



Mercedes-Benz Actros 2031 S

Model:	Mercedes-Benz Actros
Vehicle type:	2031 S
Drivetrain:	4X2
Baumuster:	93401222
Chassis variant:	Semitrailer tractor
Cab:	M-Cab
Engine power:	230 kW (313 HP)
Wheelbase:	3600 mm
Gross vehicle weight:	20000 kg
Steering type:	right
Fifth wheel position:	450 mm



This image might differ from your individual vehicle configuration and is therefore non-committal. Subject to alteration!

Paint

LZ 1:	Cab	
	MB 9147	arctic white

Vehicle equipment

Axle load distribution

TM2	Weight variant 20.0 t (7.5/13.0)
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Engine

MX1	Engine, V6, LA, 230 kW (313 hp), 1800 rpm
MS0	Engine version, Euro II
M60	Paper air cleaner, larger
M67	Cyclone pre-filter
MG8	Top air intake rear, frame-mounted air cleaner
K81	Fuel pre-filter, heated water separator
*>>>	Fuel preheating system
MP2	Engine cooling power, increased
>>>	Radiator protection, bottom
*>>>	Engine brake with constantly open throttle valve
*>>>	Single-cylinder air compressor, non-regulated
M78	Engine number, stamped-in
MA9	Engine mountings, for off-road use

Clutch & transmission

G81	Clutch, reinforced
GC3	Transmission G 210-16/14.2-0.83
N55	Transmission oil cooling
GS7	Telligent gearshift system II

Axles & suspension

A91	Front axle, straight version
AL3	Front axle 7.5 t
AM3	Rear axle H7, 13.0 t, crown wheel 300
*>>>	Differential lock rear axle
AP6	Axle ratio $i = 4.143$ (HL7)
QC4	Front spring, 7.5 t
QE9	Rear spring, 13.0 t, hard
*>>>	Stabilizer front axle
C42	Stabiliser, rear axle, under frame

Wheels & tyres

R26	Tapered rims, 8.50-20, for 12.00-20					
R60	Spare wheel carrier, provisional					
R04	Wheel nut cap					
R87	Spare wheel/spare wheel rim					
1.A.	202K11 10	2x	12.00 R 20	Highway	Continental	HSR
2.A.	202K11 10	4x	12.00 R 20	Highway	Continental	HSR
	202K11 10	1x	12.00 R 20	Highway	Continental	HSR





Frame and components attached to frame

CL9	Steering LS 6/LS 8
*>>>	Implement carrier, left
KU4	Main tank, 400 l, aluminium
K40	Tank-cap lock
K45	Screen, tank filler neck
KH3	Exhaust pipe raised, behind cab
P44	Mudguard, for chassis transit
Y82	Front apron
QB9	5th-wheel coupling, Jost JSK 37, H=185mm, man. lubr.
QM2	Assembly plate, 40 mm, for 20t 5th-wheel coupling

Brake system

*>>>	Dual-circuit full air brakes
*>>>	Automatic brake adjusting
*>>>	Roll back prevention
BB6	Drum brakes on front and rear axle
BB0	Anti-lock braking system (ABS), disengageable
BB8	Telligent braking system with ABS and ASR
*>>>	Compressed-air drier (single-chamber system)
B51	Independent trailer brake (export)
*>>>	Trailer brakes 2-lines
BD3	Brake and electrical connections, high
*>>>	Flexible electric- and brake connections

Cab exterior

F05	M-cab
F24	Cab rear wall, straight
F35	Cab rear wall with window
FL3	Cab mountings, rear, reinforced
FL6	Cab mountings, standard
FC7	Windows, tinted, without sun filter
D25	Roof hatch/vent, roof
*>>>	Steps and standing space behind cab
FS2	Wide-angle mirror on driver's side, heated
*>>>	Wide-angle exterior mirror on front passenger side
*>>>	Electrical adjustable, heated rearview mirrors
*>>>	Ramp mirror on co-driver's side
J70	Air horn
FW2	Deletion, immobiliser (transponder)
*>>>	Central locking system





