PRODUCTIVITY IN THE FAST LANE.

High fuel prices are a constant challenge to our mobile society. Energy-saving solutions are required. Many modern engines are therefore practically unimaginable without a turbocharger nowadays. The majority of modern diesel engines use turbocharging, and increasing numbers of gasoline engines are also being equipped with turbochargers in order to meet efficiency and ecological requirements. Through downsizing, increasingly better performance is being achieved by modern engines in which the exhaust turbocharger also plays an essential part.

The machining of the individual components of a turbocharger makes considerable demands on the machining tools. We meet these demands by coming up with new developments and innovations, and provide a comprehensive range of high-stability cutting materials and tool systems for efficient, economical and process-reliable machining of your components.

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TURBINE HOUSING WITH MANIFOLD

The high-precision manufacture of exhaust manifolds and turbine housings on a machining centre represents quite particular challenges for both tools and machine. decisive machining steps during this process are the milling of the exhaust manifold surfaces and the stress relief grooves, the boring of the main bore and the V-band machining.

TURBINE HOUSING WITHOUT MANIFOLD

Turbine housings without manifolds are usually machined on lathes. The key operations during manufacture are the core drilling of the main bore, the machining of the inner contour and the drilling and tapping of the screw mounting holes.

COMPARISON WITH V-BELT MACHINING PROCEDURE

The machining of the V-band plays a decisive part in the cutting of the individual components. Maximum quality and process reliability are required. In order to achieve this, different approaches can be used when machining the V-band: Circular milling or interpolation cutting on machining centres. Walter provides high-tech tools for both procedures.

Walter Xtra·tec® F4045 heptagon milling tool for machining the surface of the exhaust manifold

With the new, powerful Tiger·tec® Silver indexable inserts (14 cutting edges) the F4045 heptagon milling tool is the perfect tool for roughing the surface of exhaust manifolds.

Walter combination tool for machining the inner contour and the V-band

The inner contour of the turbine housing and the V-band can be machined with absolute process reliability and without tool changes using the Walter combination cutting tool.

Walter combination tool for machining the main bore

The Walter combination tool equipped with Tiger·tec® Silver inserts provides maximum productivity and a high level of process reliability during the machining of the main bore. Tool costs are significantly reduced due to the efficient machining of steps and chamfers in a single work operation.

Walter BLAXX slotting cutter for milling the relief grooves

The Walter BLAXX F5055 milling cutter provides process reliability, productivity and therefore maximum cost-effectiveness when milling the stress relief grooves with a high cutting velocity and high precision.

Walter circular milling tool

During circular milling the cutting speed is defined by the rotational speed of the workpiece and the feed by the circular movement of the linear axes. All of the most popular machining centres provide this option for machining the V-band. In this case, Walter provides a suitable special milling tool version to suit the machine.

Walter interpolation turning tool

During interpolation turning, the cutting speed is achieved by the circular movement of two (or three) linear axes. The spindle rotates at the same angular velocity, meaning that the cutting edge(s) is/are always in action. This is how a turning operation is performed on a machining centre. Through this modern machining process, the V-band is not only manufactured more quickly, but also with a much higher process reliability.

Walter Titex X·treme for machining the screw mounting hole

The solid carbide high-performance drill with XPL coating and internal cooling makes high-precision drilling possible. 4 lands provide maximum drilling quality with impressive cutting data and an equally impressive service life at the same time.

Walter linear tool for milling the screw mounting hole

The Walter step boring bar makes it possible to carry out highly efficient and therefore cost-effective roughing of the inner contour.

Walter linear tool for roughing the inner contour

The Walter linear tool provides maximum productivity and a high level of process reliability during the machining of the V-band. All of the most popular machining centres provide this option for machining the V-band. In this case, Walter provides a suitable special milling tool version to suit the machine.
TURBINE HOUSING WITH MANIFOLD
The high-precision manufacture of exhaust manifolds and turbine housings on a machining centre represents quite particular challenges for both tools and machine. Decisive machining steps during the process are the milling of the exhaust manifold surfaces and the stress relief grooves, the boring of the main bore and the V-band machining.

TURBINE HOUSING WITHOUT MANIFOLD
Turbo housings without manifolds are usually machined on lathes. The key operations during manufacture are the core drilling of the main bore, the machining of the inner contour and the drilling and tapping of the screw mount- ing holes.

