

# Technical Data Volvo Penta IPS600

Rating 5 435 hp ( 320 kW )

## General

4-stroke direct injected, turbocharged and aftercooled diesel engine

Number of cylinders		6
No of valves		24
Displacement, total	litres	5,50
	in <sup>3</sup>	335,6
Firing order		1-5-3-6-2-4
Rotational direction, viewed from the front		Clockwise
Bore	mm	103
	in	4,06
Stroke	mm	110
	in	4,33
Compression ratio		17,5:1
Compression pressure at 240 rpm	MPa	
	psi	
Max. static forward inclination:	°	0
Max. static backward inclination:	°	10
Max. intermittent forward inclination while running:	°	10
Max. intermittent backward inclination while running:	°	20
Max. intermittent side inclination while running:	°	30 for max 30 sec.
Idling speed	rpm	600 - 650
Rated speed	rpm	3500
Propeller selection range	rpm	3400 - 3600
Propeller selection range	rpm	
Dry weight with drive IPS-B	kg	901
	lb	1986

Performance	Rating	r/min				1000	1500	2000	2500	3000	3500
Crankshaft power 1), 5)	5	kW				77,4	143	213	274	308	320
			hp				105,3	194,5	289,7	372,6	418,9
Propeller shaft power 1) (At full load) With drive IPS-B	5	kW				74,3	137,3	204,5	263	295,7	307,2
			hp				101,1	186,7	278,1	357,7	402,1
Propellershaft power at prop. load x <sup>2,5</sup> With drive IPS-B	5	kW				13	37	76	132	209	307
			hp				18	50	103	180	284
Propellershaft power at prop. load x <sup>3</sup> With drive IPS-B	5	kW				7	24	57	112	193	307
			hp				10	33	78	152	263
Torque at crankshaft 2)	5	Nm				739,1	910,4	1017	1047	980,4	873,1
			lbf ft				545	671	750	772	723
Mean piston speed		m/s				3,7	5,5	7,3	9,2	11,0	12,8
			ft/s				12,0	18,0	24,1	30,1	36,1
Effective mean pressure 2)	5	MPa				1,69	2,08	2,32	2,39	2,24	2,00
			psi				245,0	301,7	337,1	346,9	324,9
Max combustion pressure 2)	5	MPa				17,5	19,5	19,9	19,6	19,6	19
			psi				2538	2828	2886	2843	2843

## Lubricating system

Specific lubricating oil consumption.	g/kWh	0,2
Max. oil volume including filters for all allowed installation inclinations:	litres	20
	US gal	5,28
Max. oil volume excluding filters for all allowed installation inclinations:	litres	16,5
	US gal	4,36

1) ISO 3046, fuel temp 40°C.

ISO 8665 (=SAE J 1228=ICOMIA 28-83)

2) At power according to 1).

3) If reverse gear is used, 4% in heat rejection will be added for its oil cooler.

4) Acc. to ISO 3744

5) At installed back pressure

2007-06-18

# Technical Data Volvo Penta IPS600

Rating 5 435 hp ( 320 kW )

Fuel system	Rating	r/min				1000	1500	2000	2500	3000	3500
Specific fuel consumption 2)	5	g/kWh				224	221	215	198	201	216
			lb/hph				0,363	0,358	0,348	0,321	0,326
Fuel consumption at prop. load x <sup>2,5</sup>	5	l/h				4,212	10,23	19,67	34,19	52,9	82,75
			US gal/h				1,1	2,7	5,2	9,0	14,0
Fuel consumption at prop. load x <sup>3</sup>	5	l/h				2,555	6,755	15,23	28,9	49,46	82,75
			US gal/h				0,7	1,8	4,0	7,6	13,1
Fuel consumption at full load	5	l/h				20,76	37,83	54,82	64,95	74,11	82,75
			US gal/h				5,5	10,0	14,5	17,2	19,6

Intake and exhaust system	Rating	r/min				1000	1500	2000	2500	3000	3500	
Exhaust temperature at the exhaust pipe connecting flange after the turbo charger. At prop. Load exp. 2,5	5	°C				199	263	342	350	333	391	
			°F				390	505	648	662	631	736
Permitted back pressure in the exhaust line at rated speed. (Installed back pressure)		kPa								Max	30	
			psi									4,4
		kPa								Min	10	
			psi									1,5
Engine air consumption at 25°C / 77°F atmospheric pressure 100kPa and relative humidity 30%.	5	m³/min									23,5	
			cu.ft./min									829,9
Turbo charge pressure.	5	kPa				3	12	32	82	152	205	
			psi				0,4	1,7	4,6	11,9	22,0	29,7
Exhaust gas flow	5	m³/min									46	
			cu.ft./min									1624

Cooling system	Rating	r/min				1000	1500	2000	2500	3000	3500
Sea water pump flow.		m³/h									13
			foot³/h								
Coolant volume engine, including heat exchangers and air cooler		litres	16								
			U.S. gal.	4,23							
Max. additional coolant for cabin heater etc. with std. Expansion tank		litres	5								
			U.S. gal.	1,32							
Thermostat, start open at		°C	82								
			°F	180							
Thermostat, fully open at		°C	92								
			°F	198							

Emissions	Rating	r/min				1000	1500	2000	2500	3000	3500
Smoke at prop. load x <sup>2,5</sup>	5	*BSU				0,3	0,2	0,3	0,0	0,1	0,3
Smoke at prop. load x <sup>3</sup>	5	*BSU				0,3	0,2	0,2	0,1	0,1	0,3
Noise at prop. load x <sup>2,5</sup> . 4)	5	dBA				95	102	106	108	111	113

\*NB.! BSU are calculated values. Measured values are acc. to ISO 10054 in FSN units

1) ISO 3046, fuel temp 40°C.

ISO 8665 (=SAE J 1228=ICOMIA 28-83)

2) At power according to 1).

3) If reverse gear is used, 4% in heat rejection will be added for its oil cooler.

4) Acc. to ISO 3744

5) At installed back pressure