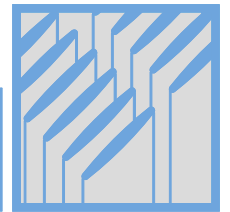
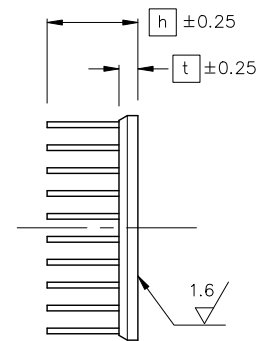
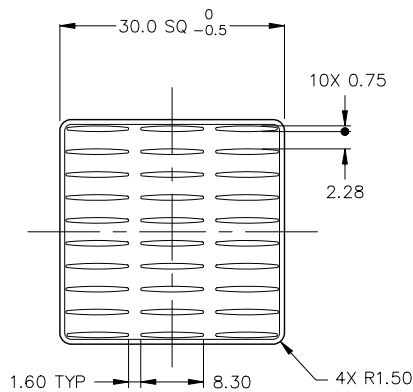


**MD Series**  
Middle Density Heat Sink

**ALPHA**



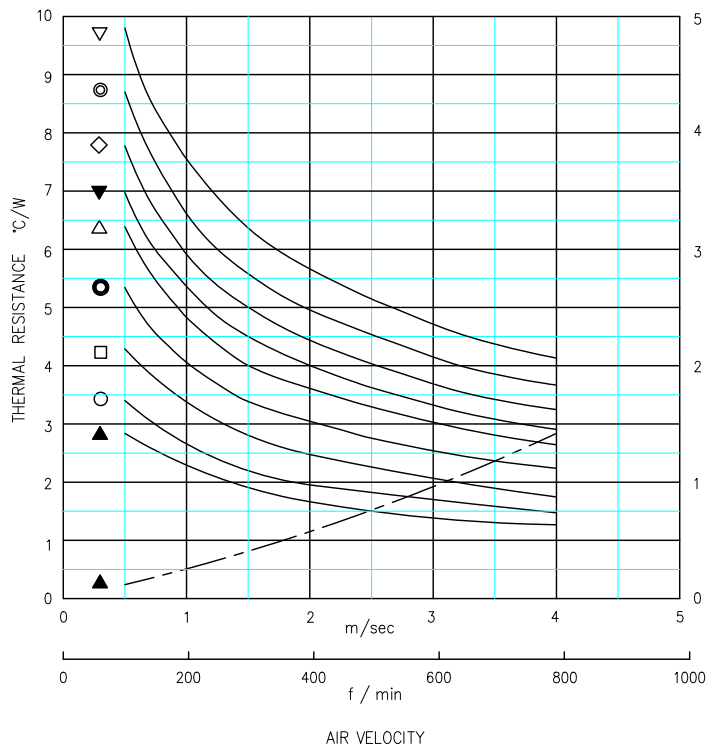
### DIM



MATERIAL : A6063  
 FINISH : BLACK ANODIZE  
 DIMENSIONS : mm

MODEL	HEIGHT [h]	THICKNESS [t]	WEIGHT (grams)
MD30-6B	6	2.00	6.4
MD30-7B	7		6.8
MD30-8B	8		7.2
MD30-9B	9		7.6
MD30-10B	10		8.0
MD30-12B	12	2.50	10.0
MD30-15B	15		11.2
MD30-20B	20		13.2
MD30-25B	25		15.2
MD30-[h]B	[h] ≤ 10	2.00	-
	10 < [h] ≤ 25	2.50	-

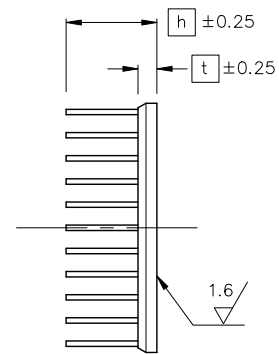
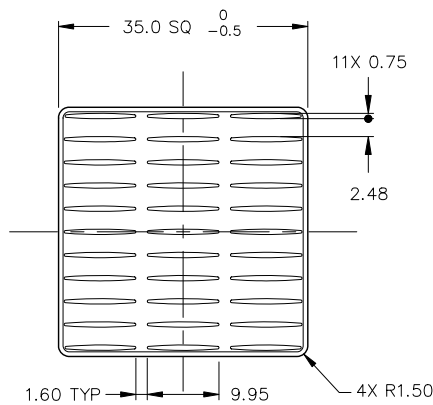
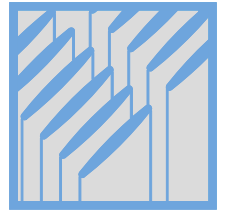
### DATA



- ▽ MD30-6B
- ⊙ MD30-7B
- ◇ MD30-8B
- ▼ MD30-9B
- △ MD30-10B
- MD30-12B
- MD30-15B
- MD30-20B
- ▲ MD30-25B

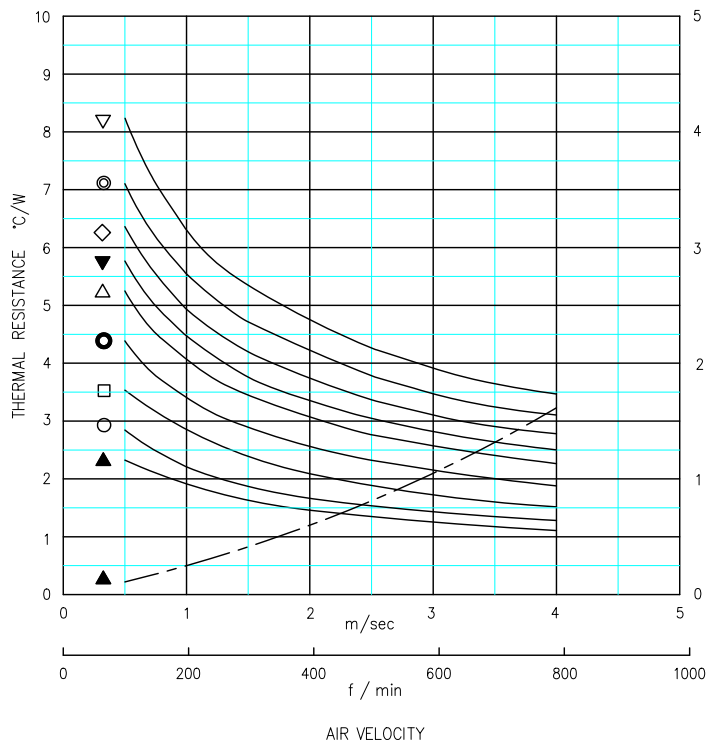
● DUCTED CONDITION  
 DUMMY HEATER SIZE: 12.7 SQ  
 THERMAL RESISTANCE ————  
 PRESSURE DROP - - - - -

