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 ≤ 0.2%.

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

MAINTAIN A WATER CONTENT OF ≤ 0.2%.
The information (including, e.g., figures and numbers) provided in this document contains merely general descriptions or characteristics of performance based on estimates and assumptions which have not been verified. These estimates and assumptions have to be analyzed on a case-to-case basis and might change as a result of further product development. It is no representation, does not constitute and/or evidence a contract or an offer to enter into a contract to any extent and is not binding upon the parties. Any obligation to provide and/or demonstrate respective characteristics shall only exist if expressly agreed in the terms of the contract.

Primetals Technologies excludes any liability whatsoever under or in connection with any provided information, estimates and assumptions. The provided information estimates and assumptions shall be without prejudice to any possible future offer and/or contract.

Any information provided by Primetals Technologies to the recipient shall be subject to applicable confidentiality obligations and shall be used by the recipient at their own convenience and at their sole risk.

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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

A simplified schematic shows the operation of a vacuum dehydrator system.

1. The oil inlet pump
2. Recuperative heat exchanger
3. Oil heating heat exchanger
4. Vacuum tower
5. Vacuum pump
6. Condensate collection tank
7. Hot water circuit
8. Cooling water circuit
9. Discharge pump
10. Optional filter as fine as 1 micron

(1) The oil inlet pump
(2) Recuperative heat exchanger
(3) Oil heating heat exchanger
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