



L5

4U Server
Tower PC Liquid Cooler

PRODUCT SPECIFICATIONS



DYNATRON
The Thermal Solution Architect

NEW PRODUCT SPEC SHEET

Model Number: L5

- Liquid Cooling Solution Recommended for CPU Models As Following,
 - Intel® Processor, Socket LGA 2011, Square ILM Mounting
 - Intel® Processor, Socket LGA 2066, Square ILM Mounting
 - Intel® Processor, Socket LGA 1356, 1366
 - Intel® Processor, Socket LGA 1150, 1155, 1156
 - Intel® Processor, Socket LGA 1200
 - Intel® Processor, Socket LGA 1700
 - AMD® Processor, Socket AM2, AM2+, AM3, AM4, AM5, FM1, FM2

- For 4U Server / Tower PC Chassis

Overall Description :

- Cold Plate Module with Copper Base
- Space Saver Light Weight Radiator
- TWO 12cm Relayed Fans with Individual 4-Pin PWM Connector
- Stand-alone Water Pump with Powerful Flow Rate 1.7 Liter Per Minute
- Mounting Accessories are included
- Shin-Etsu 7762 Thermal Compound Pre-Printed on Base
- Support CPU Overclocking Power Mode up to 250 Watts Heat Dissipation

Cooling Fan Specification:

- Model Number: DF121238BH - PWMG
- Dimension: 120mm x 120mm x 38mm
- Bearing: Liquid State
- Rated Voltage: 12V
- Rated Speed:
 - At Duty Cycle 0~20%: 900±200 RPM
 - At Duty Cycle 50%: 1500±200 RPM
 - At Duty Cycle 100%: 2300±10% RPM

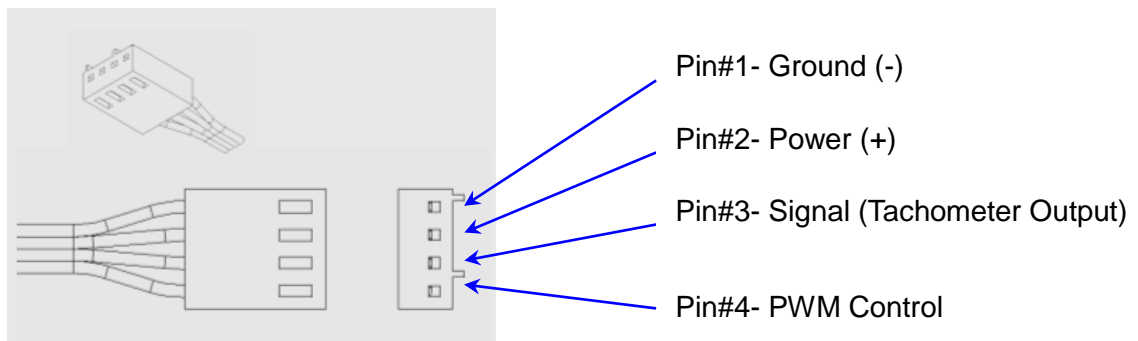
- Rated Input Power:
 - At Duty Cycle 0~20%: 1.2 W
 - At Duty Cycle 50%: 2.0 W
 - At Duty Cycle 100%: 4.9 W

- Rated Airflow:
 - At Duty Cycle 0~20%: 34.8 CFM
 - At Duty Cycle 50%: 58.0 CFM
 - At Duty Cycle 100%: 88.93 CFM

- Rated Static Pressure:
 - At Duty Cycle 0~20%: 0.79 mm-H₂O
 - At Duty Cycle 50%: 2.20 mm-H₂O
 - At Duty Cycle 100%: 5.17 mm-H₂O

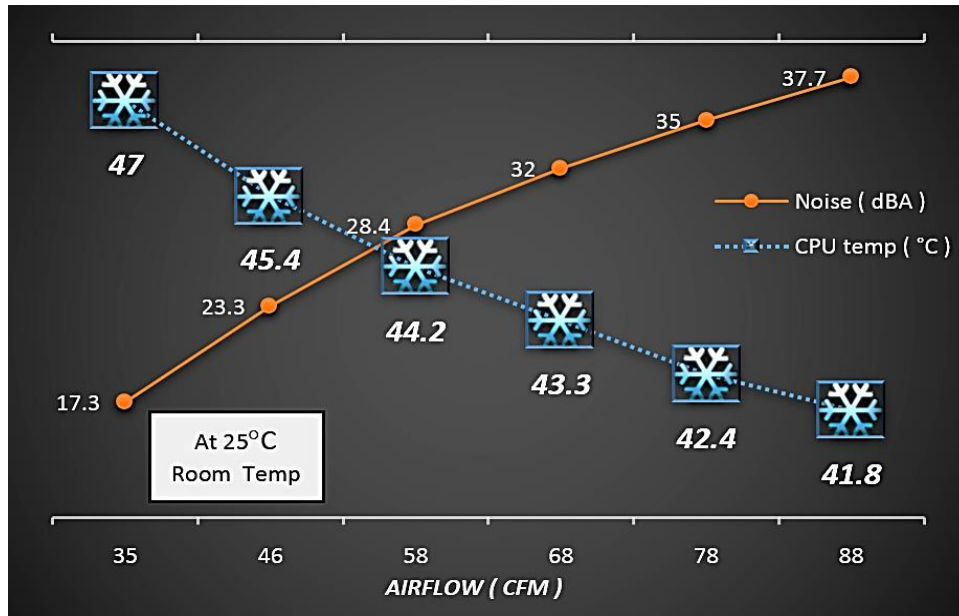
- Rated Acoustical Noise:
 - At Duty Cycle 0~20%: 17.3 dBA
 - At Duty Cycle 50%: 28.4 dBA
 - At Duty Cycle 100%: 37.7 dBA

- Lead Wire Pin Out Diagram :

