions of 100kPa (750 mm Hg), barometric pressure 300K (27°C) ambient temperature and 60% relative humidity.

Standard Equipment:

Engine
- Flywheel housing with connection acc. to SAE 00
- Flywheel (21")
- Engine brackets

Lubrication system
- Fresh water cooled oil cooler
- Spin-on type oil filter with shift valve
- Spin-on type oil by-pass filter

Fuel system
- Hydraulic governor
- Jacketed fuel pipes
- Spin-on type fuel filter (change-over type)
- 24V fuel shut-off valve, electrically operated

Exhaust system
- Dry exhaust manifold (with insulator cover)
- Non-cooled turbocharger
- Air inlet filter/silencer

Cooling system
- Fresh water cooled aftercooler (with insulator cover)
- Fresh water pump (V-belt driven)

Electrical system
- Starter motor (DC 24V-7.5kW)
- Alternator (24V-35A)

Other equipment
- Front P.T.O. pulley (2x B groove)
- Front safety cover
- Standard tools

Optional Equipment:

- Electrical system including wiring, senders, switches and terminal box mounted on engine
- Instrument panel for engine-room and wheel-house
- Air starting system on request
- Oil drain pump
- Flexible exhaust hose for dry exhaust line
- Dry exhaust silencer
- Fuel filter/water separator with shift valve
- Classification under regulations of: LR, ABS, DNV or GL
- Gearbox on request
- Spare parts
- Spare parts according to classification recommendations

Contact Volvo Penta for further information.

Not all models, standard equipment and accessories are available in all countries. All specifications are subject to change without notice.

The engine illustrated may not be entirely identical to production standard engines.

Performance Data

Heavy Duty Rating 1

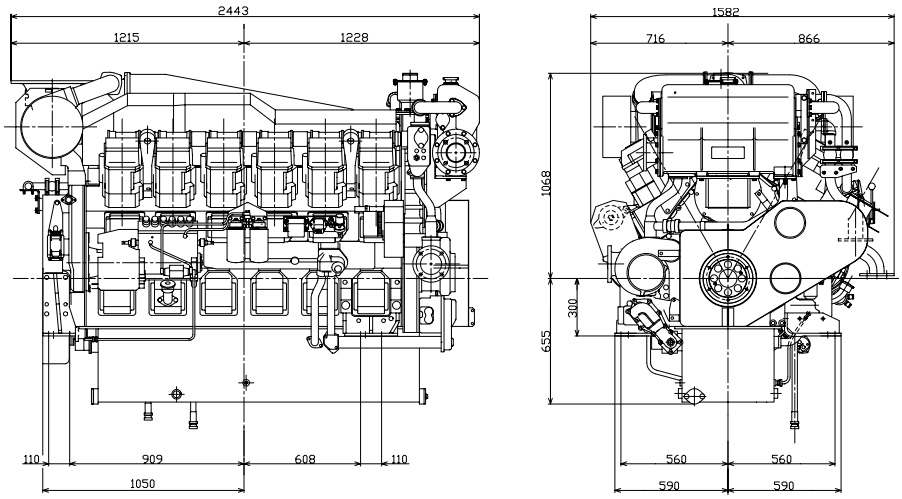
Crankshaft power at full load,
R1, kW (hp) 1600 rpm 880 (1197)
R1, kW (hp) 1500 rpm 862 (1171)
R1, kW (hp) 1400 rpm 833 (1133)
R1, kW (hp) 1300 rpm 776 (1055)
R1, kW (hp) 1200 rpm 712 (969)
Crankshaft power at calculated propeller load,
R1, kW (hp) 1600 rpm 880 (1197)
R1, kW (hp) 1454 rpm 660 (898)
R1, kW (hp) 1270 rpm 440 (598)
R1, kW (hp) 1008 rpm 220 (299)
Torque at full load,
R1, Nm 1600 rpm 5463
R1, Nm 1500 rpm 5704
R1, Nm 1400 rpm 5910
R1, Nm 1300 rpm 5926
R1, Nm 1200 rpm 5895
Torque at calculated propeller load,
R1, Nm 1600 rpm 5463
R1, Nm 1454 rpm 4509
R1, Nm 1270 rpm 3441
R1, Nm 1008 rpm 2168
Specific fuel consumption at full load,
R1, g/kWh 1600 rpm 200
R1, g/kWh 1500 rpm 201
R1, g/kWh 1400 rpm 201
R1, g/kWh 1300 rpm 202
R1, g/kWh 1200 rpm 204
Specific fuel cons. at calculated propeller load,
R1, g/kWh 1600 rpm 200
R1, g/kWh 1454 rpm 205
R1, g/kWh 1270 rpm 212
R1, g/kWh 1008 rpm 227

Medium Duty Rating 2

Crankshaft power at full load,
R2, kW (hp) 1650 rpm 970 (1319)
R2, kW (hp) 1600 rpm 959 (1304)
R2, kW (hp) 1500 rpm 946 (1286)
R2, kW (hp) 1400 rpm 906 (1232)
R2, kW (hp) 1300 rpm 861 (1170)
Crankshaft power at calculated propeller load,
R2, kW (hp) 1650 rpm 970 (1319)
R2, kW (hp) 1500 rpm 727 (989)
R2, kW (hp) 1310 rpm 485 (659)
R2, kW (hp) 1039 rpm 242 (330)
Torque at full load,
R2, Nm 1650 rpm 5836
R2, Nm 1600 rpm 5954
R2, Nm 1500 rpm 6262
R2, Nm 1400 rpm 6429
R2, Nm 1300 rpm 6576
Torque at calculated propeller load,,
R2, Nm 1650 rpm 5836
R2, Nm 1500 rpm 4815
R2, Nm 1310 rpm 3675
R2, Nm 1039 rpm 2317
Specific fuel consumption at full load,
R2, g/kWh 1650 rpm 204
R2, g/kWh 1600 rpm 204
R2, g/kWh 1500 rpm 202
R2, g/kWh 1400 rpm 202
R2, g/kWh 1300 rpm 202
Specific fuel cons. at calculated propeller load,
R2, g/kWh 1650 rpm 204
R2, g/kWh 1500 rpm 208
R2, g/kWh 1310 rpm 213
R2, g/kWh 1039 rpm 228

Dimensions D49A MS

Dimensions in mm.
Not for installation.



AB Volvo Penta
SE-405 08 Göteborg, Sweden

VOLVO PENTA INBOARD DIESEL

D49A MT

12-cylinder, 4-stroke, direct-injected, turbocharged marine diesel engine with aftercooler – crankshaft power* 1040 kW (1414 hp)

* Power rating – see Technical Data

Powerful and reliable engine for demanding operation in commercial applications

The Volvo Penta D49A MT engine is constructed to meet the most demanding requirements, such as marine main propulsion or marine generator drive. Its compactness and durability applies the most advanced technologies and engineering know-how; all this to benefit the operator.

The Volvo Penta D49A MT diesel engine is built to the highest quality standards recognized by all the major marine classification societies, such as Germanischer Lloyds, Norske Veritas etc. as well as the national Shipping Inspections.

Volvo Penta is continuously making intensive research work on the marine application of the engine to produce an engine with a compact design, which gives many advantages, such as low running costs in relation to high output.

An optimal combination of combustion chambers, fuel injection system, and effective turbocharger and charge air cooling system, provide an excellent fuel consumption over the whole range of engine speeds, through which the engine is economical in operation.

Maintenance is very easy, as supplementary equipment such as fuel injection pump, governor, water pump and turbocharger do not need any separate lubrication. The cylinder heads are individually divided by cylinder, and the engine has large inspection covers in crankcase and oilpan.

As the dimensions of the D49A MT engine are kept as small as possible, it takes up surprisingly little space. This asset will be subscribed whole-heartedly by the person who is in charge of the engine room. An engine room equipped with this engine is a well-ordered engine room.

Warranty and Service

All Volvo Penta marine engines come with the additional benefit and security of the Cost Control Program, a unique system of operator support and financial control – from installation to after-sales service.

The optional international limited Volvo Penta three-year warranty provides the owner peace of mind. Qualified Volvo Penta dealers stand by for service and support in more than 100 countries all over the world.

VOLVO
PENTA

D49A MT

Technical Data

Engine designation ..... **D49A MT**
No. of cylinders and configuration ..... V 12
Method of operation .... 4-stroke, direct-injected, turbocharged diesel engine with aftercooler
Bore, mm 170
Stroke, mm 180
Displacement, l 49.03
Compression ratio 14:1
Dry weight, kg 4800
Crankshaft power at calculated propeller load,
Rating 1, kW (hp) 1600 rpm 940 (1278)
Rating 2, kW (hp) 1650 rpm 1040 (1414)
Torque at calculated propeller load,
Rating 1, Nm 1600 rpm 5833
Rating 2, Nm 1650 rpm 6258
Recommended fuel to conform to ..... ASTM No. 2-D
Specific fuel cons. at calculated propeller load,
Rating 1, g/kWh 1600 rpm 196
Rating 2, g/kWh 1650 rpm 196

All data represent net performance with standard accessories such as fuel injection pump, water pump, L.O. pump and charging alternator under the conditions of 100kPa (750 mm Hg), barometric pressure 300K (27°C) ambient temperature and 60% relative humidity.

Standard Equipment:

Engine
- Flywheel housing with connection acc. to SAE 00
- Flywheel (21")
- Engine brackets

Lubrication system
- Fresh water cooled oil cooler
- Spin-on type oil filter with shift valve
- Spin-on type oil by-pass filter

Fuel system
- Hydraulic governor
- Jacketed fuel pipes
- Spin-on type fuel filter (change over type)
- 24V fuel shut-off valve, electrically operated

Exhaust system
- Dry exhaust mainfold with insulator cover
- Non-cooled turbocharger
- Air inlet filter/silencer

Cooling system
- Raw water cooled aftercooler with insulator cover
- Fresh water pump (V-belt driven)
- Raw water pump (V-belt driven)

Electrical system
- Starter motor (DC 24V-7.5kW)
- Alternator (24V-35A)

Other equipment
- Front P.T.O. pulley (2x B groove)
- Front safety cover
- Standard tools

Optional Equipment:

- Electrical system including wiring, senders, switches and terminal box mounted on engine
- Instrument panel for engine-room and wheel-house
- Air starting system on request
- Oil drain pump
- Flexible exhaust hose for dry exhaust line
- Dry exhaust silencer
- Fuel filter/water separator with shift valve
- Classification under regulations of: LR, ABS, DNV or GL
- Gearbox on request
- Spare parts
- Spare parts according to classification recommendations

Contact Volvo Penta for further information.

Not all models, standard equipment and accessories are available in all countries. All specifications are subject to change without notice.

The engine illustrated may not be entirely identical to production standard engines.

Performance Data

Heavy Duty Rating 1

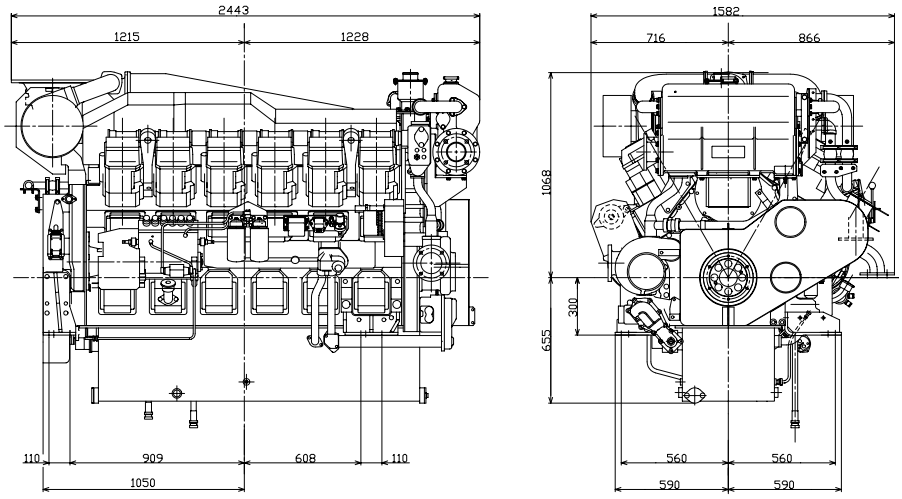
Crankshaft power at full load,
R1, kW (hp) 1600 rpm 940 (1278)
R1, kW (hp) 1500 rpm 918 (1248)
R1, kW (hp) 1400 rpm 879 (1195)
R1, kW (hp) 1300 rpm 830 (1128)
R1, kW (hp) 1200 rpm 768 (1045)
Crankshaft power at calculated propeller load,
R1, kW (hp) 1600 rpm 940 (1278)
R1, kW (hp) 1454 rpm 705 (958)
R1, kW (hp) 1270 rpm 470 (639)
R1, kW (hp) 1008 rpm 235 (319)
Torque at full load,
R1, Nm 1600 rpm 5833
R1, Nm 1500 rpm 6074
R1, Nm 1400 rpm 6233
R1, Nm 1300 rpm 6336
R1, Nm 1200 rpm 6358
Torque at calculated propeller load,
R1, Nm 1600 rpm 5833
R1, Nm 1454 rpm 4814
R1, Nm 1270 rpm 3675
R1, Nm 1008 rpm 2315
Specific fuel consumption at full load,
R1, g/kWh 1600 rpm 196
R1, g/kWh 1500 rpm 194
R1, g/kWh 1400 rpm 194
R1, g/kWh 1300 rpm 196
R1, g/kWh 1200 rpm 197
Specific fuel cons. at calculated propeller load,
R1, g/kWh 1600 rpm 196
R1, g/kWh 1454 rpm 197
R1, g/kWh 1270 rpm 202
R1, g/kWh 1008 rpm 217

Medium Duty Rating 2

Crankshaft power at full load,
R2, kW (hp) 1650 rpm ..... 1040(1414)
R2, kW (hp) 1500 rpm 997 (1356)
R2, kW (hp) 1400 rpm 964 (1310)
R2, kW (hp) 1300 rpm 908 (1234)
Crankshaft power at calculated propeller load,
R2, kW (hp) 1650 rpm 1040 (1414)
R2, kW (hp) 1500 rpm 780 (1061)
R2, kW (hp) 1310 rpm 520 (707)
R2, kW (hp) 1039 rpm 260 (354)
Torque at full load,
R2, Nm 1650 rpm 6258
R2, Nm 1500 rpm 6603
R2, Nm 1400 rpm 6836
R2, Nm 1300 rpm 6935
Torque at calculated propeller load,,
R2, Nm 1650 rpm 6258
R2, Nm 1500 rpm 5165
R2, Nm 1310 rpm 3941
R2, Nm 1039 rpm 2488
Specific fuel consumption at full load,
R2, g/kWh 1650 rpm 196
R2, g/kWh 1500 rpm 196
R2, g/kWh 1400 rpm 194
R2, g/kWh 1300 rpm 194
Specific fuel cons. at calculated propeller load,
R2, g/kWh 1650 rpm 196
R2, g/kWh 1500 rpm 197
R2, g/kWh 1310 rpm 200
R2, g/kWh 1039 rpm 208

Dimensions D49A MT

Dimensions in mm.
Not for installation.



AB Volvo Penta
SE-405 08 Göteborg, Sweden

VOLVO PENTA INBOARD DIESEL

D65A MS

16-cylinder, 4-stroke, direct-injected, turbocharged marine diesel engine with aftercooler – crankshaft power* 1290 kW (1754 hp)

* Power rating – see Technical Data

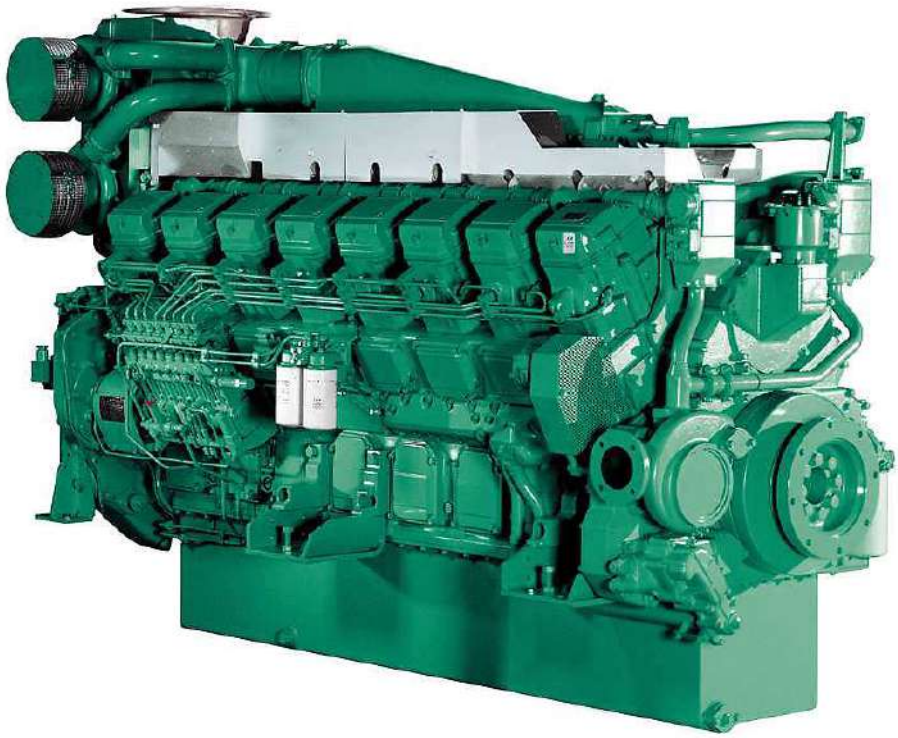
Powerful and reliable engine for demanding operation in commercial applications

The Volvo Penta D65A MS engine is constructed to meet the most demanding requirements, such as marine main propulsion or marine generator drive. Its compactness and durability applies the most advanced technologies and engineering know-how; all this to benefit the operator.

The Volvo Penta D65A MS diesel engine is built to the highest quality standards recognized by all the major marine classification societies, such as Germanischer Lloyds, Norske Veritas etc. as well as the national Shipping Inspections.

Volvo Penta is continuously making intensive research work on the marine application of the engine to produce an engine with a compact design, which gives many advantages, such as low running costs in relation to high output.

An optimal combination of combustion chambers, fuel injection system, and effective turbocharger and charge air cooling system, provide an excellent fuel consumption over the whole range of engine speeds, through which the engine is economical in operation.



Maintenance is very easy, as supplementary equipment such as fuel injection pump, governor, water pump and turbocharger do not need any separate lubrication. The cylinder heads are individually divided by cylinder, and the engine has large inspection covers in crankcase and oilpan.

As the dimensions of the D65A MS engine are kept as small as possible, it takes up surprisingly little space. This asset will be subscribed whole-heartedly by the person who is in charge of the engine room. An engine room equipped with this engine is a well-ordered engine room.

Warranty and Service

All Volvo Penta marine engines come with the additional benefit and security of the Cost Control Program, a unique system of operator support and financial control – from installation to after-sales service.

The optional international limited Volvo Penta three-year warranty provides the owner peace of mind. Qualified Volvo Penta dealers stand by for service and support in more than 100 countries all over the world.

VOLVO PENTA

D65A MS

Technical Data

Engine designation ..... **D65A MS**
No. of cylinders and configuration ..... V 16
Method of operation .... 4-stroke, direct-injected, turbocharged diesel engine with aftercooler
Bore, mm 170
Stroke, mm 180
Displacement, l 65.37
Compression ratio 14:1
Dry weight, kg 6200
Crankshaft power at calculated propeller load,
Rating 1, kW (hp) 1600 rpm 1170 (1591)
Rating 2, kW (hp) 1650 rpm 1290 (1754)
Torque at calculated propeller load,
Rating 1, Nm 1600 rpm ..... n.a.
Rating 2, Nm 1650 rpm ..... n.a.
Recommended fuel to
conform to ..... ASTM No. 2-D
Specific fuel cons. at calculated propeller load,
Rating 1, g/kWh 1600 rpm ..... n.a.
Rating 2, g/kWh 1650 rpm ..... n.a.

All data represent net performance with standard accessories such as fuel injection pump, water pump, L.O. pump and charging alternator under the conditions of 100kPa (750 mm Hg), barometric pressure 300K (27°C) ambient temperature and 60% relative humidity.

Standard Equipment:

Engine
- Flywheel housing with connection acc. to SAE 00
- Flywheel (21")
- Engine brackets

Lubrication system
- Fresh water cooled oil cooler
- Spin-on type oil filter with shift valve
- Spin-on type oil by-pass filter

Fuel system
- Hydraulic governor
- Jacketed fuel pipes
- Spin-on type fuel filter (change over type)
- 24V fuel shut-off valve, electrically operated

Exhaust system
- Dry exhaust manifold (with insulator cover)
- Non-cooled turbocharger
- Air inlet filter/silencer

Cooling system
- Fresh water cooled aftercooler with insulator cover
- Fresh water pump (gear driven)

Electrical system
- Starter motor (DC 24V-7.5kW)
- Alternator (24V-35A)

Other equipment
- Front P.T.O. pulley (2x B groove)
- Front safety cover
- Standard tools

Optional Equipment:

- Electrical system including wiring, senders, switches and terminal box mounted on engine
- Instrument panel for engine-room and wheel-house
- Air starting system on request
- Oil drain pump
- Flexible exhaust hose for dry exhaust line
- Dry exhaust silencer
- Fuel filter/water separator with shift valve
- Classification under regulations of: LR, ABS, DNV or GL
- Gearbox on request
- Spare parts
- Spare parts according to classification recommendations

Contact Volvo Penta for further information.

Not all models, standard equipment and accessories are available in all countries. All specifications are subject to change without notice.

The engine illustrated may not be entirely identical to production standard engines.

Performance Data

Heavy Duty Rating 1

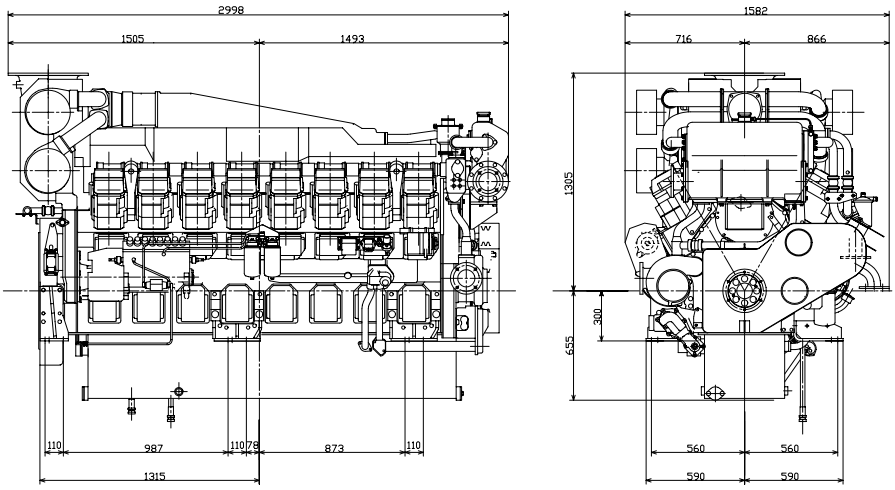
Crankshaft power at full load,
R1, kW (hp) 1600 rpm 1170 (1590)
R1, kW (hp) 1500 rpm 1129 (1535)
R1, kW (hp) 1400 rpm 1076 (1463)
R1, kW (hp) 1300 rpm 1002 (1362)
R1, kW (hp) 1200 rpm 922 (1254)
Crankshaft power at calculated propeller load,
R1, kW (hp) 1600 rpm 1170 (1590)
R1, kW (hp) 1454 rpm 878 (1194)
R1, kW (hp) 1270 rpm 585 (795)
R1, kW (hp) 1008 rpm 292 (398)
Torque at full load,
R1, Nm 1600 rpm 7259
R1, Nm 1500 rpm 7472
R1, Nm 1400 rpm 7630
R1, Nm 1300 rpm 7652
R1, Nm 1200 rpm 7630
Torque at calculated propeller load,
R1, Nm 1600 rpm 7259
R1, Nm 1454 rpm 5996
R1, Nm 1270 rpm 4573
R1, Nm 1008 rpm 2881
Specific fuel consumption at full load,
R1, g/kWh 1600 rpm 200
R1, g/kWh 1500 rpm 201
R1, g/kWh 1400 rpm 201
R1, g/kWh 1300 rpm 205
R1, g/kWh 1200 rpm 212
Specific fuel cons. at calculated propeller load,
R1, g/kWh 1600 rpm 200
R1, g/kWh 1454 rpm 201
R1, g/kWh 1270 rpm 208
R1, g/kWh 1008 rpm 218

Medium Duty Rating 2

Crankshaft power at full load,
R2, kW (hp) 1650 rpm 1290 (1754)
R2, kW (hp) 1600 rpm 1287 (1750)
R2, kW (hp) 1500 rpm 1260 (1713)
R2, kW (hp) 1400 rpm 1216 (1653)
R2, kW (hp) 1300 rpm 1141 (1551)
Crankshaft power at calculated propeller load,
R2, kW (hp) 1650 rpm 1290 (1754)
R2, kW (hp) 1500 rpm 968 (1316)
R2, kW (hp) 1310 rpm 645 (877)
R2, kW (hp) 1039 rpm 322 (438)
Torque at full load,
R2, Nm 1650 rpm 7762
R2, Nm 1600 rpm 7986
R2, Nm 1500 rpm 8341
R2, Nm 1400 rpm 8624
R2, Nm 1300 rpm 8712
Torque at calculated propeller load,,
R2, Nm 1650 rpm 7762
R2, Nm 1500 rpm 6405
R2, Nm 1310 rpm 4891
R2, Nm 1039 rpm 3080
Specific fuel consumption at full load,
R2, g/kWh 1650 rpm 201
R2, g/kWh 1600 rpm 200
R2, g/kWh 1500 rpm 198
R2, g/kWh 1400 rpm 198
R2, g/kWh 1300 rpm 200
Specific fuel cons. at calculated propeller load,
R2, g/kWh 1650 rpm 201
R2, g/kWh 1500 rpm 201
R2, g/kWh 1310 rpm 205
R2, g/kWh 1039 rpm 221

Dimensions D65A MS

Dimensions in mm.
Not for installation.



AB Volvo Penta
SE-405 08 Göteborg, Sweden

VOLVO PENTA INBOARD DIESEL

D65A MT

16-cylinder, 4-stroke, direct-injected, turbocharged marine diesel engine with aftercooler – crankshaft power* 1380 kW (1877 hp)

* Power rating – see Technical Data

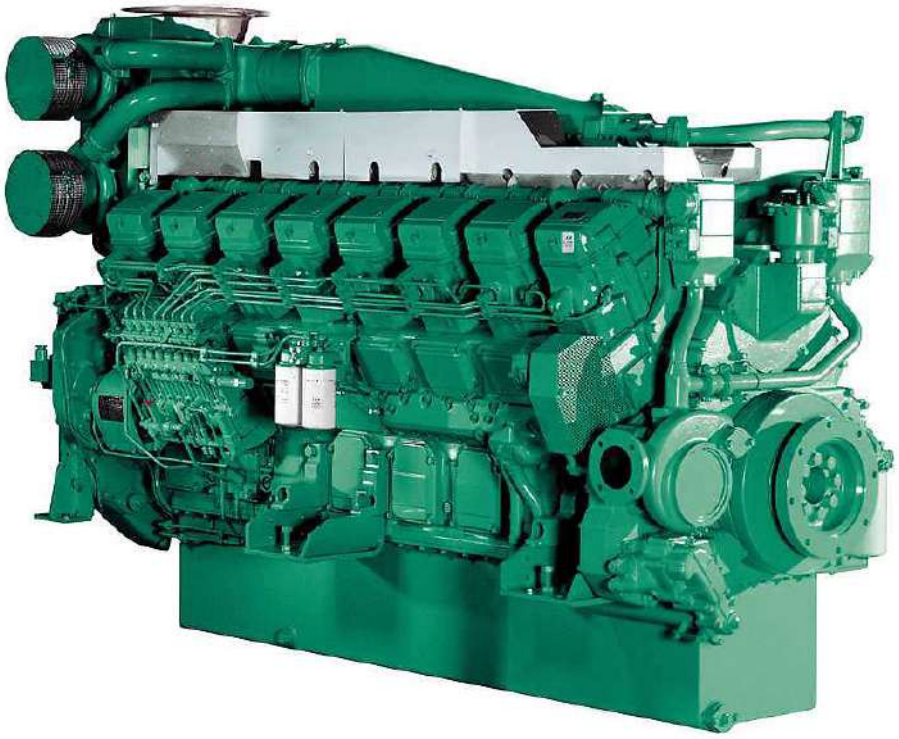
Powerful and reliable engine for demanding operation in commercial applications

The Volvo Penta D65A MT engine is constructed to meet the most demanding requirements, such as marine main propulsion or marine generator drive. Its compactness and durability applies the most advanced technologies and engineering know-how; all this to benefit the operator.

The Volvo Penta D65A MT diesel engine is built to the highest quality standards recognized by all the major marine classification societies, such as Germanischer Lloyds, Norske Veritas etc. as well as the national Shipping Inspections.

Volvo Penta is continuously making intensive research work on the marine application of the engine to produce an engine with a compact design, which gives many advantages, such as low running costs in relation to high output.

An optimal combination of combustion chambers, fuel injection system, and effective turbocharger and charge air cooling system, provide an excellent fuel consumption over the whole range of engine speeds, through which the engine is economical in operation.



Maintenance is very easy, as supplementary equipment such as fuel injection pump, governor, water pump and turbocharger do not need any separate lubrication. The cylinder heads are individually divided by cylinder, and the engine has large inspection covers in crankcase and oilpan.

As the dimensions of the D65A MT engine are kept as small as possible, it takes up surprisingly little space. This asset will be subscribed whole-heartedly by the person who is in charge of the engine room. An engine room equipped with this engine is a well-ordered engine room.

Warranty and Service

All Volvo Penta marine engines come with the additional benefit and security of the Cost Control Program, a unique system of operator support and financial control – from installation to after-sales service.

The optional international limited Volvo Penta three-year warranty provides the owner peace of mind. Qualified Volvo Penta dealers stand by for service and support in more than 100 countries all over the world.

VOLVO PENTA

D65A MT

Technical Data

Engine designation ..... **D65A MT**
No. of cylinders and configuration ..... V 16
Method of operation .... 4-stroke, direct-injected, turbocharged diesel engine with aftercooler
Bore, mm 170
Stroke, mm 180
Displacement, l 65.37
Compression ratio 14:1
Dry weight, kg 6200
Crankshaft power at calculated propeller load,
Rating 1, kW (hp) 1600 rpm 1250 (1700)
Rating 2, kW (hp) 1650 rpm 1380 (1877)
Torque at calculated propeller load,
Rating 1, Nm 1600 rpm 7759
Rating 2, Nm 1650 rpm ..... n.a.
Recommended fuel to
conform to ..... ASTM No. 2-D
Specific fuel cons. at calculated propeller load,
Rating 1, g/kWh 1600 rpm 198
Rating 2, g/kWh 1650 rpm ..... n.a.

All data represent net performance with standard accessories such as fuel injection pump, water pump, L.O. pump and charging alternator under the conditions of 100kPa (750 mm Hg), barometric pressure 300K (27°C) ambient temperature and 60% relative humidity.

Standard Equipment:

Engine
- Flywheel housing with connection acc. to SAE 00
- Flywheel (21")
- Engine brackets

Lubrication system
- Fresh water cooled oil cooler
- Spin-on type oil filter with shift valve
- Spin-on type oil by-pass filter

Fuel system
- Hydraulic governor
- Jacketed fuel pipes
- Spin-on type fuel filter (change over type)
- 24V fuel shut-off valve, electrically operated

Exhaust system
- Dry exhaust mainfold (with insulator cover)
- Non-cooled turbocharger
- Air inlet filter/silencer

Cooling system
- Raw water cooled aftercooler
- Fresh water pump (gear driven)
- Raw water pump (V-belt driven)

Electrical system
- Starter motor (DC 24V-7.5kW)
- Alternator (24V-35A)

Other equipment
- Front P.T.O. pulley (2x B groove)
- Front safety cover
- Standard tools

Optional Equipment:

- Electrical system including wiring, senders, switches and terminal box mounted on engine
- Instrument panel for engine-room and wheel-house
- Air starting system on request
- Oil drain pump
- Flexible exhaust hose for dry exhaust line
- Dry exhaust silencer
- Fuel filter/water separator with shift valve
- Classification under regulations of: LR, ABS, DNV or GL
- Gearbox on request
- Spare parts
- Spare parts according to classification recommendations

Contact Volvo Penta for further information.

Not all models, standard equipment and accessories are available in all countries. All specifications are subject to change without notice.

The engine illustrated may not be entirely identical to production standard engines.

Performance Data

Heavy Duty Rating 1

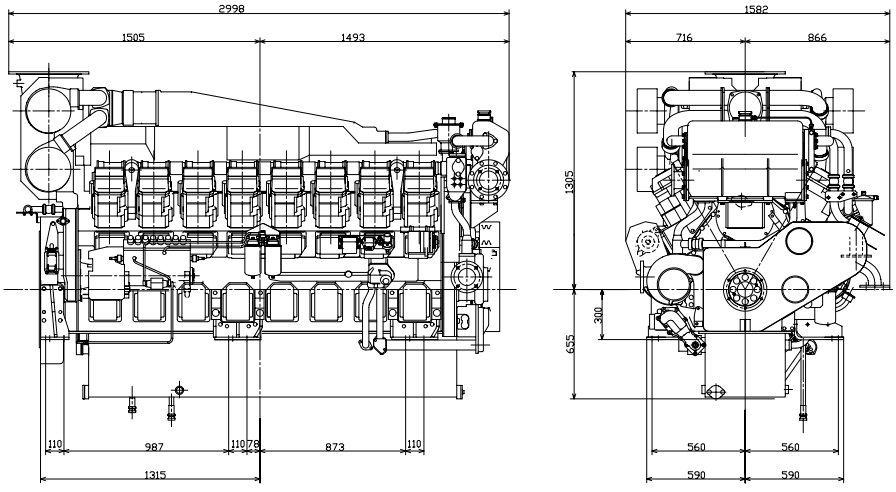
Crankshaft power at full load,
R1, kW (hp) 1600 rpm 1250 (1700)
R1, kW (hp) 1500 rpm 1238 (1684)
R1, kW (hp) 1400 rpm 1193 (1622)
R1, kW (hp) 1300 rpm 1121 (1524)
R1, kW (hp) 1200 rpm 1050 (1427)
Crankshaft power at calculated propeller load,
R1, kW (hp) 1600 rpm 1250 (1700)
R1, kW (hp) 1454 rpm 938 (1275)
R1, kW (hp) 1270 rpm 625 (850)
R1, kW (hp) 1008 rpm 313 (425)
Torque at full load,
R1, Nm 1600 rpm 7759
R1, Nm 1500 rpm 8198
R1, Nm 1400 rpm 8460
R1, Nm 1300 rpm 8564
R1, Nm 1200 rpm 8685
Torque at calculated propeller load,
R1, Nm 1600 rpm 7759
R1, Nm 1454 rpm 6404
R1, Nm 1270 rpm 4888
R1, Nm 1008 rpm 3079
Specific fuel consumption at full load,
R1, g/kWh 1600 rpm 198
R1, g/kWh 1500 rpm 198
R1, g/kWh 1400 rpm 198
R1, g/kWh 1300 rpm 198
R1, g/kWh 1200 rpm 201
Specific fuel cons. at calculated propeller load,
R1, g/kWh 1600 rpm 198
R1, g/kWh 1454 rpm 198
R1, g/kWh 1270 rpm 204
R1, g/kWh 1008 rpm 217

Medium Duty Rating 2

Crankshaft power at full load,
R1, kW (hp) 1650 rpm 1380 (1876)
R1, kW (hp) 1600 rpm 1370 (1862)
R1, kW (hp) 1500 rpm 1340 (1822)
R1, kW (hp) 1400 rpm 1291 (1755)
R1, kW (hp) 1300 rpm 1214 (1651)
Crankshaft power at calculated propeller load,
R1, kW (hp) 1650 rpm 1380 (1876)
R1, kW (hp) 1500 rpm 1035 (1408)
R1, kW (hp) 1310 rpm 690 (938)
R1, kW (hp) 1039 rpm 345 (470)
Torque at full load,
R1, Nm 1650 rpm 8305
R1, Nm 1600 rpm 8500
R1, Nm 1500 rpm 8869
R1, Nm 1400 rpm 9154
R1, Nm 1300 rpm 9276
Torque at calculated propeller load,
R1, Nm 1650 rpm 8305
R1, Nm 1500 rpm 6854
R1, Nm 1310 rpm 5230
R1, Nm 1039 rpm 3301
Specific fuel consumption at full load,
R1, g/kWh 1650 rpm 198
R1, g/kWh 1600 rpm 196
R1, g/kWh 1500 rpm 194
R1, g/kWh 1400 rpm 193
R1, g/kWh 1300 rpm 194
Specific fuel cons. at calculated propeller load,
R1, g/kWh 1650 rpm 198
R1, g/kWh 1500 rpm 197
R1, g/kWh 1310 rpm 202
R1, g/kWh 1039 rpm 214

Dimensions D65A MT

Dimensions in mm.
Not for installation.



AB Volvo Penta
SE-405 08 Göteborg, Sweden

NEW!

VOLVO PENTA INBOARD DIESEL

D12-400

6-cylinder, 4-stroke, direct-injected, turbocharged marine diesel engine with aftercooler – crankshaft power* 294 kW (400 hp)

* Power rating – see Technical Data

Excellent reliability and economy

The D12-400 marine diesel engine is specially designed and developed for installations in heavy duty commercial displacement craft, featuring the latest advanced diesel technology.

