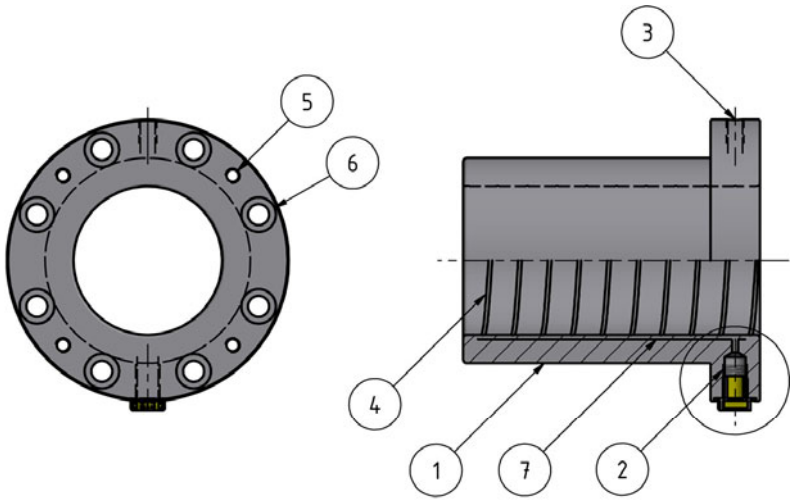
ETP Transmission AB

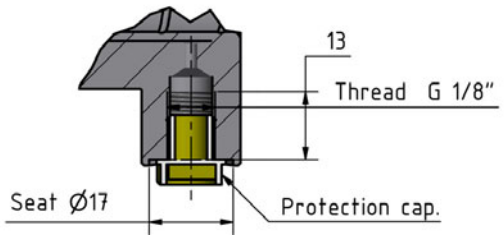
Technical Manual

ETP-OCTOPUS

Content

Technical parts description





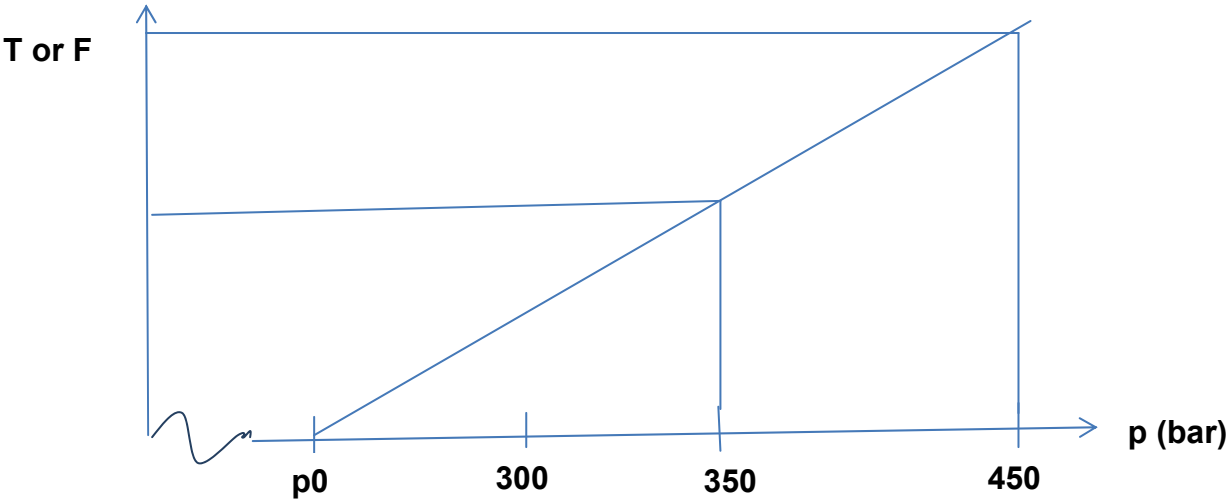
1.	**Double-walled hardened steel sleeve** With the same characteristics as for ETP-CLASSIC. The outer sleeve is thick and will not be used for locking anything.
2.	**Pressure setting inlet** Threaded G 1/8” connection for the pressure hose from the hydraulic pump. We do not supply any pump or hydraulic parts for the system.
3.	**Air release screw** A screw, M6, pressing on a steel ball. When the system is pressurized the first time the screw is opened slightly to let out air.
4.	**Spiral tracks** These are on the surface in contact with the shaft, to improve the lubrication during sliding and to reduce affect of impurities on the surfaces.
5.	**4 threads M6** For locking of a scraper, if used. We do not supply any scrapers.
6.	**Hub locking bores** The hub is fastened with screws to the flange with these pre-bored holes.
7.	**Pressure medium** All types of hydraulic oil can be used.

Mounting/dismantling tips

Locking & unlocking

Comments to the instruction which is enclosed with each ETP-OCTOPUS:

- All the contact surfaces should be cleaned with a solvent for max. torque capacity. Also remember to clean the surfaces coming into contact in the screw joint where the hub is connected to ETP-OCTOPUS.
- A thin oil on the surfaces will reduce the torque capacity slightly, but is necessary for frequent movement to avoid wear.
- Do not forget to evacuate the air in the hydraulic system by opening the air release screw. When opening the position of the air screw should by higher up than the rest of the system. Open carefully, cover the opening with a cloth and use safety glasses. It is enough if the pressure is 50 bar.
- The total time for clamping depends on the capacity of the pump used, the length and elasticity of the hydraulic hoses and if several hubs are locked simultaneously.
- We recommend the use of a scraper in case impurities on the sliding surfaces could cause damage to the surfaces.



- The transmittable torque T or force F are linear with the pressure when contact has been reached (p0) to the shaft.
- The value for p0 (torque or force are 0) depends on the play and tolerances of the shaft and bore of ETP-OCTOPUS.
- For each pressure level there is a certain amount of pressure cycles ETP-OCTOPUS can stand before getting fatigued, consult the brochure for these numbers.

Design examples/tips

ETP-OCTOPUS often is used as a base for customized designs. Dimensions like length and diameters can be varied a lot. The connections can also be made in the axial direction.

For frequent or long sliding distances ETP-OCTOPUS can be plated with Aluminium Bronze on the inner diameter. This make the surface less sensitive for wear.

Nickel plated shafts are the best from a wear point of view because of reduced friction.

FAQ

How do we find a suitable pump?

Most machinery where ETP-OCTOPUS is designed in already have a hydraulic pump integrated in the machine.
If not so we recommend to contact a company able to design and supply a suitable hydraulic system

Which bore sizes of ETP-OCTOPUS can be supplied?

The brochure lists sizes up to 100 mm. At least shaft sizes up to 250 mm can be made as customized designs.

What is meant by "for these torque values the screw joints sets the upper limit for the torque" as written in the brochure?

If the hub locked onto ETP-OCTOPUS is subject to a torque, the transmission of the torque is done with friction locking at two places: in the screw joint against the flange of ETP-OCTOPUS and between ETP-OCTOPUS and the shaft.
If just the torque is high enough it will slip at any of these two areas. In most cases the flange connection (screw joint) is stronger than towards the shaft. For some dimensions however the weakest area is the screw joint and thus setting the upper limit for the torque which can be transmitted.

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