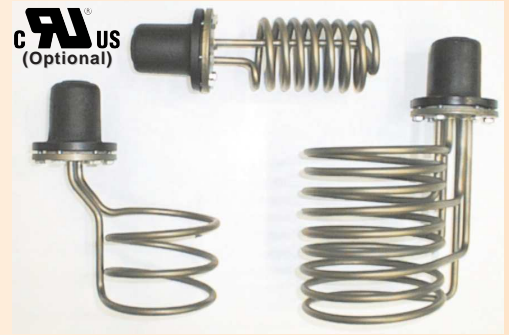


**General characteristics**

- Heating element Class I.
  - Hermetic head (Degree protection against moisture IP67) in steel, except C405 model in stainless steel AISI 316.
  - The upper part of the hermetic head incorporates a female 1/2" BSP thread to connect a tube.
  - Heating element in stainless steel tube AISI 321, except for C405 models in AISI 316L
  - Model C405 with two sheaths of Øint 8,5 mm for temperature sensors or bulb thermostats.
  - Watertight gasket.
  - For installations of acid/basic liquids or especially dense liquid, they can be manufactured in 316L stainless steel tube, Incoloy 800, Incoloy 825, and/or with lower charge densities.
- (\*)IP67 protection is ensured in the final installation with the appropriate nipples and joints on the 1/2" BSP female thread.



They allow, by means of a 1/2" BSP tube properly connected to the CUP heating element, conserving the degree protection against moisture, to prolong and to protect the connection cables, creating the cold zone and exit to the outside according to your necessities.

The C405 model is provided with two sheaths. The sheaths can be used for implementing control and safety elements, such as rod thermostats TER-xxxx-NEF (see pag 6 and 120) regulatable from 10 - 80 °C, or automatic or manual reset temperature limiters. Model C405 also allows safety elements within its two sheaths, such as fuses for external temperature, range of 15 A of 60 °C and 93 °C in temperature of non rearmable safety cut out and automatic reset thermostats models 9700 (13 A) 90 °C and 75 °C (see pag 123).

All the other models allow the placing of the previously mentioned security elements inside the CUP, with the exception of the rod thermostats

