

# Mercedes-Benz Powertrain



Portfolio **Truck EURO VI.**

Mercedes-Benz





Welcome to  
the Mercedes-Benz  
Powertrain.  
Leading in technology  
and efficiency.

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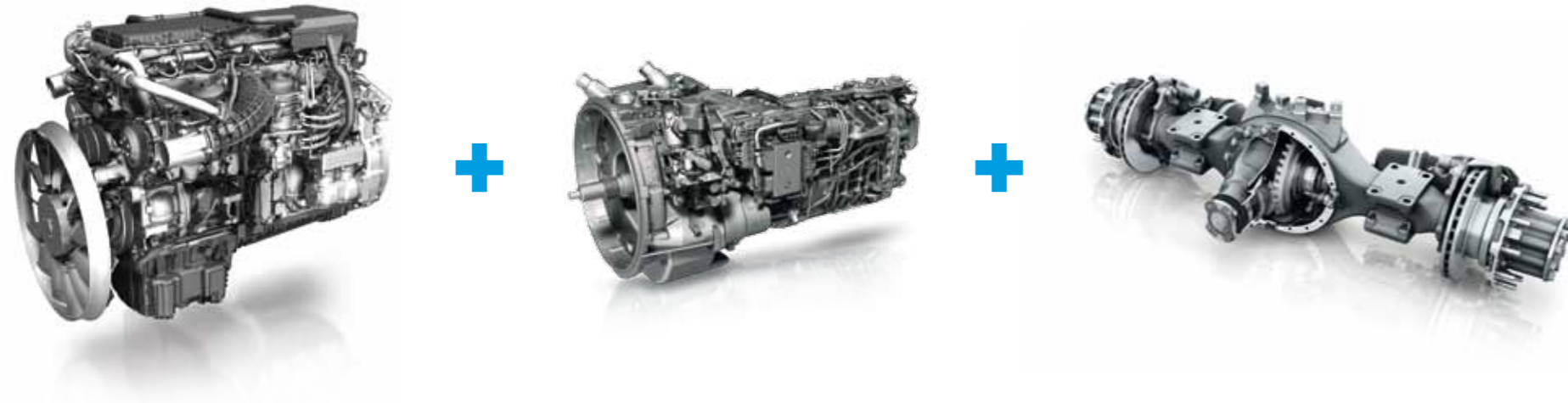
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# Going the **extra mile**. Mercedes-Benz Powertrain.

Mercedes-Benz Powertrain offers outperforming and individual engineered powertrain components: engine systems, transmissions and axles – each will provide our customers with the **highest durability and quality at the same time**.

Together, they compose an even more sophisticated, technologically advanced and with regards to efficiency, unbeatable powertrain.

Let's develop together the best individual solution for your success.



$$1 + 1 + 1 > 3$$

## Benefits for you.

Integrated powertrain:

- ✓ Reduces integration efforts
- ✓ One Key Account Manager as main contact partner
- ✓ One system supplier for your individual powertrain solution
- ✓ One contractual partner

All powertrain components:

- ✓ Premium Mercedes-Benz quality standards due to the production on our high volume production lines
- ✓ Overall robust and reliable powertrain solutions provide a long lifetime for your powertrain components
- ✓ Leads to an optimized system setup due to common electric and electronic architecture (EE architecture) for efficient interaction of all powertrain components
- ✓ One electronic tool for end of line commissioning and diagnosis requires less training for your engineering group and after-sales team
- ✓ High invest in Mercedes-Benz R&D assures state-of-the-art quality

## Benefits for your customers.

- ✓ Provides optimized fuel efficiency by specially composed powertrain solutions
- ✓ Ensures robust and reliable performance in every scenario of operation
- ✓ Minimizes downtimes as our worldwide After-Sales network covers warranty and policy from one source
- ✓ Synchronized maintenance intervals and repair worldwide via our one-stop shop logic for the complete powertrain
- ✓ Increases the resale value of the vehicles due to the highest quality standards offered by Mercedes-Benz
- ✓ Higher Driver comfort due to the high integration of all assistent systems and features

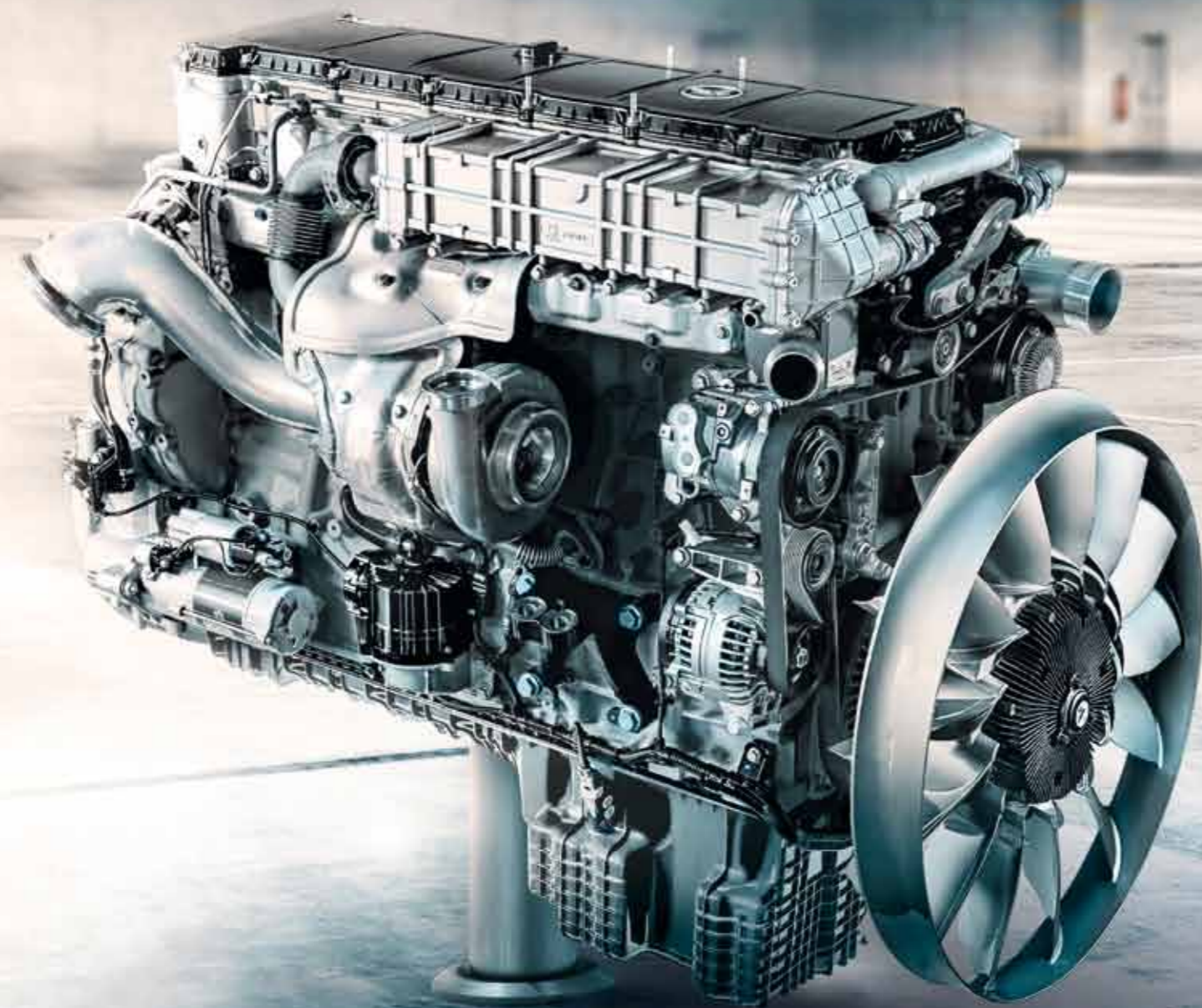
# Our Powertrain-Solutions: TCO reduction at its best.

The **perfect combination** of engine systems, transmissions and axles yields in the greatest possible efficiency and the **best quality** made by Mercedes-Benz Powertrain.

Our perfectly matched powertrain delivers you the best possible performance and fuel savings, while maintaining low overall operating costs. Through close collaboration with you as our customer, we can perfectly customize the powertrain components to your individual requirements.

In this way, **optimum fuel efficiency and low TCO** (Total Cost of Ownership) can be achieved. This is an important contribution and our responsibility to your business and also to the environment.



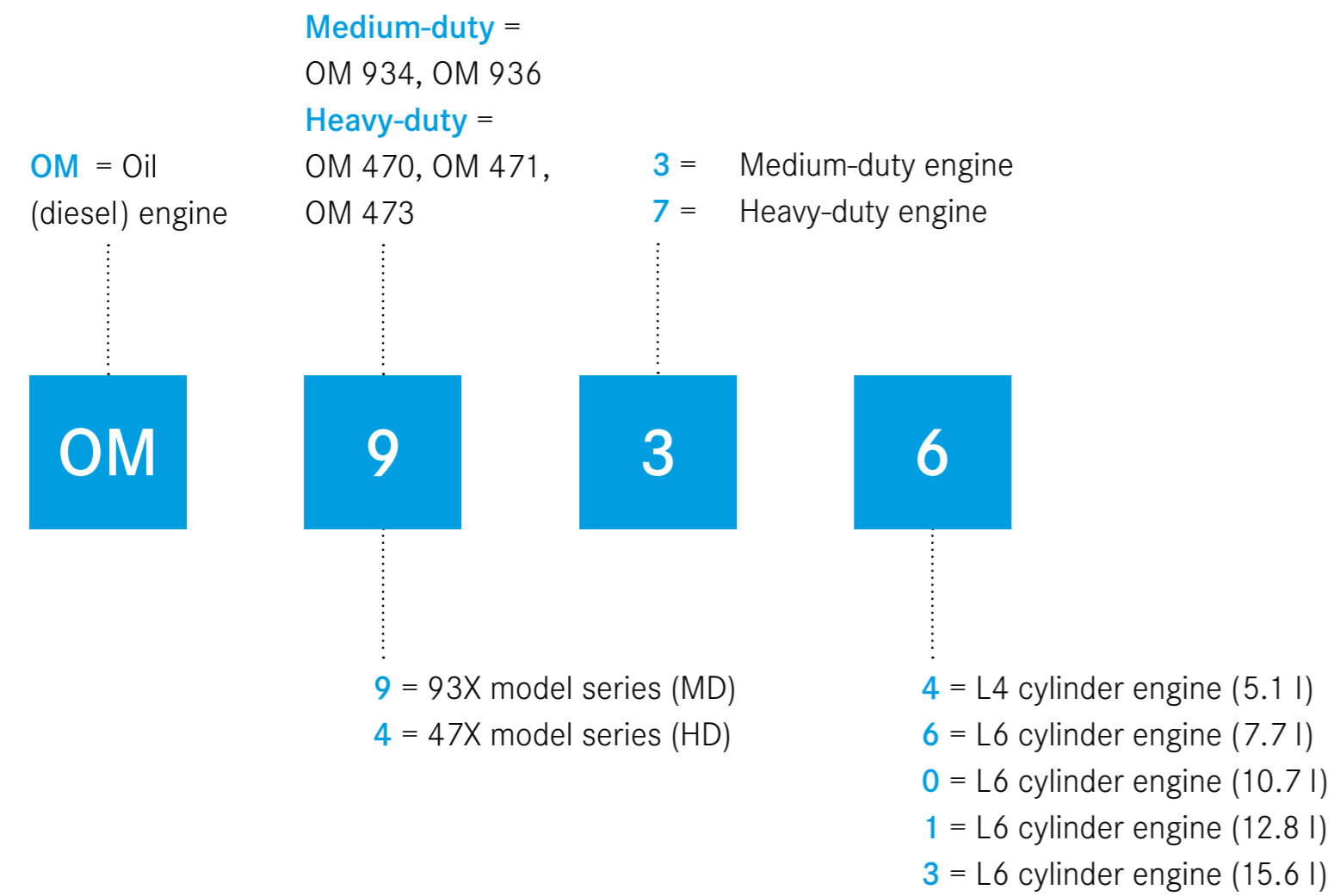


# Mercedes-Benz engine systems.

## OM 93X and OM 47X model series.

Outstanding design and efficiency. Specifically developed to comply with the EURO VI emission standard.

