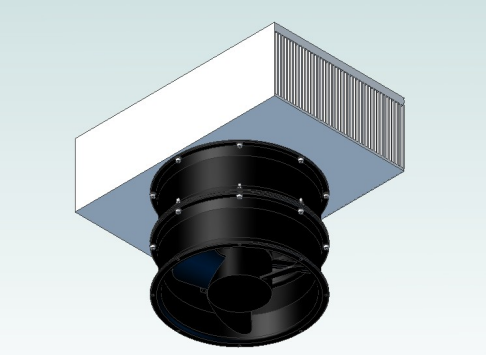
RG42120N44...FRI

High efficiency heatsink with fan

CHARACTERISTICS

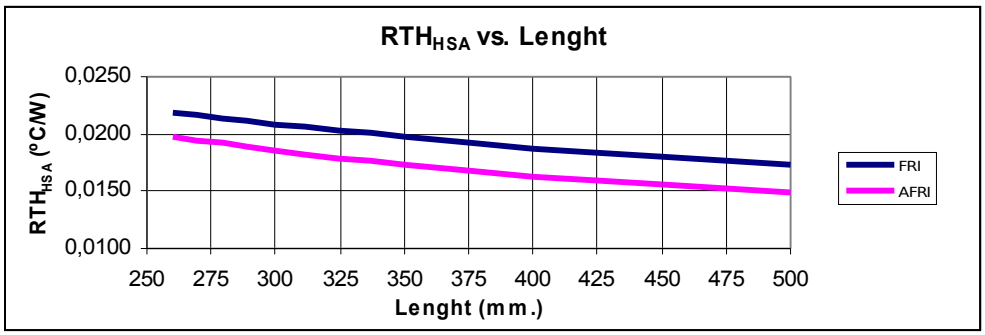
- Low weight.
- High thermal dissipation.
- Customized dimensions available.
- Good structural integrity.
- CNC machined.
- Up to 70ºC air temperature working



non-contractual image

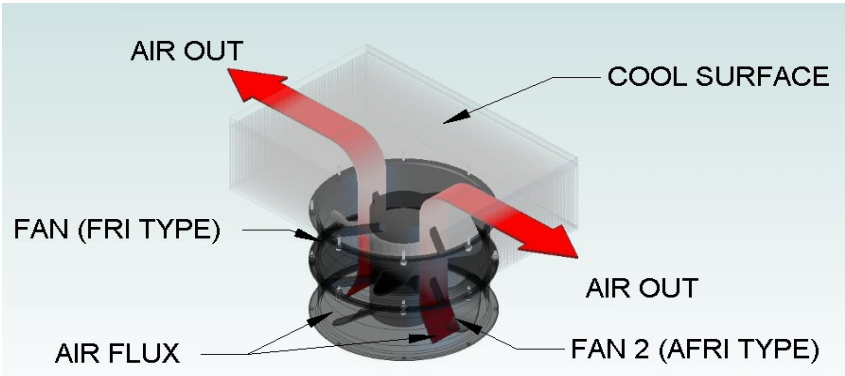
GENERAL DATA & TYPES

STANDARD TYPES			
TYPE	RTH_{HSA}	Aprox weight	Dimensions
RG42120N44/260FRI	0,0220 ºC/W.	11,63 Kgrs.	Fig 1
RG42120N44/400FRI	0,0201 ºC/W.	13,66 Kgrs.	Fig 2
RG42120N44/260AFRI	0,0189 ºC/W.	16,64 Kgrs.	Fig 3
RG42120N44/400AFRI	0,0165 ºC/W.	18,68 Kgrs.	Fig 4



WARNING
Thermal resistance value is only for large area heat distribution. All data obtained from simulation models should be taken as guidance. Assembly suitability for real applications should be verified. It's not suitable to replace measurements under field conditions.

SYSTEM CONFIGURATION



130225 Rev.:3

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HEATSINK EFFICIENCY

Heatsink efficiency depends on the semiconductor size and positioning. All data is referred to a large surface area, in case of small base plate semiconductors, RTH_{HS} value must be corrected by experimental values. The free air circulation should be guaranteed.