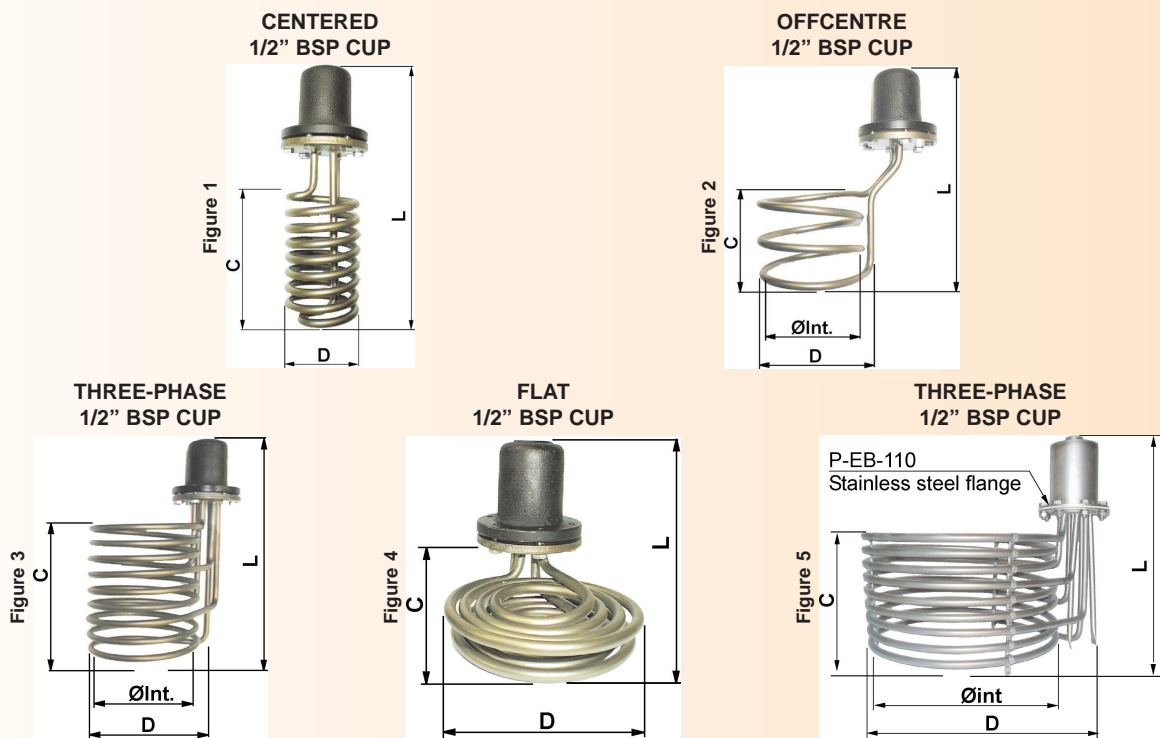


Figure	Code	Dimensions in mm				Volts	Watts	W/cm²	Tube material	Plate and connection box material	constructive thermic class	Weight in Kg
		C Heatig zone	D	ØInt	L							
1	C010	135	73	-	240	~230	1500	3,4	AISI 321 Ø8	Steel	T-300-E	1,4
	C011	165	73	-	270	~230	2000	4,0	AISI 321 Ø8	Steel	T-300-E	1,4
	C012	225	73	-	330	~230	3000	3,8	AISI 321 Ø8	Steel	T-300-E	1,7
2	C001	100	120	95	210	~230	1000	3,9	AISI 321 Ø8	Steel	T-300-E	1,2
	C002	100	160	130	210	~230	2000	3,6	AISI 321 Ø8	Steel	T-300-E	1,5
	C003	150	210	184	260	~230	3000	4,0	AISI 321 Ø8	Steel	T-300-E	1,6
	C004	150	210	180	260	~230	4500	3,4	AISI 321 Ø10	Steel	T-300-E	2,4
3	C302	170	170	118	270	3~230 Δ 3~400 人	3000	3,2	AISI 321 Ø8	Steel	T-300-E	1,8
	C303	230	170	118	330	3~230 Δ 3~400 人	4500	3,8	AISI 321 Ø8	Steel	T-300-E	2,2
	C304	160	245	190	260	3~230 Δ 3~400 人	6000	3,3	AISI 321 Ø8	Steel	T-300-E	2,6
4	C013	35	130	-	135	~230	1000	3,5	AISI 321 Ø8	Steel	T-300-E	1,2
	C014	50	130	-	135	~230	2 x 1000	3,6	AISI 321 Ø8	Steel	T-300-E	1,5
5	C405	173	343	280	344	3~230 Δ 3~400 人	9000	3,1	AISI 316L Ø10	Stainless Steel	T-301-E	4,1

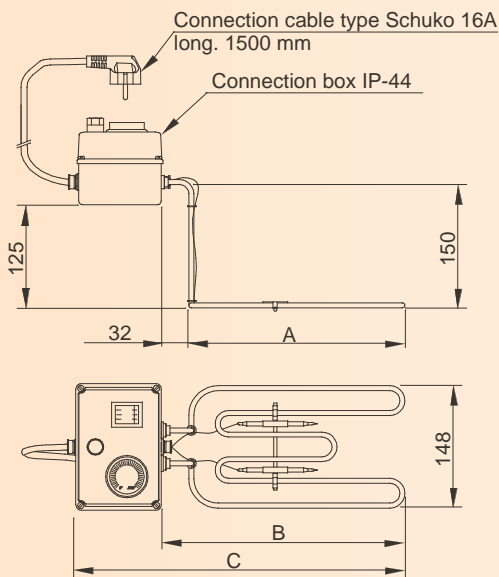


**FIXED IMMERSION HEATING ELEMENT WITH IP-44 CONNECTION BOX, CONTROL THERMOSTAT AND TEMPERATURE LIMITER**

**General characteristics**

- Degree protection against moisture IP-44.
- Stainless steel AISI 321 or 304L tube.
- Connection box in painted steel.
- Zinc steel crimped connectors.
- Connection cable type Schuko 16 A.
- Control thermostat.
- Manual reset temperature limiter.
- Luminous On / Off switch
- Standard voltage ~230 V

**NOTE:** To ensure good system operation and prolonged life of heating elements we advise you to install protection elements such as fluid level controls (See pages 149, 150 and 151).