# Derivation "Nomenclature" - engine systems.

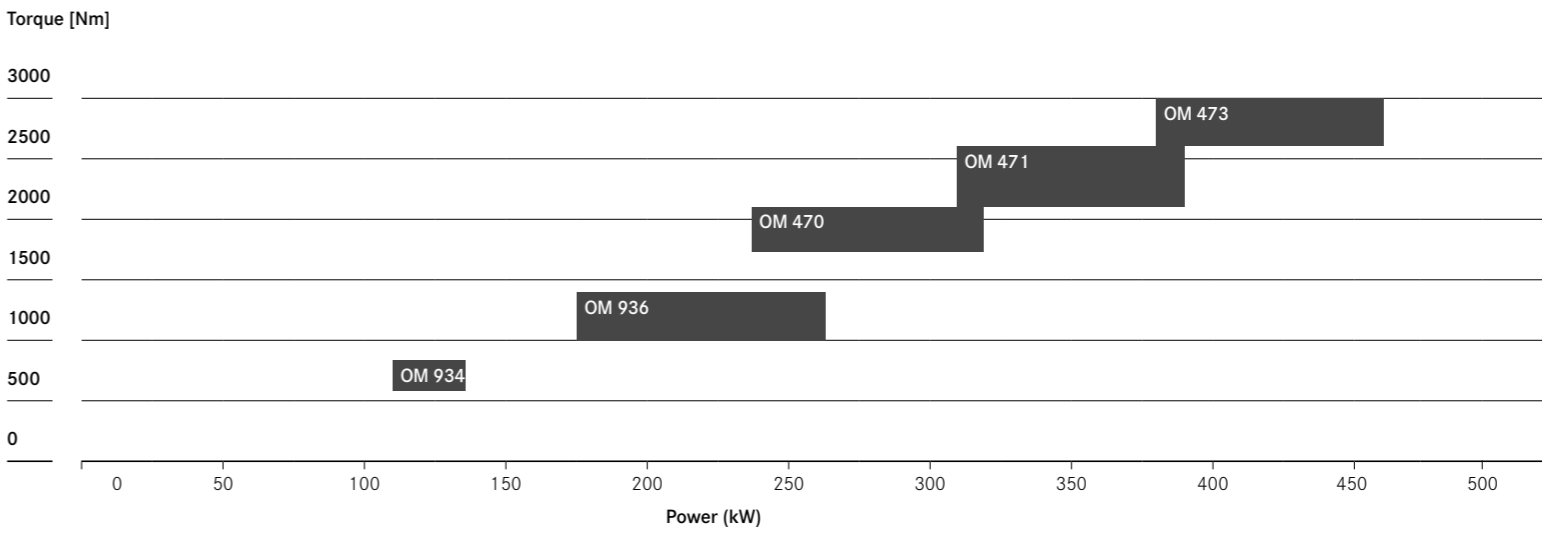


# Engine systems for EURO VI.

Portfolio of EURO VI engine systems for trucks

Model series	Type	Cylinder	Displ. [liters]	Power range [kW]
OM 93X Medium-duty	934	L4	5.1	115 130
	936	L6	7.7	175 200 220 235 260
OM 47X Heavy-duty	470	L6	10.7	240 265 290 315 335
	471	L6	12.8	310 330 350 375 390
	473	L6	15.6	380 425 460

Power range of the EURO VI engine systems for trucks





Medium-duty engine systems.



# The Perfect combination of Power and Efficiency.

## Your product benefits for medium-duty engine systems:

- 4- and 6-cylinder diesel engines in an **in-line arrangement** with **cooled exhaust gas recirculation**
- **Displacement** of 5.1 and 7.7 liters
- **Output** of 115 up to 260 kW
- **Advanced combustion system** to minimize fuel consumption
- **Common rail injection system** up to 2400 bars and multiple injection
- **Tailor-made turbo charging system** with 1- and 2-stage turbochargers
- Future-proof **valve timing gear** with 2 overhead camshafts and 4-valve technology
- Powerful and dynamic **engine brakes** with up to 300 kW brake power
- Multiple **power take-off** options
- **“One box”** exhaust after-treatment with SCR and DPF

# OM 934

Arrangement: In-line 4  
Displacement: 5.1 l

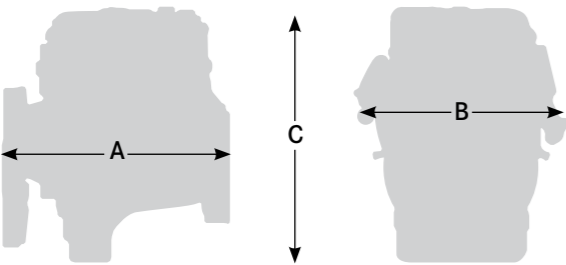


## Weight and dimensions\*

**Weight**  
DIN 70020 - GZ 495 kg (single stage charger)  
DIN 70020 - GZ 510 kg (dual stage chargers)

**Dimensions**  
**A** = length 980 mm  
**B** = width 910 mm  
**C** = height 1025 mm

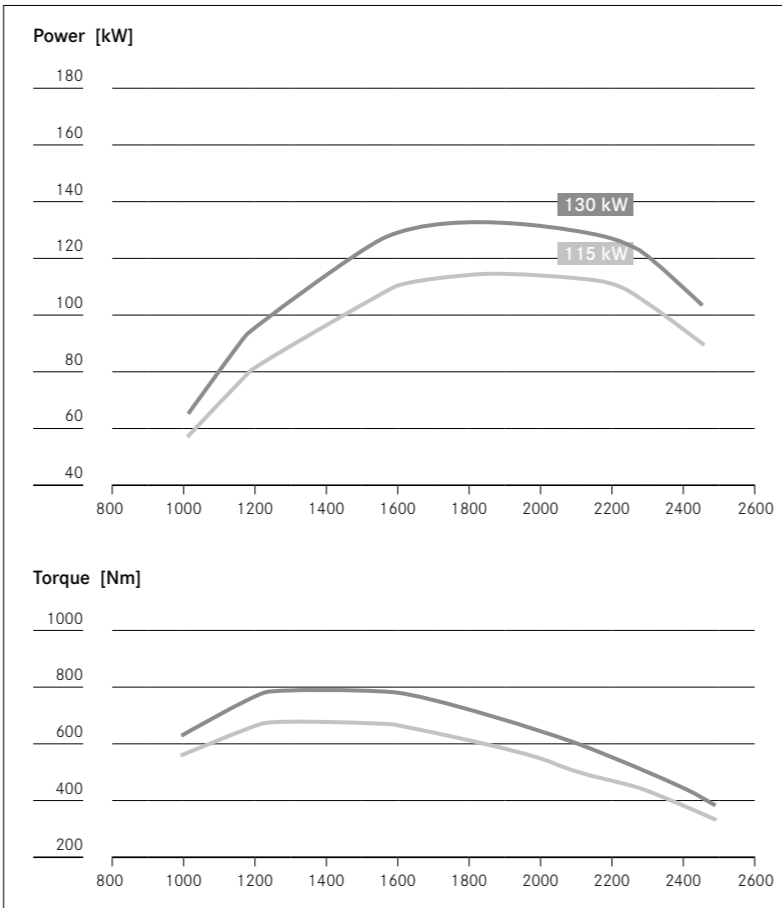
\* depending on equipment installed



## Rated power and maximal torque

Rated power	[kW/hp]	115/156	130/177
at engine speed	[rpm]	1800	1800
Maximal torque	[Nm]	650	750
at engine speed	[rpm]	1200-1600	1200-1600

## Performance



# OM 936

Arrangement: In-line 6  
Displacement: 7.7 l

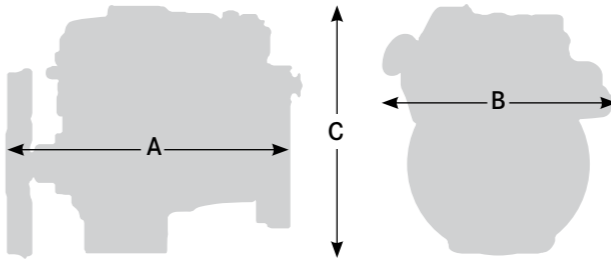


## Weight and dimensions\*

**Weight**  
DIN 70020 - GZ 652 kg (single stage charger)  
DIN 70020 - GZ 666 kg (dual stage chargers)

**Dimensions**  
**A** = length 1290 mm  
**B** = width 1050 mm  
**C** = height 1050 mm

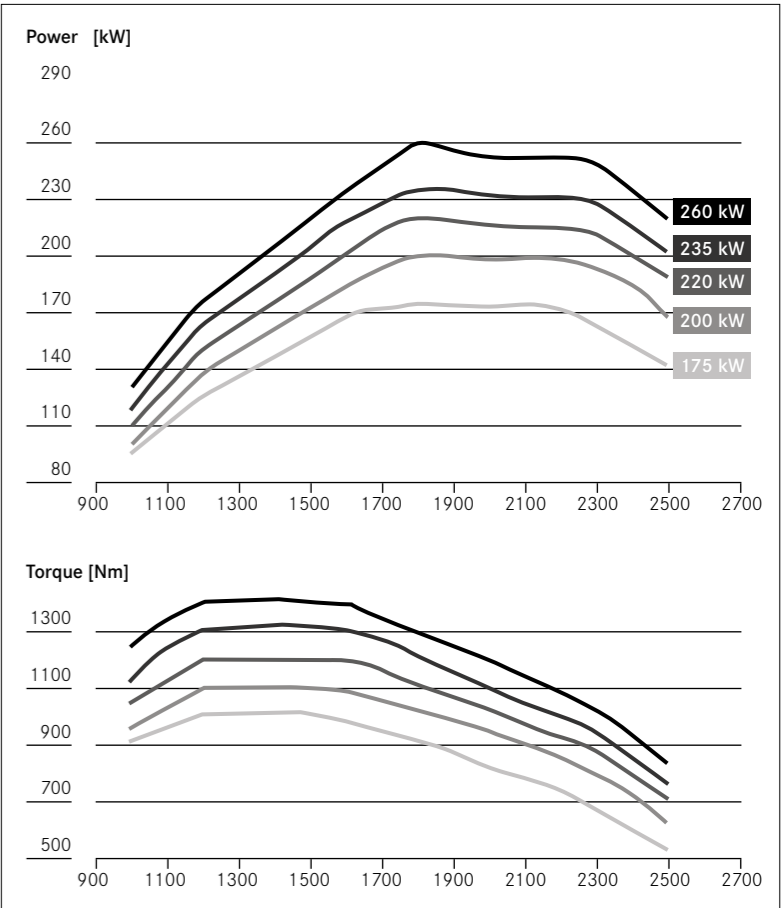
\* depending on equipment installed



## Rated power and maximal torque

Rated power	[kW/hp]	175/238	200/272	220/299	235/320	260/354
at engine speed	[rpm]	1800	1800	1800	1800	1800
Maximal torque	[Nm]	1000	1100	1200	1300	1400
at engine speed	[rpm]	1200-1600	1200-1600	1200-1600	1200-1600	1200-1600

