

# VOLVO PENTA AQUAMATIC

# 3.0GL/SX

100 kW (135 hp)

## Compact and reliable

The in-line four-cylinder 3.0GL is a compact and reliable gasoline engine for sport boats, walkarounds, leisure fishing boats and many other types. Breakerless ignition system and hydraulic valve lifters give excellent reliability and low maintenance. A 3.0-liter displacement with high torque over the entire speed range is a perfect combination for the SX single-propeller drive. The drive can easily be adapted for right (standard) or left-handed propellers.



### 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 3.0GL 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.

### Aquamatic sterndrive

The SX single propeller drive is of the most modern design featuring exhaust through the propeller hub and cavitation plate 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 40 A circuit breaker and comes equipped with a 75 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
- Color-coded service points

#### 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

#### 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

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## 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
- 14-pin engine to boat connection
- 75 A alternator with internal transistorized voltage regulator and internal fan
- Charging regulator with battery sensor for voltage drop compensation
- Breakerless electronic ignition system
- One 40 A resettable circuit breaker for the trim system
- Starter motor power 1.0 kW
- Audio alarm kit – engine oil pressure and temperature as well as exhaust overheat. Can be mounted at helm.

## 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
- Exhaust outlets through propeller hub and drive cavitation plate
- Overload protection sleeve (break-away coupling)
- Standard tilt specification 52° (42° and 32° available as option on engine order)
- 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
- Serpentine belt-driven power steering pump
- Active corrosion protection as accessory
- Integrated speedometer (pitot tube) pickup in lower drive leg
- Easy to access drive anode placed on the back of the cavitation plate

- Industry standard transom cutout with 8 stud hole pattern

## 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

## 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 the Accessories & Maintenance Parts catalog ([www.volvopenta.com](http://www.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.

## Technical Data

Engine designation . . . . .	<b>3.0GL</b>
Propeller power, kW (hp) . . . . .	100 (135)
Max. engine speed, rpm . . . . .	4600
Displacement, l (in <sup>3</sup> ) . . . . .	3.0 (181)
Number of cylinders . . . . .	I-4
Fuel system . . . . .	2 BBL
Bore/stroke, mm (in.) . . . . .	101.6/91.4 (4.00/3.60)
Compression ratio . . . . .	9.2:1
Volvo Penta Aquamatic drive . . . . .	<b>SX</b>
Ratio . . . . .	2.18:1 or 1.97:1
Dry weight engine, transom shield and drive, kg (lb) . . . . .	322 (709)
Dimensions (not for installation):	
Engine length	
inside transom, mm (in.) . . . . .	823 (32.5)
Engine width, mm (in.) . . . . .	661 (26)
Height above crankshaft, mm (in.) . . . . .	523 (20.6)
Height below crankshaft, mm (in.) . . . . .	191 (7.5)

Propshaft power according to ISO 8665.

Duty rating: R5 (Pleasure Duty)

The engine is certified according to CARB and EU RCD.

# VOLVO PENTA

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