Operating Instructions
Adjustable Finishing Chuck AFC

Foreword

These operating instructions will help you to use the Adjustable Finishing Chuck AFC, which are suitable for the universal and high-precision use, both

- as intended
- and safe.

Before using them, please read the operating instructions and keep them at hand for the operating personnel.

If you do not understand individual pieces of information in these operating instructions or if there is a lack of information, ask your responsible contact person or contact us.

1. 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.

2. 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.

3. Coolant supply

AFC 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.

4. Clamping of the cutting tool

Fig. 1 –
Mount the clamping nut with the collet

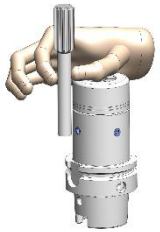


Fig. 2 –
Determine the insertion depth

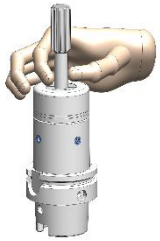


Fig. 3 –
Insert the tool and tighten the clamping nut by hand

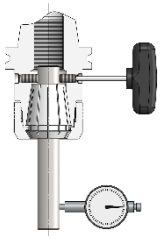


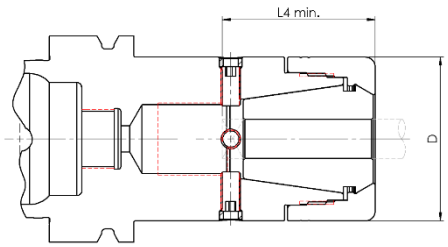
Fig. 4 –
Adjusting screw (threaded pin)

- Before inserting the tool, turn the threaded pins outwards as far as they can go (to the left, counter clockwise).
- Click the collet into the clamping nut.
- Screw the clamping nut with the collet slightly onto the chuck body.
- Insert the tool so far that the shank end is in the area of the adjusting screws (threaded pins) (see Fig. 1 to 3). Minimum insertion depth L4 see table on page 3.
- Tighten the clamping nut to the specified torque. Tightening torque see table on page 3.
- In order to achieve optimum concentricity, the AFC should be set directly in the machine spindle. Only in this way can possible concentricity deviations of the chuck and machine spindle as well as change errors of the interface be completely eliminated.

Adjustment in µm increments up tot he desired concentricity result:

1. By turning the tool holder, determine the point with the worst concentricity.
2. Turn clockwise on the threaded pins opposite the point of maximum deflection (Fig. 4). With increasing (progressive) torque, adjust the concentricity in µm increments.
3. After adjustment, loosen the screw again and check the concentricity.
4. Repeat points 1 to 3 until the desired concentricity is set.
5. When the desired result has been achieved, tighten all adjusting screws slightly, the chuck is then ready for use.

5. Technical advice (Minimum insertion depth):



Clamping-Ø (in mm)	Minimum insertion depth L4 (in mm)	Designation	Tightening torque clamping nut (in Nm)	D = Key-Ø (in mm)
7–16	43	AFC25	60	40
7-15	47	AFC32	70	50
16-20			100	
7-15	55	AFC40	80	63
16-26			110	

6. Safety

In order to ensue the reliable use, the following instructions and technical data must be observed!

During the assembly:

⚠ The tools may have sharp cutting edges and can cause cuts.
Wear protective gloves for tool change!

When used under rotation, protective covers according to EC Machinery Directive must be considered.

⚠ Only use pull studs and holders that are suitable for the machining spindle.

During machining:

⚠ Observe the recommended cutting speeds of the tool manufacturers.

⚠ 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.

The maximum speed must never be exceeded.

⚠ Do not continue machining if vibrations or chattering can be noticed.

⚠ Never touch the chuck or the cutting tool while the spindle is running.

⚠ In cases where the balancing quality (standard G6.3 at 18,000 rpm or U ≤ 1 gmm) 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.

General notes:

Intended use:

AFC is a precision tool and must be handled carefully accordingly. Avoid mechanical, chemical or thermal influences beyond the loads of the intended use.

Clamping tools and inserting the collet into the chuck may only be performed by technically trained personnel. In this connection, the technical data of the chuck must be observed.

7. Care and storage

Store AFC and its components in a cleaned and slightly oil condition.

The factory-provided lubricant/preservation film must not be removed on the inside of the clamping nut. In order to maintain the clamping nut, we recommend to rub it using a soft cloth without solvent-containing cleaning agents.

Basically, in the case of heavy incrustations, the chuck bodies and collets can also be cleaned in solvents.

If the clamping nut is cleaned in solvents, the trapezoid thread must subsequently be treated with suitable lubricant.

We recommend Hölterol LW 1362.

⚠ When cleaning, avoid permanent contact with aggressive and solvent-containing chemicals/ cleaning agents.

Solvents are, for example, contained in: Benzine, thinner, brake cleaner etc.

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