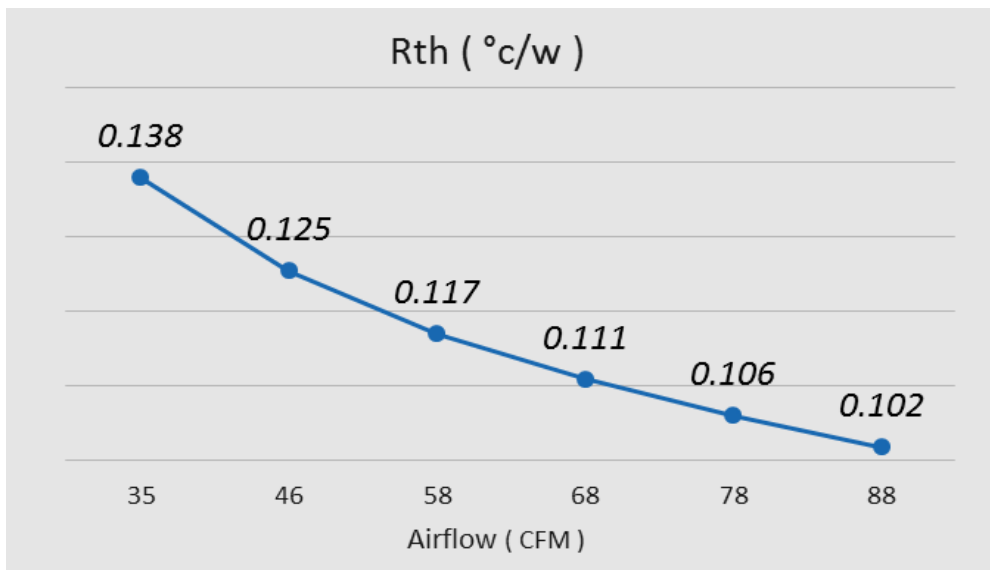


Desktop Liquid Cooler L5 Thermal Performance

(Airflow VS. CPU Temperature & Noise)



(Airflow VS. Thermal Resistance)



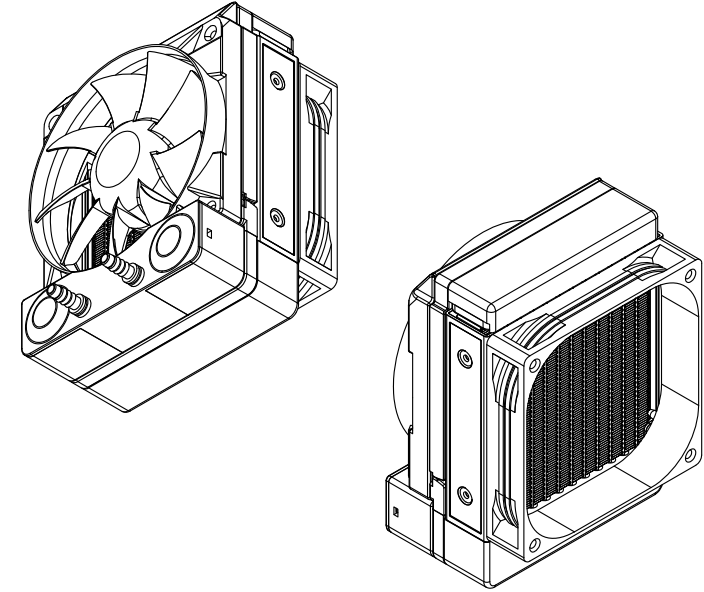
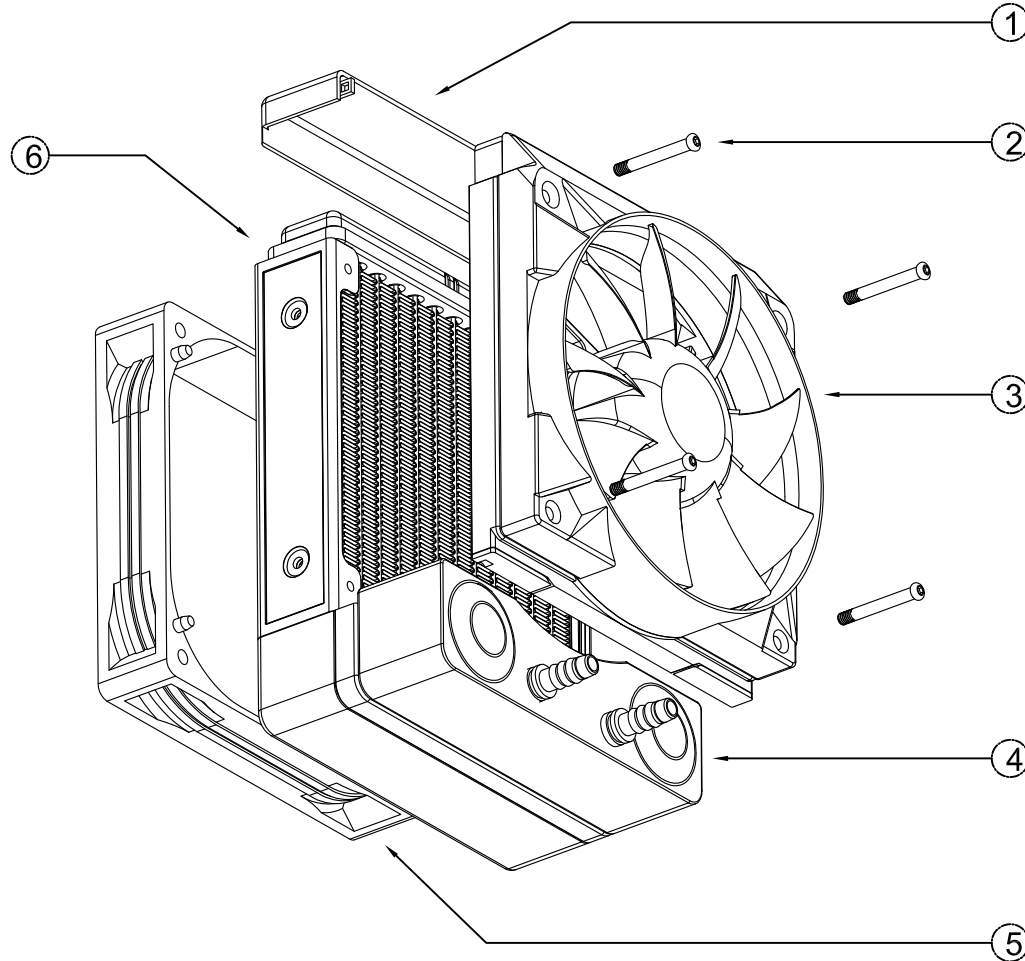
CONFIDENTIAL DOCUMENT

