

# VOLKSWAGEN

AKTIENGESELLSCHAFT



## The SD 1.9 - 436 MC industrial engine

*The drive for your ideas.*

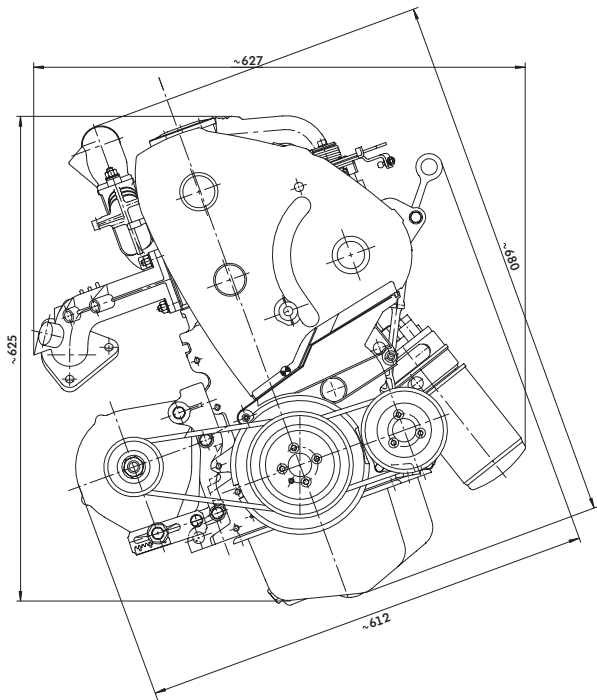


Illustration corresponds to part number: 028 100 315



Engine displayed with optional components

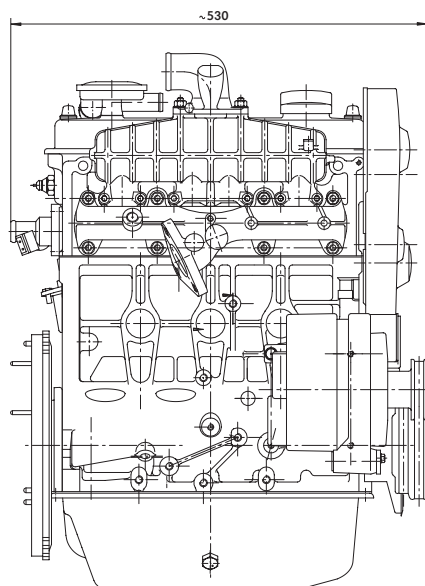


Illustration corresponds to part number: 028 100 315

## Volkswagen Industrial Engines

The advantages are crystal-clear: engine technology proven a million times over.

All Volkswagen industrial engines are powered by the experience, innovative prowess and R&D strength of one of the world's largest diesel engine manufacturers.

Whether it's reliability, quality, technical standards, cost efficiency or environmental sensitivity - the result is a keen cutting edge across the board.

What else would you expect from the Volkswagens among industrial engines?

## The SD 1.9 industrial engine

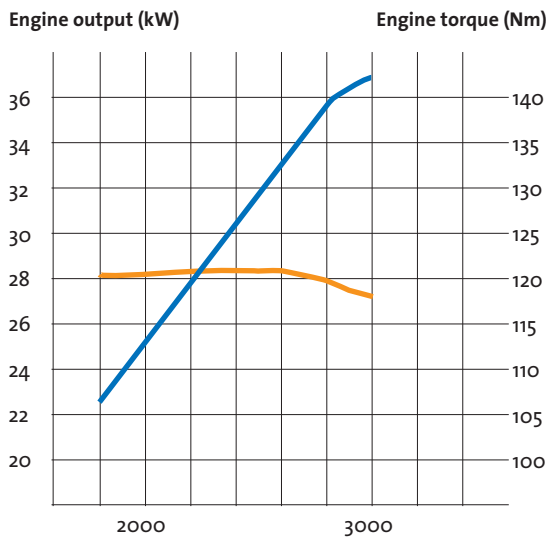
The classic among the Volkswagen industrial engines is now certified also after EU 97/68 stage 3a.

The proven technology of the water-cooled 4-cylinder in-line diesel engine with swirl chamber provides low emissions at good fuel efficiency.

The robust injection technique of the SD 1.9 with mechanical distributor injection pump and the overhead camshaft worries for simple maintenance.

Compact measurements and simple engine construction facilitate furthermore low installation costs.

# The SD 1.9 industrial engine in detail



Revolutions (1/min)

Engine torque  
Engine output

Displacement	1.896 cm <sup>3</sup>
Bore/stroke	79,5 mm / 95,5 mm
Power (89/491/EWG)	36 kW at 3.000 min <sup>-1</sup>
Max. torque (89/491/EWG)	121 Nm at 1.800 min <sup>-1</sup>
Compression ratio	23 : 1
Weight (dry)	ca. 130 kg
Spec. fuel consumption (best point)	256 g/kWh at 2.200 min <sup>-1</sup>
Crankcase	Grey cast iron
Cylinder head	Aluminium alloy
Crankshaft	Steel

## Technology

Injection with Bosch mechanical distributor injection pump

## Engine electrical equipment

Alternator	65 A
Starter	12 V / 1,8 kW
Glow plugs	12 V

## Fuel

Diesel according to DIN EN 590, minimum cetane number > 49

## Lubrication system

Pressure lubrication system, oil pump above intermediate shaft, full flow oil filter

Oil cooler	Oil/water heat exchange
Oil pressure (at 2.000 min <sup>-1</sup> and 80°C)	min. 2,0 bar
Oil filter	hanging

## Cooling system

Sealed cooling system

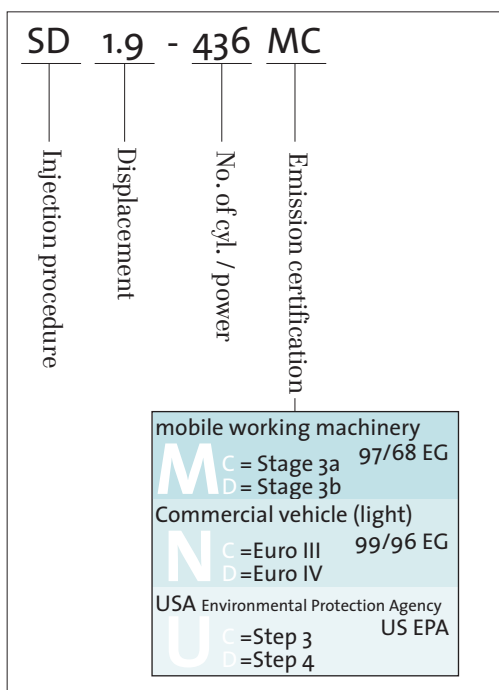
## Permitted engine operating data

Max. drive take-off from crankshaft on belt-drive side	17 Nm radial above belt-drive; 48 Nm radial or axial above crankshaft
Min. permitted cold start temperature	-25°C
Max. permitted engine oil temp. (in sump)	125°C (cont. op.)
Max. permitted coolant temp. (outlet)	95°C (cont. op.)
Upper idling speed	3.145 min <sup>-1</sup>
Lower idling speed	950 min <sup>-1</sup>

## Installation position

Standard inclination (viewed from flywheel)	20°
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## Engine names



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