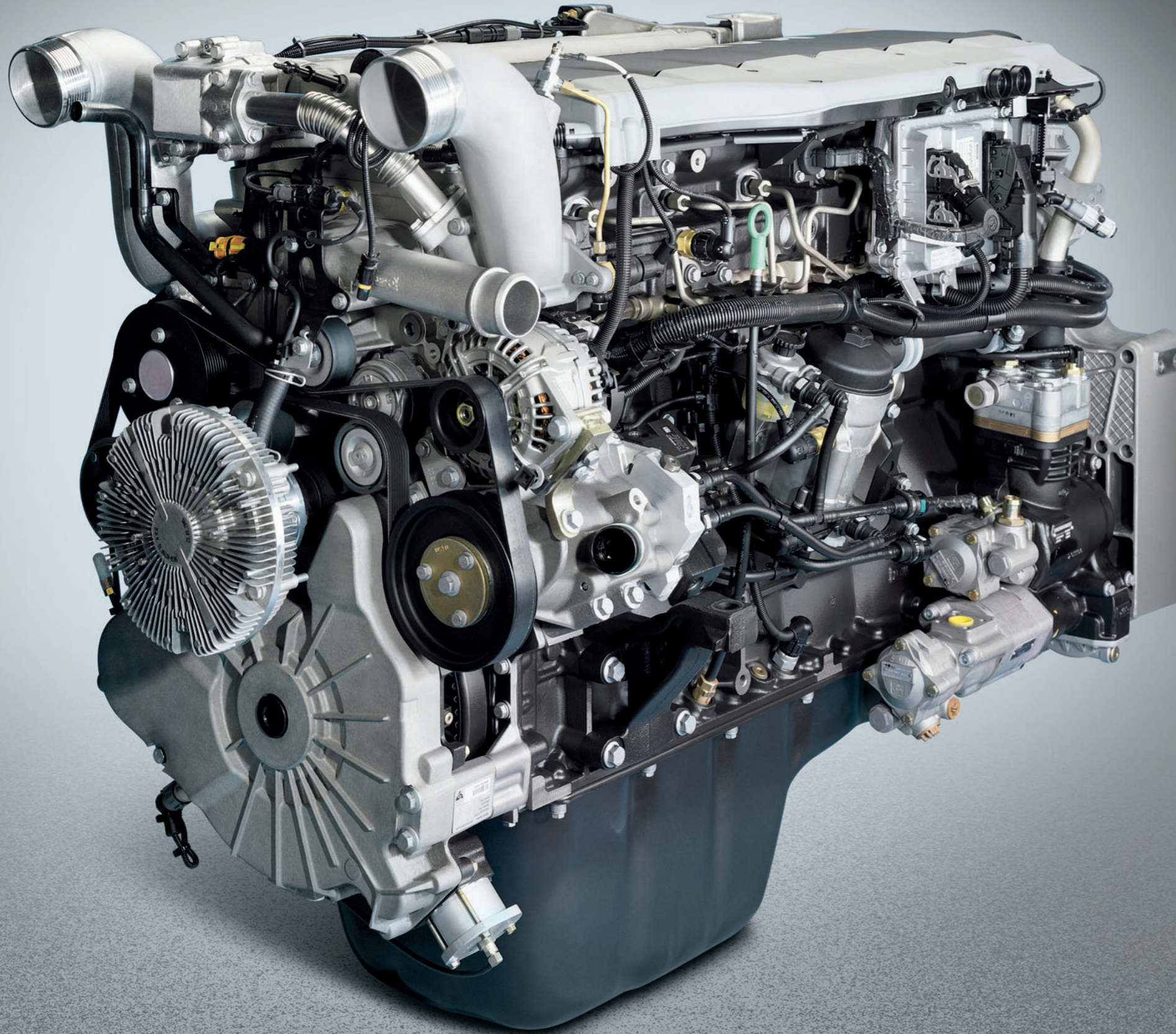


**As varied as your demands.**

MAN non-road diesel engines.