THIS DRAWING CONTAINS INFORMATION PROPRIETARY TO DYNATRON CORPORATION AND DYNAEON INDUSTRIAL CO., LTD. ANY REPRODUCTION, DISCLOSURE, OR USE OF THIS DRAWING IS EXPRESSLY PROHIBITED EXCEPT AS DYNATRON CORPORATION AND DYNAEON INDUSTRIAL CO., LTD. MAY OTHERWISE AGREE TO IN WRITING.

REV#	DESCRIPTION	CHECKER	DATE
0.0	INITIAL RELEASE	LANG	07/08/2015

ASSEMBLY PARTS


WHOLE SET OF CONDENSER



6	Radiator	Aluminum Alloy	1
5	Adapter Frame	Plastic	1
4	Pump Enclosure	Plastic	1
3	Fan, DF121238SH-PWM, 2400RPM	Plastic Frame	1
2	Screw, Fan	Steel	4
1	Cover, Top	Plastic	1
ITEM#	DESCRIPTION	MATERIAL	QTY.

Notes:

1. The Figure is For Reference Only, and Not For Scale
2. Overall Dimension: 165 x 120 x 96 mm

DATE	NAME	 DYNATRON CORPORATION	
DRAWN 07/08/15	ENGR	TITLE: Desktop Liquid Cooler L5 Condenser BOM & Exploded Assembly Drawing	
CHECKED 07/08/15	LANG		
ENG. APPR.			
MFG. APPR.			
Q.A.			
COMMENTS:		DWG. No:	REV
		DYN-EP-L5	0.0

1 2 3 4 5 6 7

REV#	DESCRIPTION	CHECKER	DATE
0.0	INITIAL RELEASE	LANG	07/08/15

A

B

C

D

E

F

G

H

A

B

C

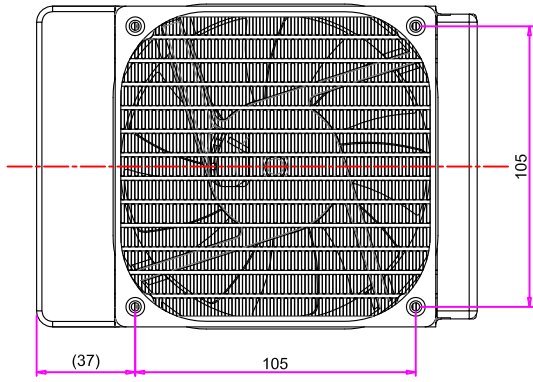
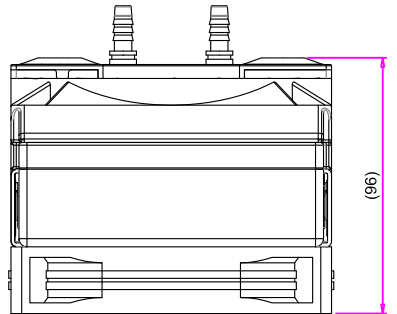
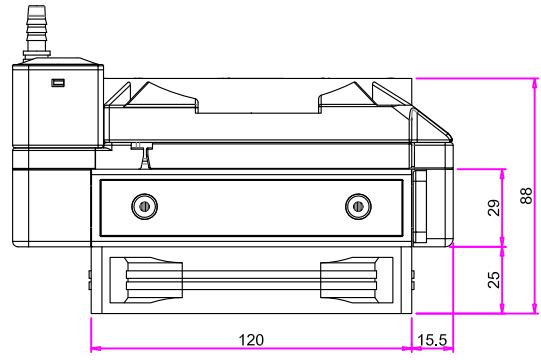
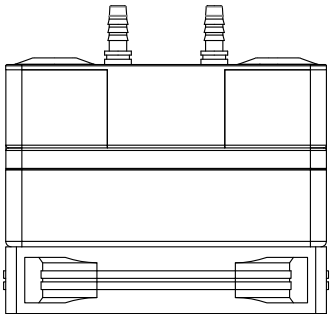
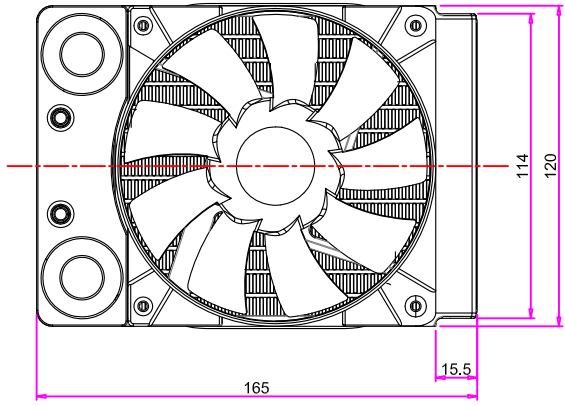
D

E

F

G

H



	NAME	DATE
DRAWN BY	ENGR	07/08/2015
CHECKED BY	LANG	07/08/2015
ENG. APPROVED		
MFG. APPROVED	-	-



DYNATRON CORPORATION

TOP MOTOR

TITLE: Desktop Liquid Cooler **L5**
Overall Dimension Drawing

CONFIDENTIAL DOCUMENT
THIS DRAWING CONTAINS INFORMATION PROPRIETARY TO DYNATRON CORPORATION AND DYNAEON INDUSTRIAL CO., LTD. ANY REPRODUCTION, DISCLOSURE, OR USE OF THIS DRAWING IS EXPRESSLY PROHIBITED EXCEPT AS DYNATRON CORPORATION AND DYNAEON INDUSTRIAL CO., LTD. MAY OTHERWISE AGREE TO IN WRITING.

