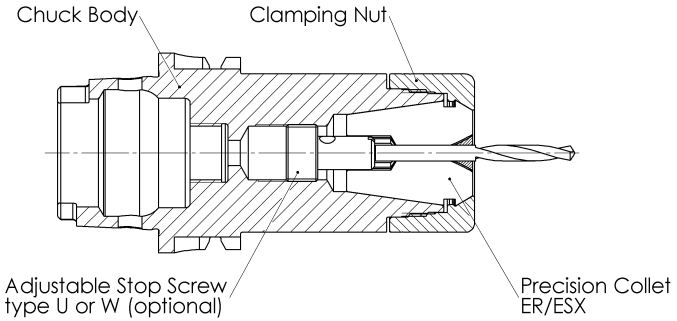
Operating Instructions
Chuck Mini Precision MPC. Dynamic Performance DPC and Full Performance FPC

Please pay attention to the fact that **MPC/DPC/FPC** is a precision chuck system, and **constructed to clamp nominal diameters only, in order to achieve highest possible system accuracy and optimum stability!**

1. Design



2. General hints

In order to guarantee the system accuracy of 3µm, original FAHRION Precision Collets DIN ISO 15488 (ER/ESX) GERC-HP /-HPD/-HPDD must be used, since they are perfectly matched to the chuck.

Clamping of shanks with H10 tolerance without loss of accuracy and clamping force is provided.

Taps can be clamped in standard collets as well as in FAHRION tap collets GERC-GBD/-GBDD.

3. Tool length pre-setting

Tool length pre-setting is possible from the front as well as from the rear through the chuck body.

In order to clamp the cutting tool in the optimum position (i.e. as short as possible, but as long as necessary), we offer two types of adjustable stops as options:

- type U, for long tool shanks that go through the collet into the collet chuck and
- type W, when the tool shank ends in the collet.

4. Coolant supply

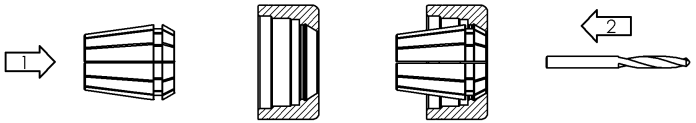
MPC/DPC/FPC with adaptor DIN 69871, MAS/BT and CAT are supplied in form AD or AD/ B. In the case of AD/B the delivery condition is form AD (centrally through the pull stud). If form B (coolant supply through the collar) is required, the two grub screws at the Vee flange must be screwed out, however, they must still remain in the chuck body.

In some AD/B versions the grub screws have to be screwed out completely for form B.

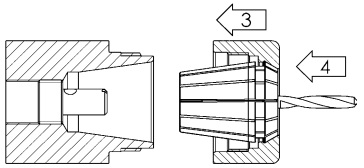
5. Clamping of the cutting tool

The clamping nut and the seal should be checked and if necessary cleaned before inserting. The utmost cleanliness must be ensured in order to guarantee high concentricity.

- Press the collet axially into the clamping nut until the collet head clips into the extraction groove (note: no eccentric).



- Position the cutting tool into the collet. The shank of the cutting tool must be clamped by at least 3/4 of its length (full length in the case of smaller diameters), as otherwise, there may be problems with concentricity or the clamping of the clamping nut.
- Length pre-setting from the front with screw driver/socket wrench if a stop screw is used.
- Screw on the clamping nut **by hand** loose on the chuck body.



- Insert the cutting tool to the correct length or until it reaches the stop. In the case of short chucks, make sure that the cutting tool does not contact the chuck at the rear, as otherwise the concentricity will be impaired.
- Alternatively, length pre-set from the rear with T-handle hex wrenches (only if a stop screw is used).

6. Clamping

We recommend the use of a torque wrench with the corresponding roller bearing head for clamping to achieve the optimum clamping force, particularly for milling.

Chuck type	Fitting Wrenches		Fitting Collets
	Wrenches	Heads for Torque Setting Wrenches	
MPC8	ROD10	–	® GERC8-HP
MPC11 | MPC11C	RH16	DRH16 (9x12 mm)	® GERC11-HP/-HPD/-HPDD
MPC16| MPC16C	RO22	DRO22 (9x12 mm)	® GERC16-HP/-HPD/-HPDD/-GBD/-GBDD
MPC16T	RO24	DRO24 (9x12 mm)	
DPC16	RO30	DRO30 (14x18 mm)	
DPC20	RO32	DRO32 (14x18 mm)	® GERC20-HP/-HPD/-HPDD/-GBD/-GBDD
DPC25	RO40	DRO40 (14x18 mm)	® GERC25-HP/-HPD/-HPDD/-GBD/-GBDD
DPC32 | FPC32	RO50	DRO50 (14x18 mm)	® GERC32-HP/-HPD/-HPDD/-GBD/-GBDD
DPC40 | FPC40	RO63	DRO63 (14x18 mm)	® GERC40-HP/-HPD/-HPDD/-GBD/-GBDD

The maximum torques can be read below and on the clamping nuts. Please note, however, the smaller the diameter to be clamped, the smaller the clamping torque required.

