



Heating & Cooling

# Heaters & Thermocouples

Simple Solution



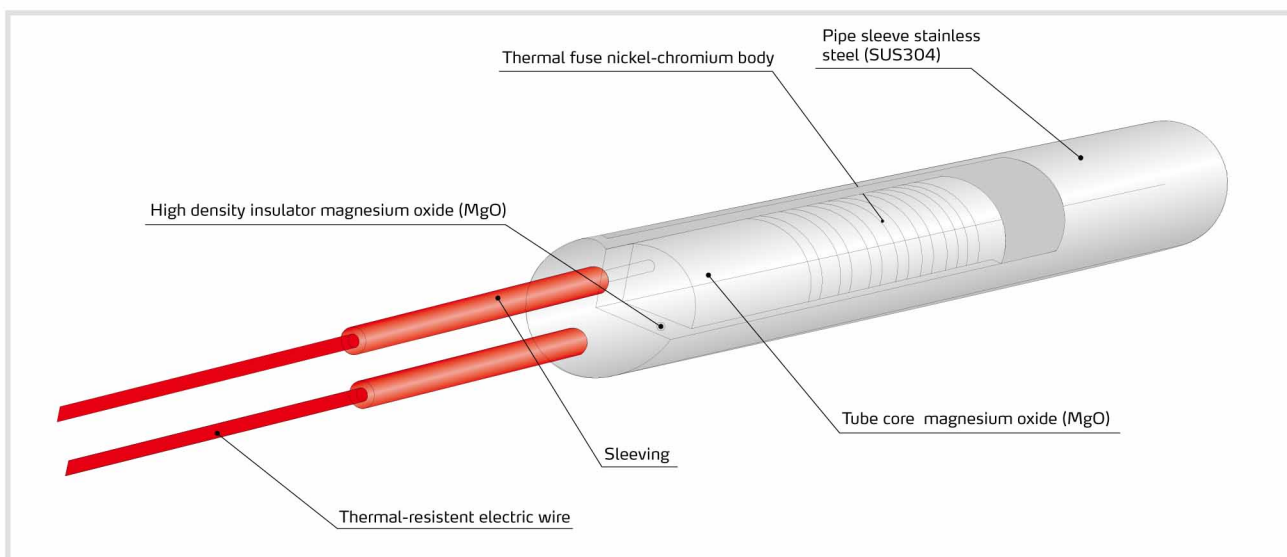
# Cartridge Heater

## ■ Features

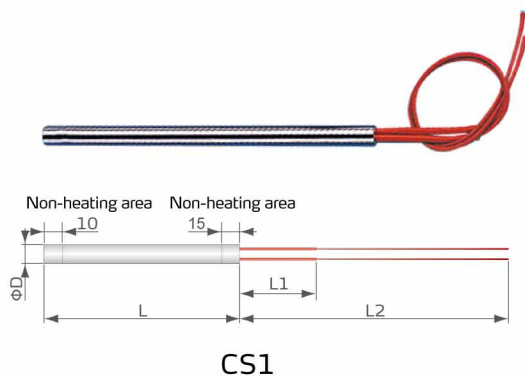
- Insulation elements of pipe heaters are made from imported magnesium powder and sticks which can endure high temperature and high voltage.
- Heat-resistant heating wires feature quick heat transmission, even heating and high voltage endurance.
- Adopts imported high quality stainless steel, constructed to endure high temperature with features of even heat radiation and attractive appearance.
- Adopts high quality material from Japan and USA, made of stainless steel and permanent mark is laser printed.
- Temperature is below 250°C, power standard range is 7~11w/cm<sup>2</sup>. For the power that exceeds standard range, it should be the specialty goods.
- Upon request, it can be built to comply with worldwide electrical safety standards (For example: CE etc.)

## ■ Application

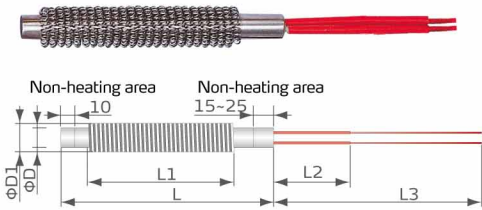
With over 40 years experiences in this particular industry, Shini band heaters and pipe heaters are well-known worldwide. The heaters are manufactured from imported top quality raw materials with advanced techniques. They are widely used in mould heaters, dryers, molding machines etc, ensuring long service life and high efficiency.