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



MATERIAL : A6063  
 FINISH : BLACK ANODIZE  
 DIMENSIONS : mm

MODEL	HEIGHT [h]	THICKNESS [t]	WEIGHT (grams)
MD35-6B	6	2.00	8.7
MD35-7B	7		9.2
MD35-8B	8		9.7
MD35-9B	9		10.3
MD35-10B	10	2.50	10.8
MD35-12B	12		13.2
MD35-15B	15		14.8
MD35-20B	20	3.00	18.8
MD35-25B	25		21.5
MD35-[h]B	[h] ≤ 10	2.00	-
	10 < [h] ≤ 15	2.50	-
	15 < [h] ≤ 25	3.00	-



- ▽ MD35-6B
- ◎ MD35-7B
- ◇ MD35-8B
- ▼ MD35-9B
- △ MD35-10B
- MD35-12B
- MD35-15B
- MD35-20B
- ▲ MD35-25B

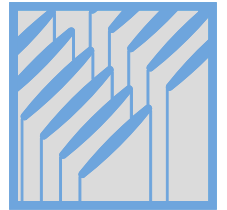
● DUCTED CONDITION  
 DUMMY HEATER SIZE: 12.7 SQ  
 THERMAL RESISTANCE ————  
 PRESSURE DROP - - - - -

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

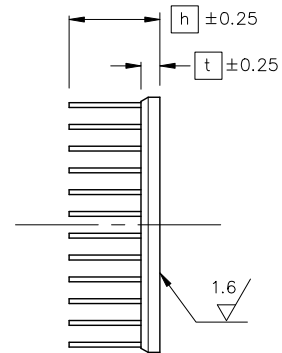
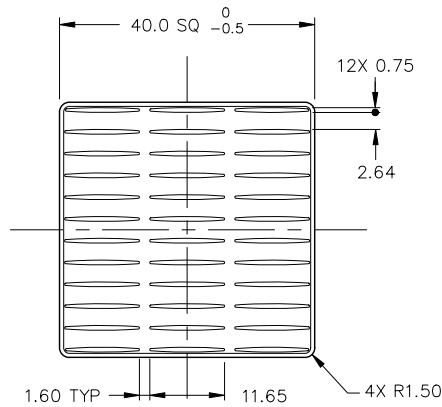
# ALPHA

## Middle Density Heat Sink

# MD40



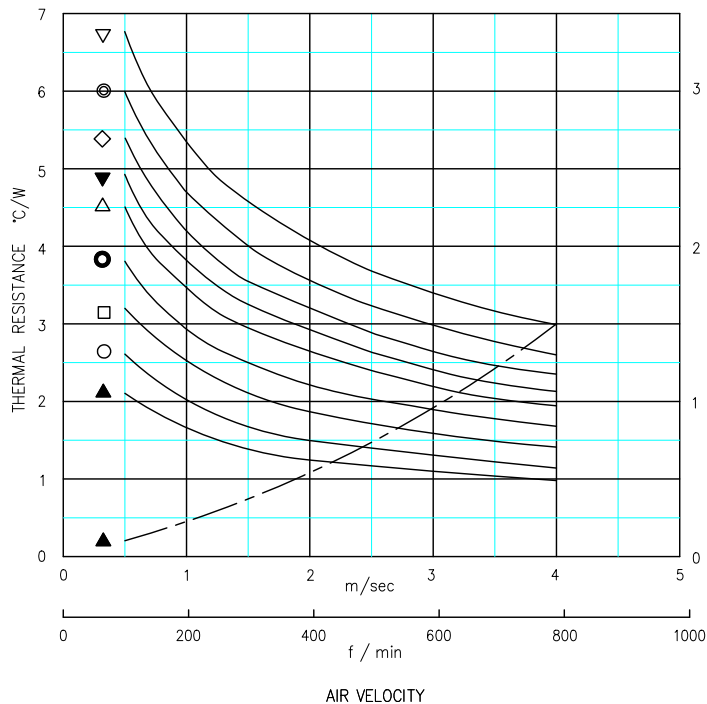
DIM



MATERIAL : A6063  
 FINISH : BLACK ANODIZE  
 DIMENSIONS : mm

MODEL	HEIGHT [h]	THICKNESS [t]	WEIGHT (grams)
MD40-6B	6	2.00	11.2
MD40-7B	7		11.9
MD40-8B	8		12.6
MD40-9B	9	2.50	13.3
MD40-10B	10		14.0
MD40-12B	12		17.6
MD40-15B	15	3.00	19.7
MD40-20B	20		25.0
MD40-25B	25		28.5
MD40-[h]B	[h] ≤ 10	2.00	-
	10 < [h] ≤ 15	2.50	-
	15 < [h] ≤ 25	3.00	-

DATA



- ▽ MD40-6B
- ⊙ MD40-7B
- ◇ MD40-8B
- ▼ MD40-9B
- △ MD40-10B
- MD40-12B
- MD40-15B
- MD40-20B
- ▲ MD40-25B

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

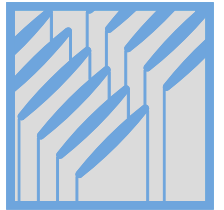
■ BASED ON ALPHA'S STANDARD TEST PROCEDURE.  
 REFER TO TECHNICAL INFORMATION.

Alpha Company Ltd.

