STRONG, LONG RUNNERS FOR MACHINING

MODCO® PCD tools:
Precision in mass production.
PCD TOOLS:
PRODUCTIVITY IN
MASS PRODUCTION
FROM MODCO®.

Experienced cutting experts favour PCD tools for machining aluminium and magnesium alloys or composite materials. The benefits of these long lasting diamond tools are obvious: PCD tools from the high-tech brand MODCO® guarantee extremely high precision and process reliability. These tools stand out because of their extremely long tool life, which is greatly increased over that of normal carbide tools.

In addition to the aerospace industry, pneumatic/hydraulic industry and those end users machining cast irons, we have enabled mass producers in the automotive industry to manufacture high-quality components at seriously competitive piece prices through the use of our MODCO® PCD tools and our well-thought out process solutions.

MODCO® PCD tools for economical precision.
Valuable raw materials for productive long runners: PCD discs before being machined into high-quality PCD tool blanks.
Automotive components are manufactured from aluminium thanks to its low weight. We offer a complete PCD tool line for high-precision, economical machining of aluminium alloy components. Our high-tech MODCO®

PCD tools provide significant gains in both quality and productivity in mass production operations. These tools stand out for their extremely long tool life and ensure superior dimensional stability. For aluminium cylinder heads, this means the ultimate in function reliability in conjunction with optimal combustion. For drivers, it means lower fuel consumption and thus also lower CO₂ emissions.

**Walter MODCO® PCD face mill F4050:** finish machining cylinder head compression face.

Thanks to the large numbers of cutting teeth, the PCD face mill F4050 provides extremely high feed rates combined with minimal burr, high-speed milling. Optimum runout, high-quality surface finish, and an extremely long tool life are just a few of this powerful tool’s outstanding features.

**Walter MODCO® PCD precision boring tool:** machining the camshaft bearing channel

The PCD indexable inserts of this high-quality tool fulfil the highest demands in terms of coaxiality and tool life. The user can thereby fulfil his high quality requirements with confidence.

**Walter MODCO® PCD precision boring tool:** machining the valve guide and seat

The seat cutting element ensures gas tight seals and dimensional stability of the valve seats. The PCD reaming tools produce a technically perfect valve guide, shortening cycle times by the use of multiple cutting edges.

**Walter MODCO® precision boring tool:** machining the spark plug bore

Equipped with precision adjustment PCD indexable inserts for extremely accurate drilling, this precision tool is ideal for drilling spark plug bores for economical mass production.
**GEARBOX HOUSING**

Today, housings for high-performance gearboxes are generally made of hypoeutectic aluminium or magnesium alloys. This presents challenges for machining applications in that it means keeping to complex datum dimensions and minimising machining times. With the powerful PCD tools from our high-tech brand MODCO®, we offer our customers a high-quality tool range for accurate and economical complete machining of these complex components.

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**Walter MODCO® PCD monoblock milling cutter: roughing and finishing**

A powerful PCD monoblock tool for face milling. Available as semistandard up to a 250 mm diameter, the face mill ensures perfect runout, excellent surface finish quality and very high feed rates.

**Walter MODCO® PCD precision boring tool: finishing processes for multi diameter bores**

Multi diameter bores on the gearbox housing can be machined without tool changes when this PCD precision boring tool is used. Depending on your requirements, they are available in an extremely wide variety of different models and in a flexible range of cutting teeth. This means that tool changes are omitted and cycle times are shortened considerably.

**Walter MODCO® PCD precision drilling and boring tool: drilling holes**

Extremely precise holes can be produced in the gearbox housing with this PCD precision tool; and also in terms of a really long tool life, this tool can fulfil all your requirements.

**Walter MODCO® PCD circular mill: thrust face finishing**

A powerful, efficient and impressive PCD tool for an ultra-long tool life and excellent dimensional stability in thrust face finishing processes. Enables cost efficiency in mass-production operations.
Today, composite materials are used in almost all industrial sectors. They are very lightweight and very durable. The automotive industry, and in particular the aerospace industry, benefit from the advantages of composites. In machining, however, these materials do present a challenge. MODCO® PCD tools from Walter are the cost-effective alternative for the reliable and efficient precision machining of components made of CFRP/GFRP materials. MODCO® PCD tools offer a reduced risk of delamination, very good tool life and a high dimensional stability.

Components made of abrasive composite materials, such as those used in aircraft construction, can be easily machined with the Walter MODCO® PCD shank mill. Longer tool life and maximum precision are therefore guaranteed.

The reconditionable Walter Titex PCD twist drill offers you longer tool life and process reliability even with high cutting data.

The PCD rivet countersink from Walter Titex, with spiral PCD drill point and PCD chamfering edge, is optimised for composites and is capable of the two operations. Thanks to a tool geometry with reduced cutting force, there is virtually no fraying during drilling and chamfering in CFRP and GFRP materials.
As the original manufacturer, we have many years of experience in PCD process consulting. Based on your CAD drawings and your machinery pool, we are able to develop the right machining process with the right PCD tools. Our experts commission the tools on site or in the Walter Technology Center. We are also there for you anytime to provide help and advice after mass production has started.

With the Walter Xpress Service, you have access to a special range of high-quality, brazed PCD special tools. We adapt all tool parameters within the Xpress framework to the task you have in mind. In 90% of applications, you receive a highly efficient semistandard tool.

With original process PCD reconditioning, we reduce tooling costs by up to 50% through resharpening, reconditioning and re-equipping. The result is up to 100% tool life and performance!

Reducing the tool costs by regrinding

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