

PRELIMINARY TECHNICAL INFORMATION

CHARACTERISTICS

- Low weight.
- High thermal dissipation.
- Customized dimensions available.
- Good structural integrity.
- CNC machined.
- Welding possibility.
- Optional adaptors available for use with axial fan.

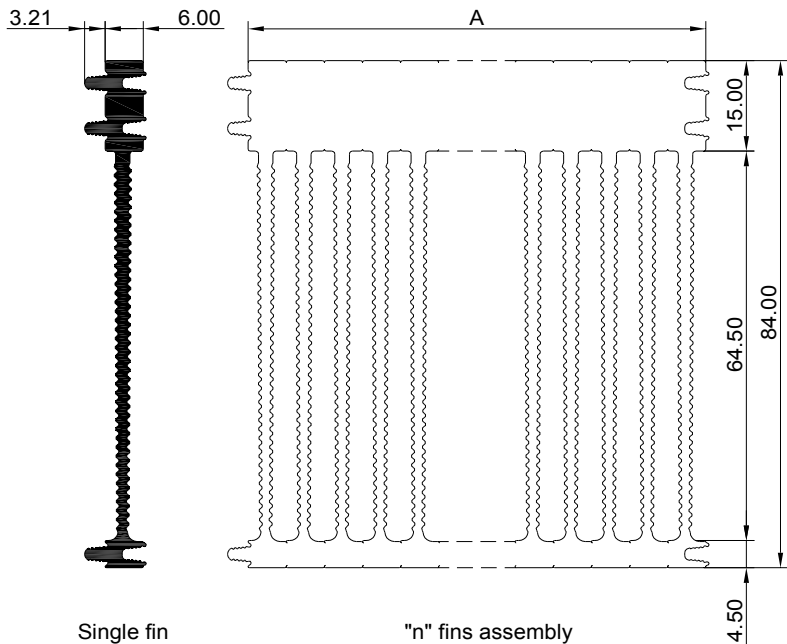


non-contractual photo

DIMENSIONAL CALCULATIONS

The height (84mm.) corresponds to the gross extruded profile, must be taken in consideration the milling of the components mounting side, representing a reduction of 1.00 mm.(real maximum height 83 mm.).

In case of being necessary a critical width dimension it must also be considered the lateral milling and the profile manufacturing tolerances.



The overall dimensions of the heatsink, tolerances and approximate weight; for any combination may be calculated, based on the following formulae.

Heatsink width  $A = n \times 6$   
 Maximum width tolerance:  $\pm (n \times 0.1)$   
 Total weight (Kgrs):  $(L \times n \times 0.645) / 1000$

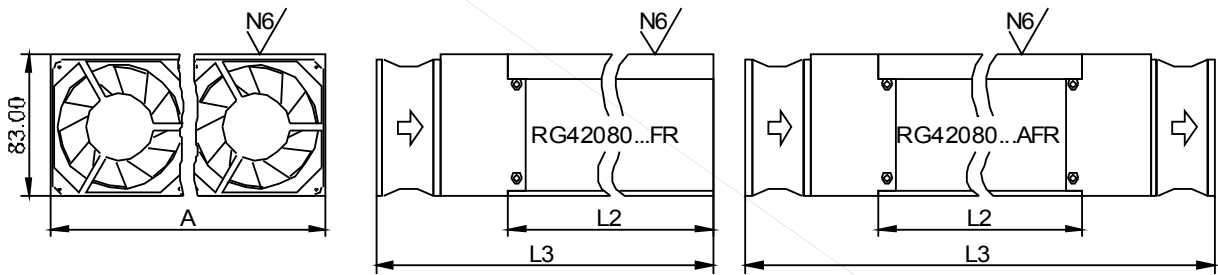
**L** = Heatsink length in mm.  
**n** = Number of fins.

Example: RG42080N15/300: Dimensions: **84 x 90 ± 1.50 x 300; Weight = 2.9 Kgrs.**

$A = 15 \times 6 = 90$  ; Tolerance:  $15 \times 0.1 = 1.50$   
 Weight =  $(300 \times 15 \times 0.645) / 1000 = 2.9$  Kgrs.