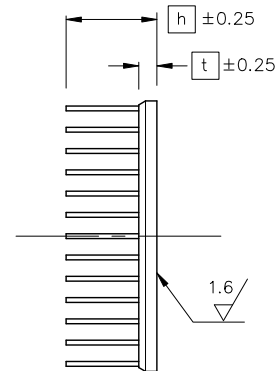
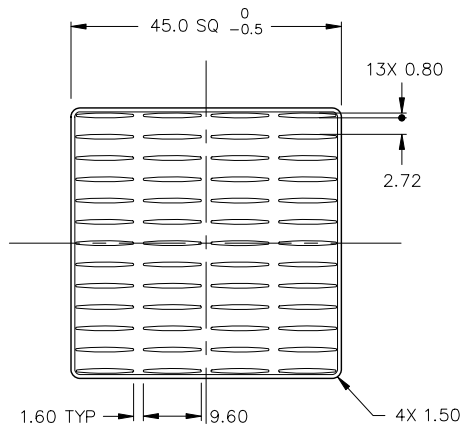
256-1 UEDA, NUMAZU-CITY SHIZUOKA-PREF., JAPAN  
 PHONE +81(55)966 0789  
 FAX +81(55)966 9192  
 E mail : alpha@micforg.co.jp  
 URL : http://www.micforg.co.jp

Alpha Novatech, Inc. - a subsidiary of Alpha Company.

473 Sapena Ct. #12 Santa Clara, CA 95054 USA  
 PHONE +1(408)567-8082  
 FAX +1(408)567-8053  
 E mail : sales@alphanovatech.com  
 URL : http://www.alphanovatech.com



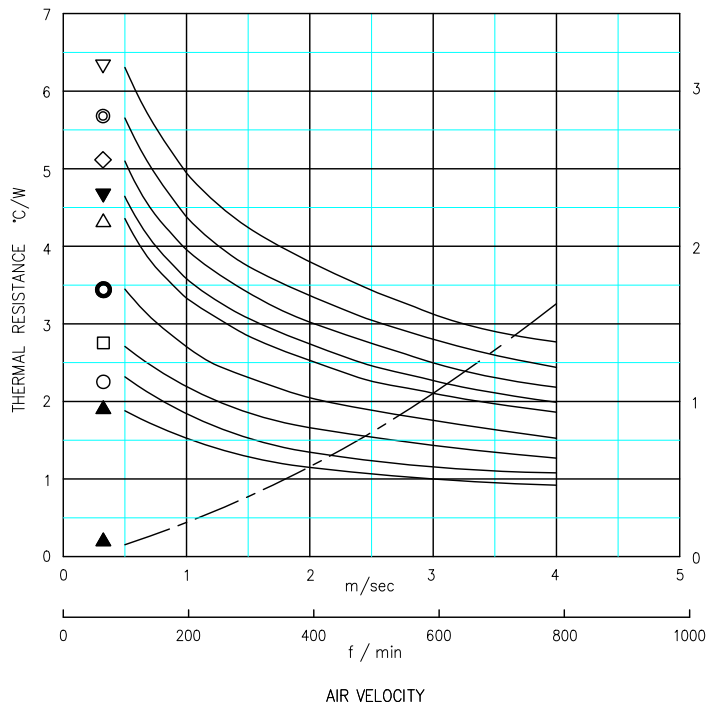
### DIM



MATERIAL : A6063  
 FINISH : BLACK ANODIZE  
 DIMENSIONS : mm

MODEL	HEIGHT [h]	THICKNESS [t]	WEIGHT (grams)
MD45-6B	6	2.50	16.3
MD45-7B	7		17.1
MD45-8B	8		18.0
MD45-9B	9		18.8
MD45-10B	10	3.00	22.3
MD45-12B	12		23.9
MD45-15B	15		26.4
MD45-20B	20		30.4
MD45-25B	25		34.4
MD45-[h]B	[h] ≤ 9	2.50	-
	9 < [h] ≤ 25	3.00	-

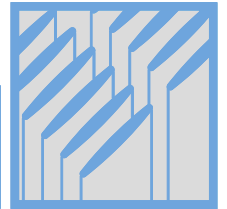
### DATA



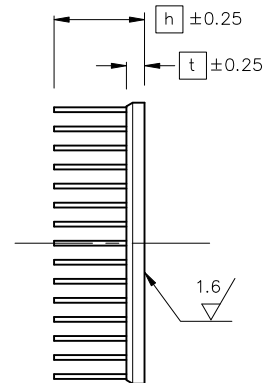
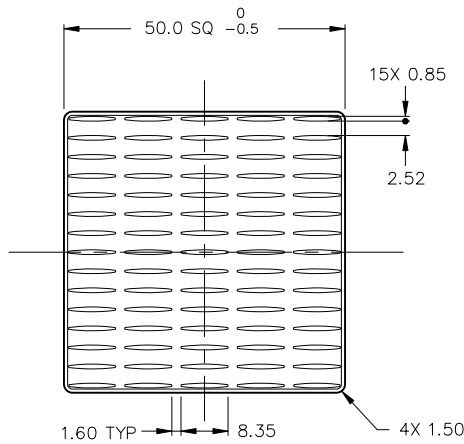
- ▽ MD45-6B
- ⊙ MD45-7B
- ◇ MD45-8B
- ▼ MD45-9B
- △ MD45-10B
- MD45-12B
- MD45-15B
- MD45-20B
- ▲ MD45-25B

