

CUP-CVP

CONCRETE VOLUTE COOLING WATER PUMP

PUMP OVERVIEW

The ClydeUnion Pumps concrete volute pump is one of the most reliable cooling water pumps on the market. Working with civil contractors has led to a design that merges the needs of civil and mechanical disciplines. Designed for high flow applications, the concrete volute pump reduces the number of pumps required, whilst achieving high availability and efficiency. The main advantages are to be found in construction, total cost, handling, installation and maintenance:

- Suitable for a higher flow per pump, resulting in fewer pumps being required
- Pump casing is predominantly produced in concrete, eliminating corrosion problems often experienced with suspended bowl pumps (especially in warm seawater)
- Pump construction is concurrent with intake and pumphouse structures, ensuring correctness of mechanical and civil interfaces
- Volute design is simplified, using flat surfaces where possible and minimising the number of concrete pours
- Approaching 100% availability achieved on all installations
- Installed efficiency is higher than conventional bowl pumps - concrete volute pumps are larger, more efficient and do not encounter column or bend losses
- The concrete volute design boasts a minimum of 10–12 years between internal inspections

TYPICAL APPLICATIONS

- Large scale cooling water duties
- High flow water intake systems
- High flow transfer duties
- Land irrigation schemes
- Land drainage schemes
- Dry dock de-watering duties
- Flood control systems

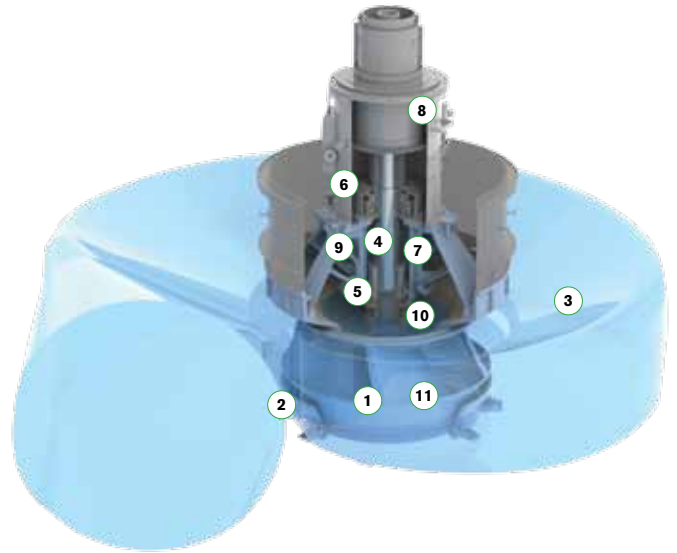


TECHNICAL DATA

Capacity:	up to 120,000 m ³ /hr / 530,000 USgpm
Delivery head:	up to 70 m / 230 ft
Temperature:	up to 80 °C / 180 °F
Speeds:	90 to 330 rpm

FEATURES + BENEFITS

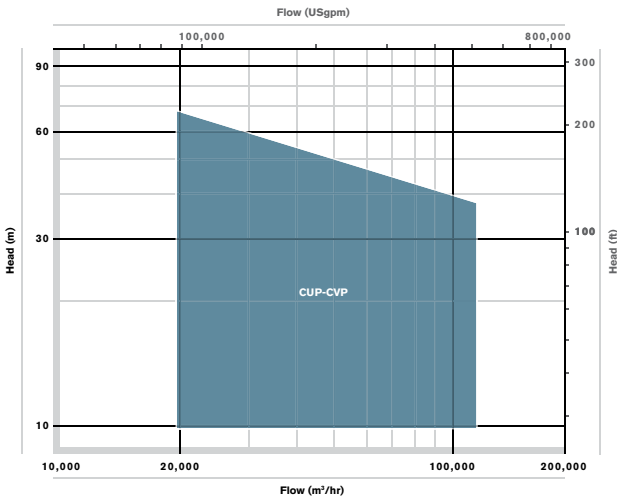
- ① **Hydraulic efficiency**
Engineered for hydraulic efficiency, typically 2 points higher efficiency than bowl pump
- ② **Cast-in casing**
Cast-in casing, manufactured to suit civil construction programme at site
- ③ **Non-corrosive**
Concrete volute, hence non-corrosive. Ensures concrete in compression, single concrete pour reduces risk of leakage
- ④ **Inner cartridge**
Complete inner cartridge element designed for ease of installation, can be installed and removed with embedded parts in situ
- ⑤ **Gland + seal**
Packed gland and inflatable seal, designed for ease of maintenance
- ⑥ **Thrust bearing**
Thrust bearing integral with gear housing (gearbox options). Absorbs all hydraulic and static thrusts
- ⑦ **Journal bearing**
Journal bearing oil bath lubricated
- ⑧ **Gearbox**
Optional epicyclic gearbox integral with gear housing and thrust bearing in integral housing. Included with pump cartridge for ease of installation and removal, reduces physical size of motor
- ⑨ **Oil tank**
Oil tank integral with pump bearing bracket



- ⑩ **Cover**
Cover designed for full discharge pressure. Interface between cartridge and embedded casing
- ⑪ **Impellers**
Balanced impeller, reduced thrust loads

RANGE COVERAGE CHART

50HZ RANGE CHART



This chart covers the standard pump range. Other engineering designs exist for extreme applications

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