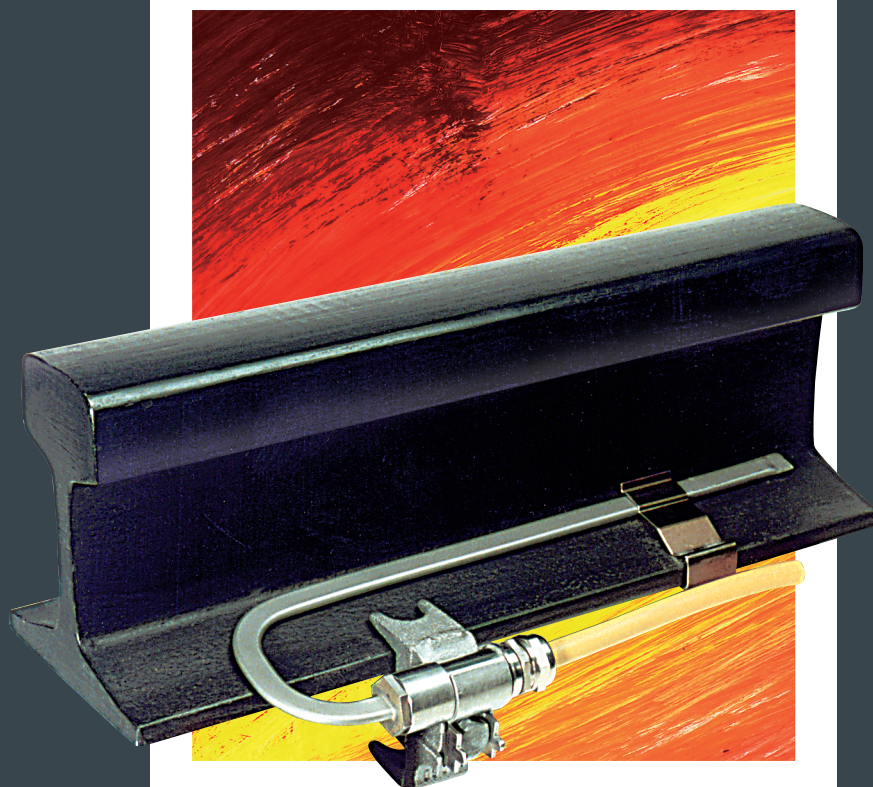




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# RKW

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岔道加热器  
轨道和列车加热用附件

Railway Point Heaters  
Accessories for rail and wagon heating

5.1



**TÜRK+HILLINGER**  
THERMAL TECHNOLOGY

## RKW 型岔道加热器 RAILWAY POINT HEATER TYPE RKW



我们的RKW型扁平管式加热器被德国和其他铁路公司使用在所有钢轨型材和道岔多年。

在寒冷季节，当遇到雪，冰，冻雨，和剧烈温度波动等恶劣气候时，铁路道岔可能因为在道岔尖轨和道岔正轨之间冰雪积聚而产生故障失效

为了避免这种故障，扁平管状加热器被放置在道岔尖轨和道岔正轨之间，在特殊情况下也可放置在尖轨上，通过热传导和热辐射以确保在尖轨 和正轨之间无冰雪积聚。

我们现货供应各种长度的截面为 13 x 5,5 mm 的扁平管状加热器，适合各种道岔半径。加热器由高质量的，抗腐蚀的铬镍钢制成。

我们也供应由抗盐铬镍钢制成的有轨电车轨道加热器，材料号 1.4876 (Incoloy 800) 和 2.4858 (Incoloy 825)，可提供在不同的长度，功率和电压的版本。

Our electric flat tubular point heaters type RKW have been used for all types of rail profile and points by German and other railway companies for many years.

When the cold season sets in with snow, ice, ice rain, and high temperature fluctuations, railway points can fail due to the accumulation of ice and snow between the point blade and the stock rail.

To avoid this kind of disruption, a flat tubular point heater is placed between the point blade and the stock rail, in special cases also at the blade, to keep the space between the blade and the stock rail free of ice and snow by heat conduction and heat radiation.

We supply flat 13 x 5.5 mm tubular heaters of different lengths ex stock for all point radii. They are made of high quality, corrosion resistant chrome-nickel steel.

We also supply tram point heaters of salt resistant chrome-nickel steel, material index 1.4876 (Incoloy 800) and 2.4858 (Incoloy 825) in different lengths, capacities and voltages.



