



## Technical Data

Mercedes-Benz  
Industrial  
Diesel Engine  
OM 442  
195 kW

OM 442	OM 442 A	OM 442 LA



Mercedes-Benz

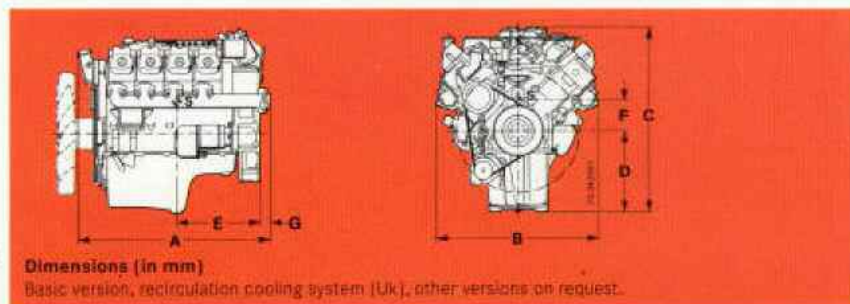


low pollution

## Technical Data.

The OM 442 engine is one of the V-engines in the 400 series and is one of the more powerful of the industrial diesel engines offered by Mercedes-Benz.

A = 1055  
B = 895  
C = 1010  
D = 445  
E = 465  
F = 170  
G = 55  
S = centre of gravity



### General

Cylinder arrangement	90°-V
Cooling system	recirculating water cooling
Operation	4-stroke, direct injection
Number of cylinders	8
Cylinder bore	dia. 130 mm
Piston stroke	142 mm
Total displacement	15.078 l
Compression ratio	18:1
Mean effective pressure at 2100 /min and 195 kW	7.4 bar
Mean piston speed at 2100 /min	9.9 m/s
Starting speed	approx. 120 /min
Sense of rotation of engine when facing flywheel	ccw
Starter	electric
Cooling water capacity of engine without recooling system	17.5 l
Max. lube oil capacity, standard oil pan	20.5 l
Weight of basic engine acc. to VDMA, i. e. without recooling system, alternator and starter	815 kg
Weight of engine with fan, alternator and starter	850 kg
Power-to-weight ratio, referred to VDMA weight and 195 kW	4.18 kg/kW
Braking power of engine (exhaust brake) at an engine speed of 2100 /min without butterfly valve	52 kW
with butterfly valve	122 kW
Cold-starting ability without starting aid and battery 75% charged, down to	- 20°C

Permissible PTO torque at front end of crankshaft with axial or single-side radial PTO on request

### Power, torque and engine speed ratings

Power and torque curves	see diagram
Max. torque at 1000...1400 /min	980 Nm
Min. permissible engine speed for continuous operation below 1500 /min	on request
Maximum speed without load depending on cyclic irregularity of governor	
Min. idling speed	approx. 600 /min

### Installation data

Total moment of inertia of engine with flywheel $J = 1.1$	2.1 kgm <sup>2</sup>
Combustion air volume at 2100 /min	15.3 m <sup>3</sup> /min
Exhaust gas volume at 2100 /min and 195 kW with back pressure of 100 mbar at engine outlet	32 m <sup>3</sup> /min
Heat to be dissipated from cooling water with uncooled exhaust manifold	2300 kJ / kWh
Capacity of cooling water pump without cooling system at engine speed 2100 /min	520 l /min
Permissible air intake restriction upstream of engine inlet at rated automotive power	
oil bath air filter	max. 30 mbar
dry air filter, new	max. 25 mbar
dry air filter, polluted	max. 50 mbar
Permissible exhaust gas back pressure at rated automotive power at engine outlet	max. 100 mbar

### Starter, battery and alternator

Starter	Bosch
Voltage	24 V
Output	5.4 kW
Weight	16 kg
Starter battery	
Voltage	24 V
Min. capacity	110 Ah
Three-phase alternator	Bosch
Voltage	28 V
Current	10 / 30 A
Weight	4 kg
Power delivery starts at idling speed	

### Injection pump and governor

In-line injection pump with governor	Bosch
Provision for installing standard engine speed and injection governors	

### Consumption data

Fuel consumption see diagram	
Lube oil consumption for an already run-in engine amounts up to 0.5% of effective fuel consumption. This value may be exceeded in isolated cases depending on application and running time.	



# Power, torque and fuel consumption of engine type OM 442.

## 80/1269/EEC-89/491/EEC

Maximum automotive power

Visco fan

hydraulic loose

The power rating quote above complies with the directive 88/77/EEC, alteration 91/542/EEC, aiming at a reduction in gaseous emissions **and** particulates. Valid as of 1.7.1992 for new homologation.

Fan, rigid

## DIN 6271

Maximum ISO net brake

fuel stop power **IFN**

ISO standard **ICXN**

power exceedable by 10%

As distinct from DIN standard 6271, the power required by a fan is not considered in power specifications **IFN** and **ICXN** because of the great variety of cooling systems available.

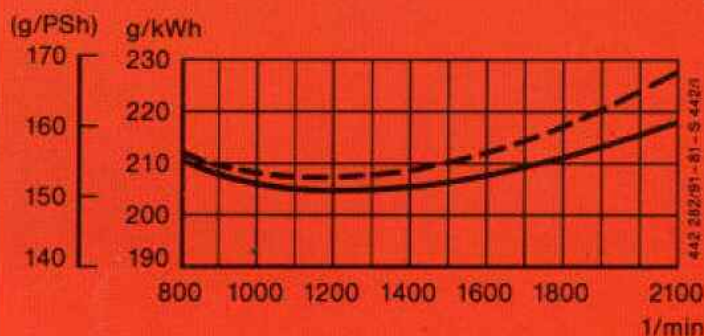
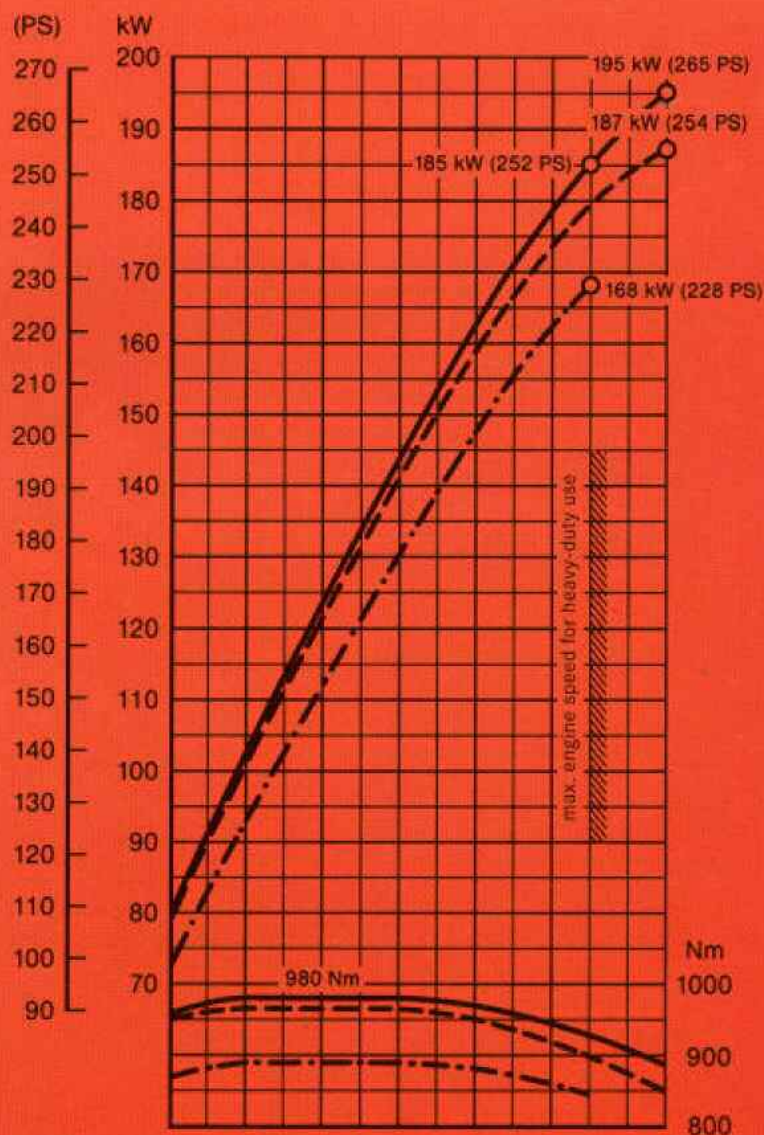
The ISO net brake fuel stop power **IFN** cannot be exceeded. It is permitted for 1 hour without interruption or intermittently within a period of 6 hours.

The ISO standard power **ICXN** represents continuous power exceedable by 10%. The overload power is blocked and permitted for 1 hour without interruption or intermittently within a period of 12 hours.

The power specifications and the specific fuel consumption data refer to diesel fuel with a reference density of  $\rho_{15} = 0.84 \text{ g/cm}^3$  and a temperature of 35°C at the injection pump inlet.

In individual cases the power ratings can be chosen to suit the intended application, taking all operating conditions into account.

Engine speeds below 1500/min for continuous operation upon request.



