

UBM Series  
UBH Series  
UBP Series

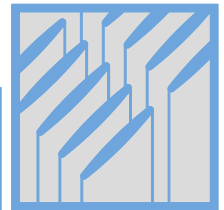
Low Pressure Drop and  
Low Thermal Resistance Heat Sink  
with Attachment Holes

**ALPHA**

# ALPHA

Low Pressure Drop and  
Low Thermal Resistance Heat Sink  
with attachment holes

# UBM25

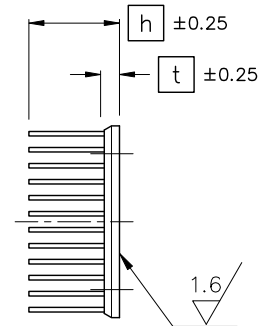
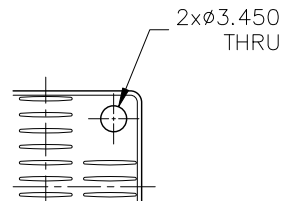
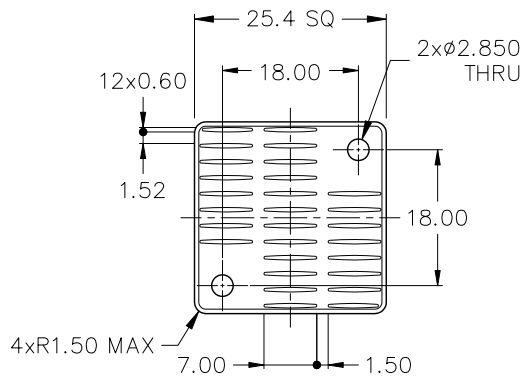


DIM



UBM25-XXBC  
FOR  $\phi 2.500 \pm 0.05$  PCB HOLES

UBM25-XXBP  
FOR  $\phi 3.175 \pm 0.05$  PCB HOLES



FOR  $\phi 2.500 \pm 0.05$  PCB HOLES

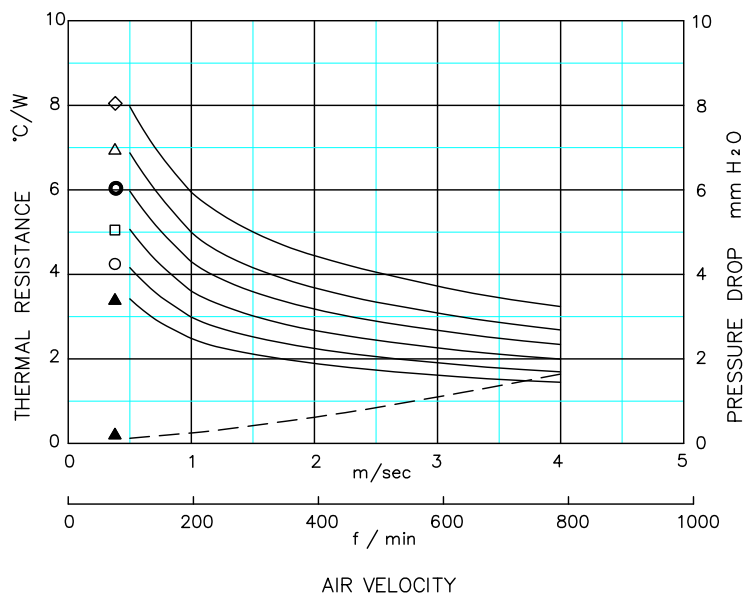
| MODEL      | HEIGHT<br>[h] | THICKNESS<br>[t] | WEIGHT(g) |
|------------|---------------|------------------|-----------|
| UBM25-8BC  | 8             | 2.5              | 4.9       |
| UBM25-10BC | 10            |                  | 5.5       |
| UBM25-12BC | 12            |                  | 6.0       |
| UBM25-15BC | 15            |                  | 6.8       |
| UBM25-20BC | 20            |                  | 8.2       |
| UBM25-25BC | 25            |                  | 9.5       |

FOR  $\phi 3.175 \pm 0.05$  PCB HOLES

| MODEL      | HEIGHT<br>[h] | THICKNESS<br>[t] | WEIGHT(g) |
|------------|---------------|------------------|-----------|
| UBM25-8BP  | 8             | 2.5              | 4.9       |
| UBM25-10BP | 10            |                  | 5.4       |
| UBM25-12BP | 12            |                  | 6.0       |
| UBM25-15BP | 15            |                  | 6.8       |
| UBM25-20BP | 20            |                  | 8.1       |
| UBM25-25BP | 25            |                  | 9.5       |

MATERIAL : A 6063  
FINISH : BLACK ANODIZE  
DIMENSIONS : mm

DATA



- ◇ UBM25-8BC, UBM25-8BP
- △ UBM25-10BC, UBM25-10BP
- UBM25-12BC, UBM25-12BP
- UBM25-15BC, UBM25-15BP
- UBM25-20BC, UBM25-20BP
- ▲ UBM25-25BC, UBM25-25BP

- DUCTED CONDITION
- DUMMY HEATER SIZE: 12.7 SQ
- THERMAL RESISTANCE ———
- PRESSURE DROP - - -

■ BASED ON ALPHA'S STANDARD TEST PROCEDURE.  
REFER TO TECHNICAL INFORMATION.

Alpha Company Ltd.

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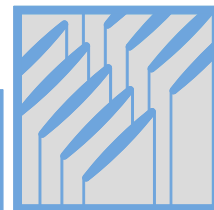
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Low Pressure Drop and  
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# UBM30

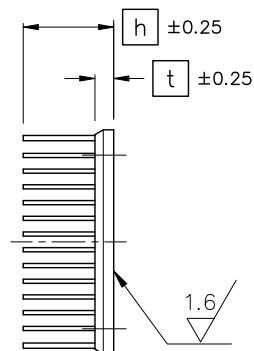
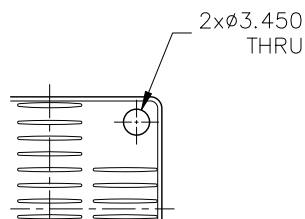
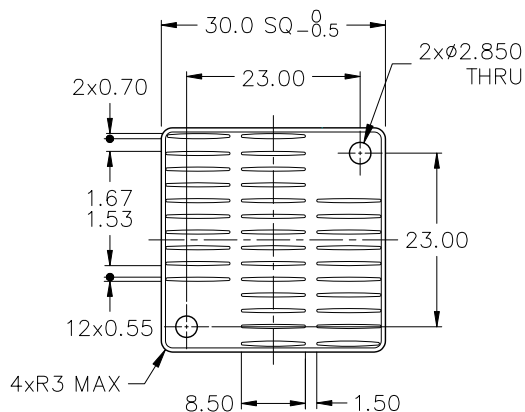


DIM



UBM30-XXBC  
FOR  $\phi 2.500 \pm 0.05$  PCB HOLES

UBM30-XXBP  
FOR  $\phi 3.175 \pm 0.05$  PCB HOLES



FOR  $\phi 2.500 \pm 0.05$  PCB HOLES

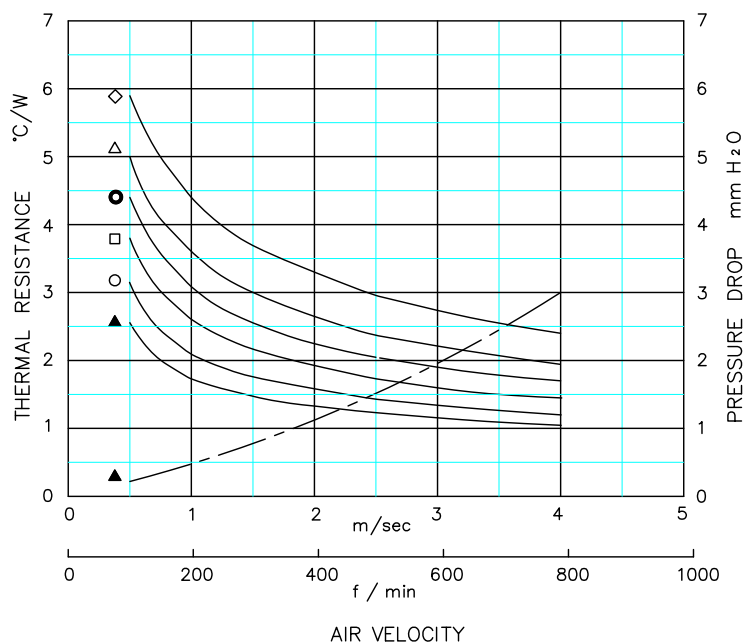
| MODEL      | HEIGHT<br>[h] | THICKNESS<br>[t] | WEIGHT(g) |
|------------|---------------|------------------|-----------|
| UBM30-8BC  | 8             | 2.5              | 6.9       |
| UBM30-10BC | 10            |                  | 8.6       |
| UBM30-12BC | 12            |                  | 9.4       |
| UBM30-15BC | 15            |                  | 10.5      |
| UBM30-20BC | 20            |                  | 12.4      |
| UBM35-25BC | 25            |                  | 14.3      |

FOR  $\phi 3.175 \pm 0.05$  PCB HOLES

| MODEL      | HEIGHT<br>[h] | THICKNESS<br>[t] | WEIGHT(g) |
|------------|---------------|------------------|-----------|
| UBM30-8BP  | 8             | 2.5              | 6.9       |
| UBM30-10BP | 10            |                  | 8.6       |
| UBM30-12BP | 12            |                  | 9.3       |
| UBM30-15BP | 15            |                  | 10.5      |
| UBM30-20BP | 20            |                  | 12.4      |
| UBM30-25BP | 25            |                  | 14.3      |

MATERIAL : A 6063  
FINISH : BLACK ANODIZE  
DIMENSIONS : mm

DATA



- ◇ UBM30-8BC, UBM30-8BP
- △ UBM30-10BC, UBM30-10BP
- UBM30-12BC, UBM30-12BP
- UBM30-15BC, UBM30-15BP
- UBM30-20BC, UBM30-20BP
- ▲ UBM30-25BC, UBM30-25BP

- DUCTED CONDITION  
DUMMY HEATER SIZE: 12.7 SQ  
THERMAL RESISTANCE ———  
PRESSURE DROP - - -

- BASED ON ALPHA'S STANDARD TEST PROCEDURE.  
REFER TO TECHNICAL INFORMATION.

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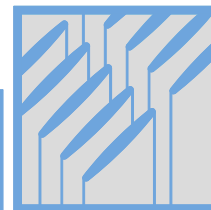
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# UBM35

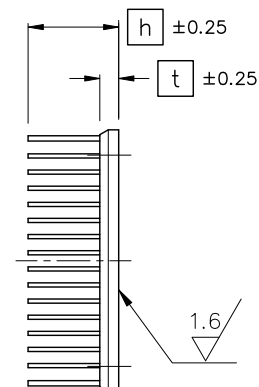
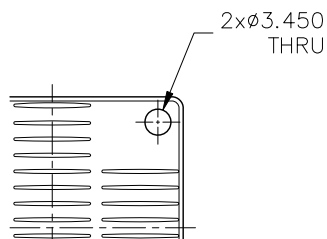
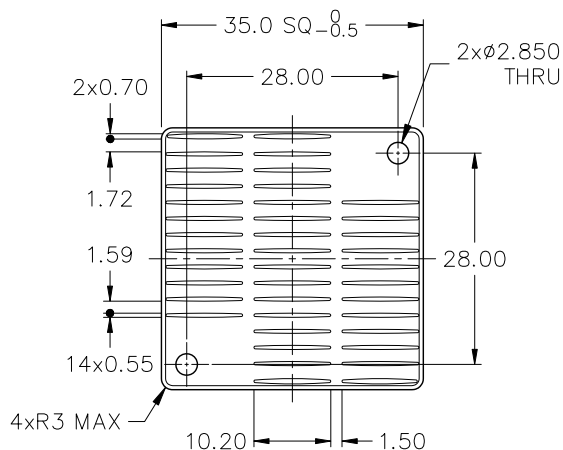


