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NEW With ATEX System Approval

Drum and base heaters

Drum and base heaters for liquefying and temperature control of media

Drum heaters – Simple, clean handling of liquid and viscous products

Rapid heating and reliable temperature control, frost protection and an increase in material flow by reducing viscosity. As preliminary stages in protection processes, numerous products include, for example:

Typical applications:

Adhesives	Syrup, honey
Asphalt	Greases
Waxes/paraffin	Lubricants
Chemicals	Propellants
Chocolate	Liquid sugar
Dyes, varnishes	Resins
Edible oils	Solvents
Mineral oils	Plastics

Before (further) processing most media that is stored in drums requires heating to reduce viscosity and to enable ease of removal from the drums in liquid or semi-liquid form. Other media must be kept in liquid or semi-liquid form for a certain period, e.g. because the drums are stored outside of closed and temperature controlled rooms. The ISOPAD range of drum heaters for use in safe and hazardous area applications includes systems for standard drum sizes and for applications requiring temperatures up to 300°C.

High efficiency

The ISOPAD drum and base drum heater concept is designed for economic energy use through the optimum combination of power, thermal insulation and temperature control. Temperature control of the drum contents enables the liquefied products to be completely removed from the drum and allows optimum usage of the product contained within the drum. ISOPAD drum and base drum heaters provide a clean, compact and easy to handle solution to the problem of uniform surface heating of standard drums (200 l).

FIDR/FIBDR-SR series – drum and base drum heaters for applications in hazardous areas ATEX approved

Like the **IDR/IBDR** ISOPAD series, these drum and base drum heaters are provided with a robust metal casing. Unlike that series, however, these drum and base drum heaters are equipped with the **"SR"** attachment, with a self-regulating heating system which does not require a separate temperature limiter for compliance with the temperature class. These units cannot overheat, even if a fault develops!

Solid construction

All the drum heaters are manufactured in heavy gauge sheet steel with a double skin construction, which houses the electric heating elements covering the entire inner surface. The heating elements are provided with reinforced thermal insulation to prevent heat loss through the outer wall.

Mobility

All drum heaters are fitted with castors, two of which are equipped with a parking brake. This prevents the drum heater from rolling away. The castors are the anti-static version.

Operating configurations

Our drum heaters in the **IDR** series are available in the standard version for single- and three-phase operation (230 V / 400 V). Drum and base drum heaters for other operating voltages and power supply types (specials) can be designed and supplied by Tyco Thermal Controls GmbH Heidelberg to customer requirements.

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Temperature control
Mechanical thermostats (standard) and electronic controllers with a digital display are available for temperature control.

Icon6444 (optional)
Thermostat with digital display

Thermostat (standard)
Simple and robust controller for drum heaters in non-hazardous areas

Raystat-EX-02 and EX-03
-approved thermostats for our ***FIDR-SR/ FIBDR-SR*** *series*

FST and FST-DUAL
-approved thermostats for our ***FIDR/FIBDR*** *series*

Drum/base drum heater set
The drum and base drum heater set, **IDR-CON & IBDR-CON**, forms one unit. The temperature is controlled for both heaters by the drum heater controller. Only one power supply connection is required. The drum and base drum heater set provides rapid heat-up times and extremely uniform temperature distribution within the product in the drum.

For hazardous and non-hazardous areas
The **IDR/IBDR** product series is designed for use in non-hazardous (safe) areas, but the **FIDR/FIBDR-SR** product range is designed for operation in hazardous areas and has ATEX system approval for temperature classes T1 through to T6.

Base drum heater
The **IBDR** base drum heater is supplied complete with a thermostat mounted on a stable support bracket and can be set to the required heating surface temperature. The rotary switch for the desired temperature is protected underneath a cover. The temperature sensor is placed in the optimum position on the inner heating surface. The **IBDR** base drum heater has a separate connecting cable for the power supply.

Insulating lid (optional)
The drum heaters can be provided with an insulated lid **(IDR-LID, FIDR-LID)** to reduce heat losses which therefore results in a more rapid heat-up time. This lid is provided with reinforced thermal insulation, it is optional and can be ordered separately. The ISOPAD IDR & FIDR drum heater range comes with a standard non-insulated lid.

Customised solutions upon request!

NEW! The ISOPAD product range offers drum and base heaters with ATEX-certification for temperature classes T2, T4 and T6.