**SBR RANGE TO HEAT WATER AND OTHERS APPLICATIONS OF MAXIMUM TEMPERATURE 90 °C.**

**Specific characteristics**

- Bulb control thermostat. Scale 0 - 90 °C. Bulb and capillary in copper
- Manual reset safety limiter. Fixed at 100 °C. Bulb and capillary in copper

Code	Watts	W/cm <sup>2</sup>	Tube material	Dimensions in mm			constructive thermic class	Weight in Kg
				A	B	C		
SSBRH1,4	1400	4,7	AISI 321 ó 304L Ø8	196	228	328	T-600-S	1,3

**SBR RANGE TO HEAT OIL AND OTHERS APPLICATIONS OF MAXIMUM TEMPERATURE 200 °C.**

**Specific characteristics**

- Bulb control thermostat. Scale 0 - 200 °C. Bulb and capillary in stainless steel.
- Manual reset safety limiter. Fixed at 230 °C. Bulb and capillary in stainless steel.

Code	Watts	W/cm <sup>2</sup>	Tube material	Dimensions in mm			constructive thermic class	Weight in Kg
				A	B	C		
SSBRA1,4	1400	4,7	AISI321 ó 304L Ø8	196	228	328	T-600-S	1,3

**SPARE HEATING ELEMENTS FOR SBRH and SBRA RANGES**

Code	Watts	W/cm <sup>2</sup>	Material tube	constructive thermic class	Weight in Kg
RESSBR1,4	1400	4,7	AISI 321 ó 304L Ø8	T-600-S	0,34



**IP-44 CONNECTION BOX WITH CONTROL AND SAFETY THERMOSTAT AND ON / OFF LIGHTING SWITCH**

**General characteristics**

Connection box for heating elements. All models including:

- Steel painted box. IP44.
- Control thermostat with automatic reset, chromed face plate and button.
- Manual reset temperature limiter.
- Luminous On / Off switch.
- Cable 3x1,5 mm<sup>2</sup> with Schuko 16 A plug type.
- PG11 for cable.

- PG9 for control thermostat and limiter bulbs.
- Gaskets for packing glands.
- It can accept other heating element types with connectors, always with maximum current 16A.
- External dimensions in mm: **155 mm wide x 105 mm deep x 88 mm high**

Code	Temperature ranges for control and safety elements		Weight in Kg
	Adjustable thermostat	Limiter	
CCR-40100	0 - 40 °C	100 °C	1,0
CCR-90100	0 - 90 °C	100 °C	1,0
CCR-200230	0 - 200 °C	230 °C	1,0

**FIXED IMMERSION CIRCULAR BASE THREE-PHASIC HEATERS**

**General characteristics**

- IP-54 degree protection against moisture
- Incoloy-800 tube (Ø10 mm for the range SBM and Ø8 mm for the range SBC)
- Connection box AISI 430 and box cover AISI 304.
- Connectors AISI 303, crimped and re-sealed.
- Corrugated tube to protect the leads, 3000 mm long.
- Standard voltage 3~230 V Δ, 3~400 V Δ

**Applications**

- Degreasing
- Chemical industries.
- Cleaning.
- Sea-food boilers
- Boilers
- Fish farms
- Saline solution heating

**NOTE:** To ensure a good system operation and prolonging heating element life we advise you to install protection elements such as fluid level controls and temperature controller.

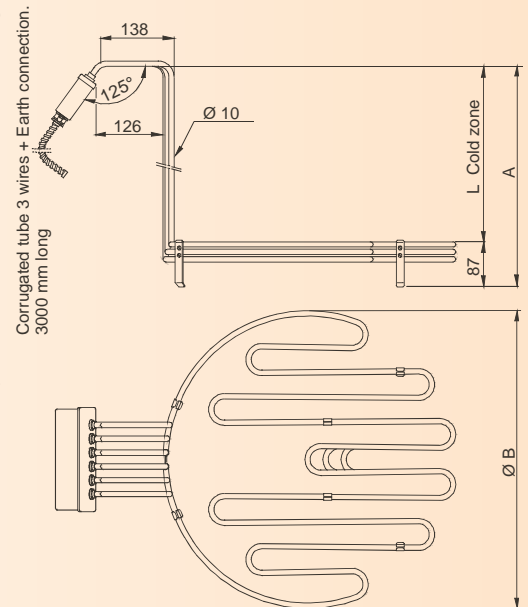


**MODELS SBM.**

Code	Watts	W/cm²	Material tube	Dimensions in mm			constructive thermic class	Weight in Kg
				A	ØB	L		
SBM6	6000	3	Iy-800	529	370	442	T-602-S	5,4
SBM12	12000	2,9	Iy-800	414	560	327	T-602-S	7,4

**Option**

- Clamps to fix the heater to a double omega shaped tank. They will be supplied in bags of six units with six screws M4x25 Stainless Steel.  
**Code:** 128169000      **Reference:** MPA-BO-SBM
- Special order: Other dimensions, power and voltages.  
 Manufacturing in titanium tube Ø10,92mm  
 Manufacturing in Teflon® tube Ø12 mm.