To meet the tough and demanding reliability and durability demands from operators and fleet owners, the D12-400 is tried and tested in the world's most extensive and toughest test program. 40 man-years behind the design and 25 man-years in tests, which equals eight times around the world, ensures excellent reliability and durability.

Excellent drivability is assured with high low-end and a rich torque curve matched to the power outputs for fast and immediate response.

Low fuel consumption for long operational range and low operational cost and emission levels is assured with:

- Electronic Unit Injectors
- 4-valve technology
- Electronically controlled injection timing
- High pressure 8-hole injector nozzles
- Electronic governing – EDC

This technology combined optimizes engine performance and efficiency, ensures efficient combustion by injecting the right quantity of fuel at the right time which minimizes quantity of unburned fuel, reducing fuel consumption and exhaust emission levels. The Volvo Penta D12-400 fuel system is designed to give full output regardless of fuel temperature.

This technology in combination with the electronic governing, EDC, protects the engine from major breakdowns, which further enhances the high reliability and long service life for low operational costs.

High quality

The D12-400 is built in the world's most highly automated diesel engine factory line with a totally robotic machining and assembly line with computer controlled audit checks, which ensures the highest quality level.

Operation and comfort

Electronic remote controls, push button twin engine synchronization and change of active station ensures easy and smooth operation and maneuvering.

The electrical control levers are operated more smoothly and precisely, requiring much less force.

Automatic twin engine synchronization reduces noise and vibration levels, and increases service life of engine.

This, in combination with the well-balanced D12-400 in-line six cylinder engine with powerfully dimensioned crankshaft bearings and vibration damper on camshaft, ensures smooth, vibration-free operation with low noise levels.

Low exhaust emission levels

The D12-400 advanced diesel technology greatly contributes to more efficient combustion with higher power and reduced noxious exhaust emissions.

D12-400 complies with the IMO emission regulations.

Easy installation

The D12-400 gives a time saving and reliable installation, as it is a complete delivered compact and tailor-made propulsion system from one single supplier.

Plug-in water protected harnesses and connectors, compact dimensions, and the EDC system ensures an easy, simple and time-saving installation.

Ease of service and maintenance

The EDC system features a self-diagnostic facility. Easily accessible service and maintenance points contributes to the ease of service of the engine.

Worldwide service support in more than 100 countries

The Volvo Penta parts and service dealer network is a truly international operation with authorized service dealers around the world. These service centers offer Genuine Volvo Penta parts as well as skilled personnel to ensure the best possible service. Continuous and thorough product and service training ensures that Volvo Penta products are well supported.

D12-400 – a true marine engine from a true marine engine company

The D12-400 is a true marine engine, as it is developed by a true marine company with the best there is to be found in marine experience and know-how, and built and assembled with the best production method there is to be found in the world.

The D12-400 delivers excellent reliability, economy and durability, in combination with the highest level of quality.

VOLVO PENTA

D12-400

Technical Data

Engine designation	**D12D MH**
No. of cylinders and configuration	in-line 6
Method of operation	4-stroke, direct-injected, turbocharged diesel engine with aftercooler
Bore, mm (in.)	131 (5.16)
Stroke, mm (in.)	150 (5.91)
Displacement, l (in^3)	12.13 (740.2)
Compression ratio	17.5:1
Dry weight, kg (lb)	1400 (3086)
Dry weight with reverse gear MG5114SC, kg (lb)	1603 (3534)
MG5114DC, kg (lb)	1768 (3898)
Crankshaft power, kW (hp) @ 1800 rpm	294 (400)
Torque, Nm (lbt.ft.) @ 1800 rpm	1560 (1150)
Recommended fuel to conform to	ASTM-D975 1-D & 2-D, EN 590 or JIS KK 2204
Specific fuel consumption, g/kWh (lb/hph) @ 1800 rpm	207 (0.335)

Technical data according to ISO 3046 Fuel Stop Power and ISO 8665. Fuel with a lower calorific value of 42700 kJ/kg and density of 840 g/liter at 15 °C (60 °F). Merchant fuel may differ from this specification which will influence engine power output and fuel consumption.
Rating: 1
The engine complies with the IMO emission regulations.

Technical description:

Engine and block

- Cylinder block and cylinder head made of cast-iron
- One piece cylinder head
- Replaceable wet cylinder liners and valve seats/guides
- Drop forged crankshaft with induction hardened bearing surfaces and fillets with seven main bearings
- Four valve per cylinder layout with overhead camshaft
- Each cylinder features cross-flow inlet and exhaust ducts
- Gallery oil cooled forged aluminium pistons
- Three piston rings

Lubrication system

- Integrated oil cooler in cylinder block
- Twin full flow oil filter of spin-on type and by-pass filter

Fuel system

- Six Electronic Unit Injectors, one per cylinder, vertically positioned at the center in between the four valves
- Gear driven fuel pump, driven by timing gear
- Electronic controlled central processing system (EDC – Electronic Diesel Control)
- Electronically controlled injection timing
- 5-hole high pressure injector nozzles
- Single fine fuel filter of spin-on type, with water separator

Turbocharger

- Fresh water cooled turbo charger

Cooling system

- Fresh water cooled charge air cooler
- Gear driven coolant pumps
- Tubular heat exchanger or single-circuit keel cooling

Electrical system

- 24V electrical system, 24V/60A alternator

Reverse gear

- MG5114SC/DC, electrically shifted

Optional equipment

Contact your Volvo Penta representative.

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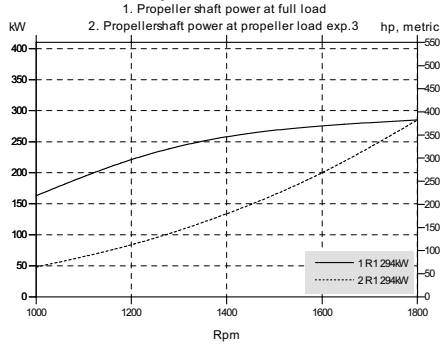
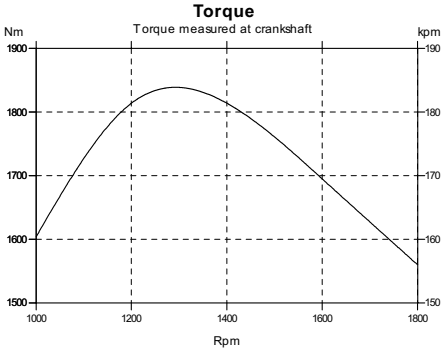
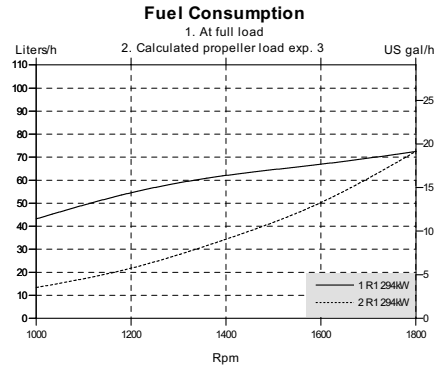
Propeller Shaft Power



Torque

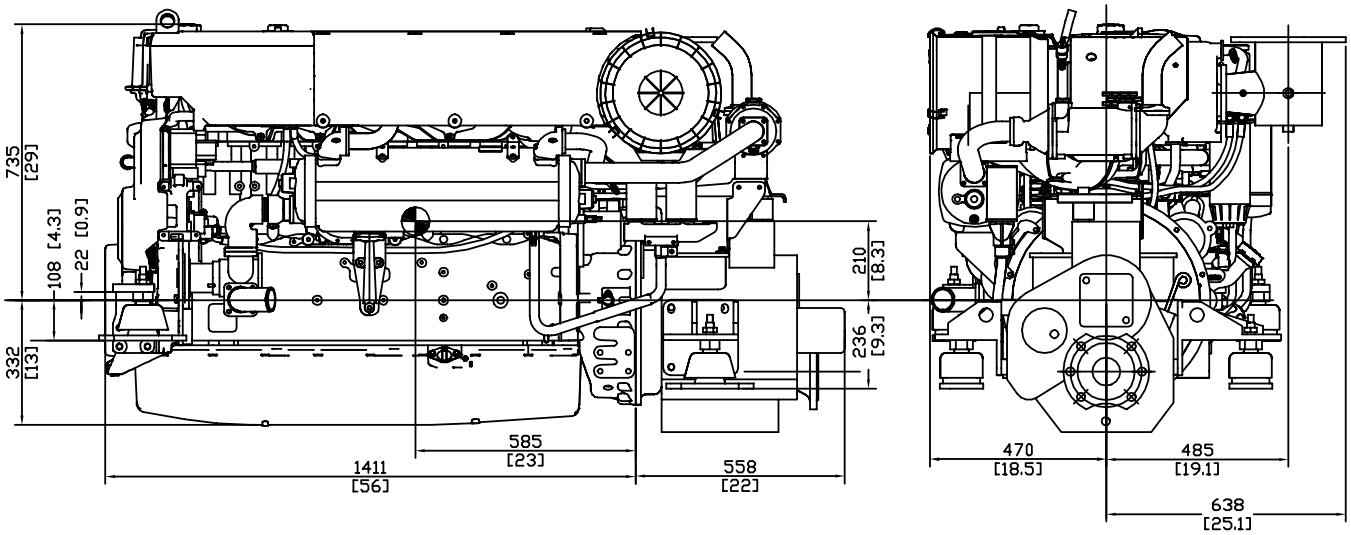


Fuel Consumption



Dimensions D12-400 with MG5114SC

Not for installation



AB Volvo Penta
SE-405 08 Göteborg, Sweden
www.volvopenta.com

NEW!

VOLVO PENTA INBOARD DIESEL

D12-550

6-cylinder, 4-stroke, direct-injected, turbocharged marine diesel engine with aftercooler – crankshaft power* 405 kW (550 hp)

* Power rating – see Technical Data

Excellent reliability and economy

The D12-550 marine diesel engine is specially designed and developed for installations in heavy duty commercial displacement craft, featuring the latest advanced diesel technology.

To meet the tough and demanding reliability and durability demands from operators and fleet owners, the D12-550 is tried and tested in the world's most extensive and toughest test program. 40 man-years behind the design and 25 man-years in tests, which equals eight times around the world, ensures excellent reliability and durability.

Excellent drivability is assured with high low-end and a rich torque curve matched to the power outputs for fast and immediate response.

Low fuel consumption for long operational range and low operational cost and emission levels is assured with:

- Electronic Unit Injectors
- 4-valve technology
- Electronically controlled injection timing
- High pressure 8-hole injector nozzles
- Electronic governing – EDC

This technology combined optimizes engine performance and efficiency, ensures efficient combustion by injecting the right quantity of fuel at the right time which minimizes quantity of unburned fuel, reducing fuel consumption and exhaust emission levels. The Volvo Penta D12-550 fuel system is designed to give full output regardless of fuel temperature.

This technology in combination with the electronic governing, EDC, protects the engine from major breakdowns, which further enhances the high reliability and long service life for low operational costs.

High quality

The D12-550 is built in the world's most highly automated diesel engine factory line with a totally robotic machining and assembly line with computer controlled audit checks, which ensures the highest quality level.

Operation and comfort

Electronic remote controls, push button twin engine synchronization and change of active station ensures easy and smooth operation and maneuvering.

The electrical control levers are operated more smoothly and precisely, requiring much less force.

Automatic twin engine synchronization reduces noise and vibration levels, and increases service life of engine.

This, in combination with the well-balanced D12-550 in-line six cylinder engine with powerfully dimensioned crankshaft bearings and vibration damper on camshaft, ensures smooth, vibration-free operation with low noise levels.

Low exhaust emission levels

The D12-550 advanced diesel technology greatly contributes to more efficient combustion with higher power and reduced noxious exhaust emissions.

D12-550 complies with the IMO emission regulations.

Easy installation

The D12-550 gives a time saving and reliable installation, as it is a complete delivered compact and tailor-made propulsion system from one single supplier.

Plug-in water protected harnesses and connectors, compact dimensions, and the EDC system ensures an easy, simple and time-saving installation.

Ease of service and maintenance

The EDC system features a self-diagnostic facility. Easily accessible service and maintenance points contributes to the ease of service of the engine.

Worldwide service support in more than 100 countries

The Volvo Penta parts and service dealer network is a truly international operation with authorized service dealers around the world. These service centers offer Genuine Volvo Penta parts as well as skilled personnel to ensure the best possible service. Continuous and thorough product and service training ensures that Volvo Penta products are well supported.

D12-550 – a true marine engine from a true marine engine company

The D12-550 is a true marine engine, as it is developed by a true marine company with the best there is to be found in marine experience and know-how, and built and assembled with the best production method there is to be found in the world.

The D12-550 delivers excellent reliability, economy and durability, in combination with the highest level of quality.

VOLVO PENTA

D12-550

Technical Data

Engine designation	**D12D MH**
No. of cylinders and configuration	in-line 6
Method of operation	4-stroke, direct-injected, turbocharged diesel engine with aftercooler
Bore, mm (in.)	131 (5.16)
Stroke, mm (in.)	150 (5.91)
Displacement, l (in^3)	12.13 (740.2)
Compression ratio	17.5:1
Dry weight, kg (lb)	1400 (3086)
Dry weight with reverse gear MG5114SC, kg (lb)	1603 (3534)
MG5114DC, kg (lb)	1768 (3898)
Crankshaft power, kW (hp) @ 1900 rpm	405 (550)
Torque, Nm (lbt.ft.) @ 1900 rpm	2033 (1499)
Recommended fuel to conform to	ASTM-D975 1-D & 2-D, EN 590 or JIS KK 2204
Specific fuel consumption, g/kWh (lb/hph) @ 1900 rpm	217 (0.352)

Technical data according to ISO 3046 Fuel Stop Power and ISO 8665. Fuel with a lower calorific value of 42700 kJ/kg and density of 840 g/liter at 15 °C (60 °F). Merchant fuel may differ from this specification which will influence engine power output and fuel consumption.
Rating: 2
The engine complies with the IMO emission regulations.

Technical description:

Engine and block

- Cylinder block and cylinder head made of cast-iron
- One piece cylinder head
- Replaceable wet cylinder liners and valve seats/guides
- Drop forged crankshaft with induction hardened bearing surfaces and fillets with seven main bearings
- Four valve per cylinder layout with overhead camshaft
- Each cylinder features cross-flow inlet and exhaust ducts
- Gallery oil cooled forged aluminium pistons
- Three piston rings

Lubrication system

- Integrated oil cooler in cylinder block
- Twin full flow oil filter of spin-on type and by-pass filter

Fuel system

- Six Electronic Unit Injectors, one per cylinder, vertically positioned at the center in between the four valves
- Gear driven fuel pump, driven by timing gear
- Electronic controlled central processing system (EDC – Electronic Diesel Control)
- Electronically controlled injection timing
- 5-hole high pressure injector nozzles
- Single fine fuel filter of spin-on type, with water separator

Turbocharger

- Fresh water cooled turbo charger

Cooling system

- Fresh water cooled charge air cooler
- Gear driven coolant pumps
- Tubular heat exchanger or single-circuit keel cooling

Electrical system

- 24V electrical system, 24V/60A alternator

Reverse gear

- MG5114SC/DC, electrically shifted

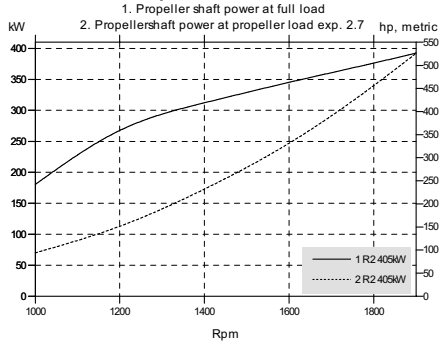
Optional equipment

Contact your Volvo Penta representative.

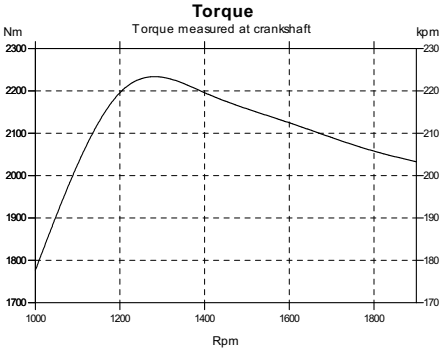
Not all models, standard equipment and accessories are available in all countries. All specifications are subject to change without notice.

The engine illustrated may not be entirely identical to production standard engines.

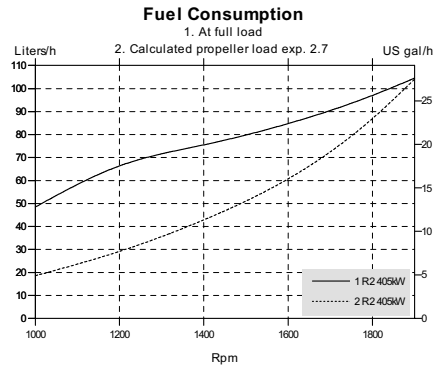
Propeller Shaft Power



Torque

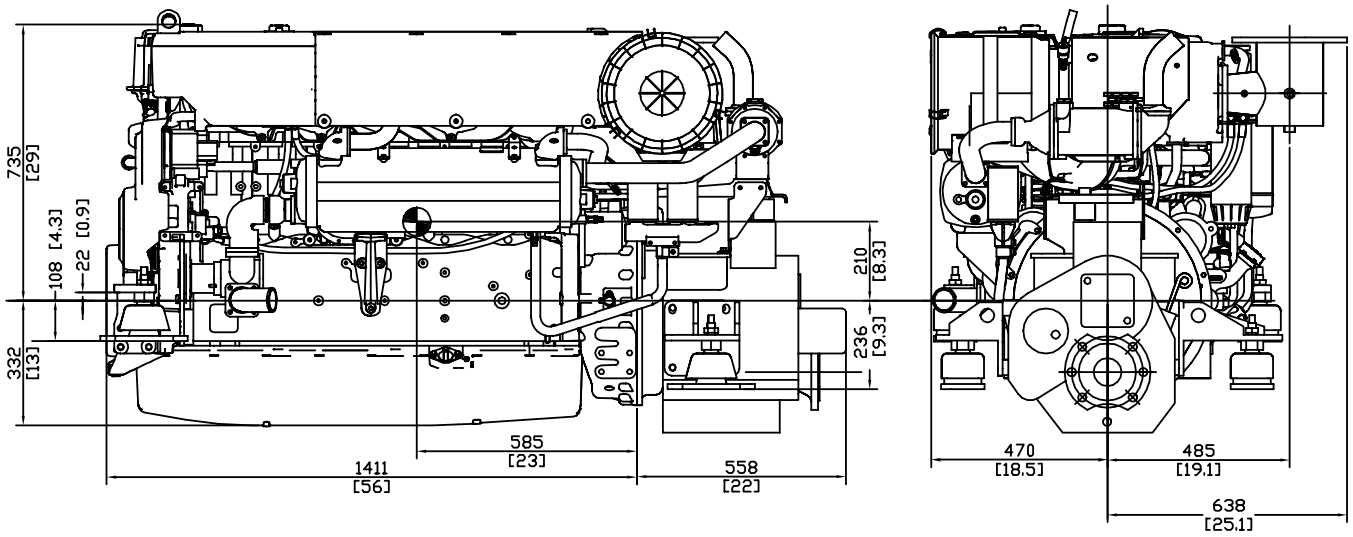


Fuel Consumption



Dimensions D12-550 with MG5114SC

Not for installation



AB Volvo Penta
SE-405 08 Göteborg, Sweden
www.volvopenta.com

NEW!

VOLVO PENTA INBOARD DIESEL

D12-450

6-cylinder, 4-stroke, direct-injected, turbocharged marine diesel engine with aftercooler – crankshaft power* 331 kW (450 hp)

* Power rating – see Technical Data

Excellent reliability and economy

The D12-450 marine diesel engine is specially designed and developed for installations in heavy duty commercial displacement craft, featuring the latest advanced diesel technology.

To meet the tough and demanding reliability and durability demands from operators and fleet owners, the D12-450 is tried and tested in the world's most extensive and toughest test program. 40 man-years behind the design and 25 man-years in tests, which equals eight times around the world, ensures excellent reliability and durability.

Excellent drivability is assured with high low-end and a rich torque curve matched to the power outputs for fast and immediate response.

Low fuel consumption for long operational range and low operational cost and emission levels is assured with:

- Electronic Unit Injectors
- 4-valve technology
- Electronically controlled injection timing
- High pressure 8-hole injector nozzles
- Electronic governing – EDC

This technology combined optimizes engine performance and efficiency, ensures efficient combustion by injecting the right quantity of fuel at the right time which minimizes quantity of unburned fuel, reducing fuel consumption and exhaust emission levels. The Volvo Penta D12-450 fuel system is designed to give full output regardless of fuel temperature.

This technology in combination with the electronic governing, EDC, protects the engine from major breakdowns, which further enhances the high reliability and long service life for low operational costs.

High quality

The D12-450 is built in the world's most highly automated diesel engine factory line with a totally robotic machining and assembly line with computer controlled audit checks, which ensures the highest quality level.

Operation and comfort

Electronic remote controls, push button twin engine synchronization and change of active station ensures easy and smooth operation and maneuvering.

The electrical control levers are operated more smoothly and precisely, requiring much less force.

Automatic twin engine synchronization reduces noise and vibration levels, and increases service life of engine.

This, in combination with the well-balanced D12-450 in-line six cylinder engine with powerfully dimensioned crankshaft bearings and vibration damper on camshaft, ensures smooth, vibration-free operation with low noise levels.

Low exhaust emission levels

The D12-450 advanced diesel technology greatly contributes to more efficient combustion with higher power and reduced noxious exhaust emissions.

D12-450 complies with the IMO emission regulations.

Easy installation

The D12-450 gives a time saving and reliable installation, as it is a complete delivered compact and tailor-made propulsion system from one single supplier.

Plug-in water protected harnesses and connectors, compact dimensions, and the EDC system ensures an easy, simple and time-saving installation.

Ease of service and maintenance

The EDC system features a self-diagnostic facility. Easily accessible service and maintenance points contributes to the ease of service of the engine.

Worldwide service support in more than 100 countries

The Volvo Penta parts and service dealer network is a truly international operation with authorized service dealers around the world. These service centers offer Genuine Volvo Penta parts as well as skilled personnel to ensure the best possible service. Continuous and thorough product and service training ensures that Volvo Penta products are well supported.

D12-450 – a true marine engine from a true marine engine company

The D12-450 is a true marine engine, as it is developed by a true marine company with the best there is to be found in marine experience and know-how, and built and assembled with the best production method there is to be found in the world.

The D12-450 delivers excellent reliability, economy and durability, in combination with the highest level of quality.

VOLVO PENTA

D12-450

Technical Data

Engine designation	**D12D MH**
No. of cylinders and configuration	in-line 6
Method of operation	4-stroke, direct-injected, turbocharged diesel engine with aftercooler
Bore, mm (in.)	131 (5.16)
Stroke, mm (in.)	150 (5.91)
Displacement, l (in^3)	12.13 (740.2)
Compression ratio	17.5:1
Dry weight, kg (lb)	1400 (3086)
Dry weight with reverse gear MG5114SC, kg (lb)	1603 (3534)
MG5114DC, kg (lb)	1768 (3898)
Crankshaft power, kW (hp) @ 1800 rpm	331 (450)
Torque, Nm (lbt.ft.) @ 1800 rpm	1756 (1295)
Recommended fuel to conform to	ASTM-D975 1-D & 2-D, EN 590 or JIS KK 2204
Specific fuel consumption, g/kWh (lb/hph) @ 1800 rpm	208 (0.337)

Technical data according to ISO 3046 Fuel Stop Power and ISO 8665. Fuel with a lower calorific value of 42700 kJ/kg and density of 840 g/liter at 15 °C (60 °F). Merchant fuel may differ from this specification which will influence engine power output and fuel consumption.
Rating: 1
The engine complies with the IMO emission regulations.

Technical description:

Engine and block

- Cylinder block and cylinder head made of cast-iron
- One piece cylinder head
- Replaceable wet cylinder liners and valve seats/guides
- Drop forged crankshaft with induction hardened bearing surfaces and fillets with seven main bearings
- Four valve per cylinder layout with overhead camshaft
- Each cylinder features cross-flow inlet and exhaust ducts
- Gallery oil cooled forged aluminium pistons
- Three piston rings

Lubrication system

- Integrated oil cooler in cylinder block
- Twin full flow oil filter of spin-on type and by-pass filter

Fuel system

- Six Electronic Unit Injectors, one per cylinder, vertically positioned at the center in between the four valves
- Gear driven fuel pump, driven by timing gear
- Electronic controlled central processing system (EDC – Electronic Diesel Control)
- Electronically controlled injection timing
- 5-hole high pressure injector nozzles
- Single fine fuel filter of spin-on type, with water separator

Turbocharger

- Fresh water cooled turbo charger

Cooling system

- Fresh water cooled charge air cooler
- Gear driven coolant pumps
- Tubular heat exchanger or single-circuit keel cooling

Electrical system

- 24V electrical system, 24V/60A alternator

Reverse gear

- MG5114SC/DC, electrically shifted

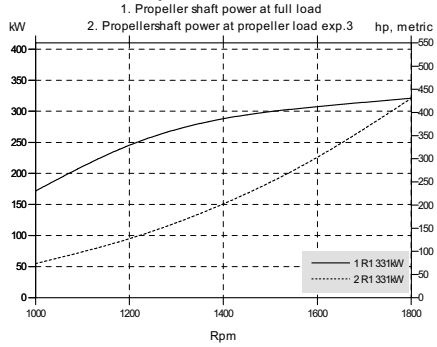
Optional equipment

Contact your Volvo Penta representative.

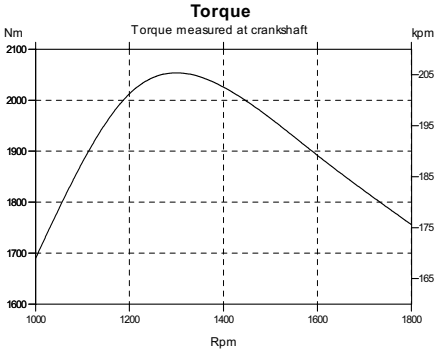
Not all models, standard equipment and accessories are available in all countries. All specifications are subject to change without notice.

The engine illustrated may not be entirely identical to production standard engines.

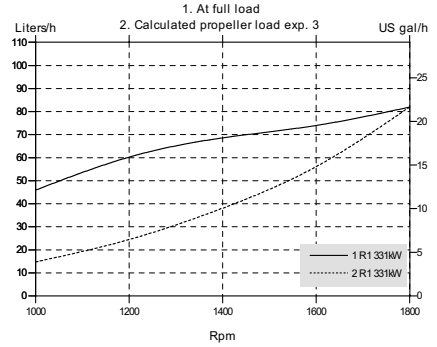
Propeller Shaft Power



Torque

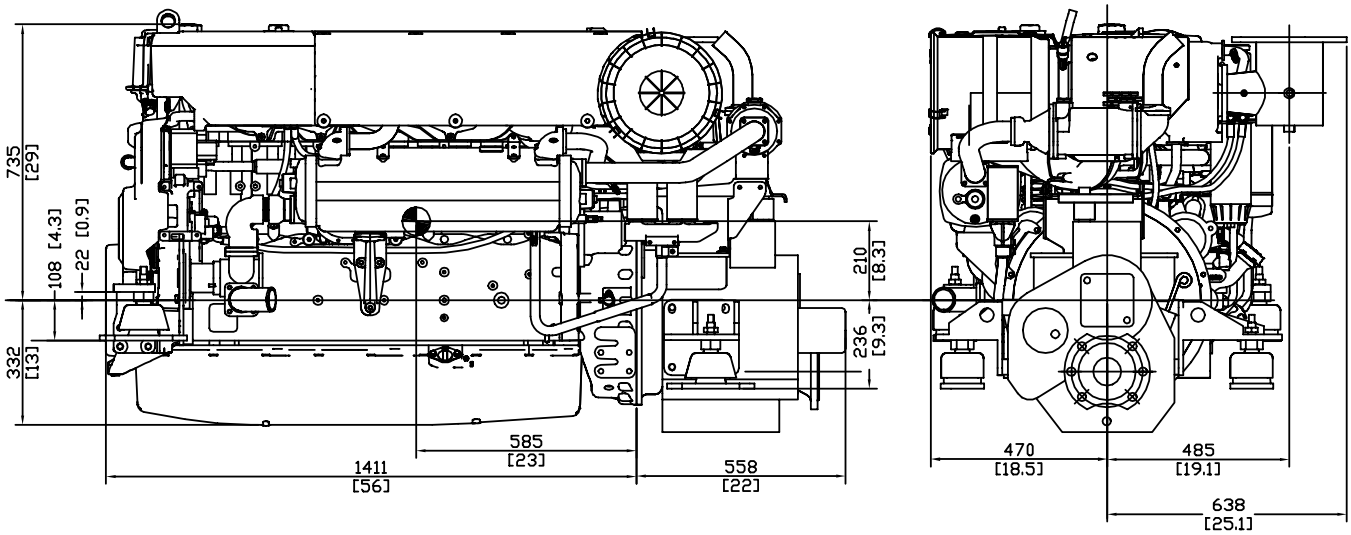


Fuel Consumption



Dimensions D12-450 with MG5114SC

Not for installation



AB Volvo Penta
SE-405 08 Göteborg, Sweden
www.volvopenta.com

VOLVO PENTA INBOARD DIESEL

D12-615

6-cylinder, 4-stroke, direct-injected, turbocharged marine diesel engine with aftercooler – crankshaft power* 452 kW (615 hp)

* Power rating – see Technical Data

Excellent Performance and Cruising Range

The D12-615 marine diesel engine is specially designed and developed for installations in fast planing craft featuring the latest advanced diesel technology.

Excellent performance is assured with a rich torque curve matched to the high power output for quick out of the hole acceleration and high top and cruising speed.

Low fuel consumption for long cruising range and low emission levels is assured with:

- Electronic Unit Injectors
- 4-valve technology
- Electronically controlled injection timing
- High pressure 8-hole injector nozzles
- EDC governing

This technology combined optimizes engine performance and efficiency, ensures efficient combustion by injecting the right quantity of fuel at the right time which minimizes quantity of unburned fuel, reducing fuel consumption and exhaust emission levels. The Volvo Penta D12-615 fuel system is designed to give full output regardless of fuel temperature.

This technology, in combination with the high power output, gives the boat a wider operating range in combination with higher speed.

High quality

The D12-615 is built in the world's most highly automated diesel engine factory line with a totally robotic machining and assembly line with computer controlled audit checks, which ensures the highest quality level.

The D12-615 is a further development of the well proven Volvo Penta in-line six engine concept which ensures high reliability and long term durability.

Operation and comfort

Electronic remote controls, push button twin engine synchronization and change of active station ensures easy and smooth operation and maneuvering.

The electrical control levers are operated more smoothly and precisely, requiring much less force.

Automatic twin engine synchronization reduces noise and vibration levels, and increases service life of engine.

This in combination with the well-balanced D12-615 in-line six cylinder engine with powerfully dimensioned crankshaft bearings and vibration damper on camshaft ensures smooth, vibration-free operation with low noise levels.

Low exhaust emission levels

The D12-615 advanced diesel technology greatly contributes to more efficient combustion with higher power and reduced noxious exhaust emissions.

D12-615 complies with the IMO emission regulations.

Easy installation

The D12-615 gives a time saving and reliable installation as it is a complete delivered compact and tailor-made propulsion system from one single supplier.

Plug-in water protected harnesses and connectors, compact dimensions and the EDC system ensures an easy, simple and time-saving installation.

Ease of service and maintenance

The EDC system features a self-diagnostic facility. Easily accessible service and maintenance points contributes to the ease of service of the engine.

Worldwide service support in more than 100 countries

The Volvo Penta parts and service dealer network is a truly international operation with authorized service dealers around the world. These service centers offer Genuine Volvo Penta parts as well as skilled personnel to ensure the best possible service. Continuous and thorough product and service training ensures that Volvo Penta products are well supported.

D12-615 – a true marine engine from a true marine engine company

The D12-615 is a true marine engine as it is developed by a true marine company with the best there is to be found in marine experience and know-how, and built and assembled with the best production method there is to be found in the world.

The D12-615 delivers excellent performance and cruising range, high reliability and durability, in combination with the highest level of quality.

VOLVO PENTA

D12-615

Technical Data

Engine designation	**D12C MP**
No. of cylinders and configuration	in-line 6
Method of operation	4-stroke, direct-injected, turbocharged diesel engine with aftercooler
Bore, mm (in.)	131 (5.16)
Stroke, mm (in.)	150 (5.91)
Displacement, l (in^3)	12.13 (740.2)
Compression ratio	16.5:1
Dry weight, kg (lb)	1400 (3086)
Dry weight with reverse gear ZF 325A-EB, kg (lb)	1570 (3461)
Crankshaft power, kW (hp) @ 2100 rpm	452 (615)
Torque, Nm (lbf.ft) @ 2100 rpm	2055 (1516)
Recommended fuel to conform to	ASTM-D975 1-D & 2-D, EN 590 or JIS KK 2204
Specific fuel consumption, g/kWh (lb/hph) @ 2100 rpm	212 (0.343)

Technical data according to ISO 3046 Fuel Stop Power and ISO 8665. Fuel with a lower calorific value of 42700 kJ/kg and density of 840 g/liter at 15 °C (60 °F). Merchant fuel may differ from this specification which will influence engine power output and fuel consumption.
Rating: 3
N.B. The product can also be used in an application with a higher rating than stated, e.g. R3 can be used for R4 or R5.
The engine complies with the IMO emission regulations.

Technical description:

Engine and block

- Cylinder block and cylinder head made of cast-iron
- One piece cylinder head
- Replaceable wet cylinder liners and valve seats/guides
- Drop forged crankshaft with induction hardened bearing surfaces and fillets with seven main bearings
- Four valve per cylinder layout with overhead camshaft
- Each cylinder features cross-flow inlet and exhaust ducts
- Gallery oil cooled forged aluminium pistons
- Three piston rings

Lubrication system

- Integrated oil cooler in cylinder block
- Twin full flow oil filter of spin-on type and by-pass filter

Fuel system

- Six Electronic Unit Injectors, one per cylinder, vertically positioned at the center in between the four valves
- Gear driven fuel pump, driven by timing gear
- Electronic controlled central processing system (EDC – Electronic Diesel Control)
- Electronically controlled injection timing
- 8-hole high pressure injector nozzles
- Single fine fuel filter of spin-on type, with water separator

Turbocharger

- Fresh water cooled turbo charger

Cooling system

- Fresh water cooled charge air cooler
- Gear driven coolant pumps
- Tubular heat exchanger or single-circuit keel cooling

Electrical system

- 24V electrical system, 24V/60A alternator

Reverse gear

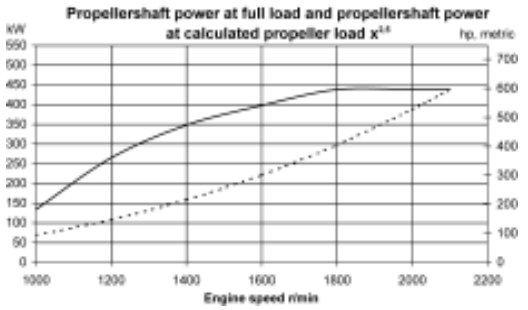
- ZF 325A-EB, ZF 311A-EB (only R5) and MG5114SC-E, electrically shifted

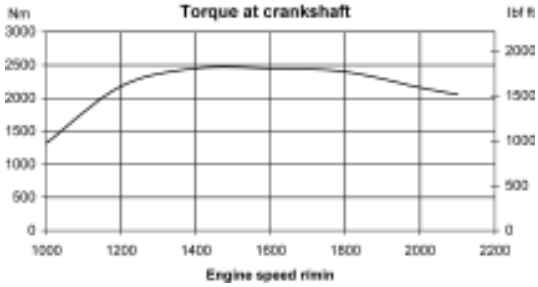
Optional equipment

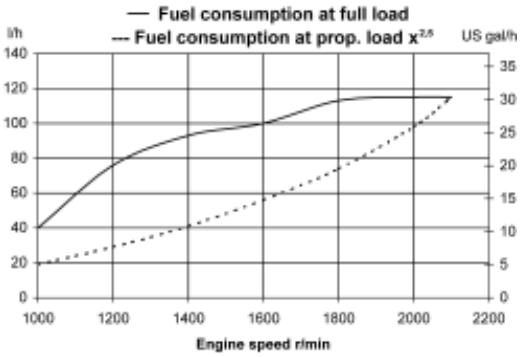
Contact your Volvo Penta representative.

Not all models, standard equipment and accessories are available in all countries. All specifications are subject to change without notice.

The engine illustrated may not be entirely identical to production standard engines.