## ■ Specifications (Unit: mm)

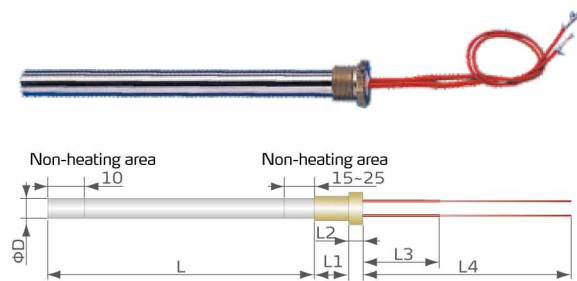


Pipe Sleeve Dimension $\phi D$	Length (L)		L1	L2
	Min.	Max.		
$\phi 6 \sim \phi 6.5$	30	200		
$\phi 8 \sim \phi 8.9$	30	500	60	300
$\phi 9 \sim \phi 22$	50	800		



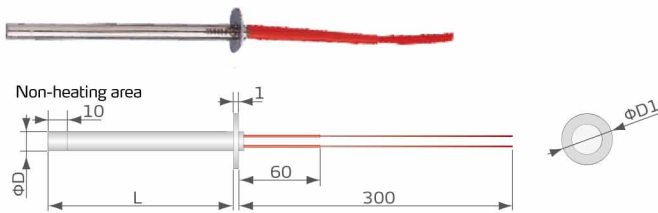
CS2

Pipe Sleeve Dimension $\phi D$	Cooling Fin Dimension $\phi D1$	Length(L)		L1	L2	L3
		Min.	Max.			
$\phi 6 \sim \phi 6.5$	$D1 = D + 14$	30	200	$L1 = L - 40$	60	300
$\phi 8 \sim \phi 8.9$		30	500			
$\phi 9 \sim \phi 22$		50	800			



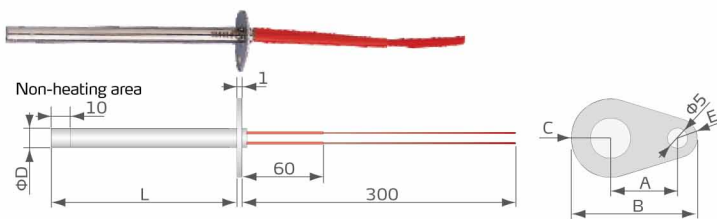
CX

Pipe Sleeve Dimension $\phi D$	Length(L)		L1	L2	L3	L4
	Min.	Max.				
$\phi 6 \sim \phi 6.5$	30	200	10	4	60	300
$\phi 8 \sim \phi 8.9$	30	500				
$\phi 9 \sim \phi 22$	50	800				



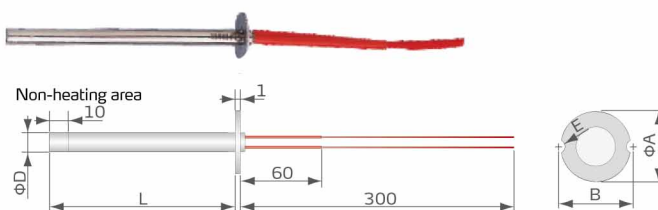
CF1

Pipe Sleeve Dimension $\phi D$	D1	L
$\phi 6 \sim 6.25$	$\phi 14$	200
$\phi 8$	$\phi 18$	600
$\phi 9.4$		800
$\phi 10$		
$\phi 12 \sim 16$	$\phi 24$	
$\phi 18 \sim 20$	$\phi 30$	



CF2

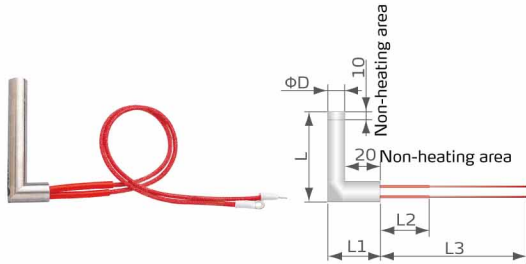
Pipe Sleeve Dimension $\phi D$	A	B	C	E	L
$\phi 6$	9	20	R9	R4	200
$\phi 6.25$					200
$\phi 8$					600
$\phi 9.4 \sim 12.6$	13	28	R9	R6	800
$\phi 14 \sim 20$	15	34	R15	R7	