DIM



UBM35-XXBC  
FOR  $\phi 2.500 \pm 0.05$  PCB HOLES

UBM35-XXBP  
FOR  $\phi 3.175 \pm 0.05$  PCB HOLES



FOR  $\phi 2.500 \pm 0.05$  PCB HOLES

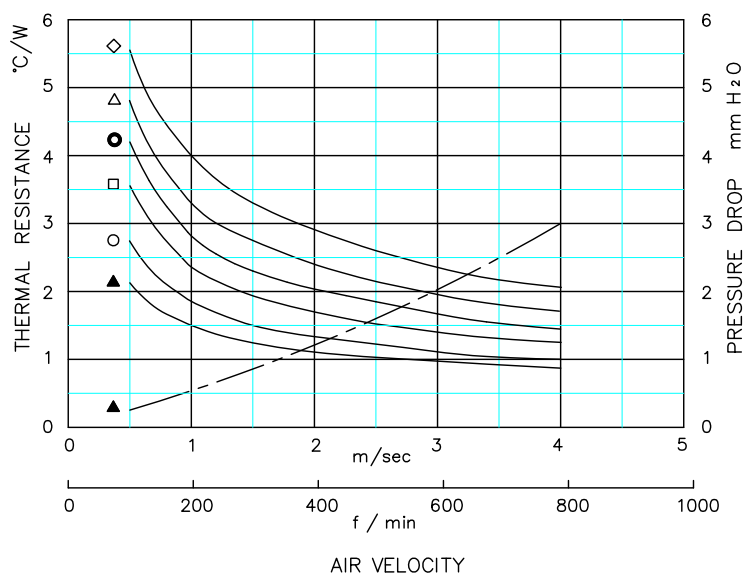
| MODEL      | HEIGHT<br>[h] | THICKNESS<br>[t] | WEIGHT(g) |
|------------|---------------|------------------|-----------|
| UBM35-8BC  | 8             | 3.0              | 9.5       |
| UBM35-10BC | 10            |                  | 13.3      |
| UBM35-12BC | 12            |                  | 14.4      |
| UBM35-15BC | 15            |                  | 16.0      |
| UBM35-20BC | 20            |                  | 18.7      |
| UBM35-25BC | 25            |                  | 21.3      |

FOR  $\phi 3.175 \pm 0.05$  PCB HOLES

| MODEL      | HEIGHT<br>[h] | THICKNESS<br>[t] | WEIGHT(g) |
|------------|---------------|------------------|-----------|
| UBM35-8BP  | 8             | 3.0              | 9.5       |
| UBM35-10BP | 10            |                  | 13.2      |
| UBM35-12BP | 12            |                  | 14.3      |
| UBM35-15BP | 15            |                  | 15.9      |
| UBM35-20BP | 20            |                  | 18.6      |
| UBM35-25BP | 25            |                  | 21.3      |

MATERIAL : A 6063  
FINISH : BLACK ANODIZE  
DIMENSIONS : mm

DATA



- ◇ UBM35-8BC, UBM35-8BP
- △ UBM35-10BC, UBM35-10BP
- UBM35-12BC, UBM35-12BP
- UBM35-15BC, UBM35-15BP
- UBM35-20BC, UBM35-20BP
- ▲ UBM35-25BC, UBM35-25BP

● DUCTED CONDITION  
DUMMY HEATER SIZE: 12.7 SQ  
THERMAL RESISTANCE ———  
PRESSURE DROP - - -

■ BASED ON ALPHA'S STANDARD TEST  
PROCEDURE.  
REFER TO TECHNICAL INFORMATION.

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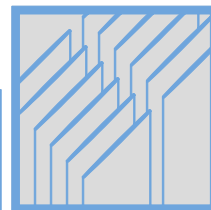
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# ALPHA

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# UBM40

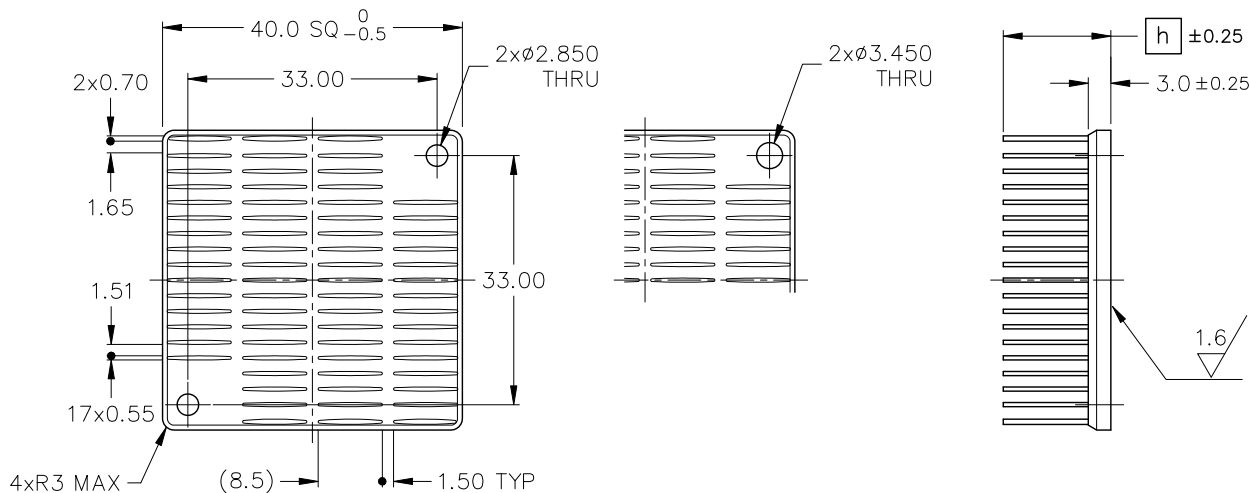


DIM



UBM40-XXBC  
FOR  $\phi 2.500 \pm 0.05$  PCB HOLES

UBM40-XXBP  
FOR  $\phi 3.175 \pm 0.05$  PCB HOLES



FOR  $\phi 2.500 \pm 0.05$  PCB HOLES

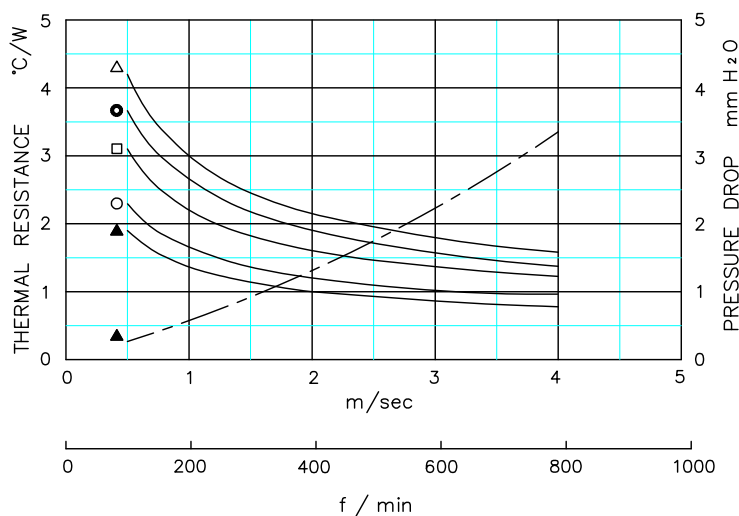
| MODEL      | HEIGHT [h] | WEIGHT(g) |
|------------|------------|-----------|
| UBM40-10BC | 10         | 17.8      |
| UBM40-12BC | 12         | 19.4      |
| UBM40-15BC | 15         | 21.6      |
| UBM40-20BC | 20         | 25.4      |
| UBM40-25BC | 25         | 29.2      |

FOR  $\phi 3.175 \pm 0.05$  PCB HOLES

| MODEL      | HEIGHT [h] | WEIGHT(g) |
|------------|------------|-----------|
| UBM40-10BP | 10         | 17.9      |
| UBM40-12BP | 12         | 19.5      |
| UBM40-15BP | 15         | 21.8      |
| UBM40-20BP | 20         | 25.8      |
| UBM40-25BP | 25         | 29.7      |

MATERIAL : A 6063  
FINISH : BLACK ANODIZE  
DIMENSIONS : mm

DATA



- △ UBM40-10BC, UBM40-10BP
- UBM40-12BC, UBM40-12BP
- UBM40-15BC, UBM40-15BP
- UBM40-20BC, UBM40-20BP
- ▲ UBM40-25BC, UBM40-25BP

● DUCTED CONDITION  
DUMMY HEATER SIZE: 12.7 SQ  
THERMAL RESISTANCE ———  
PRESURE DROP - - -

■ BASED ON ALPHA'S STANDARD TEST  
PROCEDURE.  
REFER TO TECHNICAL INFORMATION.

AIR VELOCITY: DUCTED CONDITION

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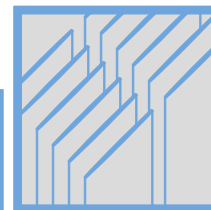
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# ALPHA

Low Pressure Drop and  
Low Thermal Resistance Heat Sink  
with attachment holes

# UBM 45

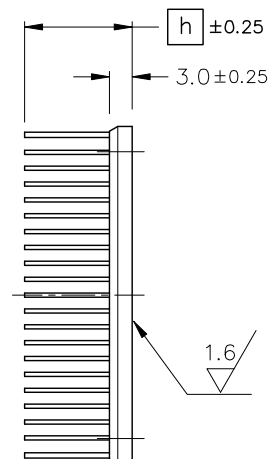
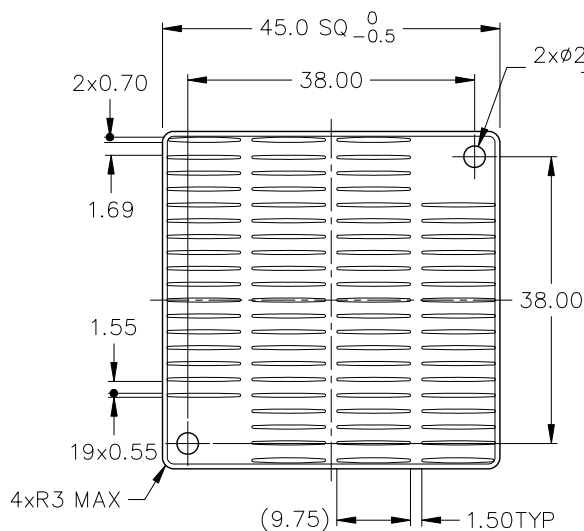


DIM



UBM45-XXBC  
FOR  $\phi 2.500 \pm 0.05$  PCB HOLES

UBM45-XXBP  
FOR  $\phi 3.175 \pm 0.05$  PCB HOLES



FOR  $\phi 2.500 \pm 0.05$  PCB HOLES

| MODEL      | HEIGHT $h$ | WEIGHT(g) |
|------------|------------|-----------|
| UBM45-10BC | 10         | 22.7      |
| UBM45-12BC | 12         | 24.7      |
| UBM45-15BC | 15         | 27.6      |
| UBM45-20BC | 20         | 32.5      |
| UBM45-25BC | 25         | 37.3      |

FOR  $\phi 3.175 \pm 0.05$  PCB HOLES

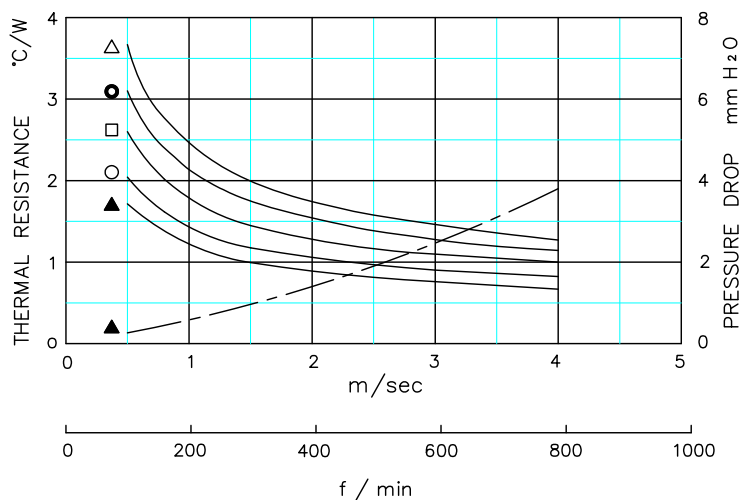
| MODEL      | HEIGHT $h$ | WEIGHT(g) |
|------------|------------|-----------|
| UBM45-10BP | 10         | 23.0      |
| UBM45-12BP | 12         | 25.0      |
| UBM45-15BP | 15         | 28.0      |
| UBM45-20BP | 20         | 33.0      |
| UBM45-25BP | 25         | 38.0      |

MATERIAL : A 6063

FINISH : BLACK ANODIZE

DIMENSIONS : mm

DATA



- △ UBM45-10BC, UBM45-10BP
- UBM45-12BC, UBM45-12BP
- UBM45-15BC, UBM45-15BP
- UBM45-20BC, UBM45-20BP
- ▲ UBM45-25BC, UBM45-25BP

● DUCTED CONDITION

DUMMY HEATER SIZE: 12.7 SQ

THERMAL RESISTANCE

PRESURE DROP

■ BASED ON ALPHA'S STANDARD TEST PROCEDURE.

REFER TO TECHNICAL INFORMATION.