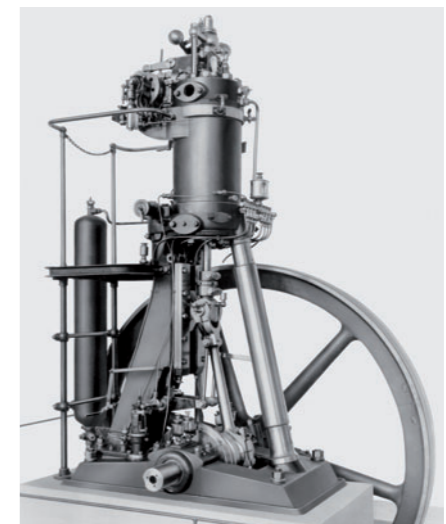


## From Rudolf Diesel to Common Rail Diesel.



Rudolf Diesel would have wholeheartedly approved. The great inventor, who developed the first diesel engine through to series-production maturity at MAN between 1893 and 1897, would be amazed at MAN's present-day engines and the progress they embody. The latest generation of MAN diesel engines demonstrates expertise in every aspect of technical development. Their power ratings set standards in every application. The innovative engineering such as Common Rail injection points the way as regards dynamics and economics. The newest technologies ensure meeting emission standards EC Stage 3A and EPA Tier 4. Ultimately engines work with the high well known reliability, which customers are used to. These facts make sure that the successful story of MAN engines is continued.

Experience the progress for yourself. Take a look at MAN's non-road diesel engines and benefit from our comprehensive advisory and other services. If you have something big to move, just trust MAN.