## Performance



# Heavy-duty engine systems.



## Always giving 100%. Efficiently.

### Your product benefits for heavy-duty engine systems:

- 6-cylinder diesel engines in an **in-line arrangement with cooled exhaust gas recirculation**
- **Displacement** of 10.7 to 15.6 liters
- **Output** of 240 up to 460 kW
- **Special combustion system** to minimize fuel consumption
- This engine generation combines **high performance** with **low fuel consumption**
- Common **rail injection system** up to 2700 bars
- **Captive 1-stage asymmetric turbocharger** with outstanding efficiency
- **15.6 liter variant** with turbo compound for maximum reliability and durability
- Future-proof **valve timing gear** with 2 overhead camshafts and 4-valve technology
- Powerful and dynamic **engine brakes** with up to 480 kW brake power
- Additional **power take-off** options
- **“One box”** exhaust after-treatment with SCR and DPF

# OM 470

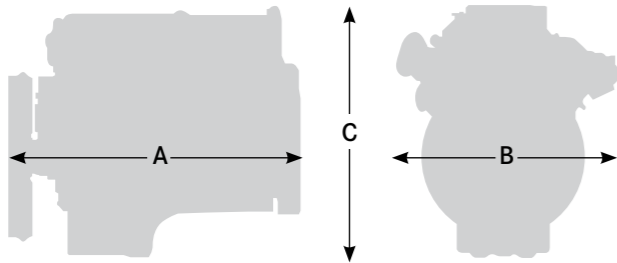
Arrangement: In-line 6  
Displacement: 10.7 l



### Weight and dimensions\*

**Weight**  
DIN 70020 - GZ 956 kg

**Dimensions**  
A = length 1469 mm  
B = width 1115 mm  
C = height 1190 mm

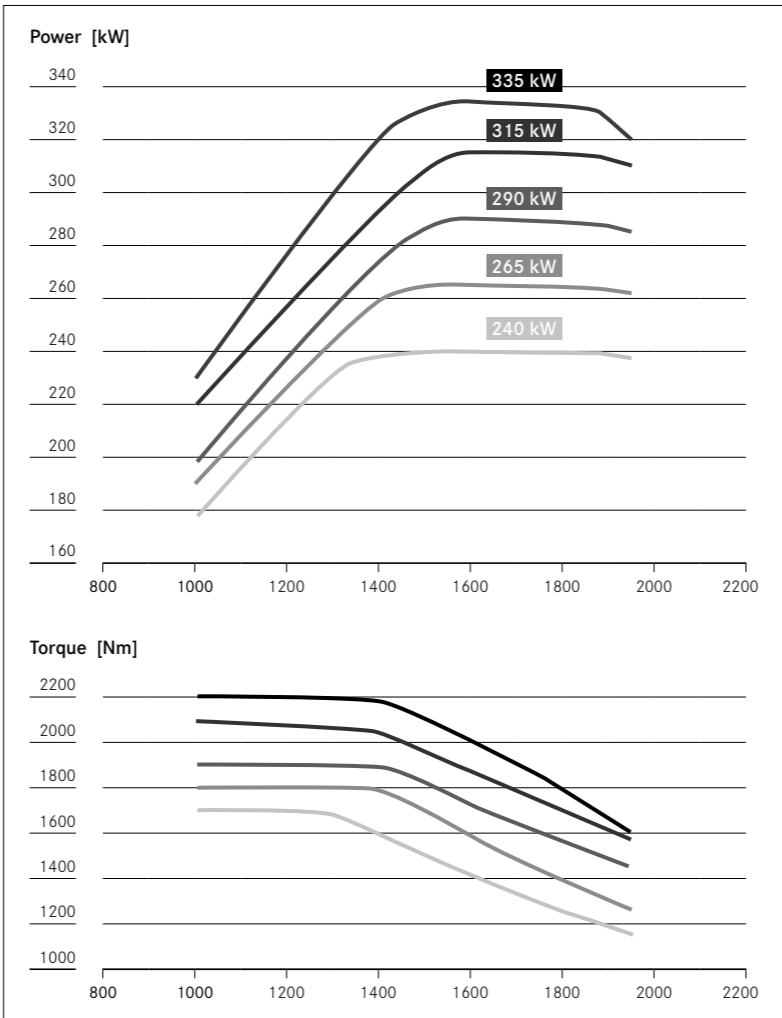


\* depending on equipment installed

### Rated power and maximal torque

Rated power	[kW/hp]	240/326	265/360	290/394	315/428	335/456
at engine speed	[rpm]	1600	1600	1600	1600	1600
Maximal torque	[Nm]	1700	1800	1900	2100	2100
at engine speed	[rpm]	1100	1100	1100	1100	1100

### Performance



# OM 471

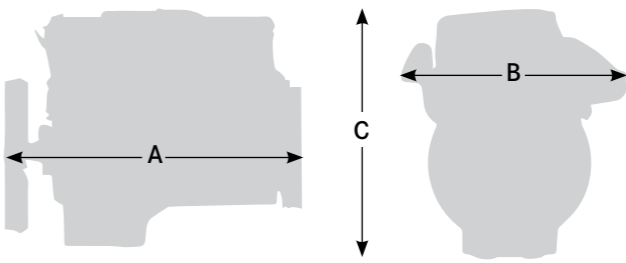
Arrangement: In-line 6  
Displacement: 12.8 l



### Weight and dimensions\*

**Weight**  
DIN 70020 - GZ 1091 kg

**Dimensions**  
A = length 1544 mm  
B = width 1115 mm  
C = height 1190 mm

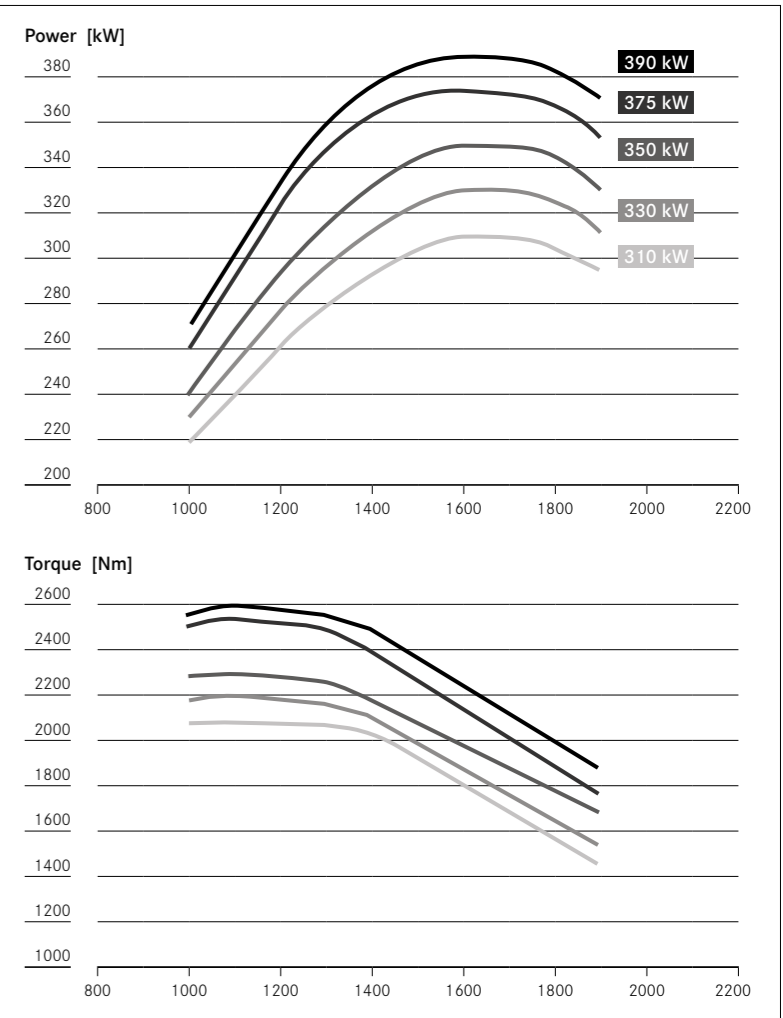


\* depending on equipment installed

### Rated power and maximal torque

Rated power	[kW/hp]	310/422	330/449	350/476	375/510	390/530
at engine speed	[rpm]	1600	1600	1600	1600	1600
Maximal torque	[Nm]	2100	2200	2300	2500	2600
at engine speed	[rpm]	1100	1100	1100	1100	1100

### Performance



# OM 473

Arrangement: In-line 6  
Displacement: 15.6 l



## Weight and dimensions\*

**Weight**  
DIN 70020 - GZ 1240 kg

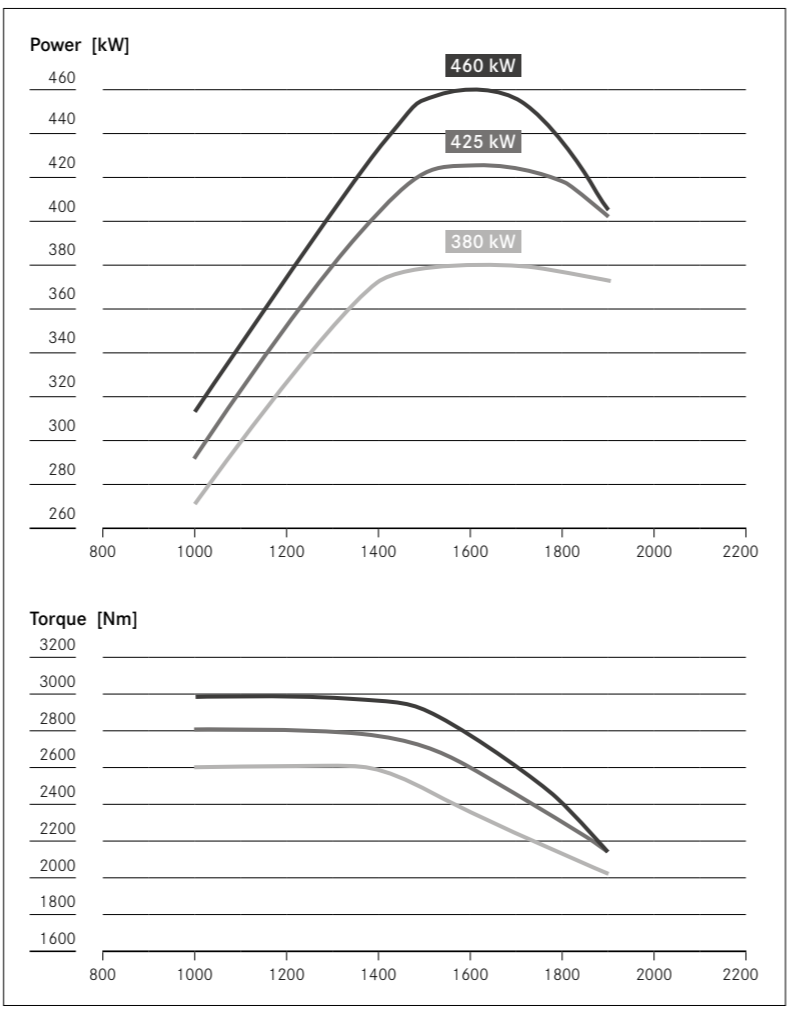
**Dimensions**  
A = length 1595 mm  
B = width 1120 mm  
C = height 1210 mm

\* depending on equipment installed

## Rated power and nominal torque

		380/517	425/578	460/626
Rated power	[kW/hp]			
at engine speed	[rpm]	1600	1600	1600
Maximal torque	[Nm]	2600	2800	3000
at engine speed	[rpm]	1100	1100	1100