AIR VELOCITY: DUCTED CONDITION

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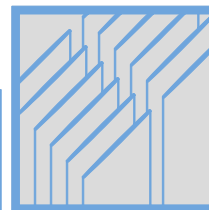
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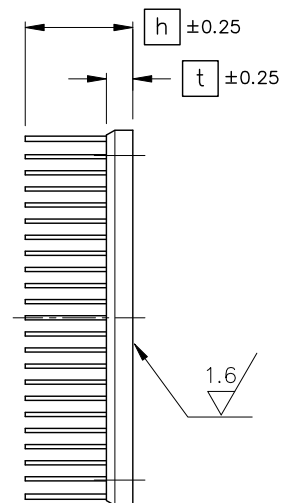
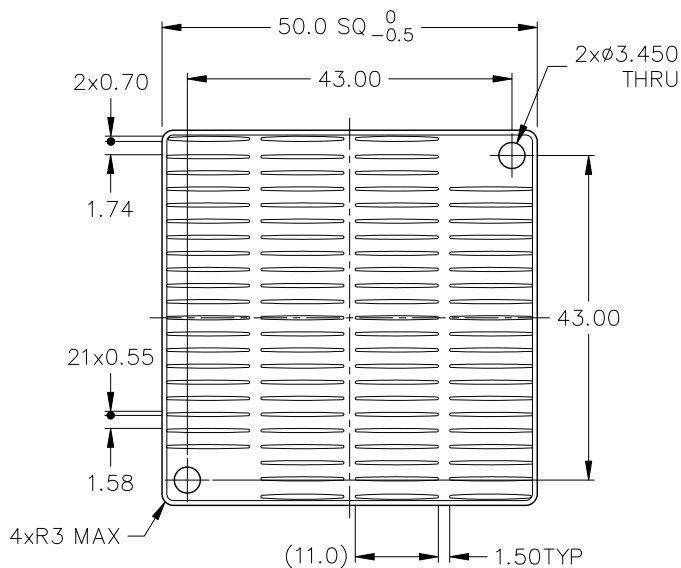
# ALPHA

Low Pressure Drop and  
Low Thermal Resistance Heat Sink  
with attachment holes

# UBM50



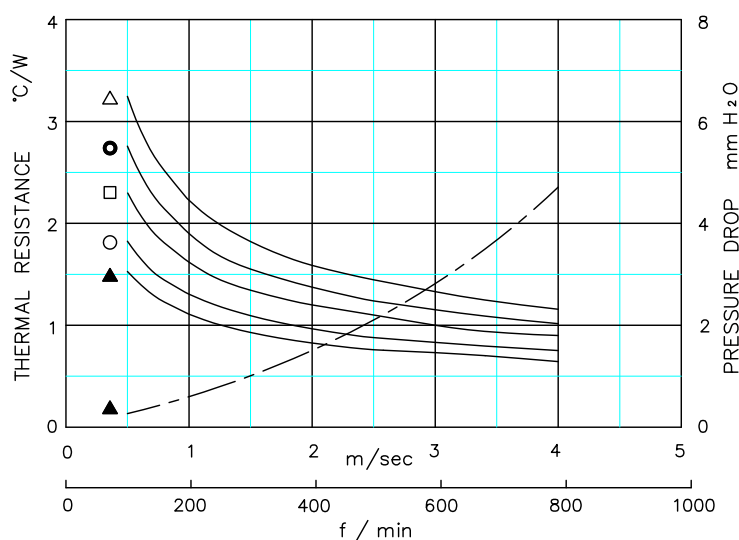
DIM



| MODEL      | HEIGHT [h] | THICKNESS [t] | WEIGHT(g) |
|------------|------------|---------------|-----------|
| UBM50-10BP | 10         | 3.0           | 28.1      |
| UBM50-12BP | 12         |               | 30.6      |
| UBM50-15BP | 15         | 3.5           | 37.0      |
| UBM50-20BP | 20         |               | 43.1      |
| UBM50-25BP | 25         |               | 49.2      |

MATERIAL : A 6063  
FINISH : BLACK ANODIZE  
DIMENSIONS : mm

DATA



- △ UBM50-10BP
- UBM50-12BP
- UBM50-15BP
- UBM50-20BP
- ▲ UBM50-25BP

● DUCTED CONDITION  
DUMMY HEATER SIZE: 12.7 SQ  
THERMAL RESISTANCE ———  
PRESSURE DROP - - -

■ BASED ON ALPHA'S STANDARD TEST PROCEDURE.  
REFER TO TECHNICAL INFORMATION.

AIR VELOCITY: DUCTED CONDITION

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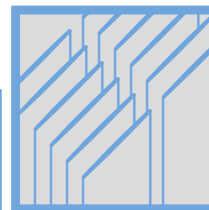
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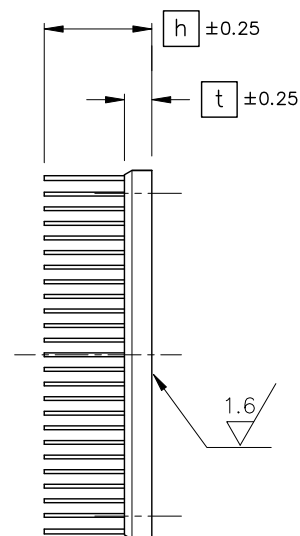
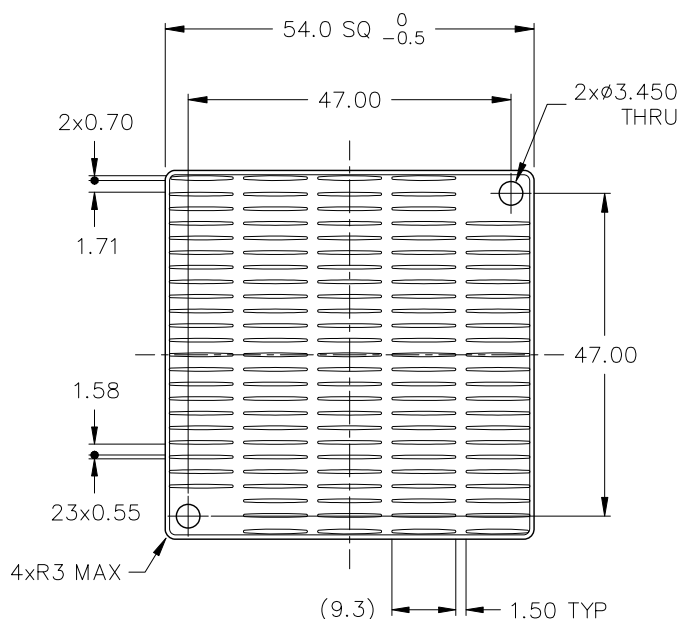
# ALPHA

Low Pressure Drop and  
Low Thermal Resistance Heat Sink  
with attachment holes

# UBM54



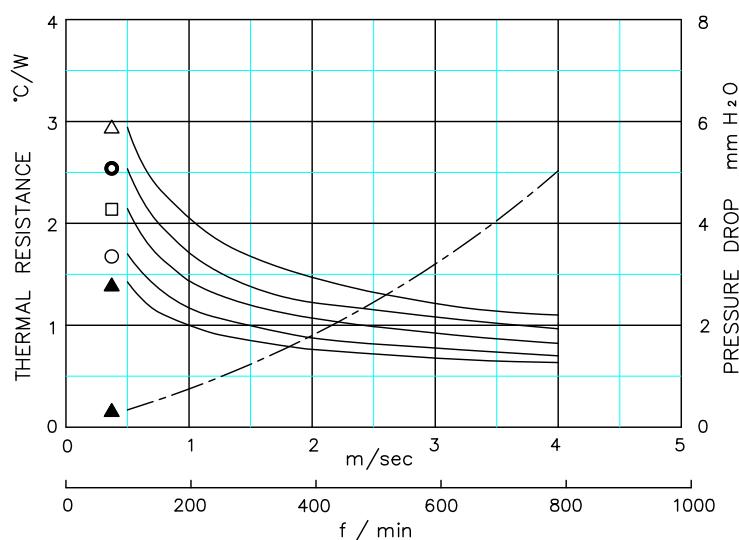
DIM



| MODEL      | HEIGHT [h] | THICKNESS [t] | WEIGHT(g) |
|------------|------------|---------------|-----------|
| UBM54-10BP | 10         | 3.0           | 32.9      |
| UBM54-12BP | 12         |               | 35.7      |
| UBM54-15BP | 15         | 4.0           | 46.3      |
| UBM54-20BP | 20         |               | 53.5      |
| UBM54-25BP | 25         |               | 60.6      |

MATERIAL : A 6063  
FINISH : BLACK ANODIZE  
DIMENSIONS : mm

DATA



△ UBM54-10BP  
● UBM54-12BP  
□ UBM54-15BP  
◇ UBM54-20BP  
▲ UBM54-25BP

● DUCTED CONDITION  
DUMMY HEATER SIZE: 12.7 SQ  
THERMAL RESISTANCE ———  
PRESURE DROP - - -

■ BASED ON ALPHA'S STANDARD TEST  
PROCEDURE.  
REFER TO TECHNICAL INFORMATION.

AIR VELOCITY: DUCTED CONDITION

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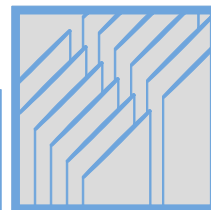
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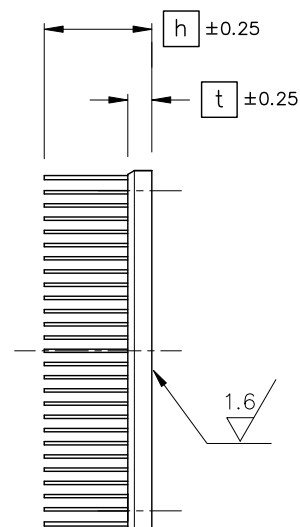
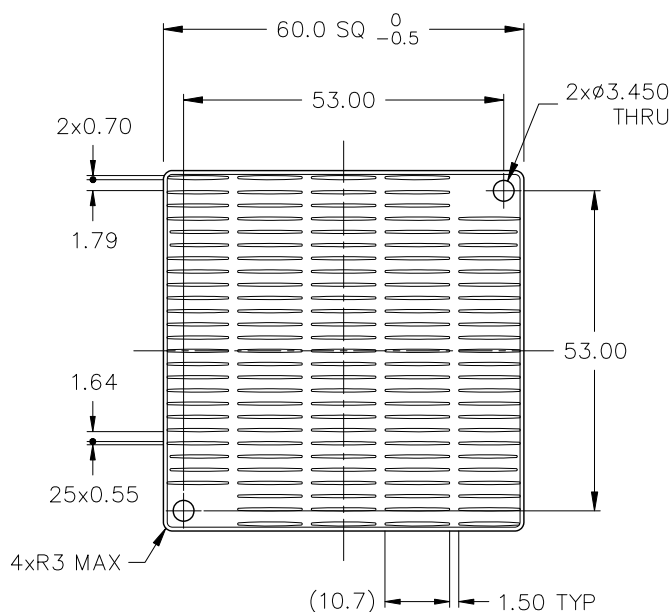
# ALPHA

Low Pressure Drop and  
Low Thermal Resistance Heat Sink  
with attachment holes

# UBM60



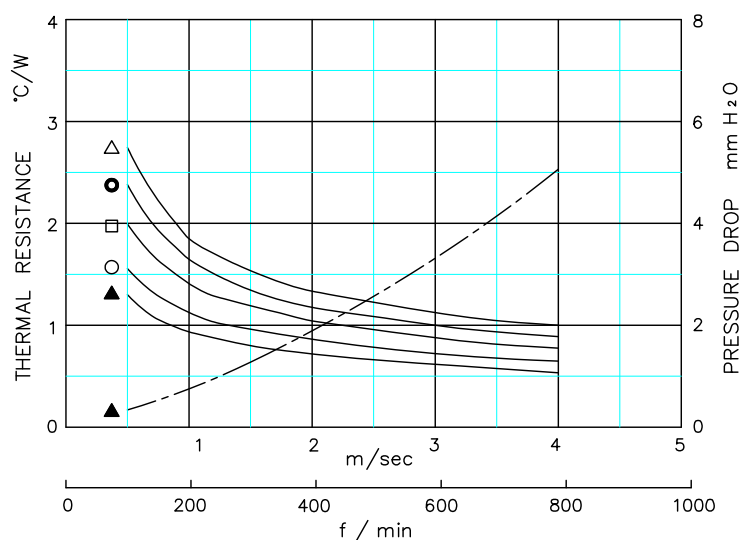
DIM



| MODEL      | HEIGHT [h] | THICKNESS [t] | WEIGHT(g) |
|------------|------------|---------------|-----------|
| UBM60-10BP | 10         | 3.0           | 40.9      |
| UBM60-12BP | 12         |               | 44.4      |
| UBM60-15BP | 15         | 4.0           | 57.6      |
| UBM60-20BP | 20         |               | 66.5      |
| UBM60-25BP | 25         |               | 75.4      |

MATERIAL : A 6063  
FINISH : BLACK ANODIZE  
DIMENSIONS : mm

DATA



AIR VELOCITY: DUCTED CONDITION

- △ UBM60-10BP
- UBM60-12BP
- UBM60-15BP
- UBM60-20BP
- ▲ UBM60-25BP

● DUCTED CONDITION  
DUMMY HEATER SIZE: 12.7 SQ  
THERMAL RESISTANCE ———  
PRESSURE DROP - - - -

■ BASED ON ALPHA'S STANDARD TEST  
PROCEDURE.  
REFER TO TECHNICAL INFORMATION.

