

L3

1U Liquid Cooler

PRODUCT SPECIFICATIONS



DYNATRON
The Thermal Solution Architect

NEW PRODUCT SPEC SHEET

Model Number: L3

- Liquid Cooling Solution Recommended for CPU Models As Following,
 - Intel® Processor, Socket LGA2011, Square ILM Mounting
 - Intel® Processor, Socket LGA2066, Square ILM Mounting
 - Intel® Processor, Socket LGA1356, 1366
 - Intel® Processor, Socket LGA1150, 1151, 1155, 1156
 - Intel® Processor, Socket LGA1200
 - Intel® Processor, Socket LGA1700
 - AMD® Processor, Socket AM2, AM2+, AM3, AM4, AM5, FM1, FM2

- For One-U Server

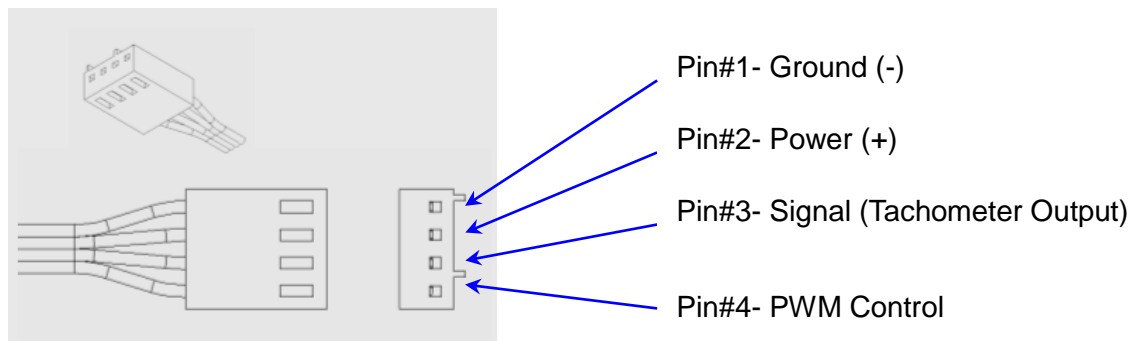
Overall Description :

- Cold Plate Module with Copper Base
- Space Saver Light Weight Radiator
- 4cm Cooling Fans with 4-Pin PWM Connector
- Stand-alone Water Pump with Powerful Flow Rate 1.7 Liter Per Minute
- 30cm Black Pair EPDM Tube Assembled
- Mounting Accessories are included
- Shin-Etsu 7762 Thermal Compound Pre-Printed on Base
- Support CPU Power up to 195 Watts(Intel) and up to 165 Watts(AMD) Heat Dissipation

Cooling Fan Specification:

- Model Number: DF124028BM - PWMG
- Dimension: 40mm x 40mm x 28mm
- Bearing Type: Ball, Dual
- Rated Voltage: 12V
- Rated Speed:
 - At Duty Cycle 0~20%: 3300±10% RPM
 - At Duty Cycle 50%: 5700±10% RPM
 - At Duty Cycle 100%: 12000±10% RPM