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**DIMENSIONS**



L2=Heatsink length  
 L3 = L2+78 for "F" types and L3=L2+156 for "AF" types

**ORDER CODES**

RG42080 Nxx / xxx x xx  
 (1) (2) (3) (4) (5)

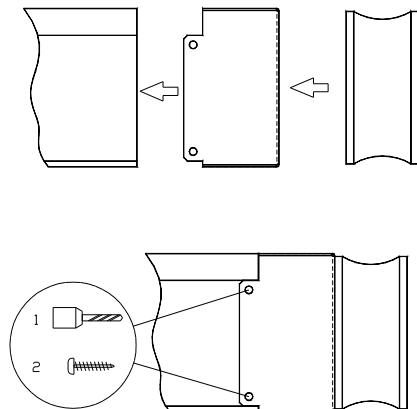
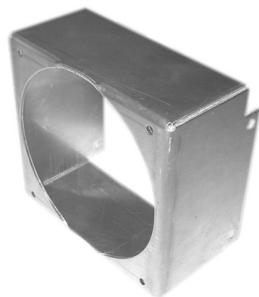
- 1- General code of heatsink series
- 2- Number of fins
- 3- Heatsink length in mm.
- 4- Omitted: ADDA fan. H:PAPST 8556N fan
- 5- Finish and options (see table)

**OPTIONS TABLE**

Single fan system	F
Dual fan system	AF
Mechanized surface (N6 roughness typical)	R
Mechanized with drawing (to be specified)	M

**FAN ADAPTER ADP080AR**

Adapter for standard fan 80x80 mm. Is module finishing and can be mounted one by one, in order to match diverse width of heat sinks.



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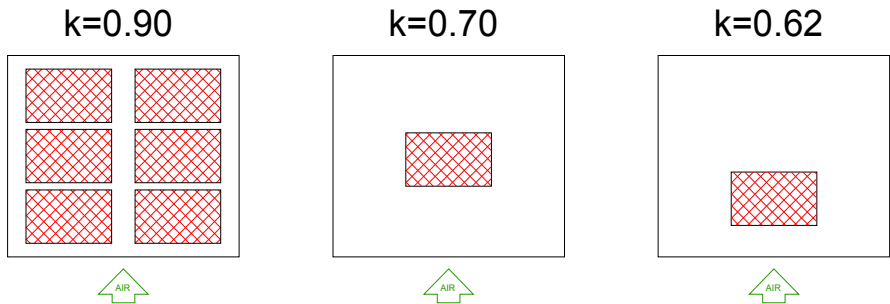
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**HEATSINK EFFICIENCY**

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, RTHs value must be corrected by experimental values.

Example:



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

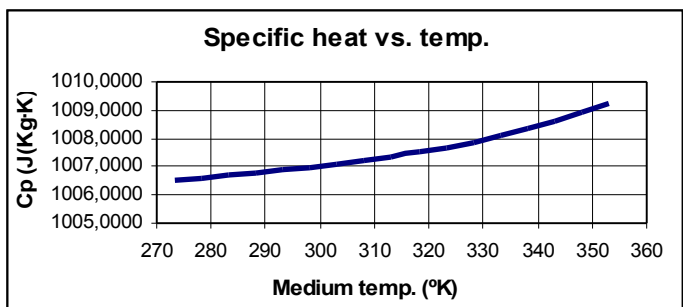
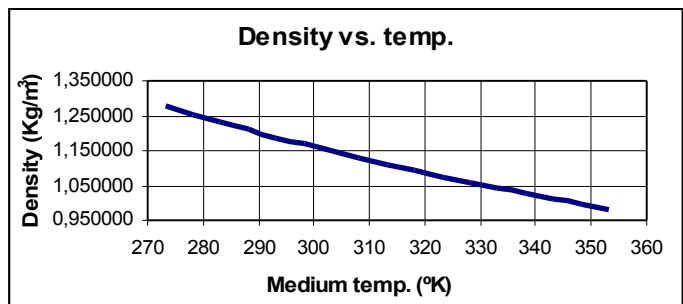
The air temperature increment can be calculated as follows:

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

- $\Delta_{AIR}$ : Air temperature increment.
- P: Total dissipated power (W.)
- F: Air volume flow (m<sup>3</sup>/s.)
- $\rho$ : Air density (Kg/m<sup>3</sup>)
- Cp: Specific heat capacity (J/Kg·K)

Air density and specific heat capacity is also temperature dependent.