The increment of air temperature is often underestimated, for the general data it is necessary to evaluate this increase.

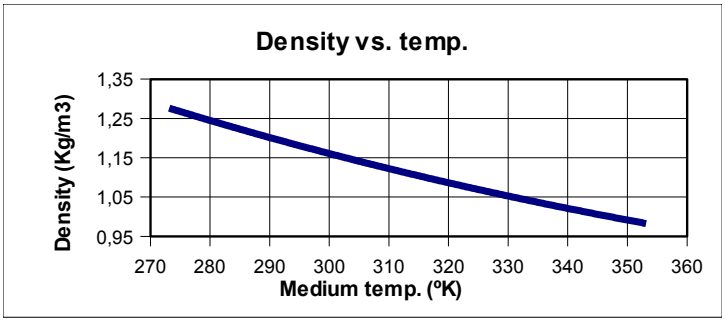
The air temperature increment can be calculated as follows:

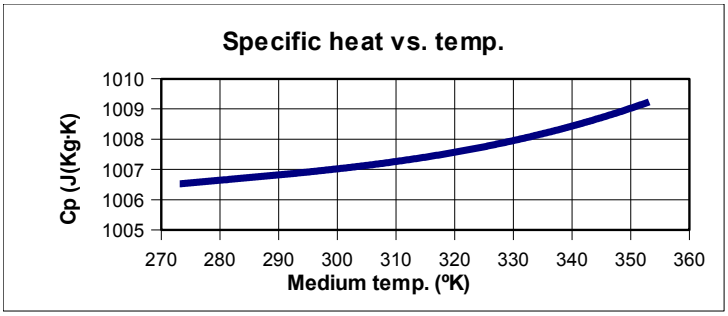
$$\Delta_{AIR} = P / F \times \rho \times Cp$$

Δ_{AIR}: Air temperature increment.
P: Total dissipated power (W.)
F: Air volume flow ($m^3/s.$)
ρ: Air density (Kg/m^3)
Cp: Specific heat capacity (J/Kg·K)

Air density and specific heat capacity is also temperature dependent.

T_{AIR} (medium)		Density	Sp. Heat C.
ºC	K	ρ (kg/m³)	Cp (J/kgK)
0	273,15	1,276184	1006,5243
5	278,15	1,253187	1006,6113
10	283,15	1,230884	1006,6973
15	288,15	1,209257	1006,7854
20	293,15	1,188290	1006,8784
25	298,15	1,167965	1006,9789
30	303,15	1,148266	1007,0896
35	308,15	1,129178	1007,2128
40	313,15	1,110686	1007,3509
45	318,15	1,092775	1007,5061
50	323,15	1,075433	1007,6803
55	328,15	1,058646	1007,8758
60	333,15	1,042400	1008,0942
65	338,15	1,026685	1008,3375
70	343,15	1,011489	1008,6073
75	348,15	0,996799	1008,9054
80	353,15	0,982606	1009,2332





Use type “AFRI” for redundant applications is possible, aply a 0.9xRTHhs correction factor for “FRI” values.

MOUNTING CONSIDERATIONS

There are multiple mounting options depending on the application, the set can be delivered fully machined to the customer drawing. See the specific application with our sales department.

