

Handling notes for PCD face milling cutters – System Eco

To achieve optimum surface finishes during face milling it is essential that all the inserts run perfectly axially. On the face milling head system series (EcoMill, EcoMill-Blue, RapidMill-Blue and FlyCutter), MAPAL uses a special setting system. Using a highly precise wedge adjustment, the axial run-out can be set effortlessly to the required μ range. Features of this system are the accuracy obtained in conjunction

with the simple handling.

For straightforward, convenient, quick and precise setting, it is recommended to use a MAPAL setting fixture. For example, using the UNISET-P with a measuring probe* the axial run-out can be set straightforwardly and to the μ in record time.

Changing and setting PCD milling cartridges

Requirements:

The milling cutter is clamped on the setting fixture and the milling cutter clamping screw/coolant screw is tightened (see table "Tightening torque for milling cutter clamping screw/coolant screw" on page 305).

Note:

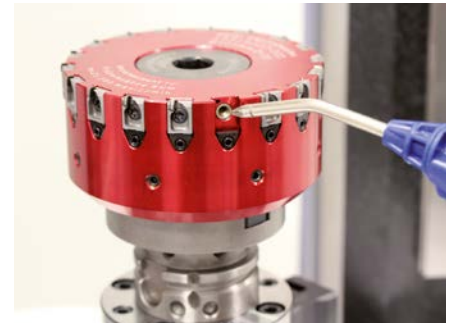
Only for trained personnel.



1. Turn the threaded spindle one turn counter-clockwise using a hex-wrench with a wrench size of 2.5.



2. Undo the clamping screw for the milling cartridge and remove upward out of the dovetail guide.



3. Clean the seat for the milling cartridge using compressed air and then insert the new milling cartridge into the dovetail guide from above.



4. **Note:**
Press the milling cartridge lightly while tightening such that the adjusting wedge is in contact.

Fit the clamping screw** for the milling cartridge and tighten clockwise to 1-2 Nm.

Note:

Clean all cutting edges on the milling cartridges using a cleaning mass to prevent measurement inaccuracies.



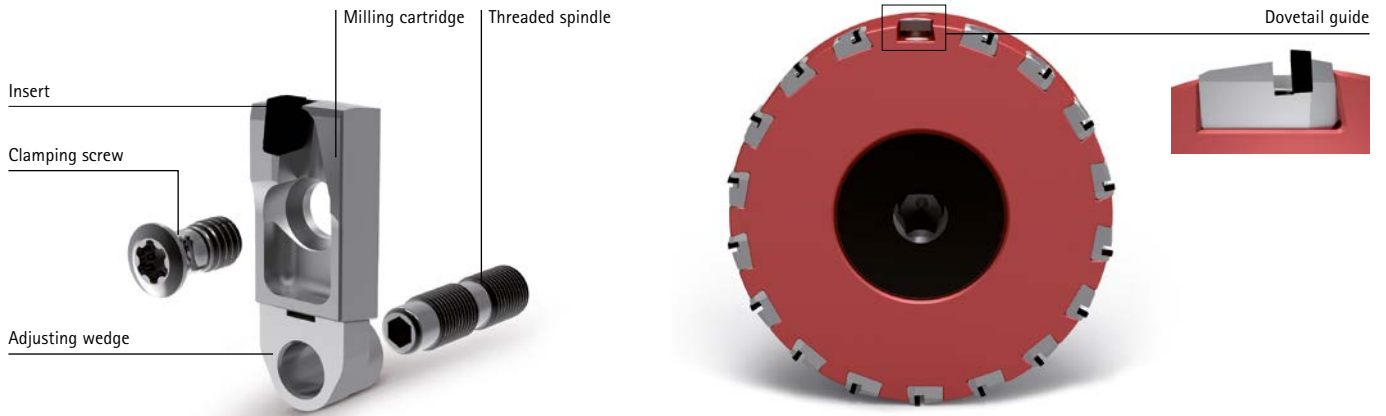
5. Using the optical setting fixture, set a milling cartridge -0.01 mm in front of the setting dimension EM: For this purpose reach the cutting edge using the optical measuring device and using a hex-wrench turn the threaded spindle clockwise until EM = -0.01 mm is reached. For purely optical setting, repeat this process for the remaining milling cartridges (then continue with step 7).



6. Position the dial gauge on the milling cartridge and set to zero. Using the dial gauge set the milling cartridges to -0.01 mm in front of EM: For this purpose turn the threaded spindle clockwise using a hex-wrench until the zero dimension is reached.

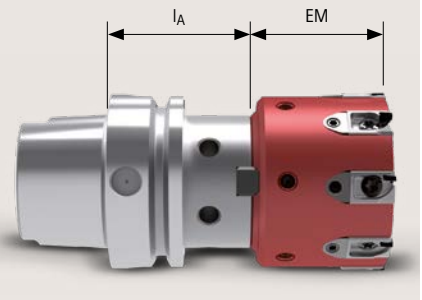
* While optical systems reach their limits when it comes to setting to the μ , high-precision setting of the axial run-out can be realised without problems with the aid of the tactile measuring probe.

** Please pay attention to the information on page 276 on the usage of the clamping screw.



Note:

Refer to the related product pages for the setting dimensions. The setting dimension EM relates only to the milling cutter's tool body incl. milling cartridges. If a milling cutter with connection is set, the height of the connection l_A must always be taken into account. In this situation the setting dimension is l_A+EM .



7. Note:

The measuring probe must not sit on the milling cartridge during this action.

Tighten the clamping screw for the milling cartridge clockwise using a torque wrench (for tightening torque see table "Tightening torques for clamping screws").

8. Using the setting fixture, establish the milling cartridge with the highest protruding cutting edge and set the dial gauge to zero. Set all milling cartridges in relation to the highest protruding cutting edge using a dial gauge:

For this purpose turn the threaded spindle clockwise using a hex-wrench until the zero dimension is reached (tolerance $\pm 2 \mu\text{m}$).

Tightening torque for clamping screws

Clamping screw Order No.	Dimensions	TORX®-/TORX PLUS® drive size	Tightening torque [Nm]
30696524	M5x11	TX25	8
30412229	M4x8,5	15IP	5
30499981	M5x8	TX25	8

Tightening torque for milling cutter clamping screw/coolant screw

Clamping screw Order No.	Milling head diameter [mm]	Dimensions	Wrench size	Tightening torque [Nm]
30543340	50	M10	SW 8	20
30543341	63	M10	SW 10	50
30543342	80	M12	SW 12	80
30543344	100	M16	SW 14	100
30543345	125	M20	SW 14	200
10006594	160	M12	SW 10	70
10007775	200 - 400	M16	SW 14	70