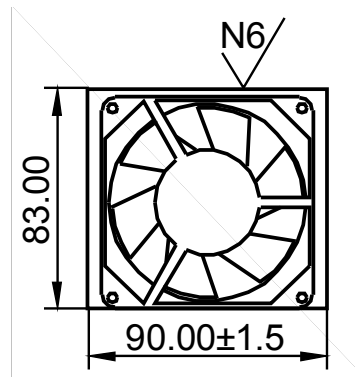
T <sub>AIR</sub> (medium)		Density	Sp. Heat C.
°C	°K	$\rho$ (kg/m <sup>3</sup> )	Cp (J/kgK)
0	273,15	1,276184	1006,5243
5	278,15	1,253187	1006,6113
10	283,15	1,230884	1006,6973
15	288,15	1,209257	1006,7854
20	293,15	1,188290	1006,8784
25	298,15	1,167965	1006,9789
30	303,15	1,148266	1007,0896
35	308,15	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



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**RG42080N15/xxx**

GENERAL SPECIFICATIONS	120FR	180FR	300FR	120AFR	180AFR	300AFR
Mounting position	Any					
Fans power (total)	14 W. @ 230V. 50 Hz			28 W. @ 230V. 50 Hz		
	12 W. @ 230V. 60 Hz			24 W. @ 230V. 60 Hz		
Fans power "H" version	12 W. @ 230V. 50 Hz			24 W. @ 230V. 50 Hz		
Total lenght (mm.)	198	258	378	276	336	456
Aprox. Weight (Kg.)	1,58	2,16	3,32	2	2,58	3,75