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DIMENSIONS

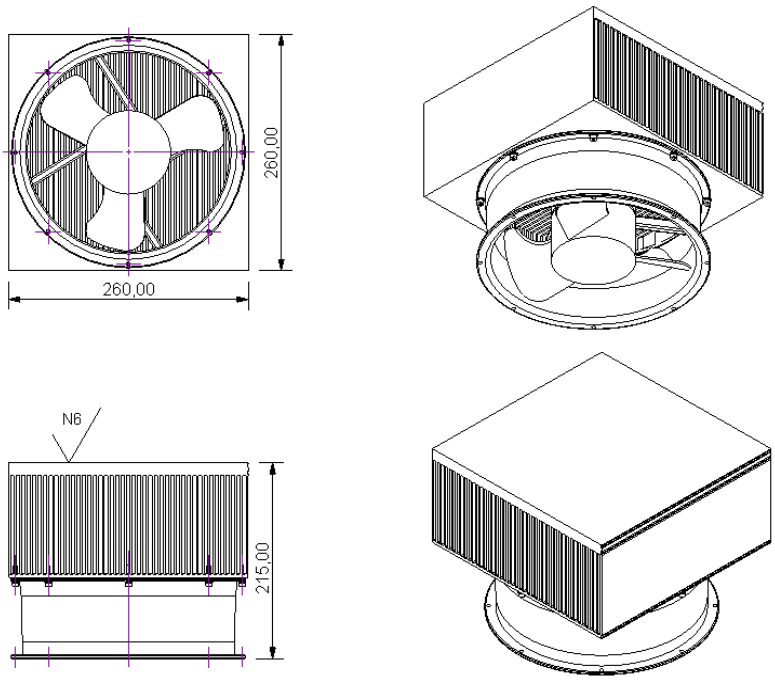


Fig. 1 RG42120N44/260FRI TYPE

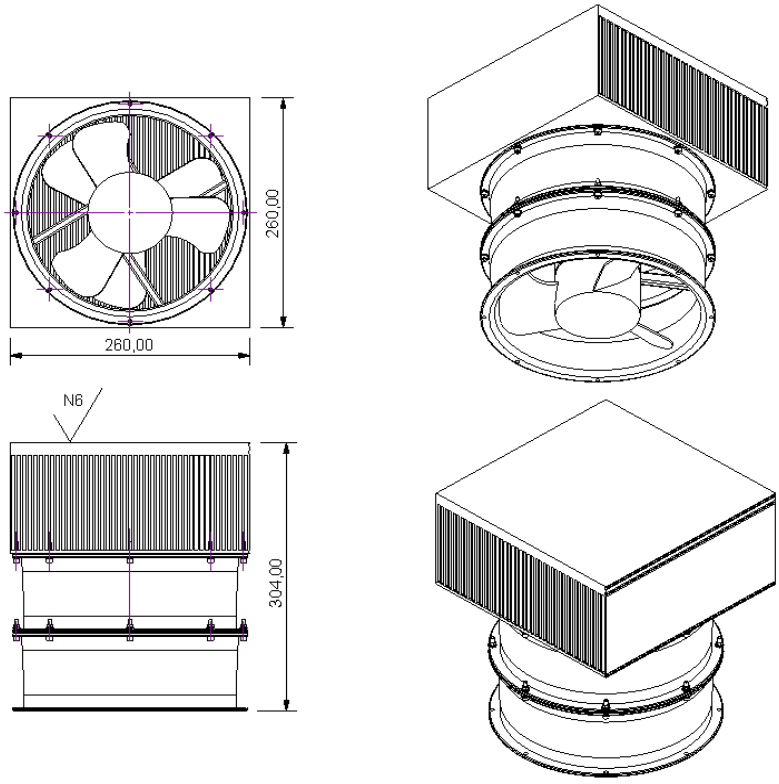


Fig. 2 RG42120N44/260AFRI TYPE

All dimensions in mm

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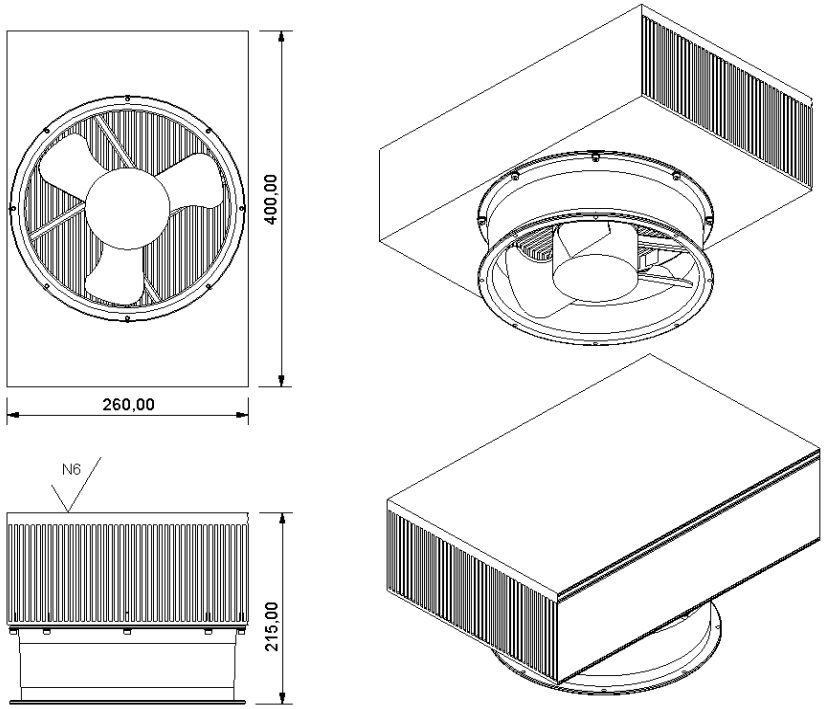