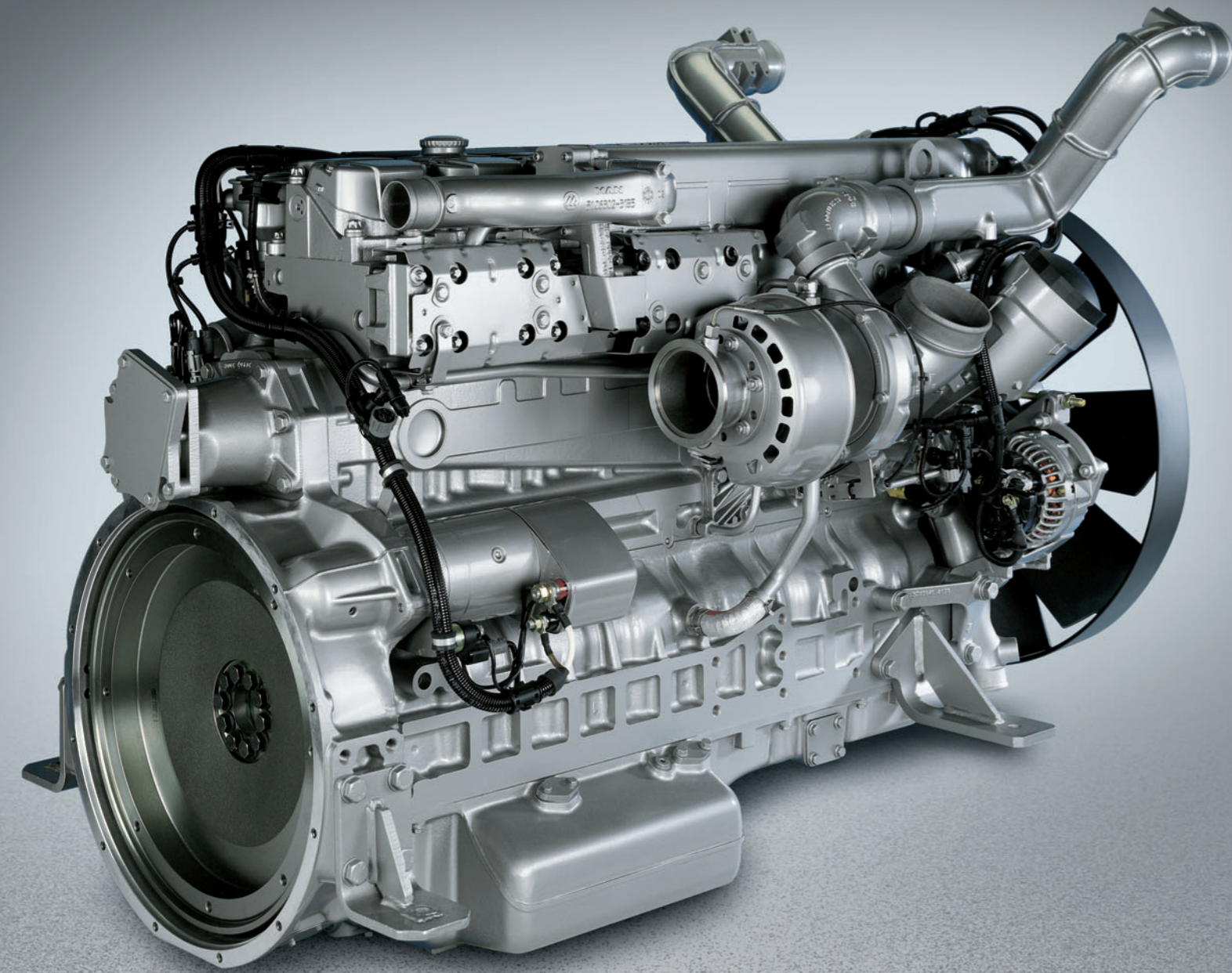


# Clean and reliable into the future – with MAN.

## Everything that's good.

MAN engines for worldwide markets that meet emission standards EC Stage 3A and EPA Tier 3 are state of the art. With Common Rail injection, four-valve technology and cooled exhaust-gas recirculation

the engines of all type series are impressive in their superb performance, in their quiet running and in their low fuel consumption.



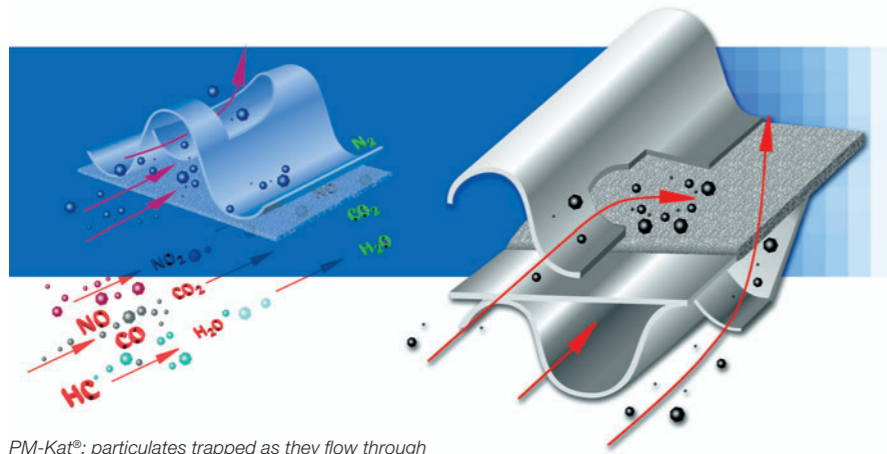
D0836



D0836

| Model      | Cylinders | Capacity/cm <sup>3</sup> | Rated output<br>kW (hp), 1/min | Max. torque<br>Nm/1/min | Exhaust-gas standard *              |                                     |
|------------|-----------|--------------------------|--------------------------------|-------------------------|-------------------------------------|-------------------------------------|
|            |           |                          |                                |                         | EC Stage 3A                         | EPA Tier 3                          |
| D0834LE121 | 4         | 4580                     | 110 (150), 1800–2400           | 570/1400                | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| D0834LE122 | 4         | 4580                     | 132 (180), 1800–2400           | 700/1400                | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| D0834LE123 | 4         | 4580                     | 151 (206), 1800–2400           | 830/1400                | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| D0836LE121 | 6         | 6871                     | 176 (240), 2300                | 925/1200–1800           | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| D0836LE122 | 6         | 6871                     | 206 (280), 2300                | 1100/1200–1620/1800     | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| D0836LE123 | 6         | 6871                     | 240 (326), 2300                | 1250/1200–1800          | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| D2876LE121 | 6         | 12800                    | 280 (380), 1800–2000           | 1900/1000–1200          | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| D2876LE122 | 6         | 12800                    | 316 (430), 1800–2000           | 2100/1000–1200          | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| D2876LE123 | 6         | 12800                    | 353 (480), 1800–2000           | 2250/1100–1400          | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| D2876LE124 | 6         | 12800                    | 382 (520), 1800–2000           | 2350/1100–1400          | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| D2842LE622 | 12        | 21930                    | 588 (800), 1800                | 3350 / 1350             | <input checked="" type="checkbox"/> |                                     |

\* Complete designation of the exhaust gas standards: 2004/26/EC Stage 3A und EPA Tier 3.