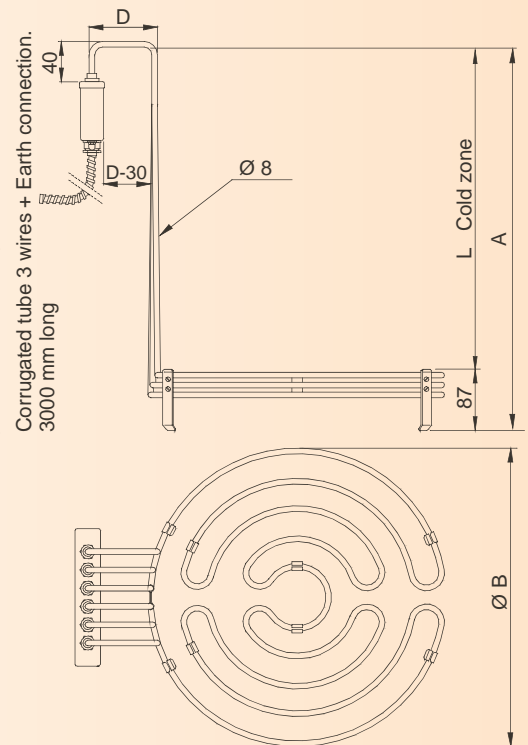


**MODELS SBC.**

Code	Watts	W/cm²	Tube material	Dimensions in mm					constructive thermic class	Weight in Kg
				A	ØB	L	C	D		
SBC2,5	2500	1,7	Iy-800	438	235	351	40	70	T-602-S	3,2
SBC7,5	7500	2,4	Iy-800	690	425	612	57	97	T-602-S	5,1

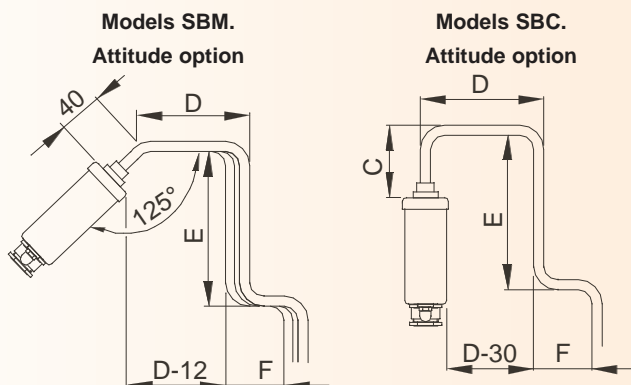
**Option**

- Clamps to fix the heater to a double omega shaped tank. They will be supplied in bags of six units with six screws M4x25 Stainless Steel.  
**Code:** 128170000      **Reference:** MPA-BO-SBC
- Special order: Other dimensions, power and voltages.  
 Manufacturing in titanium tube Ø10,92mm  
 Manufacturing in Teflon® tube Ø12 mm.



The SBM and SBC models are stocked in finished or semi-finished version in order to be adaptable to several different uses.

If you require, we can also supply the SB type heaters varying side A height to make a special attitude, according to the diagrams, to facilitate fixing the containing baskets in the heating barrels. Specify dimensions A, C, D, E and F in the order.





**L-SHAPED FIXED HEATERS WITH HANDLE**

**General characteristics**

- Degree protection against moisture IP-20.
- Stainless steel AISI 316L Ø10 mm tube.
- All models incorporate hose cable type H07RN-F with 3 wires of suitable section and length 1500 mm.
- Stocked in finished or semi-finished version in order to be adaptable to several different uses.
- The standard version has the shape of an "S" with handle.
- Standard voltage ~230 V

**Options**

Shape: «V», «X», «Y».  
 Handles: Made in melted resin IP-67  
 Connection box with degree protection against moisture IP-66  
 Internal plug for 1, 3 or 6 elements.