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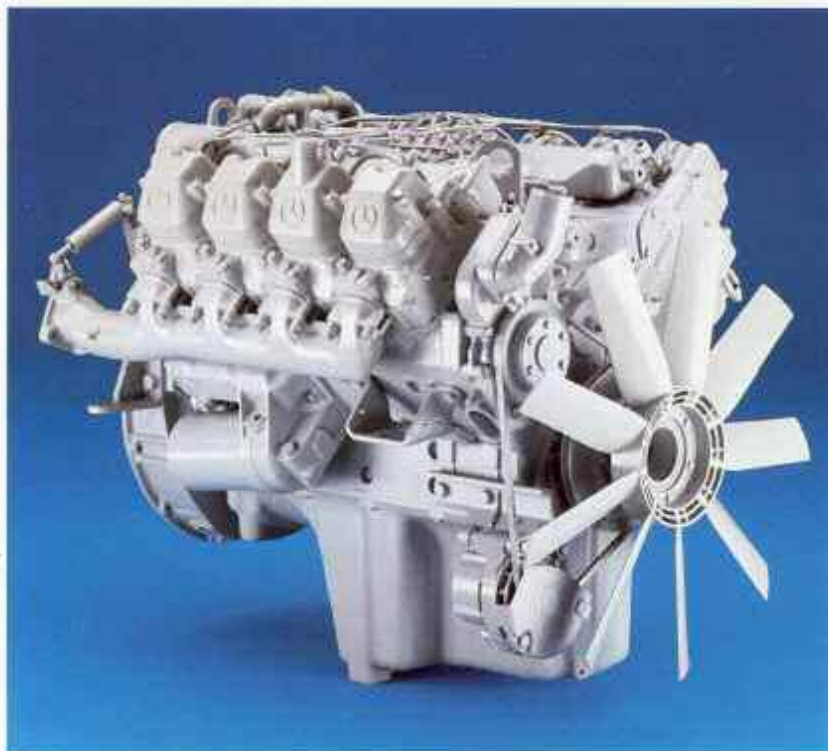
Mercedes-Benz manufactures and supplies a wide range of industrial diesel engines varying from 40 to 612 kW (54 - 832 hp). Information concerning these can be found in the brochures describing the basic concept behind each family of engines and in type sheets detailing the technical specifications of the various engines.

Besides a high-quality and technically perfected product, Mercedes-Benz also provides a comprehensive back-up system. This includes project and installation advisory services, parts supply, a worldwide service network and service training.

Subject to modifications.

The data included in this brochure are to be regarded as approximate.

The illustrations may also contain special equipment which is not part of the standard delivery specification.



Should you require further material, please consult the Vehicle Components Division in Stuttgart-Untertuerkheim:

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Mercedes-Benz  
Industrial engines





## Technical Data

**Mercedes-Benz  
Industrial Diesel Engine  
OM 442  
213 kW**

OM 442	OM 442 A	OM 442 LA

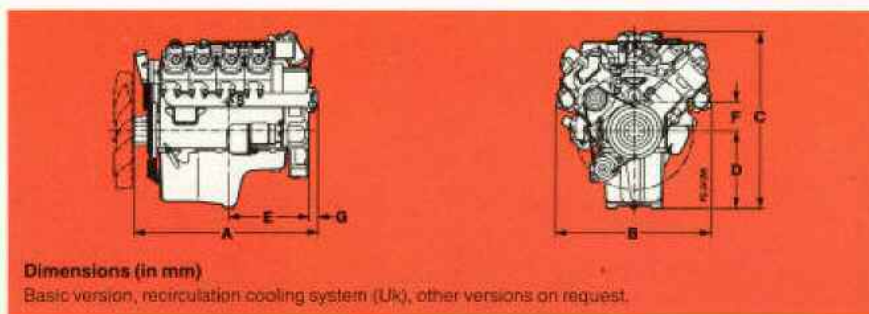


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# Technical Data.

The OM 442 engine is one of the V-engines in the 400 series and is one of the more powerful of the industrial diesel engines offered by Daimler-Benz.

A = 1070	E = 465
B = 895	F = 170
C = 1010	G = 53
D = 445	S = centre of gravity



## General

Cylinder arrangement	90°-V
Cooling system	recirculating water cooling
Operation	4-stroke, direct injection
Number of cylinders	8
Cylinder bore	dia. 130 mm
Piston stroke	142 mm
Total displacement	15.078 l
Compression ratio	16.9 : 1
Mean effective pressure at 2100/min and 213 kW	8.07 bar
Mean piston speed at 2100/min	9.9 m/s
Starting speed	approx. 120/min
Sense of rotation of engine when facing flywheel	ccw
Starter	electric
Cooling water capacity of engine without recooling system	17.5 l
Max. lube oil capacity, standard oil pan	max. 20.5 l
Weight of basic engine acc. to VDMA, i. e. without recooling system, alternator and starter	815 kg
Weight of engine with fan, alternator and starter	850 kg
Power-to-weight ratio, referred to VDMA weight and 213 kW	3.83 kg/kW
Braking power of engine (exhaust brake) at an engine speed of 2100/min	
without throttle valve	approx. 56 kW
with throttle valve	approx. 112 kW
Cold-starting ability without starting aid and battery 75% charged, down to	-20°C

Permissible PTO torque at front end of crankshaft with axial or single-side radial PTO on request

## Power, torque and engine speed ratings

Power and torque curves see diagram	
Max. torque (80/1269/EEC) at 1000...1600/min	1100 Nm
Min. permissible engine speed for continuous operation	below 1500/min on request
Maximum speed without load depending on cyclic irregularity of governor	
Min. idling speed	approx. 600/min

## Installation data

Total moment of inertia of engine with flywheel J = 1.1	2.1 kgm <sup>2</sup>
Combustion air volume at 2100/min	14 m <sup>3</sup> /min
Exhaust gas volume at 2100/min and 213 kW with back pressure of 60 mbar at engine outlet	41 m <sup>3</sup> /min
Heat to be dissipated from cooling water with uncooled exhaust manifold	2300 kJ/kWh
Capacity of cooling water pump without cooling system at engine speed 2100/min	560 l/min
Permissible air intake restriction upstream of engine inlet at rated automotive output	
oil bath air filter	max. 30 mbar
dry air filter, new	max. 20 mbar
dry air filter, polluted	max. 50 mbar
Permissible exhaust gas back pressure at rated automotive power at engine outlet	max. 60 mbar

## Starter-, battery and alternator

Starter	Bosch
Voltage	24 V
Output	5.4 kW
Weight	16 kg
Starter battery	
Voltage	24 V
Min. capacity	110 Ah
Three-phase alternator	Bosch
Voltage	28 V
Current	10/30 A
Weight	4 kg
Power delivery starts at idling speed	

## Injection pump and governor

In-line injection pump with governor	Bosch
Provision for installing standard engine speed and injection governors.	

## Consumption data

Lube oil consumption for new and already run-in engines is approx. 0.5 % of effective fuel consumption. This value can - acc. to application and running time - rise in individual cases to max. 1 %.



# Power and torque of engine type OM 442.

## 80/1269/EEC

Maximum automotive power. ———

The power is available at the flywheel of the engine. The power required by the standard fan has already been taken into account.

## DIN 6271

Maximum ISO net brake fuel stop power **IFN** . . . . .

ISO standard power **ICXN** — — — — —  
exceedable by 10 %

As distinct from DIN standard 6271, the power required by a fan is not considered in power specifications IFN and ICXN because of the great variety of cooling systems available.

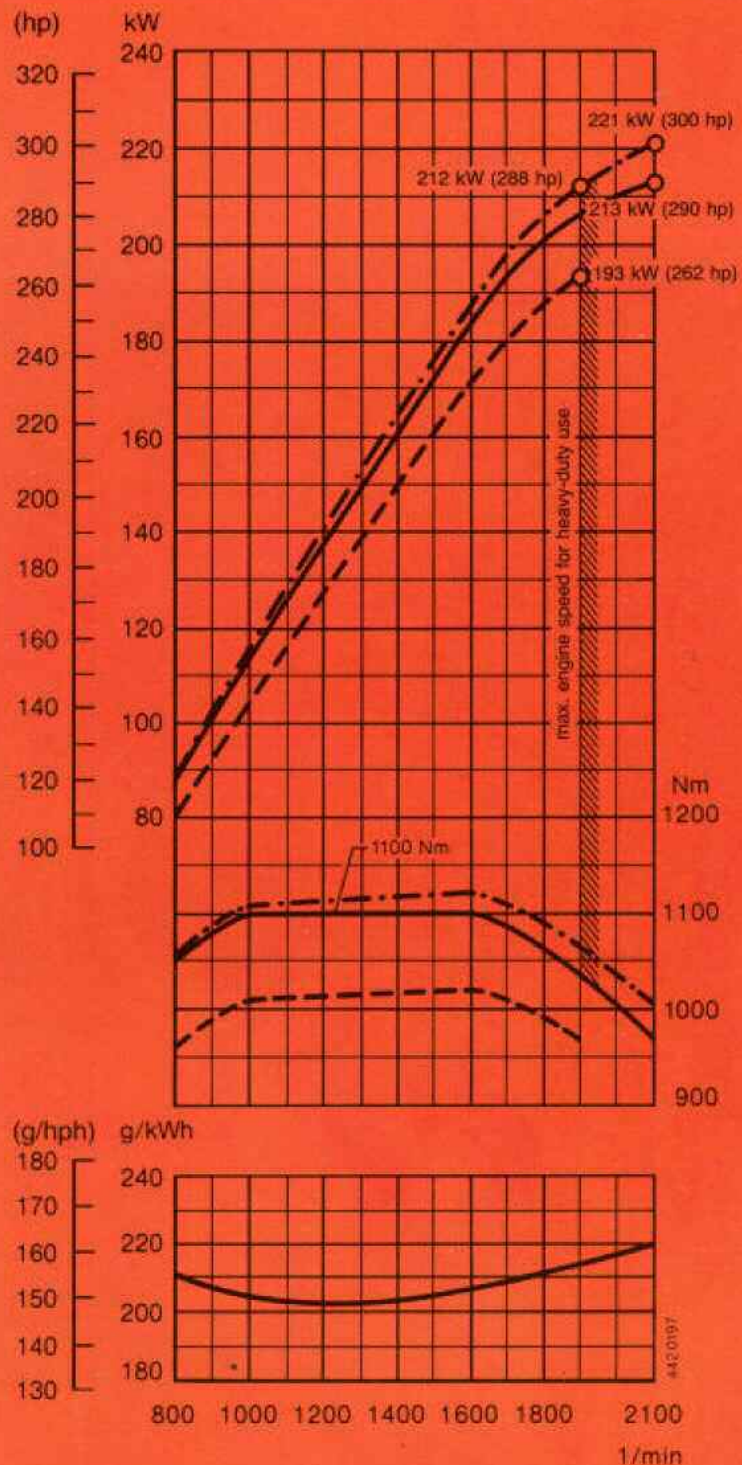
The ISO net brake fuel stop power **IFN** cannot be exceeded. It is permitted for 1 hour without interruption or intermittently within a period of 6 hours.

