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Form approved by:			
Inspected by:	TK	7/07/14	
Supervisor in charge:	JF	7/07/14	

J-Lab Apex Magnet Small Coil - Coil Test Record

Test Item:

Test Item:	(1) Water Circuit Leak Test.
Detail:	Apply water pressure of 1.5 [Mpa] to each cooling circuit for 30 minutes and check for leakage.

Unit Under Test:

Contract:	Customer	Purchase Order #	Magnet Serial Number
	J-Labs	881190	PO # 197292
Part:	Drawing No.	Revision	Description
	062713-00	-	Large Coil 90° Assembly
	062713-01	1	Large Coil 45° Assembly
Coil Serial Number:	89040		

Equipment:

	Model	Serial Number	Calibration Due Date
Pressure Gauge:	Dwyer DPGW-09	BSL-0004-DPG	23/07/2015

Test Condition:

Date:	7/07/2014	[DD / MM / YYYY]
Ambient Temp:	16.2	[°C]
Humidity:	70	[%]

Criteria:

Observation:	No water leaks detected.
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Results:

Pancake 1:	Leaks	/	No Leaks
Pancake 2:	Leaks	/	No Leaks
Pancake 3:	Leaks	/	No Leaks
Pancake 4:	Leaks	/	No Leaks

Strike through whatever is not applicable

Judgement:

PASS	/	FAIL
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Strike through whatever is not applicable

J-Lab Apex Magnet Small Coil - Coil Test Record

Test Item:

Test Item:	(2) Water Circuit Flow Test.
Detail:	Measure the flow rate of each cooling circuit at a pressure drop of 32.5 [PSI] and water inlet temperature of 35 [°C].

Unit Under Test:

Contract:	Customer	Purchase Order #	Magnet Serial Number
	J-Labs	881190	PO # 197292
Part:	Drawing No.	Revision	Description
	062713-00	-	Large Coil 90° Assembly <input type="checkbox"/>
	062713-01	1	Large Coil 45° Assembly <input checked="" type="checkbox"/>
Coil Serial Number:	89040		

Equipment:

	Model	Serial Number	Calibration Due Date
Flow Meter:	RS	FG5	10/01/2015
Pressure Gauge:	Dwyer DPG-09	BSL-0009-DPG-788	11/07/2015
Pressure Gauge:	Dwyer DPG-09	BSL-0009-DPG-788	11/07/2015

Test Condition:

Date:	23/07/2014	[DD / MM / YYYY]
Ambient Temp:	15.3	[°C]
Humidity:	56	[%]

Criteria:

Measurement:	Water flow rate \geq 3.95 [L/min] @ 32.5 [PSI] pressure drop
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Results:

	Pressure [PSI]			Flow Rate [l/min]
	Inlet	Outlet	Drop	
Pancake 1:	39.80	9.60	30.2	3.95
Pancake 2:	39.86	8.86	31.0	3.95
Pancake 3:	40.47	9.28	31.19	3.95

Judgement:

PASS / FAIL
Strike through whatever is not applicable

J-Lab Apex Magnet Small Coil - Coil Test Record

Test Item:

Test Item:	4-4 (1) (b) (i) Resistance Measurement of Magnet.
Detail:	Measure the resistance of each pancake and the whole coil by 4-terminal method. Measure the temperature and correct the resistance measurement to 20 [°C].

Unit Under Test:

Contract:	Customer	Purchase Order #	Magnet Serial Number
	J-Labs	881190	PO # 197292
Part:	Drawing No.	Revision	Description
	062713-00	-	Large Coil 90° Assembly <input type="checkbox"/>
	062713-01	1	Large Coil 45° Assembly <input checked="" type="checkbox"/>
Coil Serial Number:	89040		

Equipment:

	Model	Serial Number	Calibration Due Date
Thermometer:	HH506RA	11000285	11/04/2015
Power Supply:	Isotech IPS303DD	3010892G3	23/04/2015
Voltmeter:	Isotech IDM72	25900022	8/05/2015

Test Condition:

Date:	23/07/2014	[DD / MM / YYYY]
Ambient Temp:	15.6	[°C]
Humidity:	62	[%]

Criteria:

Measurement:	Record the resistance and temperature measurements below.
Observation:	No abnormalities

Results:

	Pancake 1	Pancake 2	Pancake 3	Coil		
R _{meas} :	2.13	2.12	2.12	6.37	[mΩ]	
T _{meas} :	17.0	17.0	17.0	17	[°C]	
R _{20°C} :	2.16	2.14	2.14	6.45	[mΩ]	
$R_{20^{\circ}\text{C}} = R_{\text{meas}} (1 + 0.00393 (20 - T_{\text{meas}}))$						

Judgement:

PASS / FAIL
Strike through whatever is not applicable

J-Lab Apex Magnet Small Coil - Coil Test Record

Test Item:

Test Item:	(4) Induced Voltage Test.
Detail:	Perform a 500V impulse test on the completed coil to verify the inter-turn insulation. Record the resulting waveform.