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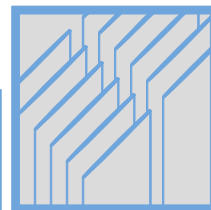
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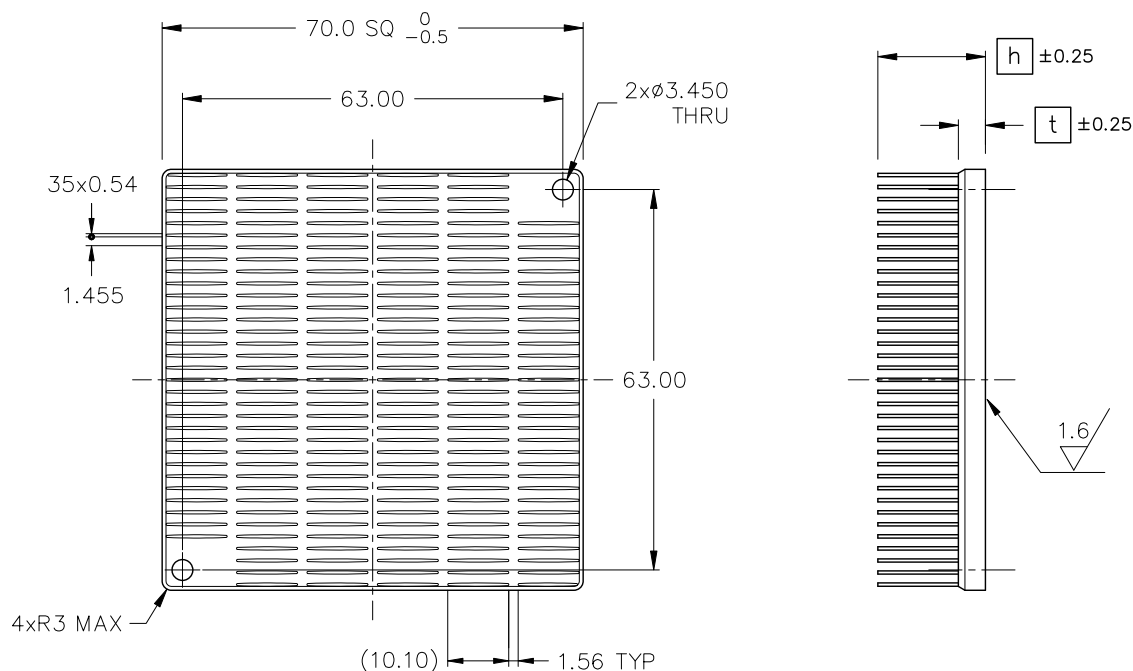
# ALPHA

Low Pressure Drop and  
Low Thermal Resistance Heat Sink  
with attachment holes

# UBM70



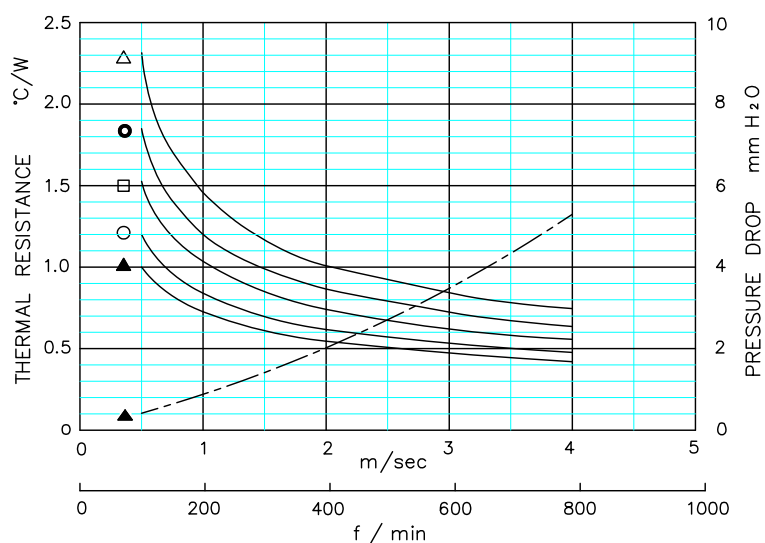
DIM



| MODEL      | HEIGHT $h$ | THICKNESS $t$ | WEIGHT(g) |
|------------|------------|---------------|-----------|
| UBM70-10BP | 10         | 3.0           | 57.0      |
| UBM70-12BP | 12         |               | 62.2      |
| UBM70-15BP | 15         | 4.0           | 80.4      |
| UBM70-20BP | 20         |               | 93.4      |
| UBM70-25BP | 25         |               | 106.4     |

MATERIAL : A 6063  
 FINISH : BLACK ANODIZE  
 DIMENSIONS : mm

DATA



- $\Delta$  UBM70-10BP
- $\bullet$  UBM70-12BP
- $\square$  UBM70-15BP
- $\circ$  UBM70-20BP
- $\blacktriangle$  UBM70-25BP

● DUCTED CONDITION  
 DUMMY HEATER SIZE: 12.7 SQ  
 THERMAL RESISTANCE ———  
 PRESURE DROP - - - - -

■ BASED ON ALPHA'S STANDARD TEST PROCEDURE.  
 REFER TO TECHNICAL INFORMATION.

AIR VELOCITY: DUCTED CONDITION

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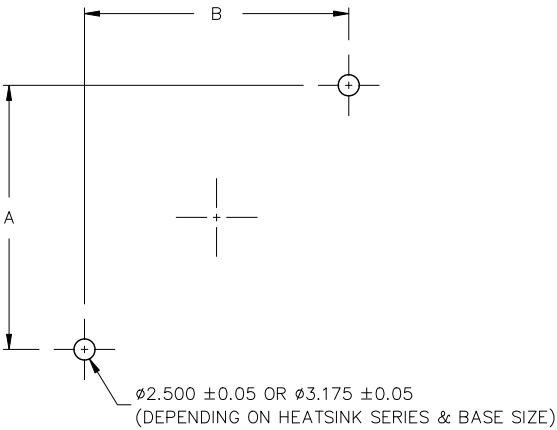
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REF



PCB HOLE LAYOUT

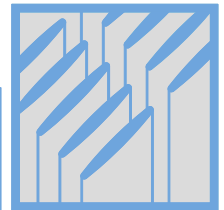


|                            |      |      |
|----------------------------|------|------|
| LPDM25, UBM25, ZM25        | 18.0 | 18.0 |
| LPDM30, UBM30, ZM30        | 23.0 | 23.0 |
| LPDM35, UBM35, ZM35        | 28.0 | 28.0 |
| LPDM40, UBM40, ZM40        | 33.0 | 33.0 |
| LPDM45, UBM45, ZM45        | 38.0 | 38.0 |
| LPDM50, UBM50, ZM50, FFM50 | 43.0 | 43.0 |
| LPDM54, UBM54, ZM54, FFM54 | 47.0 | 47.0 |
| LPDM60, UBM60, ZM60        | 53.0 | 53.0 |
| LPDM70, UBM70              | 63.0 | 63.0 |
| MODEL                      | A    | B    |

# ALPHA

Low Pressure Drop and  
Low Thermal Resistance Heat Sink  
with attachment holes

# UBH 25

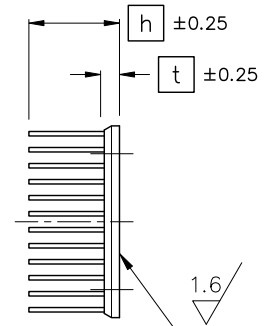
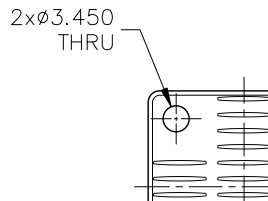
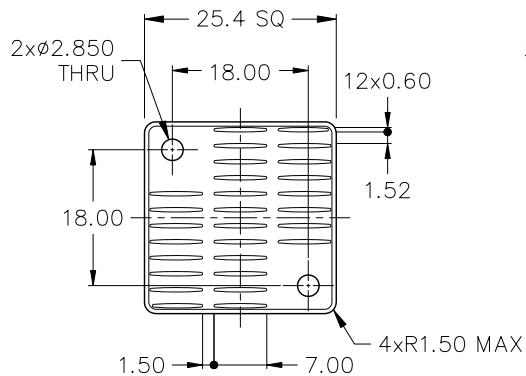


DIM



UBH25-XXBC  
FOR  $\phi 2.500 \pm 0.05$  PCB HOLES

UBH25-XXBP  
FOR  $\phi 3.175 \pm 0.05$  PCB HOLES



FOR  $\phi 2.500 \pm 0.05$  PCB HOLES

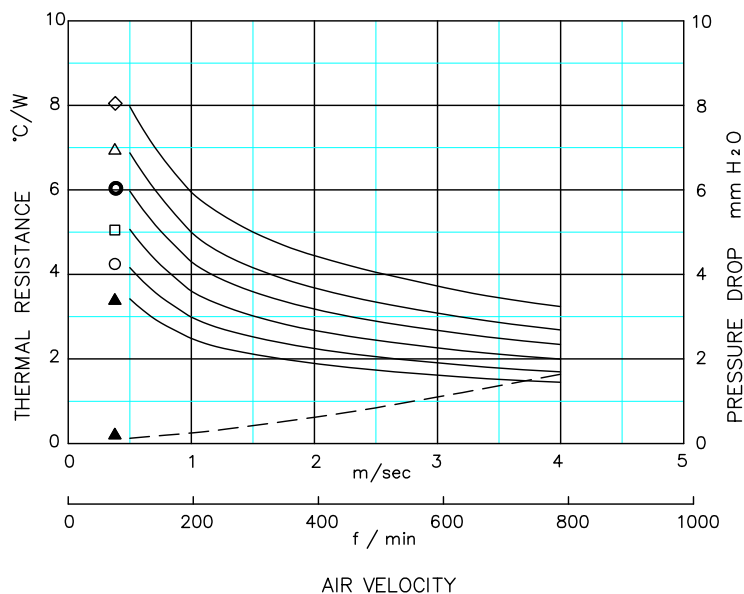
| MODEL      | HEIGHT<br>[h] | THICKNESS<br>[t] | WEIGHT(g) |
|------------|---------------|------------------|-----------|
| UBH25-8BC  | 8             | 2.0              | 4.9       |
| UBH25-10BC | 10            | 2.5              | 5.5       |
| UBH25-12BC | 12            |                  | 6.0       |
| UBH25-15BC | 15            |                  | 6.8       |
| UBH25-20BC | 20            |                  | 8.2       |
| UBH25-25BC | 25            |                  | 9.5       |

FOR  $\phi 3.175 \pm 0.05$  PCB HOLES

| MODEL      | HEIGHT<br>[h] | THICKNESS<br>[t] | WEIGHT(g) |
|------------|---------------|------------------|-----------|
| UBH25-8BP  | 8             | 2.0              | 4.9       |
| UBH25-10BP | 10            | 2.5              | 5.4       |
| UBH25-12BP | 12            |                  | 6.0       |
| UBH25-15BP | 15            |                  | 6.8       |
| UBH25-20BP | 20            |                  | 8.1       |
| UBH25-25BP | 25            |                  | 9.5       |

MATERIAL : A 6063  
FINISH : BLACK ANODIZE  
DIMENSIONS : mm

DATA



- ◇ UBH25-8BC, UBH25-8BP
- △ UBH25-10BC, UBH25-10BP
- UBH25-12BC, UBH25-12BP
- UBH25-15BC, UBH25-15BP
- UBH25-20BC, UBH25-20BP
- ▲ UBH25-25BC, UBH25-25BP

- DUCTED CONDITION  
DUMMY HEATER SIZE: 12.7 SQ  
THERMAL RESISTANCE —————  
PRESSURE DROP - - - - -

■ BASED ON ALPHA'S STANDARD TEST PROCEDURE.  
REFER TO TECHNICAL INFORMATION.