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

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



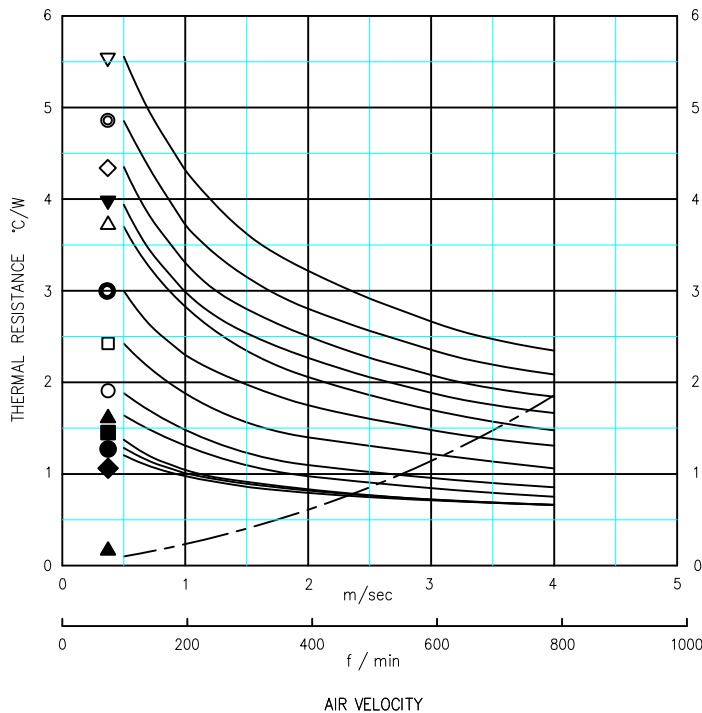
### DIM



MATERIAL : A6063  
 FINISH : BLACK ANODIZE  
 DIMENSIONS : mm

MODEL	HEIGHT [h]	THICKNESS [t]	WEIGHT (grams)
MD50-6B	6	2.50	20.6
MD50-7B	7		21.7
MD50-8B	8		22.8
MD50-9B	9		23.9
MD50-10B	10	3.50	30.7
MD50-12B	12		32.9
MD50-15B	15		36.0
MD50-20B	20		41.3
MD50-25B	25		47.7
MD50-30B	30		53.6
MD50-35B	35		59.0
MD50-40B	40		64.7
MD50-[h]B	$h \leq 9$	2.50	-
	$9 < h \leq 40$	3.50	-

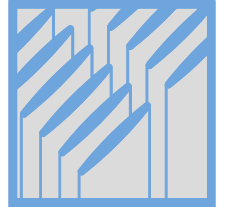
### DATA



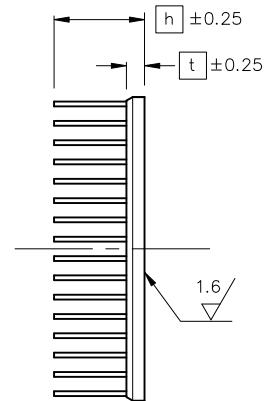
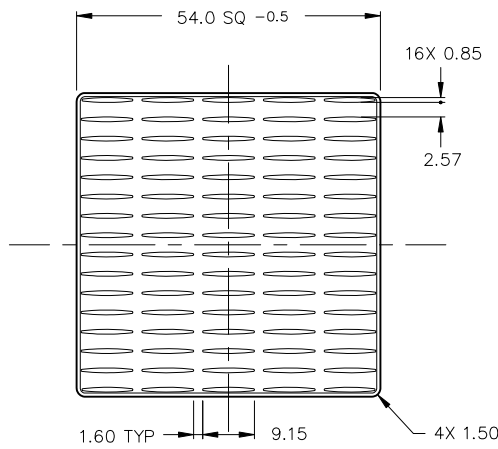
- ▽ MD50-6B
- ⊙ MD50-7B
- ◇ MD50-8B
- ▼ MD50-9B
- △ MD50-10B
- ⊙ MD50-12B
- MD50-15B
- MD50-20B
- ▲ MD50-25B
- MD50-30B
- MD50-35B
- ◆ MD50-40B

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

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



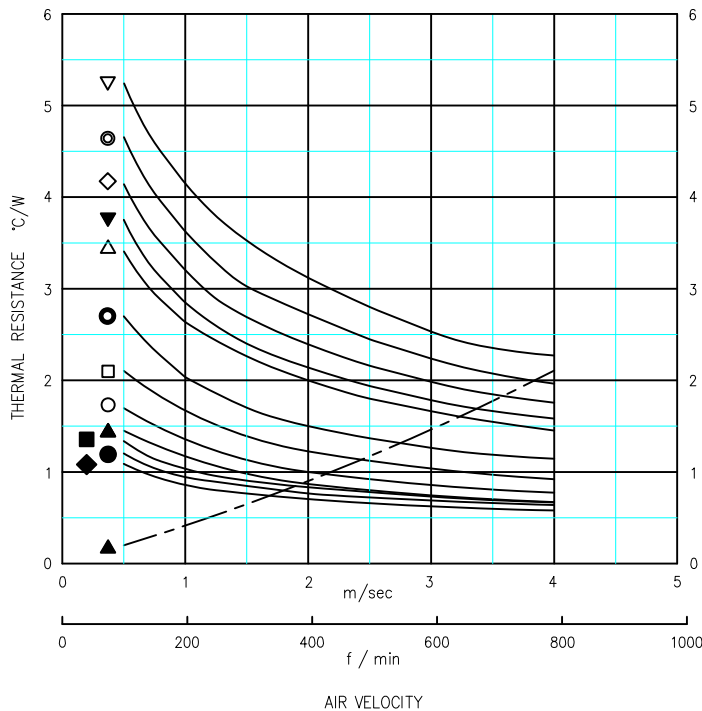
### DIM



MATERIAL : A6063  
 FINISH : BLACK ANODIZE  
 DIMENSIONS : mm

MODEL	HEIGHT [h]	THICKNESS [t]	WEIGHT (grams)
MD54-6B	6	3.00	26.9
MD54-7B	7		28.2
MD54-8B	8		29.5
MD54-9B	9		30.8
MD54-10B	10	4.00	39.3
MD54-12B	12		41.8
MD54-15B	15		45.6
MD54-20B	20		51.9
MD54-25B	25		58.2
MD54-30B	30		64.7
MD54-35B	35		71.4
MD54-40B	40		77.8
MD54-[h]B	[h] ≤ 9	3.00	-
	9 < [h] ≤ 40	4.00	-

