

# BA-LN and DS-5000 COLD TRAPS

Water is an enemy to the dielectric properties of solid and liquid insulation in electrical devices. Therefore, it needs to be removed during the manufacturing process and then sometimes in the field as part of maintenance.

In high vacuum drying processes, water must be frozen out of the vacuum stream to capture it. Baron BA-LN and BA-DS cold traps collect, by freezing, the water removed during the vacuum drying of high voltage equipment.

## SYSTEM PERFORMANCE:

Vacuum technology is the method of choice for effective removal of water from a transformer. Collecting it by freezing provides at least two major benefits:

- If the water is not trapped ahead of the vacuum pump(s), it must pass through them. In the case of oil-sealed vacuum pumps, this usually means that large quantities of the water will condense in the vacuum pump seal oil. Seal oil diluted with water reduces the pump's efficiency and bottom end. It also reduces the oil's ability to lubricate the pump causing the pump to run hot and shortening the life of the pump. This also means that pump seal oil must be changed frequently – incurring the costs of replacement oil and disposal. This creates the potential for frequent interruptions to the drying process.
- Collecting the water allows it to be measured. This is a useful tool to determine the amount of water removed from the transformer and comparing that to what is expected. It also provides an additional way to determine when the transformer is dry.

## OPTIONS AND ACCESORIES:

- Liquid Nitrogen traps are available in two sizes. The smaller LN1 uses liquid nitrogen, provided by the user, to cool the trap. The larger LN2 can use either liquid nitrogen or a slurry of dry ice and acetone.
- Dual Stage cascade traps are all-electric using a thermal leveraging 'cascade' refrigeration system. No dry ice or liquid nitrogen is necessary.
- Available as stand-alone, integrated in a Baron HV series transformer vacuum purifier, or in dedicated trailer with lifting frame (open or with roll-up doors).