The ISO standard power **ICXN** represents continuous power exceedable by 10 %. The overload power is blocked and permitted for 1 hour without interruption or intermittently within a period of 12 hours.

The power specifications and the specific fuel consumption data refer to diesel fuel with a reference density of  $\rho_{15} = 0,84 \text{ g/cm}^3$  and a temperature of 35 °C at the injection pump inlet.

In individual cases, the power ratings can be chosen to suit the intended application, taking all operating conditions into account.

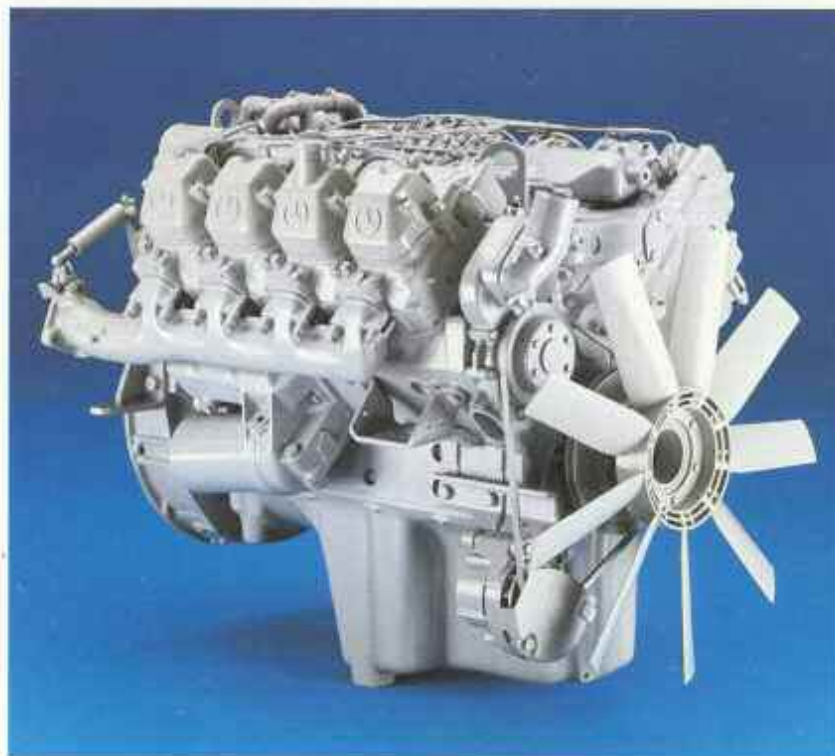
Engine speeds below 1500/min for continuous operation upon request.



Daimler-Benz manufactures and supplies a wide range of industrial diesel engines varying from 17 to 610 kW (23-830 hp). Information concerning these can be found in the brochures describing the basic concept behind each family of engines and in type sheets detailing the technical specifications of all the various engines.

Besides a high-quality and technically perfected product, Daimler-Benz also provides a comprehensive back-up system. This includes project and installation advisory services, parts supply, a worldwide service network and service training.

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MERCEDES-BENZ





## Technical Data

**Mercedes-Benz  
Industrial  
Diesel Engine  
OM 442 A  
250 kW**

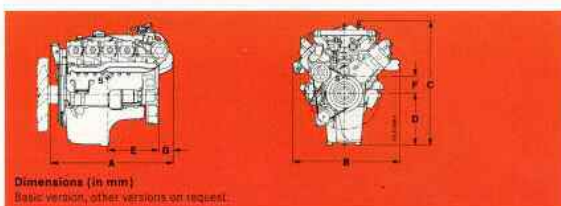
OM 442	OM 442 A	OM 442 LA



## Technical Data.

The OM 442 A engine is one of the V-engines in the 400 series and is one of the more powerful of the industrial diesel engines offered by Mercedes-Benz.

A = 1420 E = 475  
B = 975 F = 155  
C = 1120 G = 119  
D = 476 S = centre of gravity



### General

Cylinder arrangement	90°-V with exhaust gas turbocharger
Cooling system	recirculating water cooling
Operation	4-stroke, direct injection
Number of cylinders	8
Cylinder bore	dia. 128 mm
Piston stroke	142 mm
Total displacement	14.618 l
Compression ratio	18:1
Mean effective pressure at 2100 /min and 250 kW	9.8 bar
Mean piston speed at 2100 /min	9.9 m/s
Starting speed	approx. 120 /min
Sense of rotation of engine when facing flywheel	ccw
Starter	electric
Cooling water capacity of engine without recooling system	17.5 l
Max. lube oil capacity, standard oil pan	23.5 l
Weight of basic engine acc. to VDMA, i. e. without recooling system, alternator and starter	875 kg
Weight of engine with fan, alternator and starter	910 kg
Power-to-weight ratio, referred to VDMA weight and 250 kW	3.5 kg/kW
Braking power of engine (exhaust brake) at an engine speed of 2100 /min without butterfly valve	57 kW
with butterfly valve	141 kW
Cold-starting ability without starting aid and battery 75% charged, down to	- 20°C

Permissible PTO torque at front end of crankshaft with axial or single-side radial PTO on request

### Power, torque and engine speed ratings

Power and torque curves	see diagram
Max. torque at 1200 /min	1500 Nm
Min. permissible engine speed for continuous operation below 1500 /min	on request
Maximum speed without load depending on cyclic irregularity of governor	
Min. idling speed	approx. 600 /min

### Installation data

Total moment of inertia of engine with flywheel J = 1.1	2.2 kgm <sup>2</sup>
Combustion air volume at 2100 /min	26.4 m <sup>3</sup> /min
Exhaust gas volume at 2100 /min and 250 kW with back pressure of 100 mbar at turbine outlet	59 m <sup>3</sup> /min
Heat to be dissipated from cooling water with uncooled exhaust manifold	2300 kJ/kWh
Capacity of cooling water pump without cooling system at engine speed 2100 /min	570 l/min
Permissible air intake restriction upstream of turbocharger inlet at rated automotive power	
oil bath air filter	max. 30 mbar
dry air filter, new	max. 25 mbar
dry air filter, polluted	max. 50 mbar
Permissible exhaust gas back pressure at rated automotive power at turbine outlet	max. 100 mbar

### Starter, battery and alternator

Starter	Bosch
Voltage	24 V
Output	5.4 kW
Weight	16 kg
Starter battery	
Voltage	24 V
Min. capacity	110 Ah
Three-phase alternator	Bosch
Voltage	28 V
Current	10 / 30 A
Weight	4 kg
Power delivery starts at idling speed	

### Injection pump and governor

In-line injection pump with governor	Bosch
Provision for installing standard engine speed and injection governors	

### Consumption data

Fuel consumption see diagram	
Lube oil consumption for an already run-in engine amounts up to 0.5% of effective fuel consumption.	
This value may be exceeded in isolated cases depending on application and running time.	



# Power, torque and fuel consumption of engine type OM 442 A.

## 80/1269/EEC-89/491/EEC

Maximum automotive power

Visco fan

hydraulic loose

The power rating quoted above complies with the directive 88/77/EEC, alteration 91/542/EEC, aiming at a reduction in gaseous emissions **and** particulates. Valid as of 1.7.1992 for new homologation.

Fan, rigid

## DIN 6271

Maximum ISO net brake

fuel stop power **IFN**

ISO standard **ICXN**

power exceedable by 10%

As distinct from DIN standard 6271, the power required by a fan is not considered in power specifications **IFN** and **ICXN** because of the great variety of cooling systems available.