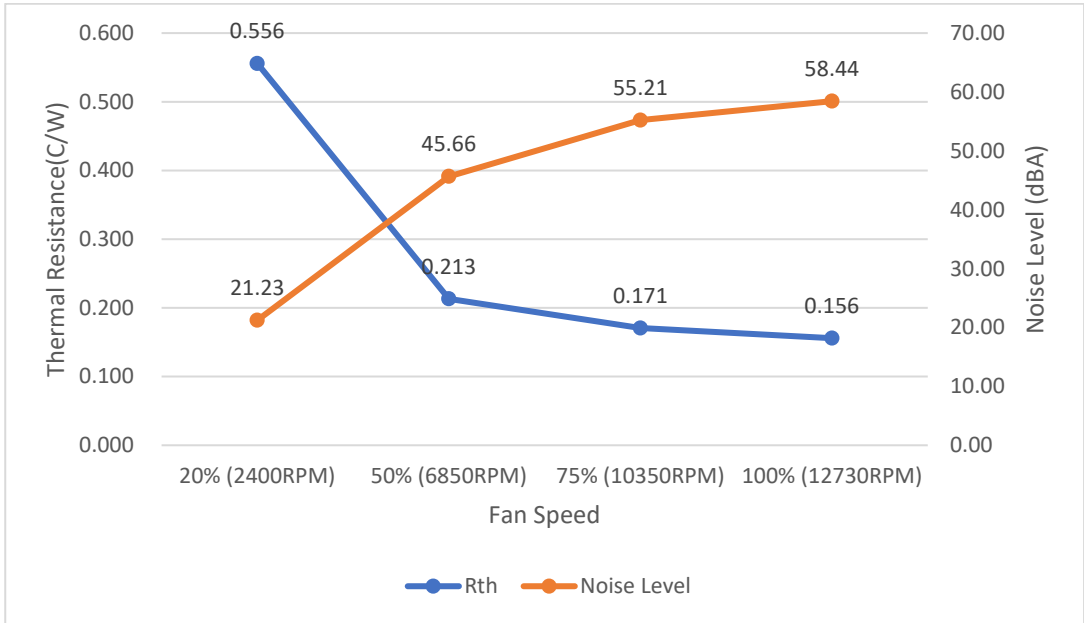
- Rated Input Power:
 - At Duty Cycle 0~20%: 0.72 W
 - At Duty Cycle 50%: 1.56 W
 - At Duty Cycle 100%: 8.40 W
- Rated Airflow:
 - At Duty Cycle 0~20%: 5.92 CFM
 - At Duty Cycle 50%: 10.23 CFM
 - At Duty Cycle 100%: 21.53 CFM
- Rated Static Pressure:
 - At Duty Cycle 0~20%: 1.73 mm-H₂O
 - At Duty Cycle 50%: 5.17 mm-H₂O
 - At Duty Cycle 100%: 22.91 mm-H₂O
- Rated Acoustical Noise:
 - At Duty Cycle 0~20%: 25.9 dBA
 - At Duty Cycle 50%: 37.8 dBA
 - At Duty Cycle 100%: 54.0 dBA
- Lead Wire Pin Out Diagram :



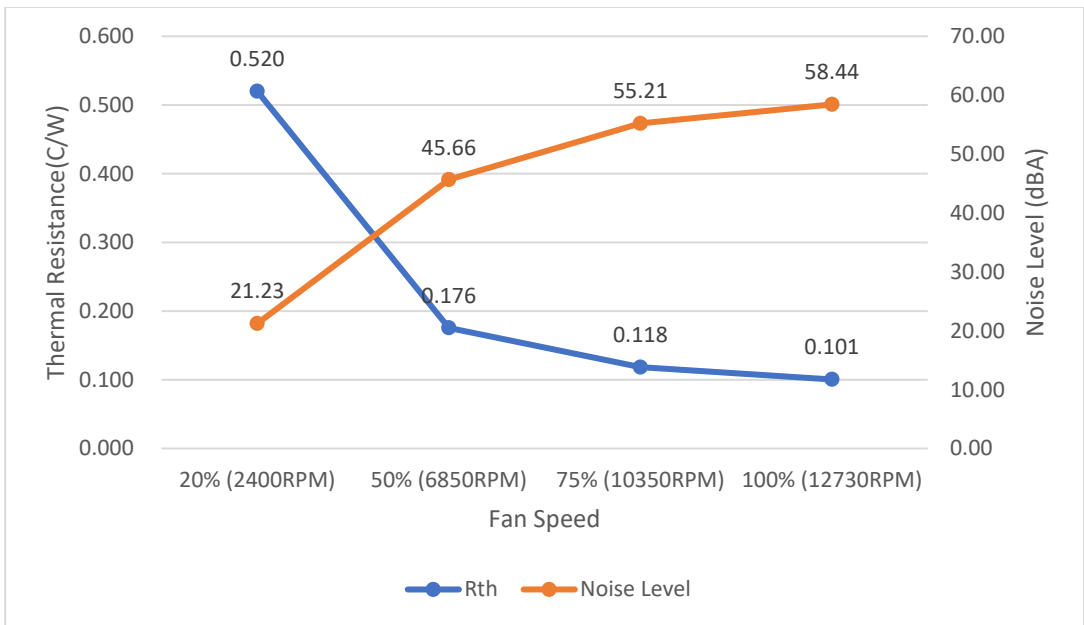


Performance Chart: Active Cooler L3 Thermal Resistance vs. Fan Speed (Duty Cycle and RPM)