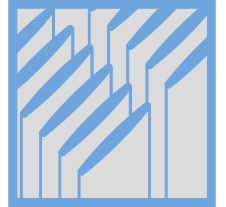
### DATA



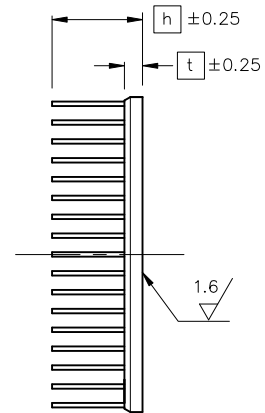
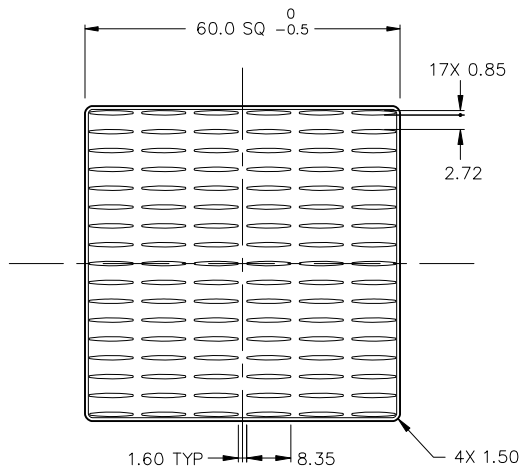
- ▽ MD54-6B
- ⊙ MD54-7B
- ◇ MD54-8B
- ▼ MD54-9B
- △ MD54-10B
- ⊙ MD54-12B
- MD54-15B
- MD54-20B
- ▲ MD54-25B
- MD54-30B
- MD54-35B
- ◆ MD54-40B

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

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



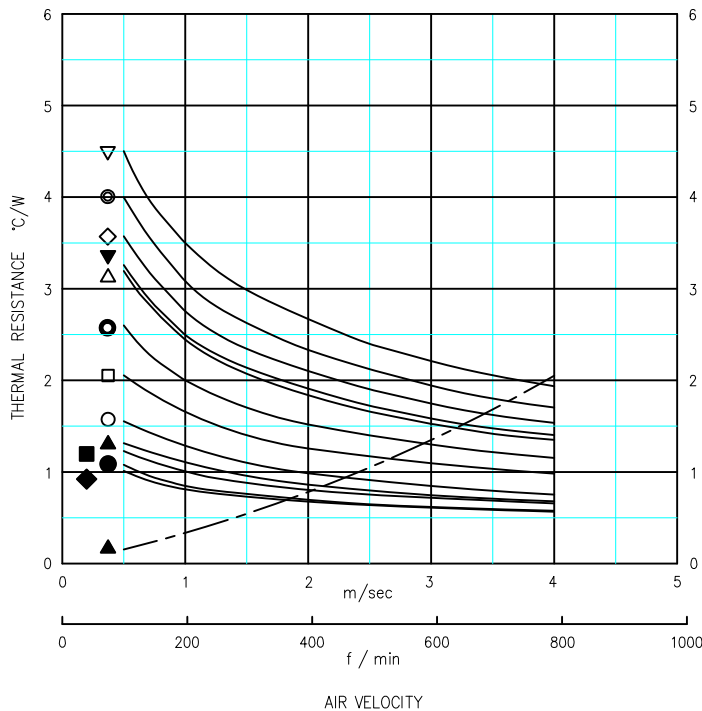
### DIM



MATERIAL : A6063  
 FINISH : BLACK ANODIZE  
 DIMENSIONS : mm

MODEL	HEIGHT [h]	THICKNESS [t]	WEIGHT (grams)
MD60-6B	6	3.00	33.1
MD60-7B	7		34.9
MD60-8B	8		36.7
MD60-9B	9		38.6
MD60-10B	10	4.00	47.3
MD60-12B	12		50.3
MD60-15B	15		54.7
MD60-20B	20		62.1
MD60-25B	25		69.5
MD60-30B	30		78.6
MD60-35B	35		86.3
MD60-40B	40		94.0
MD60-[h]B	[h] ≤ 9	3.00	-
	9 < [h] ≤ 40	4.00	-

### DATA

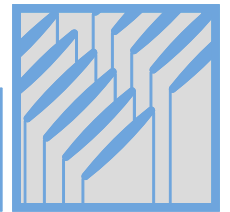


- ▽ MD60-6B
- ⊙ MD60-7B
- ◇ MD60-8B
- ▼ MD60-9B
- △ MD60-10B
- ⊙ MD60-12B
- MD60-15B
- MD60-20B
- ▲ MD60-25B
- MD60-30B
- MD60-35B
- ◆ MD60-40B

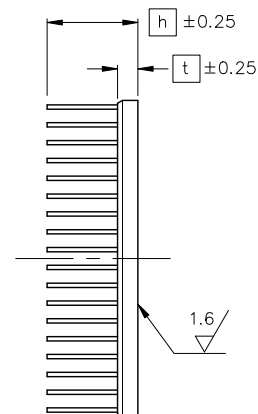
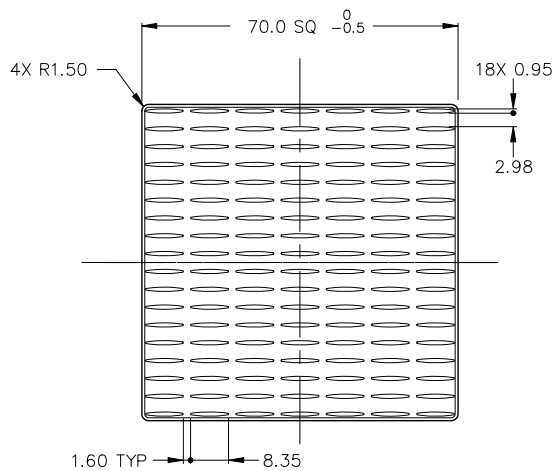
● DUCTED CONDITION  
 DUMMY HEATER SIZE: 12.7 SQ  
 THERMAL RESISTANCE ———  
 PRESSURE DROP - - - - -

