

Cartridge for Removal of Dissolved Water from Industrial Oils

SD Series. **Superdri**® Cartridges

DESCRIPTION

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

FEATURES

- **Unique Construction** – Specifically designed for 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 industrial oil for less than \$0.05 per gallon.
- **Maximum Operating Temperature** - Up to 160 °F (71.1°C), 248 °F (120 °C) for SD-1107HT



Superdri is a registered Trademark of Parker Hannifin Corporation.



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SPECIAL CONSIDERATIONS

Superdri cartridges are not designed for particulate solids removal. Prefiltering through Parker 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 industrial oils. If free water is suspected, the oil should be prefiltered using Velcon **Aquacon**® cartridges.

APPLICATIONS

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

Examples of use in industrial oil applications:

- 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.

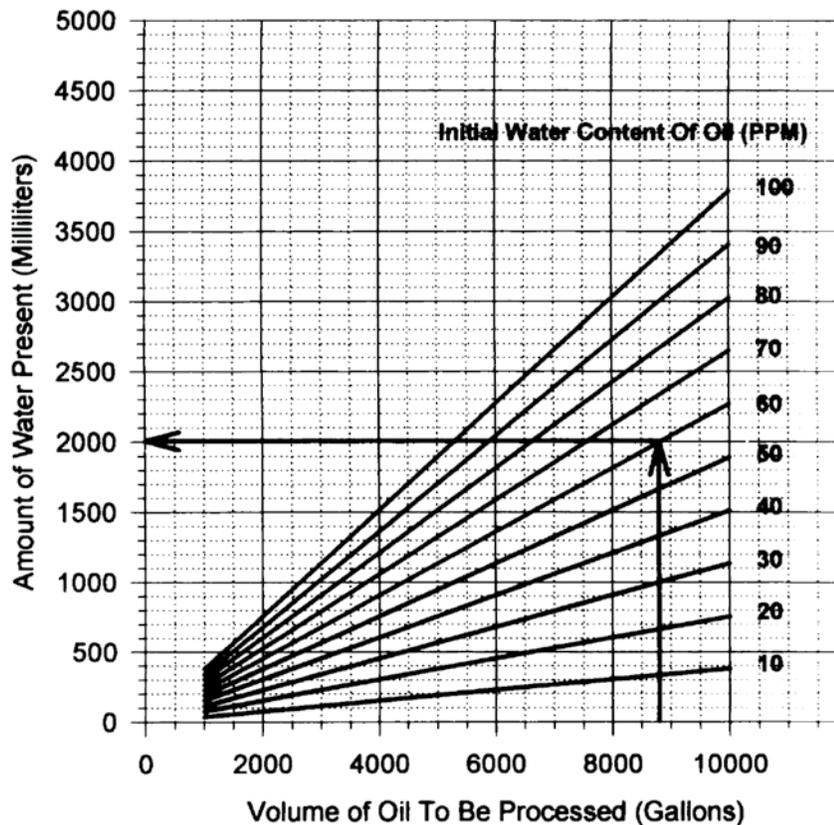


CHART A

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.



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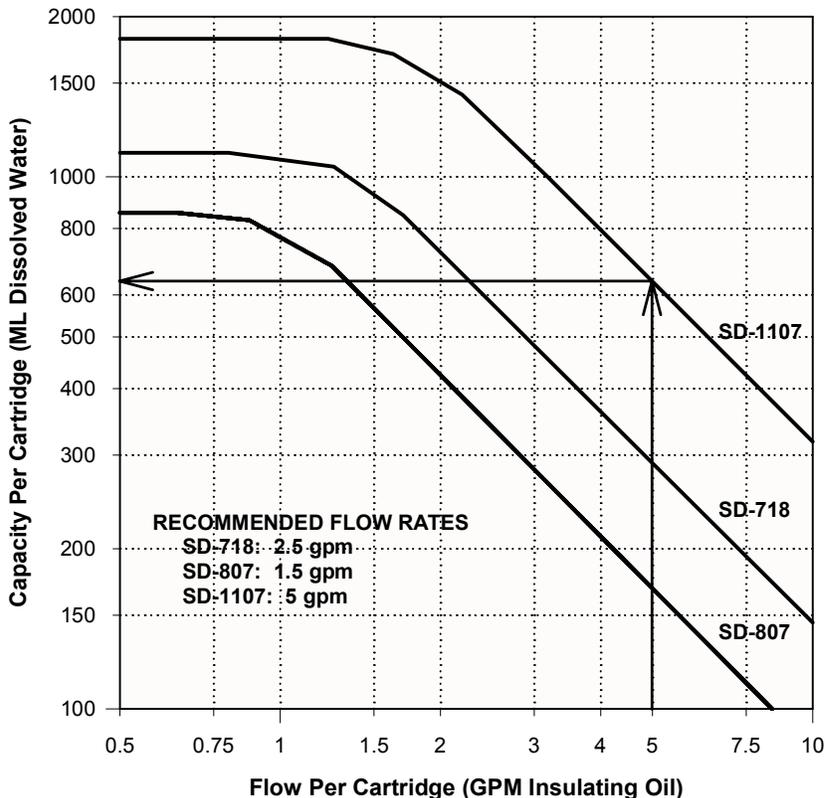


CHART B

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

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

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 to monitor the cartridges' effectiveness. In-line moisture sensors can also be used to monitor cartridge performance. Without availability of this equipment, the user can estimate cartridge life from the above charts.

Superdri® cartridges will not remove dissolved gases, nor are they recommended for use on badly deteriorated or arced oil. Some reduction in CO2 may occur.

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
SD-1107HT	Velcon VF-12 Series, Cuno PT1 Style, Alsop

NOTE: Install **Superdri®** cartridges vertically



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