LGA 1700



Socket AM5



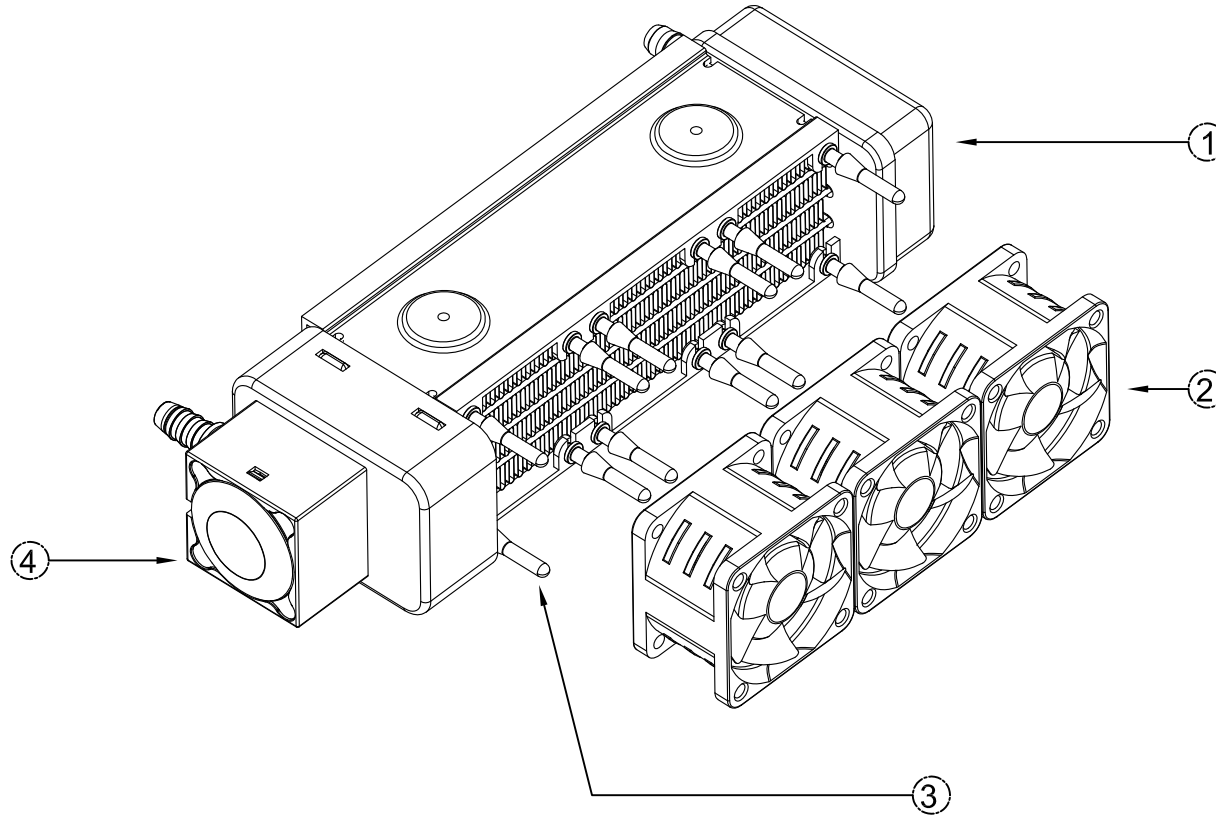
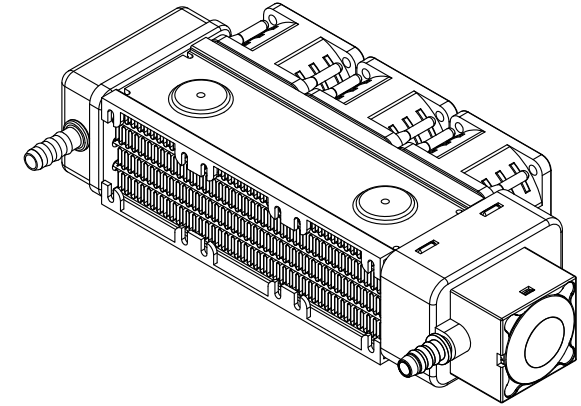
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| REV# | DESCRIPTION | CHECKER | DATE |
|------|-----------------|---------|------------|
| 0.0 | INITIAL RELEASE | LANG | 10/08/2015 |