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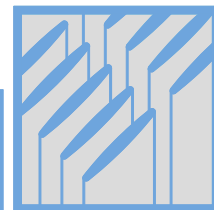
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# ALPHA

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with attachment holes

# UBH 30

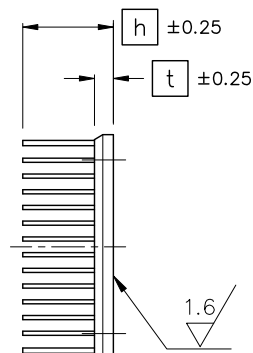
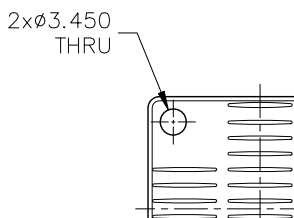
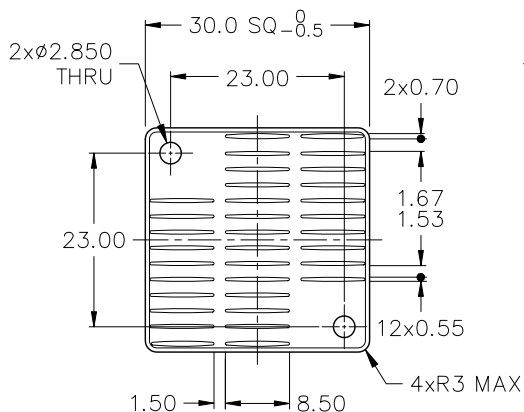


DIM



UBH30-XXBC  
FOR  $\phi 2.500 \pm 0.05$  PCB HOLES

UBH30-XXBP  
FOR  $\phi 3.175 \pm 0.05$  PCB HOLES



FOR  $\phi 2.500 \pm 0.05$  PCB HOLES

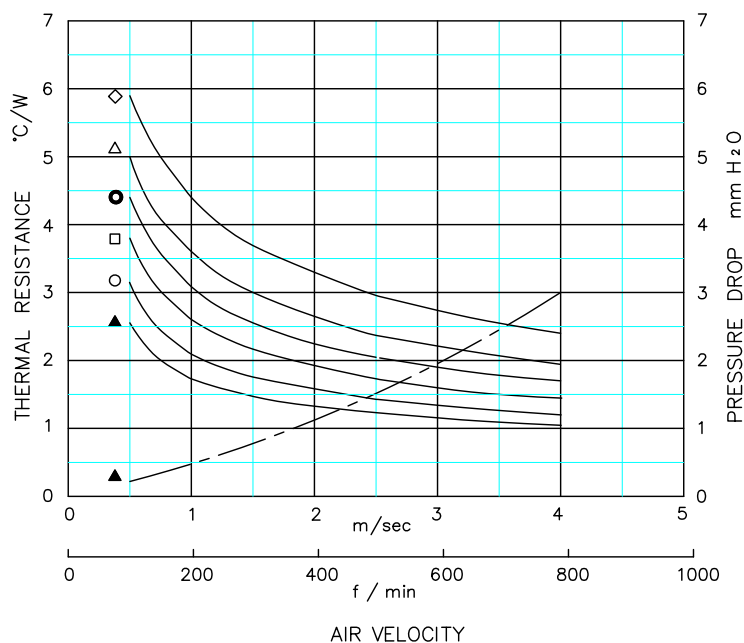
| MODEL      | HEIGHT<br>[h] | THICKNESS<br>[t] | WEIGHT(g) |
|------------|---------------|------------------|-----------|
| UBH30-8BC  | 8             | 2.5              | 6.9       |
| UBH30-10BC | 10            |                  | 8.6       |
| UBH30-12BC | 12            |                  | 9.4       |
| UBH30-15BC | 15            |                  | 10.5      |
| UBH30-20BC | 20            |                  | 12.4      |
| UBH30-25BC | 25            |                  | 14.3      |

FOR  $\phi 3.175 \pm 0.05$  PCB HOLES

| MODEL      | HEIGHT<br>[h] | THICKNESS<br>[t] | WEIGHT(g) |
|------------|---------------|------------------|-----------|
| UBH30-8BP  | 8             | 2.5              | 6.9       |
| UBH30-10BP | 10            |                  | 8.6       |
| UBH30-12BP | 12            |                  | 9.3       |
| UBH30-15BP | 15            |                  | 10.5      |
| UBH30-20BP | 20            |                  | 12.4      |
| UBH30-25BP | 25            |                  | 14.3      |

MATERIAL : A 6063  
FINISH : BLACK ANODIZE  
DIMENSIONS : mm

DATA



- ◇ UBH30-8BC, UBH30-8BP
- △ UBH30-10BC, UBH30-10BP
- UBH30-12BC, UBH30-12BP
- UBH30-15BC, UBH30-15BP
- UBH30-20BC, UBH30-20BP
- ▲ UBH30-25BC, UBH30-25BP

- DUCTED CONDITION  
DUMMY HEATER SIZE: 12.7 SQ  
THERMAL RESISTANCE ———  
PRESSURE DROP - - -

- BASED ON ALPHA'S STANDARD TEST PROCEDURE.  
REFER TO TECHNICAL INFORMATION.

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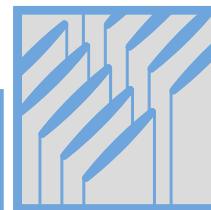
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# ALPHA

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# UBH 35

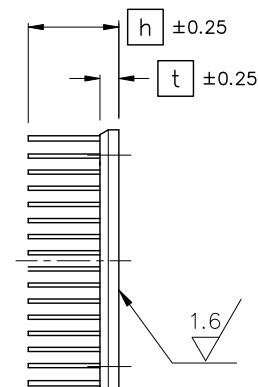
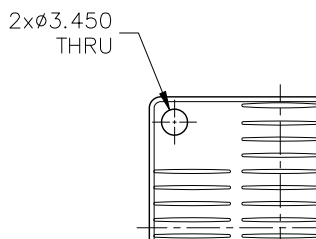
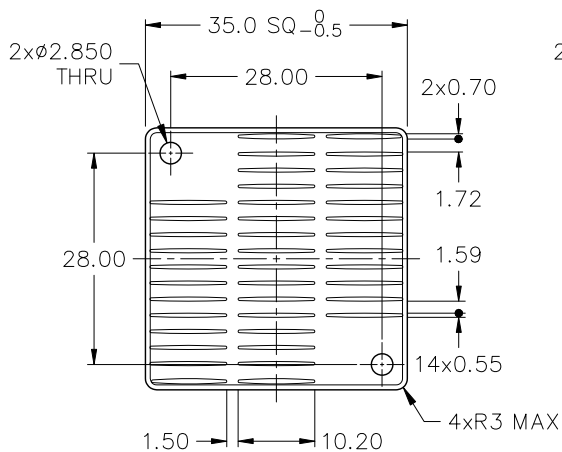


DIM



UBH35-XXBC  
FOR  $\phi 2.500 \pm 0.05$  PCB HOLES

UBH35-XXBP  
FOR  $\phi 3.175 \pm 0.05$  PCB HOLES



FOR  $\phi 2.500 \pm 0.05$  PCB HOLES

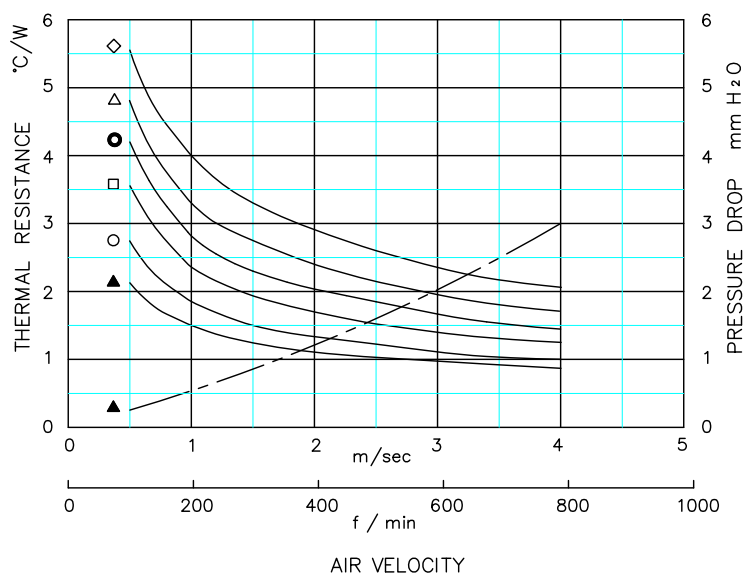
| MODEL      | HEIGHT<br>[h] | THICKNESS<br>[t] | WEIGHT(g) |
|------------|---------------|------------------|-----------|
| UBH35-8BC  | 8             | 3.0              | 9.5       |
| UBH35-10BC | 10            |                  | 13.3      |
| UBH35-12BC | 12            |                  | 14.4      |
| UBH35-15BC | 15            |                  | 16.0      |
| UBH35-20BC | 20            |                  | 18.7      |
| UBH35-25BC | 25            |                  | 21.3      |

FOR  $\phi 3.175 \pm 0.05$  PCB HOLES

| MODEL      | HEIGHT<br>[h] | THICKNESS<br>[t] | WEIGHT(g) |
|------------|---------------|------------------|-----------|
| UBH35-8BP  | 8             | 3.0              | 9.5       |
| UBH35-10BP | 10            |                  | 13.2      |
| UBH35-12BP | 12            |                  | 14.3      |
| UBH35-15BP | 15            |                  | 15.9      |
| UBH35-20BP | 20            |                  | 18.6      |
| UBH35-25BP | 25            |                  | 21.3      |

MATERIAL : A 6063  
FINISH : BLACK ANODIZE  
DIMENSIONS : mm

DATA



- ◇ UBH35-8BC, UBH35-8BP
- △ UBH35-10BC, UBH35-10BP
- UBH35-12BC, UBH35-12BP
- UBH35-15BC, UBH35-15BP
- UBH35-20BC, UBH35-20BP
- ▲ UBH35-25BC, UBH35-25BP

● DUCTED CONDITION  
DUMMY HEATER SIZE: 12.7 SQ  
THERMAL RESISTANCE ———  
PRESSURE DROP - - -

■ BASED ON ALPHA'S STANDARD TEST  
PROCEDURE.  
REFER TO TECHNICAL INFORMATION.

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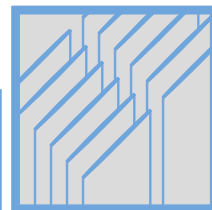
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# ALPHA

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# UBH 40

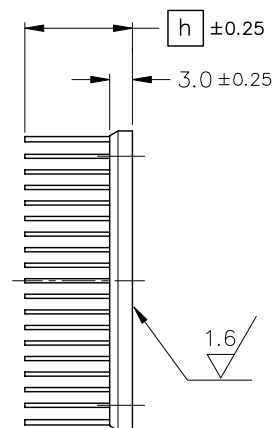
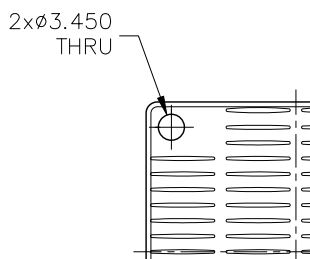
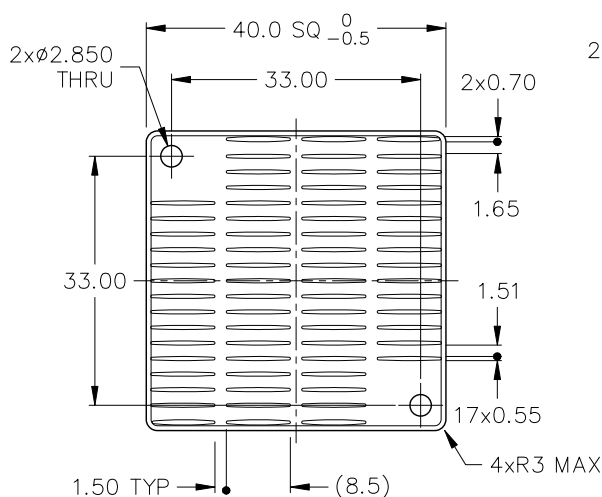


