



K4 VVC 160

Providing an impressive combination of performance and economy, the VVC is the ultimate in the Powertrain K4 family.

It utilises the common base structure configuration of the K4 family and adds a sophisticated cylinder head system generating an infinitely variable camshaft period. This in turn gives greater engine flexibility, performance and improves the combustion dynamics.

The ignition and fuelling systems are controlled by a sophisticated management system.

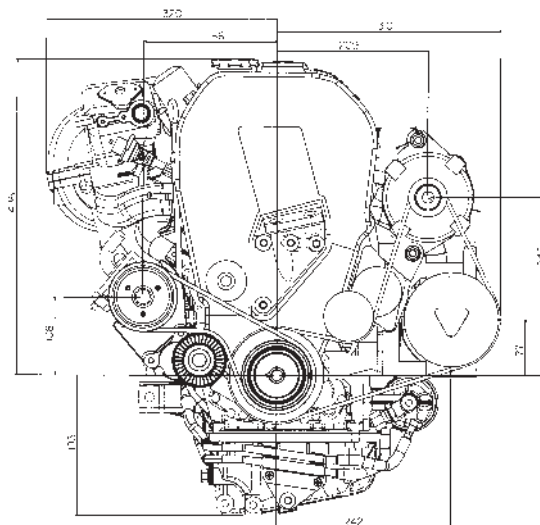
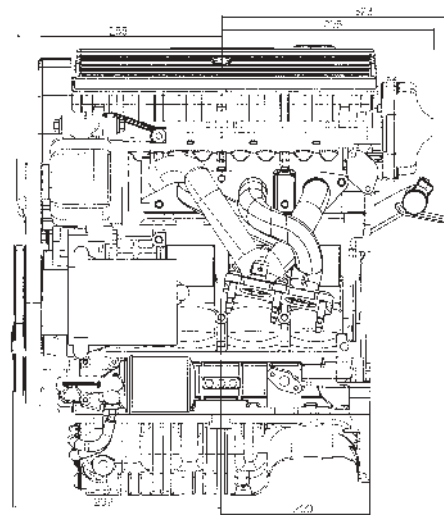
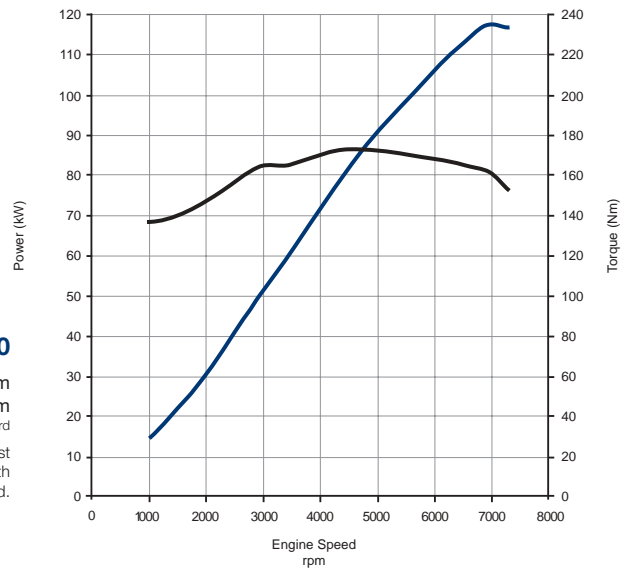
This allows the engine to meet all current emissions legislation when used in conjunction with a three way catalytic converter.

Technical features

Capacity	1796cc
Dimensions L/W/H (mm)	501x630x629
Dry Weight (Kg)	110
Idle Speed	875rpm
Max Power Output	160ps@6900rpm
Max Torque Output	174Nm@4700rpm
Exhaust Back Pressure	30Kpa@6000rpm
Compression Ratio	10.5:1
Emissions Compliance	ECD3

VVC 160
Max Power: 118 kW (160PS) @ 6900 rpm
Max Torque: 174 Nm @ 4700 rpm
Corrected to EC test standard

Performance obtained on OE compliant exhaust and intake systems. Performance will vary with alternative systems used.