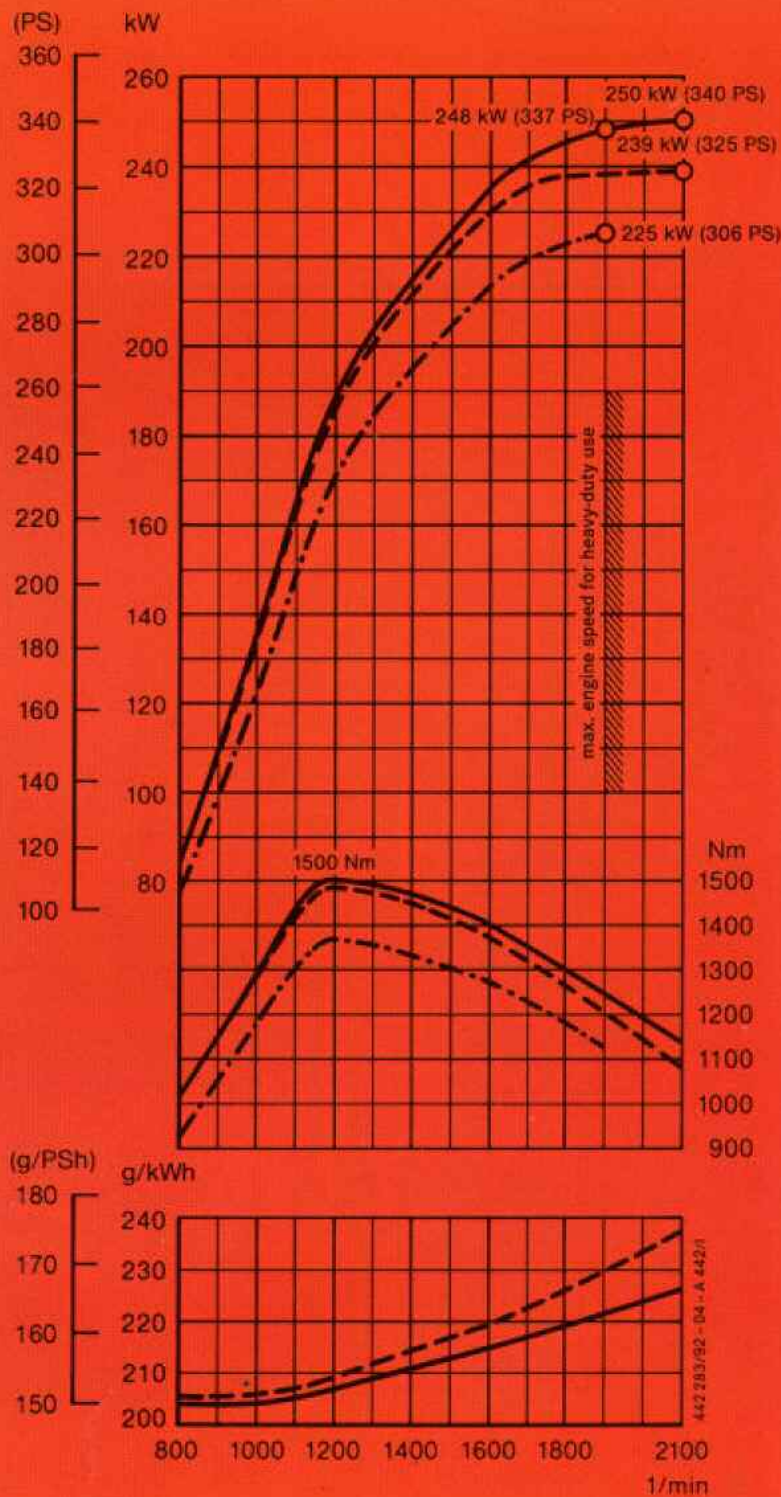
The ISO net brake fuel stop power **IFN** cannot be exceeded. It is permitted for 1 hour without interruption or intermittently within a period of 6 hours.

The ISO standard power **ICXN** represents continuous power exceedable by 10%. The overload power is blocked and permitted for 1 hour without interruption or intermittently within a period of 12 hours.

The power specifications and the specific fuel consumption data refer to diesel fuel with a reference density of  $\rho_{15} = 0.84 \text{ g/cm}^3$  and a temperature of  $35^\circ\text{C}$  at the injection pump inlet.

In individual cases the power ratings can be chosen to suit the intended application, taking all operating conditions into account.

Engine speeds below 1500/min for continuous operation upon request.



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Mercedes-Benz  
Industrial engines





**Technical Data  
Mercedes-Benz  
Industrial Diesel Engine  
OM 442 A  
260 kW**

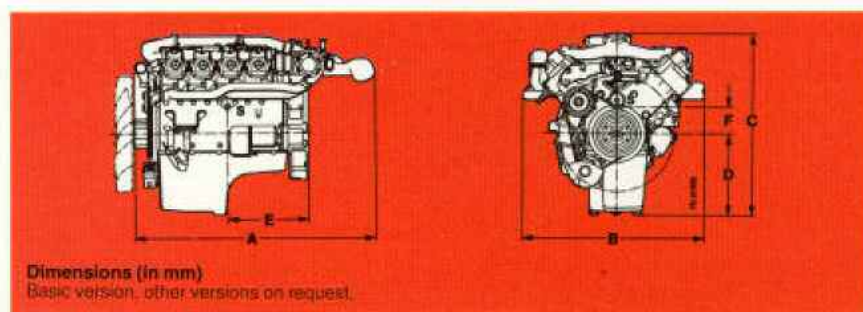
OM 442	OM 442 A	OM 442 LA



# Technical Data.

The OM 442 A engine is one of the V-engines in the 400 series and is one of the more powerful of the industrial diesel engines offered by Daimler-Benz.

A = 1415  
B = 1055  
C = 1055  
D = 476  
E = 475  
F = 155  
S = center of gravity



## General

Cylinder arrangement	90°-V with exhaust gas turbocharger
Cooling system	recirculating water cooling
Operation	4-stroke, direct injection
Number of cylinders	8
Cylinder bore	dia. 128 mm
Piston stroke	142 mm
Total displacement	14.62 l
Compression ratio	16.25 : 1
Mean effective pressure at 2100/min and 260 kW	10.2 bar
Mean piston speed at 2100/min	9.9 m/s
Starting speed	approx. 120/min
Sense of rotation of engine when facing flywheel	ccw
Starter	electric
Cooling water capacity of engine without recooling system	17.5 l
Max. lube oil capacity, standard oil pan	23.5 l
Weight of basic engine acc. to VDMA, i. e. without recooling system, alternator and starter	875 kg
Weight of engine with fan, alternator and starter	910 kg
Power-to-weight ratio, referred to VDMA weight and 260 kW	3.37 kg/kW
Braking power of engine (exhaust brake) at an engine speed of 2100/min without throttle valve	approx. 57 kW
with throttle valve	approx. 141 kW
Cold-starting ability without starting aid and battery 75 % charged, down to	-20°C

Permissible PTO torque at front end of crankshaft with axial or single-side radial PTO on request

## Power, torque and engine speed ratings

Power and torque curves see diagram	
Max. torque (80/1269/EEC) at 1000...1600/min	1600 Nm
Min. permissible engine speed for continuous operation below 1500/min	on request
Maximum speed without load depending on cyclic irregularity of governor	
Min. idling speed	approx. 600/min

## Installation data

Total moment of inertia of engine with flywheel J = 1.1	2.2 kgm <sup>2</sup>
Combustion air volume at 2100/min	23.5 m <sup>3</sup> /min
Exhaust gas volume at 2100/min and 260 kW (354 hp) with back pressure of 60 mbar at turbine outlet	59 m <sup>3</sup> /min
Heat to be dissipated from cooling water with uncooled exhaust manifold	2300 kJ/kWh
Capacity of cooling water pump without cooling system at engine speed 2100/min	610 l/min
Permissible air intake restriction upstream of turbocharger inlet at rated automotive power	
oil bath air filter	max. 30 mbar
dry air filter, new	max. 20 mbar
polluted	max. 50 mbar
Permissible exhaust gas back pressure at rated automotive power at turbine outlet	max. 60 mbar

## Starter, battery and alternator

Starter	Bosch
Voltage	24 V
Output	5.4 kW
Weight	16 kg
Starter battery	
Voltage	24 V
Min. capacity	110 Ah
Three-phase alternator	Bosch
Voltage	28 V
Current	10/30 A
Weight	4 kg
Power delivery starts at idling speed	

## Injection pump and governor

In-line injection pump with governor	Bosch
Provision for installing standard engine speed and injection governors	

## Consumption data

Fuel consumption see diagram	
Lube oil consumption for new and already run-in engines is	approx. 0.5 % of effective fuel consumption.
This value can - acc. to application and running time - rise in individual cases to max. 1 %.	



# Power, torque and fuel consumption of engine type OM 442 A.

## 80/1269/EEC

Maximum automotive power ———

The power is available at the flywheel of the engine. The power required by the standard fan has already been taken into account.

## DIN 6271

Maximum ISO net brake fuel stop power **IFN** - - - - -

ISO standard power **ICXN** ———

exceedable by 10 %

As distinct from DIN standard 6271, the power required by a fan is not considered in power specifications IFN and ICXN because of the great variety of cooling systems available.