Reference	RTH <sub>HSA</sub>	@ W
RG42080N15/120FR	0,1792	250
RG42080N15/120AFR	0,1510	300
RG42080N15/120HFR	0,1457	300
RG42080N15/120HAFR	0,1360	350
RG42080N15/180FR	0,1703	250
RG42080N15/180AFR	0,1355	350
RG42080N15/180HFR	0,1333	350
RG42080N15/180HAFR	0,1173	400
RG42080N15/300FR	0,1671	250
RG42080N15/300AFR	0,1270	350
RG42080N15/300HFR	0,1333	350
RG42080N15/300HAFR	0,1077	400

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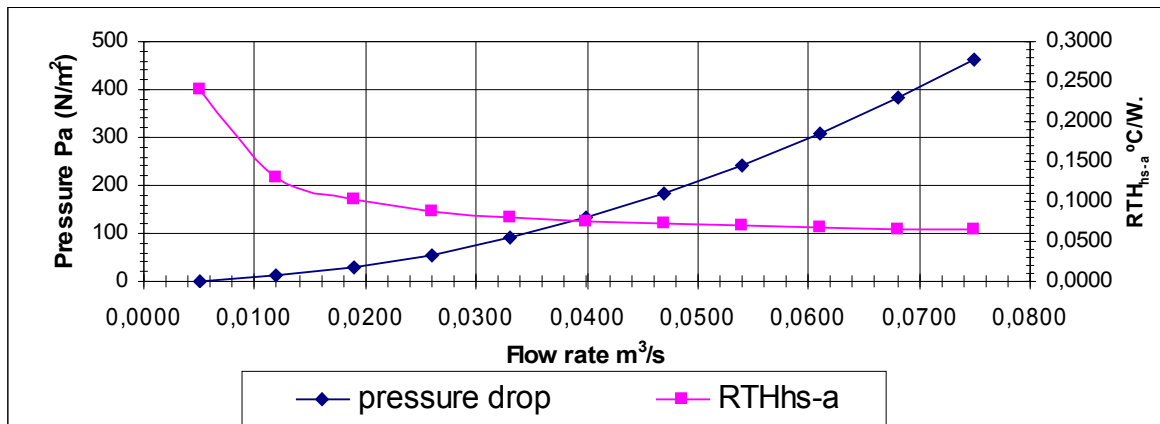
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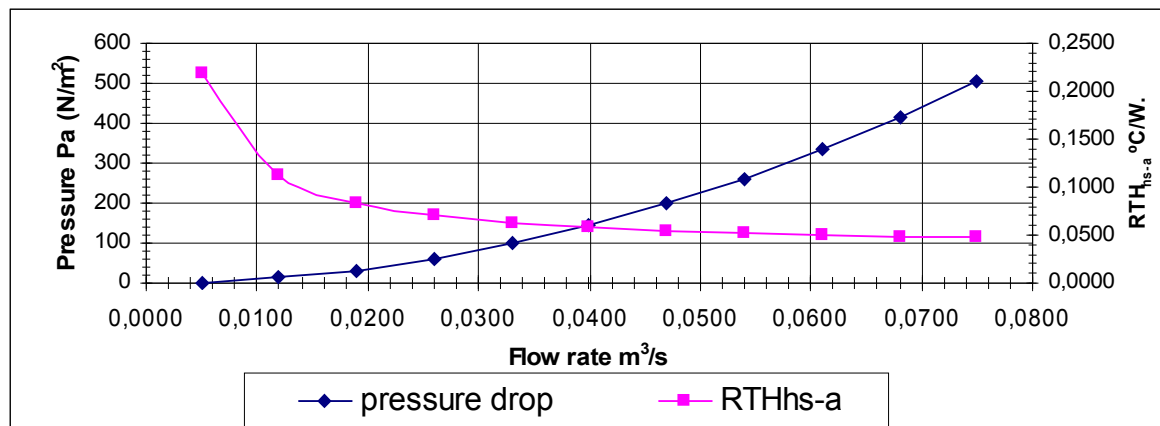
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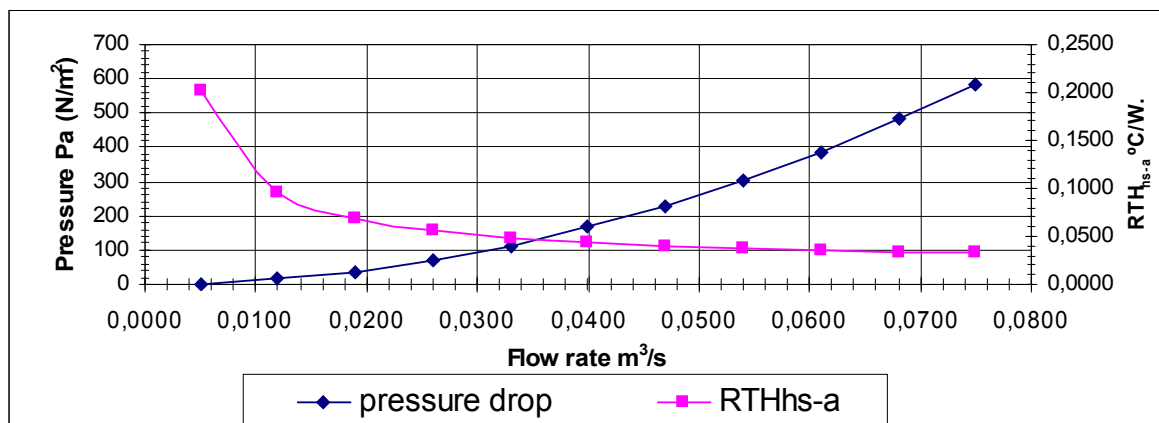
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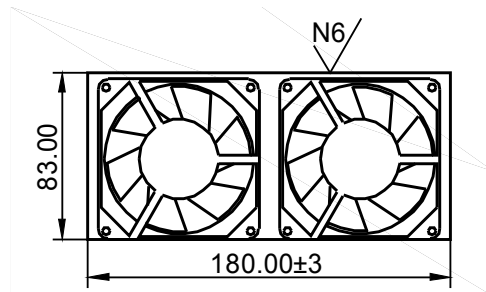
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**RG42080N30/xxx**