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K4

The award winning K series engine is an all aluminium engine unit utilising 'through bolt' technology. This was pioneering on the K4, but the cylinder block / liner construction is the same for all K-series engines. A common cylinder block is used for all capacities, the bore change being achieved through the cylinder liner. Advanced ultra lightweight pistons are used in the 1.8 unit, resulting in reduced second order inertia forces for improved engine refinement.

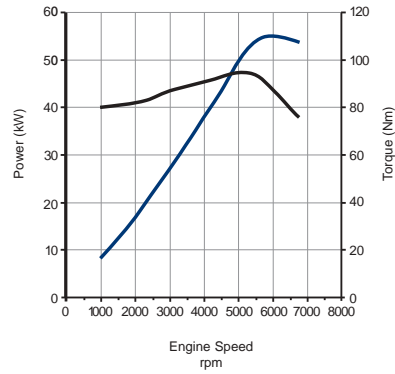
The ignition and fuelling systems are controlled on the K4 units by a sophisticated mananagement system which allows the engine to meet all current emissions legislation, when used in conjunction with a three way catlytic converter.

Technical features

	K4 1.1	K4 1.4	K4 1.6	K4 1.8	K4 1.8 (135)
Capacity	1119cc	1396cc	1588cc	1796cc	1796cc
Dimensions L/W/H (mm)	505x630x615	505x630x615	505x630x615	505x630x615	505x630x615
Dry Weight (Kg)	100	100	101	104	104
Idle Speed	825rpm	825rpm	825rpm	750rpm	750rpm
Max Power Output	74.8ps@6000rpm	84/103ps@6000rpm	109ps@6000rpm	116ps@5500rpm	135ps@6750rpm
Max Torque Output	95Nm@5000rpm	110/123Nm@5000rpm	138Nm@4500rpm	160Nm@2750rpm	165Nm@5000rpm
Exhaust Back Pressure	25Kpa@6000rpm	35Kpa@6000rpm	45Kpa@6000rpm	28Kpa@6000rpm	26Kpa@6000rpm
Compression Ratio	9.4:1	10.5:1	10.5:1	10.5:1	10.5:1
Emissions Compliance	ECD3	ECD3	ECD3	ECD3	ECD3

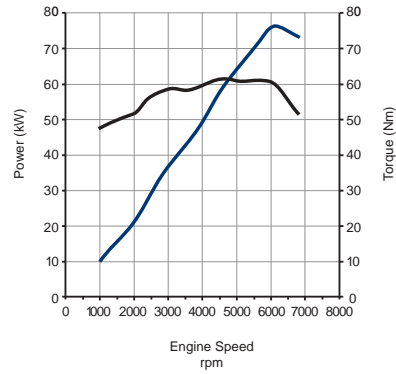
K4 1.1

Max Power:
55 kW (75PS) @ 6000 rpm
Max Torque:
95 Nm @ 5000 rpm
Corrected to EC test standard



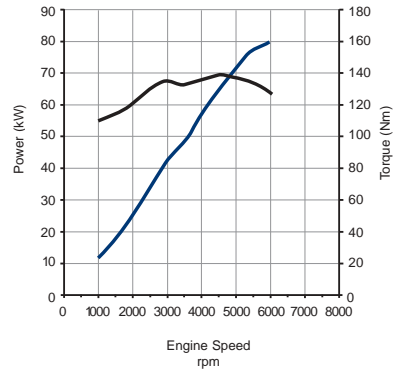
K4 1.4

Max Power:
76 kW (103PS) @ 6000 rpm
Max Torque:
123 Nm @ 4500 rpm
Corrected to EC test standard