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





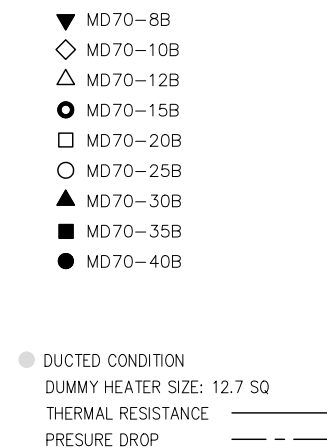
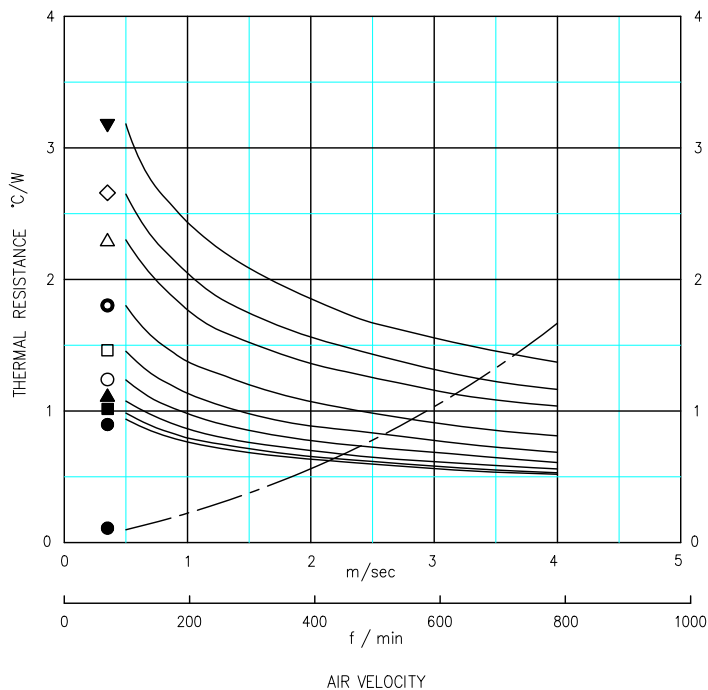
### DIM



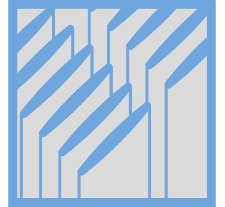
MATERIAL : A6063  
 FINISH : BLACK ANODIZE  
 DIMENSIONS : mm

MODEL	HEIGHT [h]	THICKNESS [t]	WEIGHT (grams)
MD70-8B	8	3.00	49.6
MD70-10B	10		53.8
MD70-12B	12		58.0
MD70-15B	15	4.50	80.7
MD70-20B	20		91.2
MD70-25B	25		101.7
MD70-30B	30		112.1
MD70-35B	35		122.6
MD70-40B	40		133.0
MD70-[h]B	[h] ≤ 12	3.00	-
	12 < [h] ≤ 40	4.50	-

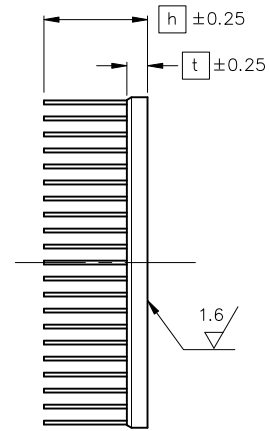
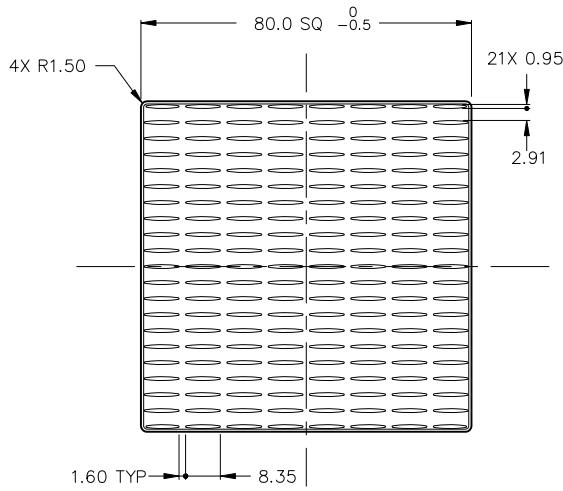
### DATA



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



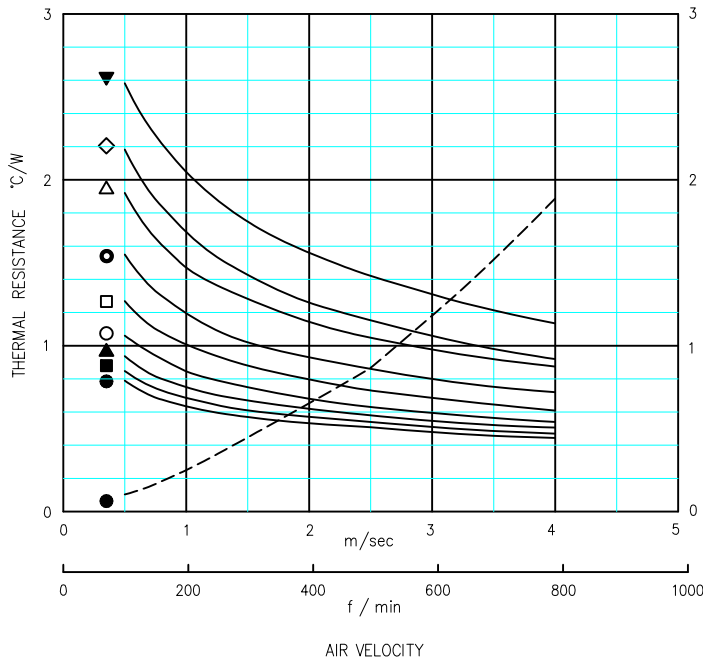
### DIM



MATERIAL : A6063  
 FINISH : BLACK ANODIZE  
 DIMENSIONS : mm

MODEL	HEIGHT [h]	THICKNESS [t]	WEIGHT (grams)
MD80-8B	8	4.00	79.8
MD80-10B	10		85.3
MD80-12B	12		90.7
MD80-15B	15	5.00	113.4
MD80-20B	20		127.4
MD80-25B	25		141.3
MD80-30B	30		155.2
MD80-35B	35		169.2
MD80-40B	40		183.1
MD80-[h]B	[h] ≤ 12	4.00	-
	12 < [h] ≤ 40	5.00	-

