

# Dongfeng Cummins chooses MTM Omega cleaning technology for the highend cleaning of crank casings and cylinder heads

## MTM-cleaning technology

MTM develops and produces part cleaning systems for the automotive industry. Numerous systems have been installed in fast-paced production lines for large corporations, such as Daimler Chrysler, Volkswagen, BMW, DAF, etc.

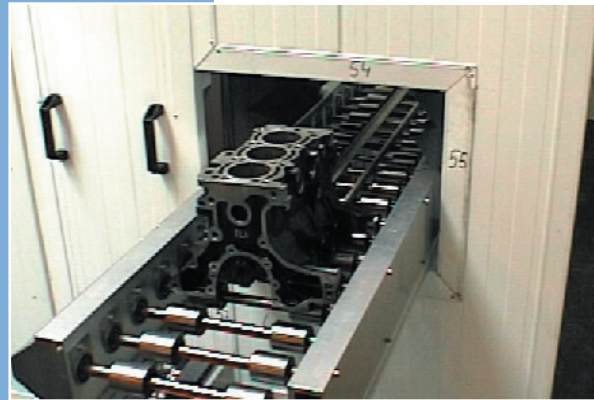
Most recently, Dongfeng Cummins has chosen modern MTM technology. Omega model cleaning machines will be used for highend cleaning of crank casings and cylinder heads in the new motor manufacturing for diesel trucks.



The patented world's first is designed as a space-saving round cycle system with an efficient cleaning chamber technology. MTM's Omega was specifically developed for the extremely high cleaning requirements of the automotive industry for integration into fast-paced manufacturing lines with the shortest cycle times.

Up to twelve procedural steps of aqueous cleaning with the item being rotated, swung or at rest can be integrated, including high pressure deburring (150, 400, 800, 1500 bar) and brush cleaning.

The one-time fixing of the work piece allows precise positioning - lances can be precisely targeted and inserted in deep bore holes.



Crank case on roller conveyor feeding (precesion rolls)

## Manufacturing process

Several manufacturing steps are required in production. After casting, rough work consisting of milling, drilling and turning follows; then there is fine processing with final honing. Frequent positioning and clamping of the components characterize this fully automated manufacturing process, with testing and checking being important intermediate steps. Reliable intermediate and final removal of lubricating coolant, shavings and burrs from components is critical for achieving a demanding product quality with certainty (dimensional accuracy, tolerances, surface quality, etc.) and in the end contributes to the motor's operational safety and durability.



Cylinder heads in the loading device

## Cleaning technology

The MTM cleaning machine guarantees that extreme requirements for residual dirt are specifically met with complex components such as crank casings and cylinder heads.

### Procedural steps:

- loading and unloading
- high pressure deburring with targeted lance technology cleaning; robot-guided if required
- high pressure washing; flood injection principle
- rinsing
- pressure pulse blowing
- vacuum drying.

All applications take place in closed chambers, while the part is rotating. The high pressure cleaning and deburring is adapted to the component for the following areas:

- bed plate side
- cylinder head side
- control side
- oil canals, deep bore holes
- water mantles
- crank shaft bearings
- camshaft bearings

## References:

- Audi
- BMW (rebuilt engines)
- BMW (crank casings with and without bed plate)
- DAF
- DaimlerChrysler
- Deutz AG
- Getrag
- GM FIAT (Opel)
- Honsel
- Hörmann Rawema
- Hydro Aluminium
- MAGNA Steyr
- Mahle
- SAIC Chery
- Shenyang Brilliance