These units, with self-regulating heating systems, conform to the European standards EN 50014, EN 50019, EN 50028 and EN 50281, and are designated as electrical equipment EEx ed IIC (T6, T4 and T2, drum heaters) or EEx eiam IIC (T6, T4 and T2, base drum heaters). Certificate number KEMA 06ATEX0230. The **system approval** according to IECEx will follow shortly. Tyco Thermal Controls designs the products application-specific, and hence individually, for use in hazardous areas. CSA-approved versions are currently being prepared.

Tyco Thermal Controls will be pleased to advise you on the best design to suit your product.

Product examples::

	IDR-CON & IBDR-CON		IDR (single-phase)
	Drum and base drum heaters		Drum heater
Area classification	Non-hazardous area		Non-hazardous area
Protective class	IP 52	IP 52	IP 52
Ambient temperature	-20°C to +40°C	-20°C to +40°C	-20°C to +40°C
Construction data			
Material	Mild steel		Mild steel
Paints:			
- heated surface	Matt black	Matt black	Matt black
- exterior surface	Silver	Silver	Silver
	Powder-coated	Powder-coated	Powder-coated
Heating element	series-resistive heater device	series-resistive heater device	series-resistive heater device
Securing device	Single toggle and clasp		Single toggle and clasp
Measurement data			
Drum size	200 l	200 l	200 l
Dimensions:			
- Inside diameter	Approx. 650 mm		Approx. 650 mm
- Outside diameter	Approx. 770 mm	Approx. 570 mm	Approx. 770 mm
- Height	Approx. 980 mm	Approx. 75 mm (heating surface)	Approx. 980 mm
Weight	Approx. 46 kg	Approx. 13 kg	Approx. 46 kg
Electrical properties			
Supply voltage	230 Vac (1~)	230 Vac (1~)	230 Vac (1~)
Power output	4000 W ±10%	900 W ±10%	4000 W ±10%
Temperature control			
Thermostat type	TS-C	TS-C	TS-C
Temperature range (adjustable)	+50°C to +300°C	+50°C to +300°C	+50°C to +300°C
Ordering details			
Part description	IDR-IBDR-CON		IDR/200L/230V
Part no.	931092-000		151746-000

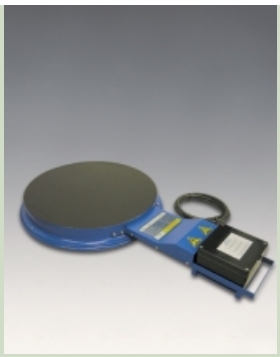
IDR (3-phasé)	IBDR	FIDR (single-phase)	FIBDR
Drum heater	Base drum heater	Drum heater	Base drum heater
Non-hazardous area	Non-hazardous area	Ex Hazardous	Ex Hazardous
IP 52	IP 52	IP 65	IP 65
-20°C to +40°C	-20°C to +40°C	-20°C to +40°C	-20°C to +40°C
Mild steel	Mild steel	Mild steel	Mild steel
Matt black Silver Powder-coated	Matt black Silver Powder-coated	Matt black Silver Powder-coated	Matt black Silver Powder-coated
series-resistive heater device	series-resistive heater device	Mineral-insulated heat conductor with stainless steel covering	Mineral-insulated heat conductor with stainless steel covering
Single toggle and clasp		Single toggle and clasp	
200 l	200 l	200 l	200 l
Approx. 650 mm Approx. 770 mm Approx. 980 mm	Approx. 570 mm Approx. 75 mm (heating surface)	Approx. 650 mm Approx. 770 mm Approx. 980 mm	Approx. 570 mm Approx. 75 mm (heating surface)
Approx. 46 kg	Approx. 15 kg	Approx. 66 kg	Approx. 20 kg
400 Vac (3~) 4000 W ±10%	230 Vac (1~) 900 W ±10%	230 Vac (1~)	230 Vac (1~)
TS-C +50°C to +300°C	TS-C +50°C to +300°C	e.g. FST-DUAL +50°C to +300°C	e.g. FST-DUAL +50°C to +300°C
IDR/200L/400V 150560-000	IBDR/200L/230V 514096-000	FIDR-MI On request	FIBDR-MI On request

System Approval

Product examples:

CE 1180	FIDR-SRX	FIDR-SRQ	FIDR-SRB
	Drum heater	Drum heater	Drum heater
Area classification	Ex II 2 GD EEx ed IIC 250°C (T2)	Ex II 2 GD EEx ed IIC T4	Ex II 2 GD EEx ed IIC T6
Protective class	IP 65	IP 65	IP 65
Ambient temperature	-40°C to +50°C	-40°C to +50°C	-40°C to +50°C
Construction data			
Material	Mild steel	Mild steel	Mild steel
Paints:			
- heated surface	Matt black	Matt black	Matt black
- exterior surface	Blue	Blue	Blue
	Powder-coated	Powder-coated	Powder-coated
Heating element	Self-regulating	Self-regulating	Self-regulating
Securing device	Single toggle and clasp	Single toggle and clasp	Single toggle and clasp
Measurement data			
Drum size	200 l	200 l	200 l
Dimensions:			
- Inside diameter	Approx. 650 mm	Approx. 650 mm	Approx. 650 mm
- Outside diameter	Approx. 770 mm	Approx. 770 mm	Approx. 770 mm
- Height	Approx. 980 mm	Approx. 980 mm	Approx. 980 mm
Weight	Approx. 60 kg	Approx. 60 kg	Approx. 60 kg
Electrical properties			
Supply voltage range	207 - 254 Vac (1~)	207 - 254 Vac (1~)	207 - 254 Vac (1~)
Power output	3930 W / 230 Vac (1~) @ +10°C	3990 W / 230 Vac (1~) @ +10°C	1810 W / 230 Vac (1~) @ +10°C
Temperature control			
Thermostat type	Digitrace RAYSTAT-EX-02	Digitrace RAYSTAT-EX-02	Digitrace RAYSTAT-EX-02
Temperature range (adjustable)	-4°C to +163°C	-4°C to +163°C	-4°C to +163°C
Ordering details			
Part description	FIDR-SRX	FIDR-SRQ	FIDR-SRB
Part no.	1235-08230101	1235-08230102	1235-08230103

System Approval



Product examples:

CE 1180	FIBDR-SRX	FIBDR-SRQ	FIBDR-SRB
	Base drum heater	Base drum heater	Base drum heater
Area classification	Ex II 2 GD EEx e ia m IIC 250°C (T2)	Ex II 2 GD EEx e ia m IIC T4	Ex II 2 GD EEx e ia m IIC T6
Protective class	IP 65	IP 65	IP 65
Ambient temperature	-40°C to +50°C	-40°C to +50°C	-40°C to +50°C
Construction data			
Material	Mild steel	Mild steel	Mild steel
Paints:			
- heated surface	Matt black	Matt black	Matt black
- exterior surface	Blue	Blue	Blue
	Powder-coated	Powder-coated	Powder-coated
Heating element	Self-regulating	Self-regulating	Self-regulating
Securing device	--	--	--
Measurement data			
Drum size	200 l	200 l	200 l
Dimensions:			
- Inside diameter			
- Outside diameter	Approx. 570 mm	Approx. 570 mm	Approx. 570 mm
- Height	Approx. 75 mm (heating surface)	Approx. 75 mm (heating surface)	Approx. 75 mm (heating surface)
Weight	Approx. 20 kg	Approx. 20 kg	Approx. 20 kg
Electrical properties			
Supply voltage range	207 - 254 Vac (1~)	207 - 254 Vac (1~)	207 - 254 Vac (1~)
Power output	1150 W / 230 Vac (1~) @ +10°C	1170 W / 230 Vac (1~) @ +10°C	530 W / 230 Vac (1~) @ +10°C
Temperature control			
Thermostat type	Digitrace RAYSTAT-EX-03	Digitrace RAYSTAT-EX-03	Digitrace RAYSTAT-EX-03
Temperature range (adjustable)	-0°C to +499°C	-0°C to +499°C	-0°C to +499°C
Ordering details			
Part description	FIBDR-SRX	FIBDR-SRQ	FIBDR-SRB
Part no.	1235-08240101	1235-08240102	1235-08240103

Band heaters

The ISOPAD **DHCH** range of band heaters are designed as flexible silicone band heaters for use on standard drums with a capacity of 110 litres and 200 litres. The heating element is constructed from multi-stranded, nickel based alloy resistance wire with a fibre glass reinforced silicone tuber outer covering. The **DHCH** range is supplied complete with a built-in, adjustable thermostat with a temperature control range of +10°C to +218°C.
Up to three band heaters per drum may be used. In a multiple arrangement the disconnection of individual band heaters ensures maximum efficiency as the level of drum contents is reduced.

