

WATER-COOLED ALUMINIUM EXHAUST GAS TURBOCHARGER



The first worldwide, water-cooled aluminium exhaust manifold

For the new BMW 3-cylinder motor, a water-cooled full-aluminium exhaust gas turbocharger is coming into use. This construction form manages to achieve a high degree of design freedom. Both the exhaust gas side, and the water side, in conjunction with strength calculation, were optimised in such a manner that minimum cooling overhead is created due to a reduction of the wall heat flow. This construction form developed by Handtmann combines significant cost and weight savings with great CO₂ potential, despite cooling overhead. An additional, more significant side effect are the low

exhaust gas temperatures significantly below 850 °C before the catalytic converter and in comparison with non-cooled steel exhaust gas turbochargers. This ensures that catalytic converter ageing can be as good as excluded.

- Exhaust turbine housing incl. Assembly — Integrated waste gate flap
- Exhaust gas inlet temperatures up to 1,050 °C
- Usage in 1.5 l 3-Cylinder gasoline engine

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