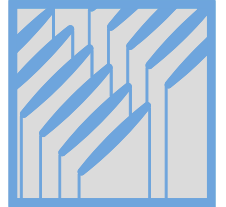
### DATA



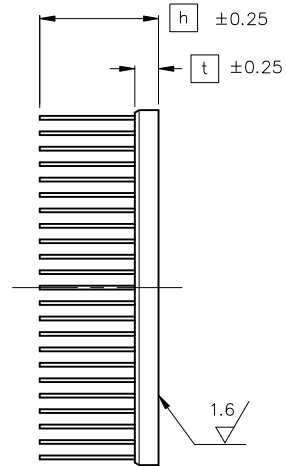
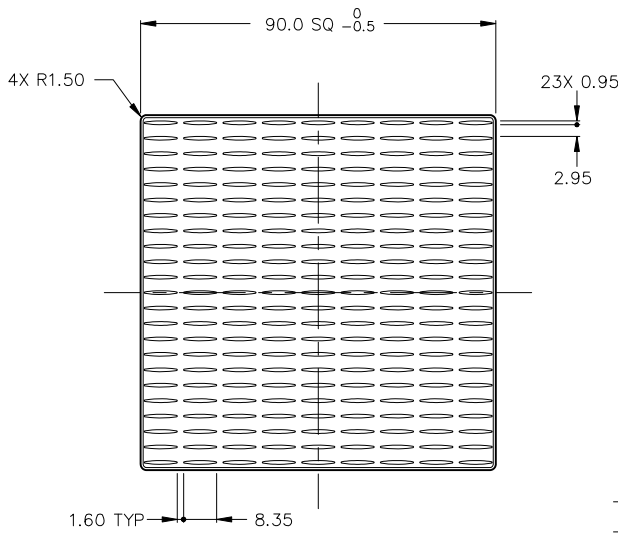
- ▼ MD80-8B
- ◇ MD80-10B
- △ MD80-12B
- MD80-15B
- MD80-20B
- MD80-25B
- ▲ MD80-30B
- MD80-35B
- MD80-40B

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

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



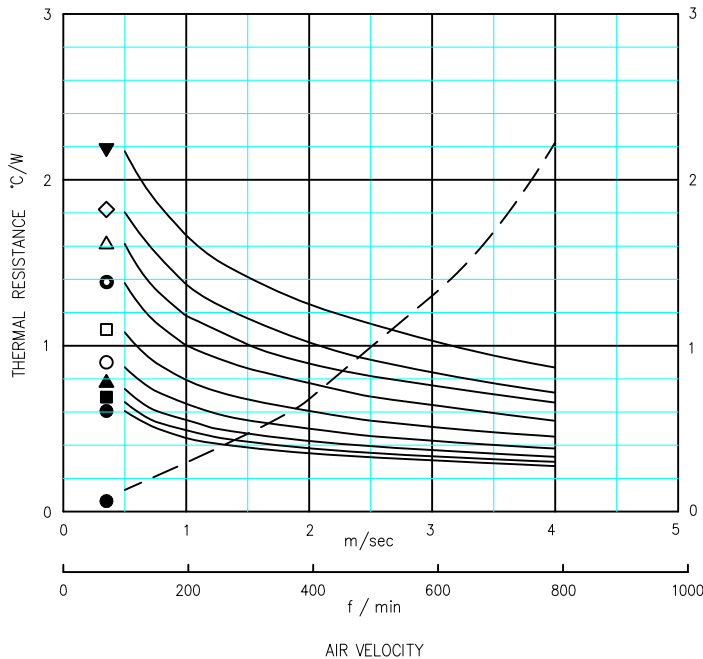
### DIM



MATERIAL : A6063  
 FINISH : BLACK ANODIZE  
 DIMENSIONS : mm

MODEL	HEIGHT [h]	THICKNESS [t]	WEIGHT (grams)
MD90-8B	8	4.00	100.6
MD90-10B	10		107.5
MD90-12B	12		114.0
MD90-15B	15	6.00	160.9
MD90-20B	20		178.0
MD90-25B	25		195.2
MD90-30B	30		212.3
MD90-35B	35		229.4
MD90-40B	40		246.6
MD90-[h]B	[h] ≤ 12	4.00	-
	12 < [h] ≤ 40	6.00	-

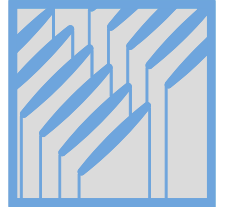
### DATA



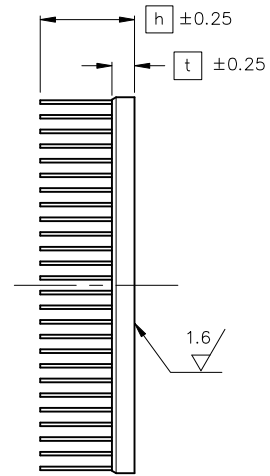
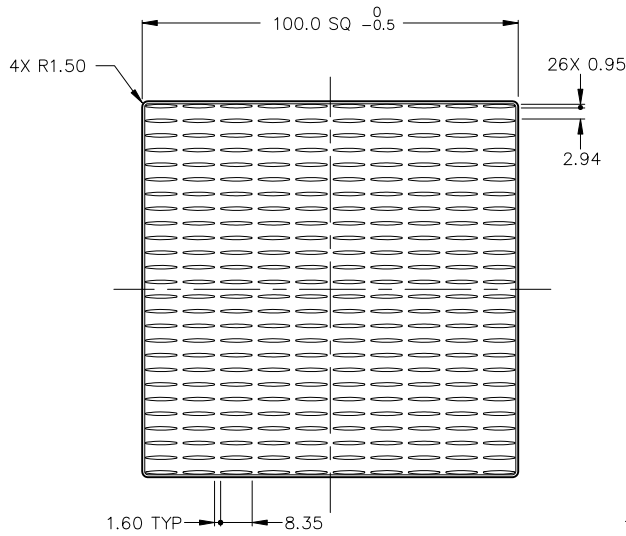
- ▼ MD90-8B      ○ MD90-25B
- ◇ MD90-10B    ▲ MD90-30B
- △ MD90-12B    ■ MD90-35B
- MD90-15B    ● MD90-40B
- MD90-20B