GENERAL SPECIFICATIONS	120FR	180FR	300FR	120AFR	180AFR	300AFR
Mounting position	Any					
Fans power (total)	28 W. @ 230V. 50 Hz			56 W. @ 230V. 50 Hz		
	24 W. @ 230V. 60 Hz			48 W. @ 230V. 60 Hz		
Fans power "H" version	24 W. @ 230V. 50 Hz			48 W. @ 230V. 50 Hz		
Total lenght (mm.)	198	258	378	276	336	456
Aprox. Weight (Kg.)	3,16	4,32	6,64	4	5,16	7,48



Reference	RTH <sub>HSA</sub>	@ W
RG42080N30/120FR	0,0896	500
RG42080N30/120AFR	0,0755	600
RG42080N30/120HFR	0,0729	600
RG42080N30/120HAFR	0,0680	700
RG42080N30/180FR	0,0852	500
RG42080N30/180AFR	0,0678	700
RG42080N30/180HFR	0,0667	700
RG42080N30/180HAFR	0,0587	800
RG42080N30/300FR	0,0836	500
RG42080N30/300AFR	0,0635	700
RG42080N30/300HFR	0,0667	700
RG42080N30/300HAFR	0,0539	800

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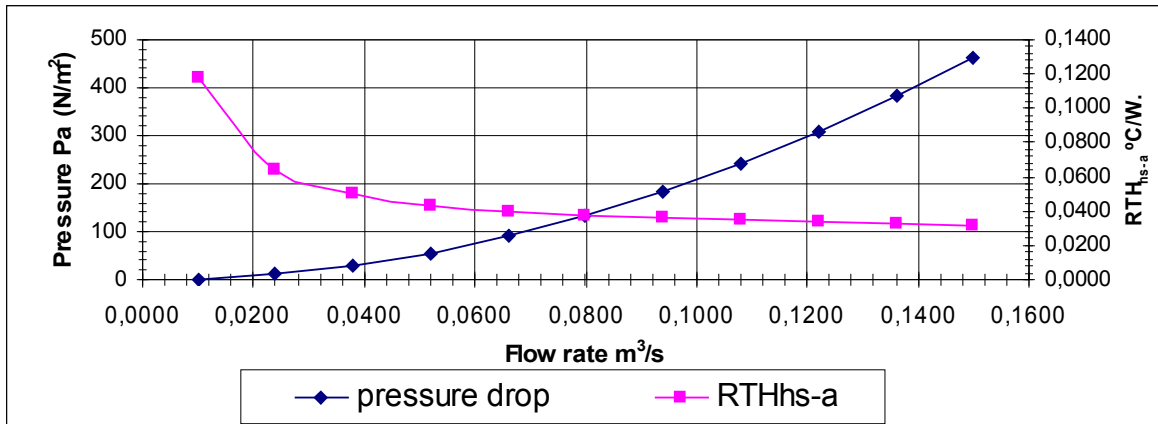
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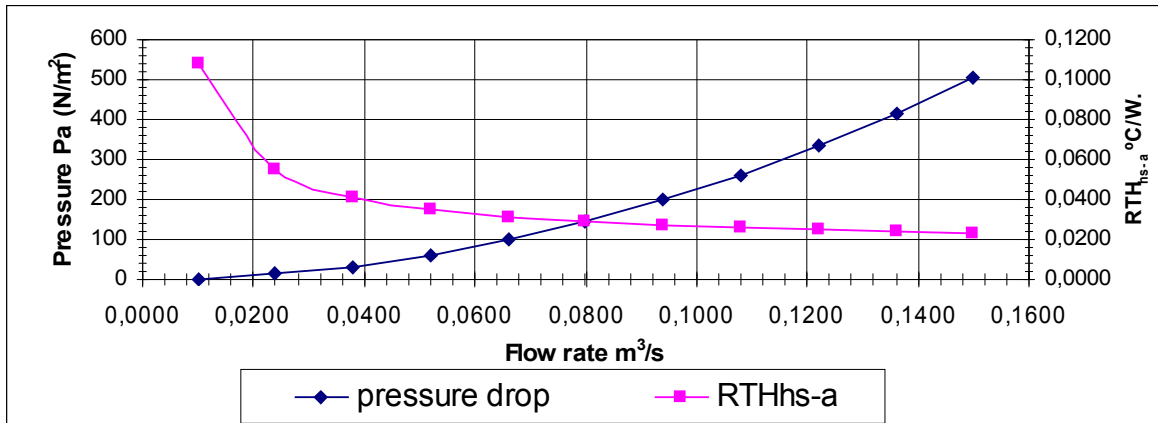
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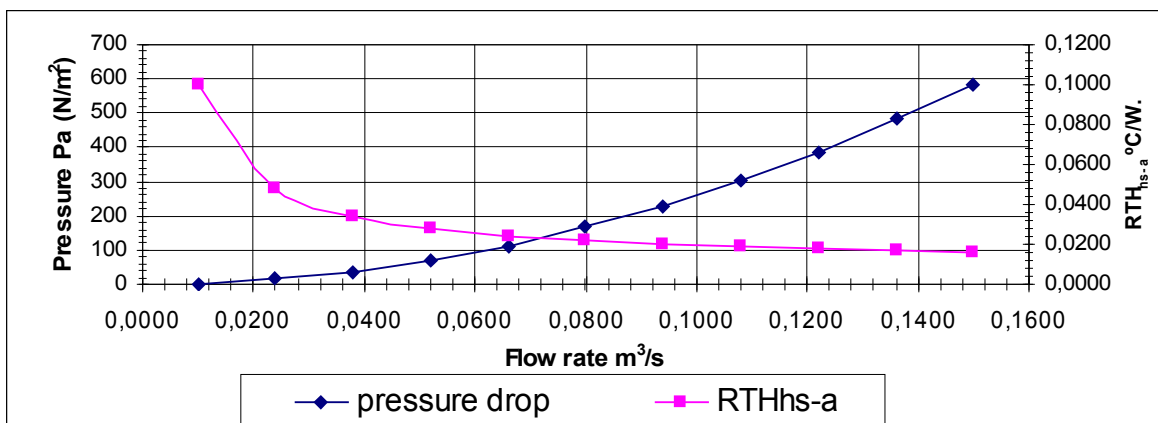
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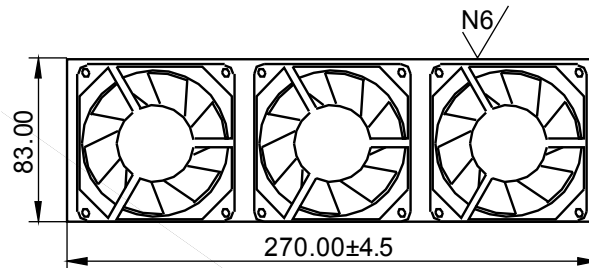
**GENERAL DATA RG42080N30/300xxx**