In the case of finishing operations we recommend tightening the clamping nut to 50-70% of the maximum tightening torque in order to achieve the optimum machining results by means of higher cushioning; otherwise, the following maximum tightening torques – referenced to the diameter to be clamped – can be used.

Clamping torques (M_a) for clamping nuts MPC/DPC/FPC

Type	Ø	max. Ma	Ø	max. Ma	Ø	max. Ma	Ø	max. Ma
MPC8	1,0-5,0	8 Nm	-	-	-	-	-	-
MPC11 | MPC11C	1,0-2,5	10 Nm	3,0-7,0	10 Nm	-	-	-	-
MPC16 | MPC16C	1,0-4,5	20 Nm	5,0-10,0	30 Nm	-	-	-	-
MPC16T	1,0-4,5	30 Nm	5,0-10,0	80 Nm	-	-	-	-
DPC16	1,0-4,5	30 Nm	5,0-10,0	80 Nm	-	-	-	-
DPC20	1,0-5,5	40 Nm	6,0-13,0	80 Nm	-	-	-	-
DPC25	1,0-5,5	40 Nm	6,0-16,0	90 Nm	-	-	-	-
DPC32 | FPC32	2,0-5,5	40 Nm	6,0-15,5	120 Nm	16,0-19,5	140 Nm	20,0	180 Nm
DPC40 | FPC40	3,0-9,5	70 Nm	10,0-19,5	180 Nm	20,0-26,0	200 Nm	-	-

7. Balancing

Most of the MPC/DPC chucks are balanced as standard to G2.5 at 25.000 rpm or U ≤ 1 gmm and FPC to G6.3 at 18.000 rpm or U ≤ 1 gmm.

In cases where the balancing quality is relevant to safety or is prescribed by the machine manufacturer, the complete clamping system including the cutting tool must be checked for unbalance and rebalanced if necessary.

8. Changing the cutting tool

A roller wrench with a handle should be used to open the clamping nut. It is not recommended to open the clamping nut with a torque wrench.

It must be ensured that there is no swarf or dirt on the surfaces of the collet, which could negatively influence the system accuracy and damage the collet.

9. Changing the collet

When loosening the clamping nut the collet is extracted out of the chuck body. Having removed the cutting tool from the collet, lateral pressure to the collet will aid removal from the clamping nut.

10. Safety

Be aware of the safety instructions of the machine or other tools used! **Never** work with open machine door, especially at high speed or when using HSK tapers. Collisions at high speed could result in breakage of the cutting tool or collet chuck causing serious injury.

In cases where the balancing quality is relevant to safety or is prescribed by the machine manufacturer, the complete clamping system including the cutting tool must be checked for unbalance and rebalanced if necessary.

11. How to solve possible faults?

Fault	Cause	Elimination
unacceptable tool runout	dirt/swarf in chuck body, clamping sleeve, clamping nut or at the tool shank	clean all parts intensively and care for absolute cleanness
	cutting tool itself is inaccurate, for example long drills	check cutting tool accuracy
	tool shank is not clamped sufficiently, minimum 3/4 (at small Ø completely) of the clamping length of the collet	tool shank to be inserted the whole length of the collet resp. insert to the adjustable stop screw
	tool shank contacts the chuck (possible especially with short chucks)	pull the cutting tool out a little
	a worn, damaged or third party collet is in use	always use new original FAHRION precision collets
	bearing in the pre-setter or in the accuracy check machine is not o.k.	
unacceptable tool runout after automatic tool change	bearing problem in the machine	check the concentricity in the collet closing taper (without collet)
	internal cone of the machine is worn or there is dirt/swarf	
	automatic tool changer is not aligned to the machine spindle	clamp chuck by hand to check
no coolant comes through the tool	coolant bores in the chuck, stop screw or the coolant supply of the machine are impaired.	clean the coolant bores with a cleaning medium (not acidic, because of the rust)

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