



**Z.R.E.**

... Infinite solutions ...

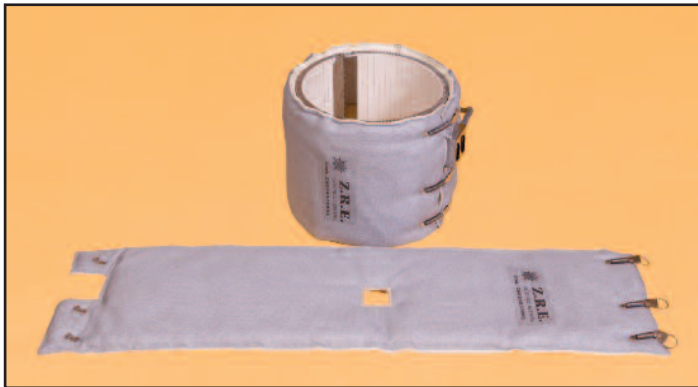
## Insulating mattresses



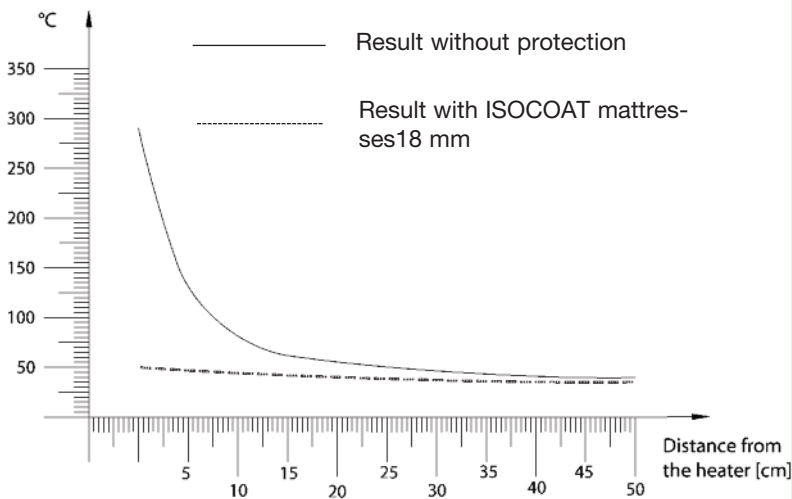
MODEL Z.66 (ISOCOAT)



### Model Z.66 (isocoat)



Following graph shows temperature reached in proximity of the heater with and without the insulation mattress



How to order (see DWG.A)

- Model Z.66
- Application: .....
- + Article number (if known): .....
- + Heater external diameter be covered by the mattress  
[DE = internal diameter + heater thickness x 2]  
(mica band heater thickness= 15mm / ceramic band heater thickness 30mm) .....
- + Heater width (L.):.....
- + Any holes or slots on the heaters and their position (S):.....
- + Distance between any holes/ slots and the edge (U):.....
- + In case of flat surface heater length and width: .....
- + Fastener type: .....
- + Quantity: .....

### Technical features

The use of the insulating mattress, model Z66 (ISO-COAT) as heat insulator around plasticization cylinders guarantees a remarkable reduction of the heat radiation toward the surrounding environment and the machine's structure. This enable the operator ( the equipment operator) to work in optimum conditions (comfort) and, at the same time, prevents him from having any accident, due to the accidental contact with high temperatures.

#### Use

- Insulation of plasticization cylinders
- Insulation of valves and flanges
- Insulation of high temperature engine parts
- Insulation of ovens and tanks subjected to high temperatures

#### Advantages of the insulating mattress

- It reduces power consumption caused by heating process by 30%
- Excellent heat insulation
- Not inflammable
- Atoxic
- It keeps constant its characteristic at high temperatures
- More uniform heating and quicker heating up

#### Technical features

- External fibreglass fabric for high temperatures up to 500°C
- Internal fibreglass insulator for high temperatures. Standard thickness: 18mm
- Mechanical clamping with suitable security buckles, which help the fitting and the removal of the mattresses
- Upon request other fastener type

#### Attention:

The employ of insulation mattresses causes heater surface temperature increasing therefore we suggest you to reduce the max specific load of the heaters. ( 0.5 W/cm<sup>2</sup> less for mica heaters mod. Z32 and 1 W/cm<sup>2</sup> for ceramic heaters mod Z41)

For further information please contact our technical department.

We reserve the right to change technical details.