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**RG42080N45/xxx**

GENERAL SPECIFICATIONS	120FR	180FR	300FR	120AFR	180AFR	300AFR
Mounting position	Any					
Fans power (total)	42 W. @ 230V. 50 Hz			84 W. @ 230V. 50 Hz		
	36 W. @ 230V. 60 Hz			72 W. @ 230V. 60 Hz		
Fans power "H" version	36 W. @ 230V. 50 Hz			72 W. @ 230V. 50 Hz		
Total length (mm.)	198	258	378	276	336	456
Aprox. Weight (Kg.)	4,74	6,48	9,97	6	7,74	11,22



Reference	RTH <sub>HSA</sub>	@ W
RG42080N45/120FR	0,0597	750
RG42080N45/120AFR	0,0503	900
RG42080N45/120HFR	0,0486	900
RG42080N45/120HAFR	0,0453	1050
RG42080N45/180FR	0,0568	750
RG42080N45/180AFR	0,0452	1050
RG42080N45/180HFR	0,0444	1050
RG42080N45/180HAFR	0,0391	1200
RG42080N45/300FR	0,0557	750
RG42080N45/300AFR	0,0423	1050
RG42080N45/300HFR	0,0444	1050
RG42080N45/300HAFR	0,0359	1200

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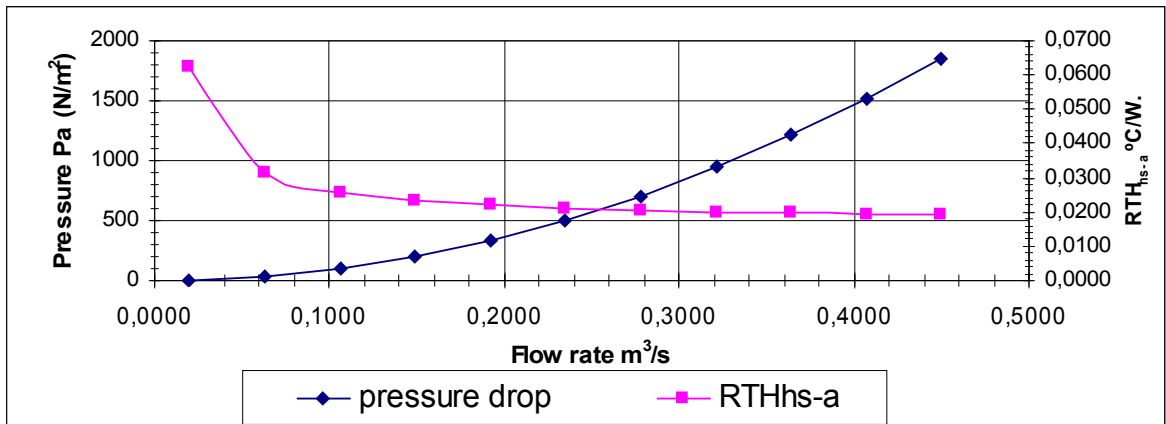
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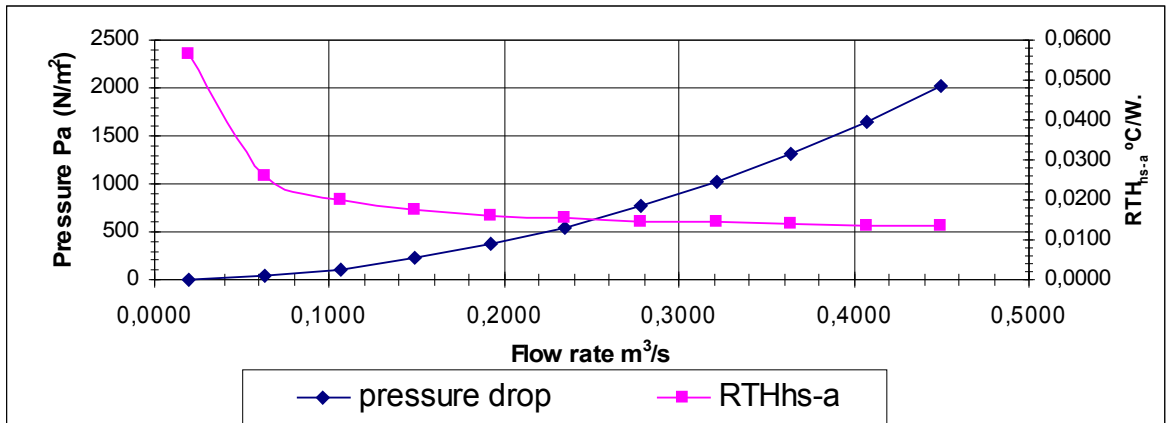
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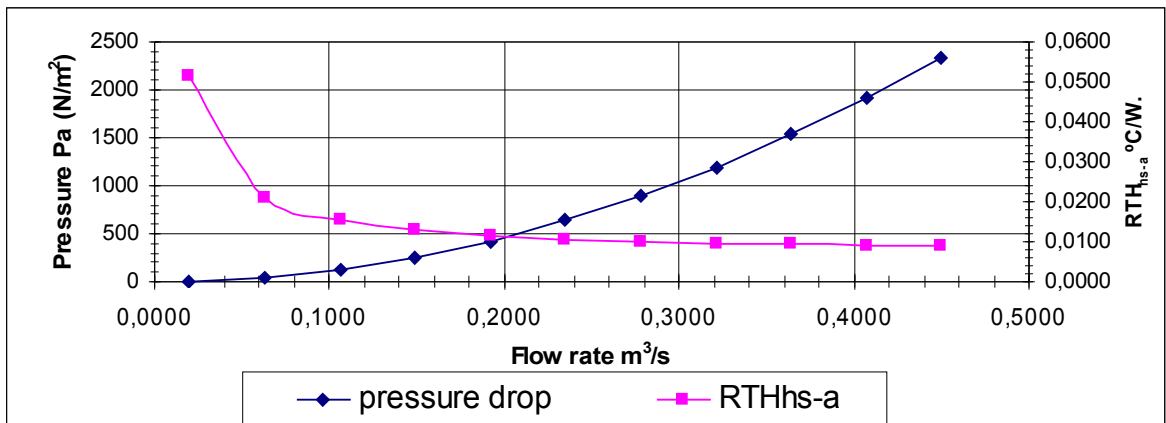
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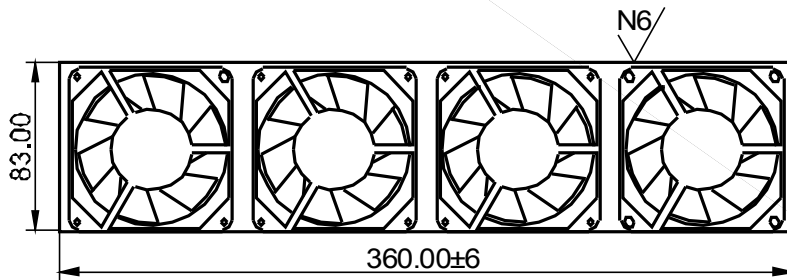
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**RG42080N60/xxx**