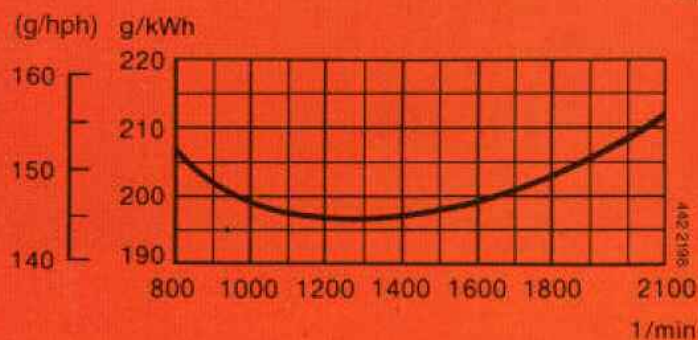
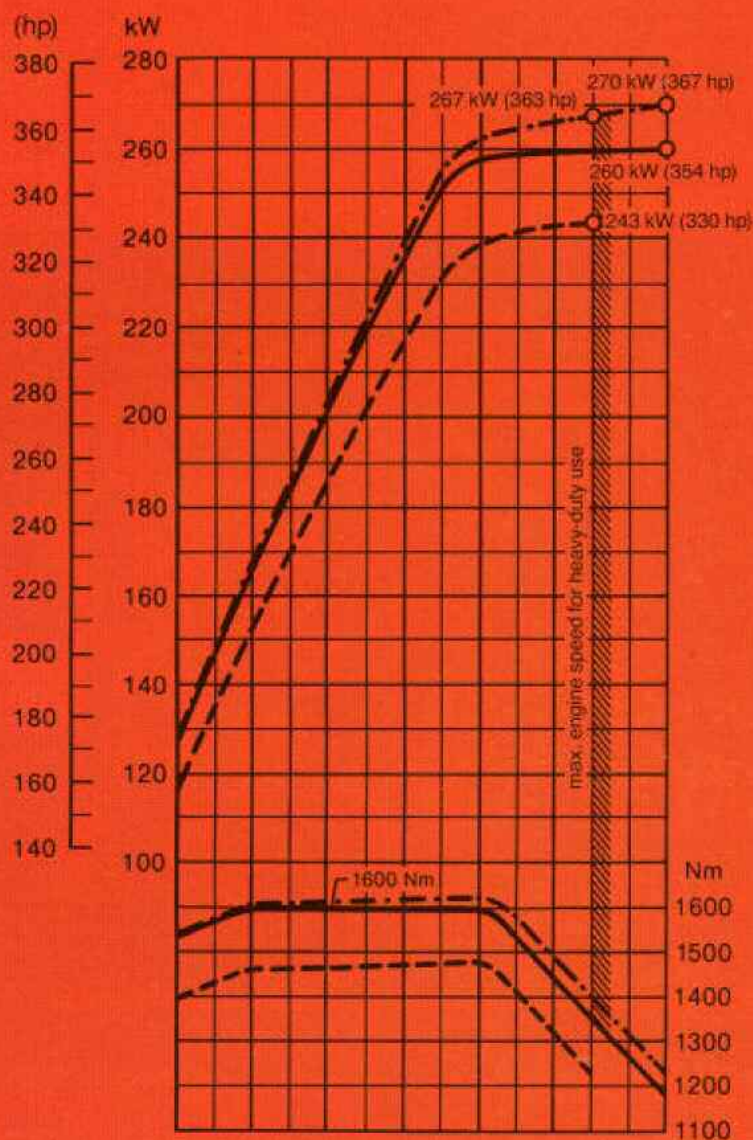
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The ISO standard power **ICXN** represents continuous power exceedable by 10 %. The overload power is blocked and permitted for 1 hour without interruption or intermittently within a period of 12 hours.

The power specifications and the specific fuel consumption data refer to diesel fuel with a reference density of  $\rho_{15} = 0.84 \text{ g/cm}^3$  and a temperature of  $35^\circ\text{C}$  at the injection pump inlet.

In individual cases, the power ratings can be chosen to suit the intended application, taking all operating conditions into account.

Engine speeds below 1500/min for continuous operation upon request.



Daimler-Benz manufactures and supplies a wide range of industrial diesel engines varying from 17 to 610 kW (23–830 hp). Information concerning these can be found in the brochures describing the basic concept behind each family of engines and in type sheets detailing the technical specifications of all the various engines.

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**MERCEDES-BENZ**





Mercedes-Benz  
Industrial engines

## Technical Data OM 442 LA

280 kW	320 kW	390 kW

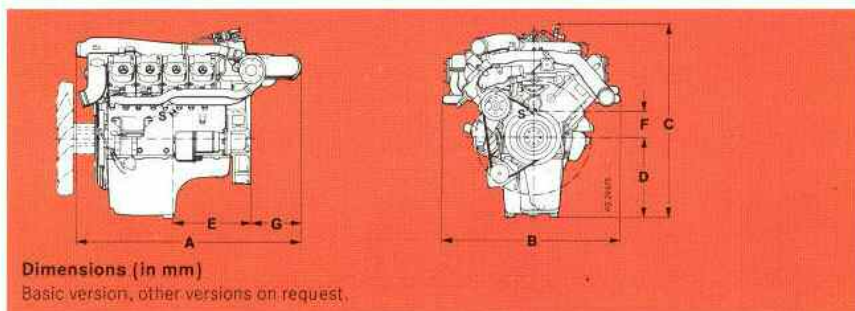


11 SUBAT 1995

## Technical Data.

The OM 442 LA engine is one of the V-engines in the 400 series and is one of the more powerful of the industrial diesel engines offered by Mercedes-Benz.

A = 1350  
B = 1060  
C = 1180  
D = 520  
E = 475  
F = 155  
G = 305  
S = center of gravity



### General

Cylinder arrangement	90°-V with exhaust gas turbocharger and intercooler
Cooling system	recirculating water cooling
Operation	4-stroke, direct injection
Number of cylinders	8
Cylinder bore	dia. 128 mm
Piston stroke	142 mm
Total displacement	14.618 l
Compression ratio	17.25:1
Mean effective pressure at 2100 / min and 390 kW	15.2 bar
Mean piston speed at 2100 / min	9.9 m/s
Starting speed	approx. 120 / min
Sense of rotation of engine when facing flywheel	ccw
Starter	electric
Cooling water capacity of engine without recooling system	17.5 l
Max. lube oil capacity, standard oil pan	23.5 l
Weight of basic engine acc. to VDMA, i. e. without recooling system, alternator and starter	885 kg
Weight of engine with fan, alternator and starter	920 kg
Power-to-weight ratio, referred to VDMA weight and 390 kW	2.27 kg/kW
Braking power of engine (exhaust brake) at an engine speed of 2100 / min without butterfly valve	61 kW
with butterfly valve	141 kW
with constantly decompression valve and butterfly valve	218 kW
Cold-starting ability without starting aid and battery 75% charged, down to - 20°C	

Permissible PTO torque at front end  
of crankshaft with axial or  
single-side radial PTO on request

### Power, torque and engine speed ratings

Power and torque curves	see diagram
Max. torque at 1100 / min	2300 Nm
Minimum engine speed limit under load	1000 / min
Maximum permissible engine speed with engine brake operation	2350 / min
Min. idling speed	500 / min

### Installation data

Total moment of inertia of engine with flywheel J = 1.1	2.2 kgm <sup>2</sup>
Combustion air volume at 2100 / min and 390 kW	35 m <sup>3</sup> / min
Exhaust gas volume at 2100 / min and 390 kW with back pressure of 100 mbar at turbine outlet	92 m <sup>3</sup> / min
Heat to be dissipated from cooling water with uncooled exhaust manifold, without intercooler	1600 kJ/kWh
Capacity of cooling water pump without cooling system at engine speed 2100 / min	570 l / min
Permissible air intake restriction upstream of turbocharger inlet at rated automotive power	
oil bath air filter	max. 30 mbar
dry air filter, new	max. 25 mbar
dry air filter, polluted	max. 50 mbar
Permissible exhaust gas back pressure at rated automotive power at turbine outlet	max. 100 mbar

### Starter, battery and alternator

Starter	Bosch
Voltage	24 V
Output	5.4 kW
Weight	16 kg
Starter battery	
Voltage	24 V
Min. capacity	110 Ah
Three-phase alternator	Bosch
Voltage	28 V
Current	10 / 35 A
Weight	5 kg
Power delivery starts at idling speed	

### Injection pump and governor

In-line injection pump with control sleeve  
and electronic governing

### Consumption data

Fuel consumption see diagram  
Lube oil consumption for an  
already run-in engine amounts up to 0.5%  
of effective fuel consumption.  
This value may be exceeded in isolated  
cases depending on application and  
running time.

