KPTO
DRAIN-TYPE FLUID COUPLING
for internal combustion engines
**DESCRIPTION**

The **KPTO** is a variable fill fluid coupling enclosed into a casing connected to the Diesel engine by means of a SAE housing. The **KPTO** has been designed to meet the market requirements for a unit combining the technical features of a conventional Power Take Off with the performances of a fluid coupling.

The **KPTO** has an integral feeding pump driven by the Diesel engine. A remote electrically operated ON-OFF solenoid valve allows the fluid coupling circuit to be fed when it is turned ON, while a rapid oil drain through calibrated orifices located on the periphery of the fluid coupling occurs when it is turned OFF. A forced bearing lubrication is always assured continuously. The **KPTO** range is suitable for powers up to 1000 kW.

The engine flywheel is connected to the **KPTO** input by a highly torsionally flexible coupling. The output shaft can be connected to the driven machine by an elastic coupling, a cardan shaft or a pulley.

Standard accessories: oil feeding pump, oil filter with pressure and temperature gauges, ON-OFF electric valve, oil temperature and pressure switches, oil level indicators.

Options: water/oil heat exchanger or radiator, quick release valves, output pulley, elastic or superelastic alignment couplings.

**FEATURES**

The **KPTO** drain type fluid coupling allows to disconnect the engine from the load granting the following advantages:
- unloaded engine warm up
- smooth start up, not belt slip
- shock and overload protection
- torsional vibration dampening
- high radial load capacity
- remote control by electric valve
- load positioning
- inexpensive and easy maintenance due to external mounting of the main accessories like oil filter, feeding pump, control valve
- longer life thanks to no friction linings to wear out.

**APPLICATIONS**

- mills, crushers, wood chippers, grinders, shredders
- belt conveyors
- reciprocating and centrifugal pumps, compressors
- marine propulsion, boat thrusters
- generators
- fans and blowers.

**HYDRAULIC CIRCUIT**

The **KPTO** hydraulic circuit consists of a feeding pump, a cooler, an oil filter, and gauges. The oil and water flow into the heat exchanger can be calculated using the following formulas:

\[
\text{water (l/min)} = \frac{\text{power (kW)}}{50} \times 8
\]

\[
\text{oil (l/min)} = \frac{\text{power (kW)}}{50} \times 10
\]

Above formulas are based upon following data:

- Exchanger oil inlet = 110°C  Exchanger oil outlet = 100°C
- Exchanger water inlet = 85°C  Exchanger water outlet = 90°C

Engine cooling water can be used.

**WORKING SCHEME**

<table>
<thead>
<tr>
<th>Dimensions (mm)</th>
<th>ENGINE POWER (kW)</th>
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</thead>
<tbody>
<tr>
<td>15</td>
<td>15 19 21 24 27</td>
</tr>
<tr>
<td>1000</td>
<td>- 70 100 150 220</td>
</tr>
<tr>
<td>1200</td>
<td>- 90 150 220 300</td>
</tr>
<tr>
<td>1500</td>
<td>65 160 230 315 570</td>
</tr>
<tr>
<td>1800</td>
<td>85 275 400 545 1000</td>
</tr>
<tr>
<td>2200</td>
<td>155 330 470 650 -</td>
</tr>
<tr>
<td>2600</td>
<td>200 400 - - -</td>
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</table>

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**Drain-type fluid couplings - 1907**

**Dimensions (mm)**

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>G</th>
<th>H</th>
<th>L</th>
<th>M</th>
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**Dimensions (mm)**

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<th>S</th>
<th>T</th>
<th>U</th>
<th>SAE J617 housing</th>
<th>SAE J620 flywheel</th>
<th>Weight (kg) w/o oil</th>
<th>Oil (l)</th>
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<td>18-21*</td>
<td>800</td>
<td>87</td>
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</table>

*Dimensions for flywheel 21*. For admissible radial loads apply Transfluid.

Dimensions can be changed without notice.

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