VIEW	
UNITS	MM

DWG. No: **DYN-DM-L5**

REV. **0.0**

1 2 3 4 5 6 7



DYNATRON CORPORATION

TOP MOTOR TECHNOLOGY (HUIZHOU) CO, LTD

Specification for Approval

Customer:		
Model Number:	12038FAN	
Part Number:		
Issued Date:	Wednesday, March 18, 2015	
Version:	A	
Customer Approval		
Approval:	Check:	
<p>Corporate Headquarters Dynatron Corporation 33200 Western Avenue Union City, CA 94587 U.S.A. Tel: 510-498-8888 Fax: 510-498-8488</p>	<p><i>Taipei Office</i> (Taiwan, R.O.C.) 8F, No. 35, Lane:221 Gang Cian. Road, Taipei, Taiwan, R.O.C. Tel: 886-2-27995799 (Rep.) Fax: 886-2-2799-9577</p>	<p>Manufactory TOP MOTOR TECHNOLOGY(HUI ZHOU)CO,LTD Baishi Village, QiuchangTown, Huiyang Dist, HuizhouCity, Guangdong Province, P.R. China Tel: 86-752-822-8000 (Rep.) Fax: 86-752-822-8999</p>
Approval:	Check:	Handler:
Simon Wang	-	Jandy Chan



DYNATRON CORPORATION

TOP MOTOR TECHNOLOGY (HUIZHOU) CO, LTD

	CONTENTS	Page
1.	SCOPE	3
2.	ELECTRICAL CHARACTERISTICS	3
3.	MECHANICAL CHARACTERISTICS	4
4.	ENVIRONMENTAL	4
5.	PROTECTION	5
6.	ATTACHMENTS	5
	6.1. Product Dimension	6



DYNATRON CORPORATION

TOP MOTOR TECHNOLOGY (HUIZHOU) CO, LTD

1. SCOPE

This specification defines the electrical and mechanical characteristics of the □ AC / ■ DC Brush Less (■Liquid State /□2-Balls Bearing) axial flow fan, which is carefully designed and manufactured for your special needs by Dynatron Corporation.

2. ELECTRICAL CHARACTERISTICS

Items		Description		
1.	Rated Voltage	DC 12 V		
2.	Operating Voltage	10.8V~13.2V		
3.	PWM Frequency 25KHz	Duty Cycle D=20%	Duty Cycle D=50%	Duty Cycle D=100%
4.	Start Voltage	7V		
5.	Air Flow – At rated voltage zero static pressure (minimal value)	0.986m ³ / min (34.80CFM)	1.643m ³ / min (58.00CFM)	2.520m ³ / min (88.93CFM)
6.	Static Pressure – At rated voltage At zero air flow	0.792mm-H ₂ O (0.031inch-H ₂ O)	2.20mm-H ₂ O (0.087inch-H ₂ O)	5.17mm-H ₂ O (0.204inch-H ₂ O)
7.	Input Current	0.10A	0.17A	0.41A
8.	Speed	900RPM±200	1500RPM±200	2300RPM±10%
9.	Acoustical Noise	17.31dBA	28.40dBA	37.68dBA
10.	Input Power	1.20W	2.04W	4.92W
11.	Insulation Resistance – Between Frame and Terminal	10 M ohm at DC 500 V		
12.	Dielectric Strength – Between Frame and Terminal	5 MA (Max.) @ AC 500 V 60 Hz 1 min.		
13.	Life – Continuous operating under normal temperature (40 °C or 104 °F)	70,000 hours		
14.	Rotation	Anticlockwise Air Discharged		
15.	Lead Wires	UL 2468,AWG 26 or Equivalent “-”: Black; “+”: Black;“s”: Black; “PWM”: Black.		



DYNATRON CORPORATION

TOP MOTOR TECHNOLOGY (HUIZHOU) CO, LTD

3. MECHANICAL CHARACTERISTICS

Items		Description
1.	Dimension	Display as Drawing
2.	Frame	PBT UL94V-0 (Black GP)
3.	Impeller	PBT UL94V-0 (Black GP)
4.	Bearing System	Liquid State Bearing
5.	Weight	260±10grams

4. ENVIRONMENTAL

Items		Description
1.	Operating Temperature	- 10 °C ~ + 65 °C (65 %RH)
2.	Storage Temperature	- 30 °C ~ + 70 °C (65 %RH)
3.	Vibration Test	Displacement Amplitude: 0.75mm(Equivalent 10G) Frequency Range: 10Hz<->55Hz/30SEC. Linear Scanning 120 Cycle Endurance Timer Per Axis: 30Min. Orientation:X,Y,Z.
4.	Drop Test	Motor withstands one free body drop from 30 cm in high onto 10 mm thickness of wooden board for each of the three faces in minimum packing condition.
5.	Acoustic Noise	17.31/28.40/37.68dBA – Curve (Max17.81/28.90/38.18dBA) Measuring Condition – Under rated voltage in semi-anechoic chamber equipment sound level meter. (Figure A.)

