

High Density Cartridge Heater (RAC)



DESCRIPTION

The form of construction of these heating elements, allows its use in adverse conditions, such as vibration and high temperatures and that can reach over 500 ° on the surface of the cartridge

High Density Heaters (RAC), are ideal for the installation of a high power in minimal space.

General Specifications

- Flexible leads from inside in standard models.
- 250mm Fiberglass/Silicone leads in standard models.
- 1000mm Fiberglass/Silicone leads (with thermocouple FeCu / Ni (J), PTFE insulation), standard models.
- Standardized measures in metric diameters (mm).

6,50mm 8,00mm 10,00mm 12,50mm 16,00mm 20,00mm

- Ø Tolerance: -0.02 -0.06 up to 1.000 mm heaters length, over 1.000 mm + -0.06 / over 1.500 mm + -0.10.
- Standard diameters in inches (")

1/4"	5/16"	3/8"	1/2"	5/8"	3/4"
6,30	7,90	9,46	12,61	15,81	19,00

- Ø tolerance: - 0.02 + 0.06 up to 1000 mm heaters length, over 1000 mm + -0.10.
- Length tolerance: up to 130mm + 0-2 mm; more than 130mm + 1.5%.

Other Diameter

- We are able to supply any diameter between 3 mm and 25 mm.
- Other diameters on request.
- TIG welded stainless tube.
- Flexible fiber glass insulated nickel wires from inside (standard models).
- Core and insulation compacted magnesium oxide.
- Heating wire Ni/Cr80/20.
- Ø Tolerance for diameters from 25 mm + -0.10.

Quality control

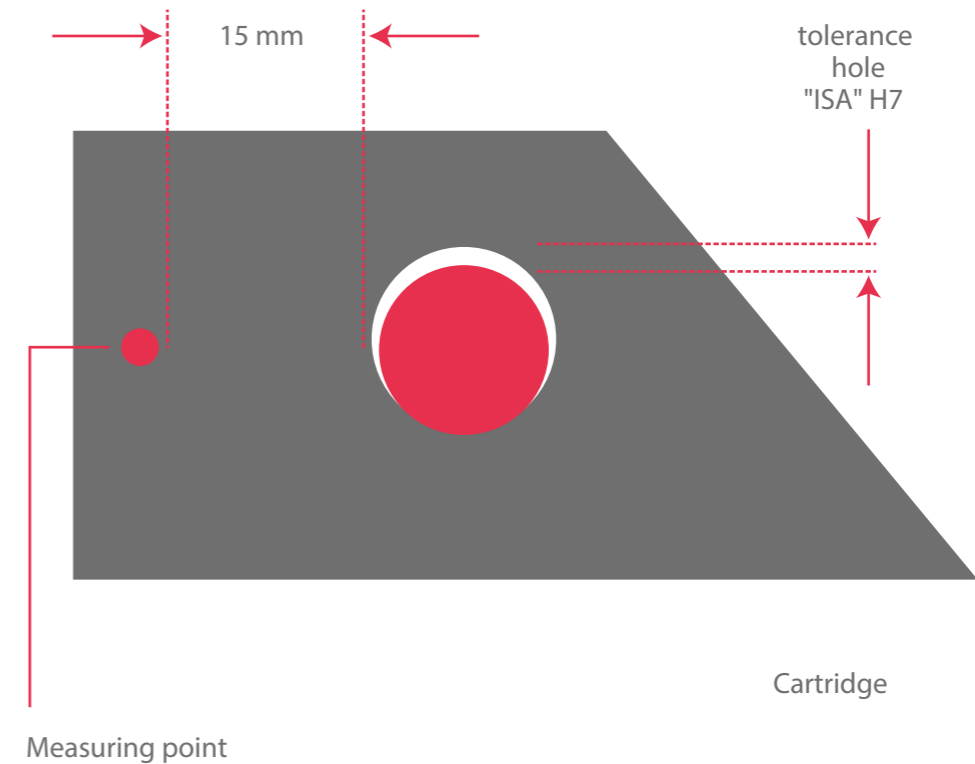
- Insulation: 5 MOhm at 500 V DC Cold (minimum).
- Dielectric strength: 1500 V 1 second.
- Nominal Power: + 5% - 10%

Instructions (for guidance) to place and mount

HOLE TOLERANCE CHART			
More than	Till	Tolerance	Hole
3	6	-0	+0,012
6	10	-0	+0,015
10	18	-0	+0,018
18	30	-0	+0,021

The adjustment of the cartridge in the hole is very important for the proper functioning and performance.