PM-Kat®: particulates trapped as they flow through

## A clean break for the future.

### Progress goes on.

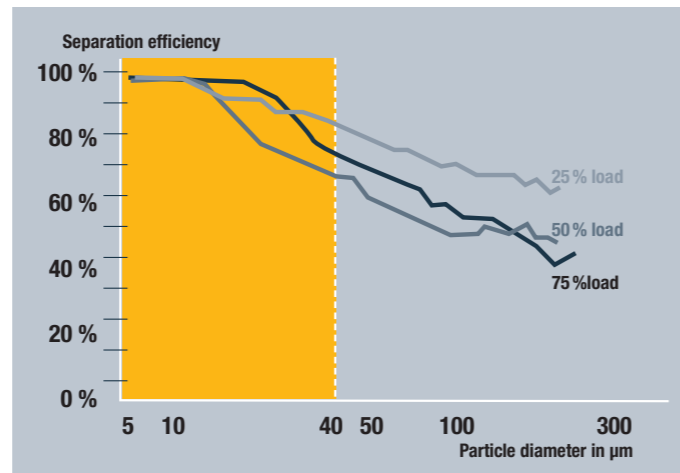
Diesel exhaust emissions are becoming cleaner and cleaner. With the introduction in 2011 of EC guideline Stage 3B and US regulation EPA Tier 4 pollutant emissions will again be reduced significantly. In 2014 EC Stage 4 will follow – a further great improvement for a cleaner environment. MAN provides innovative exhaust-gas technologies that both meet future requirements and are perfectly tailored to customers' requirements.

### EGR and MAN PM-KAT®.

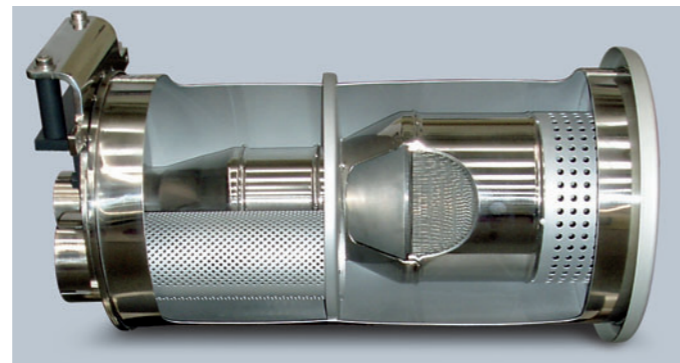
With the system consisting of Common Rail injection, cooled exhaust-gas recirculation (EGR) and the MAN PM-KAT® particulate filter MAN has a technically and economically convincing solution for EC Stage 3B and US regulation EPA Tier 4. Cooled exhaust-gas recirculation (EGR) makes it possible to reduce the proportion of oxides of nitrogen (NOx) to extremely low levels inside the engine. To comply with the particulate limits the PM-KAT® is used. This is a maintenance-free particle trap system in the special-steel silencer that works without clogging and needs no additional agent. The PM-KAT® eliminates an above-average share of the smallest particles; separation rate is about 70%.

### Clean advantages with MAN PM-KAT®

- Reliable, maintenance-free system that works without clogging
- No restrictions on space for other components
- Up to 150 kg weight advantage on other exhaust-gas cleaning systems
- Above-average elimination of the smallest particles
- No dependence on additional agents
- No additional heating needed at low ambient temperatures



Separation efficiency and particle size.