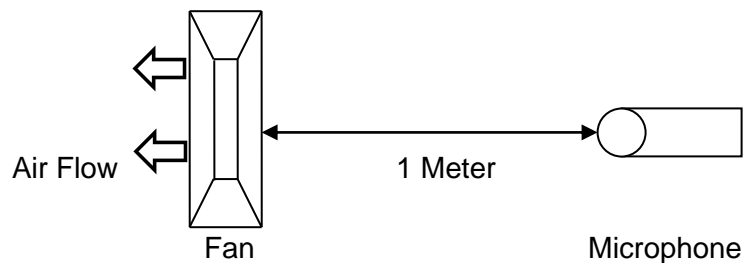


Figure A – Noise Level is measure at rated voltage in anechoic chamber in free air as above.



DYNATRON CORPORATION

TOP MOTOR TECHNOLOGY (HUIZHOU) CO, LTD

5. PROTECTION

Items		Description
1.	Polarity Protection	For polarity error connection to power, the circuit withstands reversed connection between positive and negative leads.

6. ATTACHMENTS

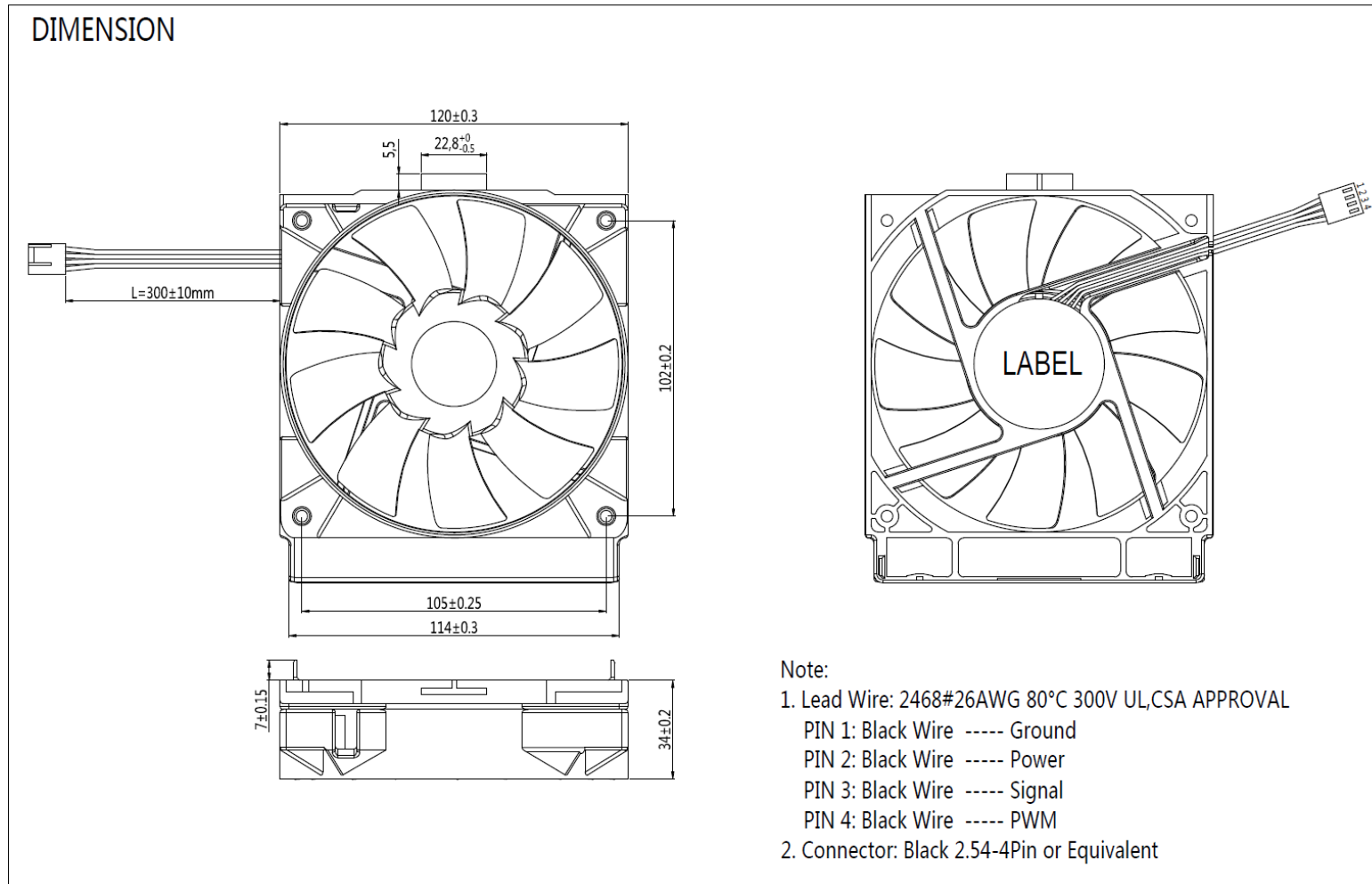
6.1. Product Dimension



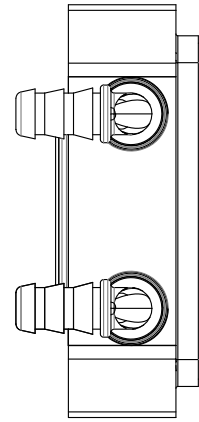
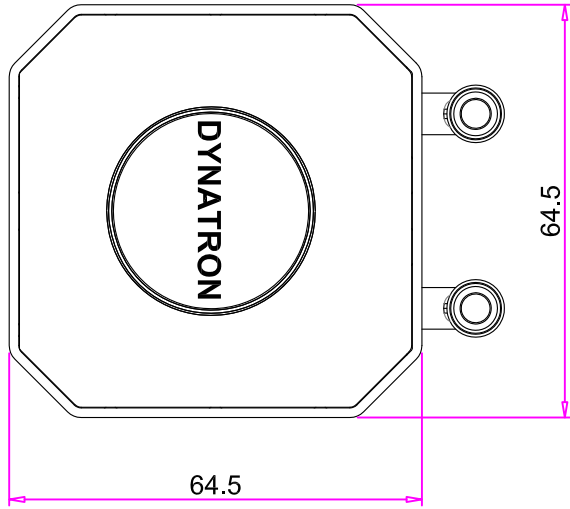
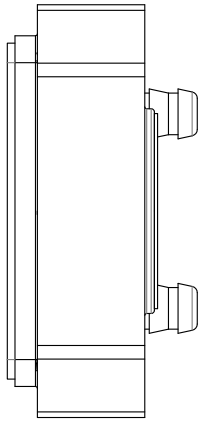
DYNATRON CORPORATION

