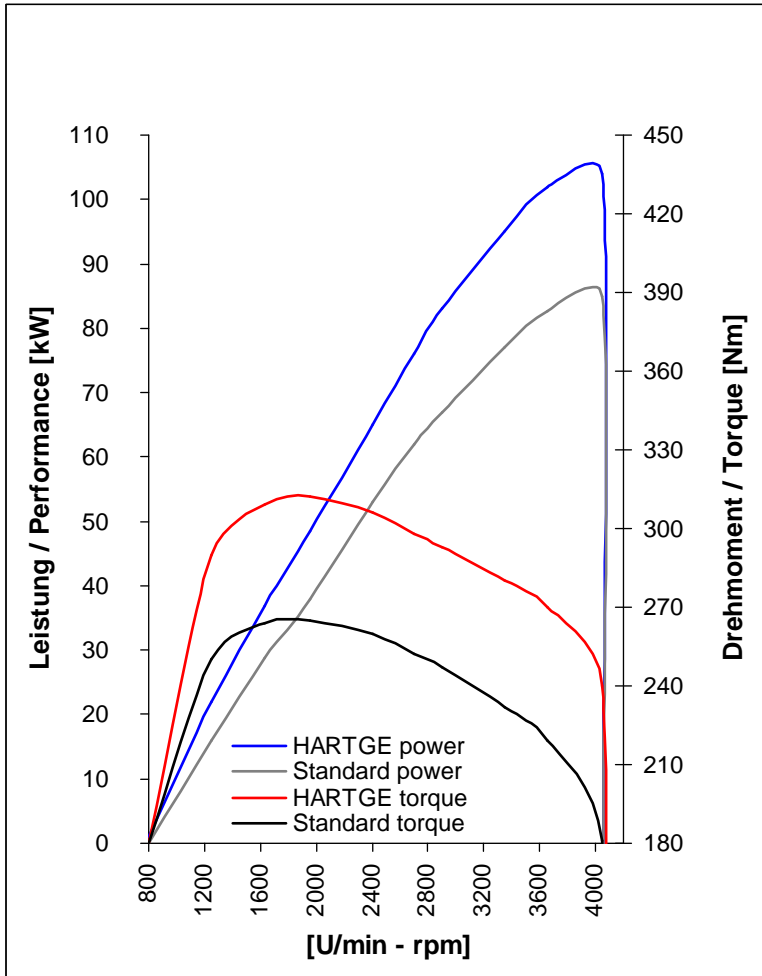


HARTGE engine conversion Performance and engine diagram



**HARTGE engine conversion 11 20 0116
BMW F20 116d (based on 85 kW / 116 hp)**



**HARTGE engine conversions are tested
on the test bench and race track**

Engine	HARTGE	Standard
Cylinders/valves	4 / 4	4 / 4
Displacement (cc)	1995	1995
Stroke/bore (mm)	90.0 / 84.0	90.0 / 84.0
Max output (kW/hp/rpm)	104 (142) / 3950	85 (116) / 4000
Max torque (Nm/rpm)	310 / 1900	260 / 1750 - 2500
Compression ratio :1	16.5	16.5
Fuel	Diesel	Diesel

Emissions/eurocode/fuel consumption	HARTGE	Standard
CO2 emissions (g/km)	114 - 117	114 - 117
Eurocode	Euro 5	Euro 5
Fuel consumption	approx. 0.5 litre less consumption	

Acceleration	Difference	HARTGE	Standard
80 - 180 km/h (sec)	- 6.96 s	15.12 s	22.08 s
0 - 200 km/h (sec)		**	**
Top speed	+ 12 km/h	212 km/h	200 km/h

** no performance figures available

-Technical data subject to alterations-

Performance figures can vary which is based on the vehicle model e.g. weight, equipment, wheel/tire combination etc.

HARTGE is approved as an automobile manufacturer by the KBA (German Government Motor Vehicle Authority) since 1985

HERBERT HARTGE GmbH & Co. KG * An der B 51 * D-66701 Beckingen * Germany

Phone: 0049 6835 506-0 * Fax 0049 6835 506-17 * www.hartge.de