

CUP-TWL

INTEGRAL STEAM TURBINE, WATER LUBRICATED PUMP

PUMP OVERVIEW

Capable of being engineered to match a broad range of system requirements and consuming less physical space than separate turbine/pump configurations, the CUP-TWL is an excellent solution for turbine driven safety related duties in nuclear power plants.

The CUP-TWL is a unique single wheel steam turbine, two stage pump, where both the turbine and impellers are mounted on a rigid shaft, supported by a central bearing assembly integral within a monobloc turbine/pump casing.

- More compact and robust than a conventional pump and turbine unit
- Requires no external services, water, oil or electricity to function
- Inherently safe and proven in nuclear applications worldwide
- Can be installed after civil and building construction due to compact size
- Reliable, simple in design and easy to operate and maintain
- Reduced operating costs due to significantly reduced service requirements and guaranteed start capability
- Can be designed to ASME Class II or Class III requirements

TYPICAL APPLICATIONS

- Auxiliary feedwater
- Reactor core isolation cooling
- Boiler feed
- Safety related applications



TECHNICAL DATA

Capacity:	up to 350 m ³ /hr / 1,550 USgpm
Delivery head:	up to 1,300 m / 4,265 ft
Temperature:	up to 120 °C / 250 °F
Speeds:	up to 7,500 rpm

FEATURES + BENEFITS

Single shaft monoblock casting

No drive couplings and thus no alignment issues to accommodate between the driver and the driven unit. Rotor length is kept short

Product lubricated bearings

No oil required thus no oil support system with complex logic needed to ensure lubrication of the bearings, all self contained within the unit and skid

Self contained governor

Governor and controls are self contained on the unit and require no external services

No external services required

No electrical, pneumatic or other services are required to function. Completely self contained, self governing with integrated overspeed trip mechanism only requires steam to function

Capable of water slugs in the steam

Can accommodate water slugs in the steam line both at start-up and running with no detrimental impact to the equipment

Rapid start-up

Fast start-up on application of steam with no overshoot on pump speed. Capable of repeated starting and stopping

Can accommodate a wide range of duties

The CUP-TWL can be designed to accommodate a variety of different conditions or special requirements since the turbine control and pump performance are managed in one single pack

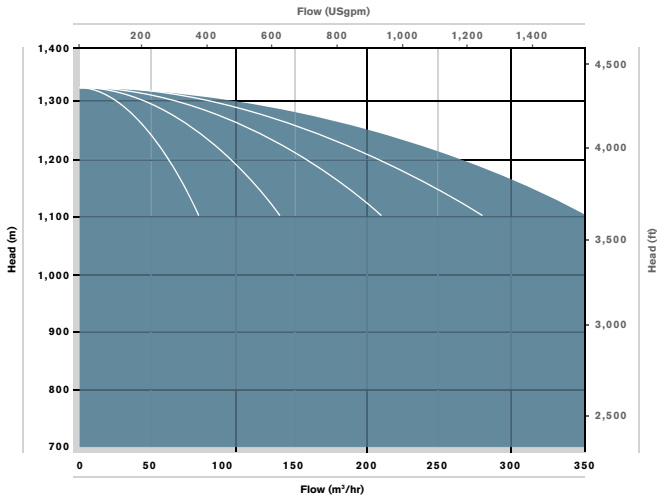


Small installed footprint

Complete unit smaller than separate turbine drive and pump arrangement. No extra space required for auxiliaries

RANGE COVERAGE CHART

50HZ RANGE CHART



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



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