## Performance



Engine systems

Transmissions

Axles

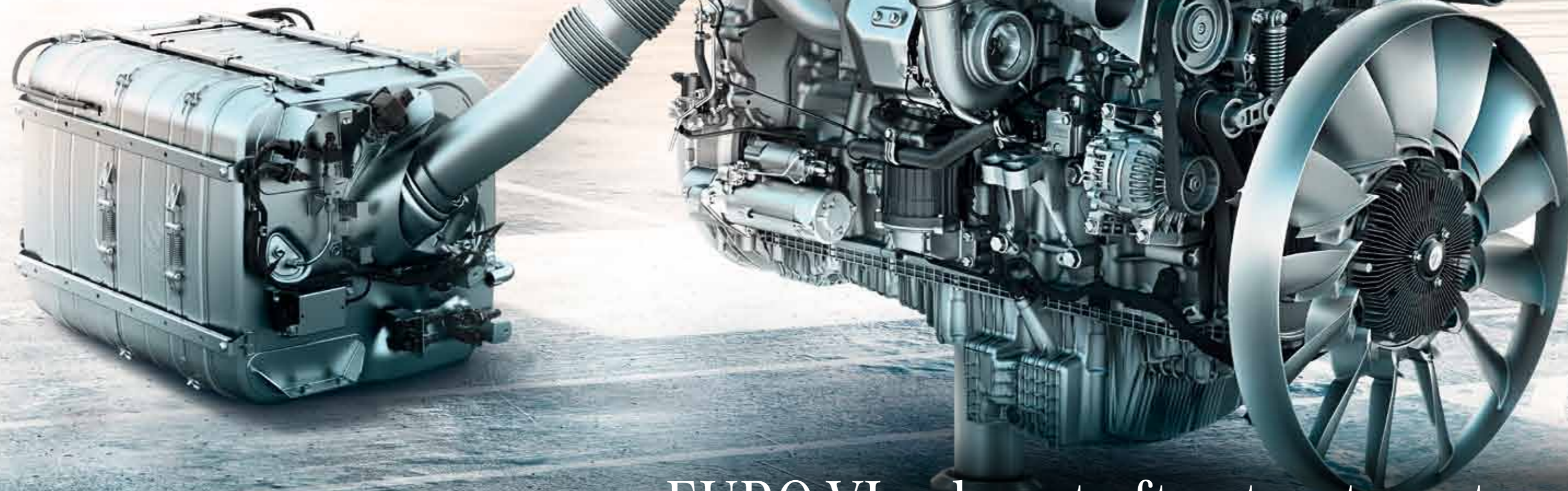
# Clean from start to finish.

## Your product benefits for the after-treatment system:

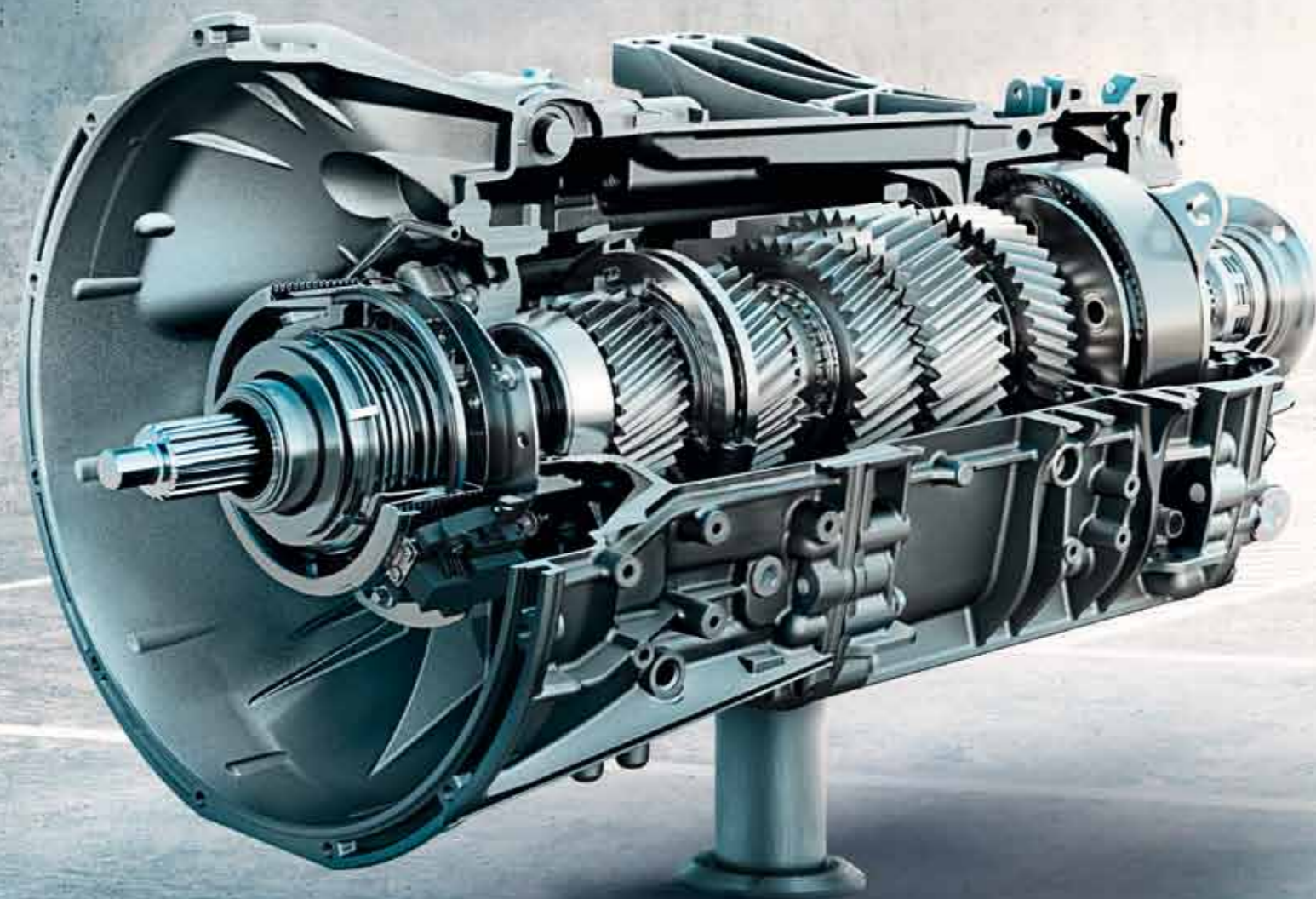
- Low exhaust **back pressure**
- Significant **NOx reduction** at a broad range of exhaust gas volume flows and exhaust gas temperatures
- Maximum possible **soot burn-off** in the diesel particulate filter (DPF) by means of automatic regeneration
- In addition, adaptive **regeneration of the DPF** in all relevant driving cycles
- Large capacity for **ash storage** in the DPF to make maintenance intervals as long as possible
- Small **installation space** and low weight
- Long **service lifetime**, adapted to the engine's service lifetime
- Consistent **common parts strategy**
- Many different **variants** for exhaust gas inlet and outlet
- Metering of **AdBlue®** without compressed air; very low AdBlue® consumption

The 4- and 6-cylinder Euro VI engines from Mercedes-Benz impress with consistently low fuel consumption, reduced CO<sub>2</sub>, particulate matter and low nitrogen oxide emissions.

The overall system is trimmed for superior efficiency already during the design and engineering phase. As an example, the **intelligent combination of selective catalytic reduction (SCR), cooled and controlled exhaust-gas recirculation (EGR) as well as a diesel particulate filter (DPF) reduces emissions** to a fraction of previous emission standards.

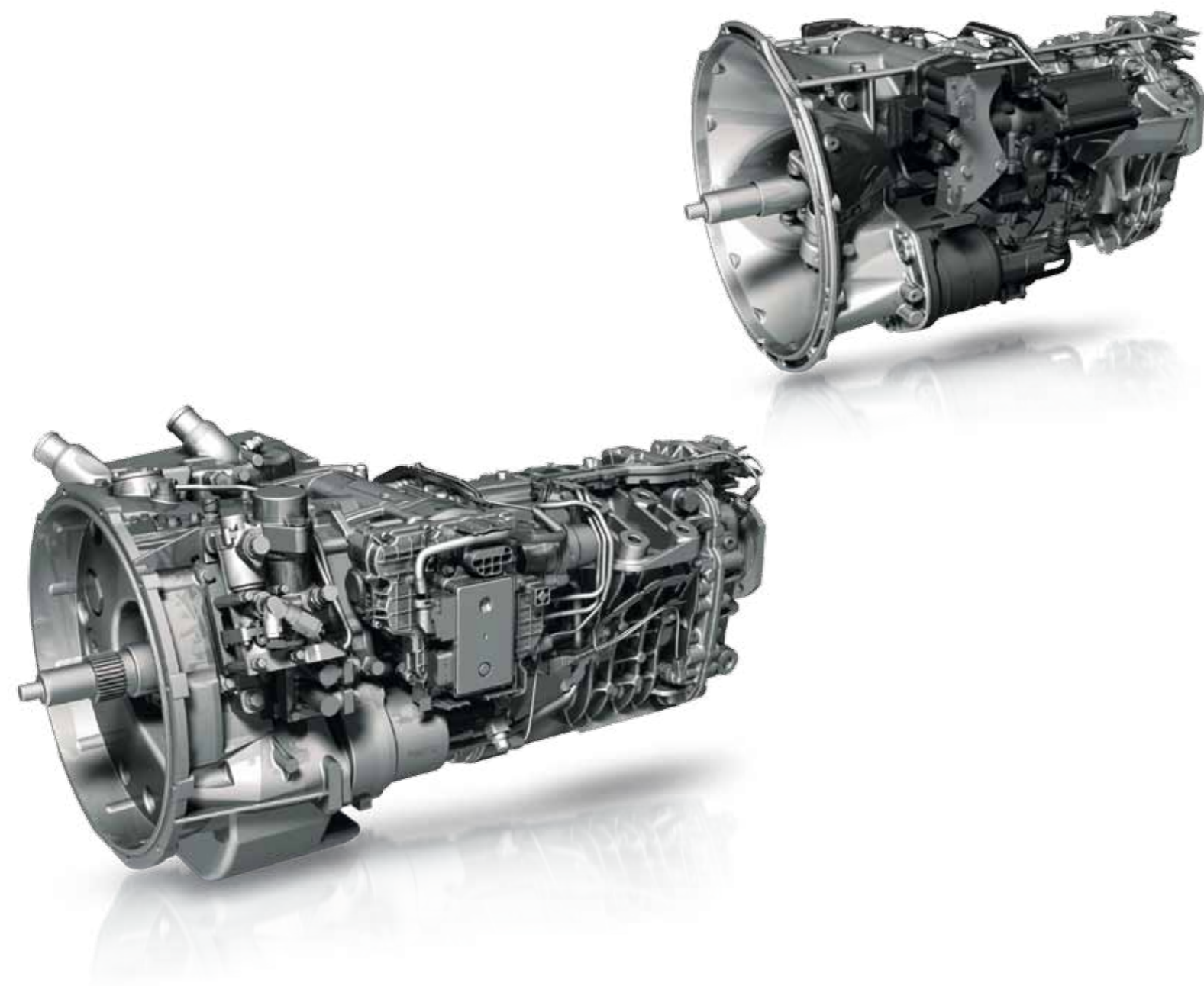


## EURO VI exhaust after-treatment system.



## Mercedes-Benz transmissions.

Reliable transmissions  
for a wide range of  
applications.



# Smooth and efficient operation in every situation.

Our product range of service extends from 8-speed to 16-speed transmissions for heavy-duty commercial vehicles, special vehicles and mobile cranes. An extensive selection of power take-off units, transfer cases and various circuit variants ensure that a custom-made transmission can be developed from standardized components. All transmissions are manufactured on a large scale by Mercedes-Benz Commercial Vehicles and are engineered to meet the highest standards of technology and quality.

