



## Customer Information

Contact Name	Account #
Company	E-Mail
Address	
City, State, Zip	
Phone/Fax/Pager	

## Billing Information

Same

Contact Name	P.O.#
Company	
Address	
City, State, Zip	
Phone/Fax	

### POWER TRANSFORMER PACKAGES

**NTT TechCheck™**

<input type="checkbox"/> <b>1 - BASIC</b> DGA & Oil Screen Cylinder/Syringe + 8oz.bottle •DGA Plus™ •Moisture •Acid •IFT •Color No. •Visual Exam •Dielectric D877	<input type="checkbox"/> <b>2 - ANNUAL</b> Routine Maintenance Cylinder/Syringe + 8oz.bottle •DGA Plus™ •Moisture •Acid •IFT •Color No. •Visual Exam •Dielectric D877 •Specific Gravity •Power Factor 25°C	<input type="checkbox"/> <b>3 - BASELINE</b> Newly Filled Equipment Cylinder/Syringe+16oz.bottle •DGA Plus™ •Moisture •Acid •IFT •Color No. •Visual Exam •Dielectric D877 •Specific Gravity •Power Factor 25°C	<input type="checkbox"/> <b>4 - FULL ANALYSIS</b> Comprehensive/Investigative Cylinder/Syringe+2x16oz.bottle •DGA Plus™ •Moisture •Acid •IFT •Color No. •Visual Exam •Dielectric D877 •Specific Gravity •Power Factor 25°C
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<input type="checkbox"/> Dissolved Gas Analysis-DGA Plus™	D3612A	50 ml	1.7 oz
<input type="checkbox"/> Moisture in Oil	D1533B	20	0.7
<input type="checkbox"/> Interfacial Tension (IFT)	D971	40	1.4
<input type="checkbox"/> Acid No.	D974	12	0.4
<input type="checkbox"/> Color No. & Visual Exam	D1524	5	0.2
<input type="checkbox"/> Dielectric Breakdown Voltage	D877	200	7
<input type="checkbox"/> Dielectric Breakdown Voltage 0.04"	D1816	500	17
<input type="checkbox"/> Dielectric Breakdown Voltage 0.08"	D1816	500	17
<input type="checkbox"/> Power Factor @ 25°C	D924	100	3.7
<input type="checkbox"/> Power Factor @ 100°C	D924	100	3.7
<input type="checkbox"/> Specific Gravity	D1298	11	0.4
<input type="checkbox"/> Kinematic Viscosity	D445	7	0.3
<input type="checkbox"/> Oxidation Inhibitor	D2668	7	0.3
<input type="checkbox"/> Flash Point - Fire Point (circle one)	D92	75	2.0
<input type="checkbox"/> Laser Particle Count	ISO	20	0.7
<input type="checkbox"/> PCBs-in-Oil	EPA 600-4-81-045	7	0.3
<input type="checkbox"/> Metals(7 Metals:Ag,Al,Cu,Fe,Pb,Sn,Zn)	D3635	5	0.2
<input type="checkbox"/> Furfural Analysis	D5837	20	0.7
<input type="checkbox"/> Other			

### LTC-OCB-Regulator-Rectifier PACKAGES

<input type="checkbox"/> <b>1 - BASIC</b> •DGA Plus™ •Moisture •Acid •IFT •Color No. •Visual Exam •Dielectric D877	<input type="checkbox"/> <b>2 - ANNUAL</b> •Package #1 •Specific Gravity •Power Factor 25°C	<input type="checkbox"/> <b>4 - FULL ANALYSIS</b> •Package #3 •Viscosity •Oxidation Inhibitor
<input type="checkbox"/> <b>3 - BASELINE</b> •Package #2 •Power Factor 100°C •Metal Content •PCB Content		

### NETA Guideline

<input type="checkbox"/> <b>REQUIRED</b> •DGA Plus™ •Acid •IFT •Color Number •Visual Exam •Dielectric D877	<input type="checkbox"/> <b>OPTIONAL</b> •Moisture: Required if >25KV or Silicone •Specific Gravity •Power Factor 25°C
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### Lubrication Fluids

<input type="checkbox"/> <b>Basic Analysis</b> •Metals Analysis •Particle Count •Acid Number •Viscosity •Glycol/Anti-Freeze contamination •Additives
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DGA - Glass syringe or metal cylinder preferred. PCB - Glass vial with aluminum or teflon-lined cap required.  
 Moisture - Minimize headspace in sample container. Metals - Non-metallic container preferred.