DIM



UBH40-XXBC  
FOR  $\phi 2.500 \pm 0.05$  PCB HOLES

UBH40-XXBP  
FOR  $\phi 3.175 \pm 0.05$  PCB HOLES



FOR  $\phi 2.500 \pm 0.05$  PCB HOLES

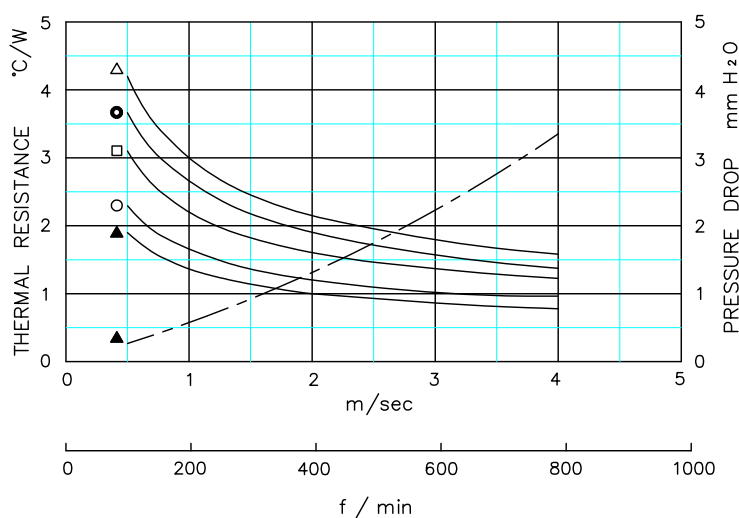
| MODEL      | HEIGHT [h] | WEIGHT(g) |
|------------|------------|-----------|
| UBH40-10BC | 10         | 17.8      |
| UBH40-12BC | 12         | 19.4      |
| UBH40-15BC | 15         | 21.6      |
| UBH40-20BC | 20         | 25.4      |
| UBH40-25BC | 25         | 29.2      |

FOR  $\phi 3.175 \pm 0.05$  PCB HOLES

| MODEL      | HEIGHT [h] | WEIGHT(g) |
|------------|------------|-----------|
| UBH40-10BP | 10         | 17.9      |
| UBH40-12BP | 12         | 19.5      |
| UBH40-15BP | 15         | 21.8      |
| UBH40-20BP | 20         | 25.8      |
| UBH40-25BP | 25         | 29.7      |

MATERIAL : A 6063  
FINISH : BLACK ANODIZE  
DIMENSIONS : mm

DATA



- △ UBH40-10BC, UBH40-10BP
- UBH40-12BC, UBH40-12BP
- UBH40-15BC, UBH40-15BP
- UBH40-20BC, UBH40-20BP
- ▲ UBH40-25BC, UBH40-25BP

● DUCTED CONDITION  
DUMMY HEATER SIZE: 12.7 SQ  
THERMAL RESISTANCE ———  
PRESURE DROP - - -

■ BASED ON ALPHA'S STANDARD TEST  
PROCEDURE.  
REFER TO TECHNICAL INFORMATION.

AIR VELOCITY: DUCTED CONDITION

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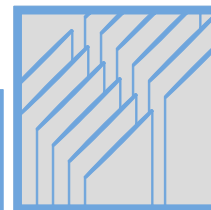
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# ALPHA

Low Pressure Drop and  
Low Thermal Resistance Heat Sink  
with attachment holes

# UBH 45

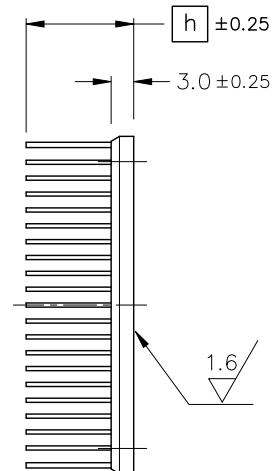
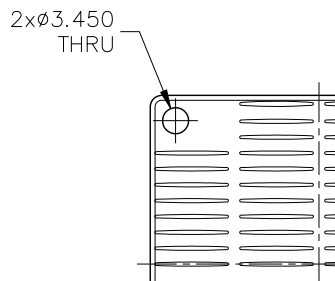
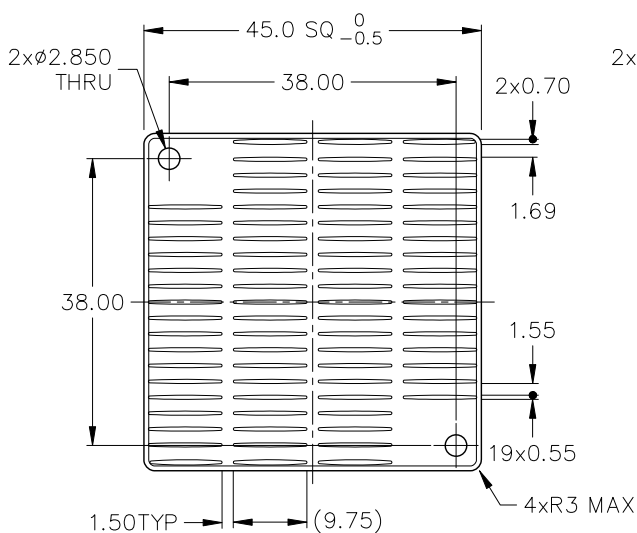


DIM



UBH45-XXBC  
FOR  $\phi 2.500 \pm 0.05$  PCB HOLES

UBH45-XXBP  
FOR  $\phi 3.175 \pm 0.05$  PCB HOLES



FOR  $\phi 2.500 \pm 0.05$  PCB HOLES

| MODEL      | HEIGHT [h] | WEIGHT(g) |
|------------|------------|-----------|
| UBH45-10BC | 10         | 22.7      |
| UBH45-12BC | 12         | 24.7      |
| UBH45-15BC | 15         | 27.6      |
| UBH45-20BC | 20         | 32.5      |
| UBH45-25BC | 25         | 37.3      |

FOR  $\phi 3.175 \pm 0.05$  PCB HOLES

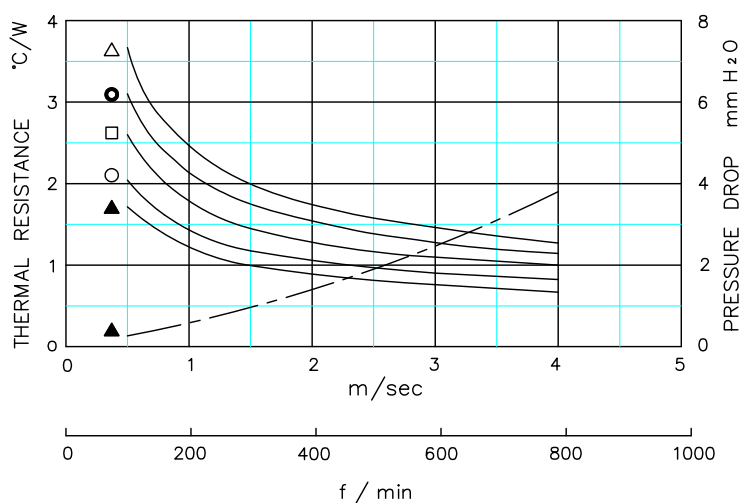
| MODEL      | HEIGHT [h] | WEIGHT(g) |
|------------|------------|-----------|
| UBH45-10BP | 10         | 22.9      |
| UBH45-12BP | 12         | 24.9      |
| UBH45-15BP | 15         | 27.9      |
| UBH45-20BP | 20         | 32.9      |
| UBH45-25BP | 25         | 37.9      |

MATERIAL : A 6063

FINISH : BLACK ANODIZE

DIMENSIONS : mm

DATA



- △ UBH45-10BC, UBH45-10BP
- UBH45-12BC, UBH45-12BP
- UBH45-15BC, UBH45-15BP
- UBH45-20BC, UBH45-20BP
- ▲ UBH45-25BC, UBH45-25BP

● DUCTED CONDITION

DUMMY HEATER SIZE: 12.7 SQ

THERMAL RESISTANCE

PRESURE DROP

■ BASED ON ALPHA'S STANDARD TEST PROCEDURE.  
REFER TO TECHNICAL INFORMATION.

AIR VELOCITY: DUCTED CONDITION

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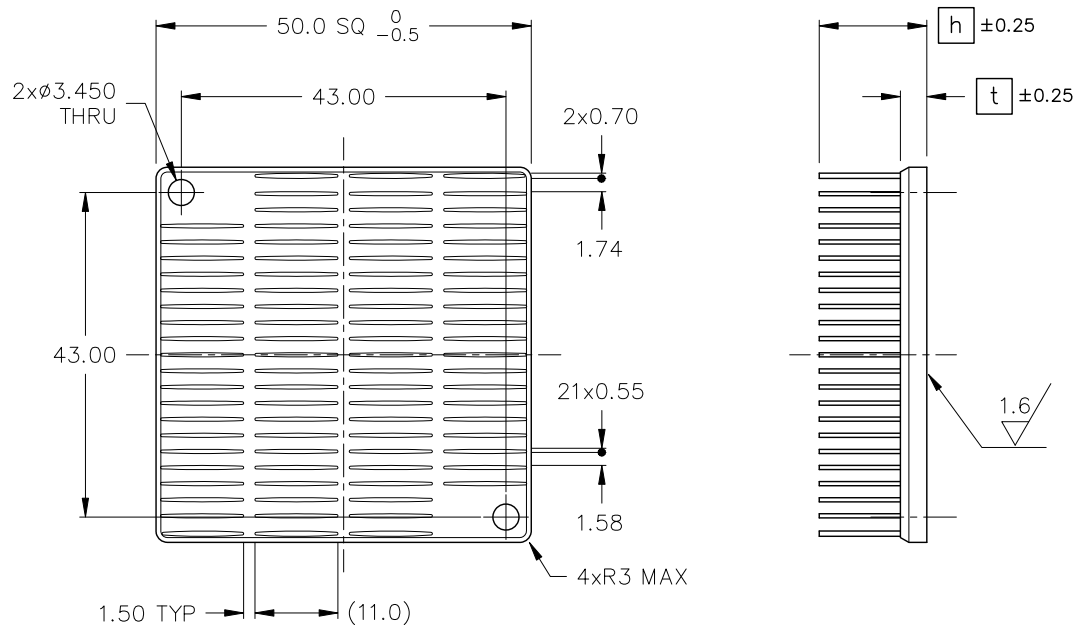
# ALPHA

Low Pressure Drop and  
Low Thermal Resistance Heat Sink  
with attachment holes

# UBH50



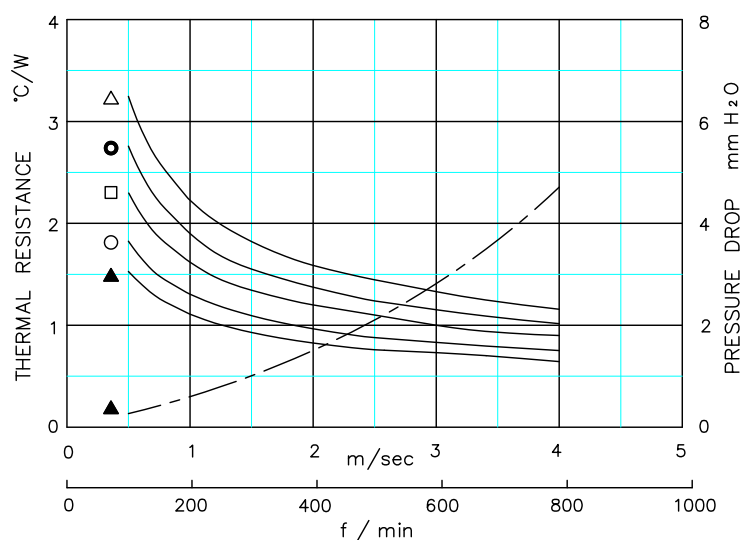
DIM



| MODEL      | HEIGHT $h$ | THICKNESS $t$ | WEIGHT(g) |
|------------|------------|---------------|-----------|
| UBH50-10BP | 10         | 3.0           | 28.1      |
| UBH50-12BP | 12         |               | 30.6      |
| UBH50-15BP | 15         | 3.5           | 37.0      |
| UBH50-20BP | 20         |               | 43.1      |
| UBH50-25BP | 25         |               | 49.2      |

MATERIAL : A 6063  
FINISH : BLACK ANODIZE  
DIMENSIONS : mm

DATA



AIR VELOCITY: DUCTED CONDITION

BASED ON ALPHA'S STANDARD TEST PROCEDURE.  
REFER TO TECHNICAL INFORMATION.