ASSEMBLY PARTS


WHOLE SET OF CONDENSER



| 4 | Pump Enclosure | Plastic | 1 |
|-------|-------------------------------|----------------|------|
| 3 | Grommet | Rubber | 12 |
| 2 | Fan, DF124028BM-PWM, 12000RPM | Plastic | 3 |
| 1 | Radiator | Aluminum Alloy | 1 |
| ITEM# | DESCRIPTION | MATERIAL | QTY. |

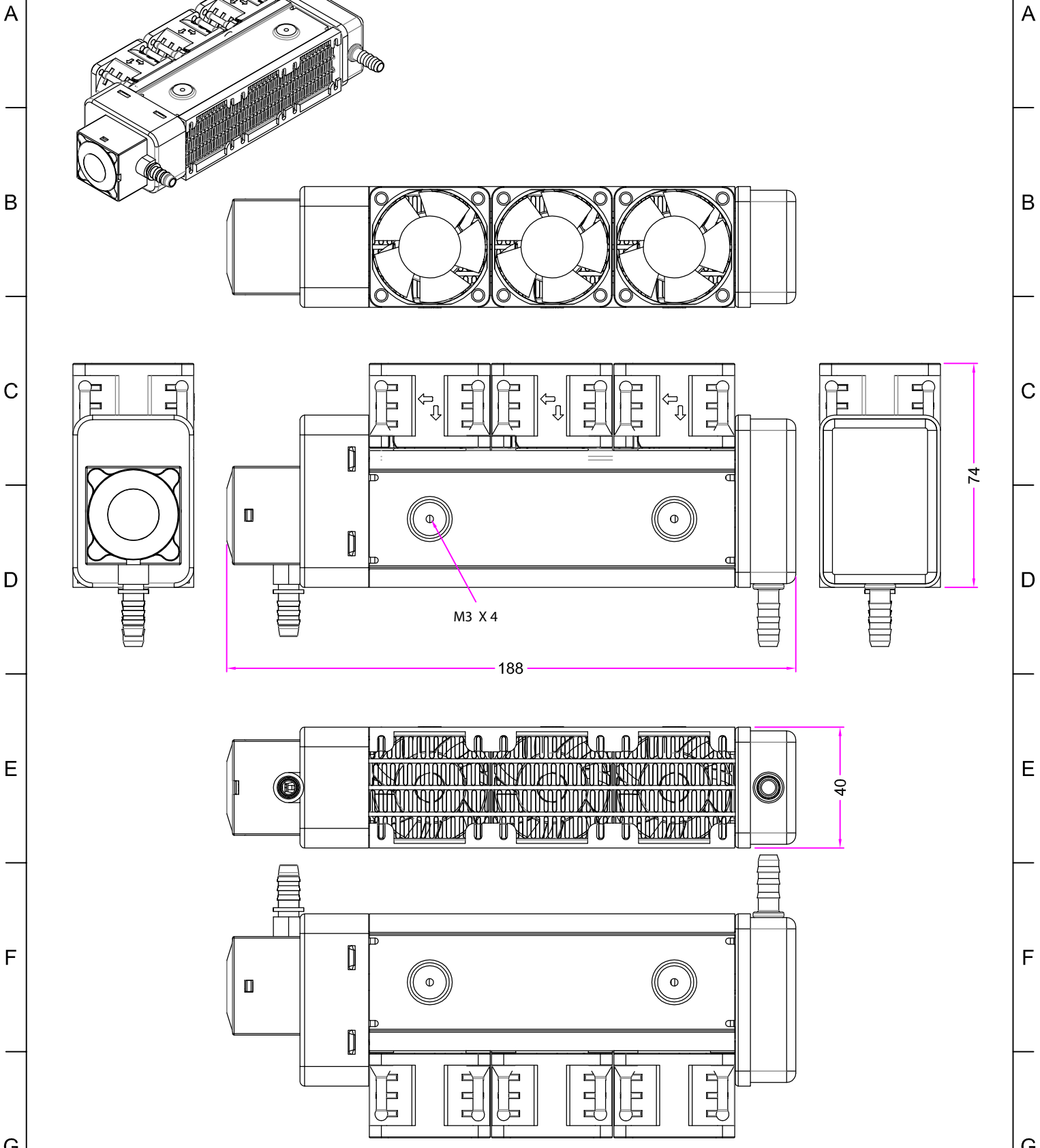
Notes:

1. The Figure is For Reference Only, and Not For Scale
2. Overall Dimension: 188 x 74 x 40 mm

| | | |
|------------------|------|---|
| DATE | NAME |  DYNATRON CORPORATION |
| DRAWN | ENGR | |
| CHECKED | LANG | |
| ENG. APPR. | | |
| MFG. APPR. | | |
| Q.A. | | TITLE: 1U Liquid Cooler L3 Condenser BOM & Exploded Assembly Drawing |
| COMMENTS: | | |
| DWG. No: | | REV |
| DYN-EP-L3 | | 0.0 |

1 2 3 4 5 6 7

| REV# | DESCRIPTION | CHECKER | DATE |
|------|-----------------|---------|------------|
| 0.0 | INITIAL RELEASE | LANG | 03/31/2015 |



M3 X 4

188

74

40

| | | |
|---------------|------|----------|
| | NAME | DATE |
| DRAWN BY | ENGR | 03/31/15 |
| CHECKED BY | LANG | 03/31/15 |
| ENG. APPROVED | | |
| MFG. APPROVED | - | - |



DYNATRON CORPORATION

TOP MOTOR

TITLE: 1U Server Liquid Cooler Condenser L3
Overall Dimension Drawing

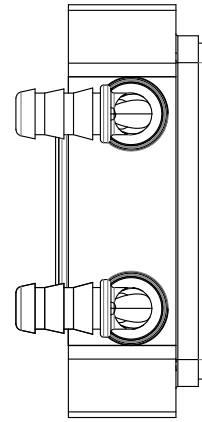
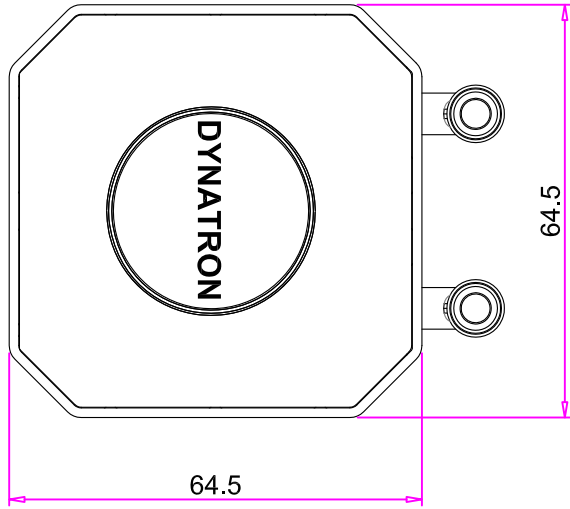
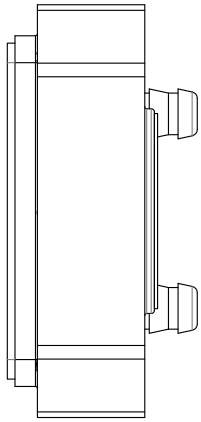
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| | |
|-------|----|
| VIEW | |
| UNITS | MM |

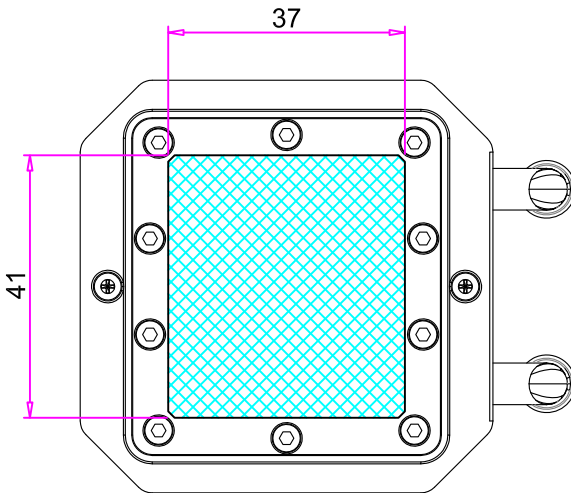
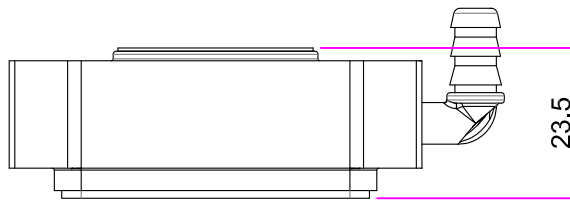
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|----------|-----|
| DWG. No: | |
| REV. | 0.0 |