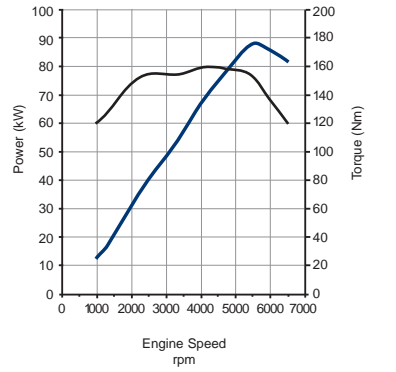
K4 1.6

Max Power:
80 kW (109PS) @ 6000 rpm
Max Torque:
138 Nm @ 4500 rpm
Corrected to EC test standard



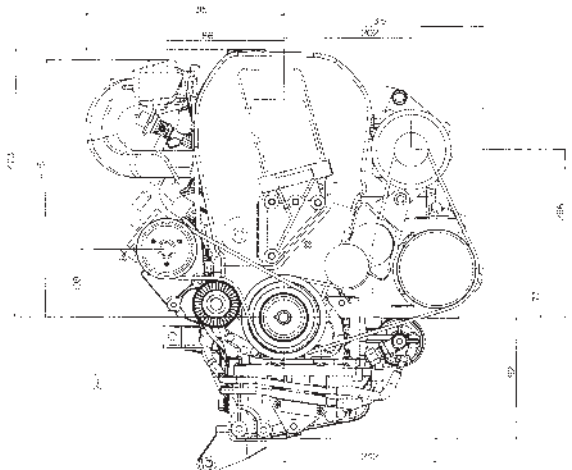
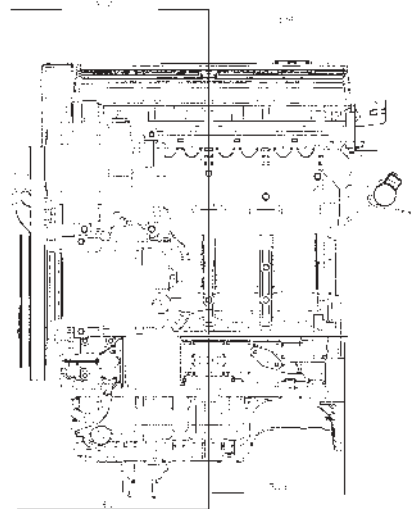
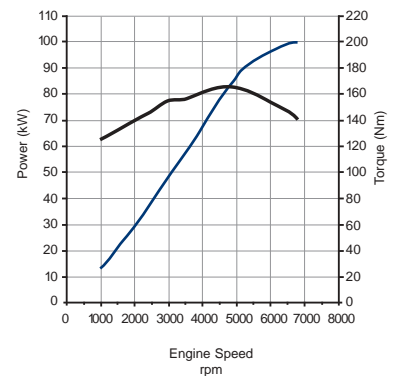
K4 1.8

Max Power:
86 kW (117PS) @ 5500 rpm
Max Torque:
160 Nm @ 2750 rpm
Corrected to EC test standard



K4 1.8 (135)

Max Power:
100 kW (135PS) @ 6750 rpm
Max Torque:
165 Nm @ 5000 rpm
Corrected to EC test standard

