

PTC Finned Resistor Heaters

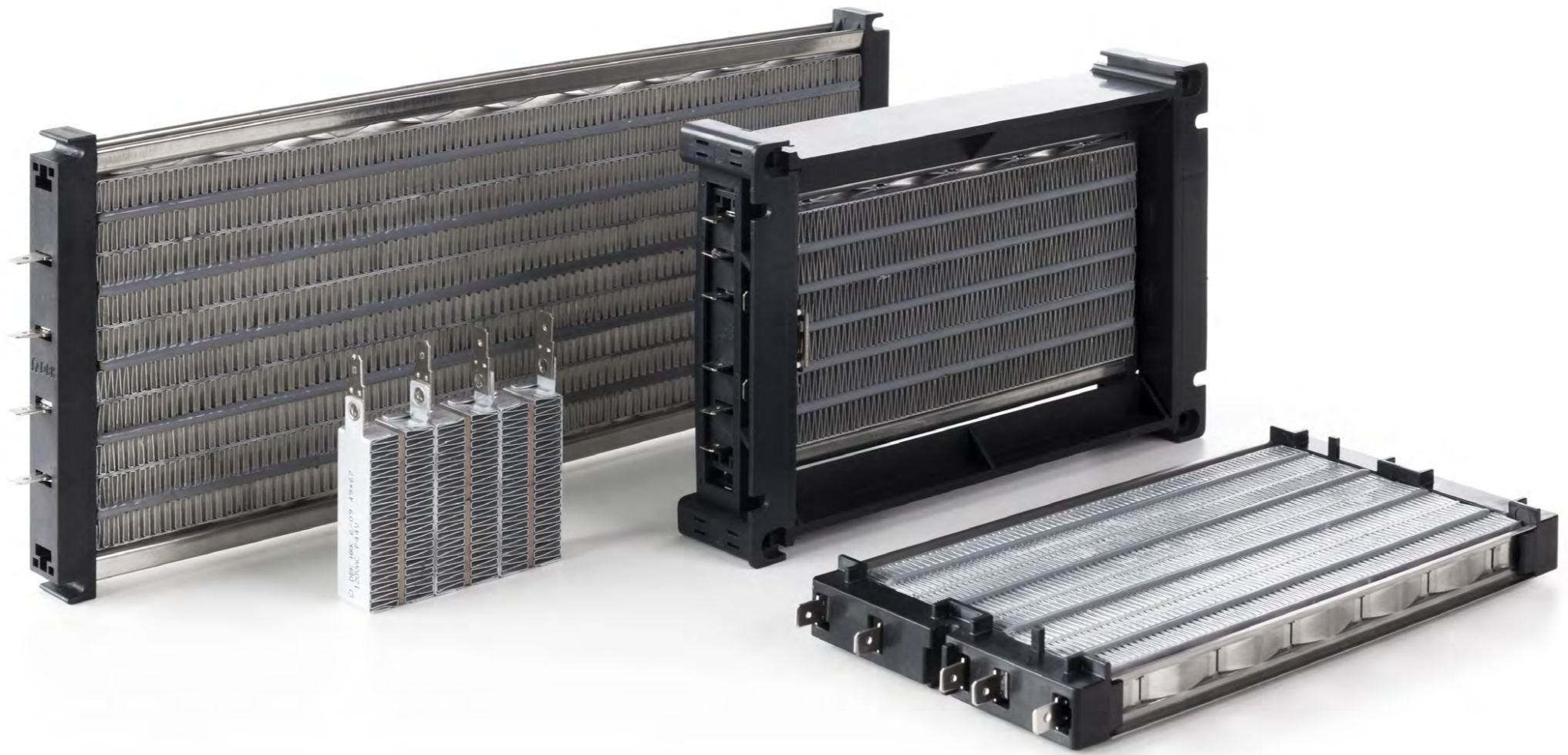




Dynamic heating elements to heat up moving air

Industrial Thermal Management is one of seven business units of the DBK Group. The specialists for heating, cooling and electronics are committed to always deliver the best quality possible to their industry customers in concept design, development, validation and serial production - for both, standard products and customized solutions. Thanks to technical excellence, scientific curiosity and flexibility DBK ranks among the technological leaders.