1 2 3 4 5 6 7

| 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



| ITEM# | DESCRIPTION | MATERIAL | QTY. |
|-------|-----------------------------|----------------|------|
| 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 | 1 |
| | | Base | |

| | 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

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|-------|----|
| VIEW | |
| UNITS | MM |

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

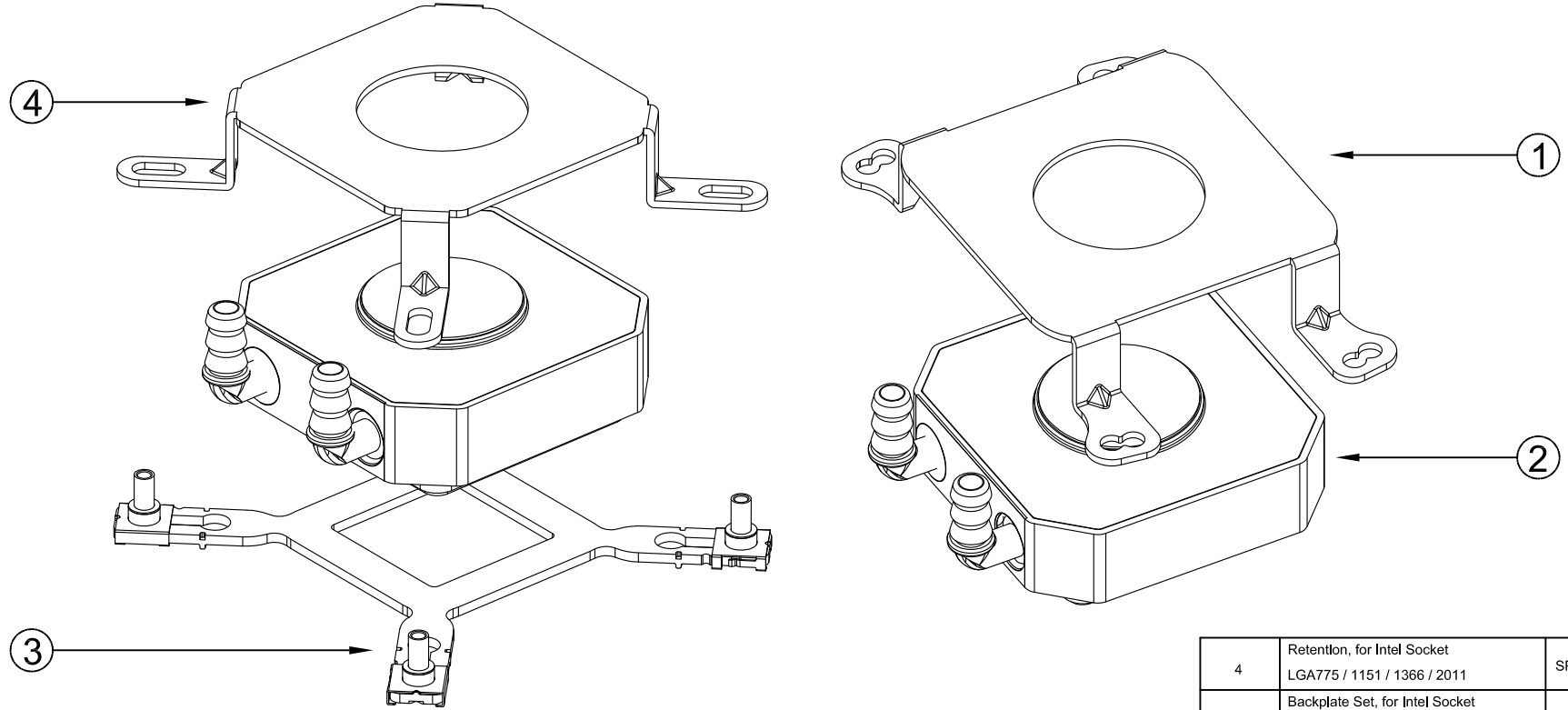
REV. **1.0**

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| 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 |  DYNATRON CORPORATION | |
| DRAWN | 10/07/15 ENGR | | TITLE: |
| CHECKED | 10/07/15 LANG | | Liquid Cooler Cold Plate BOM & Exploded Drawing |
| 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

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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) | 70,000 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 |



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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.) |