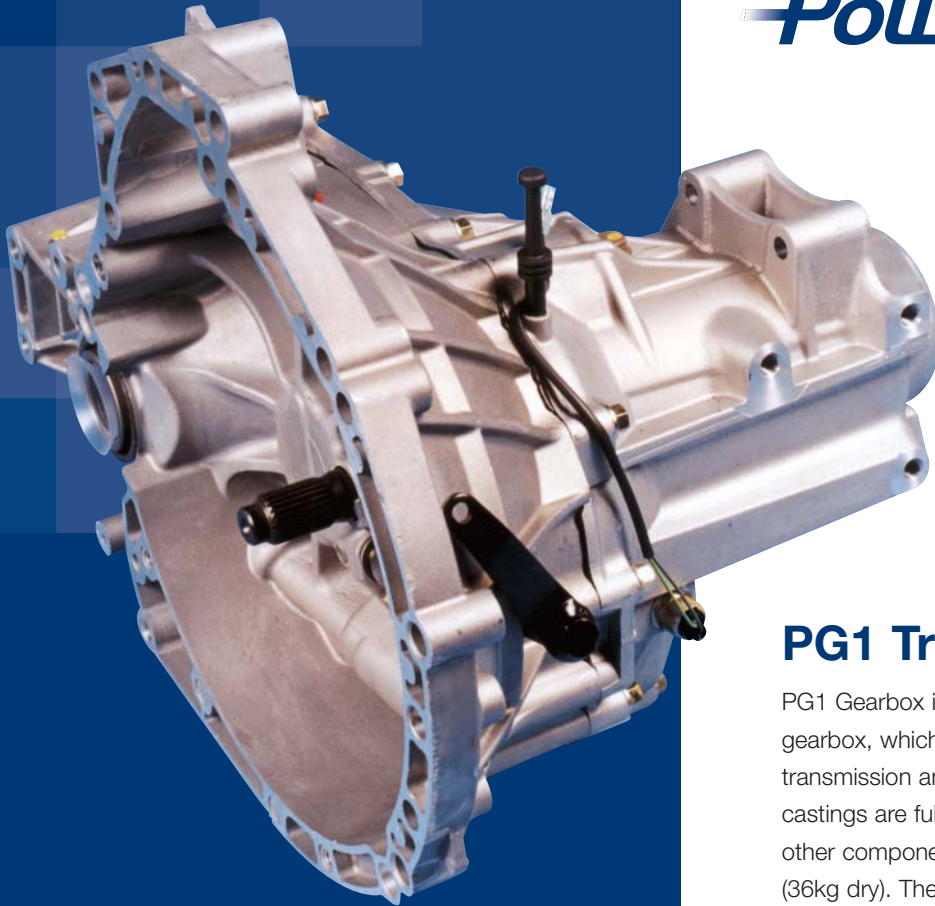


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PG1 Transmission

PG1 Gearbox is a five-speed constant mesh gearbox, which employs helical gears for speed transmission and final drive. The transmission castings are full aluminium construction and all other components optimised for improved weight (36kg dry). The gearbox can be supplied with either a standard open differential or a Limited Slip Differential, presently Torsen.

Due to the modular design of the gearbox various final drive ratio and 1st to 5th gear ratio combinations have been used. Including both present and past an overall total of 21 ratio combinations, 5 speedometer gear ratios; and 7 clutch levers designs for both hydraulic and cable operation can be called on to ensure the customers requirements are met.

The gearbox in its two types of standard (rated to 216Nm) and uprate (rated to 240Nm) is presently supplied to various companies including MG Rover, Land Rover, and Lotus for vehicles such as Rover 25 and 45, MG TF, MG ZR, MG ZS, Land Rover Freelander and Lotus Elise.

Technical features

Capacity	2.2 litres
Dimensions L/W/H (mm)	363x391x375
Dry Weight (Kg)	36
Operating Temperature	-35C to +130C
Max Torque Capacity	240Nm@1900Kg (Uprate)

Gear Centres

Forward:	Mainshaft to countershaft	73.0mm
Reverse:	Mainshaft to idler	49.7mm
	Idler to countershaft	83.0mm
Final Drive:	Count. Shaft to Diff	120.0mm
Final Drive:	Mainshaft to Differential (installed)	48.0mm 70.0mm (K1.8)