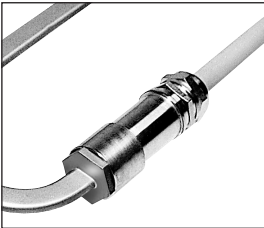


# 道岔整轨和尖轨用加热棒

## HEATING RODS FOR STOCK RAILS AND POINT BLADES OF STANDARD POINTS

我们现货供应包括所有的单接出 RKW型扁平管状加热器，完整的连接护套，具体如下表。这些加热棒防护等级为IP 65，可用于 S49，S54和UIC 60 截面的标准道岔。封装电缆的设计和接出护套的设计是兼容。

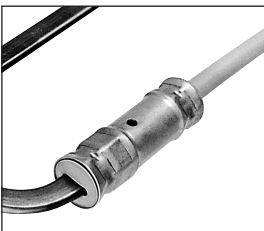
Our ex stock range comprises all single-connection flat tubular heaters type RKW, complete with connecting sleeve specified in the table below. These heating rods comply with protection class IP 65 and are used for normal rail points with profiles S49, S54, and UIC 60. The design with encapsulated cable is compatible with the design with connecting sleeve.



带可拆连接管套的版本

Version with disconnecting connecting sleeve

| 完整的连接护套 COMPLETE WITH CONNECTING SLEEVE |                            |                      |                                 |
|-----------------------------------------|----------------------------|----------------------|---------------------------------|
| 总长<br>Total length<br>(mm)              | 功率<br>Capacity<br>(W) ±10% | 电压<br>Voltage<br>(V) | T+H Artikel-Nr.<br>T+H Item No. |
| 2200                                    | 900                        | 230                  | 241116                          |
| 2870                                    | 900                        | 230                  | 241015                          |
| 3300                                    | 1050                       | 230                  | 241258                          |
| 3720                                    | 1200                       | 230                  | 241016                          |
| 4700                                    | 1500                       | 230                  | 241017                          |

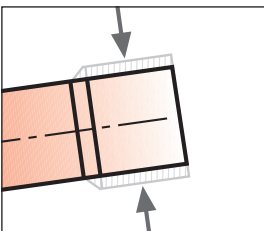


带永久封装和电缆的版本

Version with permanent encapsulation and cable

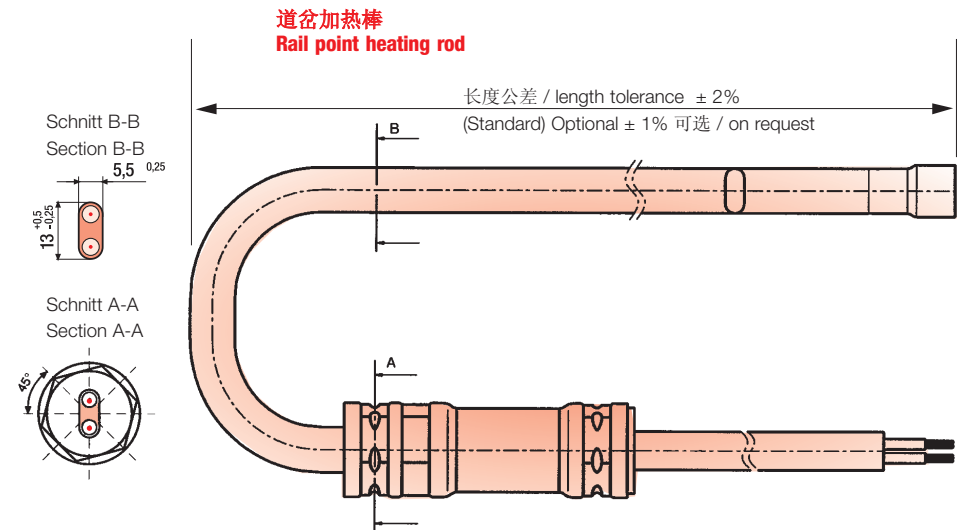
| 整套装 带连接护套 COMPLETE WITH ENCAPSULATED CABLE |                            |                      |                                     |                        |                                    |                        |
|--------------------------------------------|----------------------------|----------------------|-------------------------------------|------------------------|------------------------------------|------------------------|
| 总长<br>Total length<br>(mm)                 | 功率<br>Capacity<br>(W) ±10% | 电压<br>Voltage<br>(V) | 带6 m电缆<br>Cable 6 m<br>T+H Art.-Nr. | 材料号<br>DB Material No. | 带8m电缆<br>Cable 8 m<br>T+H Art.-Nr. | 材料号<br>DB Material No. |
| 2200                                       | 900                        | 230                  | 241600                              | 669040                 | 241800                             | 669054                 |
| 2870                                       | 900                        | 230                  | 241615                              | 669044                 | 241815                             | 669057                 |
| 3300                                       | 1050                       | 230                  | 241499                              | 706599                 | 241500                             | 706607                 |
| 3720                                       | 1200                       | 230                  | 241616                              | 669048                 | 241816                             | 669062                 |
| 4700                                       | 1500                       | 230                  | 241617                              | 669050                 | 241817                             | 669065                 |

NEU!  
NEW!