The regulation of the temperature is essential and for this we recommend to place the measuring point not more than 15mm separately from the cartridge.



High Density Cartridge Heater (RAC)

Connection types for Standard cartridges with built-in thermocouple

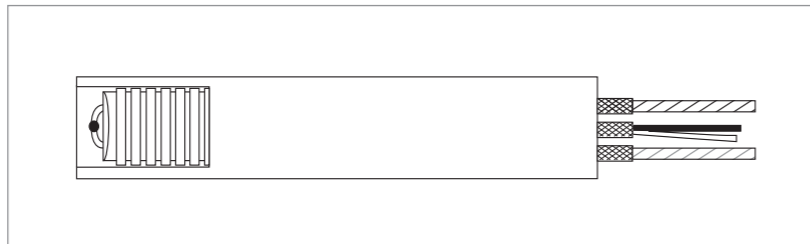
We can place thermocouple type J (Fe-CuNi)
Type K (NiCr-Ni)
Type T (Cu-CuNi)

If the customer says otherwise the thermal sensor is installed always insulated to avoid problems on sensitive control devices.



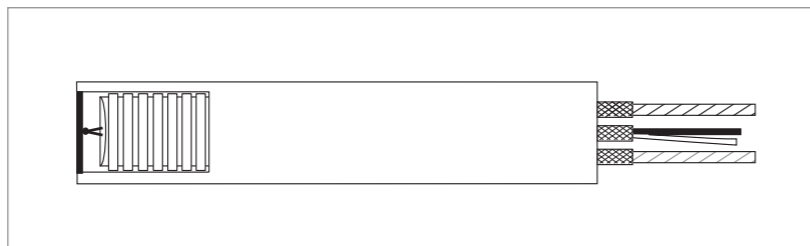
OPTION 1. Thermocouple on the cartridge base isolated

STANDARD Placement of the thermocouple. Right choice to avoid problems sensitive control devices.



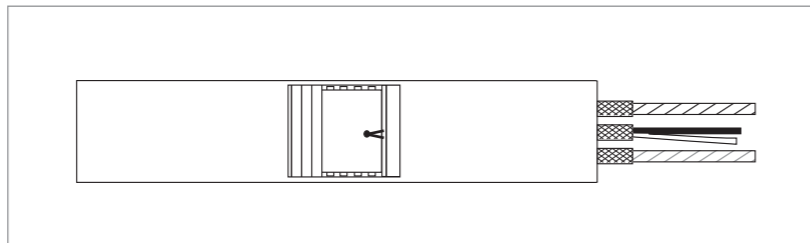
OPTION 2. Thermocouple on the cartridge base grounded.

Option indicated when rapid measurement is required.
NOTE: This option is not valid for highly sensitive regulation devices.



OPTION 3. Thermocouple isolated and centered

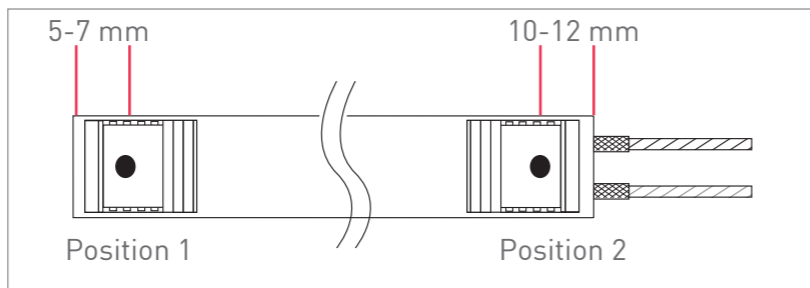
This option can be performed on elements from 3/8 "(9,46) dia.



CARTRIDGE HEATERS WITH PT-100 SENSOR

They can be manufactured as follows:

Position 1. Starting from 6.30 mm dia \emptyset .
Position 2. Starting from 12.50 mm dia \emptyset .



High Density Cartridge Heater (RAC)

CARTRIDGE HEATERS WITH POWER DISTRIBUTION

It is used where it is necessary to spread out a completely uniform temperature to a mass. It can be made with any type of connection type.



More heat at the ends



More heat in the middle



Different heating zones

High Density Cartridge Heater (RAC)

High Density Cartridge Heater (RAC)

Cerámica 3-4 mm

Cerámica 3-4 mm

Cerámica 3-4 mm

Cerámica 3-4 mm



Standard leads length: Without thermocouple 250mm / With thermocouple J (F-Con) 1000mm.