GENERAL SPECIFICATIONS	120FR	180FR	300FR	120AFR	180AFR	300AFR
Mounting position	Any					
Fans power (total)	56 W. @ 230V. 50 Hz			108 W. @ 230V. 50 Hz		
	48 W. @ 230V. 60 Hz			96 W. @ 230V. 60 Hz		
Fans power "H" version	48 W. @ 230V. 50 Hz			96 W. @ 230V. 50 Hz		
Total lenght (mm.)	198	258	378	276	336	456
Aprox. Weight (Kg.)	6,32	8,64	13,29	8	10,32	14,96



Reference	RTH <sub>HSA</sub>	@ W
RG42080N60/120FR	0,0448	1000
RG42080N60/120AFR	0,0378	1200
RG42080N60/120HFR	0,0364	1200
RG42080N60/120HAFR	0,0340	1400
RG42080N60/180FR	0,0426	1000
RG42080N60/180AFR	0,0339	1400
RG42080N60/180HFR	0,0333	1400
RG42080N60/180HAFR	0,0293	1600
RG42080N60/300FR	0,0418	1000
RG42080N60/300AFR	0,0318	1400
RG42080N60/300HFR	0,0333	1400
RG42080N60/300HAFR	0,0269	1600

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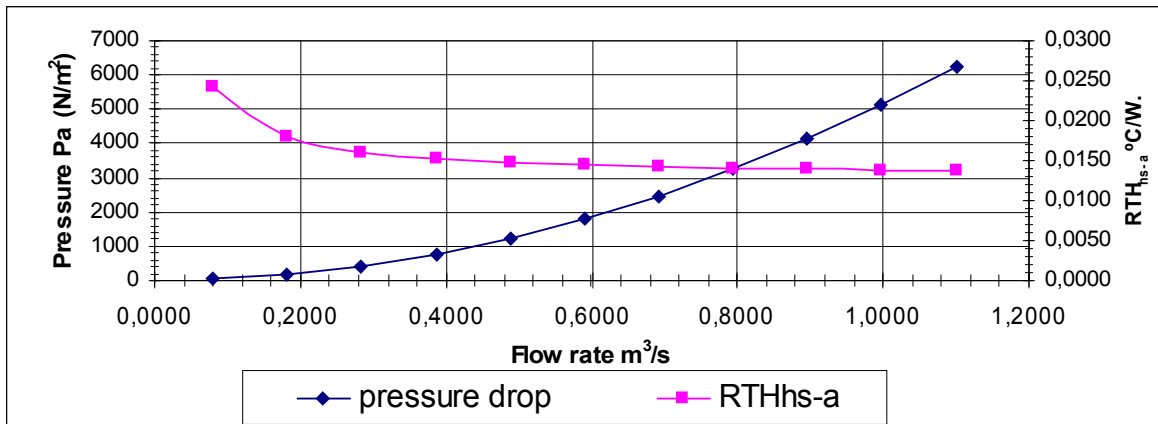
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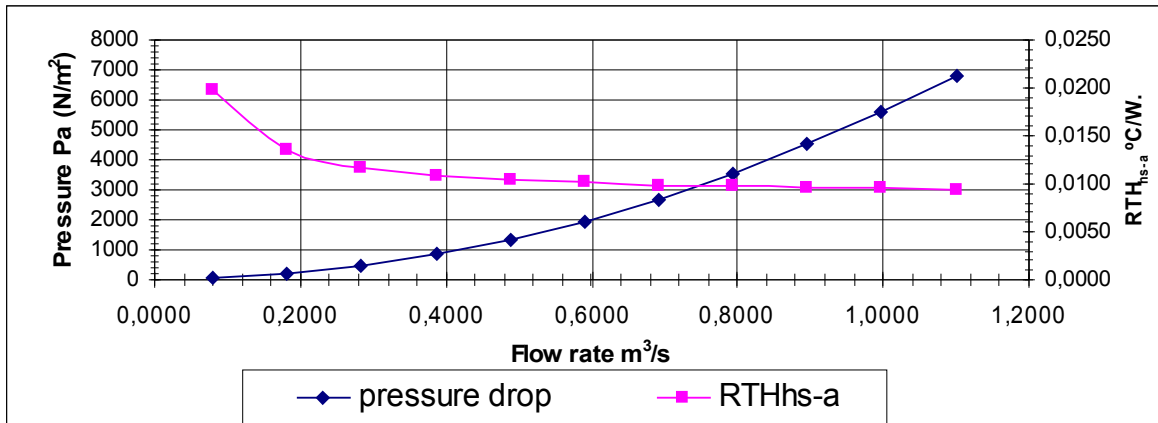
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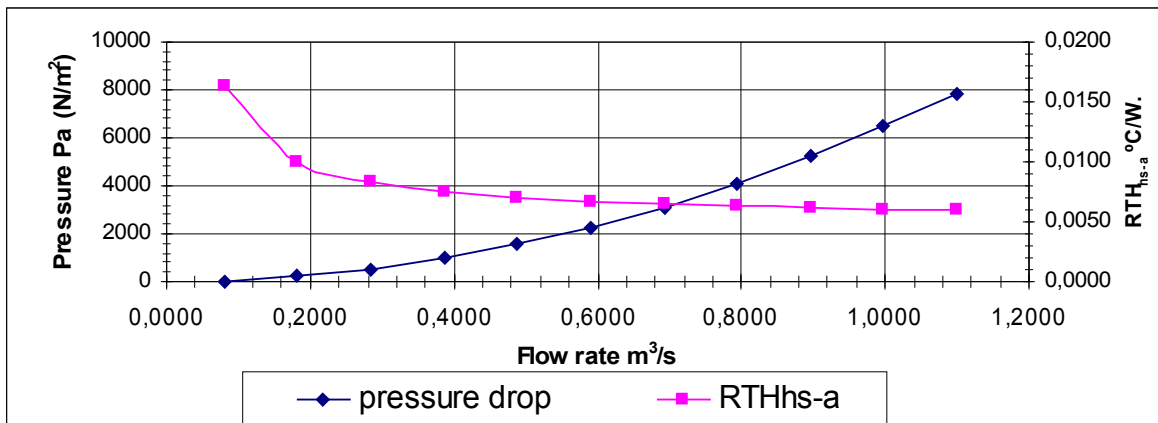
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