Example of development of an insulating mattress for a mica heater model Z.32 internal diameter 195 x 160 with connection box M18 a 2 holes diameter 20 (90° / 270°)

### Heater model Z32 (MICA)

DE\* = 195 + 15 = 210 mm

L = 160

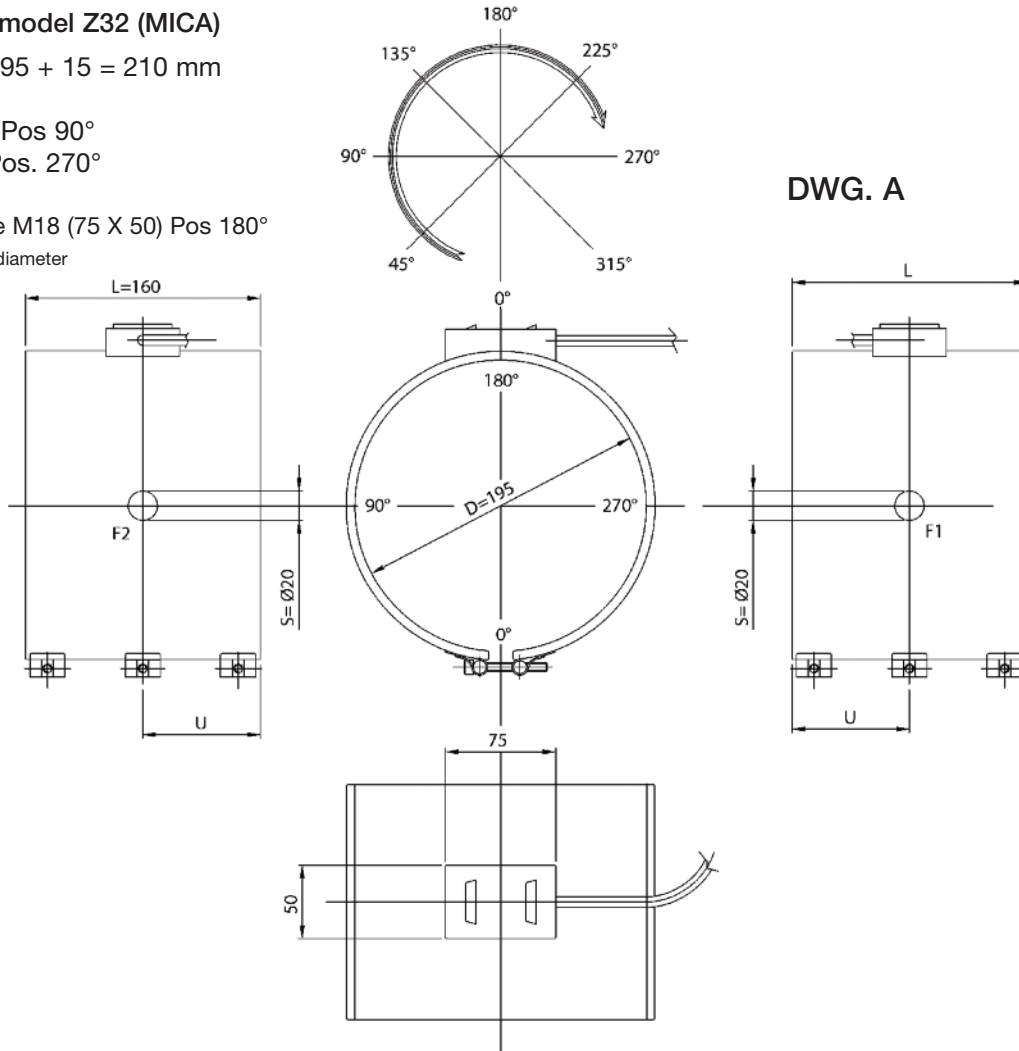