可选标刻度的盲端

Calibrated blind end possible



## 道岔加热器的紧固 FASTENING OF THE RAIL POINT HEATER

我们为把加热棒和轨地进行机械连接以及接地提供不同的紧固件。

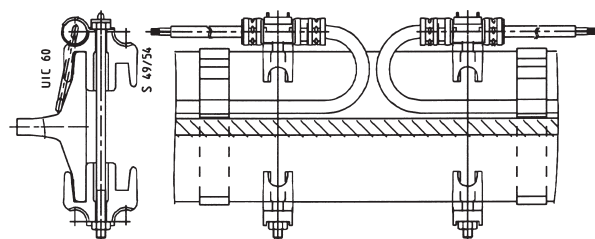
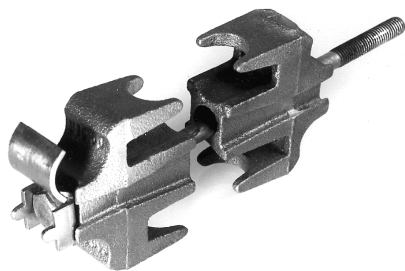
We offer different fasteners for mechanical connection of the heating rod to the rail foot and for earthing.

### 1. 接出端的紧固(道岔正轨)

扁平管状加热器是通过轨道扣件接出护套和铁轨被紧固到一起。

#### 1. Fastening of the connecting end (stock rail)

The flat tubular heaters are fastened to the connecting sleeve and the rail profile by a connecting end fastener.

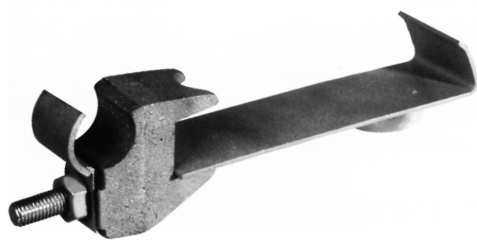


### 2. 接出端的紧固 (尖轨)

我们为紧固加热棒到尖轨上提供一种特殊的固定夹具。

#### 2. Fastening of the connecting end (blade)

We offer a special-type fixing kit for fixing the heating rod to the blade.

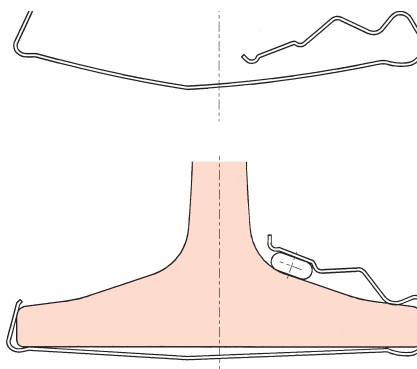
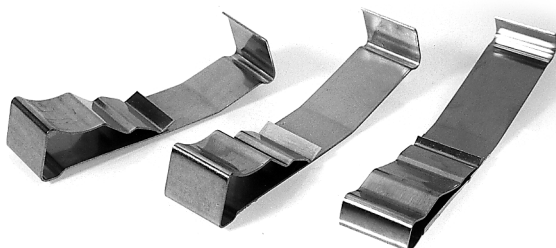


### 3. 夹爪

扁平管状加热器的剩余部分用适合轮廓型号夹爪被固定在轨底，我们为所有通用正轨轮廓 和尖轨提供合适的夹爪，夹爪也可用于套线电缆固定。

#### 3. Clamping jaw

The remaining part of the flat tubular heater is fastened to the rail foot by clamping jaws which fit to the type of profile. We supply clamping jaws for all common rail profiles, also for blades. Clamping jaws for line conductor cables are also available.



