The turbo coupling type TPKL has been developed by Voith to fulfill the demanding operating requirements for actively controlled, high power drive systems. The TPKL has been specifically designed to handle frequent, controlled starts of complex conveyor drive systems as well as provide active, continuous control for booster drive conveyors. The TPKL is also designed as a variable speed drive for centrifugal pumps and fans.

**Design features**
- Self supported mount style
- Integral oil reservoir
- Closed loop oil circuit
- By-pass cooling
- Heavy duty bearings and shafts
- Heavy duty housing
- Standard base mount or optional shaft mounted design (no alignment!)
- Available with separately mounted valve control station
- No external moving control parts (no scoop tubes)
- Pulley output optional.

**Performance features**
- High frequency, wear free starts
- Acceleration control by time, output speed, or torque
- Excellent load sharing capacity for multiple drives
- Allows unloaded, step starting of multiple motors
- Allows continuous de-clutched operation of drives
- Allows for empty creep speed.

**Applications**
- Belt Conveyor
- Centrifugal pumps & fans
- Crushers, Shredders, Chippers and Debarking drums
- Mills.

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**Impressive advantages to start conveyor drives**

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**Integrated oil supply system with discharge pump**

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**Oil circuit features**
- Closed loop oil circuit
- High heat capacity (heat exchanger selected for each application)
- Air to oil coolers (std.), water to oil coolers optional
- Filtered bearing lube oil circuit with cartridge type replaceable filter
- Low HP fill pump, available in several standard voltages
- Optional separately mounted valve control station and electrical junction box
- By-pass cooling design standard
- Direct acting solenoid fill and drain valve (std.)
- Basic instrumentation includes
  1) oil temp. RTD,
  2) oil filter ΔP switch,
  3) oil level switch,
  4) output speed tachometer.

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**Motor start-up**
- Machine start-up
- Creep speed
- By-pass cooling
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**Power characteristic**

<table>
<thead>
<tr>
<th>Motor Speed $n_1$ [min$^{-1}$]</th>
<th>Power $P_1$ [kW]</th>
<th>Power $P_1$ [HP]</th>
</tr>
</thead>
<tbody>
<tr>
<td>500</td>
<td>50</td>
<td>65</td>
</tr>
<tr>
<td>1000</td>
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<td>2000</td>
<td>200</td>
<td>260</td>
</tr>
<tr>
<td>3000</td>
<td>300</td>
<td>400</td>
</tr>
</tbody>
</table>

**Impressive advantages to start conveyor drives**

**Motor start-up**

**Machine start-up**

**Creep speed**

**By-pass cooling**
Fill Controlled Turbo Coupling Type TPKL