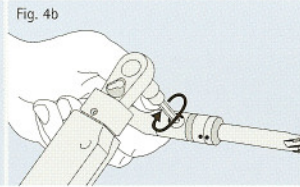
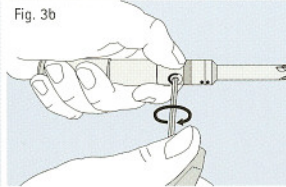
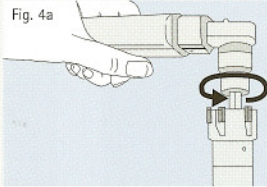
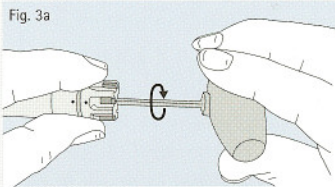
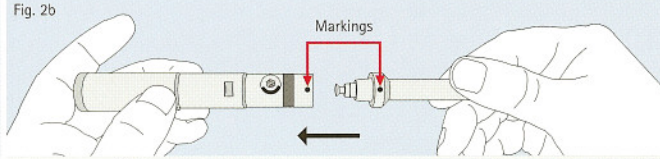
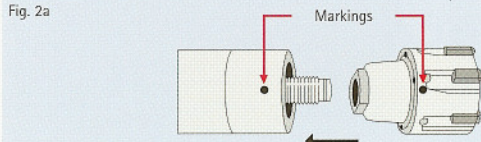
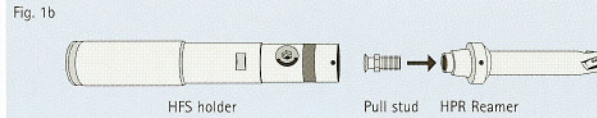
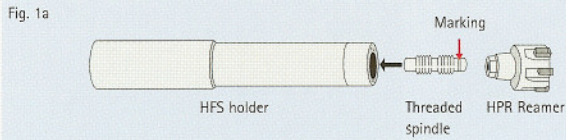


Notes on Handling

MAPAL HFS® with axial clamping system

MAPAL HFS® with radial clamping system



Cleaning

Clean all individual parts. Check that the internal and external taper and the surface of the HFS taper are free of foreign bodies (e.g. chips). To clean the internal taper on the HFS holder we recommend the special taper cleaner (see Accessories page 110).

Tightening

1. Introduce the end of the threaded spindle without any marking into the HFS holder. Do not screw on! (see Fig. 1a). Centering in the HFS holder is by means of the spigot at the end of the threaded spindle.
2. Place the HPR reamer on the threaded spindle. (see Fig. 2a).
3. Align the markings (see Fig. 2a) on the HPR reamer and the HFS holder: "Dot to Dot" and hold both parts.
4. Screw the HPR reamer and the HFS holder together with the hexagonal key and tighten firmly. Check that the markings are aligned and the face surface is correct. (see Fig. 3a).

Note: HPR 100, 110, 150 are tightened by the reamer. The direction of rotation is in the clockwise direction. HPR 120, 121, 130, 131, 180 are tightened by the holder. The direction of rotation is in the counter clockwise direction. The directions of rotation are indicated on the HFS holder.

5. Recommendation: Tighten the reamer with a torque wrench in clockwise direction. (see Fig. 4a). Recommended clamping torque:

HFS 10	4 Nm
HFS 12 and 14	6 Nm
HFS 16 and 20	15 Nm
HFS 24	20 Nm

The holders are marked with the corresponding clamping torques.

Release

1. To release, turn in the opposite direction (see Fig. 4).

Tightening

1. Screw in the pull stud with the threaded side into the reamer. (see Fig. 1b). Attention: Left-handed thread!
2. Introduce the reamer into the holder completely. (see Fig. 2b). In doing so, align the markings on the HPR reamer and the HFS holder: "Dot to Dot".
3. Screw the clamp bolt with the hexagonal key in clockwise direction. (see Fig. 3b). The direction of rotation is shown on the holder.
4. Recommendation: Tighten clamp bolt with torque wrench in clockwise direction (see Fig. 4b). Recommended clamping torque:

HFS 12 and 14	7 Nm
HFS 16 and 20	12 Nm

The holders are marked with the corresponding clamping torques.

Release

1. To release, turn the holding pin counter clockwise as far as it will go. The reamer will then be ejected.