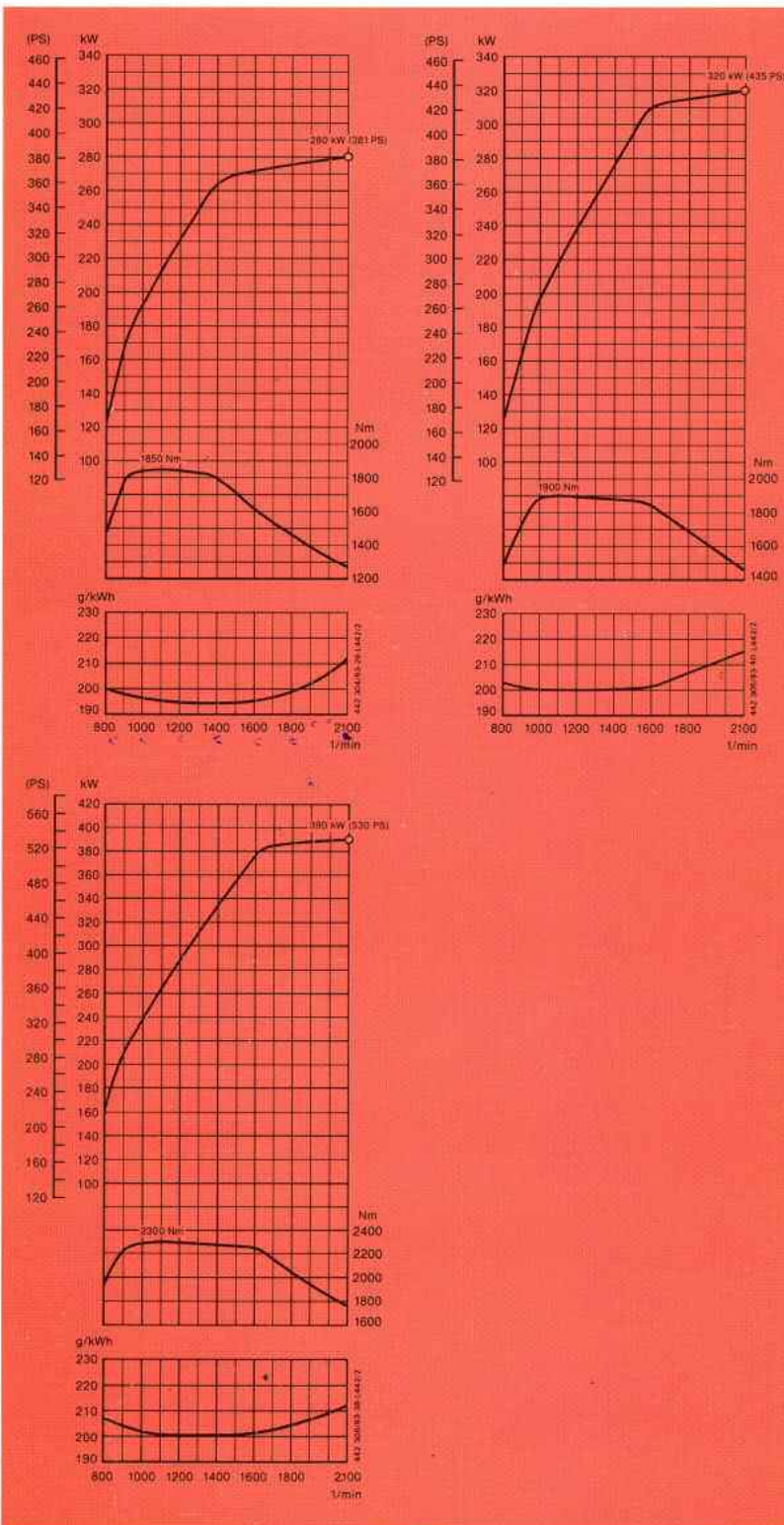


# Power, torque and fuel consumption of engine type OM 442 LA.

**80/1269/EEC-89/491/EEC**

Maximum automotive power  
Visco fan hydraulic loose

The power rating quoted above complies with the directive 88/77/EEC, alteration 91/542/EEC grade B, aiming at a reduction in gaseous emissions **and** particulates. Valid as of 1.10.1995 for new homologation (EURO 2).



The power specifications and the specific fuel consumption data refer to diesel fuel with a reference density of  $\rho_{15} = 0.84 \text{ g/cm}^3$  and a temperature of 35°C at the injection pump inlet.

Daimler-Benz manufactures and supplies a wide range of industrial diesel engines varying from 17 to 610 kW (23–830 hp). Information concerning these can be found in the brochures describing the basic concept behind each family of engines and in type sheets detailing the technical specifications of all the various engines.

Besides a high-quality and technically perfected product, Daimler-Benz also provides a comprehensive back-up system. This includes project and installation advisory services, parts supply, a worldwide service network and service training.

Subject to modifications.  
The data included in this brochure are to be regarded as approximate.  
The illustrations may also contain special equipment which is not part of the standard delivery specification.



Should you require further material, please consult the Vehicles Components Division in Stuttgart-Untertuerkheim:

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Telex 72 524-0



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## Technical Data

**Mercedes-Benz  
Industrial Diesel Engine  
OM 442 LA  
353 kW**

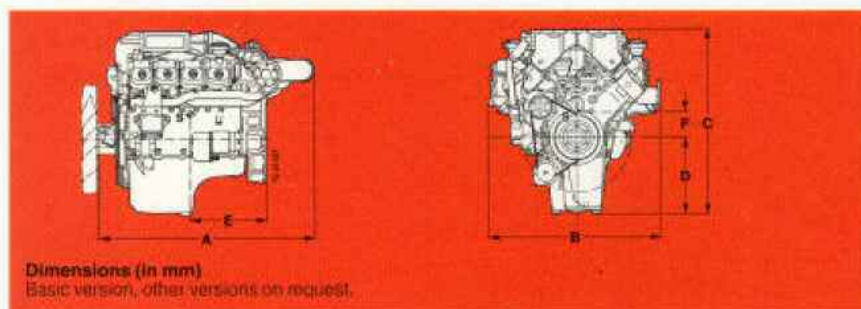
OM 442	OM 442 A	OM 442 LA



# Technical Data.

The OM 442 LA engine is one of the V-engines in the 400 series and is one of the more powerful of the industrial diesel engines offered by Daimler-Benz.

A = 1330	E = 475
B = 1070	F = 155
C = 1145	S = center of gravity
D = 476	



## General

Cylinder arrangement	90°-V with exhaust gas turbocharger and intercooler
Cooling system	recirculating water cooling
Operation	4-stroke, direct injection
Number of cylinders	8
Cylinder bore	dia. 128 mm
Piston stroke	142 mm
Total displacement	14.62 l
Compression ratio	16.25 : 1
Mean effective pressure at 2100/min and 353 kW	13.8 bar
Mean piston speed at 2100/min	9.9 m/s
Starting speed	approx. 120/min
Sense of rotation of engine when facing flywheel	ccw
Starter	electric
Cooling water capacity of engine without recooling system	17.5 l
Max. lube oil capacity, standard oil pan	23.5 l
Weight of basic engine acc. to VDMA, i. e. without recooling system, alternator and starter	890 kg
Weight of engine with fan, alternator and starter	925 kg
Power-to-weight ratio, referred to VDMA weight and 353 kW	2.52 kg/kW
Braking power of engine (exhaust brake) at an engine speed of 2100/min without throttle valve	approx. 57 kW
with throttle valve	approx. 141 kW
Cold-starting ability without starting aid and battery 75% charged, down to	-20°C

Permissible PTO torque at front end  
of crankshaft with axial or  
single-side radial PTO on request

## Power, torque and engine speed ratings

Power and torque curves see diagram	
Max. torque (80/1269/EEC) at 1000...1600/min	2000 Nm
Min. permissible engine speed for continuous operation below 1500/min	on request
Maximum speed without load depending on cyclic irregularity of governor	
Min. idling speed	approx. 600/min

## Installation data

Total moment of inertia of engine with flywheel J = 1.1	2.2 kgm <sup>2</sup>
Combustion air volume at 2100/min	29 m <sup>3</sup> /min
Exhaust gas volume at 2100/min and 353 kW with back pressure of 60 mbar at turbine outlet	72 m <sup>3</sup> /min
Heat to be dissipated from cooling water with uncooled exhaust manifold, without intercooler	2300 kJ/kWh
Capacity of cooling water pump without cooling system at engine speed 2100/min	610 l/min
Permissible air intake restriction upstream of turbocharger inlet at rated automotive power	
oil bath air filter	max. 30 mbar
dry air filter, new	max. 20 mbar
polluted	max. 50 mbar
Permissible exhaust gas back pressure at rated automotive power at turbine outlet	max. 60 mbar

## Starter, battery and alternator

Starter	Bosch
Voltage	24 V
Output	5.4 kW
Weight	16 kg
Starter battery	
Voltage	24 V
Min. capacity	110 Ah
Three-phase alternator	Bosch
Voltage	28 V
Current	10/30 A
Weight	4 kg
Power delivery starts at idling speed	

## Injection pump and governor

In-line injection pump with governor	Bosch
Provision for installing standard engine speed and injection governors	

## Consumption data

Fuel consumption see diagram	
Lube oil consumption for new and already run-in engines is approx. 0.5 % of effective fuel consumption.	
This value can – acc. to application and running time – rise in individual cases to max. 1 %.	



# Power, torque and fuel consumption of engine type OM 442 LA.

## 80/1269/EEC

Maximum automotive power —————

The power is available at the flywheel of the engine. The power required by the standard fan has already been taken into account.

## DIN 6271

Maximum ISO net brake fuel stop power IFN . . . . .