Cab interior

SG5	Driver's standard suspension seat, Isringhausen
SF0	Fold-up seat, co-driver
*>>>	Steering column-rake and height adj. w. pneum lock
*>>>	multi-function steering wheel
FN1	Distribution cockpit
FE5	Power windows for driver's/co-driver's door
JK3	Inst. cluster, graphics-capable display, eco-meter
JN0	Tachograph, 1 day+2 drivers, modular
JW0	Reversing warning device
*>>>	Outside temperature gauge
*>>>	Fuel consumption display
*>>>	Telligent Maintenance System
ET1	Voltage transformer, 24 V/ 12 V, 8 A
HF2	Pollen filter
*>>>	Air controlled heating/ventilation system

Electrics / electronics

*>>>	Batteries 2x12V 165 AH
E84	Battery box, lockable
*>>>	Alternator 28 V / 80 A
EC6	Trailer socket, 15-pin
L10	Headlamps, left-side traffic
*>>>	Headlamp range adjuster
*>>>	Headlamp unit, H7, with clear-lens look
*>>>	6-part tail light cluster with reflector
L58	Rotating beacon, yellow
*>>>	Indicator transmitter for extra indicator lamps
MK6	Speed limiter, electronic, 85 km/h
MD9	Cruise control

Additional scopes

XW9	Deletion, noise reduction measures
Y40	Jack, 12 t
*>>>	Tools for export
XK2	Powertrain warranty, Gen. Terms/Con., 2 yrs/200000 km
XV6	Actros
X42	Labels/publications, English
Z01	Country-specific version
ZZ4	Vehicle, for left-side traffic



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Technical data	Mercedes-Benz Actros 2031 S
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Drivetrain:	4X2
Chassis variant:	Semitrailer tractor
Cab:	M-Cab
Engine power:	230 kW(313 HP)
Wheelbase:	3600 mm
Gross vehicle weight:	20000 kg
Steering type:	right
Fifth wheel position:	450 mm

Major unit overview

	Code	Brief description
Engine	MX1	Engine, V6, LA, 230 kW (313 hp), 1800 rpm
Gearbox	GC3	Transmission G 210-16/14.2-0.83
Steering	CL9	Steering LS 6/LS 8
Battery		Batteries 2x12V 165 AH
Front rims		
Rear rims	R26	Tapered rims, 8.50-20, for 12.00-20
Front axle (s)	AL3	Front axle 7.5 t
Rear axle (s)	AM3	Rear axle H7, 13.0 t, crown wheel 300

Tyres

1st Axle:	202K11 10	2 x 12.00 R 20	Highway	Continental
2nd Axle:	202K11 10	4 x 12.00 R 20	Highway	Continental
Spare wheel:	202K11 10	1 x 12.00 R 20	Highway	Continental

Dynamic tyre radius 544 mm

Engine data

max. power	230 kW	(313 HP)
max. torque	1530 Nm at	1080 rpm
Cubic capacity	11946 cm ³	
Theoretical maximum speed: 107 km/h (without speed limiter)		





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Performance Overview

Gearbox

Forward gear ratios							
1. Gear:	14.190	2. Gear:	11.720	3. Gear:	9.580	4. Gear:	7.920
5. Gear:	6.500	6. Gear:	5.370	7. Gear:	4.400	8. Gear:	3.640
9. Gear:	3.220	10. Gear:	2.660	11. Gear:	2.180	12. Gear:	1.800
13. Gear:	1.480	14. Gear:	1.220	15. Gear:	1.000	16. Gear:	0.830

Reverse gear ratios	
1. Gear:	12.900
2. Gear:	10.660

Performance

	Gross weight [kg]	Speed [km/h] on a given grade			
		0%	2%	3%	7%
Solo	20000	107	101	87	41
Train	40000	107	60	50	24