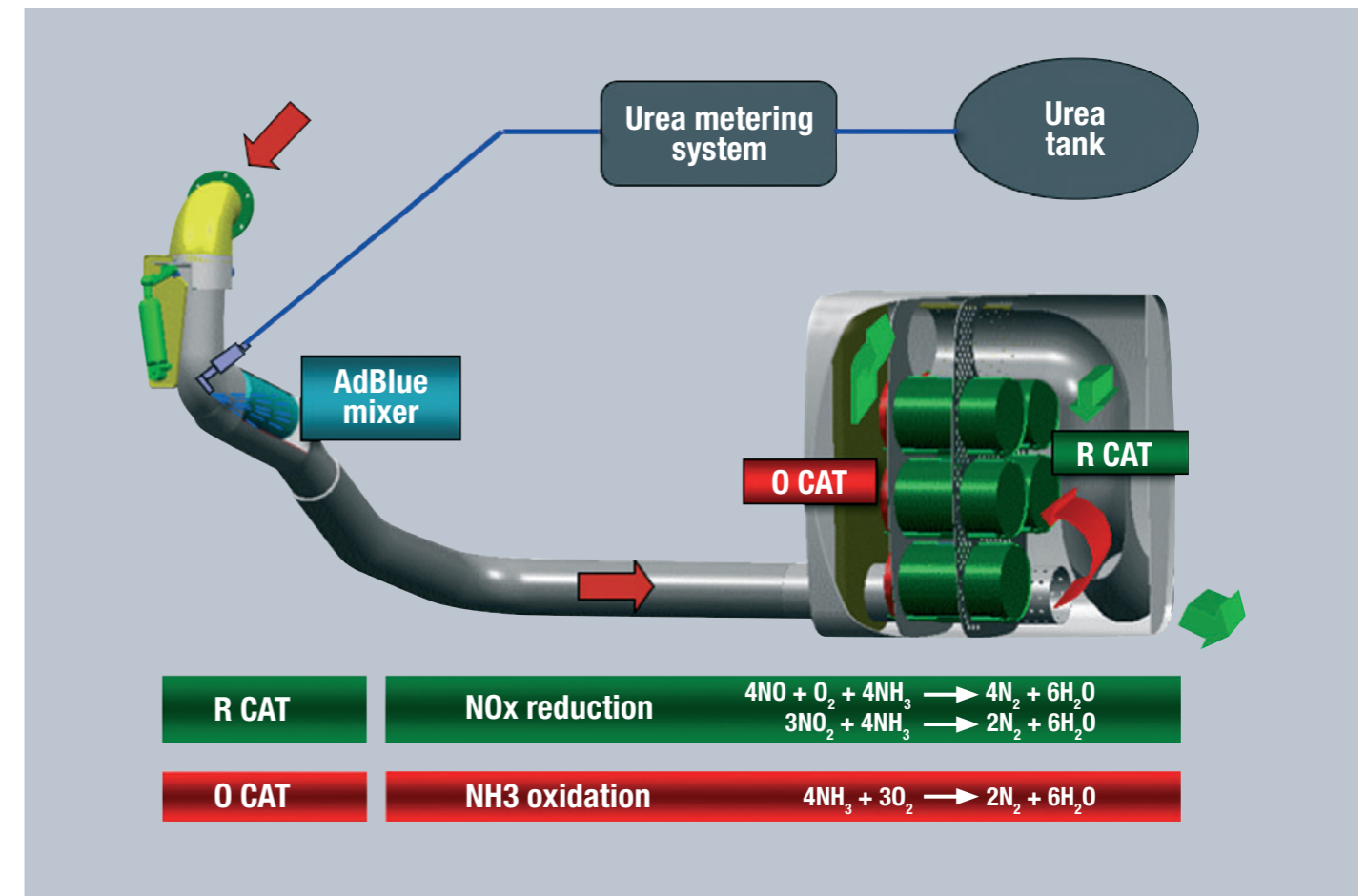


PM-KAT®.

### MAN AdBlue®.

MAN offers the so called SCR technology as MAN AdBlue®. This process reduces nitrogen emissions in an after treatment ceramic catalyst, the SCR Cat. This requires the reducing agent AdBlue, a non-toxic and odourless urea solution. It is sprayed into

the exhaust stream and as a result causes the conversion of the nitrogen oxides to water vapour and nitrogen, which is a natural component of air. This technology achieves a NOx reduction of over 80%.



Function of MAN AdBlue®.