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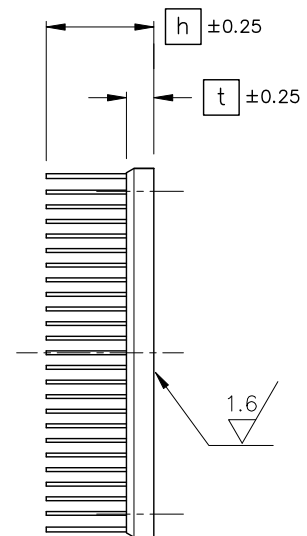
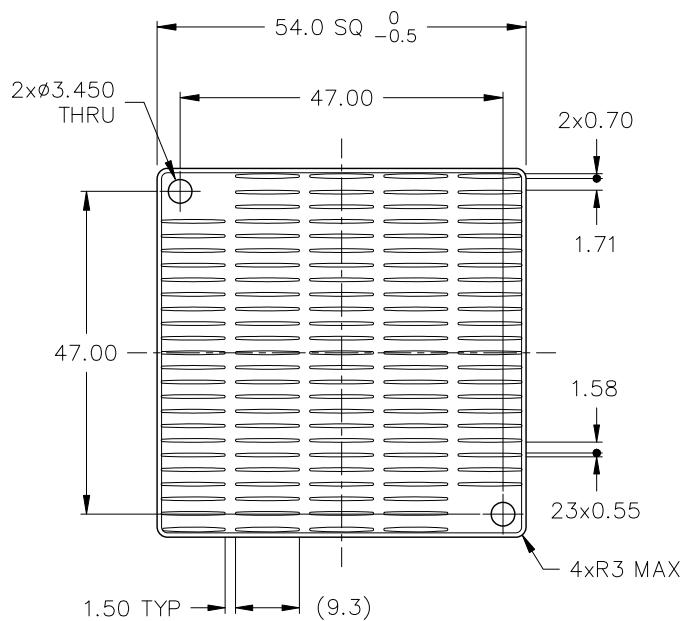
# ALPHA

Low Pressure Drop and  
Low Thermal Resistance Heat Sink  
with attachment holes

# UBH54



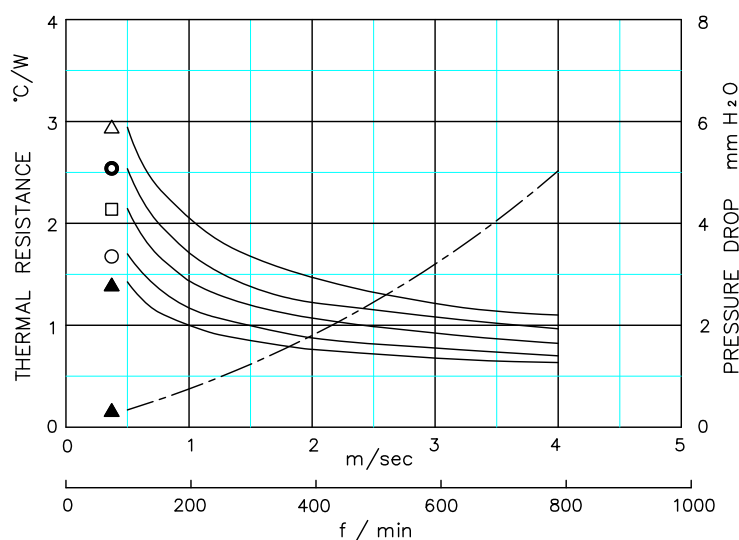
DIM



| MODEL      | HEIGHT [h] | THICKNESS [t] | WEIGHT(g) |
|------------|------------|---------------|-----------|
| UBH54-10BP | 10         | 3.0           | 32.9      |
| UBH54-12BP | 12         |               | 35.7      |
| UBH54-15BP | 15         | 4.0           | 46.3      |
| UBH54-20BP | 20         |               | 53.5      |
| UBH54-25BP | 25         |               | 60.6      |

MATERIAL : A 6063  
FINISH : BLACK ANODIZE  
DIMENSIONS : mm

DATA



- △ UBH54-10BP
- UBH54-12BP
- UBH54-15BP
- UBH54-20BP
- ▲ UBH54-25BP

● DUCTED CONDITION  
DUMMY HEATER SIZE: 12.7 SQ  
THERMAL RESISTANCE ———  
PRESURE DROP - - -

■ BASED ON ALPHA'S STANDARD TEST PROCEDURE.  
REFER TO TECHNICAL INFORMATION.

AIR VELOCITY: DUCTED CONDITION

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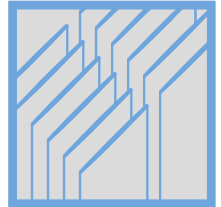
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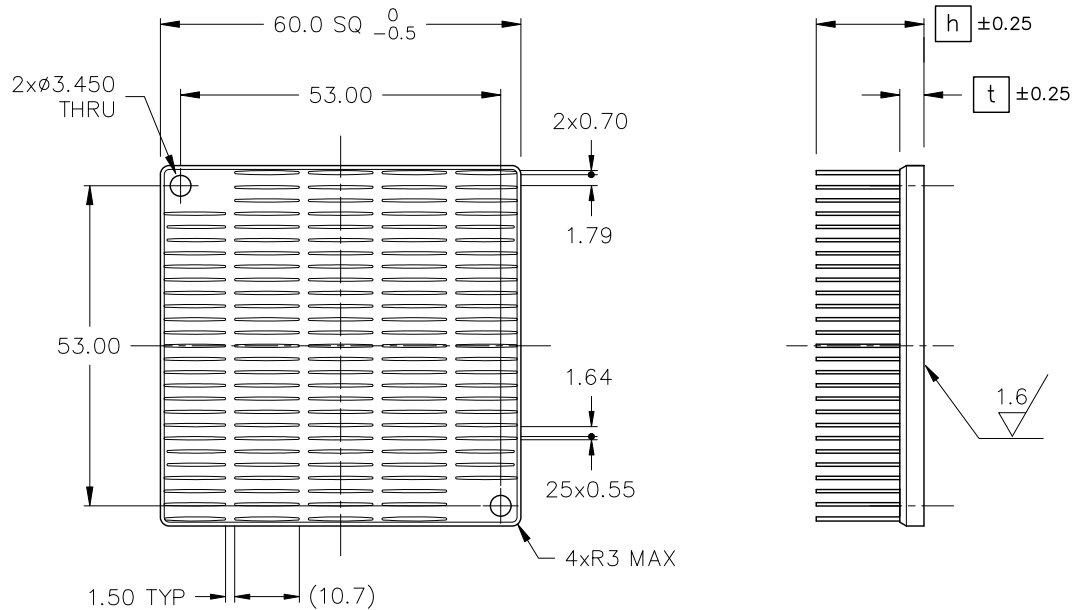
# ALPHA

Low Pressure Drop and  
Low Thermal Resistance Heat Sink  
with attachment holes

# UBH 60



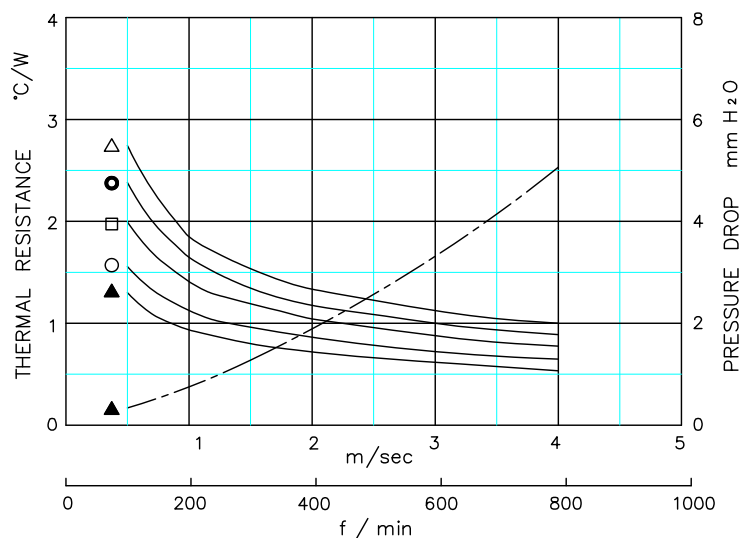
DIM



| MODEL      | HEIGHT $h$ | THICKNESS $t$ | WEIGHT(g) |
|------------|------------|---------------|-----------|
| UBH60-10BP | 10         | 3.0           | 40.9      |
| UBH60-12BP | 12         |               | 44.4      |
| UBH60-15BP | 15         | 4.0           | 57.6      |
| UBH60-20BP | 20         |               | 66.5      |
| UBH60-25BP | 25         |               | 75.4      |

MATERIAL : A 6063  
FINISH : BLACK ANODIZE  
DIMENSIONS : mm

DATA



AIR VELOCITY: DUCTED CONDITION

● DUCTED CONDITION  
DUMMY HEATER SIZE: 12.7 SQ  
THERMAL RESISTANCE ———  
PRESSURE DROP - - -

■ BASED ON ALPHA'S STANDARD TEST PROCEDURE.  
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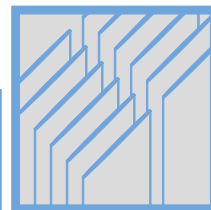
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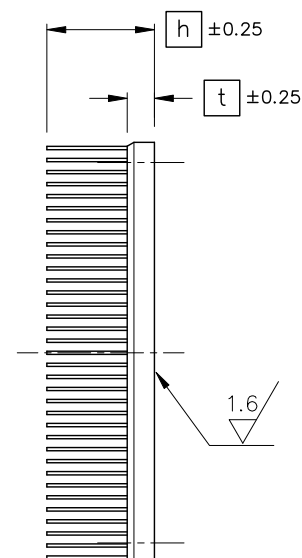
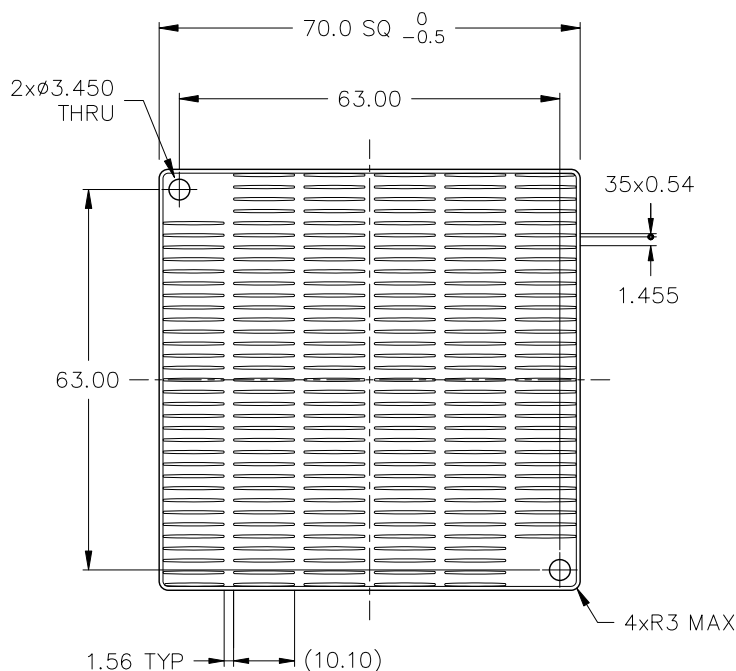
# ALPHA

Low Pressure Drop and  
Low Thermal Resistance Heat Sink  
with attachment holes

# UBH70



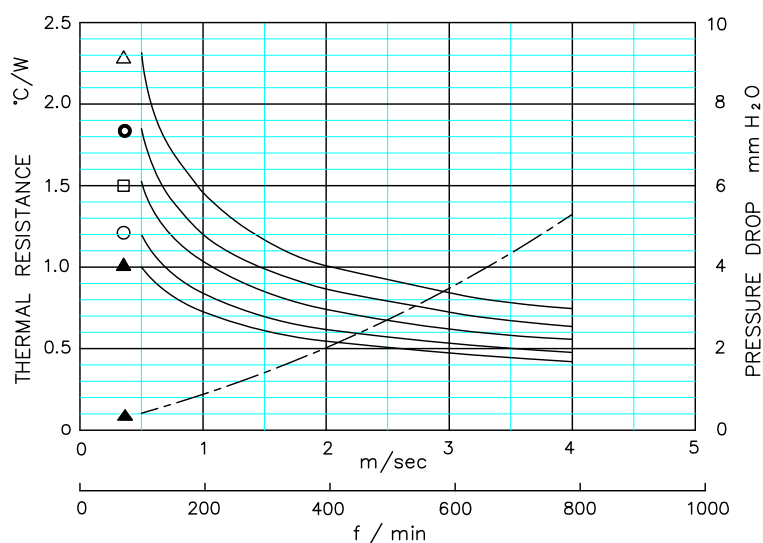
DIM



| MODEL      | HEIGHT [h] | THICKNESS [t] | WEIGHT(g) |
|------------|------------|---------------|-----------|
| UBH70-10BP | 10         | 3.0           | 57.0      |
| UBH70-12BP | 12         |               | 62.2      |
| UBH70-15BP | 15         | 4.0           | 80.4      |
| UBH70-20BP | 20         |               | 93.4      |
| UBH70-25BP | 25         |               | 106.4     |

MATERIAL : A 6063  
FINISH : BLACK ANODIZE  
DIMENSIONS : mm

DATA



- △ UBH70-10BP
- UBH70-12BP
- UBH70-15BP
- UBH70-20BP
- ▲ UBH70-25BP

● DUCTED CONDITION  
DUMMY HEATER SIZE: 12.7 SQ  
THERMAL RESISTANCE ———  
PRESURE DROP - - - - -

■ BASED ON ALPHA'S STANDARD TEST  
PROCEDURE.  
REFER TO TECHNICAL INFORMATION.

