

# Brava 1.9 D

## Technical Specification

### Engine

#### Main features

No. of cylinders	4 in line
Position	front transverse
Cycle-stroke	Diesel-4, indirect injection
Bore x stroke	82.6 x 90 mm
Displacement	1929 cc
Compression ratio	21:1
Max. power output - EC at rpm	65 bhp (48 kW) 4600
Peak torque - EC at rpm	12.1 kgm (119 Nm) 2000
Fuel required	Diesel

#### Structure

Model	160A7.000
Cylinder spacing	91 mm
Main bearings	5
Cylinder block	cast iron
Cylinder head	light alloy

#### Timing gear

Valve position	overhead in line
Timing	SOHC
Timing control	toothed belt
Valve gear timing	with 0.5 mm tappet play
- Inlet	{ opens closes
- Exhaust	{ opens closes

#### Fuel feed

Type	direct induction
Diesel pump	with Lucas rotary distributor
Air filter	dry-type with paper cartridge

#### Injection

Type	indirect, with pre-combustion chamber
Fire order	1-3-4-2
Atomisers	RDNSDC6888D - BDNSDC6888D
Atomiser holders	LCR67342 - LRC67342

#### Lubrication

Type	forced-feed, with geared pump
Oil filter (on main circuit)	cartridge type, total flow

#### Cooling

Type	liquid cooling, with radiator, centrifugal pump and supplementary expansion tank
Control	with "controlled by-pass" thermostat
Fan	electric with engagement governed by thermostat on radiator

## Transmission

<b>Drive</b>	to front wheels
<b>Clutch</b>	dry, single plate, with disc engagement spring, mechanical control and contact bearing
Diameter of driven plate	200
Clutch lining dimensions (OD x ID)	200 x 134 mm
<b>Gearbox</b>	5 speeds
Transmission ratios	1st 3.909 : 1
	2nd 2.238 : 1
	3rd 1.444 : 1
	4th 1.029 : 1
	5th 0.816 : 1
	Reverse 3.909 : 1
<b>Differential assembly</b>	in gearbox
Final drive	cylindrical, helical
	ratio (no. of teeth) 3.562 : 1 (16/57)

## Chassis

### Braking system

Front discs	front discs, with floating calipers; rear drums, with self-centring shoes and automatic wear adjustment. Pedal control, with vacuum servo, split-line diagonally linked hydraulic circuits, and brake regulator on rear brake hydraulic circuit.
- diameter	257 mm
- total lining area	156.8 cm <sup>2</sup>
Rear drums	4-channel, 4-sensor ABS on request
- diameter	180 mm (203 mm with ABS)
- linings: width x length	30 x 146 mm (38 x 165 mm with ABS)
- total lining area	176 cm <sup>2</sup> (248 cm <sup>2</sup> with ABS)
Parking brake	acting on rear wheels with manual control and mechanical transmission

### Front suspension

Flexibility at the wheel	independent wheel MacPherson struts, with transverse lower wishbones anchored to an auxiliary cross member, offset coil springs and anti-roll bar
Wheel wobble	0.51 mm/kg
{ upper	70 mm
{ lower	85 mm
Dampers	hydraulic, telescoping, dual action
Front wheel geometry unladen:	
- camber	-7' ± 30'
- caster	2°50' ± 30'
- toe-in	+ 1 to - 1 mm

### Rear suspension

Flexibility at the wheel	independent wheel, with trailing arms anchored to an auxiliary cross member, coil springs and anti-roll bar
Wheel wobble	0.54 mm/kg
{ upper	80 mm
{ lower	110 mm
Dampers	gas with vulcanised bushes
Rear wheel geometry unladen:	
- camber	-1° ± 30'
- toe-in	-2,5 to +1,5 mm

### Steering

Steering column	rack and pinion with power steering
Turning circle	collapsible, energy absorbing with angular adjustment
Steering wheel turns (lock to lock)	10.4 m
	3

**Wheels**

Rims	5½ J x 14"-37, in pressed steel
Tyres	175/65 R 14 82T

**Inflation pressure**

- front	2.3 bar	2.3* bar
- rear	2.2 bar	2.5* bar

(\*) at constant high speed fully laden

**Mini spare wheel**

Rim	4 B x 14"-43
Tyre	105/70 R 14 84M
Inflation pressure	4.2 bar
Max. speed permissible	80 km/h

**Electrical equipment**

Voltage	12 V
Alternator: DC supply	65 A (85 A with climate control)
Starter motor	2.2 kW
Battery: capacity	60 Ah