CF3

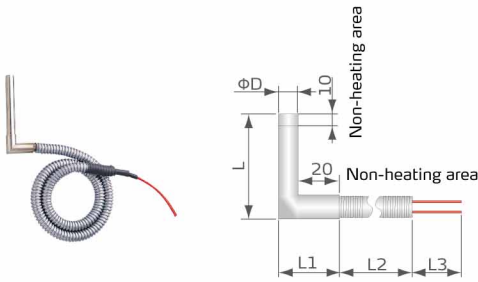
Pipe Sleeve Dimension $\phi D$	$\phi A$	B	E	L
$\phi 6$	$\phi 18$	20	R2.5	200
$\phi 6.25$				200
$\phi 8$				600
$\phi 9.4 \sim 12.6$	$\phi 24$	25	R2.5	800
$\phi 14 \sim 16$	$\phi 28$	30	R3	
$\phi 18 \sim 20$	$\phi 32$	34	R3	

# Cartridge Heater



CL1

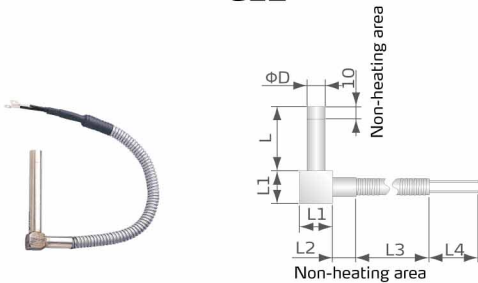
Pipe Sleeve Dimension $\Phi D$	Length (L)		L1	L2	L3
	Min.	Max.			
$\Phi 6\sim\Phi 6.5$	30	200			
$\Phi 8\sim\Phi 8.9$	30	800	20+D	60	300
$\Phi 9\sim\Phi 22$	50	800			



CL2

Pipe Sleeve Dimension $\Phi D$	Length (L)		L1	L2	L3
	Min.	Max.			
$\Phi 6\sim\Phi 6.5$	30	200			
$\Phi 8\sim\Phi 8.9$	30	800	20+D	200	100
$\Phi 9\sim\Phi 22$	50	800			

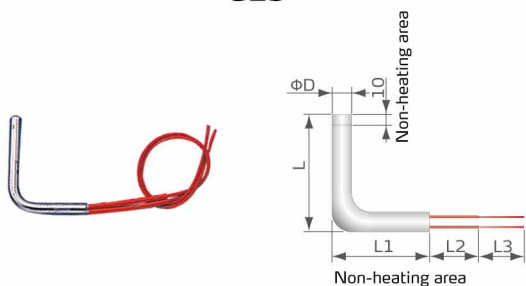
Notes: Metal protecting hose is added to CL2 based on CL1.



CL3

Pipe Sleeve Dimension $\Phi D$	Length (L)		L1	L2	L3	L4
	Min.	Max.				
$\Phi 6\sim\Phi 6.5$	30	200				
$\Phi 8\sim\Phi 8.9$	30	800	D+6	40	200	1000
$\Phi 9\sim\Phi 22$	50	800				

Notes: Metal protecting hose and adaptor are added to CL3 based on CL1.



CL4

Pipe Sleeve Dimension $\Phi D$	Length (L)		L1	L2	L3
	Min.	Max.			
$\Phi 6\sim\Phi 6.5$	30	200			
$\Phi 8\sim\Phi 8.9$	30	800	20-L	200	100
$\Phi 9\sim\Phi 22$	50	800			

## Technical Parameters

Withstand voltages	Insulation strength	Allowable lead wire deviation	Allowable pipe diameter deviation	Allowable pipe length deviation
Above 1.5kV/5S	Above 10 M $\Omega$	$\pm 10$ mm	-0.1~0 mm	R $\leq$ 100 $\pm$ 1mm 100 $\leq$ R $\leq$ 250 $\pm$ 1mm R $\geq$ 250 $\pm$ 1mm
Allowable resistance deviation				
$\pm 15\%$ when power is less than 200W	$\pm 10\%$ when power is within 200W~500W	$\pm 5\%$ when power is more than 500W		

Notes: 1) Dimensions:  $\Phi 6.0\sim\Phi 22$ mm, length is between 30mm and 800mm.