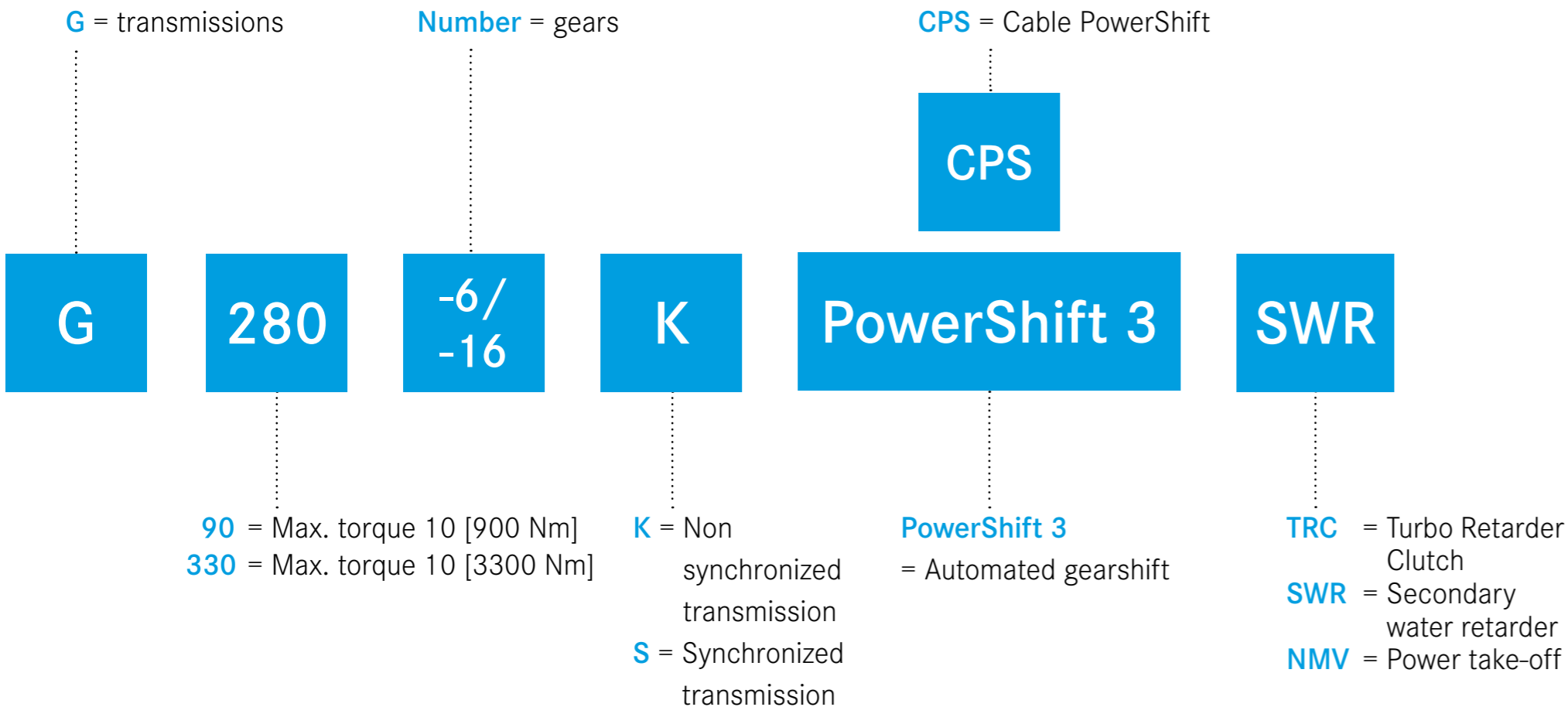
Meeting the demands of our customers is the focus of our work. We feel committed to advancing the design of our systems in a consistent and innovative way in-line with market and customer requirements.

Our know-how is based on decades of experience in the manufacturing and development of commercial vehicle transmissions. This manufacturing expertise distinguishes our transmissions today particularly by three features:

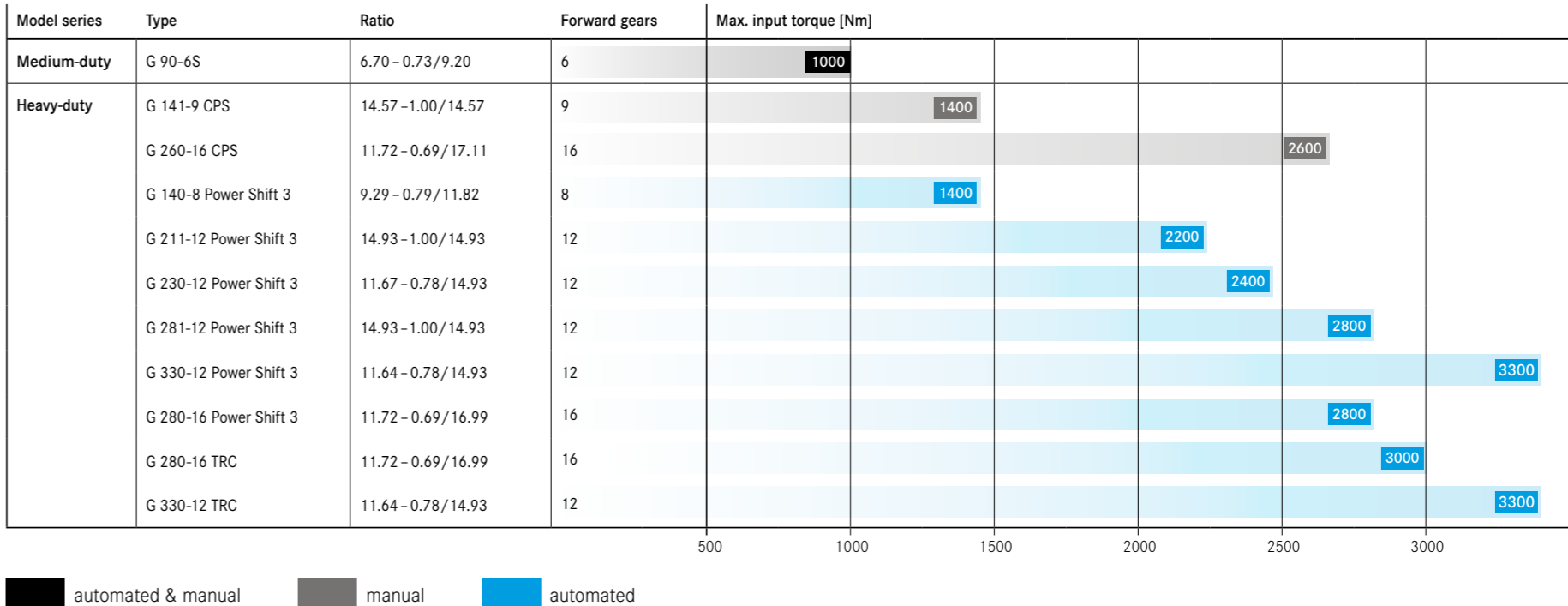
- **Very smooth running characteristics**
- **Low weight**
- **Extreme durability**

In the future, we will continue to stand for innovative products focused on customer-oriented applications.

# Derivation "Nomenclature" - transmissions.



# Transmissions for EURO VI engine systems.



## Meaning of symbols:

- MT Manual shifted transmission
- AMT Fully automated manual transmission

- Transmission for medium-duty trucks
- Transmission for heavy-duty trucks & special vehicles
- Transmission for cranes

# Medium-duty transmissions.



## Redefining efficiency.

### Your product benefits for medium-duty transmissions:

- **6-speed** transmissions
- Resilient to 900 Nm **max. input torque**
- Manual and fully automated **shifting systems**
- **Gear ratio** spread from 8.00 to 9.20
- Permissible max. **gross combination weight** (GCW) up to 28 t
- Highly variable **modular systems** for customer-specific system solutions
- Quiet **running characteristics** and **long service life** through optimized gear set geometry and high-precision **manufacturing technologies**
- **Long service intervals** and **low operating costs** due to a **fuel-efficient design** optimized for specific operating condition
- More comfortable **vibration characteristics** due to an integrated engine suspension on the transmission housing

# G 90-6S



- 6-speed synchronized transmission with a wide gear ratio spread
- SAE 2 or SAE 3 clutch housing available
- Overdrive configuration
- Hydrodynamic retarder can be adapted



## Specifications and dimensions

Max. input torque

1000 Nm

Permissible gross combination weight (GCW)

28 t

Transmission weight excl. oil

138.5 kg/  
191.5 kg\*

Oil filling capacity

9 l

A = length

709 mm

B = width

562 mm

C = center to center

130 mm

\* with retarder

Gear	1	2	3	4	5	6	7	8	R	Gear ratio spread
Ratio	6.696	3.806	2.289	1.480	1.000	0.728	6.294	9.20	13.862	9.197



# Heavy-duty transmissions.

## Hard-working and resilient.

### Your product benefits for heavy-duty transmissions:

- **8- to 16-speed** manual and automated shifted manual transmissions
- **Max. input torque** from **1400 Nm to 3300 Nm**
- **Gear ratio** spread from 11.82 to 17.17
- Max. permissible **gross combination weight** (GCW) from 32 to 60 t (250 t)
- **Secondary water** retarder can be adapted
- Highly variable **modular systems** for customer-specific system solutions
- Quiet running characteristics and **long service life** through optimized gear set geometry and high-precision manufacturing technologies
- **Compact design** and **weight-optimized** metal housing for ideal installation dimensions and an ideal power/weight ratio
- **Long service intervals** and low operating costs due to a fuel-efficient design optimized for specific operating condition
- **More comfortable vibration characteristics** due to an integrated engine suspension on the transmission housing

# G 141-9 CPS



- Direct-drive transmission with 9 gears (with Crawler) and a wide gear ratio spread
- Economical gear ratio stepping (including small step increment between 7<sup>th</sup> and 8<sup>th</sup> gear)



## Specifications and dimensions

Max. input torque

1400 Nm

Permissible gross combination weight (GCW)

44 t

Transmission weight excl. oil

210 kg

Oil filling capacity

11 l

A = length

914 mm

B = width

557 mm

C = center to center

142 mm

Gear	C	1	2	3	4	5	6	7	8	R	Gear ratio spread
Ratio	14.572	9.748	6.635	4.821	3.667	2.585	1.810	1.315	1.000	13.862	14.573

# G 260-16 CPS



- 16-speed synchronized transmission with a wide gear ratio spread
- Overdrive configuration
- Secondary water retarder can be adapted



## Specifications and dimensions

Max. input torque

2600 Nm

Permissible gross combination weight (GCW)

55 t

Transmission weight excl. oil

290 kg/  
333 kg\*

Oil filling capacity

14 l

A = length

1033.5 mm

B = width

557 mm

C = center to center

152 mm

\* with retarder

Gear	1	2	3	4	5	6	7	8	R	Gear ratio spread
i <sub>S</sub>	11.722	7.916	5.291	3.636	2.664	1.799	1.203	0.826	10.656	17.06
i <sub>L</sub>	9.747	6.583	4.400	3.023	2.215	1.496	1.000	0.687	8.861	17.06

# G 140-8 PowerShift 3



- 8-speed none synchronized transmission with a wide gear ratio spread
- Overdrive configuration
- SAE 1 or SAE 2 clutch housing available



## Specifications and dimensions

Max. input torque

1400 Nm

Permissible gross combination weight (GCW)

32 t

Transmission weight excl. oil

189 kg

Oil filling capacity

10.5 l

A = length

765 mm

B = width

555 mm

C = center to center

152 mm

Gear	1	2	3	4	5	6	7	8	R 1	R 2	Gear ratio spread
Ratio	9.296	5.837	3.673	2.306	1.593	1.252	1.000	0.786	8.538	5.361	11.82

