

# VOLVO PENTA MARINE GENSET TAMD122A HE

power output\* at 1500 rpm 50Hz 270–288 kVA (216–230 kWe)  
power output\* at 1800 rpm 60Hz 325–328 kVA (260–262 kWe)

\* Power rating – see Technical Data

## Volvo Penta Genset systems

The Volvo Penta Genset systems are the complete solution for a ship's onboard power requirement. From a company dedicated to the marine industry. You get not only reliable marine diesels, well matched generators and a monitoring system, but also a wide range of products and services to optimize your investment.

Each Volvo Penta Genset is built in the Volvo factory fully adapted to the customer's requirements and comes complete with engine, generator and monitoring system, all tested and ready for installation onboard. The basis for the Volvo Penta Gensets are the smooth running and reliable marine diesel engines. Compact in design, they occupy less space in the engine room, and their good accessibility makes service and maintenance easy. Auto-start and synchronizing is rapid and reliable, meeting all standards with a comfortable margin.

Most Volvo Penta Gensets come with Stamford PMG brushless generators. Other brands are fitted upon request.

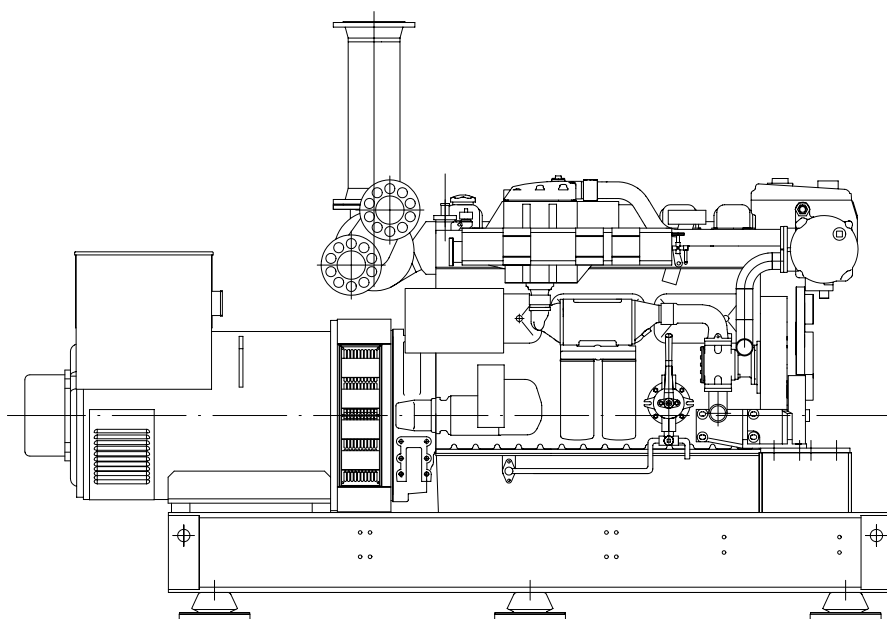
All the Volvo Penta Gensets are type approved by the major classification societies, and can be delivered under complete certification.

## Engine

The Volvo Penta engines are well-balanced and have excellent emission performance. With rapidly growing care for the environment all over the world, emission regulations are becoming increasingly stricter. Today's Volvo Penta engines meet both existing and proposed emission regulations. Volvo's basic engine design in combination with a highly efficient speed control system gives superior load taking capability.

## Generator

All the standard Gensets are equipped with a generator built by Newage Stamford. Stamford is the market leader in this power range and provides for worldwide service coverage. These generators are of a long proven design, based on years of experience of power generation for land-based and marine applications. If preferred, generators of other suppliers can be used.



TAMD122A HE with STAMFORD HCM434F-1 generator

## Control and Monitoring

The CU2500 control and monitoring system sets a new standard for the control and monitoring of marine Gensets.

High accuracy temperature and pressure (analogue) indication through PT100 sensors and computer reading (built-in micro processor) are displayed, both as horizontal bars and as digital values on the CU2500's adjustable graphical LCD screen.

Interfacing with the ship's computer system can be either via an RS232 port and a standard COMLI-protocol or via potential free contacts. In stand-by mode the engine is controlled by external signals.

In manual mode all functions are accessible from push buttons on the front panel. All actions are displayed with text messages, in any specified language, and automatically logged with the time and date of occurrence in a non-erasable memory.

## Warranty and Service

For all Volvo Penta marine Gensets we can offer 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. This optional 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. A complete set of documentation will be delivered with the set according to Volvo's high quality publication standard.