2) Please supply us with detailed requirements concerning size, voltages, lead wire type and applications in your order so that we can provide you most suitable products.

We reserve the right to change specifications without prior notice.

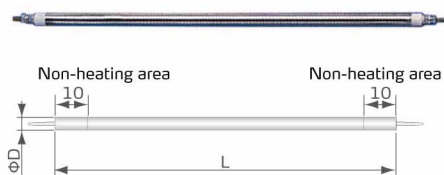
## Features

- Insulation elements of pipe heaters are made from imported magnesium powder and sticks which can endure high temperature and high voltage.
- Heat-resistant heating wires feature quick heat transmission, even heating and high voltage endurance.
- Adopts imported high quality stainless steel, constructed to endure high temperature with features of even heat radiation and attractive appearance.
- Adopts high quality material from Japan and USA, made of stainless steel and permanent mark is laser printed.
- Temperature is below 250°C, power standard range is 3.1~3.5w/cm<sup>2</sup>. For the power that exceeds standard range, it should be the specialty goods.
- Upon request, it can be built to comply with worldwide electrical safety standards (For example: CE etc.)

## Application

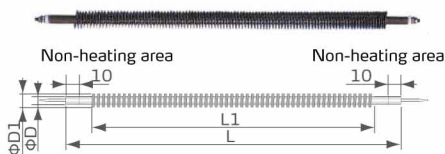
With over 40 years experiences in this particular industry, Shini band heaters and pipe heaters are well-known worldwide. The heaters are manufactured from imported top quality raw materials with advanced techniques. Shini band heaters and pipe heaters are widely applicable for heating moulds and maintaining mould temperature, which ensures a high efficiency.

## Specifications (Unit: mm)



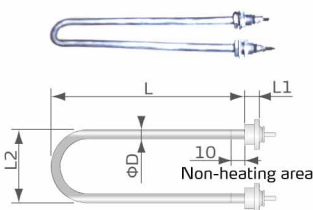
TS1

Pipe Sleeve Dimension ΦD	L(Max.)
Φ11	2000



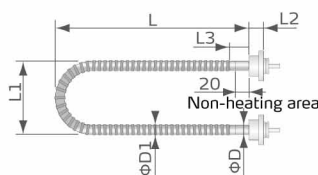
TS2

Pipe Sleeve Dimension ΦD	Cooling Fin Dimension ΦD1	L(Max.)	L1
Φ11	D1=D+14	2000	L1=D-40



TU1

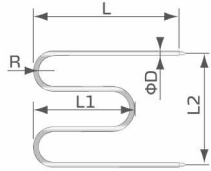
Pipe Sleeve Dimension ΦD	L(Max.)	L1	L2
Φ11	950	16	68



TU2

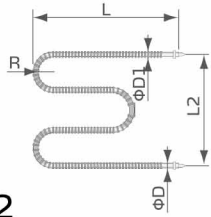
Pipe Sleeve Dimension ΦD	Cooling Fin Dimension ΦD1	L(Max.)	L1	L2	L3
Φ11	D1=D+14	950	68	16	16

# Tubular Heater



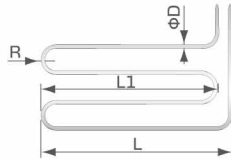
TW1

Pipe Sleeve Dimension $\Phi D$	R	L	L1	L2	Total Length
$\Phi 11$	22	225	230	275	1020



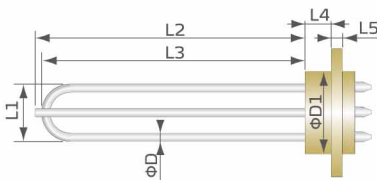
TW2

Pipe Sleeve Dimension $\Phi D$	Cooling Fin Dimension $\Phi D1$	R	L	L1	L2	Total Length
$\Phi 11$	$D1=D+14$	22	225	175	175	1020



TW3

Pipe Sleeve Dimension $\Phi D$	R	L	L1	Total Length
$\Phi 11$	22	225	175	1020



TX

Pipe Sleeve Dimension $\Phi D$	$\Phi D1$	L1	L2	L3	L4	L5	Total Quantity
$\Phi 11$	58	48	320	300	15	5	1-3

## Technical Parameters

Withstand voltages	Insulation strength		Allowable pipe diameter deviation	Allowable pipe length deviation	Allowable bend deviation	Allowable resistance deviation
	Cold	Hot				
Above 1.5kV/5S	Above 10 M $\Omega$	Above 2.5 M $\Omega$	$\pm 0.5$ mm	$\pm 2$ mm	$\pm 2$ mm	$\pm 5\%$

Notes: 1) Dimensions:  $\Phi 8.0$ mm above and within L2000mm.