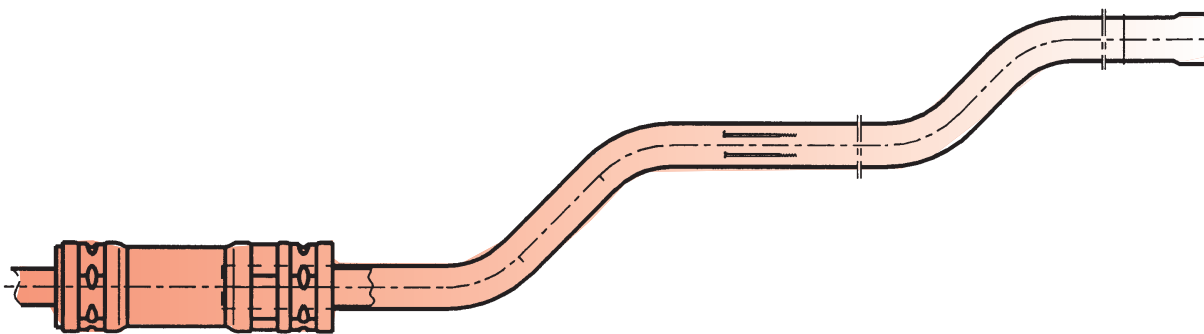
## 高速道岔使用的加热棒 HEATING RODS FOR HIGH-SPEED RAIL POINTS

ERL型铁路道岔，剖面UIC（60 butzbach型）是用在高速铁路上。这种型号要求每个枕木单元只有一个接线端，因此弯曲的形状如下面的图片。新形状的加热棒确保在无润滑的滑动器上集中加热。

Rail points of type ERL, profile UIC 60 (Butzbach type) are used on high-speed railway lines. This type requires only one connecting end for each sleeper unit and so the bent shape illustrated below is obtained. The new shape of the heating rods ensures intensive heating of the lubricant-free sliders.

### 库存型号 STOCK LIST

| 零件号.<br>T+H Item No.<br>电缆长度 8 m<br>Cable length 8 m | 材料号.<br>DB Material No. | 总长<br>Total length<br>(mm) | 功率<br>Capacity<br>(W) $\pm 10\%$ | 电压<br>Voltage<br>(V) |
|------------------------------------------------------|-------------------------|----------------------------|----------------------------------|----------------------|
| 241 638                                              | 724 019                 | 2920                       | 900                              | 230                  |
| 241 639                                              | 724 020                 | 3770                       | 1200                             | 230                  |
| 241 640                                              | 742 021                 | 4750                       | 1500                             | 230                  |



### 夹爪

固定这种加热棒需要一种特殊的夹爪。

### Clamping jaw

For fixing of these heating rods a special clamping jaw is needed.



## 锁闭加热器 LOCK HEATER

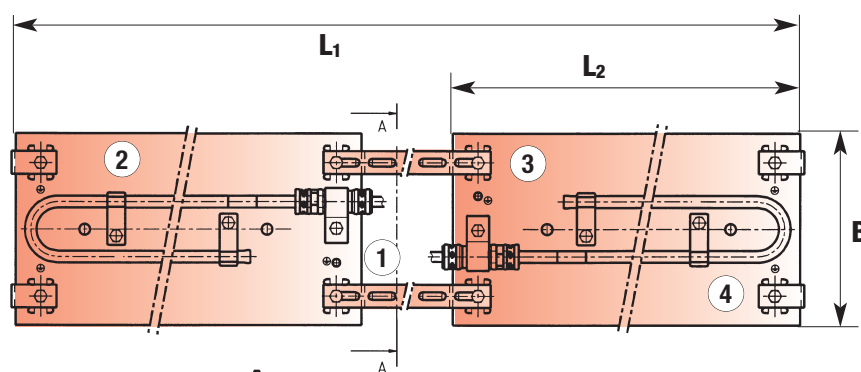
锁闭加热器用来保持锁闭系统和连接不受雪和冰的影响。该锁闭加热器由两个导热板组成，每个加热板被夹持并放置在待加热的锁闭系统下方的枕木单元中。连接的位置可以通过将一个或两个板转动180°来改变。如果使用2X 250 W的加热器，则确保锁闭的集中加热，如果安装2X 450 W的加热器，则整个锁闭单元被均匀加热。两个板（板厚为3毫米）彼此电连接和机械连接，并被放置在锁闭单元中。我们提供加热元件（标准）封装或可拆卸的设计。封装的电缆长度为8米。

这些锁闭加热器提供由防腐保护的导热板，加热器和紧固元件完整的单元。

Lock heaters serve to keep locks and linkage free of snow and ice. The lock heater consists of two heatconducting plates, to each of which a heater is clamped and which are placed in the sleeper unit below the locks to be heated. The position of the connections can be changed by turning one or both plates by 180°. If heaters of 2x 250 W are used, intensive heating of the lock is ensured, if heaters of 2x 450 W are installed, the whole lock unit is heated uniformly. The two plates (with plate thickness of 3 mm) are electrically and mechanically connected with each other and are placed in the lock unit. We supply the heating elements in (standard) encapsulated or disconnectable design. The cable length of the encapsulated version is 8 meters.