	Gross weight [kg]	Gradeability [%]				
		Maximum	Restart	60 km/h	80 km/h	85 km/h
Solo	20000	77.7	60.7	5.4	3.5	3.1
Train	40000	38.4	30.0	2.3	1.3	1.2

	Gross weight [kg]	Speed [km/h]		Engine RPM [/min]		
		in 1st gear at 1000/min	in top gear at rated rpm	in top gear		
				60 km/h	80 km/h	85 km/h
Solo	20000	3	107	1006	1341	1425
Train	40000	3	107	1006	1341	1425

Axle load distribution (kg)

	1. FA	2.FA	1.RA	2.RA	Total
Kerb weight	4926	0	2393	0	7319
Payload / fifth wheel load	2574	0	10607	0	12681
Gross vehicle weight	7500	0	13000	0	20000
Gross combination weight					40000

Kerb weights with Driver (75kg), Tools (16kg), Spare wheel (123kg), 90% of tankful (342kg).
Optional equipment is not considered in the weight calculation.





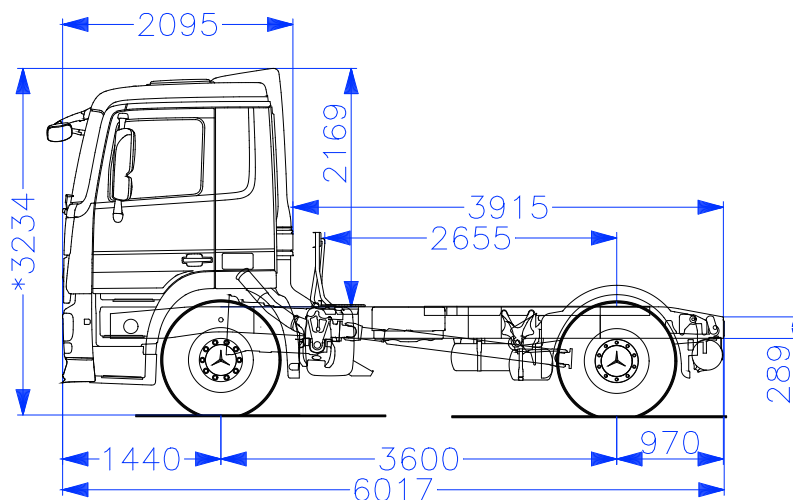
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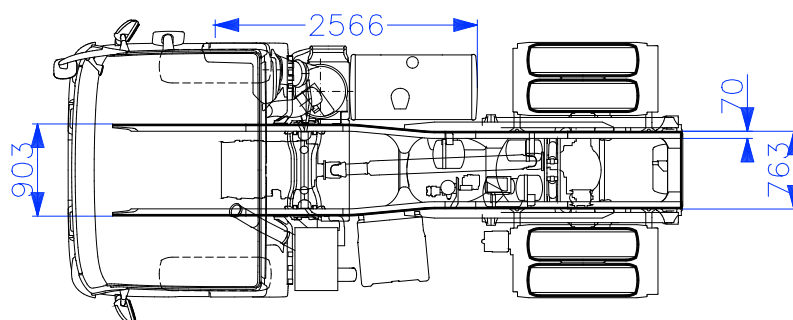
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Side view*