2) Power (Without air flow): 3.1~3.5w/cm<sup>2</sup>.

3) Power (In air flow): 4.3~4.8w/cm<sup>2</sup>.

4) Power (In fluid): 5.3~5.8w/cm<sup>2</sup>.

5) Please supply us with detailed requirements concerning sizes, voltages lead wire types and applications in your order so that we can provide you the most suitable products.

We reserve the right to change specifications without prior notice.

## ■ Features

- Band heaters adopt natural mica as insulation elements for its outstanding properties of heat resistance and insulation.
- Heat-resistant heating wires feature quick heat transmission, even heating and high voltage endurance.
- Adopts imported high quality stainless steel, constructed to endure high temperature with features of even heat radiation and attractive appearance.
- Upon request, it can be built to comply with worldwide electrical safety standards (For example: CE etc.)



## ■ Application

With over 40 years experiences in this particular industry, Shini band heaters and pipe heaters are well-known worldwide. The heaters are manufactured from imported top quality raw materials with advanced techniques. They are widely used in mould heaters, dryers, molding machines etc, ensuring long service life and high efficiency.





## ■ Specifications

Adopts imported nickel-chromium wires from Japan with permanent laser printing mark on surface. Outer layer is made from high quality stainless steel and inner layer from mica or ceramic materials.

- Power of plate type: 15W per square inch.
- Power of ceramic type: 35~40W per square inch.
- Power of mica type: 25~28W per square inch.
- Specification of plate type: 45 × 60mm above, 100 × 300mm below
- Specification of ceramic type: Φ30 ~ Φ150 mm, L30 ~ 150mm
- Specification of mica type: Φ30 ~ Φ300 mm, L30 ~ 120mm
- Temperature of plate and mica type: 200~250℃
- Temperature of ceramic type: 350~450℃
- Outlets line method can meet customer requirements.

Model	Product figure	Remarks
Plate type	 <p style="text-align: center;">BS1                      BS2                      BS3</p>	<p>Rectangular style BS1 for flat mould. Holes are for fixing the plate heater.</p> <p>Polygonal style BS2 and U style BS3 is used for producing electrical wire making machine and polygonal mould machine.</p> <p>Polygonal style BS3 is heating with all sides and is used for producing electrical wire making machine and polygonal mould machine.</p>
Ceramic type	 <p style="text-align: center;">BC1                      BC2</p>	<p>Heat-resistant ceramic style BC1 with 45° power connecting plug.</p> <p>Heat-resistant ceramic style BC2 with heat-resistant ceramic and thermal sensing hole.</p>

# Band Heater

Model	Product figure	Remarks
Mica type	 <p>BM1                      BM2                      BM3</p>	<p>Standard style BM1 with tow wire connections is used for injection molding machine, also can be made into ceramic mould.</p> <p>Two-piece style BM2 has four terminal posts for using with specific molding machine models.</p> <p>Thermometric hole style BM3 with thermal sensing hole can detect molding screw temperature for mounting directly to the muzzle of molding machine.</p>
	 <p>BM4                      BM5                      BM6</p>	<p>Front plug style BM4 with 45° power connection plug, suitable for HK style injection molding machine.</p> <p>Rear plug style BM5 with 180° power connection plug, suitable for HK style injection molding machine.</p> <p>Front porcelain style BM6 with 45° power connecting plug.</p>
	 <p>BM7                      BM8                      BM9</p>	<p>Rear porcelain style BM7 with 180° power connecting plug.</p> <p>Rear shank style BM8 with a handle can protect the soft lead wire.</p> <p>Thermometric hole style BM9 with thermal sensing hole can detect molding screw temperature, for mounting directly to the muzzle of molding machine. Wiring method adopting iron chromium line and heating coil can make nose move flexibly.</p>
	 <p>BM10                      BM11                      BM12</p>	<p>Ceramic seal style BM10 with heating ceramic, outlets wiring adopting heat-resistant metal screen, and it is used for mounting to the nozzle of molding machine.</p> <p>Outlets style Bm11 for mounting to the nozzle of molding machine.</p> <p>Outlets edge style BM12 used high temperature wiring and can be used for furnace.</p>