Also available: Other dimensions, voltages and powers.  
 Titanium Ø10,92 mm tube

If you require to reduce the SN heater heights, indicate the dimension Ls, Lv, Ly, Lx on your order sheet

**SN HEATERS. STANDARD MODELS**

Code	Watts	W/cm <sup>2</sup>	Common		Dimensions in mm				constructive thermic class	Weight in Kg
			C	A	Shape S	Shape V	Shape Y	Shape X		
					Ls	Lv	Ly	Lx		
SN001	1500	3,3	320	70	450	587	600	931	T-301-E	1,0
SN002	3000	3,1	320	160	450	587	600	931	T-301-E	2,0
SN003	4500	2,9	320	250	450	587	600	931	T-301-E	2,6
SN004	2000	3,9	270	70	850	981	1000	1275	T-301-E	1,9
SN005	4000	3,9	270	160	850	981	1000	1275	T-301-E	2,3
SN006	5700	3,8	270	250	850	981	1000	1275	T-301-E	2,9

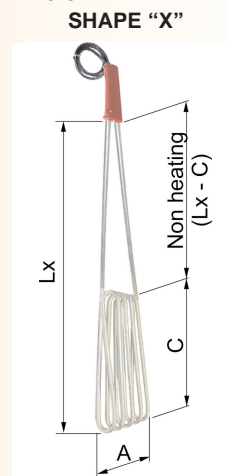
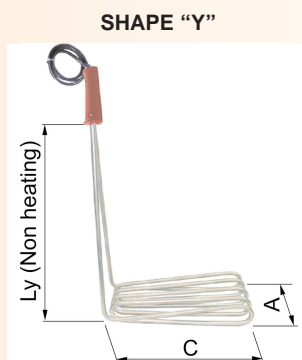
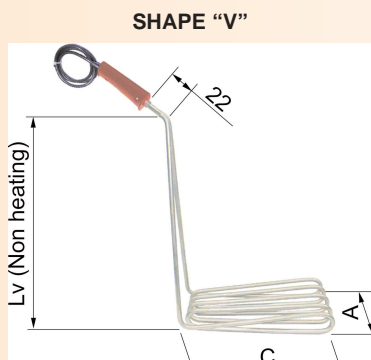
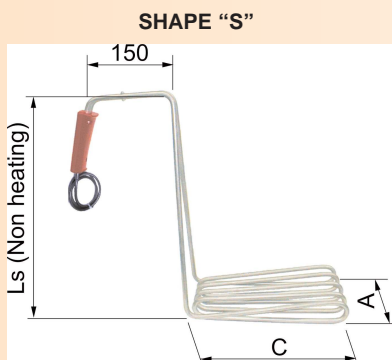
**Fixation clamps for heaters SN, SL and SF**

- Clamps to fix the heater SN to a double omega shaped tank. Material AISI 430. They will be supplied in bags of two units with two screws M4x25 Stainless Steel.

Code: 128171000

Reference: MPA-BO-SN

**Other solutions with standard SN elements**



**SL HEATERS. STANDARD MODELS**

Code	Watts	W/cm <sup>2</sup>	Tube material	Dimensions in mm			constructive thermic class	Weight in Kg
				L	LC	Passes through Ø		
SL0,6	600	5,6	AISI 321	295	170	120	T-600-S	0,46
SL1	1000	5,9	AISI 316L	400	105	50	T-301-E	0,56
SL1,5	1500	6,6	AISI 316L	400	105	50	T-301-E	0,61

**SL FIXED HEATERS**

**General characteristics**

- Degree protection against moisture IP-20.
- Stainless steel AISI 321 Ø8 mm tube for the model SL0,6 and AISI 316L Ø8 mm tube for the models SL1 and SL1,5.
- All models incorporate hose cable type H07RN-F with 3 wires of suitable section and length 1500 mm.
- Standard voltage ~230 V

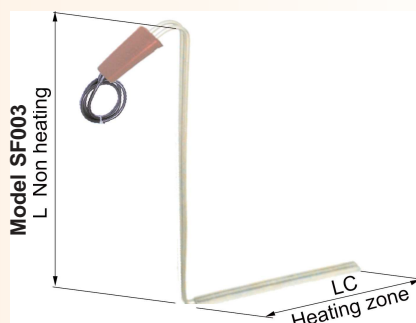
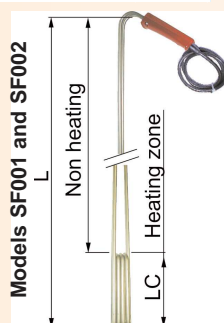
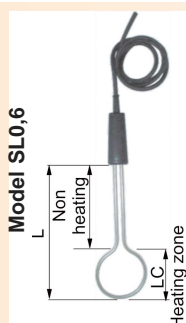
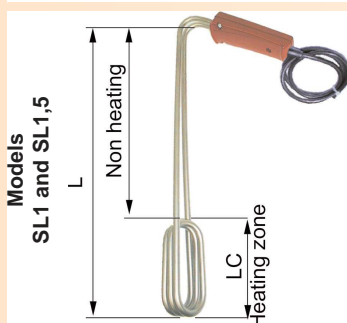
**SF HEATERS. STANDARD MODELS**

