CPW
Hot Water Circulating Pumps

Pump size 40 to 250mm (1 1/4 to 10in)
Capacity up to 400l/s (6340 U.S.gpm)
Total head up to 210m (690ft)
Operating pressure up to 6.3MPa (896psig)
Temperature up to 280°C (536°F)
General
The CPW pump series are used mainly as feed pumps or circulating pumps in high pressure hot water generating plants.
CPW hot water circulating pumps represent a complement to existing series of single entry and single stage pumps of process type construction. The casing can remain connected with the piping when the rotor is dismantled. If a spacer-type flexible coupling is fitted, the driving motor can also remain set on the baseplate, and the timewasting re-alignment of pump and motor after re-assembly of the pumping set can be dispensed with.
The well-proven module construction system already adopted on several pump series has again been adopted for the CPW series. The 18 available pump sizes offer economic operating conditions at the duty point and favourable NPSH values over the entire performance range.

Casing
One-piece volute casing open to the discharge end, with integrally cast pump feet at shaft centreline height.
The inner compartment of the pump, which is under pressure, is sealed off towards the drive end by a bearing bracket lantern. A stuffing box housing is arranged in this bearing bracket lantern; it can be adapted to accommodate various types of shaft seal, and it forms a cooling chamber in conjunction with the bearing bracket lantern. This cooling chamber is easily accessible for the cleaning off of deposits.

Nozzle orientation:
Suction nozzle at shaft centreline height,
Radial discharge nozzle pointing vertically upwards.

Flange machining:
Suction and discharge nozzle
ANSI, BS, JIS and other standards are also available.

Impeller
Closed radial impeller with double curvature vanes, hydraulically balanced, protected in the region of the sealing gap by a renewable impeller wear ring.

Shaft Seal
Standard pump construction fitted with balanced single-acting mechanical seal of various manufactures.
All mechanical seals are fed with cooled product pumped by product circulation (from the seal compartment via a heat exchanger back to the seal compartment). The circulation is assisted by conveying devices (pumping ring, conveyor screw).
The design of the pump enables the mechanical seal to be accommodated in the stuffing box housing insert in the form of a cartridge, which facilitates the quick dismantling of the seal unit in case of overhaul or repair.

Bearing
On standard version, the fixed bearing at the drive end consists of a pair of matched angular contact ball bearings whilst the loose bearing at the pump end consists of a radial roller bearing. Automatic oil level control by constant level oiler.
The bearing bracket is available in a cooled version if desired.

Materials

<table>
<thead>
<tr>
<th>Part designation</th>
<th>Materials</th>
</tr>
</thead>
<tbody>
<tr>
<td>Volute casing</td>
<td>Cast Cr-Mo steel</td>
</tr>
<tr>
<td>Casing cover with stuff-</td>
<td>Cast Cr-Mo steel</td>
</tr>
<tr>
<td>ing box housing</td>
<td></td>
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<tr>
<td>Cooling housing</td>
<td>Cast iron</td>
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<tr>
<td>Impeller</td>
<td>Cast 13% chrome steel</td>
</tr>
<tr>
<td>Casing wear ring</td>
<td>Ni-cast iron</td>
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<tr>
<td>Impeller wear ring</td>
<td>13% chrome steel</td>
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<tr>
<td>Bearing bracket</td>
<td>Cast iron</td>
</tr>
<tr>
<td>Shaft</td>
<td>Cr-Mo steel</td>
</tr>
<tr>
<td>Shaft protecting sleeve</td>
<td>13% chrome steel</td>
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</tbody>
</table>
Selection Charts

n = 2900 1/min

n = 1450 1/min