These lock heaters are supplied as complete units with corrosion-protected heat-conducting plates, heaters and fastening elements.

| 型号 2 x 250 W TYPE 2 x 250 W |                         |                    |                |     |               |                   |                 |
|-----------------------------|-------------------------|--------------------|----------------|-----|---------------|-------------------|-----------------|
| 零件号.<br>T+H Item No.        | 材料号.<br>DB Material No. | L <sub>1</sub> max | L <sub>2</sub> | B   | P (W) ±10%    | 可拆<br>disconnect. | 封装<br>encapsul. |
| 241808                      | 700916                  | 2100               | 540            | 210 | 2 x 250 (500) |                   | ●               |
| 245508                      | 633496                  | 2100               | 540            | 210 | 2 x 250 (500) | ●                 |                 |
| 备用加热棒 Spare heating rods    |                         |                    |                |     |               |                   |                 |
| 241269                      | 700918                  |                    |                |     | 250           | ●                 |                 |
| 241869                      | 700917                  |                    |                |     | 250           |                   | ●               |



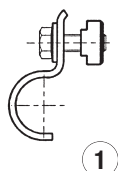
### 锁闭加热器的紧固

安装位置对应图上的数字。

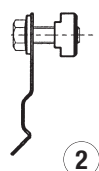
### Fastening elements for lock heating

The mounting position corresponds to the number in the drawings.

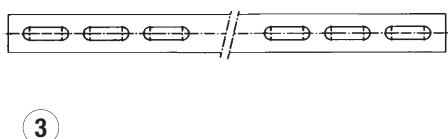
带夹子的螺丝  
Clip with screw



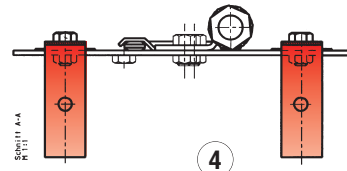
带夹子的螺丝  
Clamp with screw



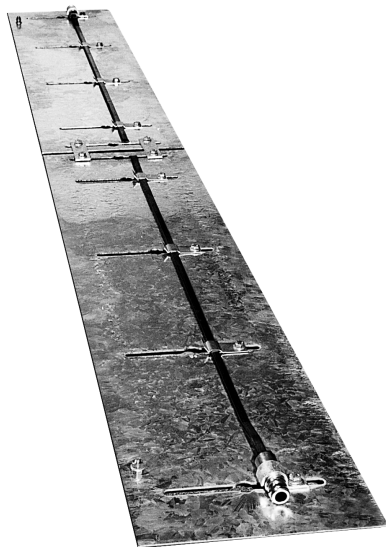
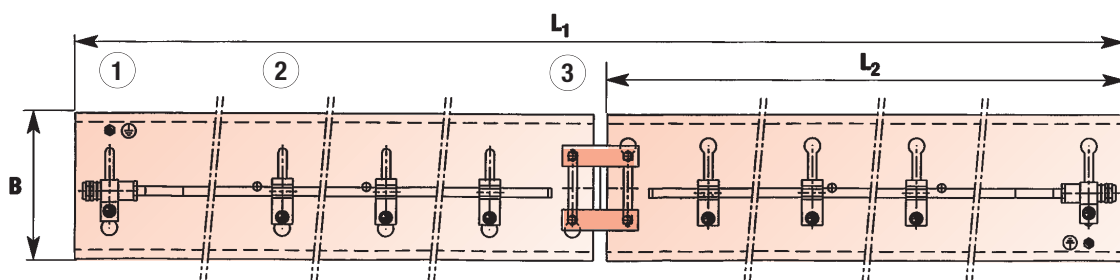
连接板  
Connecting plate



直立元件  
Upstanding element



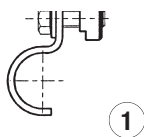
| 型号 2 x 450 W TYPE 2 x 450 W |                         |       |      |     |               |                   |                 |
|-----------------------------|-------------------------|-------|------|-----|---------------|-------------------|-----------------|
| 零件号.<br>T+H Item No.        | 材料号.<br>DB Material No. | L1max | L2   | B   | P (W) ±10%    | 可拆<br>disconnect. | 封装<br>encapsul. |
| 241490                      | 700914                  | 2520  | 1250 | 210 | 2 x 450 (900) |                   | ●               |
| 241296                      | 551220                  | 2520  | 1250 | 210 | 2 x 450 (900) | ●                 |                 |
| 备用加热棒 Spare heating rods    |                         |       |      |     |               |                   |                 |
| 241183                      | 218993                  |       |      |     | 450           | ●                 |                 |
| 241883                      | 669052                  |       |      |     | 450           |                   | ●               |