Current Production Transmissions

Application	Gearbox Type	1st	2nd	3rd	4th	5th	Rev	F/Drive	Speedo
MG 45 Entry 1.8 MPI	C4BM	3.166	1.842	1.307	1.033	0.765	3.000	4.200	1.150
R 25 1.8 VVC		(12/38)	(19/35)	(26/34)	(30/31)	(34/26)	(13/39)	(15/63)	(20/23)
MGF 160 PS	C4BS								
	C4BP								
MG 45 CORE KV6	C6BKUH	3.166	1.842	1.307	1.033	0.765	3.000	3.937	1.150
R 45 1.8 MPI		(12/38)	(19/35)	(26/34)	(30/31)	(34/36)	(13/39)	(16/63)	(20/23)
R 45 1.8 MPI	C6BM								
MGF 1.8 MPI	C6BP								
R 25 1.8 MPI	C6BS								
MG 25 CORE 1.8 VVC	G4BSV	3.250	1.894	1.307	1.033	0.848	3.000	4.200	1.150
		(12/39)	(19/36)	(26/34)	(30/31)	(33/28)	(13/39)	(15/63)	(20/23)
MGF BASE 1.6 & 1.8	G4BPF								
Lotus	B4BP	3.250	1.894	1.307	1.033	0.848	3.000	3.937	1.150
		(12/39)	(19/36)	(26/34)	(30/31)	(33/28)	(13/39)	(16/63)	(20/23)
R 25 Diesel	S6BS	3.250	1.894	1.222	0.848	0.648	3.000	3.937	1.150
		(12/39)	(19/36)	(27/33)	(33/28)	(37/24)	(13/39)	(16/63)	(20/23)
R 45 Diesel	S6BN								
R 25 Diesel Turbo	S6BSU								
R 45 Diesel Turbo	S6BNU								
Freelander 1.8 MPI	S4EM	3.250	1.894	1.222	0.848	0.648	3.000	4.200	1.150
		(12/39)	(19/36)	(27/33)	(33/28)	(37/24)	(13/39)	(15/63)	(20/23)
MG ZR Motorsport Vehicles	M4BSQ	2.923	1.894	1.500	1.269	1.034	3.000	4.200	1.150
		(13/38)	(19/36)	(24/36)	(26/33)	(30/29)	(13/39)	(15/63)	(20/23)

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L Series

The 2 litre L Series is 4 cylinder electronically controlled direct injection diesel engine. This gives a high level of performance economy and compliance with current emission legislation.

Construction of the cylinder block is cast iron with siamesed bores to provide a rigid structure and reduce engine length. The cylinder head is of aluminium providing bearings for a single camshaft operating two valves per cylinder via hydraulic tappets. An aluminium alloy sump has provision for a torque reaction rod to be fitted.

A turbocharger supplies boosted air via an intercooler to the intake manifold.

The intake/exhaust system supports a modulated cooled exhaust gas recirculation system.