Table of standard cartridge heaters

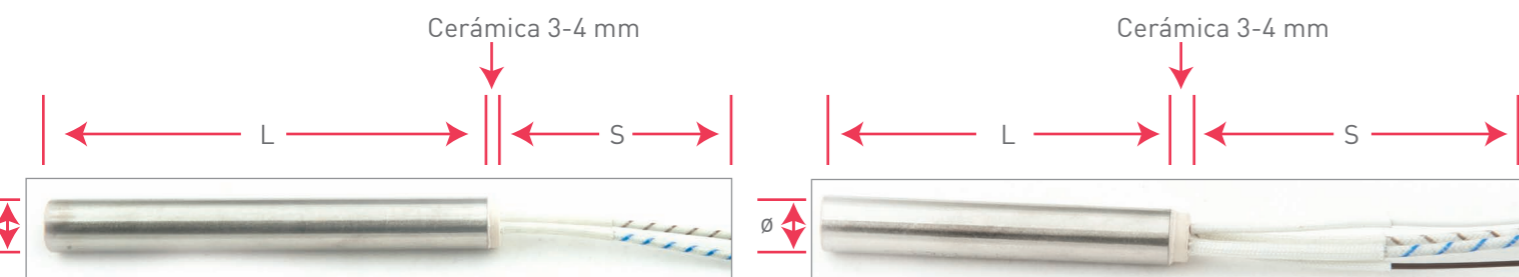
DIÁMETRO Ø MM.	LONGITUD L. MM.	WATIOS A 230 V											
6.50 -0,02 -0,06	30	160	200	300									
	40	100	125	160	175	200							
	50	100	125	150	160	200	250						
	60	125	160	180	200	250	315						
	80	125	160	180	200	250	280	315	350				
	100	100	160	200	220	250	315	350	400				
	130	220	300	350	400								
	160	250	350	400									
	180	250	350	400									
	200	350	400	500									
8 -0,02 -0,06	40	100	140	160	200	250							
	50	125	160	200	250	315							
	60	100	125	140	160	200	220	250	280	315	350		
	80	160	180	200	250	280	315	350	400				
	100	180	200	250	280	315	400						
	130	250	315	400									
	160	200	315	400									
	180	250	300	400	500								
	200	300	400	500									
	250	300	400	500									
10 -0,02 -0,06	40	100	125	160	175	200	250	315	400				
	50	100	125	160	175	200	250	315	400	500			
	60	125	160	180	200	250	315	350	400	450	500		
	80	100	150	160	200	220	250	315	400	500	600	630	
	100	125	150	220	250	315	350	400	500	560	630	700	850
	130	250	315	350	400	500	630	750	800	1000			
	160	160	315	400	500	600	630	750	800				
	180	300	500	600	800								
	200	250	300	400	500	600	630	1000					
	250	200	400	630	800	1000	1600						

Standard leads length: Without thermocouple 250mm / With thermocouple J (F-Con) 1000mm.

Table of standard cartridge heaters

DIÁMETRO Ø MM.	LONGITUD L. MM.	WATIOS A 230 V									
12.50 -0,02 -0,06	40	100	160	200	250	315	400				
	50	100	150	160	200	250	315	400	500		
	60	125	160	200	250	315	400	500			
	80	150	200	250	315	400	500	630	800		
	100	250	315	400	500	630	800	1000			
	130	350	400	500	630	800	1000	1250			
	160	400	500	630	800	1000	1250				
	180	500	670	800	1000	1250					
	200	500	630	800	900	1000	1250	1500			
	250	630	800	900	1000	1500					
16 -0,02 -0,06	40	100	160	200	250	315	400	500			
	50	160	200	250	315	400	500	630			
	60	160	200	250	315	400	500	630			
	80	250	280	315	400	500	630	800	850	1000	
	100	350	400	500	630	800	1000	1250			
	130	400	500	630	700	800	1000	1100	1400	1800	
	160	500	630	800	900	1000	1250	1600	1800		
	180	600	850	1000	1250	1500	1800				
	200	500	800	1000	1250	2000					
	250	800	1000	1250	1600	2000					
20 -0,02 -0,06	50	200	250	315	400						
	60	200	315	400	500	630	800				
	80	315	350	400	500	800	1000	1250			
	100	400	450	500	630	800	1000	1250	1400	1600	1800
	130	500	630	900	1000	1250	1400	1800	2200		
	160	800	1000	1100	1250	1800	2200				
	180	1000	1250	1600	1800						
	200	800	1000	1250	1600	2000	2500				
	250	1000	1250	1600	2000	2500					
	300	1000	1250	1600	2000	2500					

High Density Cartridge Heater (RAC)



Standard leads length: Without thermocouple 250mm / With thermocouple J (F-Con) 1000mm.