Date Sampled	Container No. and Type	•Location •Transformer No./Misc.	•Serial No.	•Manufacturer •Year Built	•Main/LTC •Bank/Phase	•KVA •Oil Temp	RUSH (y/n)
	DGA PCE		<input type="radio"/> Nitrogen Blanket <input type="radio"/> Conservator <input type="radio"/> Free-Breathing Unit <input type="radio"/> Desiccant <input type="radio"/> Sealed <input type="radio"/> Other	Mfr Date	<input type="radio"/> Main <input type="radio"/> LTC <input type="radio"/> OCB <input type="radio"/> Reg Bank # Phase #	Temp	
	DGA PCE		<input type="radio"/> Nitrogen Blanket <input type="radio"/> Conservator <input type="radio"/> Free-Breathing Unit <input type="radio"/> Desiccant <input type="radio"/> Sealed <input type="radio"/> Other	Mfr Date	<input type="radio"/> Main <input type="radio"/> LTC <input type="radio"/> OCB <input type="radio"/> Reg Bank # Phase #	Temp	
	DGA PCE		<input type="radio"/> Nitrogen Blanket <input type="radio"/> Conservator <input type="radio"/> Free-Breathing Unit <input type="radio"/> Desiccant <input type="radio"/> Sealed <input type="radio"/> Other	Mfr Date	<input type="radio"/> Main <input type="radio"/> LTC <input type="radio"/> OCB <input type="radio"/> Reg Bank # Phase #	Temp	
	DGA PCE		<input type="radio"/> Nitrogen Blanket <input type="radio"/> Conservator <input type="radio"/> Free-Breathing Unit <input type="radio"/> Desiccant <input type="radio"/> Sealed <input type="radio"/> Other	Mfr Date	<input type="radio"/> Main <input type="radio"/> LTC <input type="radio"/> OCB <input type="radio"/> Reg Bank # Phase #	Temp	

Notes:

### RUSH RESULTS

Phone  
 Fax  
 Email

### Receive Routine Results Via:

Fax  Email  Mail  
 Date requested: \_\_\_/\_\_\_/\_\_\_

### Send Additional Containers:

\_\_\_syringes \_\_\_poly bottles  
 \_\_\_cylinders \_\_\_pcb vials  
 Date Requested: \_\_\_/\_\_\_/\_\_\_

## Syringe Sampling

### Some considerations before sampling:

- ◆ Syringe should be filled to 80% full.
- ◆ The handle of the plastic stopcock always points to the closed port.
- ◆ **DO NOT PULL BACK ON THE BARREL.** This will result in bubble formation. Allow the fluid pressure to push back the barrel and fill the syringe. Apply a slight resistance to the barrel with your thumb.
- ◆ Filled syringe should contain no air bubbles. However, samples will begin releasing gases soon after sampling. Do not release any evolved gases since these gases must be included in the DGA Analysis.

Adjust flow from sampling port for a gentle flow of fluid through the tubing and stopcock.