DBK's knowledge of thermal management gives us the experience to guide and support you with your technical challenges - we can manage the complete project from concept to full production release.



**Attention**  
PTC Finned Resistor Heaters have voltage-carrying metal parts. Please handle with care. The operation of finned heaters with insufficient air flow leads to an impairment of the function and life-time. Only for operation in dry and dustfree environment.



**PTC Finned Resistor Heaters**

Apart from the heating function, PTC Finned Resistor Heating Elements perform with an independent temperature limiting effect. This results in a highest possible operating safety.

The big surface of the aluminum fins ensures a homogeneous heat transfer with low outlet temperatures.

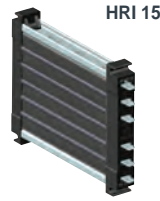
By an adjustment of the air volume flow, this system allows an automatic regulation of the heating power in certain ranges.

Due to these features, there are manifold possibilities of use. A wide product range includes heater versions for a large number of applications. In addition to the standard types, special versions and dimensions for specific applications are available.

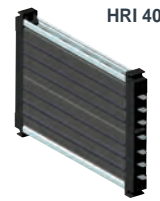
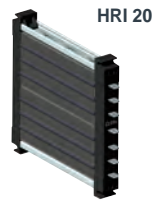
**Special Features**

- Safety due to automatic temperature control
- No fire hazard in case of failure
- Self-regulating function of power in correlation to the air volume and ambient temperature
- Special versions in 100 - 120V, 400V and low voltage ranges e.g. 12 V, 24 V etc. available on request
- No additional temperature regulators required
- Low outlet temperatures due to large heating surface, thus healthy and comfortable heat
- Easy assembly
- Long life-time if properly used
- Dimensions can be adjusted to fit your application
- Double dept aluminium fins allow higher heating performance while keeping the same physical size of the heater
- New meander design for low differential pressure requirements
- VDE and UL approval for standard types

## Finned Resistor Heaters Industry Design (HRI)



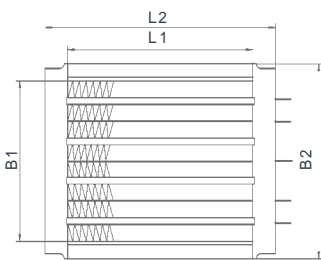
Type (Industry design HRI)		HRI 04 25/18	HRI 04 25/22	HRI 15 15/18	HRI 15 15/22	HRI 06 10/18	HRI 06 10/22
Rated voltage	V	230	230	230	230	230	230
Max. inrush current at 230V	A	16	16	8	8	7	7
Max. power output at 6 m/s	W	1900	2400	1050	1350	850	1100
Airflow at 6 m/s	V(m <sup>3</sup> /h)	195	195	125	125	130	130
Dimensions <i>Length</i> <sub>1</sub> x <i>Width</i> <sub>1</sub>	mm	150.6 x 73.8	150.6 x 73.8	96 x 73.8	96 x 73.8	150.6 x 46.4	150.6 x 46.4
Dimensions <i>Length</i> <sub>2</sub> x <i>Width</i> <sub>2</sub>	mm	—	—	—	—	174.6 x 64.4	174.6 x 64.4
Dimensions <i>Length</i> <sub>2</sub> x <i>Width</i> <sub>3</sub>	mm	174.6 x 100.5	174.6 x 100.5	120 x 100.5	120 x 100.5	174.6 x 70.5	174.6 x 70.5
Heating circuits		5	5	5	5	2	2
Differential pressure at 6 m/s	Pa	90	90	90	90	95	95