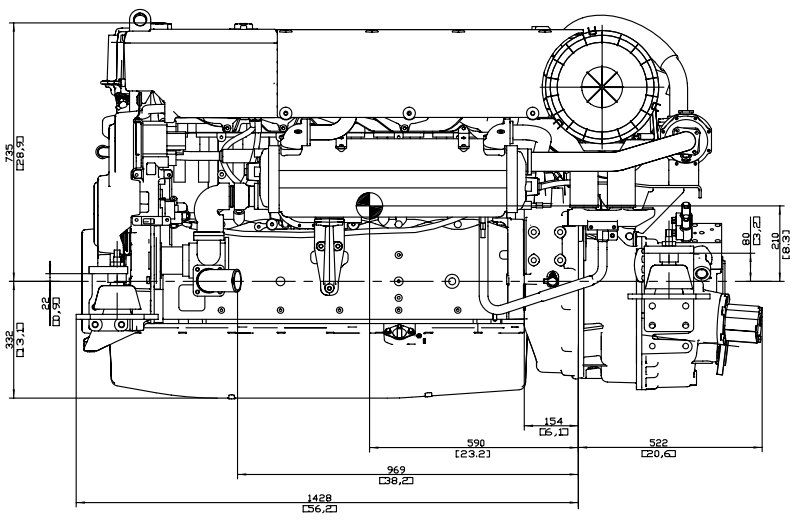


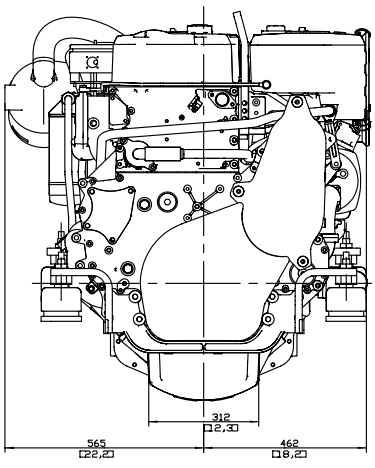




Dimensions D12-615 with ZF 325A-EB

Not for installation





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VOLVO PENTA INBOARD DIESEL

D12-675

6-cylinder, 4-stroke, direct-injected, turbocharged marine diesel engine with aftercooler – crankshaft power* 496 kW (675 hp)

* Power rating – see Technical Data

Excellent Performance and Cruising Range

The D12-675 marine diesel engine is specially designed and developed for installations in fast planing craft featuring the latest advanced diesel technology.

Excellent performance is assured with a rich torque curve matched to the high power output for quick out of the hole acceleration and high top and cruising speed.

Low fuel consumption for long cruising range and low emission levels is assured with:

- Electronic Unit Injectors
- 4-valve technology
- Electronically controlled injection timing
- High pressure 8-hole injector nozzles
- EDC governing

This technology combined optimizes engine performance and efficiency, ensures efficient combustion by injecting the right quantity of fuel at the right time which minimizes quantity of unburned fuel, reducing fuel consumption and exhaust emission levels. The Volvo Penta D12-675 fuel system is designed to give full output regardless of fuel temperature.

This technology, in combination with the high power output, gives the boat a wider operating range in combination with higher speed.

High quality

The D12-675 is built in the world's most highly automated diesel engine factory line with a totally robotic machining and assembly line with computer controlled audit checks, which ensures the highest quality level.

The D12-675 is a further development of the well proven Volvo Penta in-line six engine concept which ensures high reliability and long term durability.

Operation and comfort

Electronic remote controls, push button twin engine synchronization and change of active station ensures easy and smooth operation and maneuvering.

The electrical control levers are operated more smoothly and precisely, requiring much less force.

Automatic twin engine synchronization reduces noise and vibration levels, and increases service life of engine.

This in combination with the well-balanced D12-675 in-line six cylinder engine with powerfully dimensioned crankshaft bearings and vibration damper on camshaft ensures smooth, vibration-free operation with low noise levels.

Low exhaust emission levels

The D12-675 advanced diesel technology greatly contributes to more efficient combustion with higher power and reduced noxious exhaust emissions.

D12-675 complies with the IMO emission regulations.

Easy installation

The D12-675 gives a time saving and reliable installation as it is a complete delivered compact and tailor-made propulsion system from one single supplier.

Plug-in water protected harnesses and connectors, compact dimensions and the EDC system ensures an easy, simple and time-saving installation.

Ease of service and maintenance

The EDC system features a self-diagnostic facility. Easily accessible service and maintenance points contributes to the ease of service of the engine.

Worldwide service support in more than 100 countries

The Volvo Penta parts and service dealer network is a truly international operation with authorized service dealers around the world. These service centers offer Genuine Volvo Penta parts as well as skilled personnel to ensure the best possible service. Continuous and thorough product and service training ensures that Volvo Penta products are well supported.

D12-675 – a true marine engine from a true marine engine company

The D12-675 is a true marine engine as it is developed by a true marine company with the best there is to be found in marine experience and know-how, and built and assembled with the best production method there is to be found in the world.

The D12-675 delivers excellent performance and cruising range, high reliability and durability, in combination with the highest level of quality.

VOLVO PENTA

D12-675

Technical Data

Engine designation	**D12C MP**
No. of cylinders and configuration	in-line 6
Method of operation	4-stroke, direct-injected, turbocharged diesel engine with aftercooler
Bore, mm (in.)	131 (5.16)
Stroke, mm (in.)	150 (5.91)
Displacement, l (in^3)	12.13 (740.2)
Compression ratio	16.5:1
Dry weight, kg (lb)	1400 (3086)
Dry weight with reverse gear ZF 325A-EB, kg (lb)	1570 (3461)
Crankshaft power, kW (hp) @ 2300 rpm	496 (675)
Torque, Nm (lbf.ft) @ 2300 rpm	2059 (1519)
Recommended fuel to conform to	ASTM-D975 1-D & 2-D, EN 590 or JIS KK 2204
Specific fuel consumption, g/kWh (lb/hph) @ 2300 rpm	219 (0.355)

Technical data according to ISO 3046 Fuel Stop Power and ISO 8665. Fuel with a lower calorific value of 42700 kJ/kg and density of 840 g/liter at 15 °C (60 °F). Merchant fuel may differ from this specification which will influence engine power output and fuel consumption.
Rating: 5
The engine complies with the IMO emission regulations.

Technical description:

Engine and block

- Cylinder block and cylinder head made of cast-iron
- One piece cylinder head
- Replaceable wet cylinder liners and valve seats/guides
- Drop forged crankshaft with induction hardened bearing surfaces and fillets with seven main bearings
- Four valve per cylinder layout with overhead camshaft
- Each cylinder features cross-flow inlet and exhaust ducts
- Gallery oil cooled forged aluminium pistons
- Three piston rings

Lubrication system

- Integrated oil cooler in cylinder block
- Twin full flow oil filter of spin-on type and by-pass filter

Fuel system

- Six Electronic Unit Injectors, one per cylinder, vertically positioned at the center in between the four valves
- Gear driven fuel pump, driven by timing gear
- Electronic controlled central processing system (EDC – Electronic Diesel Control)
- Electronically controlled injection timing
- 8-hole high pressure injector nozzles
- Single fine fuel filter of spin-on type, with water separator

Turbocharger

- Fresh water cooled turbo charger

Cooling system

- Fresh water cooled charge air cooler
- Gear driven coolant pumps
- Tubular heat exchanger or single-circuit keel cooling

Electrical system

- 24V electrical system, 24V/60A alternator

Reverse gear

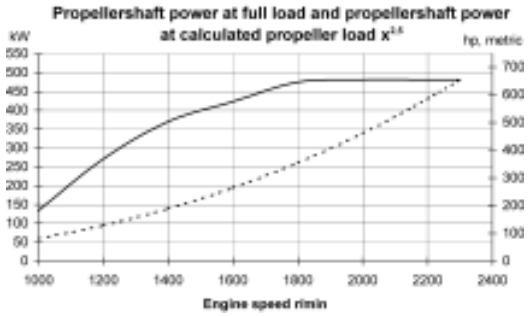
- ZF 325A-EB and ZF 311A-EB, electrically shifted

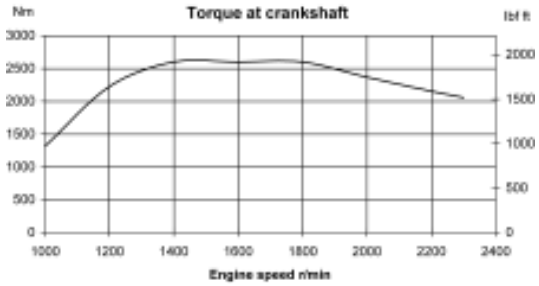
Optional equipment

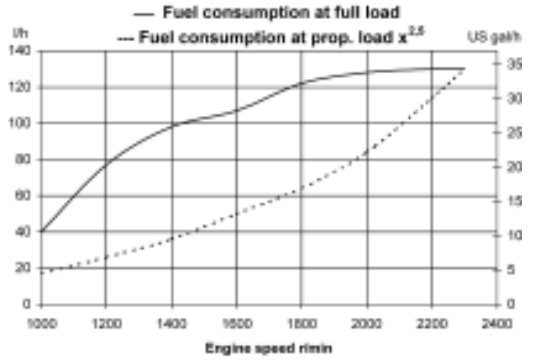
Contact your Volvo Penta representative.

Not all models, standard equipment and accessories are available in all countries. All specifications are subject to change without notice.

The engine illustrated may not be entirely identical to production standard engines.

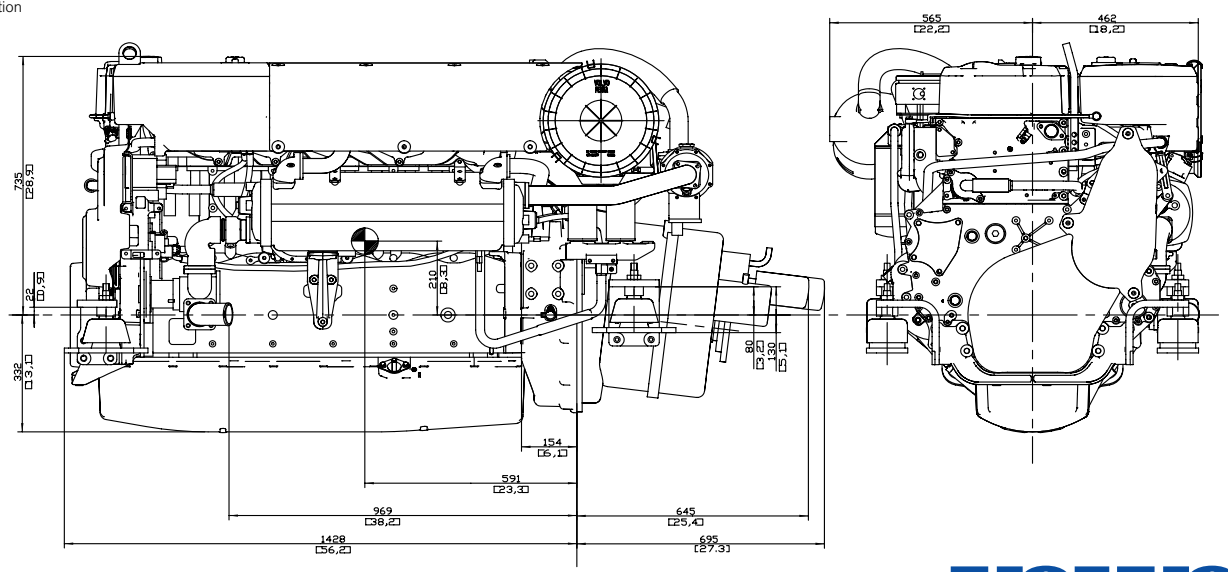






Dimensions D12-675 with ZF 311A-EB

Not for installation



AB Volvo Penta
SE-405 08 Göteborg, Sweden
www.volvopenta.com

VOLVO PENTA INBOARD DIESEL

D12-700

6-cylinder, 4-stroke, direct-injected, turbocharged marine diesel engine with aftercooler – crankshaft power* 515 kW (700 hp)

* Power rating – see Technical Data

Excellent Performance and Cruising Range

The D12-700 marine diesel engine is specially designed and developed for installations in fast planing craft featuring the latest advanced diesel technology.

Excellent performance is assured with a rich torque curve matched to the high power output for quick out of the hole acceleration and high top and cruising speed.

Low fuel consumption for long cruising range and low emission levels is assured with:

- Electronic Unit Injectors
- 4-valve technology
- Electronically controlled injection timing
- High pressure 8-hole injector nozzles
- EDC governing

This technology combined optimizes engine performance and efficiency, ensures efficient combustion by injecting the right quantity of fuel at the right time which minimizes quantity of unburned fuel, reducing fuel consumption and exhaust emission levels. The Volvo Penta D12-700 fuel system is designed to give full output regardless of fuel temperature.

This technology, in combination with the high power output, gives the boat a wider operating range in combination with higher speed.

High quality

The D12-700 is built in the world's most highly automated diesel engine factory line with a totally robotic machining and assembly line with computer controlled audit checks, which ensures the highest quality level.

The D12-700 is a further development of the well proven Volvo Penta in-line six engine concept which ensures high reliability and long term durability.

Operation and comfort

Electronic remote controls, push button twin engine synchronization and change of active station ensures easy and smooth operation and maneuvering.

The electrical control levers are operated more smoothly and precisely, requiring much less force.

Automatic twin engine synchronization reduces noise and vibration levels, and increases service life of engine.

This in combination with the well-balanced D12-700 in-line six cylinder engine with powerfully dimensioned crankshaft bearings and vibration damper on camshaft ensures smooth, vibration-free operation with low noise levels.

Low exhaust emission levels

The D12-700 advanced diesel technology greatly contributes to more efficient combustion with higher power and reduced noxious exhaust emissions.

D12-700 complies with the IMO emission regulations.

Easy installation

The D12-700 gives a time saving and reliable installation as it is a complete delivered compact and tailor-made propulsion system from one single supplier.

Plug-in water protected harnesses and connectors, compact dimensions and the EDC system ensures an easy, simple and time-saving installation.

Ease of service and maintenance

The EDC system features a self-diagnostic facility. Easily accessible service and maintenance points contributes to the ease of service of the engine.

Worldwide service support in more than 100 countries

The Volvo Penta parts and service dealer network is a truly international operation with authorized service dealers around the world. These service centers offer Genuine Volvo Penta parts as well as skilled personnel to ensure the best possible service. Continuous and thorough product and service training ensures that Volvo Penta products are well supported.

D12-700 – a true marine engine from a true marine engine company

The D12-700 is a true marine engine as it is developed by a true marine company with the best there is to be found in marine experience and know-how, and built and assembled with the best production method there is to be found in the world.

The D12-700 delivers excellent performance and cruising range, high reliability and durability, in combination with the highest level of quality.

VOLVO PENTA

D12-700

Technical Data

Engine designation	**D12C MP**
No. of cylinders and configuration	in-line 6
Method of operation	4-stroke, direct-injected, turbocharged diesel engine with aftercooler
Bore, mm (in.)	131 (5.16)
Stroke, mm (in.)	150 (5.91)
Displacement, l (in^3)	12.13 (740.2)
Compression ratio	16.5:1
Dry weight, kg (lb)	1400 (3086)
Dry weight with reverse gear ZF 325A-EB, kg (lb)	1570 (3461)
Crankshaft power, kW (hp) @ 2300 rpm	515 (700)
Torque, Nm (lbf.ft) @ 2300 rpm	2138 (1577)
Recommended fuel to conform to	ASTM-D975 1-D & 2-D, EN 590 or JIS KK 2204
Specific fuel consumption, g/kWh (lb/hph) @ 2300 rpm	221 (0.358)

Technical data according to ISO 3046 Fuel Stop Power and ISO 8665. Fuel with a lower calorific value of 42700 kJ/kg and density of 840 g/liter at 15 °C (60 °F). Merchant fuel may differ from this specification which will influence engine power output and fuel consumption.
Rating: 5
The engine complies with the IMO emission regulations.

Technical description:

Engine and block
- Cylinder block and cylinder head made of cast-iron
- One piece cylinder head
- Replaceable wet cylinder liners and valve seats/guides
- Drop forged crankshaft with induction hardened bearing surfaces and fillets with seven main bearings
- Four valve per cylinder layout with overhead camshaft
- Each cylinder features cross-flow inlet and exhaust ducts
- Gallery oil cooled forged aluminium pistons
- Three piston rings

Lubrication system
- Integrated oil cooler in cylinder block
- Twin full flow oil filter of spin-on type and by-pass filter

Fuel system
- Six Electronic Unit Injectors, one per cylinder, vertically positioned at the center in between the four valves
- Gear driven fuel pump, driven by timing gear
- Electronic controlled central processing system (EDC – Electronic Diesel Control)
- Electronically controlled injection timing
- 8-hole high pressure injector nozzles
- Single fine fuel filter of spin-on type, with water separator

Turbocharger
- Fresh water cooled turbo charger

Cooling system
- Fresh water cooled charge air cooler
- Gear driven coolant pumps
- Tubular heat exchanger or single-circuit keel cooling

Electrical system
- 24V electrical system, 24V/60A alternator

Reverse gear
- ZF 325A-EB, electrically shifted

Optional equipment
Contact your Volvo Penta representative.

Not all models, standard equipment and accessories are available in all countries. All specifications are subject to change without notice.

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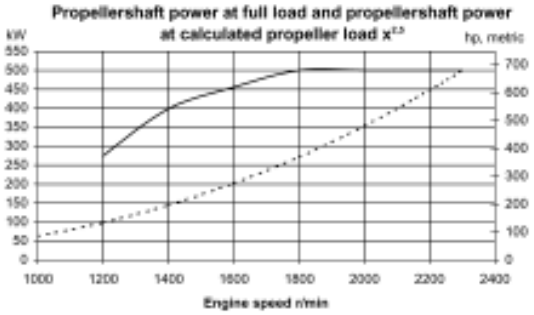
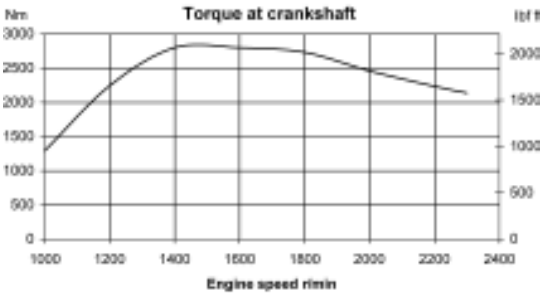
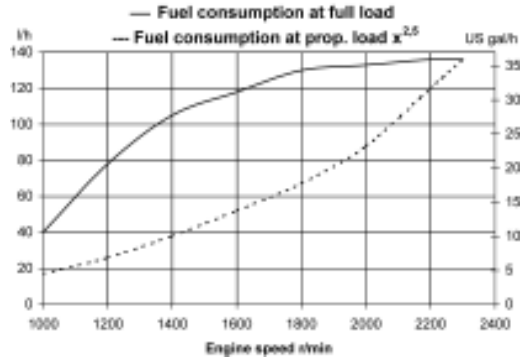
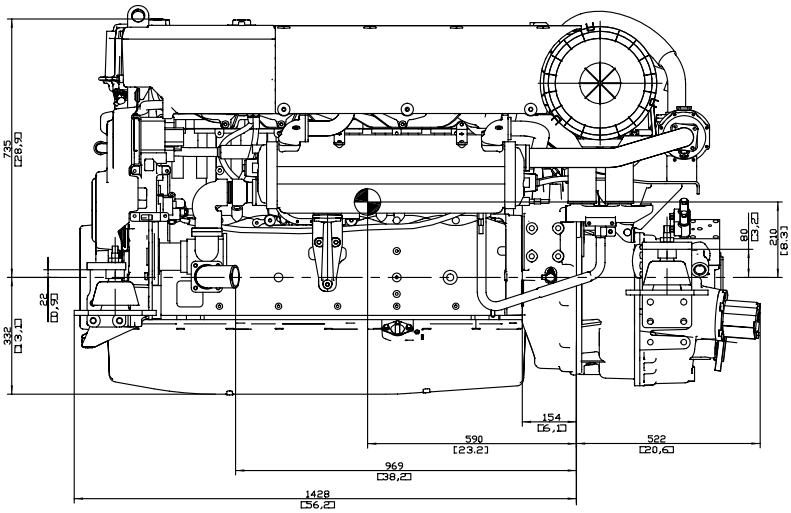


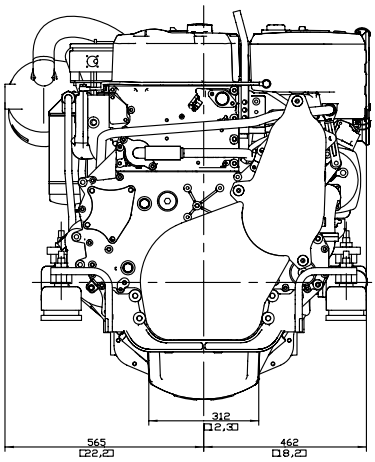




Dimensions D12-700 with ZF 325A-EB

Not for installation





AB Volvo Penta
SE-405 08 Göteborg, Sweden
www.volvopenta.com

NEW!

VOLVO PENTA INBOARD DIESEL

D2-55

4-cylinder, freshwater-cooled marine diesel engine
Crankshaft power* 41 kW (55 hp)

* Crankshaft power according to ISO 8665

The D2-55 is a marine engine of advanced design manufactured from quality components and designed to fulfil customer requirements.

Service Life

The D2-55 is fitted with freshwater cooling as standard. This reduces internal corrosion and enables the engine to maintain a consistent and optimal working temperature under all conditions.

To avoid galvanic corrosion the engine is equipped with the unique electrical insulation between engine and S-drive.

Comfort

Smooth running with very low vibration levels results from a dynamically balanced design incorporating a flywheel of high rotating mass and high efficiency rubber insulation.

The engine's high torque provides excellent operating characteristics to aid maneuvering, particularly in confined spaces.

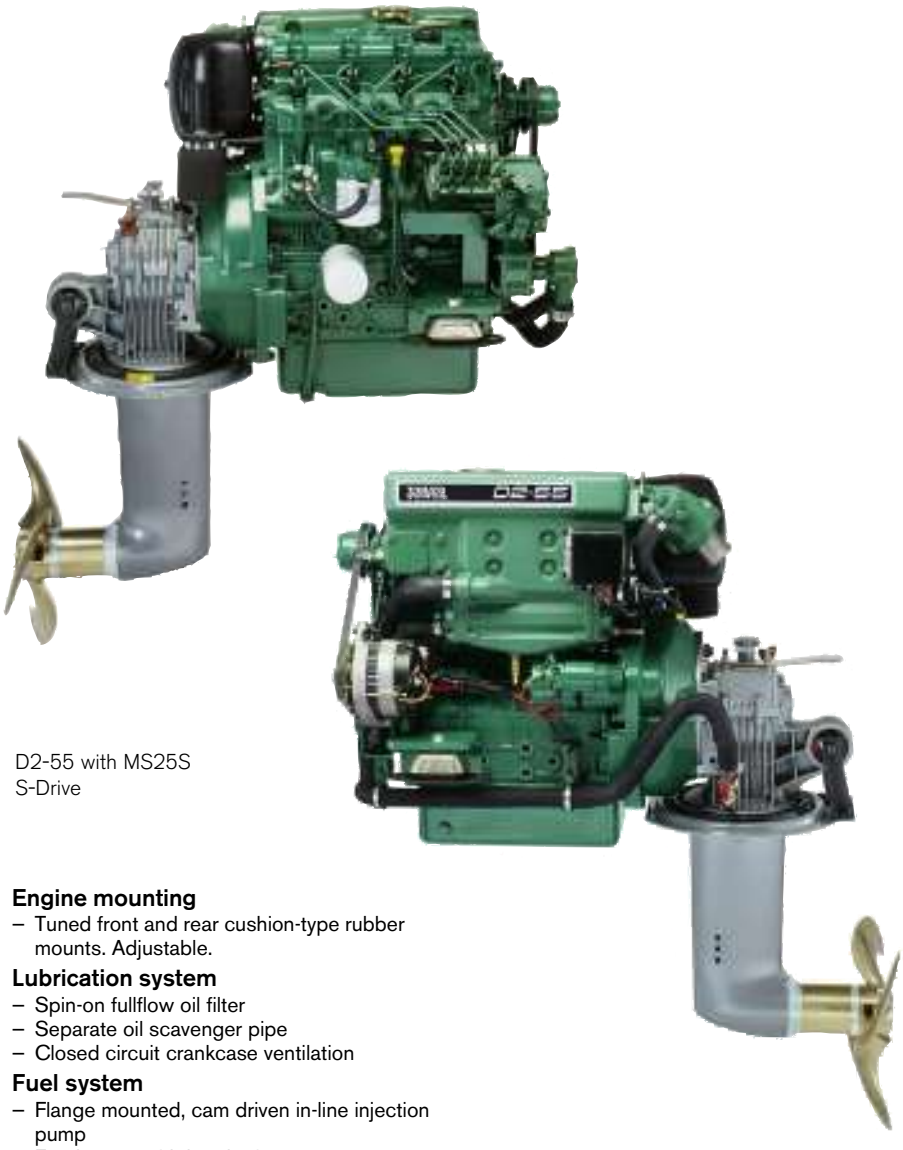
Additional on board comfort features are available from an extensive range of matched accessories.

Environment

An advanced combustion system increases fuel burning efficiency to minimize noxious exhaust emissions and enhance overall enjoyment of boating. The D2-55 is certified according to BSO II and SAV.

Transmissions

Eight matched transmission options are available, each built for durability and smooth running.



D2-55 with MS25S S-Drive

Technical description:

Engine and block

- Cylinder block and cylinder head manufactured from high grade cast iron. Crankcase features a rigid tunnel block design.
- Chrome molybdenum forged crankshaft, statically and dynamically balanced with integral counterweights. Pistons are cast from high silicon aluminum, are heat treated and fitted with two cast iron, chromium faced compression rings and a single oil ring.
- Replaceable, hardened valve seats
- Elastic coupling on flywheel

Engine mounting

- Tuned front and rear cushion-type rubber mounts. Adjustable.

Lubrication system

- Spin-on fullflow oil filter
- Separate oil scavenger pipe
- Closed circuit crankcase ventilation

Fuel system

- Flange mounted, cam driven in-line injection pump
- Feed pump with hand primer
- Spin-on type fine fuel filter

Exhaust system

- Freshwater cooled exhaust manifold and seawater cooled exhaust elbow

Cooling system

- Freshwater cooling system governed by thermostat
- Tubular heat exchanger with integral expansion tank
- Coolant system prepared for hot water outlet fittings
- Easily accessible sea water pump and impeller

Electrical system

- 12V corrosion-protected electrical system
- 14V/60A marine alternator
- Charging regulator with electronic sensor for voltage drop compensation
- Glow plugs for excellent cold starting
- Electric starter motor (2.0 kW output)
- Extension cable harness with plug-in connection available in various lengths

VOLVO PENTA

D2-55

Choice of instrument panel:
Standard panel, including:
- Optional rev counter incl. hour counter
- Start button or key switch
- Alarm (for monitoring temperature, oil pressure and charge rate)
- Instrument panel lighting
- Switch for alarm test and glow

De Luxe panel including:
- Optional rev counter incl. hour counter
- Key switch
- Temperature gauge
- Oil pressure gauge
- Voltmeter
- Alarm (for monitoring temperature, oil pressure and charge rate)
- Instrument panel lighting
- Alarm test button

Choice of transmissions:
HS25A Hydraulic – drop center with 8° down angled output shaft. Trolling valve kit available.
- Ratio 2,29:1/2,29:1 (RH/LH) and 2,71:1/2,71:1 (RH/LH).

MS25A Mechanical – drop center with 8° down angled output shaft.
- Ratio 2.23:1/2.74:1 (RH/LH) and 2.74:1/2.74:1 (RH/LH).

MS25L Mechanical – drop center with straight output shaft.
- Ratio 2.27:1/2.10:1 (RH/LH) and 2.74:1/2.72:1 (RH/LH).

S-drive MS25S and **MS25SR** for reverse installation of engine. Ratio 2.19:1.

Accessories
- Engine controls and steering systems
- Additional instrument panels and instruments
- Extra alternator kits
- Battery and battery switches
- Hot water systems
- Separate expansion tanks
- Cooling water seacocks, strainers and hoses
- Exhaust systems and hull fittings
- Fuel systems including filters, pipes etc.
- Pulleys and universal brackets for power take-off (PTO)
- Propeller shaft systems and propellers
- Chemical products – paints, oils, cleaners etc.

Contact your local Volvo Penta dealer for further information.

Not all models, standard equipment and accessories are available in all countries. All specifications are subject to change without notice.

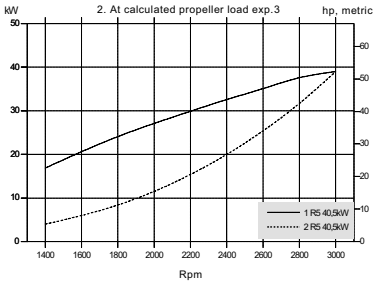
The engine illustrated may not be entirely identical to production standard engines.

Technical Data

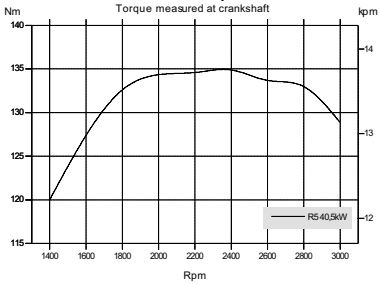
Engine designation	**D2-55**
Crankshaft power, kW (hp)	41 (55)
Propeller shaft power, kW (hp)	39 (53)
Engine speed, rpm	3000
Displacement, l (in³)	2.2 (134.2)
Number of cylinders	4
Bore/stroke, mm (in.)	84/100 (3.31/3.94)
Compression ratio	23.3:1
Dry weight with reverse gear HS25A/MS25, kg (lb)	249/243 (549/536)
Dry weight with sail drive MS25S/SR, kg (lb)	253 (558)

Operating mode: R5
Technical data according to ISO 8665. Fuel with a lower calorific value of 42,700 kJ/kg and density of 840 g/liter at 15°C (60°F). Merchant fuel may differ from this specification which will influence engine power output and fuel consumption.
The engine is certified according to BSO II and SAV.

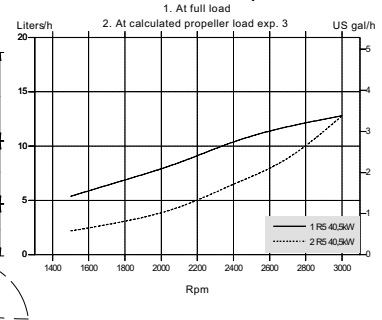
D2-55 Propeller Shaft Power
1. At full load
2. At calculated propeller load exp.3



D2-55 Torque
Torque measured at crankshaft

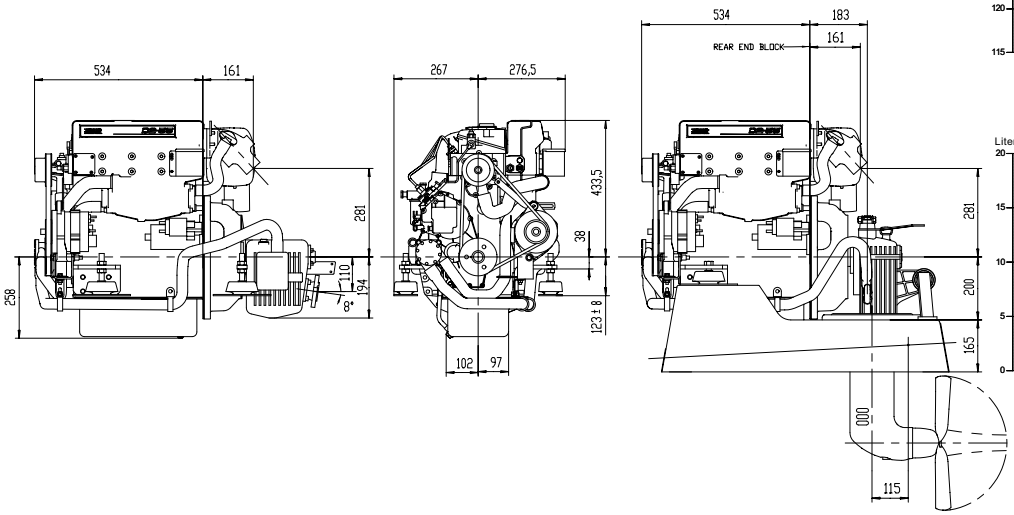


D2-55 Fuel Consumption
1. At full load
2. At calculated propeller load exp. 3



Dimensions D2-55/MS25A/MS25S

Not for installation



AB Volvo Penta
SE-405 08 Göteborg, Sweden
www.volvopenta.com

NEW!

VOLVO PENTA INBOARD DIESEL

D5A T

4-cylinder, 4-stroke, direct-injected, turbocharged marine diesel engine crankshaft power* 72–95 kW (98–129 hp)

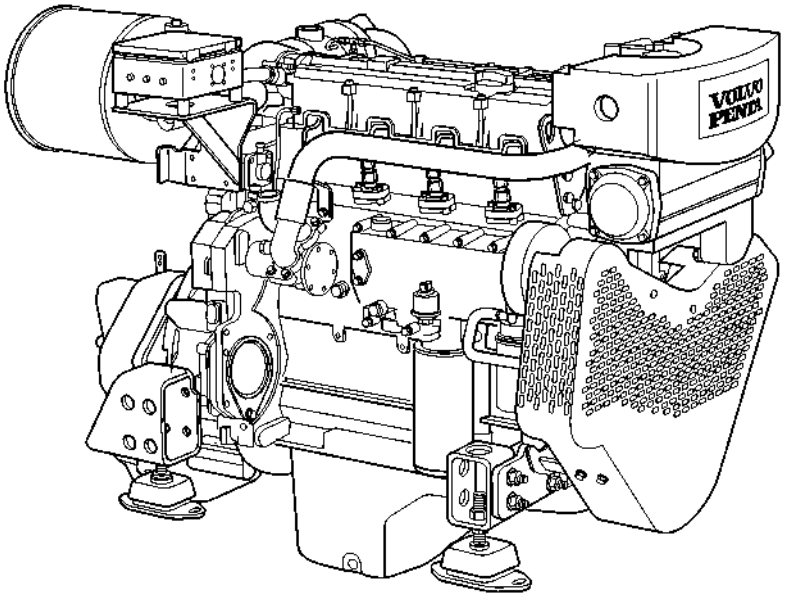
* Power rating – see Technical Data

Reliable and powerful

The D5A T is a highly reliable, type approved, marine diesel engine. Well-matched engine speed to rated power with excellent torque characteristics along with a variety of power take-off options makes it particularly well suited for displacement and semi-planing workboats in medium and heavy duty service.

Robust and silent

A rigid in-line cylinder block with generously dimensioned crankshaft bearings, together with watercooled exhaust manifold and turbo, are just some of the design features making this silent running and sturdy engine. The owner of a D5A T not only benefits from many hours of trouble-free operation, but also enjoys improved onboard comfort.



Economical and service friendly

Price is not the only concern when investing in a new engine. As confirmed by marine professionals, it is the operational costs, such as cost for fuel, spare parts, service and maintenance, that makes the real difference in economy.

The D5A T is equipped with unit pumps that control the fuel distribution for each cylinder. Six-hole high-pressure injection nozzles optimize the fuel-air mixture. This improved combustion results in high thermal efficiency, low fuel consumption, reduced exhaust emissions, faster response to load variations and ease in maintenance.

Easily accessible maintenance points and single side servicing contribute to the ease of servicing the engine. Liners of wet and replaceable type, inclined connecting rod caps and replaceable valve seats make even major maintenance possible to carry out on-board.

Safely supported

Volvo Penta has a well-established, well-trained, network of authorized service dealers in more than 100 countries throughout the world. These service centers offer Genuine Volvo Penta Parts as well as skilled service personnel to help you protect your investment.

Technical description:

Engine and block

- Cylinder block, head and flywheel housing made of cast iron
- Belt guard
- Combined 10" and 11.5" flywheel with SAE 3 housing
- Nitrocarburized transmission gears
- Press-hardened crankshaft
- Forged aluminum pistons
- Cylinder liners of wet type

Lubrication system

- Oil filler in valve cover
- Oil sump made of cast iron
- Manual oil drain pump
- Rotary lubrication oil pump
- Freshwater-cooled oil cooler
- Full flow oil filters of spin-on type
- Closed crankcase ventilation system

Fuel system

- Fuel feed pump
- Fine fuel filter of spin-on type
- Unit pumps
- Six-hole injectors
- Mechanical governor with smoke limiter
- Fuel stopping solenoid 24V

Cooling system

- 1-circuit keel cooling system with expansion tank
- Belt-driven freshwater pump
- Freshwater-cooled turbocharger and exhaust manifold

Electrical system

- 2-pole 24V electrical system, 24V/55A alternator, 24V 4kW starter
- Senders and switches:
  Tachometer
  Lubrication oil pressure
  Cooling-water temperature
  Cooling-water level
- Rubber-suspended electrical terminal box with semi-automatic fuses and plug-in connection

VOLVO PENTA

D5A T

Technical Data

Engine designation	D5A T
No. of cylinders and configuration	in-line 4
Method of operation	4-stroke, direct-injected, turbocharged diesel engine
Bore, mm (in.)	108 (4.25)
Stroke, mm (in.)	130 (5.12)
Displacement, l (in³)	4.76 (290)
Compression ratio	17.6:1
Dry weight, kg (lb)	510 (1124)
Dry weight with reverse gear ZF45, kg (lb)	560 (1234)
Crankshaft power,	
Rating 2, kW (hp) 2300 rpm	95 (129)
Rating 2, kW (hp) 1900 rpm	83 (113)
Rating 1, kW (hp) 2300 rpm	81 (110)
Rating 1, kW (hp) 1900 rpm	72 (98)
Torque,	
Rating 2, Nm (lbf.ft) 2300 rpm	394 (291)
Rating 2, Nm (lbf.ft) 1900 rpm	417 (308)
Rating 1, Nm (lbf.ft) 2300 rpm	336 (248)
Rating 1, Nm (lbf.ft) 1900 rpm	362 (267)
Recommended fuel to conform to	ASTM-D975 1-D & 2-D, EN 590 or JIS KK 2204
Specific fuel consumption,	
Rating 2, g/kWh (lb/hph) 2300 rpm	221 (0.358)
Rating 2, g/kWh (lb/hph) 1900 rpm	217 (0.352)
Rating 1, g/kWh (lb/hph) 2300 rpm	225 (0.365)
Rating 1, g/kWh (lb/hph) 1900 rpm	217 (0.352)

Fuel temperature 40°C (104°F)

Technical data according to ISO 3046 Fuel Stop Power and ISO 8665. Fuel with a lower calorific value of 42700 kJ/kg and density of 840 g/liter at 15°C (60°F). Merchant fuel may differ from this specification which will influence engine power output and fuel consumption.