#### 锁闭加热器的紧固 安装位置对应图上的数字。

夹子，整套。  
零件相互连接，不能丢失。

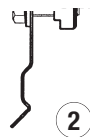
Clip, complete.  
Parts are connected with each other and cannot get lost



#### Fastening elements for lock heating The mounting position corresponds to the number in the drawings.

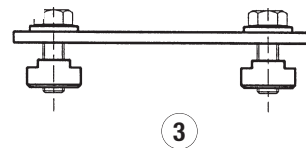
夹具，整套  
零件相互连接，不能丢失

Clamp, complete.  
Parts are connected with each other and cannot get lost



鱼尾板，整套  
零件相互连接，不能丢失。

Fishplate, complete  
Parts are connected with each other and cannot get lost



### 两种版本的附件 ACCESSORIES FOR BOTH VERSIONS

在钢板和钢轨之间的电气电气连接

For electrical connection of plates and rail

|                                                               | 零件号.<br>Item No. | 材料号.<br>Material No. |
|---------------------------------------------------------------|------------------|----------------------|
| 接地装置<br>Earthing device                                       | 210150           | 551226               |
| 把接地装置固定在钢轨上的紧固套件<br>Fastening kit for earthing device on rail | 241039           | 219205               |

## 供弹性活动辙叉使用的加热棒和 附件 HEATING RODS AND ACCESSORIES FOR RESILIENT MOVING FROGS

### 描述

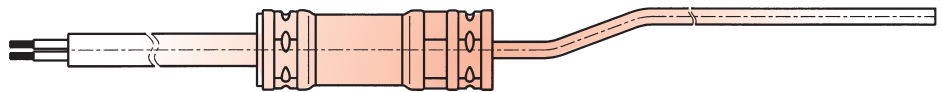
活动辙叉的翼轨和滑块单元被加热。加热棒位于ERL型岔道轨颈处，轨底也被加热。

### Description

The wing rails and block unit of movable frogs are heated. The heating rods are located at the rail neck, in type ERL points, the rail foot is also heated.

### 库存型号 STOCK LIST

| 总长<br>Total length | 功率<br>Capacity<br>(W) ±10% | 电压<br>Voltage<br>(V) | 8m 电缆<br>Cable 8m<br>T+H Art.-Nr. | 材料号.<br>DB Material-No. |
|--------------------|----------------------------|----------------------|-----------------------------------|-------------------------|
| 1680               | 600                        | 230                  | 241854                            | 669053                  |
| 2385               | 900                        | 230                  | 241856                            | 669055                  |
| 2740               | 1050                       | 230                  | 241803                            | 669056                  |
| 2880               | 1100                       | 230                  | 241807                            | 669058                  |
| 3120               | 1200                       | 230                  | 241813                            | 669059                  |
| 3350               | 1300                       | 230                  | 241804                            | 669060                  |
| 4100               | 1600                       | 230                  | 241805                            | 669064                  |
| 5200               | 2000                       | 230                  | 241806                            | 669067                  |



### 附件

我们提供固定接出端和加热棒的卡子和所有紧固元件

### Accessories

We supply clamps and all fixing elements for the connection end and the heating rod.

### 请注意

我们也可以根据要求提供为弹性活动辙叉使用的辙叉加热器。

### Please note

On request we also supply frog heaters for flexible moving frogs.

## 供有轨电车道岔加热器使用的加热棒 HEATING RODS FOR TRAM POINT HEATERS

### 描述

对于有轨电车道岔的加热，也采用扁平管式加热元件。由于较高的工作电压需要更好耐高压性。因此横截面可以选择为 6mm×12mm 毫米 扁椭圆形的。由于除冰盐增加了腐蚀风险，我们通常使用更高等级的耐腐蚀不锈钢。

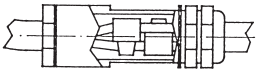
### Description

For the heating of tram point heaters are also used flat tubular heating elements. Due to the higher operating voltage an increased high voltage resistance is provided. The cross section can therefore be selected flat oval 6 mm x 12 mm. Because of the increased corrosion risk through deicing salt we use in general a higher resistant stainless steel.