AIR VELOCITY: DUCTED CONDITION

Alpha Company Ltd.

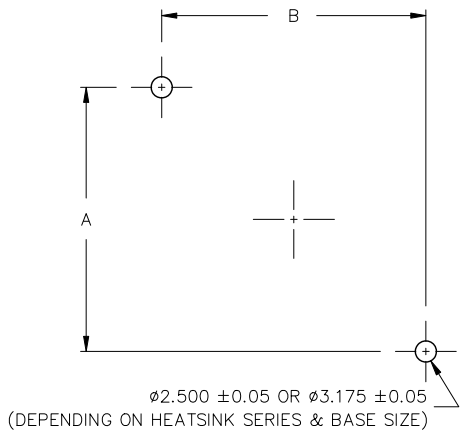
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PCB HOLE LAYOUT



|                            |      |      |
|----------------------------|------|------|
| LPDH25, UBH25, ZH25        | 18.0 | 18.0 |
| LPDH30, UBH30, ZH30        | 23.0 | 23.0 |
| LPDH35, UBH35, ZH35        | 28.0 | 28.0 |
| LPDH40, UBH40, ZH40        | 33.0 | 33.0 |
| LPDH45, UBH45, ZH45        | 38.0 | 38.0 |
| LPDH50, UBH50, ZH50, FFH50 | 43.0 | 43.0 |
| LPDH54, UBH54, ZH54, FFH54 | 47.0 | 47.0 |
| LPDH60, UBH60, ZH60        | 53.0 | 53.0 |
| LPDH70, UBH70              | 63.0 | 63.0 |
| MODEL                      | A    | B    |

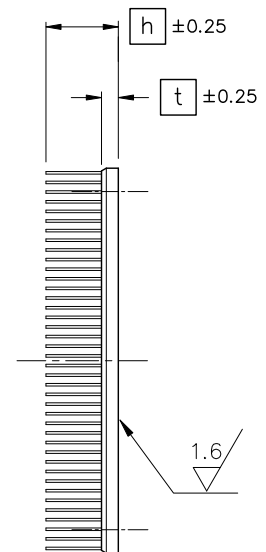
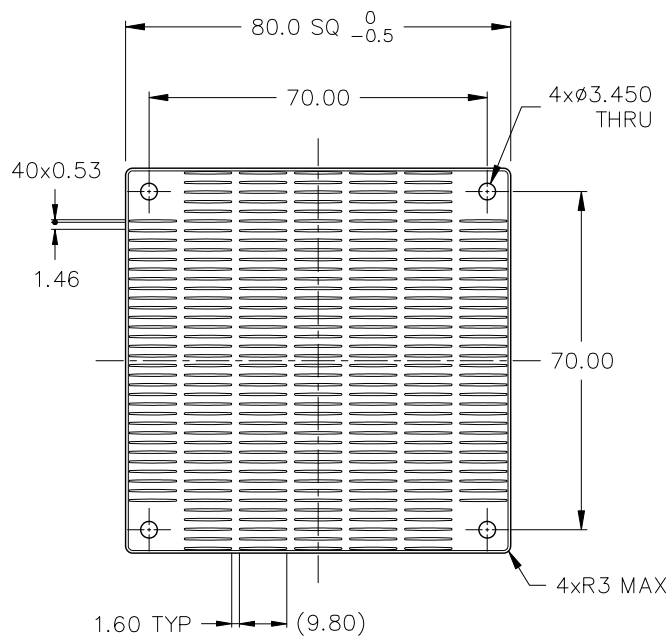
# ALPHA

Low Pressure Drop and  
Low Thermal Resistance Heat Sink  
with attachment holes

# UBP 80



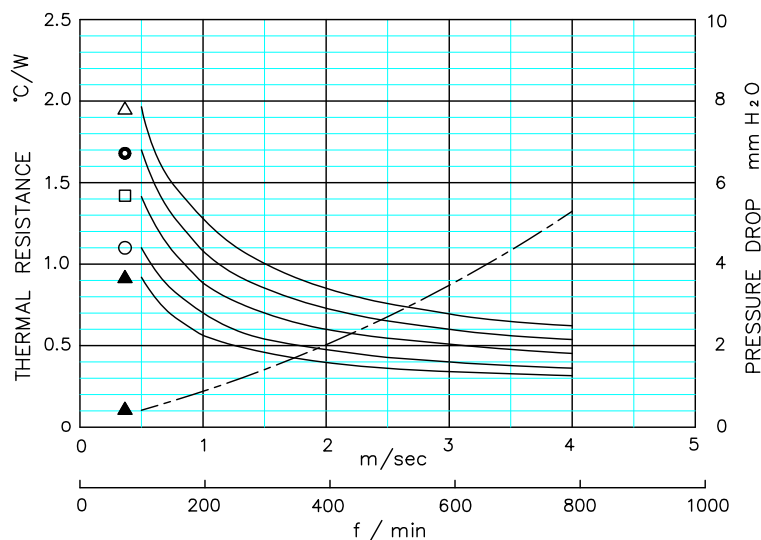
DIM



| MODEL     | HEIGHT [h] | THICKNESS [t] | WEIGHT(g) |
|-----------|------------|---------------|-----------|
| UBP80-10B | 10         | 3.5           | 81        |
| UBP80-12B | 12         |               | 87        |
| UBP80-15B | 15         |               | 97        |
| UBP80-20B | 20         | 5.0           | 134       |
| UBP80-25B | 25         |               | 150       |

MATERIAL : A 6063  
FINISH : BLACK ANODIZE  
DIMENSIONS : mm

DATA



△ UBP80-10B  
● UBP80-12B  
□ UBP80-15B  
○ UBP80-20B  
▲ UBP80-25B

● DUCTED CONDITION  
DUMMY HEATER SIZE: 12.7 SQ  
THERMAL RESISTANCE ———  
PRESURE DROP - - - - -

■ BASED ON ALPHA'S STANDARD TEST  
PROCEDURE.  
REFER TO TECHNICAL INFORMATION.

AIR VELOCITY: DUCTED CONDITION

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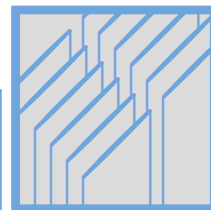
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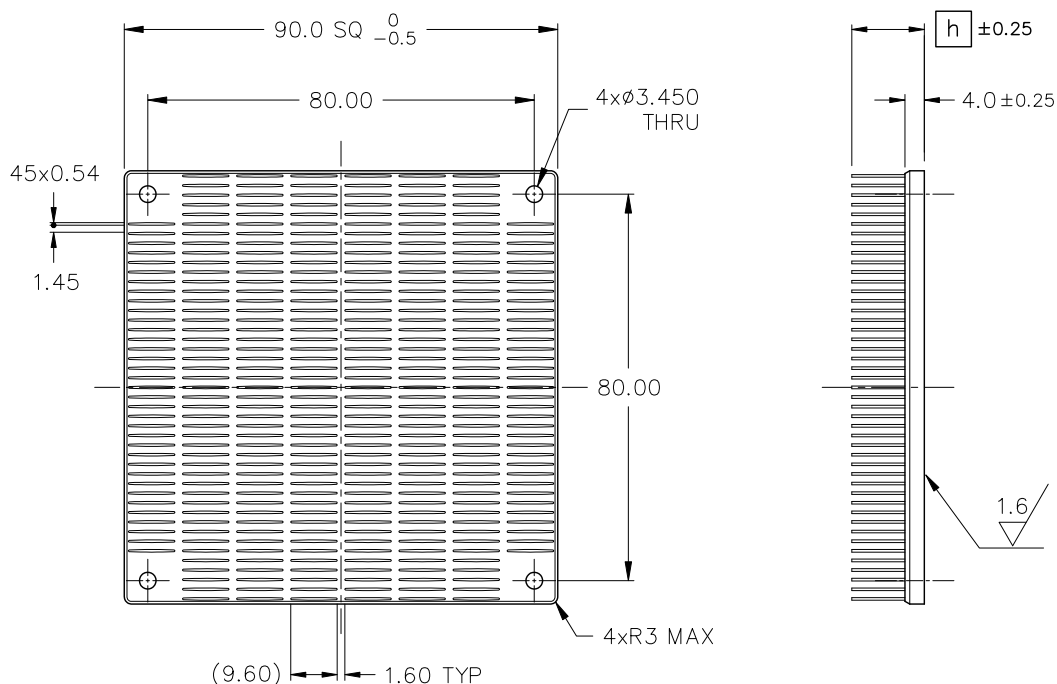
# ALPHA

Low Pressure Drop and  
Low Thermal Resistance Heat Sink  
with attachment holes

# UBP 90



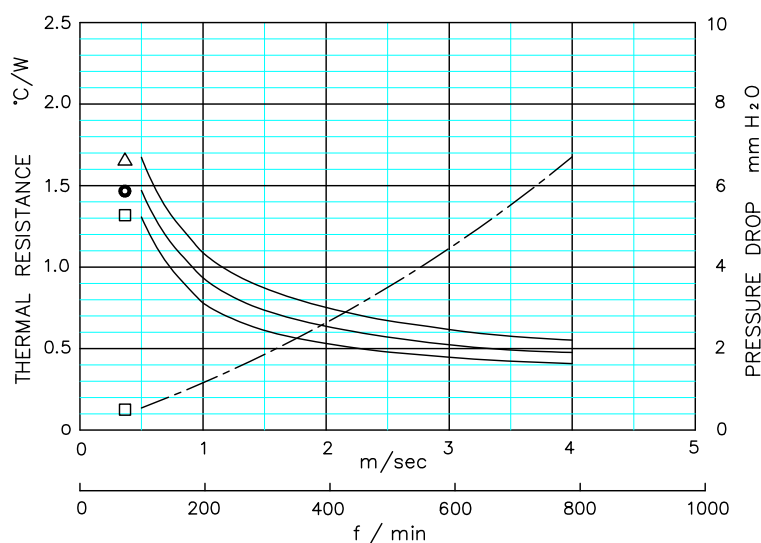
DIM



| MODEL     | HEIGHT $h$ | WEIGHT(g) |
|-----------|------------|-----------|
| UBP90-10B | 10         | 112       |
| UBP90-12B | 12         | 120       |
| UBP90-15B | 15         | 134       |

MATERIAL : A 6063  
FINISH : BLACK ANODIZE  
DIMENSIONS : mm

DATA



△ UBP90-10B  
● UBP90-12B  
□ UBP90-15B

● DUCTED CONDITION  
DUMMY HEATER SIZE: 12.7 SQ  
THERMAL RESISTANCE ———  
PRESSURE DROP - - - - -

■ BASED ON ALPHA'S STANDARD TEST PROCEDURE.  
REFER TO TECHNICAL INFORMATION.

AIR VELOCITY: DUCTED CONDITION

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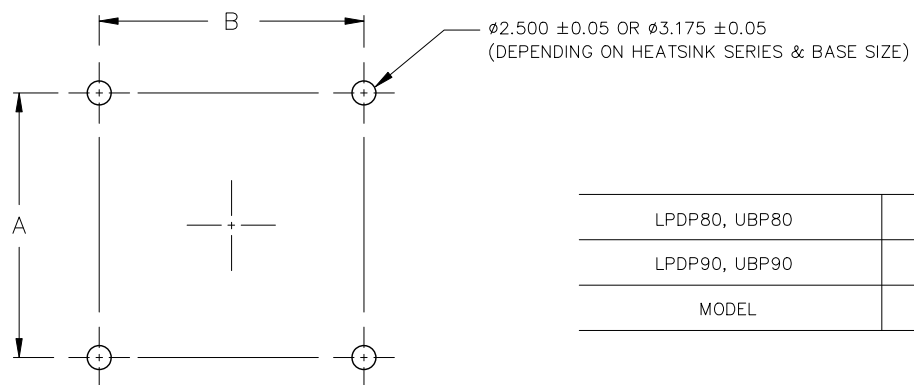
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REF



## PCB HOLE LAYOUT



|               |      |      |
|---------------|------|------|
| LPDP80, UBP80 | 70.0 | 70.0 |
| LPDP90, UBP90 | 80.0 | 80.0 |
| MODEL         | A    | B    |