# G 211-12 PowerShift 3



- 12-speed none synchronized transmission with a wide gear ratio spread
- Direct-drive configuration
- Secondary water retarder can be adapted



## Specifications and dimensions

Max. input torque

2100 Nm

Permissible gross combination weight (GCW)

44 t

Transmission weight excl. oil

235 kg/  
278 kg\*

Oil filling capacity

10 l

A = length

964 mm

B = width

596 mm

C = centre to center

142 mm

\* with retarder

Gear	1	2	3	4	5	6	R	Gear ratio spread
i <sub>S</sub>	14.930	9.024	5.628	3.393	2.051	1.279	14.930	14.93
i <sub>L</sub>	11.673	7.056	4.400	2.653	1.604	1.000	11.673	14.93

# G 230-12 PowerShift 3



- 12-speed none synchronized transmission with a wide gear ratio spread
- Overdrive configuration
- Secondary water retarder can be adapted



## Specifications and dimensions

Max. input torque

2300 Nm

Permissible gross combination weight (GCW)

45 t

Transmission weight excl. oil

235 kg/278 kg\*

Oil filling capacity

10 l

A = length

964 mm

B = width

596 mm

C = center to center

142 mm

\* with retarder

Gear	1	2	3	4	5	6	R1	R2	Gear ratio spread
i <sub>S</sub>	11.673	7.056	4.400	2.653	1.604	1.000	11.673	2.653	14.97
i <sub>L</sub>	9.101	5.501	3.431	2.068	1.205	0.780	9.101	2.068	14.97

# G 281-12 PowerShift 3



- 12-speed none synchronised transmission with a wide gear ratio spread
- Direct-drive configuration
- Secondary water retarder can be adapted



## Specifications and dimensions

Max. input torque

2800 Nm

Permissible gross combination weight (GCW)

60 t

Transmission weight excl. oil

287 kg/330 kg\*

Oil filling capacity

14 l

A = length

1033.5 mm

B = width

624 mm

C = center to center

152 mm

\* with retarder

Gear	1	2	3	4	5	6	R1	R2	Gear ratio spread
i <sub>S</sub>	14.931	11.132	6.581	3.698	2.187	1.293	20.873	4.100	14.93
i <sub>L</sub>	14.563	8.611	5.091	2.861	1.691	1.000	16.145	3.171	14.93





# G 330-12 PowerShift 3



- 12-speed none synchronized transmission with a wide gear ratio spread
- Overdrive configuration
- Secondary water retarder can be adapted



## Specifications and dimensions

Max. input torque

3300 Nm

Permissible gross combination weight (GCW)

60 t

Transmission weight excl. oil

287 kg/  
330 kg\*

Oil filling capacity

14 l

A = length

1033.5 mm

B = width

624 mm

C = center to center

152 mm

\* with retarder

Gear	1	2	3	4	5	6	R 1	R 2	Gear ratio spread
i <sub>S</sub>	11.639	7.035	4.400	2.645	1.599	1.000	12.774	2.093	15.02
i <sub>L</sub>	9.020	5.452	3.410	2.050	1.239	0.775	9.900	2.250	15.02

# G 280-16 PowerShift 3



- 16-speed none synchronized transmission with a wide gear ratio spread
- Overdrive configuration
- Secondary water retarder can be adapted



## Specifications and dimensions

Max. input torque

2800 Nm

Permissible gross combination weight (GCW)

60 t

Transmission weight excl. oil

294 kg/  
337 kg\*

Oil filling capacity

14 l

A = length

1033.5 mm

B = width

624 mm

C = center to center

152 mm

\* with retarder

Gear	1	2	3	4	5	6	7	8	R 1	R 2	Gear ratio spread
i <sub>S</sub>	11.722	7.916	5.291	3.636	2.664	1.799	1.203	0.826	10.656	2.422	17.06
i <sub>L</sub>	9.747	6.583	4.400	3.023	2.215	1.496	1.000	0.687	8.861	2.014	17.06

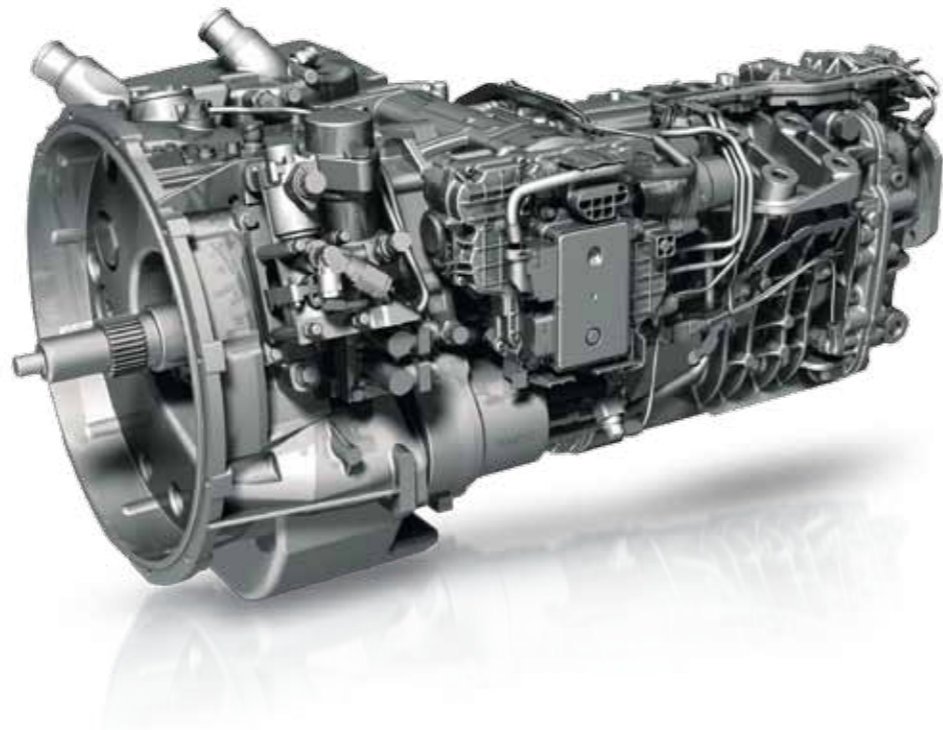
# TRC transmission for extreme applications.

AMT TRC = turbo retarder clutch

## Automated none synchronized transmission including TRC

The innovative TRC starting and braking element unites hydrodynamic start-up and hydrodynamic braking functions into one system. Unlike conventional torque converter solutions, engine output is transferred by a fill level regulated, fluid turbo coupling.

- Wear-free start-up and maneuvering due to the hydrodynamic transfer of power with no time limit due to variable turbo coupling input.
- In conjunction with the large gear ratio spread, it is possible to maneuver heavy loads with millimeter precision, even when tractional resistance is high.
- Braking with no wear due to integrated primary retarder function and patented coupling configuration.



# G 280-16 TRC

AMT

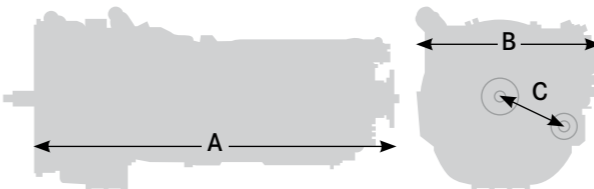
- 16-speed none synchronized transmission with a wide gear ratio spread
- Overdrive configuration



## Specifications and dimensions

Max. input torque 3000 Nm  
Permissible gross combination weight (GCW) 250 t  
Transmission weight excl. oil 455 kg  
Oil filling capacity 13,5 l

A = length 1200 mm  
B = width 690 mm  
C = center to center 152 mm



Gear	1	2	3	4	5	6	7	8	R 1	R 2	Gear ratio spread
Ratio	11.722	7.916	5.291	3.636	2.664	1.799	1.203	0.826	10.656	2.422	17.06
Ratio	9.747	6.583	4.400	3.023	2.215	1.496	1.000	0.687	8.861	2.014	17.06

# G 330-12 TRC

AMT

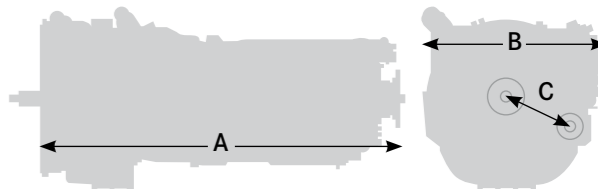
- 12-speed none synchronized transmission with a wide gear ratio spread
- Overdrive configuration



## Specifications and dimensions

Max. input torque 3300 Nm  
Permissible gross combination weight (GCW) 250 t  
Transmission weight excl. oil 455 kg  
Oil filling capacity 14 l

A = length 1200 mm  
B = width 690 mm  
C = center to center 152 mm



Gear	1	2	3	4	5	6	R 1	R 2	Gear ratio spread
i <sub>S</sub>	11.639	7.035	4.400	2.645	1.599	1.000	12.774	2.033	15.02
i <sub>L</sub>	9.020	5.452	3.410	2.050	1.239	0.775	9.900	2.500	15.02

The **integrated secondary water retarder** offers a **high braking torque in combination with a compact, weight-saving design**. The weight advantage of the new retarder is about 43 kg (SWR) compared to previous oil retarders. The braking power of the retarder is also independent of selected gear or current engine speed.

A gear change does **not** result in **any interruption** in the retarder braking action and the retarder braking power depends only on the current driving speed. The braking power can be controlled precisely in **five stages** using the right hand control stalk on the steering column. In addition to the engine brake, the retarder provides a **maximum braking torque up to 3500 Nm**.

# Retarder.

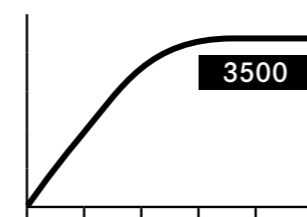


## Secondary water retarder.\*

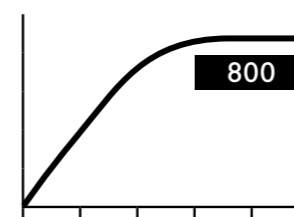
### Your product benefits:

- **Reduction of friction** by axial rotor displacement
- **No heat exchanger** required since the cooling water is used as the operating medium directly
- Compact unit requires only **minimal installation space**
- **Freedom from maintenance** for reduced vehicle service costs
- **Significantly lighter** than comparable hydrodynamic retarder
- **Increased comfort** through low noise emission
- **Integration** into the vehicle management
- Between 20–30 % **higher constant brake power** than current oil retarders

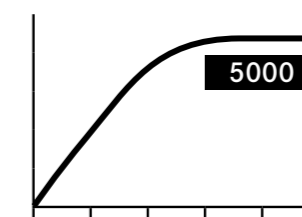
\*Not available with TRC



max. braking torque [Nm]









max. braking power [kW]




max. rotation [min -1]



**PTO rear side of transmission** (working only when truck is not driving or in one of the start up gears)

PTO model		Max. torque	Vehicle type
NA 121		1000 Nm	Small dumper trucks
NA 131		400 Nm	Heavy dumper trucks
NA 123		650 Nm	Silo vehicle
NA 124		650 Nm	Fire truck Silo vehicle Concrete pump
NA 125		600 Nm	Fire truck Garbage truck Concrete pump
NA 135		600 Nm	Fire truck Garbage truck Concrete pump

**PTO between engine and transmission** (working while the truck is stopping or driving)

NMV		Output torque depends on PTO  Max. engine torque depends on maximal available engine torque (max. 3300 Nm)	Concrete pump Crane Airport firefighters Suctions pump vehicles
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Power take-off  
(PTO).



# Mercedes-Benz axles.

Reliable axles for  
every applications.