Fig. 3 RG42120N44/400FRI TYPE

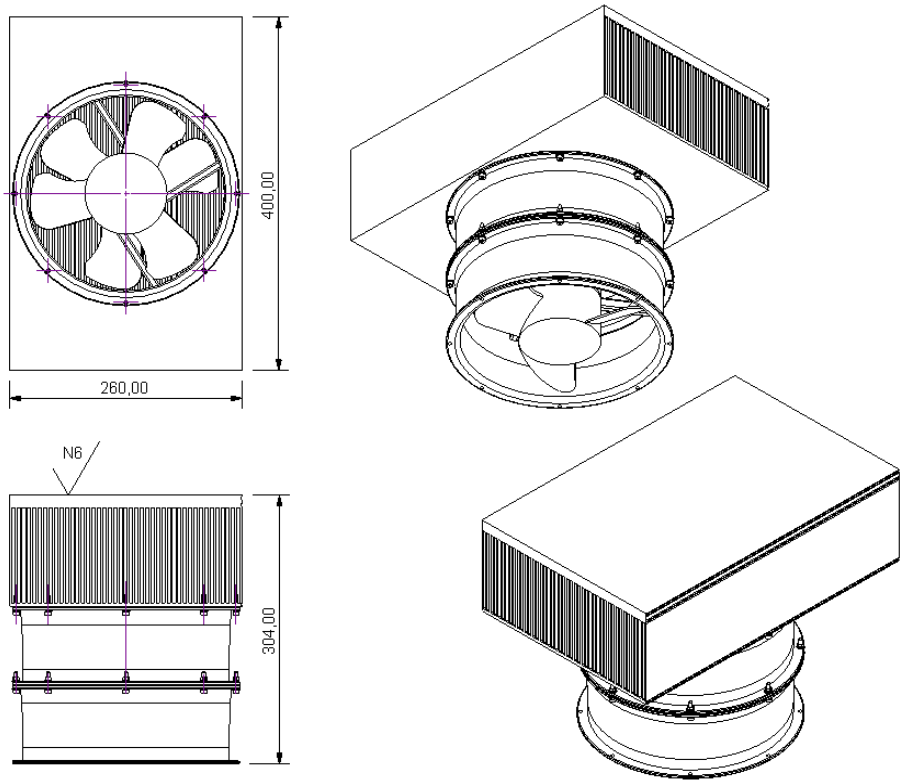


Fig. 4 RG42120N44/400AFRI TYPE

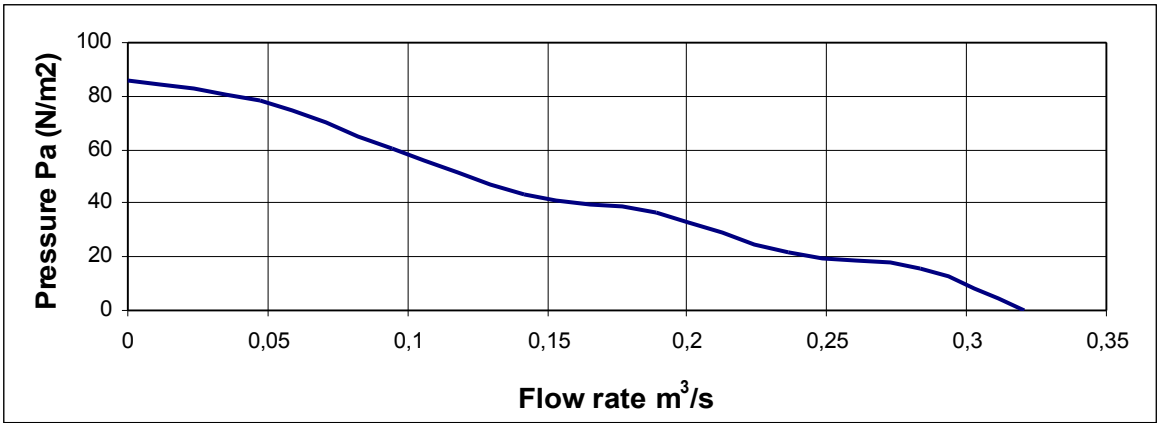
All dimensions in mm

Reserves the right to change limits, test conditions and dimensions given in this data sheet at any time without previous notice.

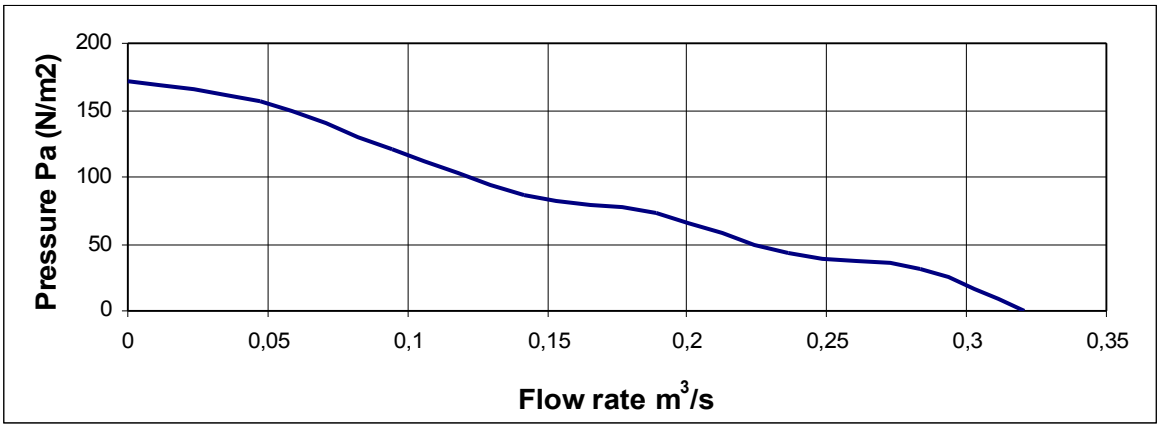
FAN SYSTEM DATA

FAN SYSTEM DATA			
	Power (50Hz/60Hz)	Current (50Hz/60Hz)	R.P.M. (50Hz/60Hz)
FRI (one fan system)	60W / 67W	0,26A / 0,30A	1900 / 2100
AFRI (two series fan system)	120W / 134W	0,526A / 0,60A	
Operating voltage range	200-240V_{AC} 50/60Hz		
Frame	Aluminium alloy black paint finish		
Impeller	UL 94 V-0 Glass filled polyester		
Bearings	Ball		
Motor Structure	Capacitor- Run Induction motor		
Operating temperature	-10 to 70ºC		
Life expectancy	25ºC	50000 Hours	
	50ºC	30000 Hours	
	70ºC	20000 Hours	

FAN PERFORMANCE



One fan system



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Two fans system (series assembly)

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