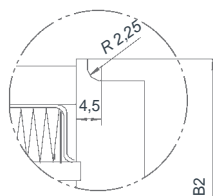
Type (Industry design HRI)		HRI 20 12/18	HRI 20 12/22	HRI 40 20/18	HRI 40 20/22
Rated voltage	V	230	230	230	230
Max. inrush current at 230V	A	8	8	14	14
Max. power output at 6 m/s	W	1150	1500	1700	2100
Airflow at 6 m/s	V(m <sup>3</sup> /h)	167	167	260	260
Dimensions <i>Length</i> <sub>1</sub> x <i>Width</i> <sub>1</sub>	mm	96 x 92.8	96 x 92.8	150.6 x 92.8	150.6 x 92.8
Dimensions <i>Length</i> <sub>2</sub> x <i>Width</i> <sub>2</sub>	mm	120 x 107.7	120 x 107.7	174.6 x 107.7	174.6 x 107.7
Dimensions <i>Length</i> <sub>2</sub> x <i>Width</i> <sub>3</sub>	mm	—	—	—	—
Heating circuits		4	4	4	4
Differential pressure at 6 m/s	Pa	80	80	90	90



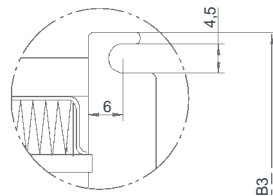
**Option:** Mounting frame with temperature-resistant plastic frame that safely holds the PTC heating element. Integrated temperature limiter possible. Customized design on request.



Industry design HRI



Housing version 1



Housing version 2



**Finned Resistor Heaters HRKK with Delta Fins**



HRKK-D 16/24 (S)

HRKK-D 24/24 (M)

HRKK-D 28/24 (L)

**Features**

- New frame allows for easy screw installation
- Great performance with minimum pressure drop due to delta-shaped fins
- 50+ percent less pressure drop compared to HRI

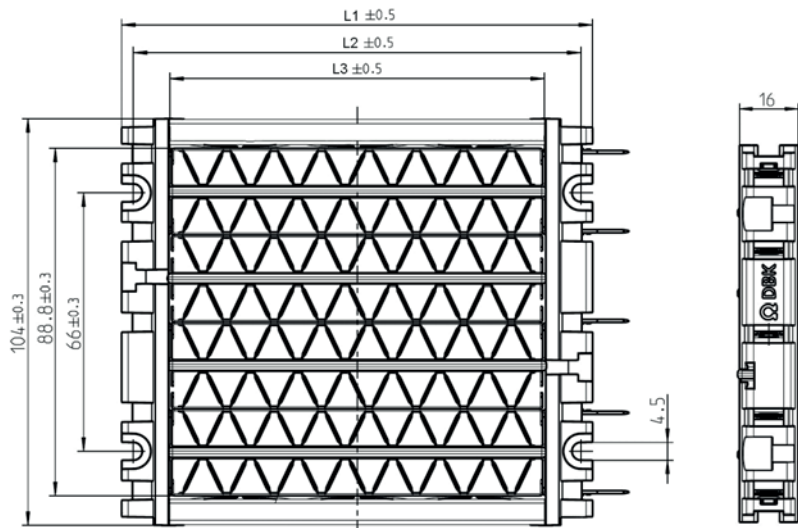
HRKK Delta	HRKK-D 16/24 S	HRKK-D 24/24 M	HRKK-D 28/24 L
Rated voltage [V]	230	230	230
Power output at 20°C, 300m³/h [W]	1100	1375	1500
Inrush current [A]	8	12	14
Differential pressure at 20°C, 300m³/h [Pa]	72	26	21
Dimensions Length L1 [mm]	120,6	174,6	198
Dimensions Length L2 [mm]	114,6	168,6	192
Dimensions Length L3 [mm]	96	150	174
Heating circuits	4	4	4

**Design Drawing**



**Options:**

- (1) Mounting frame made of temperature-resistant plastic available for HRKK Delta M
- (2) Touch protection with connection cable available for HRKK Delta L
- Integrated temperature limiter
- Custom solutions (size & shape, voltage, power output) on request



Front view - New frame

Side view

DBK's knowledge of thermal management gives us the expertise to guide and support you with your technical challenges - we can manage the complete project from concept to full production release.