N.B. The product can also be used in an application with a higher rating than stated, e.g. R1 can be used for R2.

Optional equipment

Engine
- Flexible suspension for engine and reverse gear
- Combined 10"/11,5" flywheel with SAE 2 housing

Lubrication system
- Shallow oil sump
- Twin oil filters, for remote mounting

Fuel system
- Hand pump
- Jacketed fuel pipes
- Single or twin fuel/water separating pre-filters
- Twin fuel filters, for remote mounting

Exhaust system
- Exhaust elbow, wet
- Exhaust elbow, dry, with integrated flexible compensator
- Silencer, dry

Cooling system
- Engine-mounted tubular heat exchanger with integrated expansion tank
- Seawater filter

Electrical system
- 1-pole 12V electrical system, 12V/95A alternator, 12V/3.1kW starter
- 24V/140A alternator
- Engine heater 230V/820W
- Senders and switches:
  Charge air pressure
  Gearbox oil pressure
- Cable harness in different lengths
- Various instrument panels

Power transmission
- PTO crankshaft front end, type stub shaft
- Hydraulic pump for steering and other duties

Reverse gear
- ZF45
- ZF220

Contact your local Volvo Penta dealer for further information.

Not all models, standard equipment and accessories are available in all countries. All specifications are subject to change without notice.

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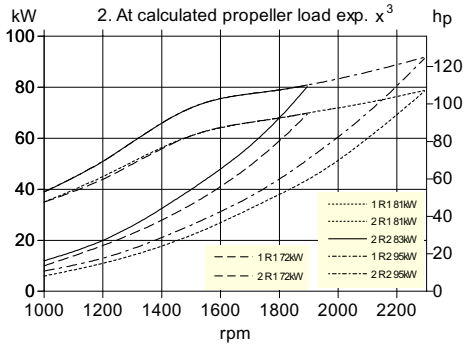
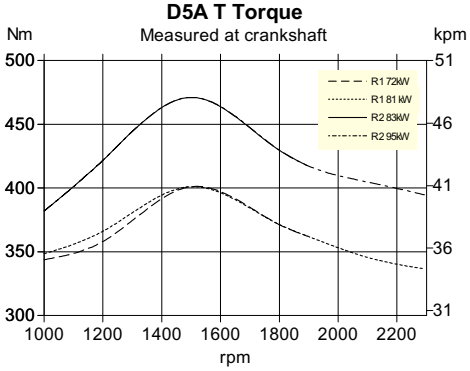
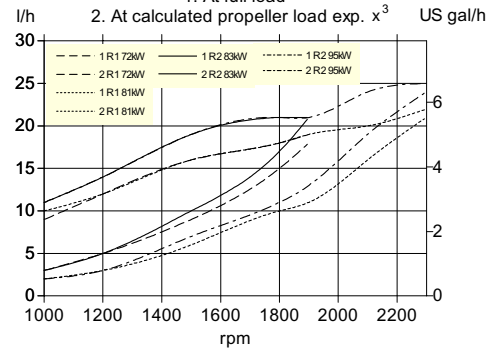
D5A T
Propeller shaft power
1. Full load
2. At calculated propeller load exp. x³



D5A T Torque
Measured at crankshaft

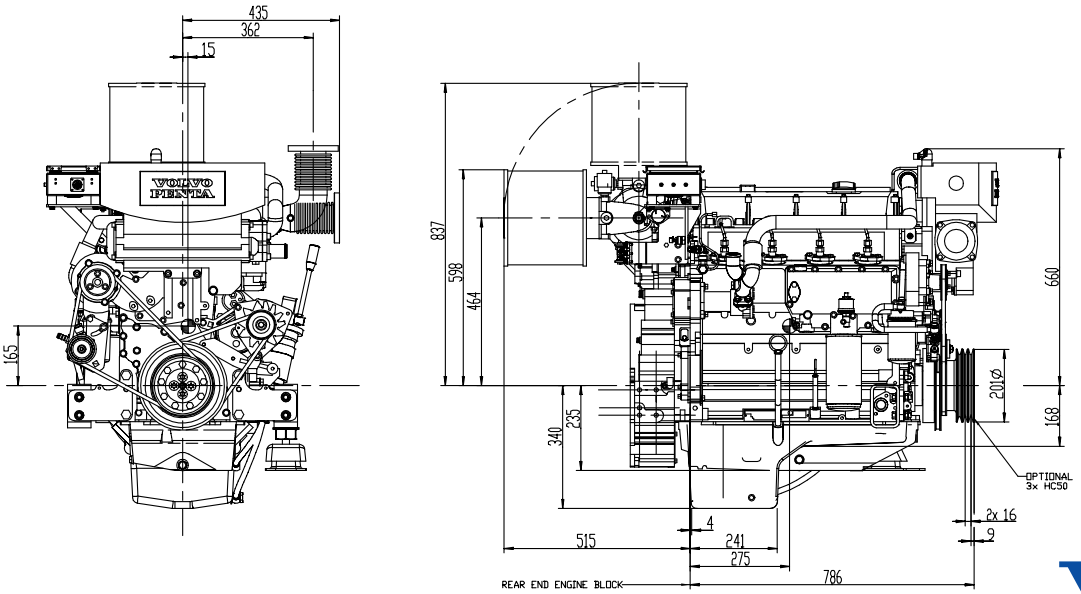


D5A T Fuel consumption
1. At full load
2. At calculated propeller load exp. x³



Dimensions D5A T

Not for installation



AB Volvo Penta
SE-405 08 Göteborg, Sweden
www.volvopenta.com

NEW!

VOLVO PENTA INBOARD DIESEL

D5A TA

4-cylinder, 4-stroke, direct-injected, turbocharged marine diesel engine with aftercooler – crankshaft power* 89–118 kW (121–160 hp)

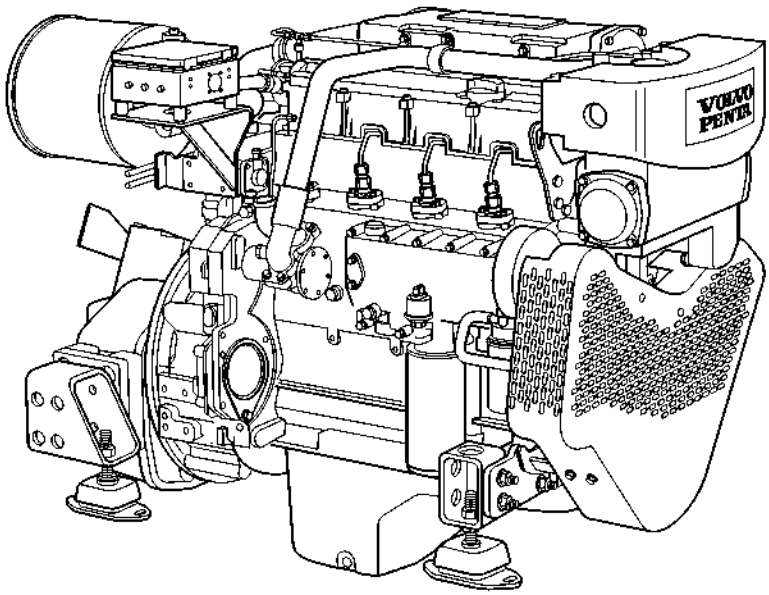
* Power rating – see Technical Data

Reliable and powerful

The D5A TA is a highly reliable, type approved, marine diesel engine. Well-matched engine speed to rated power with excellent torque characteristics along with a variety of power take-off options makes it particularly well suited for displacement and semi-planing workboats in medium and heavy duty service.

Robust and silent

A rigid in-line cylinder block with generously dimensioned crankshaft bearings, together with watercooled exhaust manifold and turbo, are just some of the design features making this silent running and sturdy engine. The owner of a D5A TA not only benefits from many hours of trouble-free operation, but also enjoys improved onboard comfort.



Economical and service friendly

Price is not the only concern when investing in a new engine. As confirmed by marine professionals, it is the operational costs, such as cost for fuel, spare parts, service and maintenance, that makes the real difference in economy.

The D5A TA is equipped with unit pumps that control the fuel distribution for each cylinder. Six-hole high-pressure injection nozzles optimize the fuel-air mixture. This improved combustion results in high thermal efficiency, low fuel consumption, reduced exhaust emissions, faster response to load variations and ease in maintenance.

Easily accessible maintenance points and single side servicing contribute to the ease of servicing the engine. Liners of wet and replaceable type, inclined connecting rod caps and replaceable valve seats make even major maintenance possible to carry out on-board.

Safely supported

Volvo Penta has a well-established, well-trained, network of authorized service dealers in more than 100 countries throughout the world. These service centers offer Genuine Volvo Penta Parts as well as skilled service personnel to help you protect your investment.

Technical description:

Engine and block

- Cylinder block, head and flywheel housing made of cast iron
- Belt guard
- Combined 10" and 11.5" flywheel with SAE 3 housing
- Nitrocarburized transmission gears
- Press-hardened crankshaft
- Forged aluminum pistons
- Cylinder liners of wet type

Lubrication system

- Oil filler in valve cover
- Oil sump made of cast iron
- Manual oil drain pump
- Rotary lubrication oil pump
- Freshwater-cooled oil cooler
- Full flow oil filters of spin-on type
- Closed crankcase ventilation system

Fuel system

- Fuel feed pump
- Fine fuel filter of spin-on type
- Unit pumps
- Six-hole injectors
- Mechanical governor with smoke limiter
- Fuel stopping solenoid 24V

Cooling system

- 2-circuit keel cooling system with expansion tank
- Gear-driven seawater pump
- Belt-driven freshwater pump
- Freshwater-cooled turbocharger and exhaust manifold

Electrical system

- 2-pole 24V electrical system, 24V/55A alternator, 24V 4kW starter
- Senders and switches:
  Tachometer
  Lubrication oil pressure
  Cooling-water temperature
  Cooling-water level
- Rubber-suspended electrical terminal box with semi-automatic fuses and plug-in connection

VOLVO PENTA

D5A TA

Technical Data

Engine designation	**D5A TA**
No. of cylinders and configuration	in-line 4
Method of operation	4-stroke, direct-injected, turbocharged diesel engine with aftercooler
Bore, mm (in.)	108 (4.25)
Stroke, mm (in.)	130 (5.12)
Displacement, l (in^3)	4.76 (290)
Compression ratio	17.6:1
Dry weight, kg (lb)	525 (1157)
Dry weight with reverse gear ZF220, kg (lb)	570 (1257)
Crankshaft power,	
Rating 2, kW (hp) 2300 rpm	118 (160)
Rating 2, kW (hp) 1900 rpm	103 (140)
Rating 1, kW (hp) 2300 rpm	102 (139)
Rating 1, kW (hp) 1900 rpm	89 (121)
Torque,	
Rating 2, Nm (lbf.ft) 2300 rpm	490 (361)
Rating 2, Nm (lbf.ft) 1900 rpm	517 (382)
Rating 1, Nm (lbf.ft) 2300 rpm	424 (312)
Rating 1, Nm (lbf.ft) 1900 rpm	447 (330)
Recommended fuel to conform to	ASTM-D975 1-D & 2-D, EN 590 or JIS KK 2204
Specific fuel consumption,	
Rating 2, g/kWh (lb/hph) 2300 rpm	210 (0.340)
Rating 2, g/kWh (lb/hph) 1900 rpm	202 (0.327)
Rating 1, g/kWh (lb/hph) 2300 rpm	214 (0.347)
Rating 1, g/kWh (lb/hph) 1900 rpm	203 (0.329)

Fuel temperature 40°C (104°F)

Technical data according to ISO 3046 Fuel Stop Power and ISO 8665. Fuel with a lower calorific value of 42700 kJ/kg and density of 840 g/liter at 15°C (60°F). Merchant fuel may differ from this specification which will influence engine power output and fuel consumption.

N.B. The product can also be used in an application with a higher rating than stated, e.g. R1 can be used for R2.

Optional equipment

Engine
- Flexible suspension for engine and reverse gear
- Combined 10"/11,5" flywheel with SAE 2 housing

Lubrication system
- Shallow oil sump
- Twin oil filters, for remote mounting

Fuel system
- Hand pump
- Jacketed fuel pipes
- Single or twin fuel/water separating pre filter
- Twin fuel filters, for remote mounting

Exhaust system
- Exhaust elbow, wet
- Exhaust elbow, dry, with integrated flexible compensator
- Silencer, dry

Cooling system
- Engine-mounted tubular heat exchanger with integrated expansion tank
- Seawater filter

Electrical system
- 1-pole 12V electrical system, 12V/95A alternator, 12V/3.1kW starter
- 24V/140A alternator
- Engine heater 230V/820W
- Senders and switches:
  Charge air pressure
  Gearbox oil pressure
- Cable harness in different lengths
- Various instrument panels

Power transmission
- PTO crankshaft front end, type stub shaft
- Hydraulic pump fro steering and other duties

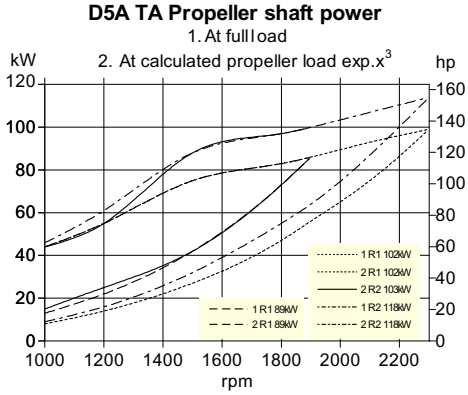
Reverse gear
- ZF45
- ZF220

Contact your local Volvo Penta dealer for further information.

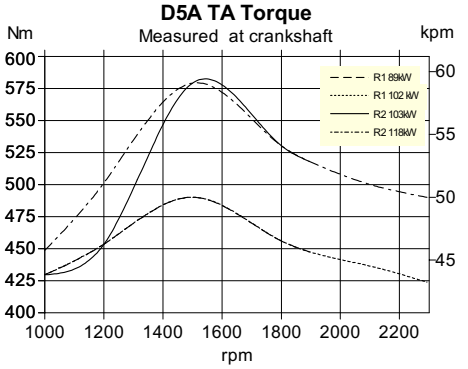
Not all models, standard equipment and accessories are available in all countries. All specifications are subject to change without notice.

The engine illustrated may not be entirely identical to production standard engines.

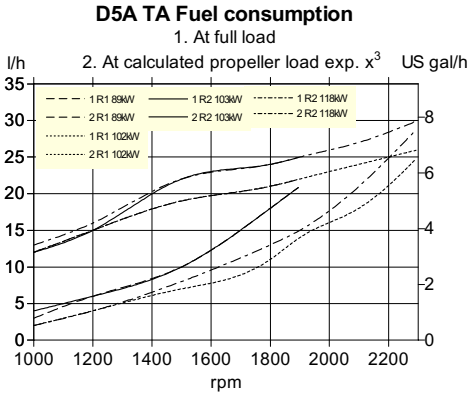
D5A TA Propeller shaft power



D5A TA Torque

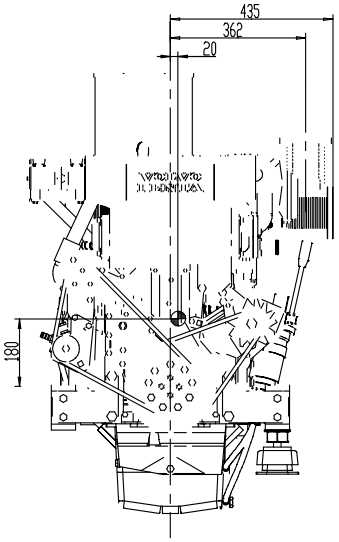


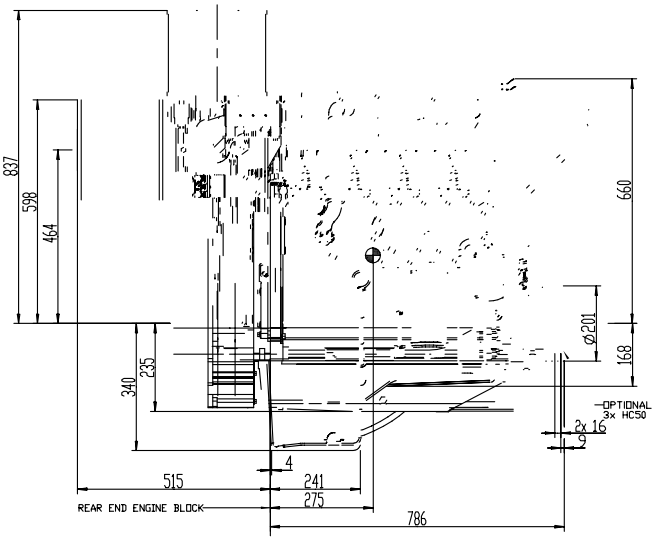
D5A TA Fuel consumption



Dimensions D5A TA

Not for installation





NEW!

VOLVO PENTA INBOARD DIESEL

D7A TA

6-cylinder, 4-stroke, direct-injected, turbocharged marine diesel engine with aftercooler – crankshaft power* 130–174 kW (177–234 hp)

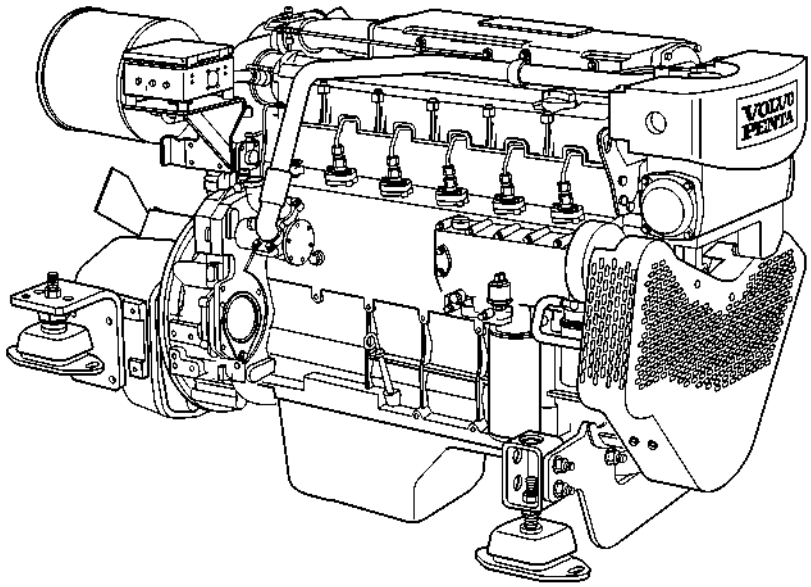
* Power rating – see Technical Data

Reliable and powerful

The D7A TA is a highly reliable, type approved, marine diesel engine. Well-matched engine speed to rated power with excellent torque characteristics along with a variety of power take-off options makes it particularly well suited for displacement and semi-planing workboats in medium and heavy duty service.

Robust and silent

A rigid in-line cylinder block with generously dimensioned crankshaft bearings, together with watercooled exhaust manifold and turbo, are just some of the design features making this silent running and sturdy engine. The owner of a D7A TA not only benefits from many hours of trouble-free operation, but also enjoys improved onboard comfort.



Economical and service friendly

Price is not the only concern when investing in a new engine. As confirmed by marine professionals, it is the operational costs, such as cost for fuel, spare parts, service and maintenance, that makes the real difference in economy.

The D7A TA is equipped with unit pumps that control the fuel distribution for each cylinder. Six-hole high-pressure injection nozzles optimize the fuel-air mixture. This improved combustion results in high thermal efficiency, low fuel consumption, reduced exhaust emissions, faster response to load variations and ease in maintenance.

Easily accessible maintenance points and single side servicing contribute to the ease of servicing the engine. Liners of wet and replaceable type, inclined connecting rod caps and replaceable valve seats make even major maintenance possible to carry out on-board.

Safely supported

Volvo Penta has a well-established, well-trained, network of authorized service dealers in more than 100 countries throughout the world. These service centers offer Genuine Volvo Penta Parts as well as skilled service personnel to help you protect your investment.

Technical description:

Engine and block

- Cylinder block, head and flywheel housing made of cast iron
- Belt guard
- Combined 10" and 11.5" flywheel with SAE 2 housing
- Nitrocarburized transmission gears
- Press-hardened crankshaft
- Forged aluminum pistons
- Cylinder liners of wet type

Lubrication system

- Oil filler in valve cover
- Oil sump made of cast iron
- Manual oil drain pump
- Rotary lubrication oil pump
- Freshwater-cooled oil cooler
- Full flow oil filters of spin-on type
- Closed crankcase ventilation system

Fuel system

- Fuel feed pump
- Fine fuel filter of spin-on type
- Unit pumps
- Six-hole injectors
- Mechanical governor with smoke limiter
- Fuel stopping solenoid 24V

Cooling system

- 2-circuit keel cooling system with expansion tank
- Gear-driven seawater pump
- Belt-driven freshwater pump
- Freshwater-cooled turbocharger and exhaust manifold

Electrical system

- 2-pole 24V electrical system, 24V/55A alternator, 24V 4kW starter
- Senders and switches:
  Tachometer
  Lubrication oil pressure
  Cooling-water temperature
  Cooling-water level
- Rubber-suspended electrical terminal box with semi-automatic fuses and plug-in connection

VOLVO PENTA

D7A TA

Technical Data

Engine designation	D7A TA
No. of cylinders and configuration	in-line 6
Method of operation	4-stroke, direct-injected, turbocharged diesel engine with aftercooler
Bore, mm (in.)	108 (4.25)
Stroke, mm (in.)	130 (5.12)
Displacement, l (in^3)	7.15 (436)
Compression ratio	17.6:1
Dry weight, kg (lb)	690 (1521)
Dry weight with reverse gear ZF280, kg (lb)	760 (1676)
Crankshaft power,	
Rating 2, kW (hp) 2300 rpm	174 (237)
Rating 2, kW (hp) 1900 rpm	153 (208)
Rating 1, kW (hp) 2300 rpm	148 (201)
Rating 1, kW (hp) 1900 rpm	130 (177)
Torque,	
Rating 2, Nm (lbf.ft) 2300 rpm	722 (533)
Rating 2, Nm (lbf.ft) 1900 rpm	769 (567)
Rating 1, Nm (lbf.ft) 2300 rpm	614 (453)
Rating 1, Nm (lbf.ft) 1900 rpm	653 (482)
Recommended fuel to conform to	ASTM-D975 1-D & 2-D, EN 590 or JIS KK 2204
Specific fuel consumption,	
Rating 2, g/kWh (lb/hph) 2300 rpm	218 (0.353)
Rating 2, g/kWh (lb/hph) 1900 rpm	211 (0.342)
Rating 1, g/kWh (lb/hph) 2300 rpm	219 (0.355)
Rating 1, g/kWh (lb/hph) 1900 rpm	212 (0.343)

Fuel temperature 40°C (104°F)

Technical data according to ISO 3046 Fuel Stop Power and ISO 8665. Fuel with a lower calorific value of 42700 kJ/kg and density of 840 g/liter at 15°C (60°F). Merchant fuel may differ from this specification which will influence engine power output and fuel consumption.

N.B. The product can also be used in an application with a higher rating than stated, e.g. R1 can be used for R2.

The engine complies with the IMO emission regulations.

Optional equipment

Engine
- Flexible suspension for engine and reverse gear
- Combined 10"/11.5" flywheel with SAE 3 housing

Lubrication system
- Shallow oil sump
- Twin oil filters, for remote mounting

Fuel system
- Hand pump
- Jacketed fuel pipes
- Single or twin fuel/water separating pre filter
- Twin fuel filters, for remote mounting

Exhaust system
- Exhaust elbow, wet
- Exhaust elbow, dry, with integrated flexible compensator
- Silencer, dry

Cooling system
- Engine-mounted tubular heat exchanger with integrated expansion tank
- Seawater filter

Electrical system
- 1-pole 12V electrical system, 12V/95A alternator, 12V/3.1kW starter
- 24V/140A alternator
- Engine heater 230V/820W
- Senders and switches:
  Charge air pressure
  Gearbox oil pressure
- Cable harness in different lengths
- Various instrument panels

Power transmission
- PTO crankshaft front end, type stub shaft
- Hydraulic pump fro steering and other duties

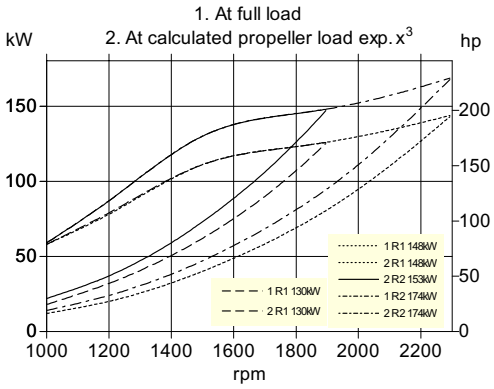
Reverse gear
- ZF220
- ZF280

Contact your local Volvo Penta dealer for further information.

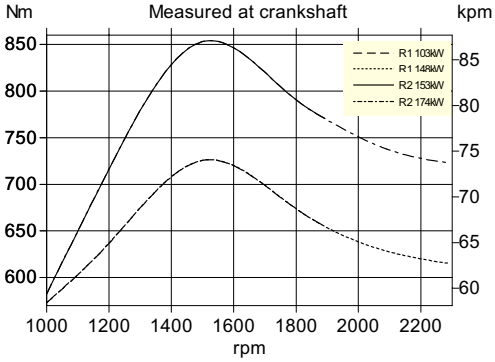
Not all models, standard equipment and accessories are available in all countries. All specifications are subject to change without notice.

The engine illustrated may not be entirely identical to production standard engines.

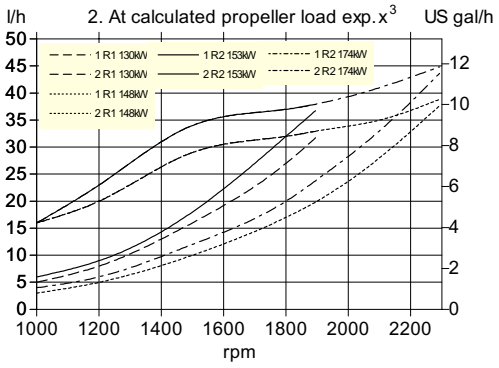
7A TA Propeller shaft power



D7A TA Torque

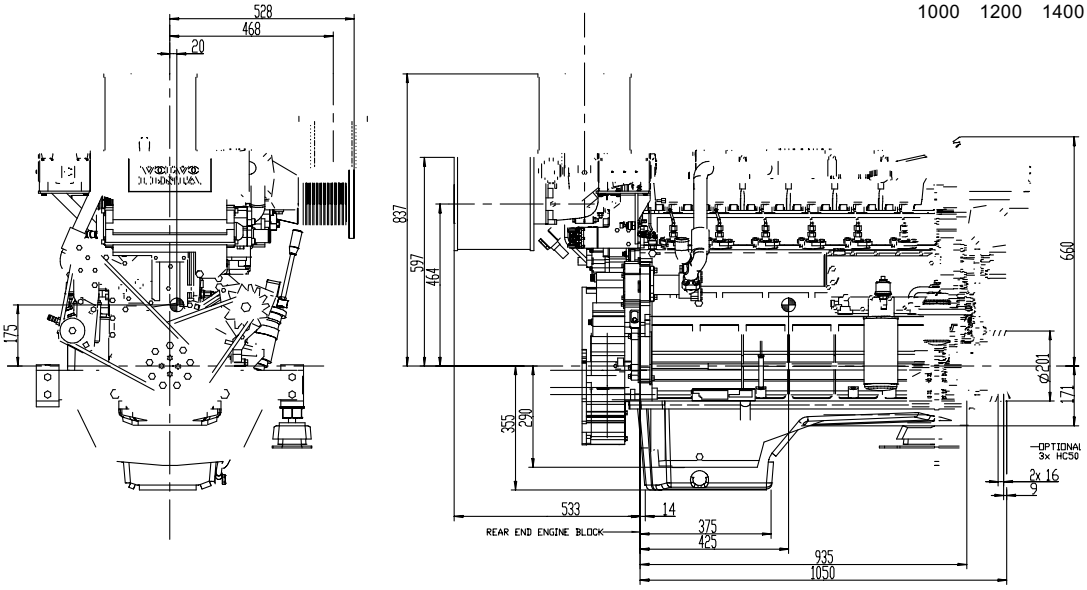


D7A TA Fuel consumption



Dimensions D7A TA

Not for installation



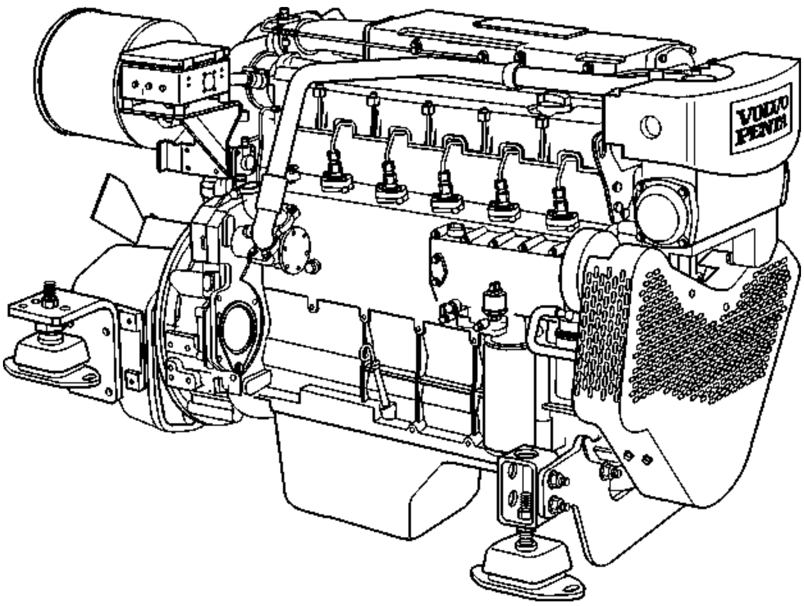
NEW!

VOLVO PENTA INBOARD DIESEL

D7C TA

6-cylinder, 4-stroke, direct-injected, turbocharged marine diesel engine with aftercooler – crankshaft power* 146–195 kW (199–265 hp)

* Power rating – see Technical Data



Reliable and powerful

T D7C TA [illegible]

Robust and silent

A [illegible] T a D7C TA [illegible]

Economical and service friendly

P [illegible] T D7C TA [illegible]

Safely supported

V P [illegible] a 100 [illegible] G V P a Pa a [illegible]

Technical description:

Engine and block

- C [illegible]
- B [illegible]
- C [illegible] 10" a 11.5' [illegible] SAE 2 [illegible]
- N [illegible]
- P [illegible]
- F [illegible]
- C [illegible]

Lubrication system

- O [illegible]
- O [illegible]
- Ma [illegible]
- R [illegible]
- F [illegible]
- F [illegible]
- C [illegible]

Fuel system

- F [illegible]
- F [illegible]
- U [illegible]
- S [illegible]
- M [illegible] F [illegible] 24V

Cooling system

- 2- [illegible]
- G [illegible]
- B [illegible]
- F [illegible]

Electrical system

- 2- 24V [illegible], 24V/55A [illegible], 24V 4 W [illegible]
- S [illegible]: Ta [illegible] L [illegible] C [illegible] C [illegible]
- R [illegible]

VOLVO PENTA

D7C TA

Technical Data

	D7C TA
E	
N	6
M	4-
B	108 (4.25)
S	130 (5.12)
D	7.15 (436)
C	17.6:1
D	690 (1521)
D	ZF280, 760 (1676)
C	
Ra 2, W ( ) 2300	195 (265)
Ra 2, W ( ) 1900	169 (230)
Ra 1, W ( ) 2300	166 (226)
Ra 1, W ( ) 1900	146 (198)
T	
Ra 2, N ( ) 2300	810 (597)
Ra 2, N ( ) 1900	849 (626)
Ra 1, N ( ) 2300	689 (508)
Ra 1, N ( ) 1900	729 (538)
R	ASTM-D975 1-D & 2-D, EN 590 JIS KK 2204
S	
Ra 2, / W ( ) 2300	219 (0.355)
Ra 2, / W ( ) 1900	208 (0.337)
Ra 1, / W ( ) 2300	218 (0.353)
Ra 1, / W ( ) 1900	208 (0.337)

Fuel temperature 40°C (104°F)

Technical data according to ISO 3046 Fuel Stop Power and ISO 8665. Fuel with a lower calorific value of 42700 kJ/kg and density of 840 g/litre at 15°C (60°F). Merchant fuel may differ from this specification which will influence engine power output and fuel consumption.

N.B. The product can also be used in an application with a higher rating than stated, e.g. R1 can be used for R2.

The engine complies with the IMO emission regulations.

Optional equipment

Engine

- F
- C a 10"/11.5" SAE 3

Lubrication system

- S
- T

Fuel system

- Ha
- Ja
- S /
- T

Exhaust system

- E
- E

Cooling system

- E
- S

Electrical system

- 1- 12V , 12V/95A
- 24V/140A
- E 230V/820W
- S :
  - C
  - G
- Ca
- Va

Power transmission

- PTO
- H

Reverse gear

- ZF220
- ZF280

Contact your local Volvo Penta dealer for further information.

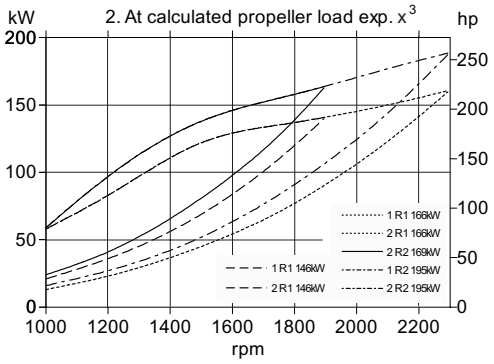
Not all models, standard equipment and accessories are available in all countries. All specifications are subject to change without notice.

The engine illustrated may not be entirely identical to production standard engines.

D7C TA Propeller shaft power

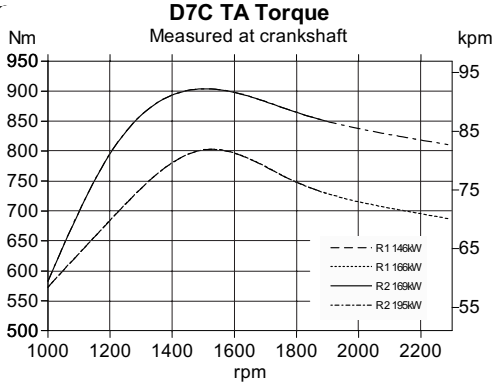
1. At full load

2. At calculated propeller load exp. x^3



D7C TA Torque

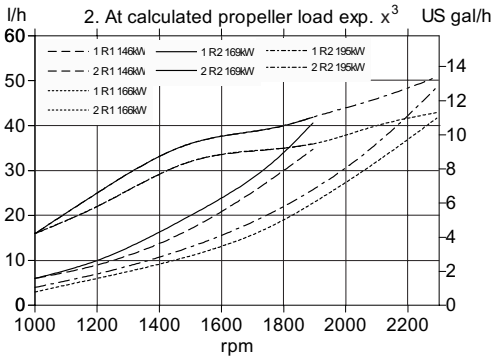
Measured at crankshaft



D7C TA Fuel consumption

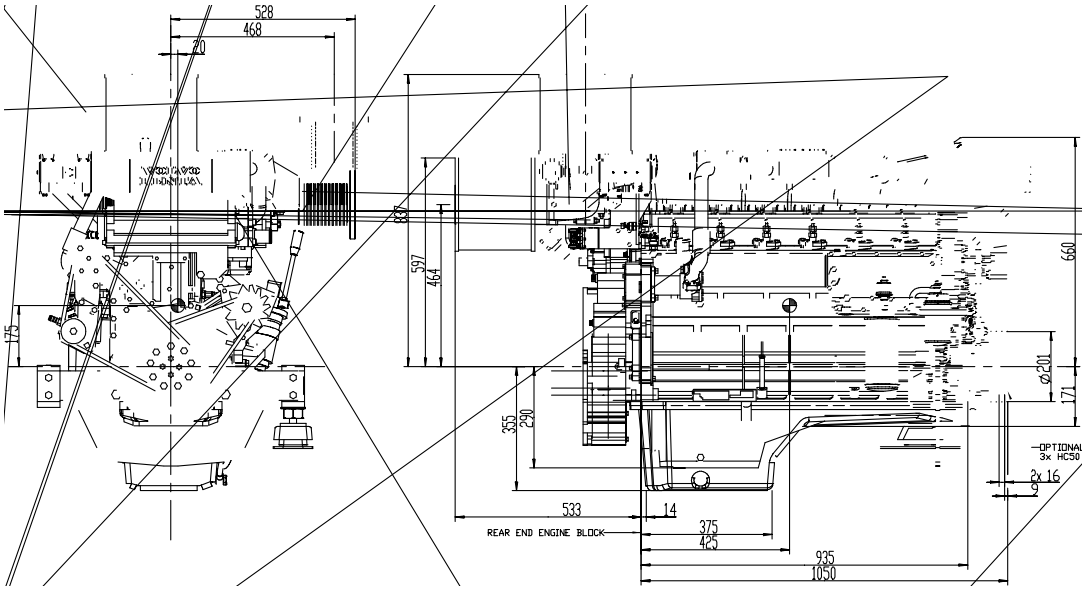
1. At full load

2. At calculated propeller load exp. x^3



Dimensions D7C TA

Not for installation



NEW!