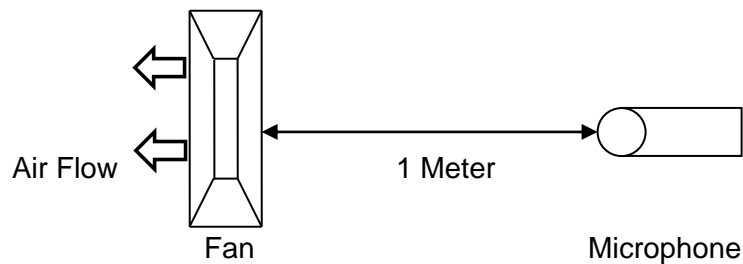


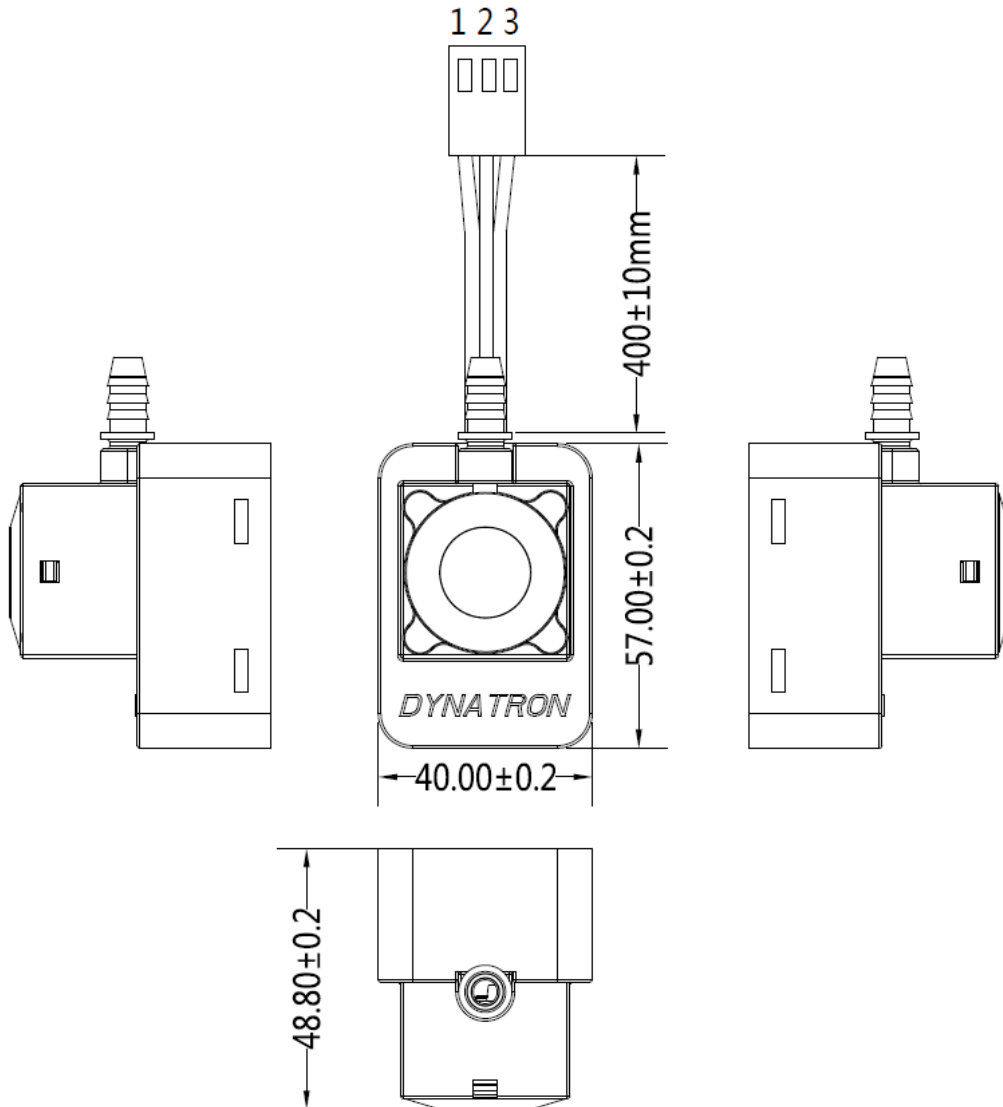
Figure A – Noise Level is measure at rated voltage in anechoic chamber in free air as above.



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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