



# VACUUM DEHYDRATION SYSTEMS REMOVE WATER FROM LUBRICATION SYSTEM OIL IN ANY OF ITS FORMS

## YOUR CHALLENGE

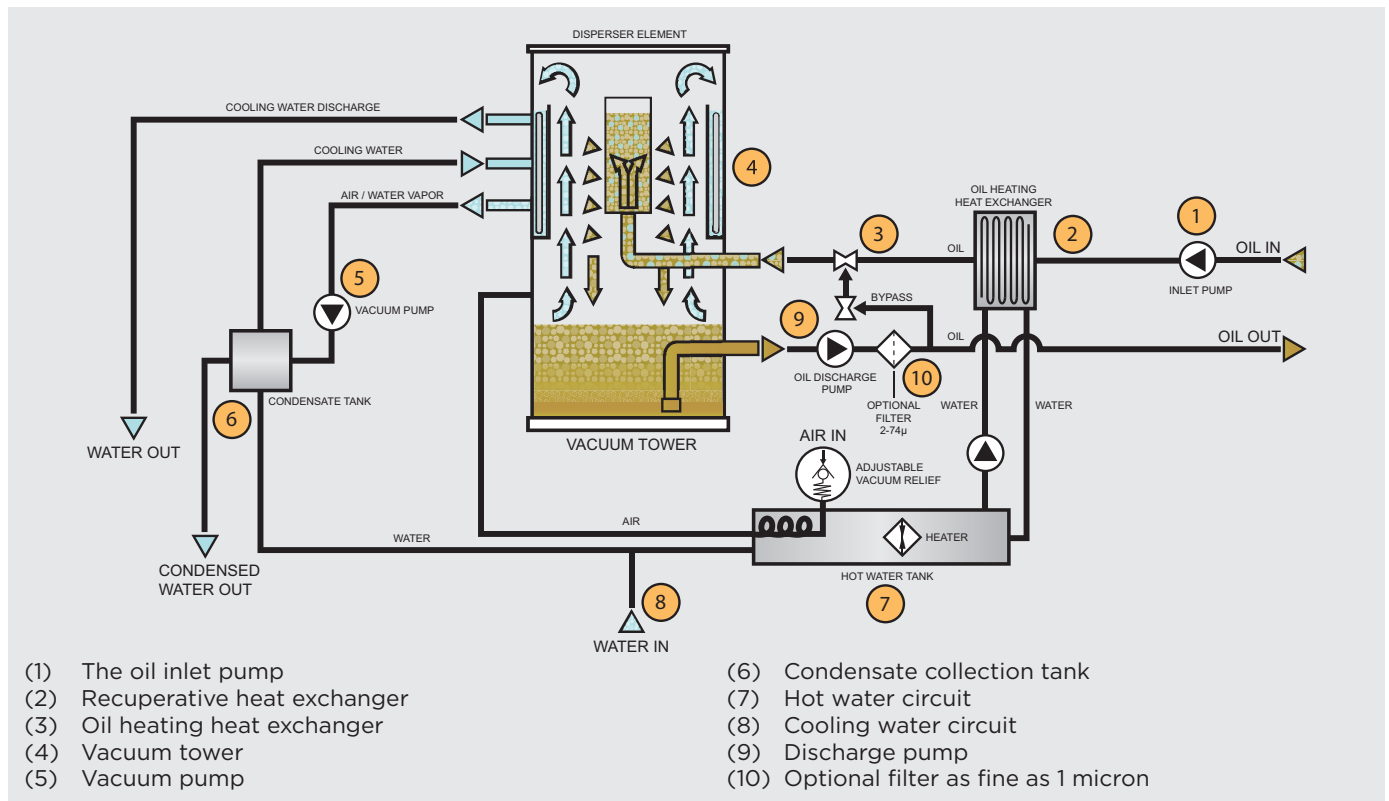
Lubrication systems in industrial plants are especially susceptible to water contamination. Steel and non-ferrous rolling mills have an extremely high potential for water ingress into the oil for all the roll units and bearings. Water contamination in lubrication fluids can cause devastating problems in mechanical equipment including a reduction in bearing and overall equipment life. These problems lead to an increase in unscheduled downtime.

Water can enter the lubrication system in either a vapor or liquid state in many ways including failed seals, failed heat exchangers, and condensation in the tank. Our systems are designed to remove water present in the oil in any of its forms.

## OUR SOLUTION

Primetals Technologies considers a maximum acceptable level of 0.2% of water content in the oil for high-speed equipment, such as Morgan Pre-Finishing Mills, No-Twist® Mills, and Reducing/Sizing Mills. Water should be completely removed before re-circulation of the oil in the system and especially before entering the mechanical equipment. Vacuum Dehydrator systems from Primetals Technologies are designed to maintain a water content of  $\leq 0.2\%$ .

**MAINTAIN A  
WATER CONTENT  
OF  $\leq 0.2\%$ .**



A simplified schematic shows the operation of a vacuum dehydrator system

### VACUUM DEHYDRATOR VS. CENTRIFUGE

- Does not require periodic cleaning of complex bowls
- No high speed rotating parts
- Will not damage oil during heating
- Low maintenance
- No loss of oil through the water discharge
- Designed for unattended operation

### VACUUM DEHYDRATOR VS. OTHER DEHYDRATORS

- Does not require filtration of fluid
- High flows and water removal
- Will not damage the oil during heating
- The Inlet pump allows for more flexibility in the placement of the vacuum dehydrator unit in relation to the tanks being processed
- Specifically designed to handle oil viscosities from 32-460 cSt
- Highly efficient

### FEATURES

- Operate up to ISO VG-460
- Protects the oil using a very low power density heating system and two heating steps
- Integral PID temperature control maintains the oil operating temperature uniform during the whole process
- Vacuum pressure is adjustable for different types of oils
- Stainless steel piping
- Custom configurations available to meet specific size requirements
- Small units can be customized to be portable

### MAIN BENEFITS

- Increased equipment life
- Minimize downtime
- Reduce operating costs
- Increased fluid life
- Removes free water, emulsion and dissolved water, simultaneously
- Does not carbonize the oil in the heating process
- Does not interfere with the lubrication system temperature control

**Primetals Technologies USA LLC**  
 A joint venture of Mitsubishi Heavy Industries and partners

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