COMPARISON WITH V-BELT MACHINING PROCEDURE
The machining of the V-band plays a decisive part in the cutting of the individual operations. Maximum quality and process reliability are required. In order to achieve this, different approaches can be used when machining the V-band: Circular milling or interpolation cutting on machining centres. Walter provides high-tech tools for both procedures.

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With the new, powerful Tiger·tec® Silver indexable inserts (14 cutting edges) the F4045 heptagon milling tool is the perfect tool for roughing the surface of exhaust manifolds.

Walter combination tool for machining the main bore
The Walter combination tool equipped with Tiger·tec® Silver inserts provides maximum productivity and a high level of process reliability during the machining of the main bore. Unit costs are significantly reduced due to the efficient machining of steps and chamfers in a single work operation.

Walter combination tool for machining the inner contour and the V-band
The Walter combination tool equipped with Tiger·tec® Silver inserts provides maximum productivity and a high level of process reliability during the machining of the inner contour and the V-band. It impresses with its rapid machining times and low cost per part and also its extremely high degree of process reliability.

Walter BLAXX milling tool for roughing the inner contour
The Walter BLAXX F5055 milling cutter provides process reliability, productivity and therefore maximum cost-effectiveness when milling the stress relief grooves with a high cutting velo- city and high penetration.

Walter BLAXX milling tool for finishing the inner contour
The Walter BLAXX F5055 milling cutter provides process reliability, productivity and therefore maximum cost-effectiveness when milling the stress relief grooves with a high cutting velocity and high penetration.

Walter Xtra·tec® Indexable Insert Tools
The Primolexi Eco Plus produces the thread in the screw mounting holes of the turbine housing. The combination of the geometry of the tap and the THK coating makes fast cutting speeds possible with a higher tool life at the same time.

Walter Prototex Eco Plus tap
The solid carbide high-performance drill with XPL coating and internal cooling makes high-precision drilling possible. 4 lands provide maximum drilling quality with impressive cutting data and an equally impressive service life at the same time.

Walter Titex X·treme for machining the screw mounting hole
The solid carbide high-performance drill with XPL coating and internal cooling makes high-precision drilling possible. 4 lands provide maximum drilling quality with impressive cutting data and an equally impressive service life at the same time.

Walter circular milling tool
During circular milling, the cutting speed is defined by the rotational speed of the tool. The feed is defined by the circular movement of the linear axes.

Walter interpolation turning tool
During interpolation turning, the cutting speed is achieved by the circular movement of two (or three) linear axes. The spindle rotates at the same angular velocity, meaning that the cutting edge(s) is/are always in action. This is how a turning operation is performed on a machining centre.

Walter interpolation turning tool for machining the V-band
The Walter interpolation turning tool is the perfect tool for machining the V-band. It impresses with its rapid machining times and low cost per part and also its extremely high degree of process reliability.

Walter BLAXX circular milling tool
For machining the V-band, the Walter BLAXX circular milling tool is the perfect tool, since it impresses with its rapid machining times and low cost per part and also its extremely high degree of process reliability.

Walter BLAXX slotting cutter for milling the relief grooves
The Walter BLAXX F5055 milling cutter provides maximum productivity and therefore maximum cost-effectiveness when milling the stress relief grooves with a high cutting velocity and high penetration.

Walter linear indexing tool
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Turbine housings without manifolds are usually machined on lathes. The key operations during manufacture are the core drilling of the main bore, the machining of the V-band and the drilling and tapping of the screw mounting holes. In order to achieve this, different approaches can be used when machining the V-band. Circular milling or interpolation cutting on machining centres.

The inner contour of the turbine housing and the V-band can be machined with absolute process reliability and without tool changes using the Walter combination cutting tool. The Walter combination tool is equipped with Tiger·tec® Silver inserts and provides maximum productivity and a high level of process reliability during the machining of the main bore. This tool is significantly reduced due to the efficient machining of steps and chamfers in a single work operation.

The Walter combination tool equipped with Tiger·tec® Silver inserts provides maximum productivity and a high level of process reliability during the machining of the V-band. Since it impresses with its rapid machining times and low cost per part and also an extremely high degree of process reliability.

The Walter BLAXX milling cutter provides process reliability, productivity and therefore maximum cost-effectiveness when milling the stress relief grooves with a high cutting velarate and high precision. The Walter BLAXX milling tool is designed to achieve this, different approaches can be used when machining the V-band. Circular milling or interpolation cutting on machining centres.

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