## ■ Technical Parameters

Withstand Voltages (cold)	Insulation Strength	Allowable Power Deviation	Manufacturing Standard		
			Square	Ring	Ceramic
Above 1.5kV / 5S	Above 10MΩ	± 5%	15W per sq. inch	25W per sq. inch	40W per sq. inch

- Notes: 1) Please supply us with detailed requirements concerning sizes, voltages lead wire types and applications in your order so that we can provide you the most suitable products.
- 2) Check if socket cap screws are tightly locked after installation.
- 3) After using the heaters for the first time, lock the heaters again to prolong service life.

We reserve the right to change specifications without prior notice.



## ■ Thermocouples

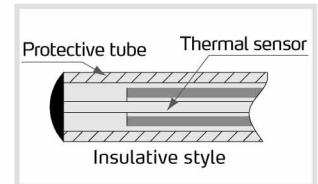
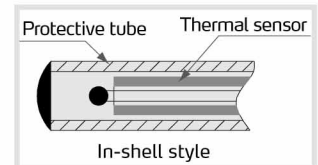
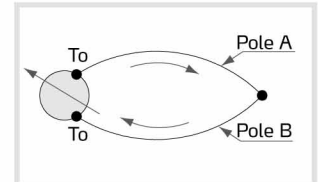
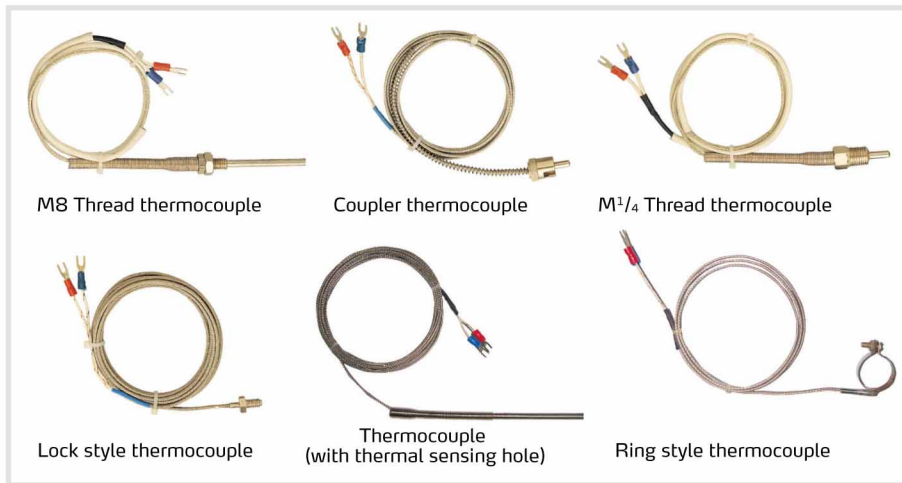
Thermocouples should be connected with thermometer for temperature display. They can be used to test air or liquid media temperature and surface temperature of solid material within a range from 0 to 400°C, suitable for applications in molding machines, textile industry, foodstuff packaging and machinery.

Thermocouple mainly consists of thermal sensor, protective tube, lead wires and fixing devices.

Length and diameter of thermal sensing part can be made to meet customer requirements.

Main features:

Wide testing range, long service life, easy installation.



## ■ Heavy Duty Plugs

With polished cast aluminum as its outer cover, insulated bakelite can endure 250°C high temperature.

- Types: right-angle style, rectangle style.
- Voltage: 220VAC 25A.
- Mainly used with ring heaters, thermos bottle and other heating equipments as a safe and reliable power connection.



## ■ Installations and Applications

- Make sure even contact surface and right installation to ensure proper functioning.
- The heater should be used with temperature controller to avoid overheat problems.
- Do not modify or add other elements to the units to make sure that they work properly.
- Keep the heater in a dry environment to avoid poor insulation caused by water.
- During installation, please check the specifications and power supply of heating elements are the same with required.
- Check if socket cap screws are tightly locked after installation.
- After using the heaters for the first time, lock the heaters again to prolong service life.
- Heaters should be used under specified voltages. Using of a voltage regulator is suggested.
- Electric heating tube is vacuum-packed before delivery. Moisture proof period lasts not more than 7 days, moisture-eliminating is required if it is used out of the period.

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