Plan view*



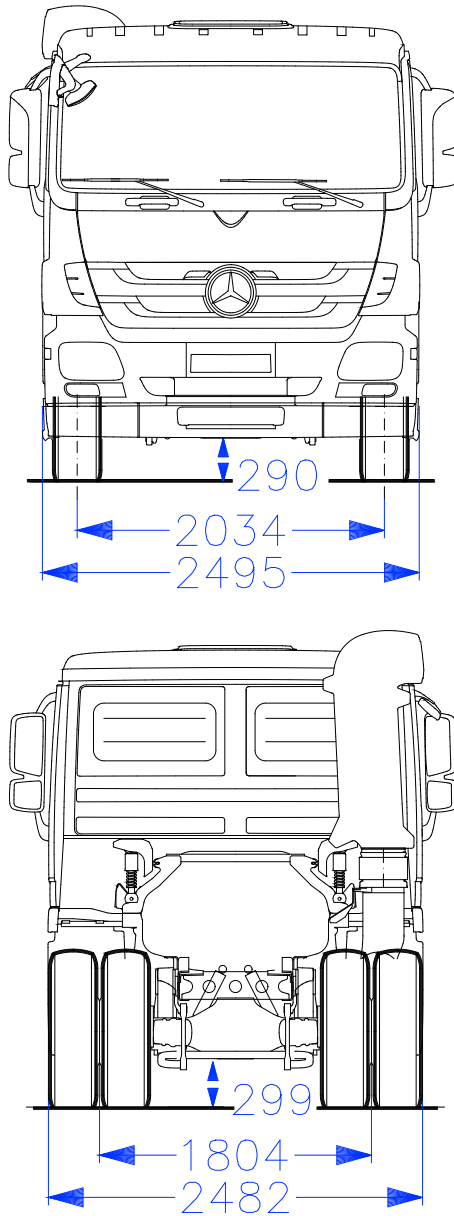


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Front / rear view*



All data without engagement!





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**Performance Calculation:
Graphics & Tables**

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Drivetrain

Engine: MX1 Engine, V6, LA, 230 kW (313 hp), 1800 rpm
Gearbox: GC3 Transmission G 210-16/14.2-0.83
Rear axle: AM3 Rear axle H7, 13.0 t, crown wheel 300
Axle ratio: 4.143
Tyres: 1st Axle: 202K11 10 12.00 R 20
2nd Axle: 202K11 10 12.00 R 20
Spare wheel: 202K11 10 12.00 R 20
Dynamic tyre radius 544 mm

Theoretical maximum speed: 107 km/h
(without speed limiter)

Performance parameters

Road surface: ROAD / DRY
Rolling resistance coefficient: 0.008
Coefficient of friction: 0.8