VOLVO PENTA INBOARD DIESEL

KAMD300

6-cylinder, 24-valve, direct-injected marine diesel engine with charge air compressor, turbocharger, aftercooler and reverse gear. 210 kW (285 hp)*

* Crankshaft power according to ISO 8665

Compressor-charged Hi-Tech propulsion package

Volvo Penta's 6-cylinder KAMD300 is packed with virtually everything. Compressor, turbo and aftercooler, which are precisely controlled by the EDC system (Electronic Diesel Control), all help to produce unmatched diesel performance.

The compressor – fitted with silencers – is controlled by the EDC unit and acts as a "torque controller". It supplies compressed air at low engine speed and while accelerating, when the extra torque is needed.

The interaction of compressor and turbo produces high torque over the whole speed range, and this contributes to cleaner exhaust gases and fuel economy, giving excellent acceleration and driving characteristics.

KAMD300 with HS63AE reverse gear

Innovative EDC

Equipped with EDC (Electronic Diesel Control) – an electronically controlled processing system, which optimizes engine performance. The system determines the precise quantity of fuel required at any given moment, taking full account of variation in operating temperatures, air pressure and other contributing factors.

A great advantage with the EDC system is its monitoring of fuel temperature, which keeps the engine on a constant output from 5 to 55°C (41–131°F).

The EDC system includes electric shift and throttle control with wiring giving precise and smooth operation, with no noise transmitted along the cables.

If twin engines are fitted, a synchronizing function keeps the engines on the same rpm.

High output, excellent power/weight ratio

The engine is compact, and has an advantageous weight to power ratio making it excellent for both single- and multi-engine installation in planing craft.

Low exhaust emission levels

Direct injection, 4-valve technology, EDC and the advanced combustion system all minimize noxious exhaust emissions and enhance overall enjoyment of boating.

The engine complies with the IMO and SAV-1 emission regulations.

A propulsion package fully matched, tested and supported by one company

Volvo Penta's hydraulically shifted reverse gear has been specially developed with a view to increasing the standard of comfort on board in terms of quiet running, greater reliability and enhanced efficiency.

These benefits originate from a hydraulic shifting mechanism and a gear technology that uses bevel gears throughout the gear train.

The combination of 8° down angle, large drop center and small dimensions provides for optimized installatons.

At Volvo Penta, focus is on developing the complete drive line ensuring perfectly matched engine/transmission packages for high torque, operational reliability, reduction of engine noise and vibrations.

In order to get full benefit of the EDC system the reverse gear is equipped with electromagnetic valves for electric gear shifting.

Easy installation and maintenance

Electronic control and instrument wiring are of plug-in type. The EDC system includes a self-diagnostic facility.

The EDC system makes planning and performing multi-installations easy.

Easily accessible service and maintenance points contribute to the ease of service of the engine.

Comprehensive service network

Volvo Penta has a well-established network of authorized service dealers in more than 100 countries throughout the world. These service centers offer Genuine Volvo Penta Parts as well as skilled personnel to ensure that you enjoy the best possible service.

VOLVO PENTA

KAMD300

Technical description:

Engine and block
- Cylinder block and cylinder head made of cast iron for good corrosion resistance and long service life
- 4-valve technology
- Oil-cooled pistons with two compression rings and one oil scraper ring
- Replaceable wet cylinder liners
- Replaceable valve seats
- Seven-bearing crankshaft

Engine mounting
- Elastic suspension consisting of 4 rubber pads with adjustable anchorage plates for dampening of sound and vibration

Lubrication system
- Pressure lubrication system with easily replaceable full-flow oil filter
- Tubular oil cooler that can be cleaned

Fuel system
- Rotor-type injection pump with electronic actuator
- EDC unit for processing the input for precise engine governing
- Two-stage injectors
- Fine filter with water separator
- Feed pump with hand primer
- Electrically operated stopping device

Air inlet and exhaust system
- Inlet system designed to produce optimal air rotation which provides perfect combustion
- Air inlet silencer with replaceable filter
- Crankcase gases vented into the air inlet
- Seawater-cooled exhaust elbow of cast iron with a stainless steel insert
- Exhaust-driven freshwater-cooled turbocharger
- Belt-driven compressor with silencer of absorption type on both inlet and outlet port

Cooling system
- Thermostatically regulated freshwater cooling
- Tubular heat exchanger with separate transparent expansion tank
- Coolant system prepared for hot water outlet
- Easily accessible seawater impeller pump

Electrical system
- 12V two-pole electrical system
- 14V/60A marine alternator with Zener-diodes to protect entire system from peak voltage
- Charging regulator with battery sensor for voltage drop compensation
- Automatic fuses with manual reset
- Starter motor power 3.0 kW
- Extension cable harness with plug-in connection available in various lengths

Instruments/control
- Complete instrument panel with key switch, instruments and interlocked alarm. Alternatively separate instruments.
- EDC monitoring panels for single or twin installations
- Electronic remote control for throttle and shift
- Plug-in connections for both EDC and electrics

Reverse gear
- Reverse gear with matched drop center and 8° down angle for compact installation and minimum propeller shaft angle. V-drive available.
- Bevel gears which results in smooth running at all speeds
- Hydraulically operated clutch for smooth shifting
- Electrical shifting performed by electromagnetic valves
- When under sail propeller shaft can rotate 24 hours without engine start
- Seawater-cooled oilcooler
- Trolling valve available

Accessories

An extensive range of accessories are available. For detailed information, please see Accessory catalogs.

Technical Data

Engine designation	**KAMD300**
Crankshaft power, kW (hp)	210 (285)
Propeller shaft power, kW (hp)	202 (275)
Engine speed, rpm	3800
Displacement, l (in³)	3.6 (219)
Number of cylinders	6
Bore/stroke, mm (in.)	92/90 (3.62/3.54)
Compression ratio	16.9:1
Dry weight with HS63AE, kg (lb)	539 (1188)
Duty rating/Reverse gear:	
HS63AE	R5
Ratio RH (standard):	2.52:1, 2.04:1, 1.56:1
LH:	2.53:1, 2.02:1, 1.58:1
HS63VE	R5
Ratio RH (standard):	2.48:1, 2.00:1, 1.56:1
LH:	2.53:1, 2.03:1, 1.57:1

Technical data according to ISO 8665. Fuel with a lower calorific value of 42,700 kJ/kg and density of 840 g/liter at 15°C (60°F). Merchant fuel may differ from this specification which will influence engine power output and fuel consumption.
The engine complies with the IMO and SAV-1 emission regulations.

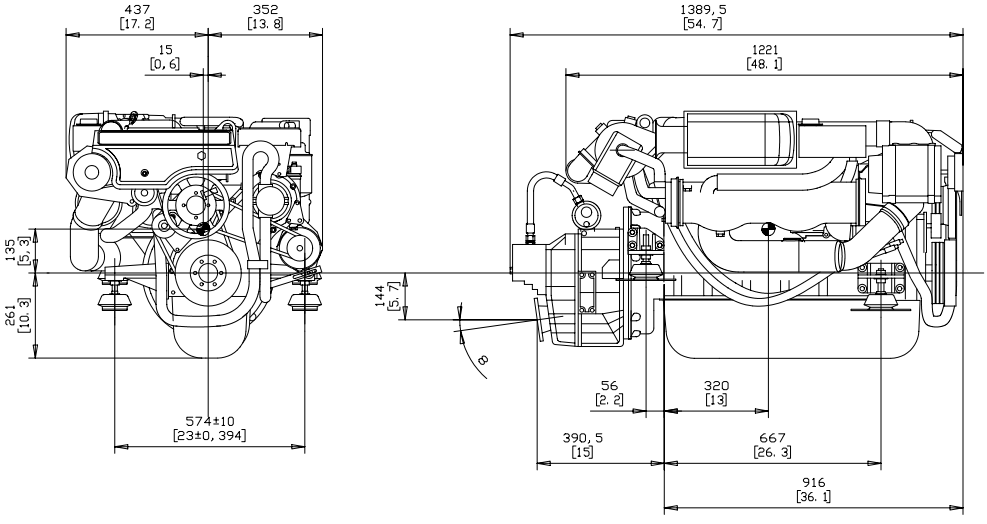
Contact your local Volvo Penta dealer for further information.

Not all models, standard equipment and accessories are available in all countries. All specifications are subject to change without notice.

The engine illustrated may not be entirely identical to production standard engines.

Dimensions KAMD300/HS63AE

Not for installation



AB Volvo Penta
SE-405 08 Göteborg, Sweden
www.volvopenta.com

NEW!

VOLVO PENTA INDUSTRIAL DIESEL

TAD520VE

Engine for industrial applications
118 kW (160 hp)

The TAD520VE is a powerful, reliable and economical Versatile Diesel Engine.

Durability & low noise

Designed for easiest, fastest and most economical installation. Well-balanced to produce smooth and vibration-free operation with low noise level.

To maintain a controlled working temperature in cylinders and combustion chambers, the engine is equipped with piston cooling.

Low exhaust emissions

The state of the art, high-tech injection and charging system with low internal losses contributes to excellent combustion and low fuel consumption.

The TAD520VE complies with present and coming exhaust emission regulations in both USA and Europe

Easy service & maintenance

Modern injection system, integrated oil cooler and all service points located on one side provides best possible access in an installation. Replaceable cylinder liners valve guides and valve seats gives lower service and repair costs for the customer. Quality Volvo Penta support is available in more than 100 countries all over the world. No matter where the equipment ends up, the end user will have a local Volvo Penta support.

Features

- Compact design
- High power to weight ratio
- Emission compliant
- Noise optimized engine design
- A wide selection of optional equipment and power settings

Technical description:

Engine and block

- Optimized cast iron cylinder block with optimum distribution of forces
- Piston cooling for low piston temperature and reduced ring temperature
- Drop forged steel connecting rods for reduce risk of piston cracking
- Crankshaft hardened bearing surfaces and fillets for moderate load on main and high-end bearings
- Keystone top compression rings for long service life
- Replaceable valve guides and valve seats
- Three PTO positions att flywheel end
- Lift eyelets
- Flywheel housing with connection acc to SAE 3
- Flywheel for flexible coupling and friction clutch
- Transport brackets

Lubrication system

- Full flow disposable spin-on oil filter, for extra high filtration
- Rotary displ oil pump driven by the crankshaft
- Deep centre oil sump, 35° inclination
- Oil filler on valve cover
- Oil dipstick, right side, front
- Integrated full flow oil cooler, side-mounted

Fuel system

- Six hole fuel injection nozzles
- Direct injection unit pump with smoke limiter function
- Washable fuel prefilter with water separator
- Belt driven rotary low-pressure fuel pump
- Fine fuel filter of disposable type
- Fuel shut-off solenoid, electrically operated, 24 V

Intake and exhaust system

- Connection flange for exhaust line
- Turbo charger, centre low with exhaust flange
- Closed crankcase ventilation

Cooling system

- Belt driven, maintenance-free coolant pump with high degree of efficiency
- Efficient cooling with accurate coolant control through a water distribution duct in the cylinder block. Reliable sleeve thermostat with minimum pressure drop
- Cooling water pipe, inlet and outlet
- Fan hub
- Fan at separate bracket 292mm above crankshaft
- Suction fan type 470mm

Electrical system

- 24V electrical system
- Alternator 1x55A / 24V, low left
- Starter motor, Bosch, 4.0 kW/24 V, single pole
- Oil pressure switch
- Temperature sender, 113 °C

VOLVO PENTA

TAD520VE

Optional equipment

Engine
- Intermittent and Continuous power settings Tier 1 or Com 1 compliance
- SAE 2 or SAE 3 flywheel housings, flywheel for clutch SAE 8", 10" and 11½"
- Flywheel Clark, ZF, and Allison transmissions

Lubrication system
- Central or deep front oil sump
- Oil dipstick above cylinder head
- Remote oil filter
- Oil filling on top and/or crankcase

Fuel system
- Fuel prefilter (standard or heavy duty)
- Hand pump

Intake and exhaust system
- Low or high turbocharger
- Exhaust to front or rear
- Electric or mechanic air restriction indicator , 50mbar

Cooling system
- Fan at separate bracket 210, 234, 292 or 398 mm above crankshaft
- Fan on coolant pump
- Fan on crankshaft
- Fan ratio 1:1,0 - 1:1,12 - 1:1.26
- Suction or pusher type fans 470-700mm
- 2 fixed fan hubs, and 2 viscous type hubs.

Control system
- 12V/24V electrical stop, energized to run or to stop
- VDO-E-Gas

Electrical system
- Alternator, 28V / 55-80 A high right or 28V / 55-140 A low left
- Alternator, 14V / 95 A high right or low left
- Starter motor, 24V / 4,0 or 4,8 kW
- Starter motor, 12V / 3,1kW
- Speed sender, Hourmeter, Oilpressure sender and switch

Miscellaneous
- Driving parts for hydr. pump on PTO A and C
- Hydr. pump on PTO B, 16cm³
- Coolant preheater
- Pulley for AC compressor
- Air compressor, 105 cm³, 300 cm³ or 300 cm³ with powersteering pump

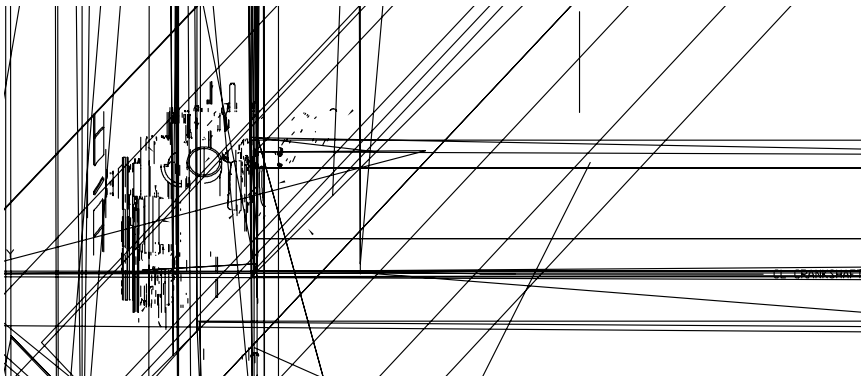
Technical Data

Engine designation	**TAD520VE**
IFN Power at 2300rpm, kW (hp)	118 (160)
ICFN Power at 2300rpm, kW (hp)	107 (146)
Torque at 1400rpm, Nm (lbf ft)	577 (426)
Displacement, l (in³)	4.76 (290)
Number of cylinders	4
Bore/stroke, mm (in.)	108/130 (4.25/5.12)
Compression ratio, COMII / EPA 1	19.0:1 / 18.1:1
Dry weight, kg (lb)	430 (948)

The engine performance corresponds to ISO 3046, BS 5514 and DIN 6271. The technical data applies to an engine without cooling fan and operating on a fuel with calorific value of 42.7 MJ/kg (18360 BTU/lb) and a density of 0.84 kg/litre (7.01 lb/US gal, 8.42 lb/Imp gal), also where this involves a deviation from the standards.

Dimensions TAD520VE

Not for installation



Power Standards
The engine performance corresponds to ISO 3046, BS 5514 and DIN 6271. The technical data applies to an engine without cooling fan and operating on a fuel with calorific value of 42.7 MJ/kg (18360 BTU/lb) and a density of 0.84 kg/litre (7.01 lb/US gal, 8.42 lb/Imp gal), also where this involves a deviation from the standards.

Rating Guideline
IFN Power rating corresponds to ISO Overload Power. It is intended for applications where intermittent power is utilized less than 1 hour within any period of 12 hours of continuous operation. The average load factor must not exceed the continuous rating.

ICFN Power rating corresponds to ISO Standard Power for continuous operation. It is intended for constant load applications with uninterrupted service at full load for extended periods of time.

Derating
The engine may be operated up to 1000 m altitude and 40°C ambient air temperature without derating. For operation at higher altitudes and temperatures the power should be derated according to the following factors:

Altitude derating factor < 3000 m	4 % / 500 m
Altitude derating factor > 3000 m	6 % / 500 m
Ambient temperature derating factor	2 % / 5 °C
Humidity	No derating

AB Volvo Penta
SE-405 08 Göteborg, Sweden
www.volvopenta.com

NEW!

VOLVO PENTA INDUSTRIAL DIESEL

TAD620VE

Engine for industrial applications
155kW

Reliable, compact & powerful
The TAD620VE is a powerful, reliable and economical Versatile Diesel Engine built on the dependable in-line six design.

Durability & low noise
Designed for easiest, fastest and most economical installation. Well-balanced to produce smooth and vibration-free operation with low noise level.

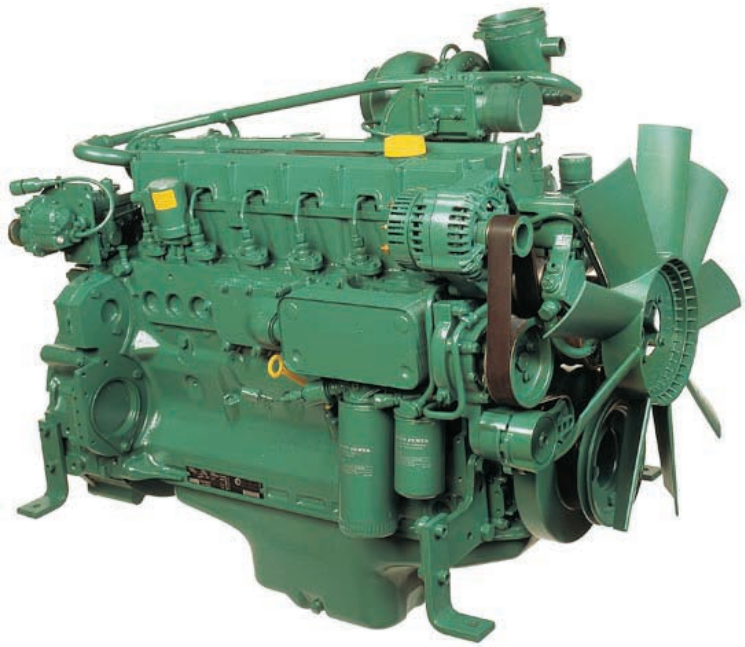
To maintain a controlled working temperature in cylinders and combustion chambers, the engine is equipped with piston cooling.

Low exhaust emissions
The state of the art, high-tech injection and charging system with low internal losses contributes to excellent combustion and low fuel consumption.

The TAD620VE complies with present and coming exhaust emission regulations in both USA and Europe

Ease of service & maintenance
Modern injection system, integrated oil cooler and all service points located on one side provides best possible access in an installation. Replaceable cylinder liners valve guides and valve seats gives lower service and repair costs for the customer. A low maintenance poly-V belt is standard.

Quality Volvo Penta support is available in more than 100 countries all over the world. No matter where the equipment ends up, the end user will have a local Volvo Penta support



Features
- Compact design
- High power to weight ratio
- Emission compliant
- Noise optimized engine design
- A wide selection of optional equipment and power settings

Technical description:

Engine and block
- Optimized cast iron cylinder block with optimum distribution of forces
- Replaceable cylinder liners
- Piston cooling for low piston temperature and reduced ring temperature
- Drop forged steel connecting rods for reduce risk of piston cracking
- Crankshaft hardened bearing surfaces and fillets with seven bearings for moderate load on main and high-end bearings
- Keystone top compression rings for long service life
- Viscous type crankshaft vibration damper to withstand torsional vibrations
- Replaceable valve guides and valve seats
- Three PTO positions att flywheel end

Lubrication system
- Full flow oil cooler
- Full flow disposable spin-on oil filter, for extra high filtration
- The lubricating oil level can be measured during operation
- Rotary displ oil pump driven by the crankshaft

Fuel system
- Six hole fuel injection nozzles
- Mechanical unit pumps
- Washable fuel prefilter with water separator
- Rotary low-pressure fuel pump
- Fine fuel filter
- Fuel shut-off solenoid, electrically operated

Turbo charger
- Efficient and reliable turbo charger

Cooling system
- Air to air intercooler
- Belt driven, maintenance-free coolant pump with high degree of efficiency
- Efficient cooling with accurate coolant control through a water distribution duct in the cylinder block. Reliable sleeve thermostat with minimum pressure drop

Electrical system
- Sensors and switches for oil pressure, oil temp, coolant temp and engine speed.
- 12 or 24V el system

VOLVO PENTA

TAD620VE

Technical Data

General

Engine designation TAD620VE
No. of cylinders and configuration . . . . . in-line 6
Method of operation. . . . . 4-stroke, direct-injected, turbo charged diesel engine
Bore, mm (in.) 98 (3.86)
Stroke, mm (in.). 126 (5.04)
Displacement, l (in3) 5.7 (347.8)
Compression ratio 19.0:1
Dry weight, kg (lb) 510 (1125)

Performance

IFN Power kW (hp)
Without fan @ 2500 rpm 155 (211)
Torque Nm (lbf ft)
IFN 155 kW @ 2500 rpm. 700 (516)

Lubrication system

Oil consumption liter/h (US gal/h)
IFN 155 kW 0.05 (0.013)
Oil system capacity incl filters, liter. 16
Oil change intervals at specification Hours
VDS-2, VDS, ACEA E3, E4
API, CF-4, CG-4. 500

Fuel system

Specific fuel consumption
IFN power 155 kW, 100% g/kWh (lb/hph)
1500 rpm 205 (0.332)

Intake and exhaust system

Air consumption at 25°C *, m^3/min (cfm)
IFN 155 kW @ 2500 rpm 14.5 (512)
Heat rejection to exhaust kW (BTU/min)
IFN 155 kW @ 2500 rpm. 150 (8538)
Exhaust gas temperature after turbine °C (°F)
IFN 155 kW @ 2500 rpm. 460 (860)
Max allowable back-pressure in exhaust line, kPa (In wc) 7.5 (30)
Exhaust gas flow m^3/min (cfm)
IFN 155 kW @2500 rpm 39 (1377)
Fan power consumption kW (hp)
600 mm fan @ 2500 rpm 8 (11)
* at 1000 mBar

Standard equipment

Engine

Automatic belt tensioner
Lift eyelets

Flywheel

Flywheel housing with connection acc. to SAE 2
Flywheel for flexible coupling and friction clutch
Vibration damper

Engine suspension

Transport brackets

Lubrication system

Deep centre oil sump, 35 indination
Oil filter on valve cover
Oil dipstick, right side, front
Oil filter of disposible type
Integrated oil cooler, side-mounted

Fuel system

Fuel filters of disposable type
Pre-filter with water separator
Direct injection unit pump with smoke limiter function

Intake and exhaust system

Air-cooled exhaust mainfold
Connection flange for exhaust line
Turbo charger, centre low with exhaust flange
Closed crankcase ventilation

Cooling system

Cooling water pipe, inlet
Cooling water pipe, outlet
Beltdriven coolant pump, ratio 1:1.36
Fan hub
Fan at separate bracket 292mm above crankshaft

Control system

Connection parts for manual stop control

Alternator

1x55A / 24V, low left side

Starting system

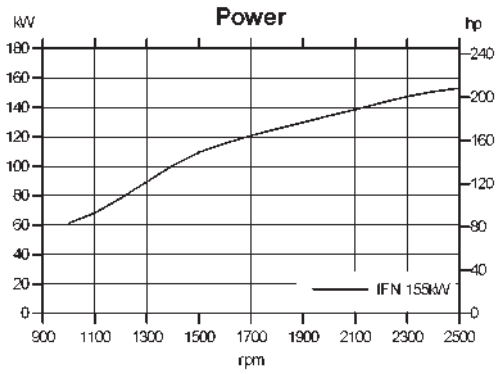
Starter motor, Bosch, 4.0 kW/24 V, single pole

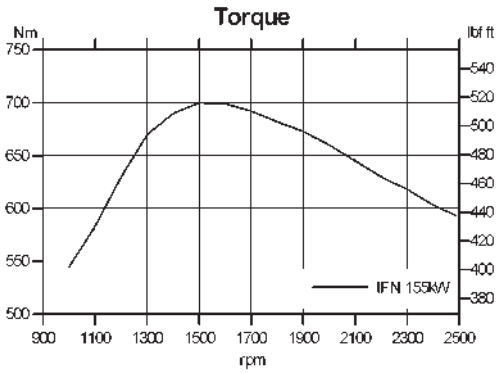
Instrument, switches and senders

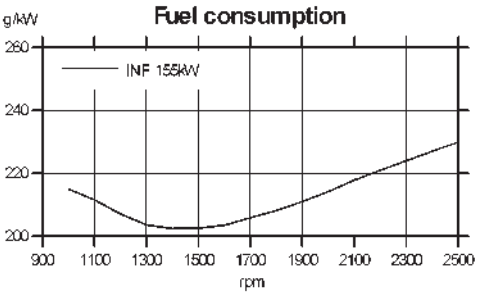
Oil pressure switch
Temperature sender, 113 C

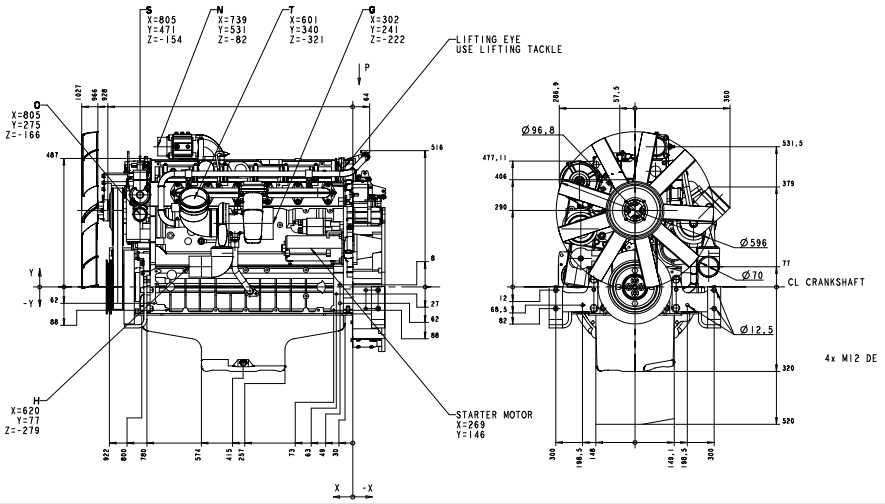
Engine Packing

Plastic wrapping









Power Standards

The engine performance corresponds to ISO 3046, BS 5514 and DIN 6271. The technical data applies to an engine without cooling fan and operating on a fuel with calorific value of 42.7 MJ/kg (18360 BTU/lb) and a density of 0.84 kg/litre (7.01 lb/US gal, 8.42 lb/Imp gal), also where this involves a deviation from the standards.

Rating Guideline

IFN Power rating corresponds to ISO Overload Power. It is intended for applications where intermittent power is utilized less than 1 hour within any period of 12 hours of continuous operation. The average load factor must not exceed the continuous rating.

ICFN Power rating corresponds to ISO Standard Power for continuous operation. It is intended for constant load applications with uninterrupted service at full load for extended periods of time.

Derating

The engine may be operated up to 1000 m altitude and 40 °C ambient air temperature without deration.
For operation at higher altitudes and temperatures the power should be derated according to the following factors:
Altitude deration factor <3000 m4% / 500 m.
Altitude deration factor >3000 m6% / 500 m.
Ambient temperature deration factor1.5% / 5 °C.
HumidityNo derating

AB Volvo Penta
SE-405 08 Göteborg, Sweden

VOLVO PENTA INBOARD DIESEL

TAMD103A

6-cylinder, 4-stroke, direct-injected, turbocharged marine diesel engine with aftercooler – crankshaft power* 199–287 kW (271–390 hp)

* Power rating – see Technical Data

Reliable and powerful

The TAMD103A is a powerful, reliable and economical marine diesel built on the dependable in-line six design.

Developed for Medium and Heavy duty operation for displacement, semi-planing and planing craft.

Durability and low noise levels

The Volvo Penta in-line six cylinder engine is a traditional well-balanced unit with powerfully dimensioned crankshaft bearings. This ensures smooth, vibration-free operation and low noise levels, which, together, provide the highest level of onboard comfort.

The torsionally rigid cylinder block and crank mechanism are designed to withstand many hours of demanding operation.

To maintain a stable working temperature in cylinders and combustion chambers, the engine is equipped with piston cooling and seawater-cooled oil cooler. The engine is also fitted with replaceable cylinder liners and valve seats/guides to ensure maximum durability and service life of the engine.

Low exhaust emission and fuel consumption

High-pressure injection through six-hole injection nozzles optimizes fuel-air mixture.

The improved combustion results in a very low fuel consumption, higher power and reduced noxious exhaust emissions. The engine complies with the IMO emission regulations.

Marine electrics

The two-pole electrical system is specifically adapted to demanding marine environments. Flex-mounted electrical box, with semi-automatic fuses and plug-in electrical connections.

Ease of service and maintenance

Easily accessible service and maintenance points contribute to the ease of service of the engine.

Comprehensive service network

Volvo Penta has a well-established network of authorized service dealers in more than 100 countries throughout the world. These service centers offer Genuine Volvo Penta Parts as well as skilled personnel to ensure the best possible service.

Technical description:

Engine and block

- Cylinder block and separate cylinder heads made of cast iron alloy
- Flywheel housing (aluminum) with connection acc. to SAE 1
- Replaceable cylinder liners and valve seats/guides
- Nitrocarburized crankshaft with seven main bearings
- Oil-cooled forged aluminum pistons
- Rigid camshaft with well designed cams. Large overlap between inlet and exhaust valves ensures excellent air flow, good cooling and low exhaust gas temperature.

Lubrication system

- Seawater-cooled oil cooler
- Gear pump pressurized lubricating system
- Twin full flow oil filters of spin-on type
- Oil sump with inspections covers
- Oil filler in valve cover
- Oil separating filter incl. overpressure valve for crankcase ventilation

Fuel system

- Fuel injection pump with centrifugal governor, smoke limiter and fuel feed pump
- Fuel shut-off valve 24V, electrically operated
- Six-hole injectors
- Twin fine fuel filters of spin-on type

Turbocharger

- Freshwater-cooled turbocharger

Cooling system

- Engine-mounted tubular heat exchanger with integrated expansion tank or bulkhead-mounted heat exchanger for reduced installation dimensions. Alternatively adapted for 2-circuit keel cooling.
- Seawater-cooled aftercooler
- Belt-driven freshwater pump and front-mounted seawater pump with neoprene impeller

Electrical system

- 24V electrical system, 24V/60A alternator
- Rubber suspended electrical terminal box with semi-automatic fuses and plug-in electrical connections

VOLVO PENTA

TAMD103A

Technical Data

Engine designation	**TAMD103A**
No. of cylinders and configuration	in-line 6
Method of operation	4-stroke, direct-injected, turbocharged diesel engine with aftercooler
Bore, mm (in.)	120.65 (4.75)
Stroke, mm (in.)	140 (5.5)
Displacement, l (in^3)	9.6 (585.8)
Compression ratio	17:1
Dry weight, kg (lb)	1190 (2623)
Dry weight with reverse gear MG5114SC, kg (lb)	1396 (3078)
Crankshaft power,	
Rating 2, kW (hp) 1800 rpm	287 (390)
Rating 1, kW (hp) 1800 rpm	255 (347)
Rating 1, kW (hp) 1800 rpm (repowering)	199 (271)
Torque,	
Rating 2, Nm (lbf.ft) 1800 rpm	1523 (1123)
Rating 1, Nm (lbf.ft) 1800 rpm	1353 (998)
Rating 1, Nm (lbf.ft) 1800 rpm (repowering)	1056 (779)
Recommended fuel to conform to	ASTM-D975 1-D & 2-D, EN 590 or JIS KK 2204
Specific fuel consumption,	
Rating 2, g/kWh (lb/hph) 1800 rpm	212 (0.343)
Rating 1, g/kWh (lb/hph) 1800 rpm	212 (0.343)
Rating 1, g/kWh (lb/hph) 1800 rpm (repowering)	215 (0.348)

Fuel temperature 40°C (104°F)

Technical data according to ISO 3046 Fuel Stop Power and ISO 8665. Fuel with a lower calorific value of 42700 kJ/kg and density of 840 g/liter at 15°C (60°F). Merchant fuel may differ from this specification which will influence engine power output and fuel consumption.

N.B. The product can also be used in an application with a higher rating than stated, e.g. R1 can be used for R2.

The engine complies with the IMO emission regulations.

Optional equipment:

Engine
- Flexible suspension for engine and reverse gear
- Cast iron flywheel housing

Lubrication system
- Deep oil sump with inspection covers
- Oil filling on starboard side
- Engine-mounted manual oil drain pump for shallow oil sump

Fuel system
- Single or twin fuel filter/water separator with shift valve

Exhaust system
- Exhaust elbow, dry or wet
- Silencer, dry
- Flexible compensator

Cooling system
- Seawater strainer
- Freshwater filter

Electrical system
- 24V/100A extra alternator
- Various instrument panels
- Cable harness in different lengths

Power transmission
- Auxiliary drive
- Extra pulley for crankshaft
- Hydraulic pump for steering and other duties

Reverse gear
- MG5114SC, MG5091DC (only R1 199 kW), ZF 311A

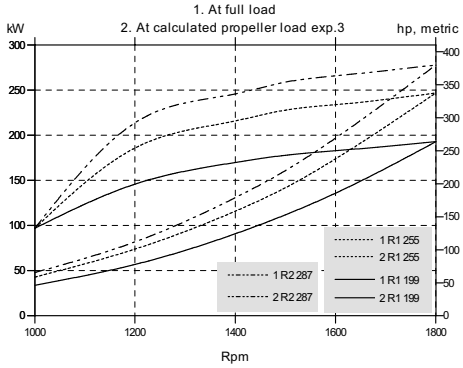
Other equipment
- 2" bilge/flush pump
- Belt guard
- White-painted engine and reverse gear

Contact your local Volvo Penta dealer for further information.

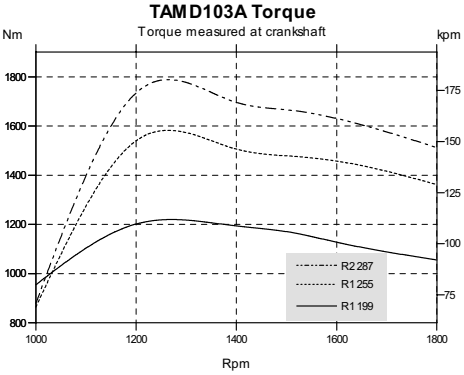
Not all models, standard equipment and accessories are available in all countries. All specifications are subject to change without notice.

The engine illustrated may not be entirely identical to production standard engines.

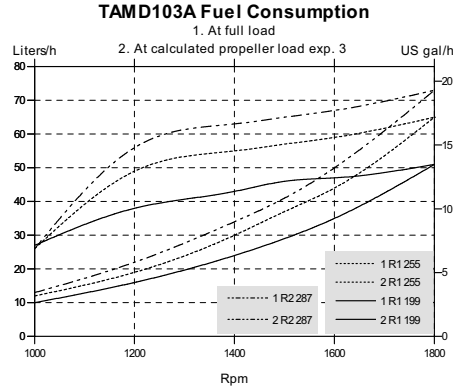
TAMD103A Propeller Shaft Power



TAMD103A Torque

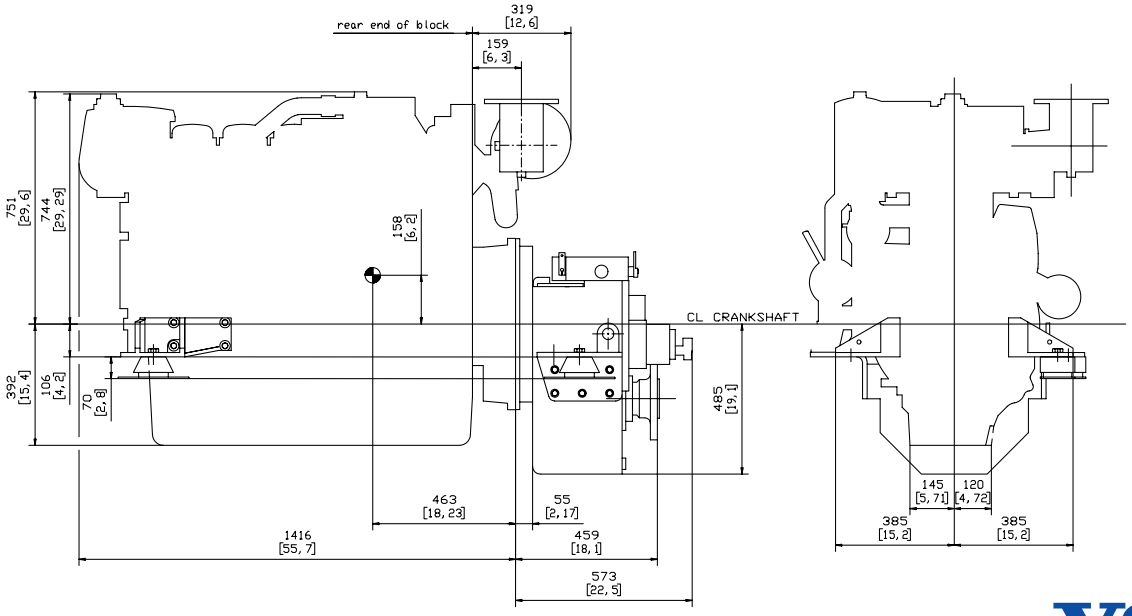


TAMD103A Fuel Consumption



Dimensions TAMD103A with MG5091DC

Not for installation



AB Volvo Penta
SE-405 08 Göteborg, Sweden
www.volvopenta.com

VOLVO PENTA INBOARD DIESEL

TAMD165A

6-cylinder, 4-stroke, direct-injected, turbocharged marine diesel engine with aftercooler – crankshaft power* 404–441 kW (550–600 hp)

* Power rating – see Technical Data

Powerful and reliable engine for demanding operation in commercial applications

TAMD165A is the latest version of the proven 16-liter engine. A great number of items have been improved, resulting in entirely new levels of quality, power and low emissions. The engine is specially developed for displacement craft in Heavy Duty (Rating 1) and Medium Duty (Rating 2) operation and suitable for workboat applications thanks to high torque across a wide speed range.

