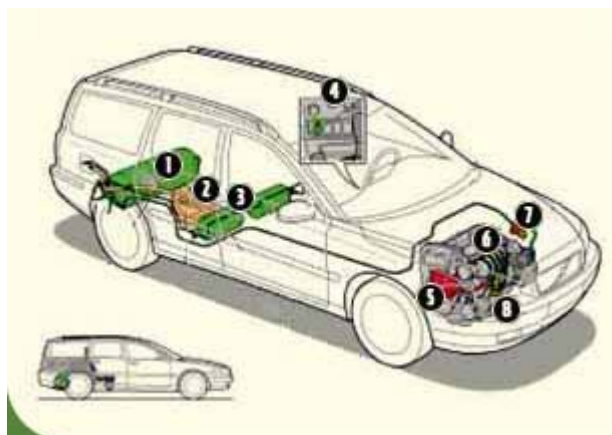


RE NAME="header" type="text"> **Volvo Bi-Fuel**
vcc.volvocars.se/bifuel/index.htm

Higher Pressure with CNG

The fuel systems for LPG and CNG differ in one respect - the pressure in the tank. The CNG is in gas form - it is compressed to high pressure (around 200 bar). This is done to enable the tank to hold enough gas for a reasonably long distance. The two small CNG tanks are made of steel. The large CNG tank is made of aluminium and reinforced with carbon fibre to save weight. A regulator gradually reduces the pressure in the gas that is led to the tank. The gas is then led to a fuel distributor. The fuel is distributed to the "right" injector nozzle.

VOLVO V70 methane/petrol



1. Gas tank
2. Petrol tank
3. Gas tanks under floor
4. Gas/Petrol switch
5. Gas control unit
6. Gas injector
7. High- and low-pressure regulator
8. Fuel distributor for gas

Engine type

Transverse 2.4-litre five-cylinder Bi-Fuel methane (natural gas or biogas)/petrol engine with twenty valves and variable timing on the inlet side.

Maximum power

Methane: 140 bhp at 5800 rpm

Petrol: 140 bhp at 4500 rpm

Maximum torque

Methane: 192 Nm at 4500 rpm

Petrol: 220 Nm at 3750 rpm

Maximum speed

Methane, man/auto: 205/200 km/h

Petrol, man/auto: 205/200 km/h

Acceleration 0-100 km/h

Methane, man/auto: 11.0/11.9 seconds

Petrol, man/auto: 10.5/11.4 seconds

Range on full tank**

Methane, man/auto: 241*/222* km

Petrol, man/auto: 319/284 km

Fuel consumption Nm³/100 km**

Methane, man/auto: 9.6/10.4 (mixed driving)

Fuel consumption litres/100 km**

Petrol, man/auto: 9.1/10.2 (mixed driving)

CO₂ emission, g/km**

Methane, man/auto: 171/186

Petrol, man/auto: 219/244

Transmission

Five-speed manual or five-speed adaptive automatic

Special standard equipment

Automatic levelling, Bi-Fuel trip computer, 16-inch wheels

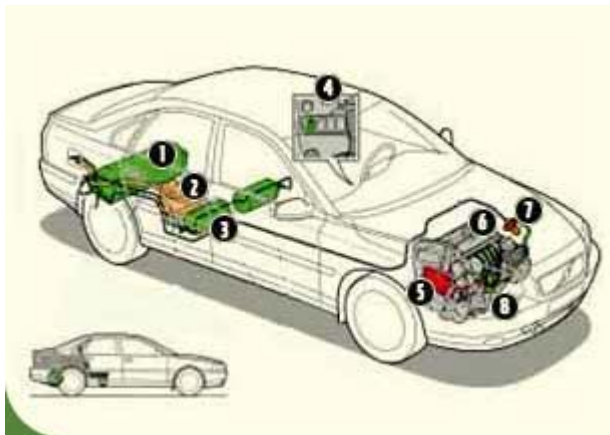
*)General information on CNG tank filling volumes and operating ranges

**)Above shown values for fuel consumption, CO2 emissions, and range on full tank are based upon official certification values for heaviest possible car with all conceivable options. A large share of the cars produced will, however, end up in a lower inertia weight class with about 1,5 % lower CO2 and fuel consumption values, and about 1,5 % increased range.

