

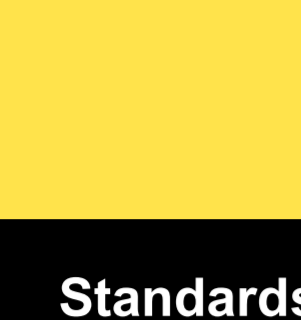


WHAT YOU NEED TO KNOW ABOUT EU STAGE V HYSTER® BIG TRUCKS

Hyster has always been at the forefront of environmental technologies. Here's why and how Hyster has brought Stage V engines into its Big Truck range, leading to 3 big benefits.



1 REALLY LOW EMISSIONS



0-751 HP

Stage V emissions regulations now apply to all engines with up to 751 hp (>560 kW) of power in the EU.



UP TO 52T

Affects all lift capacity lift trucks, container handlers and ReachStackers.

Standards for trucks over 6T lift capacity (>75hp) are different. These are shown below.



0.4g NOx

Diesel engines should reduce nitrogen oxides (NOx) to just 0.4g/kW-hr. This is a 45% reduction*.

0.015g PM

Diesel engines should reduce Particulate Matter (PM) to just 0.015 g/kW-hr, which is a 90% reduction*.

* compared to the previous Stage IV emissions standards.

HOW DID HYSTER DO IT ON BIG TRUCKS?



Hyster used a combination of the following technologies with Mercedes-Benz Stage V engines to achieve these standards:

EGR

Cooled EGR re-circulates a varying proportion of the exhaust gas back to the cylinder. This reduces the oxygen content to a lower combustion temperature resulting in less NOx.

SCR

To neutralize NOx in the exhaust, a urea solution known as diesel exhaust fluid (DEF*) is introduced. The exhaust gasses are mixed in a catalytic converter which reduces the NOx to Nitrogen and Oxygen elements.

DOC

Diesel Oxidation Catalyst (DOC) which is an aftertreatment component that converts carbon monoxide (CO) and hydrocarbons into carbon dioxide (CO2) and water.

PARTICULATE FILTER

To neutralize NOx in the exhaust, a urea solution known as diesel exhaust fluid (DEF*) is introduced. The exhaust gasses are mixed in a catalytic converter which reduces the NOx to Nitrogen and Oxygen elements.

ENERGY SAVINGS

Diesel Oxidation Catalyst (DOC) which is an aftertreatment component that converts carbon monoxide (CO) and hydrocarbons into carbon dioxide (CO2) and water.



2 MASSIVE FUEL SAVINGS

UP TO 20% FUEL SAVINGS*

*Note that while Stage V powered equipment is more expensive than Stage IV equipment initially, the cost of achieving compliance will normally be offset by these lower overall operating costs.

Hyster Big Trucks now use less fuel, and, depending on duty cycle and application, can achieve **fuel consumption reductions of up to 20%** for ReachStackers and our 40-52T lift trucks.

The improved fuel consumption will more than offset the marginal cost increase associated with using ULSD fuel (a requirement), low ash lube oil and particulate filter.

Fuel savings are only part of the story, as better productivity may have a greater impact on the cost per container moved.



3 EVEN MORE PRODUCTIVITY



12% MORE PRODUCTIVE MORE LOADS

With excellent power response, operators can expect **improved equipment productivity** together with the benefit of **cleaner, quieter operation and reduced fuel costs**.

Real-life testing shows that the Hyster ReachStacker can be up to **12% more productive** than a comparable product.

That is **12% more containers** that can be moved in a day reducing the cost per tonne moved.



HIGH TORQUE IN LOWER RPMs



FAST ENGINE RESPONSE



QUIET

A POWERFUL SOLUTION

The way Hyster has approached Stage V means that while the fuel savings are significant, **the productivity of Hyster trucks with Stage V engines is exceptional**. This provides the best balance for businesses, and for their drivers.

Tough Hyster Stage V trucks - perfect for seasonal peaks and tight timescales when trucks are pushed harder.

GET THE WHOLE STORY IN OUR FREE WHITE PAPER CONTAINER HANDLING & THE CO2 ROADMAP



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