TOP MOTOR TECHNOLOGY (HUIZHOU) CO, LTD

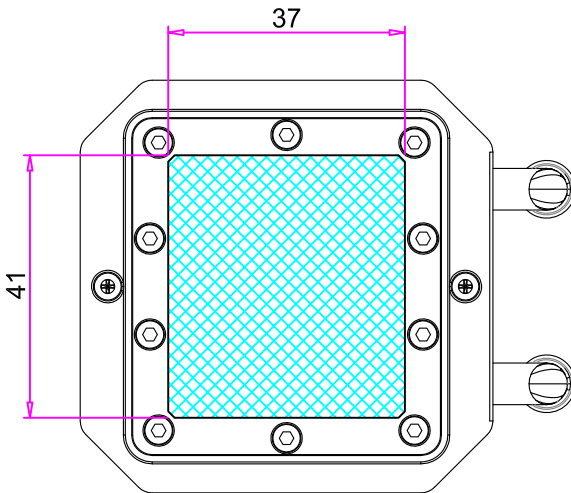
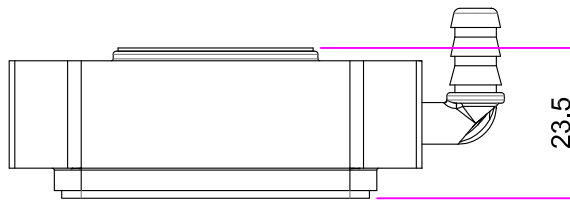
6.1. Product Dimension



REV#	DESCRIPTION	CHECKER	DATE
0.0	INITIAL RELEASE	LANG	10/07/15
1.0	ADD THERMAL GREASE PRE-APPLIED, F-3	LANG	12/04/15



0.10
Ra < 1.2
Grind



8	Thermal Grease, Pre-applied	Shin-Etsu 7762	1
7	Retaining Ring	Rubber	1
6	O-ring	Rubber	6
5	Nipple, 90° Angle	Plastic	2
4	Cold Plate Screw	Steel	10
3	Cold Plate Lid Screw	Steel	2
2	Cold Plate Lid	Plastic	1
1	Cold Plate Set	Enclosure Base	Plastic
		Base	Copper 1100
ITEM#	DESCRIPTION	MATERIAL	QTY.

	NAME	DATE
DRAWN BY	ENGR	12/04/2015
CHECKED BY	LANG	12/04/2015
ENG. APPROVED		
MFG. APPROVED	-	-



DYNATRON CORPORATION

TITLE: Liquid Cooler Cold Plate
BOM & Overall Dimension Drawing

CONFIDENTIAL DOCUMENT

THIS DRAWING CONTAINS INFORMATION PROPRIETARY TO DYNATRON CORPORATION AND DYNAEDN INDUSTRIAL CO., LTD. ANY REPRODUCTION, DISCLOSURE, OR USE OF THIS DRAWING IS EXPRESSLY PROHIBITED EXCEPT AS DYNATRON CORPORATION AND DYNAEDN INDUSTRIAL CO., LTD. MAY OTHERWISE AGREE TO IN WRITING.