Customised solutions upon request!

	IDR-DHCH-25	IDR-DHCH-23	IDR-DHCH-15	IDR-DHCH-13
Construction data				
Material	Silicone rubber	Silicone rubber	Silicone rubber	Silicone rubber
Heating element	Multi-stranded nickel-based alloy resistance wire	Multi-stranded nickel-based alloy resistance wire	Multi-stranded nickel-based alloy resistance wire	Multi-stranded nickel-based alloy resistance wire
Measurement data				
Drum size	200 l	110 l	200 l	110 l
Dimensions (L x W)	1677 mm x 102 mm	1384 mm x 102 mm	1677 mm x 102 mm	1384 mm x 102 mm
Weight	Approx. 1.5 kg	Approx. 1.5 kg	Approx. 1.5 kg	Approx. 1.5 kg
Electrical properties				
Supply voltage	230 Vac (1~)	230 Vac (1~)	115 Vac (1~)	115 Vac (1~)
Power output	1200 W ± 10%	1000 W ± 10%	1200 W ± 10%	1000 W ± 10%
Control data				
Built-in control	+10°C to +218°C	+10°C to +218°C	+10°C to +218°C	+10°C to +218°C
Ordering data				
Part description	IDR-DHCH-25 230V	IDR-DHCH-23 230V	IDR-DHCH-15 115V	IDR-DHCH-13 115V
Part no.	791428-000	631912-000	118374-000	450166-000

Accessories

IDR-LID/FIDR-LID is a heat-insulated lid that is designed to restrict upward heat loss when used in conjunction with either the **IDR** or **FIDR** vertical drum heating units. The lid is manufactured from sheet steel with a hammer paint finish and supplied complete with two carrying handles.

Construction data	IDR-LID	FIDR-LID
Material	Mild steel	Mild steel
External lid surface paint	Silver	Blue
Internal cover surface paint	Matt black	Matt black
Dimensions		
Inside diameter	790 mm	790 mm
Outside diameter	798 mm	798 mm
Height	85 mm	85 mm
Weight	Approx. 20 kg	Approx. 20 kg
Ordering details		
Part description	IDR-LID	FIDR-LID
Part no.	463570-000	1235-08021000

KEMA

(1) **EC-TYPE EXAMINATION CERTIFICATE**

(2) **Equipment and protective systems intended for use in potentially explosive atmospheres - Directive 94/9/EC**

(3) EC-Type Examination Certificate Number: **KEMA 06ATEX0230** Issue Number: **1**

(4) Equipment: **Drum Heater series FIDR-SR..., Drum Base Heater series FIBDR-SR..., Gas Bottle Heater series FIGB-SR...**

(5) Manufacturer: **Tyco Thermal Controls GmbH**

(6) Address: **Englerstrasse 11, D-69126 Heidelberg, Germany**

(7) This equipment and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

(8) KEMA Quality B.V., notified body number 0344 in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres given in Annex II to the directive.

The examination and test results are recorded in confidential test report number 2095641.

(9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN 50014 : 1997 + A1 + A2	**EN 50018 : 2000 + A1**	**EN 50019 : 2000**
EN 50020 : 2002	**EN 50028 : 1987**	**EN 50281-1-1 : 1998 + A1**

(10) If the sign "X" is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the schedule to this certificate.

(11) This EC-Type Examination Certificate relates only to the design, examination and tests of the specified equipment according to the Directive 94/9/EC. Further requirements of the directive apply to the manufacturing process and supply of this equipment. These are not covered by this certificate.

(12) The marking of the equipment shall include the following:

Ex

II 2 G EEx ed IIC T6 / T4 / 250 °C (T2)
II 2 G EEx e ia m IIC T6 / T4 / 250 °C (T2)
II 2 D IP 65 T 80 °C / T 130 °C / T 250 °C

This certificate is issued on 29 January 2007 and, as far as applicable, shall be revised before the date of cessation of presumption of conformity of (one of) the standards mentioned above as communicated in the Official Journal of the European Union.

KEMA Quality B.V.

T. Pijpker
Certification Manager

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PRODUCTS RvA C 001

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CE 1180

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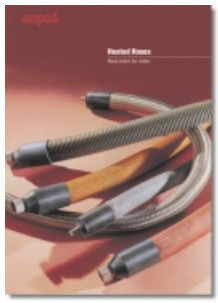

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We manage the heat you need