

# Oil Circulating Systems for Hydro Turbines



**Oil Circulating Systems from Farval® have been supplied to the Hydro industry for many years. These systems are proven to reduce friction and wear and extend turbine life.**

- + Keep your turbine cool by dissipating heat.
- + Prevent rust & corrosion.
- + Provides a seal to help keep contaminants out & flushes contaminants away from critical surfaces.



Oil Circulating Systems (Lube Oil Skids) are used to lubricate the Thrust and Guide Bearings on a Hydro Turbine and Generating equipment.

## COMPLETE DESIGN, ENGINEERED & MANUFACTURED SOLUTIONS FOR YOUR APPLICATION

Bijur Delimon has recognized that the reliability and efficiency of a successful Oil Circulating System requires it to fulfill the following key functions:

### LUBRICATION PUMPS

Supplying the correct flow and pressure of lubricant at the required viscosity, temperature and pressure to the Turbine bearings to prevent failure. Duty and Standby AC pumps, as required. In addition, a DC motor driven "Run Down" pump can be provided.

### FILTRATION

It is critical to remove contaminants, water, and other extraneous materials that build up during the Turbine operation. The lubricant needs to be continually filtered to the correct cleanliness level prior to being recirculated.

### COOLING

Water Cooled Heat Exchangers maintain the system oil temperature removing the heat generated by the motion and load of the bearings, ensuring that lubrication is provided at the optimum performance level. Penstock Water flow is controlled through a Temperature Control Valve to maintain the correct oil temperature.

In addition to the main primary equipment, a number of optional system components can be included, depending on the customer specification and technical requirements.



## RESERVOIRS OR TANKS

To allow for settlement, de-aeration and heating with the ability to facilitate a change of lubricant at the appropriate interval. Tank materials are typically carbon steel or stainless steel, and sized based on the system flow rate and application. Electrical Heaters to maintain minimum oil temperatures are supplied in dry pockets. Oversized Tanks with the capacity to drain down the “TUB” can be provided. The full system is generally fabricated within a sealed containment **DRIP PAN**.

## INSTRUMENTATION, MONITORING, & ELECTRICAL CONTROLS

Industry critical monitoring of level, flow, pressure, and temperature is provided. Components and Instruments can be wired out to Junction Boxes or a Full Electrical Control Panel with Variable Speed Drives available if required.

## HPU

High Pressure Units are also available from Bijur Delimon to lift the Turbine before operation.

## COMPLETE DESIGN SOLUTIONS

We pride ourselves on our ability to deliver the complete engineered design solution. With over 70 years of commercial experience, our dedicated team can cater for any set-up requirements and will guide you every step of the way from concept through to completion.

Bijur Delimon Design and Support Teams work closely with customers, component suppliers, and lubricant manufacturers to ensure our Oil Circulating Systems achieve the system performance levels required.

### BIJUR DELIMON'S INDUSTRY LEADING FAMILY OF BRANDS



**DELIMON**

**Farval®**

