

Brava 1.6 16v

Technical Specification

Engine

Main features

No. of cylinders	4 in line
Position	front transverse
Cycle-stroke	Otto-4
Bore x stroke	86.4 x 67.4 mm
Displacement	1581 cc
Compression ratio	10.15:1
Max. power output - EC at rpm	103 bhp (76 kW) 5750
Peak torque - EC at rpm	14.7 kgm (144) Nm 4000
Fuel required	unleaded petrol min.95 octane (RON)

Structure

Model	182A4.000
Cylinder spacing	93-96-93 mm
Main bearings	5
Cylinder block	cast iron
Cylinder head	light alloy

Timing gear

Number of valves and position	in 40.5° Vee, with 4 valves per cylinder				
Timing	DOHC with hydraulic tappets				
Timing control	toothed belt				
Valve gear timing	with tappet play 0.45 mm				
- Inlet	<table><tr><td>{ opens</td><td>4° BTDC</td></tr><tr><td>{ closes</td><td>34° ABDC</td></tr></table>	{ opens	4° BTDC	{ closes	34° ABDC
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- Exhaust	<table><tr><td>{ opens</td><td>36° BBDC</td></tr><tr><td>{ closes</td><td>2° ATDC</td></tr></table>	{ opens	36° BBDC	{ closes	2° ATDC
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{ closes	2° ATDC				

Ignition

Fire order	electronic static, combined with injection
Automatic advance	1-3-4-2
Spark plugs	governed by electronic control unit NGK BKR 6EKL Golden Lodge 2HLDR

Fuel feed

Type	MPI Weber-Marelli electronic phased sequential injection with Pico twin-jet electroinjectors
Petrol pump	electric
Air filter	dry-type, with paper cartridge
Injection pressure	3 bar

Emission control

three-way catalytic converter and lambda probe

Lubrication

Type	forced-feed with geared pump and pressure relief valve
Oil filter	cartridge type, total flow

Cooling

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

Transmission

Drive	to front wheels
Clutch	dry, single plate, with disc engagement spring, mechanical control and contact bearing
Diameter of driven plate	200 mm
Clutch lining dimensions (OD x ID)	200 x 134 mm
Gearbox	5 speeds
Transmission ratios	1st 3.909 : 1
	2nd 2.238 : 1
	3rd 1.520 : 1
	4th 1.156 : 1
	5th 0.971 : 1
	Reverse 3.909 : 1
Differential assembly	in gearbox
Final drive	cylindrical, helical
ratio (no. of teeth)	3.353 : 1 (17/57)

Chassis

Braking system	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. 4-channel, 4-sensor ABS on request
Front discs	
– diameter	257 mm
– total lining area	156.8 cm ²
Rear drums	
– diameter	203 mm
– linings: width x length	38 x 165 mm
– total lining area	248 cm ²
Parking brake	acting on rear wheels, with manual control and mechanical transmission
Front suspension	independent wheel MacPherson struts, with transverse lower wishbones anchored to an auxiliary cross member, offset coil springs and anti-roll bar
Flexibility at the wheel	0.54 mm/kg
Wheel wobble	70 mm
	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	independent wheel, with trailing arms anchored to an auxiliary cross member, coil springs and anti-roll bar
Flexibility at the wheel	0.54 mm/kg
Wheel wobble	80 mm
	110 mm
Dampers	gas with vulcanised bushes
Rear wheel geometry unladen:	
– camber	-1° ± 30'
– toe-in	-2.5 to +1.5 mm
Steering	rack and pinion with power steering
Steering column	collapsible, energy absorbing with angular adjustment
Turning circle	10.4 m
Steering wheel turns (lock to lock)	3

Wheels	EL	ELX
Rims	5½ J x 14"-37 in pressed steel	6 J x 14"-43 in light alloy
Tyres	175/65 R 14 82T	185/60 R 14 82H
Inflation pressure	175/65 R 14 82T	185/60 R 14 82H
– front	2.2 bar 2.3* bar	2.2 bar 2.3* bar
– rear	2.1 bar 2.5* bar	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	75 A (85 A with climate control)
Starter motor	0.9 kW
Battery: capacity	50 Ah