# Derivation "Nomenclature" – axles.

## Non-driven axles

F = Front axle

F

9

Number = Axle load [t]

## Driven axles

- R = Rear axle
- RT = Rear axle tandem
- FD = Front axle driven
- FT = Front axle tandem driven




R

440

Number = Ring gear diameter [mm]

# The right axle for every application.

Axle portfolio: front axles\* and rear axles.

	Vehicle category	Front axles*	Size [inches]	Axle load [t]	Rear axles	Size [inches]	Axle load [t]
	Light-duty	F 4.1 – F 4.4	17.5	4.1 – 4.4	R 325	17.5	6.2 – 8.3
	Medium-duty	F 5.3 – F 6.1	19.5	5.3 – 6.1	R 390	19.5/20/22.5	11
		FD 346 – FD 360	19.5	4.7 – 6			
	Heavy-duty	F 7.5 – F 8	22.5	7.5 – 8	R 440	22.5	13
					R 485	22.5	13
					R 233 P – R 300 P	20/22.5/24	13.4 – 16
		F 9 – F 9.5	20/22.5	9 – 9.5	RT 390 + RT 390 T **	22.5	20
		FD 233 P	20/22.5	7.5 – 9	RT 440 + R 440 **	22.5	26
		FD 233 P** FT 233 P +	20/22.5	// 18	RT 300 P + R 300 P **	20/22.5/24	26.8 – 32

\* front axles are applicable as steered tag and pusher axles \*\* tandem

## Meaning of symbols:

FA

Front axles

RA

Rear axles



Axles for light-duty trucks



Axles for medium-duty trucks



Axles for heavy-duty trucks



# The most efficient way of putting power on the road.

Our product range consists of axles for a broad range of commercial vehicles. This portfolio is highly suitable for nearly all commercial categories, in urban areas or overland, from delivery to heavy trucks.

We use our customers' experience, their requirements and demands as an essential precondition in the development of new axle technologies.

Our innovative state-of-the-art engineering and our quality-driven plants in Germany give our axles outstanding performance in:

- **Durability**
- **Fuel efficiency**
- **Noise behaviour**

Top vehicle manufacturers around the world trust on the outstanding quality and performance of our axles and the reliability of our services. We are one of the world's biggest producers of commercial axles and we want to share our experience and technology with you.

Convince yourself and discover the advantages of Mercedes-Benz axles.

# Front axles.

## Flexibility at high level.

### Your product benefits for front axles:

- Wheel-end sizes from **17.5 to 22.5 inches**
- Driven front axles **for light-, medium- and heavy-duty applications**
- Axle loads from **4.1 to 9.5 t** (per axle)
- Gross vehicle weight rating (GVWR) from **6.5 to 250 t**
- **Additional payload** due to compact design and weight-optimized technical design
- **Left or right hand drive** applications possible
- **High fuel efficiency design** to suit the operating conditions
- **Maintenance-free** wheel-hubs
- Easy maintenance and **long oil change intervals**
- **Longer lifetime** and **quieter operation** due to our optimized gear set design

# F 4.1-F 4.4



- Steered rigid axle with forged front axle beam
- Recommended for light-duty application

## Data and dimensions

<b>Axle load</b>	4.1–4.4 t	
<b>Wheel-end size</b>	17.5 inches	
<b>Brake</b>	disk brake	
<b>Axle weight*</b>	245 kg	
<b>A</b> = overall width	2293–2303 mm	
<b>B</b> = track width	1949–1975 mm	
<b>C</b> = spring track	830 mm	
<b>D</b> = max. steering angle	52°	
* varies depending on configuration		

# F 5.3-F 6.1



- Steered rigid axle with forged front axle beam
- Recommended for medium-duty application

## Data and dimensions

<b>Axle load</b>	5.3–6.1 t	
<b>Wheel-end size</b>	19.5 inches	
<b>Brake</b>	disk brake	
<b>Axle weight*</b>	357 kg	
<b>A</b> = overall width	2346–2389 mm	
<b>B</b> = track width	1955–1991 mm	
<b>C</b> = spring track	830 mm	
<b>D</b> = max. steering angle	52°	
* varies depending on configuration		

# FD 346-FD 360



- Steered, driven salisbury-design axle
- Recommended for medium-duty application

## Data and dimensions

<b>Axle load</b>	4.7–6 t	
<b>Wheel-end size</b>	19.5 inches	
<b>Brake</b>	drum brake	
<b>Drive type</b>	single-stage	
<b>Axle weight*</b>	492 kg	
<b>A</b> = overall width	2190–2496 mm	
<b>B</b> = track width	1886–2098 mm	
<b>C</b> = spring track	830/1000 mm	
<b>D</b> = max. steering angle	39°	
* varies depending on configuration		

# F 7.5-F 8



- Steered rigid axle with forged front axle beam
- Recommended for heavy-duty application

## Data and dimensions

<b>Axle load</b>	7.5–8 t	
<b>Wheel-end size</b>	22.5 inches	
<b>Brake</b>	disk brake/ drum brake	
<b>Axle weight*</b>	461 kg	
<b>A</b> = overall width	2486–2583 mm	
<b>B</b> = track width	2046–2157 mm	
<b>C</b> = spring track	840 mm	
<b>D</b> = max. steering angle	48°	
* varies depending on configuration		

# F 9-F 9.5

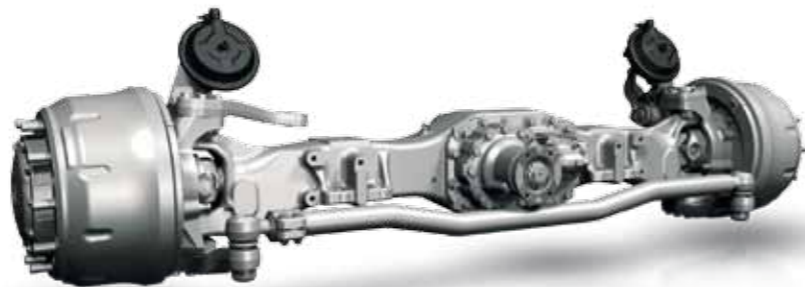


- Steered rigid axle with forged front axle beam
- Recommended for heavy-duty application

## Data and dimensions

<b>Axle load</b>	9–9.5 t	
<b>Wheel-end size</b>	22.5 inches	
<b>Brake</b>	disk brake/ drum brake	
<b>Axle weight*</b>	463 kg	
<b>A</b> = overall width	2486–2583 mm	
<b>B</b> = track width	2046–2157 mm	
<b>C</b> = spring track	840 mm	
<b>D</b> = max. steering angle	48°	
* varies depending on configuration		

# FD 233 P

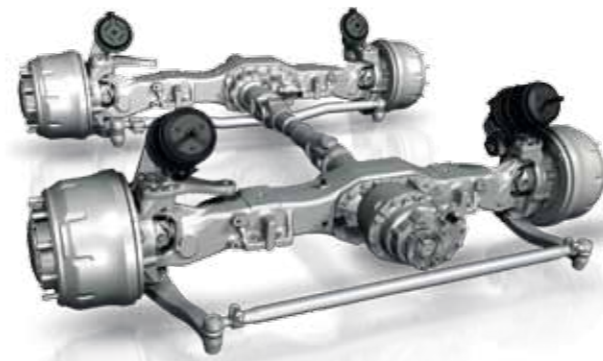


- Steered, driven planetary axle with cast axle housing
- Recommended for heavy-duty application

## Data and dimensions

<b>Axle load</b>	7.5–9 t	
<b>Wheel-end size</b>	22.5 inches	
<b>Brake</b>	drum brake	
<b>Drive type</b>	double reduction/planetary	
<b>Axle weight*</b>	738 kg	
<b>A</b> = overall width	2480–2506 mm	
<b>B</b> = track width	1997–2092 mm	
<b>C</b> = spring track	840/875 mm	
<b>D</b> = max. steering angle	42°	
* varies depending on configuration		

# FD 233 P + FT 233 P



- Steered, driven planetary axle with cast axle housing, tandem
- Recommended for heavy-duty application

## Data and dimensions

<b>Axle load</b>	18 t (tandem)	
<b>Wheel-end size</b>	22.5 inches	
<b>Brake</b>	drum brake	
<b>Through-drive axle</b>	yes	
<b>Drive type</b>	double reduction/planetary	
<b>Axle weight*</b>	1621 kg	
<b>A</b> = overall width	2480–2506 mm	
<b>B</b> = track width	1997–2092 mm	
<b>C</b> = spring track	840 mm	
<b>D</b> = max. steering angle	38°	
* varies depending on configuration		





Rear axles.

# Master every challenge.

## Your product benefits for rear axles:

- **Wheel-end sizes** from 17.5 to 22.5 inches
- **Hypoid and planetary** driven
- **Ring gear diameter** from 233 to 485 mm
- **Axle loads** from 6.2 to 16 t (per axle)
- Gross vehicle weight rating (GVWR) from 6.5 to 250 t
- **High fuel efficiency**
- **Easy maintenance** and long oil change intervals
- **Long lifetime** and **quiete operations** due to our optimized gear set design
- **Additional payload** due to weight optimized design
- **Maintanance-free** wheel-hubs
- New Final Drive axle with **optimized oil management** reduces fuel consumption

# R 325



- Fabricated axle housing
- Recommended for light-duty application

## Data and dimensions

<b>Axle load</b>	6.2–8.3 t	
<b>Wheel-end size</b>	17.5 inches	
<b>Brake</b>	disk brake	
<b>Suspension</b>	air springs/steel springs	
<b>Drive type</b>	single reduction/hypoid	
<b>Axle weight*</b>	350 kg	
<b>A = overall width</b>	2232–2330 mm	
<b>B = track width</b>	1760–1775 mm	
<b>C = spring track</b>	1022 mm	
<b>Ring gear diameter</b>	325 mm	
* varies depending on configuration		

# R 390



- Fabricated axle housing
- Recommended for medium-duty application

## Data and dimensions

<b>Axle load</b>	11 t	
<b>Wheel-end size</b>	19.5 inches	
<b>Brake</b>	disk brake/drum brake	
<b>Suspension</b>	air springs/steel springs	
<b>Drive type</b>	single reduction/hypoid	
<b>Axle weight*</b>	541 kg	
<b>A = overall width</b>	2350–2489 mm	
<b>B = track width</b>	1796–1840 mm	
<b>C = spring track</b>	1022 mm	
<b>Ring gear diameter</b>	390 mm	
* varies depending on configuration		

# R 440



- Fabricated axle housing
- Recommended for heavy-duty application

## Data and dimensions

<b>Axle load</b>	13 t	
<b>Wheel-end size</b>	22.5 inches	
<b>Brake</b>	disk brake	
<b>Suspension</b>	air springs/steel springs	
<b>Drive type</b>	single reduction/hypoid	
<b>Axle weight*</b>	680 kg	
<b>A = overall width</b>	2410–2482 mm	
<b>B = track width</b>	1802–1910 mm	
<b>C = spring track</b>	930 mm	
<b>Ring gear diameter</b>	440 mm	
* varies depending on configuration		

# R 485



- Cast axle housing for high engine torque
- Recommended for heavy-duty application

## Data and dimensions

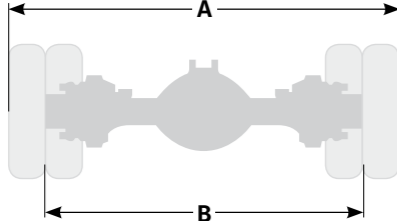
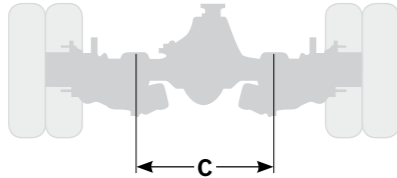
<b>Axle load</b>	13 t	
<b>Wheel-end size</b>	22.5 inches	
<b>Brake</b>	disk brake	
<b>Suspension</b>	air springs/steel springs	
<b>Drive type</b>	single reduction/hypoid	
<b>Axle weight*</b>	765 kg	
<b>A = overall width</b>	2422–2482 mm	
<b>B = track width</b>	1802–1804 mm	
<b>C = spring track</b>	930 mm	
<b>Ring gear diameter</b>	485 mm	
* varies depending on configuration		

