

# VOLVO PENTA AQUAMATIC

# V8-320 EVC

239 kW (320 hp)



## V-8 performance for marine use

An advanced V-8 gasoline engine for performance powerboats. With 5.7 liter displacement and eight cylinders, this engine delivers loads of torque and power across the entire speed range. The computer controlled fuel management system produces maximum power, reduced emissions and ultimate reliability, enhancing the entire boating experience. This modern engine is a perfect match for the twin-propeller Duoprop drive.



Shown with optional freshwater cooling

### World-class performance

The advanced fuel management system combines sophisticated engine management strategies with proven fuel and control system components to produce better fuel mileage, increased reliability and lower emissions. All contribute to world-class boating performance.

The Multi Port Fuel Injection system is monitored and controlled by an engine computer (ECM), giving the following advantages: more responsive and smoother acceleration, excellent turnkey starts in all weather conditions, smooth reliable idling, reduced fuel consumption, and improved control of emissions.

### Robust, reliable

A 5.7 liter gasoline engine in a V-8 configuration, featuring a cast iron block and cylinder heads for durability and corrosion resistance. Critical engine components are designed and constructed for the rigors of the marine environment. Seawater pump, oil filter, fuel filter, and coolant tank are located on the front of the engine for easy service access. Service points are color coded.

Exhaust system developed for the marine

environment, featuring EDP treated manifolds and risers for increased longevity and maximized flow for increased power.

### EVC-E

The next generation of the proven Electronic Vessel Control adds further enhancements to the driver experience. E-key, E-key remote and an integrated Autopilot system are now offered as options for EVC.

Ergonomically designed controls engage smoothly and provide fingertip precision when shifting. Pushbuttons integrated on the controls give easy access to optional functions such as Power Trim Assist, Tow Mode, and Single Lever Control.

Complete the helm with your choice of easy to read gauges and displays, including a seven inch color display. Add the trip computer function for accurate fuel management and minimized environmental impact. Engine synchronization is standard on twin installations.

### Duoprop™ or Aquamatic™ stern-drive

The drives are equipped with a cone clutch for easy, smooth shifting, pattern-matched spiral bevel gears for optimum

strength and minimum gear noise, and a break-away shaft coupling to minimize costly drive repairs.

State of the art corrosion protection is achieved with a 23 step paint process, the drive is further protected by sacrificial anodes. Active Corrosion Protection is available as an option.

Both drives feature exhaust outlets through the propeller hub and cavitation plate for decreased noise and vibration.

The Duoprop drive with its twin counter-rotating propellers produces unbeatable speed, acceleration, steering and fuel economy characteristics. A full range of stainless steel propeller sets are offered.

The Aquamatic SX single propeller drive features a full line of stainless steel or aluminum propellers in either right-hand or left-hand rotation.

The drives are equipped with an easily controlled hydraulic power trim system for obtaining the best running position at different sea and load conditions. For maximum driving comfort, power steering is standard on all gasoline engines.

**VOLVO  
PENTA**

# V8-320 EVC

## Technical description:

### Engine and block

- Cylinder block and cylinder heads made of cast iron for good corrosion resistance
- Valve train consisting of single camshaft, hydraulic valve lifters, push rods and two overhead valves per cylinder
- Color-coded service points

### Engine mounting

- Four 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 environmentally friendly paper element oil filter
- Remote oil filter for easy service access

### Fuel system

- Multi Port Fuel Injection system
- High capacity water separating fuel filter
- Two electric fuel pumps
- Flexible fuel lines

### Inlet and exhaust system

- Integral Air Fuel Module intake manifold
- Flame arrestor
- Closed crankcase ventilation
- Seawater-cooled exhaust manifolds and risers made of cast iron with EDP coating
- Complete exhaust line with pipe and bellows

for exhaust outlet through the drive

### Cooling system

- Thermostatically controlled seawater cooling
- Freshwater cooling available as an option
- Crank mounted seawater pump
- Serpentine belt with spring tensioner
- Flush fitting - hose connection to flush cooling system with freshwater