Code	Watts	W/cm <sup>2</sup>	Tube material	Dimensions in mm			constructive thermic class	Weight in Kg
				L	LC	Passes through Ø		
SF001	1000	5,3	AISI 321	1170	148	56,5	T-300-E	1,0
SF002	1500	5,6	AISI 321	1170	148	56,5	T-300-E	1,1
SF003	1200	2,9	AISI 321	840	447	24	T-300-E	1,1

**SF FIXED HEATERS FOR DRUMS**

**General characteristics**

- Degree protection against moisture IP-20.
- Stainless steel AISI 321 Ø8 mm tube.
- All models incorporate hose cable type H07RN-F with 3 wires of suitable section and length 1500 mm.
- Standard voltage ~230 V



**FIXED INSTALLATION HEATING ELEMENTS FOR AGGRESSIVE LIQUIDS.**

**General characteristics**

- Smelted resin handles with degree protection against moisture IP-67.
- Silicone hose cable 2 wires + Earth cable 1500 mm long.
- Electrical Class I
- Standard voltage ~230 V
- Tube material:
  - Titanium Ø10 mm → Models STIU / STIM
  - AISI 316L Ø10 mm → Models SINU / SINM
  - Incoloy®-825 Ø10 mm → Models SIYU / SIYM / SIYMN



**TITANIUM HEATERS. SHAPE "U"**

Code	Watts	W/cm²	Dimensions in mm				constructive thermic class	Weight in Kg
			L	I	A	B		
STIU0,5	500	5,0	400	190	160	71	T-440-E	0,70
STIU1	1000	4,3	600	200	350	71	T-440-E	0,86
STIU2	2000	4,9	900	200	650	71	T-440-E	1,1
STIU3	3000	4,8	1250	200	1000	71	T-440-E	1,3
STIU4	4000	4,9	1550	200	1300	71	T-440-E	1,5

**STAINLESS STEEL AISI 316L HEATERS. SHAPE "U"**

Code	Watts	W/cm²	Dimensions in mm				constructive thermic class	Weight in Kg
			L	I	A	B		
SINU0,5	500	5,1	400	190	160	71	T-301-E	0,70
SINU1	1000	4,3	600	200	350	71	T-301-E	0,84
SINU2	2000	4,9	900	200	650	71	T-301-E	1,1
SINU3	3000	4,8	1250	200	1000	71	T-301-E	1,3
SINU4	4000	4,9	1550	200	1300	71	T-301-E	1,5

**INCOLOY®-825 HEATERS. SHAPE "U"**

Code	Watts	W/cm²	Dimensions in mm				constructive thermic class	Weight in Kg
			L	I	A	B		
SIYU1,5	1500	3,3	1000	250	700	60	T-602-E	1,1
SIYU2	2000	3,3	1300	300	950	60	T-602-E	1,4
SIYU3	3000	3,1	1900	330	1520	60	T-602-E	1,7
SIYU4	4000	3,3	2300	350	1900	60	T-602-E	2,1

**TITANIUM HEATERS. SHAPE "M-4"**

Code	Watts	W/cm²	Dimensions in mm				constructive thermic class	Weight in Kg
			L	I	A	B		
STIM2	2000	4,9	600	200	350	158	T-440-E	1,1
STIM2L	2000	4,9	700	200	450	158	T-440-E	1,1
STIM3	3000	4,8	800	200	550	158	T-440-E	1,3
STIM4	4000	4,9	900	200	650	158	T-440-E	1,5

**STAINLESS STEEL AISI 316L HEATERS. SHAPE "M-4"**

Code	Watts	W/cm²	Dimensions in mm				constructive thermic class	Weight in Kg
			L	I	A	B		
SINM2	2000	4,9	600	200	350	158	T-301-E	1,1
SINM2L	2000	4,9	700	200	450	158	T-301-E	1,1
SINM3	3000	4,8	800	200	550	158	T-301-E	1,3
SINM4	4000	4,9	900	200	650	158	T-301-E	1,5