# R 233 P - R 300 P



- Planetary axle with cast axle housing
- Recommended for heavy-duty application

## Data and dimensions

<b>Axle load</b>	13.4–16 t	
<b>Wheel-end size</b>	22.5 inches	
<b>Brake</b>	disk brake/drum brake	
<b>Suspension</b>	air springs/steel springs	
<b>Drive type</b>	double reduction/planetary	
<b>Axle weight*</b>	792 kg	
<b>A</b> = overall width	2407–2775 mm	
<b>B</b> = track width	1800–2039 mm	
<b>C</b> = spring track	930 mm	
<b>Ring gear diameter</b>	233/300 mm	

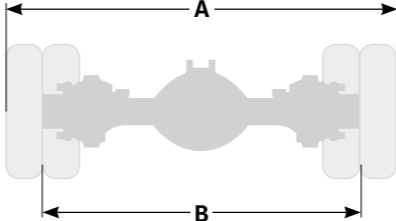
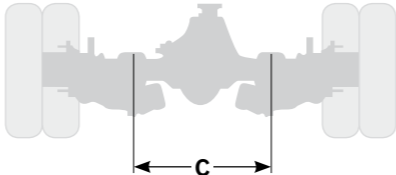
\* varies depending on configuration

# RT 233 P + R 233 P- RT 300 P + R 300 P



- Planetary axle with cast axle housing, tandem
- Recommended for heavy-duty application

## Data and dimensions

<b>Axle load</b>	26.8–32 t (tandem)	
<b>Wheel-end size</b>	22.5 inches	
<b>Brake</b>	disk brake/drum brake	
<b>Through-drive axle</b>	yes	
<b>Suspension</b>	air springs/steel springs	
<b>Drive type</b>	two-stage/planetary	
<b>Axle weight*</b>	1643 kg (tandem)	
<b>A</b> = overall width	2407–2775 mm	
<b>B</b> = track width	1800–2039 mm	
<b>C</b> = spring track	930 mm	
<b>Ring gear diameter</b>	233/300 mm	

\* varies depending on configuration

# RT 390 + RT 390 T



- Fabricated axle housing, tandem
- Recommended for heavy-duty application

## Data and dimensions

<b>Axle load</b>	20 t (tandem)	
<b>Wheel-end size</b>	22.5 inches	
<b>Brake</b>	disk brake	
<b>Through-drive axle</b>	yes	
<b>Suspension</b>	air springs/steel springs	
<b>Drive type</b>	single-stage/hypoid	
<b>Axle weight*</b>	1255 kg (tandem)	
<b>A</b> = overall width	2441–2501 mm	
<b>B</b> = track width	1821–1823 mm	
<b>C</b> = spring track	990 mm	
<b>Ring gear diameter</b>	390 mm	

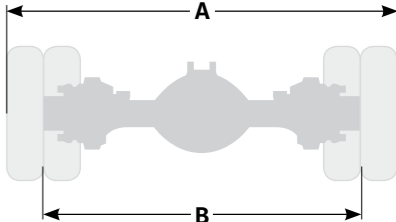
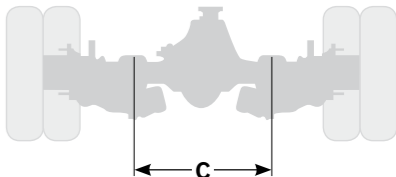
\* varies depending on configuration

# RT 440 + R 440



- Fabricated axle housing, tandem
- Recommended for heavy-duty application

## Data and dimensions

<b>Axle load</b>	26 t (tandem)	
<b>Wheel-end size</b>	22.5 inches	
<b>Brake</b>	disk brake	
<b>Through-drive axle</b>	yes	
<b>Suspension</b>	air springs/steel springs	
<b>Drive type</b>	single-stage/hypoid	
<b>Axle weight*</b>	1482 kg (tandem)	
<b>A</b> = overall width	2410–2482 mm	
<b>B</b> = track width	1802–1910 mm	
<b>C</b> = spring track	930 mm	
<b>Ring gear diameter</b>	440 mm	
* varies depending on configuration		



## Our Global Mercedes-Benz Service Network.

Optimizing customer support while minimizing downtimes of your truck and bus is highly relevant for us. Enjoy the advantages of our network with more than 2400 authorized Mercedes-Benz Truck Service Centers worldwide.



Your next Service Center:  
Dealer Locator Online



## Spare parts supply.

We will ensure spare parts availability for many years after your initial investment. Your vehicle only can deliver top performance if it's kept in shape at all times. It is only the use of high-quality GenuineParts that ensures that the explicit and implied warranty is maintained.

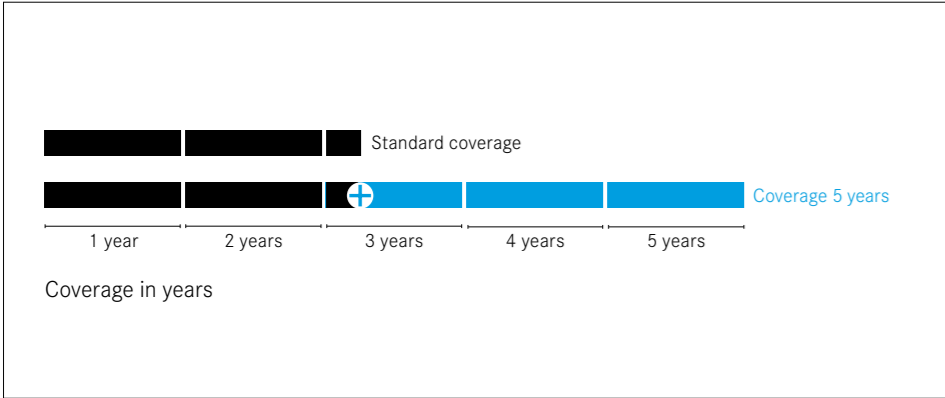
For our price sensitive customers we also offer a large portfolio of Genuine Remanufactured Parts - for saving costs but on the same quality level.

# Extended Warranty. We believe in our quality.

Our extended coverage program takes you to a higher level. Mercedes-Benz Powertrain engine system owners enjoy an overall coverage, which can be extended to 5 years and therefore adds even more value to your engine system.

Benefit from five years of manufacturer's coverage for your powertrain components – our new coverage program with 500,000 km and 300,000 Stop-Starts: 5 years of manufacturer's coverage for your powertrain components.

## Coverage types



## Extended Warranty your advantages\* at a glance:

Integrated Powertrain:

- ✓ 5 years coverage
- ✓ Up to 500,000 km
- ✓ 300,000 Stop-Starts
- ✓ After-treatment system covered
- ✓ Alternator, starter and accessories covered
- ✓ Crankshaft radial sealing rings covered
- ✓ Electronic control units covered
- ✓ Valid in matured markets

\*With Mercedes-Benz workshops only; with original parts only; not with B20.

# More than products.

Our perfectly matched powertrain delivers you the best possible performance and fuel savings, while maintaining low overall operating costs. The perfect combination of engine systems, transmissions and axles yields in the greatest possible efficiency and the best quality made by Mercedes-Benz Powertrain. We tailor Mercedes-Benz Powertrain component configurations to the needs of our customers for sales in the on-highway segment.

If you have technical questions, would like additional information or wish to request installation drawings, please do not hesitate to contact our sales team:

Sales External Customers  
Daimler Truck AG  
00 1-E206  
70546 Stuttgart/Germany

[aggregate-info@daimler.com](mailto:aggregate-info@daimler.com)  
[www.mercedes-benz.com/powertrain](http://www.mercedes-benz.com/powertrain)



# Index.

ENGINES					TRUCK	BUSES
Type	Cylinder	Displacement [litres]	Power [kW]	Torque [Nm]		
OM 934	L4	5.1	115. 130	650. 750	x	
OM 934 LA	L4	5.1	115. 130. 155. 170	650. 750. 850. 900		x
OM 936	L6	7.7	175. 200. 220. 235. 260	1000. 1100. 1200. 1300. 1400	x	
OM 936 LA	L6	7.7	175. 200. 220. 235. 260	1000. 1100. 1200. 1300. 1400		x
OM 470	L6	10.7	240 <sup>1</sup> . 265. 290. 315. 335	1700. 1800 <sup>1</sup> . 1900. 2100. 2200 <sup>2</sup>	x	x
OM 471	L6	12.8	310 <sup>1</sup> . 330 <sup>1</sup> . 350. 375. 390 <sup>1</sup>	2100 <sup>1</sup> . 2200 <sup>1</sup> . 2300. 2500. 2600 <sup>1</sup>	x	x
OM 473	L6	15.6	380. 425. 460	2600. 2800. 3000	x	

TRANSMISSIONS					TRUCK	BUSES
Type	Ratio	Forward gears	Max. input torque [Nm]			
G 90 – 6S	6.70 – 0.73/9.20	6-8	1000	x		x
G 141 – 9 CPS	9.75 – 1.00/14.57	8	1400	x		
G 260 – 16 CPS	11.72 – 0.69/17.11	16	2600	x		
G 140 – 8 PowerShift 3	9.29 – 0.79/11.82	8	1400	x		
G 211 – 12 PowerShift 3	14.93 – 1.00/14.93	12	2100	x		
G 230 – 12 PowerShift 3	11.67 – 0.78/14.93	12	2300	x		
G 281 – 12 PowerShift 3	18.83 – 1.00/14.93	12	2800	x		
G 330 – 12 PowerShift 3	11.64 – 0.78/14.93	12	3300	x		
G 280 – 16 PowerShift 3	11.72 – 0.69/16.99	16	2800	x		
G 280 – 16 TRC	11.72 – 0.69/16.99	16	3000	x		
G 330 – 12 TRC	11.64 – 0.78/14.93	12	3300	x		
GO 230 – 6E CPS	6.53 – 0.73/9.03	6	2300		x	
GO 250 – 8 PowerShift 3	6.57 – 0.63/10.38	8	2500			x

RETARDER	TRUCK	BUSES
Secondary water retarder	x	x

AXLES			TRUCK	BUSES
Type [front axles]	Wheel-end size [inches]	Axle load [t]		
F 4.1 – F 4.4	17.5	4.1 – 4.4	x	x
F 5.3 – F 6.1	19.5	5.3 – 6.1	x	x
FD 346 – FD 360	19.5	4.7 – 6	x	
FO 7.5	22.5	7.5		x
F 7.5 – F 8	22.5	7.5 – 8	x	x
F 9 – F 9.5	22.5	9 – 9.5	x	x
FD 233 P	22.5	7.5 – 9	x	
FD 233 P + FT 233 P	22.5	18	x	

			TRUCK	BUSES
Type [rear axles]	Wheel-end size [inches]	Axle load [t]		
R 325	17.5	6.2 – 8.3	x	x
R 390	19.5	11	x	x
R 440	22.5	13	x	x
RO 440	22.5	11.5 – 13		x
R 233 P – R 300 P	22.5	26.8 – 32	x	
RT 233 P + R 233 P – RT 300 P + R 300 P	22.5	26 – 32	x	
RT 390 + RT 390 T	22.5	20.5	x	
RT 440 + R 440	22.5	26	x	

<sup>1</sup> Output level only available for trucks. <sup>2</sup> Output level only available for buses.

Oktober 2020

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5330 · 1000 · 01 · 10/2020 Printed in Germany