F1= 20 Pos 90°

F2 20 Pos. 270°

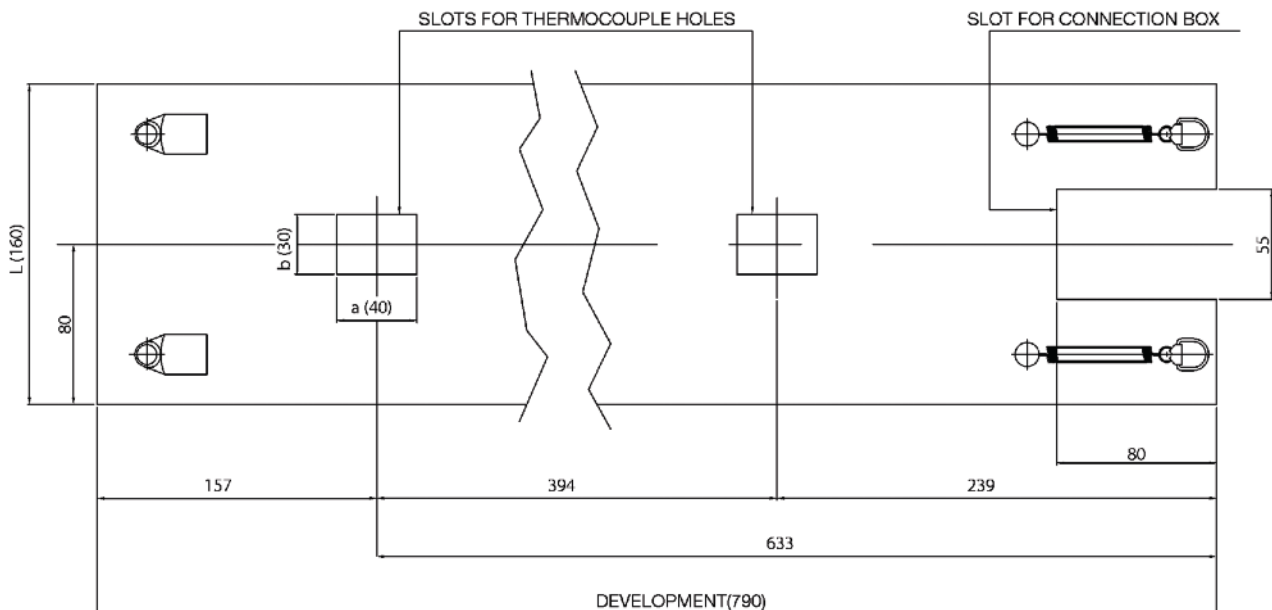
U = 80

Box type M18 (75 X 50) Pos 180°

\* External diameter



### Linear development of the mattress of DWG. A [mm]



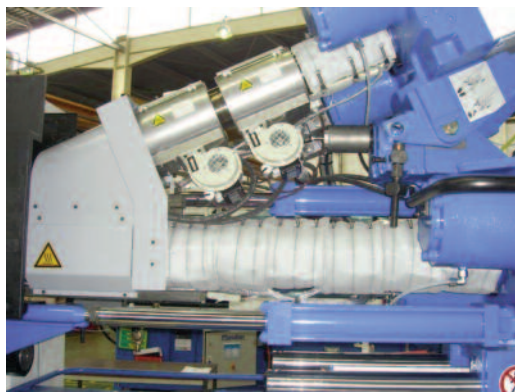
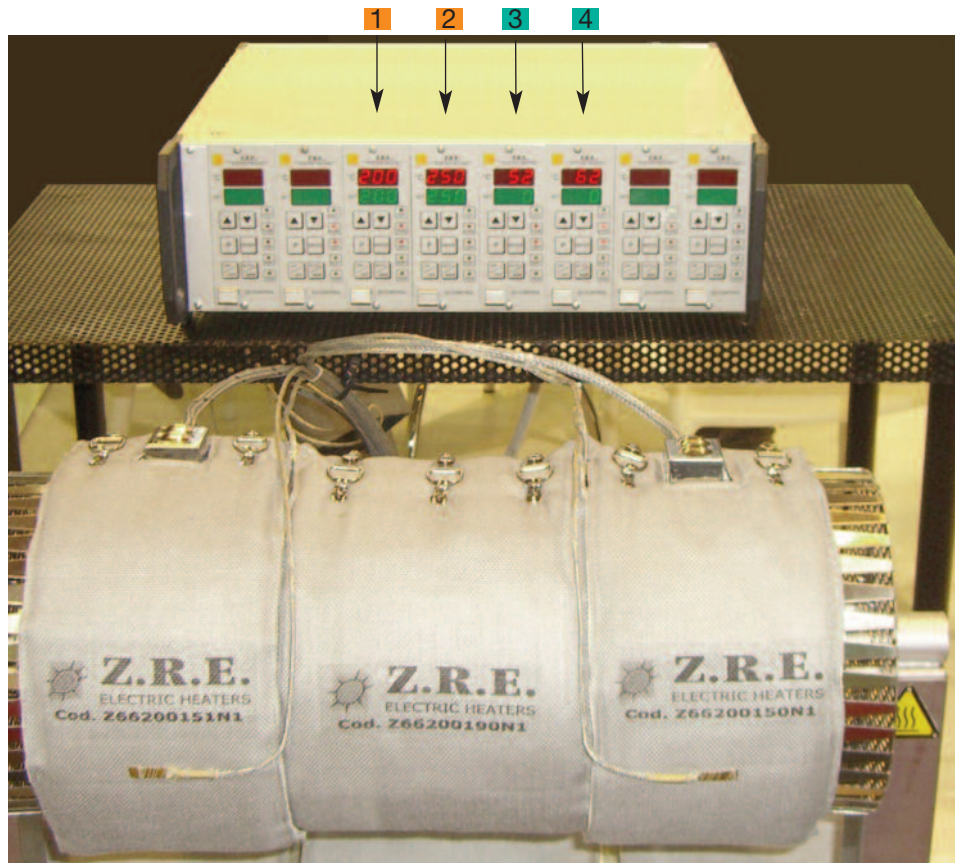