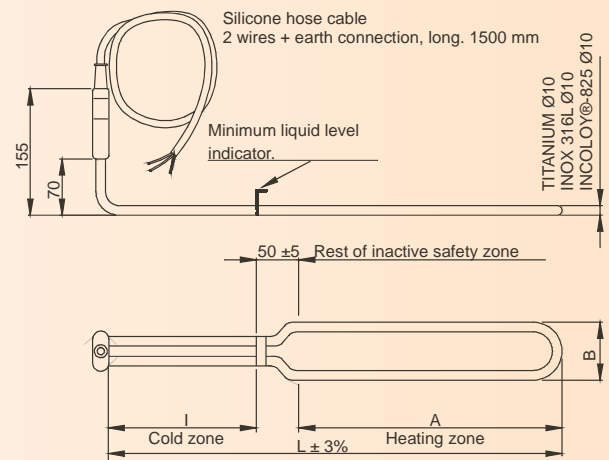
**INCOLOY®-825 HEATERS. SHAPE "M-4"**

Code	Watts	W/cm²	Dimensions in mm				constructive thermic class	Weight in Kg
			L	I	A	B		
SIYM1,5A	1500	3,3	700	250	400	158	T-602-E	1,1
SIYM1,5B	1500	3,3	800	250	500	158	T-602-E	1,1
SIYM2A	2000	3,3	800	300	458	158	T-602-E	1,4
SIYM2B	2000	3,3	900	300	550	158	T-602-E	1,4
SIYM3	3000	3,1	1150	330	770	158	T-602-E	1,7
SIYM4	4000	3,3	1350	350	950	158	T-602-E	2,1

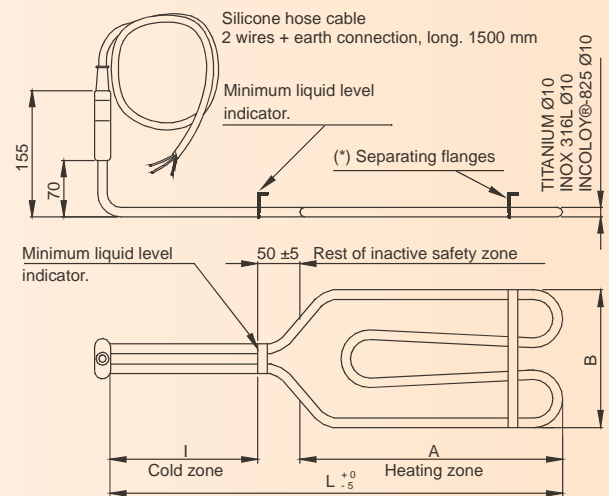
**Applications**

- For chemical baths:
- Degreasing
  - Pickling
  - Shining
  - Phosphatizing
  - Electropolishing
  - Zinc-plating
  - Cadmium-plating
  - Copper-plating
  - Nickel-plating
  - Chrome-plating
  - Silver-plating
  - Gold-plating
  - Fixed
  - Colored

**COMMON DIMENSIONS. SHAPE "U" RANGE**

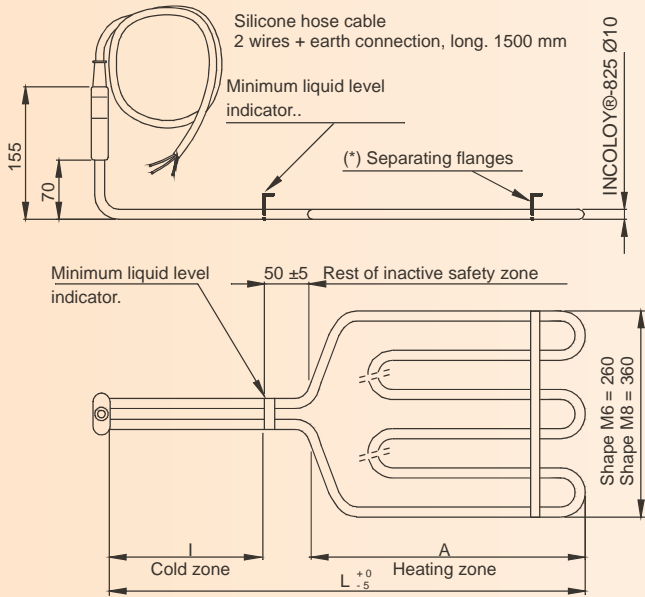


**COMMON DIMENSIONS. SHAPE "M-4" RANGE**



(\*) NOTE: The separating flange is only supplied with the models SIYU, SIYM and SIYMN

COMMON DIMENSIONS. SHAPE "M-6" and "M-8"