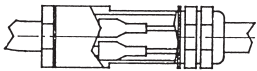
### 连接选项 Connection types

3 种接出型式可选  
There are 3 connection types available

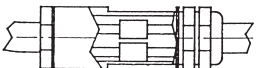
螺纹接出  
screw connection



插头接出  
plug connection

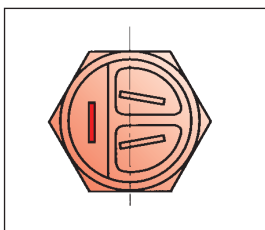


封装电缆  
encapsulated cable



### 技术参数 TECHNICAL DATA

|                                 |                                                                                                             |
|---------------------------------|-------------------------------------------------------------------------------------------------------------|
| 护套材料号.<br>Sheath material no.   | 1.4876 (Incoloy 800) 或 2.4858 (Incoloy 825)<br>1.4876 (Incoloy 800) or 2.4858 (Incoloy 825)                 |
| 加热棒形状<br>Profile of heating rod | Ø 8,5 mm 和 12 x 6 mm<br>Ø 8,5 mm und 12 x 6 mm                                                              |
| 耐高压性<br>High voltage resistance | 2 kV                                                                                                        |
| 电压<br>Voltage                   | 高达750V (可定制更高电压)<br>up to 750 V (higher voltages available upon request)                                    |
| 绝缘电阻<br>Insulation resistance   | >10 M Ohm                                                                                                   |
| 电气连接<br>Electrical connection   | 见图<br>see sketch                                                                                            |
| 非加热区长度<br>unheated length       | 200 mm (标准)<br>200 mm (Standard)                                                                            |
| 防护等级<br>Protection type         | IP 65                                                                                                       |
| 公差长度<br>length tolerance        | +/- 2% (标准), Optional +/- 1% 可选 / on request<br>+/- 2% (Standard), Optional +/- 1% auf Anfrage / on request |

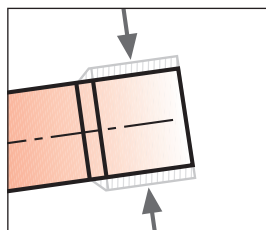


### 请注意

所有加热元件都带接地连接

### Please note

All heating elements are equipped with an earth connection



带刻度的盲端可选

Calibrated blind end possible

NEU!  
NEW!

## 接地装置使用的紧固套件和盖板 FASTENING KIT AND COVER FOR EARTHING DEVICE

对于接地装置的盖，我们提供了一个特殊的盖板（零件号 241 038）和一个对应紧固套件（零件号241 039）。钢板由耐腐蚀钢组成。零件号是220 161和219 205。

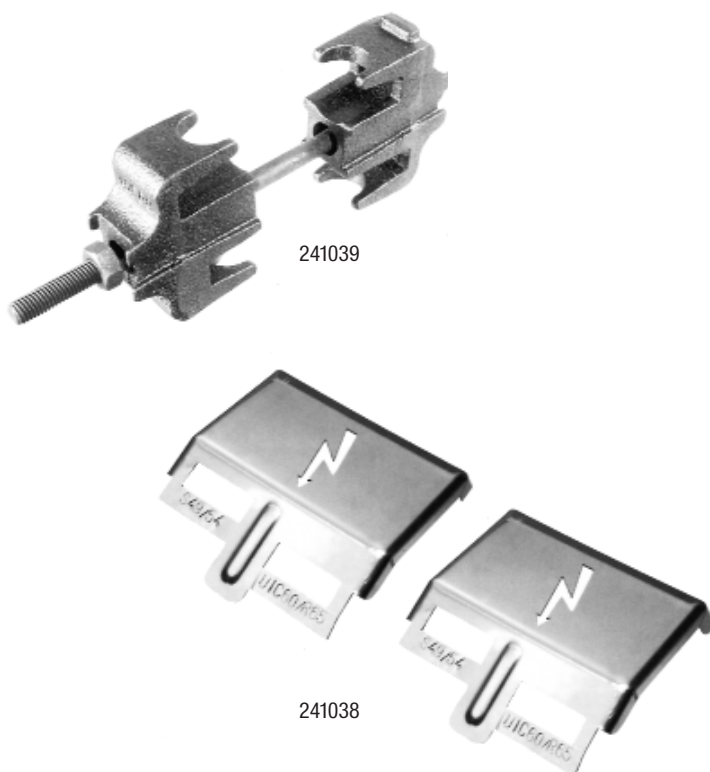
For the cover of the earthing device we supply a special cover plate (item No. 241038) with an appropriate fastening kit (item No. 241039). The plate consists of corrosion resistant steel. Mat.-No. 220 161 and 219 205.