Information on this page updated Oct 15, 2001.

Volvo reserve the right to change product specifications at any time.

VOLVO S80 methane/petrol



1. Gas tank
2. Petrol tank
3. Gas tanks under floor
4. Gas/Petrol switch
5. Gas control unit
6. Gas injector
7. High- and low-pressure regulator
8. Fuel distributor for gas

Engine type

Transverse 2.4-litre five-cylinder Bi-Fuel methane (natural gas or biogas)/petrol engine with twenty valves and variable timing on the inlet side.

Maximum power

Methane: 140 bhp at 5800 rpm

Petrol: 140 bhp at 4500 rpm

Maximum torque

Methane: 192 Nm at 4500 rpm

Petrol: 220 Nm at 3750 rpm

Maximum speed

Methane, man/auto: 205/200 km/h

Petrol, man/auto: 205/200 km/h

Acceleration 0-100 km/h

Methane, man/auto: 11.0/11.9 seconds

Petrol, man/auto: 10.5/11.4 seconds

Range on full tank**

Methane, man/auto: 251*/220* km

Petrol, man/auto: 326/287 km

Fuel consumption Nm³/100 km**

Methane, man/auto: 9.2/10.5 (mixed driving)

Fuel consumption litres/100 km**

Petrol, man/auto: 8.9/10.1 (mixed driving)

CO2 emission, g/km**

Methane, man/auto: 164/187

Petrol, man/auto: 213/246

Transmission

Five-speed manual or five-speed adaptive automatic

Special standard equipment

Automatic height control, 16-inch wheels

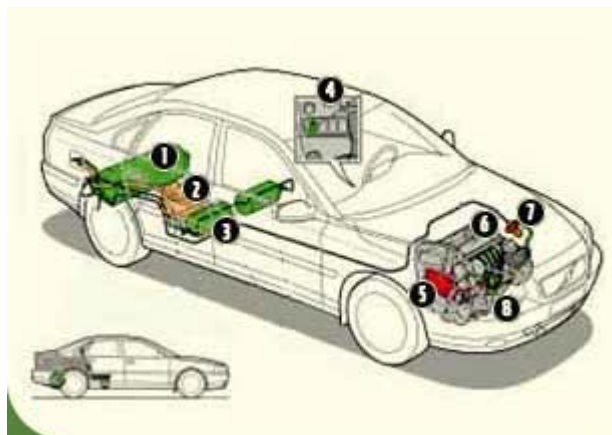
*)General information on CNG tank filling volumes and operating ranges

***)Above shown values for fuel consumption, CO2 emissions, and range on full tank are based upon official certification values for heaviest possible car with all conceivable options. A large share of the cars produced will, however, end up in a lower inertia weight class with about 1,5 % lower CO2 and fuel consumption values, and about 1,5 % increased range.

Information on this page updated Oct 15, 2001.

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VOLVO S60 methane/petrol



1. Gas tank
2. Petrol tank
3. Gas tanks under floor
4. Gas/Petrol switch
5. Gas control unit
6. Gas injector
7. High- and low-pressure regulator
8. Fuel distributor for gas

Engine type

Transverse 2.4-litre five-cylinder Bi-Fuel methane (natural gas or biogas)/petrol engine with twenty valves and variable timing on the inlet side.

Maximum power

Methane: 140 bhp at 5800 rpm

Petrol: 140 bhp at 4500 rpm

Maximum torque

Methane: 192 Nm at 4500 rpm

Petrol: 220 Nm at 3750 rpm

Maximum speed

Methane, man/auto: 210/205 km/h

Petrol, man/auto: 210/205 km/h

Acceleration 0-100 km/h

Methane, man/auto: 10.7/11.6 seconds

Petrol, man/auto: 10.2/11.1 seconds

Range on full tank**

Methane, man/auto: 257*/231* km

Petrol, man/auto: 330/302 km

Fuel consumption Nm³/100 km**

Methane, man/auto: 9.0/10.0 (mixed driving)

Fuel consumption litres/100 km**

Petrol, man/auto: 8.8/9.6 (mixed driving)

CO2 emission, g/km**

Methane, man/auto: 161/178

Petrol, man/auto: 211/231

Transmission

Five-speed manual or five-speed adaptive automatic

Special standard equipment

Automatic height control, 16-inch wheels

*)General information on CNG tank filling volumes and operating ranges

**)Above shown values for fuel consumption, CO2 emissions, and range on full tank are based upon official certification values for heaviest possible car with all conceivable options. A large share of the cars produced will, however, end up in a lower inertia weight class with about 1,5 % lower CO2 and fuel consumption values, and about 1,5 % increased range.