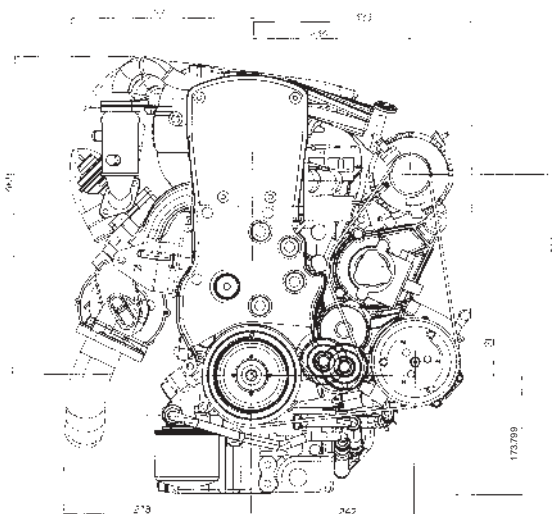
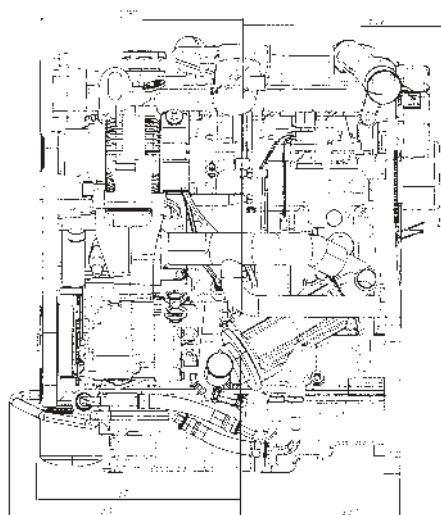
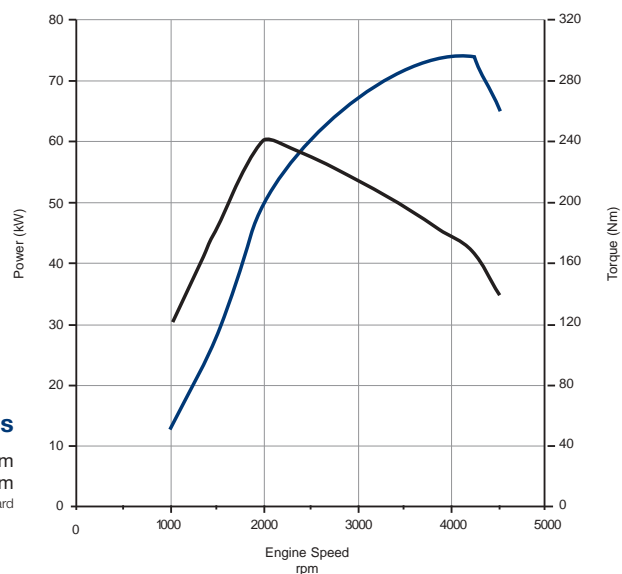
Technical features

Capacity
Dimensions L/W/H (mm)
Dry Weight (Kg)
Idle Speed
Max Power Output
Max Torque Output
Exhaust Back Pressure
Compression Ratio
Emissions Compliance

L Series

1994cc
538x594x643
184Kg
800rpm
100ps@4200
240Nm@2000
26Kpa@4200
19.5:1
ECD3

L Series
Max Power: 74 kW (101PS) @ 4200 rpm
Max Torque: 240 Nm @ 2000 rpm
Corrected to EC test standard



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KV6

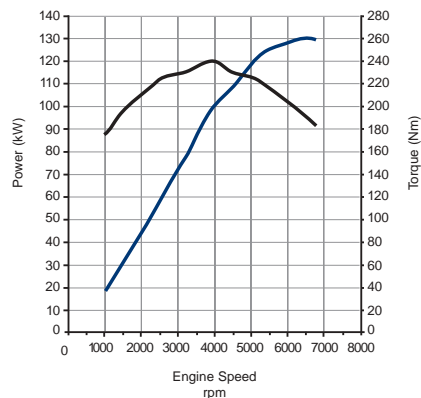
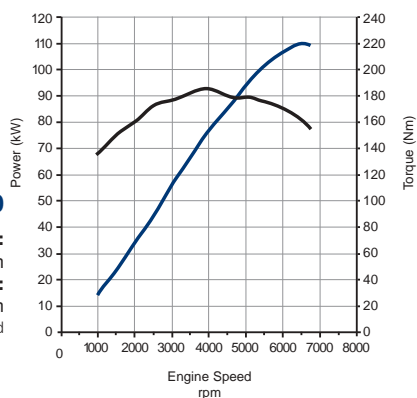
The award winning K Series engine is an all aluminium unit available in two capacity variants for KV6: 2.0 litre and 2.5 litres. The engines are 6 cylinder water cooled, naturally aspirated with four valves per cylinder and utilising multi-point fuel injection with sequential operating capability. The block and liner construction is common across the range. All have direct acting overhead camshafts and hydraulic tappets, with toothed belt drive via an auto tensioning system.

Power outputs for the range of engines in MG Rover configuration are 150PS to 190PS and the KV6 units meet all current emissions legislation. The compact aluminum construction and weight optimised components have led to an engine weight of 154kg (dry).