ISO standard power ICXN ————  
exceedable by 10 %

As distinct from DIN standard 6271, the power required by a fan is not considered in power specifications IFN and ICXN because of the great variety of cooling systems available.

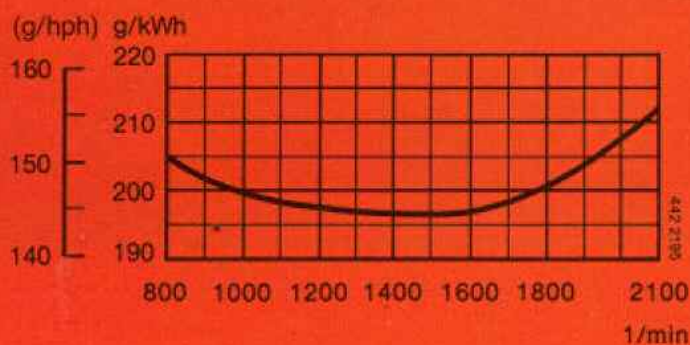
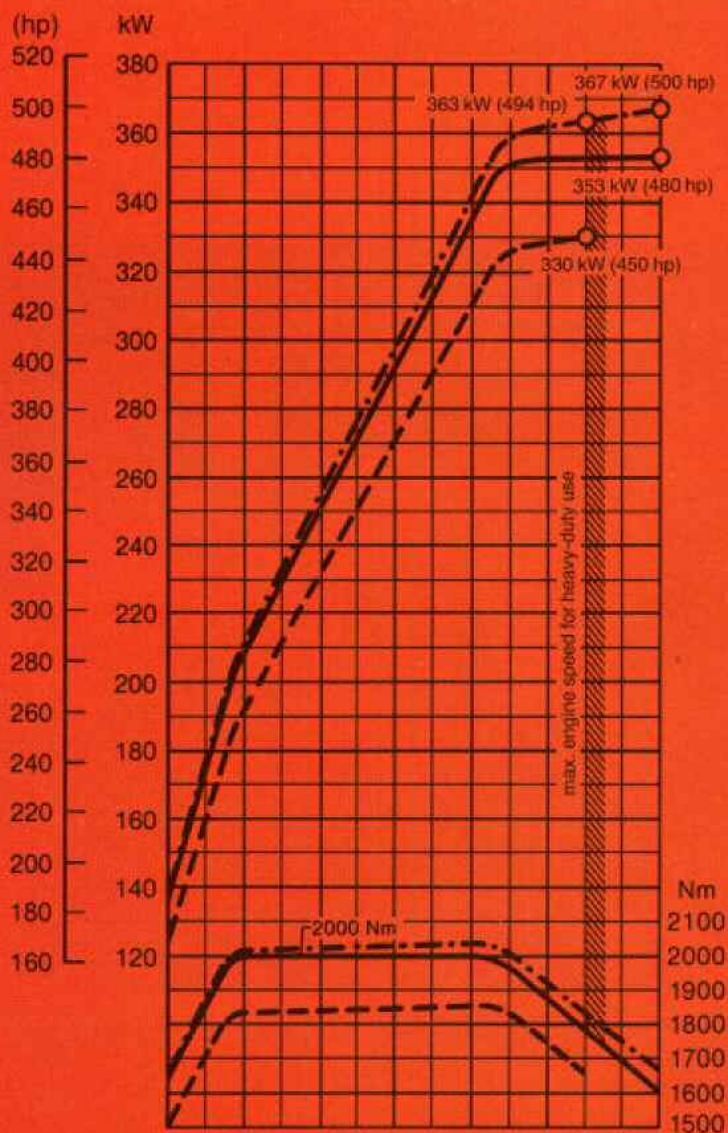
The ISO net brake fuel stop power **IFN** cannot be exceeded. It is permitted for 1 hour without interruption or intermittently within a period of 6 hours.

The ISO standard power **ICXN** represents continuous power exceedable by 10 %. The overload power is blocked and permitted for 1 hour without interruption or intermittently within a period of 12 hours.

The power specifications and the specific fuel consumption data refer to diesel fuel with a reference density of  $\rho_{15} = 0.84 \text{ g/cm}^3$  and a temperature of  $35^\circ\text{C}$  at the injection pump inlet.

In individual cases, the power ratings can be chosen to suit the intended application, taking all operating conditions into account.

Engine speeds below 1500/min for continuous operation upon request.



Daimler-Benz manufactures and supplies a wide range of industrial diesel engines varying from 17 to 610 kW (23–830 hp). Information concerning these can be found in the brochures describing the basic concept behind each family of engines and in type sheets detailing the technical specifications of all the various engines.

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Subject to modifications.  
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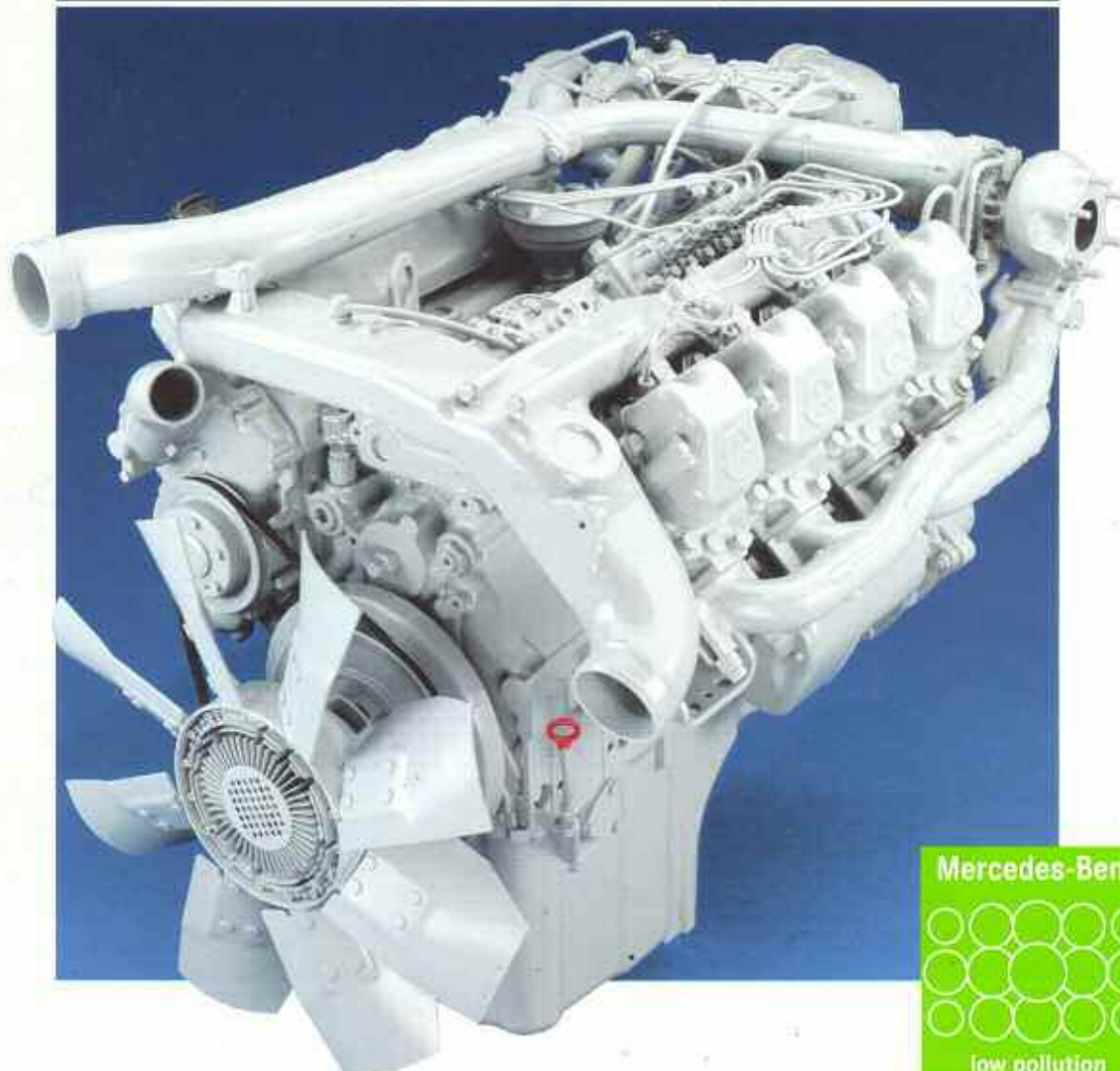




## Technical Data

Mercedes-Benz  
Industrial  
Diesel Engine  
OM 442 LA  
370 kW

OM 442	OM 442 A	OM 442 LA



Mercedes-Benz

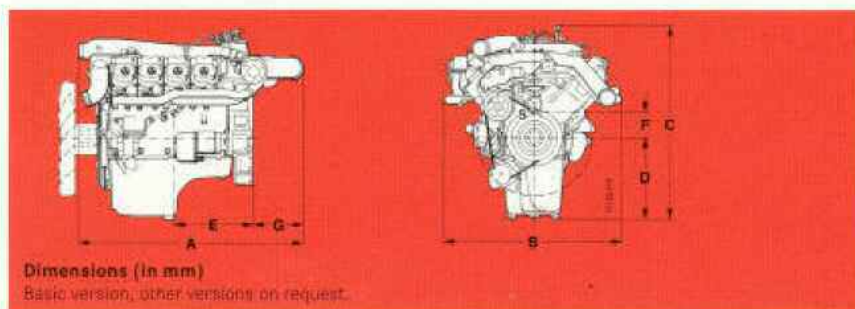


low pollution

## Technical Data.

The OM 442 LA engine is one of the V-engines in the 400 series and is one of the more powerful of the industrial diesel engines offered by Mercedes-Benz.

