

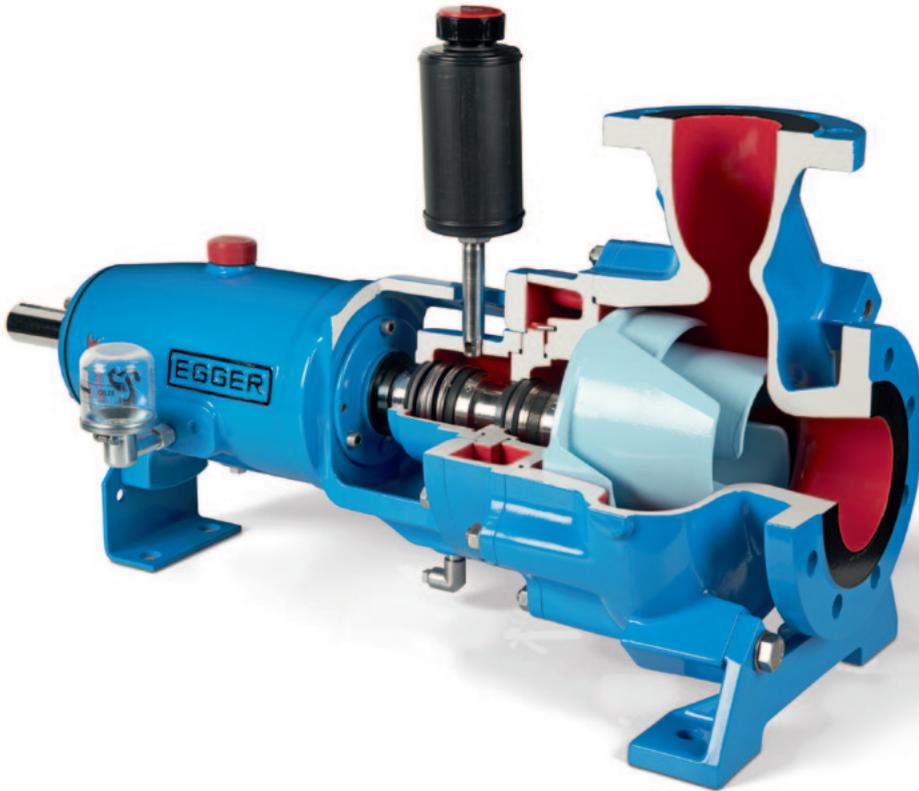


# Windsor Pump Co.



## Hybrid Pumps TEO

Patented Vortex Pump with a hybrid impeller. Combines the advantages of our semi-open impeller with those of a Turo® Vortex impeller.



### Applications

- Grinding oil emulsions with a high content of air
- Emulsions with chips
- Coolants
- SiC slurries in the solar industry
- Sewage sludge in the wastewater technology

### Features

- Stable suction characteristics during the transport of fluids with up to 10 % gas content
- Interchangeability with a Turo® Vortex impeller

### Facts & Figures

Nominal dimensions: DN 32–80 mm  
1¼–3"

Flow rate: up to 35 l/s  
550 US gpm

Differential head: up to 30 m, 100 ft

Pressure: up to 10 bar, 145 psi

Temperature: up to 80 °C/175 °F



Typical mounting of hybrid seal-less pumps in cantilever design. Especially suitable for slurping mode in pits and tanks and suitable for unlimited dry running.

### Advantages

#### Transport of fluids with high gas content and large diameter solids

The patented hybrid impeller is a mix between the proven Turo® Vortex impeller and the semi-open EO impeller and combines the advantages of both hydraulics. Hybrid pumps transport fluids with up to 10 % gas content unaffected by process conditions, without stalling and have at the same time a large open spherical channel.

#### Egger modular system

TEO Hybrid impellers are fully integrated into the proven Egger modular system and can be replaced without any modifications by a Turo® Vortex impeller.

#### High efficiency with viscous fluids

With increasing viscosity, the pressure and flow rate drop are significantly lower with hybrid pumps than with Vortex pumps.

#### Safe operating performance

The excellent suction and stable pumping characteristics of the hybrid pumps provide a very safe operating performance when installed on pits and tanks.

#### Slurping mode

The TEO-hydraulic is particularly suitable for pumping air-containing emulsions in tanks. Its slurping mode and its dry running capability make it the ideal choice for pump back systems.

#### Lower startup level

Due to the lower startup level, hybrid pumps can react quickly and steadily to fluids and level changes. TEO pumps in cantilever design can also be operated safely with smaller pit and tank volumes.

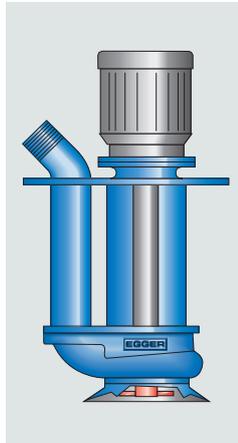
# The ideal pump for coolants, emulsions and chip handling

## Alternative chip handling

In metal machining, coolant, filtration and chip handling play an important role. As quickly as possible, chips and coolants must be kept away from the machine. A particular challenge is the difficulty of pumping materials that tend to cause bundles of chips.



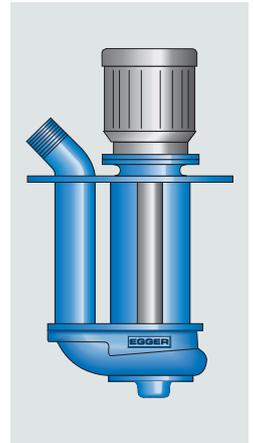
As an alternative to the traditional chip handling methods, the hybrid pumps are the ideal solution for pumping mixtures of chips, coolants and cutting oils through a closed central filtration loop system. Especially in the automotive industry, TEO pumps have been proven for many years. Due to their special hydraulic properties hybrid pumps are insensitive to air or gas inclusions. With TEOZ cutter pumps, long aluminum or brass chips can be pumped without clogging due to an integrated cutting unit.



## SiC Slurry

Pumping of slurry from the photovoltaic and semiconductor industry places high demands on the pumping equipment. Slurry is a viscous fluid used for the cutting of silicon ingots and the production of wafers. Silicon carbide (SiC) is a powdery solid component which is responsible for the abrasiveness and the performance of the cutting process. Polyethylene glycol (PEG) is the liquid component and serves as a carrier and coolant.

Hundreds of TEO hybrid pumps are in continuous operation on wafer cutting machines. Due to more compact machines, pump back systems and their tanks are also smaller and entrained air can't be expelled easily. Hybrid pumps in seal-less, dry running resistant cantilever design are ideally suited for this demanding task.



The cantilever series TEO and TEOZ are equipped with interchangeable flanges for simplified installation.



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