Technical features

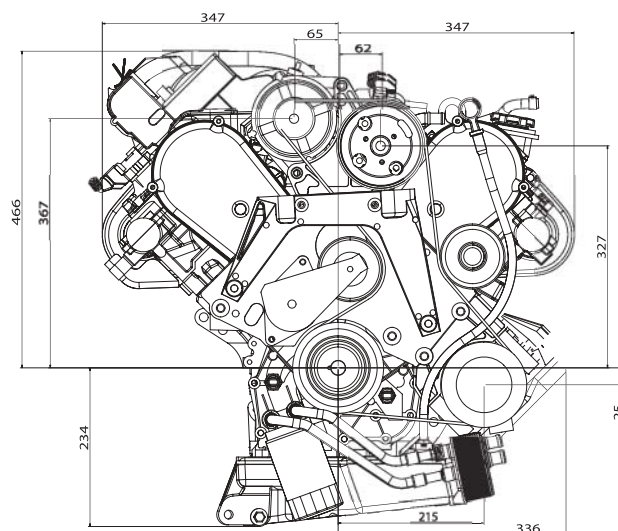
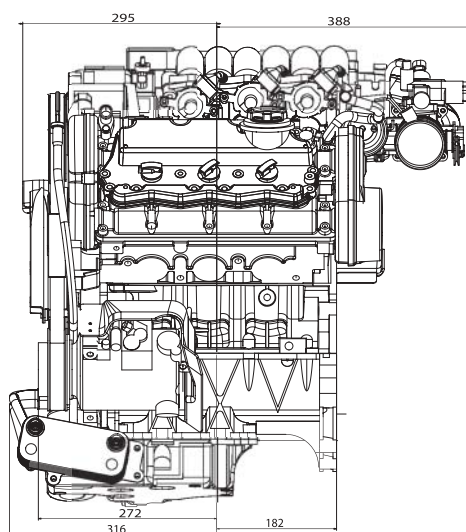
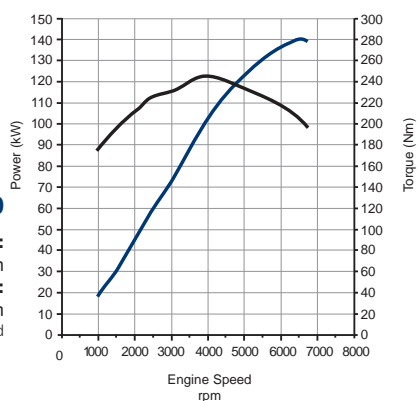
	K6 2.0	K6 2.5 160	K6 2.5 177	K6 2.5 190
Capacity	1991cc	2497cc	2497cc	2497cc
Dimensions L/W/H (mm)	498x694x700	498x694x700	498x694x700	477x681x655
Dry Weight (Kg)	154	154	154	154
Idle Speed	750rpm	750rpm	750rpm	750rpm
Max Power Output	150ps@6500rpm	160ps@6500rpm	177ps@6500rpm	190ps@6500rpm
Max Torque Output	185Nm@4000rpm	230Nm@4000rpm	240Nm@4000rpm	245Nm@4000rpm
Exhaust Back Pressure	39Kpa@6500rpm	42.8Kpa@6000rpm	35Kpa@6000rpm	42.8Kpa@6000rpm
Compression Ratio	10.5:1	10.25:1	10.25:1	10.25:1
Emissions Compliance	ECD3	ECD3	ECD3	ECD3

KV6 150
Max Power:
 110 kW (150PS) @ 6500 rpm
Max Torque:
 185 Nm @ 4000 rpm
 Corrected to EC test standard



KV6 177
Max Power:
 130 kW (177PS) @ 6500 rpm
Max Torque:
 240 Nm @ 4000 rpm
 Corrected to EC test standard

KV6 190
Max Power:
 140 kW (190PS) @ 6500 rpm
Max Torque:
 245 Nm @ 4000 rpm
 Corrected to EC test standard



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K4 Turbo

The K Series 1.8 litre Turbo-charged engine delivers performance and economy in a small package. The engine incorporates the latest developments in broad range turbocharger technology where aerodynamic improvements give a much wider range of operation. These changes give both reduced back pressures at high speeds and loads as well as improved rotor acceleration at low speeds. The result is a responsive turbo charged engine with very good low speed torque, fuel economy and CO2 emissions.