TAMD165A has effective aftercooling and turbocharging including a new turbocharger with higher efficiency for more power. The engine fulfils extremely high demands on operational reliability and service life. The engine is also designed for long periods of low load idling.

TAMD165A with MG516 reverse gear

Durability and low sound levels

The Volvo Penta in-line six cylinder engine is a well-balanced unit. The reinforced cylinder block, cylinder heads, pistons and piston rings, intake and exhaust valves give increased rigidity and stability. All improvements lead to minimized oil consumption and longer service life.

Twin vibration dampers reduce the crankshaft torsional tension and contribute to the vibrationfree operation and very low sound levels. New, freshwater-cooled, oil cooler and heat exchanger with high capacity to maintain low oil temperature, also with increased margin against contaminated water.

Low exhaust emission levels

Carefully balanced, new combustion and fuel systems for maximum power, minimum noxious emissions and low fuel consumption. This also results in good cold starting and load acceptance characteristics. The TAMD165A complies with the IMO and River Rhine emission regulations.

Marine electrics

New electrical system incorporating electromagnetic shut-off valve for immediate engine shutdown, for increased reliability. The electrical system is specially adapted to demanding marine environments with moisture-proof connectors and flex-mounted terminal box and senders.

Ease of service and maintenance

Large oil volumes and easily accessible service and maintenance points contribute to ease of service and low running costs.

Comprehensive service network

Volvo Penta has a well-established network of authorized service dealers in more than 100 countries throughout the world. These service centers offer Genuine Volvo Penta Parts as well as skilled personnel to ensure the best possible service.

Technical description:

Engine and block

- Reinforced cylinder block dimensioned for high output and low sound level. Cylinder block and the new improved cylinder heads of special alloy cast iron.
- Separate cylinder heads. Gasketless sealing design ensures high reliability against gas and coolant leakage.
- Replaceable cylinder liners and valve seats/guides. Four valves per cylinder and a centrally located injector provide effective combustion leading to lower fuel consumption.
- New improved aluminum pistons with uplifted piston rings of Keystone type. With effective piston cooling for minimum carbon deposits and increased piston and liner service life.
- Trapeze-shaped connecting rods with large bearings for lower tension.
- Tough, high located, seven bearing camshaft of special steel. Short stiff push rods, strong valve springs resulting in a very stable and durable valve system. Roller cam followers for minimum friction and easy service.
- Seven-bearing nitrocarburized rigid crankshaft with generously dimensioned bearing surfaces for low bearing load.

Lubrication system

- Oil sump with inspection covers
- Twin oil filter of spin-on type, plus by-pass filter
- Freshwater-cooled oil cooler

Fuel system

- Fuel injection pump with centrifugal governor, smoke limiter and fuel feed pump
- Seven-hole injectors
- Fuel shut-off valve 24V, electrically operated
- Twin fine fuel filters of spin-on type

Turbocharger

- Freshwater-cooled turbocharger and exhaust manifold

Cooling system

- Seawater-cooled aftercooler
- Tubular heat exchanger or 2-circuit keel cooling
- Cooling pipes in copper/nickel give greater resistance to corrosion and longer service life
- Freshwater filter incl. corrosion protection
- Gear-driven freshwater pump

Electrical system

- 24V electrical system incl. 60A alternator with integrated charging sensor
- Rubber-suspended electrical terminal box

VOLVO PENTA

TAMD165A

Technical Data

Engine designation **TAMD165A**
No. of cylinders and configuration ..... in-line 6
Method of operation ..... 4-stroke, direct-injected, turbocharged diesel engine with aftercooler
Bore, mm (in.) 144 (6.67)
Stroke, mm (in.) 165 (6.5)
Displacement, l (in³) 16.12 (983.7)
Compression ratio 17:1
Dry weight, kg (lb) 1765 (3891)
Crankshaft power,
Rating 2, kW (hp) 1800 rpm 441 (600)
Rating 1, kW (hp) 1800 rpm 404 (550)
Torque,
Rating 2, Nm (lbf.ft) 1800 rpm 2340 (1726)
Rating 1, Nm (lbf.ft) 1800 rpm 2145 (1582)
Recommended fuel to
conform to ..... ASTM-D975 1-D & 2-D, ... EN 590 or JIS KK 2204
Specific fuel consumption,
Rating 2, g/kWh (lb/hph) 1800 rpm . 215 (0.349)
Rating 1, g/kWh (lb/hph) 1800 rpm . 213 (0.345)

Fuel temperature 40°C (104°F).

Technical data according to ISO 3046 Fuel Stop Power and ISO 8665. Fuel with a lower calorific value of 42700 kJ/kg and density of 840 g/liter at 15 °C (60 °F). Merchant fuel may differ from this specification which will influence engine power output and fuel consumption.

The engine complies with the IMO and River Rhine emission regulations.

N.B. The product can also be used in an application with a higher rating than stated, e.g. R2 can be used for R3, R4 or R5.

Optional equipment:

Engine
- Adapter kit for flywheel and flywheel housing acc. to SAE 0
- Flexible suspension for engine and reverse gear

Lubrication system
- Manual oil drain pump, engine-mounted
- Extra oil dipstick
- Shallow oil sump
- Twin oil filter with shift valve

Fuel system
- Shift valve for fuel filter
- Twin fuel filter/water separator with shift valve
- Jacketed fuel pipes

Exhaust system
- Exhaust elbow, dry or wet 8"
- Silencer, dry
- Flexible compensator, dry

Cooling system
- Seawater strainer
- Adapter for connection of extra expansion tank

Electrical system
- 24V/60A or 100A extra alternator
- Various instrument panels
- Cable harness in different lengths
- Classifiable electrical equipment acc. to IP44

Power transmission
- PTO 11.5"/14", disengageable, crankshaft front or rear end
- Auxiliary drive
- Extra pulley for crankshaft
- Hydraulic pump for steering and other duties

Reverse gear
- MG516

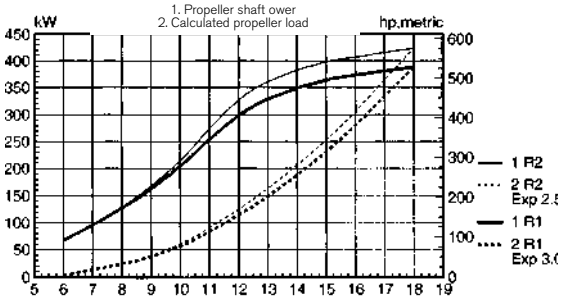
Other equipment
- 2" bilge/flush pump
- Belt guard
- White-painted engine and reverse gear
- Autostop equipment acc. to IP44
- Engine heater 2000 W, separately fitted

Contact your local Volvo Penta dealer for further information.

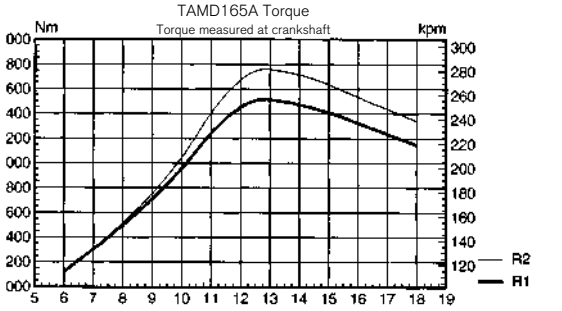
Not all models, standard equipment and accessories are available in all countries. All specifications are subject to change without notice.

The engine illustrated may not be entirely identical to production standard engines.

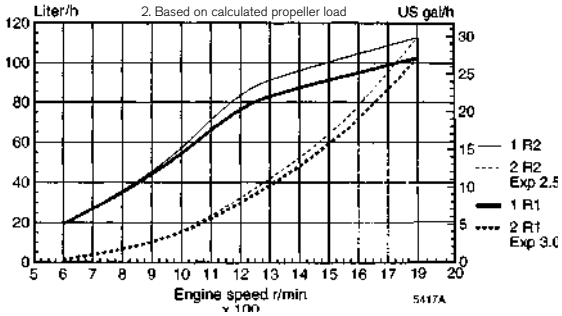
TAMD165A Power
1. Propeller shaft ower
2. Calculated propeller load



TAMD165A Torque
Torque measured at crankshaft

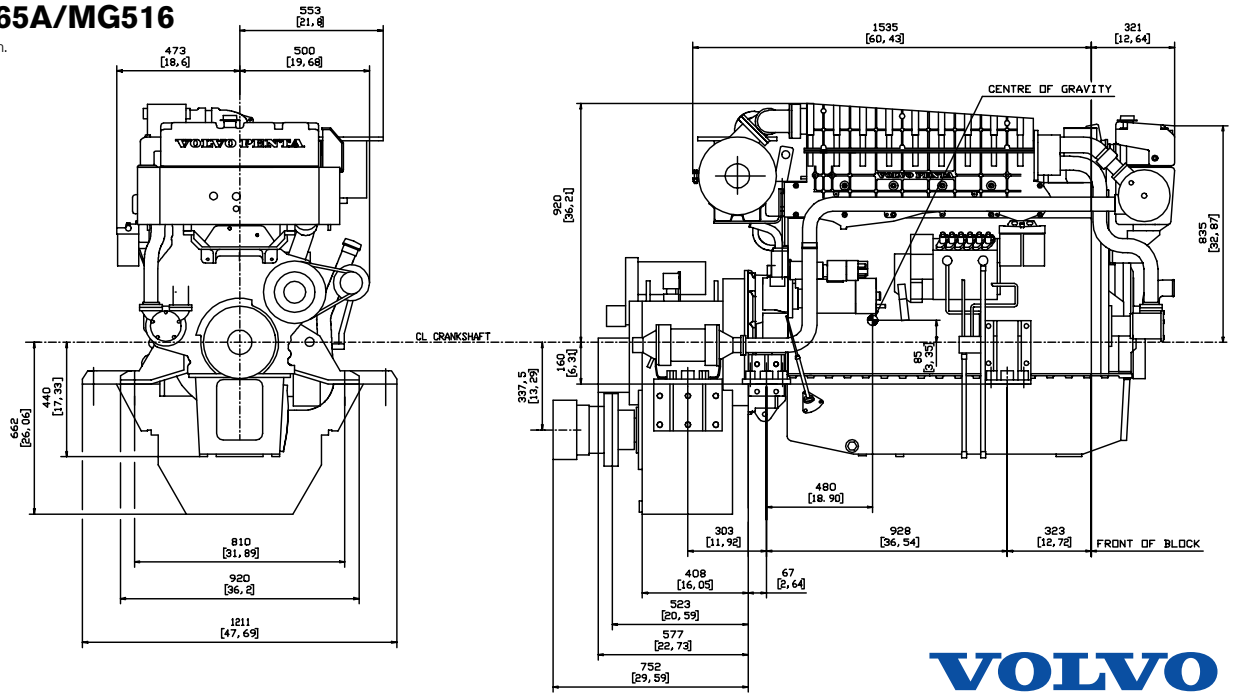


TAMD165A Fuel consumption
1. At full load
2. Based on calculated propeller load



Dimensions
TAMD165A/MG516

Not for installation.



VOLVO PENTA

AB Volvo Penta
SE-405 08 Göteborg, Sweden
www.volvopenta.com

VOLVO PENTA INBOARD DIESEL

TAMD165C

6-cylinder, 4-stroke, direct-injected, turbocharged marine diesel engine with aftercooler – crankshaft power* 375 kW (510 hp)

* Power rating – see Technical Data

Top technology for extreme demands

Dimensioned for high outputs. Built on the dependable in-line six with four valves per cylinder.

Designed for workboat operation in demanding environments and displacement workboats in Heavy Duty operation (Rating 1).

Particularly suitable for workboat applications due to high torque across a wide speed range.

Fulfils high demands on operational reliability and service life.

Built for effective turbocharging with well matched injection system, thus having good cold starting ability and load acceptance. The engine is also designed for long periods of low load idling.

Extremely well-balanced engine design combined with latest construction technique result in steady and vibrationfree running for highest possible degree of boat comfort.

Comprehensive, well developed modular system for factory-fitted equipment gives perfect matching to specific customer requirements, e.g. reverse gears, PTO's, cooling systems, electrical systems.

Easily adaptable to comply with the demands of the classification societies and marine authorities concerning operation in unmanned engine rooms.

The TAMD165C complies with the IMO and River Rhine emission regulations.

Large oil volume and easy to service construction for lowest service and maintenance costs.

Well-established service network in more than 100 countries using Genuine Volvo Penta Parts and skilled personnel minimizes non-operational time and costs.

TAMD165C with MG516 reverse gear

Technical description:

Engine and block

- Cylinder block and cylinder heads made of special cast iron alloy
- Flywheel housing with connection acc. to SAE 1
- Double vibration dampers
- Separate cylinder heads and gasketless sealing
- Replaceable cylinder liners and valve seats/guides. Four valves per cylinder and a centrally located injector provide effective combustion leading to lower fuel consumption.
- Seven-bearing nitrocarburized rigid crankshaft with generously dimensioned bearing surfaces
- Tough, high located, seven-bearing camshaft of special steel. Short stiff push rods, strong valve springs, and roller cam followers
- Piston cooling for minimum carbon deposits and increased piston and liner service life
- Piston rings of keystone type

Lubrication system

- Deep oil sump with inspection covers
- Twin oil filters of spin-on type, plus by-pass oil filter
- Freshwater-cooled oil cooler
- Oil filler pipe in oil sump

Fuel system

- Fuel injection pump with centrifugal governor, smoke limiter and fuel feed pump
- Fuel shut-off valve 24V, electrically operated
- Twin fine fuel filters of spin-on type

Turbocharger

- Freshwater-cooled turbocharger and exhaust manifold

Cooling system

- Seawater-cooled aftercooler
- Tubular heat exchanger or 1-circuit keel cooling
- Cooling pipes in copper/nickel give greater resistance to corrosion and longer service life
- Gear-driven freshwater pump
- Freshwater filter with anti-corrosive agent

Electrical system

- 24V 2-pole electrical system incl. 60A alternator with integrated charging sensor
- Rubber-suspended electrical terminal box

VOLVO PENTA

TAMD165C

Technical Data

Engine designation	**TAMD165C**
No. of cylinders and configuration	in-line 6
Method of operation	4-stroke, direct-injected, turbocharged diesel engine with aftercooler
Bore, mm (in.)	144 (5.67)
Stroke, mm (in.)	165 (6.5)
Displacement, l (in³)	16.12 (983.6)
Compression ratio	17:1
Dry weight, kg (lb)	1740 (3836)
Crankshaft power, kW (hp) 1800 rpm	375 (510)
Torque, Nm (lbf.ft) 1800 rpm	1990 (1468)
Specific fuel consumption, g/kWh (lb/hph) 1800 rpm	225 (0.365)
Torque, Nm (ft.lb) 1800 rpm	1840 (1357)
Specific fuel consumption, g/kWh (lb/hph) 1800 rpm	215 (0.348)
Recommended fuel to conform to	ASTM-D975 1-D & 2-D, EN 590 or JIS KK 2204

Rating 1.

Fuel temperature 40°C (104°F).

Technical data according to ISO 3046 Fuel Stop Power and ISO 8665. Fuel with a lower calorific value of 42700 kJ/kg and density of 840 g/liter at 15 °C (60 °F). Merchant fuel may differ from this specification which will influence engine power output and fuel consumption.

N.B. The product can also be used in an application with a higher rating than stated, e.g. R1 can be used for R2, R3, R4 or R5.

The engine complies with the IMO and River Rhine emission regulations.

Optional equipment:

Engine
- Adapter kit for flywheel and flywheel housing acc. to SAE 0
- Flexible suspension for engine and reverse gear

Lubrication system
- Manual oil drain pump, engine-mounted
- Extra oil dipstick
- Shallow oil sump
- Twin oil filter with shift valve

Fuel system
- Shift valve for fuel filter
- Twin fuel filter/water separator with shift valve
- Jacketed fuel pipes

Exhaust system
- Exhaust elbow, dry or wet 8"
- Silencer, dry
- Flexible compensator, dry

Cooling system
- Seawater strainer
- Adapter for connection of extra expansion tank

Electrical system
- 24V/100A extra alternator
- Various instrument panels
- Cable harness in different lengths
- Classifiable electrical equipment acc. to IP44

Power transmission
- Disengageable PTOs, 11.5" crankshaft front end, and 14" crankshaft rear end
- Auxiliary drive
- Extra pulley for crankshaft
- Hydraulic pump for steering and other duties

Reverse gear
- MG516

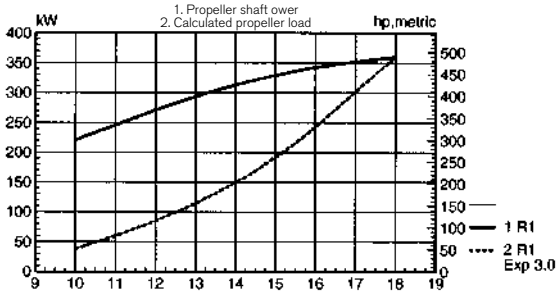
Other equipment
- 2" bilge/flush pump
- Belt guard
- White-painted engine and reverse gear
- Autostop equipment acc. to IP44
- Engine heater 2000 W, separately fitted

Contact your local Volvo Penta dealer for further information.

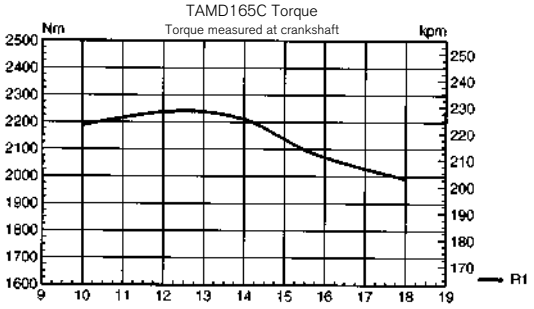
Not all models, standard equipment and accessories are available in all countries. All specifications are subject to change without notice.

The engine illustrated may not be entirely identical to production standard engines.

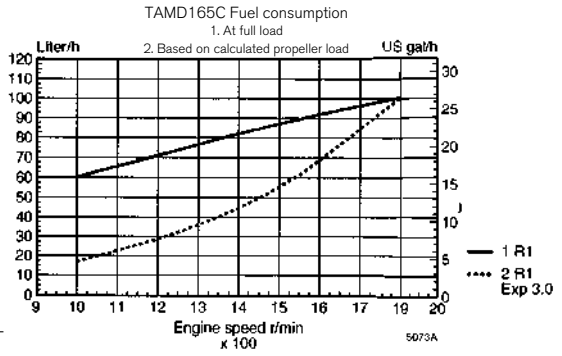
TAMD165C Power



TAMD165C Torque

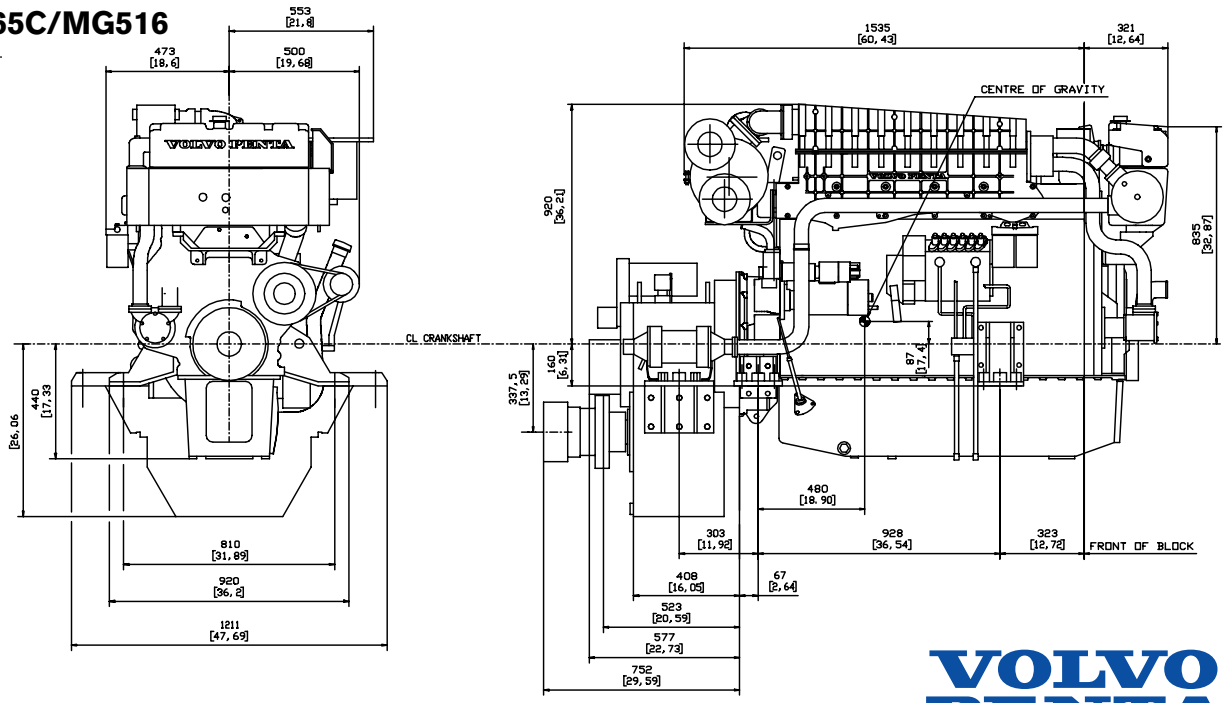


TAMD165C Fuel consumption



Dimensions TAMD165C/MG516

Not for installation.



AB Volvo Penta
SE-405 08 Göteborg, Sweden
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VOLVO PENTA INBOARD DIESEL

TAMD165P

6-cylinder, 4-stroke, direct-injected, turbocharged marine diesel engine with aftercooler – crankshaft power* 500–566 kW (680–770 hp)

* Power rating – see Technical Data

The ultimate power alternative

The TAMD165P is a high-performance engine with a very long service life, dimensioned for high power outputs and designed for high speed, planing craft. With its narrow installation dimensions the TAMD165P is ideal for twin engine installations.

The engine is turbocharged and aftercooled with a high power/fuel consumption ratio, thus offering excellent fuel economy. The improved turbocharger gives the engine superior torque characteristics resulting in excellent acceleration and load variation response.

Durability and low noise levels

The Volvo Penta in-line six cylinder engine is a well-balanced unit with powerfully dimensioned crankshaft bearings. In addition, twin harmonic stabilizers ensure smooth, vibration-free operation. This, together with very low noise levels, provide the highest onboard comfort.

The cylinder block is dimensioned for extremely high power outputs and matched power to weight characteristics.

To maintain a controlled working temperature in cylinders and combustion chambers, the engine is equipped with piston cooling and freshwater-cooled oil cooler. The engine is also fitted with replaceable cylinder liners and valve seats/guides to ensure maximum durability and service life of the engine.

Low exhaust emission levels

The state of the art, high-tech injection and charging system with low internal losses contributes to excellent combustion and low fuel consumption. The TAMD165P complies with the IMO and River Rhine emission regulations.

Marine electrics

The two-pole electrical system is specifically adapted to demanding marine environments with remote and flex-mounted senders as well as moisture-proof connectors.

TAMD165P with
ZF 350A reverse gear

Ease of service and maintenance

Easily accessible service and maintenance points contribute to the ease of service of the engine.

Comprehensive service network

Volvo Penta has a well-established network of authorized service dealers in more than 100 countries throughout the world. These service centers offer genuine Volvo Penta parts as well as skilled personnel to ensure the best possible service.

Technical description:

Engine and block

- Reinforced cylinder block dimensioned for high output and low sound level. Cylinder block and cylinder heads of special alloy cast iron.
- Flywheel housing with connection acc. to SAE 1
- Separate cylinder heads. Gasketless sealing design
- Replaceable cylinder liners and valve seats/guides
- Four valves per cylinder
- Double vibration dampers
- Seven-bearing nitrocarburized crankshaft for low bearing load
- Oil-cooled, forged aluminum pistons
- Piston rings of Keystone type
- Rigid camshaft with well designed cams. Short stiff push rods and strong valve springs. Roller cam followers for minimum friction.

Lubrication system

- Shallow oil sump
- Freshwater-cooled oil cooler
- Gear pump pressurized lubricating system
- Twin oil filters of spin-on type plus by-pass oil filter
- Twin oil separating filters incl. overpressure valve for crankcase ventilation

Fuel system

- Powerful injection pump with centrifugal governor and smoke limiter. Short fuel rack travel for most rapid fuel injection alteration.
- Fuel feed pump
- Centrally located injectors
- Seven-hole injectors
- Fuel shut-off valve 24V, electrically operated
- Twin fine fuel filters of spin-on type

Turbocharger

- Freshwater-cooled turbocharger and exhaust manifold

Cooling system

- Tubular heat exchanger
- Seawater-cooled aftercooler
- Gear-driven freshwater pump and front-mounted seawater pump with neoprene impeller
- Freshwater filter with anti-corrosive agent

Electrical system

- 24V electrical system
- Rubber-suspended electrical terminal box with semiautomatic fuses

VOLVO PENTA

TAMD165P

Technical Data

Engine designation **TAMD165P**
No. of cylinders and configuration ..... in-line 6
Method of operation ..... 4-stroke, direct-injected, turbocharged diesel engine with aftercooler
Bore, mm (in.) 144 (5.67)
Stroke, mm (in.) 165 (6.5)
Displacement, l (in³) 16.12 (983.6)
Compression ratio 17:1
Dry weight, kg (lb) 1655 (3649)
Weight with ZF 350A
excl. water and oil, kg (lb) 1980 (4365)
Crankshaft power,
Rating 4, kW (hp) 2100 rpm[1] 566 (770)
Rating 4, kW (hp) 2100 rpm[2] 552 (751)
Rating 3, kW (hp) 2100 rpm[2] 500 (680)
Torque,
Rating 4, Nm (lbf.ft) 2100 rpm[2] 2509 (1852)
Rating 3, Nm (lbf.ft) 2100 rpm[2] 2274 (1678)
Recommended fuel to
conform to ..... ASTM-D975 1-D & 2-D,
..... EN 590 or JIS KK 2204
Specific fuel consumption,
R 4, g/kWh (lb/hph) 2100 rpm[2] 226 (0.366)
R 3 , g/kWh (lb/hph) 2100 rpm[2] 223 (0.362)

[1] Fuel temperature 25°C (77°F)
[2] Fuel temperature 40°C (104°F)

Technical data according to ISO 3046 Fuel Stop Power and ISO 8665. Fuel with a lower calorific value of 42700 kJ/kg and density of 840 g/liter at 15 °C (60 °F). Merchant fuel may differ from this specification which will influence engine power output and fuel consumption.

The engine complies with the IMO and River Rhine emission regulations.

N.B. The product can also be used in an application with a higher rating than stated, e.g. R3 can be used for R4 or R5.

Optional equipment:

Engine

- Adapter kit for flywheel and flywheel housing acc. to SAE 0
- Flexible suspension for engine and reverse gear

Lubrication system

- Oil drain pump, electrical 24V
- Twin oil filter with shift valve

Fuel system

- Twin fuel filter/water separator with shift valve

Exhaust system

- Exhaust elbow, dry or wet 8"
- Silencer, dry
- Flexible compensator, dry

Cooling system

- Seawater strainer
- Adapter for connection of extra expansion tank

Electrical system

- 24V/60A or 100A extra alternator
- Various instrument panels
- Cable harness in different lengths

Power transmission

- Auxiliary drive
- Extra pulley for crankshaft
- Hydraulic pump for steering and other duties

Reverse gear

- ZF 350A and MG5114A

Other equipment

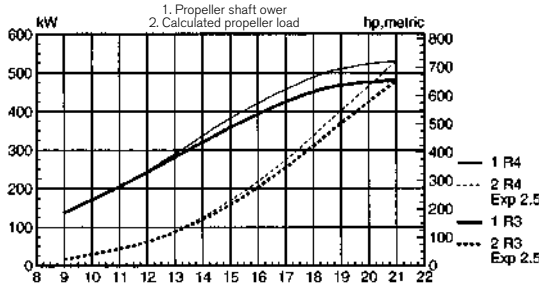
- 2" bilge/flush pump
- Belt guard
- White-painted engine and reverse gear
- Engine heater 2000 W, separately fitted

Contact your local Volvo Penta dealer for further information.

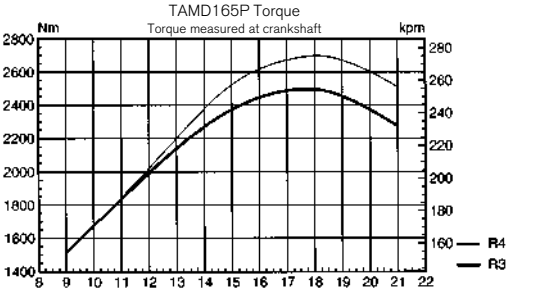
Not all models, standard equipment and accessories are available in all countries. All specifications are subject to change without notice.

The engine illustrated may not be entirely identical to production standard engines.

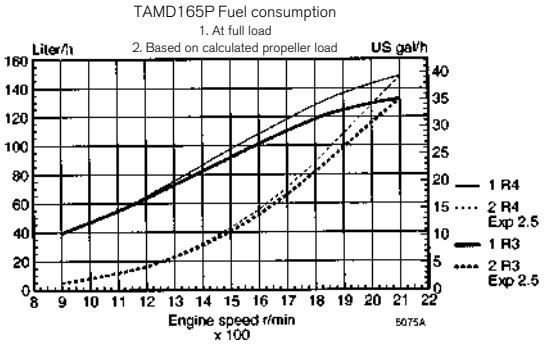
TAMD165P Power



TAMD165P Torque

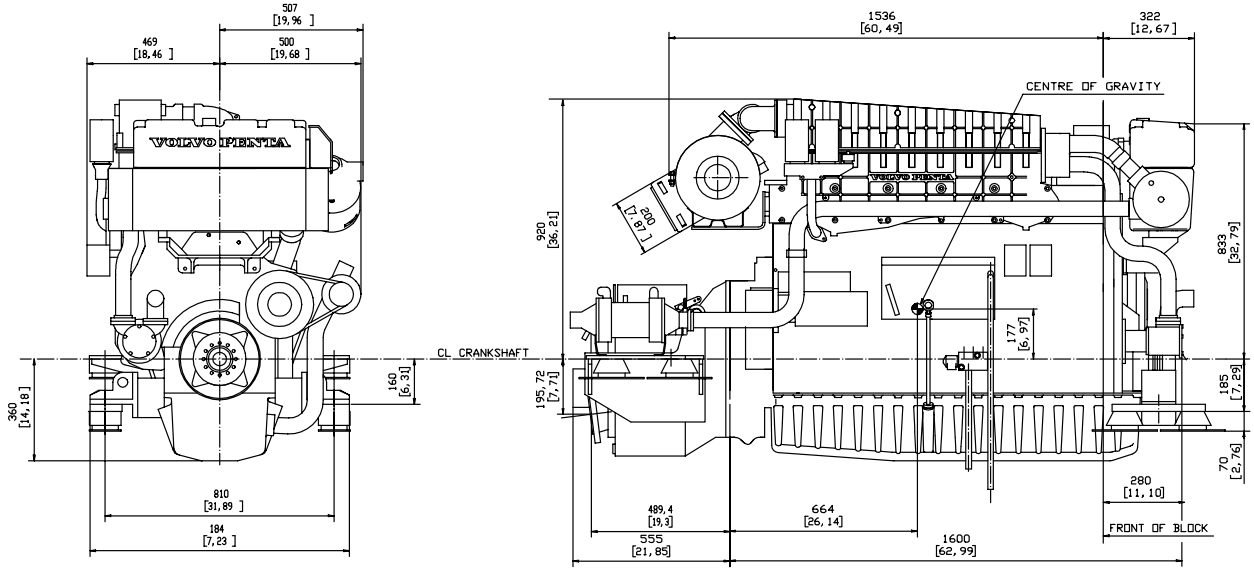


TAMD165P Fuel consumption



Dimensions TAMD165P/ZF 350A

Not for installation.



AB Volvo Penta
SE-405 08 Göteborg, Sweden
www.volvopenta.com

VOLVO PENTA INBOARD DIESEL

TAMD31

4-cylinder, 4-stroke, direct-injected turbocharged marine diesel engine with aftercooler and reverse gear. Up to 110 kW (150 hp)*

* Crankshaft power according to ISO 8665

Reliable marine engine

TAMD31 is a reliable and economic marine engine with considerable power resources, developed for planing craft. With its compact dimensions, it is excellent for twin installation.

Direct injection

Direct injection (DI) results in a low thermal load and low fuel consumption compared with swirl chamber engines (IDI) with the same cylinder capacity.

Turbocharging

The engine is turbocharged with an exhaust-driven turbocompressor. More air can be forced into the cylinder in this way with the result that more fuel can be injected and the engine runs more efficiently. Since combustion takes place in a turbo engine with excess air, the exhaust gases are cleaner than in a naturally-aspirated engine.

The turbo also acts as an additional silencer both on the induction side and on the exhaust side.

Aftercooler

The air heats up and expands when it is compressed. In other words, it takes up more space. The aftercooler cools the compressed and heated air and raises its oxygen content so that the engine can use the fuel more efficiently.

Low exhaust emission levels

The direct injection, turbocharging and aftercooler contribute to minimizing noxious exhaust emissions and enhancing overall enjoyment of boating.

Reverse gear

Volvo Penta's hydraulically shifted reverse gear has been specially developed with a view to increasing the standard of comfort on board in terms of quiet running, greater reliability and enhanced efficiency.

These benefits originate from a hydraulic shifting mechanism and a gear technology that uses bevel gears throughout the gear train.

The combination of 8° down angle, large drop center and small dimensions provides for optimized installatons.

A trolling valve kit is available to meet special demands, e.g. for sportfishing.

At Volvo Penta, focus is on developing the complete drive line ensuring perfectly matched engine/transmission packages for high torque, operational reliability, reduction of engine noise and vibrations.

TAMD31 with reverse gear HS45A

Comprehensive service network

Volvo Penta has a well-established network of authorized service dealers in more than 100 countries throughout the world. These service centers offer Genuine Volvo Penta Parts as well as skilled personnel to ensure that you enjoy the best possible service.

Technical description:

Engine and block

- Cylinder block and cylinder head made of cast iron for good corrosion resistance and long service life
- Oil-cooled pistons with two compression rings and one oil scraper ring
- Replaceable wet cylinder liners
- Replaceable valve seats
- Five-bearing crankshaft

Engine mounting

- Elastic suspension consisting of 4 rubber pads with adjustable anchorage plates for dampening of sound and vibration

Lubrication system

- Pressure lubrication system with easily replaced full-flow oil filter on the side of the engine
- Tubular oil cooler that can be cleaned

Fuel system

- Rotor-type injection pump with a mechanical governor for accurate speed control
- Smoke limiter
- Fine filter with water separator
- Feed pump with hand primer
- Electrically-operated stopping device

VOLVO PENTA

TAMD31

Air inlet and exhaust system
- Inlet system designed to produce optimal air rotation which provides perfect combustion. This results in high power and low fuel consumption.
- Air inlet silencer with replaceable filter
- Closed crankcase vent system
- Seawater-cooled exhaust elbow of cast iron with a stainless steel insert
- Exhaust-driven freshwater-cooled turbocharger

Cooling system
- Thermostatically regulated freshwater cooling
- Tubular heat exchanger with separate transparent expansion tank
- Gear-driven seawater pump with rubber impeller
- Coolant system prepared for hot water outlet

Electrical system
- 12V corrosion-protected electrical system, complete with instrumentation
- 14V/60A marine alternator
- Charging regulator with battery sensor for voltage drop compensation
- The alternator is prepared for a bulkhead-mounted double-diode set which automatically distributes the charge current to two separate battery circuits
- Automatic fuse with reset button
- Starter motor power 3.0 kW
- Extension cable harness with plug-in connection available in various lengths

Instrument panel:
Separate instruments and harness or complete panel fitted with:
- Key switch
- Temperature gauge
- Instrument lighting
- Alarm for temperature, oil pressure and charging
- Voltmeter
- Rev counter
- Hour meter
- Oil pressure gauge
- Alarm test

Reverse gear
- Bevel gears which results in smooth running at all speeds
- Hydraulically operated clutch for smooth shifting
- Matched drop center and 8° down angle for compact installation and minimum propeller shaft angle
- When under sail propeller shaft can rotate 24 hours without engine start
- Seawater-cooled oilcooler
- Trolling valve kit available

Accessories
An extensive range of accessories for:
- Fuel system
- Cooling system
- Control system
- Instruments
- Electric system
- Comfort & Safety
- Propellers
- Maintenance
- MED (SOLAS) kit available

For detailed information, please see Accessory catalogues.

Contact your local Volvo Penta dealer for further information.

Not all models, standard equipment and accessories are available in all countries. All specifications are subject to change without notice.