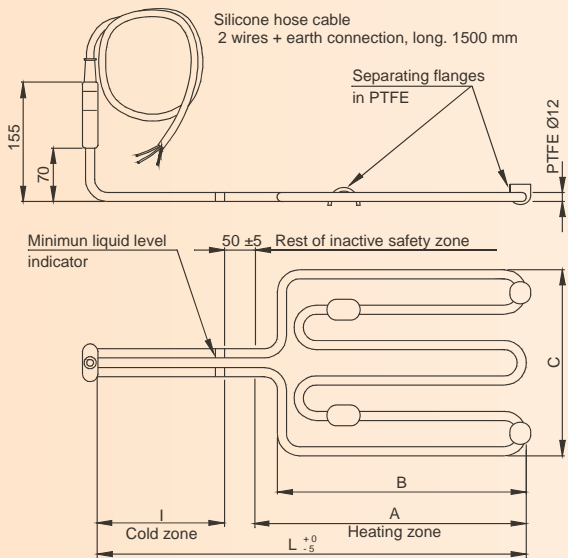


INCOLOY®-825 HEATERS.

SHAPE "M-6" / "M-8"

Code	Watts	W/cm <sup>2</sup>	Dimensions in mm			Shape	constructive thermic class	Weight in Kg
			L	I	A			
SIYMN1,5	1500	3,3	600	250	300	M6	T-602-E	1,1
SIYMN2	2000	3,3	700	300	350	M6	T-602-E	1,4
SIYMN3C	3000	3,1	800	330	420	M8	T-602-E	1,7
SIYMN3A	3000	3,1	900	330	520	M6	T-602-E	1,7
SIYMN3B	3000	3,1	1000	330	620	M6	T-602-E	1,7
SIYMN4C	4000	3,3	900	350	500	M8	T-602-E	2,1
SIYMN4D	4000	3,3	1000	350	600	M8	T-602-E	2,1
SIYMN4A	4000	3,3	1100	350	700	M6	T-602-E	2,1
SIYMN4B	4000	3,3	1200	350	800	M6	T-602-E	2,1

HEATERS COATED WITH PTFE



Exclusive for PTFE heaters.

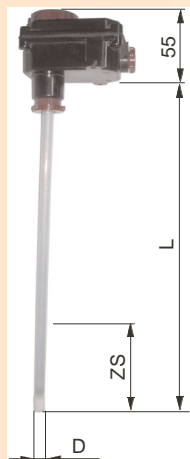
These elements are especially designed to heat a wide variety of corrosive liquids with the exception of hydrofluoric acid. The final choice may be based on the working conditions, recommendations of the manufacturer of the corrosive material, or a preliminary test, we declines responsibility for any possible problems owing to corrosion, since the different working conditions and factors, which are very often unknown, can affect the effectiveness of the sheath.



**ATTENTION!** The maximum working temperature is 90 °C for liquids with boiling point below 110 °C, and 35 °C for liquids with boiling point over 110 °C. For more information ask for our NTC 9120.

Code	Watts	W/cm <sup>2</sup>	Dimensions in mm					Shape	constructive thermic class	Weight in Kg
			I	A	B	C	L			
STEF1	1000	2,4	140	210	150	245	400	M6	T-270-E	1,1
STEF2	2000	2,5	180	370	330	245	600	M6	T-270-E	1,5
STEF3	3000	2,5	320	430	390	245	800	M6	T-270-E	2,1
STEF3A	3000	2,6	320	530	380	245	900	M8	T-270-E	2,1
STEF3B	3000	2,5	320	630	510	245	1000	M8	T-270-E	2,1

TERACTE / TERACTI / TERACTY



GROUP 11 - Control and regulation

Model	Sheath	Thermostat							
		Assembly code	Material	Dimensions in mm			Sheath replacement code	Assembly code	Material
L	ZS Minimum level Bulb zone			D	Assembly code	Material			
TERACTE3090	PTFE	360	100	12	128046000	30_90	BULB	3501290201	0,34
TERACTI3090	TITANIUM	360	100	12,7	128045000	30_90	BULB	3501290201	0,34
TERACTY3090	IY-825	360	100	12	128206000	30_90	BULB	3501290201	0,34

Replacements	
Code	Description
128046000	PTFE SHEATH
128045000	TITANIUM SHEATH
128206000	INCOLOY®-825 SHEATH
108046004	BAKELITE BOX WITH GASKETS
3503290201	THERMOSTAT WITH OUT BUTTON
517165000	BLACK BUTTON. TEMPERATURE RANGE 30 / 90 °C