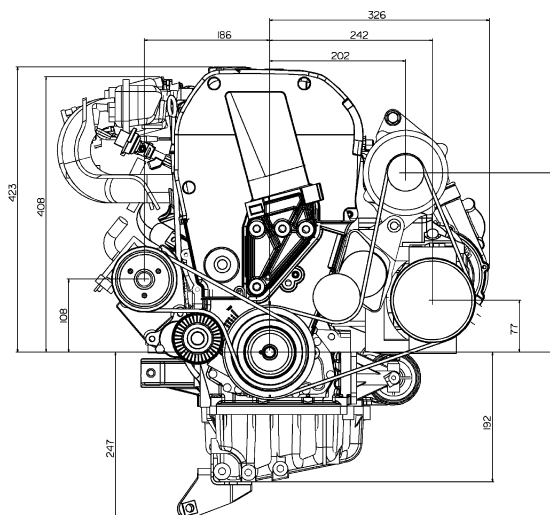
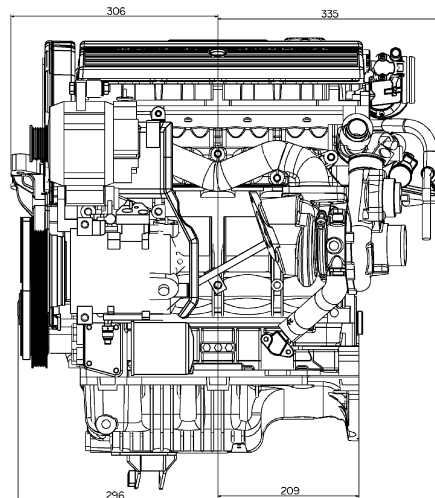
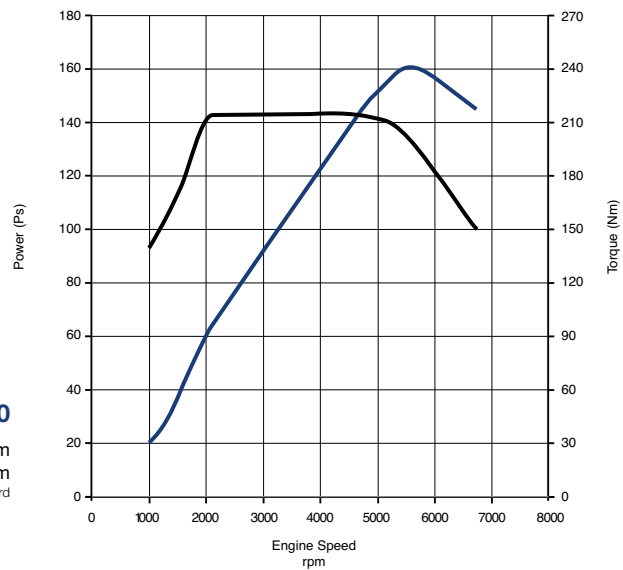
This 4 cylinder engine offers significant benefits due to its lightweight construction, providing exceptional levels of responsiveness and drive.

Technical features

Capacity	1796cc
Dimensions L/W/H (mm)	654x600x615
Dry Weight (Kg)	114
Idle Speed	800rpm
Max Power Output	118kW(160 Ps)@5500rpm
Max Torque Output	215Nm@2100-4600rpm
Compression Ratio	9.2:1
Emissions Compliance	EU 3

K4 Turbo

K4 Turbo 160
Max Power: 160Ps (118kW) @ 5500 rpm
Max Torque: 215 Nm @ 2100 rpm
Corrected to EC test standard



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