# Powered by MAN.



Construction Applications



Agricultural Applications



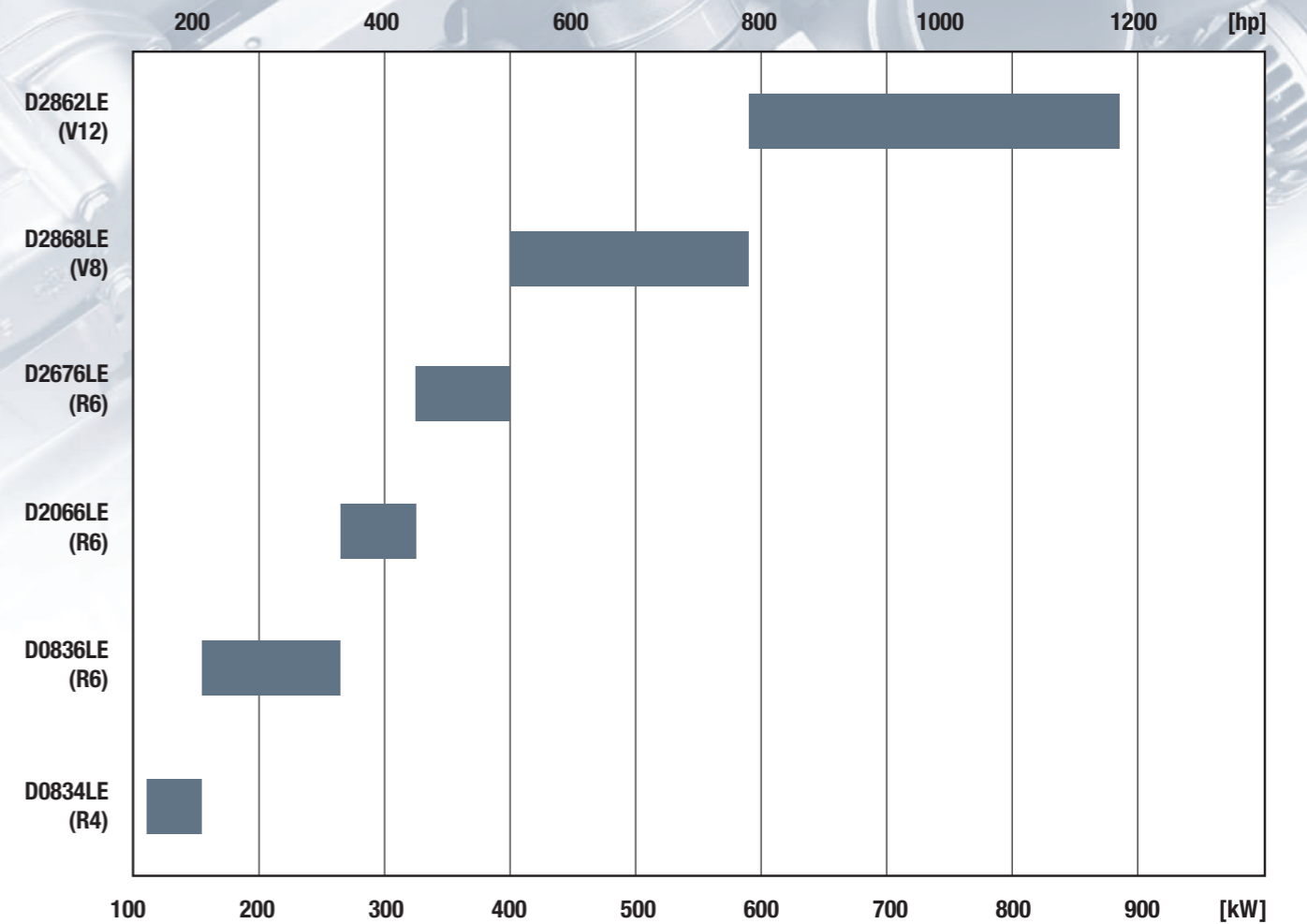
Crane Applications

## A look into the future: EC Stage 3B / 4 and EPA Tier 4.

Know-how and innovation are demanded, when it comes to leading technologies for optimising of operating costs and reduction of CO<sub>2</sub> emissions. MAN non-road diesel engines that

combine Common Rail, EGR, MAN PM-KAT® and SCR-Cat will meet future emission standards according to EC Stage 3B/4 and EPA Tier 4.

Table of ratings



There is an MAN engine for almost every application – whether it is for special vehicles, agricultural or construction machinery. MAN's powerful engines can be adapted to any specific requirement. Of course, at the same time they also comply with exhaust emission standard EC Stage 3A and EPA Tier 3.

Especially in the industrial sector, engines have to meet very special requirements. Whether it is fast load change, economical continuous load or reliable maximum load - MAN diesel engines are very well suited.

Strong MAN diesel engines find their varied application in rail cars and locomotives. Whether it is local or regional transport the engines impress with their power, low consumption and are very environmentally friendly. For shunter locomotives the powerful diesel engines are geared up to cope with many changing load cycles and high low-load demands.

## Powerful back-up too. MAN services.



### **MAN Service.**

MAN's motto is proximity to markets and customers. Throughout Europe some 1,200 MAN outlets ensure full presence. Competent staff who undergo regular training provide MAN customers with qualified advice and fast, expert maintenance and repair.

### **MAN parts management.**

MAN's central spare parts organisation guarantees a reliable supply of parts to its service outlets, the basis for this being a well-stocked parts store and the latest logistics. In emergencies genuine MAN parts can be supplied even more quickly – the MAN express parts service delivers them round the clock.

### **MAN Quality through and through.**

More than 100 years of experience and know-how in building engines are the basis for MAN's excellent reputation. They are reliable, environmentally-friendly, economical and extremely durable. The aim is to achieve 100% quality. MAN operates an advanced quality system geared around DIN EN ISO 9001.

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**A member of the MAN Group**