● DUCTED CONDITION  
 DUMMY HEATER SIZE: 25.4 SQ  
 THERMAL RESISTANCE ———  
 PRESURE DROP - - - -

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



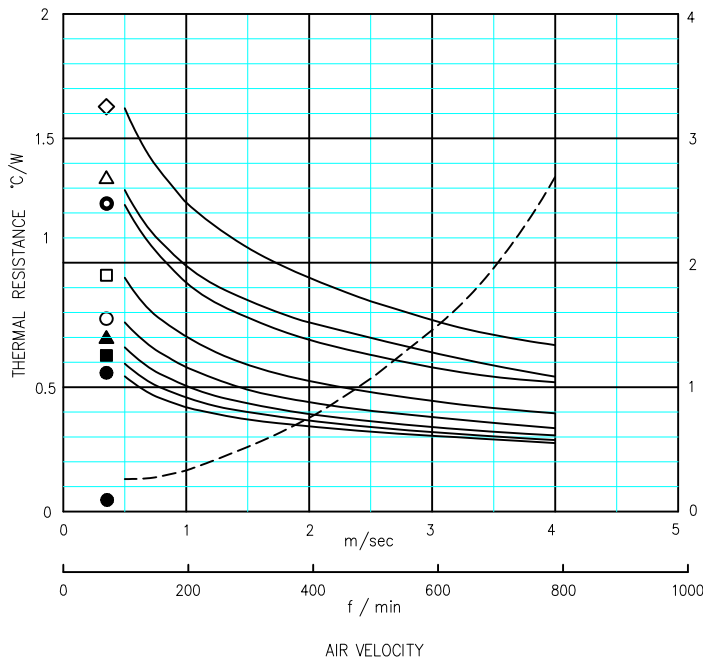
### DIM



MATERIAL : A6063  
 FINISH : BLACK ANODIZE  
 DIMENSIONS : mm

MODEL	HEIGHT [h]	THICKNESS [t]	WEIGHT (grams)
MD100-10B	10	6.00	144.5
MD100-12B	12		153.1
MD100-15B	15		199.6
MD100-20B	20		221.1
MD100-25B	25		242.7
MD100-30B	30		264.3
MD100-35B	35		285.8
MD100-40B	40		307.4
MD100-[h]B	[h] ≤ 12	4.50	-
	12 < [h] ≤ 40	6.00	-

### DATA



- ◇ MD100-10B    ○ MD100-25B
- △ MD100-12B    ▲ MD100-30B
- MD100-15B    ■ MD100-35B
- MD100-20B    ● MD100-40B

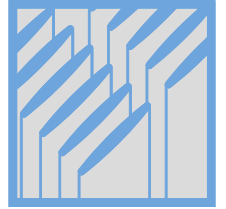
● DUCTED CONDITION  
 DUMMY HEATER SIZE: 25.4 SQ  
 THERMAL RESISTANCE ———  
 PRESURE DROP - - - -

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

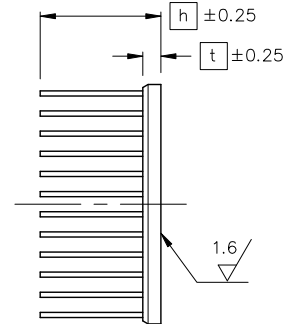
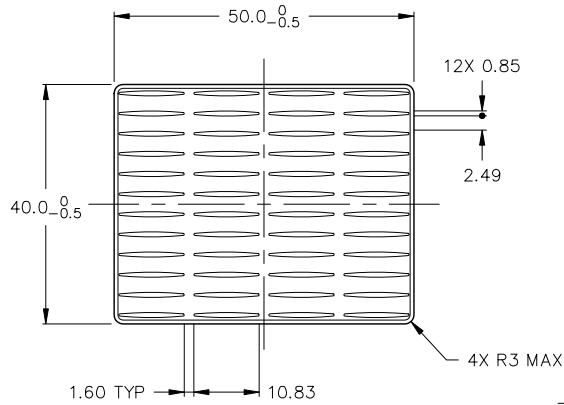
# ALPHA

## Middle Density Heat Sink

# MD4050



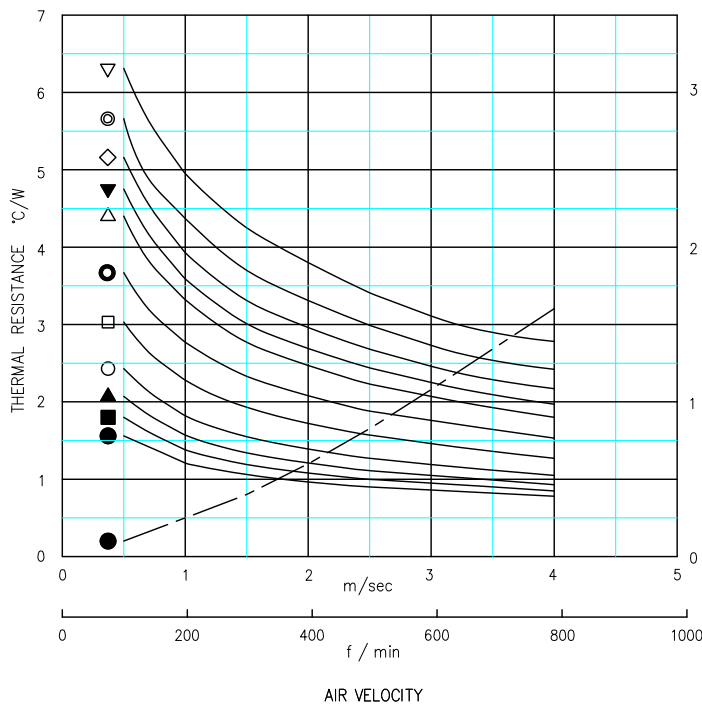
DIM



MATERIAL : A6063  
 FINISH : BLACK ANODIZE  
 DIMENSIONS : mm

MODEL	HEIGHT [h]	THICKNESS [t]	WEIGHT (grams)
MD4050-6B	6	2.50	16.5
MD4050-7B	7		17.4
MD4050-8B	8		18.4
MD4050-9B	9		19.3
MD4050-10B	10	3.00	22.5
MD4050-12B	12		24.4
MD4050-15B	15		27.2
MD4050-20B	20		31.9
MD4050-25B	25		36.7
MD4050-30B	30		41.4
MD4050-35B	35	46.1	
MD4050-[h]B	[h] ≤ 9	2.50	-
	9 < [h] ≤ 35	3.00	-

DATA



- ▽ MD4050-6B
- ◎ MD4050-7B
- ◇ MD4050-8B
- ▼ MD4050-9B
- △ MD4050-10B
- MD4050-12B
- MD4050-15B
- MD4050-20B
- ▲ MD4050-25B
- MD4050-30B
- MD4050-35B

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

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

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