VIEW	
UNITS	MM

DWG. No: **DYN-BD-LCP**

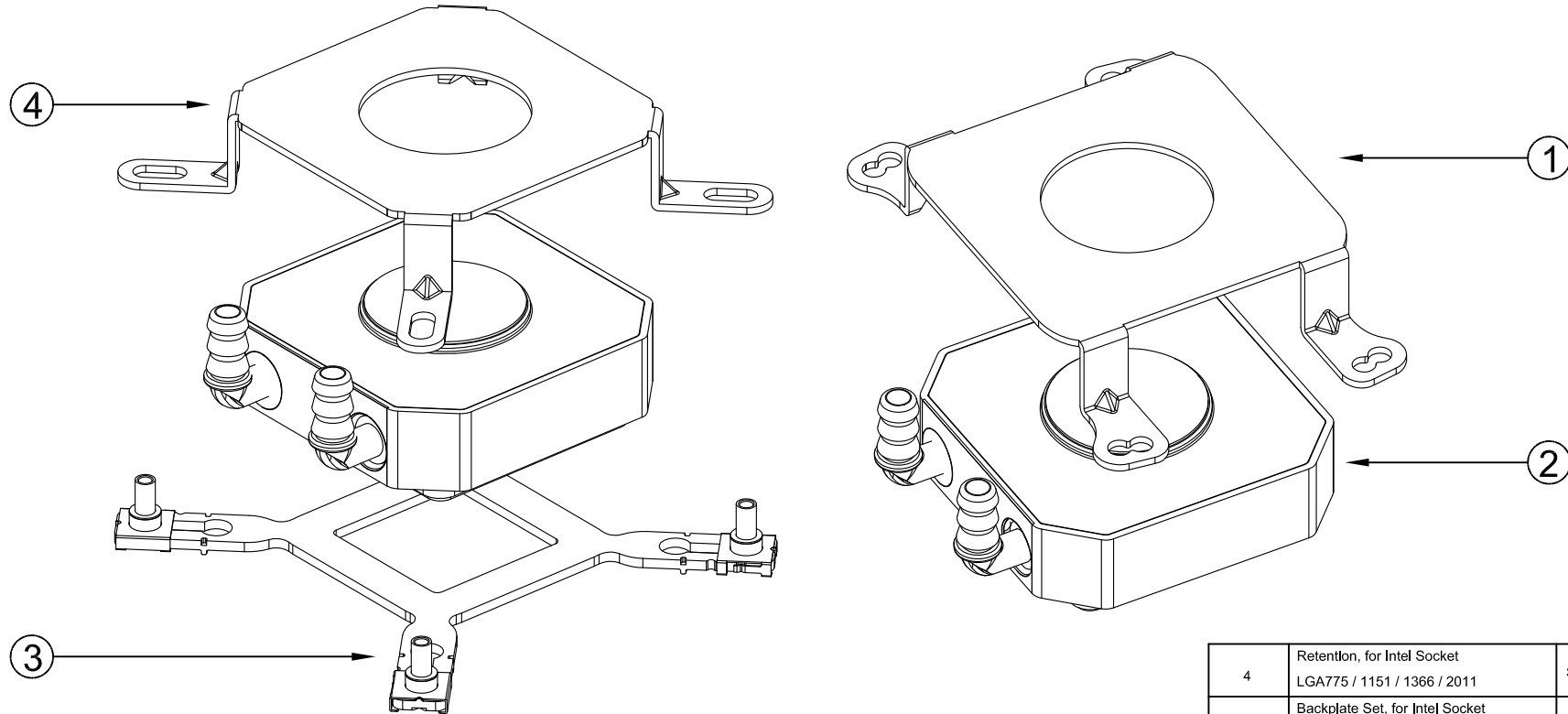
REV. **1.0**

CONFIDENTIAL DOCUMENT

THIS DRAWING CONTAINS INFORMATION PROPRIETARY TO DYNATRON CORPORATION AND DYNAEON INDUSTRIAL CO., LTD. ANY REPRODUCTION, DISCLOSURE, OR USE OF THIS DRAWING IS EXPRESSLY PROHIBITED EXCEPT AS DYNATRON CORPORATION AND DYNAEON INDUSTRIAL CO., LTD. MAY OTHERWISE AGREE TO IN WRITING.

REV#	DESCRIPTION	CHECKER	DATE
0.0	Initial Release	LANG	10/07/15

ASSEMBLY PARTS



4	Retention, for Intel Socket LGA775 / 1151 / 1366 / 2011	SPCC	1
3	Backplate Set, for Intel Socket LGA775 / 1151 / 1366 / 2011	Steel	1
2	Cold Plate Set	Enclosure	Plastic
		Base	Copper 1100
1	Retention for Intel Socket2011 Narrow for AMD Socket AM3 / AM2 / FM1 / FM2	SPCC	1
ITEM NO.	DESCRIPTION	MATERIAL	QTY.

DATE	NAME		TITLE: Liquid Cooler Cold Plate BOM & Exploded Drawing	
DRAWN	10/07/15			ENGR
CHECKED	10/07/15			LANG
ENG. APPR.				
MFG. APPR.				
Q.A.				
COMMENTS:	DWG. No:		REV	
	DYN-EP-LCP		0.0	



DYNATRON CORPORATION

TOP MOTOR TECHNOLOGY (HUIZHOU) CO, LTD

Specification for Approval

Customer:		
Model Number:	watercooler pump	
Part Number:		
Issued Date:	Wednesday, August 31, 2016	
Version:	A	
Customer Approval		
Approval:	Check:	
Corporate Headquarters Dynatron Corporation 33200 Western Avenue Union City, CA 94587 U.S.A. Tel: 510-498-8888 Fax: 510-498-8488	<i>Taipei Office</i> <i>(Taiwan, R.O.C.)</i> 8F, No. 35, Lane:221 Gang Cian. Road, Taipei, Taiwan, R.O.C. Tel: 886-2-27995799 (Rep.) Fax: 886-2-2799-9577	Manufactory TOP MOTOR TECHNOLOGY(HUI ZHOU)CO,LTD Baishi Village, QiuchangTown, Huiyang Dist, HuizhouCity, Guangdong Province, P.R.China Tel: 86-752-822-8000 (Rep.) Fax: 86-752-822-8999
Approval:	Check:	Handler:
Simon Wang	-	Hui mei



DYNATRON CORPORATION

TOP MOTOR TECHNOLOGY (HUIZHOU) CO, LTD

	CONTENTS	Page
1.	SCOPE	3
2.	ELECTRICAL CHARACTERISTICS	3
3.	MECHANICAL CHARACTERISTICS	4
4.	ENVIRONMENTAL	4
5.	PROTECTION	5
6.	ATTACHMENTS	5
	6.1. Product Dimension	6



DYNATRON CORPORATION

TOP MOTOR TECHNOLOGY (HUIZHOU) CO, LTD

1. SCOPE

This specification defines the electrical and mechanical characteristics of the AC / DC Brush Less (Sleeve Bearing / 2-Balls Bearing) axial flow fan, which is carefully designed and manufactured for your special needs by Dynatron Corporation.

2. ELECTRICAL CHARACTERISTICS

Items		Description
1.	Rated Voltage	DC 12 V
2.	Start Voltage	DC 9 V
3.	Operating Voltage	10.2V~13.8V
4.	Flow Rate (minimal value)	1.7 LPM
5.	Input Current	0.25 A (Max)
6.	Input Power	3.0 W
7.	Speed	4000RPM \pm 10%
8.	Insulation Resistance – Between Frame and Terminal	10 M ohm at DC 500 V
9.	Dielectric Strength – Between Frame and Terminal	5 mA (Max.) @ AC 500 V 60 Hz 1 min.
10.	Life – Continuous operating under normal temperature (40 °C or 104 °F)	50,000 hours
11.	Rotation	Counterclockwise Air Discharged
12.	Autorestart Time	3-5sec
13.	Lead Wires	UL 2468, awg 26 or Equivalent “-”: Black; “+”: Black; “s”: Black.
14.	Acoustical Noise	30.00dBA