Table of standard cartridge heaters											
DIÁMETRO Ø MM.	LONGITUD L. MM.	WATIOS A 230 V									
1/4" -0,02 (6,30) -0,06	1 1/4" 31	↑	160	200	300						
	1 1/2" 38	↑	100	125	160	175	200				
	2" 50	↑	100	125	150	160	200	250			
	2 1/2" 63	↑	125	160	180	200	250	315			
	3" 76	↑	125	160	180	200	250	280	315	350	
	3 1/4" 82	+0 -2	125	160	180	200	250	280	300	350	
	4" 101	↑	100	160	200	220	250	315	350	400	
	5" 127	↑	220	300	350	400					
	5 1/4" 133	↑	220	300	350	400					
	6" 152	↑	220	350	400						
	6 1/2" 165	+1,5%	250	350	400						
	7" 177	↑	250	350	400						
	8" 203	↑	250	350	400						
10" 254	↑	250	350	400	450						
5/16" -0,02 (7,93) -0,06	1 1/2" 38	↑	100	140	160	200	250				
	2" 50	↑	125	160	200	250	315				
	2 1/2" 63	↑	100	125	140	160	180	200	220	250	280
	3" 76	+0 -2 mm	160	180	200	250	280	315	350	400	
	3 1/4" 82	↑	160	200	315	400					
	4" 101	↑	180	200	220	250	280	315	400		
	5" 127	↑	250	315	400						
	5 1/4" 133	↑	250	315	400						
	6" 152	↑	200	315	400						
	6 1/2" 165	+1,5%	250	315	400						
	7" 177	↑	250	315	400						
3/8" -0,02 (9,52) -0,06	1 1/2" 38	↑	100	125	160	175	200	250	315	400	
	2" 50	↑	100	125	160	175	200	250	315	400	500
	2 1/2" 63	↑	125	160	180	200	250	315	350	400	450
	3" 76	+0 -2 mm	100	150	160	200	220	250	315	400	500
	3 1/4" 82	↑	160	250	300	400	500	630			
	4" 101	↑	125	150	220	250	315	350	400	500	560
	5" 127	↑	250	300	315	350	400	500	630	750	800
	5 1/4" 133	↑	315	400	500	600	800				
	+6" 152	↑	160	315	400	500	600	630	750	800	
	6 1/2" 165	↑	400	500	630						
	7" 177	+1,5%	400	500	600	700	800				
	8" 203	↑	250	300	400	500	600	630	1000		
	10" 254	↑	200	400	630	800	1000	1600			

High Density Cartridge Heater (RAC)



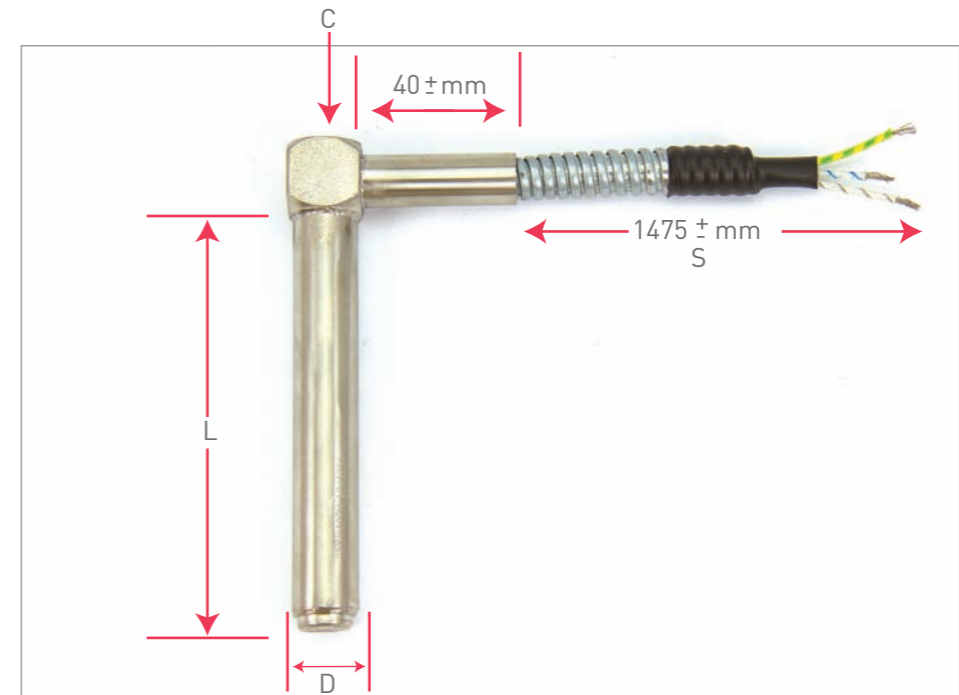
Standard leads length: Without thermocouple 250mm / With thermocouple J (F-Con) 1000mm.