Information on this page updated Oct 15, 2001.

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General CNG information on tank filling volumes and operating ranges



CNG guide	V70	V70	S80	S80	S60	S60
	CNG	CNG	CNG	CNG	CNG	CNG
Tank capacity	man	aut	man	aut	man	aut
Refillable gas volume, Nm ³	21	21	21	21	21	21
Refillable weight, kg pure methane	15,1	15,1	15,1	15,1	15,1	15,1
Refillable weight, kg North Sea gas	17,6	17,6	17,6	17,6	17,6	17,6

EU combined - pure methane gas

Cert. fuel consumption, m ³ /100km	9,6	10,4	9,2	10,5	9,0	10,0
Fuel consumption, Nm ³ /100 km	8,7	9,5	8,4	9,5	8,2	9,1
Fuel consumption, kg/100 km	6,3	6,8	6,0	6,9	5,9	6,5
Range, kms	241	222	251	220	257	231

EU combined - North Sea gas

Fuel consumption, Nm ³ /100 km	7,9	8,5	7,5	8,6	7,4	8,2
Fuel consumption, kg/100 km	6,6	7,1	6,3	7,2	6,2	6,9
Range, kms	267	247	279	245	285	257

EU extra urban driving cycle - pure methane gas

Cert. fuel consumption, m ³ /100km	7,5	7,8	7,1	7,9	6,7	7,4
Fuel consumption, Nm ³ /100 km	6,8	7,1	6,5	7,2	6,1	6,7
Fuel consumption, kg/100 km	4,9	5,1	4,6	5,2	4,4	4,8
Range, kms	308	296	325	292	345	312

EU extra urban driving cycle - North Sea gas

Fuel consumption, Nm ³ /100 km	6,1	6,4	5,8	6,5	5,5	6,1
Fuel consumption, kg/100 km	5,2	5,4	4,9	5,4	4,6	5,1
Range, kms	342	329	362	325	383	347

EU urban driving cycle - pure methane gas

Cert. fuel consumption, m ³ /100km	13,3	14,9	12,8	15,1	12,9	14,4
Fuel consumption, Nm ³ /100 km	12,1	13,5	11,6	13,7	11,7	13,1
Fuel consumption, kg/100 km	8,7	9,8	8,4	9,9	8,4	9,4
Range, kms	174	155	180	153	179	160

EU urban driving cycle - North Sea gas

Fuel consumption, Nm ³ /100 km	10,9	12,2	10,5	12,3	10,6	11,8
Fuel consumption, kg/100 km	9,1	10,2	8,8	10,4	8,9	9,9
Range, kms	193	172	201	170	199	178

NOTE!

- Officially certified fuel consumption is expressed in m³ pure methane gas
- Sold quantities of gas are in most markets measured in kgs, in some markets in Nm³
- Delivered pressure at fast filling stations may for various reasons differ from one station to another, actually filled quantities could thus be marginally higher, but also considerably lower at stations with poor capacity

- Fillable volume and operating range could be increased with up to 10 % when using slow filling equipment
- Values for Danish North Sea Gas shown above to illustrate differences compared with pure methane gas
- There are many different gas qualities, also gas with up to 15 % lower energy content and operating range
- Above shown values are valid for cars equipped with all conceivable options. Some cars with less option choices will end up in a lower inertia weight class, resulting in about 1,5 % lower fuel consumption, and about 1,5 % increased operating range
- As illustrated above the effective operating range is to a large extent decided by the type of driving used

*Information on this page updated Nov 26, 2001.
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product specifications at any time.*