### 请注意

一个紧固套件配一个盖板

### Please note

One fastening kit belongs to each cover.



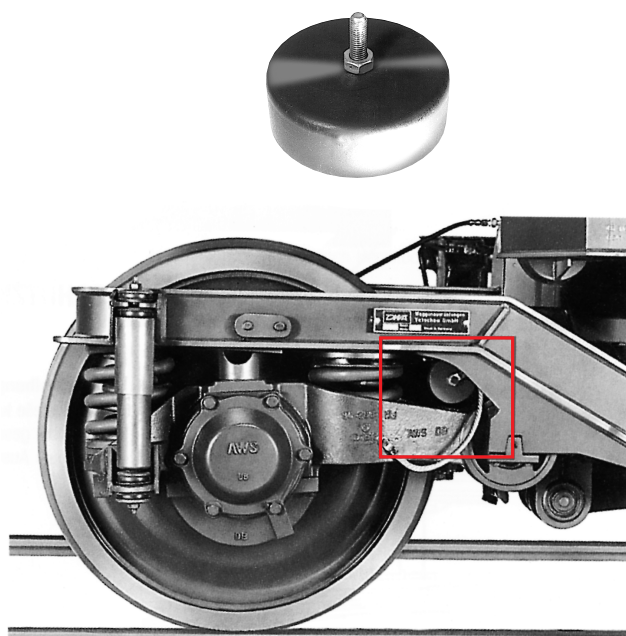
## 列车使用附件 COMPONENTS FOR THE WAGON CONSTRUCTION

### SCHUWI 型保护电阻

根据DIN VDE 0123适用于轴承电流的限制。电阻器中断轮副轴承的绝缘，从而防止轴承损坏。避免了接触电压的不正常上升和短路电流的消除。标准电阻为0.1Ω或0.05Ω。

### Protective resistors type SCHUWI

following DIN VDE 0123 are applied for the limitation of bearing currents. The resistor interrupts the isolation of the wheelset bearings and thus it prevents from a damage of the bearings. Improper rising of touch voltages is avoided and short-circuit currents are dissipated. The standard resistance is 0.1 Ω or 0.05 Ω.





## 列车使用附件（范围） COMPONENTS FOR THE WAGON CONSTRUCTION (RANGE)



### 车厢用标准翅片加热器模块

推荐用作客车车厢中的附加加热器。

**Finned tubular heaters with standard module for wagon heating.**  
Preferably used as additional heater in passenger wagons.



### 客车水箱用防冰加热器

我们提供带温控器和安全限温器的内部加热和外部加热的加热器

**Anti-icing heaters for water tanks in passenger wagons**  
We supply anti-icing heaters for interior heating and for external heating with a temperature controller and a safety limiter.



### 客车辅助加热器

这些辅助加热器可以在不同的场合中作为组合或内置式使用。

**Auxiliary heaters for passenger wagons**  
These auxiliary heaters are available in different executions as built-up or built-in version.



### 客车水管连接的防冰加热器

PTC基础上的加热元件确保了现代客车上的上水管和排水管连接的操作能力。

**Anti-icing heaters at water pipe connections of passenger wagons**  
These heating elements on PTC basis secure the operating ability of filling tube and drain pipe connections at modern passenger wagons.

### 请注意

根据DIN EN 45545的加热元件是可用的

### Please note

Heating elements according to DIN EN 45545 are available

同时，我们还为其他特殊的加热问题提供合适的加热解决方案。请把您的需求告诉我们。

On demand we also supply the appropriate heating solution for other special heating problems. Please send us your inquiry.



## 生产项目 MANUFACTURING PROGRAM

Bitte informieren Sie sich auch über unser weiteres Programm verdichteter Heizelemente:

Please be informed about our further range of compacted heaters:

- **HLP 型大功率加热棒**  
**High performance cartridge heater type HLP**
- **EHK 型浸没式加热器**  
**Immersion heaters type EHK**
- **RHK/RKF/FLC 型管状加热器**  
**Tubular heaters type RHK/RKF/FLC**
- **RHR/HRR/PK 型空气加热器**  
**Air heaters type RHR/HRR/PK**
- **RP 型大功率管状棒式加热器**  
**High performance tubular cartridge heaters type RP**
- **刹车电阻**  
**Braking resistors**

### 公司

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