A = 1350  
B = 1060  
C = 1180  
D = 520  
E = 475  
F = 155  
G = 305  
S = center of gravity



### General

Cylinder arrangement 90°-V  
with exhaust gas turbocharger  
and intercooler

Cooling system recirculating  
water cooling

Operation 4-stroke, direct injection

Number of cylinders 8

Cylinder bore dia. 128 mm

Piston stroke 142 mm

Total displacement 14.618 l

Compression ratio 16.75:1

Mean effective pressure at  
2100 /min and 370 kW 14.5 bar

Mean piston speed  
at 2100 /min 9.9 m/s

Starting speed approx. 120 /min

Sense of rotation of engine  
when facing flywheel ccw

Starter electric

Cooling water capacity of engine  
without recooling system 17.5 l

Max. lube oil capacity,  
standard oil pan 23.5 l

Weight of basic engine acc. to VDMA,  
i. e. without recooling system,  
alternator and starter 890 kg

Weight of engine with fan,  
alternator and starter 925 kg

Power-to-weight ratio,  
referred to VDMA weight and  
370 kW 2.41 kg/kW

Braking power of engine (exhaust brake)  
at an engine speed of 2100 /min  
without butterfly valve 57 kW  
with butterfly valve 141 kW

Cold-starting ability without starting aid  
and battery 75% charged,  
down to - 20°C

Permissible PTO torque at front end  
of crankshaft with axial or  
single-side radial PTO on request

### Power, torque and engine speed ratings

Power and torque curves see diagram

Max. torque  
at 1100...1600 /min 2020 Nm

Min. permissible engine speed for  
continuous operation  
below 1500 /min on request

Maximum speed without load depending  
on cyclic irregularity of governor

Min. idling speed approx. 600 /min

### Installation data

Total moment of inertia of engine  
with flywheel  $J = 1.1$  2.2 kgm<sup>2</sup>

Combustion air volume  
at 2100 /min 36.6 m<sup>3</sup> /min

Exhaust gas volume at  
2100 /min and 370 kW  
with back pressure of 100 mbar  
at turbine outlet 83 m<sup>3</sup> /min

Heat to be dissipated from cooling  
water with uncooled exhaust manifold,  
without intercooler 1500 kJ / kWh

Capacity of cooling water pump  
without cooling system  
at engine speed 2100 /min 570 l /min

Permissible air intake restriction  
upstream of turbocharger inlet at  
rated automotive power  
oil bath air filter max. 30 mbar  
dry air filter, new max. 25 mbar  
dry air filter, polluted max. 50 mbar

Permissible exhaust gas  
back pressure at rated automotive power  
at turbine outlet max. 100 mbar

### Starter, battery and alternator

Starter Bosch  
Voltage 24 V  
Output 5.4 kW  
Weight 16 kg

Starter battery  
Voltage 24 V  
Min. capacity 110 Ah

Three-phase alternator Bosch  
Voltage 28 V  
Current 10/30 A  
Weight 4 kg  
Power delivery starts at idling speed

### Injection pump and governor

In-line injection pump  
with governor Bosch

Provision for installing standard engine  
speed and injection governors

### Consumption data

Fuel consumption see diagram

Lube oil consumption for an  
already run-in engine amounts up to 0.5%  
of effective fuel consumption.  
This value may be exceeded in isolated  
cases depending on application and  
running time.



# Power, torque and fuel consumption of engine type OM 442 LA.

## 80/1269/EEC-89/491/EEC

Maximum automotive power

Visco fan

hydraulic loose

The power rating quoted above complies with the directive 88/77/EEC, alteration 91/542/EEC, aiming at a reduction in gaseous emissions **and** particulates. Valid as of 1.7.1992 for new homologation.

Fan, rigid

## DIN 6271

Maximum ISO net brake

fuel stop power **IFN**

ISO standard **ICXN**

power exceedable by 10%

As distinct from DIN standard 6271, the power required by a fan is not considered in power specifications **IFN** and **ICXN** because of the great variety of cooling systems available.

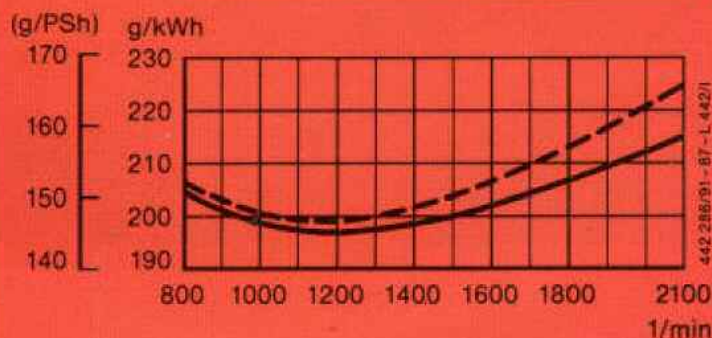
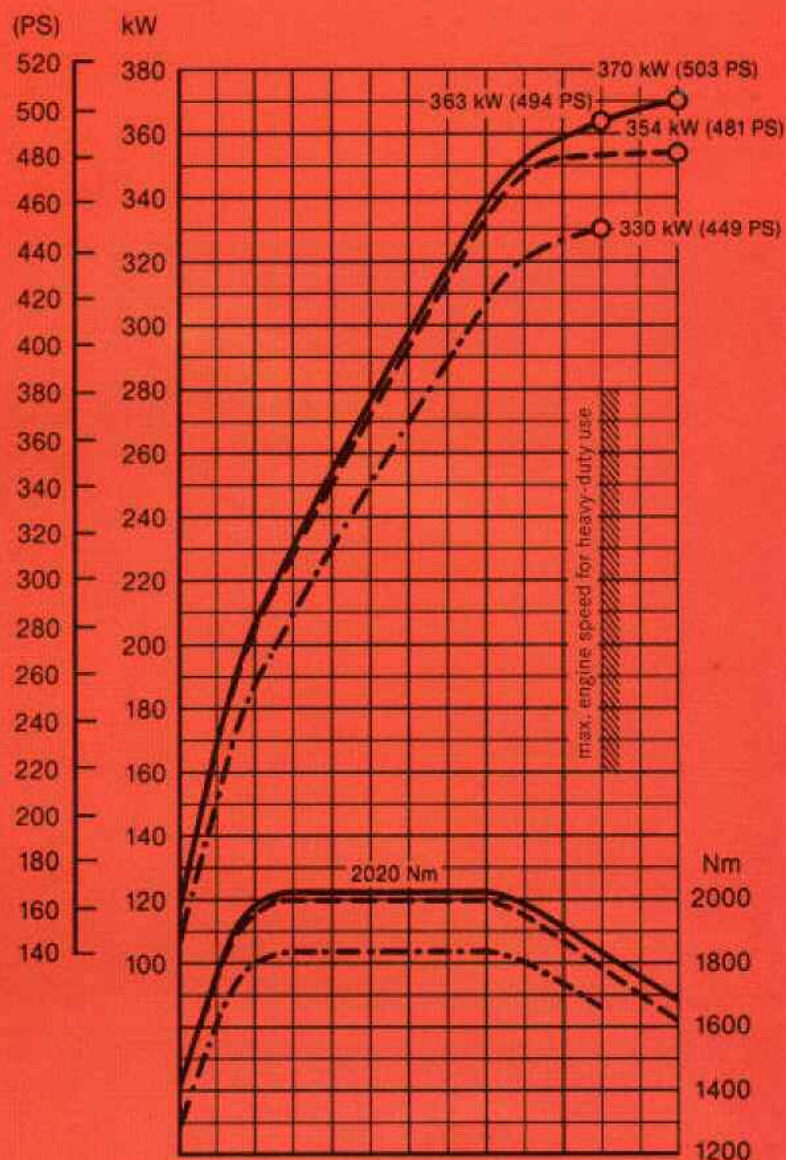
The ISO net brake fuel stop power **IFN** cannot be exceeded. It is permitted for 1 hour without interruption or intermittently within a period of 6 hours.

The ISO standard power **ICXN** represents continuous power exceedable by 10%. The overload power is blocked and permitted for 1 hour without interruption or intermittently within a period of 12 hours.

The power specifications and the specific fuel consumption data refer to diesel fuel with a reference density of  $\rho_{15} = 0.84 \text{ g/cm}^3$  and a temperature of  $35^\circ\text{C}$  at the injection pump inlet.

In individual cases, the power ratings can be chosen to suit the intended application, taking all operating conditions into account.

Engine speeds below 1500/min for continuous operation upon request.



Mercedes-Benz manufactures and supplies a wide range of industrial diesel engines varying from 40 to 612 kW (54 – 832 hp). Information concerning these can be found in the brochures describing the basic concept behind each family of engines and in type sheets detailing the technical specifications of the various engines.

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Mercedes-Benz  
Industrial engines