### Electrical system

- 12 V corrosion-protected electrical system
- 14-pin engine to boat connection
- ECM unit ensures constant optimum performance with diagnostic capability
- Charging regulator with battery sensor for voltage drop compensation
- 75 A alternator with internal transistorized voltage regulator and internal fan
- Electronic Spark Timing ignition system
- Platinum tipped spark plugs
- Sealed electrical distribution center containing all fuses, relays, and circuit breakers
- 40 A resettable trim system circuit breaker
- 20 A fuse for protection of the fuel pumps, 15 A fuse for the fuel injection system
- Audible alarm kit - alerts the operator to low engine oil pressure or high coolant or exhaust temperatures

### Steering system

- Serpentine belt driving all engine pulleys ensures reliability and provides reduced noise
- Belt driven power steering pump
- Optional electronic steering and Sterndrive Joystick (twin applications only)

### Instruments and controls

- Full line of modern, ergonomic shift and throttle remote controls specifically designed for Volvo Penta EVC engines
- Complete instrument packages available to provide completely integrated control and monitoring of the engine
- Electronic shift and throttle
- Digital trim gauge as an accessory

### Aquamatic DPS and SX sterndrive

- Latest generation of sterndrives from the company that invented and introduced the concept
- Cone clutch; smooth, easy shifting
- Pattern-matched spiral bevel gears
- Exhaust outlets through propeller hub and cavitation plate
- Break-away coupling between the upper and lower driveshafts reduces impact damage
- Standard tilt specification 52° (42° and 32° available as option on engine order)
- The drive can be turned 28° in each direction during steering
- Built-in kick-up function in trim system to reduce damage if drive impacts an underwater object
- 23 step paint process
- Hydrodynamic lower unit for maximized control and speed
- Easy to access drive anode placed on the back of the cavitation plate
- Duoprop; twin, counter-rotating propellers for improved performance and handling
- helical propeller splines for reduced stress and corrosion (reduces stuck propellers)
- SX with either right-hand or left-hand rotation

### Power Trim

- Electrically operated hydraulic system with trim gauge for best driving comfort
- High capacity trim pump integrated with transom shield to ease installation and save space in engine compartment

### The Joystick Revolution

Crowded marina. Strong wind. Tight berth. Situations that make even the most seasoned skipper a little edgy. Not anymore. Volvo Penta Sterndrive Joystick puts you in total control and lets you maneuver in any direction - sideways, diagonally, forward, backward, or rotating - with just one hand.

Visit [volvopenta.com](http://volvopenta.com) to see for yourself!

### Accessories

For detailed information, please see the Accessories & Maintenance Parts catalog at [volvopenta.com](http://volvopenta.com).

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.

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## Technical Data

Engine designation .....	<b>V8-320</b>
Propeller shaft power kW (hp) .....	239 (320)
Max. engine speed, rpm .....	5200
Displacement, l (in <sup>3</sup> ) .....	5.7 (350)
Number of cylinders .....	V-8
Fuel system .....	MPI
Bore/stroke, mm .....	101.6/88.4
in. ....	(4.00/3.48)
Compression ratio .....	9.4:1
Volvo Penta Duoprop drive .....	<b>DPS</b>
Ratio .....	1.78:1, 1.95:1, 2.14:1, 2.32:1*
Volvo Penta Aquamatic drive .....	<b>SX</b>
Ratio .....	1.51:1, 1.60:1*
Dry weight engine, transom shield and drive, kg (lb) .....	490 (1081)
Dimensions (not for installation):	
Engine length	
inside transom, mm (in.) .....	936 (36.8)
Engine width, mm (in.) .....	726 (28.6)
Height above crankshaft, mm (in.) .....	562 (22.1)
Height below crankshaft, mm (in.) .....	255 (10)

\* High altitude 1500 m (5000 ft)

Propshaft power according to ISO 8665

Duty rating: R5 (Pleasure Duty)

The engines are certified according to EU RCD.

# VOLVO PENTA

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