

## 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 J-Labs	Purchase Order # 5100002741	Magnet Serial Number 01
Part:	Drawing No. 0006A000	Revision C	Description Small coil assembly
Coil Serial Number:	89174		

### Equipment:

Pressure Gauge:	Model Dweyer DPG-09	Serial Number BSL-0009-DPG-788	Calibration Due Date 11/07/2015
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### Test Condition:

Date:	21/07/2014	[DD / MM / YYYY]
Ambient Temp:	15.2	[°C]
Humidity:	63	[%]

### Criteria:

Observation:	No water leaks detected.
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### Results:

Pancake 1:	<del>Leaks</del>	/	No Leaks
Pancake 2:	<del>Leaks</del>	/	No Leaks
Pancake 3:	<del>Leaks</del>	/	No Leaks
Pancake 4:	<del>Leaks</del>	/	No Leaks

Strike through whatever is not applicable

### Judgement:

PASS	/	<del>FAIL</del>
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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 J-Labs	Purchase Order # 5100002741	Magnet Serial Number 01
Part:	Drawing No. 0006A000	Revision C	Description Small coil assembly
Coil Serial Number:	89174		

### Equipment:

	Model	Serial Number	Calibration Due Date
Flow Meter:	RS	FG9	10/01/2015
Pressure Gauge:	Dwyer DPG-09	BSL-0003-DPG	23/07/2015
Pressure Gauge:	Dwyer DPG-09	BSL-0003-DPG	23/07/2015

### Test Condition:

Date:	28/07/2014	[DD / MM / YYYY]
Ambient Temp:	13.1	[°C]
Humidity:	58	[%]

### Criteria:

Measurement:	Water flow rate $\geq$ 2.60 [L/min] @ 32.5 [PSI] pressure drop
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### Results:

	Pressure [PSI]			Flow Rate [l/min]
	Inlet	Outlet	Drop	
Pancake 1:	44.5	9.5	35.0	2.6
Pancake 2:	44.8	10.7	34.1	2.6
Pancake 3:	44.8	10.8	34.0	2.6
Pancake 4:	45.0	10.4	34.6	2.6

### Judgement:

PASS / <del>FAIL</del>
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Strike through whatever is not applicable

## J-Lab Apex Magnet Small Coil - Coil Test Record

### Test Item:

Test Item:	<b>4-4 (1) (b) (i) Resistance Measurement of Magnet.</b>
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 J-Labs	Purchase Order # <b>5100002741</b>	Magnet Serial Number <b>01</b>
Part:	Drawing No. 0006A000	Revision C	Description Small coil assembly <input checked="" type="checkbox"/>
Coil Serial Number:	<b>89714</b>		

### Equipment:

	Model	Serial Number	Calibration Due Date
Thermometer:	HH506RA Omega	11000285	11/04/2015
Power Supply:	Isotech IPS303DD	321C095G2	25/10/2014
Voltmeter:	Isotech IDM72	25900022	8/05/2015

### Test Condition:

Date:	<b>21/07/2014</b>	[DD / MM / YYYY]
Ambient Temp:	<b>15.3</b>	[°C]
Humidity:	<b>63</b>	[%]

### Criteria:

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

### Results:

	Pancake 1	Pancake 2	Pancake 3	Pancake 4	Coil	
R <sub>meas</sub> :	<b>2.45</b>	<b>2.44</b>	<b>2.48</b>	<b>2.43</b>	<b>9.80</b>	[Ω]
T <sub>meas</sub> :	<b>10.0</b>	<b>10.0</b>	<b>10.0</b>	<b>10.0</b>	<b>10.0</b>	[°C]
R <sub>20°C</sub> :	<b>2.546</b>	<b>2.536</b>	<b>2.577</b>	<b>2.525</b>	<b>10.185</b>	[Ω]
$R_{20°C} = R_{meas} ( 1 + 0.00393 ( 20 - T_{meas} ) )$						

### Judgement:

<b>PASS</b> / <del><b>FAIL</b></del>
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 300V 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	5100002741	01
Part:	Drawing No.	Revision	Description
	0006A000	C	Small coil assembly
Coil Serial Number:	89714		

### Equipment:

	Model	Serial Number	Calibration Due Date
Impulse Tester:	Leaptronix	IWAT-5000A	4/12/2014

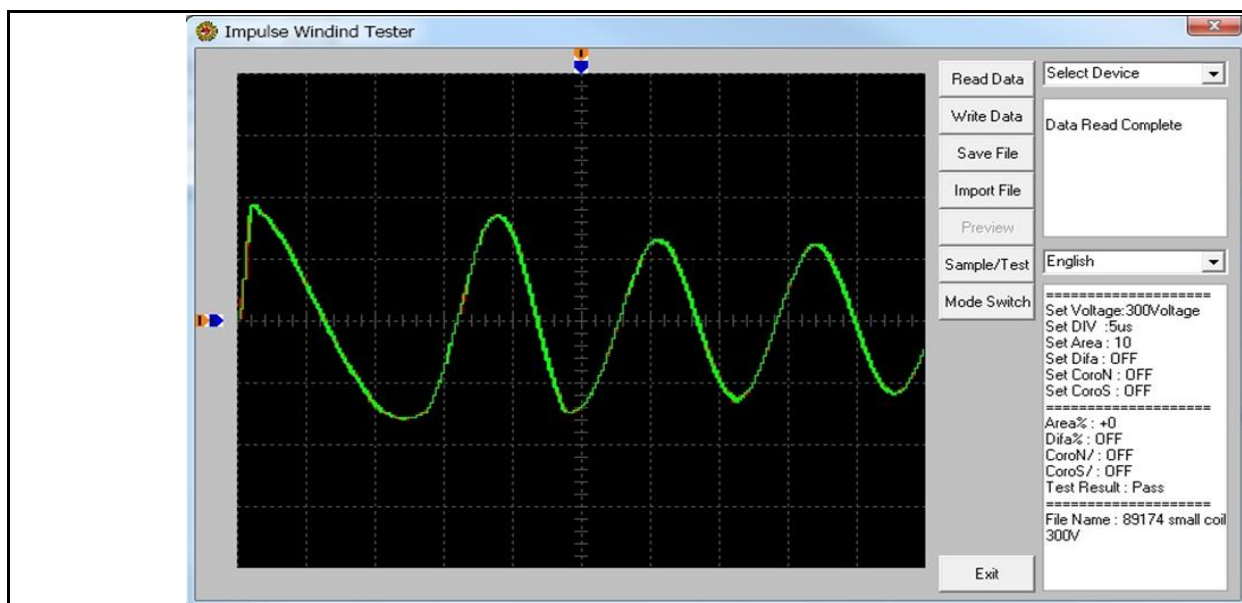
### Test Condition:

Date:	22/07/2014	[DD / MM / YYYY]
Ambient Temp:	10.2	[°C]
Humidity:	57	[%]

### 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 # 5100002741	Magnet Serial Number 01
Part:	Drawing No. 0006A000	Revision C	Description Small coil assembly
Coil Serial Number:	89174		

### Equipment:

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

Date:	28/07/2014	[DD / MM / YYYY]
Ambient Temp:	14.3	[°C]
Humidity:	54	[%]

### Criteria:

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

### Results:

Leakage Current:	0.8	[µA] @ 4.8 [kVDC]
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### Judgement:

PASS / <del>FAIL</del>
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Strike through whatever is not applicable