Unit Under Test:

Contract:	Customer	Purchase Order #	Magnet Serial Number
	J-Labs	881190	PO # 197292
Part:	Drawing No.	Revision	Description
	062713-00	-	Large Coil 90° Assembly <input type="checkbox"/>
	062713-01	1	Large Coil 45° Assembly <input checked="" type="checkbox"/>
Coil Serial Number:	89040		

Equipment:

	Model	Serial Number	Calibration Due Date
Impulse Tester:	IWT 5000A	12I5A30005	4/12/2014

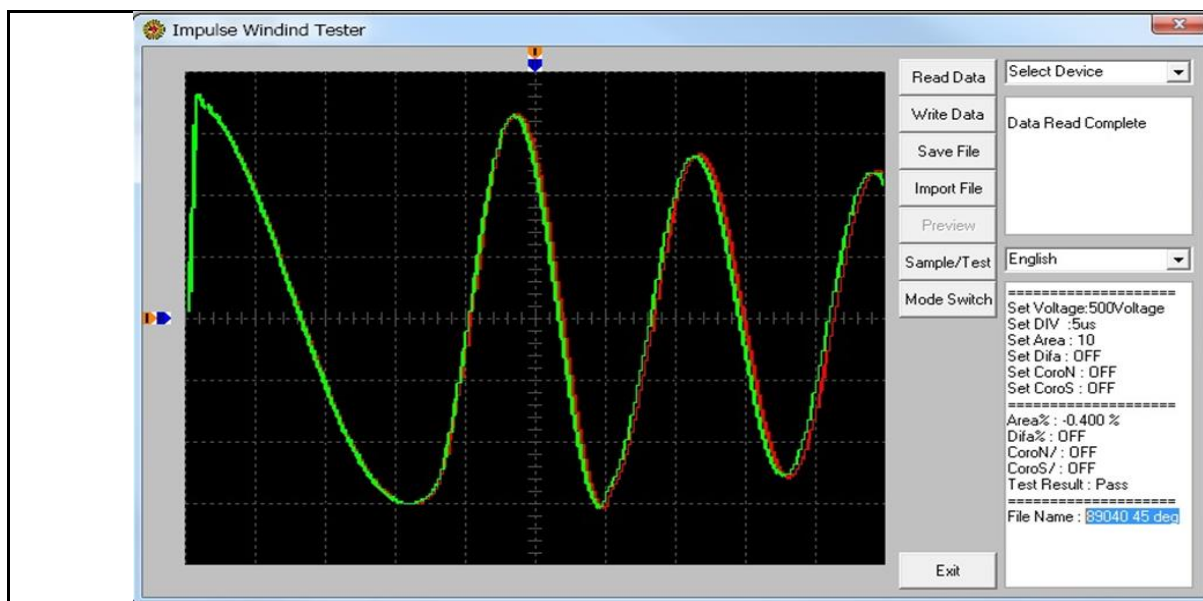
Test Condition:

Date:	11/07/2014	[DD / MM / YYYY]
Ambient Temp:	17.5	[°C]
Humidity:	58	[%]

Criteria:

Measurement:	Record the resulting waveform and insert below.
Observation:	No significant difference between the measured waveform and the reference waveform.

Results:



Judgement:

PASS / ~~FAIL~~

Strike through whatever is not applicable

J-Lab Apex Magnet Small Coil - Coil Test Record

Test Item:

Test Item:	(5) DC Hipot Test.
Detail:	Immerse the completed coil in tap water and then measure the leakage current between the coil terminals and the water bath at 4.8[kVDC] for 1 minute.

Unit Under Test:

Contract:	Customer J-Labs	Purchase Order # 881190	Magnet Serial Number PO # 197292
Part:	Drawing No. 062713-00 062713-01	Revision - 1	Description Large Coil 90° Assembly Large Coil 45° Assembly
Coil Serial Number:	89040		

Equipment:

Hipot Tester:	Model Quadtech 20plus	Serial Number S00300001272	Calibration Due Date 5/03/2015
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Test Condition:

Date:	23/07/2014	[DD / MM / YYYY]
Ambient Temp:	9.0	[°C]
Humidity:	60	[%]

Criteria:

Measurement:	Record the leakage current @ 4.8 [kVDC]
Observation:	No evidence of breakdown or significant change in insulation resistance.

Results:

Leakage Current:	0.3	[µA] @ 4.8 [kVDC]
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Judgement:

PASS / FAIL

Strike through whatever is not applicable