**1 Bleed fluid through stopcock**  
Handle at Position 1.

**2 Fill syringe**  
Handle at Position 2.

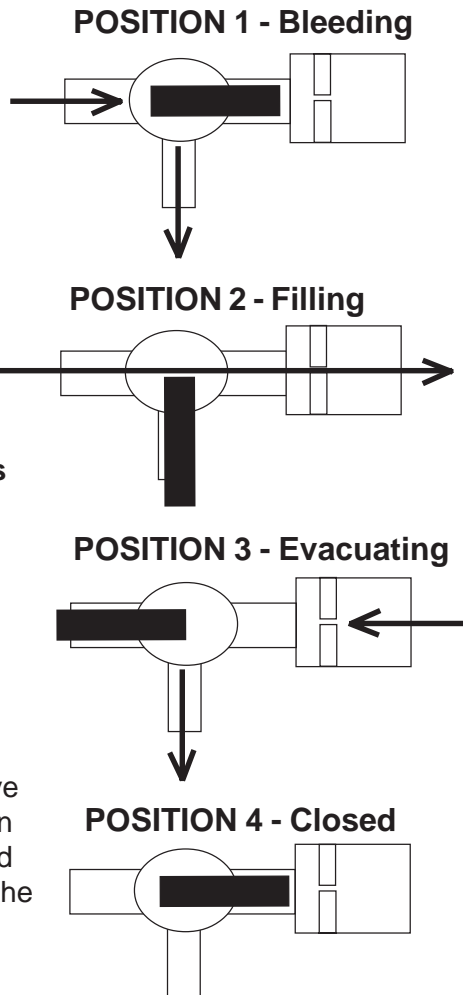
**3 Evacuate fluid from syringe**  
Handle at Position 3.

**4 Repeat steps 2 & 3 three times**

**5 Fill syringe to 80% full**  
Handle at Position 2.  
Ensure no bubbles at this time.

**6 Close syringe**  
Handle at Position 4.

You should now have a representative sample from the insulating fluid within the unit. Record the temperature and any other pertinent information onto the sample data sheet.



## Metal Cylinder Sampling

### Notes:

- ◆ Hold the cylinder in a vertical position at all times. This will ensure all air bubbles rise to the top and exit the container.
- ◆ Be sure to drain an adequate amount of fluid through the transformer drain valve to flush out stagnant fluid, water, and debris.

#### 1 Drain the Sampling Valve

Flush enough fluid through the drain valve to remove any stagnant fluid, moisture, and debris. Attach a plug fitting with a tubing connector to the drain valve.

#### 2 Attach the tubing to the cylinder

Connect tubing to the cylinder as illustrated.

#### 3 Open valves in ordered sequence

First open the transformer valve (A), then the container's lower valve (B) and finally its upper valve (C). Allow about 1 quart to flow through. Rap the sides and shake the cylinder to dislodge any air bubbles.

#### 4 Shut valves in reverse order

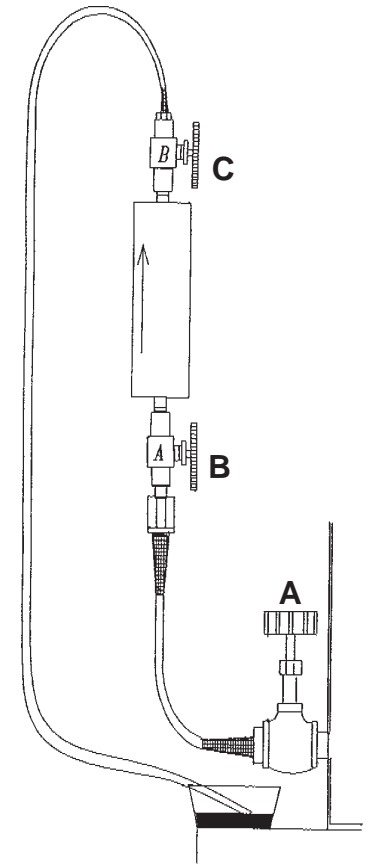
Close the valves C, B, then, A in that order.

#### 5 Re-assemble drain valve and plug

Remove the plug with the tubing connector from the drain valve and replace the original plug.

#### 6 Fill out sample data sheet

You should now have a representative sample from the insulating fluid within the unit ready to be shipped to the lab.



**Still have more questions?  
Give us a call at the lab.**

**We can also supply you with tubing and hose fittings if necessary. Your local hardware store carries these items also.**