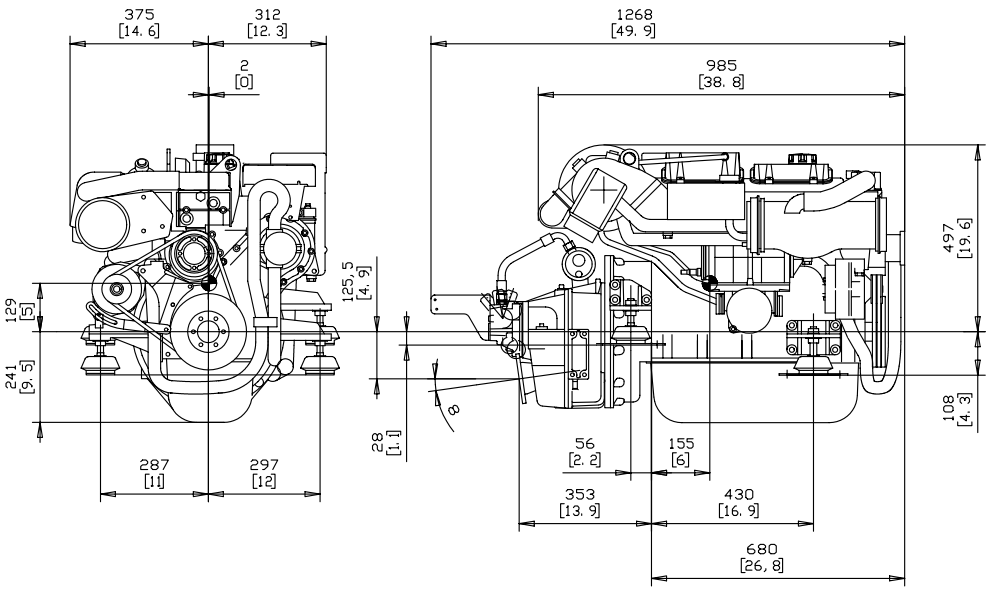
The engine illustrated may not be entirely identical to production standard engines.

Technical Data

Engine designation	TAMD31P*	TAMD31L*	TAMD31M
Crankshaft power, kW (hp)	110 (150)	96 (130)	81 (110)
Propeller shaft power, kW (hp)	106 (144)	92 (124)	78 (106)
Engine speed, rpm	3900	3800	3250
Displacement, l (in³)	2.4 (146)	2.4 (146)	2.4 (146)
Number of cylinders	4	4	4
Bore/stroke, mm (in.)	92/90 (3.62/3.54)	92/90 (3.62/3.54)	92/90 (3.62/3.54)
Compression ratio	17.5:1	17.5:1	17.5:1
Dry weight with HS45A, kg (lb)	400 (882)	400 (882)	400 (882)
Duty rating/Reverse gear:			
HS45A, RH (standard) or LH	R5–R4	R5–R3	R5–R2
Ratio: 2.43:1, 2.03:1, 1.51:1			

Technical data according to ISO 8665. Fuel with a lower calorific value of 42,700 kJ/kg and density of 840 g/liter at 15°C (60°F). Merchant fuel may differ from this specification which will influence engine power output and fuel consumption.
N.B. The product can also be used in an application with a higher rating than stated, e.g. R2 can be used for R3, R4 or R5.
* SAV-1 approved.

Dimensions TAMD31/HS45A
Not for installation



AB Volvo Penta
SE-405 08 Göteborg, Sweden
www.volvopenta.com

NEW!

VOLVO PENTA INBOARD DIESEL

TAMD31S

4-cylinder, 4-stroke, direct-injected turbocharged marine diesel engine with aftercooler and reverse gear. 74 kW (100 hp)*

* Crankshaft power according to ISO 8665

Reliable marine engine

TAMD31S is a reliable and economic marine engine with considerable power resources, developed for displacement craft, such as motorboats and sailing yachts.

Direct injection

Direct injection (DI) results in a low thermal load and low fuel consumption compared with swirl chamber engines (IDI) with the same cylinder capacity.

Turbocharging

The engine is turbocharged with an exhaust-driven turbocompressor. More air can be forced into the cylinder in this way with the result that more fuel can be injected and the engine runs more efficiently. Since combustion takes place in a turbo engine with excess air, the exhaust gases are cleaner than in a naturally-aspirated engine.

The newly-designed turbo is controolled by a wastegate valve och gives a considerably higher torque at low engine speed.

The turbo also acts as an additional silencer both on the induction side and on the exhaust side.

Aftercooler

The air heats up and expands when it is compressed. In other words, it takes up more space. The aftercooler cools the compressed and heated air and raises its oxygen content so that the engine can use the fuel more efficiently.

Low exhaust emission levels

The direct injection, turbocharging and aftercooler contribute to minimizing noxious exhaust emissions and enhancing overall enjoyment of boating. The TAMD31S is certified according to BSO II and SAV.

Reverse gear

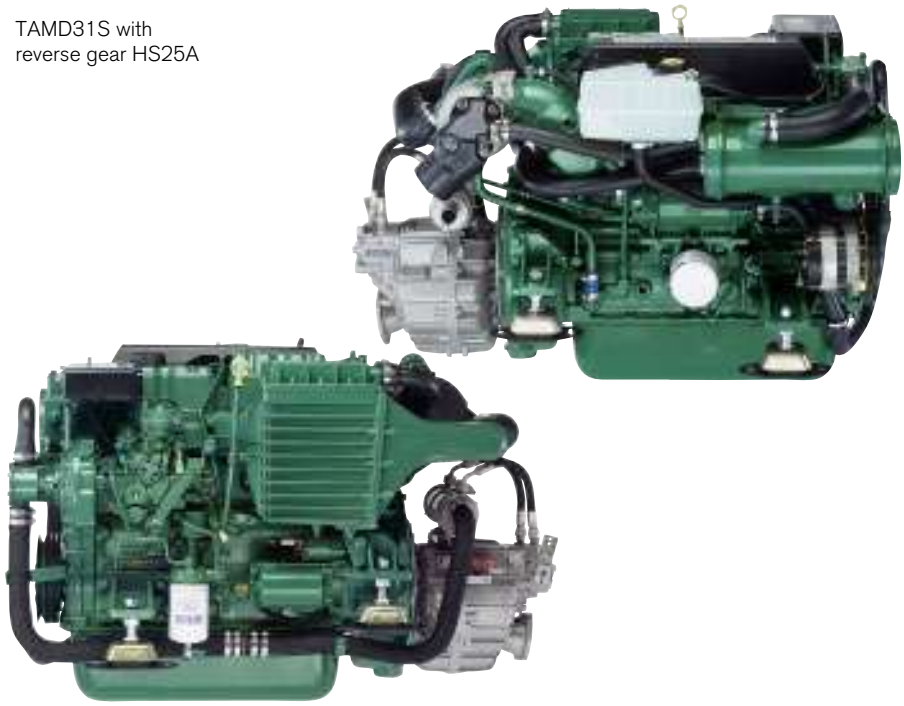
Volvo Penta's mechanically and hydraulically shifted reverse gears have been specially developed with a view to increasing the standard of comfort on board in terms of quiet running, greater reliability and enhanced efficiency.

The combination of 8° down angle, large drop center and small dimensions provides for optimized installatons.

A trolling valve kit is available to meet special demands, e.g. for sportfishing.

At Volvo Penta, focus is on developing the complete drive line ensuring perfectly matched engine/transmission packages for high torque, operational reliability, reduction of engine noise and vibrations.

TAMD31S with reverse gear HS25A



Comprehensive service network

Volvo Penta has a well-established network of authorized service dealers in more than 100 countries throughout the world. These service centers offer Genuine Volvo Penta Parts as well as skilled personnel to ensure that you enjoy the best possible service.

Technical description:

Engine and block

- Cylinder block and cylinder head made of cast iron for good corrosion resistance and long service life
- Oil-cooled pistons with two compression rings and one oil scraper ring
- Replaceable wet cylinder liners
- Replaceable valve seats
- Five-bearing crankshaft

Engine mounting

- Elastic suspension consisting of 4 rubber pads with adjustable anchorage plates for dampening of sound and vibration

Lubrication system

- Pressure lubrication system with easily replaced full-flow oil filter on the side of the engine
- Tubular oil cooler that can be cleaned

Fuel system

- Rotor-type injection pump with a mechanical governor for accurate speed control
- Smoke limiter
- Fine filter with water separator
- Feed pump with hand primer
- Electrically-operated stopping device

VOLVO PENTA

TAMD31S

Inlet and exhaust system
- Inlet system designed to produce optimal air rotation, which provides perfect combustion. This results in high power and low fuel consumption.
- Inlet silencer with replaceable filter
- Closed crankcase vent system
- Seawater-cooled exhaust elbow of cast iron with a stainless steel insert
- Exhaust-driven freshwater-cooled turbocharger

Cooling system
- Thermostatically regulated freshwater cooling
- Tubular heat exchanger with separate transparent expansion tank
- Gear-driven seawater pump with rubber impeller
- Coolant system prepared for hot water outlet

Electrical system
- 12V corrosion-protected electrical system, complete with instrumentation
- 14V/60A marine alternator
- Charging regulator with battery sensor for voltage drop compensation
- The alternator is prepared for a bulkhead-mounted double-diode set which automatically distributes the charge current to two separate battery circuits
- Automatic fuse with reset button
- Starter motor power 3.0 kW
- Extension cable harness with plug-in connection available in various lengths

Instrument panel:
Separate instruments and harness or complete panel fitted with:
- Key switch
- Temperature gauge
- Instrument lighting
- Alarm for temperature, oil pressure and charging
- Voltmeter
- Rev counter
- Hour meter
- Oil pressure gauge
- Alarm test

Reverse gear
HS25A Hydraulic – drop center with 8° down angled output shaft. Trolling valve kit available.
- Ratio 2,29:1/2,29:1 (RH/LH) and 2,71:1/2,71:1 (RH/LH).

MS25A Mechanical – drop center with 8° down angled output shaft.
- Ratio 2.23:1/2.74:1 (RH/LH).

MS25L Mechanical – drop center with straight output shaft.
- Ratio 2.27:1/2.10:1 (RH/LH).

Accessories
An extensive range of accessories for:
- Fuel system
- Cooling system
- Control system
- Instruments
- Electric system
- Comfort & Safety
- Propellers
- Maintenance

For detailed information, please see Accessory catalogues.

Contact your local Volvo Penta dealer for further information.

Not all models, standard equipment and accessories are available in all countries. All specifications are subject to change without notice.

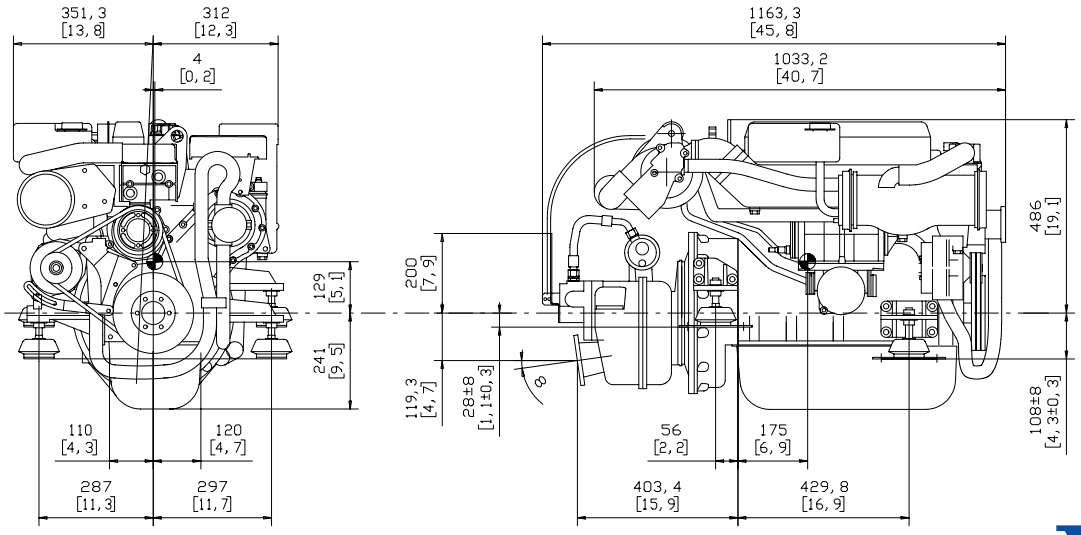
The engine illustrated may not be entirely identical to production standard engines.

Technical Data

Engine designation	**TAMD31S**
Crankshaft power, kW (hp)	74 (100)
Propeller shaft power, kW (hp)	71 (97)
Engine speed, rpm	3000
Displacement, l (in³)	2.4 (146)
Number of cylinders	4
Bore/stroke, mm (in.)	92/90 (3.62/3.54)
Compression ratio	17.5:1
Dry weight with HS25A/MS25, kg (lb)	370/364 (816/802)

Operating mode: R5
Technical data according to ISO 8665. Fuel with a lower calorific value of 42,700 kJ/kg and density of 840 g/liter at 15°C (60°F). Merchant fuel may differ from this specification which will influence engine power output and fuel consumption.
The engine is certified according to BSO II and SAV.

Dimensions TAMD31S/HS25A
Not for installation



AB Volvo Penta
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VOLVO PENTA INBOARD DIESEL

TAMD41

6-cylinder, 4-stroke, direct-injected turbocharged marine diesel engine with aftercooler and reverse gear. Up to147 kW (200 hp)*

* Crankshaft power according to ISO 8665

Reliable marine engine

TAMD41 is a reliable and economic marine engine with considerable power resources, developed for planing craft. With its compact dimensions, it is excellent for twin installation.

Direct injection

Direct injection (DI) results in a low thermal load and low fuel consumption compared with swirl chamber engines (IDI) with the same cylinder capacity.

Turbocharging

The engine is turbocharged with an exhaust-driven turbocompressor. More air can be forced into the cylinder in this way with the result that more fuel can be injected and the engine runs more efficiently. Since combustion takes place in a turbo engine with excess air, the exhaust gases are cleaner than in a naturally-aspirated engine.

The turbo also acts as an additional silencer both on the induction side and on the exhaust side.

Aftercooler

The air heats up and expands when it is compressed. In other words, it takes up more space. The aftercooler cools the compressed and heated air and raises its oxygen content so that the engine can use the fuel more efficiently.

Low exhaust emission levels

The direct injection, turbocharging and aftercooler contribute to minimizing noxious exhaust emissions and enhancing overall enjoyment of boating. Engines above 130 kW comply with the IMO emission regulations.

Reverse gear

Volvo Penta's hydraulically shifted reverse gear has been specially developed with a view to increasing the standard of comfort on board in terms of quiet running, greater reliability and enhanced efficiency.

TAMD41 with HS63A reverse gear

These benefits originate from a hydraulic shifting mechanism and a gear technology that uses bevel gears throughout the gear train.

The combination of 8° down angle, large drop center and small dimensions provides for optimized installatons.

A trolling valve kit is available to meet special demands, e.g. for sportfishing.

At Volvo Penta, focus is on developing the complete drive line ensuring perfectly matched engine/transmission packages for high torque, operational reliability, reduction of engine noise and vibrations.

Comprehensive service network

Volvo Penta has a well-established network of authorized service dealers in more than 100 countries throughout the world. These service centers offer Genuine Volvo Penta Parts as well as skilled personnel to ensure that you enjoy the best possible service.

Technical description:

Engine and block

- Cylinder block and cylinder head made of cast iron for good corrosion resistance and long service life
- Oil-cooled pistons with two compression rings and one oil scraper ring
- Replaceable wet cylinder liners
- Replaceable valve seats
- Seven-bearing crankshaft

Engine mounting

- Elastic suspension consisting of 4 rubber pads with adjustable anchorage plates for dampening of sound and vibration

Lubrication system

- Pressure lubrication system with easily replaced full-flow oil filter on the side of the engine
- Tubular oil cooler that can be cleaned

Fuel system

- Rotor-type injection pump with a mechanical governor for accurate speed control
- Smoke limiter
- Fine filter with water separator
- Feed pump with hand primer
- Electrically operated stopping device

VOLVO PENTA

TAMD41

Air inlet and exhaust system
- Inlet system designed to produce optimal air rotation which provides perfect combustion. This results in high power and low fuel consumption.
- Air inlet silencer with replaceable filter
- Closed crankcase vent system
- Seawater-cooled exhaust elbow of cast iron with a stainless steel insert
- Exhaust-driven freshwater-cooled turbocharger

Cooling system
- Thermostatically regulated freshwater cooling
- Tubular heat exchanger with separate transparent expansion tank
- Gear-driven seawater pump with rubber impeller
- Coolant system prepared for hot water outlet

Electrical system
- 12V corrosion-protected electrical system, complete with instrumentation
- 14V/60A marine alternator
- Charging regulator with battery sensor for voltage drop compensation
- The alternator is prepared for a bulkhead-mounted double-diode set which automatically distributes the charge current to two separate battery circuits
- Automatic fuse with manual reset
- Starter motor power 3.0 kW
- Extension cable harness with plug-in connection available in various lengths

Instrument panel:
Separate instruments and harness or complete panel fitted with:
- Key switch
- Temperature gauge
- Instrument lighting
- Alarm for temperature, oil pressure and charging
- Voltmeter
- Rev counter
- Hour meter
- Oil pressure gauge
- Alarm test

Reverse gear
- Both down angled and V-drive configurations
- Bevel gears which results in smooth running at all speeds
- Hydraulically operated clutch for smooth shifting
- Matched drop center and 8° down angle for compact installation and minimum propeller shaft angle
- When under sail propeller shaft can rotate 24 hours without engine start
- Seawater-cooled oilcooler
- Trolling valve kit available

Accessories
An extensive range of accessories for:
- Fuel system
- Cooling system
- Control system
- Instruments
- Electric system
- Comfort & Safety
- Propellers
- Maintenance
- SOLAS kit available

For detailed information, please see Accessory catalogues.

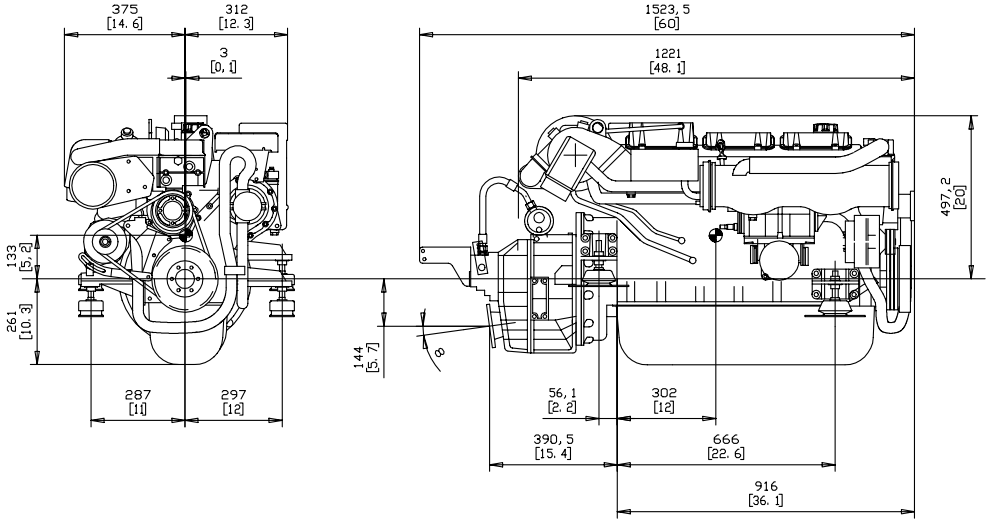
Contact your local Volvo Penta dealer for further information.
Not all models, standard equipment and accessories are available in all countries. All specifications are subject to change without notice.
The engine illustrated may not be entirely identical to production standard engines.

Technical Data

Engine designation	TAMD41P	TAMD41M	TAMD41H
Crankshaft power, kW (hp)	147 (200)	125 (170)	107 (146)
Propeller shaft power, kW (hp)	142 (193)	120 (163)	104 (141)
Engine speed, rpm	3800	3250	2600
Displacement, l (in³)	3.6 (219)	3.6 (219)	3.6 (219)
Number of cylinders	6	6	6
Bore/stroke, mm (in.)	92/90 (3.62/3.54)	92/90 (3.62/3.54)	92/90 (3.62/3.54)
Compression ratio	17.5:1	17.5:1	17.5:1
Dry weight with HS63A, kg (lb)	503 (1109)	503 (1109)	503 (1109)
Duty rating/Reverse gear:			
HS45A, RH (standard) or LH	R5–R3	R5–R3	R5–R4
Ratio: 2.43:1, 2.03:1, 1.51:1			
HS63A	R5–R3	R5–R2	R5–R1
Ratio RH (standard): 2.52:1, 2.04:1, 1.56:1			
LH: 2.53:1, 2.02:1, 1.58:1			
HS63V	R5–R3	R5–R2	R5–R1
Ratio RH (standard): 2.48:1, 2.00:1, 1.56:1			
LH: 2.53:1, 2.03:1, 1.57:1			

Technical data according to ISO 8665. Fuel with a lower calorific value of 42,700 kJ/kg and density of 840 g/liter at 15°C (60°F). Merchant fuel may differ from this specification which will influence engine power output and fuel consumption.
N.B. The product can also be used in an application with a higher rating than stated, e.g. R3 can be used for R4 or R5.
The TAMD41P complies with the IMO emission regulations.
The TAMD41H complies with the BSO II emission regulations.

Dimensions TAMD41/HS63A
Not for installation



AB Volvo Penta
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VOLVO PENTA INBOARD DIESEL

TAMD63L/P

6-cylinder, 4-stroke, direct-injected, turbocharged marine diesel engine with aftercooler – crankshaft power* 173–272 kW (235–370 hp)

* Power rating – see Technical Data

Compact performance

The TAMD63 is a powerful, reliable and economical marine diesel engine, specially developed for fast planing and semi-planing craft. The installation volume is approx. 30% less than that of the preceding engines.

The engine has been specifically constructed for efficient turbocharging with a high power/fuel consumption ratio. Thus offering excellent fuel economy.

Durability and low noise levels

The Volvo Penta in-line six is a well-balanced unit with smooth and vibration-free operation and low noise levels. The torsionally-rigid cylinder block and crank mechanism are designed to withstand many hours of demanding operation.

To maintain a stable working temperature in cylinders and combustion chambers, the engine is equipped with piston cooling and freshwater-cooled oil cooler.

The engine is also fitted with replaceable cylinder liners and valve seats/guides to ensure maximum durability and service life.

Low exhaust emission levels

A low-air rotation combustion technique, producing optimum airflow, and a high-pressure injection system with 5-hole injectors ensure an optimum fuel-air mixture. This greatly contributes to reduced noxious exhaust emission levels. The direct injection (DI) system ensures a low fuel consumption. The engine complies with the IMO emission regulations.

Marine electrics

The two-pole electrical system is specially adapted to demanding marine environments with remote and flex-mounted senders as well as moisture-proof connectors.

Ease of service and maintenance

The single poly-V drive belt driving the alternator and freshwater circulation pump (a single service point at the front of the engine) together with the oil filter and the by-pass filter contribute to ease of service and maintenance.

TAMD63L/P with
ZF 220A reverse gear

Comprehensive service network

Volvo Penta has a well-established network of authorized service dealers in more than 100 countries throughout the world. These service centers offer Genuine Volvo Penta Parts as well as skilled personnel to ensure that you enjoy the best possible service.

Technical description:

Engine and block

- Cylinder block and cylinder heads made of cast iron alloy
- Two cylinder heads. A flame barrier protects the cylinder head gasket.
- Replaceable wet cylinder liners and valve seats/guides
- Nitrocarburized crankshaft with seven main bearings
- Oil-cooled forged aluminum pistons
- Three piston rings, the upper of which is of the keystone type

Lubrication system

- Freshwater-cooled oil cooler
- Oil filter and by-pass filter of spin-on type
- Oil dipsticks on both sides of oil sump

Fuel system

- Fuel injection pump with centrifugal governor, smoke limiter and fuel feed pump
- Five-hole injectors
- Twin fine fuel filters of spin-on type
- Electrical fuel valve stopping device

Turbocharger

- Freshwater-cooled turbocharger
- Wastegate for high torque at low speed (TAMD63P)

Cooling system

- Tubular heat exchanger with integrated expansion tank or 2-circuit keel cooling
- Seawater-cooled tubular aftercooler
- Poly-V driven freshwater pump and gear-driven seawater pump with neoprene impeller

Electrical system

- 12 V or 24 V electrical system incl. alternator, 60 and 40 A respectively, with charging sensor
- Rubber suspended electrical terminal box with semi-automatic fuses

VOLVO PENTA

TAMD63L/P

Technical Data

Engine designation	**TAMD63L/P**
No. of cylinders and configuration	in-line 6
Method of operation	4-stroke, direct-injected, turbocharged diesel engine with aftercooler
Bore, mm (in.)	98.42 (3.87)
Stroke, mm (in.)	120 (4.7)
Displacement, l (cu.in.)	5.46 (333)
Compression ratio	15:1
Dry weight TAMD63L, kg (lb)	742 (1636)
Dry weight incl. ZF 220A, kg (lb)	821 (1810)
Dry weight TAMD63P, kg (lb)	754 (1662)
Dry weight incl. ZF 220A, kg (lb)	833 (1836)
Crankshaft power TAMD63L,	
Rating 3, kW (hp) 2800 rpm[1)]	234 (318)
Rating 3, kW (hp) 2800 rpm[2)]	228 (310)
Rating 2, kW (hp) 2500 rpm[2)]	173 (235)
Crankshaft power TAMD63P,	
Rating 4, kW (hp) 2800 rpm[1)]	272 (370)
Rating 4, kW (hp) 2800 rpm[2)]	265 (360)
Torque TAMD63L,	
Rating 3, Nm (lbf.ft) 2800 rpm[2)]	778 (574)
Rating 2, Nm (lbf.ft) 2500 rpm[2)]	663 (489)
Torque TAMD63P,	
Rating 4, Nm (lbf.ft) 2800 rpm[2)]	904 (667)
Recommended fuel to conform to	ASTM-D975 1-D & 2-D, EN 590 or JIS KK 2204
Specific fuel consumption TAMD63L,	
R3, g/kWh (lb/hph) 2800 rpm[2)]	235 (0.381)
R2, g/kWh (lb/hph) 2500 rpm[2)]	228 (0.369)
Specific fuel consumption TAMD63P,	
R4, g/kWh (lb/hph) 2800 rpm[2)]	248 (0.402)

1) Fuel temperature 25 °C (77 °F)
2) Fuel temperature 40 °C (104 °F)

The diagrams relate to a fuel temperature of 25 °C (77 °F)

Technical data according to ISO 3046 Fuel Stop Power and ISO 8665. Fuel with a lower calorific value of 42700 kJ/kg and density of 840 g/liter at 15 °C (60 °F). Merchant fuel may differ from this specification which will influence engine power output and fuel consumption.

The engines comply with the IMO emission regulations. TAMD63P complies with the SAV-1 emission regulations.

N.B. The product can also be used in an application with a higher rating than stated, e.g. R3 can be used for R4 or R5.

Optional equipment:

Engine
- Flexible suspension for the engine and reverse gear

Lubrication system
- Bulkhead-mounted full-flow oil filter
- Electrically operated oil drain pump

Fuel system
- Fuel filter with water separator

Exhaust system
- Exhaust elbow, wet
- Exhaust riser, wet
- Exhaust boot, wet
- Exhaust elbow, dry
- Silencer, dry
- Flexible compensator, dry

Cooling system
- Seawater strainer
- Hot water outlet
- Separate expansion tank

Electrical system
- 12V 130A or 24V 100A extra alternators
- Various instrument panels
- Cable harness in different lengths

Power transmission
- PTO crankshaft front end, type stub shaft incl. universal bracket
- Hydraulic pump for steering and other duties

Reverse gear
- ZF 220A
- ZF 220IV
- MG 5061A
- MG 5062V

Other equipment
- Belt guard
- White-painted engine and reverse gear

Contact your local Volvo Penta dealer for further information.

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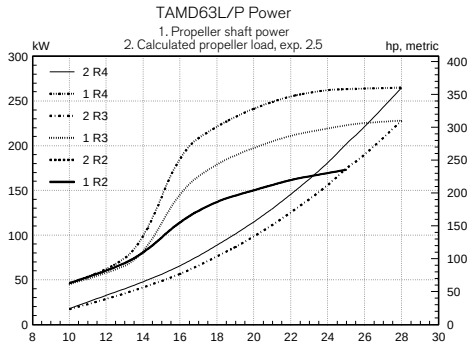
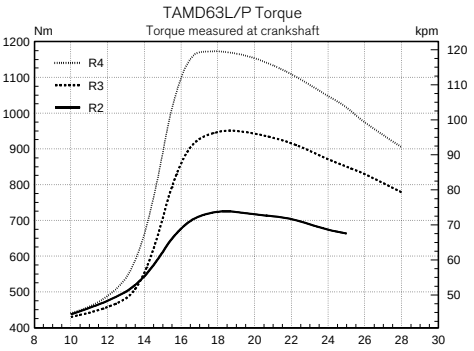
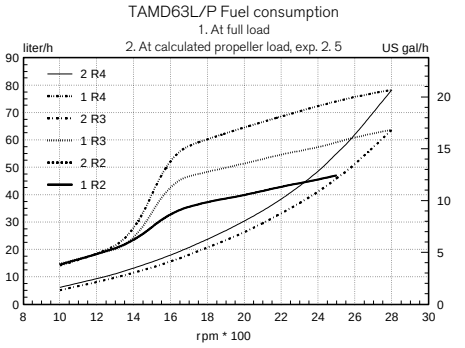
The engine illustrated may not be entirely identical to production standard engines.

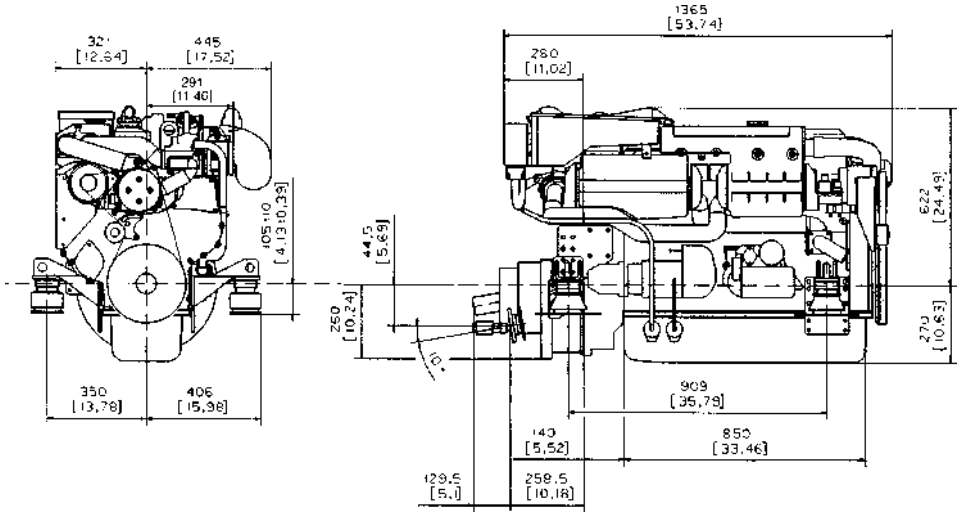






Dimensions TAMD63L/P with ZF 220A

Not for installation



AB Volvo Penta
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VOLVO PENTA INBOARD DIESEL

TAMD74A

6-cylinder, 4-stroke, direct-injected, turbocharged marine diesel engine with aftercooler – crankshaft power* 154–257 kW (209–350 hp)

* Power rating – see Technical Data

Reliable and powerful

The TAMD74A is a powerful, reliable and economical marine diesel built on the dependable in-line six design.

Developed for Medium and Heavy duty operation for displacement, semi-planing and planing craft.

Durability and low noise levels

Designed for easiest, fastest and most economical installation.

Well-balanced to produce smooth and vibration-free operation with low noise level.

Comprehensive program of factory-fitted equipment for perfect matching to specific customer requirements, e.g. reverse gears, PTO's, cooling systems, electrical systems.

To maintain a controlled working temperature in cylinders and combustion chambers, the engine is equipped with piston cooling and freshwater-cooled oil cooler. The engine is also fitted with replaceable cylinder liners and valve seats/guides to ensure maximum durability and service life of the engine.

Low exhaust emission levels

The state of the art, high-tech injection and charging system with low internal losses contributes to excellent combustion and low fuel consumption. The TAMD74A complies with the IMO emission regulations.

Marine electrics

The classifiable two-pole electrical system "CU 2500F" is specifically adapted to demanding marine environments with remote and flex-mounted senders as well as moisture-proof connectors.

TAMD74A
with MG5091DC

Ease of service and maintenance

Easily accessible service and maintenance points contribute to the ease of service of the engine.

Comprehensive service network

Volvo Penta has a well-established network of authorized service dealers in more than 100 countries throughout the world. These service centers offer genuine Volvo Penta parts as well as skilled personnel to ensure the best possible service.

Technical description:

Engine and block

- Cylinder block and cylinder heads made of cast iron alloy
- Two cylinder heads
- Replaceable wet cylinder liners and valve seats/guides
- Nitrocarburized crankshaft with seven main bearings
- Oil-cooled forged aluminum pistons
- Three piston rings, upper of keystone type

Lubrication system

- Freshwater-cooled oil cooler
- Side-mounted full-flow and by-pass filter of spin-on type

Fuel system

- Fuel injection pump with centrifugal governor, and fuel feed pump
- High pressure fuel lines
- Twin fine fuel filters of spin-on type
- Fuel shut-off valve, electrically operated
- 7-hole injectors

Turbocharger

- Freshwater-cooled turbocharger

Cooling system

- Tubular heat exchanger with integrated expansion tank or adapted for 1- and 2-circuit keel cooling
- Seawater-cooled tubular aftercooler
- Belt-driven seawater pump

Electrical system

- 12 V or 24 V electrical system incl. alternator (60A) with charging sensor
- Rubber suspended electrical terminal box with semi-automatic fuses

VOLVO PENTA

TAMD74A

Technical Data

Engine designation	**TAMD74A**
No. of cylinders and configuration	in-line 6
Method of operation	4-stroke, direct-injected, turbocharged diesel engine with aftercooler
Bore, mm (in.)	107 (4.21)
Stroke, mm (in.)	135 (5.31)
Displacement, l (in³)	7.28 (444)
Compression ratio	17.2:1
Dry weight, kg (lb)	860 (1896)
Weight with reverse gear MG5075A, excl. water and oil, kg (lb)	1045 (2304)
Crankshaft power,	
Rating 2, kW (hp) 2200 rpm	257 (350)
Rating 2, kW (hp) 2200 rpm	210 (287)
Rating 1, kW (hp) 2100 rpm	184 (250)
Rating 1, kW (hp) 2000 rpm	160 (218)
Rating 1, kW (hp) 1800 rpm	154 (209)
Torque,	
Rating 2, Nm (lbf.ft) 2200 rpm	1117 (824)
Rating 2, Nm (lbf.ft) 2200 rpm	912 (673)
Rating 1, Nm (lbf.ft) 2100 rpm	836 (617)
Rating 1, Nm (lbf.ft) 2000 rpm	765 (564)
Rating 1, Nm (lbf.ft) 1800 rpm	819 (604)
Recommended fuel to conform to	ASTM-D975 1-D & 2-D, EN 590 or JIS KK 2204
Specific fuel consumption,	
R 2, g/kWh (lb/hph) 2200 rpm	229 (0.371)
R 2, g/kWh (lb/hph) 2200 rpm	222 (0.360)
R 1, g/kWh (lb/hph) 2100 rpm	222 (0.360)
R 1, g/kWh (lb/hph) 2000 rpm	222 (0.360)
R 1, g/kWh (lb/hph) 1800 rpm	209 (0.339)

Fuel temperature 40°C (104°F)
Technical data according to ISO 3046 Fuel Stop Power and ISO 8665. Fuel with a lower calorific value of 42,700 kJ/kg and density of 840 g/liter at 15°C (60°F). Merchant fuel may differ from this specification which will influence engine power output and fuel consumption.
N.B. The product can also be used in an application with a higher rating than stated, e.g. R2 can be used for R3, R4 or R5.
The engine complies with the IMO emission regulations.

Optional equipment:

Engine

- Flexible suspension for engine and reverse gear

Lubrication system

- Electrically and manually operated oil drain pump
- Rear-mounted full-flow oil filters of spin-on type
- Shallow oil sump
- Classifiable oil system

Fuel system

- Single or twin fuel filters/water separators
- Classifiable fuel system

Exhaust system

- Exhaust elbow, wet or dry
- Exhaust riser, wet
- Exhaust boot, wet
- Silencer, dry
- Flexible compensator, dry

Cooling system

- Seawater strainer
- Hot water outlet
- Separate expansion tank

Electrical system

- 12V 130A or 24V 100A extra alternators
- Various instrument panels
- Cable harness in different lengths
- Classifiable electric equipment acc. to IP44

Power transmission

- PTO crankshaft front end, type stub shaft incl. universal bracket
- Hydraulic pump for steering and other duties

Reverse gear

- MG5075SC and MG5091SC/DC

Other equipment

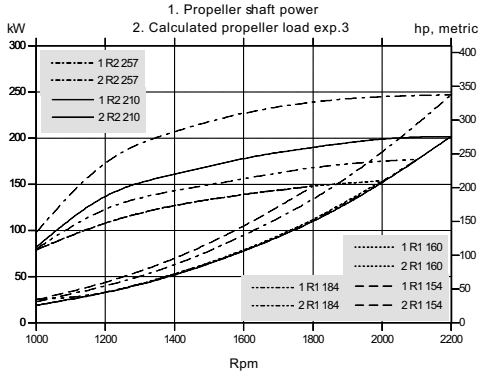
- Flush and bilge pump
- Belt guard
- White-painted engine and reverse gear
- Engine heater 2000 W, separately fitted

Contact your local Volvo Penta dealer for further information.

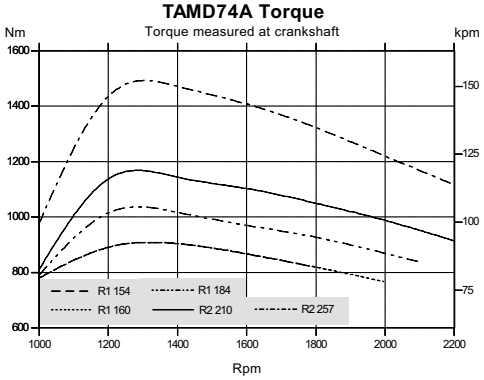
Not all models, standard equipment and accessories are available in all countries. All specifications are subject to change without notice.

The engine illustrated may not be entirely identical to production standard engines.

