

## Remove Dissolved Water from Transformer Oil

## Reduce Moisture in Transformer Oil to <10 ppm Without Heat & Vacuum

### DESCRIPTION

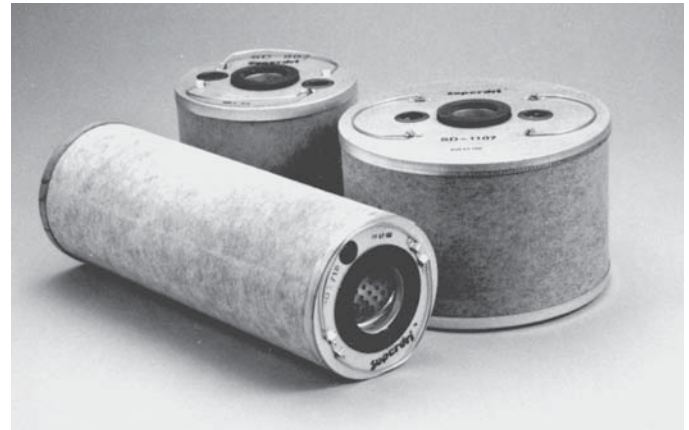
Dissolved water removal from insulating oil is now possible without the need for heat and vacuum oil processing systems. Specifically developed for dehydrating oil to be used in transformers, patented\* **Superdri**® cartridges can help utilities reduce expenses and increase efficiency when processing oil.

### FEATURES

- **Unique Construction** – Specifically designed for transformer oil dehydration.
- **High Capacity** – Process up to 5,000 gallons of oil or more with a single cartridge.
- **Efficient** – Single pass water removal to less than 10 ppm total water, or better.
- **Versatile** – Models available to fit most industry standard housings.
- **Safe** – Will not remove oxidation inhibitors.
- **Cost Effective** – Process transformer oil for less than 5¢ per gallon.

### SPECIAL CONSIDERATIONS

**Superdri** cartridges are not designed for particulate solids removal. Prefiltering through Velcon 1/2 micron cartridges is recommended if particle contamination is suspected. **Superdri** cartridges are not recommended for cost effective removal of free water in insulating oil. If free water is suspected, the oil should be prefiltered using Velcon **Aquacon**® cartridges.



Models SD-718, SD-807, and SD-1107, respectively.

### APPLICATIONS

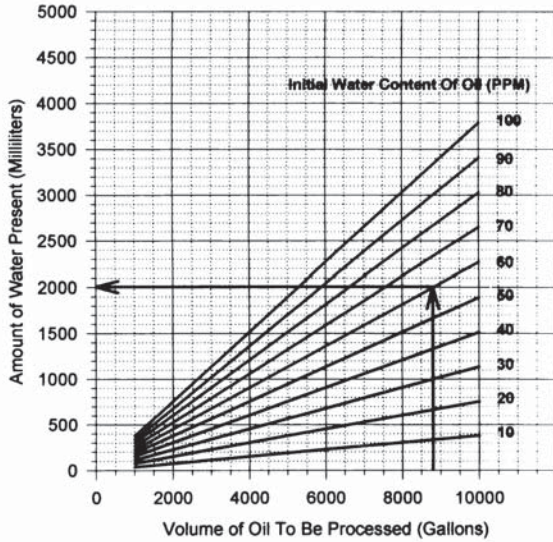
**Superdri** cartridges are designed for oil processing situations where dissolved water in insulating oil is a concern, and its removal is desirable.

Examples of these situations follow:

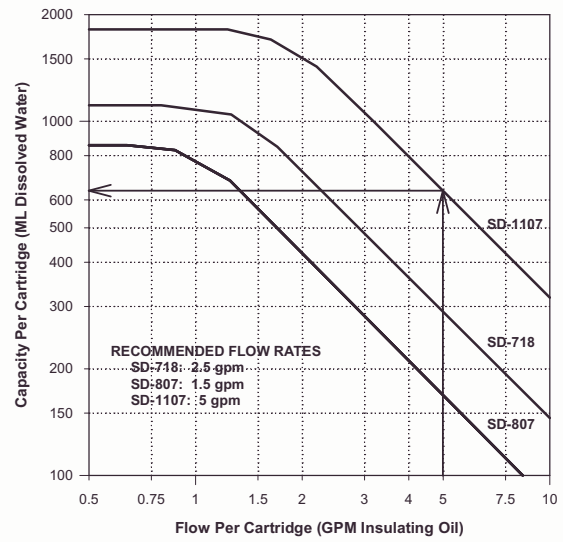
- New distribution and EHV transformers are typically oil-filled under vacuum. If the insulating oil has a high total water content, it is also processed through a heat and vacuum system. **Superdri** cartridges can be used instead of heat and vacuum to dry the oil.
- Repaired transformers are often oil filled under vacuum. Flowing the oil through **Superdri** cartridges eliminates the need to vacuum process the oil.
- Insulating oil in storage tanks, and tankers of oil that have accumulated a high level of dissolved water can be recirculated and dried to less than 10 ppm total water using **Superdri** cartridges.
- Use **Superdri** cartridges for processing oil in other high voltage apparatus that is sensitive to dissolved water.
- Use **Superdri** cartridges to help meet processing specifications where dissolved water sensitive dielectric breakdown voltage test ASTM D-1816 is used, or required.

\* U.S. Patent No. 5,574,214

**CHART A**



**CHART B**



**Example:** You have 8800 gallons of oil to process with an initial water content of 60 ppm. Find 8800 gallons on the horizontal scale, and follow up until you intersect the 60 ppm line. Read across to find the total amount of water on the vertical scale.

**Example:** You are filling at 5 gpm per cartridge through SD-1107 cartridges. Follow up from 5 gpm on the horizontal scale until you intersect the SD-1107 line. Read across to find the amount of water one cartridge will remove.

**Superdri® cartridges are easy to use:**

1. Using Chart (A) above, determine amount of water in oil.
2. Using Chart (B) above, determine amount of water a single cartridge will remove.
3. Divide results from (1) by results from (2):

Unlike ordinary filters, **Superdri®** cartridges cannot be monitored for capacity or performance by differential pressure. Regular effluent samples must be taken and analyzed with a Karl Fischer titrator, such as the Aquapal®, to monitor the cartridges' effectiveness. In-line moisture sensors such as Doble **DOMINO®** can also be used to monitor cartridge performance. Without availability of this equipment, the user can estimate cartridge life from the above charts.

$$\frac{2000 \text{ ml to be removed}}{620 \text{ ml capacity}} = 3.2 \text{ cartridges required}$$


**Superdri® cartridges will not remove dissolved gases, nor are they recommended for use on badly deteriorated or arced oil.**

**ORDERING INFORMATION**

Part Number	Fits These Housings
SD-718	Velcon VF-7, VF-8 Series, Hilco 718 Style
SD-807	Velcon VF-10, VF-12 Series, Cuno PT1 Style, Alsop
SD-1107	Velcon VF-12 Series, Cuno PT1 Style, Alsop

**NOTE:** Install **Superdri®** cartridges vertically.

Aquapal is a registered Trademark of CSC Scientific Company, Inc.  
DOMINO is a registered Trademark of Doble Engineering Company.



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Due to Velcon Filters' continuing product improvement, drawings, specifications and pictures are subject to change without notice.