**VOLVO  
PENTA**

# TAMD122A HE GENSET

## Technical Data

Engine designation ..... **TAMD122A HE**  
No. of cylinders and configuration ..... in-line 6  
Method of operation ..... 4-stroke,  
direct-injected, turbocharged  
diesel engine with aftercooler  
Bore, mm ..... 130.2  
Stroke, mm ..... 150  
Displacement, l ..... 11.98  
Compression ratio ..... 14.5:1  
Dry weight, kg  
TAMD122A HE / HCM434E-1 ..... 2875  
TAMD122A HE / HCM434F-1 ..... 3010  
Dimensions LxBxH, mm  
TAMD122A HE / HCM434E-1 2875x987x1443  
TAMD122A HE / HCM434F-1 2906x987x1443  
Power output at 1500 rpm 50Hz,kVA (kWe)  
TAMD122A HE / HCM434E ..... 270 (216)  
TAMD122A HE / HCM434F ..... 288 (230)  
Power output at 1800 rpm 60Hz,kVA (kWe)  
TAMD122A HE / HCM434E ..... 325 (260)  
TAMD122A HE / HCM434F ..... 328 (262)  
Recommended fuel to  
conform to ..... MDO-DMX or MDO-DMA  
..... according to ISO 8217  
Specific fuel consumption,  
g/kWh at 1500 rpm ..... 208  
g/kWh at 1800 rpm ..... 212  
10% overload available acc. to class requirements.  
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 con-  
sumption.

## Technical description:

### Complete genset

- High system efficiency as a result of system optimization of the complete Genset
- All used components of highest quality from well reputed suppliers
- Reinforced set dimensioned for high output and low sound level
- Mono-block engine/generator rigidly mounted on a common bed frame
- Engine directly coupled to generator via a flexplate
- Flexible mountings including welding plates mounted under the frame
- Total torsion compatibility via calculation eliminate dangerous vibrations
- Full protection of rotating parts will be provided
- Set painted in Volvo Penta green

### Engine and block

- Cylinder block and cylinder heads made of cast iron alloy
- Separate cylinder heads
- Replaceable cylinder liners and valve seats/guides
- Seven-bearing crankshaft with very moderate load on both main and bigend bearings

- Rigid camshaft with well designed cams. Large overlap between inlet and exhaust valves ensures excellent air flow, efficient fuel supply, good cooling and low exhaust gas temperature
- Piston cooling for low piston temperature and reduced ring temperature

### Lubrication system

- Deep oil sump with inspection covers
- Twin full-flow oil filter of spin-on type
- Oil filter in valve cover
- Manual oil drain pump mounted on engine

### Fuel system

- Twin fine fuel filters of spin-on type
- Fuel injection pump with electronical governor ( maintenance free ) and 42 ms response time
- Fuel shut-off valve 24V, electrically operated

### Turbocharger

- Water-cooled turbocharger and exhaust manifold

### Cooling system

- Tubular heat exchanger with integrated expansion tank mounted on engine
- Belt-driven freshwater pump and gear-driven seawater pump with neoprene impeller

### Electrical system

- Rubber-suspended electrical terminal box
- Senders and switches for:
  - Lubrication oil pressure
  - Cooling-water temperature
  - Lubrication oil temperature
  - Cooling-water flow
  - Cooling-water level
  - Fuel leakage
  - Overspeed

### Control and Monitoring system

- Offers easy adaptation of alarm, monitoring and shutdown functions depending on application demands
- Actions are displayed with text messages, in any specified language
- Built-in interface for communication to ship's computer in control room or wheelhouse
- Large number of potential free contacts
- Precise monitoring 4-20 mA input

### Generator

- Tropical insulation class H
- Generator equipped with spacious terminal box
- Stator winding as standard with short 2/3 pitch winding, ideal for non-linear load (thyristor load)
- 4-pole, brushless, AC marine generator

- Dynamically balanced rotor
- Permanent magnet mounted on generator for independent power supply to AVR
- Permanent magnet system to obtain hard performance on motor start and to deliver stationary short circuit current
- Heavy damper cage for parallel operation and very low subtransient reactance values
- Automatic Voltage Regulator (AVR) for accurate Voltage regulation
- Single bearing generator as standard
- Windings are 12 wire reconnectable
- Voltage available range up to 600V
- IP23 enclosure as standard

## Optional equipment

### Engine

- Shift valve for fuel filter
- Twin fuel filter/water separator with shift valve
- Jacketed fuel pipes
- Flexible exhaust compensator, dry
- Cooling water connection bellows
- Electrical, air or hydraulic starting systems possible
- Engine heater 2000W

### Generator

- Anti condensation heating
- Air inlet filters according to IP23
- Air inlet louvers/filters according to IP44
- Parallel equipment mounted in generator
- 3 or 6 thermistors mounted in generator for temperature measurement of windings in generator
- 3 or 6 PT100 elements mounted in generator for temperature measurement of windings in generator
- Double bearing generator

### Miscellaneous

- Dry exhaust silencer with or without spark arrestor
- Batteries
- Battery main switch according to IP44
- Battery charger
- 60A alternator with integrated charging sensor
- Synchronizer unit SYC 6714
- Load sharing unit LSM 672N
- Load sharing unit LSM 201N
- Basic toolkit
- Special toolkit for main maintenance engine
- 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 Genset illustrated may not be entirely identical to production standard Gensets.

# VOLVO PENTA

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