Head wind: 0 BF NO WIND
Wind strength: 0 km/h

Air resistance: LK/SK, box
Drag coefficient: 0.60

Road speed reference points (km/h): 50 60 70 80 90 100

Gross combination weight: 40000 kg
Load on driven axles: 0 kg

Grade A: 0.5 %
Grade B: 1.0 %



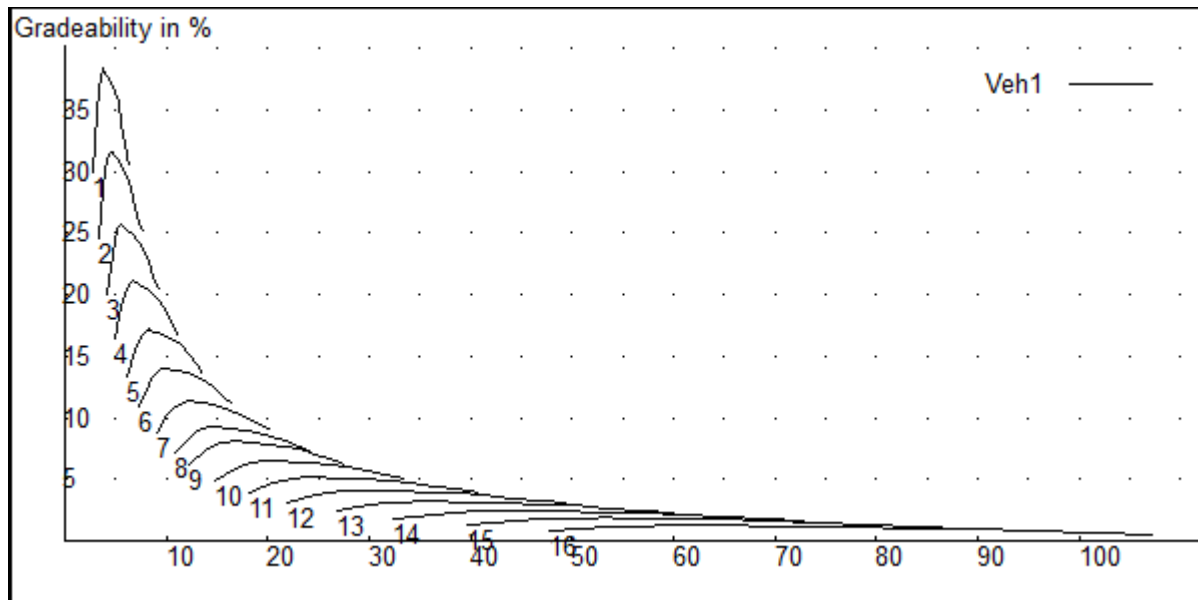


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Gradeability Diagram (theoretical)



Gradeability Table (theoretical)

	Nmin		mNmax		Nmax	
	800	rpm	1080	rpm	1800	rpm
Gear	Km/h	Grd/%	Km/h	Grd/%	Km/h	Grd/%
-1	3	27	4	35	7	28
-2	4	22	5	29	8	23
1	3	30	4	38	6	30
2	3	25	5	32	8	25
3	4	20	6	26	9	20
4	5	16	7	21	11	17
5	6	13	8	17	14	14
6	7	11	10	14	17	11
7	9	9	12	11	20	9
8	11	7	15	9	24	7
9	12	6	17	8	28	6
10	15	5	20	7	33	5
11	18	4	25	5	41	4
12	22	3	30	4	50	3
13	27	2	36	3	60	2
14	32	2	44	2	73	2
15	40	1	53	2	89	1
16	48	1	64	1	107	0

Maximum road speed on various grades:

1%: 107Km/h 2%: 89Km/h 3%: 60Km/h 4%: 50Km/h



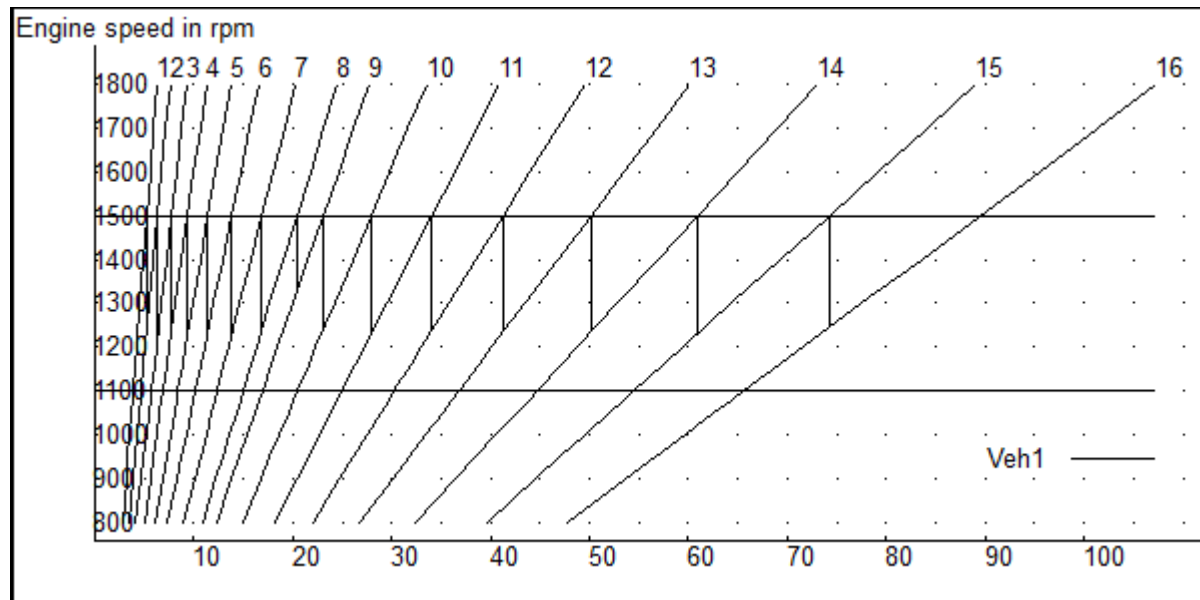


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Engine Diagram RPM



Engine Table RPM

	Km/h	Km/h	Km/h	Km/h	Km/h	Km/h
	50	60	70	80	90	100
Gear	rpm	rpm	rpm	rpm	rpm	rpm
-1	0	0	0	0	0	0
-2	0	0	0	0	0	0
1	0	0	0	0	0	0
2	0	0	0	0	0	0
3	0	0	0	0	0	0
4	0	0	0	0	0	0
5	0	0	0	0	0	0
6	0	0	0	0	0	0
7	0	0	0	0	0	0
8	0	0	0	0	0	0
9	0	0	0	0	0	0
10	0	0	0	0	0	0
11	0	0	0	0	0	0
12	0	0	0	0	0	0
13	1495	1794	0	0	0	0
14	1232	1479	1725	0	0	0
15	1010	1212	1414	1616	0	0
16	838	1006	1174	1341	1509	1677