### List diameter / linear development

Heater external diameter [mm]	Linear development [mm]
40	215
50	265
60	290
70	320
80	355
90	390
100	420
110	440
120	490
130	525
140	550
150	580
160	625
170	655
180	680
190	710
200	745
210	790
220	810
230	845
240	870
250	900
260	930
270	965
280	995
290	1030
300	1065
310	1100
320	1130
330	1165
340	1195
350	1225
360	1255
370	1280
380	1310
390	1335
400	1370
410	1400
420	1430
430	1465
440	1495
450	1520
460	1555
470	1590
480	1620
490	1650
500	1685

### Example of inside/outside temperature

- 1 Inside temperature mica band heater mod. Z32 Z32 (200°C)
- 2 Inside temperature ceramic band heater mod. Z41 (250°C)
- 3 External temperature of insulating mattress on mica band heater mod. Z.32 (52°C)
- 4 External temperature of insulating mattress on ceramic band heater mod. Z.41 (62°C)



Insulation mattresses on cylinder of a injection molding machine

### Fastenings

- 1 Springs and hooks
- 2 Metal velcro
- 3 Belts
- 4 Security buckles (standard)



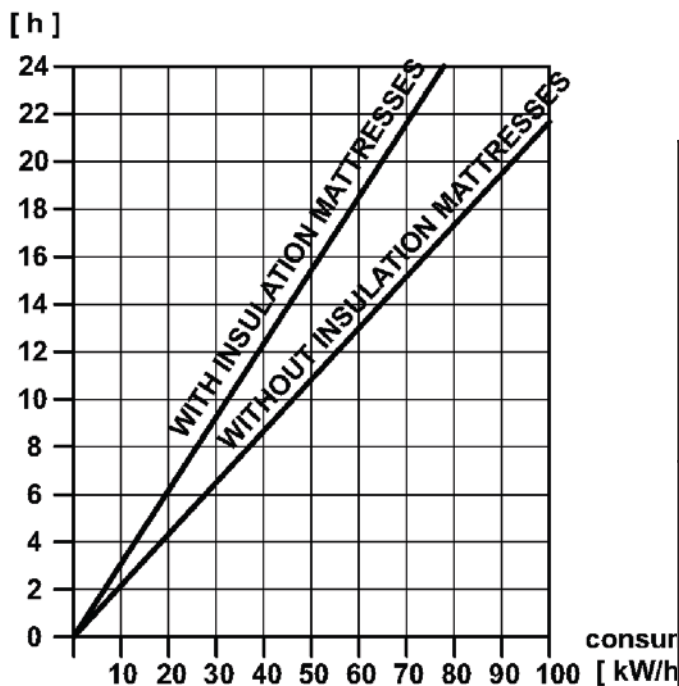


### POWER CONSUMPTION LABORATORY TEST (DATED 2008)

### RECOVERING THE INVESTMENT

Following graph shows how insulating mattress allow a remarkable energy saving.

Considering the high energy cost and the remarkable power saving achievable employing the insulation mattress mod. Z66 you will quickly pay off the cost of the investment.