**Weights**

<b>Kerb weight (DIN) (*)</b>	1130 kg
Distribution { front	61.1%
{ rear	38.9%

**Weight fully laden**

Distribution { front	850 kg
{ rear	850 kg
{ total	1650 kg
Max. payload (including driver)	520 kg
Max. load towable	1200 kg
No. of seats	5

(\*) Car ready for the road (full fuel tank, liquids, spare wheel and accessories)

**Performance**

<b>Top speed</b>	155 km/h (in 5th)
Speed with engine at 1,000 rpm	28,8 km/h (in 4th)
Weight/power ratio { kg/bhp-EC	17.4
{ kg/kW-EC	23.5

<b>Max. gradient negotiable (fully laden)</b>	34%
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<b>Acceleration (2 adults + 20 kg) (secs.)</b>	
- 0 to 100 km/h	17.8
- 0 to 1000 m	38.4

<b>Pick-up from 40 km/h (2 adults + 20 kg) (secs.)</b>	
- over 1000 m	38.2 (in 4th)

<b>Conventional fuel consumption (l/100 km)</b>	
- at 90 km/h	4.9
- at 120 km/h	6.9
- urban cycle	6.6
- ECE average	6.1

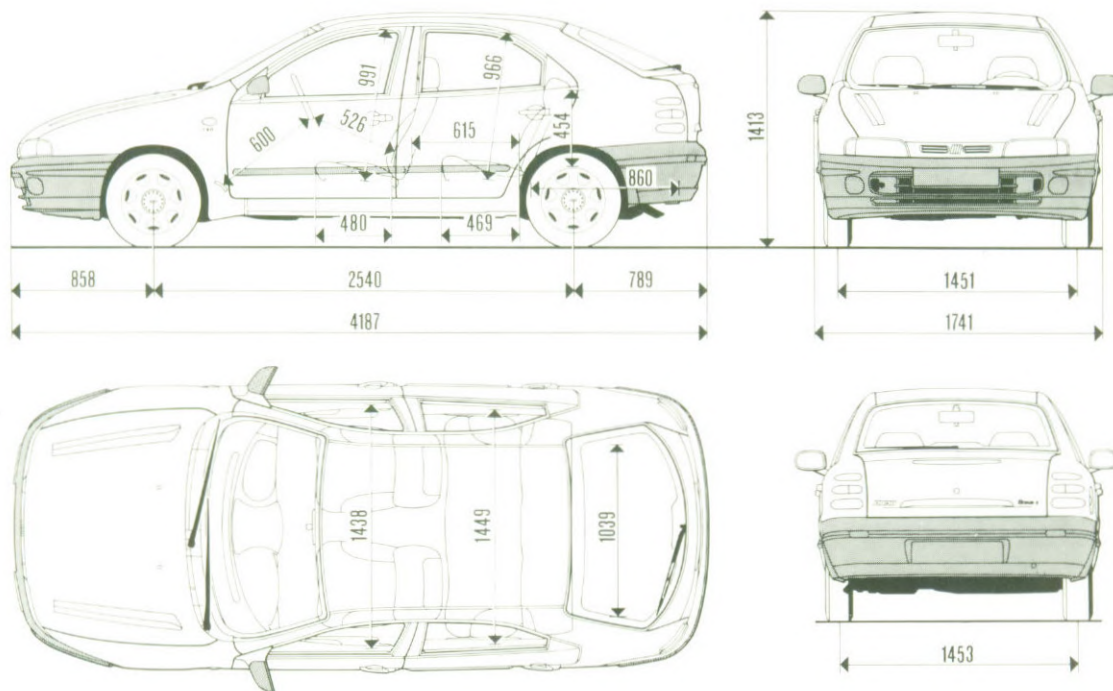
**Supplies**

Fuel tank	dm³ (litres)	kg
including a reserve of:	60	-
Radiator, engine, expansion tank	7	-
and heating system fluid	7.6 (7.4 with clim.contr.)	-
Engine sump and filter oil	4.9	4.4
Total engine sump, filter and circuit oil	5.5	4.9
Gearbox and differential oil	1.98	1.8
Steering and power steering oil	-	0.8
Braking circuit oil	0.40 (0.45 with ABS)	-
Screenwasher bottle (front and rear)	2.5 to 5 (6.4 with headlight washers)	-



## Brava 1.9 D SX dimensions

\* unladen



Luggage capacity (VDA): 380 to 1165 dm<sup>3</sup>

## Engine curves (EC)

