

## ETP HYDRO-GRIP BI OPERATING INSTRUCTION

### Description

ETP HYDRO-GRIP BI for interchangeable assembly and pressurizing with an Allen T-wrench. The sleeve has a thread and a locking nut and several tools can be mounted simultaneously on the same sleeve. It is designed and manufactured to a spindle tolerance of g6 and a tool bore tolerance of H7.

### Remember!

ETP HYDRO-GRIP sleeves **MUST ONLY** be pressurized when mounted on a spindle of the correct size and tolerance **AND** completely covered with tools or spacers. Failure to follow these assembly instructions may result in permanent and not repairable damage to your sleeve.

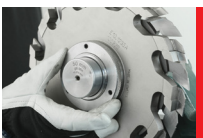
A normal balanced (G 6.3) sleeve and tool unit can be used up to a maximum speed of 9,000rpm.



### Assembly



**1.** The tool and the hydro sleeve must be thoroughly cleaned, removing all traces of grease and other impurities.



**2.** Mount the tool/s and spacers onto the hydro sleeve, tighten the locking nut lightly in order to keep the tools closed to each other.



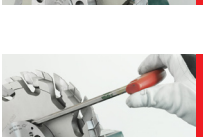
**3.** Mount the whole unit onto the grinding machine spindle. Pressurize the sleeve by turning the Allen T-wrench a few turns to approx. 2 Nm (1,5 ft lbs) until you feel the tools are centered.



**4.** Tighten the screws (hexagon socket head, 3mm) uniformly in the locking nut. Required torque 3-4 Nm (26-35 lbf.in). Thin tools or longer sleeves (+ 120mm, 4 3/4") 6-8Nm (53-70 lbf.in)



**5.** Tighten the pressurizing screw until it stops, max 10 Nm (7.4 lbs). Any higher tightening force will not increase the fastening force.



**6.** Grind the tool



**7.** Release the pressurizing screw with an Allen T-wrench. Remove the tool unit from the grinding machine and it is now ready to be installed on the machine.

### Attention!

Prior to installation on the machine ensure that the spindle is free from all traces of grease and other impurities.

ETP HYDRO-GRIP type BI can also be used without a ring nut as long as the tool is secured with locking screws through the flange of the sleeve.

### Safety instructions

A) A retaining device must always be fitted to the end of the machine spindle, either a locknut on spindles with threaded ends (but axial loads must not be applied) or a slotted safety ring on plain spindles.

B) The screws securing the tool to the sleeve must always remain in position and fully tightened. They should be securely bonded using, for example Loctite.

C) Any machining of the sleeve must only be carried out in accordance with fully approved, written instruction from ETP.

D) Carrier is to be used together with ETP HYDRO-GRIP. ETP HYDRO-GRIP has two carrier holes and some dimensions have additional threaded holes for carrier pegs.

### Cleaning instructions

Ultrasonic cleaning is in general not recommended as this may force cleaning emulsion into the pressurizing system. We recommend a quick wash in max 80°C (175°F) emulsion, containing anticorrosion medium. After cleaning the pressurizing screw should be lubricated with molybdenum disulfide grease.