Table of standard cartridge heaters												
DIÁMETRO Ø MM.	LONGITUD L. MM.	WATIOS A 230 V										
1/2" -0,02 (12,70) -0,06	1 1/2" 38	↑	100	160	200	250	315	400				
	2" 50	↑	100	150	160	200	250	315	400	500		
	2 1/2" 63	↑	125	160	200	250	315	400	500			
	3" 76	+0 -2	150	200	250	315	400	500	630	800		
	3 1/4" 82	↑	160	200	315	500	630	800				
	4" 101	↑	250	315	400	500	630	800	1000			
	5" 127	↑	350	400	500	630	800	1000	1250			
	5 1/4" 133	↑	300	400	630	100	1250					
	6" 152	↑	400	500	630	800	1000	1250				
	6 1/2" 165	↑	500	800	1250							
	7" 177	+1,5%	500	670	800	1000	1250					
	8" 203	↑	500	630	800	900	1000	1500				
	10" 254	↑	630	800	900	1000	1250	1500				
	12" 304	↑	600	1000	1250	1500	2000					
5/8" -0,02 (15,87) -0,06	1 1/2" 38	↑	100	160	200	250	315	400	500			
	2" 50	↑	160	200	250	315	400	500	630			
	2 1/2" 63	↑	160	200	250	315	400	500	630			
	3" 76	+0 -2 mm	250	280	315	400	500	630	800	50	1000	
	3 1/2" 88	↑	350	400	500	630	800					
	3 1/4" 82	↑	280	300	400	630	800	1000				
	4" 101	↑	350	400	500	630	800	1000	1250			
	5" 127	↑	400	500	630	700	800	1000	1100	1400	1800	
	5 1/4" 133	↑	500	700	1100	1400	1800					
	6" 152	↑	500	630	800	900	1000	1250	1600	1800		
	6 1/2" 165	↑	630	900	1600	1800						
	7" 177	+1,5%	600	850	1000	1250	1500	1800				
	8" 203	↑	500	800	1000	1250	2000					
	10" 254	↑	800	1000	1250	1600	2000					
12" 304	↑	1000	1250	1500	1800	2000						
3/4" -0,02 (19,05) -0,06	2" 50	↑	200	250	315	400						
	2 1/2" 63	↑	200	315	400	500	630	800				
	3" 76	↑	315	350	400	500	800	1000	1250			
	3 1/4" 82	+0 -2 mm	315	350	400	500						
	4" 101	↑	400	450	500	800	1000	1250	1400	1600	1800	
	5" 127	↑	500	630	900	1000	1250	1400	1800	2200		
	5 1/4" 133	↑	500	630	900	1000						
	6" 152	↑	800	1000	1100	1250	1800	2200				
	6 1/2" 165	↑	800	1000	1100	1250						
	7" 177	+1,5%	800	1000	1250							
	8" 203	↑	800	1000	1250	1600	2000	2500				
	10" 254	↑	1000	1250	1600	2000	2500					
	12" 304	↑		1250	1600	2200	2500					

RAC-Heater for Die Casting (ZAMAK)



90°



General Properties

- Connection length 1475mm high temperature resistant
- Stainless steel pipe and tightly welded
- Cable protection with galvanized steel conduit
- Isolation of compressed MgO
- Rear pivot for extraction included in the length.
- The pivot diameter is 3 mm smaller than the diameter of the cartridge.
- On request we can make any modification.

Table of standard cartridge heaters				
Angle block C	Dia. mm D		Length mm L	Wattage at 230V
10X10X10	6,5	-0,02 -0,06	80	180 - 200
14X14X14	10	-0,02 -0,06	80	250 - 315
15X15X15	12,5	-0,02 -0,06	60	200 - 315
			80	250 - 500
			90	350 - 400
			100	300 - 500 - 800
18X18X18	16	-0,02 -0,06	80	315 - 500 - 630
			100	500 - 630 - 800
			130	600 - 1000
			160	630 - 900
			180	800 - 1000
			200	800 - 1000
25X25X25	20	-0,02 -0,06	100	630 - 1000
			160	800 - 1100

Straight Form