FOLLOWING EXAMPLE SHOWS HOW LONG YOU WILL NEED TO PAY OFF THE INVESTMENT FOR THE INSULATION MATTRESSES FOR A PLASTICIZATION CYLINDER

#### Cylinder Ø 120 x 940 mm

- Mica heater bands mod. Z32  
Ø120x300mm – 3333W / 220V 2,95W/cm<sup>2</sup>
- entire power installed: 10kW
- power hourly consumption without insulation: 4,67kW
- power hourly consumption with insulation mattresses: 3,25kW

#### Insulation mattresses Z66

Quantity	3
Dimension	Ø120 x 300
Unit cost:	€ 59,00
Grand total	€ 177,00

#### Average retail price of the industrial electricity in Italy 1 MWh = € 115 ( updated to June 2008)

Electric energy consumption without insulation mattresses  
(170h/month)

- Monthly consumption: 170 x 4,67 = 0,794 MWh
- Monthly cost: 0,794 x 115 = € 91,31

MONTHLY SAVING FOR THE ELECTRIC ENERGY CONSUMPTION WITH INSULATION MATTRESSES MOD. Z66

- Costo mensile : € 91,31 x 30% = € 27,39

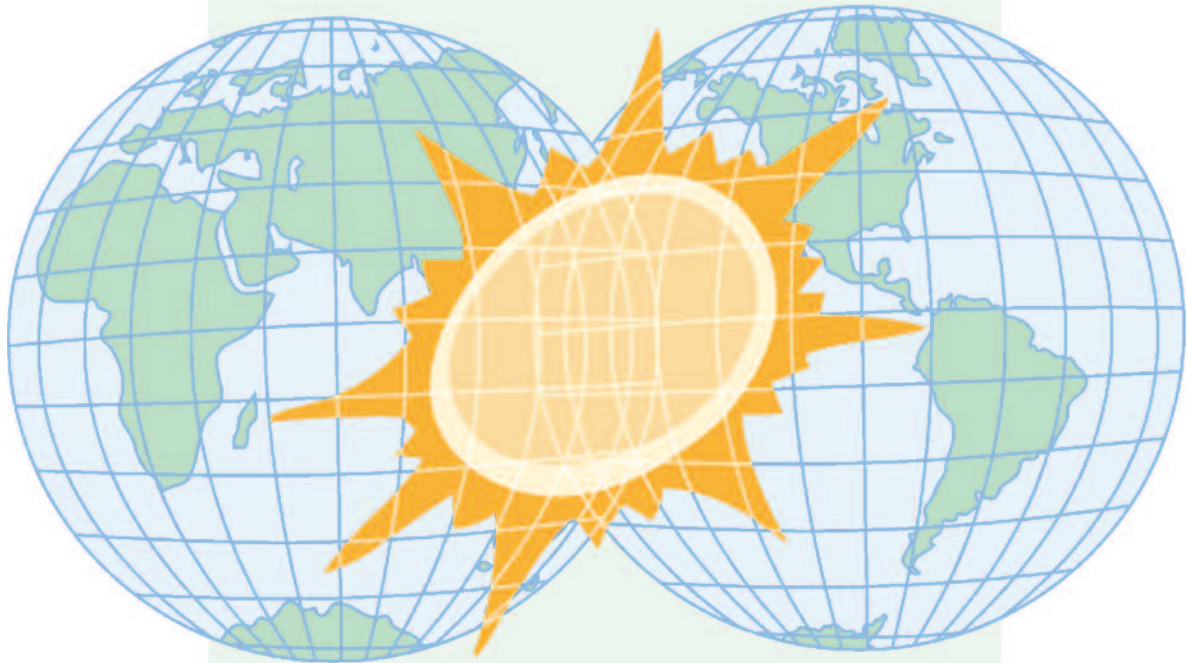
This is the comparison between the energy consumed in heating a plastic cylinder with or without insulation.

#### Test technical data:

- Cylinder Ø120 x 940mm
- Power 10000W
- test duration: 24h

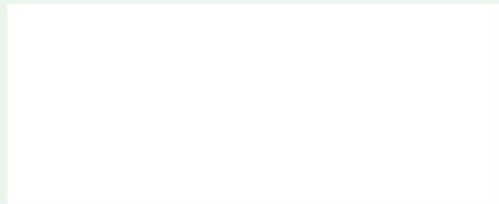
**AS THE GRAPH SHOWS A 30 PER CENT CUT IN OPERATING COST MAY BE OBTAINED.**

**IT MEANS PAY OFF THE INVESTMENT IN 6-8 MONTHS**



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