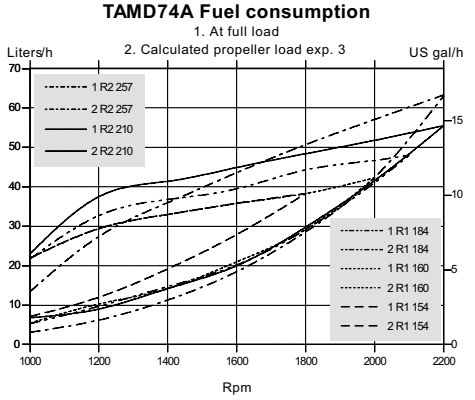
TAMD74A Power



TAMD74A Torque

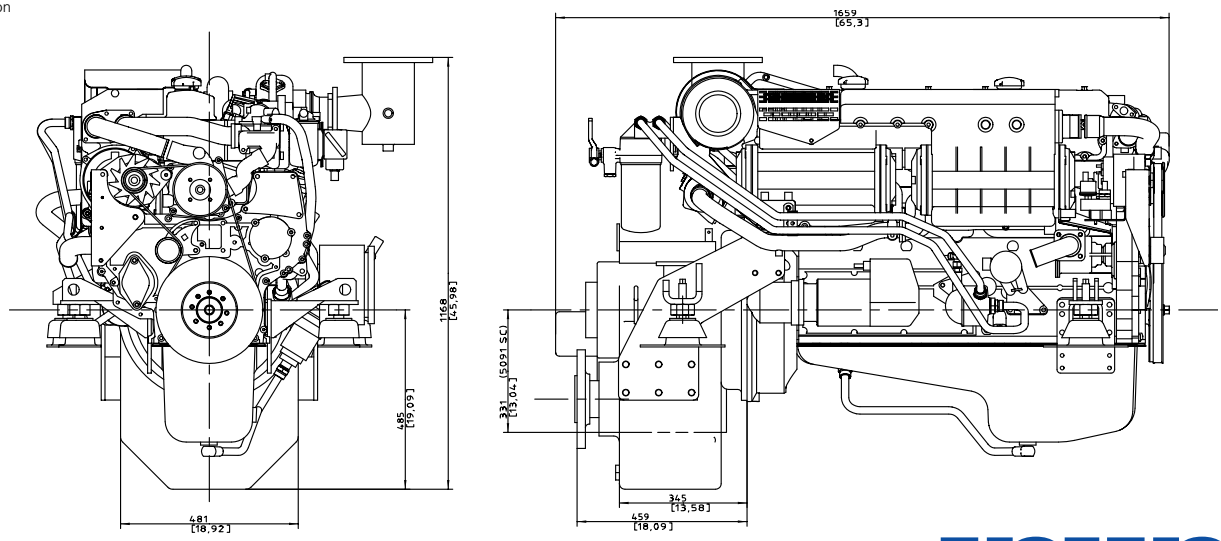


TAMD74A Fuel consumption



Dimensions TAMD74A with 5091SC/DC

Not for installation



AB Volvo Penta
SE-405 08 Göteborg, Sweden
www.volvopenta.com

VOLVO PENTA INBOARD DIESEL

TAMD74C EDC

6-cylinder, 4-stroke, direct-injected, turbocharged marine diesel engine with aftercooler – crankshaft power* 294–331 kW (400–450 hp)

* Power rating – see Technical Data

Powerful performance for commercial applications

The TAMD74C EDC marine diesel is specially developed for fast planing and semi-planing craft. The engine's high output combined with a rich torque curve ensures excellent performance, acceleration and response, suitable for propeller and waterjet applications. Its compact dimensions optimizes boat layout, minimizes impact on living space onboard and improves service accessibility.

EDC – optimizing engine performance

EDC (Electronic Diesel Control) – an electronically controlled processing system that determines the precise quantity of fuel required at any given moment. The EDC system takes full account of variation in operating temperature, air pressure and other contributing factors, which optimizes engine performance and efficiency, reducing fuel consumption and emissions.

Enhanced onboard comfort

The Volvo Penta in-line six cylinder engine is an uncomplicated design with a minimum of moving parts, specially developed for highly demanding marine applications. The engine is a well-balanced unit with powerfully dimensioned crankshaft bearings. This ensures smooth, vibration-free operation and low noise levels.

The EDC system improves engine response with lower and more stable idling.

The electrical control levers are operated more smoothly and precisely, requiring much less force.

Automatic twin engine synchronization reduces noise and vibration levels, increasing service life of engine.

High-pressure injection in combination with six-hole nozzles and the EDC system optimizes fuel-air mixture. This greatly contributes to more efficient combustion with higher power and reduced noxious exhaust emissions. The engine complies with the IMO emission regulations.

TAMD74C EDC
with MG5075A-E

Easy installation and maintenance

Plug-in electrical connectors, compact dimensions and the EDC system ensures an easy, simple and time-saving installation. The EDC system's self-diagnostic facility and easily accessible service and maintenance points contributes to the ease of service of the engine.

Worldwide service support in more than 100 countries

The Volvo Penta Parts and service dealer network is a truly international operation with authorized service dealers around the world. These service centers offer Genuine Volvo Penta Parts as well as skilled personnel to ensure the best possible service. Continuous product and service training ensures that our products are well supported.

Technical description:

Engine and block

- Cylinder block and cylinder heads made of cast iron alloy
- Two cylinder heads
- Replaceable wet cylinder liners and valve seats/guides
- Nitrocarburized crankshaft with seven main bearings
- Oil-cooled forged aluminum pistons
- Three piston rings, upper of keystone type

Lubrication system

- Freshwater-cooled oil cooler
- Side-mounted full-flow and by-pass filter of spin-on type
- Oil dipsticks on both sides of oil sump

Fuel system

- Fuel injection pump incl. fuel feed pump and electronically controlled actuator
- Electronically controlled central processing system (EDC – Electronic Diesel Control) with integrated stop function
- Compensation to allow max output at fuel temperatures of 5–55°C (41–131°F)
- Six-hole injectors
- Twin fine fuel filters of spin-on type

Turbocharger

- Freshwater-cooled turbocharger with wastegate

Cooling system

- Tubular heat exchanger with integrated expansion tank or 2-circuit keel cooling
- Seawater-cooled tubular aftercooler
- Gear-driven seawater pump

Electrical system

- 12 V or 24 V electrical system incl. alternator (60A) with charging sensor
- Rubber suspended electrical terminal box with semi-automatic fuses

VOLVO PENTA

TAMD74C EDC

Technical Data

Engine designation ..... **TAMD74C EDC**
No. of cylinders and configuration ..... in-line 6
Method of operation ..... 4-stroke, direct-injected, turbocharged diesel engine with aftercooler
Bore, mm (in.) 107 (4.21)
Stroke, mm (in.) 135 (5.31)
Displacement, l (in³) 7.28 (444)
Compression ratio 17.2:1
Dry weight, kg (lb) 860 (1896)
Weight with reverse gear MG5075A-E, excl. water and oil, kg (lb) 1045 (2304)
Crankshaft power,
Rating 4, kW (hp) 2600 rpm 331 (450)
Rating 3, kW (hp) 2500 rpm 316 (430)
Rating 3 is also available for 294 kW (400 hp).
Propshaft power with MG5075A-E,
Rating 4, kW (hp) 2600 rpm 318 (432)
Rating 3, kW (hp) 2500 rpm 303 (412)
Torque,
Rating 4, Nm (lbf.ft) 2600 rpm 1214 (895)
Rating 3, Nm (lbf.ft) 2500 rpm 1202 (887)
Recommended fuel to conform to ..... ASTM-D975 1-D & 2-D, EN 590 or JIS KK 2204
Specific fuel consumption,
R4, g/kWh (lb/hph) 2600 rpm 235 (0.382)
R3, g/kWh (lb/hph) 2500 rpm 229 (0.372)

Technical data according to ISO 3046 Fuel Stop Power and ISO 8665. Fuel with lower calorific value of 42,700 kJ/kg and density of 840 g/liter at 15°C (60°F). Merchant fuel may differ from this specification which will influence engine power output and fuel consumption.
Fuel temperature 5–55°C (41–131°F).
N.B. The product can also be used in an application with a higher rating than stated, e.g. R3 can be used for R4 or R5.
The engine complies with the IMO emission regulations.

Optional equipment:

Engine
– Flexible suspension for engine and reverse gear

Lubrication system
– Electrically operated oil drain pump
– Rear-mounted full-flow and by-pass oil filters of spin-on types

Fuel system
– Single or twin fuel filters/water separators

Exhaust system
– Exhaust elbow, wet
– Exhaust riser, wet
– Exhaust boot, wet
– Exhaust elbow, dry
– Silencer, dry
– Flexible compensator, dry

Cooling system
– Seawater strainer
– Hot water outlet
– Separate expansion tank

Electrical system
– 12V 130A or 24V 100A extra alternators
– Various instrument panels
– Cable harness in different lengths
– EDC Monitoring panels
– Multistation unit
– Electrical control lever

Power transmission
– PTO crankshaft front end, type stub shaft incl. universal bracket
– Hydraulic pump for steering and other duties

Reverse gear
– MG5075A-E, MG5085A-E, MG5085SC-E, ZF 280A-EB, ZF 301A-EB, and ZF 302IV-EB, electrically shifted

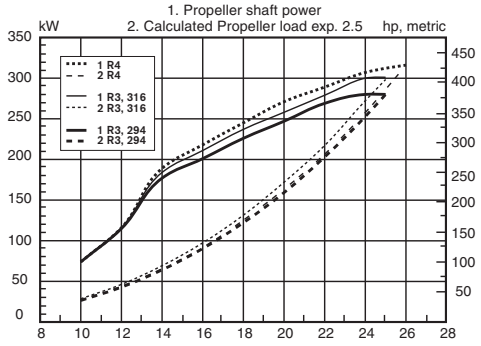
Other equipment
– Belt guard
– White-painted engine and reverse gear

Contact your local Volvo Penta dealer for further information.

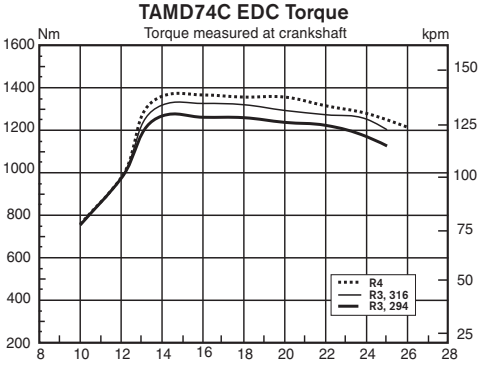
Not all models, standard equipment and accessories are available in all countries. All specifications are subject to change without notice.

The engine illustrated may not be entirely identical to production standard engines.

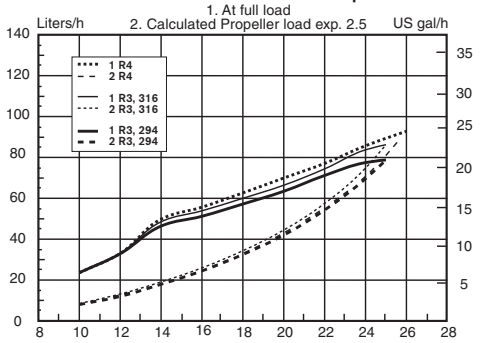
TAMD74C EDC Power
1. Propeller shaft power
2. Calculated Propeller load exp. 2.5



TAMD74C EDC Torque
Torque measured at crankshaft

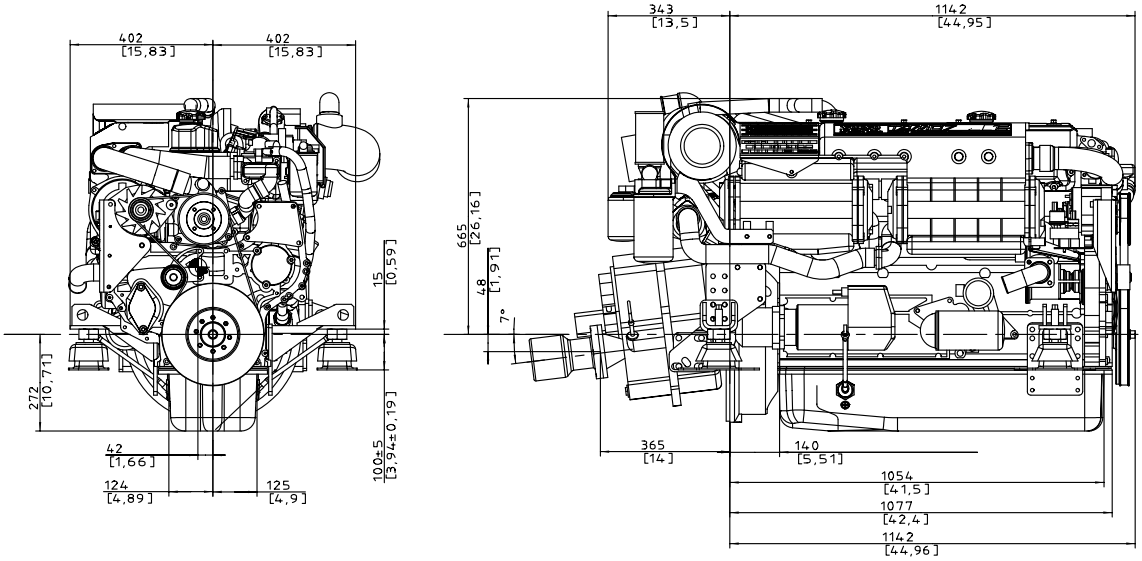


TAMD74C EDC Fuel consumption
1. At full load
2. Calculated Propeller load exp. 2.5



Dimensions TAMD74C EDC with MG5075A-E

Not for installation



AB Volvo Penta
SE-405 08 Göteborg, Sweden
www.volvopenta.com

NEW!

VOLVO PENTA INDUSTRIAL DIESEL

TD520VE

Engine for industrial applications
76kW (102 hp)

The TD520VE is a powerful, reliable and economical Versatile Diesel Engine.

Durability & reliability

Designed for easiest, fastest and most economical installation. Well-balanced to produce smooth and vibration-free operation with low noise level.

To maintain a controlled working temperature in cylinders and combustion chambers, the engine is equipped with piston cooling.

Operational economy

The state of the art, high-tech injection and charging system with low internal losses contributes to excellent combustion and low fuel consumption.

The TD520VE complies with present emission regulations in both USA and Europe

Easy service & maintenance

Modern injection system, integrated oil cooler and all service points located on one side provides best possible access in an installation. Replaceable cylinder liners valve guides and valve seats gives lower service and repair costs for the customer. Quality Volvo Penta support is available in more than 100 countries all over the world. No matter where the equipment ends up, the end user will have a local Volvo Penta support.

Technical description:

Engine and block

- Optimized cast iron cylinder block with optimum distribution of forces
- Piston cooling for low piston tempera ture and reduced ring temperature
- Drop forged steel connecting rods for reduce risk of piston cracking
- Crankshaft hardened bearing surfaces and fillets for moderate load on main and high-end bearings
- Keystone top compression rings for long service life
- Replaceable valve guides and valve seats
- PTO positions att flywheel end
- Lift eyelets
- Flywheel housing with connection acc to SAE 2
- Flywheel for flexible coupling and friction clutch

Features

- Power Pac configuration
- Built in reliability and durability features
- High power to weight ratio
- Emission compliant
- Noise optimized engine design
- A selection of optional equipment

Lubrication system

- Full flow disposable spin-on oil filter, for extra high filtration
- Rotary displ oil pump driven by the crankshaft
- Deep centre oil sump
- Oil filler on valve cover
- Oil dipstick, right side, front
- Integrated full flow oil cooler, side-mounted

Fuel system

- Six hole fuel injection nozzles
- Direct injection unit pump with smoke limiter function
- Heavy duty fuel prefilter with water separator
- Belt driven rotary low-pressure fuel pump
- Fine fuel filter of disposable type
- Fuel shut-off solenoid, electrically operated, 12 V

Intake and exhaust system

- Turbo charger
- Closed crankcase ventilation

Cooling system

- Belt driven, maintenance-free coolant pump with high degree of efficiency
- Efficient cooling with accurate coolant control through a water distribution duct in the cylinder block. Reliable sleeve thermostat with minimum pressure drop
- Cooling water pipe, inlet and outlet
- Fan hub
- Puller fan, 520 mm

Electrical system

- 12V electrical system incl. sensors
- Alternator 14V / 55A
- Starter motor, Bosch, 4.0 kW/24 V, single pole

VOLVO PENTA

TD520VE

Power Pac equipment

Lubrication system
- Oil drain pump

Fuel system
- Heavy duty fuel prefilter
- Fuel hand pump

Intake and exhaust system
- Air filter
- Silencer

Cooling system
- Tropical radiator
- Radiator guard
- Expansion tank

Control system
- Speed control

Electrical system
- Cable harness
- Instrument panel, 12V

Miscellaneous
- Base frame

Optional equipment

Engine
- Additional crancshaft pulleys
- Friction clutch

Lubrication system
- Oil filling on crank case

Fuel system
- Fuel temperature switch

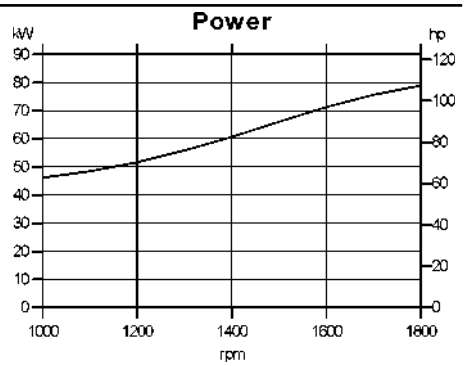
Electrical system
- Alarm sparator / Fault indication

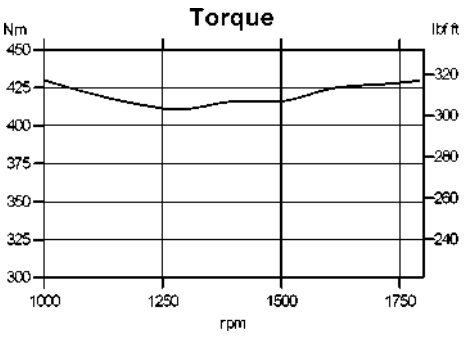
Miscellaneous
- Coolant preheater
- Tool kit

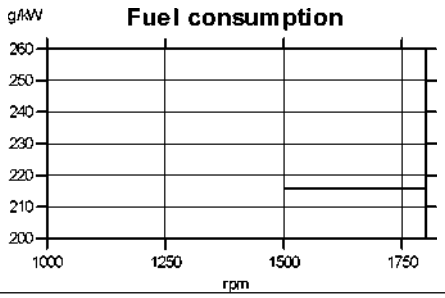
Technical Data

Engine designation	**TD520VE**
IFN net power at 1800rpm with fan, kW (hp)	76 (102)
Max Torque, Nm (lbf ft)	424 (313)
Displacement, l (in³)	4.76 (290)
Number of cylinders	4
Bore/stroke, mm (in.)	108/130 (4.25/5.12)
Compression ratio	18.4:1
Dry weight, kg (lb)	725 (1598)

The engine performance corresponds to ISO 3046, BS 5514 and DIN 6271. The technical data applies to an engine without cooling fan and operating on a fuel with calorific value of 42.7 MJ/kg (18360 BTU/lb) and a density of 0.84 kg/litre (7.01 lb/US gal, 8.42 lb/Imp gal), also where this involves a deviation from the standards.

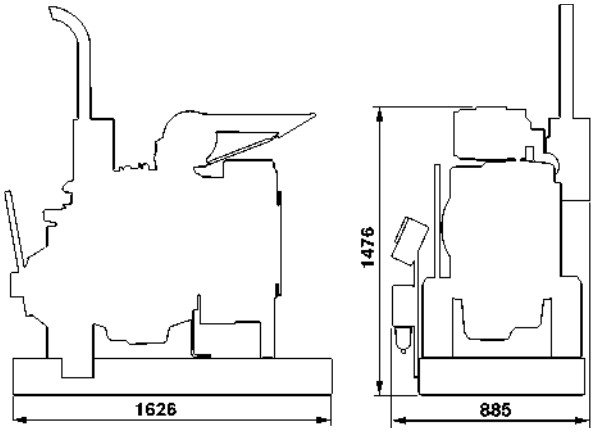






Dimension TD520VE

Not for installation



Note! The engine illustrated may not be entirely identical to production standard engines

Power Standards
The engine performance corresponds to ISO 3046, BS 5514 and DIN 6271. The technical data applies to an engine without cooling fan and operating on a fuel with calorific value of 42.7 MJ/kg (18360 BTU/lb) and a density of 0.84 kg/litre (7.01 lb/US gal, 8.42 lb/Imp gal), also where this involves a deviation from the standards.

Rating Guideline
IFN Power rating corresponds to ISO Overload Power. It is intended for applications where intermittent power is utilized less than 1 hour within any period of 12 hours of continuous operation. The average load factor must not exceed the continuous rating.

ICFN Power rating corresponds to ISO Standard Power for continuous operation. It is intended for constant load applications with uninterrupted service at full load for extended periods of time.

Derating
The engine may be operated up to 1000 m altitude and 40°C ambient air temperature without derating. For operation at higher altitudes and temperatures the power should be derated according to the following factors:

Altitude derating factor < 3000 m	4 % / 500 m
Altitude derating factor > 3000 m	6 % / 500 m
Ambient temperature derating factor	2 % / 5 °C
Humidity	No derating

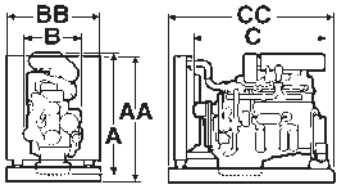
AB Volvo Penta
SE-405 08 Göteborg, Sweden
www.volvopenta.com

TWD 630 VE

Engine for industrial applications

TWD 630 VE

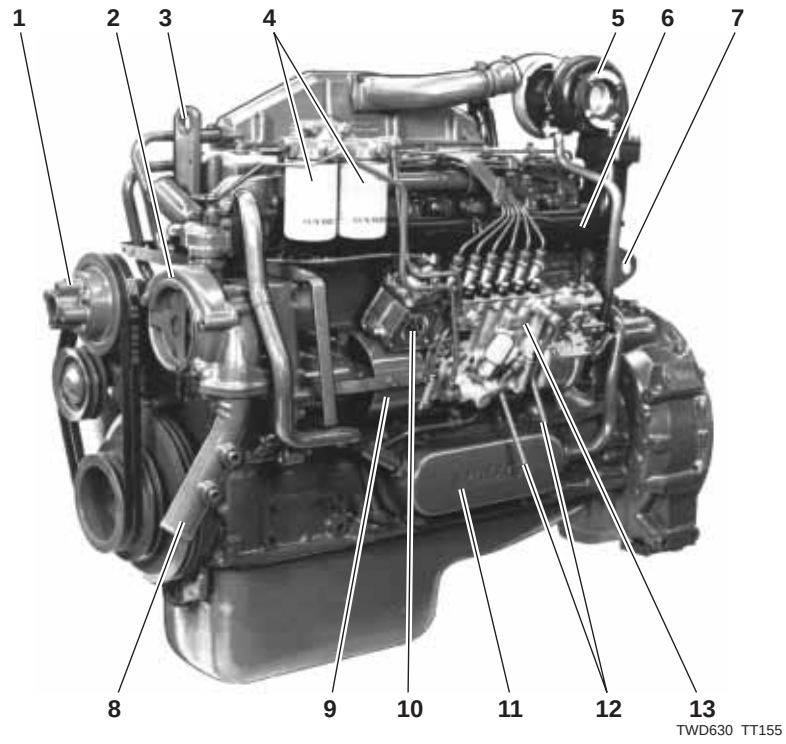
- Turbocharged
- Water to air intercooled
- Diesel fuel
- Displacement indication (l)
- Generation
- Version
- Versatility engine
- Emission controlled



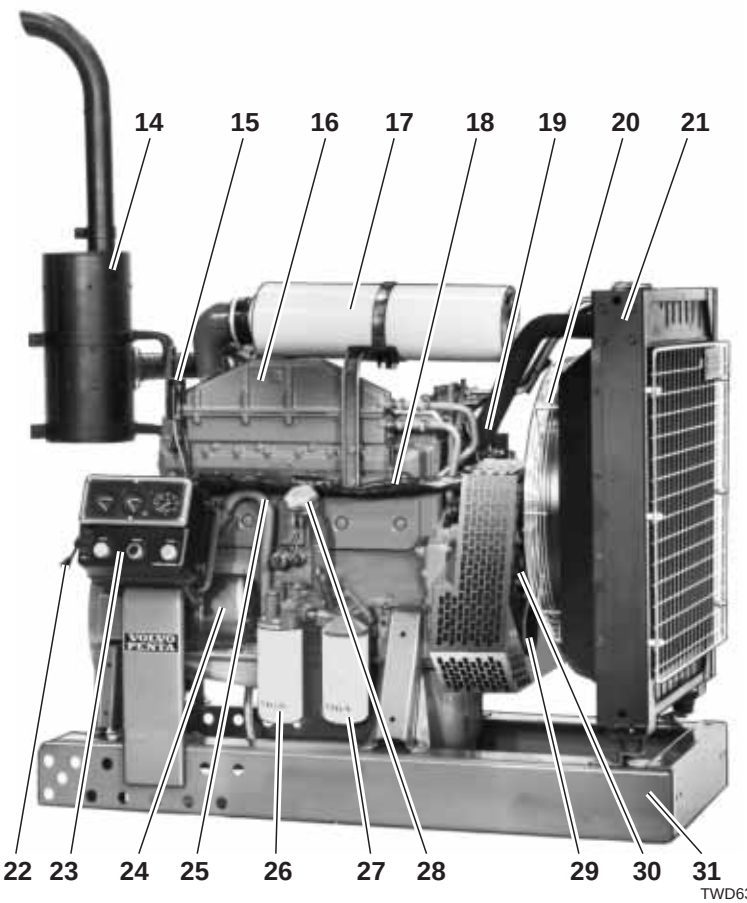
mm / in.

A	= 1095 mm / 43.1 in.	AA	= 1371 / 54.0
B	= 621 mm / 24.4 in.	BB	= 1029 / 40.5
C	= 1202 mm / 47.3 in.	CC	= 1796 / 70.7

- Based on Volvo's well proven dependable six-in-line turbocharged and water to air intercooled engine.
- Built with a high degree of precision to withstand high outputs and at the same time correspond to high demands on operational safety and service life.
- Exhaust gas emission controlled.
- Smoke control through effective smoke limiter.
- Low fuel consumption and low noise level.



TWD630 TT155



TWD630 TT378

Power pac with optional equipment

1. Fan hub
2. Gear-driven coolant pump
3. Lift eyelet
4. Twin fuel filters of throw-away type
5. Turbocharger
6. Air cooled exhaust manifold
7. Lift eyelet
8. Coolant pipe, inlet
9. Pump coupling guard
10. Smoke limiter
11. Oil cooler
12. Fuel pipes for tank connection
13. Injection pump
14. Silencer
15. Relay for inlet manifold heater
16. Intercooler
17. Air filter
18. Cable iron
19. Coolant pipe, outlet
20. Fan guard
21. Tropical radiator
22. Speed control
23. Instrument panel
24. Starter motor
25. Crankcase ventilation
26. Full-flow oil filter of spin-on type
27. By-pass oil filter of spin-on type
28. Oil filler
29. Vibration damper
30. Automatic belt tensioner
31. Base frame

VOLVO PENTA

Technical data TWD 630VE

Volvo Penta reserves the right to make changes at any time, without notice, as to technical data, prices, materials, standard equipment, specifications and models, and to discontinue models.

General

In-line four-stroke diesel engine with direct injection
Turbocharged and water to air intercooled

Number of cylinders	6	Bore	98.43 mm / 3.88 in
Displacement, total	5.48 liters / 335 in^3	Stroke	120 mm / 4.72 in
		Compression ratio	18.3:1

Firing order	1-5-3-6-2-4	Dry weight, kg/lb	Power Pac	898/1978	Engine only 665/1465
Rotation direction, anti-clockwise viewed towards flywheel		Wet weight, kg/lb	Power Pac	964/2124	Engine only 700/1542

TWD 630 VE	Speed, rpm	1800	2000	2200	2400
Performance	Test no.		A 1535		
IFN Power					
without fan	kW / hp	121 / 165	130 / 177	137 / 186	140 / 190
with fan	kW / hp	118 / 160	126 / 171	131 / 178	131 / 178
ICXN Power					
without fan	kW / hp	110 / 150	118 / 160	124 / 169	127 / 173
with fan	kW / hp	107 / 145	114 / 155	118 / 160	118 / 160
Torque at					
IFN Power	Nm / lbft	642 / 473	621 / 458	595 /439	535 / 395
ICXN Power	Nm / lbft	584 / 431	563 / 415	538 / 397	485 / 358
Mean piston speed	m/s / ft/sec	7.2 / 23.6	8 / 26.2	8.8 / 28.9	10.0 / 32.8
Effective mean pressure at ICXN Power	MPa / psi	1.34 / 194	1.29 / 187	1.23 / 178	1.11 / 161
Max combustion pressure at ICXN Power	MPa / psi	10.4 / 1508	11.5 / 1668	12.1 / 1755	11.2 / 1624
Total mass moment of inertia, J (mR^2)	kgm^2 / $lbft^2$		1.50 / 35.6		
Degree of irregularity at IFN Power		1:121	1:190	1:295	1:630
Residual speed droop					
at load increase from 0 to 100% at IFN Power	%				6–8
Friction Power	kW	17	20	23	26
Lubrication system					
Lubricating oil average consumption at					
ICXN Power	g/kWh		0.4		
Oil system capacity including filters	liters	24			
Oil change interval					
VDS-2	h		600		
VDS	h		400		
CCMC D5	h		200		
Fuel system					
Specific fuel consumption at					
25% of IFN Power	g/kWh / lb/hph	284 / 0.461	292 / 0.473	308 / 0.499	346 / 0.561
50% of IFN Power	g/kWh / lb/hph	232 / 0.376	232 / 0.376	240 / 0.389	256 / 0.415
75% of IFN Power	g/kWh / lb/hph	219 / 0.355	218 / 0.353	220 / 0.356	235 / 0.381
100% of IFN Power	g/kWh / lb/hph	217 / 0.352	214 / 0.347	217 / 0.352	232 / 0.376
Intake and exhaust system					
Air consumption at IFN Power	m^3/ min / cfm	8.4 / 297	9.5 /335	10.5 / 371	11.8 / 417
Max allowable air intake restriction	kPa / In wc		5 / 20		
Heat rejection to exhaust at IFN Power	kW / BTU/min	98 / 5573	101 / 5744	110 / 6256	131 / 7450
Exhaust gas temperature after turbine					
at IFN Power	°C / °F	523 / 973	492 / 918	474 / 885	473 / 883
Max allowable back-pressure in exhaust line	kPa / In wc	6 / 24	7.5 / 30	9 / 36	12 / 48
Exhaust gas flow at IFN Power	m^3/min / cfm	24.0 / 848	25.5 / 901	27.3 / 964	30.2 / 1067
Exhaust gas smoke	Bosch units	0.8	0.6	0.7	0.8
Cooling system					
Heat rejection radiation from engine at					
IFN power	kW / BTU/min	7 / 398	8 / 455	8 /455	9 / 512
Heat rejection to coolant at IFN power	kW / BTU/min	77 / 4379	81 / 4606	86 / 4890	93 / 5289

Power Standards

The engine performance corresponds to ISO 3046, BS 5514 and DIN 6271. The technical data applies to an engine without cooling fan and operating on a fuel with calorific value of 42.7 MJ /kg (18360 BTU/lb) and a density of 0.84 kg/litre (7.01 lb/US gal, 8.42 lb/Imp gal), also where this involves a deviation from the standards.

Rating Guidelines

IFN Power rating corresponds to ISO Overload Power. It is intended for applications where intermittent power is utilized less than 1 hour within any period of 12 hours of continuous operation. The average load factor must not exceed the continuous rating.

ICXN Power rating corresponds to ISO Standard Power for continuous operation with 10% overload available. It is intended for constant load applications with uninterrupted service for extended periods of time. The ICXN power can be exceeded by 10% 1 hour within any period of 12 hours of continuous operation. The average load factor must not exceed the continuous rating.

Ref. No. 7738575-5 Eng 6-1997 Printed on environmentally friendly paper.

VOLVO PENTA AQUAMATIC

3.0GS/SX

4-cylinder, 4-stroke, gasoline marine engine
100 kW (135 hp)

Engine

Compact and reliable in-line 4-cylinder seawater-cooled gasoline engine with cast iron cylinder block, head and exhaust manifold, specially developed for marine environment. With a 3.0 liter displacement and high torque, the engine is ideal for single and twin applications.

Virtually maintenance-free breakerless ignition system. Easily accessible seawater pump located in the front of the engine. The 3.0GS engines are equipped with hydraulic valve lifters, which eliminate the need of valve adjustment. The crankshaft is supported with five main bearings for extra strength and smooth running.

3.0GS with Aquamatic SX drive

Aquamatic sterndrive

The SX single propeller drive is of the most modern design featuring exhaust through the propeller hub for quiet and efficient operation, a cone clutch for easy and smooth shifting, pattern-matched spiral bevel gears for optimum strength and minimum gear whine, and a break-away shaft coupling to prevent costly drivetrain repairs.

The hydrodynamic design of the lower drive housing ensures excellent course stability both at high speed and when maneuvering at low speeds and in reverse. The drive is equipped with easily maneuvered hydraulic power trim for obtaining the best running position at different sea and load conditions.

For maximum corrosion protection the drive has gone through a 23 step paint process and comes equipped with sacrificial anodes both on the drive and transom shield.

Either right- (standard) or left-handed propellers can be used. A choice of stainless steel and aluminum propellers are available for different applications.

Electrical system

The electrical system features a 12 V corrosion-protected marine electrical system which meets the U.S. Coast Guard requirements. The engine is wired for easy plug-in connection to the instrument panel. The engine electrical system and the electric hydraulic power trim is protected by a 50 A circuit breaker and comes equipped with a 65 A alternator. Full instrumentation including trim gauge and wiring harness (option on certain markets).

Technical description:

Engine and block

- Cylinder block and cylinder head made of cast iron for good corrosion resistance
- Pistons with two compression rings and one oil scraper ring
- Five-bearing crankshaft
- Valve train consisting of single camshaft, hydraulic valve lifters, push rods and two overhead valves per cylinder

Engine mounting

- Two adjustable rubber mounts, one on each side of the engine, and two between transom shield assembly and engine

Lubrication system

- Pressure lubrication system with full-flow oil filter of spin-on type

Fuel system

- Two-barrel carburetor with automatic choke
- Fuel feed pump with integrated fuel filter
- Stainless steel fuel lines

VOLVO PENTA

3.0GS/SX

Inlet and exhaust system
- Marine intake manifold
- Flame arrestor
- Closed crankcase ventilation
- Seawater-cooled exhaust manifold and riser made of cast iron
- Complete exhaust line with pipe and bellows for exhaust outlet through the drive

Cooling system
- Thermostatically controlled seawater cooling
- Crankmounted seawater pump
- Electrocoated exhaust riser
- Flush fitting – hose connection to flush cooling system with freshwater

Electrical system
- 12 V corrosion-protected electrical system
- 65 A alternator with internal transistorized voltage regulator
- Charging regulator with battery sensor for voltage drop compensation
- Breakerless electronic ignition system
- One 50 A resettable circuit breaker for the trim system
- Starter motor power 1.0 kW
- Audio alarms – engine oil pressure and temperature as well as exhaust overheat

Instruments
(option on certain markets)
- Complete instrument panel including: Rev counter, engine temperature gauge, oil pressure gauge, voltmeter, key switch, two fuses, instrument light switch
- Wiring harness from engine to instrument panel
- Maneuver switch for power trim
- Wiring harness from trim pump to maneuver switch for power trim

Drive
- Single propeller drive which can be run with both right- and left-hand propellers
- Cone clutch
- Coolant water intake for the engine located at the lower part of the drive
- Pattern-matched spiral bevel gears
- Through-hub exhaust
- Overload protection sleeve (break-away coupling)
- The drive can be tilted 55°
- The drive can be turned 28° in each direction
- Built-in kick-up function to reduce possible damage, in the event the drive strikes an underwater object
- Belt-driven power steering pump (option)
- Active corrosion protection as accessory

Power Trim
- Electrically operated hydraulic system with trim gauge for best driving comfort

Accessories

An extensive range of accessories for:
- Fuel system
- Cooling system
- Control system
- Steering system
- Instruments
- Electric system
- Comfort & Safety
- Propeller & Drive
- Maintenance

For detailed information, please see Accessory catalogs.

Contact your local Volvo Penta dealer for further information.

Not all models, standard equipment and accessories are available in all countries. All specifications are subject to change without notice.

The engine illustrated may not be entirely identical to production standard engines.

Technical Data

Engine designation	**3.0GS**
Propeller shaft power kW (hp)	100 (135)
Max. engine speed, rpm	4600
Displacement, l (in^3)	3.0 (181)
Number of cylinders	I-4
Fuel system	2 BBL
Bore/stroke, mm	101.6/91.4
in.	(4.00/3.60)
Compression ratio	9.2:1
Volvo Penta Aquamatic drive	**SX**
Ratio	1.97:1 or 2.18:1
Dry weight engine, transom shield and drive, kg (lb)	304 (670)
Dimensions (not for installation):	
Engine length inside transom, mm (in.)	856 (33.7)
Engine width, mm (in.)	672 (26.5)
Height above crankshaft, mm (in.)	531 (20.9)
Height below crankshaft, mm (in.)	191 (7.5)

Propshaft power according to ISO 8665.
Duty rating: R5 (Pleasure Duty)
IMEC Standard.

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