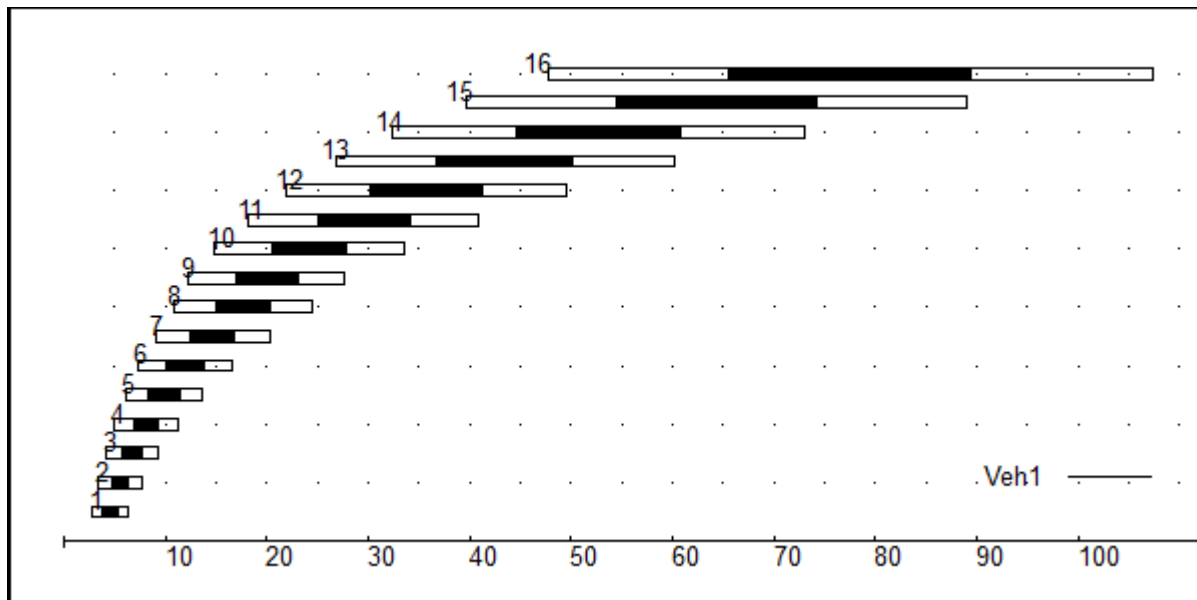


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Road speed Diagram



Road Speed Table

	n/ min 800	n/ 1000	n/ Green 1100	n/ MDmax 1080	n/ 1500	n/ Green 1800	max
Gear	Km/h	Km/h	Km/h	Km/h	Km/h	Km/h	
-1	3	4	4	4	6	7	
-2	4	5	5	5	7	8	
1	3	3	4	4	5	6	
2	3	4	5	5	6	8	
3	4	5	6	6	8	9	
4	5	6	7	7	9	11	
5	6	8	8	8	11	14	
6	7	9	10	10	14	17	
7	9	11	12	12	17	20	
8	11	14	15	15	20	24	
9	12	15	17	17	23	28	
10	15	19	20	20	28	33	
11	18	23	25	25	34	41	
12	22	28	30	30	41	50	
13	27	33	37	36	50	60	
14	32	41	45	44	61	73	
15	40	50	54	53	74	89	
16	48	60	66	64	89	107	



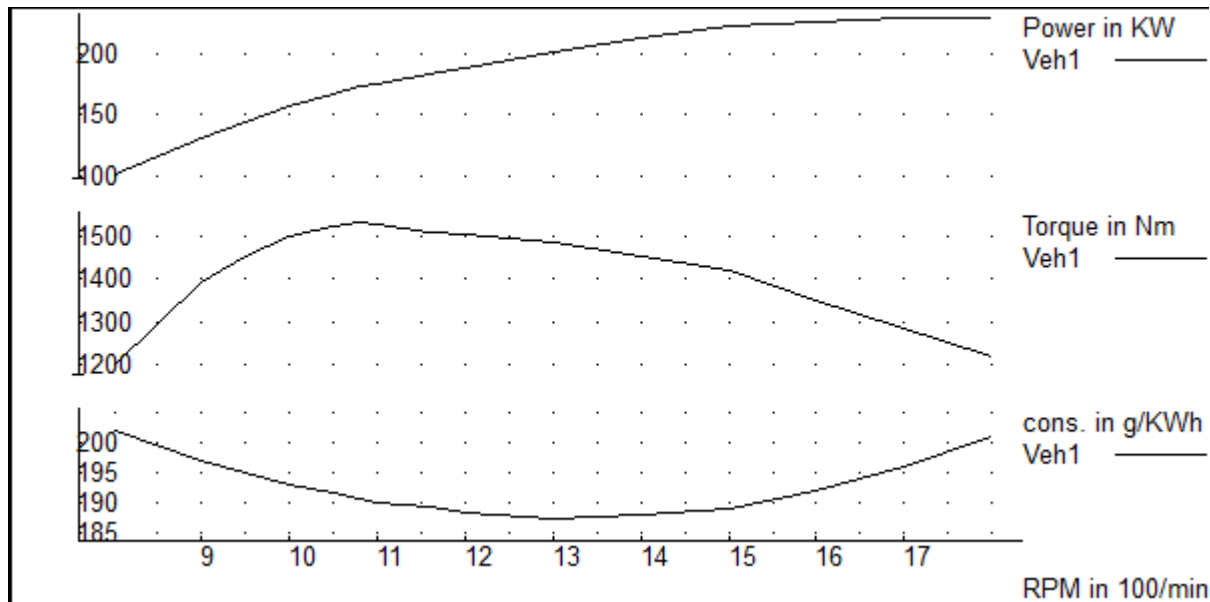


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Engine Performance Diagram



Power = engine power Torque = engine torque cons. = specific fuel consumption

Engine Performance Table

n	Pmax	Mmax	bmax
1/min	KW	Nm	g/KWh
800	100	1200	202
900	131	1390	197
950	144	1451	195
1000	157	1500	193
1050	168	1523	192
1080	173	1530	191
1100	176	1525	190
1160	183	1510	189
1200	189	1505	188
1300	202	1485	188
1400	213	1451	188
1500	223	1420	189
1600	226	1350	192
1700	229	1286	196
1800	230	1220	201

Pmax = engine power Mmax = engine torque bmax = specific fuel consumption

All data without engagement!