Weights

Kerb weight (DIN) (*)	1090 kg
Distribution { front	60.5%
rear	39.5%
Weight fully laden	
Distribution { front	850 kg
rear	850 kg
total	1630 kg
Max. payload (including driver)	540 kg
Max. load towable	1100 kg
No. of seats	5
(*) Car ready for the road (full fuel tank, liquids, spare wheel and accessories)	

Performance

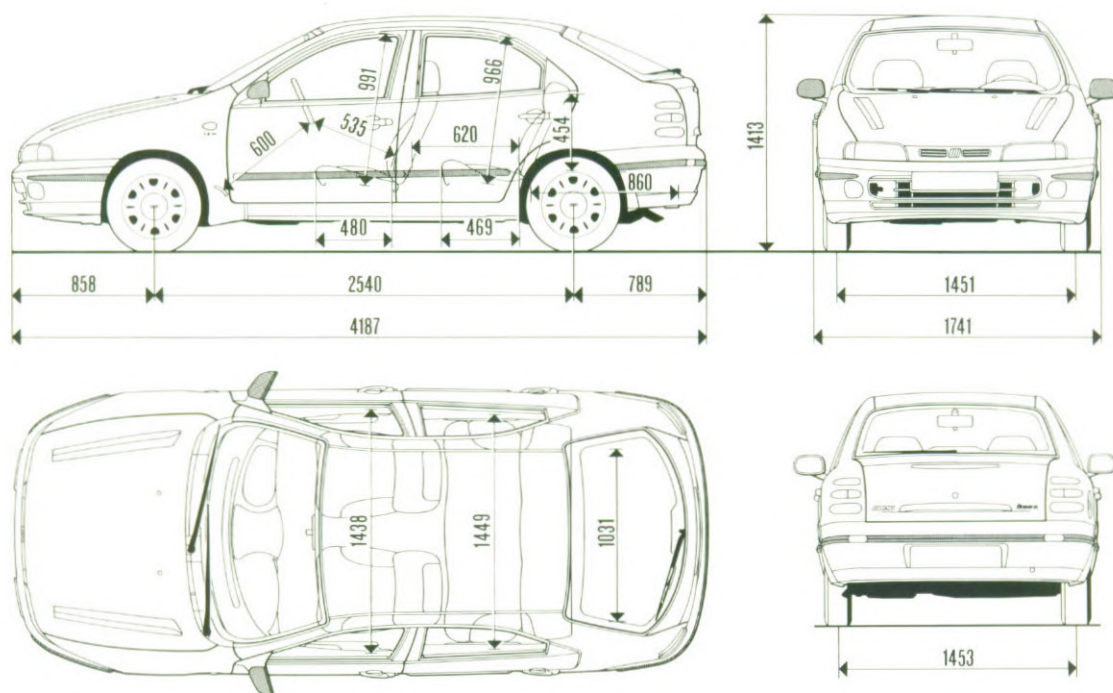
Top speed	180 km/h
Speed with engine at 1,000 rpm	27.3 km/h (in 4th)
Weight/power ratio { kg/bhp-EC	10.6
kg/kW-EC	14.3
Max. gradient negotiable (fully laden)	38%
Acceleration (2 adults + 20 kg) (secs.)	
– 0 to 100 km/h	11.5
– 0 to 1000 m	32.4
Pick-up from 40 km/h (2 adults + 20 kg) (secs.)	
– over 1000 m	37.3 (in 4th)
Conventional fuel consumption (l/100 km)	
– at 90 km/h	5.6
– at 120 km/h	7.5
– urban cycle	9.5
– ECE average	7.5

Supplies

Fuel tank	dm ³ (litres)	kg
including a reserve of:	50	37
Radiator, engine, expansion tank	7	–
and heating system fluid	7.0 (6.7 with clim.contr.)	–
Engine sump and filter oil	3.8	3.4
Total engine sump, filter and circuit oil	4.5	4
Gearbox and differential oil	–	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 1.6 EL dimensions

* unladen



Luggage capacity (VDA): 380 to 1165 dm³

Engine curves (EC)