DYNATRON CORPORATION

TOP MOTOR TECHNOLOGY (HUIZHOU) CO, LTD

3. MECHANICAL CHARACTERISTICS

Items		Description
1.	Dimension	Display as Drawing
2.	Frame	PPS UL94V-0 (Black GP)
3.	Impeller	PPS UL94V-0 (Black GP)
4.	Bearing System	Ceramic Bearing
5.	Weight	56±5grams

4. ENVIRONMENTAL

Items		Description
1.	Operating Temperature	- 10 °C ~ + 65 °C (65 %RH)
2.	Storage Temperature	- 30 °C ~ + 70 °C (65 %RH)
3.	Vibration Test	Displacement Amplitude: 0.75mm(Equivalent 10G) Frequency Range: 10Hz<->55Hz/30SEC. Linear Scanning 120 Cycle Endurance Timer Per Axis: 30Min. Orientation:X,Y,Z.
4.	Drop Test	Motor withstands one free body drop from 30 cm in high onto 10 mm thickness of wooden board for each of the three faces in minimum packing condition.
5.	Acoustic Noise	30.00dBA – Curve (30.50Max) Measuring Condition – Under rated voltage in semi-anechoic chamber equipment sound level meter. (Figure A.)

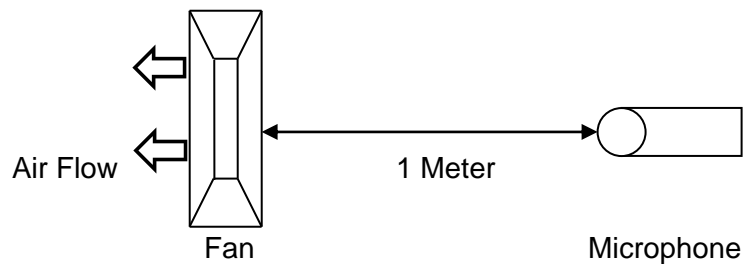


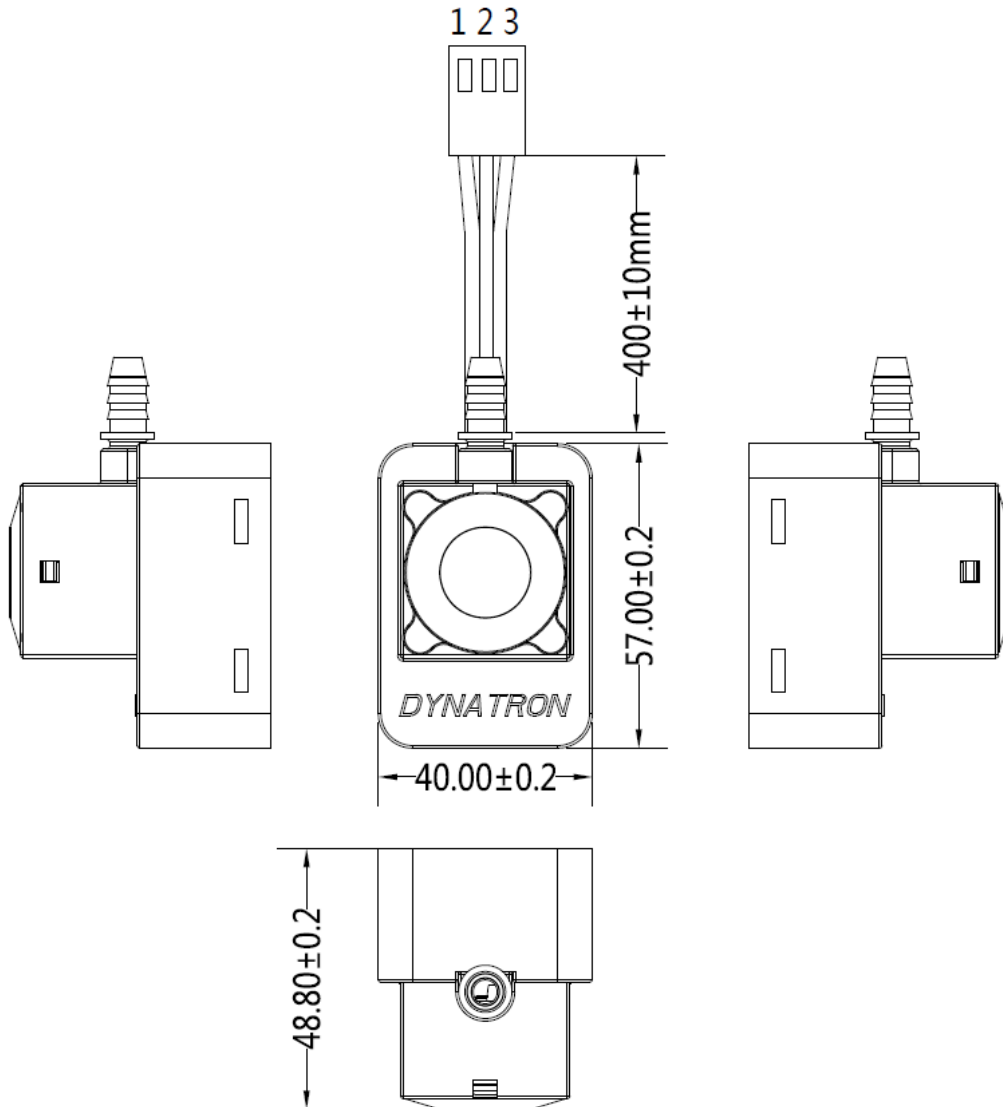
Figure A – Noise Level is measure at rated voltage in anechoic chamber in free air as above.



DYNATRON CORPORATION

TOP MOTOR TECHNOLOGY (HUIZHOU) CO, LTD

DIMENSION:



1.Note:

1.Leed Wire:UL2468 #26AWG

PIN 1: Black Wire ----Ground

PIN 2: Black Wire ----Power

PIN 3: Black Wire ----Signal

2.Connector:2510-3P